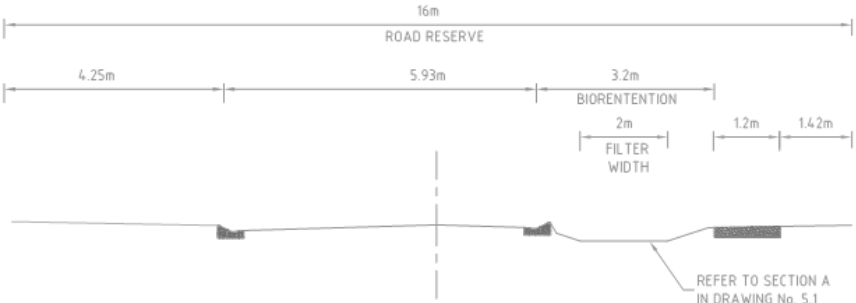
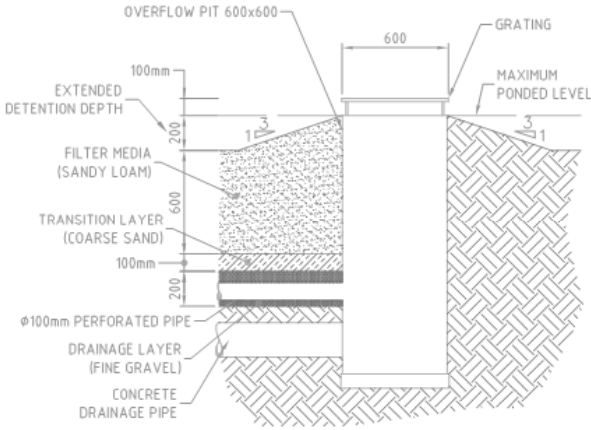


NOTE: ROAD PROFILES WILL VARY BETWEEN LOCAL AUTHORITIES.
CHECK WITH RELEVANT LGA FOR ROAD PROFILES.

ROAD PROFILE
N.T.S.



ROAD PROFILE
N.T.S.



DETAIL 1 - TYPICAL GRATED PIT
1:25



PROJECT SEQ WSUD ENGINEERING GUIDELINES

PROJECT WBM & ECOLOGICAL ENGINEERING

CDD MORETON BAY WATERWAYS AND CATCHMENTS PARTNERSHIP

PROJECT TITLE BIORETENTION BASIN
MISCELLANEOUS DETAILS

DRAWN	CHECKED	DATE
15/04/11	CHECKED	15/04/11
APPROVED	A.P. 15/04/11	DATE

SCALE	SCALE 1 : 25
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ASX NUMBER	DRAWING NUMBER
15945	5.2

APPENDIX D

LOT BASED MUSIC MODEL POLLUTANT LOAD REDUCTIONS

Table D1 - Scenario 1 Lot Based MUSIC Model Annual Pollutant Reductions

Pollutants	50kL/ha Tank			100kL/ha Tank			200kL/ha Tank			300kL/ha Tank			400kL/ha Tank		
	Source	Residual	% Reduction	Source	Residual	% Reduction	Source	Residual	% Reduction	Source	Residual	% Reduction	Source	Residual	% Reduction
<i>Stage 1</i>															
Flow (ML/yr)	13.6	10.8	20.8	13.6	9.82	27.7	13.6	8.85	34.8	13.6	8.31	38.9	13.6	7.96	41.4
Total Suspended Solids (kg/yr)	1950	339	82.6	2030	398	80.4	2020	401	80.1	1960	377	80.7	1950	383	80.4
Total Phosphorus (kg/yr)	4.5	1.67	62.9	4.61	1.78	61.5	4.64	1.74	62.6	4.58	1.65	64.1	4.56	1.64	64.1
Total Nitrogen (kg/yr)	43.3	23.6	45.4	42.5	22.2	47.8	43.7	20.7	52.7	43.1	19	55.9	43.4	17.8	59.1
Gross Pollutants (kg/yr)	308	0	100	308	0	100	308	0	100	308	0	100	308	0	100
<i>Stage 2</i>															
Flow (ML/yr)	16.1	12.3	23.7	16.1	11.1	31.2	16.1	9.82	39.2	16.1	8.99	44.3	16.1	8.43	47.8
Total Suspended Solids (kg/yr)	2440	469	80.8	2450	475	80.6	2480	474	80.9	2440	474	80.6	2480	479	80.7
Total Phosphorus (kg/yr)	5.5	2.14	61.2	5.59	2.11	62.2	5.6	2.03	63.7	5.62	1.99	64.7	5.58	1.89	66.2
Total Nitrogen (kg/yr)	50.9	27.8	45.4	51.7	26	49.8	50.9	22.7	55.5	51.6	21	59.4	50.9	19	62.7
Gross Pollutants (kg/yr)	362	0	100	362	0	100	362	0	100	362	0	100	362	0	100
<i>Stage 3</i>															
Flow (ML/yr)	9.61	7.47	22.3	9.61	6.84	28.8	9.61	6.15	36	9.61	5.73	40.4	9.61	5.46	43.2
Total Suspended Solids (kg/yr)	1720	317	81.6	1730	330	80.9	1710	337	80.3	1740	343	80.3	1710	341	80.1
Total Phosphorus (kg/yr)	3.71	1.42	61.8	3.69	1.39	62.2	3.67	1.37	62.5	3.7	1.35	63.5	3.68	1.34	63.6
Total Nitrogen (kg/yr)	30.8	16.8	45.6	30.3	15.4	49.2	29.9	13.7	54	30.3	12.8	57.6	30.7	12.4	59.5
Gross Pollutants (kg/yr)	212	0	100	212	0	100	212	0	100	212	0	100	212	0	100
<i>Stage 4</i>															
Flow (ML/yr)	43.8	34.4	21.4	43.8	31.7	27.7	43.8	28.7	34.4	43.8	26.8	38.7	43.8	25.7	41.3
Total Suspended Solids (kg/yr)	8140	1450	82.2	7970	1570	80.3	8120	1560	80.8	8240	1600	80.5	8190	1580	80.8
Total Phosphorus (kg/yr)	17.1	6.37	62.8	16.9	6.48	61.6	17	6.32	62.8	17.2	6.22	63.8	17.5	6.22	64.3
Total Nitrogen (kg/yr)	138	75.9	45	138	71.9	47.9	139	65	53.3	140	60.6	56.7	141	56.7	59.9
Gross Pollutants (kg/yr)	978	0	100	978	0	100	978	0	100	978	0	100	978	0	100
<i>Stage 5</i>															
Flow (ML/yr)	15.6	12.1	22.9	15.6	10.9	30.2	15.6	9.7	37.9	15.6	9.01	42.4	15.6	8.55	45.3
Total Suspended Solids (kg/yr)	2220	438	80.3	2160	417	80.7	2170	420	80.6	2160	421	80.6	2180	432	80.2
Total Phosphorus (kg/yr)	5.18	2.03	60.7	5.09	1.92	62.3	5.08	1.86	63.4	5.16	1.83	64.6	5.14	1.81	64.8
Total Nitrogen (kg/yr)	50	27.3	45.3	49.1	24.7	49.6	49.8	22.6	54.7	50.8	21.1	58.4	50	19.8	60.3
Gross Pollutants (kg/yr)	345	0	100	345	0	100	345	0	100	345	0	100	345	0	100

Table D2 - Scenario 2 Lot Based MUSIC Model Annual Pollutant Reductions

Pollutants	50kL/ha Tank			100kL/ha Tank			200kL/ha Tank			300kL/ha Tank			400kL/ha Tank		
	Source	Residual	% Reduction	Source	Residual	% Reduction	Source	Residual	% Reduction	Source	Residual	% Reduction	Source	Residual	% Reduction
<i>Stage 1</i>															
Flow (ML/yr)	13.6	10.5	22.4	13.6	9.45	30.5	13.6	8.35	38.5	13.6	7.79	42.7	13.6	7.43	45.3
Total Suspended Solids (kg/yr)	1960	305	84.4	1940	343	82.3	1960	391	80	1940	354	81.7	2020	322	84.1
Total Phosphorus (kg/yr)	4.54	1.55	65.9	4.52	1.63	64	4.55	1.72	62.1	4.56	1.64	64	4.64	1.51	67.4
Total Nitrogen (kg/yr)	43.2	23.4	45.8	43.4	23.9	45.1	42.8	23.4	45.2	43.6	23.3	46.6	43	21.1	50.8
Gross Pollutants (kg/yr)	308	0	100	308	0	100	308	0	100	308	0	100	308	0	100
<i>Stage 2</i>															
Flow (ML/yr)	16.1	11.9	26	16.1	10.4	35.4	16.1	8.76	45.8	16.1	7.8	51.7	16.1	7.13	55.8
Total Suspended Solids (kg/yr)	2420	397	83.6	2440	470	80.7	2410	476	80.2	2430	425	82.5	2440	351	85.6
Total Phosphorus (kg/yr)	5.48	1.9	65.3	5.57	2.05	63.1	5.51	2	63.7	5.49	1.78	67.6	5.56	1.57	71.9
Total Nitrogen (kg/yr)	51.9	28.5	45.1	51	27.5	46	51.8	26.8	48.3	51.7	23.5	54.6	51.1	20.7	59.6
Gross Pollutants (kg/yr)	362	0	100	362	0	100	362	0	100	362	0	100	362	0	100
<i>Stage 3</i>															
Flow (ML/yr)	9.61	7.17	25.4	9.61	6.3	34.4	9.61	5.4	43.8	9.61	4.93	48.7	9.61	4.6	52.1
Total Suspended Solids (kg/yr)	1740	295	83	1720	328	80.9	1710	354	79.3	1770	298	83.1	1710	246	85.6
Total Phosphorus (kg/yr)	3.73	1.32	64.7	3.71	1.36	63.3	3.67	1.38	62.2	3.77	1.21	67.8	3.68	1.05	71.4
Total Nitrogen (kg/yr)	30.2	16.5	45.5	30.5	16.6	45.6	30.6	16.4	46.5	30.6	14.6	52.2	31.1	13.5	56.7
Gross Pollutants (kg/yr)	212	0	100	212	0	100	212	0	100	212	0	100	212	0	100
<i>Stage 4</i>															
Flow (ML/yr)	43.8	33.1	24.4	43.8	29.3	33.1	43.8	25.5	41.8	43.8	23.4	46.6	43.8	22	49.7
Total Suspended Solids (kg/yr)	8200	1320	83.9	8100	1550	80.9	8140	1550	81	8110	1220	85	7960	1020	87.2
Total Phosphorus (kg/yr)	17.3	5.94	65.7	17.4	6.35	63.4	17.3	6.16	64.4	17.3	5.1	70.5	17.2	4.52	73.7
Total Nitrogen (kg/yr)	139	76.6	45.1	141	77.4	45.1	138	73.6	46.6	139	64.6	53.5	138	58.8	57.3
Gross Pollutants (kg/yr)	978	0	100	978	0	100	978	0	100	978	0	100	978	0	100
<i>Stage 5</i>															
Flow (ML/yr)	15.6	11.8	24.7	15.6	10.4	33.3	15.6	9.05	42.1	15.6	8.34	46.7	15.6	7.87	49.7
Total Suspended Solids (kg/yr)	2180	356	83.7	2180	425	80.5	2130	412	80.7	2170	393	81.9	2160	339	84.3
Total Phosphorus (kg/yr)	5.14	1.77	65.5	5.17	1.96	62.1	5.11	1.86	63.6	5.19	1.81	65.1	5.12	1.58	69
Total Nitrogen (kg/yr)	49.8	26.9	45.9	49.2	27.1	45	49.9	26.1	47.7	49.2	24.3	50.5	49.8	22.2	55.4
Gross Pollutants (kg/yr)	345	0	100	345	0	100	345	0	100	345	0	100	345	0	100

Oonoonba Flood and Stormwater Management Study

Master Planning Report



Oonoonba Flood and Stormwater Management Study

Master Planning Report

Prepared for

Urban Land Development Authority (ULDA)

Prepared by

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Executive Summary

AECOM Australia Pty Ltd was commissioned by the Urban Land Development Authority (ULDA) to prepare a flood study and an Integrated Water Cycle Management (IWCM) strategy for a proposed development in Oonoonba, a suburb of Townsville, North Queensland. The proposed site is currently owned by the Department of Employment Economic Development and Innovation (DEEDI). The IWCM strategy has been broken down into two components:

- stormwater quality assessment; and
- water management assessment.

The proposed development covers 83 ha and comprises residential lots as well as a range of community, retail and recreational facilities. A key requirement for the development is to be ecologically sustainable.

Flood Study

This investigation details the floodplain modelling for the proposed development. The hydraulic modelling work was undertaken using MIKE FLOOD which includes a 2 dimensional hydraulic model component, MIKE 21 and a 1 dimensional component, MIKE 11.

The MIKE FLOOD model developed in this flood study covers the Ross River area between Flinders Highway and Abbott Street. The site of the proposed development is situated in a meander of the Ross River and is therefore extremely sensitive to river flooding.

The large scale MIKE FLOOD model developed in the *Townsville Flood Hazard Assessment Study (2005)* AECOM (TFHAS) was adopted as the basis for this flood study. This large scale model has been used as a reference by the Townsville City Council in numerous flood studies.

To adequately assess the impact of the proposed development site, a more detailed hydraulic model was developed. This detailed model uses the flow and water level derived from the large scale model as boundary condition.

The outcome of the modelling have been assess against:

- the Townsville City Council (TCC) flood management policy:
 - no adverse impact on adjoining properties in the 50 year ARI event.
 - lot level set at above 3.9m AHD and 50 year ARI flood water surface level
 - floor level set at above 3.9m AHD and 50 year ARI flood water surface level +450mm freeboard
- and the Urban Land Development Authority (ULDA) flood management policy:
 - no adverse impact on adjoining properties in the 100 year ARI event.
 - lot level set at above 3.9m AHD and 100 year ARI flood water surface level
 - floor level set at above: lot level +300mm freeboard.

The modelling has been done to achieve the greater of these two policies in order to comply with both.

The model results presented in this report includes a base case and the following four design case scenarios:

- an un-mitigated case;
- a reduced development footprint case;
- developed case with a mitigation cut north-west of the site; and
- developed case with a mitigation cut north of the site.

The total volume of fill material needed in the un-mitigated case is 273,000 m³ and the size of the proposed development area is about 58.2ha.

The detailed design and environmental assessment of any of the proposed compensatory cuts scenarios need to be undertaken to assess their feasibility. Formal approval from DERM will have to be granted prior to any mitigation cuts being implemented. The proposed development in the reduced footprint case provides an acceptable solution without the requirement of any mitigation cut.

Therefore pending upon further investigations about the feasibility of the two scenarios that include a compensatory cut the preferred mitigation case at this stage is the reduced development footprint case. The total volume of fill material needed in that case is 186,000m³ and the proposed development area is about 51.9ha.

The minimum floor and lot level as well as the water surface around the edge of the site for a range of ARI events associated with this preferred case are presented in this report.

The changes in the flow velocities within the river due to the proposed development are insignificant when compared to the base case velocities.

A discussion on the potential beneficial impact of the Abbott Street Deviation Project and a summary of the results from the *Abbott Street Hydraulic Assessment Study* (2009) AECOM is also included in this report.

Stormwater Quality Assessment

Due to the unavailability of empirical pollutant load data in the catchment, generic pollutant export rates for different land uses, such as the Brisbane City Council values were used in this study to allow the relative change in pollutant loadings due to urban development to be evaluated and the impacts of the proposed stormwater treatment measures to be assessed.

In order to calculate long term pollutant loads from the site to the receiving waters, a MUSIC model was developed for the Base Case, Design Case and Design Case with mitigation measures in place. The key pollutant loading results of the implementation of the proposed development, were:

- TSS loads are significantly increased due to the development by approximately by 209%;
- TP loads are significantly increased due to the development by approximately by 280%;
- TN loads are significantly increased due to the development by approximately by 204%;and
- GP loads are significantly increased due to the development by approximately by 273%;

The following stormwater treatment measures were modelled to reduce pollutant loadings to meet TCC Standards. This included

- 42m length x 42m width x 1.0m depth bioretention system in the north west of the development;
- 150m length x 32m width x 0.8m depth swale in the north west of the development
- 150m length x 30m width x 0.8m depth swale in the north east of the development; and
- A Gross Pollutant Trap (GPT) in the south east of the site.

Key pollutant loading results of the proposed stormwater treatment measures, were:

- overall TSS loads are decreased by approximately 83%;
- TP loads are decreased (67%) by the implementation of stormwater treatment measures;
- TN loads are decreased slightly (51%); and
- GP loads are reduced by 94%.

Approximately 2.4% of the total development area will be required to accommodate the proposed treatment devices. Provided the recommended stormwater treatment measures are implemented pollutant loadings discharged from the site into sensitive receiving waters are not significantly increased (and are reduced in some cases) against the Base Case, protecting and enhancing the environmental values of these waterways

Water Management Study

To minimise the impact of the proposed development, it is desirable to maximise opportunities for water reuse and conservation where possible. This section outlines a range of alternative options for the reuse of urban stormwater and wastewater and reductions in water demands. A range of off-lot water efficiency measures have been examined for both on-lot and precinct level scenarios. These include:

- Stormwater Tanks;
- Grey Water Recycling;
- Water Demand Management (low flow flushes etc);
- Waste water recycling; and
- Sewer mining.

It was identified with the client that the most effective strategy would involve a combination of grey water on a precinct level and conventional water reduction measures on an on-lot level, such as low flush toilets etc. This would allow for the treatment of the water to be controlled by a management company allowing suitable maintenance checks take place. Recycled grey water can be then fed back to the lots for use in irrigation and household non-potable uses. This recycled grey water could also be used for irrigation of the open spaces within the development.

1.0 Introduction

1.1 Background

AECOM Australia Pty Ltd was commissioned by the Urban Land Development Authority (ULDA) to prepare a flood study and an Integrated Water Cycle Management study. The proposed development will comprise of residential lots supported by a range of community, retail and recreational facilities. A key requirement is the need to produce an ecologically sustainable development, which incorporates Water Sensitive Urban Design (WSUD) principles as part of the development's water management systems. The Concept Master plan is shown in Appendix A.

The site is located 3km south of the Townsville CBD within the suburb of Oonoonba, and the Townsville City Council (TCC) local government area. A site locality plan is shown within **Figure 1.1.1**. The site covers an area of 83 hectares and is bounded by the Ross River to the north and the west, the north coast railway to the east and a sub-lot division to the south. The site includes a sand bank and a future road corridor which are both unsuitable for development therefore only 58.2 ha can be developed. The majority of the site is currently used for livestock grazing.

1.2 Study Objectives

1.2.1 Flood Study Objectives

The objectives of the flood study were to:

- determine preliminary baseline flood levels at and around the site;
- evaluate the impact of the development on flood levels;
- provide recommendations for flood mitigation works;

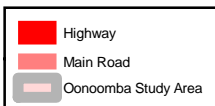
1.2.2 Water Cycle Management Study Objectives

The objectives of the water cycle management component of the study were to:

- prepare a WSUD strategy applicable to a dry tropics climate;
- minimise potable water consumption and reduce the quantity of effluent discharged to local waterways;
- establish water quality objectives (WQOs) for the development that protect and enhance downstream environmental values; and
- develop an integrated water management system that incorporates stormwater and wastewater reuse options supported by water quality modelling to demonstrate meeting the established WQOs for the development.



Scale: 1:25,000
 (when printed at A4)



Flood and Stormwater Management Study DPI Land, Oonoonba

Location Diagram

Figure 1.1.1

1.3 Scope of Works

1.3.1 Flood Study

The scope of works for the flood study included:

- review of previous flood studies and survey data;
- establishment of an XP-RAPTS hydrologic model to derive the local flow over the proposed site;
- use the broad scale model from the Townsville Flood Hazard Assessment Study to generate flow and level at the boundary of the detail model;
- development of the detailed base case MIKE FLOOD hydraulic model of the site;
- review the flood extents and assess impacts of the Concept Master plan against the base case results;
- assessment of the preliminary flood mitigation options.

1.3.2 Water Cycle Management Study

The scope of works for the water cycle management study included:

- review of previous soils, surface water, groundwater, wastewater and meteorological reports and data;
- identification of key receiving waters;
- establishment of a MUSIC water quality model to quantify baseline long term pollutant loads to the receiving waters;
- assessment of pollutant loads entering the Ross River using the MUSIC water quality model; and
- preparation of a water cycle management strategy.

2.0 Available Data and Background

2.1 Relevant Planning Controls

2.1.1 Environmental Protection (Water) Policy 1997

The *Environmental Protection (Water) Policy 1997* (EPP Water) seeks to protect and/or enhance the suitability of Queensland's waters for various environmental values. This policy guides the setting of indicators that will protect the environmental values of any water resource.

Indicators for environmental values are the properties of the water, such as physical and chemical parameters, that can be measured. The *Australian Water Quality Guidelines* (ANZECC 2000) and *Queensland Water Quality Guidelines* (QWQG, EPA 2006) prescribe properties that protect specific environmental values. The relevant environmental values for the DPI Land development include:

- ecosystem protection for the sensitive receiving waters;
- primary industries, including stock watering; and
- recreation and aesthetics for the proposed lake and receiving waters.

Appropriate environmental values for key receiving waters are discussed further in **Section 2.3.4**.

2.1.2 TCC Development Design Specifications

TCC has adopted a set of specifications for the design and construction of engineering infrastructure as the *Townsville City Council Development Specifications* (TCC, 2003), which are part of the *Townsville City Plan Policies 2005 (City Plan Policy 2)*. These are based upon the generic AUS-SPEC guidelines, which are intended as a national technical standard for local authorities. The relevant sections of these specifications include:

- *D5 – Stormwater Drainage Design*; and
- *D7 – Erosion Control and Stormwater Management Design Specification*;

Specification *D5* describes the hydrological and hydraulic modelling requirements for stormwater design. The specification mainly applies to the design of street and trunk drainage systems rather than WSUD measures. However, it also includes design standards for open channel drainage systems and retention basins, which will apply to the detailed design of the infrastructure.

Specification *D7* presents preferred treatment measures to enhance stormwater quality, and outlines general design principles for:

- detention basins / ponds;
- trash racks;
- gross pollutant raps (GPTs); and
- wetlands.

These design principles have been incorporated into the conceptual design of the proposed stormwater treatment controls.

2.2 Topographical data

2.2.1 Concept Masterplan

The development Concept Master Plan, shown in **Appendix A**, was obtained from ULDA. All references to land uses and proposed development in this report are based on the Master Plan.

2.2.2 General Topography

TCC provided, on the 8th of April 2010 LiDAR survey data. The data is accurate to ± 10 cm. The 25 cm contour lines were used in this study.

2.2.3 Bathymetric Data

Bathymetric data of the Ross River was provided by TCC as part of the TFHAS.

2.3 Climate Data

2.3.1 Design Rainfall Data

Design rainfall intensities, or Intensity Frequency Duration (IFD) data were determined from *Australian Rainfall and Runoff (AR&R 2001)*. A single IFD input data set was adopted for the catchment and the parameters are summarised in **Table 2.3.1**. Standard techniques from AR&R were used to determine rainfall intensities for durations up to 72 hours and frequencies up to a 100y ARI Event. The calculated design rainfall intensities are shown in **Table 2.3.2**.

Table 2.3.1 Adopted IFD Input Parameters for Ooonooba Catchments

Parameter	Value
Longitude (° E)	146.82
Latitude (° S)	19.27
1 hour, 2 year Intensity (mm/h)	55
12 hour, 2 year Intensity (mm/h)	11.6
72 hour, 2 year Intensity (mm/h)	3.75
1 hour, 50 year Intensity (mm/h)	112
12 hour, 50 year Intensity (mm/h)	24.8
72 hour, 50 year Intensity (mm/h)	9.5
Average Regional Skewness	0.05
Geographic Factor F_2	3.92
Geographic Factor F_{50}	17.0

Table 2.3.2 Design Rainfall Intensities for Ooonooba Catchments

Duration	2 Year ARI (mm/h)	5 Year ARI (mm/h)	10 Year ARI (mm/h)	20 Year ARI (mm/h)	50 Year ARI (mm/h)	100 Year ARI (mm/h)
5 min	149	196	223	260	308	346
6 min	141	185	211	246	291	327
10 min	118	155	177	206	245	275
12 min	111	145	166	193	229	257
15 min	101	133	152	177	210	236
18 min	94	123	141	164	195	219
20 min	90	118	135	157	186	209
24 min	83	109	124	145	172	194
30 min	75	98	113	131	156	175
45 min	62	81	93	108	129	145
1 h	53	70	81	94	112	126
1.5 h	42	55	63	74	88	99
2 h	35.2	46.5	53	62	74	83
3 h	27.4	36.2	41.6	48.6	58	65
4.5 h	21.4	28.2	32.4	37.9	45.2	51
6 h	17.9	23.6	27.2	31.7	37.9	42.6
9 h	13.9	18.4	21.2	24.8	29.6	33.3
12 h	11.7	15.5	17.8	20.8	24.8	28
18 h	9.2	12.4	14.3	16.8	20.2	22.9
24 h	7.76	10.5	12.2	14.5	17.5	19.8
30 h	6.79	9.27	10.8	12.8	15.6	17.7
36 h	6.07	8.34	9.77	11.6	14.1	16.1
48 h	5.05	7.01	8.26	9.86	12.1	13.8
72 h	3.83	5.4	6.41	7.7	9.49	10.9

2.3.2 Stream Gauging Data

No stream gauging data was used in this study.

2.3.3 Environment Values

Appropriate Environment values (Refer to **Section 2.1**) have been identified for the specific key receiving waters of Ross River.

The Identified environmental values for the Ross River receiving water are:

- Ecosystem protection (level 2) – while the receiving waters of Cleveland Bay have high environmental values, the current condition of the Ross River Ecosystem can be identified as slightly to moderately disturbed. This is due to runoff from urbanised areas, upstream clearing of the catchment, and commercial and industrial pressures; and
- Recreation and aesthetics – The Ross River is mainly used for secondary contact recreation (e.g. boating, angling);

2.3.4 Water Quality Data

In the absence of useful site specific water quality monitoring data, guideline values have been taken from either ANZECC or the QWQG. Where possible in this study, guideline values have been derived from the QWQG, as they contain regional data more relevant to the study area. These guideline values for the identified receiving waters are shown italicised in **Table 2.3.4**.

These guideline values are intended as long-term background levels for the sensitive receiving waters downstream of the site. They are not intended for comparison to water quality model results within the site. As little local baseline data is available to determine appropriate comparison values, it is proposed to evaluate the impact of the development in terms of long-term pollutant loading. This will be accomplished by:

- establishing long-term baseline pollutant loads from a MUSIC model of the current land uses in the Oonoonba catchment;
- modifying the baseline MUSIC model to incorporate the effects of the development due to changes in land use as per the Concept Master Plan; and
- examining the relative increase in long-term pollutant loads to the sensitive receiving waters.

The overriding water quality objective that has been adopted for this investigation is to match or exceed the minimum load reduction targets for stormwater quality for the Dry Tropics outlined in the QWQG which is shown in **Table 2.3.3**.

Table 2.3.3 Summary of design objectives for stormwater quality

Region	Minimum* reductions in mean annual loads from the Design Case (%)			
	Suspended Solids (TSS)	Total Phosphorus (TP)	Total Nitrogen (TN)	Gross Pollutants >5mm
Dry Tropics	80	65	40	90

Table 2.3.4 Regional Water Quality Guideline Values for Central Coast Region (EPA 2006)

	Physico-chemical indicator and guideline value (slightly-moderately disturbed systems)															
	Amm N ⁵	Oxid N ⁵	Org N ⁵	Total N	FiltR P	Total P	Chl- a	DO (%sat ⁿ)		Turb	Secchi	SS	pH		Conductivity ¹	Temperature
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	lower	upper	NTU	m	mg/L	lower	upper	µS/cm	°C
Open coastal	6	3	130	140	6	20	1	95	105	1	5	10	8	8.4	n/a	n/a
Enclosed coastal	8	3	180	200	6	20	2	90	100	6	1.5	15	8	8.4	n/a	
Mid-estuarine and tidal canals, constructed estuaries, marinas and boat harbours	10	10	260	300	8	25	4	85	100	88	1.08	208	7	8.4	n/a	
Upper estuarine	30	15	400	450	10	40	10	70	100	258	0.48	258	7	8.4	n/a	
Lowland streams	10	20	60	420	500	20	50	5	85	110	0.50	n/a	6.5	10	375	
Upland streams	10	10	15	225	250	15	30	n/a	90	110	0.25	n/a	–	6.5	375	
Freshwater lakes/reservoirs	10	10	330	350	5	10	5	90	110	1–20	nd	nd	6.5	8	375	
Wetlands ²	10	10	nd	350- 1200	5-25	10-50	10	90	120	nd	nd	nd	6	8	nd	

NOTES:

1. Conductivity data based upon Appendix G of Queensland Water Quality Guidelines (EPA 2006).
2. Wetlands data based upon Australian Water Quality Guidelines (ANZECC 2000) for tropical Australia.
3. Value “nd” indicates no data available.
4. Values are upper limits for median values, or ranges in which median values should lie unless otherwise stated.
5. Amm – ammoniac, Oxid – oxidised, Org – organic, Filtr – filterable reactive.

2.4 Site Assessment

2.4.1 Overview

Several site investigations were conducted to aid the Water Cycle Management Investigation. This included:

- Contaminated Site investigation
- A Geotechnical investigation

2.4.2 Contaminated Site Investigation

An contaminated site investigation was conducted by AECOM in May 2010. With regards to the water cycle assessment, the primary findings of the draft contaminated site report are:

- Removal of contaminated soil within the area of the dipping site.

2.4.3 Geotechnical Investigation

A geotechnical investigation was carried out by Douglas Partners in May 2010. AECOM reviewed the finding and presented a technical report on the Land Suitability for Residential Development. With regards to the water cycle assessment, the primary findings of the draft geotechnical report are that:

- Groundwater water levels recorded in test pit holes was unexpectedly variable. For example TP8 was very high at RL 3.2m, whilst elsewhere levels of RL 2.5m and RL 0.85m were recorded and in other places no water level was detected at all; and
- Sub Soils within the site are generally sandy although significant clay layers are found too.

2.5 Previous Study

2.5.1 Townsville Flood Hazard Assessment Study AECOM (December 2005)

Maunsell Australia Pty Ltd was commissioned by TCC to undertake a Disaster Risk Management Study specific to flooding. The *Townsville Flood Hazard Assessment Study* (TFHAS) modelled the hydrology and hydraulics of the Townsville floodplain to quantify broad-scale flood inundation in Townsville and define flood risks across the study area.

The study used an XP-RAFTS hydrologic model to simulate local catchment flows, including those within the Ross River catchment downstream of the Ross River Dam. Ross River Dam flows were not considered as part of the TFHAS. A combination of a one-dimensional MIKE 11 and two-dimensional MIKE 21 hydraulic modelling was used to represent the floodplain area of Townsville.

This study has been adopted by TCC for the purposes of defining flood risks across the study area. Flood maps were produced for a range of design events to identify areas at risk from flooding. The flood levels produced were suitable for the purposes of disaster mitigation, however, need to be confirmed with site specific flood modelling to be used for floodplain planning.

2.5.2 Abbott Street Hydraulic Assessment Study, AECOM (October 2009)

AECOM was commissioned by *Flanagan Consulting Group* (FCG) to undertake a hydraulic assessment of Ross River as part of the business case for the Abbott Street Deviation. This report assessed Ross River and the local watercourse catchments upstream of the Abbott Street Deviation alignment to:

- establish flood levels and velocities for the input to design of the Abbott Street Deviation project; and
- determine the impact of the design on flooding.

2.6 Hydraulic Background and Design Criteria

2.6.1 Lot Level

According to the TCC policy the lot level must be above the 50 year ARI water surface level. ULDA requires lot level to be above the 100 year ARI water surface level. Therefore the 100 year ARI water surface level has been adopted as the minimum lot level as it is the most stringent policy.

The proposed development is situated on a site prone to river flooding and storm tide flooding. A minimum lot level also has to be defined to be above the storm tide flood sea levels.

This study has taken storm surge, sea level rises and the effects of climate change into consideration to provide a minimum acceptable lot level elevation.

The *Draft Queensland Coastal Plan – Draft State Policy Coastal Management* (2009) by the Department of Environment Resource Management (DERM) indicates that, when considering the impacts of sea level rise on existing and proposed development, the following minimum assessment factors should be considered:

- A planning period of 100 years.
- A projected sea level rise of 0.8m by 2100 (due to climate change).
- A 100 year ARI storm event/ flood level.
- An increase in cyclone intensity of 10%.

The *Townsville - Thuringowa Storm Tide Study* (2007) by GHD estimates that the estimated return period for a total storm tide level of 3.0m is 100 years. The study also estimates a 0.1 m increase in total storm tide levels at the Ross River in 2050 under enhanced greenhouse conditions. This corresponds to an increased intensity of 10%.

This study has adopted 3.9m AHD has been adopted as the minimum lot level, based on:

- 3.0m storm tide level at the Ross River(*Townsville - Thuringowa Storm Tide Study*)
- 0.8m sea level rise (*Draft State Policy Coastal Management*)
- 0.1m due to 10% increase in cyclone intensity (*Townsville - Thuringowa Storm Tide Study and Draft State Policy Coastal Management*)

2.6.2 Floor Level

The Townsville City Council has recently merged with the Thuringowa City Council. Prior to the merge, the two councils had opposing design criteria in relation to future development floor levels.

- Townsville City Council: 50 year ARI Flood Level + 300 mm freeboard
- Thuringowa City Council: 50 year ARI Flood Level + 450 mm freeboard

ULDA a separate government body, states that the floor level should be the lot level with a 300mm freeboard that is in that particular case the 100 year ARI water surface level +300mm.

This study will adopt the most conservative design criteria applicable for floor levels, either the 50 year ARI water level with 450 mm freeboard or the 100 year ARI water level with 300mm freeboard whichever is the greater.

2.6.3 Flood Impact

The Townsville City Council also requires that the development has no adverse flooding impacts on adjacent properties in the 50 Year ARI events. However the ULDA, states that the design event should be the 100 year ARI event, and it is possible that the Townsville City Council may adopt the 100 year ARI flood event as their Defined Flood Event (DFE) in the near future. Therefore the 100 year ARI flood event was adopted as the DFE in assessing flood impacts.

2.6.4 Adopted Design Criteria

In summary this study has adopted the following design criteria for lot level and floor levels.

- The lot level must be set higher than(whichever is greatest):
 - the 100 year ARI flood event water surface level (ULDA criteria); or
 - RL 3.9 m
- The floor level must be set higher than (whichever is greatest):
 - the 100 year ARI flood event water surface level with a 300mm freeboard (ULDA criteria); or
 - the 50 year ARI flood event water surface level with a 450mm freeboard (TCC criteria); or
 - RL 3.9m with a 300 mm freeboard (ULDA criteria).

In addition to these design criteria, the proposed development must have no adverse impact on adjacent properties in the 100 year ARI flood event.

3.0 Hydrologic Modelling Assessment

The local catchment analysis of the proposed site, used the “Runoff Analysis and Flow Training Simulation” (RAFTS) software as published by XP-software. Model input includes catchment characteristics such as area slope, land use, rainfall distribution and rainfall losses. Runoff hydrographs are typically output from the model. The model calculates catchment flows from rainfall based on Laurensen’s non-linear routing method. The model is able to estimate flows for both urban and rural catchments and has found widespread use in Queensland.

3.1 Base Case

XP-RAFTS was used to generate runoff hydrographs. The hydrographs were later applied as point source inflows in the MIKE FLOOD model. Outside the proposed site of development, the XP-RAFTS model results from the TFHAS was used.

3.1.1 Design Rainfall

The IFD parameters calculated for the local flow over the Ooononba catchment site were used to generate design storms from 1 hour to 72 hour duration for the 100 year ARI event.

A single rainfall loss model was adopted for the Ooononba sub-catchment. Initial Loss (IL) and Continuing Loss (CL) values for pervious and impervious areas are shown in **Table 3.1.1**. These values are within the range recommended by AR&R 1997 for Eastern Queensland and are consistent with those used in similar studies in the North Queensland region.

Table 3.1.1 Adopted rainfall loss parameter for RAFTS model

Design storm ARI [year]	Pervious Area		Impervious area	
	Initial [mm]	Continuing [mm]	Initial [mm]	Continuing [mm]
100	20	2.5	1.5	0

3.1.2 Sub-Catchments

Sub-catchment boundaries were defined from the available topographic maps based on the natural topography, surface roughness, and key locations where hydrographs were required for the hydraulic model and verification. The detailed sub-catchment breakdown is shown in **Figure 3.1.1**.

The model requires the input of the following sub-catchment parameters:

- Sub-catchment area;
- Slope;
- Surface roughness (Pern n^*); and
- Percentage impervious.

The adopted sub-catchment parameters for the existing Local Ooononba catchment and TFHAS models are listed in **Table 3.1.2** and **Table 3.1.3** respectively.

Table 3.1.2 Local Ooononba Catchment Base Case RAFTS-XP Model Parameters

Sub-catchment	Area (ha)	Roughness (Pern n^*)	Impervious fraction (%)	Slope (%)
LOW-01B	9.5	0.04	0	1.3
LOW-01A	7.5	0.04	0	1.3
LOC-01	4.9	0.04	0	1.6
LOC-02A	2.1	0.04	20	2.0
LOC-02B	8.2	0.04	0	1.1
LOC-03A	5.9	0.04	15	2.0
LOC-03B	6.4	0.04	0	1.6
LOC-04A	1.4	0.04	0	2.9
LOC-04B	4.5	0.04	0	1.6
LONE-01A	2.6	0.04	0	1.8

Sub-catchment	Area (ha)	Roughness (Pern n^*)	Impervious fraction (%)	Slope (%)
LONE-01B	2.3	0.04	0	1.7
LOE_01A	13.1	0.04	0	0.9
LOE-01B	7.9	0.04	0	1.7
LOSE-01	9.5	0.04	30	1.6
LOSE-02	6.2	0.04	15	0.7
LON-01	3.3	0.04	0	1.2

Table 3.1.3 TFHAS Catchment Base Case RAFTS-XP Model Parameters

Sub-catchment	Area (ha)	Roughness (Pern n^*)	Impervious fraction (%)	Slope (%)
GRR-14	76.7	0.04/0.025	32	.9
GRR-23	70.0	0.04/0.025	19	.5
LGC-FF09	38.9	0.04/0.025	37	0.3
LGC-FF10	16.2	0.07	1	0.4
LGC-FF11	36.4	0.07/0.025	11	0.7
LGC-FF12	42.5	0.07/0.025	2	0.3
LGC-GM07	26.9	0.06/0.025	31	0.5

3.1.3 Critical Duration

For the Ross River flood event, previous assessments (*TFHAS, 2005*) have determined that the critical duration for the Ross River north of the site is 72 hours.

A range of different durations were compared to determine the critical duration for the local catchment flood event. **Table 3.1.4** shows the results of the 100 Year ARI peak discharges at the outlet to the main flow path running centrally to the north of the site (OC sub-catchment) for standard durations ranging from 0.5 hour to 24 hours. The 1.5 hr storm is the critical storm duration.

Table 3.1.4 50 year ARI Peak Discharges – OC Sub-Catchment

Duration (hr)	100 year ARI Peak Discharge (m^3/s)
0.5	5.5
1.0	8.4
1.5	8.6
2	8.3
3	7.9
4.5	7.0
6	6.5
9	7.8
12	5.5
24	8.4



XP RAFTS Setup

- Links
- Nodes
- Catchments



0 50 100 200
Metres
Scale: 1:5,000 (when printed at A3)

PROJECT ID 60158781
LAST MODIFIED dxe 30-Jul-2010
FILE NAME 60158781G_RpL_01



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3.2 Design Case

The base case hydrologic model was adjusted to account for the development based on the proposed land uses specified in the Concept Master plan. The adopted impervious percentage areas for the proposed land uses are shown in **Table 3.2.1**. For all urbanised catchments, the split catchment option was used to separate model run-off from the pervious and impervious portions of the sub-catchments. The adopted sub-catchment parameters for the developed case model are listed in **Table 3.2.2**.

Table 3.2.1 Adopted Hydrologic Parameters for Urbanised Land Uses

Land Use Category	Fraction Impervious	Sub-catchment Roughness (Pern n)*
Residential		
Low density sustainable village	0.20	0.018
Standard	0.45	0.018
Medium density	0.60	0.018
High density	0.70	0.018
Neighbourhood centre	0.80	0.018
Town centre – retail / mixed use	0.85	0.018

Table 3.2.2 Local Ooononba Catchment Design Case XP-RAFTS Model Parameters

Sub-catchment	Area (ha)	Roughness (Pern n^*)	Impervious fraction (%)
LOW-01B	9.5	0.04/0.018	0
LOW-01A	7.5	0.04/0.018	0
LOC-01	4.9	0.04/0.018	60
LOC-02A	2.1	0.04/0.018	60
LOC-02B	8.2	0.04/0.018	60
LOC-03A	5.9	0.04/0.018	60
LOC-03B	6.4	0.04/0.018	60
LOC-04A	1.4	0.04/0.018	50
LOC-04B	4.5	0.04/0.018	50
LONE-01A	2.6	0.04/0.018	50
LONE-01B	2.3	0.04/0.018	40
LOE_01A	13.1	0.04/0.018	60
LOE-01B	7.9	0.04/0.018	50
LOSE-01	9.5	0.04/0.018	40
LOSE-02	6.2	0.04/0.018	40
LON-01	3.3	0.04/0.018	50

3.3 Model Verification

The XP-RAFTS hydrologic models could not be calibrated due to the lack of stream flow gauging information for floods in the proposed development. In the absence of calibration data it was necessary to verify the models using other methods.

The model was initially verified to the discharges predicted by the Bransby-Williams Rational Method during a 100 Yr ARI critical storm event. It was found that good agreement could be achieved.

3.4 Hydrologic Results

The results of the XP-RAFTS hydrologic models are summarised in **Table 3.4.1**. It should be noted that these flows represent peak total flows at each node. They do not represent actual flood flows, as they do not take routing, storage or backwater effects which are simulated in the dynamic hydraulic model. The XP-RAFTS hydrographs provide input as source points to the MIKE FLOOD hydraulic model.

Table 3.4.1 Summary of XP-RAFTS Model Flows for Oonoonba Catchment

Sub-catchment	100 Yr ARI Peak Flow	
	Base	Design
LOW-01B	3.1	3.1
LOW-01A	2.5	2.5
LOC-01	1.9	2.8
LOC-02A	1.0	1.3
LOC-02B	2.5	4.3
LOC-03A	2.4	3.4
LOC-03B	2.3	3.5
LOC-04A	0.7	0.9
LOC-04B	1.7	2.3
LONE-01A	1.1	1.5
LONE-01B	1.0	1.2
LOE_01A	3.2	4.9
LOE-01B	2.3	3.7
LOSE-01	2.9	3.5
LOSE-02	1.6	2.4
LON-01	1.2	1.7

4.0 Hydraulic Modelling

MIKE FLOOD is a numerical hydraulic model developed by the Danish Hydraulic Institute (DHI). It is a flood modelling package which dynamically links the one-dimensional river hydraulics model component, MIKE11, with the two-dimensional surface water model, MIKE21. MIKE FLOOD can be used to simulate:

- coincident river and storm surge flooding in coastal areas;
- the detailed flooding pattern on floodplains in terms of flow velocities and water levels;
- water exchange between channels, canals and adjacent floodplains, ponds, reservoirs, lakes etc ; and
- flood waves in channels and on flood plains associated with a dam failure.

MIKE FLOOD also provides an appropriate method to include hydraulic structures such as bridges and culverts into a MIKE21 grid. Outputs from MIKE FLOOD include GIS compatible maps of water depth, water level and velocity, along with time series of these and other hydraulic parameters.

4.1 Hydraulic Methodology

A MIKE FLOOD model was used to represent the flooding mechanism at the site of the proposed development along the Ross River. The MIKE FLOOD model extent is shown in **Figure 4.2.1**.

The methodology adopted in the hydraulic set up of the base case model is as follow:

- Prepare base case detail MIKE FLOOD model :
 - Develop the existing base case topographical model
 - Incorporate the Bridge and culvert structures
 - Prepare a roughness model based on aerial photos
- Run the large scale hydraulic model of the Townsville Flood Hazard Assessment study (TFAS) .
- Extract flow and level from the large scale model results, at the location of the upstream and downstream boundaries of our detail model.
- Run the detail model with the following flow condition:
 - Incorporate results from the detail hydrological model of the site
 - Incorporate local flows included in the large scale hydrological model falling within the extent of our model
 - Use result from the large scale model as upstream and downstream boundary
- Compare the result of the detailed base model against the result of the large scale model
- Develop and assess the four design scenarios against the base case.

4.2 Base Case

4.2.1 Topography

The LiDAR data and the bathymetric data of the Ross River were incorporated to develop a terrain model with a grid spacing of 5m. This grid spacing is fine enough to define the Ross River and the surrounding development for the purpose of this assessment. Details of the proposed sub-divisions were manually inserted into the topographic grid from proposed planning layouts. The topographic grid is shown in Figure 4.2.1.

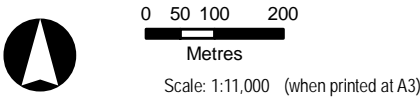
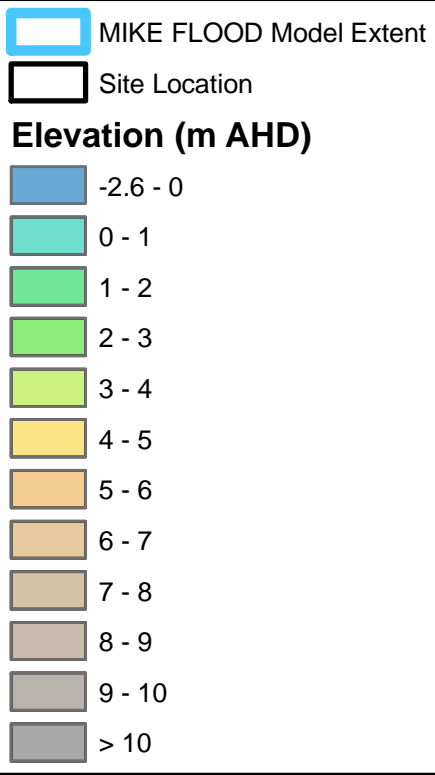
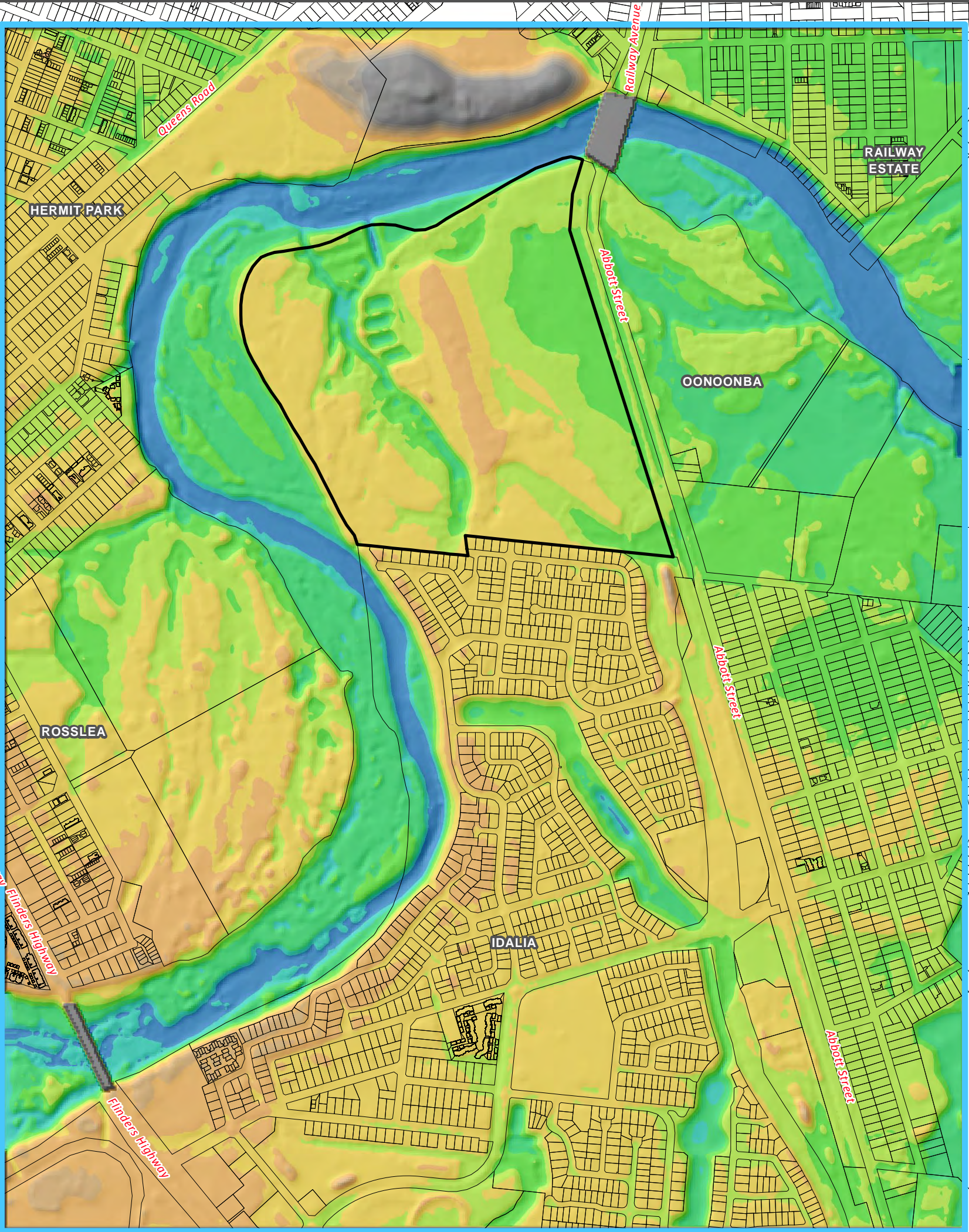
4.2.2 Roughness

Figure 4.2.2 shows the distribution of adopted roughness within the model and **Table 4.1** shows the values for specific land use types. The values are within the appropriate range for the observed vegetation and land use, as per AR&R (1998).

Table 4.1 Adopted Hydraulic Roughness Values

Land Use	Manning's n Value
Mangrove	0.070
Houses	0.050
Vegetated Ground	0.040
Golf Course	0.035
Bare Ground	0.035
Road	0.020
River Bed	0.015

Flood and Stormwater
Management Study
DPI Land, Oonoonba
Base Case Topography
Figure 4.2.1



PROJECT ID 60158781
LAST MODIFIED dxe 30-Jul-2010
FILE NAME 60158781G_RpL_02

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Flood and Stormwater
Management Study
DPI Land, Oonoonba
Roughness Distribution

Figure 4.2.2



Site Location

Mannings n

0.070
0.050
0.040
0.035
0.020
0.015



0 50 100 200
Metres

Scale: 1:11,000 (when printed at A3)

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4.2.3 Boundary Conditions

The TFHAS hydraulic model was run for a range of ARI flood and with MHWS level as tail water condition. At the western boundary of the detail MIKE FLOOD model, flows from the TFHAS model were applied as boundary conditions. At the eastern boundary, water surface level results were applied as tail water level boundary.

Figure 4.2.3 shows the flow and level boundaries which were applied to the detail model in the 100 year ARI event.

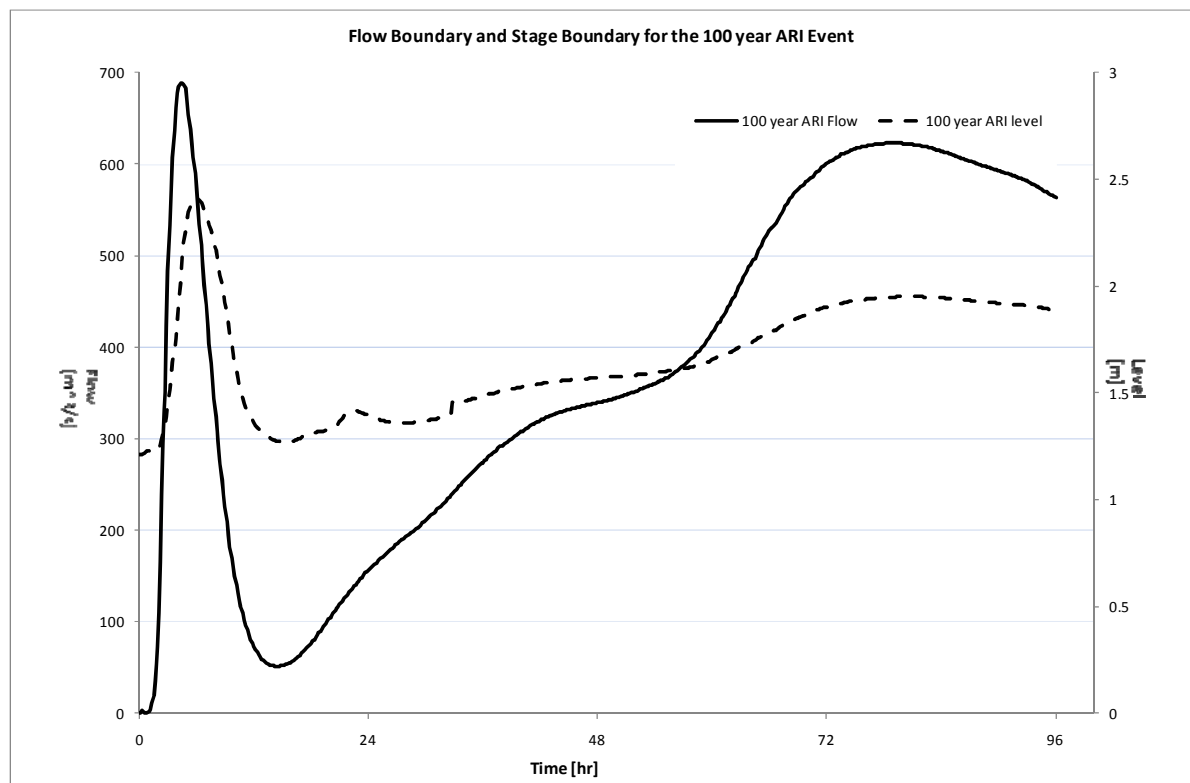


Figure 4.2.3 Flow and stage for the 100 year ARI event in Ross River

Sub-catchment inflow hydrographs were determined from the XP-RAFT hydrologic modelling and applied as source points and boundary inflows within the model.

4.2.4 Local inflow on the site

As seen in **Section 3.1**, the proposed site for development was divided into 16 sub catchment to measure and model adequately the local runoff.

The location of the local runoff hydrograph is shown in **Figure 4.2.4**.

4.2.5 Local Inflows from TFHAS

Twelve local inflow hydrographs from the TFHAS hydraulic model fall within the domain of our MIKE FLOOD model. The location of the local inflows hydrograph can be seen in **Figure 4.2.5**; it should be noted that 5 of those local inflow hydrographs were not incorporated in the ULDA model, as explained in **Table 4.2**.

Table 4.2 TFHAS local catchment inflow not incorporated into the detail model

Cause	Catchment not incorporated
Overlapping with the detailed hydrological study of the site	G-RR15 LRR-RL12 LRR-M002
Natural drainage path closed by the boundary of the model	LGC-GM02 LGC-GM03

To determine maximum flood levels on site the local catchment critical duration of 1.5 hours was run for the local flows whilst a critical duration of 72 hours was run for the Ross River.



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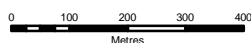
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Flood and Stormwater Management Study DPI Land, Oonoonba
Details of the TFHAS Domain with Local Inflow and
Extents of the ULDA hydraulic model

Figure 4.2.5

4.2.6 Bridge and Culvert Details

Three bridges cross the Ross River on the northern edge of the proposed development site and one at 1.4km upstream of the site. The three bridges on the northern edge of the site were modelled based on the details used in the *Abbott Street Hydraulic Assessment Study*.

The dimensions of the culverts were estimated following a site visit. All the details of the existing structures included in the model are shown in **Tables 4.3** and **4.4**.

Figure 4.2.6 highlights the position and sizes of the culverts within the hydraulic model.

Table 4.2 Existing Culvert Details

Reference	Structure	Configuration	Invert Level U/S (m AHD)	Invert Level D/S (m AHD)
1	North culvert	0.6 RCP	3.14	2.66
2	Mid culvert 1	0.9x0.75 RCBC	2.581	2.66
3	Mid culvert 2	0.9x0.75 RCBC	2.78	2.63
4	South Culvert	2/1.5x1.5 RCBC	2.32	2.2

Table 4.3 Existing Bridge Details

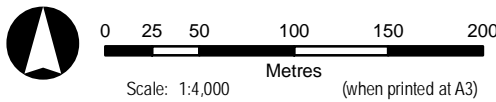
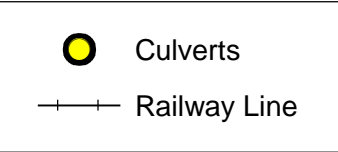
Reference	Structure	Top Deck Level (m AHD)	Lower Deck Level (m AHD)	Number of pier	% of Blocked flow area
1	Railway Bridge	3.235	2.59	13	18%
2	Pedestrian Bridge	3.235	2.49	22	11%
3	Road Bridge	3.58	2.6	16	11%
4	Flinders Highway Bridge	6.5	6.0	17	12%



Flood and Stormwater
Management Study
DPI Land, Onoonba

Culverts Located Under
Albert Street

Figure 4.2.6



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4.3 Model Calibration, Sensitivity and Mass Balance

4.3.1 Calibration

The model was calibrated for the 100 year ARI flood event with a MHWS tail water level, against the results from TFHAS. **Figure 4.3.1** shows that at the proposed site the models are giving very closely related results.

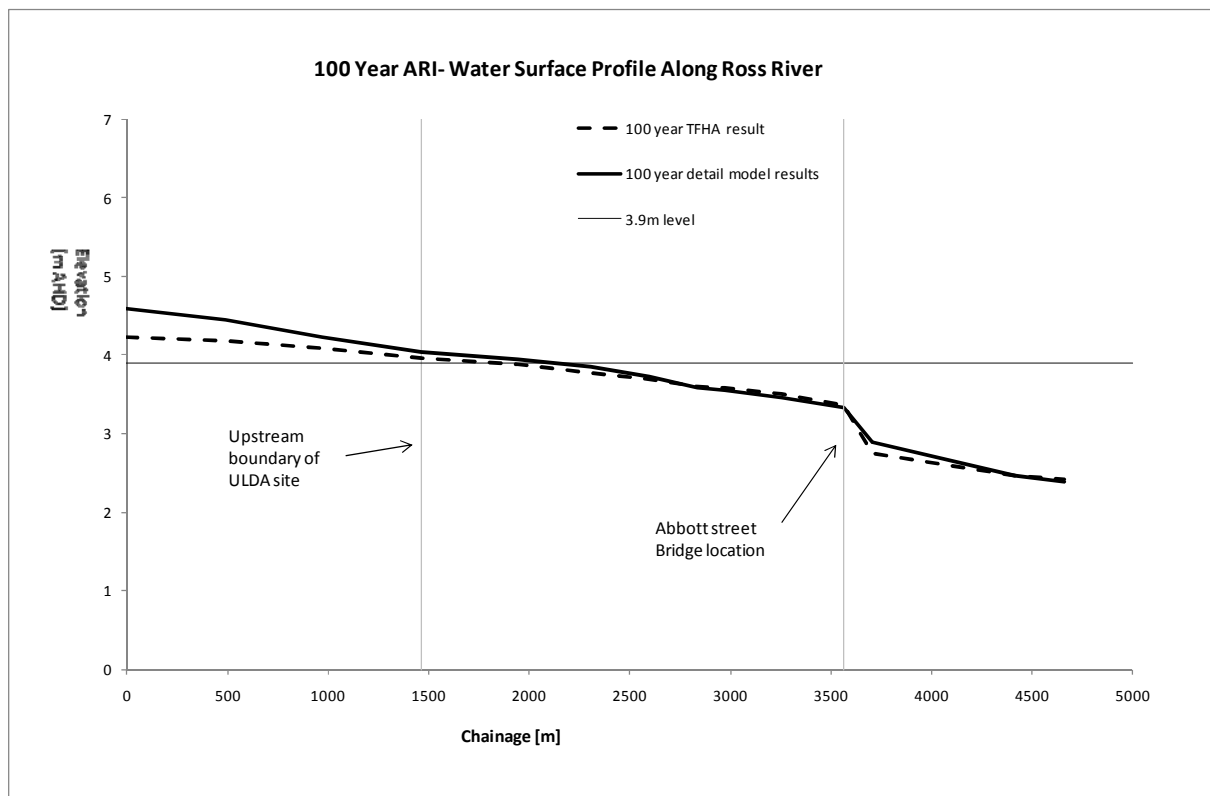


Figure 4.3.1 100 year ARI flood event water level profile

4.3.2 Sensitivity Analysis

The sensitivity of the model to changes in the roughness values was assessed. Manning's n was increased by 20% in one case and decreased by 20% in a second case. **Figure 4.3.2** shows that the model is not over sensitive to changes in roughness value.

The sensitivity to change in downstream condition was not assessed as the detailed model is effectively an embedded model where flow and water level boundary condition are extracted from the large scale TFHAS model.

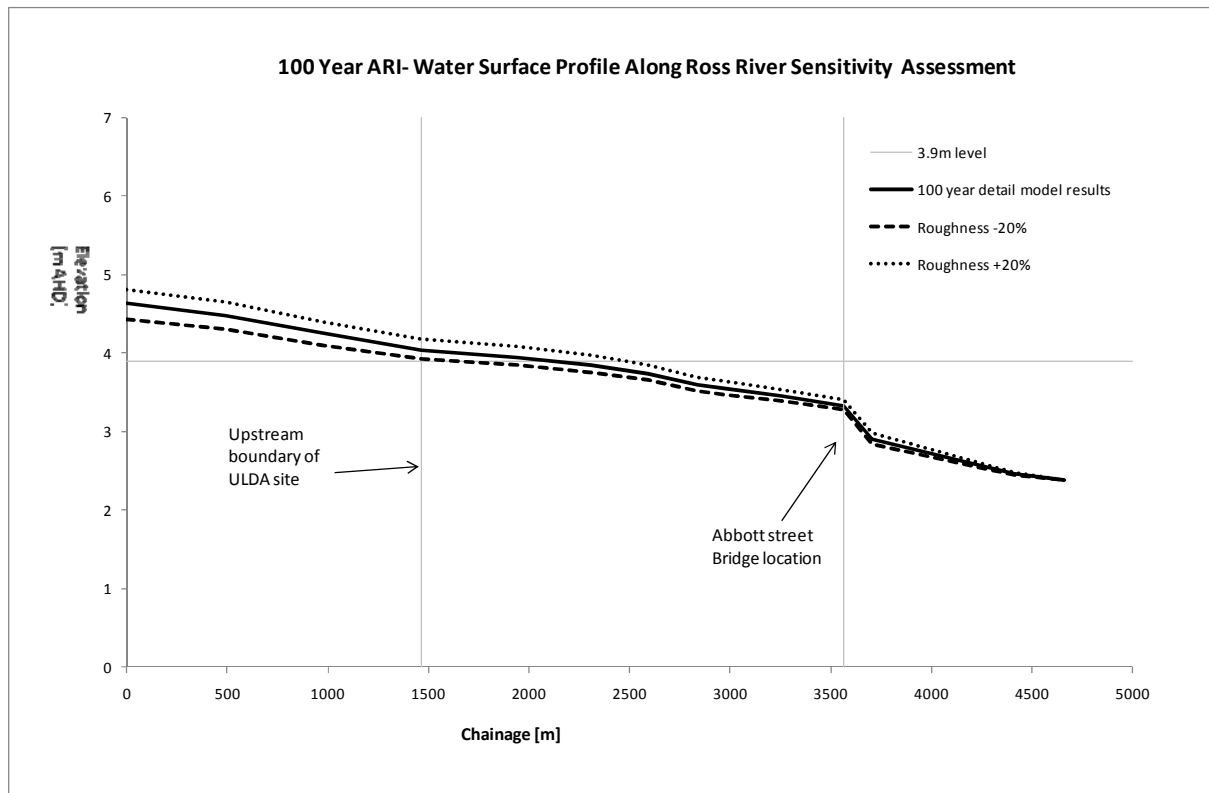


Figure 4.3.2 Water Surface Level Sensitivity

4.3.3 Mass Balance

To check the validity of the MIKE FLOOD model, an investigation of the mass balance was also undertaken. This is the relationship between the inflow and the outflow volume, and represents the theoretical mass gain in the model domain.

This theoretical mass gain was then compared to the actual mass gain measured in the domain. The difference between these two values represents the absolute mass gain error.

Figure 4.3.3 presents the absolute mass gain error and the relative mass gain error against the inflow volume. This figure shows that typically the relative mass gain error is less than 0.5 % of the total inflow, and therefore is insignificant.

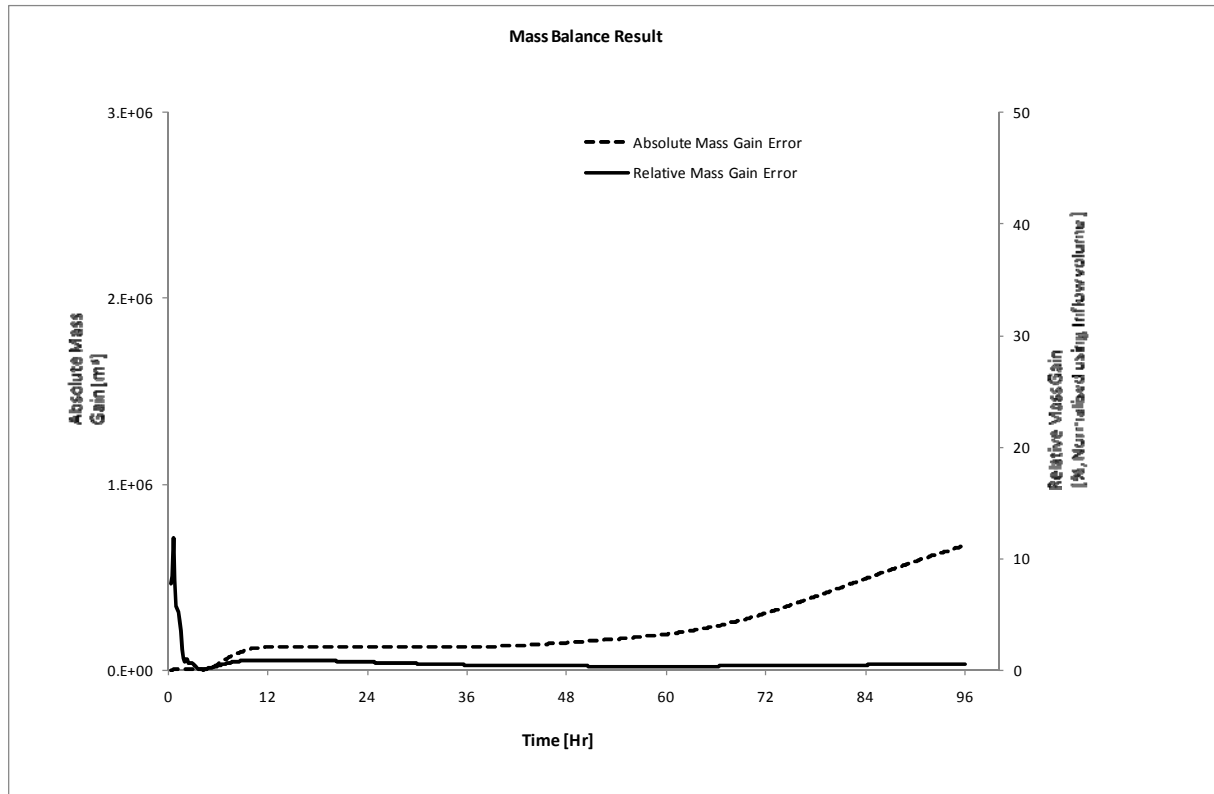


Figure 4.3.3 Mass Balance Result

4.4 Hydraulic Results

The results of the different scenarios assessed as part of this flood study are presented in this section. The impact on the water surface level was measured for the 100 year ARI flood event in all the scenarios.

The base case (Scenario1) and the following four design scenarios:

Scenario 2 - Developed case without Mitigation

Scenario 3 - Reduced development footprint

Scenario 4 - Mitigation cut on the North West corner

Scenario 5 - Mitigation cut on the North side

4.4.1 Scenario 1 - Base Case

Figure 4.4.1 shows the 100 year ARI water surface levels prior to any development on the proposed site. The base case MIKE FLOOD model is representative of the current conditions and is appropriate to assess development at the site. The relative impact on the water surface level of the following four design scenarios is measured against those levels.

4.4.2 Scenario 2 – Developed Case without Mitigation

In the developed case scenario, the site is assumed to be fully developed. The total number of detached house lots is 762 and the volume of fill material needed to set the lot level at RL 3.9m is 273 000m³.

Figure 4.4.2 demonstrates that if the proposed site is fully developed the relative impacts in a 100 year ARI event are too high and too widespread to be accepted by TCC. This is mostly due to loss of storage in the central part of the proposed development site.

4.4.3 Scenario 3 - Reduced Development Footprint

In scenario 3, a large portion of the ground in the middle of the proposed site is left undeveloped. The total area of land left undeveloped is 6.2ha. The number of proposed lot is reduced from 762 to about 664.

Figure 4.4.3 shows that as result of this reduced development footprint, the relative impact on the water surface level has considerably reduced. The flood extent is completely contained within the river and does not affect significantly any neighbouring properties.

4.4.4 Scenario 4 - Mitigation 1 North West Cut

In scenario 3, the impact of a compensatory cut on the North West corner of the proposed site was investigated. The proposed cut is 0.98 ha large and is set at a constant level of 2.4m AHD. The total volume of the proposed cut is 11100m³; the number of proposed lot is still 762. The relative impact of this option on the water surface level is shown in **Figure 4.4.4**. The rest of the site is assumed to be fully developed.

The flood extent is also completely contained within the river and does not affect significantly any neighbouring properties. The relative impacts on the water level upstream of the cut are lower than in scenario3.

4.4.5 Scenario 5 - Mitigation 2 North Cut

Scenario 5 investigates the effect of a compensatory cut on the northern edge of the site, in conjunction with the slightly reduced development footprint. The level of the proposed cut is 2.3 m AHD over a total area of 2.7 ha. The total volume of the proposed cut is 28,000 m³. Additionally an area of 2.8 ha is left as existing ground. The total number of lot is reduced to approximately 683.

Figure 4.4.5 shows that the relative impact on the water surface level of scenario 5 is also limited in space and in magnitude. The flood extent is completely contained within the river and does not affect significantly any neighbouring properties. This scenario has the lowest impact on the water level.

**Flood and Stormwater
Management Study
DPI Land, Oonoonba**
Base Case 100yr ARI Water Levels
Figure 4.4.1



Site Location

Water Levels (m AHD)

1.21 - 1.25

1.25 - 1.50

1.50 - 1.75

1.75 - 2.00

2.00 - 2.25

2.25 - 2.50

2.50 - 2.75

2.75 - 3.00

3.00 - 3.25

3.25 - 3.50

3.50 - 3.75

3.75 - 4.00

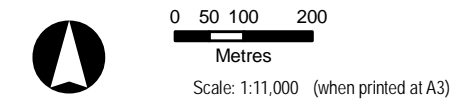
4.00 - 4.25

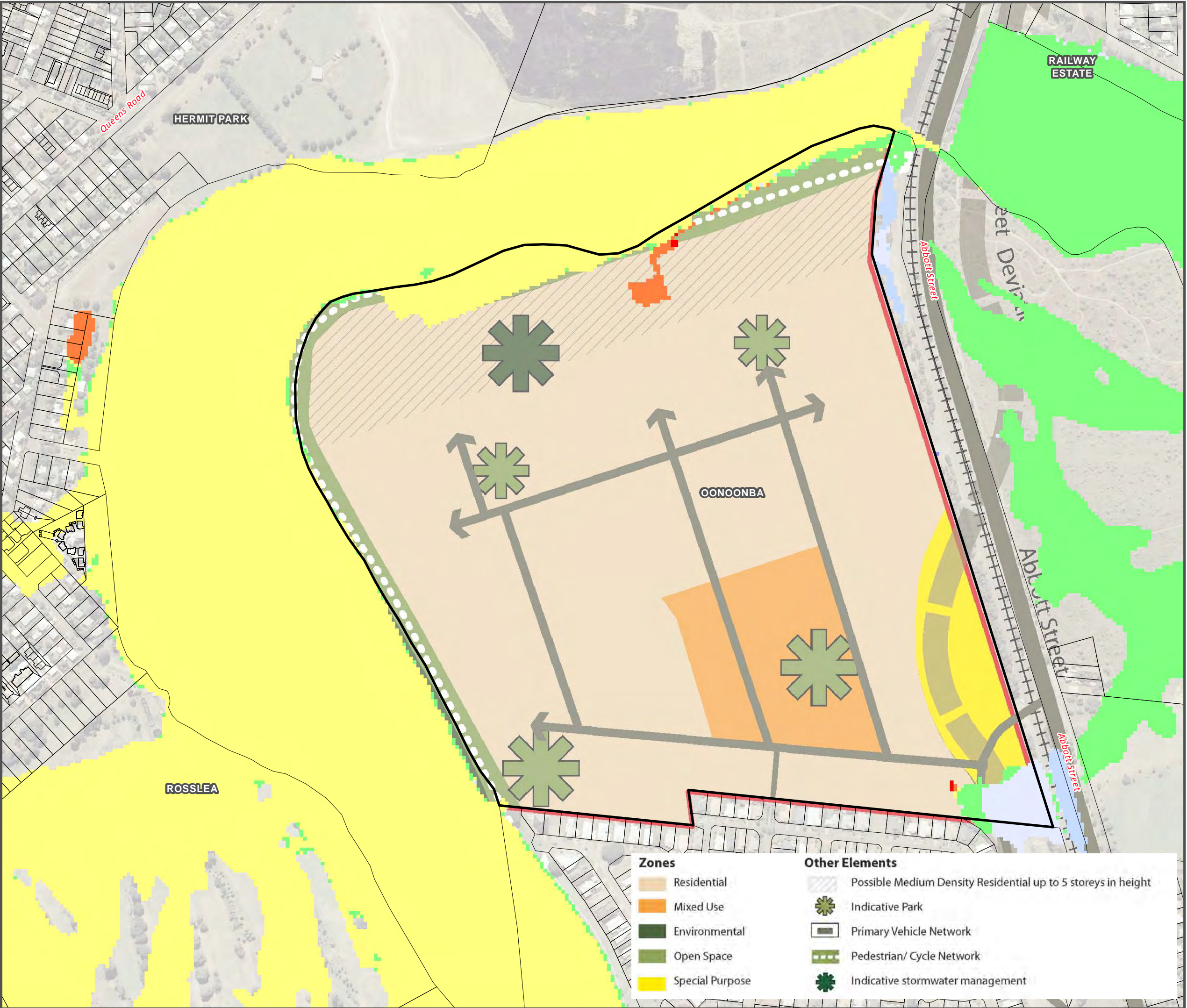
4.25 - 4.50

4.50 - 4.75

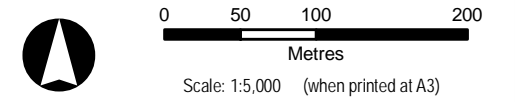
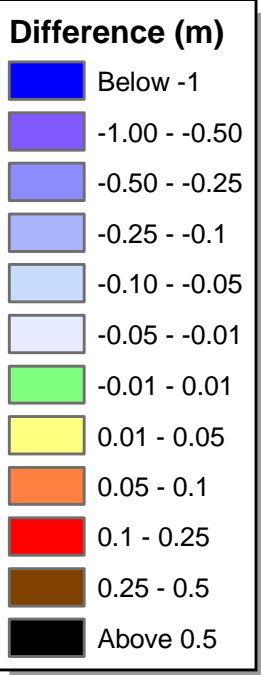
4.75 - 5.00

> 5.00

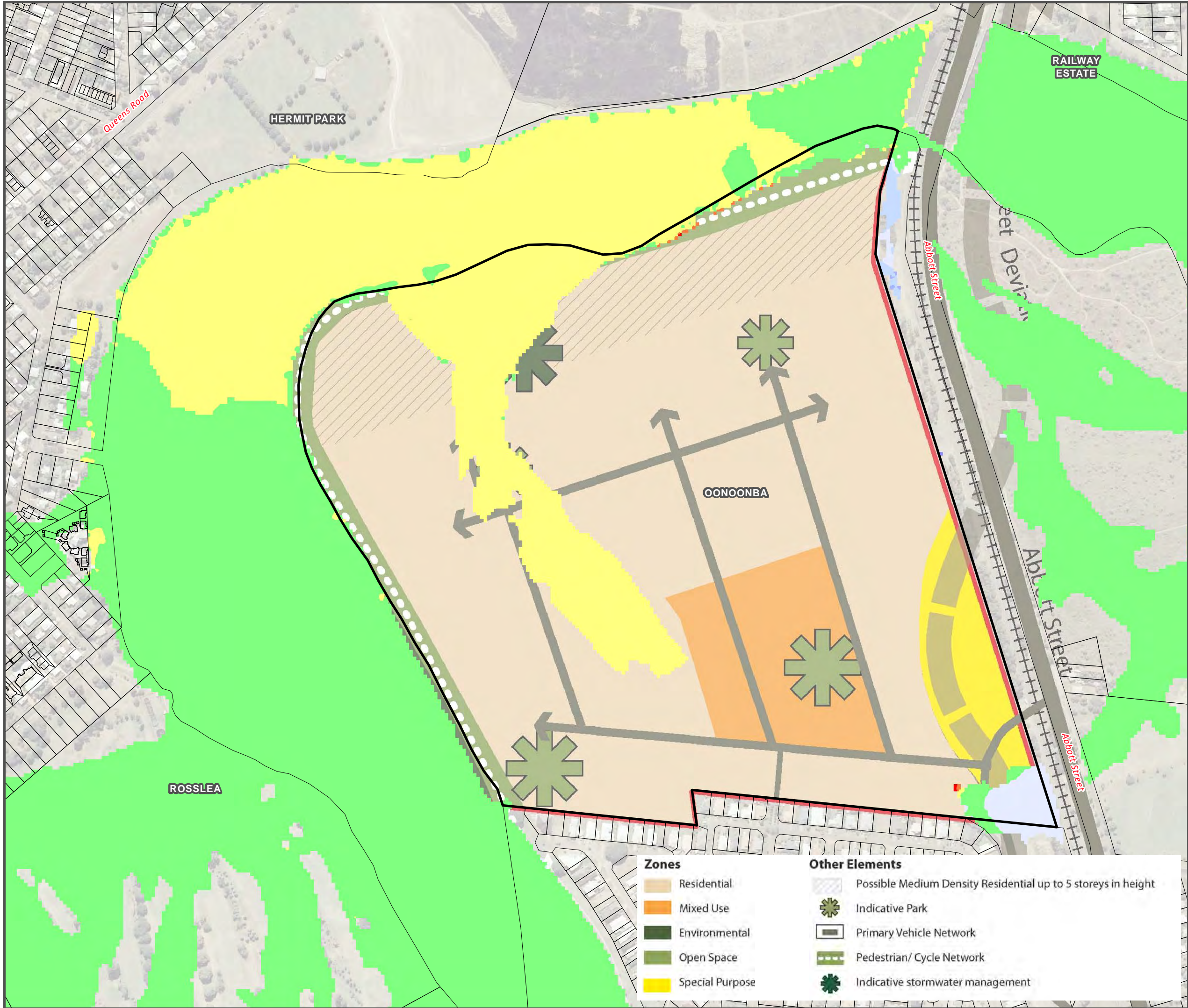




**Flood and Stormwater
Management Study**
DPI Land, Oonoonba
100 yr ARI Afflux - Unmitigated Case
Figure 4.4.2



Zones	Other Elements
Residential	Possible Medium Density Residential up to 5 storeys in height
Mixed Use	Indicative Park
Environmental	Primary Vehicle Network
Open Space	Pedestrian/ Cycle Network
Special Purpose	Indicative stormwater management

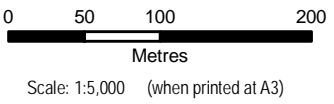
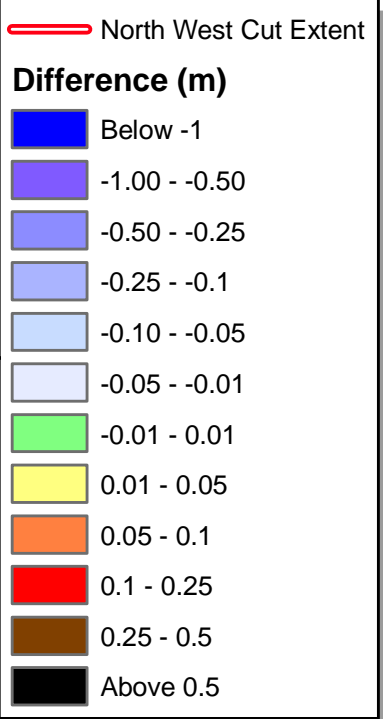
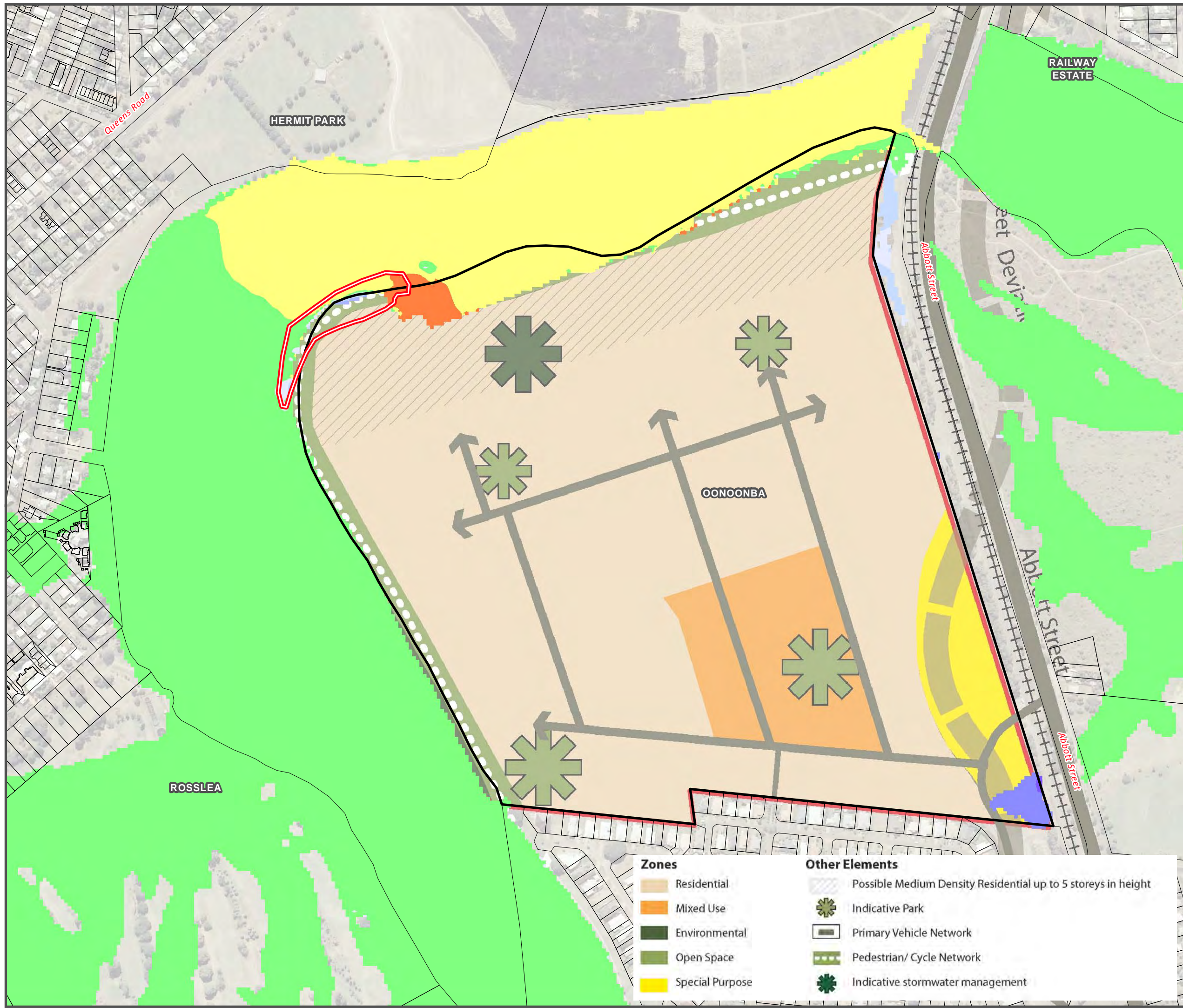


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Metres
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- Zones**
- Residential
 - Mixed Use
 - Environmental
 - Open Space
 - Special Purpose

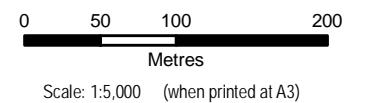
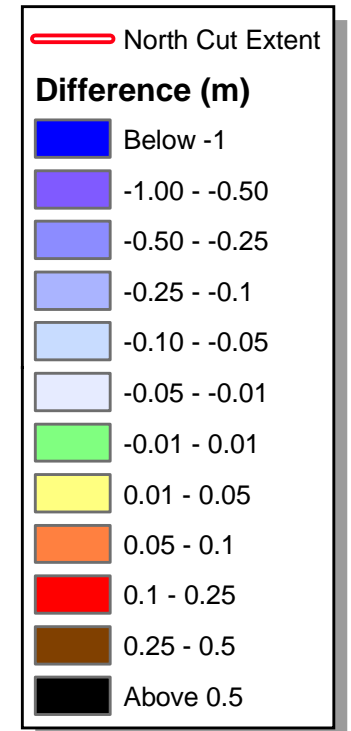
- Other Elements**
- Possible Medium Density Residential up to 5 storeys in height
 - Indicative Park
 - Primary Vehicle Network
 - Pedestrian/ Cycle Network
 - Indicative stormwater management

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Figure 4.4.5



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4.5 Abbott Street Future Bridge Development

AECOM has been commissioned by *Flanagan Consulting Group* (FCG) to undertake a hydraulic assessment of Ross River as part of the business case for the Abbott Street Deviation. In this study AECOM:

- assessed the impact of the design on flooding; and
- established flood levels and velocities for the input to design of the Abbott Street Deviation project.

In the *Abbott Street Hydraulic Assessment Study*, AECOM (October 2009), the scenarios in **Table 4.5** have been modelled for the 50 year ARI event to determine the impact of constructing the proposed bridge and removing a combination of the existing bridges.

Table 4.5 Design Scenarios

Structure	Structures Present In Design Scenario				
	Base case	Scenario 1	Scenario 2	Scenario 3	All Bridges
Queensland Rail Bridge	✓	✓	✓	✓	✓
Pedestrian Bridge	✓	✓			✓
Existing Road Bridge	✓		✓		✓
Proposed Road Bridge		✓	✓	✓	✓

If scenario 2 is adopted, the impact of the Abbott Street Bridge Development on the proposed development of the Ooononba site is the reduction in the water surface level may compensate for the increase in water level caused by the development of the site. If the combined effect of the bridge development and the site development are analysed together no extra mitigation may be necessary. We recommend that ULDA approach the Department of Transport and Main Roads for their agreement.

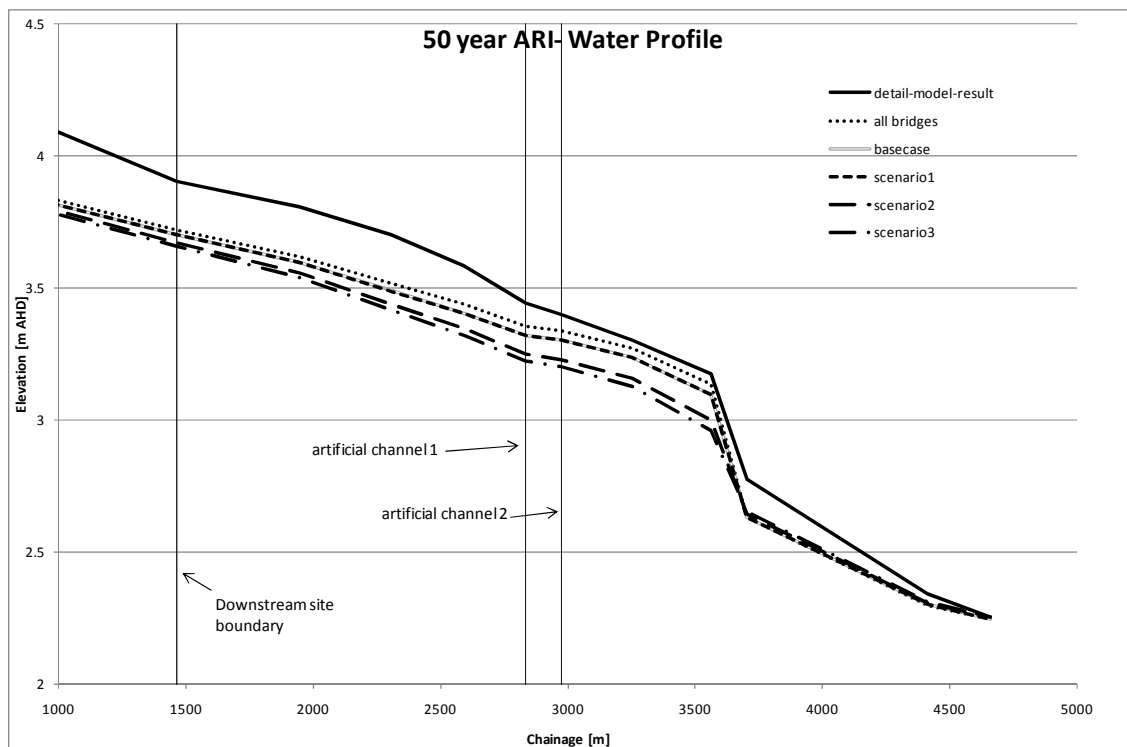


Figure 4.5.1 Water Surface Profile for different bridge scenarios

Figure 4.5.1 shows that the water surface level decreases by 3 cm at the downstream boundary between the base case and scenario 2.

This figure also shows that the water level has increased by 20 cm between the coarse scale model and the detail model developed for Oonoonba. This is probably due to a more accurate representation of the sand bank along the edge of the river in the detailed model.

4.6 Results - Preferred Scenario

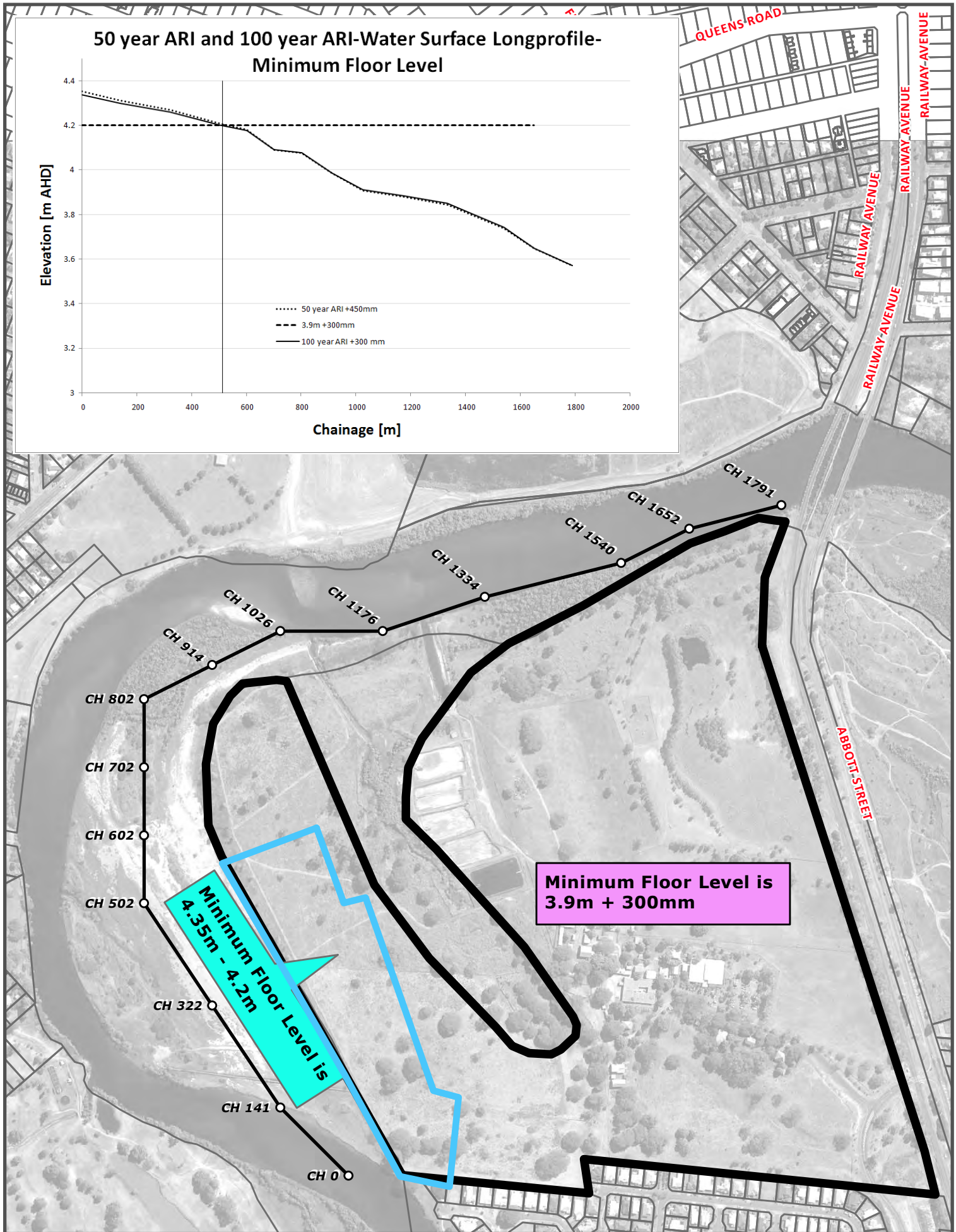
4.6.1 Lot and floor level

Based on the result of scenario 3(described in Chapter 4.4.3) the recommended floor and lot level across the proposed site is shown in **Figure 4.6.1** and **Figure 4.6.2**.

It is understood that ULDA, being a separate governmental body has its own flood policy. The policy states that the floor level should be set at higher than:

- RL 3.9m with 300 mm freeboard; and
- the 50 year ARI water surface level with 450mm freeboard.

The water surface level around the edge of the proposed site for all standard return period is shown in **Figure 4.6.3**.



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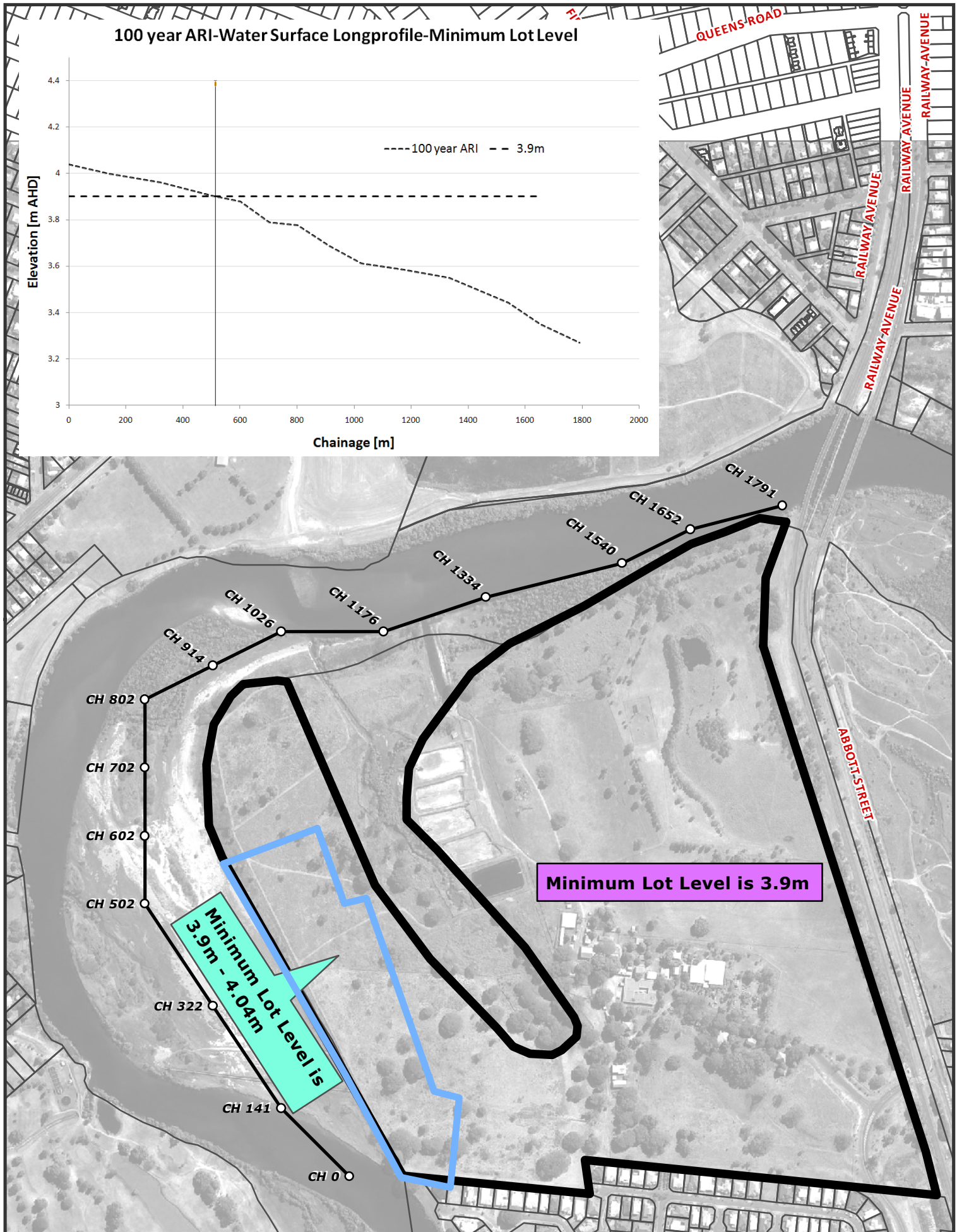


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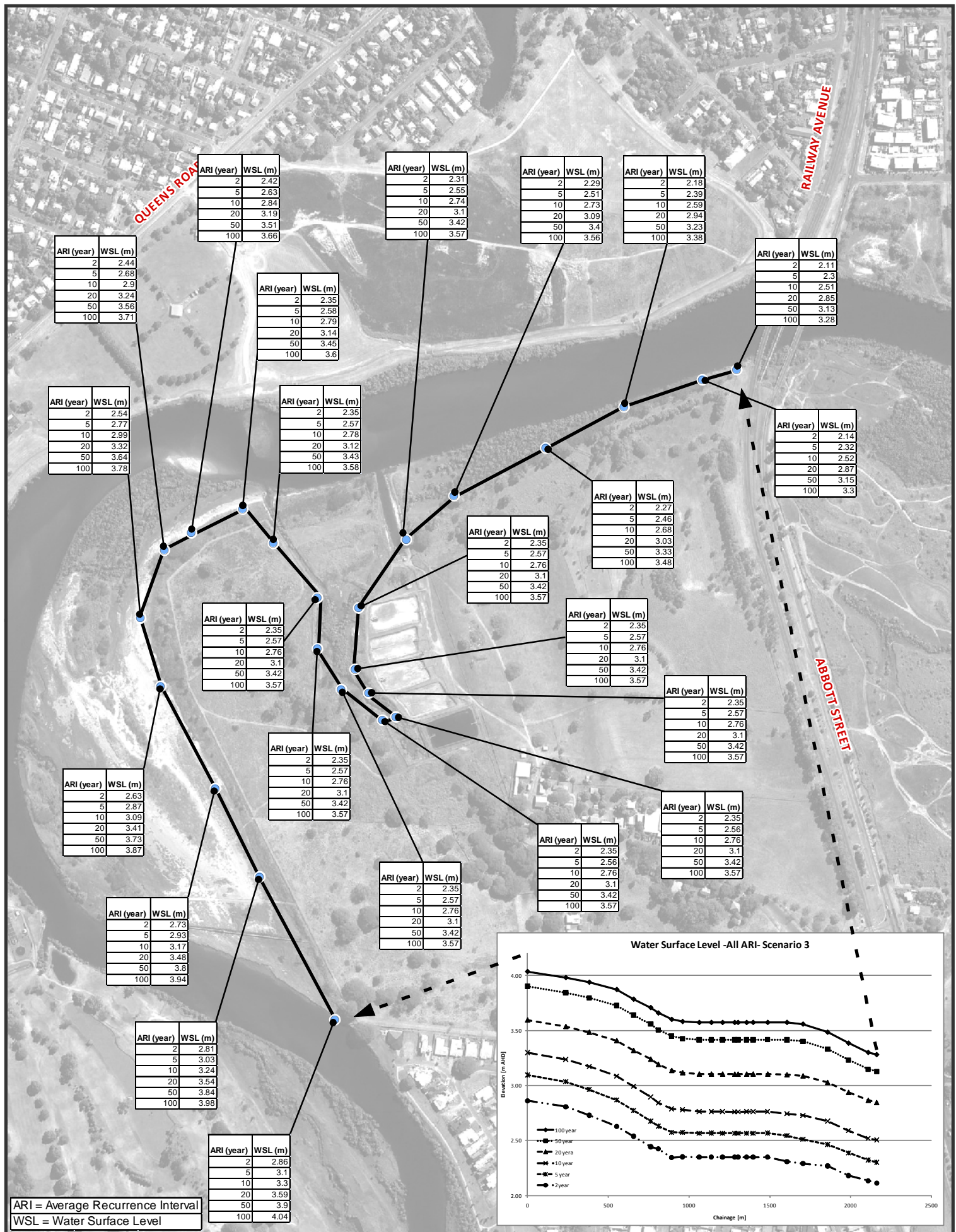
**Flood and Stormwater Management Study
DPI Land, Oonoomba
Floor Levels**

Figure 4.6.1



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0 50 100 150 200
Metres

Flood and Stormwater Management Study DPI Land, Ooonooba

All ARI

Figure 4.6.3

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5.0 Water Cycle Management Strategy

5.1 Introduction

An Integrated Water Cycle Management strategy has been developed based on the Development Masterplan (refer to **Appendix A**). The development of the strategy involved:

- definition of the receiving waters;
- water quality modelling to quantify baseline flow volumes and pollutant loadings to the receiving waters;
- use of the water quality model to quantify the impacts of the proposed development without controls;
- development of a water cycle management strategy for Ooononba based on the principles of Water Sensitive Urban Design (WSUD). Appropriate WSUD treatment measures were selected based on the site topography, soils and local climatic conditions; and
- incorporation of the proposed WSUD treatment measures into the MUSIC water quality model to size the treatment measures and confirm water quality objectives for the receiving were met.

5.2 Overview

The following elements have been considered in the formulation of the strategy.

- Stormwater and wastewater reuse.
- Water efficiency measures to minimise potable water demand.
- Stormwater treatment measures such as constructed wetlands, GPTs, treatment lakes, vegetated buffer strips and bio-filtration systems, to ensure the water quality in the receiving waters is protected.

The overall principles and objectives of the water management strategy are outlined in the following sections.

5.2.1 Principles

Several key stormwater and wastewater management principles for the Ooononba development have been used to meet the water quality objectives outlined in Section 2.3.3. These principles can be summarised as follows.

- The proposed stormwater management measures for the development are to be designed on the basis of the catchment and receiving water quality objectives.
- The use of natural stormwater systems is maximised.
- On-site storage and infiltration should be maximised and integrated into the urban landscape.
- The use of vegetation, particularly native vegetation, is essential to the stormwater management system.

5.2.2 Objectives

The stormwater and wastewater management strategy is designed to meet the following objectives.

- Maintain or enhance in-stream water quality.
- Prevent erosion of waterways, slopes and banks.
- Minimise sediment and pollutant loadings.
- Protect riparian ecosystems.
- Prevent contamination of groundwater and surface water from stormwater runoff.
- Reduce sewer overflow during rainfall events.
- Increase water usage efficiency and reducing potable water demand.
- Promote aesthetic and recreational values of riparian landscape and stream corridors.

5.2.3 Source Controls

Recommended options for applying source controls in the proposed development include:

- Retention trenches, which are used to intercept stormwater runoff, which can significantly reduce runoff peaks and volumes, as well as providing rudimentary treatment of stormwater;

- GPTs and similar devices (e.g. oil / grit separators) to remove coarse litter and debris from runoff from commercial and industrial areas (e.g. fast food containers, cans, bottles) before reaching conveyance systems;
- leaky wells, which are designed to allow stormwater flow to percolate into the soil, which allows for recharge of shallow groundwater aquifers; and
- allowing roof runoff from larger residential properties to drain straight onto a pervious surface (i.e. removing the downpipe). This essentially acts as a buffer strip, and is sometimes referred to as a 'Dutch drain'.

Rainwater tanks have not been recommended for use as source controls. This is because they generally do not present any benefits in the Townsville area, due to the highly seasonal rainfall distribution (refer to Section 5.4.2).

5.2.4 Conveyance Controls

Options for the application of conveyance controls include:

- buffer strips, which are broad vegetated areas that convey sheet flow runoff from impervious areas, and can reduce sediment loads, reduce runoff peaks and volumes by filtration;
- swales, which are formed, vegetated depressions designed to convey runoff from impervious areas. These also reduce sediment loads by filtration, and reduce runoff peaks and volumes. Swales are often used in conjunction with vegetated buffer strips as an alternative to kerb and gutter arrangements;
- bio-retention systems, which are surface and sub-surface filtration systems, which provide temporary runoff storage allowing filtration through surface vegetation and an underlying sand-mix filter medium. These systems are one of the most effective pre-treatment measures; and
- water sensitive road design, employing a combination of buffer strips, swales and bio-retention filters.

5.2.5 Discharge Controls

Discharge control options for the proposed development include:

- bio-retention ponds, which are designed to remove particulates and attached pollutants by infiltration. These are generally located in open flat areas (e.g. parklands or playing fields) and collect stormwater runoff which infiltrates through the basin floor;
- GPTs to remove coarse litter and debris from runoff from residential areas (e.g. leaf litter) and commercial areas (e.g. fast food containers, cans, bottles); and
- buffer strips to be placed along the foreshore of the proposed lake.

5.2.6 Natural Systems Planning

Natural systems planning involves recognising the need to maintain the natural hydrological and ecological functions of watercourses, wetlands and native vegetation. This is used in the design process to mimic the natural hydrologic regimes as closely as possible, by use of natural landforms, drainage systems and use of native vegetation.

5.3 Stormwater Quality Assessment

5.3.1 Water Quality Objectives

As outlined in Section 2.3.3, Ross River discharges to the sensitive receiving waters of Cleveland Bay which is part of the Great Barrier Reef Marine Park.

Urban development can increase the concentration and pollutant loadings of gross pollutants, nutrients and sediment in receiving waters. The key pollutants associated with urban development are:

- total suspended solids (TSS);
- total phosphorus (TP);
- total nitrogen (TN); and
- gross pollutants (GP).

Typically the concentrations of these pollutants in urban stormwater do not cause acute toxicity but increases in long term loadings can have significant adverse impacts on receiving waters. Toxicants such as hydrocarbons and metals may be associated with certain forms of urban development, particularly industrial land uses and major roads. These are generally managed by source controls such as oil/grit separators. The majority of the

metal ions are associated with sediments. Control of the finer fraction of the sediment loads will ensure that the load of metals discharged to the receiving waters is controlled.

The design objectives for the stormwater quality assessment are set out by Townsville City Council (TCC). These are:

- an 80% reduction of TSS over the design case;
- a 65% reduction of TP over the design case;
- a 40% reduction of TN over the design case; and
- a 90% reduction of GP over the design case.

5.3.2 MUSIC Modelling

MUSIC is a water quality modelling system developed by the Cooperative Research Centre (CRC) for Catchment Hydrology. MUSIC simulates runoff quantity and quality for catchments ranging in scale from a single residential lot to several square kilometres. MUSIC is widely used to quantify water quality impacts of proposed developments on receiving waters, and is well suited to assessing water cycle management strategies for the DPI development.

MUSIC can simulate the generation of the major pollutants, as well as modelling the performance of a wide range of water quality treatment devices such as constructed wetlands, bio-filtration systems, and GPTs.

A MUSIC model was developed for the existing Oonoonba catchment. These were used to establish baseline long term pollutant loads to the receiving waters, discussed in Section 2.3.3.

5.3.3 Input Data

The following data was used as input to the MUSIC models:

- long term rainfall data for the Townsville Aero (BOM station 032040) pluviograph at a 6 minute data interval for a representative 10 year period from 1966-1976;
- monthly areal evaporation data from the Townsville Aero site; and
- generic pollutant export rates for varying land uses (BCC, 2003; CRCCH, 1997), tabulated in Appendix B.

Local wet weather water quality data is required to provide accurate pollutant loadings for receiving water quality modelling, however no wet weather water quality data was able to be sourced for the current study. Generic pollutant export rates for different land uses, such as the Brisbane City Council values were used in this study to allow the relative change in pollutant loadings due to urban development to be evaluated, and the impacts of the proposed stormwater treatment measures to be assessed. To analyse the sensitivity of the model event mean concentration values were used, these were taken from the *Draft Black Ross (Townsville) Water Quality Improvement Plan* (TCC).

5.3.4 Modelling Methodology

Three scenarios were examined using MUSIC:

- A base case scenario, representing the existing conditions;
- A post-development scenario with no stormwater controls; and
- A post-development scenario with stormwater controls.

These scenarios are discussed in the following sections of this report.

5.3.5 Base Case

The Base Case MUSIC model was set up as follows:

- The sub-catchment definitions used for the XP-RAFTS hydrologic models were altered slightly to provide appropriate definition within the site (refer to Figure 5.3.1);
- Sub-catchments were defined as "Forest", "Rural-Residential", or "Urban" source nodes based on the existing land uses, as defined by the aerial photographs; and
- Each source node was connected to a junction node at the outlet of each sub-catchment.

The hydrologic parameters in MUSIC were adjusted until the long term catchment yield matched the calculated yield (refer to **Section 5.3.8**). The MUSIC hydrologic parameters that adopted to achieve similar yields are:

- soil store capacity – 300mm;
- field capacity – 200mm; and
- daily seepage rate – 3%

Table 5.3.1 shows the sub-catchment inputs into the Base Case model.

Table 5.3.1 Base Case sub catchment parameters

Catchment	Area (ha)	Impervious Area (%)	Source Node
OC-01	4.94	5	Rural-Residential
OC-02A1	0.93	5	Rural-Residential
OC-02A2	1.20	30	Rural-Residential
OC-02B	8.23	5	Rural-Residential
OC-03A1	3.50	70	Urban
OC-03A2	2.41	5	Rural-Residential
OC-03B	6.38	5	Rural-Residential
OC-04A	1.43	5	Rural-Residential
OC-04B	4.51	5	Rural-Residential
ON-01	3.26	5	Forest
ONE-01A	2.59	5	Forest
ONE-01B	2.34	5	Forest
OE-01A	13.1	5	Rural-Residential
OE-01B	7.87	5	Rural-Residential
OSE-01A	1.72	5	Rural-Residential
OSE-01B	4.16	30	Urban
OSE-01C	3.58	5	Forest
OSE-02A	2.47	5	Forest
OSE-02B	3.71	15	Urban

5.3.6 Design Case

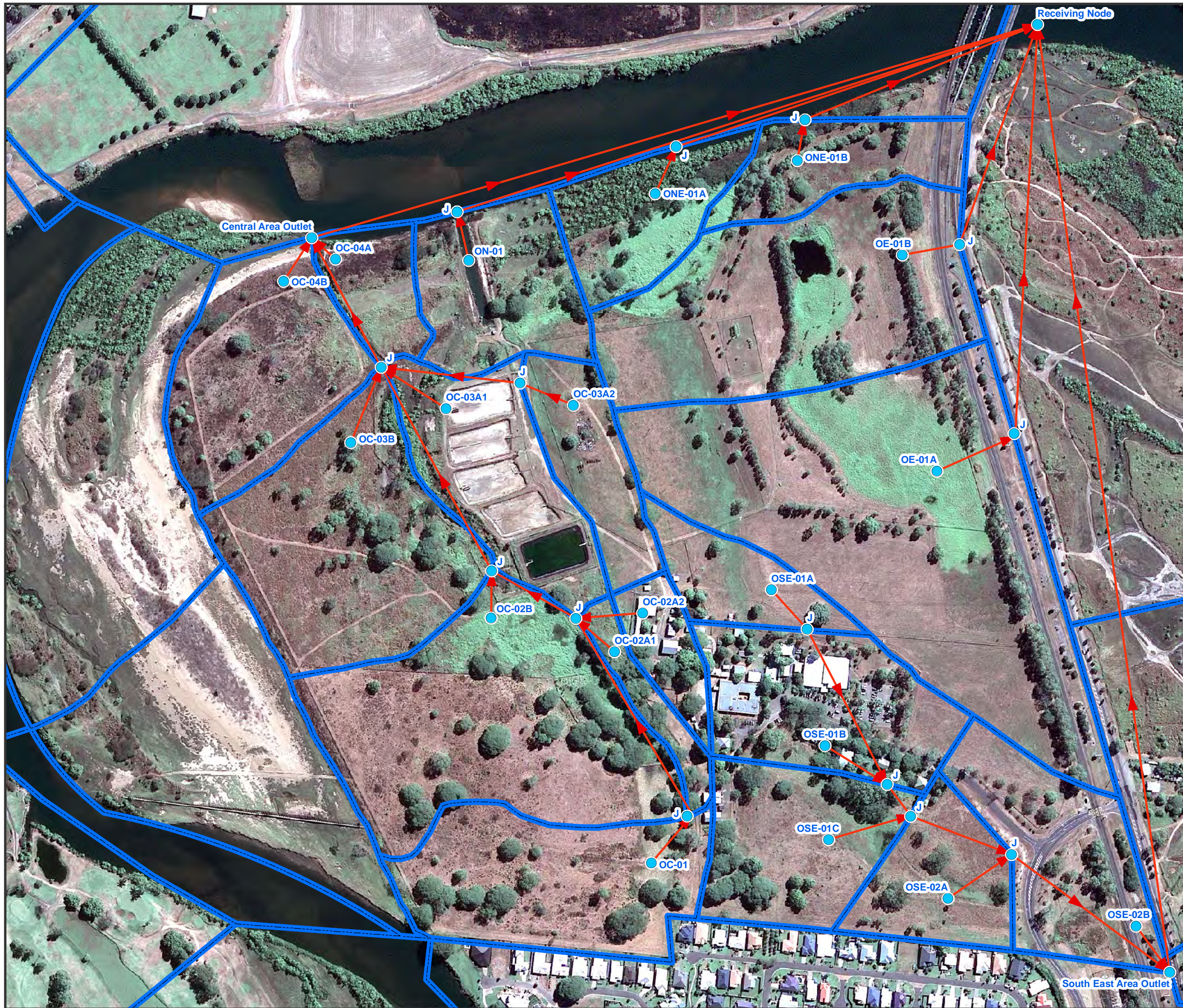
The Base Case MUSIC models were altered to include the effects of the proposed development without any treatment measures. The amendment made to base case model included:

- the relative proportions of the various land uses within each sub-catchment were altered based on the Development Masterplan (Refer to **Figure 5.3.2**);
- “Urban” source nodes were added to each sub-catchment to represent the developed areas; and
- pollutant generation rates (refer to **Appendix B**) and impervious fractions were added to each “Urban” source node based on the land use.

Table 5.3.2 shows the sub-catchment inputs into the Design Case model.

Table 5.3.2 Design Case sub-catchment parameters

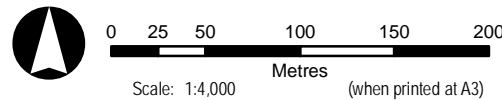
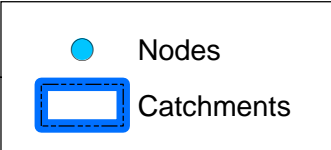
Catchment	Area (Ha)	Impervious Area (%)	Source Node
OC-01	4.94	60	Urban
OC-02A	2.13	60	Urban
OC-02B	8.23	60	Urban
OC-03A	5.91	60	Urban
OC-03B	6.38	60	Urban
OC-04A	1.43	50	Urban
OC-04B	4.51	50	Urban
ON-01	3.26	50	Urban
ONE-01A	2.59	50	Urban
ONE-01B	2.34	40	Urban
OE-01A	13.1	60	Urban
OE-01B	7.87	50	Urban
OSE-01A	1.72	60	Urban
OSE-01B	4.16	35	Commercial
OSE-01C	3.58	35	Commercial
OSE-02A	6.18	40	Urban



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Base Case MUSIC Model
Sub-Catchment Layout

Figure 5.3.1



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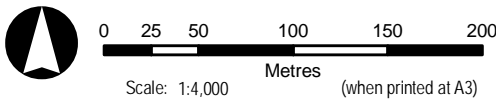
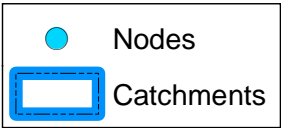
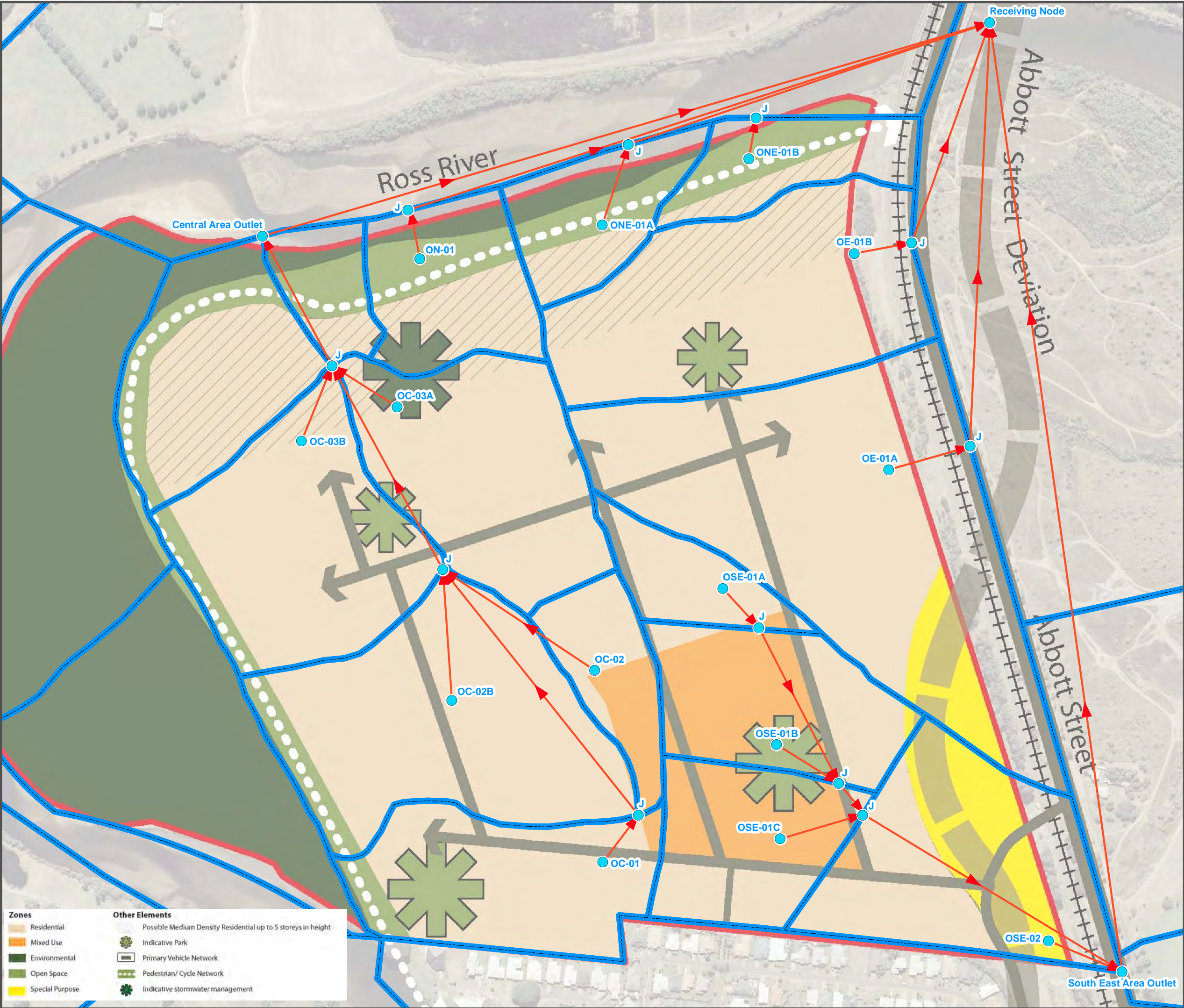
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Design Case MUSIC Model
Sub-Catchment Layout

Figure 5.3.2



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5.3.7 Design Case with Mitigation Measures

The effects of the proposed stormwater controls were examined by modifying the Design Case MUSIC model based on a conceptual water management strategy. The modifications to the Design Case model included:

- treatment nodes were included to treat the flow from developed sub-catchment: These included GPT's; Swales to represent the combined removal of a vegetated buffer strip and vegetated swales; Bio-retention Systems; Infiltration Basins; Lakes and Constructed Wetlands.
- iteratively adjusting the size of the treatment systems relative to the sub-catchment size until the long-term pollutant loads were reduced to baseline levels.

The final adopted configuration requires approximately 1.56 hectares (3.3% of the total developed area including open spaces) for stormwater treatment devices, refer to **Figure 5.3.3**. **Figure 5.3.4** shows how the stormwater channel has been design with a low flow path swale/retention basin to filter pollutants. The swale was specifically designed using several check dams to maximise the wetter surface area during low flows. The stormwater channel has been design to convey storms up to a 50 year event. Furthermore two GPT are required to the south-east of the site to pick pollutants from the commercial development. A summary of the general size requirements for each type of treatment device is shown in **Table 5.3.3**.

Table 5.3.3 Approximate Size Requirements for Stormwater Treatment Devices

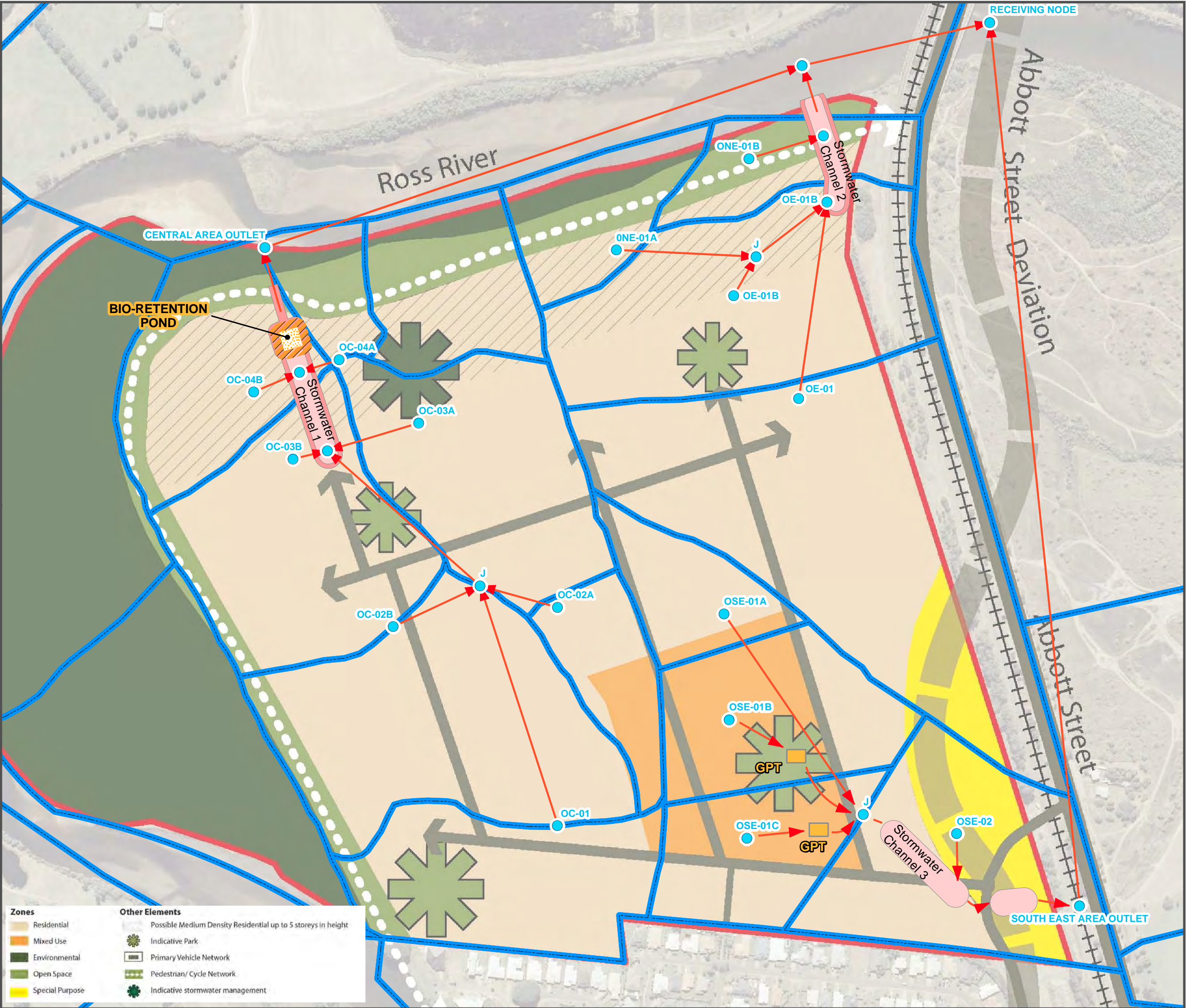
Treatment device	Dimensions and Area of Treatment Device				
	Top of Bank Width (m)	Top of Bank Length (m)	Depth (m)	Side slopes	Total area required (ha)
Bioretention System 1	42	42	1.0	1:6	0.18
Storm Channel 1	32	150	0.8	1:6	0.48
Storm Channel 2	30	150	0.8	1:6	0.45
Storm Channel 3	30	150	0.8	1:6	0.45
Total					1.56

5.3.8 MUSIC Verification

The MUSIC model was verified by comparing the mean annual flow from the model results against the runoff volume from the site using suitable coefficients for impervious and pervious areas. To further verify the model the Runoff volumes were multiplied by the event mean concentration values to produce mean annual loads. **Table 5.3.4** shows the comparisons.

Table 5.3.4 Comparison between MUSIC results and calculated results

	Flow (ML/Yr)	Mean Annual Loads (Kg/Yr)		
		TSS	TP	TN
Base Case				
MUSIC Model Results	109	18931	32.35	220.0
Calculated values	112	16200	30	188
Design Case				
MUSIC Model Results	241	36475	82.13	439.6
Calculated values	247	39900	89.8	494



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Design Case Mitigation Measures
MUSIC Model Sub-Catchment Layout

Figure 5.3.3

Nodes

arrows

Catchments

Zones

- Residential
- Mixed Use
- Environmental
- Open Space
- Special Purpose

Other Elements

- Possible Medium Density Residential up to 5 storeys in height
- Indicative Park
- Primary Vehicle Network
- Pedestrian/ Cycle Network
- Indicative stormwater management

Scale: 1:4,000

Scale: 0 25 50 100 150 200 Metres (when printed at A3)

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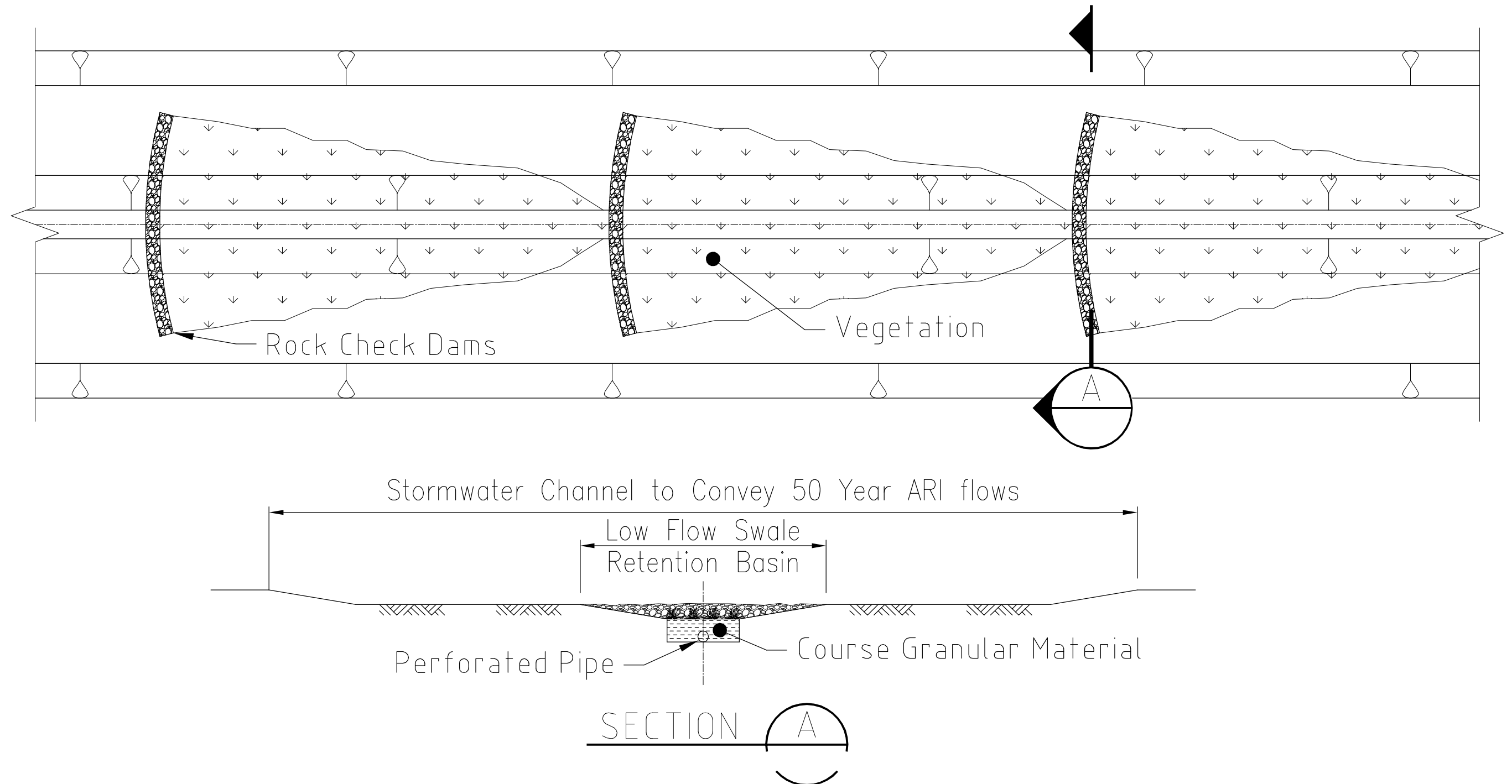
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TYPICAL STORMWATER GRASS LINED CHANNEL WITH LOW FLOW SWALE/RETENTION BASIN



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TYPICAL STORMWATER GRASS LINED CHANNEL WITH LOW FLOW SWALE/RETENTION BASIN

Figure 5.3.4

5.3.9 Sensitivity Analysis

Due to no actual recorded mean concentration run off values from the proposed site, the model was rerun using event mean concentration values taken from the *Draft Black Ross (Townsville) Water Quality Improvement Plan* (TCC). Refer to **Table 5.3.5**. This is to ensure that the proposed mitigation measures still hit the required target values even with such variance in input values.

Table 5.3.5 Draft Black and Ross River Basins WQIP EMC values

	EMC Values		
Land Type	TSS (mg/L)	TP (µg/L)	TN (µg/L)
Established Urban	20	281	741

The predicted long-term baseline pollutant loads for the sensitivity analysis are given in **Table 5.3.6**. These results are lower than the values used for the assessment. However, with the proposed storm treatment measures in place, the target values set out by TCC are met.

Table 5.3.6 Sensitivity Analysis MUSIC Model

Location	TSS (tonnes/year)		TP (kg/year)		TN (kg/year)		GP (tonnes/year)	
	Post-development	Post-development with controls	Post-development	Post-development with controls	Post-development	Post-development with controls	Post-development	Post-development with controls
At LOC Outfall	5.3	0.6	76.2	8.7	208	72.6	5.3	0.0
At LOSE Outfall	4.6	0.5	33.0	5.9	98.2	23.9	2.0	0.0
At LONE Outfall	NA	1.5	NA	19.6	NA	73.0	NA	0.0
ON-01	0.4	0.4	6.7	6.9	19.0	19.0	0.5	0.5
ONE-01A	0.4	NA	5.4	NA	15.2	NA	0.4	NA
ONE-01B	0.3	NA	4.4	NA	12.1	NA	0.3	NA
OE-01A	2.2	NA	29.1	NA	84.2	NA	2.1	NA
OE-01B	1.2	NA	16.0	NA	47.0	NA	1.1	NA
Overall Music Model Outfall	14.4	3.0	171	41.1	484	188	11.7	0.5

5.3.10 Pollutant Loads

Comparisons of the mean pollutant loads for the three scenarios are shown in **Table 5.3.7**. These are represented graphically for the Base Case, Design Case and Design Case with mitigation measures in **Figure 5.3.5, 5.3.6 and 5.3.7** respectively. Overall pollutant loads have been reported at the downstream extent of the MUSIC models (downstream of the site).

The model results indicate that for the post-development case without controls:

- overall TSS loads are significantly increased due to the development by approximately by 203%;
- TP loads are significantly increased due to the development by approximately by 283%;
- TN loads are significantly increased due to the development by approximately by 213%;and
- GP loads are significantly increased due to the development by approximately by 266%;

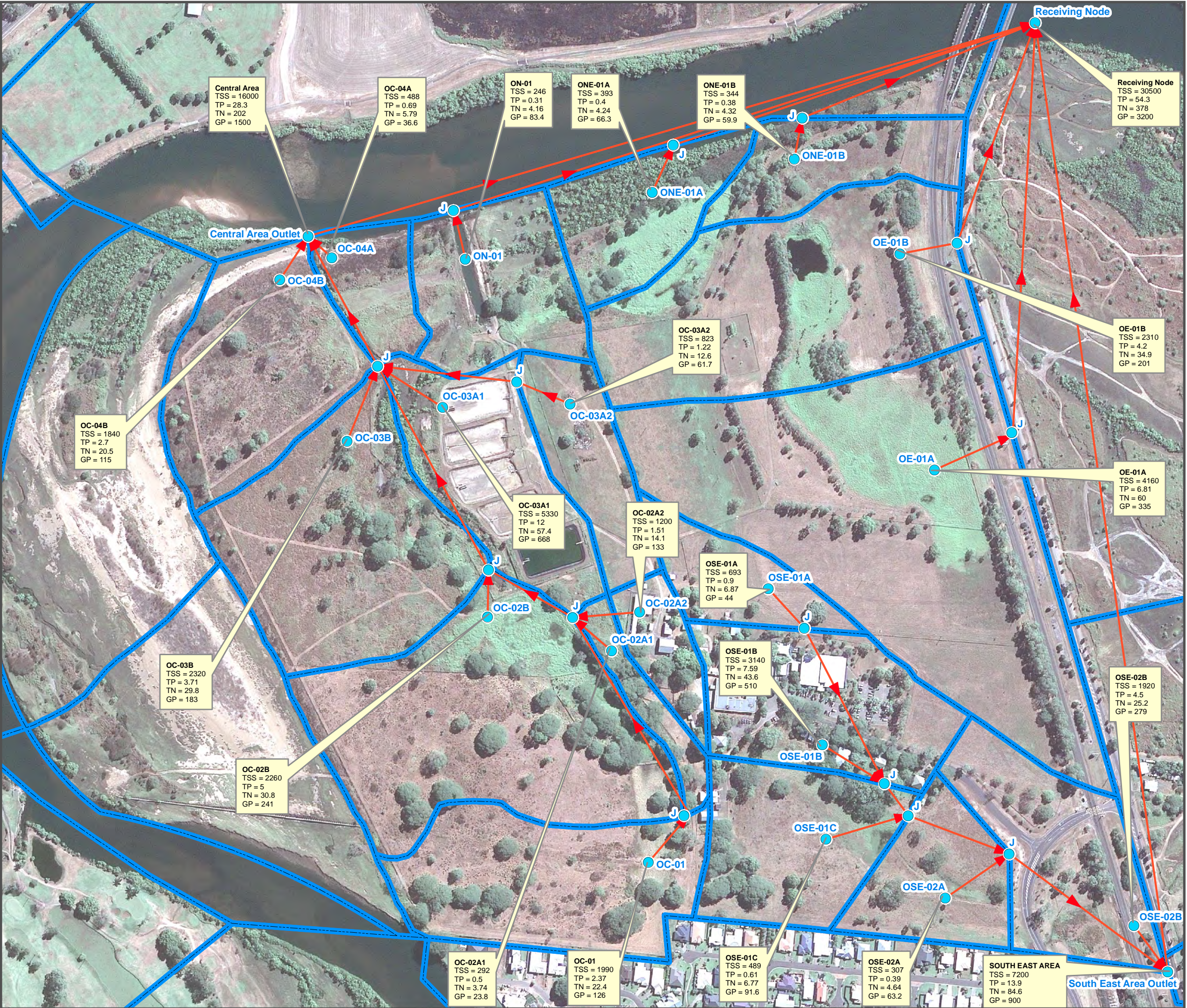
However, for the post-development case with stormwater controls:

- overall TSS loads are decreased by approximately 80%;
- TP loads are decreased (73%) by the implementation of stormwater treatment measures;
- TN loads are decreased slightly (61%); and
- GP loads are reduced by 96%.

These results demonstrate the proposed stormwater controls are able to meet the objectives outlined in **Section 2.3.4**. Provided the recommended stormwater treatment measures are implemented pollutant loadings discharged from the site into sensitive receiving waters are not increased (and are reduced in some cases), protecting and enhancing the environmental values of these waterways.

Table 5.3.7 MUSIC Model Results

Location	TSS (tonnes/year)			TP (kg/year)			TN (kg/year)			GP (tonnes/year)		
	Base case	Post-development	Post-development with controls	Base case	Post-development	Post-development with controls	Base case	Post-development	Post-development with controls	Base case	Post-development	Post-development with controls
At LOC Outfall	16.0	40.8	6.5	28.3	89.1	21.4	202	506	208	1.5	5.3	0.0
At LOSE Outfall	7.2	17.1	1.2	13.9	42.9	6.6	84.6	256	51.1	0.9	2.0	0.0
At LONE Outfall	NA	NA	7.4	NA	NA	20.3	NA	NA	161	NA	NA	0.0
ON-01	0.2	3.5	3.4	0.3	8.3	8.2	4.2	43.8	44.5	0.1	0.4	0.5
ONE-01A	0.4	2.9	NA	0.4	6.6	NA	4.2	36.0	NA	0.1	0.4	NA
ONE-01B	0.3	2.3	NA	0.4	5.2	NA	4.3	27.4	NA	0.1	0.3	NA
OE-01A	4.1	15.7	NA	6.8	36.7	NA	60.0	211	NA	0.3	2.1	NA
OE-01B	2.3	10.8	NA	4.2	18.8	NA	34.9	104	NA	0.2	1.2	NA
Overall Music Model Outfall	30.5	92.5	18.5	54.3	208	56.5	378	1185	465	3.2	11.7	0.5



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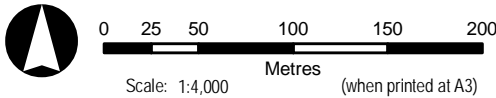
Base Case MUSIC Model
Result

Figure 5.3.5

Nodes

Catchments

UNITS	
Total Suspended Solids (TSS)	= kg/yr
Total Phosphorous (TP)	= kg/yr
Total Nitrogen (TN)	= kg/yr
Gross Pollutants (GP)	= kg/yr



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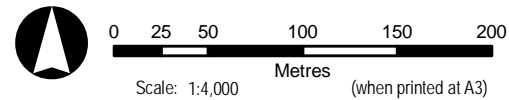
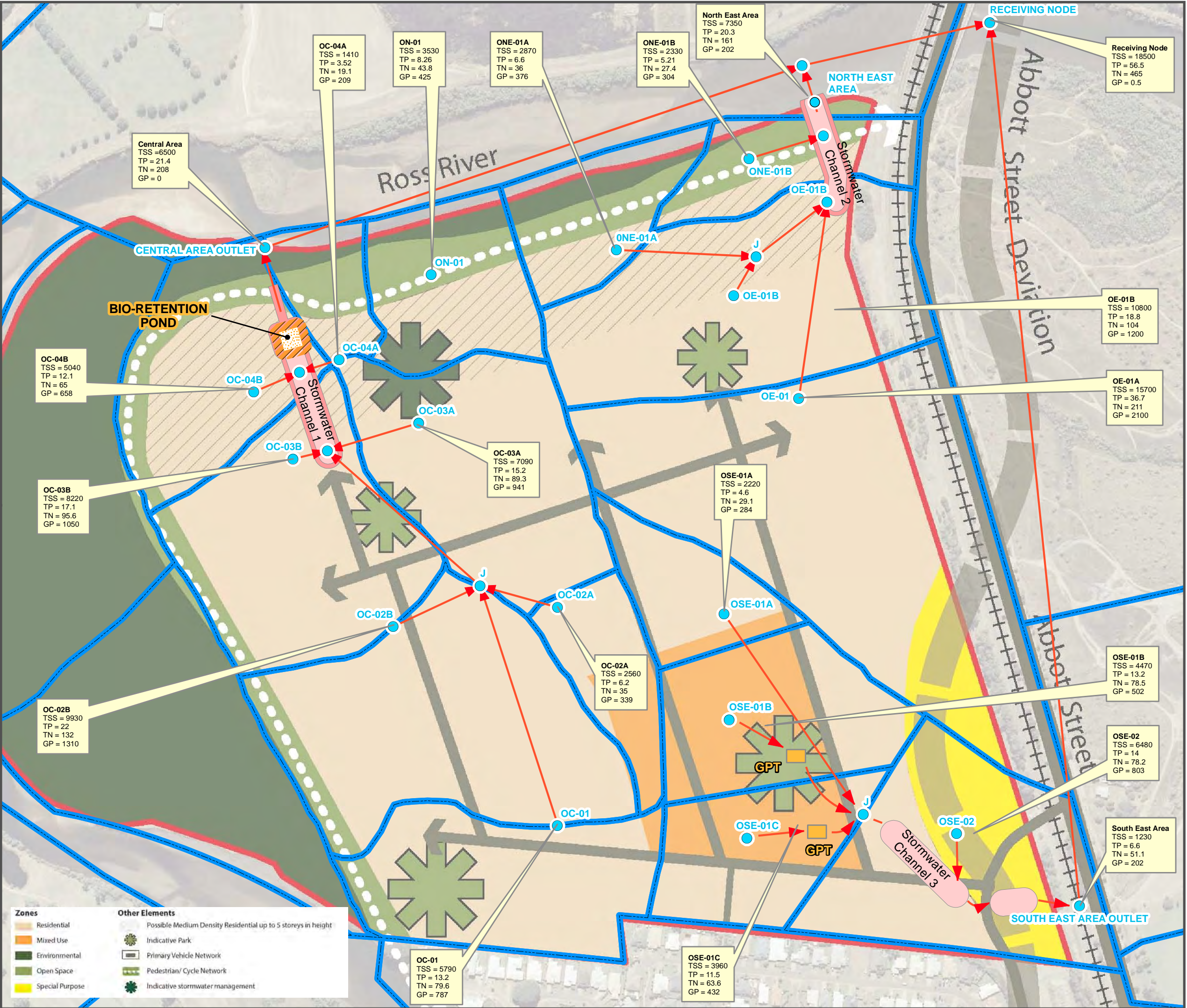
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Design Case Mitigation Measures
MUSIC Model Results

Figure 5.3.7



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5.4 Precinct Level Water Management Assessment

5.4.1 Overview

To minimise the impact of the proposed development, it is desirable to maximise opportunities for water reuse and conservation where possible. This section outlines a range of alternative options for the reuse of urban stormwater and wastewater and reductions in water demands. A range of off-lot water efficiency measures have been examined.

5.4.2 Stormwater Tanks

Stormwater storage basins for water reuse, particularly for supply of irrigation and industrial water. However, as with the rainwater tanks used in lot gardens (refer to **Section 5.5.3**) the highly seasonal nature of the rainfall means that stormwater harvesting is unlikely to provide a significant reduction in mains water demands.

5.4.3 Grey Water Recycling

A dual water supply system could be used for reducing potable water demand. In such a system, grey water could be treated at the proposed treatment plant and returned via a separate reticulation system to the development. This water could be used for irrigation, and household non-potable uses (Refer to **Section 5.5.2** for lot consumption). All the recycled water is transported via a purple pipe. Purple pipes, tap fittings and hoses are used whenever recycled water is in use. Any redundant water from the treatment plant can be used to irrigate public open spaces within the development. However, costs for these systems are generally high, and demand can vary significantly, i.e. demand may significantly exceed effluent volumes in some months and may be significantly lower than effluent volumes in others. **Figure 5.4.1** outlines how this would work.

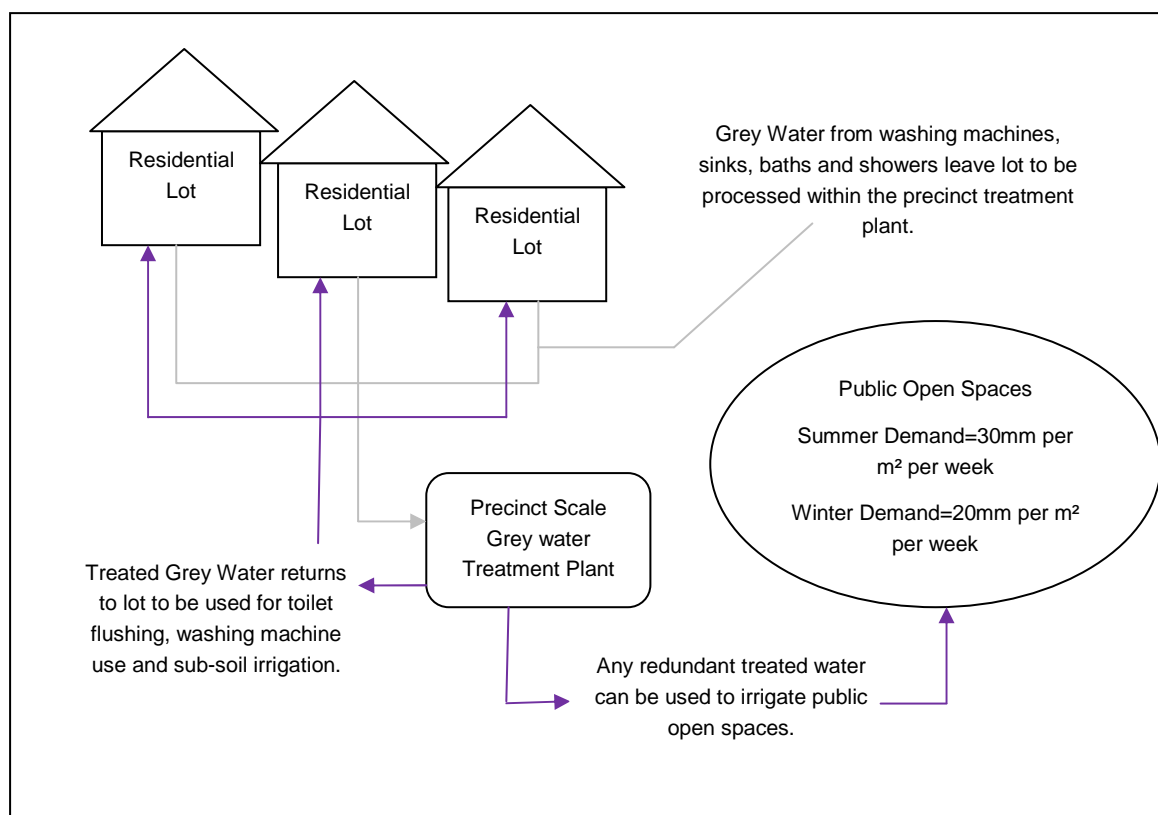


Figure 5.4.1 Precinct Level Grey Water Recycling

5.4.4 Demand Management

A range of water efficiency measures are available to minimise impacts on the water cycle. These include:

- low-flow shower roses – a low flow shower (8.5 L/m) can reduce water demand by 8-10% over a conventional dwelling;
- low flush toilets – use of dual flush (6/3 L) toilets can reduce water demand by approximately 1% over a conventional 7/4 L toilet; and
- automatic bathroom hand basin taps – can reduce water demand by approximately 2% over a conventional dwelling.

These measures could be incorporated into the precinct building controls and building covenants to ensure that these water efficiency measures are used on site. Further incentives to the owner maybe required to ensure these are correctly used.

5.4.5 Waste Water Recycling

In such a system, Waste water (black water) could be treated at a proposed sewage treatment plant and used to irrigate the local golf course. Refer to **Figure 5.4.2**. Black water can include wastewater discharged from the bathroom, laundry, kitchen and toilet. Where the recycled waste water is used as above ground irrigation it must be ensured that the treatment system be fully validated and monitored in real time. Currently the local golf course is irrigated by a sewer mine to the north. Therefore it may not be viable to water the golf course unless there is additional water demand required.

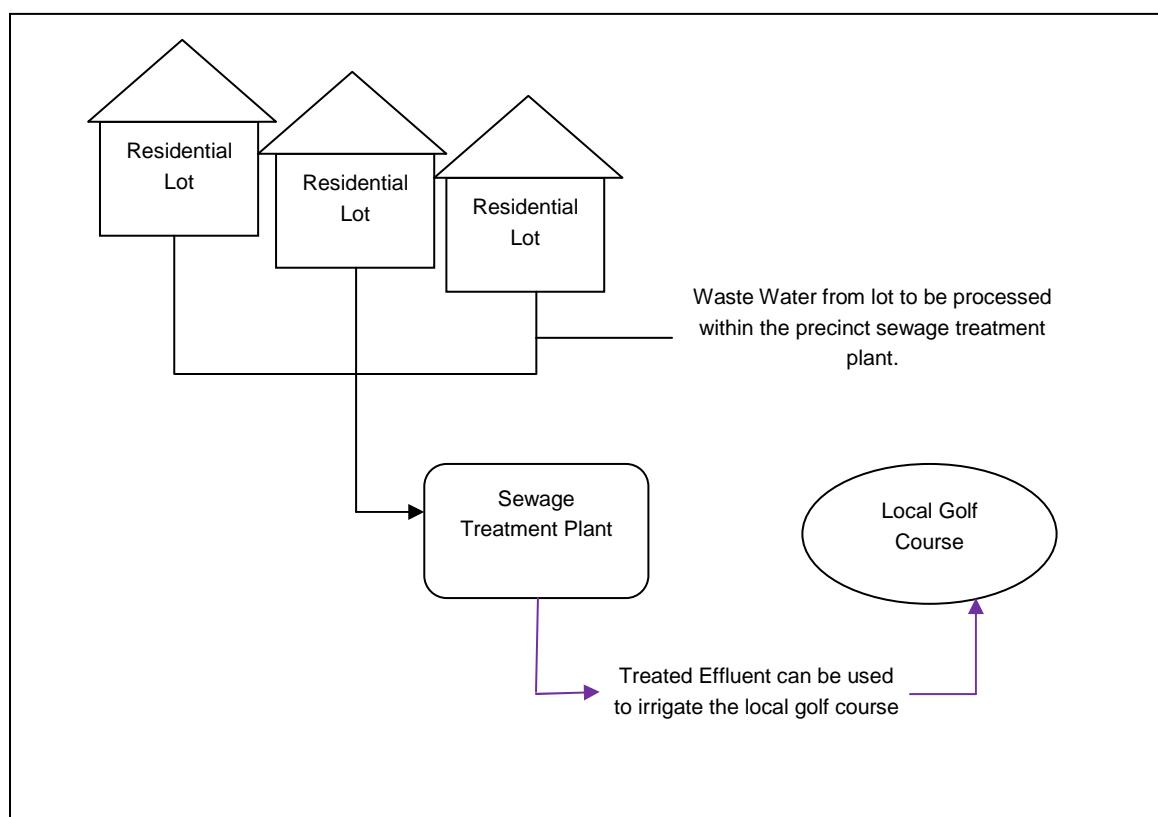


Figure 5.4.2 Precinct Level Wastewater Recycling

5.4.6 Sewer Mining

Sewer mining is the process of tapping into (either before or after the sewage treatment plant) and extracting sewage which can then be treated and used as recycled water. This is not a viable method on site due to the sewer mine upstream taking away the majority of useful waste to be recycled to irrigate the local golf course.

5.4.7 Further Precinct Water Management

When designing the landscaping for the development the following needs to be investigated to help reduce water use on site:

- the use of indigenous plants for landscaping in public areas can reduce water consumption by reducing irrigation requirement, as these plants are generally adapted to local climatic conditions; and
- suitable contouring of parklands and open space areas to direct runoff to landscaped areas can also reduce irrigation requirements.

5.5 Lot Level Water Management Assessment

5.5.1 Overview

A range of on-lot water efficiency measures have been examined. These have been compared to a conventional on-lot water usage scenario as outlined below.

5.5.2 Conventional

The conventional on-lot management system has the following features:

- potable water is supplied via reticulation to lots to be used for household demands, garden watering, car washing, and pool top-up.
- black and dark grey water from households drain to sewer;
- overflow and backwash from pools drain to sewer; and
- roof runoff and car washing runoff drain to the stormwater system.

A typical water demand for the conventional scenario is outlined in **Table 5.5.1**. This represents an annual demand of approximately 600 kL per dwelling, which corresponds to that reported by Citiwater (Citiwater, 2007). The majority of this demand is reported to come from garden irrigation (approximately 360 kL/dwelling/year). Occupancy rates have been assumed at 2.5 persons per dwelling, as reported in the *Townsville Region Social Atlas* (TCC, 2001).

Table 5.5.1 Typical Water Demand for Conventional On-Lot Water Management System

Demand	Consumption (L/person.d)	Comments
Kitchen	25	
Bathroom	15	
Shower	120	1 shower per person per day; 8 minute shower at 15 L/min.
Toilet	34	7/4 L dual flush toilet; 2 full and 5 part flushes per day.
Dishwasher	30	1 load per day.
Laundry	37	2 loads per person per week at 130 L/load.
Garden irrigation	390	Equivalent to 360 kL per dwelling per year.
Car washing	0.7	5 washes per year at 50 L per wash.
Pool top-up	9.5	Required when pool level drawdown exceeds 100 mm, based on average rainfall year – assumed pool ownership of 15%.
Average demand	661	Equivalent to 603 kL per dwelling per year.
ADWF to sewer	261	Equivalent to 238 kL per dwelling per year.

5.5.3 Conventional with Rainwater Tank

This option extends the conventional system with the addition of a rainwater tank collecting roof runoff for non-potable uses, such as toilet flushing, irrigation and pool top-up. However, the highly seasonal rainfall distribution in the dry tropics means that rainwater tank usage is uneconomical at a lot scale. A simple tank water balance has been performed to quantify rainwater tank usage. Assuming a typical roof area of 250 m² and a maximum tank size of 30 kL:

- using the rainwater for toilet flushing, irrigation and pool top-up will empty the tank for 313 days in an average rainfall year;

- using the rainwater for toilet flushing and pool top-up only will empty the tank for 296 days in an average rainfall year; and
- approximately 34% of roof runoff is wasted as overflow (a tank size of approximately 90 kL is required to collect all runoff).

This indicates that prohibitively large tank sizes are required to make a useful reduction in water demand for the typical household. This option is therefore not recommended for the Oonoonba development. A summary of the tank water balance results is shown in **Appendix C**.

5.5.4 Conventional with Light Grey Water Recycling

This option is identical to the conventional system with the addition of tank storage to collect light grey water (shower and bath water) for on-lot irrigation, washing machine and toilet flushing. Light grey water in excess of these demands would overflow to the sewerage system. This would reduce annual household demand to approximately 480 kL per dwelling per year (a reduction of approximately 20%).

The advantages of installation of a grey water system are:

- Reduces water consumption;
- Possible government rebate on each system;
- Reduces the amount of off site grey water discharge; and
- Can be used to irrigate the garden.

The disadvantages are

- Initial cost of a grey water system and plumbing requirements;
- Quarterly maintenance is normally required;
- Above ground systems maybe deemed an eye sore
- Potential undesirable health effects if grey water is not reused correctly

A system similar to that described would cost around \$9000 per unit with an Installation cost of \$2000-\$4000. A further annual service would cost between \$500 and \$1000 (2010 \$ value). In Queensland a \$500 rebate is available on grey water systems.

5.5.5 Waste Water (Black Water Recycling)

A number of waste water treatment options are currently available including an on-site package treatment plant, potentially using Biolytic Filtration to produce a highly treated effluent. The solid household waste is separated from the liquid waste immediately. Macro-organisms, such as worms, move in and quickly convert the solids into humus. The wastewater is efficiently cleansed as it trickles through the system. The treated wastewater can be then used for sub-surface irrigation.

The advantages of the installation of a residential Biolytix treatment plant (or similar) are:

- No routine pump outs which means no sludge transportation and disposal costs;
- The Ecosystem within the tank treats the waste with no expensive aerators to run, fix and replace;
- Queensland Accredited;
- Odourless as it has no septic stage and no smells from vent pipes;
- Chemical free treatment with no chlorine disposed in the garden; and
- Safe and waterwise irrigation.

The disadvantages are:

- Installation and annual maintenance costs are required;
- Home owners concern of having an "eco system of macro organisms" treating their waste

The cost of the Biolytic BioPod ranges from \$7000-\$7500 with a further \$500-\$1800 required for the irrigation kit (2010 \$ value).

6.0 Summary and Conclusions

6.1 Flooding Impacts

The purpose of this flood study is to provide floodplain information for the planning application of the Oonoonba urban development area of 80ha. The conclusion and recommendation made in this report are only applicable to the floodplain within and immediately surrounding the area of the proposed development.

6.1.1 Base Case Model

The following remarks are made in relation to the base case model:

- verification was undertaken against the TFHAS flood model
- the flood model is not over sensitive to changes in roughness values
- the flood model is embedded within a larger model, the TFHAS flood model
- the maximum relative mass gain error is insignificant at 0.5% of the total inflow.

Therefore the MIKE21 flood model can be used confidently to simulate the flow, providing a tool to assess flood mitigation requirement and flood impact.

6.1.2 Developed Case

Four different development scenarios were presented in this report. While the un-mitigated fully developed case, presented in scenario 2 clearly created significant impact on the floodplain, the other three development scenario did not have a significant impact on the water surface level in neighbouring properties.

Scenario 3 with its reduced development footprint was adopted as our favoured scenario at this stage as no compensatory cut were required, however the other 2 scenarios are also potential solution for the reduction of the water surface level impact.

6.1.3 Recommendation

The detail design and environmental assessment of any of the proposed compensatory cut in scenario 4 and 5 will need to be undertaken to assess their feasibility. Formal approval from DERM will have to be granted for these mitigations cut to be implemented.

The proposed development in scenario 3 provides an acceptable solution without the requirement of any mitigation cut. The impact on the water surface level is limited in space and in magnitude.

6.2 Water Quality

MUSIC water quality models of the Oonoonba catchments were developed to assess Base Case and Design Case pollutant loads. The water quality model results showed significant increases in pollutant loadings due to the proposed development. Proposed stormwater treatment measures have been investigated with the aim of reducing these pollutant values to targets set by TCC. These measures included

- 0.18 Ha bio Retention system; and
- 0.93 Ha vegetated swales.

Approximately 2.4% of the total development area will be required to accommodate the proposed treatment devices. Provided the recommended stormwater treatment measures are implemented pollutant loadings discharged from the site into sensitive receiving waters are not significantly increased (and are reduced in some cases) against the Base Case, protecting and enhancing the environmental values of these waterways.

6.3 Water Management

To minimise the impact of the proposed development, it is desirable to maximise opportunities for water reuse and conservation where possible. Several options for grey water and wastewater recycling measure for both on-lot and precinct level have been investigated. Further more additional water cycle management methods have been investigated such as sewer mining and rainwater harvesting. However, due to the highly seasonal nature of the rainfall means that stormwater harvesting is unlikely to provide a significant reduction in mains water demands.

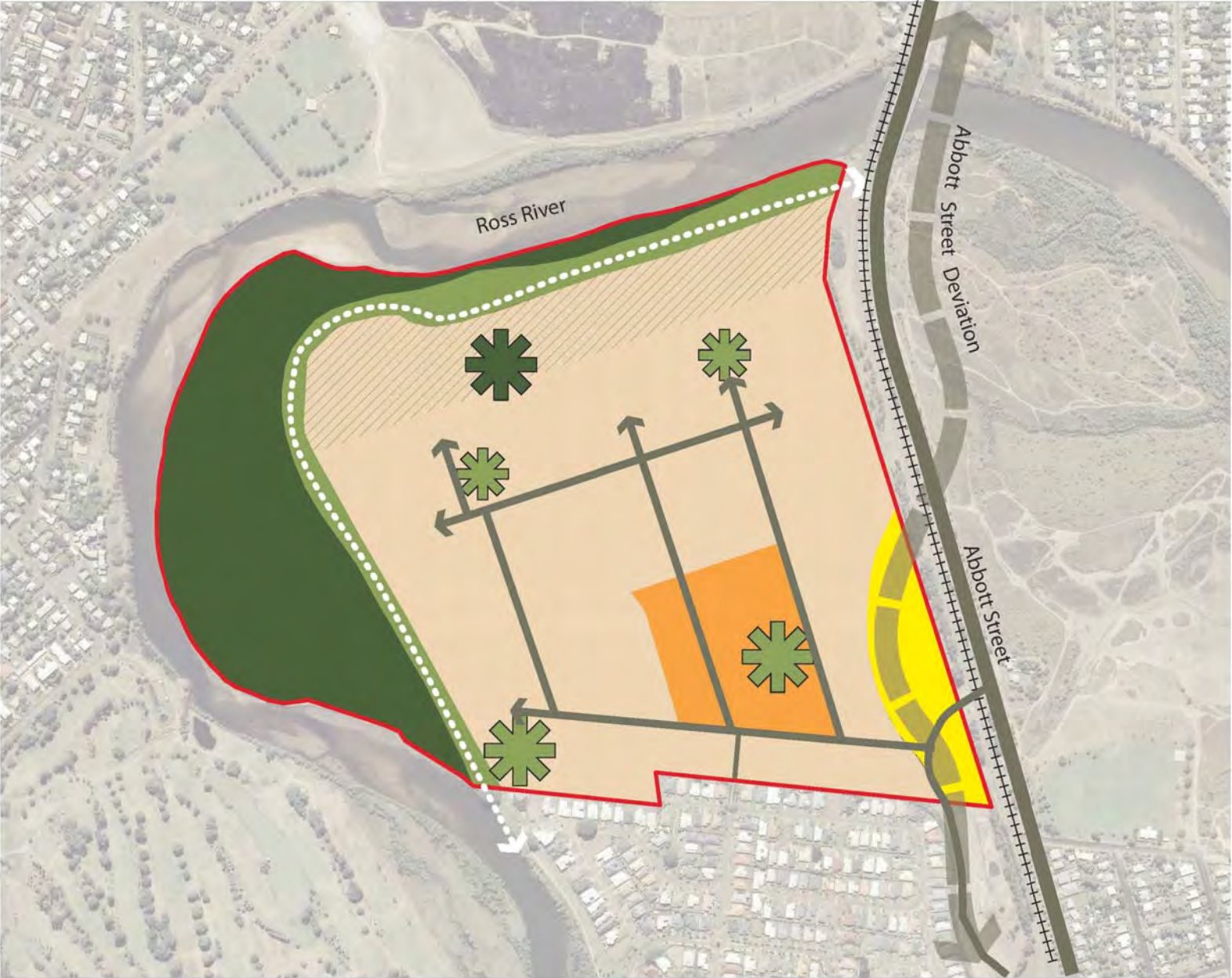
It was identified with the client that the most effective strategy would involve a combination of grey water on a precinct level and conventional water reduction measures on an on-lot level, such as low flush toilets etc. This would allow for the treatment of the water to be controlled by a management company allowing suitable maintenance checks take place. Recycled grey water can be then fed back to the lots for use in irrigation and household non-potable uses. This recycled grey water could also be used for irrigation of the open spaces within the development. Careful consideration will be required about this system due to construction costs and maintainability.

7.0 References

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Appendix A

Development Masterplan



- Zones**
- Residential
 - Mixed Use
 - Environmental
 - Open Space
 - Special Purpose

- Other Elements**
- Possible Medium Density Residential up to 5 storeys in height
 - Indicative Park
 - Primary Vehicle Network
 - Pedestrian/ Cycle Network
 - Indicative stormwater management

Appendix B

Brisbane City Council Generic Pollutant Export Rates

Appendix B Brisbane City Council Generic Pollutant Export Rates

Land Use Type for MUSIC Source Nodes	Parameter	Total Suspended Solids (Log ₁₀ mg/L)		Total Phosphorus (Log ₁₀ mg/L)		Total Nitrogen (Log ₁₀ mg/L)	
		Base Flow	Storm Flow	Base Flow	Storm Flow	Base Flow	Storm Flow
Urban Residential ¹	Mean	1.0	2.18	-0.97	-0.47	0.20	0.26
	Std Deviation	0.34	0.39	0.31	0.31	0.20	0.23
Commercial ¹	Mean	0.78	2.16	-0.60	-0.39	0.32	0.37
	Std Deviation	0.39	0.38	0.50	0.34	0.30	0.34
Industrial ¹	Mean	0.78	1.92	-1.11	-0.59	0.14	0.25
	Std Deviation	0.45	0.44	0.48	0.36	0.20	0.32
Rural Residential ²	Mean	0.53	2.26	-1.54	-0.56	-0.52	0.32
	Std Deviation	0.24	0.51	0.38	0.28	0.39	0.30
Agricultural ³	Mean	1.40	2.30	-0.88	-0.27	0.074	0.59
	Std Deviation	0.310	0.31	0.13	0.30	0.13	0.26
Forest	Mean	0.51 ¹	1.90 ²	-1.79 ¹	-1.10 ²	-0.59 ¹	-0.075 ²
	Std Deviation	0.28 ¹	0.20 ²	0.28 ¹	0.22 ²	0.22 ¹	0.24 ²

Notes: Values have been verified by BCC's Stormwater Quality Monitoring Program by direct measure or review of literature as follows:

- 1 Derived from BCC's Stormwater Quality Monitoring Program (BCC 2003a)
- 2 Derived from BCC's Stormwater Quality Monitoring Program (BCC 2001a)
- 3 Derived from a review of worldwide data (Duncan 1999), default parameter in MUSIC

Appendix C

Tank Water Balance Results

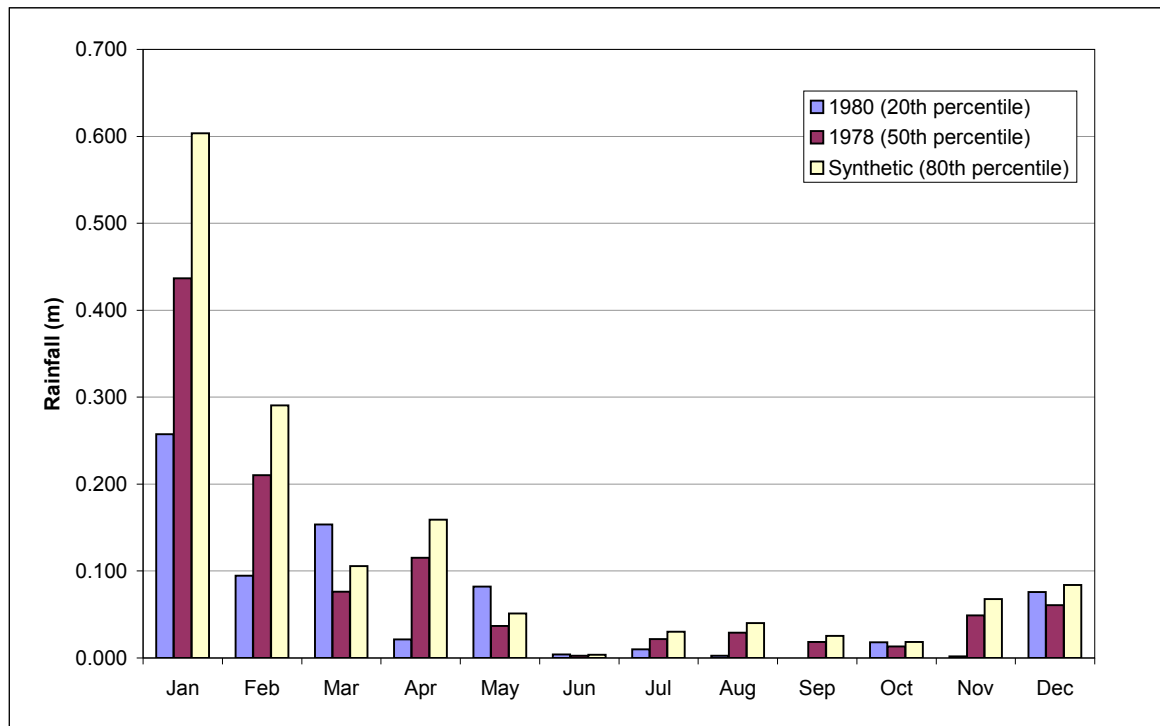
Ooonoonba Integrated Water Cycle Assessment

Rainwater Tank Water Balance

Rainfall percentile	50 Roof area (m²)	250
Corresponding year	1978 Max tank volume (m³)	30

Date	Precipitation (mm)	Evaporation (mm)	Runoff volume (m³)	Tank volume with irrigation	Excess	Tank volume without irrigation	Excess
1/01/1978	11	12.4	-0.35	0	0	0	0
2/01/1978	50.6	10	10.15	9.06625	0	10.04125	0
3/01/1978	7	12	-1.25	6.7325	0	8.6825	0
4/01/1978	56	9.4	11.65	17.29875	0	20.22375	0
5/01/1978	273.4	8	66.35	30	52.565	30	55.49
6/01/1978	18.8	5.8	3.25	30	2.16625	30	2.16625
7/01/1978	0.6	8	-1.85	27.06625	0	28.04125	0
8/01/1978	0.2	7.4	-1.8	24.1825	0	26.1325	0
9/01/1978	0	9.8	-2.45	20.64875	0	23.57375	0
10/01/1978	0	9.6	-2.4	17.165	0	21.065	0
11/01/1978	0	9	-2.25	13.83125	0	18.70625	0
12/01/1978	0	8.8	-2.2	10.5475	0	16.3975	0
13/01/1978	0	10.6	-2.65	6.81375	0	13.63875	0
14/01/1978	0	9.6	-2.4	3.33	0	11.13	0
15/01/1978	0	2.8	-0.7	1.54625	0	10.32125	0
16/01/1978	0	2.8	-0.7	-0.2375	0	9.5125	0
17/01/1978	0	7.8	-1.95	0	0	7.45375	0
18/01/1978	0	6.2	-1.55	0	0	5.795	0
19/01/1978	0	9.2	-2.3	0	0	3.38625	0
20/01/1978	0	8.4	-2.1	0	0	1.1775	0
21/01/1978	5.2	10	-1.2	0	0	0	0
22/01/1978	0	10.4	-2.6	0	0	0	0
23/01/1978	0	10.2	-2.55	0	0	0	0
24/01/1978	4.2	8.4	-1.05	0	0	0	0
25/01/1978	7	9	-0.5	0	0	0	0
26/01/1978	1	9.4	-2.1	0	0	0	0
27/01/1978	0	9.6	-2.4	0	0	0	0
28/01/1978	0	9	-2.25	0	0	0	0
29/01/1978	0	4.6	-1.15	0	0	0	0
30/01/1978	0.2	4.6	-1.1	0	0	0	0
31/01/1978	1.4	0	0.35	0	0	0	0
1/02/1978	1.4	4.2	-0.7	0	0	0	0
2/02/1978	170.2	6.6	40.9	30	9.81625	30	9.81625
3/02/1978	7	9.6	-0.65	28.26625	0	29.24125	0
4/02/1978	0	8	-2	25.1825	0	27.1325	0
5/02/1978	0	8	-2	22.09875	0	25.02375	0
6/02/1978	0	8	-2	19.015	0	22.915	0
7/02/1978	1.4	9.2	-1.95	15.98125	0	20.85625	0
8/02/1978	1	9.2	-2.05	12.8475	0	18.6975	0
9/02/1978	5.6	8.8	-0.8	10.96375	0	17.78875	0
10/02/1978	0	8	-2	7.88	0	15.68	0
11/02/1978	0	6.8	-1.7	5.09625	0	13.87125	0
12/02/1978	0	7	-1.75	2.2625	0	12.0125	0
8/11/1978	0	9	-2.25	0	0	0	0
9/11/1978	3.2	10	-1.7	0	0	0	0
10/11/1978	8.4	8.4	0	0	0	0	0
11/11/1978	0	8.8	-2.2	0	0	0	0
12/11/1978	9.8	11.2	-0.35	0	0	0	0
13/11/1978	3.8	10.8	-1.75	0	0	0	0
14/11/1978	1.6	3.4	-0.45	0	0	0	0
15/11/1978	1.2	4.2	-0.75	0	0	0	0
16/11/1978	0	12	-3	0	0	0	0
17/11/1978	0	11.6	-2.9	0	0	0	0
18/11/1978	0	12	-3	0	0	0	0
19/11/1978	5.2	10	-1.2	0	0	0	0
20/11/1978	0.8	7.6	-1.7	0	0	0	0
21/11/1978	0	7.2	-1.8	0	0	0	0
22/11/1978	0	10.2	-2.55	0	0	0	0
23/11/1978	1.6	12	-2.6	0	0	0	0
24/11/1978	4.4	10.4	-1.5	0	0	0	0
25/11/1978	0	12.6	-3.15	0	0	0	0
26/11/1978	4.6	13.4	-2.2	0	0	0	0
27/11/1978	11	11.4	-0.1	0	0	0	0
28/11/1978	0.4	11.2	-2.7	0	0	0	0
29/11/1978	0.8	13.8	-3.25	0	0	0	0
30/11/1978	0.2	11.8	-2.9	0	0	0	0
1/12/1978	1.2	10.2	-2.25	0	0	0	0
2/12/1978	0	11.6	-2.9	0	0	0	0
3/12/1978	0	9.6	-2.4	0	0	0	0
4/12/1978	0	8	-2	0	0	0	0
5/12/1978	2.6	7.2	-1.15	0	0	0	0
6/12/1978	17.4	4.8	3.15	2.06625	0	3.04125	0
7/12/1978	1.8	7.8	-1.5	-0.5175	0	1.4325	0
8/12/1978	0.4	9.2	-2.2	0	0	0	0
9/12/1978	0	3	-0.75	0	0	0	0
10/12/1978	0.6	2.6	-0.5	0	0	0	0
11/12/1978	0	9.4	-2.35	0	0	0	0
12/12/1978	0	9.4	-2.35	0	0	0	0
13/12/1978	0	9.4	-2.35	0	0	0	0
14/12/1978	0	4	-1	0	0	0	0
15/12/1978	0	7.6	-1.9	0	0	0	0
16/12/1978	0	5	-1.25	0	0	0	0
17/12/1978	0	10.2	-2.55	0	0	0	0
18/12/1978	4.4	9.2	-1.2	0	0	0	0
19/12/1978	0	8.6	-2.15	0	0	0	0
20/12/1978	0	10.4	-2.6	0	0	0	0
21/12/1978	0	7.6	-1.9	0	0	0	0
22/12/1978	0	7	-1.75	0	0	0	0
23/12/1978	0	7.8	-1.95	0	0	0	0
24/12/1978	0	7.6	-1.9	0	0	0	0
25/12/1978	0.4	7.6	-1.8	0	0	0	0
26/12/1978	0	7.2	-1.8	0	0	0	0
27/12/1978	0	12.2	-3.05	0	0	0	0
28/12/1978	0	8.6	-2.15	0	0	0	0
29/12/1978	0	11.8	-2.95	0	0	0	0
30/12/1978	1.8	10.4	-2.15	0	0	0	0
31/12/1978	89.6	10.6	19.75	18.66625	0	19.64125	0
Empty days					313	296	
Percent wasted to overflow					33%	34%	

Rainfall (m/month)			
Percentile	20	50	80
Year	1980	1978	Synthetic
Jan	0.257	0.437	0.604
Feb	0.095	0.210	0.291
Mar	0.154	0.076	0.106
Apr	0.021	0.115	0.159
May	0.082	0.037	0.051
Jun	0.004	0.003	0.004
Jul	0.010	0.022	0.030
Aug	0.002	0.029	0.040
Sep	0.000	0.018	0.025
Oct	0.018	0.013	0.019
Nov	0.002	0.049	0.068
Dec	0.076	0.061	0.084



(4) FLOOD MITIGATION

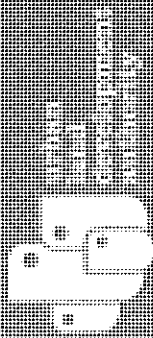
SPECIFIC OUTCOMES	PROBABLE SOLUTIONS
SO7 People and habitable buildings are provided with an acceptable level of flood immunity in the event of a 1 in 50 year flood.	PS7.1 Access to the site is no less than 0.5m above the 1 in 50 year flood level. AND PS7.2 The habitable floor level of any building is 300mm above the Q50 level.

(5) ROAD DESIGN

SPECIFIC OUTCOMES	PROBABLE SOLUTIONS
SO8 Lots have access to roads that: <ul style="list-style-type: none"> • have adequate geometric design, design speed, horizontal alignment, vertical alignment, grades, structural design, materials and construction to fulfill their designated functions over an acceptable design life within the network; • accommodate public utility services and drainage systems; AND • create a safe and attractive environment that is consistent with the character of the area.³²⁴ 	PS8.1 The design of the road network is consistent with: <ul style="list-style-type: none"> • Aus-spec Development Design Specification D1 – Geometric Road Design; • Aus-spec Development Design Specification D2 – Pavement Design; • the road and freight networks identified on Maps 3.2 and 3.3; AND • the characteristics set out in Schedule 2A – Urban Roads, Road Hierarchy and Schedule 2B – Rural Roads Road Hierarchy. AND PS8.2 All roads in urban and rural residential precincts are provided with street lighting designed and installed in accordance with the provisions of AS/NZS 1158 (or any later revision of this standard).

The following are non-statutory inclusions for information purposes only and do not form part of City Plan.

³²⁴ Applicants should note that where a development involves any discharge of stormwater to a State controlled road, the approval of the Department of Main Roads will be required. Such works should be in accordance with the Department of Main Roads' "Planning and Design Manual".



Urban Development Authority



Oonoonba Urban Development Area Development Scheme

April 2000

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Coconino Urban Development Area Development Scheme

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1.1 The Urban Land Development Authority	1.2 Urban Development Area	1.4 Elements of the development scheme
<p>The Urban Land Development Authority (ULDA) is a statutory authority under the <i>Urban Land Development Authority Act 2007</i> (the Act) and a key element of the Queensland Housing Affordability Strategy.</p> <p>The role of the ULDA is to facilitate:</p> <ul style="list-style-type: none"> (i) the availability of land for urban purposes (ii) the provision of a range of housing options to address diverse community needs (iii) the provision of infrastructure for urban purposes (iv) planning principles that give effect to ecological sustainability and best practice urban design (v) the provision of an ongoing availability of affordable housing options for low to moderate income households. <p>The ULDA works with local governments, community, local landowners and the development industry to deliver commercially viable developments that include diverse, affordable, sustainable housing and use best-practice urban design principles.</p>	<p>The Oonoonba Urban Development Area (UDA) was declared by regulation on 23 April 2010.</p> <p>1.3 Purpose of the development scheme</p> <p>The Oonoonba UDA Development Scheme (the scheme) has been prepared in accordance with the Act and is applicable to all development on land within the boundaries of the UDA. It is a statutory instrument and has the force of law.</p> <p>The purpose of the development scheme is to establish the overall intentions for development of the UDA as well as identify a broad range of requirements applicable to proposed development.</p> <p>From the date of approval, the development scheme replaces the Interim Land Use Plan for the UDA which commenced upon declaration.</p>	<p>The Oonoonba UDA Development Scheme consists of:</p> <ul style="list-style-type: none"> » a land use plan » an infrastructure plan » an implementation strategy. <p>The land use plan regulates development and states the preferred form of development in the UDA.</p> <p>The infrastructure plan details the infrastructure necessary to support the land use plan for the UDA.</p> <p>The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the outcomes for the UDA.</p>

2.1 Location

The Oonoonba UDA covers 83 hectares of land in the suburb of Oonoonba, about 3.5kms south of the Townsville City Centre.

The Oonoonba UDA is a promontory bounded by the Ross River to the west and north, a rail corridor and Abbott Street road corridor to the east, and the suburb of Idalia to the south. The site was formerly used as a Queensland Government cattle and research station.

The Oonoonba UDA is in a prime location for low-to-medium density residential and mixed use development, offering:

- » convenient connections to existing and planned major transport networks servicing Townsville from the south
- » substantial existing service infrastructure
- » significant shade and other trees, suitable for retention in public parks and open space
- » the opportunity to open up public access to the Ross River for new residents and residents of neighbouring areas
- » the opportunity to provide new local services to adjacent and nearby residential areas
- » suitable land for a wide range of housing types, styles and prices
- » convenient cycling to the City Centre
- » views of Castle Hill, a prominent Townsville landmark.

2.2 Vision

The Oonoonba UDA will become a model residential neighbourhood distinguished by:

- » a range of housing options suited to the local environment and the particular needs of the Townsville community
- » a neighbourhood centre that provides a community focus and features innovative and varied forms of residential and non-residential uses
- » residential areas offering a range of building heights and densities, complementary non-residential uses and uses that combine living and working
- » strong links to and promotion of access to the Ross River for both residents of the UDA and Townsville generally
- » views of Castle Hill, a prominent Townsville landmark
- » pedestrian and cycle networks that connect important destinations within the UDA, and nearby suburbs and the Townsville City Centre beyond the UDA
- » retention of significant existing trees as important features in public places
- » acknowledging the site's indigenous heritage and history of military use.

Map 1: Oonoonba UDA boundary



The UDA will:

House the future by:

- » creating residential and mixed use areas with a range of densities, types, designs, prices, home ownership and rental options to deliver a range of housing choices for low to moderate income families, key workers, singles, couples, first home buyers and retirees
- » providing a variety of housing types that cater for the changing needs of the Townsville community.

Be a connected place by:

- » locating the neighbourhood centre on higher ground at the entry to the UDA to establish its prominence and create a community focus
- » framing the neighbourhood centre with mid-rise medium density housing and small-scale mixed uses to maximize activity in the centre and accessibility to services
- » facilitating a street pattern and pathways, that link parks to the river and support local trips to nearby schools and shops
- » opening vistas to Castle Hill, through the street pattern and other elements, which visually connect the UDA to the city and surrounding suburbs
- » using street treatments to reinforce a clear hierarchy of pedestrian and cycle routes.

Manage environmental values by:

- » retaining significant trees in public areas
- » enhancing the marine habitat, preserving the river sandbank
- » applying best practice water sensitive urban design
- » striking a balance between natural and built elements considering land form, climate and ecology to maximise environmental conservation, amenity and contribute to the desired landscape character.

Be a liveable community by:

- » providing employment opportunities in the neighbourhood centre, and also in home based businesses in residential areas, such as micro-small businesses and service industries
- » providing access to the Ross River by creating shaded and cool places to rest and relax, and paths to walk and ride along the river banks
- » establishing a civic-style neighbourhood park to the east of the neighbourhood centre, and another park to the west, to provide places for the community to gather, relax and play under the shade of many of the site's existing rain, fig and other feature trees

» ensuring street patterns, the location of open spaces and planting, and the orientation and design of buildings and openings, capture and channel cooling breezes, particularly from the north-east

» identifying opportunities to recognise the site's indigenous heritage and history of military use

» drawing on the site's landform and existing vegetation to create a distinctive neighbourhood which reinforces the existing landscape character and enhances local amenity

» exploring new forms of tropical architecture appropriate for the Townsville context

» promoting community health and wellbeing through a neighbourhood design that supports a healthy and active lifestyle

» ensuring development is sensitive to the environment by using, where possible, efficient sources of energy and waste disposal

» providing necessary community, social and cultural infrastructure

» recognising opportunities to use existing buildings on the site.

Be a good neighbour by:

» addressing interfaces between new uses in the UDA and existing residential areas.

Be a safe place to live by:

- » locating housing to overlook open space and paths to improve surveillance and personal safety
- » ensuring land is rehabilitated and removed from the Environmental Management Register or Contaminated Land Register prior to works or sensitive uses commencing.

Promote planning and design excellence by:

- » becoming a modern, resilient and adaptable urban area that promotes connectivity, safety and accessibility whilst recognising what is important to the Townsville community
- » embracing a Queensland building style that is in keeping with a tropical context.

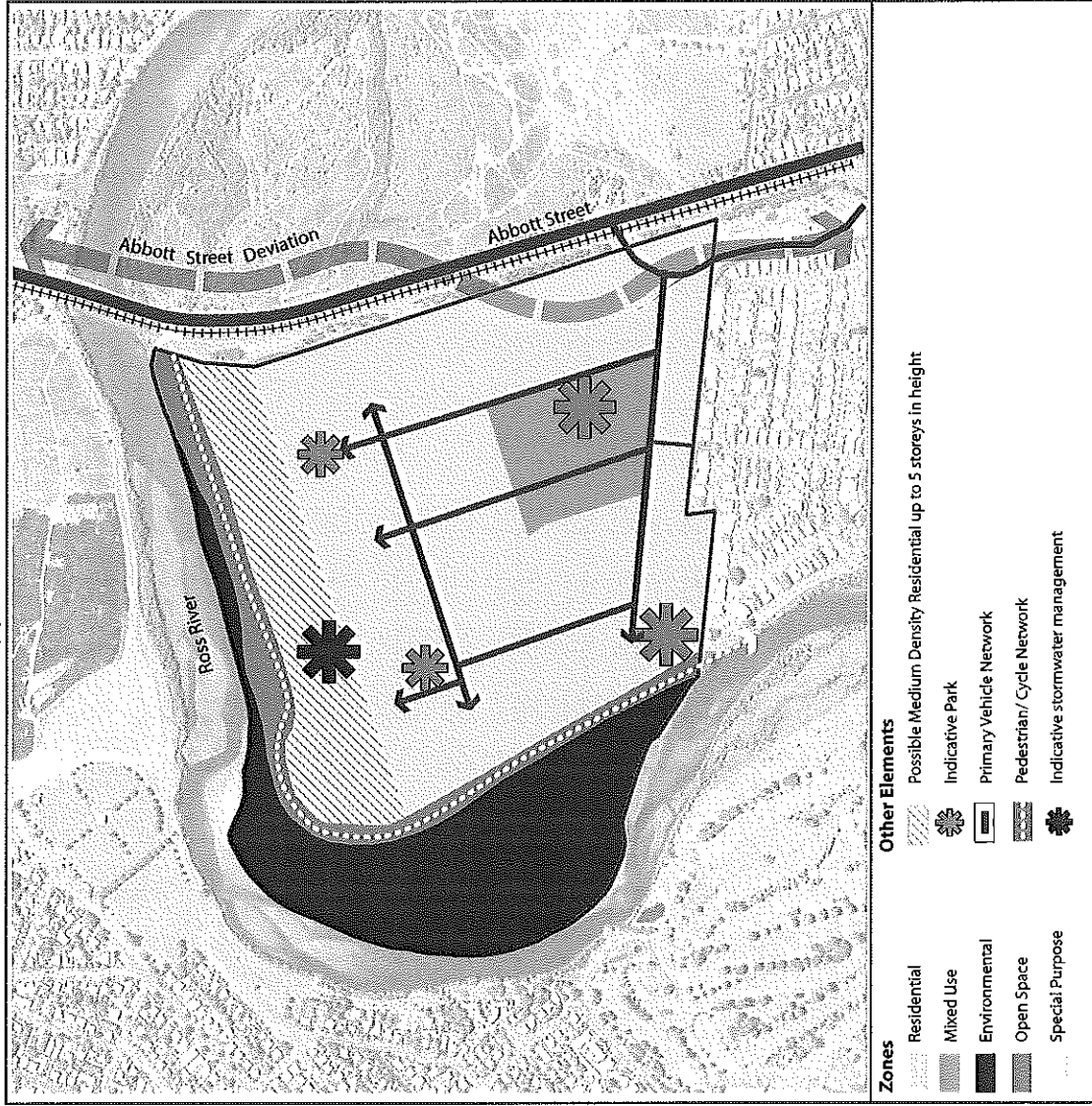
2.3 Structure Plan

The Structure and Zoning Plan (refer to Map 2) for the Oonoonba UDA illustrates:

- » preservation of the Ross River bank along the northern boundary and the sand bank along the western and northern boundaries of the UDA
- » a riverside park on the south western boundary where the high ground meets the river, visible and accessible from the major boulevard off Lakeside Drive
- » an esplanade along the western and northern edges of the high ground from Fairfield Waters through to Abbott Street that is entirely accessible to the public and suitable for both walking and cycling

- » evenly distributed, well-connected and accessible neighbourhood and pocket parks, creating a useable public open space network within easy walking and cycling distance of every residence
- » a simple street grid structure, suitable for public transport, with a central spine looking towards Castle Hill
- » a neighbourhood centre including a significant neighbourhood park framed by community, commercial, retail, medium-density residential and small scale mixed use
- » retention of existing rain, fig and other feature trees, where possible, in parks, streets and other open space areas
- » indicative location for flood and stormwater management
- » the allocation of land for the possible future Abbott Street deviation, incorporating an overpass over the railway line.

Map 2: Oonoonba UDA structure and zoning plan



3.1 Purpose of the land use plan

The purpose of the land use plan is to regulate development and state the preferred form of development within the Urban Development Area (UDA).

Figure 1 details the components of the land use plan and explains their relationship to each other.

3.2 Development assessment procedures

3.2.1 Land use plan

The land use plan:

- (i) identifies the vision for the Oonoonba UDA, and
- (ii) states the requirements for carrying out development to achieve the vision for the UDA.

3.2.2 UDA vision

The vision:

- (i) seeks to achieve for the UDA the purposes of the Act, and
- (ii) provides the basis for the UDA development requirements.

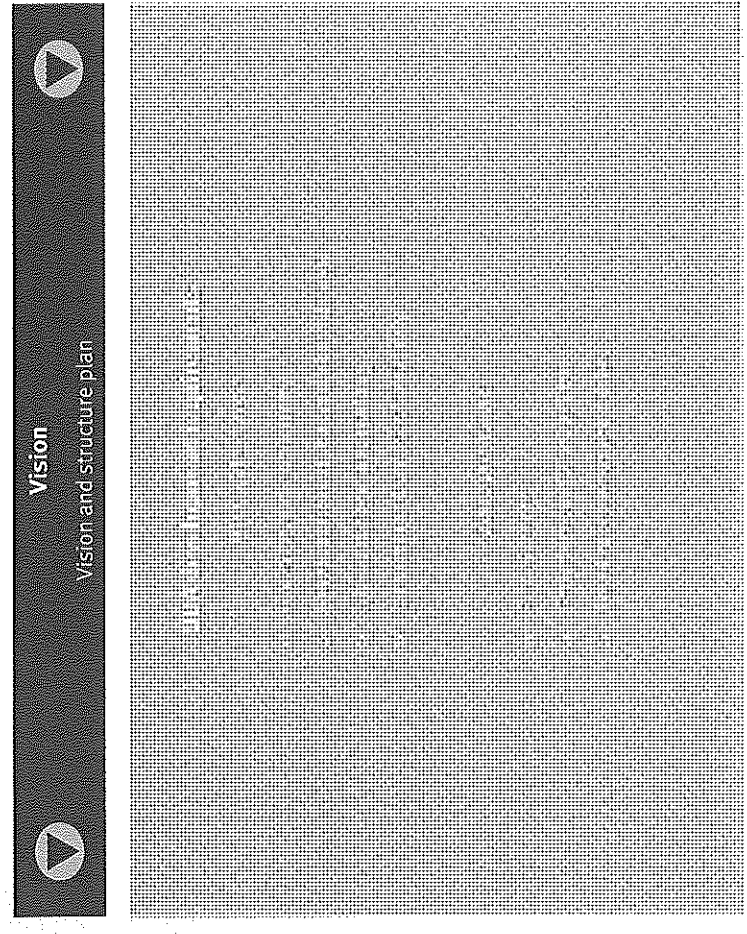
The UDA vision is spatially represented in Map 2.

3.2.3 UDA development requirements

The UDA development requirements are expressed through:

- (i) development criteria for the whole UDA (UDA-wide criteria)
- (ii) Oonoonba UDA Structure and Zoning Plan
- (iii) development provisions for a specific zone (Zone intent)
- (iv) tables specifying the level of assessment for development for each zone (level of assessment table).

Figure 1: Components of the land use plan and their relationship



3.2.4 Levels of assessment

The levels of assessment for the carrying out of development in the UDA are in the relevant level of assessment table for the zone which states in:

- (i) column 1, UDA exempt development
- (ii) column 2, UDA self assessable development
- (iii) column 3, UDA assessable development.

3.2.5 Development consistent with the land use plan

UDA self-assessable development which complies with applicable development requirements is consistent with the land use plan.

UDA assessable development is consistent with the land use plan if:

- (i) the development complies with the UDA development requirements, or
- (ii) the development does not comply with the UDA development requirements but:
 - a. the development does not conflict with the vision for the UDA and
 - b. there are sufficient grounds to approve the development despite the non compliance with the UDA development requirements.

Otherwise, the UDA assessable development is inconsistent with the land use plan and must be refused.

Identification of development as UDA assessable development does not mean that a UDA development approval (with or without conditions) will be granted.

UDA assessable development requires a UDA development application to be lodged with the ULDA for assessment and decision. Approval is required for UDA assessable development to be undertaken.

In this section 'grounds' means matters of public interest which include the matters specified as the main purposes of the Act as well as:

- (i) superior design outcomes
- (ii) overwhelming community need.

'Grounds' does not include the personal circumstances of an applicant, owner or interested third party.

3.2.6 Consideration in principle

The ULDA may accept, for consideration in principle, a proposed UDA development application (application for consideration in principle).

The ULDA will consider the application for consideration in principle and may decide the following:

- (i) it supports the application, with or without qualifications that may amend the application
- (ii) it opposes the application

- (iii) it cannot accept the proposal until a detailed assessment is made through a UDA development application, or
- (iv) it has no established view on the proposal and no indication of support or opposition.

The ULDA when considering a UDA development application:

- (i) is not bound by any decision made regarding an application for consideration in principle
- (ii) may give such weight as it considers appropriate to the decision in respect of the application for consideration in principle.

3.2.7 Land not included in a zone

This section applies to land which is not shown in the land use plan as being included in a zone (unallocated land).

Where the unallocated land is adjoined by land in a zone, the unallocated land is deemed to be included in that zone.

Where the unallocated land is adjoined by land included in different zones, the unallocated land is deemed to be included in those zones with the centreline of the unallocated land being the boundary between the zones.

3.2.8 Notification requirements

A UDA development application will require public notification if the development application is for a use, or of a size or nature which, in the opinion of the ULDA, warrants public notification.

Residential development in the Residential Zone that complies with the zone intent will not require public notification.

3.2.9 Relationship with local government planning scheme and SPA

This development scheme replaces the Oonoonba Interim Land Use Plan (ILUP).

Unless this development scheme specifically applies a provision of a planning instrument or a plan, policy or code made under the *Sustainable Planning Act 2009* (SPA) or another Act, the development scheme prevails to the extent of an inconsistency with those instruments.

3.3 UDA-wide criteria

The following criteria apply to all UDA assessable and self-assessable development in the Oonoonba UDA. To the extent that the criteria are relevant, they are to be taken into account in the preparation of UDA development applications and the assessment of those applications by the ULDA.

The UDA-wide criteria should be read with the relevant statement of zone intent.

The infrastructure plan and implementation strategy may include further information, which should be taken into account in the design and feasibility of development proposals.

The Oonoonba UDA-wide criteria cover the following topics:

- » housing and community
- » neighbourhood, lot and block design
- » street design and parking
- » environment and sustainability.

For more detail on how to comply with the requirements listed below refer to guidelines issued by the ULDA¹:

¹ Including ULDA guideline no. 03 Residential 30, Affordable Housing Strategy and the Accessible Housing and Environment and Sustainable Development Guidelines.

3.3.1 Housing and community

The UDA delivers housing affordability and choice.

Residential neighbourhoods:

- » deliver a minimum of 50 percent of all dwellings across the UDA available for purchase at or below the median house price for Townsville
- » deliver a minimum of 40 percent of all dwellings available to purchase or rent to low to moderate income households for Townsville
- » deliver 10 percent of all dwellings as accessible housing to meet the changing needs of people and households over time
- » contribute to housing choice by providing a range of housing types.

3.3.2 Neighbourhood, block and lot design

The UDA delivers development designed to:

- » maximise connectivity
- » be responsive to the local climate and site features
- » include walkable streets and neighbourhoods
- » provide personal safety and security
- » enhance character and amenity

- » use infrastructure efficiently.

Neighbourhood planning and design:

- » gives the neighbourhood a strong and positive identity by responding to site characteristics, setting, landmarks and views, and through clearly legible street networks, open space and use of streetscape elements
- » delivers appropriate scale of development
- » incorporates principles for crime prevention through environmental design (CPTED)
- » identifies appropriate areas for multiple residential and mixed uses
- » ensures adequate visual and noise amenity
- » maximises opportunities for views and vistas
- » achieves a balanced mix of lot sizes to provide housing choice and streetscape variety
- » responds to natural features, including topography and natural drainage features
- » promotes healthy and active lifestyles by prioritising walking and cycling within the UDA and connecting to facilities and services outside the UDA
- » incorporates orientation for solar access and natural ventilation
- » integrates development with the surrounding environment and provides

for shared use of public facilities by adjoining communities

- » provides parks that cater for a variety of functions and experiences and that are safe and accessible for users
- » locates services and utilities to maximise efficiency and ease of maintenance.

The public realm of civic spaces, parks, plazas, footpaths, urban streets and other shared community spaces, notably in and around the neighbourhood centre, are clearly delineated from, but integrated with, the private realm and comprise:

- » a sense of place reflecting the character of the location
- » material and plant selection appropriate to the location and relevant to the sense of place
- » shade trees along streets and within public and private spaces
- » an appropriate climate-based orientation and design, ensuring shade is provided, breezes are captured and optimal use is made of natural light
- » setbacks for the movement of pedestrians and standing areas for public transport stops
- » at ground level, buildings designed to integrate shopping, dining, and other outdoor activities and continuous awnings to provide protection from the rain and sun and integrated with street plantings

- » opportunities for informal and formal play, meeting and gathering
- » opportunities to highlight local history, landmarks and culture through public information and artwork
- » where possible, balconies to enable surveillance and overlooking of public spaces and places.

Adequate lots for non-residential or mixed use development are provided in appropriate locations to facilitate business and employment generation, taking into account:

- » the need for businesses and home based businesses to be located in and around the neighbourhood centre
- » opportunities for businesses and home based businesses with vehicular access via rear lanes
- » the capacity on mixed use lots to effectively change between mixed uses and housing.

3-3-3 Street design and parking

The UDA delivers:

- » efficient and safe street networks for all users
- » adequate car parking
- » access to public transport networks.

Street network planning and design:

- » connects to existing networks while ensuring acceptable levels of amenity

- and minimising negative impacts of through traffic
- » provides a safe and pleasant environment through lighting, pavement treatment and materials, clear sight lines and landscaping
- » provides movement networks for vehicles, pedestrians and bicycles that have a clear structure, provide a high level of internal accessibility and good external connections with the surrounding area, and maximise public transport effectiveness

- » provides for pedestrian and cycle connections within the site which connect to existing facilities and support movement to key city-wide, district and local destinations such as shops, schools, parks and community facilities
- » supports public transport routes and facilities and provides safe, legible and attractive connections from residential areas to public transport nodes or stops
- » does not unreasonably constrain future provision of public transport infrastructure and does not adversely impact on the function or operation of existing or future public transport corridors.

Planning and design of vehicle access and parking ensures:

- » safety and convenience for residents, visitors and service providers

- » adequate provision for the number and nature of vehicles expected.

Car parking is provided for business, retail and community and service uses as follows:

- » 1 space per 30m² of gross floor area
- » up to 50 percent of car parking spaces may be provided off site, where in close proximity to the site and in accordance with a parking management plan.

Car parking is provided for Multiple residential as follows:

- » at a rate of 1 space per dwelling unit
- » 1 space for every 4 dwellings for visitor parking
- » 1 space for car washing.

Variations to car parking provision may be appropriate in close proximity to public transport stops.

3-3-4 Environment and sustainability

The UDA delivers:

- » minimal emissions to land, water and atmosphere
- » efficient use of land and resources
- » protection of amenity, ecological values and natural systems including the marine habitat and sandbank of the Ross River.

The design, siting and layout of development:

- » minimises adverse impact on the environmental values of the receiving

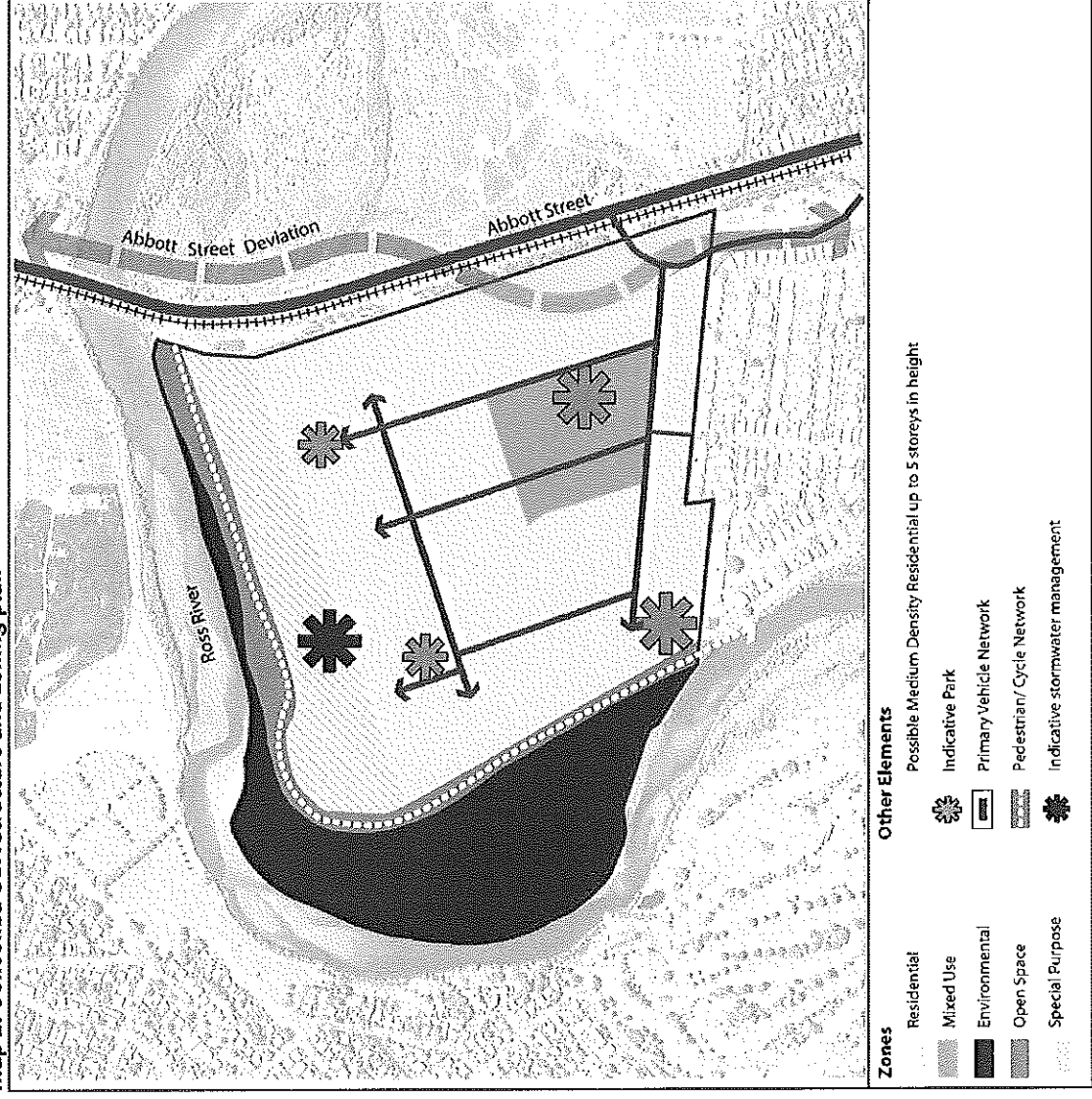
- waters and appropriately manages stormwater
- » minimises adverse impacts on natural landforms and visual amenity of the site
- » retains significant vegetation where possible within parks, along streets and within development sites
- » ensures that all land and groundwater will be fit for its intended use in accordance with accepted standards and practices

- » maintains or enhances marine habitat within the bed and banks of the Ross River including the western sandbank
- » incorporates leading energy efficiency² and water efficiency practices, maximises recycling opportunities and reduces waste generation
- » promotes the adoption of decentralised energy generation systems and natural ventilation to reduce energy use

- » incorporates landscaping that contributes to flora and fauna habitat and fauna movement, with street trees selected from species native and/or endemic to the Onoonba UDA
- » demonstrates consistency with current best practice for the identification and management of acid sulfate soils

² For Class 1 and Class 2 buildings (as defined in the Building Code of Australia 2009) the Queensland Development Code MP 4.1 Sustainable buildings outlines minimum requirements in terms of energy efficiency and efficient fixtures for water conservation.

Map 2: Oonoonba UDA structure and zoning plan



- » appropriately manages mosquito breeding areas
 - » development will achieve an appropriate level of flood immunity³.
- During construction, adverse impacts on amenity are minimised.

³ The Defined Flood Event for the Oonoonba UDA is the 100 year ARI. This flood level is mapped in the Oonoonba Flood and Stormwater Management Study.

3.4 Zone provisions

The Oonoonba UDA is divided into five zones. The location and boundaries of the zones are shown on Map 2: Oonoonba UDA structure and zoning plan.

3.4.1 Residential Zone intent

The Residential Zone caters for a range of residential types including Houses, Multiple Residential, Other Residential and Home Based Businesses.

Non-residential land uses including Business, Retail and Community and Service uses, may be suitable in the Residential Zone. However, these uses are only appropriate if residential character and amenity are maintained and the use caters only for the needs of the immediate community and does not undermine the viability of uses in the Mixed Use Zone or nearby retail centres.

Building height and density for residential uses are generally up to three storeys and 30 dwellings per hectare; however on lots immediately adjoining Fairfield Waters the height of buildings is limited to 2 storeys. In the northern part of the residential zone as shown on Map 2, building heights of up to five storeys and densities up to 150 dwellings per hectare are appropriate.

A variety of parks will be provided within the zone, including: a neighbourhood

riverside park in the south west, a small neighbourhood park in the north west, a small neighbourhood park around the historical bomb crater in the north east, and a larger neighbourhood park near the Mixed Use Zone. Existing trees and other natural vegetation will be retained where possible within all parks in the zone.

The Residential Zone includes land that will be required for flood and stormwater management.

3.4.2 Mixed Use Zone intent

The Mixed Use Zone caters for a range of Business, Retail, Residential, Sport Recreation and Entertainment, Industrial and Service and Community uses.

Building height and density for the Mixed Use Zone are generally 5 storeys and 150 dwellings per hectare.

The Mixed Use Zone is intended to incorporate a neighbourhood centre, including a significant neighbourhood park framed by Multiple Residential, Business, Retail and Community and Service uses.

The neighbourhood centre is intended to provide a focal point for the Oonoonba residential area as well as the neighbouring residential community of Fairfield Waters. Residential shop-top housing is encouraged above Business and Retail uses generally

in the southern part of the neighbourhood centre, close to the main entrance road.

Community and service uses may be developed within existing buildings in the northern part of the neighbourhood centre. Small lot mixed uses are appropriate throughout the zone.

The neighbourhood centre is also intended to include a neighbourhood park with pedestrian and cyclist connections through to other parks and open spaces in the vicinity of the neighbourhood centre. Ideally this park will be framed by mid-rise medium density housing, small-scale mixed uses and home-based businesses.

Existing buildings and infrastructure are intended to be utilised to their maximum potential and existing feature trees will be retained where possible throughout the zone.

A public transport stop should also be provided in association with the neighbourhood centre.

A central neighbourhood park will be provided within the zone. Existing trees and other natural vegetation will be retained where possible within the park.

3.4.3 Open Space Zone intent

The Open Space Zone caters for the Ross River esplanade and includes a range of publicly accessible outdoor recreation spaces and uses such as parks, pedestrian pathways and cycleways.

Buildings and structures may include picnic amenities, children's playgrounds, facilities for spectators, club buildings and associated off-street parking.

Existing trees and natural features will be retained where possible.

3.4.4 Environmental Zone intent

The purpose of the Environmental Zone is to maintain or enhance the natural functions and habitats of the Ross River along the boundary of the UDA.

It is also intended that the zone provide for the possibility of constructing structures such as boardwalks and pathways where located and designed to avoid adverse impacts on the marine environment or the need for revetment or stabilisation works.

3.4.5 Special Purpose Zone intent

The Special Purpose Zone is primarily intended to be utilised for land required to construct the Abbott Street deviation.

However, if it should be determined the land is not required for transport purposes it is intended that it be used for residential purposes consistent with the Residential Zone.

Level of assessment table

Column 1 Exempt development			Column 2 UDA self assessable development	Column 3 – UDA assessable development
In the Residential Zone				
Development specified in Schedule 1 except if the land is on the Environmental Management Register or Contaminated Land Register.			<p>Making a material change of use for a House on a lot greater than 450m² except if the land is on the Environmental Management Register or Contaminated Land Register.</p> <p>If consistent with an approved Plan of Development and the land is not on the Environmental Management Register or Contaminated Land Register:</p> <ol style="list-style-type: none">Making a material change of use for:<ol style="list-style-type: none">HouseMultiple residential.Carrying out operational work, other than that specified in Schedule 1, for:<ol style="list-style-type: none">Filling or excavationReconfiguring a lot. <p>Environmentally relevant activities for which a code of environmental compliance has been made under the <i>Environmental Protection Regulation 2008</i> except if the land is on the Environmental Management Register or Contaminated Land Register.</p>	All development, including development not defined in Schedule 2, other than development mentioned in Column 1 or Column 2.

Column 1 Exempt development	Column 2 UDA self assessable development	Column 3 – UDA assessable development
In the Mixed Use Zone		
Development specified in Schedule 1 except if the land is on the Environmental Management Register or Contaminated Land Register.	<p>Making a material change of use for a House on a lot greater than 450m² except if the land is on the Environmental Management Register or Contaminated Land Register.</p> <p>If consistent with an approved Plan of Development and the land is not on the Environmental Management Register or Contaminated Land Register:</p> <ol style="list-style-type: none">Making a material change of use for:<ol style="list-style-type: none">HouseMultiple residentialCarrying out operational work, other than that specified in Schedule 1, for:<ol style="list-style-type: none">Filling or excavationReconfiguring a lot. <p>Environmentally relevant activities for which a code of environmental compliance has been made under the <i>Environmental Protection Regulation 2008</i> except if the land is on the Environmental Management Register or Contaminated Land Register.</p>	All development, including development not defined in Schedule 2, other than development mentioned in Column 1 or Column 2.
In the Open Space Zone		
Development specified in Schedule 1 except if the land is on the Environmental Management Register or Contaminated Land Register.	Nil	All development, including development not defined in Schedule 2, other than development mentioned in Column 1 or Column 2.
In the Special Purpose Zone		
Development specified in Schedule 1 except if the land is on the Environmental Management Register or Contaminated Land Register.	Environmentally relevant activities for which a code of environmental compliance has been made under the <i>Environmental Protection Regulation 2008</i> .	All other development, including development not defined in Schedule 2, other than development mentioned in Column 1 or Column 2.
In the Environmental Zone		
Nil	Nil	All development consistent with the maintenance or enhancement of the marine habitat within the bed and banks of the Ross River and the construction of pathways and boardwalks.

Infrastructure Plan

Infrastructure requirements to achieve the vision for the UDA will be determined through the development assessment process, imposed as conditions of a UDA development approval for development and delivered as part of the building and operational works on the site.

Infrastructure will include:

- » parks
- » roads
- » pedestrian/cycle networks
- » water supply and sewerage
- » stormwater management
- » telecommunications
- » power
- » community facilities.

Infrastructure charges will be based on Townsville City Council's applicable infrastructure charging document for the area in force at the time of declaration of the UDA. These charges will be indexed each year by the five year rolling average of the Queensland Roads and Bridges Index.

Infrastructure delivered as part of the development may be credited against the monetary contribution that would otherwise apply.

State infrastructure funding will be sought under the normal budgetary processes and will be part of an approved State agency capital program.

State controlled roads shall be upgraded in accordance with agreements with DTMR.

Listed below is infrastructure currently identified for the Oonoonba UDA.

Infrastructure	Description of works
Parks	New neighbourhood parks.
Walking and cycling tracks	Connection from the existing pedestrian path/cycleway in Fairfield Waters, with a new pedestrian path/cycleway along the Ross River esplanade to Abbott Street. Pedestrian pathway from the end of carriageway in Viewpoint Terrace into the street network in the UDA.
Roads and streets	Upgrading, including additional carriageways and signalisation of Lakeside Drive at the entry to the UDA. Upgrading of the Abbott Street and Lakeside Drive intersection including additional turning lanes. Construction of Twinview Place to connect into the street network in the UDA. New roads and streets to service the community in the UDA. Footpath upgrades to external facilities.
Water supply and sewerage	Water and sewerage services for the development that connect to existing networks.
Stormwater management	New works linking with external stormwater management works.
Community facilities	Community facilities identified in consultation with the Townsville community, and local and state government agencies (may include refurbishment of existing on-site buildings).

5.0 Implementation Strategy

Implementation Strategy

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the vision for the UDA.

The strategy identifies each of the implementation mechanisms and the purpose of the *Urban Land Development Act 2007* (the Act) that each is seeking to achieve.

Implementation mechanisms		Relevant purpose of the Act
Preparing a ULDA development application		
» ULDA guideline no. 01 Residential 30	» Provision of a range of housing options to address diverse community need	
» ULDA Accessible Housing Guideline	» Provision of an ongoing availability of affordable housing options for low to moderate income households	
» ULDA Environment and Sustainable Development Guideline	» Planning principles that give effect to ecological sustainability and best practice urban design.	
» ULDA Affordable Housing Strategy.		
Development assessment process		
» Development Assessment Supplementary Guide	» Availability of land for urban purposes.	
» Development Assessment Certification Procedures Manual.		
Provision of infrastructure		
» Identifying third party funding opportunities.	» Provision of infrastructure for urban purposes.	
» Determining in consultation with DTMR, upgrading and/or contributions to upgrading of state controlled roads in the vicinity of the UDA.	» Provision of infrastructure for urban purposes.	
» Identifying in consultation with Townsville City Council, State agencies and community organisations opportunities to accommodate small community and cultural groups within the UDA.	» Provision of infrastructure for urban purposes.	
Riverbank Management		
» Investigate options for the maintenance or enhancement of the marine environment of the bed and banks of the Ross River particularly the western sand bank.	» Planning principles that give effect to ecological sustainability and best practice urban design.	
Community engagement		
» Factsheets, newsletters, letterbox drops, newspapers	» Planning principles that give effect to ecological sustainability and best practice urban design	
» Working with Townsville City Council, State and Federal agencies and community organisations to deliver a coordinated education and training program within the UDA.	» Provision of a range of housing options to address diverse community need.	

Implementation mechanisms		Relevant purpose of the Act
Key stakeholder consultation		
» Working with the Townsville City Council and State and Federal agencies to identify and resolve issues	» Working with the development industry to identify opportunities for collaboration and innovation to achieve superior planning and design outcomes.	» Availability of land for urban purposes
		» The provision of a range of housing options to address diverse community need
		» Provision of infrastructure for urban purposes
		» Planning principles that give effect to ecological sustainability and best practice urban design
		» Provision of an ongoing availability of affordable housing options for low to moderate income households.

Schedule 1: Exempt development

Building work	
Carrying out building work associated with a material change of use that is UDA exempt or self assessable development.	
Carrying out building work associated with an approved material change of use.	
Minor building work or demolition work except where the building is identified as a heritage registered place.	
Material change of use of premises	
Making a material change of use of premises implied by building work, plumbing work, drainage work or operational work if the work was substantially commenced by the state, or an entity acting for the state, before 31 March 2000.	
Making a material change of use of premises for a class 1 or 2 building under the Building Code of Australia (BCA) part A3, if the use is for providing support services and short term accommodation for persons escaping domestic violence.	
Reconfiguring a lot	
Reconfiguring a lot under the <i>Land Title Act 1994</i> , if the plan of subdivision necessary for the reconfiguration is:	
(a) a building format plan of subdivision that does not subdivide land on or below the surface of the land	
(b) for the amalgamation of two or more lots	
(c) for the incorporation, under the <i>Body Corporate and Community Management Act 1997</i> , section 41, of a lot with common property for a community titles scheme	
(d) for the conversion, under the <i>Body Corporate and Community Management Act 1997</i> , section 43, of lessee common property within the meaning of that Act to a lot in a community titles scheme	
(e) in relation to the acquisition, including by agreement, under the <i>Acquisition of Land Act 1967</i> or otherwise, or land by:	
(i) a constructing authority, as defined under that Act, for a purpose set out in parts 1-13 (other than part 10, second dot point) of the Schedule to that Act or	
(ii) an authorised electricity entity	
(f) for land held by the State, or a statutory body representing the State and the land is being subdivided for a purpose set out in the <i>Acquisition of Land Act 1967</i> , parts 1-13 (other than part 10, second dot point) whether or not the land relates to an acquisition	
(h) for the <i>Transport Infrastructure Act 1994</i> , section 240	
(i) in relation to the acquisition of land for a water infrastructure facility.	
Subdivision involving road widening and truncations required as a condition of development approval.	
Operational work	
Carrying out operational work associated with a material change of use that is UDA exempt development.	
Carrying out operational work associated with an approved material change of use.	
Carrying out operational work, in the Residential Zone, associated for the decontamination of the land.	

Carrying out operational work that is clearing of vegetation:
(a) other than significant vegetation and significant vegetation where the clearing is consistent with an approved Plan of Development
(b) carried out by or on behalf of Townsville City Council or a public sector entity, where the works being undertaken are authorised under a state law
(c) in accordance with the conditions of a UDA development approval for a material change of use or reconfiguring a lot.
Carrying out operational work for a satellite dish on a premises, where the satellite dish has no dimension greater than 1.8 metres.
Filling or excavation:
(a) to a depth of one vertical metre or less from ground level
(b) where top dressing to a depth of less than 100 vertical millimetres from ground level.
Placing an advertising device on premises.
Operational work (including maintenance and repair work) if the work is carried out by or on behalf of a public sector entity authorised under a state law to carry out the work.
Plumbing or drainage work
Carrying out plumbing or drainage work.
All aspects of development
All aspects of development a person is directed to carry out under a notice, order or direction made under a state law.
All aspects of development for park.
All aspects of development undertaken by the state, or a statutory body representing the state, for the purposes of public housing.
All aspects of development for Home based business.
All aspects of development for Sales office and display home.
All aspects of development for a utility installation, being an undertaking for the supply of water, hydraulic power, electricity or gas, of any development required for the purpose of that undertaking by way of:
(a) development of any description at or below the surface of the ground
(b) the installation of any plant inside a building or the installation or erection within the premises of a generating station of any plant or other structures or erections required in connection with the station
(c) the installation or erection of an electricity distribution or supply network (and any components of such a network) which operates at voltages up to and including 33 kilovolts, excluding new substations.

Schedule 2: Definitions

Use Definitions

Commercial Uses

Business

Means the use of premises used for administration, clerical, technical, professional, medical or veterinarian services or other business activities where no goods or materials are made, sold or hired on the premises.

Sales office and display home

Means the use of premises, including a caravan or relocatable home structure, used for the promotion and/or sale of land and/or buildings within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Industrial Uses

Service industry

Premises used for a small scale, low impact industrial activity which is intended to provide services to the general public or is similar to those activities set out below and ancillary activities that support the industrial use such as administration offices or sales and display areas for products manufactured, assembled or finished on the site including:

making of the following:

- » artificial flowers
- » bread, cakes and pastry
- » dental prostheses

- » fashion accessories

- » garments

- » jewellery

- » optical goods, being spectacles and the like

- » soft furnishings

- » toys.

assembling the following from components manufactured elsewhere:

- » aids and appliances for people with disability

- » audio-visual equipment

- » barbeques

- » blinds

- » furniture

- » portable domestic electrical appliances

- » domestic light fittings and accessories

- » scientific instruments

- » sports equipment, other than ammunition, vehicles and watercraft

- » television and video equipment.

repairing and servicing the following:

- » blinds

- » cameras or other photographic equipment

- » canvas goods, tents and camping

- » soft goods

- » computers and computer equipment

- » electronic instruments and equipment

- » garments

- » mowers, including motor mowers and portable gardening equipment

- » optical goods, being spectacles and the like

- » domestic electrical appliances

- » power and other tools

- » scientific instruments.

providing the following services:

- » book binding

- » car washing

- » document duplicating or copying or photocopying

- » engraving by hand

- » laboratory facilities

- » locksmith services

- » photographic film processing

- » picture framing

- » plan printing

- » restoration of small articles of a personal or domestic nature, works of art

- » studio facilities for film, theatre or television.

The term does not include any other industrial use.

Warehouse

Means the use of premises for the storage of goods, whether or not in a building, including self storage facilities or storage yards.

Residential Uses

Home based business

Means the use of house or multiple residential unit for an occupation or business activity as a secondary use where:

a. the floor area used specifically for the home business does not exceed 50m²

b. any visitor accommodation does not exceed four visitors

c. there is no hiring out of materials, goods, appliances or vehicles

d. there is no repairing, servicing, cleaning or loading of vehicles not normally associated with a house

e. the maximum height of a new building, structure or object does not exceed the height of the house and the setback is the same as, or greater than, buildings on adjoining properties.

House

Means the use of premises for residential purposes where freestanding on its own lot used as one self contained dwelling. The term includes secondary dwelling.

The use includes out-buildings and works normally associated with a dwelling and may include a secondary dwelling.

Multiple residential

Means the use of premises for residential purposes if there are two or more dwelling units on any one lot or on its own lot and may be subject to a community titles scheme. Multiple Residential does not include a house, as defined herein.

Other residential

Means the use of premises for the accommodation and care of aged and retired people, small groups of disadvantaged persons or persons who are being nursed, require ongoing supervision/support, or are convalescing. This use may include but is not limited to ancillary dining and recreation facilities, administration offices, laundries, kitchens, ancillary medical facilities and residential accommodation for management and staff.

Retail Uses**Fast food premises**

Means the use of premises for the preparation and sale of food to the public generally for immediate consumption on or off the premises. The use may include drive through facilities and ancillary facilities for the consumption of food on the premises.

Market

Means the use of premises for the display and sale of goods to the public on a regular but infrequent basis, where goods are primarily sold from temporary structures such as stalls, booths or trestle tables. The use includes ancillary food and beverage sales and ancillary entertainment provided for the enjoyment of customers.

Shop

Means the use of premises for the display, sale or hire of goods to the public. The use includes the incidental storage of goods on the premises and the ancillary or incidental preparation of food. It also includes hairdressing, minor appliance repairs, alterations, retail dry cleaning, liquor store, department store, discount department store, discount variety stores and betting agencies.

Shopping centre

Means the use of premises for display, sale or hire of goods comprising two or more individual tenancies, comprising primarily shops and which function as an integrated complex.

Service and Community Uses**Caretaker's accommodation**

The residential use of part of a premises where in connection with a non residential use on the same premises.

Car park

Means the use of premises for the parking of motor vehicles where such parking is not ancillary to some other development on the same site.

Child care centre

Means the use of premises for the minding or care, but not residence of children generally under school age. The use includes but is not limited to a kindergarten, creche or early childhood centre.

Community facility

Means the use of premises for social or community purposes, such as a community centre, library, public building or the like.

Educational establishment

Means the use of premises for systematic training and instruction, including any other ancillary facility. This definition includes prep facilities, primary school, secondary school, college, university, technical institute, academy or other educational centre.

The use may include residential

accommodation and other ancillary uses provided for the employees and the students of such premises.

Emergency service

Means the use of premises for services which respond to community need in an emergency.

Environmentally relevant activities

As defined in the *Environmental Protection Act 1994*.

Place of assembly

Means the use of premises used for worship and activities of a religious organisation, community or association.

Utility installation

Means the use of premises for the purpose of providing utility or telecommunication services, which does not fall within the Schedule of Facilities and Areas under the *Telecommunications Act 1997*. The use may include but is not limited to:

- » A telecommunications tower more than 5m in height
- » An equipment shelter of more than 7.5m² in area and 3m in height.

Sport, Recreation and Entertainment Uses**Club**

Means the use of premises by persons associated (whether incorporated or not) for social, literary, political, sporting, athletic or other similar purposes to which the general public may also resort and which is, or intends to be, subject to a club licence under the *Liquor Act 1992*. The premises may also include the provision of food and beverages, limited live or recorded entertainment and gaming machines.

Indoor sport, entertainment and recreation

Means the use of premises for leisure, sport or recreation conducted wholly or mainly indoors such as indoor sports and fitness centres, gyms, bowling alleys, squash courts and the like.

Outdoor sport and recreation

Means the use of premises used for any sporting or recreational activity, or other leisure pastime, which is conducted wholly or mainly outside of a building.

The use includes such typical premises as outdoor public swimming pools, golf courses and driving ranges, outdoor courts and sportsground, and the like. The term also includes the provision of a clubhouse and other ancillary facilities.

Park

Means the use of premises by the public for free recreation and enjoyment, but used infrequently for events.

Facilities for park users may include children's playground equipment, informal sports fields, vehicle parking and other public conveniences.

Other Development

Filling or excavation

Means removal or importation of material to or from a lot that will change the ground level of the land.

Material change of use

As defined in the *Sustainable Planning Act 2009*.

Minor building or demolition work

Means:

- » internal building or demolition work
- » external building work up to 25m² for roofs over existing decks or paved areas, sun hoods, carports and the like
- » building work up to 10% of approved GFA or lawfully existing GFA at the time of commencement of this development scheme.
- » raising a house where the resultant height does not exceed 9m.

Operational work

As defined in the *Sustainable Planning Act 2009*.

Reconfiguring a lot

As defined in the *Sustainable Planning Act 2009*.

Administrative Definitions

Affordable housing

Affordable housing* means private rental housing and home purchase options (including housing aimed at the first home owners market) for low to moderate income households.

Basement

A storey below ground level or where the underside of the ceiling projects no more than one metre above ground level.

Building height

The maximum vertical distance between the natural ground level and the roof or parapet at any point but not including an antenna, aerial, chimney, flagpole or the like.

Contaminated Land Register

As defined in the *Environmental Protection Act 1994*.

Development scheme

As defined in the *Urban Land Development Authority Act 2007*.

Dwellings per hectare

Dwellings per hectare should be calculated on a 'net residential density basis' including internal local roads, local neighbourhood parks and half the area of adjoining local roads within the base land area.

Areas not in the residential zone (such as the environmental zone) should not be included in density calculations. Some areas within the development scheme will however be calculated on a 'site density' basis as no local roads or neighbourhood parks will be provided within the site.

Dwelling unit

Means a building or part of a building used or capable of being used as a self contained residence which must include:

- » food preparation facilities
- » a bath or shower
- » a toilet and wash basin.

The term includes works ancillary to a dwelling.

Environmental Management Register

As defined in the *Environmental Protection Act 1994*.

Ground level

The level on a site which precedes development excluding any site works that are subject to a related development approval, unless approved by the ULDA or established as part of a reconfiguration of the land preceding development.

Gross floor area

The total floor area of all storeys of a building, including mezzanines, measured from the external walls or the centre of a common wall, excluding area used for:

- » building services
- » ground floor public lobby
- » a public mall in a shopping complex
- » the parking, loading and manoeuvring of motor vehicles
- » private balconies whether roofed or not.

4 Refer to the ULDA Affordable Housing Strategy

High water mark

Refers to the ordinary high water mark at spring tides.

Mezzanine

An intermediate floor within a room.

Noise sensitive use

Means any of the following:

- » House, Multiple residential, Other residential
- » Childcare centre, Community facility, Hospital or Place of assembly
- » Park.

Plan of Development

A detailed plan, including graphics, text and tables that collectively accompanies a development application. A Plan of Development details lot layout, the form and density of development, landscape intent and building control requirements.

Plot ratio

The ratio between the gross floor area of a building and the total area of the site.

Private open space

An outdoor area for the exclusive use of occupants.

Public benefit

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public housing

As defined in the *Sustainable Planning Act 2009*.

Public realm

Refers to spaces that are used by the general public, including streets, squares, parks and environmental areas.

Secondary dwelling

Means a self-contained dwelling where used in conjunction with a house on the same lot and where subordinate to a primary dwelling. A secondary dwelling may be constructed under a primary dwelling, be attached to a primary dwelling or be free standing.

Sensitive uses

Means any of the following Home based business, House, Multiple residential, Other residential, Relocatable home or caravan park, Caretakers accommodation, Car park, Child care centre, Community facility, Educational establishment, Club, Indoor sport entertainment and recreation, Outdoor sport and recreation, Park.

Setback

The shortest distance measured horizontally from the outermost projection of the building or structure to the vertical projection of the boundary lot.

Significant vegetation

Refers to vegetation whether living or dead, including their root zones that is:

- » all marine plants
- » all trees with a diameter of equal to or greater than 60cm when measured at 1 metre above ground level

Note: does not include species listed as pest vegetation by the State or local government.

Site cover

The proportion of the site covered by buildings, including roof overhangs.

Storey

Means a space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above. This does not mean:

- (i) a space that contains only:
 - » a lift shaft, stairway or meter room
 - » a bathroom, shower room, laundry, toilet or other sanitary compartment

- » accommodation intended for not more than three vehicles
- » a combination of the above, or (ii) a mezzanine.

Urban Design

Refers to the holistic design of urban environments, including the overall townscape, individual buildings, street networks, streetscapes, parks and other public spaces.

- 5 The root zone is the area of ground and to a depth of 1m below the surface which is covered by the vertical projection of the canopy and includes roots on and above the soil surface.



Queensland
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Urban
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Contact Us

Visit our website at www.ula.qld.gov.au

Write to us at:

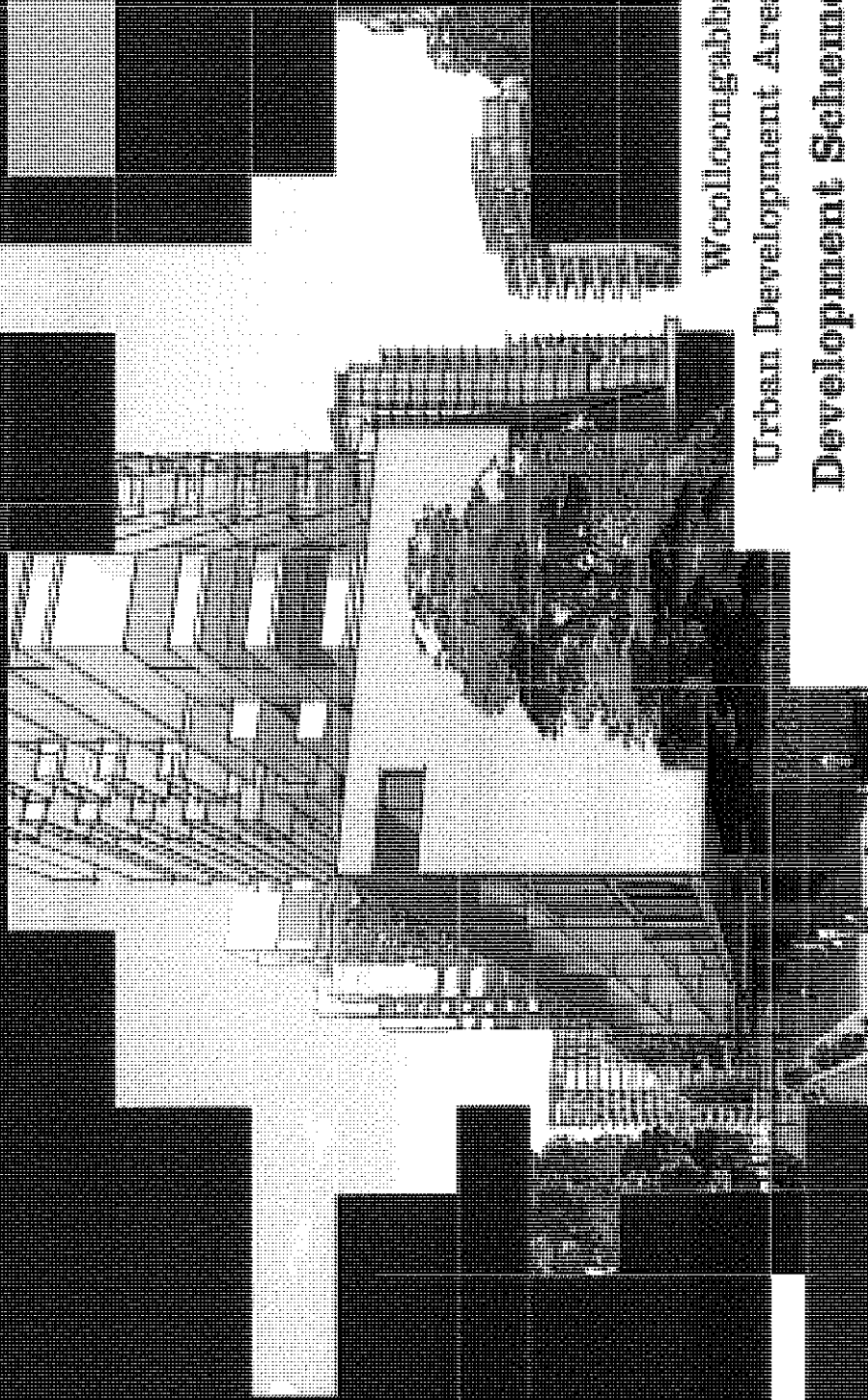
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Woolloongabba
Urban Development Area
Development Scheme



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1.1 The Urban Land Development Authority

The Urban Land Development Authority (ULDA) is a statutory authority under the *Urban Land Development Authority Act 2007* (the Act) and a key element of the Queensland Housing Affordability Strategy.

The role of the ULDA is to facilitate:

- (i) the availability of land for urban purposes
- (ii) the provision of a range of housing options to address diverse community needs
- (iii) the provision of infrastructure for urban purposes
- (iv) planning principles that give effect to ecological sustainability and best practice urban design
- (v) the provision of an ongoing availability of affordable housing options for low to moderate income households.

The ULDA works with local governments, community, local landowners and the development industry to deliver commercially viable developments that include diverse, affordable, sustainable housing and uses best-practice urban design principles.

1.2 Urban Development Area

The Woolloongabba Urban Development Area (UDA) was declared by regulation by the Minister for Infrastructure and Planning on 23 April 2010.

1.3 Purpose of the development scheme

The Woolloongabba UDA Development Scheme (the scheme) has been prepared in accordance with the Act and is applicable to all development on land within the boundaries of the UDA. It is a statutory instrument and has the force of law.

The purpose of the development scheme is to establish the overall intentions for development of the UDA as well as identify a broad range of requirements applicable to proposed development.

From the date of approval, the scheme replaces the Interim Land Use Plan for the UDA which commenced upon declaration.

1.4 Elements of the development scheme

The Woolloongabba UDA Development Scheme consists of:

- » a land use plan
- » an infrastructure plan
- » an implementation strategy.

The land use plan regulates development and states the preferred form of development in the UDA.

The infrastructure plan details the infrastructure necessary to support the land use plan for the UDA.

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the planning outcomes for the UDA.

2.0 Strategic Context

2.1 Location

The Woolloongabba UDA occupies a 10.25 hectare site in a highly visible inner-city location only 2 kilometres from the CBD. The Pacific Motorway passes through the UDA which is bounded by several major roads - Vulture Street to the north, Main Street to the east and Stanley Street to the south - all of which are heavily trafficked. Allen Street is included within the UDA along the western boundary.

The UDA has been identified as the preferred location for a new underground station as part of the Cross River Rail project. Investigations are also underway into the possibility of incorporating the railway station into a major integrated rail-bus interchange. This interchange would provide opportunities to transfer between the rail services and numerous bus services radiating out from the site along the South East Busway, the Captain Cook Bridge, Vulture Street, Stanley Street and Main Street.

Combined with its inner-city location, proximity to a number of significant destinations including the CBD, Mater Hospital precinct, South Bank and the Gabba stadium, and adjacency to the Pacific Motorway and South East Freeway Bikeway, the Woolloongabba UDA will boast one of the highest levels of accessibility in the city. The boundaries of the Woolloongabba UDA are shown on Map 1.

Existing development on the UDA is predominantly low intensity development

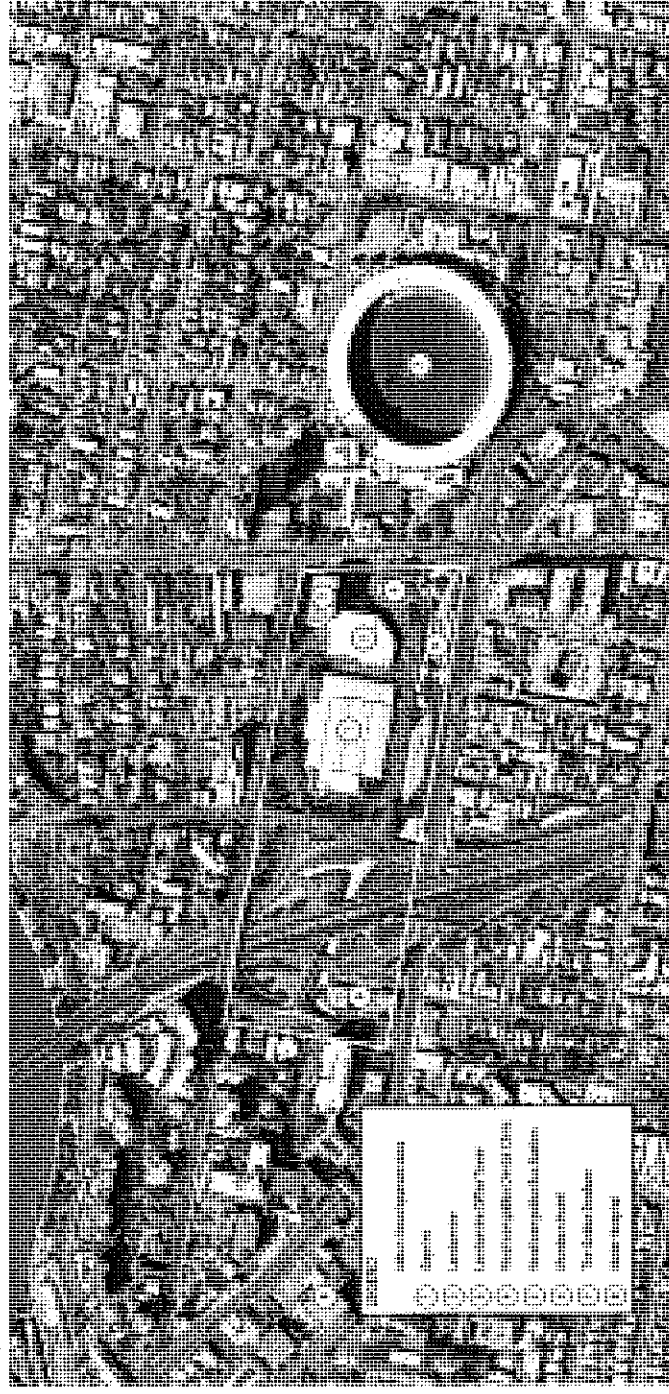
comprising the Goprint and Landcentre buildings. Large parts of the site are also taken up by Leopard Street, a number of access ramps associated with the Pacific Motorway and the existing busway and Woolloongabba bus station (which will ultimately be replaced by the proposed rail and bus interchange). These existing uses under-utilise the site which provides a major brownfield redevelopment opportunity to accommodate some of South East Queensland's rapid population and employment growth.

This potential has been recognised in a number of strategic planning documents including the SEQ Regional Plan 2009-31, the River City Blueprint (a joint planning initiative of the State Government and Brisbane City Council focussing on a 5 km radius of the CBD) and the draft Kangaroo Point South Renewal Strategy which acknowledges the UDA as "a once in a generation opportunity to deliver a truly urban and mixed use outcome that stitches the Kangaroo Point South Renewal Area to the ... Woolloongabba Central area".

The redevelopment of the UDA presents

a number of challenges, in particular the challenge of developing a vibrant attractive community on a site that is heavily impacted by traffic on the surrounding major roads, and the Pacific Motorway. Existing key routes and linkages need to be maintained while at the same time "freeing up" sufficient land for a mixed-use community. The proposal for a major public transport interchange in the centre of the site also poses short-term planning and development challenges along with significant longer-term benefits and opportunities.

Map 1: Woolloongabba UDA boundary



Map is intended for illustration purposes only and unless stated is not to scale.

2.2 Vision

The Woolloongabba UDA's high level of accessibility provides a unique opportunity to develop the site as a key southern 'gateway' into the city.

The UDA will be a high quality mixed-use community focussed around a strategic public transport hub, and demonstrating best practice outcomes in sustainability and sub-tropical design.

The transport hub will service the Gabba stadium, the Mater Hospital health precinct and a local catchment including high density transit oriented development on the UDA site and surrounding areas. The transport hub will also provide transit interchange opportunities for a much larger catchment extending as far as the Gold and Sunshine Coasts.

The Woolloongabba UDA also presents an opportunity to create a community 'heart' that services and connects the Kangaroo Point South and Woolloongabba communities.

A community heart

The Woolloongabba UDA will be the primary focus for the Kangaroo Point South and Woolloongabba communities. In part this will be achieved through the high level of accessibility provided by the proposed public transport interchange. The UDA will provide an interlinked network of parkland, plazas and pedestrian walkways and spaces that will attract people from surrounding areas.

These parks and other civic spaces will provide opportunities for informal recreation and interaction, and also cater for community markets and other events that make a positive contribution to the identity and cohesion of the local community.

Development along the Stanley Street frontage is intended to reinforce and complement the existing retail and commercial development and the scale of the heritage buildings on the southern side of Stanley Street to provide a genuine 'main street' for the community.

It is also intended that the UDA will accommodate a range of community and cultural facilities and services that will meet both local and wider community needs.

A transit oriented community

The Woolloongabba UDA will prioritise walking, cycling and public transport use over the private car. This will be achieved through the provision of high quality pedestrian and cyclist facilities within the site that provide direct access to the proposed public transport interchange and link effectively to the surrounding networks including the South East Freeway Bikeway.

Relatively low levels of on-site car parking will be permitted consistent with the site's status as one of the most accessible active and public transport locations in Queensland. The UDA will encourage innovative and practical proposals to further this objective including the provision of 'car share' schemes, multiple use of car parking and

similar initiatives on the site.

The land use pattern promotes a mix of high density uses and activities that will minimise the need for trips outside the local area, and ensures maximum accessibility to and use of, the proposed major investments in public transport infrastructure.

Development in the UDA will be required to ensure that the movement of patrons along the multiple pedestrian routes between the Gabba stadium and the public transport interchange is not unduly impeded. This may require the use of creative solutions such as rollover kerbs, multiple use of roadway space and moveable street furniture.

A vibrant mixed-use community

Mixed use development comprising residential and employment uses with supporting retail, community and cultural facilities will ensure that the UDA is active for much of the day.

Development will be required to provide activated ground floor street frontages in key areas including along Stanley Street, along the main pedestrian walkways and around the central urban park and plaza areas to provide a busy and attractive urban environment.

This will be complemented by design requirements that ensure these areas are overlooked by adjoining buildings to provide a secure environment for residents and visitors.

A network of parks, plazas and other

pedestrian areas will provide multiple opportunities for casual interaction or participation in community events such as markets and fairs. These spaces will also accommodate patrons before and after major events at the Gabba stadium. At these times the public areas of the UDA will have a vibrant festival atmosphere.

A diverse community

The Woolloongabba UDA will provide housing choices catering for a wide spectrum of the community through a variety of designs and price points as well as home ownership and rental options.

Specific initiatives will deliver housing that is affordable for low to moderate income households, and universal housing that is suitable for people with mobility problems.

The ULDA will encourage a variety of permanent and short-term accommodation that makes optimum use of the site's high accessibility.

The Woolloongabba UDA will accommodate in the order of 2000 new dwellings. These could include housing for key workers in the Mater Hill health precinct, accommodation for hospital patients and their families including 'step down' accommodation, housing for young professionals and others working in the CBD and inner south, student accommodation and apartments for local residents to meet the changing needs of the local community.

2.0 Strategic Context

A sustainable, sub-tropical community

The Woolloongabba UDA will be an exemplar for best practice urban sustainability outcomes in a sub-tropical environment. Some of the desired sustainability outcomes are intrinsic in the site's high levels of public transport accessibility and the transit supportive high density mixed use development. Some of the sustainability outcomes will be achieved through the priority that the site layout gives to pedestrian and cyclist access.

In addition to these intrinsic outcomes, development on the site will demonstrate best practice outcomes in energy efficiency, water use, climate change and climate responsive design.

2.3 Structure Plan

The structure plan (refer to Map 2) for the Woolloongabba UDA illustrates the following key elements:

A major public transport interchange at the heart of the UDA incorporating a Cross River Rail station and integrated bus interchange. The public transport interchange will provide opportunities to transfer between the rail services and numerous bus services radiating out from the site.

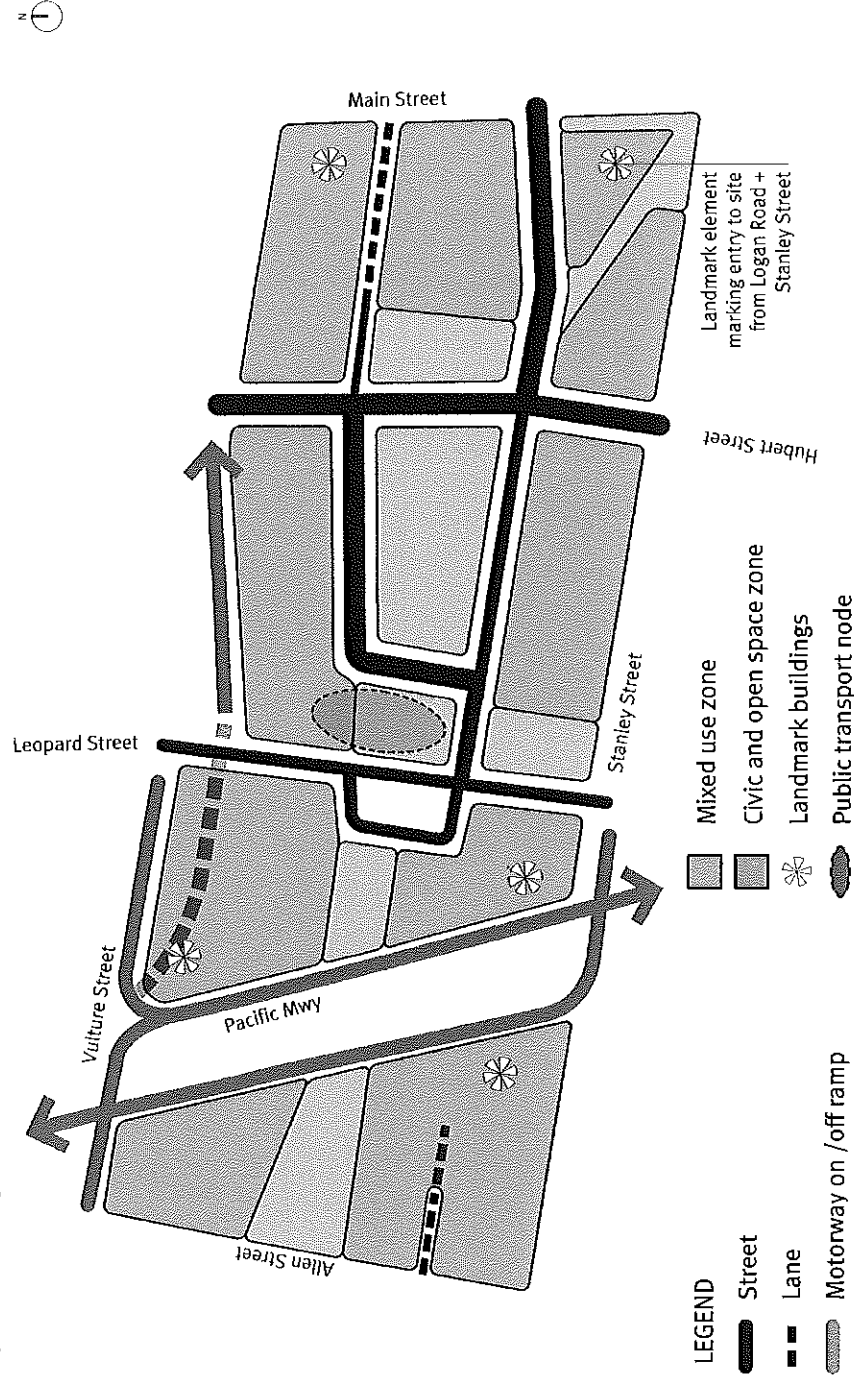
A central core of parkland and urban plaza areas providing gathering places and accommodating a range of community and recreational activities.

High density development of predominantly

20-30 storeys to support the significant investment in public transport infrastructure on most of the site, with higher density development in the areas with highest accessibility in the immediate station precinct, and in the north-west quarter of the site which affords attractive river and CBD views from upper levels.

The Structure Plan identifies five landmark building elements at key locations within the UDA. Landmark buildings are intended to identify main entry points and approaches. Landmark buildings should respond to the local context and be characterised by high quality design that makes a positive contribution to the urban form of the city.

Map 2: Woolloongabba UDA Structure Plan



Produced by the Urban Land Development Authority (ULDA) 2010
Map is intended for illustration purposes only and unless stated is not to scale.

3.1 Purpose of the land use plan

The purpose of the land use plan is to regulate development and state the preferred form of development within the Urban Development Area (UDA).

Figure 1 details the components of the land use plan and explains their relationship to each other.

3.2 Development assessment procedures

3.2.1 Land use plan outcomes

The land use plan:

- (i) identifies the vision for the Woolloongabba UDA
- (ii) states the requirements for carrying out development to achieve the vision for the UDA.

3.2.2 UDA vision

The vision:

- (i) seeks to achieve for the UDA the purposes of the Act
- (ii) provides the basis for the UDA development requirements.

The UDA vision is spatially represented in Map 2: Woolloongabba UDA structure plan.

3.2.3 UDA development requirements

The UDA development requirements are expressed through:

- (i) development criteria for the whole UDA (UDA-wide criteria)
- (ii) Woolloongabba UDA Structure Plan
- (iii) development provisions for a specific zone (zoning plan, zone intents, and level of assessment tables)
- (iv) development provisions for a specific precinct (precinct intents and precinct outcomes including urban form plans, but excluding the illustrative sections in Figures 3, 4, and 6 to 11).

Figure 1: Components of the land use plan and their relationship



3.2.4 Levels of assessment

The levels of assessment for the carrying out of development for the UDA are specified in the land use plan in the relevant level of assessment table which states in:

- (i) column 1, UDA exempt development
- (ii) column 2, UDA self assessable development (self assessable development)
- (iii) column 3A, UDA assessable development which is not prohibited (permissible development)
- (iv) column 3B, UDA assessable development which is prohibited (prohibited development).

3.2.5 Development consistent with the land use plan

Self-assessable development which complies with applicable development requirements is consistent with the land use plan.

Permissible development is consistent with the land use plan if:

- (i) the development complies with the UDA development requirements, or
- (ii) the development does not comply with the UDA development requirements but:
 - » the development does not conflict with the vision for the UDA, and
 - » there are sufficient grounds to approve the development despite the non compliance with the UDA

development requirements.

Otherwise, the permissible development is inconsistent with the land use plan and must be refused.

Identification of development as permissible development does not mean that a UDA development approval (with or without conditions) will be granted.

Permissible development requires a UDA development application to be lodged with the Urban Land Development Authority (ULDA) for assessment and decision.

Approval is required for permissible development to be undertaken.

Prohibited development is inconsistent with the land use plan.

Prohibited development may not be carried out in the UDA.

In this section 'grounds' means matters of public interest which include the matters specified as the main purposes of the Act as well as:

- » superior design outcomes
- » overwhelming community need.

'Grounds' does not include the personal circumstances of an applicant, owner or interested third party.

3.2.6 Consideration in principle

The ULDA may accept, for consideration in principle, a proposed UDA development application (application for consideration in principle).

The ULDA will consider the application for consideration in principle and may decide the following:

- (i) whether it supports the application, with or without qualifications that may amend the application
- (ii) whether it opposes the application
- (iii) whether it cannot accept the proposal until a detailed assessment is made and those details should be the subject of a UDA development application, or
- (iv) whether it has no established view on the proposal and no indication of support or opposition can be given at that time.

The ULDA when considering a UDA development application:

- (i) is not bound by any decision made regarding an application for consideration in principle
- (ii) may give such weight as it considers appropriate to the decision in respect of the application for consideration in principle.

3.2.7 Land not included in a zone

This section applies to land which is not shown in the land use plan as being included in a zone (unallocated land).

Where the unallocated land is adjoined by land included in the same zone, the unallocated land is deemed to be included in that zone.

Where the unallocated land is adjoined by land included in different zones, the

unallocated land is deemed to be included in those zones with the centreline of the unallocated land being the boundary between the zones.

3.2.8 Notification requirements

A UDA development application will require public notification if the development application is for a use, or of a size or type which, in the opinion of the ULDA, warrants public notification.

3.2.9 Relationship with local government planning scheme and SPA

This development scheme replaces the Woolloongabba Interim Land Use Plan (LUP).

Unless this development scheme specifically applies a provision of a planning instrument or a plan, policy or code made under the *Sustainable Planning Act 2009* (SPA) or another Act, the development scheme prevails to the extent of any inconsistency with those instruments.

3.3 UDA-wide criteria

The following criteria apply to all UDA assessable and self-assessable development in the Woolloongabba UDA. To the extent that they are relevant, they are to be taken into account in the preparation of UDA development applications and the assessment of those applications by the ULDA.

The UDA-wide criteria should be read with the relevant statements of zone and precinct intent.

The infrastructure plan and implementation strategy may include further information which should be taken into account in design and project feasibility planning for development proposals.

The Woolloongabba UDA-wide criteria cover the following topics:

- » movement and circulation
- » public realm
- » urban design and sustainability
- » affordable housing
- » transport infrastructure
- » parking, servicing and end of trip facilities
- » environment.

For more detail on how to comply with the requirements listed below refer to guidelines issued by the ULDA¹:

¹ Including ULDA Affordable Housing Strategy and the Accessible Housing and Sustainable Development guidelines.

3.3.1 Movement and circulation

Priority should be given to pedestrian, cycle and public transport modes over private vehicle use. This priority applies both to movement within the UDA and access to the UDA.

Development within the UDA must contribute to a network of pedestrian and cycle-safe roads and highly interconnected, attractive and efficient bikeways that give a choice of routes connecting major activity nodes with each other and also linking them to residential areas. Refer to Map 3: Woolloongabba UDA Movement and Circulation Plan.

The proposed alterations to the external road network shown on Map 3 (and identified in the Infrastructure Plan) may be modified based on the findings of more detailed traffic modelling, planning and design work which will be undertaken by the Department of Transport and Main Roads in cooperation with Brisbane City Council as part of an integrated transport study for the Woolloongabba UDA and environs. The changes should maintain the integrity of the movement and circulation principles and concepts that underpin the development scheme. Development within the UDA will be required to be consistent with any approved plans for the external road network.

Development must be designed to give high priority to connectivity, directness of route and facilities by:

- » providing access to existing and

proposed pedestrian and cycle networks including facilities forming part of the Brisbane City Council's CityCycle scheme

- » prioritising pedestrian and cycle movements over vehicle movements.

The UDA will provide convenient, high quality pedestrian and cycle access both within the site and to adjoining areas. The key elements of this network include:

- » A two-way, 4.5 metre wide, off road cycle path along the Stanley Street frontage of the site linking to the South East Freeway Bikeway and allowing for future connections to Brisbane City Council's bikeway network. This link extends to the west along Stanley Street to the Annerley Road intersection to connect with existing on-road cycle lanes.
- » A two-way, 3 metre wide, off road cycle path linking Stanley Street to Leopard Street / River Terrace and to the main entry to the public transport interchange.
- » Wide pedestrian friendly footpaths on all major road frontages including along the north side of Stanley Street between the Morrison Hotel and Leopard Street. Stanley Street is intended to be the main link between the Woolloongabba Core / Logan Road and Mater Hospital precincts, and provide direct pedestrian and cyclist access to the entry plaza and proposed public transport interchange.
- » A permeable low-traffic environment within the site which, in combination with a number of pedestrian laneways, will

provide multiple routes for pedestrian and cycle movements within and to the UDA. The main pedestrian routes will be flanked by retail and similar activities to provide safe, active environments. The indicative widths of the pedestrian laneways are shown on Map 3.

- » Pedestrian plazas in front of major public transport interchange entrances to facilitate pedestrian and cyclist movements, and for additional crowd movement and storage capacity following major events at the Gabba stadium.

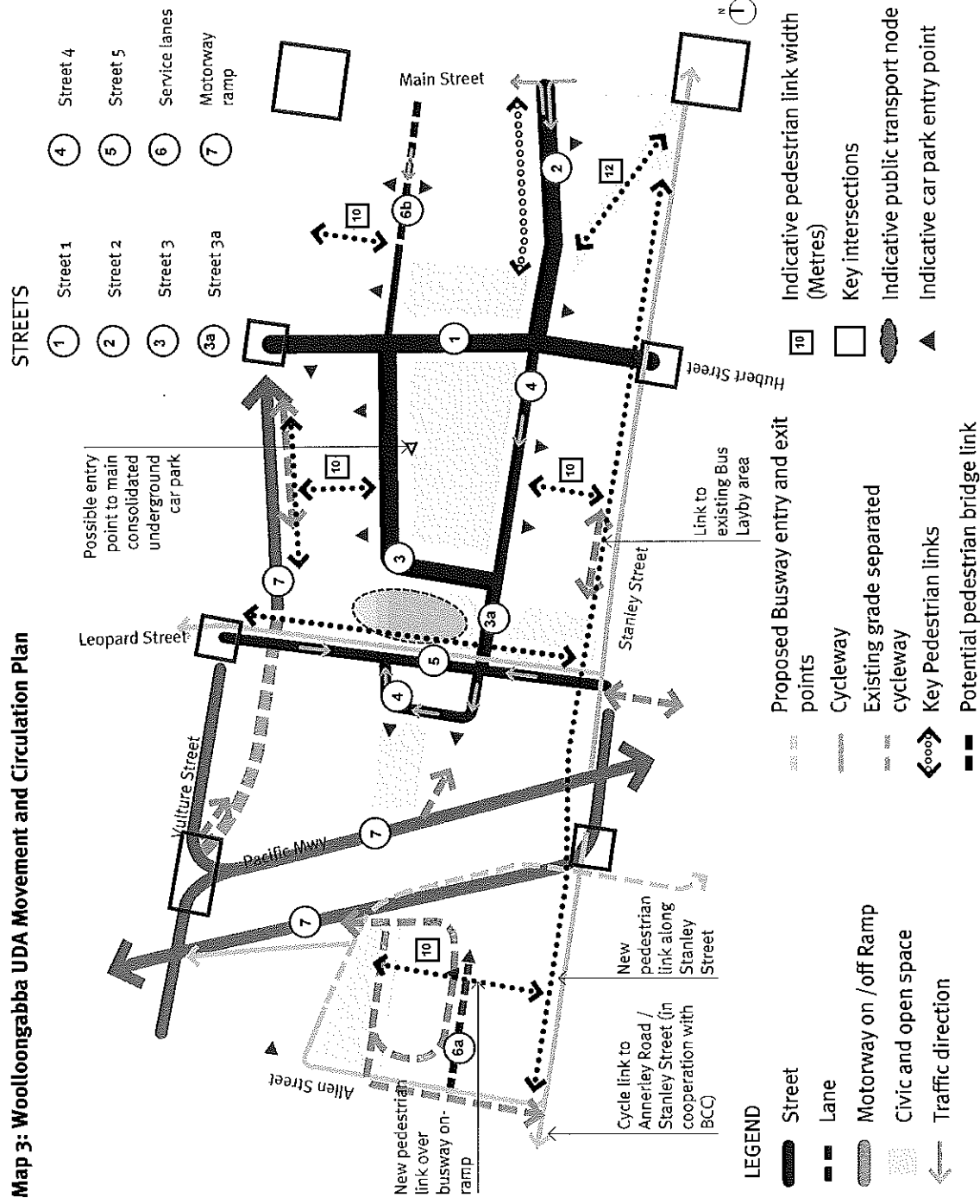
Key pedestrian routes including the Stanley Street frontage and around the central park and urban plaza will be characterised by active ground floor frontages. These frontages will be the primary locations for retail, entertainment, community and cultural land uses. The area around the Morrison Hotel will be one of several attractive pedestrian friendly areas along the Stanley Street frontage.

Map 3 presents the main elements of the internal road network and also shows the proposed bus connections that will link into the proposed public transport interchange in the centre of the site. The public transport interchange requires further detailed investigation, planning and design so only the external linkages can be shown with a reasonable degree of confidence.

The road network within the UDA will be substantially altered, predominantly by relocating some roads closer to the Pacific

Note: Streets are two-way unless indicated otherwise.

Map 3: Woolloongabba UDA Movement and Circulation Plan



Motorway to reduce the impact of vehicle movements on the local community, allow for enhanced pedestrian and cyclist accessibility, and provide more land for development purposes including the land required for the proposed public transport interchange and open space.

The internal road pattern has one main north south link between controlled intersections on Stanley and Vulture Streets providing access to an east-west oriented internal circulation network. This east-west orientation will enable pedestrian movements between the public transport interchange and the Gabba stadium to percolate through the site as well as along the Stanley and Vulture Street frontages.

The key elements of the internal road network are described below and shown in the illustrative sections in Figure 2.

Street 1

Street 1 is the main access street for the UDA providing direct connection to both Stanley and Vulture Streets. This is a two-way street with a reserve width of 26 metres providing two lanes of two-way movement in peak times with the possibility of on-street parking off peak. It is envisaged as a tree lined active street, busy with pedestrians, cyclists and short term retail parking. This street is the key movement corridor in the UDA and will accommodate significant flows of vehicles and pedestrians.

Signalised intersections control both ends of Street 1 incorporating pedestrian crossings.

Access to Street 1 from Vulture Street will be managed to ensure it does not become a 'short cut' for through traffic between Vulture and Stanley Streets. Direct vehicle access from Street 1 to adjoining development parcels should be limited to left in - left out and strictly controlled.

While the traffic volume will be high, the target speed limit is 40kph.

Building awnings will provide consistent protection for pedestrians. Street trees will line both sides of the street and help provide separation between pedestrian and vehicle movement and soften the space.

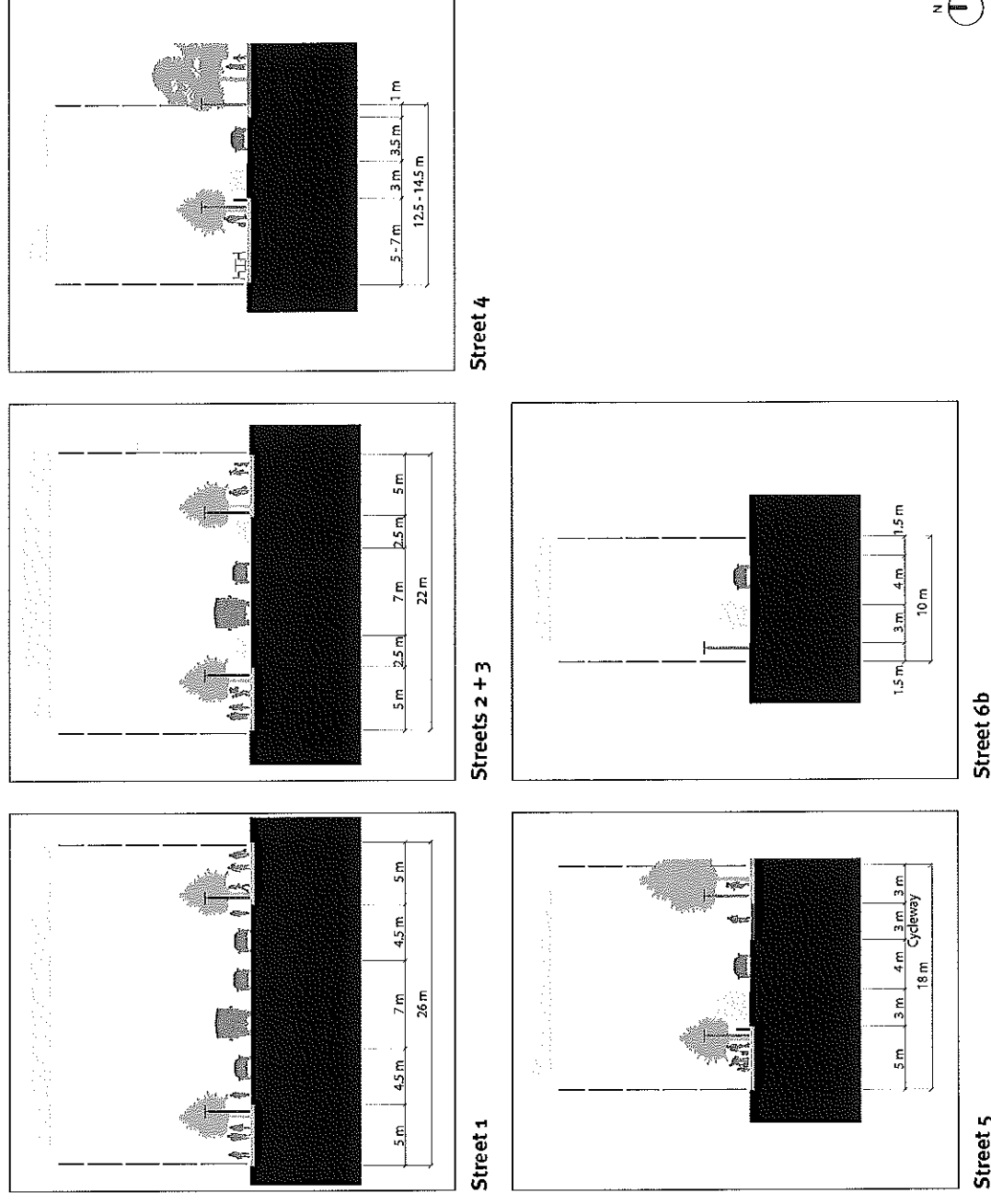
Street 2

Street 2 connects Street 1 with Main Street. Access from Main Street is left in/left out only and is not intended to be signalised. This is a two-way street with a reserve width of 22 metres providing opportunities for on-street parking and street trees.

Street 2 will play a combined role in conveying vehicles as well as pedestrian traffic through the UDA. The street aligns with the northern end of the park opposite to enable additional pedestrian connectivity to the public transport interchange during major events at the Gabba stadium. On-street parking may be raised to the same level as the footpath to enable greater pedestrian width during these events.

Mixed-use buildings line Street 2 with the ground floor of adjoining buildings activated by finer grain retail uses. A high quality and

Figure 2: Illustrative street sections



endurable public realm combined with the absence of street furniture will facilitate pedestrian movement along this linkage.

Direct vehicle access to adjoining development parcels is available from Street 2. High pedestrian movements and moderate levels of vehicle movements characterise the movement function of this street. A target speed limit of 40kph is appropriate for Street 2.

Street 3 / 3a

Connects with Street 1 and provides internal vehicle access within the UDA. This is a two-way street with a reserve width of 22 metres providing opportunities for on-street parking. This street is also an important pedestrian linkage providing direct pedestrian access to the station plaza and access to the public transport interchange.

On the northern alignment of Street 3 are mixed-use residential and commercial buildings, activated on the ground plane through retail shops, cafes and other fine grain uses. The southern alignment defines the principal community space within the UDA. Direct access to development parcels is achieved off Street 3. Street 3 also provides set-down facilities for taxis and 'kiss and ride' adjacent to the public transport interchange.

Because this street has a high pedestrian and vehicle movement function there is an emphasis on the creation of comfortable pedestrian spaces with street trees, street furniture and public art. Traffic volumes will

generally be low to moderate with a target speed limit of 40kph.

Street 3a is similar to Street 3 but does not provide for on-street parking, and therefore has a reserve width of approximately 17 metres.

Street 4

Street 4 is essentially a one-way service lane with on-street parking providing access to buildings fronting Stanley Street on the southern side of the main open space area.

This street could be a shared pedestrian and vehicle zone having a consistent paving finish across the entire surface with only a small change in height delineating the vehicle movement lane. Raised on-street parking at the same level as the footpath enables greater pedestrian width during major events at the Gabba. A well detailed pedestrian realm characterises this space with high pedestrian movement and low vehicle movement. This street will incorporate on-street parking and street trees and have a target speed of 15 kph.

Street 5

Street 5 is formed by two one-way links that provide access into the site only. Egress from Street 5 is through connection with Street 3a. The northern end of Street 5 forms an intersection with Leopard Street / River Terrace. Right turns from Vulture Street into Street 5 are not intended.

Street 5 provides two important functions: the first being a means of access for

vehicles to the western areas of the UDA; the second is by providing additional pedestrian and cyclist access to the public transport interchange located in this part of the UDA. Street 5 completes a key link from River Terrace to the main entry to the public transport interchange and to the main pedestrian / cyclist route along Stanley Street.

The reserve width is typically 16 - 18 metres including a 3m wide cycleway and providing for loading and unloading within the service lane, with a target speed of 15kph.

Streets 6a and 6b

Street 6a is Jacob Lane which currently provides access to the Morrison Hotel and adjoining private land to the north. The redevelopment of the area around the Morrison Hotel may require Jacob Lane to be closed and a new access to the development created on or near the existing lane. This will be addressed as part of the detailed design for the new development. However it will be important to ensure that service access to the Morrison Hotel is maintained both during and after construction.

Street 6b is a one-way lane, between Main Street and Street 1, providing access for service vehicles and basement car parks. It has a reserve width of 10 metres allowing for one travel lane and parking space for service vehicles with narrow footpaths on both sides.

Street 6b is not intended to carry large volumes of pedestrians. This accessway exists to serve 'back of house' functions

for adjoining residential and commercial development.

3.3.2 Public realm

(a) Intent

The public realm of the Woolloongabba UDA is intended to create a range of high quality spaces with a strong sense of place and a rich variety of experiences.

The public spaces of the UDA will become the heart of the Woolloongabba community, with designs that are both active and vibrant. These spaces will provide opportunities for social development and interaction for local and surrounding communities.

The Woolloongabba UDA's public realm contains the following elements:

Pedestrian realm

The pedestrian realm is the extent of pedestrian space around buildings and along street (footpaths) frontages, and denotes movement paths within the UDA. The pedestrian realm is not limited to public land but may also be located on privately owned land as pedestrian access ways and linkages between buildings or at the front or side setback of buildings where buildings are not built to the street alignment. These spaces are generally open and accessible to pedestrian movement 24 hours a day.

Plazas

Plazas are effectively more expansive elements of the pedestrian realm that provide opportunities for more than just pedestrian movement. They generally occur as an extension of the street footpath and

have one or two street frontages and two to three built edges. These spaces will utilise a similar design language to the footpath, with a continuation of paving style, street furniture, materials and planting palette. Plazas offer different types of usage to the pedestrian realm, with opportunities for community gatherings and civic activity - markets, busking, cultural entertainment, outdoor dining etc.

Parks

Parks are the main informal recreation and 'breathing' spaces within the UDA. Parks generally have road frontage on two or three sides and may be adjacent to, or connected to other community spaces in the UDA. Parks (and plazas) play an important role in the identity of the UDA providing key physical and visual links between different areas and activities. Parks have high amenity and provide a variety of shady spaces with a mix of hard paving, good lighting, lawns and gardens. They will function as places for informal passive recreation, including community gathering and entertainment events such as markets, concerts, performances, cultural entertainment, games and play. Parks may include a range of facilities such as kiosks and toilets.

(b) Design guidelines

The high density, mixed use nature of the UDA and its role facilitating access to the major public transport interchange at the heart of the development mean that the design of the public realm will need to

consider and resolve a number of important design objectives.

There is a wide variety of public realm spaces within the UDA. The design of each space should reflect its unique character and opportunities within an overall public realm design strategy. The overarching public realm design objectives for the UDA are outlined below. Wherever practicable, the design of the public realm should also comply with relevant aspects of Brisbane City Council's Streetscape Design Guidelines.

Provide a memorable gateway

The development will be defined by its role as a major transport interchange and mixed use centre. The central park and plaza areas should create an attractive point of arrival and station threshold, where people can make an easy transition between the site and the public transport interchange.

Gateway spaces provide opportunities to meet and greet people upon arrival and departure. This includes providing enough space for queuing and marshalling on busy game days.

Provide a public and private face

Specific parts of the public realm will need to respond to high volumes of use at different times. These parts of the public realm will need to provide clear, safe and direct routes to the public transport interchange, and be robust in the choice of materials and street furniture.

Plaza spaces within the UDA need to create

an environment that provides a more personal scale and is able to generate a sense of neighbourhood and identity, which allows residents to feel ownership of the area.

Use a locally distinctive and limited design palette

Create a limited palette of materials which draws upon the history, character and features of Woolloongabba.

Determine a 'base palette' that unites the entire site and within that base palette introduce 'accent' elements to provide local identity and interest.

Planting and shade

Streets and public spaces should be shaded to make walking comfortable year round. Opportunities for deep planting for large shade trees will be encouraged wherever practicable throughout the site.

Street trees are to:

- » Provide shade and comfort to pedestrian paths and plazas creating a continuous canopy of trees or awnings over footpaths along key pedestrian routes. Wherever practicable pedestrian walkways should be provided with a minimum of 50 percent natural shade cover
- » Introduce colour and variety to the public domain by the use of flowering trees
- » Comprise species that are sufficiently hardy to flourish in the difficult

conditions which will frequently be above underground structures;

- » Be of a scale and form that suits their location and complements the proposed building setbacks, street types and footpath widths.

Lighting

Lighting within the public realm should create an inviting night time character and provide wayfinding and safety on the ground plane. Lighting should be subtle and diffuse through the use of smaller scale light poles along pedestrian paths and streets providing down lighting. Up lighting of trees and other features should be located and designed to reduce light spill impacts on residential units.

Public art

Public art should be provided to enrich the visual appearance and civic identity of the UDA. Artworks and art spaces should be integrated into the public realm and include elements that reflect the area's cultural diversity and heritage.

Preferred locations for artworks and art spaces should be areas where people gather, such as street corners, building entries, plazas and parks.

Where the ULDA requires a contribution for public artwork as part of development, applicants are to show any proposed artwork on streetscape work plans. The preferred nature and location of the artwork will be determined in conjunction with ULDA development officers to ensure its

appropriate integration with other elements of the public realm.

3-3-3 Urban design and sustainability

The form, type and arrangement of buildings, streets and public spaces within the Woolloongabba UDA must demonstrate good urban design and sustainability by addressing each of the elements contained in this section.

All elements of this section must be achieved to the greatest extent practical having regard to each of the other elements.

(a) Placemaking

Development is to contribute to a sense of place by:

- » individually and collectively creating an attractive and appealing place for residents, workers and visitors
- » contributing to permeability of the site and the surrounding area
- » contributing to the legibility of the UDA
- » contributing to a public realm that is inclusive, accessible and safe
- » creating a positive relationship between public and private realms, in particular at street and first floor levels
- » contributing to a wide range and rich variety of activities and uses
- » providing opportunities for formal and informal gathering and interaction
- » connecting with the surrounding areas

- » encouraging pedestrian and cycle use
- » facilitating public transport access and use
- » helping to build and support a local economy
- » helping attract and retain a diverse population.

(b) Community safety and well being

Crime Prevention through Environmental Design (CPTED) principles should underpin the design of all development within the UDA.

In particular, regard should be given to the *Crime Prevention through Environmental Design (CPTED) Guidelines for Queensland*.

Development is to incorporate appropriate safety features in line with current standards and best practice guidance including fire safety and emergency vehicle access.

All buildings, as well as public and private spaces are to be designed to be inclusive and accessible and comply with best practice standards.

(c) Building design

- (i) General requirements

Buildings should have a distinct bottom, middle and roof. Buildings with continuous undifferentiated facades from top to bottom are not appropriate.

Building facades on Main and Vulture Streets may maintain a zero setback to these streets for the full height of the building provided

that some form of differentiation is provided between podium, middle and top. This may include changes in storey height, the inclusion of a building waist, changes in external materials and finishes and other similar treatments.

Buildings are to be well articulated with external balconies, doors and doorways, windows, shade and screening devices and outdoor planting.

External materials should not cause unreasonable glare.

Residential building design is to ensure adequate balcony size, adequate storage space, adequate room sizes and functional room relationships.

Regardless of height, buildings maintain a strong relationship with the street by defining the public realm through podiums or other facade elements.

Where residential uses are located above podiums, it is expected that the tower footprints will be smaller to provide roofspace for terraces, recreation facilities, roof gardens etc.

- (ii) Sub-tropical design

Development is to be climatically responsive by employing appropriate design principles and strategies that ensure:

- » buildings are orientated to optimise seasonal solar gain and loss, taking into consideration major site views and vistas
- » building form allows for cross ventilation

and supports a naturally ventilated and comfortable environment	levels may be a minimum of 9 metres apart.	necessarily be continuous but must extend over the footpath for the width of the building's main entry	incorporate appropriate elements such as overhangs and sun shading to detail the top of the building against the skyline.
» weather protection and sun shading (including eaves and overhangs) are incorporated into facades and roof forms to reduce direct solar heat and provide rain protection appropriate to each facade orientation	(iv) Ground level design and detail Ground floor levels should be designed to provide the flexibility to accommodate a range of uses and activities that may change as the UDA grows and matures. To achieve this, ground floors should have a minimum floor to ceiling height of 3.5 metres. Ground level building elements are to introduce a variety of details and finishes.	» buildings on corners should provide an awning over the main entry on each frontage	<i>Roof form</i> Roofs are to be appropriately designed to ensure plant and equipment is integrated with the overall roof design.
» building design incorporates light and shade providing well detailed and articulated facades	<i>Entries</i> Front entries to all buildings are to be emphasised through architectural and landscape treatment, pedestrian paths and awnings so as to be obvious without the need for signage and address requirements for active frontages. <i>Screening and awnings</i> Buildings are to respond to local microclimatic conditions by incorporating appropriate weather protection, screening and shading structures to channel breezes, filter sunlight, block out night lighting and provide rain protection. At street level, awnings are to be used to provide protection from sun and rain, unless a different requirement is specified for a particular precinct or sub-precinct. In particular:	» for residential buildings where awnings are not provided, street trees are to provide protection from climatic conditions and separate pedestrians from traffic movement	Varied roof forms, building heights and massing of elements are encouraged.
» outdoor/semi-outdoor living and 'indoor to outdoor' integration is provided by the use of balconies, courtyards, roof gardens and large windows creating open facades.	<i>Storage and bin areas</i> Storage and bin areas should be contained within buildings and should not be visible from the public realm. Building design and storage and bin areas must facilitate the efficient sorting and disposal of waste to maximise recycling opportunities.	» screening may also be used for lower level balconies to increase privacy.	Innovative roof treatments such as 'green roofs' that provide environmental benefits and opportunities for outdoor activities (e.g. gardening, barbecues, sports facilities) will also be encouraged.
(iii) Visual and acoustic privacy The Woolloongabba UDA is intended to be a high density development containing a mix of land uses, experiences and activities. The UDA will be home for a new residential community. Residential amenity should not be compromised because it is a high intensity development. The design of buildings should take into consideration views, aspect and privacy of those residential developments adjoining. This is particularly important in dealing with above podium levels within the UDA. As a minimum there should be 18 metres between upper levels (balcony to balcony) where there is potential for overlooking. This separation will ensure privacy is maintained as well as ventilation and solar access. Where there is no direct overlooking, upper	<i>Windows to retail tenancies</i> Window sills to ground floor frontages should be within 100 - 300 millimetres above the corresponding footpath level to allow flexibility of use for retail and other active uses. Floor levels should be as close as practicable to the adjoining footpath level. Use of reflective glass in windows is not appropriate.	» level balconies to increase privacy.	(vi) Private open space / balconies All residential units must incorporate generous balconies or private open space, attached to major internal living areas and providing room for outdoor private activity. Balconies should be sized proportionately to the unit size and must not be less than 9m ² with a minimum dimension of three metres. However, it is considered desirable that 16m ² of private open space or balcony be achieved for all dwelling units.
	» awnings to primary active frontages must be continuous across the entire street alignment and extend over the footpath	(v) Upper level detail The upper levels of buildings must	Balconies must be appropriately located and/or screened to maximise privacy between buildings and/or the public realm and to protect amenity from transport corridor impacts, without compromising CPTED principles.
	» awnings to other frontages need not		

(vii) Lighting

External lighting should be designed to light up the building, particularly entrances and vegetated areas, without overspilling into other buildings or the sky.

(viii) Building frontages

Buildings in the UDA must contribute to an active and safe public realm.

The Urban Form Plan for each precinct identifies the different frontage requirements within the Woolloongabba UDA. Their roles for contributing to an active and safe public realm are:

Primary active frontages

Buildings on primary active frontages must:

- » accommodate high activity uses such as retail, entertainment or community activities or other uses that are visually and physically permeable, containing many windows and entrances
- » build up to or near the street edge, generally parallel to the street alignment
- » reinforce the priority of pedestrians by addressing the street, having strongly expressed pedestrian entrances, minimising the number and size of vehicle access points and using appropriate street treatments. If vehicle access points are unavoidable, they should be integrated into the building design to minimise their impact on the safety and amenity of the public realm
- » contribute to comfort for pedestrians by

delivering continuous awnings, providing shelter over footpaths.

Frontages to Pacific Motorway

Buildings should have a minimum setback of 6 metres to the Pacific Motorway (including access ramps). Setback areas should be appropriately landscaped and may include service access or similar facilities. These setback areas do not form part of the public realm so building frontages to the Pacific Motorway may be suitable for a range of uses including car parking on lower levels. Buildings should be designed to provide an attractive and interesting appearance from the motorway. Several of the buildings adjacent to the motorway have been identified as landmark buildings in recognition of their visually prominent locations.

Other frontages

Buildings on other frontages must:

- » address the street and public realm but allow for servicing and other activities with minimum impact on pedestrian movement and access
- » locate basements, where possible, within building footprints and set back from street alignments to allow areas for deep planting
- » emphasise entries through architectural and landscape treatment, pedestrian movement paths, awnings and height.

Podium heights and building setbacks

Maximum podium heights and minimum building setbacks are specified in the

Precinct outcomes (refer to Tables 3, 4 and 5). For corner sites where different requirements apply to individual frontages:

- » the higher maximum podium height should prevail for a distance of 10 metres from the building frontage, and
- » the larger building setback should prevail.

(ix) Communal open space and recreation

Development proposals are encouraged to include communal open space and recreation areas and facilities. These areas should provide safe, comfortable and varied recreation opportunities, and at a minimum include basic facilities such as seating, shade and wind protection (either structures or planting) and flexible spaces suitable for a range of recreation activities. Innovative treatments, such as green roofs or green walls that contribute to the attractiveness of these spaces are also encouraged.

(d) Landmark buildings

As shown on Map 2: Structure Plan, landmark buildings are proposed to identify the main entry points and approaches to the Woolloongabba UDA. Landmark buildings are located at:

- » the Main Street / Stanley Street and Main Street / Vulture Street intersections
- » adjacent to the Pacific Motorway on both

the Vulture Street and Stanley Street frontages.

Landmark buildings within the UDA provide visual cues that announce the arrival within, or approach to, the Woolloongabba UDA and identify it as a major destination and transport hub. Landmark buildings should also:

- » be characterised by high quality architectural design that makes a positive contribution to the urban form of the locality
 - » complete or frame important vistas and views
 - » create gateways
 - » increase legibility and add to the sense of place
 - » be reinforced by compatible landscape and public realm treatments.
- Landmark buildings may be created through a change of scale, materials and/or architectural treatment.

The landmark building on the eastern corner of Vulture Street and the Pacific Motorway terminates an important vista heading south from the CBD along the Riverside Expressway / Captain Cook Bridge. It is particularly important that any building on this site is conceived as a high quality 'iconic' structure marking its highly visible location.

The ground floor plaza and built form elements of the landmark building identified at the Main Street / Stanley Street intersection must emphasise the

importance of this corner as a major visual and pedestrian entry to the UDA.

(e) Heritage values

The Morrison Hotel is identified as a Heritage Place (see Map 7). The Morrison Hotel building must be retained and development within the UDA must protect, respect and complement its heritage values. The built form outcomes for Precinct 1 specify a minimum setback from the Morrison Hotel along the Stanley Street frontage.

3.3.4 Affordable housing

(a) Housing diversity

All residential development (including residential components of a mixed use development) must deliver housing choice to suit a variety of households including: families, singles, couples, work-at-home occupiers, students, retirees, group accommodation households and people with special needs by offering universal design and a variety in size, configuration, cost, adaptability and tenure.

Except where varied by a development agreement, all residential and mixed use developments must have a minimum of 15 percent of the gross floor area of all residential dwellings as affordable² to rent by households on the median household income for the Brisbane City Council local government area (the affordable housing component).

Where an applicant cannot demonstrate that this requirement will be achieved by the proposed development:

- » the applicant will need to enter into a development agreement with the ULDA by which the applicant agrees to pay to the ULDA an equivalent monetary contribution prior to the development approval for building work being given
- » if a subsidy is proposed by the applicant to achieve the affordability criteria - the

subsidy must be protected by a legal arrangement to the ULDA's satisfaction.

Residential development is to be accessible, appropriate and designed in accordance with universal and sustainable design principles to meet the changing needs of people and households over time (refer to the ULDA Accessible Housing Guideline).

The affordable housing component of a development must be distributed throughout the development and:

- (i) be finished to a suitable standard with all reasonable fixtures, services and appliances
- (ii) achieve high quality design outcomes to avoid identifying them or setting them apart in the community.

(b) Development agreement - affordable housing

A development agreement will be required where:

- » a housing diversity requirement leads to the provision of housing product that requires a subsidy to meet the affordable housing target
- » a proponent is permitted to 'convert' provision of affordable housing product to a contribution in lieu
- » agreement is reached with a proponent to 'convert' a monetary contribution to the provision of product in lieu.

The provisions of a development agreement relating to the provision of affordable housing

may include, among other things:

- » amount, timing and bonding of monetary contributions
- » provision of monetary contributions in lieu of built product (refer Appendix A of the ULDA's Affordable Housing Strategy for development agreement inclusions)
- » provision of a bank guarantee securing payment of the monetary contribution
- » provision of built product in lieu of monetary contributions (refer Appendix B of the Affordable Housing Strategy for development agreement inclusions)
- » mechanisms to ensure an affordable product retains its affordability over the long term.

(c) Mechanisms to retain affordability

The ULDA is seeking to maximise affordable housing outcomes in the UDAs over the long term.

- Affordable housing product delivered using some level of subsidy will require mechanisms to ensure:
 - » affordable purchase product is not resold providing a windfall gain to the first purchaser
 - » affordable rental product remains affordable to the target group for a significant period of time.

There are a number of ways of achieving this outcome:

- » Where the affordable housing provider has been approved for the National

² Refer to the ULDA's Affordable Housing Strategy for the definition of Affordable Housing

Rental Affordability Scheme (NRAS) they will be required to retain affordability for ten years under the Australian Government's program requirements.

- » Formal management agreements can be made with either the Department of Communities or a registered community housing organisation.
- » Establishment of a shared equity arrangement with an approved equity partner.
- » Limiting the trading of a dwelling to a particular target and income group through a title covenant. This means that affordable owner occupied units are only on-sold to other eligible buyers, with transfer of ownership occurring through a controlled process which excludes wills, private sales or bequests.
- » Placing a covenant and management plan on the title of a property which ensures it is rented at affordable levels of rent to an identified target group for 15 years or more and managed by a registered Not For Profit community housing organisation.

The preferred mechanism will be determined on a project by project basis between the ULDA and the development proponent at the time of development approval and will be set out in the development agreement.

(d) Exemptions

The following development types are exempt from providing the affordable housing

contributions specified above:

- » development for the purpose of affordable housing (including social and community housing) and developed by:
 - » the Queensland Department of Communities
 - » a registered community housing or non-profit organisation
 - » part of a consortium with a registered community housing or non-profit organisation for the provision of affordable housing equivalent to the value of the affordable housing contribution
- » development for the purpose of community facilities and services
- » development by a government, non-profit or charitable institution providing a community benefit
- » development for the purpose of a utility installation.

3.3.5 Transport infrastructure

(a) Transport corridors / Clem7 Tunnel

Development does not unreasonably constrain future provision of public transport infrastructure (including rail, road, busway and cycle infrastructure) and does not adversely impact on the function or operation of existing or future public transport corridors including rail or busway corridors. In particular, development within the zone of influence of the Clem7 Tunnel (Map 4) must demonstrate that it will not adversely affect the function or operation of the Clem7 Tunnel.

(b) Transport Investigation Area

The Transport Investigation Area (TIA) overlay (see Map 4) identifies parts of the UDA within which the proposed public transport interchange is proposed to be located. The TIA also includes some proposed major road changes required to reduce the impacts of the existing road network on the local community and to 'free up' parts of the site for development.

The Department of Transport and Main Roads (DTMR) is responsible for these major transport infrastructure proposals (comprising Cross River Rail, modifications to the Woolloongabba Busway and state controlled roads) which require further detailed investigation, consultation, approvals and funding allocations. DTMR will undertake these investigations in cooperation with Brisbane City Council and

other key stakeholders.

As much of the development on the UDA will be located above the proposed transport infrastructure, the nature of development within the TIA is contingent on the resolution of these major transport proposals.

Development within the TIA must demonstrate that it will not adversely affect the planning, design, delivery, function or operation of the proposed transport infrastructure within the TIA.

3.3.6 Parking, servicing and end of trip facilities

(a) Car parking and service areas

On-site car parking should not exceed the maximum rates set out in the precinct development requirements. These rates permit relatively low levels of car parking commensurate with the site's high levels of public and active transport accessibility.

On-site car parking areas, loading bays and service areas must be integrated within or under buildings. Where permitted, and unless a precinct provision specifies otherwise, car parking above street level is to be sleeved by other uses and not visually exposed on the outside of the building.

Vehicle service areas, cross-overs and car parking must not detract from the character of active edges and the public realm, and should be designed to achieve best practice including compliance with relevant Australian Standards.

Map 4: Woolloongabba UDA Transport Investigation Area Plan

Parts of the site may be used to provide temporary car parking required to facilitate construction activities on the site or to accommodate the higher levels of parking demand from development prior to the delivery of the major public transport interchange.

(b) End of trip facilities

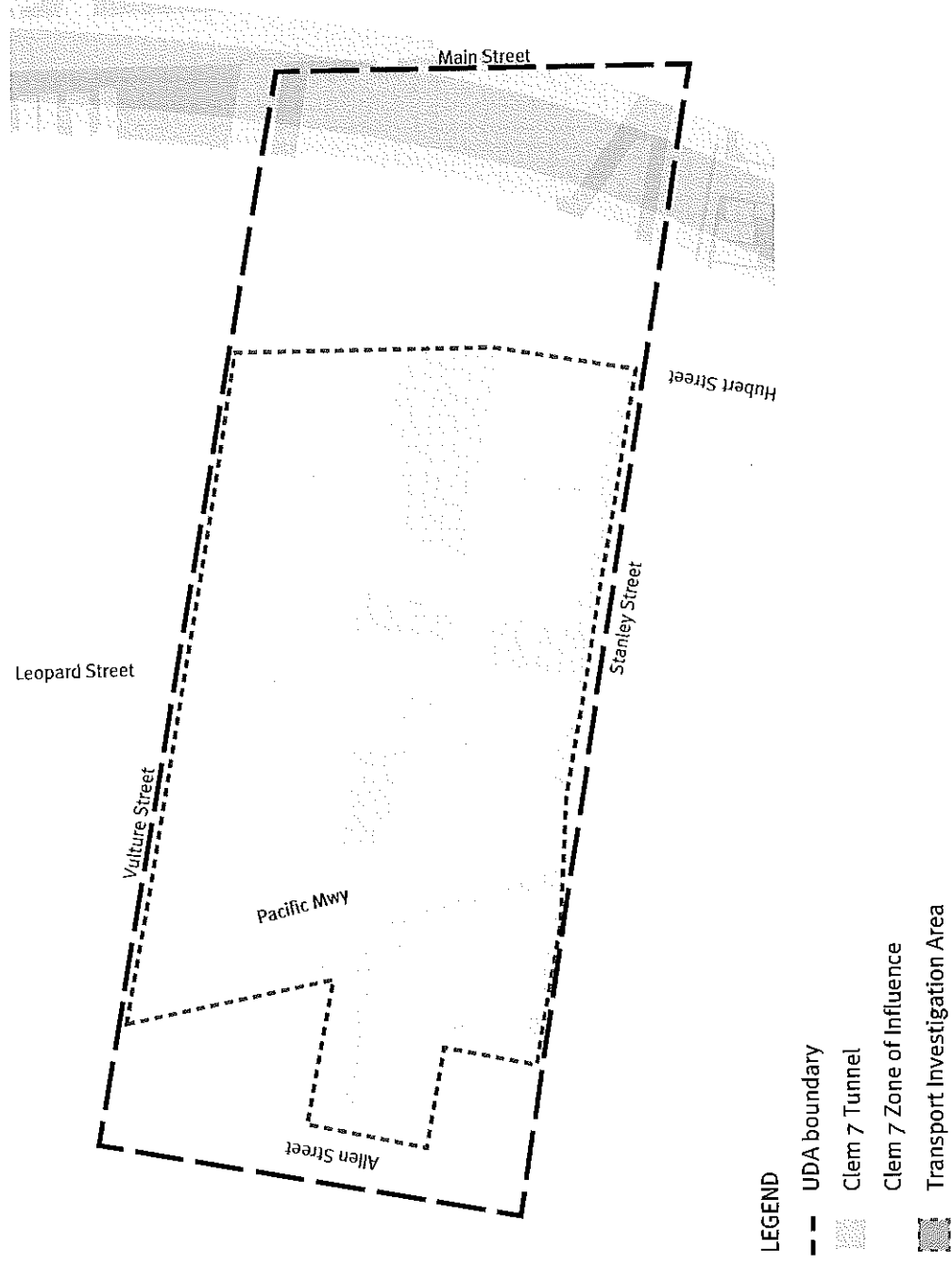
End of trip facilities for pedestrians and cyclists including secure, undercover bicycle storage facilities, showers and lockers are to be provided as part of development. Such facilities are to be provided to a standard consistent with AS2890.3.

Bicycle facility requirements for residential development are:

- » residents - to have at least one secure space per dwelling
- » visitors - at least 0.25 secure space per dwelling.

Bicycle facility requirements for non-residential development are:

- » secure bicycle storage for 8 percent of building staff based on one person per 15sqm NLA. (Secure bicycle parking involves a bicycle locker or bicycle rail in a locked compound / cage)
- » accessible showers at a rate of one shower per 10 bicycle spaces provided or part thereof
- » changing facilities adjacent to showers
- » secure lockers in changing facilities for 20 percent of building staff (based on



one person per 45sqm NLA) to cater for walkers, cyclists and other active users

- » visitor cycle parking at the rate of one secure rack space per 750 sqm NLA or part thereof, properly signposted and located adjacent to a major public entrance to the building.

3-3-7 Environment

(a) Safety and risk

Development in operational airspace, as identified in the Brisbane Airport Master Plan, must not cause a permanent or temporary obstruction or potential hazard to aircraft movements.

(b) Contaminated land

Development must ensure that all land and groundwater will be fit for purpose.

Investigation and remediation will be in accordance with the Department of Environment and Resource Management guidelines for the assessment and management of contaminated land in Queensland.

(c) Acid Sulfate Soils (ASS)

The following site works will trigger an ASS investigation:

- » development areas below 5m Australian Height Datum (AHD) involving the disturbance of greater than 100m³ of soil
- » development areas below 5m AHD requiring the placement of greater than or equal to 500m³ of fill material in

layers of greater than or equal to 0.5m in average depth

- » development areas between 5m AHD and 20m AHD requiring the disturbance of greater than or equal to 100m³ of soil below 5m AHD.

Acid sulfate soils will be treated in accordance with current best practice in Queensland.

(d) Sustainable buildings

New buildings in the UDA will be required to demonstrate excellence in sustainability. An acceptable method to demonstrate compliance would be to obtain at least a 5 star design rating under the applicable Green Building Council of Australia's Green Star rating tool, or another recognised equivalent rating.

(e) General noise requirements

The design, siting and layout of development must address noise impacts and where necessary incorporate appropriate noise mitigation measures.

Development is to achieve acceptable noise levels for noise sensitive uses in affected areas. In particular, development is to ameliorate the noise associated with major events at the Gabba stadium (e.g. public transport, crowd noise) to maintain the health and wellbeing of residents.

Noise sensitive uses located within a transport noise corridor (as defined in Section 246Z of the Building Act 1975)

must comply with best practice acoustic standards³.

Mixed use buildings with commercial on the lower levels and residential on upper levels away from transport noise are encouraged.

Where determined necessary by the ULDA, an acoustic report will be required to evaluate and address potential noise impacts and recommend appropriate noise mitigation measures.

(f) General air quality

Development must:

- » limit exposure and risk associated with pollutants that could have a potentially adverse affect on human health
- » be in accordance with best practice air quality guidelines and standards .

(g) Water management

Development is to demonstrate, to the greatest extent possible, current best practice for Water Sensitive Urban Design (WSUD), water efficiency measures and Integrated Water Cycle Management (IWCN) principles for Australia.

(h) Energy efficiency

Development must promote energy efficiency by encouraging:

- » alternative energy supply through the

- use of renewable energy sources
- » passive thermal design of buildings
- » energy efficient plant and equipment
- » use of natural light and energy efficient lighting.

(i) Lifecycle costs and materials

Development is to incorporate sustainable features and smart design to reduce construction and operating costs.

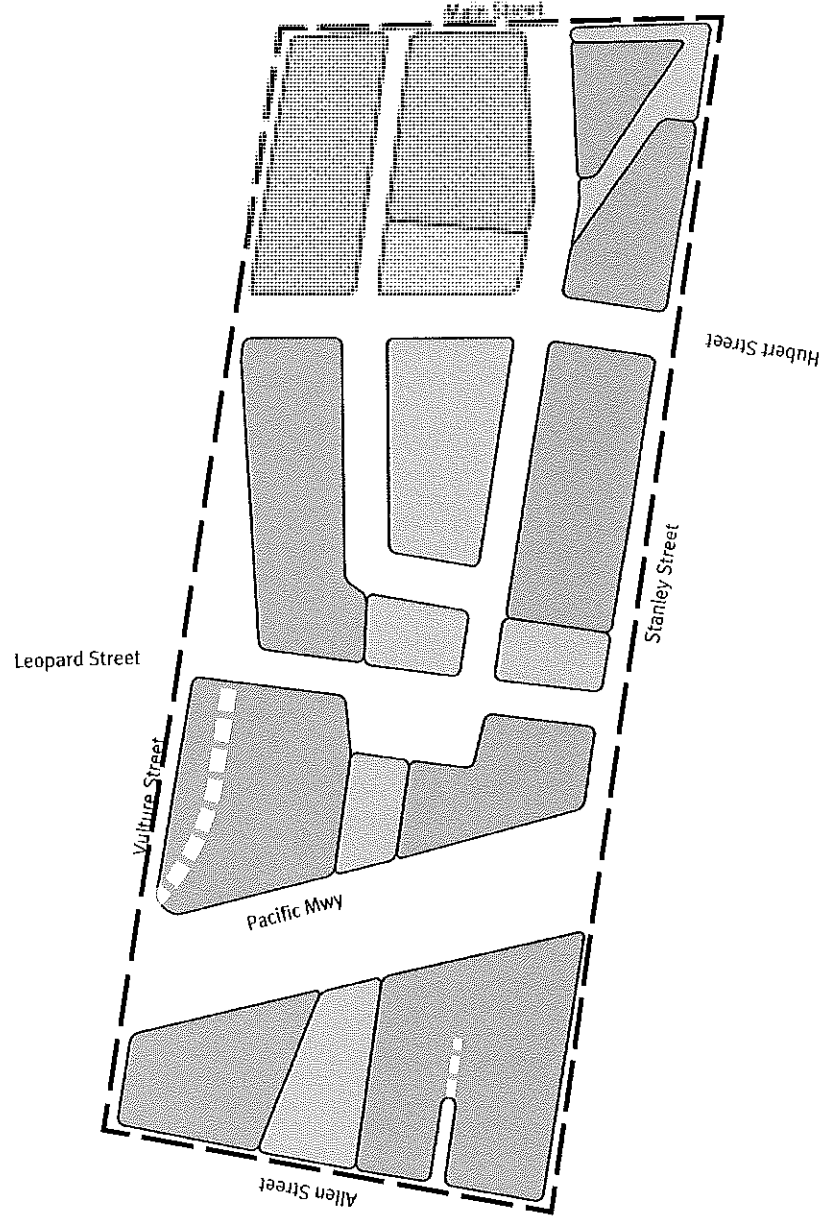
Development is to encourage the efficient use of resources and waste minimisation.

3 Refer to Environmental Protection (Noise) Policy 2008; Queensland Development Code: Mandatory Part 4.4 - Building in a Transport Noise Corridor; and the Department of Transport and Main Road's Road Traffic Noise Management Code of Practice.



3.4 Zone provisions

The Woolloongabba UDA is divided into 2 zones. The location and boundaries of the zones are shown on Map 5: Zoning Plan.

Map 5: Woolloongabba UDA Zoning Plan



LEGEND

- UDA boundary
-  Mixed use zone
-  Civic and open space zone

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3.0 Land Use Plan: Zones

3.4.1 Mixed Use Zone Intent

The Mixed Use Zone caters for a wide range of high density residential, commercial, retail, community, tourism, entertainment and recreation activities.

Table 1: Mixed Use Zone level of assessment table

Column 1 UDA exempt development		Column 2 UDA self assessable development	Column 3 – UDA assessable development	
			Column 3A Permissible development	Column 3B Prohibited development
<p>All development specified in Schedule 1, except if the land is on the Environmental Management Register or Contaminated Land Register.</p> <p>Material change of use for:</p> <ul style="list-style-type: none"> » sales office and display home » home based business. 		<p>Material change of use for a commercial; residential; retail; service, community or other; sport, recreation and entertainment; or tourism use where:</p> <ul style="list-style-type: none"> » not involving building work, and » the use is not specified in Column 3B. <p>Environmentally relevant activities for which a code of environmental compliance has been made under the <i>Environmental Protection Regulation 1998</i>, except if the land is on the Environmental Management Register or Contaminated Land Register.</p>	<p>All other development not specified in Column 1, Column 2 or Column 3B.</p>	<p>Material change of use for:</p> <ul style="list-style-type: none"> » agriculture » animal keeping and husbandry » cemetery » crematorium » extractive industry » general industry » heavy industry » house » relocatable home and caravan park » veterinary hospital » service station » warehouse

3.4.2 Civic and Open Space Zone Intent

The Civic and Open Space Zone caters for a range of outdoor public spaces including parkland and urban plazas. These spaces provide recreational opportunities for residents, workers and visitors, and may be used on occasion for special events and the movement and gathering of crowds from the Gabba stadium.

Any structure in the Civic and Open Space Zone will be limited in scale and occupy only a small part of the outdoor space.

Table 2: Civic and Open Space Zone level of assessment table

Column 1 UDA exempt development		Column 2 UDA self assessable development	Column 3 – UDA assessable development	
			Column 3A Permissible development	Column 3B Prohibited development
All development specified in Schedule 1, except if the land is on the Environmental Management Register or Contaminated Land Register.	Park Environmentally relevant activities for which a code of environmental compliance has been made under the <i>Environmental Protection Regulation 1998</i> , except if the land is on the Environmental Management Register or Contaminated Land Register.	Material change of use for: » car park (where located wholly below the surface or where the car park is a temporary use and does not involve a permanent building or other structure) » market » utility installation.	All other development not specified in Column 1, Column 2 or Column 3A.	

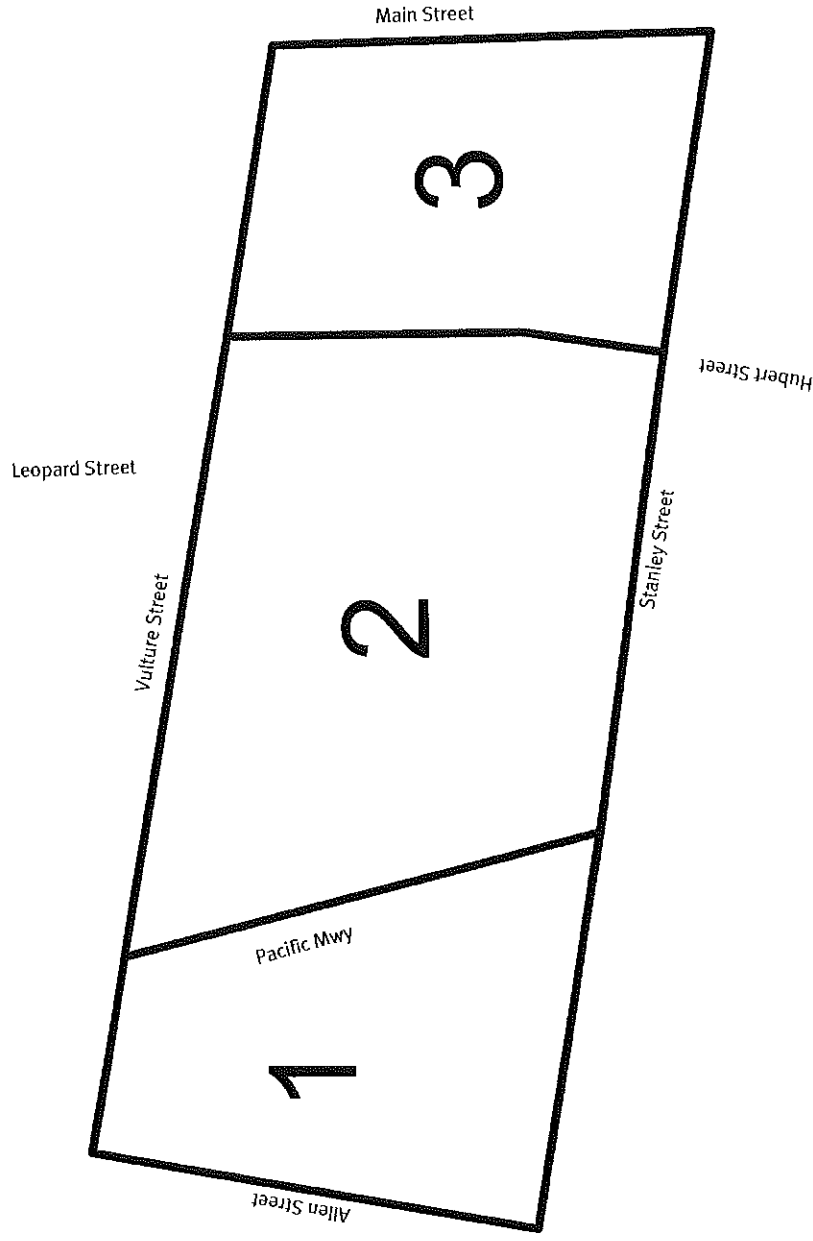
3.5 Precincts

The Woolloongabba UDA is divided into 3 precincts for the purposes of describing the nature of development expected on the site.

1. Allen Street
2. Central
3. Main Street

The location and boundaries of the precincts are shown on Map 6: Woolloongabba UDA Precinct Plan.

Map 6: Woolloongabba UDA Precinct Plan



LEGEND

- 1 Allen Street Precinct
- 2 Central Precinct
- 3 Main Street Precinct



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3.6 Precinct 1: Allen Street

3.6.1 Precinct intent

This precinct comprises all of the UDA west of the Pacific Motorway. The southern part of the precinct contains the existing Morrison Hotel and forms an important element of the Stanley Street frontage connecting the UDA to activity nodes and uses further west.

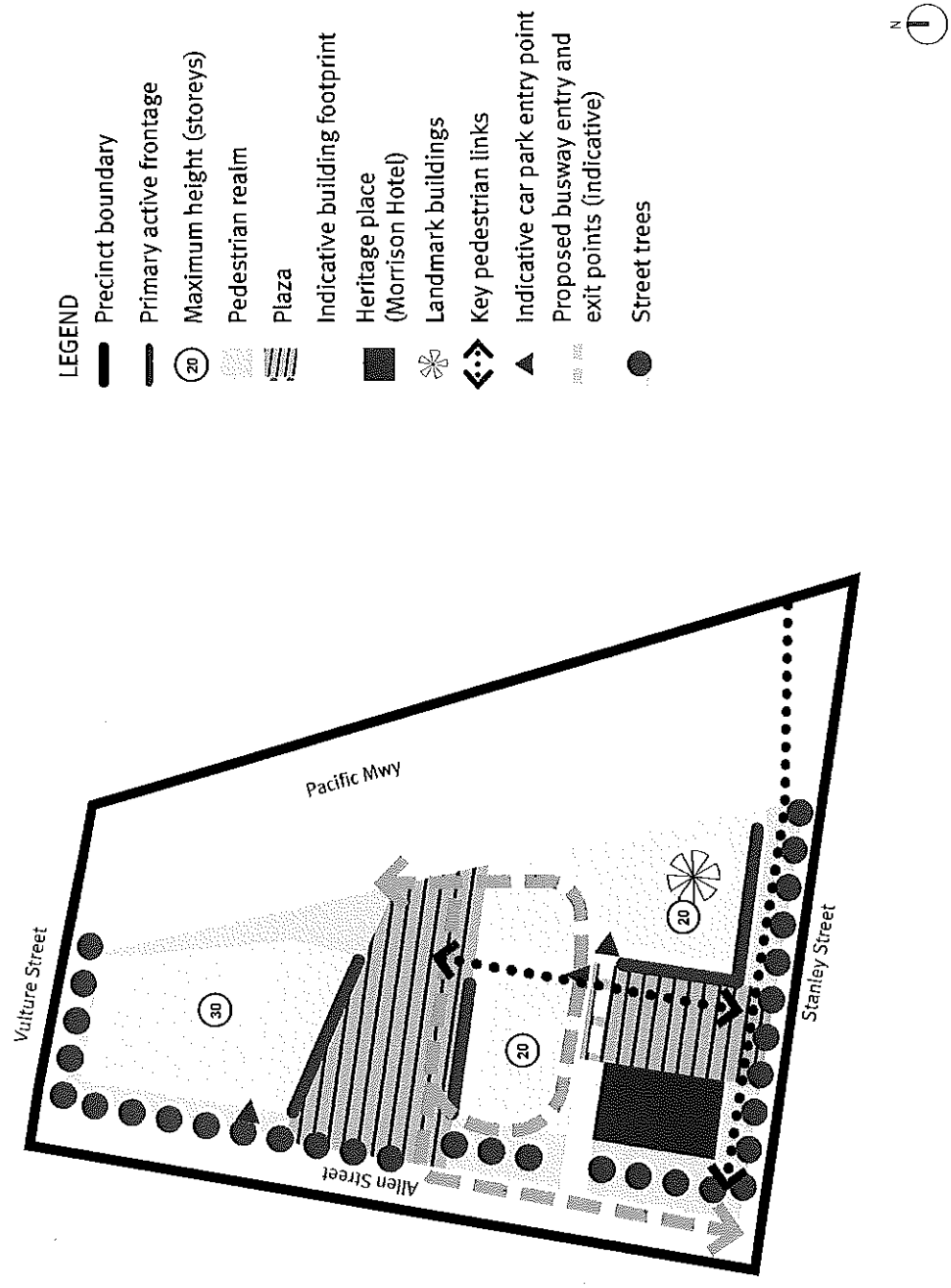
A 'tightening up' of the freeway on-ramp from Stanley Street and relocating of the northbound bus access from the South East Busway to the Captain Cook Bridge to behind the Morrison Hotel, creates additional development opportunities near the Morrison Hotel and reinforces the Stanley Street pedestrian linkage at ground level.

Allen Street, which runs between Vulture and Stanley Streets, has a poor pedestrian environment. With the proposed road and busway changes in this precinct, opportunities are created to reinstate Allen Street as an attractive and comfortable urban environment with development stepping down the slope from Vulture Street.

Behind the Morrison Hotel there is an opportunity to develop a new building fronting Allen Street, and lining the motorway corridor creating a more pleasant urban environment.

A plaza created over the top of the existing busway could link with the northern development parcel on the corner of Vulture

Map 7: Precinct 1 Urban Form Plan



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and Allen Streets.

The existing at-grade cycleway will need to be relocated to 'free up' the northern part of Precinct 1 for redevelopment.

The cycle link between Allen Street and the (relocated) South East Freeway Bikeway should be integrated into the central plaza over the busway. Uses in this precinct will be mixed and the residential component could include serviced apartments, 'step down' accommodation and other residential uses associated with the nearby health services precinct. Ground floor and lower levels of buildings in this precinct would be suitable for medical services, health-related community facilities and some limited retail.

Map 7: Precinct 1 Urban Form Plan, shows the desired layout of development in Precinct 1.

3.6.2 Precinct outcomes

(a) Movement

The desired movement arrangements for Precinct 1 are shown in Map 3: Woolloongabba UDA Movement and Circulation Plan.

The preferred location for vehicle access for all development will be from Allen Street.

With the on-ramp to the Pacific Motorway tightened against the freeway, a land parcel adjoining the Morrison Hotel along Stanley Street will become available for development. Given the nature of road infrastructure in this locality it is expected that vehicle access will be from Jacob Lane

as Merton Road will most likely no longer physically connect to Stanley Street as a vehicular route. It is expected that the redevelopment of this part of the precinct will require the closure of both Jacob Lane and Merton Road. Jacob Lane provides service access to the Morrison Hotel and any development proposed must ensure that this access is maintained. The main pedestrian access to this new development parcel will be from Stanley Street.

Development on the privately owned site north of Jacob Lane (the former Morrison Hotel liquor barn site) will be expected to have its main pedestrian entry from Allen Street. This redevelopment could also include building over the current busway access with a pedestrian plaza that fronts Allen Street and incorporates the cycleway link between Allen Street and the South East Freeway Bikeway.

It would be desirable for the two new buildings in the southern part of Precinct 1 to share integrated car parking and service access arrangements linked below the relocated bus ramp to the Pacific Motorway. If this is not achievable the development parcel fronting Stanley Street may require a separate access from Stanley Street.

The site on the corner of Allen and Vulture Streets will also have vehicle access from Allen Street. As part of the redevelopment of this site it will be expected to create part of the plaza over the busway access and relocate the existing cycle path that passes through the site closer to the motorway on-

ramp.

Stanley Street is the main pedestrian / cyclist link to the hospital precinct to the west and will provide a two-way off-road cycleway and a wide attractive footpath for pedestrians. The cycleway will continue to the west to link with existing on-road cycle lanes at the Annerley Road intersection and will link via Allen Street and the proposed central plaza to the South East Freeway Bikeway.

(b) Land use

Precinct 1 is expected to accommodate primarily residential and employment activities with an emphasis on uses linked to the adjoining major health precinct. Existing uses within the UDA that wish to remain on the site may be accommodated within Precinct 1 to 'free up' other parts of the UDA for redevelopment.

The heritage listed Morrison Hotel will be retained and is expected to have limited further development potential given its heritage status.

The site adjoining the Morrison Hotel on Stanley Street presents a range of opportunities given its prominent location and proximity to the public transport interchange. The lower levels of any building on the site may be suitable for community or health care related uses. Opportunities for ground floor activation through retail or other active uses are encouraged.

(c) Built form

Buildings in this precinct are expected to

have podiums of between 2-4 storeys to define street edges and re-establish the Stanley and Allen Street streetscape. The maximum building heights are 20 storeys on the southern part of the precinct and 30 storeys in the northern part as shown in Map 7. The higher building height in the north is intended to enable maximum advantage of attractive views of the CBD and river from upper storeys.

Table 3 shows the main built form

parameters for Precinct 1. In addition, the proposed new building fronting Stanley Street will be required to provide a minimum 20 metre setback from the eastern facade of the Morrison Hotel to ensure a suitable setting for the hotel's heritage values.

Commercial and residential uses above the ground floor should overlook the public streets with well defined and detailed building entries to promote a legible building form.

An example of the potential built form outcomes for Precinct 1 is shown in the illustrative sections at Figures 3 and 4-

Development on, or adjoining the heritage place identified on Map 7 (Morrison Hotel) must respect the heritage values of the site.

(d) Public realm

Two plaza spaces are proposed in this precinct. The first is created where Merton Road meets Stanley Street. This space is expected to contribute to pedestrian access into this precinct and provide the Morrison

Hotel with additional outdoor dining space. The requirement for a minimum 20 metre building setback east of the Morrison Hotel will ensure this plaza is a spacious and flexible space.

A plaza space is also intended to be established over the busway. This plaza will link adjoining buildings as well as providing an important link between the existing bike way and Allen Street. Building foyers and entries are expected to enliven this space. This space has a minimum area of 2400m² with a minimum dimension of around 40m.

Both plazas should be designed to incorporate shade trees and public seating. These two plazas may have a pedestrian linkage along the closed Merton Road alignment provided it can be demonstrated that it can be achieved with a high level of pedestrian safety from a CPTED perspective.

(e) Car parking

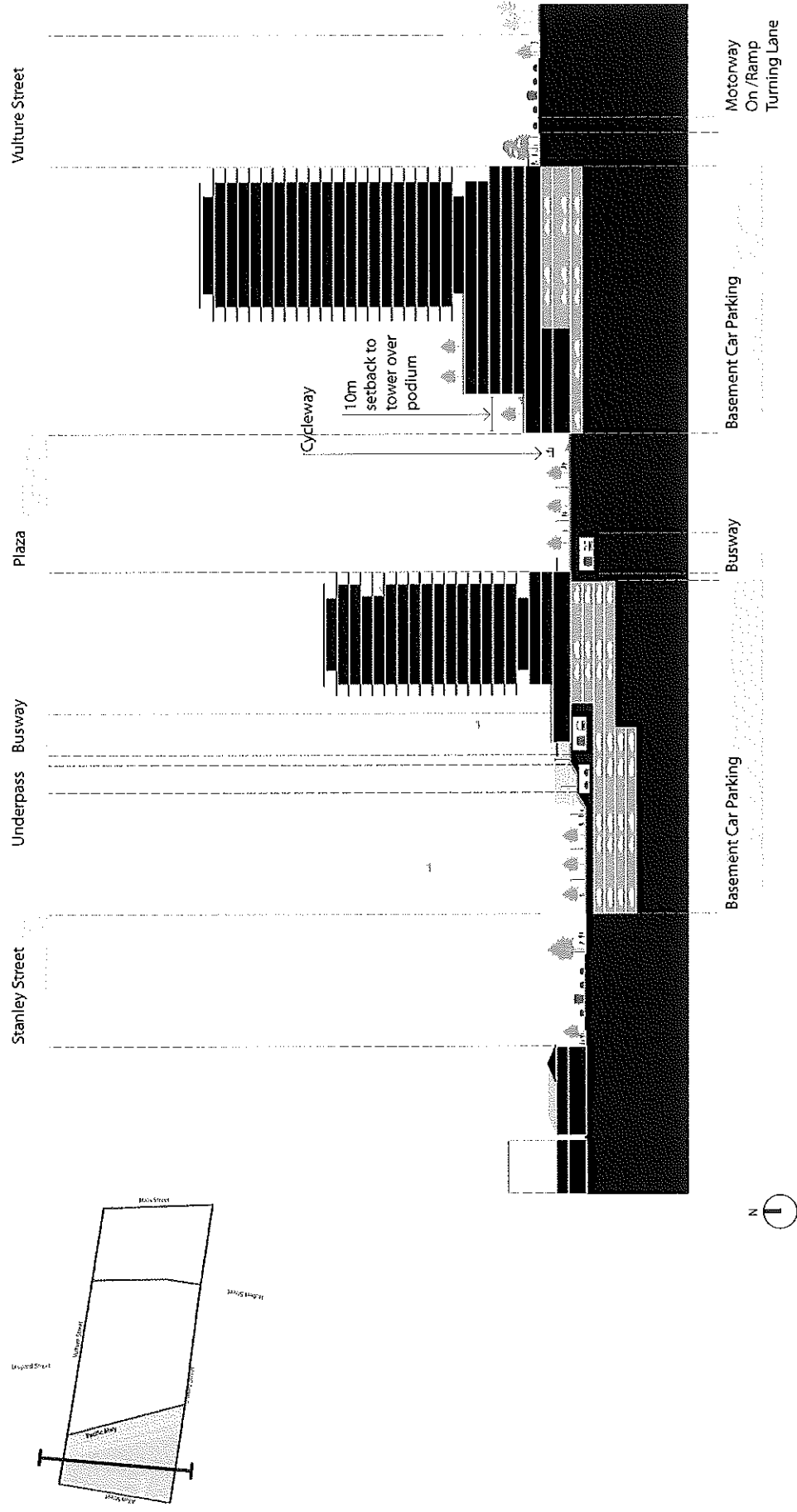
Development with minimal car parking is encouraged. The maximum car parking ratios that will be permitted are:

- » Residential: 0.75 spaces per dwelling
- » Other: 1 space per 300m² gross floor area.

Table 3: Precinct 1 development parameters

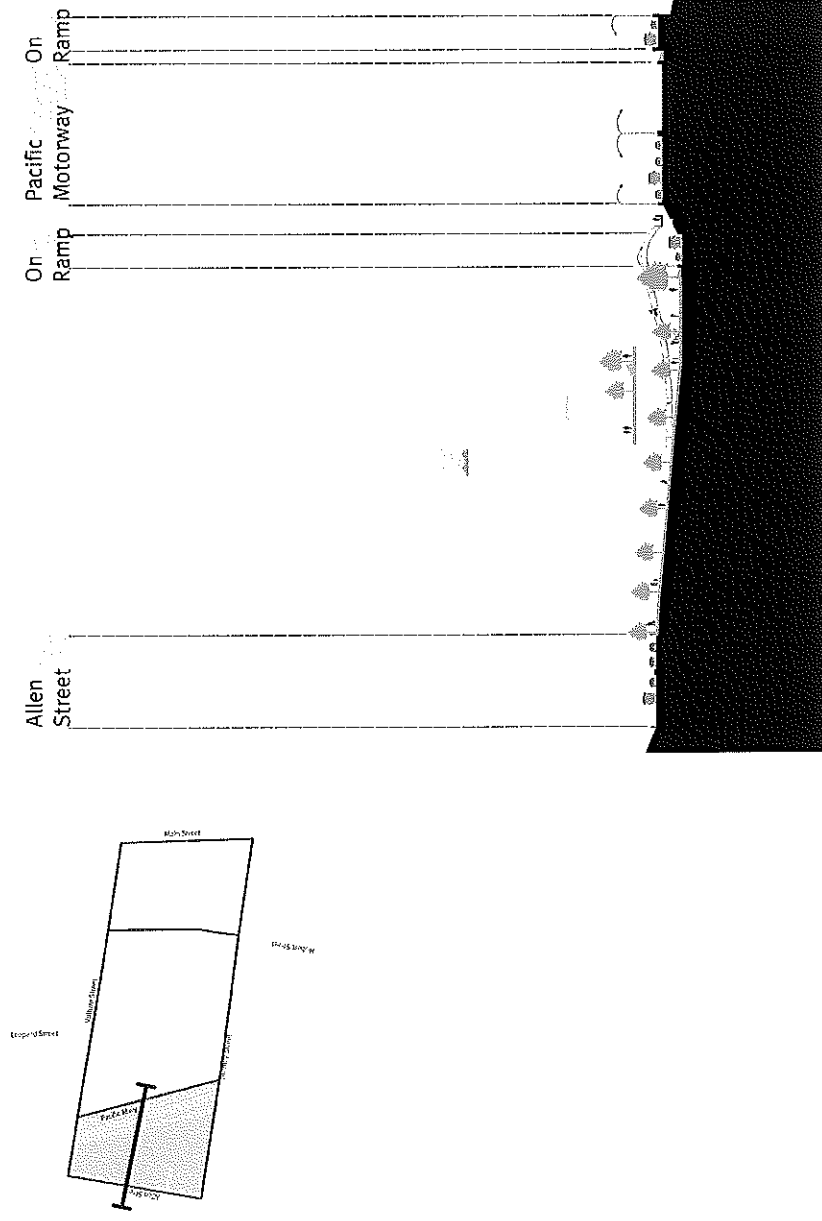
Street or space	Building elements	Setback
Allen Street	Podium (max 4 storeys)	3.0 metres
	Upper levels	6.0 metres
Stanley Street	Podium (max 3 storeys)	0.0 metres
	Upper levels	10.0 metres
Vulture Street	Podium (max 4 storeys)	0.0 metres
	Upper levels	0.0 metres
Pacific Motorway (including access ramps)	Podium	6.0 metres
	Upper levels	6.0 metres
Central Plaza (northern frontage)	Podium (max 3 storeys)	0.0 metres
	Upper levels	10.0 metres
Central Plaza (southern frontage)	Podium (max 3 storeys)	0.0 metres
	Upper levels	0.0 metres
Southern Plaza (eastern frontage)	Podium (max 3 storeys)	0.0 metres
	Upper levels	0.0 metres
All other frontages	Podium (max 3 storeys)	0.0 metres
	Upper levels	0.0 metres

Figure 3: Precinct 1 north-south illustrative section



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Figure 4: Precinct 1 east-west illustrative section



3.7 Precinct 2: Central

Map 8: Precinct 2 Urban Form Plan

3.7.1 Precinct intent

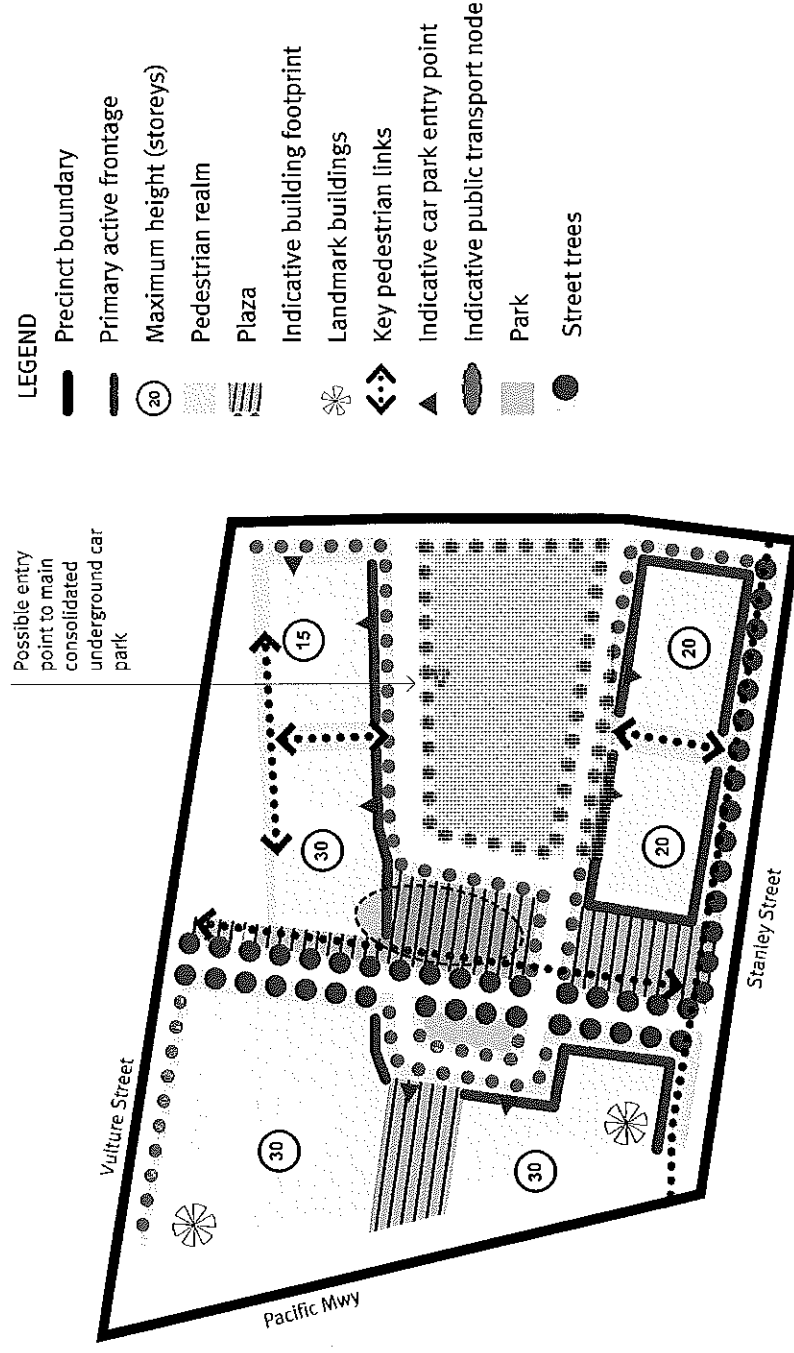
This precinct is the heart of the UDA containing a large central open space area and major public transport interchange, most of which will be located below ground within the Transport Investigation Area shown on Map 4.

Buildings along Vulture and Stanley Streets overlook the central open space and provide a buffer for the internal spaces created in the UDA from the heavy traffic flows on Vulture and Stanley Streets. Ground floor uses activate the edges of the open spaces allowing cafes and restaurants to spill into the public realm creating life and activity both day and night.

The generous public realm allows an ease of transition and access to the public transport interchange in the centre of this precinct. The main entry portal to the interchange will be highly visible adding to the legibility and cohesion of the UDA.

Mixed use buildings with a distinct subtropical feel provide opportunities for both commercial and residential uses. More intensive commercial uses are expected to cluster close to the public transport interchange.

Tall buildings dominate the space between the motorway and the main public transport interchange entries. These towers have commanding views north towards the city.



Many of these buildings are likely to be located over transport infrastructure and are not expected to have basement carpark. Most of the car parking in this precinct will be in an integrated, multi-level basement carpark below the central open space and adjoining streets and buildings.

At ground level, buildings will be required to address important public spaces with the use of building entries and foyers, retail and other active uses.

Map 8: Precinct 2 Urban Form Plan, shows the desired layout of development in Precinct 2.

3-7-2 Precinct outcomes

(a) Movement

The desired movement arrangements for Precinct 2 are shown on Map 3: Woolloongabba UDA Movement and Circulation Plan.

This precinct is defined by Vulture and Stanley Streets and the new north/south street (Street 1) through the UDA. All vehicle access to development in Precinct 2 is from the internal road network as shown in Map 8. The internal road system is designed to loop around the large urban parkland provided in the centre of the site. This allows buildings to front the major external road network but be accessed from within the UDA.

Street 1 is the main access street for the UDA providing direct connection to both Stanley and Vulture Streets. It is envisaged as a tree

lined active street, busy with pedestrians, cyclists and short term retail parking. Two one-way lanes that connect in the centre of the precinct to form Street 5, provide access to the western part of Precinct 2 from Vulture and Stanley Streets. This access is essentially for service vehicle traffic and to access basement and podium parking. It connects with the internal road system to provide egress from the site.

The laneways combine to create a pedestrian and cyclist spine linking both Leopard Street and Stanley Street to the main entry to the public transport interchange

Street 3 / 3a connects with Street 1 and provides internal vehicle access within the UDA and direct access to development parcels. This street is also an important pedestrian linkage providing direct pedestrian access to the public transport interchange.

On the northern alignment of Street 3 are mixed-use residential and commercial buildings, activated on the ground plane through retail shops, cafes and other fine grain uses. The southern alignment defines the principal community open space within the UDA.

Because Street 3 will have high pedestrian and vehicle movement functions there is an emphasis on the creation of comfortable pedestrian spaces with street trees, street furniture and public art.

Street 4 is a one-way service lane providing

access to buildings fronting Stanley Street on the southern side of the main open space area. This street could be designed as a shared pedestrian and vehicle zone having a consistent paving finish across the entire surface with only a small change in height delineating the vehicle movement lane.

A well detailed pedestrian realm characterises this space with high pedestrian movement and low vehicle movement.

Formal pedestrian road crossings will be provided along the preferred desire lines, from Leopard Street/River Terrace, across Main Street from the 'Gabba' and along Stanley Street to the west of the UDA. To add to the internal on-street pedestrian network, a number of additional pedestrian linkages are proposed as shown in Map 8.

A two-way off-street cycleway is proposed along Street 5 and along the full frontage of the site to Stanley Street as shown on Map 3 and Figure 5.

(b) Land use

Retail, community and entertainment uses should be located at ground level to activate the primary frontages with commercial and residential predominating on upper levels.

A limited amount of convenience retail may be located below ground level within the proposed public transport interchange for the convenience of travellers. The nature and scale of this retail activity should not detract from the ground level retail activities.

Proximity to the public transport interchange

means that Precinct 2 is also suitable for recreational, cultural and community facilities that could potentially serve a wide catchment. Examples of these facilities include a community centre, theatre and performance spaces and child care facilities.

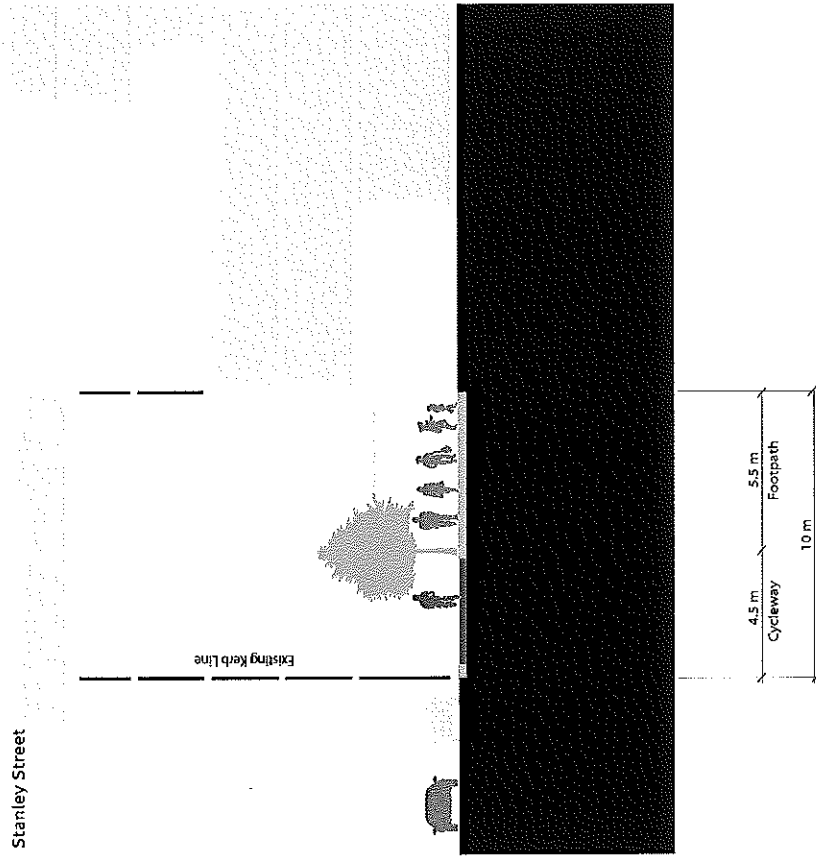
(c) Built form

Tall buildings dominate the western part of the precinct between the motorway and the main entry portal to the public transport interchange. Given their proximity to a substantial noise source consideration will need to be given to the internal environments created within these buildings. This however should not be at the expense of the appearance of these structures. Given they will be visually prominent from the Pacific Motorway these buildings will be landmark buildings.

These buildings will be located over transport infrastructure and are not expected to have basement carparks. Carparking for this precinct will be predominantly in a single integrated carpark below the central open space, adjoining roads and buildings. Some podium car parks at lower levels are acceptable for buildings adjoining the Pacific Motorway and, if properly treated, may form an appropriate built form interface at the motorway level.

At ground level buildings will be required to address important public spaces with the use of building entries and foyers, retail and other fine grain uses. Table 4 shows the main built form parameters for Precinct 2.

Figure 5: Precinct 2 Stanley Street Frontage



Buildings along Stanley Street are set back to provide for additional cycle and pedestrian movement as shown in Figure 5. This active movement corridor provides direct access to the main entry to the public transport interchange via the 'station' plaza that fronts Stanley Street.

A maximum 3 storey podium defines the Stanley Street streetscape. Storeys above the podium level push back a minimum of 10 metres from the Stanley Street boundary respecting the existing character established on the southern alignment of this important pedestrian street. Setbacks at ground floor level will also be encouraged to provide spaces for outdoor dining and other activities without interfering with pedestrian movements along the Stanley Street footpath.

Buildings fronting Vulture Street maintain a zero setback (both podium and tower).

An example of the potential built form outcomes for Precinct 2 is shown in the illustrative sections at Figures 6-9.

(d) Public realm

This Precinct contains the large urban park which is the central public space within the Woolloongabba UDA. This space is a minimum of 5000m² in an area with a minimum dimension of 40m (excluding road reserve). The finished surface level of this open space area should be approximately 14m AHD.

This space is intended to provide a variety of

recreational opportunities and experiences as well as access between the public transport interchange and other areas within and beyond the UDA. Soft landscape elements, including lawn and large shade trees, should be incorporated to define a range of spaces and pathways around and through the park.

As the park will be located above underground car parking and possibly also public transport infrastructure, the design will need to create opportunities for planting and irrigation including storage of a suitable quantity of stormwater for watering and maintenance purposes.

The main entry to the public transport interchange is located towards the centre of this precinct. The entry portal structure itself rises from the surrounding 'station' plaza to form an immediately recognisable entry to the interchange providing a strong visual element for way finding. The generous pedestrian spaces surrounding the portal allow for high levels of peak time usage (and queuing) such as game days at the Gabba.

A plaza between the interchange and Stanley Street visually links these two key elements.

A key pedestrian / cyclist link extends all the way from Vulture Street to Stanley Street via the Stanley Street plaza area to promote active movement through the site and beyond to the Kangaroo Point cliffs and parkland.

At the western end of Precinct 2 a small plaza sits between buildings and adjoins

Table 4: Precinct 2 development parameters

Street or space	Building elements	Setback
Stanley Street	Podium (max 3 storeys) Upper levels	0.0 metres 10.0 metres
Vulture Street	Podium (max 4 storeys) Upper levels	0.0 metres 0.0 metres
Pacific Motorway (including access ramps)	Podium Upper levels	6.0 metres 6.0 metres
Station Plaza	Podium (max 3 storeys) Upper levels	0.0 metres 0.0 metres
Street 1	Podium (max 3 storeys) Upper levels	0.0 metres 0.0 metres
Street 3	Podium (max 3 storeys) Upper levels	0.0 metres 10.0 metres
Street 4	Podium (max 3 storeys) Upper levels	0.0 metres 0.0 metres
Street 5	Podium (max 3 storeys) Upper levels	0.0 metres 10.0 metres
Western Plaza (northern frontage)	Podium (max 3 storeys) Upper levels	0.0 metres 10.0 metres
All other frontages	Podium (max 3 storeys) Upper levels	0.0 metres 0.0 metres

the Pacific Motorway on-ramp. Building entries and foyers activate this plaza space. Opportunities for fine grain retail or cafes also activate this space. This space should be a minimum 100m² with a minimum dimension of 20 metres.

The western end of this plaza space adjoining the motorway could provide an opportunity for active recreational facilities such as a skate park and tennis/basketball courts.

(e) Car parking

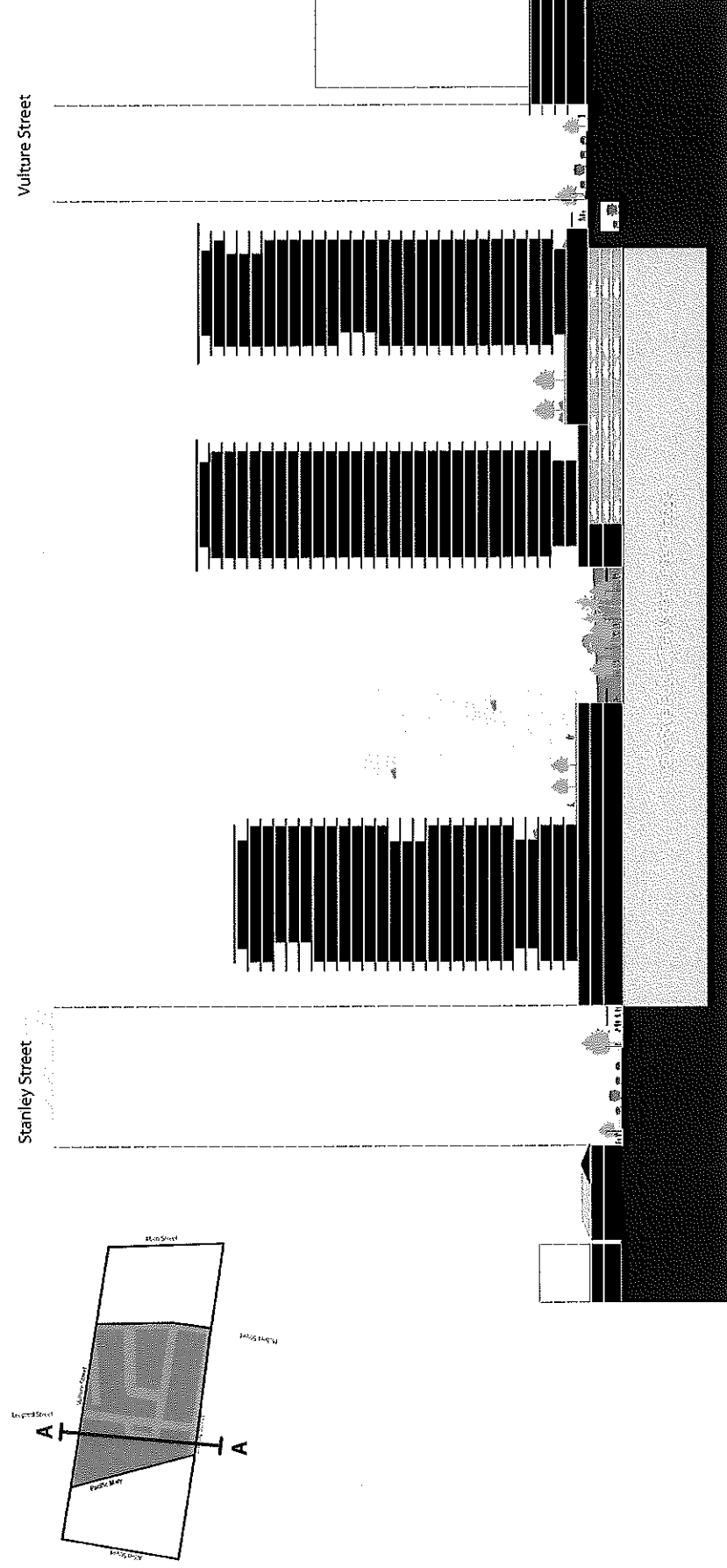
Development with minimal car parking is encouraged. The maximum car parking ratios that will be permitted are:

- » Residential: 0.75 spaces per dwelling
- » Other: 1 space per 300m² gross floor area.

Much of the car parking serving Precinct 2 is intended to be provided in an integrated multi-level basement car park below the central open space and adjoining streets and buildings. This is proposed in part to compensate for the inability to provide basement car parking in buildings above the proposed public transport interchange.

In view of this and where circumstances warrant, the ULDA may require applicants to enter into a development agreement requiring a monetary contribution in lieu of parking spaces.

Figure 6: Precinct 2 north-south illustrative section A



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 Note: Transport Investigation Area outcomes yet to be determined.

Figure 7: Precinct 2 north-south illustrative section B

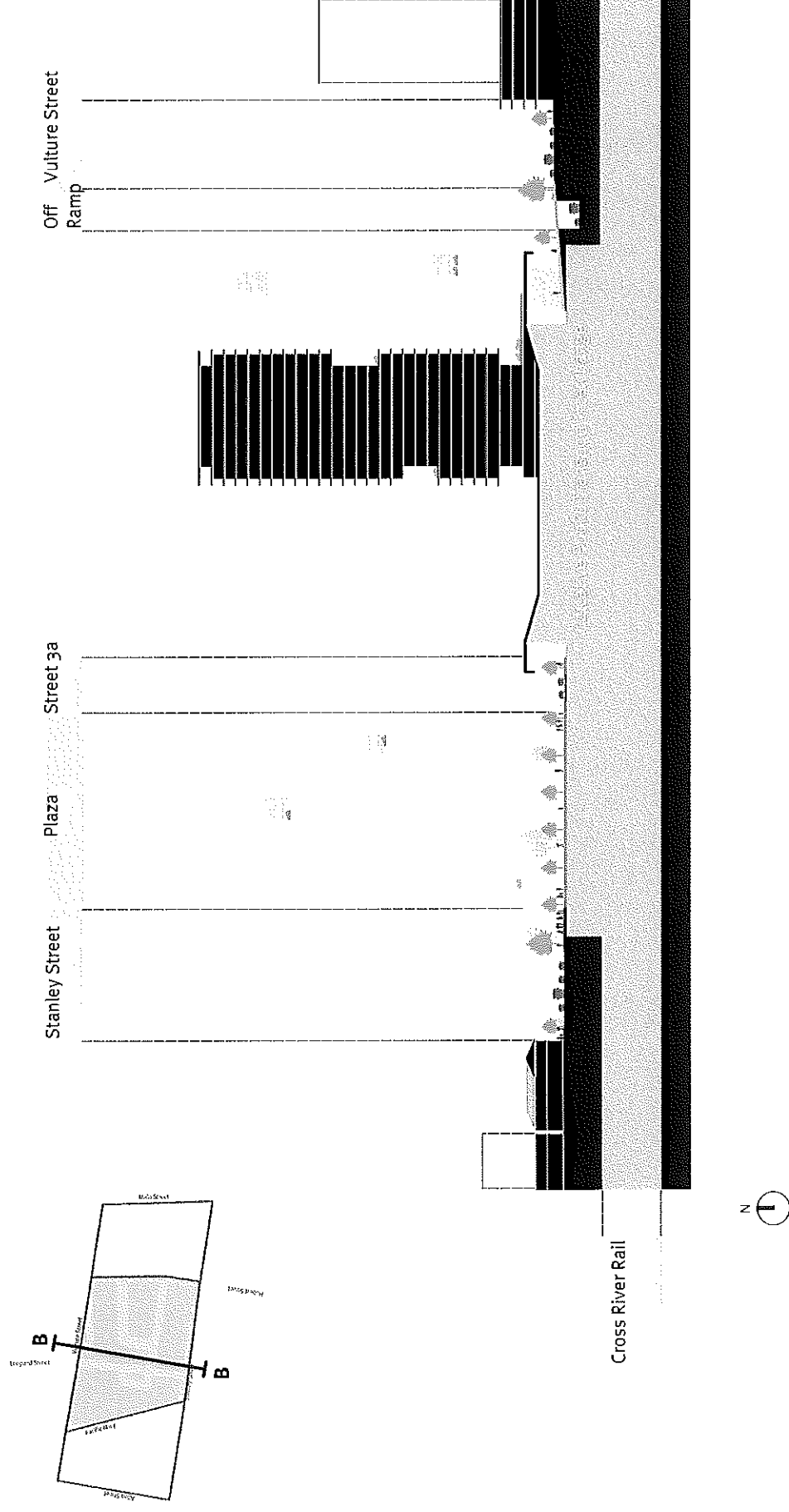
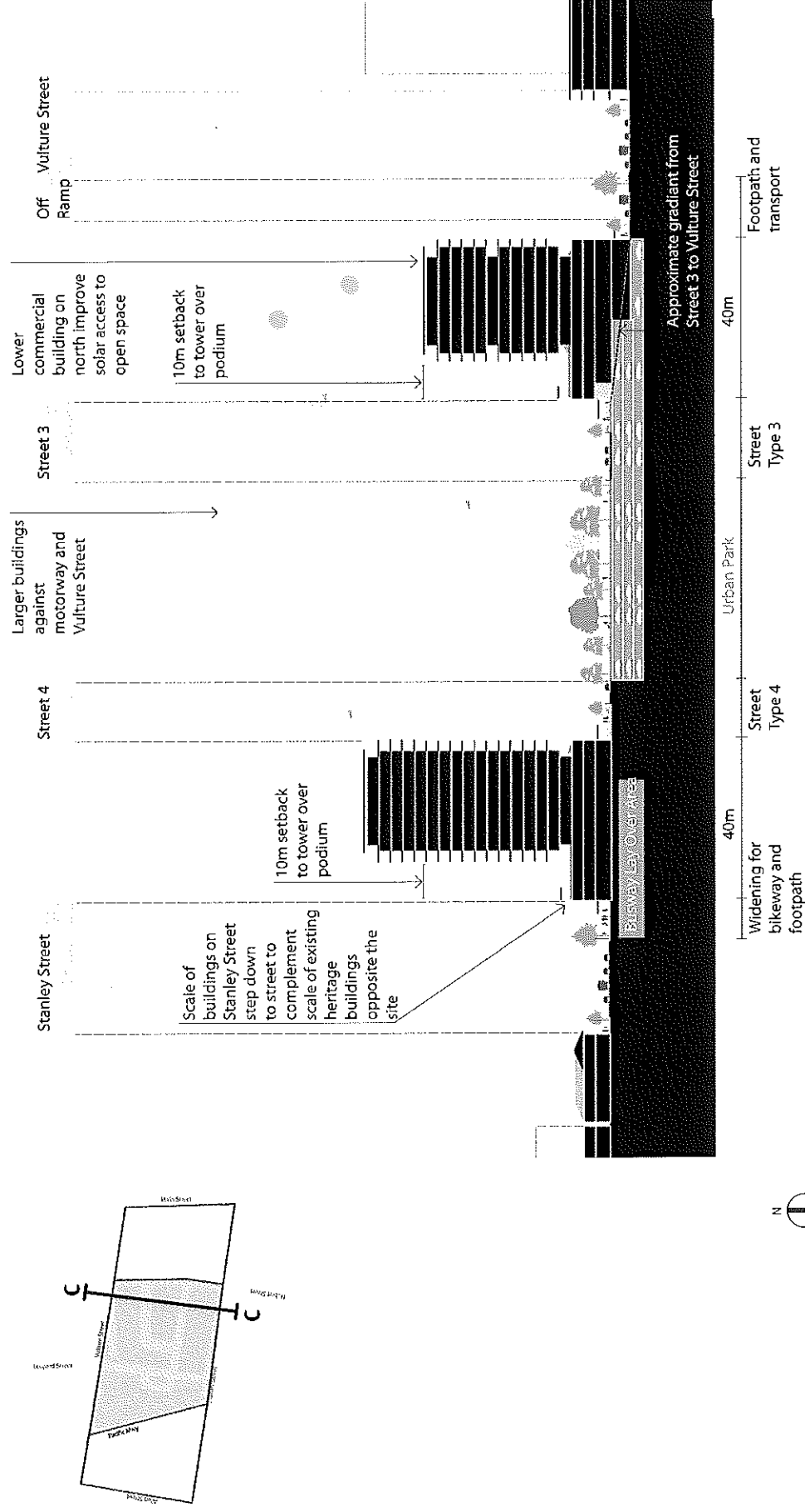
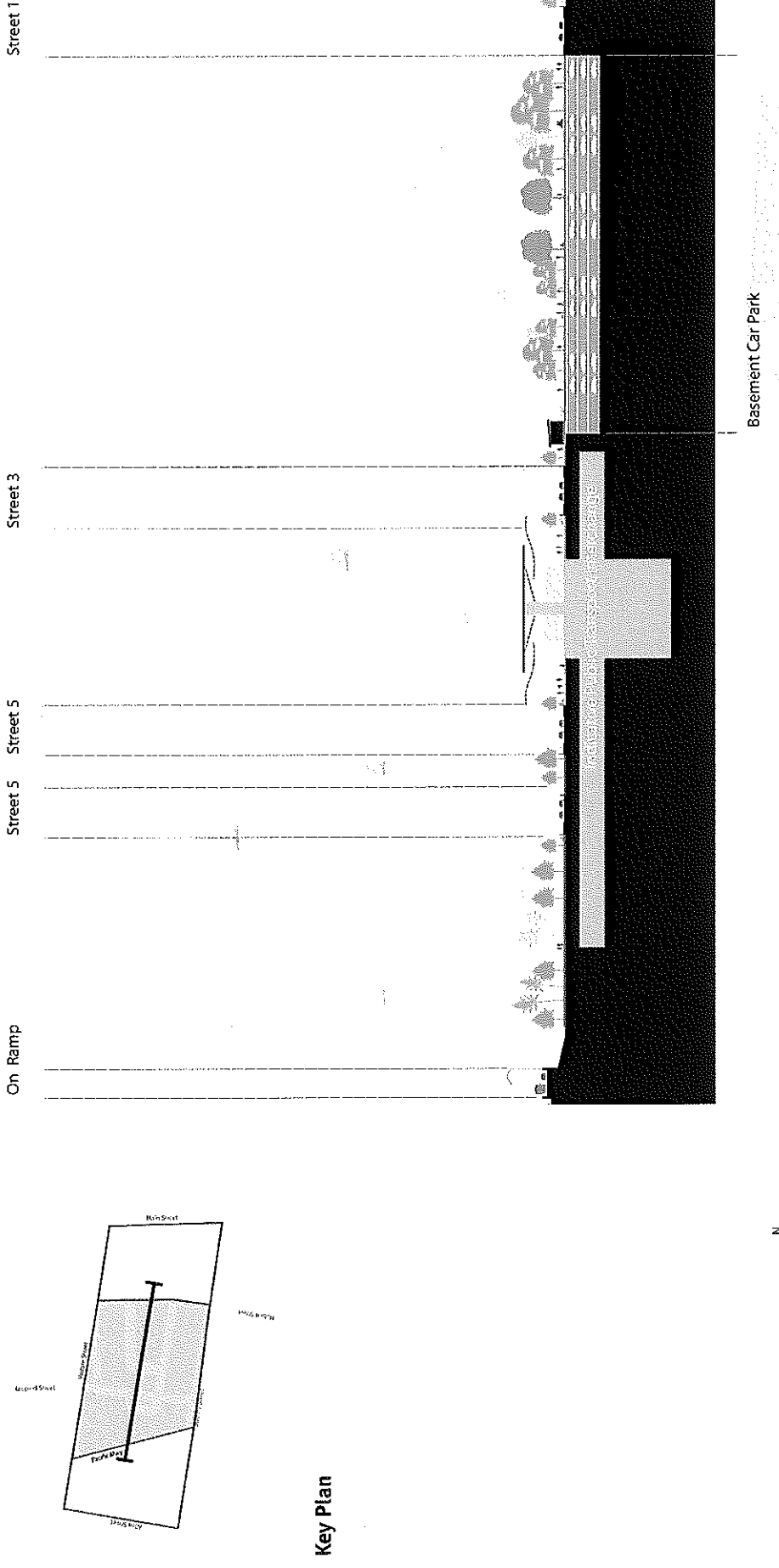


Figure 8: Precinct 2 north-south illustrative section C



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Note: Transport Investigation Area outcomes yet to be determined.

Figure 9: Precinct 2 east-west illustrative section



3.8 Precinct 3: Main Street

Map 9: Precinct 3 Urban Form Plan

3.8.1 Precinct intent

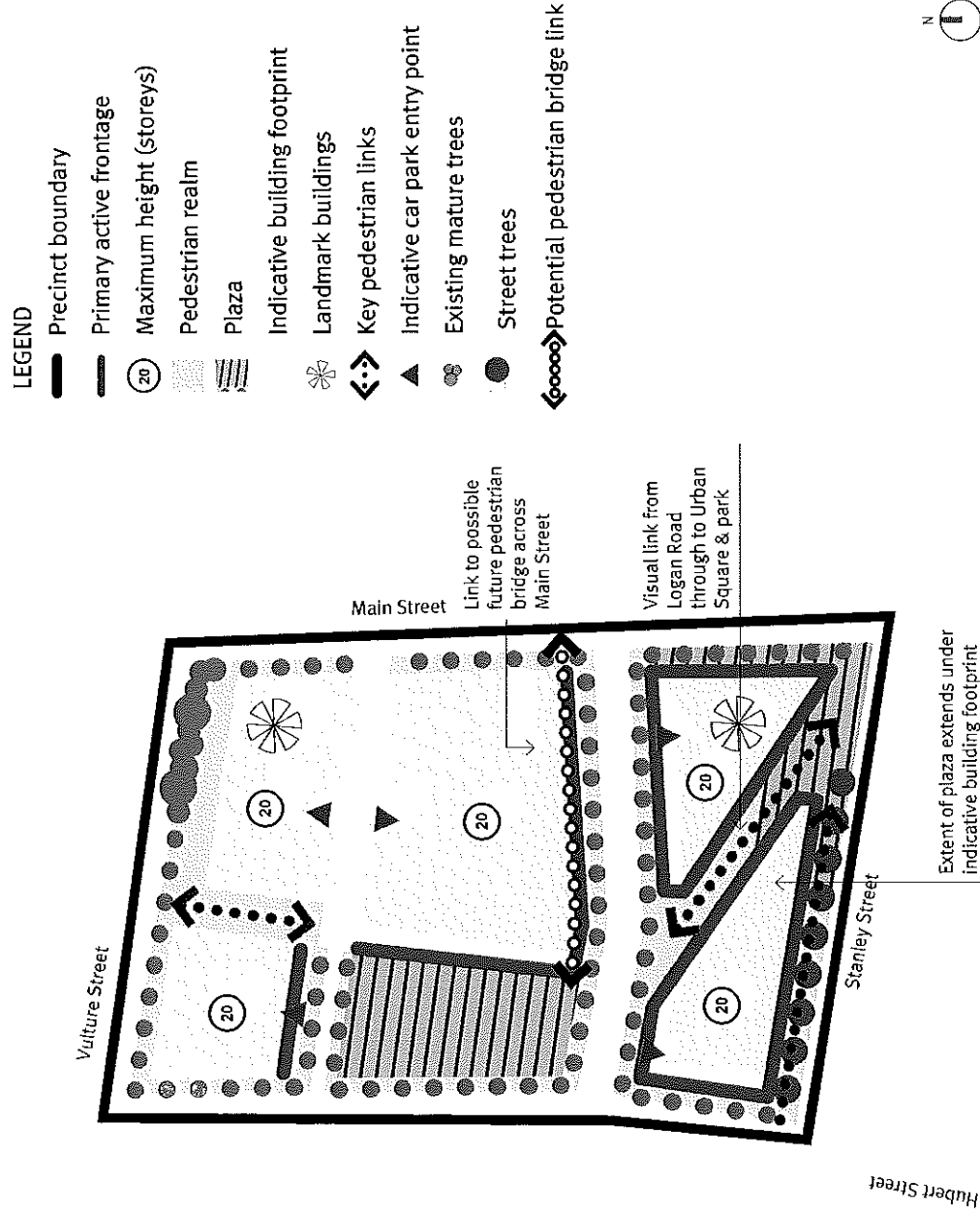
This precinct comprises the area between the proposed Street 1 and the eastern edge of the UDA. The precinct provides a strong built form relationship to the very busy surrounding road network of Stanley, Vulture and Main Streets. Mixed use towers up to 20 storeys in height occupy this end of the UDA.

Buildings on significant corners such as the corner of Stanley and Main Streets have a landmark quality and underpin the importance of this corner in the identity of the UDA.

At ground level, this area is characterised by its busy pedestrian activity supported by a generous public realm allowing easy transition though the site, particularly on game days at the Gabba stadium. Retail and other active land uses help to activate the ground plane.

The existing mature trees along the Vulture Street frontage of Precinct 3 are locally significant. Every effort should be made to retain and incorporate them into the design of the public realm in this area.

The part of the precinct to the north of the left-in-left-out Main Street access is occupied by the Landcentre building and dental clinic but is not constrained from development by the need to relocate the existing busway station before development can occur.



A small civic plaza occupies part of the western edge of this precinct providing a setting for ground floor uses and activities and contributing to the open feel created internally within the UDA.

The southern part of Precinct 2 incorporates the land associated with the existing busway station and turn-around. An angled pedestrian entry on the corner of Stanley and Main Streets provides a physical and visual extension of Logan Road through the site providing glimpses of the large urban parkland within the UDA.

Map 9: Precinct 3 Urban Form Plan, shows the desired layout of development in Precinct 3.

3.8.2 Precinct outcomes

(a) Movement

The desired movement arrangements for Precinct 3 are shown on Map 3: Woolloongabba UDA Circulation and Movement Plan.

There is no direct access to development parcels from the external road network in this Precinct. All access will be from the internal road network.

Access to development parcels in this precinct is mainly achieved through lower order roads (Street 2) and lanes (Street 6).

Street 2 connects Street 1 with Main Street. Access from Main Street is left in/left out only and is not intended to be signalised. This street will play a combined role in

conveying vehicles as well as pedestrian traffic through the UDA particularly on game days at the Gabba stadium. Direct vehicle access to adjoining development parcels is available from this important linkage.

A high quality and durable public realm facilitates pedestrian movement. An absence of street furniture in this location assists in allowing for the large flow of pedestrians from the Gabba.

Potential pedestrian bridge link

The most appropriate means of providing for safe and convenient pedestrian access between the Gabba stadium and the proposed public transport interchange in the UDA will be considered in an integrated transport investigation to be undertaken by DTMR in conjunction with Brisbane City Council, the ULDA, Stadiums Queensland and other key stakeholders.

The potential to provide a grade-separated pedestrian bridge across Main Street will be examined in this investigation.

Provision is made in the Movement and Circulation Plan (refer to Map 3) and the Urban Form Plan for Precinct 3 (refer to Map 9) for a grade-separated pedestrian bridge across Main Street so that its attributes and impacts can be appropriately accessed and addressed in the integrated transport investigation.

The location identified for the pedestrian bridge would enable direct access for pedestrians crossing Main Street to the

UDA's central open spaces and the public transport interchange. The walkway would be sized and configured to facilitate safe crowd movement. It would also be designed to ensure that, should it be incorporated in a building, the ground level of the building could be suitably activated.

(b) Land use

Retail, community and cultural activities should be located at ground level along the identified primary active frontages, with commercial and residential uses predominating at upper levels.

This precinct would also be a suitable location for community facilities such as proposed indoor sports and recreation centre.

(c) Built form

Buildings line the major external streets of Vulture, Stanley and Main and maintain a close association with the street frontages. Buildings on the prominent corners have a landmark quality. Podiums and towers maintain a close association with their street frontages on Vulture and Main Street allowing towers to pull back from the central internal park and plaza areas.

On the corner of Main and Stanley Streets a small plaza opens the corner at ground level leading pedestrians into the heart of the UDA. Buildings above ground level overhang this space contributing to the landmark qualities of buildings on this corner.

Table 5 shows the main built form

parameters for Precinct 3.

An example of the potential built form outcomes for Precinct 3 is shown in the illustrative sections at Figures 10 and 11.

(d) Public realm

A small plaza (urban square) occupies part of the western edge of this precinct providing a setting for ground floor uses and activities and contributing to the open feel created internally within the UDA. This plaza with an area of approximately 1500m² and a minimum dimension of 25m, provides a setting for cafes, restaurants and other activities as well as providing some relief from the traffic on Street 1.

Long views across the internal parkland towards the main entry portal for the public transport interchange are achievable from this space adding to the legibility of the UDA and its elements.

(e) Car parking

Development with minimal car parking is encouraged. The maximum car parking ratios that will be permitted are:

- » Residential: 0.75 spaces per dwelling
- » Other: 1 space per 300m² gross floor area.

Table 5: Precinct 3 Development Parameters

Street or space	Building elements	Setback
Stanley Street	Podium (max 3 storeys) Upper levels	0.0 metres 10.0 metres
Vulture Street	Podium (max 4 storeys) Upper levels	0.0 metres 0.0 metres
Main Street	Podium (max 4 storeys) Upper levels	0.0 metres 0.0 metres
Urban Square	Podium (max 3 storeys) Upper levels	0.0 metres 0.0 metres
Street 1	Podium (max 3 storeys) Upper levels	0.0 metres 0.0 metres
Street 2	Podium (max 4 storeys) Upper levels	0.0 metres 0.0 metres
Street 6b	Podium (max 4 storeys) Upper levels	0.0 metres 0.0 metres
All other frontages	Podium (max 3 storeys) Upper levels	0.0 metres 0.0 metres

Figure 10: Precinct 3 east-west illustrative section

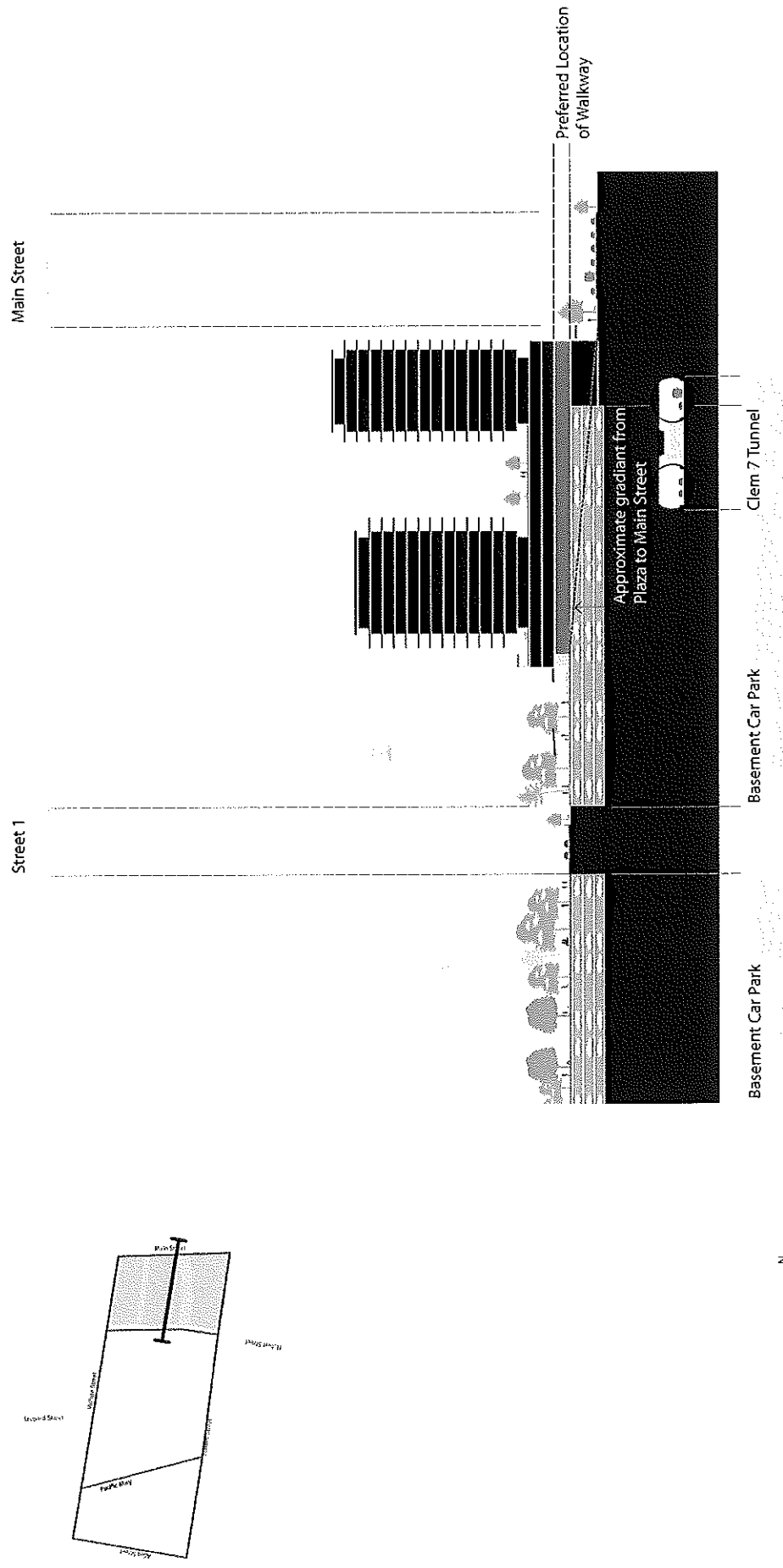
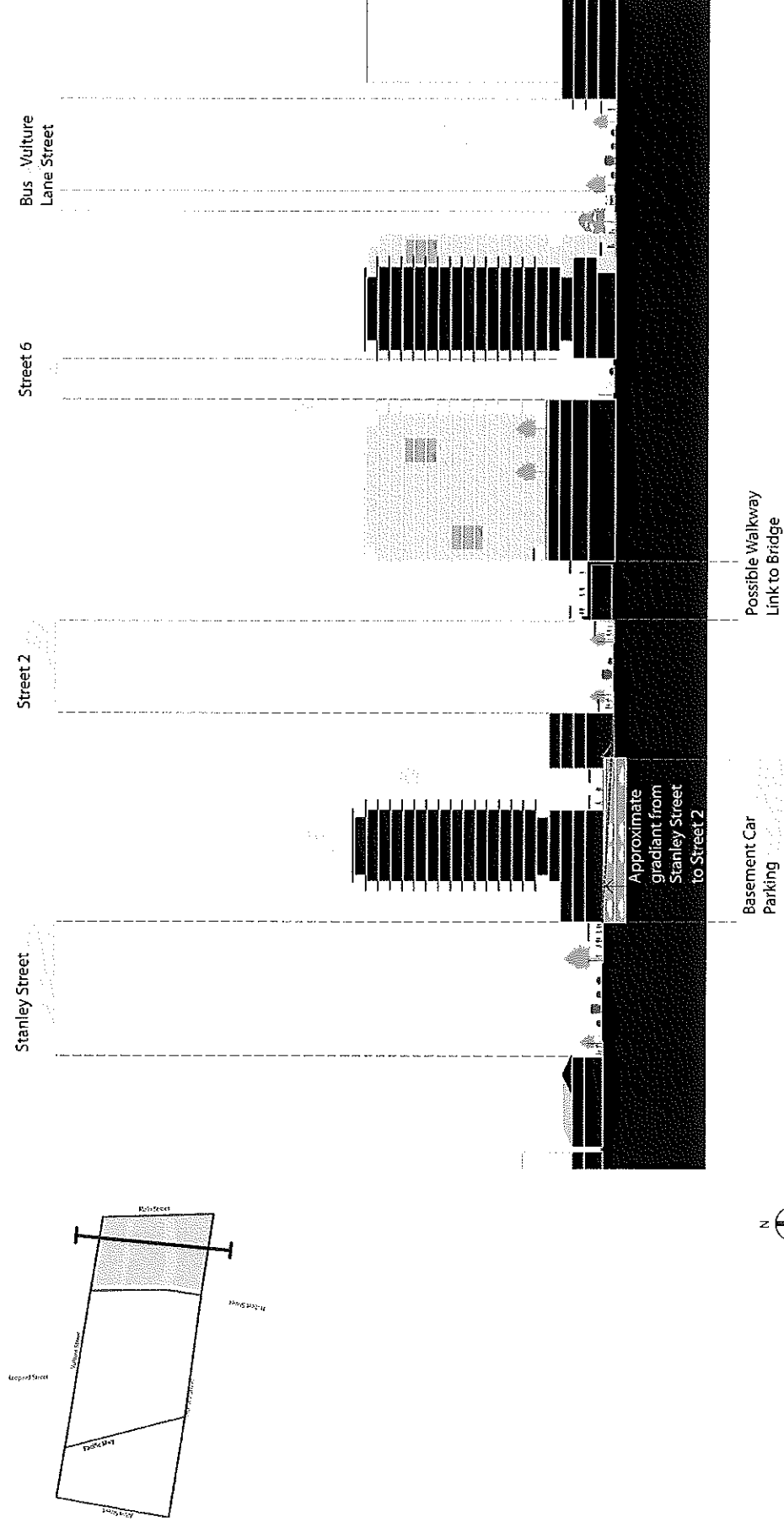


Figure 11: Precinct 3 north-south illustrative section



Produced by the Urban Land Development Authority (ULDA) 2010
Map is intended for illustration purposes only and unless stated is not to scale.

4.1 Approach

Infrastructure requirements to achieve the planning outcomes will be delivered through the development assessment process, imposed as conditions of a UDA approval for development and delivered as part of the building and operational works on the site.

Infrastructure will include:

- » Transport (including roads, public transport and active transport)
- » Community facilities (including parks and plazas)
- » Network infrastructure (including water supply and sewerage, stormwater management, telecommunications and power).

As part of implementing this development scheme, the ULDA will work with Brisbane City Council, infrastructure provider agencies and state agencies to prepare an infrastructure charges schedule. State infrastructure funding will be sought under the normal budgetary processes and will be part of an approved state agency capital program.

Listed below is infrastructure currently identified for the Woolloongabba UDA. These infrastructure requirements reflect current understanding. However, further more detailed infrastructure investigations, including the proposed traffic and transport investigations (to be undertaken by DTMR in cooperation with BCC) will be undertaken, and the infrastructure requirements and delivery responsibilities may be amended to reflect the outcomes of these investigations.

4.2 UDA-wide Infrastructure

Transport infrastructure	
Infrastructure	Description of works
Public transport	New public transport interchange, including relocated Woolloongabba Busway Station.
Vulture Street	New signalised intersection including site access to new Street 1.
	Vulture/Main Streets intersection - amend existing signals for bus phase, add double right turn lane in Main Street and bus right turn from north.
Stanley Street	Main/Stanley Streets intersection - amend existing signalisation, add double right turn lane in Main Street, remove bus entries.
	Construction of a 4.5m wide bicycle lane on the northern side of Stanley Street.
	Improved pedestrian facilities for the full length of the UDA.
Main Street	Road widening to accommodate intersection works at Vulture and Stanley Streets and contribute to Brisbane City Council's 'sub-tropical boulevard' proposal as outlined in the draft Kangaroo Point South Renewal Strategy.

4.0 Infrastructure Plan

Community facilities	
Infrastructure	Description of works
Various	A multi-purpose community hub with a gross floor area of approximately 1,500m ² is envisaged at the lower levels of a building near the public transport interchange entry in Precinct 2. The ULDA will work with Brisbane City Council, State and Commonwealth agencies to plan, fund and deliver this facility.
	A cultural facility with a gross floor area of approximately 4,000m ² with good access by walking, cycling and public transport.
	A multi-purpose indoor sports and recreation facility. This facility should be integrated into the lower levels of a larger development in Precinct 2 or Precinct 3, and make effective use of podium and/or roof-top spaces for outdoor recreation. There may be some advantages of co-location with the community hub.
	Relocation of the South Brisbane Dental Clinic to new premises within or in the vicinity of the UDA.
	Child care facilities.
	Innovative, land efficient and flexible sports and recreation opportunities.
	High quality urban park and plaza for recreation and events in the centre of the UDA.
Network infrastructure	
Infrastructure	Description of works
Water cycle	Water, sewer and stormwater networks within the UDA will be constructed at the time the developments are being undertaken.
All networks	Network infrastructure improvements will be undertaken in conjunction with the relevant responsible authority and will be delivered before improvements are demanded by additional loading applied by developments within the UDA.
4.3 Precinct 1: Allen Street	
Transport infrastructure	
Infrastructure	Description of works
Pacific Motorway On-Ramps	Realign Pacific Motorway northbound on-ramp from Stanley Street.
Pedestrian / cycle infrastructure	Realign South East Busway city bound on-ramp (to Captain Cook Bridge).
	Realign South East Freeway Bikeway.
	Improved cycleway and pedestrian access along Stanley Street and up Allen Street connecting with the South East Freeway Bikeway near Vulture Street.
Road and street improvements	In collaboration with BCC, investigate options for extending the Stanley Street cycleway beyond UDA boundary to Annerley Road intersection. If feasible, ULDA to deliver.
	Public Realm improvements to Stanley Street.
	Public realm improvements to Allen Street.

Community facilities	
Infrastructure	Description of works
Plazas	Delivered through the development process.

4.4 Precinct 2: Central

Transport infrastructure	
Infrastructure	Description of works
Vulture Street	Rearrangement of roads surrounding the public transport interchange site.
	Construction of north-south link road (Street 1) through UDA, up to northern edge of existing busway to provide construction access.
	Vulture/Leopard intersection - amend existing signals for right turn from north.
	Contra-flow bus lane along Vulture Street from Main Street intersection.
	Vulture Street from Leopard Street to Pacific Motorway - contra-flow lane to allow westbound access to freeway along Vulture Street.
Leopard Street	Realignment of Pacific Motorway southbound Vulture Street off ramp
	Vulture Street approach to new on ramp - line marking and signs.
	Pedestrian signals along south side of Vulture Street at entry to new motorway on-ramp.
	Stanley/Leopard Streets - remove existing signals (after closure of existing southbound Pacific Motorway on-ramp)
	Close Leopard Street
Stanley Street	Close existing southbound Pacific Motorway on-ramp.
	Remove existing pedestrian signal and include a new intersection at Street 1 and Stanley Street.
	Public realm improvements to Stanley Street including improved footpath and cycleway.
Internal road network	Construct Streets 3, 3a, 4 and 5 including associated pedestrian and cyclist facilities.

Community facilities	
Infrastructure	Description of works
Open Space	Construction of central park (including underground parking) and plazas.

4.5 Precinct 3: Main Street

Transport infrastructure	
Infrastructure	Description of works
Access to site	Intersection construction at Main Street for east-west street (Street 2) in the UDA.
Internal road network	Construction of Streets 2 and 6 and associated pedestrian facilities.
Existing busway	Connection of Street 1 to Stanley Street opposite Hubert Street and relocate existing pedestrian signals.
Vulture Street	Relocation of South East Busway eastern access from Stanley Street to Vulture Street.
Main Street	Widened footpath to Vulture Street opposite the Gabba stadium ground to facilitate improved access for Gabba crowds.
	Public realm improvements to Main Street.

Community facilities	
Infrastructure	Description of works
Open space	Construction of plaza.

5.1 Implementation

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the planning outcomes for the UDA.

The strategy identifies each of the implementation mechanisms and the purpose of the *Urban Land Development Act 2007* (the Act) that each is seeking to achieve.

Implementation mechanisms	Purpose of the Act
<ul style="list-style-type: none"> » Affordable housing target for the UDA » ULDA Accessible Housing Guideline » ULDA Environment and Sustainable Development Guideline 	<ul style="list-style-type: none"> » Provision of a range of housing options to address diverse community need » Provision of an ongoing availability of affordable housing options for low to moderate income households » Planning principles that give effect to ecological sustainability and best practice urban design
<ul style="list-style-type: none"> » Development Assessment Supplementary Guide » Development Assessment Certification Procedures Manual 	<ul style="list-style-type: none"> » Availability of land for urban purposes
<ul style="list-style-type: none"> » Working with DTMR in consultation with Brisbane City Council and other stakeholders, to deliver the major public transport and road changes identified in the development scheme » Working with BCC, state agencies and other key stakeholders to deliver the community infrastructure identified in the development scheme » Prepare an infrastructure charging schedule for the UDA » Identifying third party funding opportunities 	<ul style="list-style-type: none"> » Provision of infrastructure for urban purposes
<ul style="list-style-type: none"> » A community development strategy prepared by the ULDA in collaboration with key stakeholders including BCC and local community organisations » Factsheets, newsletters, letterbox drops, newspapers » Identifying training and education opportunities within the development industry 	<ul style="list-style-type: none"> » Planning principles that give effect to ecological sustainability and best practice urban design » Provision of a range of housing options to address diverse community need

Implementation mechanisms	Relevant purpose of the ADO
» Working with Brisbane City Council, state agencies and other key stakeholders to identify and resolve issues	» Availability of land for urban purposes
» Working with Brisbane City Council, infrastructure provider agencies and state agencies to prepare and implement the infrastructure charging schedule	» The provision of a range of housing options to address diverse community need
» Working with the development industry to identify opportunities for collaboration and innovation to achieve superior planning and design outcomes	» Provision of infrastructure for urban purposes
» Working with the Department of Communities and not-for-profit organisations to identify social housing opportunities	» Planning principles that give effect to ecological sustainability and best practice urban design
» Working with Department of Public Works and Queensland Health to address accommodation / relocation issues for existing occupants of the UDA.	» Provision of an ongoing availability of affordable housing options for low to moderate income households

Schedule 1: Exempt development

Building work	
Carrying out building work associated with a material change of use that is UDA exempt development.	
Carrying out building work associated with an approved material change of use.	
Minor building work or demolition work except where the building is identified as a heritage registered place.	
Material change of use of premises	
Making a material change of use of premises implied by building work, plumbing work, drainage work or operational work if the work was substantially commenced by the state, or an entity acting for the state, before 31 March 2000.	
Making a material change of use of premises for a class 1 or 2 building under the Building Code of Australia (BCA) part A3, if the use is for providing support services and short term accommodation for persons escaping domestic violence.	
Reconfiguring a lot	
Reconfiguring a lot under the <i>Land Title Act 1994</i> , if the plan of subdivision necessary for the reconfiguration is:	
(a) a building format plan of subdivision that does not subdivide land on or below the surface of the land	
(b) for the amalgamation of two or more lots	
(c) for the incorporation, under the <i>Body Corporate and Community Management Act 1997</i> , section 41, of a lot with common property for a community titles scheme	
(d) for the conversion, under the <i>Body Corporate and Community Management Act 1997</i> , section 43, of lessee common property within the meaning of that Act to a lot in a community titles scheme	
(e) in relation to the acquisition, including by agreement, under the <i>Acquisition of Land Act 1967</i> or otherwise, of land by:	
(i) a constructing authority, as defined under that Act, for a purpose set out in parts 1-13 (other than part 10, second dot point) of the Schedule to that Act or	
(ii) an authorised electricity entity	
(f) for land held by the state, or a statutory body representing the state and the land is being subdivided for a purpose set out in the <i>Acquisition of Land Act 1967</i> , parts 1-13 (other than part 10, second dot point) whether or not the land relates to an acquisition	
(h) for the <i>Transport Infrastructure Act 1994</i> , section 240	
(i) in relation to the acquisition of land for a water infrastructure facility.	
Subdivision involving road widening and truncations required as a condition of development approval.	
Operational work	
Carrying out operational work associated with a material change of use that is UDA exempt development.	
Carrying out operational work in accordance with a UDA development approval.	
Carrying out operational work associated with the decontamination of land.	

6.0 Schedules

Carrying out operational work that is clearing of vegetation:
(a) carried out by a public sector entity, where the works being undertaken are authorised under a state law
(b) in accordance with the conditions of a UDA development approval for a material change of use or reconfiguring of a lot.
Carrying out operational work for a satellite dish on a premises, where the satellite dish has no dimension greater than 1.8 metres.
Filling or excavation:
(a) to a depth of one vertical metre or less from ground level
(b) where top dressing to a depth of less than 100 vertical millimetres from ground level
Operational work (including maintenance and repair work) if the work is carried out by or on behalf of a public sector entity authorised under a state law to carry out the work.
Placing an advertising device in premises.
Plumbing or drainage work
Carrying out plumbing or drainage work.
All aspects of development
All aspects of development a person is directed to carry out under a notice, order or direction made under a state law.
All aspects of development for park.
All aspects of development undertaken by the state, or a statutory body representing the state, for the purposes of public housing.
All aspects of development for Home based business.
All aspects of development for Sales office and display home.
All aspects of development for a utility installation, by way of:
(a) development of any description at or below the surface of the ground
(b) the installation of any plant inside a building or the installation or erection within the premises of a generating station or other structures or erections required in connection with the station
(c) the installation or erection of an electricity distribution or supply network (and any components of such a network) which operates at voltages up to and including 33 kilovolts, excluding new substations.

Schedule 2: Definitions Use Definitions

Commercial uses

Business

Premises used for administration, clerical, technical, professional or other business activity where no goods or materials are made, sold or hired on the premises.

Home based business

House or multiple residential unit used for an occupation or business activity as a secondary use where:

- (a) the floor area used specifically for the home business does not exceed 50m²
- (b) any visitor accommodation does not exceed 4 visitors
- (c) there is no hiring out of materials, goods, appliances or vehicles
- (d) there is no repairing, servicing, cleaning or loading of vehicles not normally associated with a house
- (e) the maximum height of a new building, structure or object does not exceed the height of the house and the setback is the same as, or greater than, buildings on adjoining properties.

Medical centre

Premises used for the medical care and treatment of persons not resident on the site. The term includes medical centres, dental clinics, pathology labs, naturopath clinics, chiropractic clinics, natural medicine

practices, counselling rooms, psychiatric and psychological consulting rooms, premises used for nursing services, and the like. The term does not include home-based businesses, hospitals, retirement villages or aged care facilities.

Office

Premises used primarily for administration, clerical, technical or professional activities, where any goods or materials made, sold or hired on the premises are ancillary to the primary activity.

Sales office and display home

Premises, including a caravan or relocatable home structure, used for the promotion and/or sale of land and/or buildings within development, where such premises are located within the development which is proposed to be promoted or sold.

Veterinary clinic

Premises used for veterinary care, surgery and treatment of animals, whether or not provision is made for the overnight short stay accommodation of the animals on the premises. The term does not include animal keeping and husbandry or veterinary hospital.

Veterinary hospital

Premises used for the treatment of sick or injured animals where such animals are accommodated overnight or for long stay periods on the premises. The term does not include animal keeping and husbandry or

veterinary clinic.

Industrial uses

Extractive industry

Premises used for extraction of sand, gravel, soil, rock, stone or similar substance from land. The term includes ancillary storage, loading or cartage and any crushing, screening, washing, blending or other treatment processes of material extracted from the site.

General industry

Premises used for making, assembling, dismantling, break up, servicing, storing, repairing goods or treating waste where potential impacts exist. The use includes but is not limited to the following:

- » fuel burning
 - » boat maintenance
 - » battery recycling
 - » water treatment
 - » beverage production
 - » bottling and canning
 - » concrete batching
 - » tyre retreading
 - » metal forming
 - » edible oil processing
 - » seafood processing
 - » milk processing.
- Heavy industry**
- Premises used for making, assembling,
- » dismantling, break up, servicing, storing, repairing goods or treating waste with significant impacts which are likely to be noxious and/or hazardous and require isolation, or significant buffering from other buildings and uses. These include but are not limited to the following:
 - » alcohol distilling
 - » boiler making
 - » metal recovery
 - » sugar milling or refining
 - » meat processing
 - » crushing, milling and grinding
 - » rendering
 - » pet, stock or aquaculture food manufacturing
 - » textile manufacturing
 - » tyre manufacturing
 - » chemical manufacturing, processing or mixing
 - » chemical storage
 - » coke producing
 - » gas producing
 - » paint manufacturing
 - » crude oil or petroleum product storage (excluding service stations)
 - » oil refining or processing
 - » fuel gas refining or processing metal works, surface coating and foundry
 - » mineral processing
 - » battery manufacturing
 - » manufacturing of plastic, plaster, pulp or

paper	» making of the following: » artificial flowers » bread, cakes and pastry » dental prostheses » fashion accessories » garments » jewellery » optical goods, being spectacles and the like » soft furnishings » toys. » Assembling the following from components manufactured elsewhere: » aids and appliances for people with a disability » audio-visual equipment » barbeques » blinds » furniture » portable domestic electrical appliances » domestic light fittings and accessories » scientific instruments » sports equipment, other than ammunition, vehicles and watercraft » television and video equipment. » Repairing and servicing the following: » blinds » cameras or other photographic equipment	» canvas goods, tents and camping soft goods » computers and computer equipment » electronic instruments and equipment » garments » mowers, including motor mowers and portable gardening equipment » optical goods, being spectacles and the like » domestic electrical appliances » power and other tools » scientific instruments. » Providing the following services: » book binding » car washing » document duplicating or copying or photocopying » engraving by hand » laboratory facilities » locksmith services » photographic film processing » picture framing » plan printing » restoration of small articles of a personal or domestic nature, works of art » studio facilities for film, theatre or television.	Warehouse Premises used for the storage of goods whether or not in a building, including self storage facilities or storage yards.
This use does not include any other industrial uses or service station.			Residential uses
Light industry Premises used for making, assembling, dismantling, break up, servicing, storing, repairing goods, or treating waste of a small scale and low impact similar to those activities set out below and ancillary activities that support the industrial use such as administration offices or sales and display areas for products. The use includes but is not limited to the following: » printing » all industrial activities not environmentally relevant activities, except where defined.			House Premises used for residential purposes where freestanding on its own lot and used as one self contained dwelling.
			Multiple residential Premises used for residential purposes if there are two or more dwelling units on any one lot. Multiple Residential dwelling units may be contained on its own lot subject to community title schemes. The term Multiple Residential does not include a house.
Research and technology facility Premises used for scientific or technological research development or testing.			Other residential Premises used for the accommodation and care of aged and retired people, small groups of disadvantaged persons or persons who are being nursed, require ongoing supervision/ support, or are convalescing. This term may include but is not limited to ancillary dining and recreation facilities, administration offices, laundries, kitchens, ancillary medical facilities and residential accommodation for management and staff.
Service industry Premises used for a small scale, low impact industrial activity which is intended to provide services to the general public or is similar to those activities set out below and ancillary activities that support the industrial use such as administration offices or sales and display areas for products manufactured, assembled or finished on the site. The use includes but is not limited to the following:			Relocatable home and caravan park Premises used for the parking or location of relocatable homes, caravans, self contained cabins, tents and similar structures for the purpose of providing residential

accommodation.		the like for commercial or business purposes. The definition includes the storage and packing of produce grown on the subject site and the repair and servicing of machinery and other ancillary activities.	childhood centre.
The term includes ancillary facilities such as amenities, laundries, kitchens, a kiosk and recreation facility and residential accommodation for persons associated with the development. It also includes a manager's office and residence.			
Retail uses			Community facility
Fast food premises	Premises used for the preparation and sale of food to the public generally for immediate consumption off the premises. The term may include drive through facilities and ancillary facilities for the consumption of food on the premises.		Use of premises for social or community purposes, such as a community centre, library, public building or the like.
Food premises	Premises used for the preparation and sale of food and drink to the public for consumption on or off the site. The term includes a cafe, restaurant, coffee shop, bistro, tea room, milk bar, snack bar, kiosk and take-away, but does not include a fast food premises as separately defined.		Crematorium
Market	Premises used for the display and sale of goods to the public on a regular but infrequent basis, where goods are primarily sold from temporary structures such as stalls, booths or trestle tables. The use includes ancillary food and beverage sales and ancillary entertainment provided for the enjoyment of customers.		Premises used for cremating human corpses after death. The term does not include a funeral parlour or cemetery.
		Animal keeping and husbandry	Educational establishment
		Premises used for keeping, depasturing, grazing or stabling of any animal, bird, insect and reptile. The term includes the use of land for keeping, breeding, stabling, training or boarding animals.	Use of premises for systematic training and instruction, including any other ancillary facility. This definition includes prep facilities, primary school, secondary school, college, university, technical institute, academy or other educational centre.
		Service, community and other uses	The use may include residential accommodation and other ancillary uses provided for the employees and the students of such premises.
		Caretaker's accommodation	Emergency service
		The residential use of part of a premises where in connection with a non residential use on the same premises.	Use of premises for services which respond to community need in an emergency.
		Car park	Environmentally relevant activities
		Use of premises for the parking of motor vehicles where such parking is not ancillary to some other development on the same site.	As defined in the <i>Environmental Protection Act 1994</i> .
		Cemetery	Funeral parlour
		Premises used for the interment of the dead. The term does not include a crematorium or funeral parlour.	Premises used for arranging and conducting funerals, memorial services and the like, but does not include burial and cremation.
		Child care centre	
		Use of premises for the mindng or care, but not residence of children generally under school age. The use includes but is not limited to a kindergarten, creche or early	
		Rural uses	
		Agriculture	
		Premises used for commercial purposes for the growing and harvesting of trees, crops, pastures, flowers, fruit, turf, vegetables and	
		Shopping centre	
		Premises used for display, sale or hire of goods comprising two or more individual tenancies, comprising primarily shops and which function as an integrated complex.	
		Showroom, storage and display facilities	
		Premises used for the display and sale of goods, by retail or by auction. The term also includes storage.	

The definition includes the storage and preparation of bodies for burial or cremation and includes a mortuary and funeral chapel. The term does not include a cemetery or crematorium.

Hospital

Premises used for the medical or surgical care or treatment of persons accommodated on the premises to receive this care or treatment.

The use includes care or treatment of persons such as emergency patients or out-patients not residing on the premises

Place of assembly

Use of premises used for worship and activities of a religious organisation, community or association.

Utility installation

Premises used to provide the public with the following services:

- » supply of water, hydraulic power, electricity or gas
- » sewerage or drainage services
- » transport services including road, rail or water
- » waste management facilities
- » network infrastructure.

The use includes maintenance and storage depots and other facilities for the operation of the use.

Sport, recreation and entertainment uses

Club

Use of premises by persons associated (whether incorporated or not) for social, literary, political, sporting, athletic or other similar purposes to which the general public may also resort and which is, or intends to be, subject to a club licence under the *Liquor Act 1992*. The premises may also include the provision of food and beverages, limited live or recorded entertainment and gaming machines.

Hotel

Premises used to sell liquor for consumption on or off site. The use may include short-term accommodation, dining and entertainment activities and gaming and amusement machines.

Indoor sport, entertainment and recreation

Use of premises for leisure, sport or recreation conducted wholly or mainly indoors such as indoor sports and fitness centres, gyms, bowling alleys, squash courts and the like.

Outdoor sport and recreation

Premises used for any sporting or recreational activity, or other leisure pastime, which is conducted wholly or mainly outside of a building.

The use includes such typical premises as

outdoor public swimming pools, golf courses and driving ranges, outdoor courts and sportsground, and the like. The term also includes the provision of a clubhouse and other ancillary facilities.

Park

Use of premises by the public for free recreation and enjoyment, but used infrequently for events.

Facilities for park users may include children's playground equipment, informal sports fields, vehicle parking and other public conveniences.

Tourism

Tourist facility

Premises used, or intended to be used, for providing entertainment, recreation or similar facilities for the general touring or holidaying public. The term includes associated short term accommodation or facilities providing meals.

Visitor accommodation

Premises used for short term accommodation for the general touring, holidaying or visiting public. The term includes associated facilities providing meals.

Other

Filling or excavation

Operational work for filling or excavating that materially affects premises or their use.

Minor building or demolition work

Means:

- » Internal building or demolition work
- » External building work up to 25m² for roofs over existing decks or paved areas, sun hoods, carports and the like
- » Building work up to 10 percent of approved GFA or lawfully existing GFA at the time of commencement of this development scheme.
- » Raising a house where the resultant height does not exceed gm.

Reconfiguring a lot

As defined in the *Sustainable Planning Act 2009*.

Administrative definitions

Affordable housing

Affordable housing⁴ means private rental housing and home purchase options (including housing aimed at the first home owners market) for low to moderate income households.

Authority

The Urban Land Development Authority.

Basement

A storey below ground level or where the underside of the ceiling projects no more than one metre above ground level.

4 Refer to the ULDA Affordable Housing Strategy

Building height

The maximum vertical distance between the natural ground level and the roof or parapet at any point but not including an antenna, aerial, chimney, flagpole or the like.

Contaminated Land Register

As defined in the *Environmental Protection Act 1994*.

Development scheme

As defined in the *Urban Land Development Authority Act 2007*.

Dwelling unit

Means a building or part of a building used or capable of being used as a self contained residence which must include:

- » food preparation facilities
 - » a bath or shower
 - » a toilet and wash basin.
- The term includes works ancillary to a dwelling.

Environmental Management Register

As defined in the *Environmental Protection Act 1994*.

Ground level

The level on a site which precedes development excluding any site works that are subject to a related development approval, unless approved by the ULDA or established as part of a reconfiguration of the land preceding development.

Gross floor area

The total floor area of all storeys of a building, including mezzanines, measured from the external walls or the centre of a common wall, excluding area used for:

- » building services
- » ground floor public lobby
- » a public mall in a shopping centre
- » the parking, loading and manoeuvring of motor vehicles
- » private balconies whether roofed or not.

Mezzanine

An intermediate floor within a room.

Noise sensitive use

Means any of the following:

- » House, Multiple residential, Other residential
- » Childcare centre, Community facility, Hospital or Place of assembly
- » Park.

Plan of Development

A detailed plan, including graphics, text and tables that collectively accompanies a development application. A Plan of Development details lot layout, the form and density of development, landscape intent and building control requirements.

Plot ratio

The ratio between the gross floor area of a building and the total area of the site.

Podium

A continuous projecting base of a building.

Private open space

An outdoor area for the exclusive use of occupants.

Public benefit

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public housing

As defined in the *Sustainable Planning Act 2009*.

Public realm

Refers to spaces that are used by the general public including streets, plazas, parks and environmental areas.

Setback

The shortest distance measured horizontally from the outermost projection of the building or structure to the vertical projection of the boundary lot.

Site cover

The proportion of the site covered by buildings, including roof overhangs.

Storey

Means a space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above. This does not include:

a space that contains only:

- » a lift shaft, stairway or meter room
 - » a bathroom, shower room, laundry, toilet or other sanitary compartment
 - » accommodation intended for not more than 3 vehicles, or
- a combination of the above.

For the purposes of this definition a mezzanine is a storey.

Uplift of land value

The increase in development yield or land value arising from the development schemes.

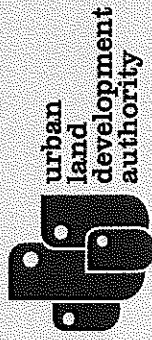
Urban design

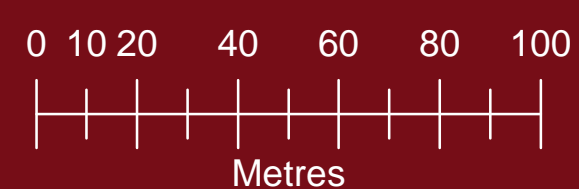
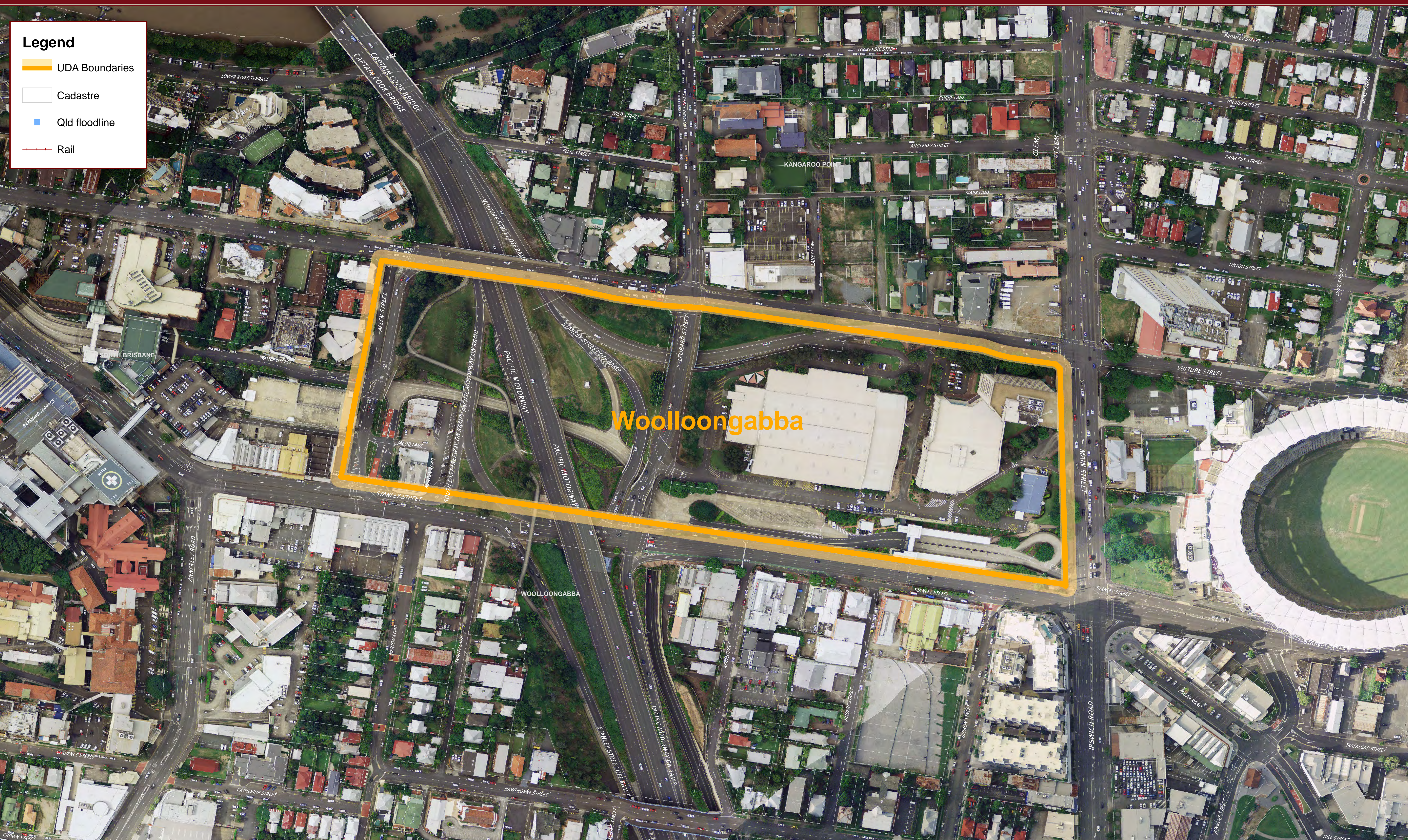
Refers to the holistic design of urban environments, including the overall townscape, individual buildings, street networks, streetscapes, parks and other public spaces.

5 Refer to the ULDA Affordable Housing Strategy for more information.



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FOR IMMEDIATE RELEASE
Date July 26, 2010

MAYOR APPLAUDS PREMIERS UDA ANNOUNCEMENT FOR BLACKWATER

Central Highlands Mayor Cr Peter Maguire has welcomed the joint announcement by the Premier and Minister for Infrastructure and Planning that most of Blackwater would be declared an Urban Development Area.

"This is very good news for Blackwater, and the region," he said. "We have been talking with the ULDA for a few months about options for increasing the supply of land for housing in Blackwater, and one of the most attractive options was to basically have the town declared a UDA. This will enable the ULDA to develop a plan for the area that addresses issues in the town such as the lack of housing affordability and diversity.

"We believe that the involvement of the ULDA will help us to attract people to live and work in Blackwater. We need to develop more housing options for the people of Blackwater, and their employers, so that Blackwater can continue to grow and expand in a manner that is sustainable, affordable and appropriate.

"The ULDA has the capacity and the powers to fast track planning decisions so that land is made available for housing much faster than the current system allows.

"Of course, this means that Council and the community will need to be closely involved in the consultation and development process so that decisions that are made are based on the best local information, and in the best interests of the community.

"The ULDA have indicated all along that they want to have a close working relationship with us and with the residents, and we are looking forward to doing just that."

End

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**Blackwater
Urban Development Area
Development Scheme**

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1.1 The Urban Land Development Authority

The Urban Land Development Authority (ULDA) is a statutory authority under the *Urban Land Development Authority Act 2007* (the ULDA Act) and a key element of the Queensland Housing Affordability Strategy.

The role of the ULDA is to facilitate:

- (i) the availability of land for urban purposes
- (ii) the provision of a range of housing options to address diverse community needs
- (iii) the provision of infrastructure for urban purposes
- (iv) planning principles that give effect to ecological sustainability and best practice urban design
- (v) the provision of an ongoing availability of affordable housing options for low to moderate income households.

The ULDA works with local governments, community, local landowners and the development industry to deliver commercially viable developments that include diverse, affordable, sustainable housing and use best-practice urban design principles.

1.2 Urban Development Area

The Blackwater Urban Development Area (UDA) was declared by regulation on 30 July 2010.

The Blackwater UDA is located within the Bowen Basin coal belt, approximately 200 kilometres west of Rockhampton in Central Queensland, and is part of the local government area administered by Central Highlands Regional Council.

The UDA encompasses the full extent of the town on the northern side of the Capricorn Highway, including existing dwellings, worker accommodation, commercial and industrial uses, and associated physical and community infrastructure (refer to Map 1).

1.3 Application of the development scheme

The Blackwater UDA Development Scheme (the scheme) is applicable to all development on land within the boundaries of the UDA.

From the date of approval under a regulation, the development scheme replaces the Interim Land Use Plan for the UDA which commenced upon declaration.

1.4 Elements of the development scheme

The Blackwater UDA Development Scheme consists of:

- (i) a vision
- (ii) a land use plan
- (iii) an infrastructure plan
- (iv) an implementation strategy.

The vision seeks to achieve, for the UDA, the purposes of the ULDA Act, and provides the basis for the land use plan, infrastructure plan and implementation strategy.

The UDA vision is expressed through the vision statement and Map 2: Blackwater UDA Vision Map.

The land use plan regulates development in the UDA.

The infrastructure plan details the infrastructure necessary to support the land use plan for the UDA.

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the vision for the UDA.

Map 1: Blackwater Urban Development Area

2.1 Vision Statement

The Blackwater UDA accommodates a thriving town with a strong identity, recognised for its major role in supporting both agriculture and the Bowen Basin mining industry, and also its potential to support a more diverse economy.

The UDA provides more affordable housing through the improved supply of residential land and a greater range of housing types to suit the needs of the Blackwater community.

High quality worker accommodation is integrated within and on the edge of the town.

The Blackwater Town Centre on Blain Street is reinforced as the heart of retail and civic activity.

The Blackwater townscape and areas of open space are enhanced and build on the town's physical setting, historical links and indigenous heritage, creating a strong identity and making the town more attractive to all members of the community, as well as investors and visitors.

The UDA:

- (i) delivers a sustainable community that offers housing affordability, diversity, accessibility and choice
- (ii) provides for a range of community facilities and services
- (iii) delivers vibrant business centres
- (iv) maximises local employment opportunities

- (v) maximises connectivity
- (vi) responds to the local climate and landscape features
- (vii) includes walkable streets and neighbourhoods
- (viii) provides for personal safety and security
- (ix) enhances character and amenity
- (x) uses infrastructure efficiently
- (xi) demonstrates high quality urban design
- (xii) promotes land use and transport integration.

2.2 Vision Map

The Blackwater UDA Vision Map (refer to Map 2) illustrates:

- (i) proposed residential infill areas that are currently allocated as open space, State reserves or rural land
- (ii) a proposed growth area on the eastern side of the town for housing and larger scale Non-resident worker accommodation, if required
- (iii) long term development areas west of Mackenzie Street and west of the hotel in Arthur Street
- (iv) existing areas of open space to be retained, indicative locations for enhanced local parks and new local parks in Melaleuca Street, and between Bendee Crescent and Blackbutt Street
- (v) enhanced landscaping in primary and secondary roads

- (vi) two existing business centres - one on Blain Street, which is to be reinforced and enhanced as the Blackwater Town Centre, and the other on the Capricorn Highway and continuing around to Mackenzie and Arthur Streets, to be the services and tourist hub
- (vii) a further business centre accommodating a hotel and club around the intersection of Arthur and Rosewood Streets to remain as a short-term accommodation and entertainment centre
- (viii) the existing industrial area to be retained for low impact industry and larger-scale commercial uses at Wilga and Littlefield Streets
- (ix) potential site for a travellers rest area between the Blackwater International Coal Centre and Lions Park
- (x) changes to intersections on the Capricorn Highway including a new access from the eastern growth area, restrictions on turns at the Columba and Bluff intersections, and improvements to the railway crossing and Mackenzie Street intersection.

Map 2: Blackwater UDA Vision Map



3.1 Components and operation of the land use plan

3.1.1 Components of the land use plan

The land use plan identifies the UDA development requirements which regulate development to achieve the vision for the UDA.

3.1.2 UDA development requirements

The UDA development requirements are expressed as (refer to figure 1):

- (i) UDA-wide criteria (see section 3.3)
- (ii) zone provisions (see section 3.4)
- (iii) design benchmarks (see section 3.5).

The UDA-wide criteria apply to all UDA assessable development in the Blackwater UDA and do not apply to exempt or UDA assessable development.

The zone provisions for each zone apply to:

- (i) land in that zone (zoning plan and zone intent), and
- (ii) all development in that zone (level of assessment table).

Design benchmarks:

- (i) do not apply to exempt development and

- (ii) apply to UDA self-assessable development and UDA assessable development as stated in section 3.5¹.

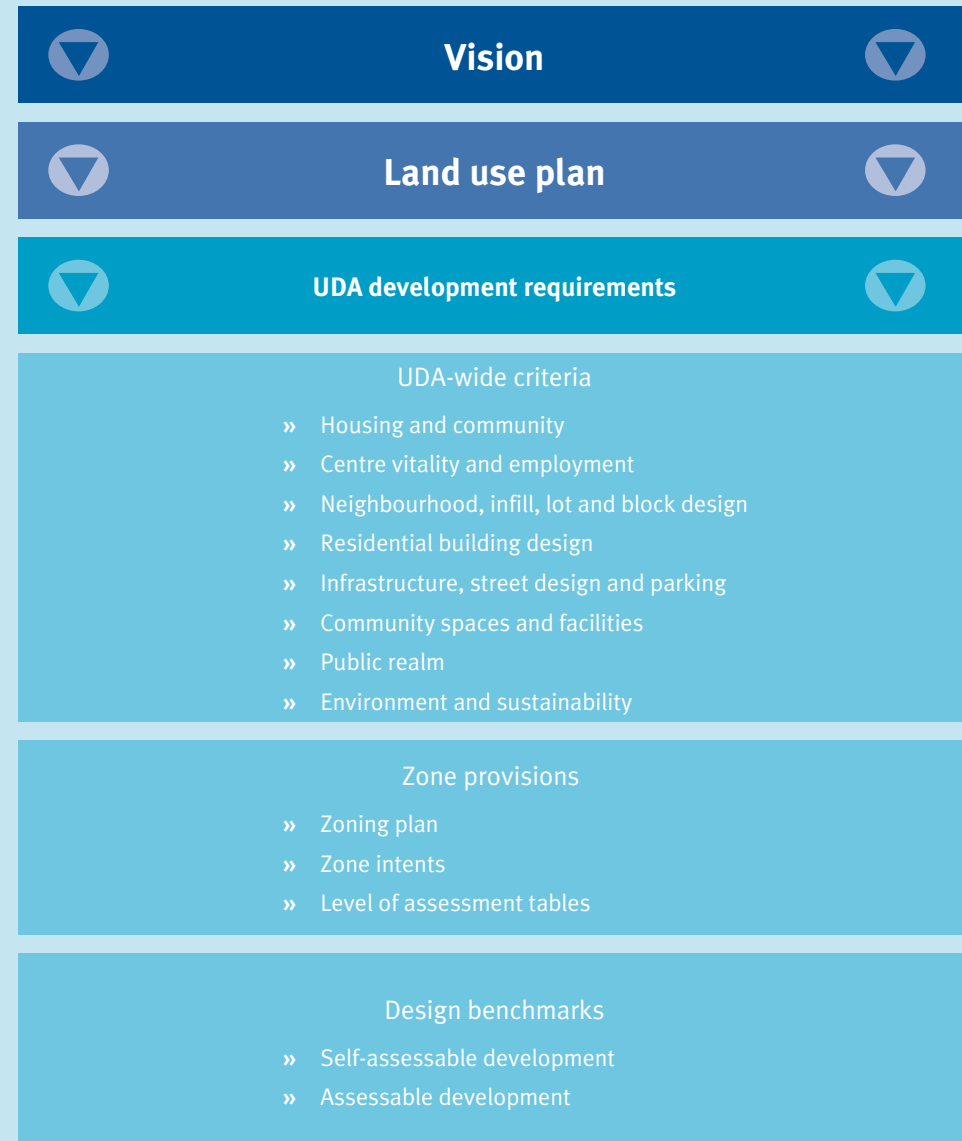
The levels of assessment for development in the UDA are stated in the level of assessment table for the relevant zone.

The levels of assessment table for each zone (see section 3.4.3) prescribes for that zone:

- (i) UDA exempt development (column 1)
- (ii) UDA self-assessable development (column 2)
- (iii) UDA assessable development which is not prohibited (permissible development) (column 3A)
- (iv) UDA assessable development which is prohibited (prohibited development) (column 3B).

¹ See section 3.2.1 and ULDA Act, section 56 about UDA self-assessable development, requirements for self-assessable development and compliance with those requirements.

Figure 1: Vision and components of the land use plan and their relationship



3.2 Development assessment

3.2.1 Interpretation

Under ULDA Act, section 6 development is development defined under the *Sustainable Planning Act 2009*, section 7.

Schedule 2 defines particular words used in this scheme, including uses and administrative terms.

3.2.2 Requirements for self-assessable development

UDA self-assessable development complies with the requirements under the development scheme if it complies with applicable design benchmarks for the development identified in section 3.51.

Under ULDA Act, section 43, UDA self-assessable development must comply with the requirements under the development scheme for carrying out the UDA self-assessable development.

3.2.3 Development consistent with the land use plan

UDA assessable development is consistent with the land use plan if:

- (i) the development complies with all relevant UDA-wide criteria and the relevant zone intent, or
- (ii) the development does not comply with one or more of the UDA-wide criteria or

relevant zone intent but:

- (a) the development does not conflict with the UDA vision, and
- (b) there are sufficient grounds to justify approval the development despite the non-compliance with the UDA-wide criteria and zone intents.

UDA prohibited development is inconsistent with the land use plan. Under ULDA Act, section 56 UDA assessable development that is inconsistent with the land use plan cannot be granted approval.

In this section 'grounds' means matters of public interest, which include the matters specified as the main purposes of the ULDA Act, as well as:

- (i) superior design outcomes, and
- (ii) overwhelming community need.

'Grounds' does not include the personal circumstances of an applicant, owner or interested third party.

3.2.4 Development approval

Identification of development as UDA assessable development does not mean that a UDA development approval (with or without conditions) will be granted.

UDA assessable development requires a UDA development application to be lodged with the ULDA for assessment and decision.

Approval is required before UDA assessable development is undertaken.

3.2.5 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the ULDA Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

3.2.6 Consideration in principle

A request may be made to the ULDA for consideration in principle for proposed development.

In considering the request the ULDA may decide to do one of the following:

- (i) support all or part the proposed development, with or without qualifications that may amend the proposed development
- (ii) oppose all or part of the proposed development,
- (iii) give no indication of either support or opposition to all or part of the proposed development.

The ULDA when considering a UDA development application:

- (i) is not bound by any decision made regarding a request for consideration in principle, and
- (ii) may give such weight as it considers appropriate to the decision on the request for consideration in principle.

3.2.7 Development application

To the extent that the UDA-wide criteria, zone intents and design benchmarks are relevant, they are to be taken into account in the preparation of a UDA development application and the assessment of the application by the ULDA.

The infrastructure plan and implementation strategy may include further information, which should be taken into account in the preparation, design and feasibility of development proposals.

3.2.8 Notification requirements

A UDA development application will require public notification if the development application is for a material change of use for one of the following:

- (i) Non-resident worker accommodation
- (ii) a non-residential use adjacent to land in the Residential Zone or a residential use.

A UDA development application will also require public notification if the development application is for development of a scale or nature which, in the opinion of the ULDA, warrants public notification.

3.2.9 Plan of Development

A Plan of Development (PoD) may accompany an application for a material change of use or reconfiguring a lot and may deal with residential or non-residential uses as well as operational work.

A PoD is prepared by an applicant and may include maps, graphics and text that collectively demonstrate how proposed uses, works and lots will contribute towards the achievement of the vision and will be consistent with the relevant UDA development requirements.

The PoD can not include land beyond the boundary of the land the subject of the application, but may cover only part of the land the subject of the application.

Under Tables 2 - 6 Level of assessment, development approved in accordance with a PoD is exempt development and requires no further development approval under the scheme.

For further advice on preparing a PoD refer to the applicable ULDA Practice Note available on the ULDA website.

3.2.10 Relationship with the Duaringa Shire Planning Scheme

The Blackwater Development Scheme adopts Part 6 of the *Duaringa Shire Planning Scheme 2007* and, to the extent stated, it applies to development in the UDA. However, to the extent of any inconsistency, the development scheme prevails over the planning scheme.

3.2.11 Land not included in a zone

This section applies to land which is not shown in the zoning plan as being included in a zone (unallocated land).

Where the unallocated land is adjoined by land in a zone, the unallocated land is deemed to be included in that zone.

Where the unallocated land is adjoined by land included in different zones, the unallocated land is deemed to be included in those zones with the centreline of the unallocated land being the boundary between the zones.

3.3 UDA-wide criteria

The Blackwater UDA-wide criteria² cover the following topics:

- (i) housing and community
- (ii) centre vitality and employment
- (iii) neighbourhood, infill, lot and block design
- (iv) residential building design
- (v) infrastructure, street design and parking
- (vi) community spaces and facilities
- (vii) public realm
- (viii) environment and sustainability.

3.3.1 Housing and community

The UDA delivers housing choice, affordability, and accessibility.

New housing in the UDA:

- (i) contributes to housing choice and diversity, through a mix of densities, types, designs, tenures and levels of affordability, to cater for a range of lifestyles, incomes and lifecycle needs
- (ii) delivers affordable housing, including housing for key workers not employed in the resources sector, which is designed and located to be well integrated with existing development
- (iii) delivers accessible housing to meet changing needs of residents throughout all life stages

² Design benchmarks support the UDA-wide criteria. See section 3.5.3.

- (iv) contributes to a strong community identity and provides ready access to community facilities and services, and
- (v) is responsive to the climate and the environment and makes a positive contribution to the existing streetscape and complements the existing urban area.

Non-resident worker accommodation in the UDA:

- (i) is located and designed to be integrated within or on the edge of town, and
- (ii) adequately provides for occupants, and has a high level of on-site amenity.

3.3.2 Centre vitality and employment

In the Blackwater Town Centre in Blain Street, the UDA delivers:

- (i) reinforcement and enhancement of the centre as the focus for retail and civic activities, including the following key features³:
 - (c) on the northern frontage of Blain Street, location of retail and civic uses that generate high levels of pedestrian activity
 - (d) on the southern frontage of Blain Street, and to the west, location of a civic park incorporating multi-functional passive and recreation spaces, and to the east, business

³ For potential design options, refer to Blackwater UDA - Open Space and Townscape Strategy (November 2010), Fig. 29.

- (e) enhanced landscaping and on-street parking in Blain Street and vehicle and cycle parking facilities
- (f) linking of the northern and southern sides of Blain Street through shared public spaces and street treatments
- (ii) the opportunity for a mix of housing densities, types and designs in the vicinity of the town centre
- (iii) improved vehicle, cycle and pedestrian linkages between the town centre and areas to the north and east, generally in accordance with Map 2 Blackwater UDA Vision Map.

In other centres the UDA delivers:

- (i) consolidation of the existing business, services and tourist hub at the Capricorn Highway near the Mackenzie and Arthur Street intersections and creation of a stronger link with the Blackwater International Coal Centre
- (ii) consolidation of the existing short-term accommodation and entertainment centre near the intersection of Arthur and Rosewood Streets
- (iii) consolidation of the existing centre for larger-scale business and low-impact industry at Wilga and Littlefield Streets.

Planning and design for centres and individual uses:

- (i) demonstrate best practice and urban

design that seeks to create active frontages to streets and other public places, particularly in the Blackwater Town Centre

- (ii) recognise the economic role of Blackwater as the second centre for the Central Highlands Region
- (iii) reinforce the respective functions of the centres and promote their individual viability as business centres
- (iv) provide adequate amenity and on-site facilities for the operation of the use and the convenience, comfort, safety or enjoyment of users (e.g. car parking, cycle parking, access points, road frontage, site area, recreation and landscaped areas, setback from shared boundaries with incompatible uses, and noise attenuation, including in relation to the Capricorn Highway or railway, through site or building design)
- (v) mitigate impacts on nearby or adjoining sensitive uses or road function, including through:
 - (a) orientation and location of buildings, on-site uses and access points (e.g. boundary setbacks, location of driveways, car parks, service or refuse collection areas) to address impacts on visual or acoustic amenity, or the safety of pedestrians or road users
 - (b) screening of buildings and on-site uses or equipment (e.g. screen structures, planting) to address impacts on visual or acoustic

- amenity, or visual privacy
- (c) height of buildings to address impacts on amenity or privacy through overlooking
- (d) design of buildings (e.g. arrangement of rooms, choice of materials, treatments or features for aesthetic or acoustic qualities) to address impacts on visual or acoustic amenity
- (e) density, scale or intensity of use (e.g. number of dwelling units per hectare, gross floor area, road frontage, lot size) to address impacts on amenity (e.g. from the extent of human or vehicle activity) or the safety and convenience of road users (e.g. from the volume of traffic generated)
- (f) operation of the use (e.g. hours of operation, number of employees, rubbish collection hours) to address impacts on visual or acoustic amenity
- (g) provision of vehicle parking (e.g. number of spaces, types of vehicles accommodated) to address impacts on the convenience or safety of occupants of nearby or adjoining uses, or impacts on visual amenity.

Advertising devices:

- (i) cater for the needs of businesses to clearly identify the goods and services which are supplied to the public
- (ii) are consistent with the scale and design of existing buildings and other works on the site
- (iii) compliment the local streetscape in the locality where they are located, and where appropriate, reflect the character of the area
- (iv) are sited and provided on premises having regard to safety and amenity.

3.3.3 Neighbourhood, infill, block and lot design

New residential uses, works and lots in the UDA are designed to:

- (i) maximise connectivity of new residential areas with adjoining residential areas, and local retail, social and community facilities
- (ii) be responsive to the scale of the built form in existing residential areas, the climate, and site features
- (iii) promote and facilitate walking and cycling including to local parks
- (iv) promote personal safety and security through maximising casual surveillance of streets and public places, incorporating principles for crime prevention through environmental design (CPTED)

- (v) enhance the character and amenity of all areas, particularly residential streets, including minimising the exposure of residents to noise from the Capricorn Highway and the railway line
- (vi) maximise the use of existing infrastructure.

Planning and design in a new neighbourhood:

- (i) give the neighbourhood a strong and positive identity by responding to site characteristics, setting, landmarks and views, and through clearly legible street networks, open space and use of streetscape elements
- (ii) deliver an appropriate scale of buildings and density of use
- (iii) identify any areas appropriate for Multiple residential
- (iv) identify any areas appropriate for Non-resident worker accommodation
- (v) ensure adequate visual and noise amenity through site and building design, structures and planting, including in relation to the Capricorn Highway and the railway line
- (vi) maximise opportunities for views and vistas
- (vii) achieve a balanced mix of lot sizes to provide housing choice and streetscape variety
- (viii) respond to natural features, including topography and natural drainage features

- (ix) promote healthy and active lifestyles by prioritising walking and cycling and connecting to facilities and services
- (x) appropriately manage solar access and provide opportunities to benefit from natural ventilation
- (xi) integrate the neighbourhood with the surrounding area including the siting and form of buildings, streetscape elements, landmarks and views
- (xii) provide a network of parks (refer to Map 2) that cater for a variety of functions and experiences and that are safe and accessible for users
- (xiii) maximise opportunities to provide pedestrian and cycle linkages through residential areas (refer to Map 3)
- (xiv) locate and connect to services and utilities to maximise efficiency and ease of maintenance.

Planning and design for residential infill:

- (i) reflect the local context as well as current best practice for housing diversity and affordability
- (ii) respect and enhance the amenity of neighbouring properties and the streetscape as a whole
- (iii) respond to natural features, including topography and natural drainage features
- (iv) connect to services and utilities to maximise efficiency and ease of maintenance.

Planning and design for Non-resident worker accommodation:

- (i) provide for the selection of a suitable site
- (ii) provide connections to services, facilities and networks in surrounding areas
- (iii) preserve amenity to achieve desirable integration
- (iv) accommodate changing circumstances over time
- (v) cater appropriately for any on-site non-residential uses and facilities
- (vi) provide access to infrastructure and community facilities and services
- (vii) respond to the characteristics of the workers
- (viii) provide for the safety and comfort of occupants.

3.3.4 Building design

Planning and design for buildings:

- (i) meet the needs of residents for privacy and protect the privacy of adjoining residents
- (ii) provide adequate outdoor areas
- (iii) incorporate appropriate building setbacks that account for slope and protect the amenity and privacy of adjoining uses, including the appropriate use of build to boundary walls
- (iv) complement or enhance the character of the local neighbourhood and contribute

to the creation of attractive and safe residential environments

- (v) ensure on-site car parking spaces do not dominate the streetscape, and do not interfere with the efficient functioning of the street
- (vi) have clearly defined front entries, viewable from the street, and contribute towards the passive surveillance of the street
- (vii) incorporate elements which provide diversity in building form and attractive frontages to all streets, the public realm and park network
- (viii) integrate fencing into the building, street and park design
- (ix) provide integrated solutions for energy reduction opportunities such as natural lighting, cross ventilation and passive cooling.

3.3.5 Infrastructure, street design and parking

New use, works and lots involving streets and car parking deliver:

- (i) efficient and effective use of infrastructure and services
- (ii) efficient and safe street networks for all users
- (iii) adequate car parking
- (iv) access to public transport networks.

Infrastructure and services:

- (i) are provided in a timely, orderly, integrated and coordinated manner to support urban uses, works and lots
- (ii) must be available or capable of being made available to support new uses and works (including key infrastructure such as roads, public transport, water supply, sewerage, drainage, park network, community facilities, electricity and telecommunications)
- (iii) are constructed or provided to appropriate standards compatible with existing infrastructure or services owned or provided by the relevant infrastructure entity
- (iv) are located and designed to maximise efficiency and ease of maintenance.

Street network planning and design:

- (i) connect to existing networks while ensuring acceptable levels of amenity and minimising negative impacts of through traffic
- (ii) provide a safe and pleasant environment through lighting, pavement treatment and materials, clear sight lines and landscaping
- (iii) provide movement networks for vehicles, pedestrians and bicycles that have a clear structure, provide a high level of internal accessibility and good external connections with the surrounding area
- (iv) provide for pedestrian and cycle

connections within the town which connect to existing facilities and support movement to key destinations such as shops, schools, parks and community facilities

- (v) support public transport routes and facilities and provides safe, legible and attractive connections from residential areas to public transport nodes or stops
- (vi) do not unreasonably constrain future provision of public transport infrastructure and do not adversely impact on the function or operation of existing or future public transport corridors.

Planning and design of vehicle access and parking ensure:

- (i) safety and convenience for residents, visitors and service providers
- (ii) adequate shade and visual amenity
- (iii) adequate provision for the number and nature of vehicles expected, to avoid impacts on the convenience or safety of occupants of nearby or adjoining uses, or the amenity they enjoy.

3.3.6 Community spaces and facilities

Planning and design of community spaces and facilities:

- (i) consolidate new uses and buildings around existing community uses of a compatible nature and within centres
- (ii) provide adequate amenity and on-site facilities for the operation of the use

- and the convenience, comfort, safety or enjoyment of users (e.g. car and cycle parking, access points, road frontage, site area, recreation and landscaped areas, setback from shared boundaries with incompatible uses, and noise attenuation, including in relation to the Capricorn Highway or railway, through site or building design)
- (iii) mitigate impacts on nearby or adjoining sensitive uses or road function, including through:
- (a) orientation and location of buildings, on-site uses and access points (e.g. boundary setbacks, location of driveways, car parks, service or refuse collection areas) to address impacts on visual or acoustic amenity, or the safety of pedestrians or road users
 - (b) screening of buildings and on-site uses or equipment (e.g. screen structures, planting) to address impacts on visual or acoustic amenity, or visual privacy
 - (c) height of buildings to address impacts on amenity or privacy through overlooking
 - (d) design of buildings (e.g. arrangement of rooms, choice of materials, treatments or features for aesthetic or acoustic qualities) to address impacts on visual or acoustic amenity
 - (e) density, scale or intensity of use (e.g. number of dwelling units

- per hectare, gross floor area, road frontage, lot size) to address impacts on amenity (e.g. from the extent of human or vehicle activity) or the safety and convenience of road users (e.g. from the volume of traffic generated)
- (f) operation of the use (e.g. hours of operation, number of employees, rubbish collection hours) to address impacts on visual or acoustic amenity
 - (g) provision of vehicle parking (e.g. number of spaces, types of vehicles accommodated) to address impacts on the convenience or safety of occupants of nearby or adjoining uses, or impacts on visual amenity.

3.3-7 Public realm

New uses, buildings and other works in the public realm, including civic spaces, parks, plazas, footpaths, urban streets and other shared community spaces, and notably in and around the Blackwater Town Centre and Mackenzie Street/Capricorn Highway business centre, are clearly delineated from, but integrated with, the private realm and comprise:

- (i) extensive use of shade trees along streets and within public and private spaces
- (ii) furniture, materials, public information

- and artwork, including the gateways to the town, that unify these elements and contribute to the identity of Blackwater
- (iii) selection of plants that are endemic to the local area and relevant to both the purpose of the vegetation (e.g. shade, land mark, screening) and the identity of Blackwater
 - (iv) an appropriate climate-based orientation and design, ensuring shade is provided, breezes are captured and optimal use is made of natural light
 - (v) setbacks for the movement of pedestrians and standing areas for public transport stops
 - (vi) if associated with public or commercial buildings, buildings designed at ground level to integrate shopping, dining, and other outdoor activities, integrate with street plantings and provide continuous awnings to provide protection from the rain and sun
 - (vii) opportunities for meeting and gathering, and where appropriate, opportunities for informal and formal play
 - (viii) features that encourage surveillance and overlooking of public spaces and places
 - (ix) adequate parking for vehicles and bicycles.

The planning and design of special purpose parks and open space recognise their identified functions, and new uses, building and other works respect and reinforces those functions:

- (i) Lions Park - tourist facilities and attractions, major community events involving on-site vehicles and equipment
- (ii) Blackwater Town Centre Civic Park - all abilities playground, informal community events involving stage performances, civic enhancements and feature planting
- (iii) Rotary Park - barbeque and other facilities for family and group gatherings
- (iv) Robyn Messer Park - memorial
- (v) ANZAC Cenotaph - memorial
- (vi) Japanese garden - town garden being a symbol of goodwill with Japanese sister city, Fujisawa
- (vii) Hunter Street Sports Complex - facilities for a wide range of sporting activities
- (viii) Blackwater Country Club - golf course
- (ix) North east of the town centre - stormwater drainage
- (x) Northern side of the Capricorn Highway east of Arthur Street - screening of urban uses, buildings and other works.

The planning and design of local parks:

- (i) follow a common, function-based approach involving a central informal play area and facilities for one or more activities according to an appropriate distribution throughout the town, including play equipment, barbeques, off-leash dog areas, seating and fitness equipment
- (ii) provide for linkages with other parks, through roads and other public spaces,

to form circuits for fitness purposes, walking and cycling.

3.3.8 Environment and sustainability

New uses, works and lots within the UDA deliver:

- (i) minimal emissions to land, water and atmosphere
- (ii) efficient use of land and resources
- (iii) protection of amenity, ecological values and natural systems.

The design, siting and layout of uses, works and lots:

- (i) minimise adverse impact on the environmental values of the receiving waters and appropriately manages stormwater
- (ii) minimise adverse impacts on natural landforms and visual amenity of the site
- (iii) retain significant vegetation where possible within parks, along streets and within development sites
- (iv) ensure that all land and groundwater will be fit for its intended use in accordance with accepted standards and practices
- (v) incorporate leading energy efficiency⁴ and water efficiency practices,

⁴ For Class 1 and Class 2 buildings (as defined in the Building Code of Australia 2009) the Queensland Development Code MP 4.1 Sustainable buildings outlines minimum requirements in terms of energy efficiency and efficient fixtures for water conservation.

maximises recycling opportunities and reduces waste generation

- (vi) promote the adoption of decentralised energy generation systems and natural ventilation to reduce energy use
- (vii) incorporate landscaping that contributes to flora and fauna habitat and fauna movement, with street trees selected from species native and/or endemic to the Blackwater UDA
- (viii) will achieve an appropriate level of flood immunity⁵.

Erosion and sediment are appropriately managed during construction and adverse impacts on amenity are minimised.

3.4 Zone provisions

3.4.1 Zoning Plan

Map 3: Blackwater UDA Zoning Plan shows the location and boundaries of zones in the UDA.

⁵ The Queensland Floods Commission of Inquiry is investigating the January 2011 flood disaster, including a review of existing provisions relating to flooding and flood risk mitigation. Consequently the provisions of this development scheme with respect to the management of flooding and flood risk mitigation may be subject to change at the direction of the Queensland Government in the near future. This should be taken into account by applicants and assessment managers when considering development in this UDA. Applicants are advised to make relevant enquiries regarding the status of the provisions relating to flooding to the time of lodgement.

3.4.2 Zone intents

Residential Zone intent

The Residential Zone caters for a range of residential types, including all residential uses defined in the development scheme.

In particular, the zone provides for detached and attached dwellings in a range of styles and sizes, from traditional houses on 800m² to small lot houses, duplexes and multiple residential housing.

Larger-scale Non-resident worker accommodation is only appropriate in the part of the Residential Zone designated for this purpose to the east of Arthur Street⁶.

Housing for the aged, defined as 'Other residential', is encouraged to locate in the vicinity of the Blackwater Hospital and town centre.

Non-residential uses are generally not located in the Residential Zone, unless a Park or a Community Facility that is of a scale, nature and appearance that is compatible with the residential amenity of the area.

Secondary dwellings are encouraged on suitable lots in conjunction with a primary dwelling⁷.

Map 3: Blackwater UDA Zoning Plan, identifies indicative locations in the

⁶ Refer to Schedule 2, Administrative definitions for the definition of Larger-scale Non-resident worker accommodation

⁷ See the definition of House in schedule 1 and design benchmarks for a House in section 3.5.

Residential Zone for parks, pedestrian and cycle links and secondary roads to be provided as lots are created and uses established.

Centres Zone intent

The Centres Zone caters for different types of business centres, each with a different focus of activity:

- (i) Blackwater Town Centre, Blain Street - retail and community activities. This is the primary business and community centre for Blackwater
- (ii) Capricorn Highway near the Mackenzie and Arthur Streets intersections - local businesses, community services and tourist uses linking through Lion's Park with the Blackwater International Coal Centre
- (iii) near the intersection of Arthur and Rosewood Streets - motel, dining and entertainment.

Shop-top forms of residential use are also appropriate in each centre.

Also, at the eastern end of the Capricorn Highway centre, Multi-residential and short-term accommodation are appropriate uses close to the Residential zone near the intersection with Doon Street and fronting Schonta Street.

Table 1 identifies the preferred Business uses in each of the three areas included in the Centres Zone.

Industry Zone intent

The Industry Zone caters for Low impact industries and Warehouses, as well as Business uses requiring a larger site, such as Garden centre, Hardware and trade supplies, Outdoor sales and hire yard, and Produce store.

Community Zone intent

The Community Zone caters for a variety of community-related activities and facilities, including municipal services, schools and child care centres, hospitals, meeting halls, and places of worship (included within the definitions of Child care centre, Educational establishment, Community facility, Emergency service, Place of assembly and Utility installation).

Shared use of community facilities is encouraged.

Open Space Zone intent

The Open Space Zone caters for a range of publicly accessible open space, sporting, outdoor recreation, civic and tourist spaces, as well as vegetation screens, land allocated for stormwater drainage and other special purposes.

Depending on the function of the open space, buildings and structures may include picnic amenities, children's playgrounds, fitness equipment, dog off-leash areas, facilities for spectators, club buildings and associated off-street parking.

The area west of Mackenzie Street and north of the golf course is a potential long term development area. It is intended that this

area remain predominately as open space until further investigation is completed, including assessment of land use need, buffering to industrial uses, water and sewerage capacity, flooding, stormwater and land contamination. However, subject to appropriate investigations, a Tourist Park may be appropriate in this area in the shorter term.

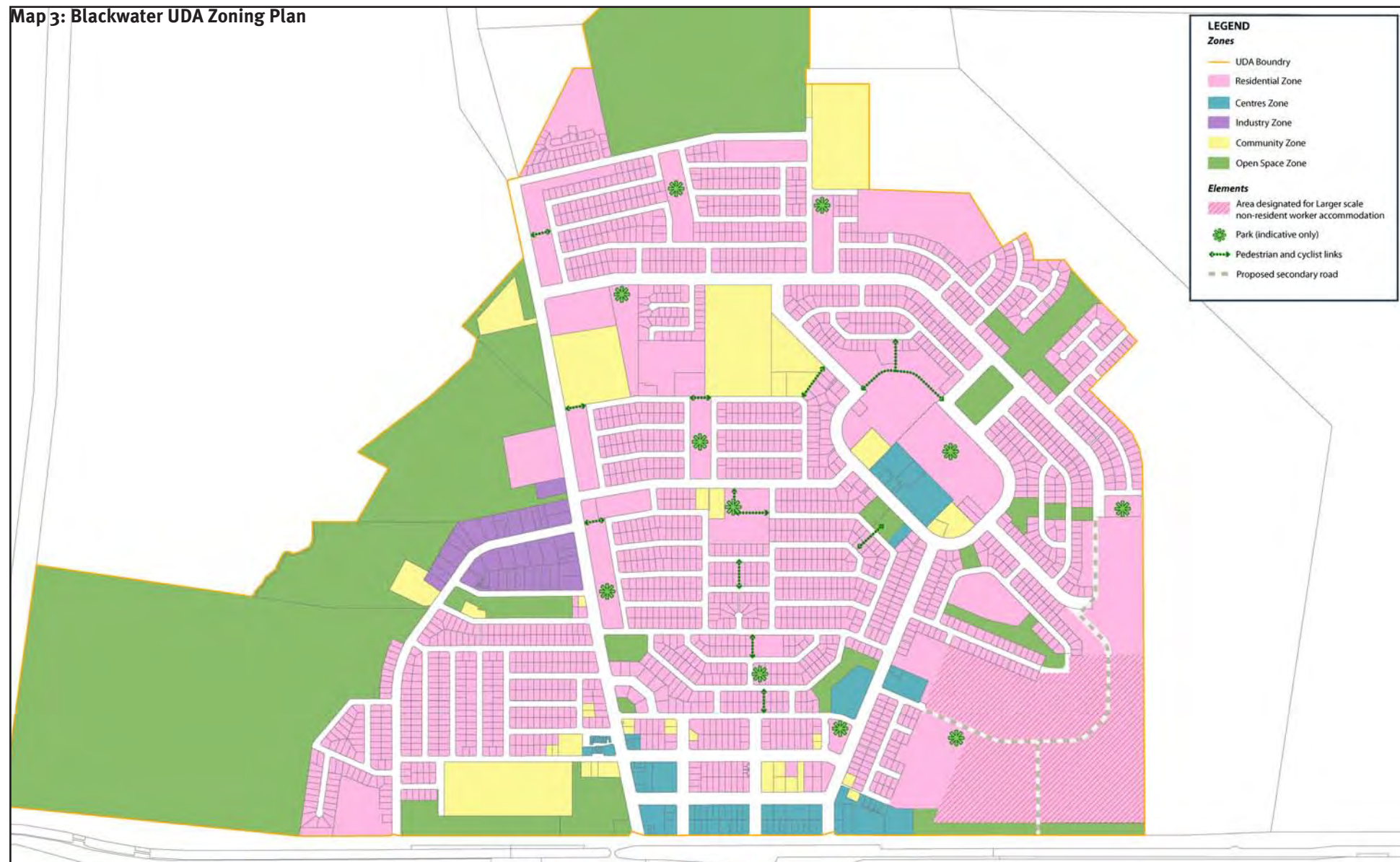
The area west of the hotel in Arthur Street is also a potential long term development area in conjunction with the business centre.

Part of the Open Space zone adjacent to the child care centre in Evans Street may be used for expansion of the child care centre but an area of open space must be retained around the centre having a minimum width of 20 metres.

Table 1: Preferred Business uses in Centres

Uses	Centres		
	Blackwater Town Centre	Capricorn Highway in the vicinity of Mackenzie and Arthur Streets	Near the intersection of Arthur and Rosewood Streets
Business	✓	✓	x
Food premises	✓	✓	✓ If there is no drive through facility
Garden centre	x	x	x
Hardware and trade supplies	x	x	x
Hotel	x	x	✓
Market	✓	✓	x
Outdoor sales and hire yard	x	x	x
Produce store	x	x	x
Service station	✓	✓	x
Shop	✓	✓	✓
Shopping centre	✓	x	x
Showroom	x	✓	x
Short-term accommodation	x	✓	✓
Tourist attraction	✓	✓	x
Tourist park	x	✓	x

Map 3: Blackwater UDA Zoning Plan



3.4.3 Level of assessment table

Table 2: Residential Zone

Column 1 UDA exempt development	Column 2 UDA self-assessable development ⁸	Column 3 – UDA assessable development	
		Column 3A Permissible development	Column 3B Prohibited development
1. An environmentally relevant activity if: <ul style="list-style-type: none"> (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i>, and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: <ul style="list-style-type: none"> (i) development specified in schedule 1, (ii) development for the following: <ul style="list-style-type: none"> (a) Home based business (b) Other residential if not involving building work (other than minor building work) (c) Park (d) Sales office and display home (iii) making a material change of use of premises if in accordance with an approved Plan of Development⁸, or 	1. If the land is not on the Environmental Management Register or Contaminated Land Register ⁹ : <ul style="list-style-type: none"> (i) development for a House if the following apply: <ul style="list-style-type: none"> (a) the lot is 450m² or more (b) the lot frontage is 12.5m or more (c) the House includes a secondary dwelling, or (ii) development for a House if: <ul style="list-style-type: none"> (a) the lot is less than 450m² but more than 400m², and (b) the lot frontage is 10m or more, or 	1. Reconfiguring a lot that is not mentioned in schedule 1. 2. Making a material change of use of premises if: <ul style="list-style-type: none"> (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2 or 3B. 3. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B.	Development for: <ul style="list-style-type: none"> (i) Adult store if located within the specified separation distance from a sensitive use¹⁰ (ii) Brothel¹¹ (iii) High impact industry (iv) Low impact industry, or (v) Noxious and hazardous industry.

(Table 2 continued on next page)

⁸ See section 3.2.1 and ULDA Act, section 56 about UDA self-assessable development, requirements for self-assessable development and compliance with those requirements.

⁹ The applicable design benchmarks for a self-assessable House are located in section 3.5.

¹⁰ See definitions of 'specified separation distance' and 'sensitive use' in the Administrative definitions in schedule 2.

¹¹ Prohibition subject to agreement of the Minister.

Table 2: Residential Zone - continued

Column 1 UDA exempt development	Column 2 UDA self-assessable development ¹⁴	Column 3 – UDA assessable development	
		Column 3A Permissible development	Column 3B Prohibited development
(iv) carrying out operational work or building if in accordance with a Plan of Development ¹² , or (v) development for a House if all of the following apply: (a) on a lot 450m ² or more (b) a frontage of 12.5m or more (c) the House does not include a secondary dwelling (d) the development complies with the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP 1.2 - Design and siting standard for single detached housing- on lots 450m ² and over ¹³ .	(iii) making a material change of use of premises that is the expansion of the following uses, if for an existing lawful use and the expansion is less than the 10% of the existing total floor area: (a) Cemetery (b) Crematorium (c) Child care centre (d) Community facility (e) Educational establishment (f) Emergency service, (g) Other residential if caring for children, or (h) Place of assembly.		

¹² See section 3.1.10 about Plans of Development.

¹³ The development scheme identifies compliance with certain provisions of the QDC as a criterion for development for a House to be exempt development despite the statement in QDC MP1.2 that it does not apply to development in an urban development area.

¹⁴ See section 3.2.1 and ULDA Act, section 56 about UDA self-assessable development, requirements for self-assessable development and compliance with those requirements.

Table 3: Centres Zone

Column 1 UDA exempt development	Column 2 UDA self-assessable development ¹⁶	Column 3 – UDA assessable development	
		Column 3A Permissible development	Column 3B Prohibited development
<ol style="list-style-type: none"> An environmentally relevant activity if: <ol style="list-style-type: none"> a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i>, and the activity complies with that code. If the land is not on the Environmental Management Register or Contaminated Land Register: <ol style="list-style-type: none"> development specified in schedule 1, development for the following: <ol style="list-style-type: none"> Home based business Park making a material change of use of premises if in accordance with an approved Plan of Development¹⁵, or carrying out operational work or building if in accordance with a Plan of Development¹⁵. 	<ol style="list-style-type: none"> If the land is not on the Environmental Management Register or Contaminated Land Register¹⁷: <ol style="list-style-type: none"> making a material change of use for the following, except if mentioned in column 1 or column 3B: <ol style="list-style-type: none"> Adult store if located outside the specified distance from a sensitive use Business if the total use area is less than 500m² Food premises if the total use area is less than 200m² and there is no drive through facility, or Shop if the total use area is less than 500m², or 	<ol style="list-style-type: none"> Reconfiguring a lot that is not mentioned in schedule 1. Making a material change of use of premises if: <ol style="list-style-type: none"> the use is not defined in schedule 2, or the change of use is not mentioned in columns 1, 2 or 3B. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B. 	<ol style="list-style-type: none"> Development for: <ol style="list-style-type: none"> Adult store if located within the specified distance from a sensitive use¹⁸ Brothel¹⁹ High impact industry Low impact industry, or Noxious and hazardous industry.

(Table 3 continued on next page)

¹⁵ See section 3.1.10 about Plans of Development.¹⁶ See section 3.2.1 and ULDA Act, section 56 about UDA self-assessable development, requirements for self-assessable development and compliance with those requirements.¹⁷ The applicable design benchmarks for a self-assessable House are located in section 3.5.¹⁸ See definitions of 'specified separation distance' and 'sensitive use' in the Administrative definitions in schedule 2.¹⁹ Prohibition subject to agreement of the Minister.

Table 3: Centres Zone - continued

Column 1 UDA exempt development	Column 2 UDA self-assessable development ²⁰	Column 3 – UDA assessable development	
		Column 3A Permissible development	Column 3B Prohibited development
	(ii) a material change of use of premises that is the expansion of the following uses, if for an existing lawful use and the expansion is less than the 10% of the existing total floor area: (a) Cemetery (b) Child care centre (c) Crematorium (d) Community facility (e) Educational establishment (f) Emergency service (g) Other residential if caring for children, or (h) Place of assembly.		

²⁰ See section 3.2.1 and ULDA Act, section 56 about UDA self-assessable development, requirements for self-assessable development and compliance with those requirements.

Table 4: Industry Zone

Column 1 UDA exempt development	Column 2 UDA self-assessable development ²²	Column 3 – UDA assessable development	
		Column 3A Permissible development	Column 3B Prohibited development
<ol style="list-style-type: none"> An environmentally relevant activity if: <ol style="list-style-type: none"> a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i>, and the activity complies with that code. If the land is not on the Environmental Management Register or Contaminated Land Register: <ol style="list-style-type: none"> development specified in schedule 1, development for the following: <ol style="list-style-type: none"> Home based business Park making a material change of use of premises if in accordance with an approved Plan of Development²¹, or Carrying out operational work or building if in accordance with a Plan of Development²¹. 	<ol style="list-style-type: none"> If the land is not on the Environmental Management Register or Contaminated Land Register²³: <ol style="list-style-type: none"> making a material change of use for Low impact industry, except if mentioned in column 1 or column 3B, or making a material change of use for an Adult store if located outside the specified separation distance from a sensitive use. making a material change of use of premises that is the expansion of the following uses, if for an existing lawful use and the expansion is less than the 10% of the existing total floor area: <ol style="list-style-type: none"> Cemetery Child care centre Community facility Crematorium Educational establishment Emergency service Other residential if caring for children, or Place of Assembly. 	<ol style="list-style-type: none"> Reconfiguring a lot that is not mentioned in schedule 1. Making a material change of use of premises if: <ol style="list-style-type: none"> the use is not defined in schedule 2, or the change of use is not mentioned in columns 1, 2 or 3B. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B. 	<ol style="list-style-type: none"> Development for: <ol style="list-style-type: none"> Adult store if located within the specified separation distance from a sensitive use²⁵ Brothel²⁶ High impact industry, or Noxious and hazardous industry.

²¹ See section 3.1.10 about Plans of Development.

²² See section 3.2.1 and ULDA Act, section 56 about UDA self-assessable development, requirements for self-assessable development and compliance with those requirements.

²³ The applicable design benchmarks for a self-assessable House are located in section 3.5.

²⁴ See definitions of 'specified separation distance' and 'sensitive use' in the Administrative definitions in schedule 2.

²⁵ Prohibition subject to agreement of the Minister.

Table 5: Community Zone

Column 1 UDA exempt development	Column 2 UDA self-assessable development ²⁷	Column 3 – UDA assessable development	
		Column 3A Permissible development	Column 3B Prohibited development
<ol style="list-style-type: none"> An environmentally relevant activity if: <ol style="list-style-type: none"> a code of environmental compliance has been made for that activity under the Environmental Protection Regulation 2008, and the activity complies with that code. If the land is not on the Environmental Management Register or Contaminated Land Register: <ol style="list-style-type: none"> development specified in schedule 1, development for the following: <ol style="list-style-type: none"> Home based business Park making a material change of use of premises if in accordance with an approved Plan of Development²⁶, or carrying out operational work or building if in accordance with a Plan of Development²⁶. 	<ol style="list-style-type: none"> If the land is not on the Environmental Management Register or Contaminated Land Register²⁸: <ol style="list-style-type: none"> making a material change of use for the following, except if mentioned in column 1 or column 3B: <ol style="list-style-type: none"> Community facility Emergency service, or Place of assembly, or a material change of use of premises that is the expansion of the following uses, if for an existing lawful use and the expansion is less than the 10% of the existing total floor area: <ol style="list-style-type: none"> Cemetery Child care centre Crematorium Educational establishment Other residential if caring for children. 	<ol style="list-style-type: none"> Reconfiguring a lot that is not mentioned in schedule 1. Making a material change of use of premises if: <ol style="list-style-type: none"> the use is not defined in schedule 2, or the change of use is not mentioned in columns 1, 2 or 3B. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B. 	<ol style="list-style-type: none"> Development for: <ol style="list-style-type: none"> Adult store if located within the specified separation distance from a sensitive use²⁹ Brothel³⁰ High impact industry Low impact industry, or Noxious and hazardous industry.

²⁶ See section 3.1.10 about Plans of Development.

²⁷ See section 3.2.1 and ULDA Act, section 56 about UDA self-assessable development, requirements for self-assessable development and compliance with those requirements.

²⁸ The applicable design benchmarks for a self-assessable House are located in section 3.5.

²⁹ See definitions of 'specified separation distance' and 'sensitive use' in the Administrative definitions in schedule 2.

³⁰ Prohibition subject to agreement of the Minister.

Table 6: Open Space Zone

Column 1 UDA exempt development	Column 2 UDA self-assessable development ³²	Column 3 – UDA assessable development	
		Column 3A Permissible development	Column 3B Prohibited development
<ol style="list-style-type: none"> An environmentally relevant activity if: <ol style="list-style-type: none"> a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i>, and the activity complies with that code. If the land is not on the Environmental Management Register or Contaminated Land Register: <ol style="list-style-type: none"> development specified in schedule 1, development for the following: <ol style="list-style-type: none"> Home based business Park making a material change of use of premises if in accordance with an approved Plan of Development³¹, or Carrying out operational work or building if in accordance with a Plan of Development³¹. 	<ol style="list-style-type: none"> If the land is not on the Environmental Management Register or Contaminated Land Register³³: <ol style="list-style-type: none"> making a material change of use of premises that is the expansion of the following uses, if for an existing lawful use and the expansion is less than the 10% of the existing total floor area: <ol style="list-style-type: none"> Cemetery Child care centre Community facility Crematorium Educational establishment, or Emergency service Other residential if caring for children, or Place of assembly. 	<ol style="list-style-type: none"> Reconfiguring a lot that is not mentioned in schedule 1. Making a material change of use of premises if: <ol style="list-style-type: none"> the use is not defined in schedule 2, or the change of use is not mentioned in columns 1, 2 or 3B. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B. 	<p>Development for:</p> <ol style="list-style-type: none"> Adult store if located within the specified separation distance from a sensitive use³⁴ Brothel³⁵ Extractive industry High impact industry Low impact industry, or Noxious and hazardous industry.

³¹ See section 3.1.10 about Plans of Development.

³² See section 3.2.1 and ULDA Act, section 56 about UDA self-assessable development, requirements for self-assessable development and compliance with those requirements.

³³ The applicable design benchmarks for a self-assessable House are located in section 3.5.

³⁴ See definitions of 'specified separation distance' and 'sensitive use' in the Administrative definitions in schedule 2.

³⁵ Prohibition subject to agreement of the Minister.

3.5 Design benchmarks

3.5.1 Design benchmarks for self-assessable development for a House

The applicable design benchmarks for self-assessable development identified in Table 2: Residential Zone (3.2.3 Level of assessment table) are stated in:

- (i) Table 7 for development for a House if the following apply:
 - (a) the lot is 450 m² or more
 - (b) the lot frontage is 12.5m or more
 - (c) the House includes a secondary dwelling, and
- (ii) Table 7 for development for a House if:
 - (a) the lot is less than 450 m² but more than 400m² and
 - (b) the lot frontage is 10m or more.

3.5.2 Design benchmarks for other self-assessable development

The acceptable solutions in the Town Zone Code, the Development Standards Code and the Commercial Development Code are the applicable design benchmarks for a material change of use for the following, identified as self-assessable development in Table 3: Centres Zone (3.2.3 Level of assessment table):

- (i) Business
- (ii) Cemetery
- (iii) Child care centre

- (iv) Crematorium
- (v) Community facility
- (vi) Educational establishment
- (vii) Emergency service
- (viii) Fast Food Premises
- (ix) Food Premises
- (x) Other residential
- (xi) Place of Assembly
- (xii) Shop.

The applicable design benchmarks for a material change of use for Low impact industry, identified as self-assessable development in Table 4 Industry Zone (3.2.3 Level of assessment table), are the following:

- (i) the applicable solutions in the Town Zone Code and the Development Standards Code
- (ii) the use operates only Monday to Saturday between the hours of 6am and 6pm
- (iii) the industry is one of the following:
 - (a) dry cleaning
 - (b) laundry
 - (c) self storage shed, or
 - (d) a use listed in Table 8
- (iv) for Groups 226, 231, 232, 233 and 274 in Table 8, the use is not an environmentally relevant activity under the *Environmental Protection Act 1994*
- (v) for Groups 411, 412, 421, 422, 423, 424 and 425 in Table 9, the use of the

premises is for the purposes of a yard or depot

- (vi) for Groups 281, 285 and 286 in Table 8, the total use area is not more than 100m².

The acceptable solutions in the Town Zone Code and the Development Standards Code are the applicable design benchmarks for a material change of use for the following, identified as self-assessable development in Table 4 Industry Zone (3.2.3 Level of assessment table) are the following:

- (i) Cemetery
- (ii) Child care centre , or
- (iii) Community facility
- (iv) Crematorium
- (v) Educational establishment.
- (vi) Emergency service
- (vii) Other residential
- (viii) Place of assembly.

The acceptable solutions in the Town Zone Code and the Development Standards Code are the applicable design benchmarks for a material change of use for the following, identified as self-assessable development in Table 5: Community Zone (3.2.3 Level of assessment table):

- (i) Cemetery
- (ii) Child care centre , or
- (iii) Community facility
- (iv) Crematorium
- (v) Educational establishment.

- (vi) Emergency service
- (vii) Other residential
- (viii) Place of assembly.

The acceptable solutions in the Town Zone Code and the Development Standards Code are the applicable design benchmarks for a material change of use for the following, identified as self-assessable development in Table 6: Open space Zone (3.2.3 Level of assessment table):

- (i) Cemetery
- (ii) Child care centre
- (iii) Crematorium
- (iv) Community facility
- (v) Educational establishment
- (vi) Emergency services
- (vii) Other residential
- (viii) Place of assembly.

3.5.3 Design benchmarks for assessable development

The applicable design benchmarks for development are the relevant ULDA guidelines that provide guidance on how to achieve the UDA-wide criteria.

Table 7: Design benchmarks for a self-assessable House

Element	Design benchmark
For the single dwelling on the lot, or for the primary dwelling if House includes a secondary dwelling	
Design and siting of buildings and structures	<p>if a lot is less than 450m² - acceptable solutions in Element 1 of the Queensland Development Code (QDC), <i>MP 1.1 - Design and siting standard for single detached housing - on lots under 450m²</i></p> <p>if a lot is 450m² or more - the acceptable solutions in Element 1 of the QDC, <i>MP 1.2 - Design and siting standard for single detached housing - on lots 450m² or over</i></p>
Outdoor living space	minimum 16m ² with a minimum dimension of 4m and directly accessible from a main living area
Car parking	minimum one covered space 5m x 3m
Driveway	minimum 3.0m wide
Front entry	dedicated pedestrian entry and door visible from and addressing the street, not screened
Street surveillance	minimum of 1 habitable room fronting the street with large windows or balconies facing the street
Fencing (street front)	maximum 1.2m high
Fencing (other)	up to 1.8m high. Minimum 50% transparency over 1.2m in height
Verandahs	minimum 50% building frontage, not screened or enclosed
Planting	minimum 1m x 2m planted area between front boundary and dwelling
Building articulation	minimum 0.5m wall articulation every 10m plus roof overhangs (eaves) and at least one of the following: a verandah, window hoods / screens, or awnings and shade structures.
For the secondary dwelling if House includes a secondary dwelling	
Minimum site area	400m ²
Floor area of secondary dwelling	minimum 60m ² to maximum 75m ²

Element	Design benchmark
For the secondary dwelling if House includes a secondary dwelling (continued)	
Design and siting of buildings and structures	<p>if a lot is less than 450m² - acceptable solutions in Element 1 of the Queensland Development Code (QDC), <i>MP 1.1 - Design and siting standard for single detached housing - on lots under 450m²</i></p> <p>if a lot is 450m² or more - the acceptable solutions in Element 1 of the QDC, <i>MP 1.2 - Design and siting standard for single detached housing - on lots 450m² or over</i></p> <p>except if on a corner lot, in which case the setback from the secondary road is the same as the setback of the primary dwelling from that road</p>
Outdoor living space	minimum 16m ² with a minimum dimension of 4m and directly accessible from a main living area if the lot is on a corner - not located within the setback from the side boundary
Car parking	minimum one covered space 5m x 3m
Driveway	shared minimum 3.0m wide driveway with the primary house. However, if the lot is on a corner a separate driveway may be provided with a minimum 3.0m width.
Front entry	if the lot is on a corner - dedicated pedestrian entry and door visible from and addressing the secondary street
Street surveillance	if the lot is on a corner - minimum of 1 habitable room fronting the secondary street
Fencing (street front)	if the lot is on a corner - maximum 1.2m high on secondary street frontage
Fencing (other)	up to 1.8m high. Minimum 50% transparency over 1.2m in height
Verandahs	if the lot is on a corner - minimum 50% of building frontage not screened or enclosed
Planting	if the lot is on a corner - minimum 1m x 2m planted area between the secondary street boundary and dwelling
Building articulation	minimum 0.5m wall articulation every 10m plus roof overhangs (eaves) and at least one of the following: a verandah, window hoods / screens, or awnings and shade structures.

Table 8: Low impact industries from the Australian and New Zealand Standard Industrial Classification

Group	Class	Description
213		Fruit and Vegetable Processing
216		Bakery Product Manufacturing
223		Knitting Mills
224		Clothing Manufacturing
225		Footwear Manufacturing
226		Leather and Leather Product Manufacturing
231		Log Sawmilling and Timber Dressing
232		Other Wood Product Manufacturing
233		Paper and Paper Product Manufacturing
241		Printing and Services to Printing
242		Publishing
243		Recorded Media Manufacturing and Publishing
274		Structural Metal Product Manufacturing
281		Motor Vehicle and Part Manufacturing
283		Photographic and Scientific Equipment Manufacturing
284		Electronic Equipment Manufacturing
285		Electrical Equipment and Appliance Manufacturing
286		Industrial Machinery and Equipment Manufacturing
292		Furniture Manufacturing
294		Other Manufacturing
411		Building Construction
412		Non-Building Construction
421		Site Preparation Services
422		Building Structure Services
423		Installation Trade Services
424		Building Completion Services
425		Other Construction Services
526		Household Equipment Repair Services

Group	Class	Description
	5322	Automotive Electrical Services
	5329	Automotive Repair and Services

4.0 Infrastructure Plan

Infrastructure requirements to achieve the vision for the UDA will be determined through the development assessment process, imposed as conditions of a UDA development approval for development and delivered as part of the building and operational works on the site.

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the ULDA Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

Infrastructure will include:

- » Parks
- » Townscape elements
- » Roads
- » Pedestrian/cycle networks
- » Water supply and sewerage
- » Stormwater management
- » Telecommunications
- » Power
- » Community facilities

Infrastructure charges will be based on Central Highlands Regional Council's applicable infrastructure charging document for the area, unless the ULDA has prepared a replacement infrastructure charges schedule under section 97 of the ULDA Act. These charges will be indexed each year by the five year rolling average of the Queensland Roads and Bridges Index.

The ULDA may also impose infrastructure charges, or a special rate or charge under section 101 of the ULDA Act, to contribute to implementation of the Blackwater UDA Open Space and Townscape Strategy or the Blackwater UDA Social, Cultural and Community Infrastructure Strategy.

Infrastructure delivered as part of the development may be credited against the monetary contribution that would otherwise apply.

State infrastructure funding will be sought under the normal budgetary processes and will be part of an approved State agency capital program.

State controlled roads will be upgraded in accordance with agreements with the Department of Transport and Main Roads.

Listed below is infrastructure currently identified for the Blackwater UDA.

Infrastructure	Description of works
Parks and townscape elements	Generally in accordance with the proposed implementation and staging plan in the Blackwater UDA Open Space and Townscape Strategy Report, November 2010
Roads	New linking roads through the Eastern Growth Area connecting Rosewood Street, Walsh Avenue and Bauman Way (refer Map 2)
	New intersection on Capricorn Highway to service the Eastern Growth Area
	Changes to Capricorn Highway intersections at Columba and Bluff Streets to provide for only left in and left out turns to and from the highway
	Upgrading of railway crossing linking Ardurad Road with the Capricorn Highway
	New roads to service new residential neighbourhoods
Water supply and sewerage	Water and sewerage works for development that connects to existing networks
Stormwater management	New works linking with external stormwater management works
Community facilities	Works as agreed by the relevant provider, and generally in accordance with the Blackwater UDA Social, Cultural and Community Infrastructure Strategy to be completed in 2011

5.0 Implementation Strategy

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the vision for the UDA.

The table below identifies each of the implementation mechanisms and the purpose of the ULDA Act that each is seeking to achieve.

Implementation mechanisms	Relevant purpose of the ULDA Act
Preparing a UDA development application	
1. ULDA guideline no. 01 <i>Residential 30</i>	» Provision of a range of housing options to address diverse community need » Provision of an ongoing availability of affordable housing options for low to moderate income households » Planning principles that give effect to ecological sustainability and best practice urban design
2. ULDA guideline no. 02 <i>Accessible housing</i>	
3. Draft ULDA guideline no. 03 <i>Non-resident worker accommodation</i>	
4. Draft ULDA guideline no. 04 <i>Design benchmarks for residential infill for the Blackwater UDA</i>	
5. Draft ULDA guideline no. 014 <i>Environment and natural resources sustainability</i>	
6. Draft ULDA guideline no. 15 <i>Flood protection</i>	
Development assessment process	
7. Development Assessment Supplementary Guide	» Availability of land for urban purposes
8. Development Assessment Certification Procedures Manual	
Provision of infrastructure	
9. Identifying third party funding opportunities	» Provision of infrastructure for urban purposes
10. Liaising with Central Highlands Regional Council and the Department of Transport and Main Roads on the outcomes of the traffic analysis for the eastern growth area to consider: (i) staging of future development accessing the proposed new intersection on the Capricorn Highway (ii) preferred options for the new and existing highway intersections following further detailed intersection analysis (iii) required works for each intersection and a charging schedule for contributions for the works	
11. Liaising with Central Highlands Regional Council and the Department of Transport and Main Roads on principle cycle network links in Blackwater to agree on proposed works and determine implementation priorities.	

Implementation mechanisms	Relevant purpose of the ULDA Act
Townscape enhancement strategy	
12. Identifying third party funding opportunities	» Planning principles that give effect to ecological sustainability and best practice urban design » Provision of a range of housing options to address diverse community need
13. Working with Central Highlands Regional Council, state and federal agencies and community organisations to implement the townscape enhancement strategy generally in accordance with proposals in the Blackwater UDA Open Space and Townscape Strategy Report, November 2010	
Facilitation of ongoing availability of affordable housing	
14. Developing mechanisms that assist in the retention of affordable housing, including housing for key workers not employed in the resources sector, in consultation with Central Highlands Regional Council	» Planning principles that give effect to ecological sustainability and best practice urban design » Provision of an ongoing availability of affordable housing options for low to moderate income households
15. Working with Central Highlands Regional Council, the resources sector and community organisations to facilitate partnership opportunities for the provision of rental accommodation for key workers outside the resources sector.	
16. Monitoring the delivery of affordable and accessible housing.	
17. Encouraging ecological design principles that lead to reduced costs for use of utilities.	
Social, cultural and community infrastructure strategy	
18. Facilitating the development of a Blackwater UDA Social, Cultural and Community Infrastructure Strategy (based on an assessment of existing provision, current and future demand for facilities and services in response to population growth)	» Planning principles that give effect to ecological sustainability and best practice urban design » Provision of infrastructure for urban purposes
19. Working with land owners, Central Highlands Regional Council, state and federal government agencies, industry and community organizations, as required, to facilitate the provision of facilities and services identified in the Blackwater UDA.	
20. Monitoring the delivery of community infrastructure	

Implementation mechanisms	Relevant purpose of the ULDA Act
Facilitation of funding of infrastructure and townscape enhancement strategy	
21. Investigating the establishment of an infrastructure charges schedule, and/or a special rate or charge, to contribute to implementation of the Blackwater UDA Open Space and Townscape Strategy, and provision of infrastructure, including implementation of the Blackwater UDA Social, Cultural and Community Infrastructure Strategy.	<ul style="list-style-type: none">» Planning principles that give effect to ecological sustainability and best practice urban design» Provision of infrastructure for urban purposes
Facilitation of release of residential land	
22. Working with the Department of Environment and Resource Management (DERM) to address Native Title matters and revoke reserves over land identified as excess open space in the Blackwater UDA Open Space and Townscape Strategy Report, November 2010, to make land available for residential purposes	<ul style="list-style-type: none">» Availability of land for urban purposes» Planning principles that give effect to ecological sustainability and best practice urban design» Provision of a range of housing options to address diverse community need
Community engagement	
23. Providing ongoing information to the community (e.g. factsheets, newsletters, letterbox drops, newspaper articles)	<ul style="list-style-type: none">» Planning principles that give effect to ecological sustainability and best practice urban design» Provision of a range of housing options to address diverse community need
24. Engaging the community in planning and design projects	
25. Working with Central Highlands Regional Council, state and federal government agencies and community organisations to deliver a coordinated employment and training program in Blackwater	
Key stakeholder consultation	
26. Working with Central Highlands Regional Council and state and federal agencies to identify and resolve issues	<ul style="list-style-type: none">» Availability of land for urban purposes» Provision of a range of housing options to address diverse community need» Planning principles that give effect to ecological sustainability and best practice urban design» Provision of an ongoing availability of affordable housing options for low to moderate income households
27. Working with the development industry to identify opportunities for collaboration and innovation to achieve superior planning and design outcomes	

Schedule 1: Exempt development

Development exempt under SPA
1. Development prescribed in schedule 4 of the <i>Sustainable Planning Regulation 2009</i> , other than: <ul style="list-style-type: none"> (i) item 2, table 2 (Development for particular class 1 building or class 10 building or structure), and (ii) item 14, table 14 (Urban development areas).
Building work
2. Carrying out building work associated with a material change of use that is: <ul style="list-style-type: none"> (i) UDA exempt or (ii) UDA self assessable development if the building work is consistent with the applicable self-assessable development requirements.
3. Carrying out building work associated with an approved material change of use.
4. Minor building work or demolition work except if the building is identified on the Queensland heritage register or local heritage register.
Material change of use of premises
5. This part of schedule not used.
Reconfiguring a lot
6. Subdivision involving road widening and truncations required as a condition of development approval.
Operational work
7. Carrying out operational work associated with a material change of use that is UDA exempt development.
8. Carrying out operational work associated with the decontamination of land.
9. Carrying out operational work that is the clearing of vegetation: <ul style="list-style-type: none"> (i) other than Significant vegetation and Significant vegetation where the clearing is consistent with an approved plan of development (ii) carried out by or on behalf of Central Highlands Regional Council or a public sector entity, where the works being undertaken are authorised under a state law, or (iii) in accordance with the conditions of a UDA development approval for a material change of use or reconfiguring a lot.
10. Carrying out operational work for a satellite dish on premises, if the satellite dish has no dimension greater than 1.8 metres.
11. Filling or excavation if: <ul style="list-style-type: none"> (i) not exceeding 50m³ in volume, and (ii) top dressing to a depth less than 100 vertical millimetres from ground level.

12. Carrying out operational work that is the placing of an advertising device on premises that:
- (i) does not exceed 5m² for a Business, Industrial, Sport, recreational or entertainment use
 - (ii) is attached to a front fence or front facade of the main building
 - (iii) does not project more than 150mm from the front facade or front fence
 - (iv) is not illuminated
 - (v) contains no more than the name of the business or operator, the use of the premises, the contact details of the business or operator and the name and address of building, and
 - (vi) results in no more than two signs on the premises.

Plumbing or drainage work

13. Carrying out plumbing or drainage work.

All aspects of development

14. All aspects of development undertaken by the State, or a statutory body representing the State, for the purposes of public housing.

15. Development that is exempt development in the *Duaringa Shire Planning Scheme 2007*.

Schedule 2: Definitions

Business uses

Adult store

Means the use of premises for the display, sale or hire of goods to the public where the primary purpose of the business is the display or sale of sexually explicit material, or materials and devices with or used in a sexual practice or activity.

The term does not include the business of a newsagent, registered pharmacist, video hire or a shop where the primary use is concerned with the display, sale or hire of printed or recorded matter (not a of a sexually explicit nature), the sale of underwear or lingerie, or the sale or display of an article or thing primarily concerned with or used in association with a medically recognized purpose.

Brothel

As defined in the *Prostitution Act 1999*, schedule 4.

Business

Means the use of premises used for administration, clerical, technical, professional, medical or veterinarian services or other business activities where the making, selling or hiring of goods on the premises is incidental.

Food premises

Means the use of premises for the preparation and sale of food and drink to the public for consumption on or off the site. The term includes a cafe, restaurant, coffee

shop, bistro, tea room, milk bar, snack bar, kiosk, take-away. The use may include drive through facilities.

Garden centre

Premises used for the display and retail sale of gardening and landscape products and supplies. The term includes the propagation and sale of plants and the sale of seeds, pots, gardening tools, pre-packaged landscaping products (such as fertilisers, potting mix, mulch and stones) outdoor furniture and lighting, letterboxes, garden ornamentation, and literature on gardening. The use may include and ancillary coffee shop or cafe.

Hardware and trade supplies

Premises used for the display, sale, and hire of hardware and trade supplies household fixtures, timber, tools, paint, wallpaper, plumbing supplies and the like.

Home based business

Means the use of a House or Multiple residential dwelling unit for an occupation or business activity as a secondary use where:

- (i) the floor area used specifically for the home business does not exceed 50m²
- (ii) any visitor accommodation does not exceed 4 visitors
- (iii) there is no hiring out of materials, goods, appliances or vehicles
- (iv) there is no repairing, servicing, cleaning or loading of vehicles not normally associated with a residential use

- (v) the maximum height of a new building, structure or object does not exceed the height of the House or Multiple residential and the setback is the same as, or greater than, buildings on adjoining properties.

Hotel

Means the use of premises for the sale of liquor for consumption on or off site, and may include short-term accommodation, dining and entertainment facilities. The term does not include Non-resident worker accommodation or Short-term accommodation.

Market

Means the use of premises for the display and sale of goods to the public on a regular but infrequent basis, where goods are primarily sold from temporary structures such as stalls, booths or trestle tables. The use includes ancillary food and beverage sales and ancillary entertainment provided for the enjoyment of customers.

Outdoor sales or hire yard

Premises used for the display, sale, hire or lease of any construction or industrial plant and equipment, agricultural machinery, motor vehicles, boats, trailers, other demountable or transportable structures and the like, to the public, where the use is conducted wholly or predominantly outdoors. The term includes the ancillary maintenance and repair of any of the items to be sold, hired or leased and the ancillary

sale or hire of portable tools, machinery or equipment.

Produce store

Premises used for display and sale of goods which are normally used in carrying out agricultural uses, including animal fodder, chemical fertilisers for primary production, seeds, bulk veterinary supplies, saddlery, other stock and pet supplies, small scale farm and garden equipment, and the like.

Sales office and display home

Means the use of premises, including a caravan or relocatable home structure, used for the promotion and/or sale of land and/or buildings within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Shop

Means the use of premises for the display, sale or hire of goods to the public. The use includes the incidental storage of goods on the premises and the ancillary or incidental preparation of food. Examples include hairdressing, minor appliance repairs, alterations, retail dry cleaning, liquor store, department store, discount department store, discount variety stores and betting agencies.

Short-term accommodation

Means the use of premises comprising primarily accommodation units for short-term accommodation, generally for travellers and visitors, such as a motel or backpackers hostel. The use may include dining, laundry and recreational facilities which cater exclusively for the occupants of the premises, a manager's office and residence. The term does not include Non-resident worker accommodation, Other residential, Hotel, or Tourist park.

Shopping centre

Means the use of premises for display, sale or hire of goods comprising two or more individual tenancies, comprising primarily shops and which function as an integrated complex.

Showroom

Means the use of premises for the display and sale of goods primarily of a bulky nature and of a similar or related product line. The term also includes storage.

Service station

Means the use of premises for the retail sale of fuel including petrol, liquid petroleum and automotive distillate to refuel motor vehicles.

Tourist attraction

Means the use of premises for providing on-site entertainment, recreation or similar facilities for the touring or holidaying public.

Tourist park

Means the use of premises to provide short-term accommodation, generally for travellers and visitors, in caravans, self-contained cabins, tents and similar vehicles or structures. The use may include amenity buildings, a kiosk, laundry and recreational facilities which cater exclusively for the occupants of the premises, a manager's office and residence. The term does not include Non-resident worker accommodation, Relocatable home park or Short-term accommodation.

Industrial uses**Extractive industry**

Means the use of premises for extraction of sand, gravel, soil, rock, stone or similar substance from land. The term includes ancillary storage, loading or cartage and any crushing, screening, washing, blending or other treatment processes of material extracted from the site.

High impact industry

Means the use of premises for industrial activities which have significant off-site impacts such as air and noise emissions. Examples include asphalt manufacturing, boiler making, brewery, engineering works, glass or glass fibre making and timer mills.

Low impact industry

Means the use of premises for industrial activities which have minimal impacts on non-industrial uses and where impacts such as noise and air emissions are able to be readily mitigated. Examples include small engine repair shop, vehicle workshop, sign writing, cabinet making, tyre depot.

Noxious and hazardous industry

Means the use of premises for industrial activities that have extreme adverse impacts on other land uses. These impacts include air, noise and water emissions, the potential for fire, explosions and toxic releases.

Research and technology facility

Means the use of premises for innovative and emerging technological industries involved in research, design, manufacture, assembly, testing, maintenance and storage of machinery, equipment and components. Examples include aeronautical engineering, computer component manufacturing, medical laboratories.

Service industry

Means the use of premises for industrial activities where manufactured goods are sold or repaired or commercial services are provided.

Warehouse

Means the use of premises for the storage of goods, whether or not in a building, including self storage facilities or storage yards.

Residential uses**Caretaker's accommodation**

The residential use of part of a premises where in connection with a non-residential use on the same premises.

Community residence

Any dwelling used for residential purposes where people share communal spaces, who may require assistance or support with daily living needs and who may be unrelated. The use may include a resident support worker engaged or employed in the management of the residence.

House

Means a residential use of premises for a one household which containing one primary single dwelling on a lot. The use includes out-buildings and works normally associated with a dwelling and may include a secondary dwelling. The secondary dwelling is subordinate to the primary dwelling, capable of being used as a self-contained residence, and may be constructed under the primary dwelling, attached to it or free standing.

Multiple residential

Means a residential use of premises which contains two or more dwellings, other than a House incorporating a secondary dwelling. Each dwelling may be contained on one lot, or may be contained on its own lot included in a community titles scheme.

Non-resident worker accommodation

Means the use of premises for accommodating non-resident workers. The use may include provision of dining facilities, kiosk, amenities and recreation facilities for the exclusive use of occupants and their visitors. The term does not include Short-term accommodation or Tourist park.

Other residential

Means the use of premises for the accommodation and care of aged and retired people, small groups of disadvantaged persons or persons who are being nursed, require ongoing supervision/support, or are convalescing. This use may include but is not limited to ancillary dining and recreation facilities, administration offices, laundries, kitchens, ancillary medical facilities and residential accommodation for management and staff.

Relocatable home park

Means the use of premises for long-term residential purposes in relocatable dwellings (whether they are permanently located or not). The use may include amenity buildings, a kiosk, laundry and recreational facilities which cater exclusively for the residents of the premises, a manager's office and residence. The term does not include Non-resident worker accommodation, Tourist park or Short-term accommodation.

Service, community and other uses**Car park**

Means the use of premises for the parking of motor vehicles where such parking is not ancillary to some other development on the same site. The term includes a travellers' rest area.

Cemetery

Means the use of premises for the interment of the dead. The term does not include a crematorium or funeral parlour.

Child care centre

Means the use of premises for the minding or care, but not residence of children generally under school age. The use includes but is not limited to a kindergarten, creche or early childhood centre.

Crematorium

Means the use of premises for cremating human corpses after death. The term does not include a funeral parlour or cemetery.

Community facility

Means the use of premises for social or community purposes, such as a community centre, library, public building or the like.

Educational establishment

Means the use of premises for systematic training and instruction, including any other ancillary facility. This definition includes prep facilities, primary school, secondary school,

college, university, technical institute, academy or other educational centre. This term may include residential accommodation and other ancillary uses provided for the employees and the students of such premises.

Emergency service

Means the use of premises for services which respond to community need in an emergency.

Environmentally relevant activities

As defined in the *Environmental Protection Act 1994*.

Place of assembly

Means the use of premises for worship and activities of a religious organisation, community or association.

Utility installation

Means the use of premises for the purpose of providing utility or telecommunication services, which does not fall within the Schedule of Facilities and Areas under the *Telecommunications Act 1997*. The use may include but is not limited to:

- (i) A telecommunications tower more than 5m in height
- (ii) An equipment shelter of more than 7.5m² in area and 3m in height.

Sport, recreation and entertainment uses**Club**

Means the use of premises by persons associated (whether incorporated or not) for social, literary, political, sporting, athletic or other similar purposes to which the general public may also resort and which is, or intends to be, subject to a club licence under the *Liquor Act 1992*. The premises may also include the provision of food and beverages, limited live or recorded entertainment and gaming machines.

Indoor sport, entertainment and recreation

Means the use of premises for leisure, sport or recreation conducted wholly or mainly indoors such as indoor sports and fitness centres, gyms, bowling alleys, squash courts and the like.

Outdoor sport and recreation

Means the use of premises used for any sporting or recreational activity, or other leisure pastime, which is conducted wholly or mainly outside of a building.

The use includes such typical premises as outdoor public swimming pools, golf courses and driving ranges, outdoor courts and sports ground, and the like. The term also includes the provision of a clubhouse and other ancillary facilities.

Park

Means the use of premises by the public for free recreation and enjoyment, but used infrequently for events.

Facilities for park users may include children's playground equipment, informal sports fields, incidental vehicle parking and other public conveniences. The term does not include a Car park or Tourist attraction.

Administrative definitions**Affordable housing**

Affordable housing means private rental housing and home purchase options (including housing aimed at the first home owners market) for low to moderate income households.

Building height

The maximum vertical distance between the natural ground level and the roof or parapet at any point but not including an antenna, aerial, chimney, flagpole or the like.

Contaminated and Register

As defined in the *Environmental Protection Act 1994*.

Development scheme

As defined in the *Urban Land Development Authority Act 2007*.

Dwelling unit

Means a building or part of a building used or capable of being used as a self contained

residence which must include:

- (i) food preparation facilities
- (ii) a bath or shower
- (iii) a toilet and wash basin.

The term includes works ancillary to a dwelling.

Ecological sustainability

As defined in the *Sustainable Planning Act 2009*.

Environmental Management Register

As defined in the *Environmental Protection Act 1994*.

Filling or excavation

Means removal or importation of material to or from a lot that will change the ground level of the land.

Ground level

The level on a site which precedes development excluding any site works that are subject to a related development approval, unless approved by the ULDA or established as part of a reconfiguration of the land preceding development.

Gross floor area

The total floor area of all storeys of a building, including mezzanines, measured from the external walls or the centre of a common wall, excluding area used for:

- (i) building services
- (ii) ground floor public lobby

- (iii) a public mall in a shopping complex

- (iv) the parking, loading and manoeuvring of motor vehicles

- (v) private balconies whether roofed or not.

Larger-scale non-resident worker accommodation

Means Non-resident worker accommodation providing more than 100 rooms, or if located on a particular lot, would contribute to a cumulative total of more than 100 rooms on that and adjoining or opposing lots.

Local heritage register

As defined in the *Queensland Heritage Act 1992*

Material change of use

As defined in the *Sustainable Planning Act 2009*.

Mezzanine

An intermediate floor within a room.

Minor building or demolition work

Means:

- (i) internal building
- (ii) demolition work
- (iii) external building work up to 25m² for roofs over existing decks or paved areas, sun hoods, carports and the like
- (iv) building work up to 10% of approved GFA or lawfully existing GFA at the time of commencement of this development scheme, or raising a house where the resultant height does not exceed 9m.

Non-resident worker

Means a worker who resides in areas for extended periods when employed on projects directly associated with mining, major industry or major infrastructure, but has a permanent place of residence in another area. This includes a worker engaged in fly-in/fly-out or drive-in/drive-out arrangements.

Operational work

As defined in the *Sustainable Planning Act 2009*.

Plan of Development

See section 3.2.9.

Plot ratio

The ratio between the gross floor area of a building and the total area of the site.

Private open space

An outdoor area for the exclusive use of occupants.

Public benefit

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public housing

As defined in the *Sustainable Planning Act 2009*.

Public realm

Refers to spaces that are used by the general public, including streets, squares, parks and environmental areas.

Queensland heritage register

As defined in the *Queensland Heritage Act 1992*

Reconfiguring a lot

As defined in the *Sustainable Planning Act 2009*.

Residential infill

Residential infill means:

- (i) Reconfiguring a lot less than 2,000m² for residential purposes
- (ii) Development for a House that is UDA assessable development, or
- (iii) Development for Multiple residential on a lot less than 2,000m².

Sensitive use (for Adult store)

Means any of the following uses: Child care centre, Place of assembly, Educational establishment catering for primary or secondary aged children or younger

Sensitive use (for UDA-wide criteria)

Means any of the following uses: House, Multiple Residential, Other residential, Non-resident worker accommodation, Child care centre, Educational establishment, Community facility, Place of assembly.

Setback

The shortest distance measured horizontally from the outermost projection of the building or structure to the vertical projection of the boundary lot.

Significant vegetation

Means all vegetation, except those listed as pest vegetation by the State government or the Central Highlands Regional Council, that is significant in its:

- (i) ecological value at local, state or national levels
- (ii) contribution to the preservation of natural landforms
- (iii) contribution to the character of the landscape
- (iv) cultural or historical value, or amenity value to the general public.

Note: vegetation may be living or dead and the terms includes their root zone.³⁶

Site cover

The proportion of the site covered by buildings, including roof overhangs.

Specified separation distance (for an Adult store)

Means the distance between the boundary of the land occupied by a sensitive use and the entrance of a proposed Adult store is the greater of the following:

- (i) more than 200 metres according to the shortest route a person may lawfully take, by vehicle or on foot, or
- (ii) more than 100 metres measured in a straight line.

³⁶ The root zone is described by the vertical projection of the foliage to a depth of 1m below the surface and including buttress roots on and above the soil surface.

Storey

Means a space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above. This does not mean:

- (i) a space that contains only:
 - (a) a lift shaft, stairway or meter room
 - (b) a bathroom, shower room, laundry, toilet or other sanitary compartment
 - (c) accommodation intended for not more than 3 vehicles
 - (d) a combination of the above, or
- (ii) a mezzanine.

Total use area

Means the total area in square metres used for a purpose and includes all area for each storey, display areas, storage, outdoor dining areas and entrances, but excludes car parking areas, access driveways and landscaped areas.

Urban design

Refers to the holistic design of urban environments, including the overall townscape, individual buildings, street networks, streetscapes, parks and other public spaces.



Contact Us

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Isaac Regional Council – Media Release

The Urban Land Development Authority's (ULDA) approval of the Isaac Views Stage Six development application is welcome news for Moranbah. The site, owned by BHP Billiton Mitsubishi Alliance, may provide homes for up to 350 residents.

Isaac Regional Council Mayor Cedric Marshall said any effort to increase accommodation choice and sustainable development within Isaac communities is a positive step for the region.

'This is not just about providing more housing, but providing more diverse housing as well,' he said. 'This means developing smaller dwellings, which are more affordable, or multi-family units, which make more efficient use of available space.'

Another positive for Moranbah was the announcement last week regarding the Council-owned Belyando Estate site. Development of the 104-hectare land will now be fast-tracked by the ULDA to help improve the supply of residential housing.

Isaac Regional Council Mayor Cedric Marshall says capitalising on recent growth is integral to the region's sustainability.

'Residents made it clear during the consultation process of the need to address the affordable housing situation and the ULDA have responded appropriately,' he said.

'In addition to the latest announcements, the ULDA also plan to finalise a targeted release process to be implemented within the Moranbah UDA.

'This process will be an important step in addressing affordable housing concerns,' he said. 'It will give households of a set income level, as well as local residents who intend to be owner/occupiers for at least twelve months, the first opportunity to purchase a home when they are released onto the market.'

The ULDA is investing funds directly into affordable housing in Moranbah as part of a three year rolling program. The aim of the program is to deliver subsidised housing for workers outside of the mining industry who are finding it difficult to afford to live in Moranbah. The ULDA has committed \$1m for 2011/12 and is currently working with Council to design and implement this project for delivery by June 2012.

ENDS

For further information contact:

Isaac Regional Council CEO

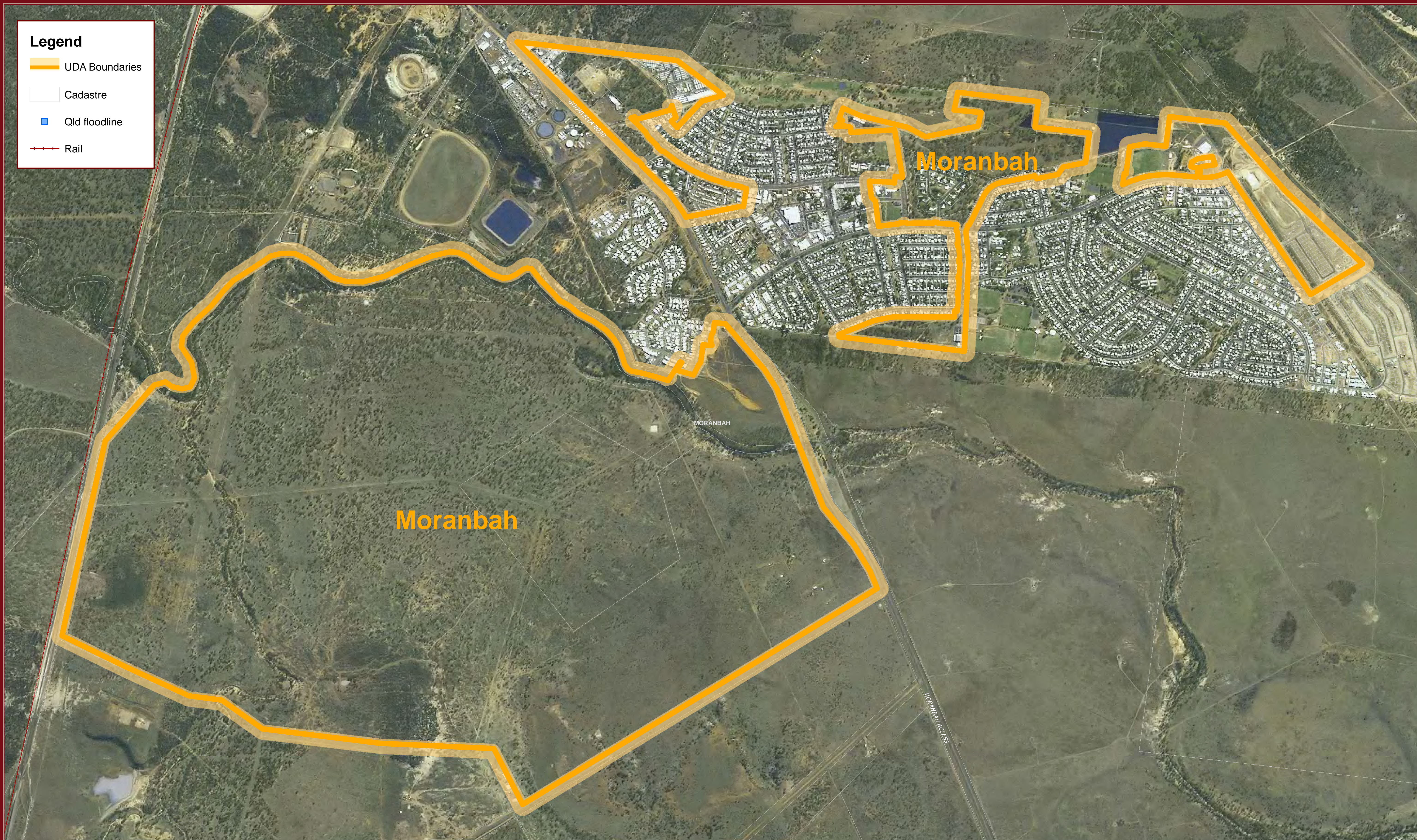
Isaac Regional Council Mayor

Isaac Regional Council PR &

This media release was issued on 21 June 2011.

Legend

- UDA Boundaries
- Cadastre
- Qld floodline
- Rail





**Moranbah
Urban Development Area
Development Scheme**

Moranbah Urban Development Area Development Scheme

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1.1 The Urban Land Development Authority

The Urban Land Development Authority (ULDA) is a statutory authority under the *Urban Land Development Authority Act 2007* (the Act) and a key element of the Queensland Housing Affordability Strategy.

The role of the ULDA is to facilitate:

- (i) the availability of land for urban purposes
- (ii) the provision of a range of housing options to address diverse community needs
- (iii) the provision of infrastructure for urban purposes
- (iv) planning principles that give effect to ecological sustainability and best practice urban design
- (v) the provision of an ongoing availability of affordable housing options for low to moderate income households.

The ULDA works with local governments, community, local landowners and the development industry to deliver commercially viable developments that include diverse, affordable, sustainable housing and use best practice urban design principles.

1.2 Urban Development Area

The Moranbah Urban Development Area (UDA) was declared by regulation by the Minister for Infrastructure and Planning on 30 July 2010.

1.3 Application of the development scheme

The Moranbah UDA Development Scheme (the scheme) is applicable to all development on land within the boundaries of the UDA.

From the date of approval under a regulation, the development scheme replaces the Interim Land Use Plan for the UDA which commenced upon declaration.

1.4 Elements of the development scheme

The Moranbah UDA Development Scheme consists of:

- » a vision
- » a land use plan
- » an infrastructure plan
- » an implementation strategy.

The vision seeks to achieve for the UDA the purposes of the Act and provides the basis for the land use plan, infrastructure plan and implementation strategy.

The UDA vision is expressed through the vision statement and Map 2: Vision Map.

The land use plan regulates development and states the preferred form of development in the UDA.

The infrastructure plan details the infrastructure necessary to support the land use plan for the UDA.

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the outcomes for the UDA.

2.1 Location

Moranbah is located in the Bowen Basin coal belt, approximately 200km south-west of Mackay in Central Queensland and is part of the Isaac Regional Council area.

Moranbah is experiencing high growth due to the current expansion pressures of the local coal mining operations within the area.

The Moranbah Urban Development Area (UDA) measures 1218 hectares which comprises a number of sites within the Moranbah township and a large site to the west of Goonyella Road.

The Moranbah UDA encompasses large areas of vacant land, part of the golf club and a small amount of residential and industrial land.

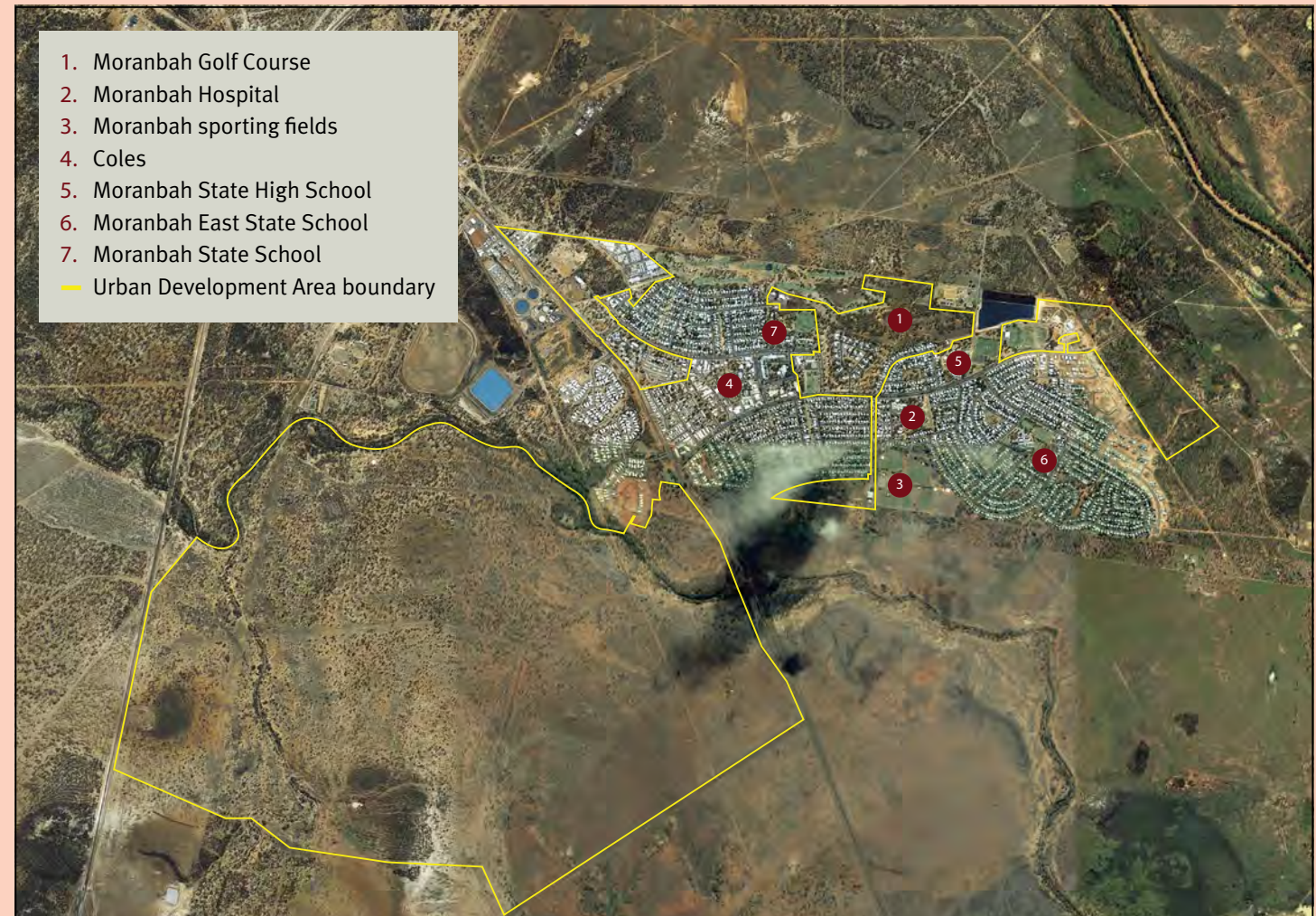
2.2 Vision Statement

The Moranbah UDA will assist in accommodating a thriving major regional activity centre which has a key role in supporting the expansion of the Bowen Basin mining industry. The UDA will provide more affordable housing through the improved supply of residential land and a greater range of housing types to suit the needs of the Moranbah community.

Redevelopment will be planned so that it reinforces the Moranbah Town Centre as the heart of retail and civic activity.

Within the UDA high quality non-resident worker accommodation will be integrated and managed within the town.

Map 1: Moranbah Urban Development Area



In particular the Moranbah UDA will:

House the future by:

- (i) providing a variety of housing types that cater for the changing needs of the Moranbah community over time
- (ii) facilitating the reallocation of excess open space for residential purposes
- (iii) planning for a new south-west growth area, other smaller infill residential areas, and new housing in existing residential areas, offering a range of densities, types, designs, prices, home ownership and rental options to deliver a range of housing choices for low to moderate income families, key workers, singles, couples, first home buyers, retirees and non-resident workers

Be a connected place by:

- (i) facilitating redevelopment of the Ted Rolfe Oval to reinforce the role of the Moranbah Town Centre as the retail and community focus
- (ii) using street treatments to reinforce clear, desirable routes for pedestrians and cyclists
- (iii) facilitating a street pattern and pathways that link parks to residential areas, and support local trips to nearby shops, schools and other community facilities

Manage environmental values by:

- (i) promoting the use of shade trees in public areas and retaining trees that are significant

- (ii) applying best practice water sensitive urban design as appropriate for local conditions
- (iii) striking a balance between natural and built elements considering land form, climate and ecology to maximise environmental conservation, amenity and contribute to the desired landscape character

Be a thriving community by:

- (i) providing business opportunities in the other business centres and industrial areas
- (ii) facilitating the availability of residential land to accommodate the demand for new housing

Be a liveable community by:

- (i) creating smaller, better functioning open space areas that meet the needs of local residents, have better facilities and are less costly to maintain
- (ii) ensuring street patterns, the location of open spaces and planting, and the orientation and design of buildings and openings, capture and channel cooling breezes
- (iii) drawing on natural landforms and local vegetation to create distinctive neighbourhoods which enhance local amenity
- (iv) exploring new forms of hot arid architecture appropriate for the Moranbah context

- (v) promoting community health and wellbeing through neighbourhood design that supports a healthy and active lifestyle
- (vi) ensuring use, works and reconfiguring of a lot are sensitive to the environment by using, where possible, efficient sources of energy and waste disposal
- (vii) planning for necessary community, social and cultural infrastructure.

Provide for good neighbours by:

- (i) addressing interfaces between new uses, existing developed areas and expected future uses, especially between residential and non-residential uses and between suburban residential uses and non-resident worker accommodation

Be a safe place to live by:

- (i) designing open space, and placing housing and other occupied buildings to overlook open space and paths, to promote surveillance and personal safety
- (ii) locating and designing car parks to have regard to the safety of pedestrians, especially children.

Promote planning and design excellence by:

- (i) becoming a modern, resilient and adaptable urban area that promotes connectivity, safety and accessibility whilst recognising what is important to the Moranbah community
- (ii) embracing a Queensland building

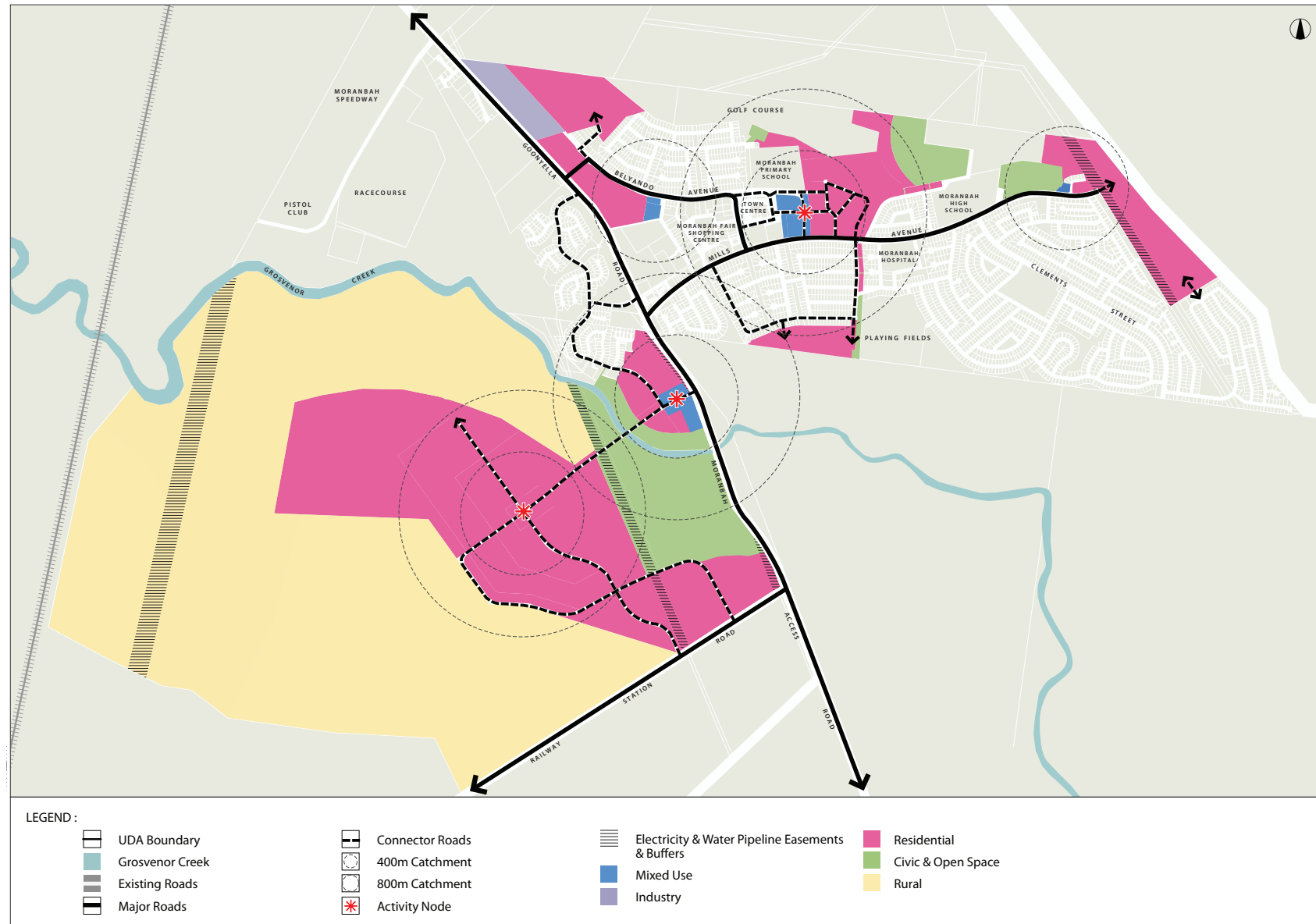
style that is responsive to Moranbah's climate.

2.3 Vision Map

The Moranbah UDA Vision Map (refer to Map 2) illustrates:

- (i) proposed infill residential areas
- (ii) a large growth area on the south-west side of the town for suburban housing and non-resident worker accommodation
- (iii) existing areas of open space to be retained
- (iv) two new mixed use centres - one being the redevelopment of the Ted Rolfe Oval, which will reinforce and enhance the Moranbah Town Centre, and the other fronting Goonyella Road, to service future growth in the south-west area
- (v) the existing industrial area to be retained for low impact industry.

Map 2: Vision Map



3.1 Components of the land use plan

3.1.1 Components of the land use plan

The land use plan identifies the UDA development requirements which regulate development to achieve the vision for the UDA.

3.1.2 UDA development requirements

The UDA development requirements are expressed through:

- (i) development criteria for the whole UDA (UDA-wide criteria)
- (ii) Moranbah UDA Zoning Plan
- (iii) development provisions for a specific zone (zone intent)
- (iv) tables specifying the level of assessment for development within each zone or precinct (level of assessment table)
- (v) development provisions for a specific precinct and sub-precinct (precinct intents and precinct and sub-precinct outcomes including precinct plans).

3.1.3 Levels of assessment

The levels of assessment for the carrying out of development in the UDA are in the relevant level of assessment table for the zone or precinct:

- (i) column 1, UDA exempt development
- (ii) column 2, UDA self assessable development

- (iii) column 3A, UDA assessable development
- (iv) column 3B, UDA prohibited development.

3.2 Development Assessment

3.2.1 Interpretation

Under the ULDA Act section 6, development is development defined under the Sustainable Planning Act 2009, section 7.

Schedule 2 defines particular words used in this scheme, including uses and administrative terms.

3.2.2 Development consistent with the land use plan

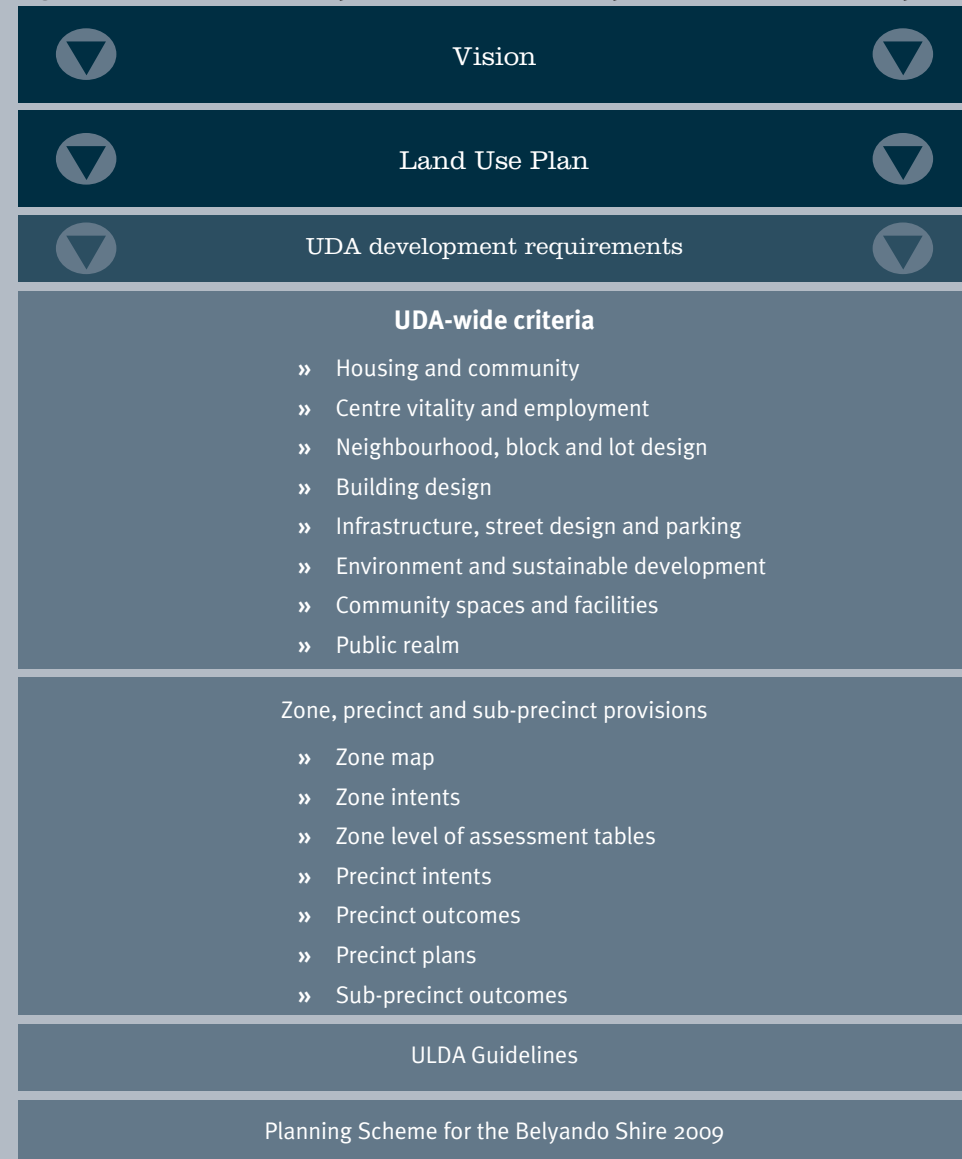
UDA assessable development is consistent with the land use plan if:

- (i) the development complies with the UDA development requirements, or
- (ii) the development does not comply with the UDA development requirements but:
 - a. the development does not conflict with the vision for the UDA and
 - b. there are sufficient grounds to approve the development despite the non compliance with the UDA development requirements.

Otherwise, the UDA assessable development is inconsistent with the land use plan and must be refused.

In this section 'grounds' means matters of

Figure 1: Vision and the components of the land use plan and their relationship



public interest which include the matters specified as the main purposes of the Act as well as:

- (i) superior design outcomes
- (ii) overwhelming community need.

'Grounds' does not include the personal circumstances of an applicant, owner or interested third party.

3.2.3 Development approval

Identification of development as UDA assessable development does not mean that a UDA development approval (with or without conditions) will be granted.

UDA assessable development requires a UDA development application to be lodged with the ULDA for assessment and decision. Approval is required for UDA assessable development to be undertaken.

3.2.4 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the ULDA Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

3.2.5 Consideration in principle

A request may be made to the ULDA for consideration in principle for proposed development.

In considering the request the ULDA may decide to do one of the following:

- (i) support all or part of the proposed development, with or without qualifications that may amend the proposed development
- (ii) oppose all or part of the application
- (iii) give no indication of either support or opposition to all or part of the proposed development.

The ULDA when considering a UDA development application:

- (i) is not bound by any decision made regarding a request for consideration in principle, and
- (ii) may give such weight as it considers appropriate to the decision in respect of the application for consideration in principle.

3.2.6 Development application

To the extent that the development requirements are relevant, they are to be taken into account in the preparation of UDA development applications and the assessment of those applications by the ULDA.

The infrastructure plan and implementation strategy may include further information, which should be taken into account in the preparation, design and feasibility of development proposals.

3.2.7 Notification requirements

Notification will be required in the following instances:

- » a non-residential use adjacent to land in

- the Residential Zone or a residential use
- » Non-resident worker accommodation
- » a residential use having a density considerably greater than that identified in either the zone provisions or precinct provisions.

A UDA development application will require public notification if the development application is for a use, or of a size or nature which, in the opinion of the ULDA, warrants public notification.

Residential development in the Residential Zone that complies with the zone intent may not require public notification.

3.2.8 Plan of Development

A Plan of Development (PoD) may accompany an application for a material change of use or reconfiguring a lot and may deal with residential or non-residential uses as well as operational work.

A PoD is prepared by an applicant and may include maps, graphics and text that collectively demonstrate how proposed uses, works and lots will contribute towards the achievement of the vision and will be consistent with the relevant UDA development requirements.

The PoD can not include land beyond the boundary of the land the subject of the application, but may cover only part of the land the subject of the application.

Under Tables 2 to 6 Level of assessment, development approved in accordance with

a PoD is exempt development and requires no further development approval under the scheme.

For further advice on preparing a PoD refer to the applicable ULDA Practice Note available on the ULDA website.

3.2.9 Relationship with local government planning scheme and SPA

This development scheme replaces the Moranbah Interim Land Use Plan (ILUP).

Unless this development scheme specifically applies a provision of a planning instrument or a plan, policy or code made under the *Sustainable Planning Act 2009* (SPA) or another Act, the development scheme prevails to the extent of any inconsistency with those instruments.

3.2.10 Relationship with the Planning Scheme for the Belyando Shire 2009

The Moranbah Development Scheme adopts sections of the Planning Scheme for the Belyando Shire 2009 and, to the extent relevant, applies the criteria to the assessment of development in the UDA as shown in Table 1.

However, to the extent of any inconsistency, the following prevail over the Belyando Planning Scheme assessment criteria:

- » UDA Definitions
- » UDA-wide criteria

- » Zone, Precinct and sub-precinct criteria
- » ULDA guidelines.

3.2.11 Land not included in a zone

This section applies to land which is not shown in the land use plan as being included in a zone (unallocated land).

Where the unallocated land is adjoined by land in a zone, the unallocated land is deemed to be included in that zone.

Where the unallocated land is adjoined by land included in different zones, the unallocated land is deemed to be included in those zones with the centreline of the unallocated land being the boundary between the zones.

3.2.12 Interim Use

An interim use is a land use that, because of its nature, scale, form or intensity, is not an appropriate long term use of the land. Interim land uses may occur where appropriately developed and operated and where located in areas which will not compromise the zone intent in the longer term. Possible interim uses are identified in the zone provisions.

The ULDA may approve an interim use where it can be demonstrated that an interim use will not preclude or delay an appropriate long term use or intensity of development. Information to support an application for an interim use may include:

- » a context plan
- » a schedule of land supply and projected take-up rates

- » plans showing how the development could transition from the proposed interim use to an appropriate longer term use.

The ULDA may impose a condition of approval that limits the duration of an interim use.

Interim uses will only be approved where it can be demonstrated that the use will not prejudice the achievement of the vision for the UDA.

Table 1

UDA Development	Planning Scheme Assessment Criteria
Within the Civic and Open Space Zone	Section 4.5.2.3 - Performance Criteria and Acceptable Solutions for the Open Space and Recreation Zone
Within the Rural Zone	Section 4.1.2.3 - Performance Criteria and Acceptable Solutions for the Rural Zone
Within the Industry Zone	Section 4.4.2.3 - Performance Criteria and acceptable Solutions for the Industrial Zone
Non-residential uses within the Mixed Use Zone	Section 4.3.2.3 - Performance Criteria and Acceptable Solutions for the Commercial Zone (however PC1, PC2 & PC3 are not applicable)
Non-residential uses within the Residential Zone	Section 4.2.2.3 - Performance Criteria and Acceptable Solutions for the Urban Zone (however PC1 & PC2 are not applicable)

3.3 UDA-wide criteria

The ULDA has prepared guidelines to assist in the interpretation of the following criteria and theses are available from the ULDA website www.ulda.qld.gov.au.

The Moranbah UDA-wide criteria cover the following topics:

- (i) Housing and community
- (ii) Centre vitality and employment
- (iii) Neighbourhood, block and lot design
- (iv) Building design
- (v) Infrastructure, street design and parking
- (vi) Environment and sustainable development
- (vii) Community spaces and facilities
- (viii) Public realm.

3.3.1 Housing and community

The UDA delivers housing choice, affordability and accessibility.

New housing in the UDA:

- (i) contributes to housing choice and diversity to meet the needs of the community, through a mix of densities, types, designs, tenures and levels of affordability, to cater for a range of lifestyles, incomes and lifecycle needs
- (ii) deliver affordable housing which is designed and located so that it is well integrated into the community
- (iii) deliver affordable housing to key workers not employed in the resource

sector

- (iv) deliver accessible housing to meet the changing needs of people and households over time
- (v) deliver sustainable communities with a strong community identity and access to community facilities and services that meet diverse needs.

Planning and development processes provide opportunities for community engagement.

Non-resident worker accommodation in the UDA:

- (i) is integrated within or on the edge of town
- (ii) adequately provides for occupants
- (iii) delivers a high level of on-site amenity.

3.3.2 Centre vitality and employment

The UDA delivers:

- (i) Redevelopment opportunities for areas within Ted Rolfe Oval to reinforce the Moranbah Town Centre as the focus for retail and civic activities
- (ii) Commercial opportunities fronting Goonyella Road to support residential development in the south west growth area.
- (iii) Appropriate signage

Planning and design for centres and individual uses:

- (i) demonstrates best practice urban design that seeks to create active frontages to streets and other public places,

particularly in and around the Moranbah Town Centre and the smaller retail/commercial node fronting Goonyella Road and along the main entrance to the south west growth area

- (ii) recognize the economic role of Moranbah as a major regional activity centre and the primary activity centre for the Isaac Region
- (iii) reinforce the respective functions of the town centre, the new retail centre fronting Goonyella Road and promote their individual viability as business centres
- (iv) provide adequate amenity and on-site facilities for the operation uses and the convenience, comfort, safety and enjoyment of users
- (v) mitigate impacts on nearby or adjoining sensitive uses (e.g. residential uses, schools) or road function, including through:

- (a) orientation and location of buildings, on-site uses and access points (e.g. boundary setbacks, location of driveways, car parks, service or refuse collection areas) to address impacts on visual or acoustic amenity, or the safety of pedestrians or road users
- (b) screening of buildings and on-site uses or equipment (e.g. screen structures, planting) to address impacts on visual or acoustic amenity, or visual privacy

- (c) height of buildings to address impacts on amenity or privacy through overlooking
- (d) design of buildings (e.g. arrangement of rooms, choice of materials, treatments or features for aesthetic or acoustic qualities) to address impacts on visual or acoustic amenity
- (e) density, scale or intensity of use (e.g. number of dwelling units per hectare, gross floor area, road frontage, lot size) to address impacts on amenity (e.g. from the extent of human or vehicle activity) or the safety and convenience of road users (e.g. from the volume of traffic generated)
- (f) operation of the use (e.g. hours of operation, number of employees, rubbish collection hours) to address impacts on visual or acoustic amenity
- (g) provision of vehicle parking (e.g. number of spaces, types of vehicles accommodated) to address impacts on the convenience or safety of occupants of nearby or adjoining uses, or impacts on visual amenity.

Advertising Devices:

- (i) cater for the needs of businesses to clearly identify the goods or services which are supplied to the public
- (ii) are consistent with the scale and design of existing buildings and other works on the site
- (iii) complement the streetscape in which they are located

- (iv) where appropriate, reflect the character of the area
- (v) are sited and provided on premises having regard to safety and amenity.

3.3.3 Neighbourhood, block and lot design

New residential use, works and lots in the UDA are designed to:

- (i) maximise connectivity of new residential areas to adjoining residential areas, and local retail, social and community facilities
- (ii) be responsive to the scale and boundary set backs of existing adjoining residential areas, the local climate and site features
- (iii) promote and facilitate walking and cycling including to local parks
- (iv) promote personal safety and security through maximising casual surveillance of streets and public places
- (v) enhance character and amenity
- (vi) maximise the use of existing infrastructure.

Planning and design in a new neighbourhood:

- (i) gives the neighbourhood a strong and positive identity by responding to site characteristics, setting, landmarks and views, and through clearly legible street networks, open space and use of streetscape elements
- (ii) delivers an appropriate scale of

- buildings and density of use
- (iii) incorporates principles for crime prevention through environmental design (CPTED)
- (iv) identifies any areas appropriate for Multiple residential
- (v) ensures adequate visual and noise amenity through site and building design, structures and planting
- (vi) maximises opportunities for views and vistas
- (vii) achieves a balanced mix of lot sizes to provide housing choice and streetscape variety
- (viii) responds to natural features, including topography and natural drainage features
- (ix) promotes healthy and active lifestyles by prioritising walking and cycling and connecting to facilities and services
- (x) appropriately manages solar access and provide opportunities to benefit from natural ventilation
- (xi) integrates the neighbourhood with the surrounding area including the siting and form of buildings, streetscape elements, landmarks and views
- (xii) provides parks that cater for a variety of functions and experiences and that are safe and accessible for users (refer to precinct plans for indicative locations)
- (xiii) maximises opportunities to provide pedestrian and cycle linkages through residential areas (refer to precinct plans

for indicative locations)

- (xiv) locates and connect to services and utilities to maximise efficiency and ease of maintenance.

Planning and design for Non-resident worker accommodation:

- (i) identifies a suitable location
- (ii) provides connections to services, facilities and networks in surrounding areas
- (iii) preserves amenity to achieve desirable integration
- (iv) accommodates changing circumstances over time
- (v) caters appropriately for any on-site non-residential uses and facilities
- (vi) provides access to infrastructure and community facilities and services
- (vii) responds to the characteristics of the workers
- (viii) provides for the safety and comfort of occupants.

3.3.4 Building design

Buildings are designed and sited on the lot to:

- (i) meet the needs of residents for privacy and protect the privacy of adjoining residents
- (ii) provide adequate outdoor areas
- (iii) incorporate appropriate building setbacks that account for slope and protect the amenity and privacy of

adjoining uses, including the appropriate use of build to boundary walls

- (iv) complement or enhance the character of the local neighbourhood and contribute to the creation of attractive and safe residential environments
- (v) ensure on-site car parking spaces do not dominate the streetscape or interfere with the efficient functioning of the street
- (vi) have clearly defined front entries, viewable from the street, and contribute towards the passive surveillance of the street
- (vii) incorporate elements which provide diversity in building form and attractive frontages to all streets, the public realm and park network
- (viii) integrate fencing into the building, street and park design
- (ix) provide integrated solutions for energy reduction opportunities such as natural lighting, cross ventilation and passive cooling.

3.3.5 Infrastructure, street design and parking

New use, works and lots deliver:

- (i) efficient and effective use of infrastructure and services
- (ii) efficient and safe street networks for all users
- (iii) adequate car parking
- (iv) do not prejudice future opportunities to

accommodate public transport.

Infrastructure and Services:

- (i) are provided in a timely, orderly, integrated and coordinated manner to support urban uses and works
- (ii) must be available or capable of being made available to support new uses and works (including key infrastructure such as roads, public transport, water supply, sewerage, drainage, park network, community facilities, electricity and telecommunications)
- (iii) are designed and constructed to allow for future developments in information technology and providing access to technology in neighbourhood facilities
- (iv) are designed and constructed or provided to appropriate standards compatible with existing infrastructure or services owned or provided by the relevant infrastructure entity
- (v) are located and designed to maximise efficiency and ease of maintenance.

Street network planning and design:

- (i) connects to existing networks while ensuring acceptable levels of amenity and minimising negative impacts of through traffic
- (ii) provides a safe and pleasant environment through lighting, pavement treatment and materials, clear sight lines and landscaping
- (iii) provides movement networks for vehicles, pedestrians and bicycles

that have a clear structure, provide a high level of internal accessibility and good external connections with the surrounding area

- (iv) provides for pedestrian and cycle connections within the site which connect to existing facilities and support movement to key local and district destinations such as shops, schools, the park network and community facilities
- (v) minimises the impact of traffic noise on residential development
- (vi) does not unreasonably constrain future provision of public transport infrastructure and does not adversely impact on the function or operation of existing or future public transport corridors.

Planning and design of vehicle access and parking ensure:

- (i) safety and convenience for residents, visitors and service providers
- (ii) adequate shade and visual amenity
- (iii) adequately provides for the number and nature of vehicles expected.

3.3.6 Environment and sustainable development

Development responds to the constraints of the land¹ and delivers:

¹ Applicants are required to demonstrate how the development will not be adversely affected by the constraints - see Appendix 1 - Constraints Map and Appendix 2 - Bushfire risk (as provided by Queensland Fire and Rescue Services, April 2011).

- (i) minimal emissions to land, water and atmosphere
- (ii) protection from bushfire risk
- (iii) efficient use of land and resources
- (iv) protection of amenity, ecological values and natural systems
- (v) will achieve an appropriate level of flood immunity².

The design, siting and layout of development:

- (i) maintain the safety of people and property from subsidence³, contamination, landslip, saline and dispersive soils and bushfire risk where in or adjoining bushland
- (ii) ensure that all land and groundwater will be fit for purpose in accordance with accepted standards and practices
- (iii) maintain and enhance the environmental values of the receiving waters and wetlands by sound catchment

² The Queensland Floods Commission of Inquiry is investigating the January 2011 flood disaster, including a review of existing provisions relating to flooding and flood risk mitigation. Consequently the provisions of this development scheme with respect to the management of flooding and flood risk mitigation may be subject to change at the direction of the Queensland Government in the near future. This should be taken into account by applicants and assessment managers when considering development in this UDA. Applicants are advised to make relevant enquiries regarding the status of the provisions relating to flooding at the time of lodgment.

³ Ensure that land identified by the planning scheme as being potentially affected by subsidence caused by underground mining is either avoided or investigated to determine the safety of development.

management practices

- (iv) incorporate total water cycle management and water sensitive urban design principles
- (v) appropriately manage floodwater and stormwater
- (vi) minimise air quality impacts arising from construction including dust, noise and traffic impacts
- (vii) appropriately manage erosion and sediment during construction
- (viii) achieve acceptable noise levels within 100 metres of a transport corridor
- (ix) minimise adverse impacts on natural landforms and the visual amenity of the site enabling the local environmental values to flourish
- (x) maintain and enhance significant vegetation and provides appropriate landscaping
- (xi) retain vegetation where possible along streets and within park networks
- (xii) promote the efficient use of resources, maximises recycling opportunities and reduces waste generation
- (xiii) incorporate leading energy efficiency and water efficiency practices, maximises recycling opportunities and reduces waste generation
- (xiv) incorporate landscaping that contributes to the bushland character, flora and fauna habitat, and fauna movement, with street trees selected from species native and/or endemic to the Moranbah area

- (xv) respects cultural heritage, places or items
- (xvi) minimise adverse impacts on amenity during construction
- (xvii) ensure compatibility of land uses is achieved (for example through appropriate mitigation measures such as buffering).

Rehabilitation

Where significant vegetation is being cleared development will be required to rehabilitate land in the Civic and Open Space Zone and in particular where such fronts Goonyella Road and is adjacent to Grosvenor Creek. Rehabilitation is to occur in accordance with the following ratios:

- (i) High Value Regrowth containing Endangered Regional Ecosystems - 2 for 1 by area
- (ii) All plants within the bed and banks of Grosvenor Creek - 1 for 1 by area
- (iii) All trees with a diameter of equal to or greater than 60cm measured at 1 metre above the ground level - 3 for 1 by number
- (iv) Note that applicants will not be required to undertake extensive flora and fauna surveys of their sites but will be expected to provide sufficient detail to confirm or deny the presence of significant vegetation. Also note that the area to be rehabilitated is to be calculated based upon the area occupied by the root zone of the significant vegetation. Rehabilitation

activities are to be undertaken prior to commencement of development activities.

3.3.7 Community spaces and facilities

Planning and design of community spaces and facilities:

- (i) consolidate new uses and buildings around existing community uses of a compatible nature and within mixed use zones
- (ii) provide adequate amenity and on-site facilities for the operation of the use and the convenience, comfort, safety or enjoyment of users
- (iii) mitigate impacts on nearby or adjoining sensitive uses (e.g. residential uses, schools) or road function, including through:
 - (a) orientation and location of buildings, on-site uses and access points (e.g. boundary setbacks, location of driveways, car parks, service or refuse collection areas) to address impacts on visual or acoustic amenity, or the safety of pedestrians or road users
 - (b) screening of buildings and on-site uses or equipment (e.g. screen structures, planting) to address impacts on visual or acoustic amenity, or visual privacy
 - (c) height of buildings to address impacts on amenity or privacy through overlooking

- (d) design of buildings (e.g. arrangement of rooms, choice of materials, treatments or features for aesthetic or acoustic qualities) to address impacts on visual or acoustic amenity
- (e) density, scale or intensity of use (e.g. number of dwelling units per hectare, gross floor area, road frontage, lot size) to address impacts on amenity (e.g. from the extent of human or vehicle activity) or the safety and convenience of road users (e.g. from the volume of traffic generated)
- (f) operation of the use (e.g. hours of operation, number of employees, rubbish collection hours) to address impacts on visual or acoustic amenity
- (g) provision of vehicle parking (e.g. number of spaces, types of vehicles accommodated) to address impacts on the convenience or safety of occupants of nearby or adjoining uses, or impacts on visual amenity.

3.3.8 Public realm

New uses, buildings and other works in the public realm, including civic spaces, parks, plazas, footpaths, town entries, urban streets and other shared community spaces, and notably in and around the Moranbah Town Centre and the retail/commercial node fronting Goonyella Road, is clearly delineated from, but integrated with, the private realm and comprises:

- (i) extensive use of shade trees along streets and within public and private

spaces

- (ii) furniture, materials, public information and artwork
- (iii) selection of plants that are endemic to the local area and relevant to both the purpose of the vegetation (e.g. shade, land mark, screening) and the identity of Moranbah
- (iv) an appropriate climate-based orientation and design, ensuring shade is provided, breezes are captured and optimal use is made of natural light
- (v) if associated with public or commercial buildings, where appropriate buildings designed at ground level to integrate shopping, dining, or other outdoor activities, integrate with street plantings and provide continuous awnings to provide protection from the rain and sun
- (vi) opportunities for meeting and gathering, and where appropriate, opportunities for informal and formal play
- (vii) features that encourage surveillance and overlooking of public spaces and places.

3.4 Zone Provisions

3.4.1 Zone Map

Map 3: Moranbah UDA Zoning and Precinct Map shows the location and boundaries of the zones and precincts in the UDA.

3.4.2 Zone Intent

Residential Zone

The residential zone is intended to cater for a range of residential types and densities including Multiple residential, Non-resident worker accommodation, Short-term accommodation and Other residential. Non-resident worker accommodation will be integrated within or on the edge of town.

Non-residential uses that provide direct support to residential uses may be suitable in the residential zone.

Development is supported by necessary community facilities, other small-scale non-residential uses, and appropriate infrastructure to support the needs of the local community. Short-term residential uses such as Hotels and Caravan parks are appropriate, however, non-residential uses can only be established where residential character and amenity are maintained, when the uses cater for the needs of the immediate community and do not undermine the viability of any centres.

Commercial and retail uses are not generally located in the residential zone unless located in the designed Activity Centre in Precinct 2.

Home based businesses are encouraged within dwellings where they are of a scale and are operated in a manner that does not impact adversely on the amenity of the locality.

Areas of open space are included within the residential zone and contribute to the park network (generally in accordance with relevant precinct maps).

The zone may accommodate unanticipated interim land uses that do not compromise the long term use of the land for its intended purpose.

Building height is generally in the range of up to 3 storeys (11.5m) and density generally ranges from up to 15 to 60 dwellings per hectare dependant on location. Greater heights and densities may be considered if sufficient grounds are provided and considered appropriate for the location.

Higher densities are located around centres and open space as identified within the Precinct provisions. Development facilitates urban consolidation and the efficient use of physical and social infrastructure.

The residential densities apply only to house and multiple residential uses and do not apply to non-resident worker accommodation, other residential, relocatable home parks or short-term accommodation premises.

Mixed Use Zone

The Mixed Use Zone caters for Commercial, Retail, Residential, Sport, Recreation and Entertainment and Service and Community uses.

Building height and density for the Mixed Use Zone are generally up to 4 storeys and up to 60 dwellings per hectare. Greater heights and densities may be considered if sufficient grounds are provided and considered appropriate for the location.

Uses at ground level should contribute to the activation of the area/streets. Shop-top housing is considered appropriate.

Civic and Open Space Zone

The Civic and Open Space Zone caters for a range of publicly accessible outdoor recreation spaces and uses such as parks, pedestrian pathways and cycleways, as well as habitat preservation, revetment and stabilisation works, land use buffers and management areas.

It is also intended that the zone may provide for the possibility of constructing structures such as boardwalks and pathways where located and designed to avoid adverse impacts on the environment or the need for revetment or stabilisation works.

Depending on the function of the open space, ancillary structures and buildings such as shelters, amenity facilities, sporting clubs including club houses and associated off-street parking, picnic tables and playgrounds

are provided where necessary.

Civic facilities, including public utilities for sewer and water, may be accommodated in the zone where such uses do not detract from the amenity and natural values of the local area and maintain high standards of water quality.

Industry Zone

The Industry Zone caters for Low impact industry, Research and technological facilities and Service industry.

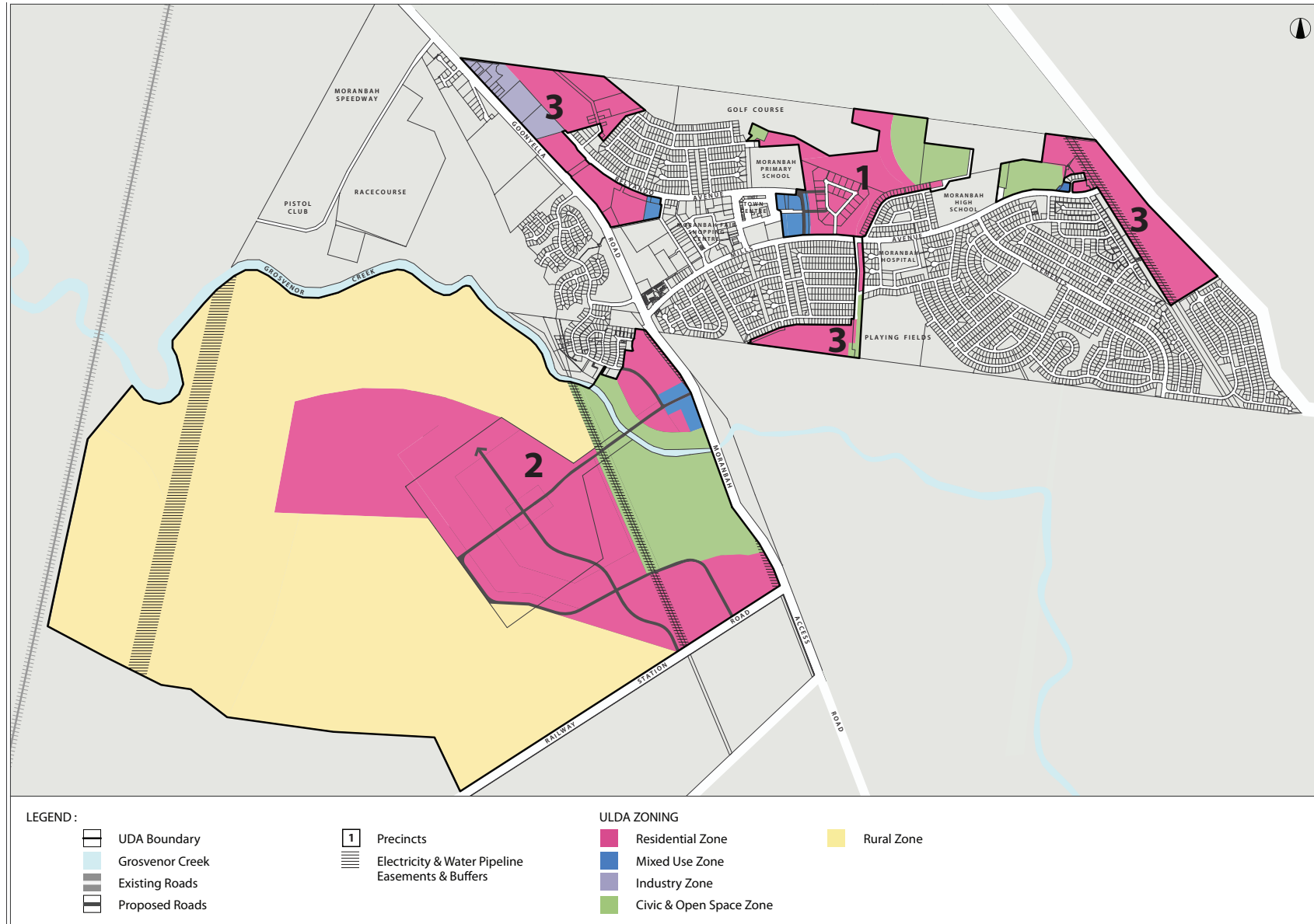
Business uses requiring larger land areas, such as garden centres, hardware and trade supplies, outdoor sales and hire yard and produce stores are also catered for in the zone.

Rural Zone

The Rural Zone caters for Agriculture and Animal keeping and husbandry. The Rural Zone may accommodate unanticipated interim uses that do not compromise the long term use of the land for its intended purpose. Any interim use must be located outside of any areas identified as being subject to impacts from the approved Caval Ridge mine project⁴.

⁴ In particular any air quality impacts identified within the "Caval Ridge Air Quality Assessment - Supplementary Report, 30 October 2009, Prepared for BMA by URS Australia". This report by URS Australia was reviewed as part of the EIS process for the mine and it was considered that any adverse air quality impacts could be mitigated through the conditions recommended by the Coordinator-General.

Map 3: Moranbah UDA Zoning and Precinct Map



Level of assessment table

Column 1 Exempt development	Column 2 UDA self assessable development	Column 3 - UDA assessable development	
		Column 3A – Permissible development	Column 3B – Prohibited development
In the Residential Zone			
1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i> , and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1, or (ii) development for the following: (a) Home based business (b) Other residential if not involving building work (other than minor building work) (c) Park (d) Sales office and display home (iii) making a material change of use of premises if in accordance with an approved Plan of Development ⁵ , or (iv) carrying out operational work or building if in accordance with a Plan of Development ² , or	Nil.	1. Reconfiguring a lot that is not mentioned in schedule 1. 2. Making a material change of use of premises if: (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2 or 3B. 3. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B.	Development for: » Industrial uses.

⁵ See Section 3.2.8 about Plans of Development.

Column 1 Exempt development	Column 2 UDA self assessable development	Column 3 - UDA assessable development	
		Column 3A – Permissible development	Column 3B – Prohibited development
In the Residential Zone			
1. development for a House if all of the following apply: (i) on a lot 450m2 or more (ii) a frontage of 12.5m or more (iii) the House does not include a secondary dwelling (iv) the development complies with the acceptable solutions in Element 1 of the Queensland development code (QDC), MP 1.2 - Design and siting standard for single detached housing- on lots 450 m2 and over ⁶ .			

⁶ The development scheme identifies compliance with certain provisions of the QDC as a criterion for development for a House to be exempt development despite the statement in QDC MP1.2 that it does not apply to development in an urban development area.

Column 1 Exempt development	Column 2 UDA self assessable development	Column 3 – UDA assessable development	
		Column 3A – Permissible development	Column 3B – Prohibited development
In the Mixed Use Zone			
<div>1. An environmentally relevant activity if:<div><div>(i) a code of environmental compliance has been made for that activity under the Environmental Protection Regulation 2008, and</div><div>(ii) the activity complies with that code.</div></div></div> <div>2. If the land is not on the Environmental Management Register or Contaminated Land Register:<div><div>(i) development specified in schedule 1, or</div><div>(ii) development for the following:<div><div>(a) Home based business</div><div>(b) Park</div></div></div><div>(iii) making a material change of use of premises if in accordance with an approved Plan of Development⁷, or</div><div>(iv) carrying out operational work or building if in accordance with a Plan of Development⁴, or</div></div></div>	Nil.	<div>1. Reconfiguring a lot that is not mentioned in schedule 1.</div> <div>2. Making a material change of use of premises if:<div><div>(i) the use is not defined in schedule 2, or</div><div>(ii) the change of use is not mentioned in columns 1, 2 or 3B.</div></div></div> <div>3. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B.</div>	<div>Development for:</div> <div>» Industrial uses.</div>

⁷ See Section 3.2.8 about Plans of Development.

Column 1 Exempt development		Column 2 UDA self assessable development		Column 3 – UDA assessable development	
				Column 3A – Permissible development	Column 3B – Prohibited development
In the Mixed Use Zone					
1.	making a material change of use where not involving building work (other than minor building work) for: » Community facility » Commercial uses » Educational establishment » Emergency services » Food premises » Home based business » Multiple residential » Other residential » Place of assembly » Shop.				

Column 1 Exempt development	Column 2 UDA self assessable development	Column 3 – UDA assessable development	
		Column 3A – Permissible development	Column 3B – Prohibited development
In the Civic and Open Space Zone			
1. An environmentally relevant activity if: <div>(i) a code of environmental compliance has been made for that activity under the Environmental Protection Regulation 2008, and</div> <div>(ii) the activity complies with that code.</div> 2. If the land is not on the Environmental Management Register or Contaminated Land Register: <div>(i) development specified in schedule 1, or</div> <div>(ii) development for the following: <div>(a) Park</div></div> <div>(iii) making a material change of use of premises if in accordance with an approved Plan of Development⁸, or</div> <div>(iv) carrying out operational work or building if in accordance with a Plan of Development.</div>	Nil.	1. Reconfiguring a lot that is not mentioned in schedule 1. 2. Making a material change of use of premises if: <div>(i) the use is not defined in schedule 2, or</div> <div>(ii) the change of use is not mentioned in columns 1, 2 or 3B.</div> 3. Making a material change of use for: <div>(i) Emergency services</div> <div>(ii) Outdoor sport and recreation</div> <div>(iii) Tourist attraction.</div> 4. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B.	Development for: » Industrial uses.

⁸ See Section 3.2.8 about Plans of Development.

Column 1 Exempt development	Column 2 UDA self assessable development	Column 3 – UDA assessable development	
		Column 3A – Permissible development	Column 3B – Prohibited development
In the Industry Zone			
<p>1. An environmentally relevant activity if:</p> <ul style="list-style-type: none"> (i) a code of environmental compliance has been made for that activity under the Environmental Protection Regulation 2008, and (ii) the activity complies with that code. <p>2. If the land is not on the Environmental Management Register or Contaminated Land Register:</p> <ul style="list-style-type: none"> (i) development specified in schedule 1, or (ii) development for the following: <ul style="list-style-type: none"> (a) Home based business (b) Park (iii) making a material change of use of premises if in accordance with an approved Plan of Development⁹, or (iv) making a material change of use where not involving building work (other than minor building work) for: <ul style="list-style-type: none"> (a) Low impact industry (b) Research and technology facility (c) Service industry (d) Warehouse. <p>3. Carrying out operational work or building if in accordance with a Plan of Development¹⁰.</p>	Nil.	<p>1. Reconfiguring a lot that is not mentioned in schedule 1.</p> <p>2. Making a material change of use of premises if:</p> <ul style="list-style-type: none"> (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2 or 3B. <p>3. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B.</p>	<p>Development for:</p> <ul style="list-style-type: none"> » Child care centre » Extractive industry » High impact industry » Noxious and hazardous industry » Residential uses » Tourism uses.

⁹ See Section 3.2.8 about Plans of Development.

¹⁰ See Section 3.2.8 about Plans of Development.

Column 1 Exempt development	Column 2 UDA self assessable development	Column 3 – UDA assessable development	
		Column 3A – Permissible development	Column 3B – Prohibited development
In the Rural Zone			
<ol style="list-style-type: none"> 1. An environmentally relevant activity if: <ol style="list-style-type: none"> (i) a code of environmental compliance has been made for that activity under the Environmental Protection Regulation 2008, and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: <ol style="list-style-type: none"> (i) development specified in schedule 1, or (ii) development for the following: <ol style="list-style-type: none"> (a) Home based business (b) Park (iii) making a material change of use of premises if in accordance with an approved Plan of Development¹¹, or (iv) carrying out operational work or building if in accordance with a Plan of Development¹¹, or (v) making a material change of use where not involving building work (other than minor building work) for: <ol style="list-style-type: none"> (a) Rural uses. 	Nil.	<ol style="list-style-type: none"> 1. Reconfiguration of a lot that is not mentioned in schedule 1 2. Making a material change of use of premises if: <ol style="list-style-type: none"> (i) the use is not defined in schedule 2 or (ii) the change of use is not mentioned in columns 1, 2 or 3B 3. Making a material change of use for: <ol style="list-style-type: none"> (i) Rural uses (ii) Environmentally relevant activities (iii) Park 4. Carrying out operational work or building work if the work is not mentioned in columns 1, 2 or 3B. 	Development for: » Industrial uses.

¹¹ See Section 3.2.8 about Plans of Development.

Precinct 1

Precinct Intent

This precinct provides for an extension of the town centre that is well integrated and encourages pedestrian activity in an attractive environment. The redevelopment of Ted Rolfe Oval will reinforce the Moranbah Town Centre as the focus for retail and civic activities. Residential uses within the precinct will be of a higher density closer to the town centre to increase walkability, and the adjacent Golf Course will provide a pleasant open space setting and amenity for the future residential uses.

Precinct Outcomes

- (i) Development occurs generally in accordance with Map 4.
- (ii) Active, pedestrian oriented street frontages are promoted to all internal streets within the town centre and in particular:
 - (a) Should avoid having blank, or solid, or unglazed walls addressing the street; and
 - (b) Provide a minimum of 3m deep awning along the full length
 - (c) Building awnings and footpath street trees will provide shade and shelter and reinforce these active frontages as green spines connecting existing and future residential areas to the Town Centre.
- (iii) Footpaths will be of a high quality with

street trees, landscaping, pedestrian-scale lighting and street furniture and finished in accordance with the relevant standards and state guidelines⁸.

- (iv) Map 4 illustrates the key network of public spaces and indicative pedestrian and cycle paths which are to be provided for, or enhanced, within the UDA.
- (v) A centralised neighbourhood park is provided within the Arkana Terrace redevelopment area.
- (vi) New roads and upgrading of existing roads are provided to make traffic movement more efficient within the precinct and provide increased vehicular access from the Town Centre precinct through to any Arkana Terrace area redevelopment.
- (vii) Densities generally in the range of up to 60 dwellings per hectare can be considered where they are within easy walking distance of the town centre or a park.
- (viii) Within the Mixed Use Zone and the Residential Zone, where within easy walking distance of the town centre, building height can be generally in the range of 4 storeys.
- (ix) Carparking, vehicular access and servicing for all non-residential uses are to be provided generally in accordance with relevant standards¹²

¹² The relevant standards are the ULDA's guidelines and Schedule 1, Division 2: Standards for Roads, Carparking, Manoeuvring Areas and Access located within the Planning Scheme for the Belyando Shire which commenced on 31st January 2009.

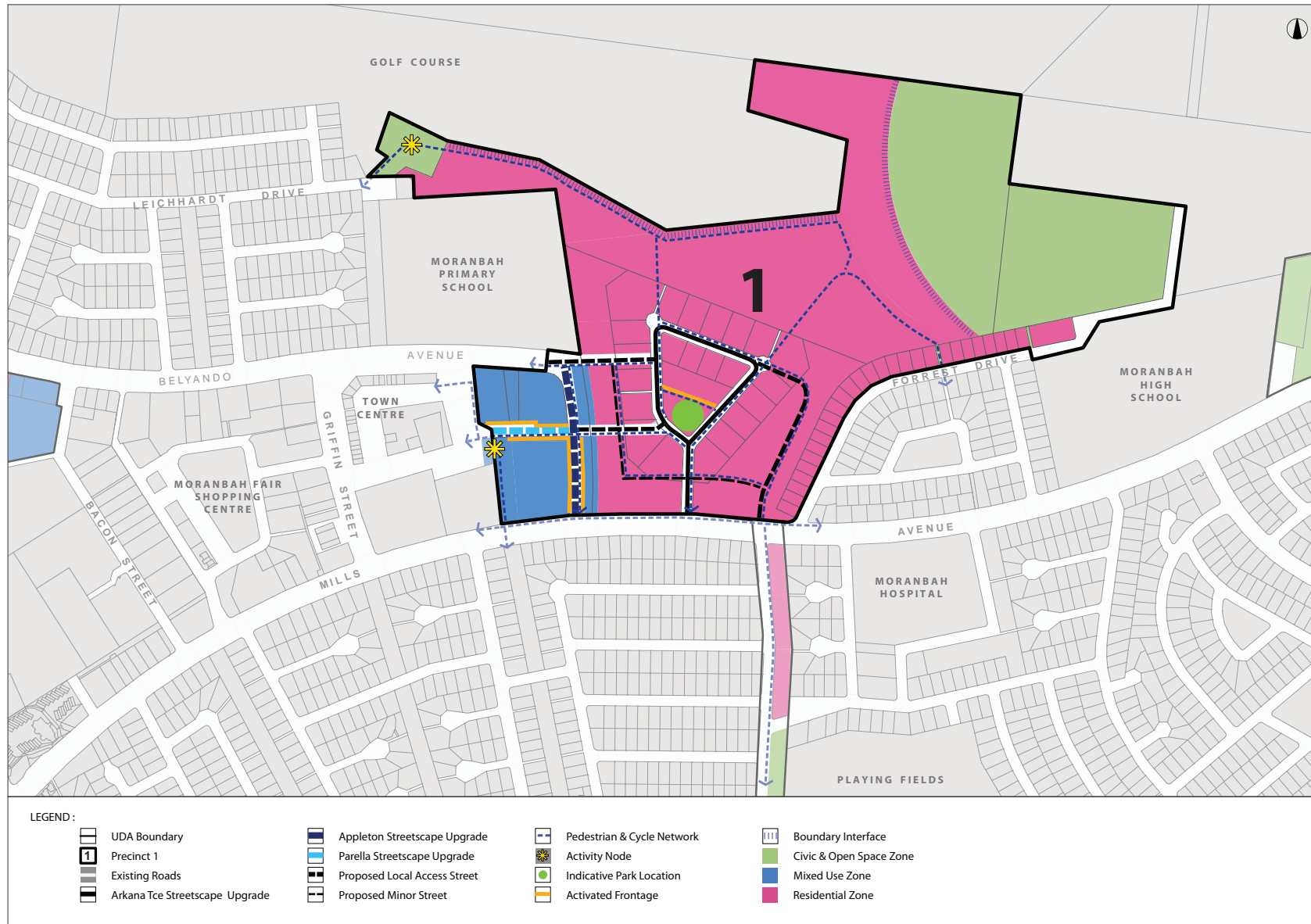
- (x) This precinct incorporates an open space buffer to the sewerage treatment plant located adjacent to the precinct in the north east. The boundary interface shown on Map 4 will be determined through the development assessment process, having regard to future sewerage treatment upgrades being undertaken by Isaac Regional Council.
- (xi) The boundary interface between the future residential area and the golf course will be determined as part of the development assessment process and in consultation with the Moranbah Golf Club.

Ted Rolfe Oval Redevelopment

- (i) The redevelopment of Ted Rolfe Oval will:
 - (a) provide for a full-line supermarket with associated retail uses¹³
 - (b) be designed to visually and physically connect to the balance of the town centre in a way which contributes to the activity and coherence of the centre overall
 - (c) have its primary pedestrian entrance and building form oriented to the Council buildings and Town Square precinct
 - (d) create a major public space at the entrance which is activated by smaller scale and public realm activated retail
- and community uses
- (e) physically and visually connect with the adjacent community centre and recreational facilities in a way which maintains safe and legible access and amenity for these facilities
- (f) incorporate carparking, vehicular access and servicing either underground or located where appropriate to maintain an active frontage to Parella Street and an attractive amenity along Mills Avenue
- (g) provide for screening or buffering of carparking and service areas in a manner which minimizes adverse impacts on the amenity of nearby residential areas and the public realm
- (h) provide the flexibility to accommodate future commercial and community activities or mixed residential, community and commercial activities fronting Mills Avenue and Belyando Avenue
- (i) extend Belyando Avenue and Parella Street through to Arkana Terrace.
- (j) provide a traffic calmed environment to facilitate the safe movement of pedestrians across Parella Street through to Batchelor Parade in the mixed use zone
- (k) considering and rationalisation of Appellton Street to provide for one lane in each direction if appropriate
- (l) relocation of the skate park, if such cannot be accommodated for in any redevelopment of the site.

¹³ Generally in accordance with the "Moranbah Retail and Commercial Assessment prepared for Urban Land Development Authority by MacroPlan Australia, March 2011 - Final Report"

Map 4: Precinct 1 Map



Precinct 2

Precinct Intent

This precinct provides for substantial town expansion and offers a southern entrance statement to the town of Moranbah.

Precinct Outcomes

- (i) development occurs generally in accordance with Map 5: Precinct 2.
- (ii) active, pedestrian oriented street frontages are provided generally where indicated on Map 5 and designed so that commercial and retail uses:
 - (a) avoid having blank, or solid, or unglazed walls addressing the street; and
 - (b) provide a minimum of 3m deep awning along the full length for retail and commercial uses
 - (c) provide awnings and footpath street trees for shade and shelter and reinforce these frontages as active pedestrian areas.
- (iii) footpaths will be of a high quality with street trees, landscaping, pedestrian-scale lighting and street furniture and finished in accordance with the relevant standards and guidelines¹⁴.

¹⁴ The relevant standards are the ULDA guidelines and Schedule 1, Division 2: Standards for Roads, Carparking, Manoeuvring Areas and Access located within the Planning Scheme for the Belyando Shire which commenced on 31st January 2009.

- (iv) Map 5 illustrates the key network of public spaces and pedestrian and cycle paths which are to be provided for within the UDA.
- (v) parks are provided within this precinct as indicatively shown on Map 5.
- (vi) new roads are provided to this precinct from both Goonyella Road and Railway Station Road as required.
- (vii) building heights within this precinct are generally in the range of 3 storeys in height (11.5m).
- (viii) carparking, vehicular access and servicing for all non-residential uses are to be provided generally in accordance with relevant standards¹⁵.
- (ix) within this precinct the Rural and Civic and Open Space zones act as a buffer between the Residential zone and anticipated impacts from mining activities to the south, flooding and significant vegetation to the north and east and the Range Danger Area for the Moranbah Pistol Club to the west. The boundaries of the residential zone south of Grosvenor Creek have been informed by the anticipated mining impacts from the approved Caval Ridge Mine project located to the south and will be further refined in consultation with the Department of Environment and

¹⁵ The relevant standards are the ULDA guidelines and Schedule 1, Division 2: Standards for Roads, Carparking, Manoeuvring Areas and Access located within the Planning Scheme for the Belyando Shire which commenced on 31st January 2009.

Resource Management and Queensland Health¹⁶.

- (x) as Goonyella Road is the southern approach to the town all development fronting this road is to be designed so as to provide an attractive frontage and entrance through to the town.

¹⁶ The southern boundary of the Residential Zone has been informed by the future anticipated air quality impacts of the Caval Ridge Mine. In particular *Figure 3-7 Fifth Highest 24-hour Average Ground-Level Concentration of PM₁₀ for Year 20*, contained within the "Caval Ridge Air Quality Assessment - Supplementary Report, 30 October 2009, Prepared for BMA by URS Australia". This report by URS Australia was reviewed as part of the EIS process for the mine and it was considered that any adverse air quality impacts could be mitigated through the conditions recommended by the Coordinator-General.

The southern boundary of the Residential Zone in Precinct 2 may be redefined on the basis of the following:

- the extent of the area affected by air quality impacts (where PM₁₀ is 50µg/m³) being revised as a result of an assessment of the cumulative impact of dust from the approved Caval Ridge Mine and dust from the proposed Moranbah South Mine
- the revised extent of the area affected by air quality impacts resulting in only a minor reduction of the area of the Residential Zone in Precinct 2
- the revised extent of the area affected by air quality impacts being determined before any application for development in Sub Precincts 2a, 2c or 2d is submitted to the ULDA.

Should the proposed Moranbah South Mine not proceed, the southern boundary of the Residential Zone in Precinct 2 will remain unaltered.

- (xi) the corner of Goonyella Road and Railway Station Road is to be a key visual entry statement for the town with the incorporation of attractive landscaping and public art.
- (xii) a safe pedestrian and cycle crossing is provided across Goonyella Road and is conveniently located.
- (xiii) vegetation located within and adjacent to, and development located adjacent to the electricity easements are provided and maintained in accordance with relevant standards¹⁷.
- (xiv) Q100 flood free road access must be provided to any development within this precinct. If flood free access is provided via Moranbah Railway Station Road then any bridge over Grosvenor Creek must be designed to withstand Q25 flood events.

¹⁷ The relevant standards are the ULDA guidelines and Schedule 2, Division 4: Powerline/Electricity Easements contained within the Planning Scheme for the Belyando Shire which commenced on 31st January 2009.

Activity Centre

- (i) A small scale activity centre (indicatively located as shown on Map 5) can be provided to serve the surrounding neighbourhoods but must be of a nature and scale that does not detract from the intended function or viability of the town centre or the development within the Mixed Use zone fronting Goonyella Road.
- (ii) The activity centre is to have a centrally located focal point which may incorporate a neighbourhood or community facility and accommodate ancillary small scale retail and commercial uses however it is intended that the majority of these uses would be for cafe's and restaurants with activated street frontages¹⁸.
- (iii) The activity centre is to be located so as to maximise the number of residents who will be able to access it by walking and cycling.

Development within the Mixed Use Zone in Precinct 2

- (i) Development within the mixed use zone in this precinct is intended to provide service and convenience uses for the neighbouring residential areas. The size of these facilities is not to detract from

the intended function or viability of the town centre¹⁹.

- (ii) Showrooms for bulky goods premises are considered to be an appropriate use within this zone in this location²⁰.

This precinct may accommodate unanticipated interim land uses that do not compromise the long term use of the land for its intended purpose.

Sub-Precinct Outcomes

Within Sub-precincts 2a, 2c, 2d and within the Rural Zone any development (including interim uses) greater than one storey in height are to be appropriately set back from any anticipated air quality impacts (as shown on the Constraints Map in Appendix 1) to ensure upper levels are not adversely exposed²¹.

Sub-precinct 2a

Larger-scale non-resident worker accommodation uses (of 100 rooms or greater or that include private mess facilities, camp style accommodation or donga-style buildings) are not appropriate within this sub-precinct.

Within the outer areas of this sub-precinct lower densities are appropriate generally in the range of up to 15 dwellings to the hectare.

Sub-precinct 2b

Larger-scale non-resident worker accommodation uses (of 100 rooms or greater or that include private mess facilities, camp style accommodation or donga-style buildings) are not appropriate within this sub-precinct.

Sub-precinct 2c

Larger-scale non-resident worker accommodation may be located within this sub-precinct if an attractive visual buffer, which also provides for a key visual town entry statement, is provided adjacent to both Goonyella / Moranbah Access Road and Railway Station Road.

In considering any development proposal within this sub-precinct Isaac Regional Council will be consulted in respect of the appropriateness of the visual buffering proposed and town entry statement.

Lower densities are appropriate generally in the range of up to 15 dwellings to the hectare.

Sub-precinct 2d

Lower densities are appropriate generally in the range of up to 15 dwellings to the hectare.

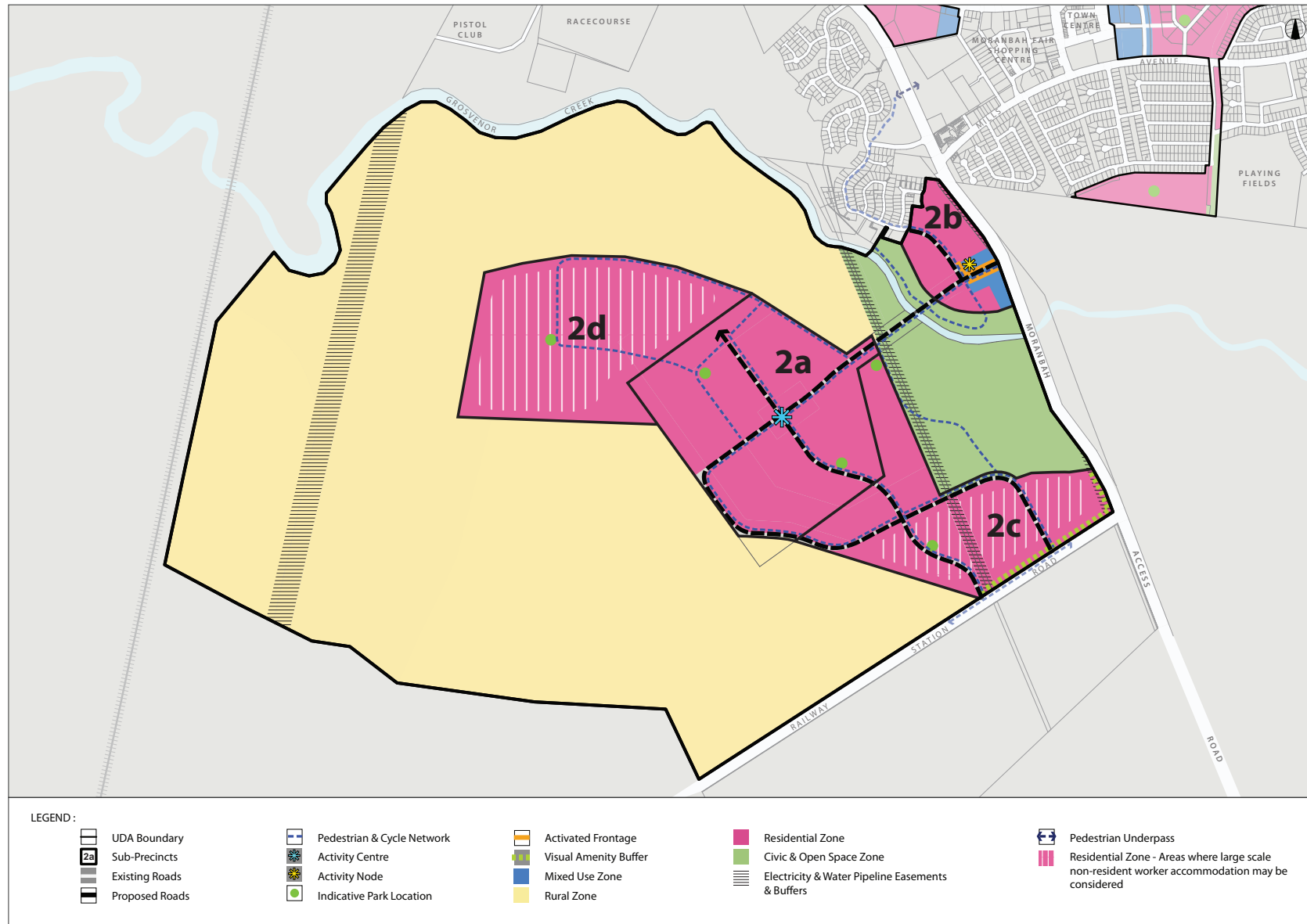
¹⁸ The scale, nature and location of Commercial and Retail uses are provided in accordance with the Moranbah Retail and Commercial Assessment prepared for Urban Land Development Authority by MacroPlan Australia, March 2011 - Final Report.

¹⁹ The scale, nature and location of Commercial and Retail uses are provided in accordance with the Moranbah Retail and Commercial Assessment prepared for Urban Land Development Authority by MacroPlan Australia, March 2011 - Final Report.

²⁰ The scale, nature and location of Commercial and Retail uses are provided in accordance with the Moranbah Retail and Commercial Assessment prepared for Urban Land Development Authority by MacroPlan Australia, March 2011 - Final Report.

²¹ The appropriate set back will be determined in consultation with DERM and Qld Health, in conjunction with the approval of any plan of development submitted as part of a development application within this area.

Map 5: Precinct 2 Map



Precinct 3

Precinct Intent

This precinct is primarily intended to provide choice and diversity of housing options ranging from single detached to multi-unit dwellings and accommodation for non-resident workers.

Precinct Outcomes

- (i) Development occurs generally in accordance with Map 6.
- (ii) Footpaths will be of a high quality with street trees, landscaping, pedestrian-scale lighting and street furniture and finished in accordance with the relevant standards and guidelines²².
- (iii) Map 6 illustrates the key network of public spaces and pedestrian and cycle paths which are to be provided for within the UDA and beyond.
- (iv) Neighbourhood parks are provided within this precinct as indicatively shown on Map 6.
- (v) Building heights within this precinct are generally in the range of 3 storeys in height (11.5m) .
- (vi) Carparking, vehicular access and servicing for all non-residential uses are to be provided generally in accordance

²² The relevant standards are the ULDA guidelines and Schedule 1, Division2: Standards for Roads, Carparking, Manoeuvring Areas and Access located within the Planning Scheme for the Belyando Shire which commenced on 31st January 2009.

with relevant standards ²³.

- (vii) This precinct incorporates an indicative 300m buffer to the sewerage treatment plant and any additional buffering will be determined through the development assessment process, having regard to future sewerage treatment upgrades.
- (viii) Vegetation located within and adjacent to, and development located adjacent to the electricity easements are provided and maintained in accordance with relevant standards²⁴.

Development within the Mixed Use Zone in Precinct 3

- (i) Within this precinct the mixed use zone located adjacent to the west of the Moranbah Town Centre is intended to primarily incorporate community and neighbourhood uses. However, these uses may be supported by ancillary commercial, retail and residential uses.
- (ii) The mixed use zone located on Mills Avenue and adjacent to the leagues club is intended to be retained for child care centre uses.

²³ The relevant standards are the ULDA guidelines and Schedule 1, Division2: Standards for Roads, Carparking, Manoeuvring Areas and Access located within the Planning Scheme for the Belyando Shire which commenced on 31st January 2009.

²⁴ The relevant standards are the ULDA guidelines and Schedule 2, Division 4: Powerline/Electricity Easements contained within the Planning Scheme for the Belyando Shire which commenced on 31st January 2009.

Sub-precinct 3a

Larger-scale non-resident worker accommodation uses (of 100 rooms or greater or that include private mess facilities, camp style accommodation or donga-style buildings) are not appropriate within this sub-precinct.

Sub-precinct 3b

Larger-scale non-resident worker accommodation uses (of 100 rooms or greater or that include private mess facilities, camp style accommodation or donga-style buildings) are not appropriate within this sub-precinct.

Sub-precinct 3c

Larger-scale non-resident worker accommodation may be considered appropriate within this sub-precinct.

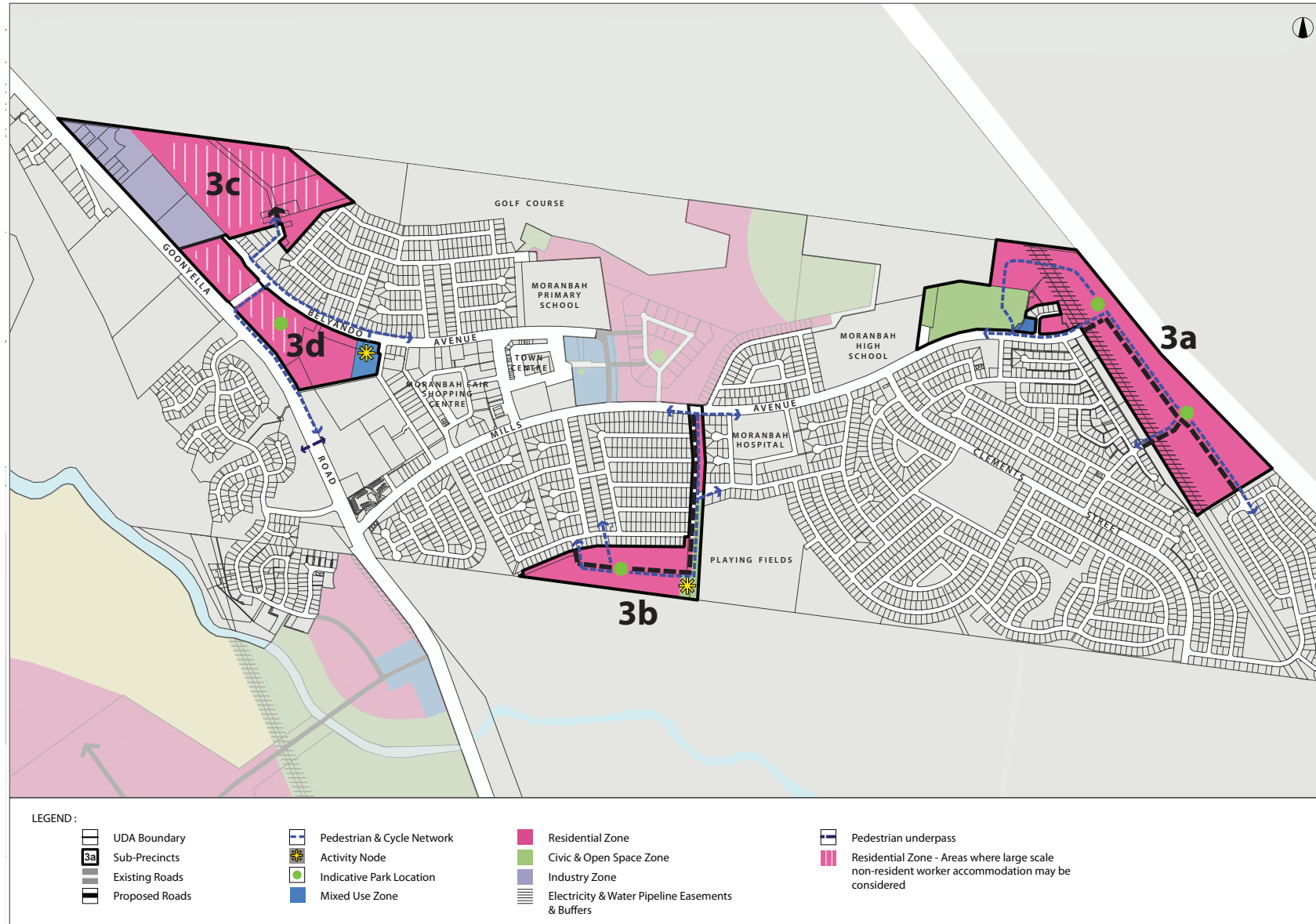
Sub-precinct 3d

Larger-scale non-resident worker accommodation may be considered appropriate on the hatched sites within this sub-precinct in accordance with Map 6.

A pedestrian path and attractive landscaping are provided adjacent to Belyando Avenue.

Development within this sub-precinct is to incorporate a 50m landscaped buffer to any existing adjoining industrial uses.

Map 6: Precinct 3 Map



Infrastructure Plan

Infrastructure requirements to achieve the vision for the UDA will be determined through the development assessment process, imposed as conditions of a UDA development approval for development and delivered as part of the building and operational works on the site.

A ULDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the ULDA Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

Infrastructure will include:

- » Parks
- » Roads
- » Pedestrian/cycle networks
- » Water supply and sewerage
- » Stormwater management
- » Telecommunications
- » Power
- » Community facilities

Infrastructure charges will be based on Isaac Regional Council's applicable infrastructure charging document for the area in force at the time of declaration of the UDA unless the ULDA, in consultation with Isaac Regional Council, infrastructure provider agencies and state agencies, has prepared a replacement Infrastructure Charges Schedule under Section 97 of the ULDA Act. These charges will be indexed each year by the five year rolling average of the Queensland Roads and

Bridges Index. The ULDA may also impose infrastructure charges, or a special rate or charge under Section 101 of the ULDA Act, to contribute to the implementation of the Moranbah UDA Social, Cultural and Community Infrastructure Strategy.

Infrastructure delivered as part of the development may be credited against the monetary contribution that would otherwise apply.

State infrastructure funding, where necessary, may be sought under the normal budgetary processes and will be part of an approved State agency capital program.

State controlled roads shall be upgraded in accordance with agreements with DTMR.

Listed below is infrastructure currently identified for the Moranbah UDA.

Infrastructure	Description of works
Parks	New neighbourhood parks provided in association with new residential.
Walking and cycling tracks	New footpaths and footpath upgrades within the UDA and connecting to associated external facilities.
Roads and streets	Extension of Tallon Street in association with development of the boxing club site.
	Upgrading Parella Street to enhance pedestrian safety and walkability from Appleton Street through to the Town Centre.
	Rationalisation of Appleton Street to allow for one lane of traffic movements in each direction.
	Bridge over Grosvenor Creek connecting to development areas south of the creek. This is to be provided in association with any development south of Grosvenor Creek in Precinct 2.
	New roads and streets to service the community in the UDA.
Water supply and sewerage	Water and sewerage services for the development that connect to existing networks.
Stormwater management	New works linking with external stormwater management works.
Community facilities	Works meeting the requirements of the relevant provider, generally in accordance with the Moranbah UDA Social, Cultural and Community Infrastructure Strategy to be completed in 2011.
	Relocation of the Skate Park in association with the redevelopment of Ted Rolfe Oval.

Implementation Strategy

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the vision for the UDA.

The strategy identifies each of the implementation mechanisms and the purpose of the *Urban Land Development Act 2007* (the Act) that each is seeking to achieve.

Implementation mechanisms	Relevant purpose of the Act
Preparing a UDA development application	
<ul style="list-style-type: none"> » ULDA Guideline no. 1 Residential 30 » ULDA Guideline no. 2 Accessible Housing » ULDA Guideline no. 3 Non-resident worker accommodation » ULDA Guideline no. 4 Design benchmarks for residential infill development in the Blackwater UDA (Where applicable and relevant to the Moranbah context) » ULDA Guideline no. 14 Environment and natural resources sustainability » ULDA Guideline no. 15 Flood protection » Determining the location of the boundary for the Residential Zone in Precinct 1 where it abuts the Moranbah Golf Club and the buffer to the sewerage treatment plant » Determining the location of the boundary for the Residential Zone in Precinct 2 where it is required to respond to the constraints of the land as identified within the Constraints Map in Appendix 3. 	<ul style="list-style-type: none"> » Provision of a range of housing options to address diverse community need. » Provision of an ongoing availability of affordable housing options for low to moderate income households. » Planning principles that give effect to ecological sustainability and best practice urban design » Availability of land for urban purposes.
Development assessment process	
<ul style="list-style-type: none"> » Development Assessment Supplementary Guide » Development Assessment Certification Procedures Manual 	<ul style="list-style-type: none"> » Availability of land for urban purposes.
Provision of infrastructure	
<ul style="list-style-type: none"> » Identifying third party funding opportunities. » Determining in consultation with DTMR, upgrading and/or contributions to upgrading of state controlled roads in the vicinity of the UDA. » Working with DTMR and IRC to facilitate a future additional safe pedestrian crossing across Goonyella / Moranbah Access Road. » Discuss with DTMR and IRC the principal cycle network links throughout the town to achieve agreement on these links and determination of implementation priority. » Work with Isaac Regional Council to facilitate the relocation of the Skate Park if required as part of the Ted Rolfe Oval redevelopment » Work with Isaac Regional Council to prepare a master plan that indicates existing and anticipated yield from the ultimate development of the urban areas. » Work with Isaac Regional Council to prepare a master plan to accurately size and determine the most appropriate location for trunk infrastructure. 	<ul style="list-style-type: none"> » Provision of infrastructure for urban purposes.

Implementation mechanisms	Relevant purpose of the Act
Community engagement	
<ul style="list-style-type: none"> » Provide ongoing information to the community (Factsheets, newsletters, letterbox drops, newspaper articles etc) » Engage the community in planning and design projects » Work with Isaac Regional Council, state and federal government agencies and community organisations to facilitate a coordinated employment and training opportunities in Moranbah. 	<ul style="list-style-type: none"> » Planning principles that give effect to ecological sustainability and best practice urban design. » Provision of a range of housing options to address diverse community need.
Riverbank management	
<ul style="list-style-type: none"> » Investigate options for the maintenance or enhancement of the marine environment of the bed and banks of Grosvenor Creek 	<ul style="list-style-type: none"> » Planning principles that give effect to ecological sustainability and best practice urban design
Facilitation of ongoing availability of affordable housing	
<ul style="list-style-type: none"> » Developing mechanisms that assist in the retention of affordable housing, including housing for key workers not employed in the resources sector, in consultation with Isaac Regional Council. 	<ul style="list-style-type: none"> » Planning principles that give effect to ecological sustainability and best practice urban design. » Provision of an ongoing availability of affordable housing options for low to moderate income households.
<ul style="list-style-type: none"> » Work with Isaac Regional Council, the resources sector and community organisations to facilitate partnership opportunities for the provision of rental accommodation for key workers outside the resources sector. 	
<ul style="list-style-type: none"> » Monitoring the delivery of affordable and accessible housing. 	
<ul style="list-style-type: none"> » Encouraging ecological design principles that lead to reduced costs for use of facilities. 	

Implementation mechanisms	Relevant purpose of the Act
Population, social and community facilities and service analysis	
<ul style="list-style-type: none"> » Facilitate the development of a Moranbah UDA Social, Cultural and Community Infrastructure Strategy, based on: <ul style="list-style-type: none"> » an assessment of existing provision, current and future demand for facilities and services in response to population growth » investigation of opportunities to incorporate public art in conjunction with the development of key activity nodes and entry statements for the town within the UDA. 	<ul style="list-style-type: none"> » Planning principles that give effect to ecological sustainability and best practice urban design. » Provision of infrastructure for urban purposes.
<ul style="list-style-type: none"> » Work with landowners, Isaac Regional Council, state and federal government agencies, the resource sector and community organisations, as required to facilitate the provision of facilities and services identified in the Moranbah UDA Social, Cultural and Community Infrastructure Strategy. 	
<ul style="list-style-type: none"> » Investigate the establishment of Infrastructure Charges and/or a Special Rate to contribute to the implementation of the Moranbah UDA Social, Cultural and Community Infrastructure Strategy, in conjunction with other funding sources. 	
<ul style="list-style-type: none"> » Monitor the delivery of social, cultural and community infrastructure. 	
<ul style="list-style-type: none"> » Update the Moranbah Retail and Commercial Assessment prepared for Urban Land Development Authority by MacroPlan Australia, March 2011 - Final Report when considered necessary to account for changes in future population estimates. 	<ul style="list-style-type: none"> » Availability of land for urban purposes.

Schedule 1: Exempt development

Building work
Carrying out building work associated with a material change of use that is UDA exempt or self assessable development unless otherwise specified.
Carrying out building work associated with an approved material change of use.
Minor building work or demolition work except where the building is identified as a heritage registered place.
Material change of use of premises
Making a material change of use of premises implied by building work, plumbing work, drainage work or operational work if the work was substantially commenced by the state, or an entity acting for the state, before 31 March 2000.
Making a material change of use of premises for a class 1 or 2 building under the Building Code of Australia (BCA) part A3, if the use is for providing support services and short term accommodation for persons escaping domestic violence.
Making a material change of use of premises for a park.
Reconfiguring a lot
Reconfiguring a lot under the <i>Land Title Act 1994</i> , if the plan of subdivision necessary for the reconfiguration is: <ul style="list-style-type: none"> (a) a building format plan of subdivision that does not subdivide land on or below the surface of the land (b) for the amalgamation of two or more lots (c) for the incorporation, under the <i>Body Corporate and Community Management Act 1997</i>, section 41, of a lot with common property for a community titles scheme (d) for the conversion, under the <i>Body Corporate and Community Management Act 1997</i>, section 43, of lessee common property within the meaning of that Act to a lot in a community titles scheme (e) in relation to the acquisition, including by agreement, under the <i>Acquisition of Land Act 1967</i> or otherwise, of land by: <ul style="list-style-type: none"> (i) a constructing authority, as defined under that Act, for a purpose set out in parts 1-13 (other than part 10, second dot point) of the Schedule to that Act or (ii) an authorised electricity entity (f) for land held by the State, or a statutory body representing the State and the land is being subdivided for a purpose set out in the <i>Acquisition of Land Act 1967</i>, parts 1-13 (other than part 10, second dot point) whether or not the land relates to an acquisition (g) for the <i>Transport Infrastructure Act 1994</i>, section 240 (h) in relation to the acquisition of land for a water infrastructure facility.
Subdivision involving road widening and truncations required as a condition of development approval.
Operational work
Operational work, or plumbing or drainage work (including maintenance and repair work) if the work is carried out by or on behalf of a public sector entity authorised under a State law to carry out the work.
Erecting no more than one (1) satellite dish on premises, where the satellite dish has no dimension greater than 1.8 metres.

Filling or excavation where:
(a) to a depth of one vertical metre or less from ground level or
(b) top dressing to a depth of less than 100 vertical millimetres from ground level
Carrying out operational work if consistent with an approved Plan for Development for a precinct.
Carrying out operational work associated with a material change of use that is UDA exempt development (excluding park).
Carrying out operational work associated with an approved material change of use.
Carrying out operational work associated with the decontamination of land.
Carrying out operational work that is clearing of vegetation:
(a) other than Significant vegetation and Significant Vegetation where the clearing is consistent with an approved Plan of Development
(b) carried out by or on behalf of Isaac Regional Council or a public sector entity, where the works being undertaken are authorised under a state law
(c) in accordance with the conditions of a UDA development approval for a material change of use or reconfiguring a lot.
Carrying out operational work that is the placing of advertising devices that:
» do not exceed 5m ² for commercial, industrial, recreational or entertainment use
» are attached to front fence or facade of main building
» so not project more than 150mm from front facade or front fence
» are not illuminated
» contain name of business or operator, use on premises, contact details or name and address of building and
» comprise no more than two signs.
Operational work (including maintenance and repair work) if the work is carried out by or on behalf of a public sector entity authorised under a state law to carry out the work.
Plumbing or drainage work
Carrying out plumbing or drainage work.

All aspects of development
Development directed to be carried out under a notice, order or direction made under a State law.
Development for a Home based business.
Development undertaken by the state, or a statutory body representing the state, for the purposes of public housing.
Development consistent with an approved Plan of Development.
Development for a utility installation, being an undertaking for the supply of water, hydraulic power, electricity or gas, of any development required for the purpose of that undertaking by way of:
(a) development of any description at or below the surface of the ground
(b) the installation of any plant inside a building or the installation or erection within the premises of a generating station of any plant or other structures or erections required in connection with the station
(c) the installation or erection of an electricity distribution or supply network (and any components of such a network) which operates at voltages up to and including 33 kilovolts, excluding new substations.

Schedule 2: Definitions

Use Definitions

Commercial Uses

Business

Means the use of premises for administration, clerical, technical, professional or veterinarian services or other business activity where any goods or materials made, sold or hired on the premises are ancillary.

Medical centre

Means the use of premises for the medical care and treatment of persons not resident on the site. The term includes medical centre, dental clinics, pathology labs, naturopath clinics, chiropractic clinics, natural medicine practices, counselling rooms, psychiatric and psychological consulting rooms, premises used for nursing services and the like. The term does not include home based businesses, hospitals, retirement villages or aged care facilities.

Sales office and display home

Means the use of premises (including a caravan or relocatable home structure) for the promotion and/or sale of land and/or buildings within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Industrial Uses

Extractive industry

Means the use of premises for extraction of sand, gravel, soil, rock, stone or similar substance from land. The term includes ancillary storage, loading or cartage and any crushing, screening, washing, blending or other treatment processes of material extracted from the site.

High impact industry

Means the use of premises for industrial activities which have significant off-site impacts such as air and noise emissions. Examples include asphalt manufacturing, boiler making, brewery, engineering works, glass or glass fibre making and timber mills.

Low impact industry

Means the use of premises for industrial activities which have minimal impacts on non-industrial uses and where impacts such as noise and air emissions are able to be readily mitigated. Examples include small engine repair workshop and vehicle workshop.

Noxious and hazardous

Means the use of premises for industrial activities that have extreme adverse impacts on other land uses. These impacts include air, noise and water emissions, the potential for fire, explosions and toxic releases.

Research and technology facility

Means the use of premises for innovative and emerging technological industries involved in research, design, manufacture, assembly, testing, maintenance and storage of machinery, equipment and components. Examples include aeronautical engineering, computer component manufacturing, medical laboratories.

Service industry

Means the use of premises for industrial activities where manufactured goods are sold or repaired or commercial services are provided.

Warehouse

Means the use of premises for the storage of goods whether or not in a building, including self storage facilities or storage yards.

Residential Uses

Home based business

Means the use of a House or Multiple residential for an occupation or business activity as a secondary use where:

- » the floor area used specifically for the home business does not exceed 50m²
- » any visitor accommodation does not exceed 4 visitors
- » there is no hiring out of materials, goods, appliances or vehicles
- » there is only one sign related to the Home business, located within the premises or

on a fence facing the road

- » there is no repairing or servicing of vehicles not normally associated with a house
- » there is no industrial use of premises
- » the maximum height of a new building, structure or object does not exceed the height of the house and the setback is the same as, or greater than, buildings on adjoining properties.

House

Means the use of premises for residential purposes where freestanding on its own lot used as one self contained dwelling.

Multiple residential

Means the use of premises for residential purposes if there are two or more dwelling units on any one lot. Multiple residential dwelling units may be contained on one lot or each dwelling unit may be contained on its own lot subject to community title schemes. The term multiple residential does not include House.

Non-resident worker accommodation

Means the use of premises for accommodating non-resident workers connected with the mining industry and the provision of associated infrastructure, such as railways (including mining, construction or operational camps, workers accommodation and single person's quarters), if workers stay on an ongoing basis in accordance with a work roster.

The term may include ancillary facilities such as dining facilities, kiosk, amenities and recreation facilities commensurate with the needs of the intended community.

The term does not include the use of premises for accommodation for occasional or irregular visitors associated with these industries.

Other residential

Means the use of premises for the accommodation and care of aged and retired people, small groups of disadvantaged persons or persons who are being nursed, require ongoing supervision/support or are convalescing. This term may include but is not limited to ancillary dining and recreation facilities, administration offices, laundries, kitchens, ancillary medical facilities and residential accommodation for management and staff.

Relocatable home park

Means the use of premises for relocatable dwellings that provide long term residential accommodation.

The term includes ancillary facilities such as amenities, laundries, kitchens and recreation facility for persons associated with the development. It also includes a manager's office and residence.

Short-term accommodation

Premises used to provide short-term accommodation for the general public which may be self-contained.

The use may include a manager's residence and office and the provision of recreation facilities for the exclusive use of residents.

Retail Uses

Fast food premises

Means the use of premises for the preparation and sale of food to the public generally for immediate consumption off the premises. The term may include drive through facilities and ancillary facilities for the consumption of food on the premises.

Food premises

Means the use of premises for the preparation and sale of food and drink to the public for consumption on or off the site. The term includes a cafe, restaurant, coffee shop, bistro, tea room, milk bar, snack bar, kiosk, take-away, but does not include fast food premises as separately defined.

Market

Means the use of premises for the display and sale of goods to the public on a regular but infrequent basis, where goods are primarily sold from temporary structures such as stalls, booths or trestle tables. The use includes ancillary food and beverage sales and ancillary entertainment provided for the enjoyment of customers.

Service station

Means the use of premises for the retail sale of fuel including petrol, liquid petroleum and automotive distillate to refuel motor vehicles.

Shop

Means the use of premises for the display, sale or hire of goods to the public. The term includes the incidental storage of goods on the premises and the ancillary or incidental preparation of food. It also includes hairdressing, minor appliance repairs, alterations, retail dry cleaning, liquor store, department store, discount department store, discount variety stores and betting agencies. The term does not include the types of repairs as separately defined by light industry.

Shopping centre

Means the use of premises for display, sale or hire of goods comprising two or more individual tenancies, comprising primarily shops and which function as an integrated complex.

Showroom

Means the use of premises for the display and sale of goods primarily of a bulky nature and of a similar or related product line. The term also includes storage.

Rural Uses

Agriculture

Means the use of premises for commercial purposes for the:

- » growing and harvesting of trees, crops, pastures, flowers, fruit, turf, vegetables and the like for commercial or business purposes. The definition includes the storage and packing of produce grown on the subject site and the repair and servicing of machinery and other ancillary activities
- » breeding, keeping, rearing, training, boarding or stabling of animals.

Animal keeping and husbandry

Means the use of premises for keeping, depasturing, grazing or stabling of any animal, bird, insect and reptile. The term includes the use of land for keeping, breeding, stabling, training or boarding animals.

Service and Community Uses

Caretaker's accommodation

The residential use of part of a premises where in connection with a non residential use on the same premises.

Car park

Means the use of premises for the parking of motor vehicles where such parking is not ancillary to some other development on the same site.

Cemetery

Means the use of premises for the interment of the dead. The term does not include a crematorium or funeral parlour.

Child care centre

Means the use of premises for the minding or care, but not residence of children generally under school age. The use includes but is not limited to a kindergarten, creche or early childhood centre.

Community facility

Means the use of premises for social or community purposes, such as a community centre, library, public building or the like.

Crematorium

Means the use of premises for cremating human corpses after death. The term does not include a funeral parlour or cemetery.

Educational establishment

Means the use of premises for systematic training and instruction, including any other ancillary facility. This definition includes prep facilities, primary school, secondary school, college, university, technical institute, academy or other educational centre.

This term may include residential accommodation and other ancillary uses provided for the employees and the students of such premises.

Emergency service

Means the use of premises for services which respond to community need in an emergency.

Environmentally relevant activities

As defined in the *Environmental Protection Act 1994*.

Funeral parlour

Means the use of premises for arranging and conducting funerals, memorial services and the like, but does not include burial and cremation. The definition includes the storage and preparation of bodies for burial or cremation and includes a mortuary and funeral chapel. The term does not include a cemetery or crematorium.

Hospital

Means the use of premises for the medical or surgical care or treatment of persons accommodated on the premises to receive this care or treatment.

The use includes care or treatment of persons such as emergency patients or out-patients not residing on the premises

Place of assembly

Means the use of premises for worship and activities of a religious organisation, community or association.

Utility installation

Means the use of premises for the purpose of providing utility or telecommunications services, which does not fall within the Schedule of Facilities and Areas under the *Telecommunications Act 1997*. The term may include but is not limited to:

- » a telecommunications tower more than 5m in height
- » an equipment shelter of more than 7.5m² in area and 3m in height.

Sport, Recreation and Entertainment Uses**Club**

Means the use of premises by persons associated (whether incorporated or not) for social, literary, political, sporting, athletic or other similar purposes to which the general public may also resort and which is, or intends to be, subject to a club licence under the Liquor Act 1992. The premises may also include the provision of food and beverages, limited live or recorded entertainment and gaming machines.

Indoor sport, entertainment and recreation

Means the use of premises for leisure, sport or recreation conducted wholly or mainly indoors such as indoor sports and fitness centres, gyms, bowling alleys, squash courts and the like.

Indoor entertainment

Means the use of premises for sport, physical exercise, recreation and public entertainment predominantly within a building. The term includes facilities commonly described as sports centre, gymnasium, convention centres, amusement and leisure centres, cinema, nightclub, adult entertainment theatre and hotel.

Outdoor sport and recreation

Means the use of premises for any sporting or recreational activity, or other leisure past time, which is conducted wholly or mainly outside of a building.

The term includes such typical premises as (outdoor) public swimming pools, golf courses and driving ranges, outdoor courts and sportsgrounds, and the like. The term also includes the provision of a clubhouse and other ancillary facilities.

Park

Means the use of premises by the public for free recreation and enjoyment, but used infrequently for events.

Facilities for park users may include children's playground equipment, informal sports fields, vehicle parking and other public conveniences.

A park does not include pest vegetation as listed by state or local government.

Tourism

Tourist attraction

Means the use of premises for providing on-site entertainment, recreation or similar facilities for the touring or holidaying public.

Tourist park

Means the use of premises to provide accommodation in caravans, self contained cabins, tents and similar structures for the touring or holidaying public.

The use may include a manager's residence and office, kiosk, amenity buildings and the provision of recreation facilities for the exclusive use of occupants of the park.

Other Development

Filling or excavation

Means removal or importation of material to or from a lot that will change the ground level of the land.

Material change of use

As defined in the *Sustainable Planning Act 2009*.

Minor building or demolition work

Means

- » internal building work
- » demolition work
- » external building work up to 25m² for roofs over existing decks or paved areas, sun hoods, carports and the like

- » building work up to 10% of approved GFA or lawfully existing GFA at the time of commencement of this ILUP
- » raising a house where the resultant height does not exceed 9m.

Operational work

As defined in the *Sustainable Planning Act 2009*.

Reconfiguring a lot

As defined in the *Sustainable Planning Act 2009*.

Administrative Definitions

Affordable housing

Affordable housing²⁵ means private rental housing and home purchase options (including housing aimed at the first home owners market) for low to moderate income households.

Basement

A storey below ground level or where the underside of the ceiling projects no more than one metre above ground level.

Building

As defined in the *Building Act 1975*.

Building height

The maximum vertical distance between the natural ground level and the roof or parapet at any point but not including an antenna, aerial, chimney, flagpole or the like.

Contaminated Land Register

As defined in the *Environmental Protection Act 1994*.

Development scheme

As defined in the *Urban Land Development Authority Act 2007*.

Dwelling

Any "building" or part thereof comprising a self-contained unit principally for residential accommodation and includes any reasonably associated building.

Dwellings per hectare

Dwellings per hectare should be calculated on a 'net residential density basis' including internal local roads, local neighbourhood parks and half the area of adjoining local roads within the base land area.

Areas not in the residential zone (such as the environmental zone) should not be included in density calculations. Some areas within the development scheme will however be calculated on a 'site density' basis as no local roads or neighbourhood parks will be provided within the site.

Dwelling unit

Means a building or part of a building used or capable of being used as a self contained residence which must include:

- » food preparation facilities
- » a bath or shower
- » a toilet and wash basin.

The term includes works ancillary to a dwelling.

Environmental Management Register

As defined in the *Environmental Protection Act 1994*.

Gross floor area

The total floor area of all storeys of a building, including mezzanines, measured from the external walls or the centre of a common wall, excluding area used for:

- » building services
- » ground floor public lobby
- » a public mall in a shopping complex
- » the parking, loading and manoeuvring of motor vehicles
- » private balconies whether roofed or not.

Ground level

The level on a site which precedes development excluding any site works that are subject to a related development approval, unless approved by the ULDA or established as part of a reconfiguration of the land preceding development.

Grounds

Grounds means matters of public interest which include the matters specified as the main purposes of the Act as well as:

- » superior design outcomes and
- » overwhelming community need.

²⁵ Refer to the ULDA Affordable Housing Strategy

Grounds does not include the personal circumstances of an applicant, owner or interested third party.

High water mark

Refers to the ordinary high water mark at spring tides.

Interim Uses

Refer to section 3.2.9.

Larger-scale Non-resident worker accommodation

Means Non-resident worker accommodation providing more than 100 rooms, or if located on a particular lot, would contribute to a cumulative total of more than 100 rooms on that and adjoining or opposing lots. Within this development scheme this term also includes an Non-resident worker accommodation that includes private mess facilities, camp style accommodation or donga-style buildings.

Mezzanine

An intermediate floor within a room.

Net residential density

As defined in ULDA guideline no. 01 Residential 30.

Noise sensitive use

Means any of the following:

- » House, Multiple residential, Other residential
- » Childcare centre, Community facility,

Hospital or Place of assembly

- » Park.

Park Network

An integrated greenspace network including both active and passive recreation, linear/ riparian corridors, parks and private and public sporting recreation facilities.

Planning scheme

The planning scheme for Isaac Regional Council as at the date of this Development Scheme.

Plan of Development

Means :

- » a detailed plan as described in ULDA guideline no. 01 Residential 30 or
- » a detailed plan, including graphics, text and tables that collectively accompanies a development application. A Plan of Development details lot layout, the form and density of development, landscape intent and building control requirements.

Plot ratio

The ratio between the gross floor area of a building and the total area of the site.

Premises

As defined in the *Sustainable Planning Act 2009*.

Private open space

An outdoor area for the exclusive use of occupants.

Public benefit

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public housing

As defined in the *Sustainable Planning Act 2009*.

Public interest

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public realm

Refers to spaces that are used by the general public, including streets, squares, plazas and boulevards.

Relevant Zone

Refers to the zone in which the land is located under the planning scheme.

Sensitive uses

Means any of the following Home based business, House, Multiple residential, Other residential, Relocatable home or caravan park, Caretakers accommodation, Car park, Child care centre, Community facility, Educational establishment, Club, Indoor sport entertainment and recreation, Outdoor sport and recreation, Park.

Setback

The shortest distance measured horizontally from the outermost projection of the building or structure to the vertical projection of the

boundary of the lot.

Significant vegetation

Means all vegetation, except those listed as pest vegetation by State or local government, that is significant in its:

- » ecological value at local, State or national levels
- » contribution to the preservation of natural landforms
- » contribution to the character of the landscape
- » cultural or historical value
- » amenity value to the general public.

Note: vegetation may be living or dead and the term includes their root zone²⁶.

Site cover

The proportion of the site covered by buildings, including roof overhangs.

Storey

A space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above. This does not mean:

1. a space that contains only:
 - a. a lift shaft, stairway or meter room
 - b. a bathroom, shower room, laundry,

²⁶ The root zone is described by the vertical projection of the foliage to a depth of 1 metre below the surface and including buttress roots on and above the soil surface.

toilet or other sanitary compartment

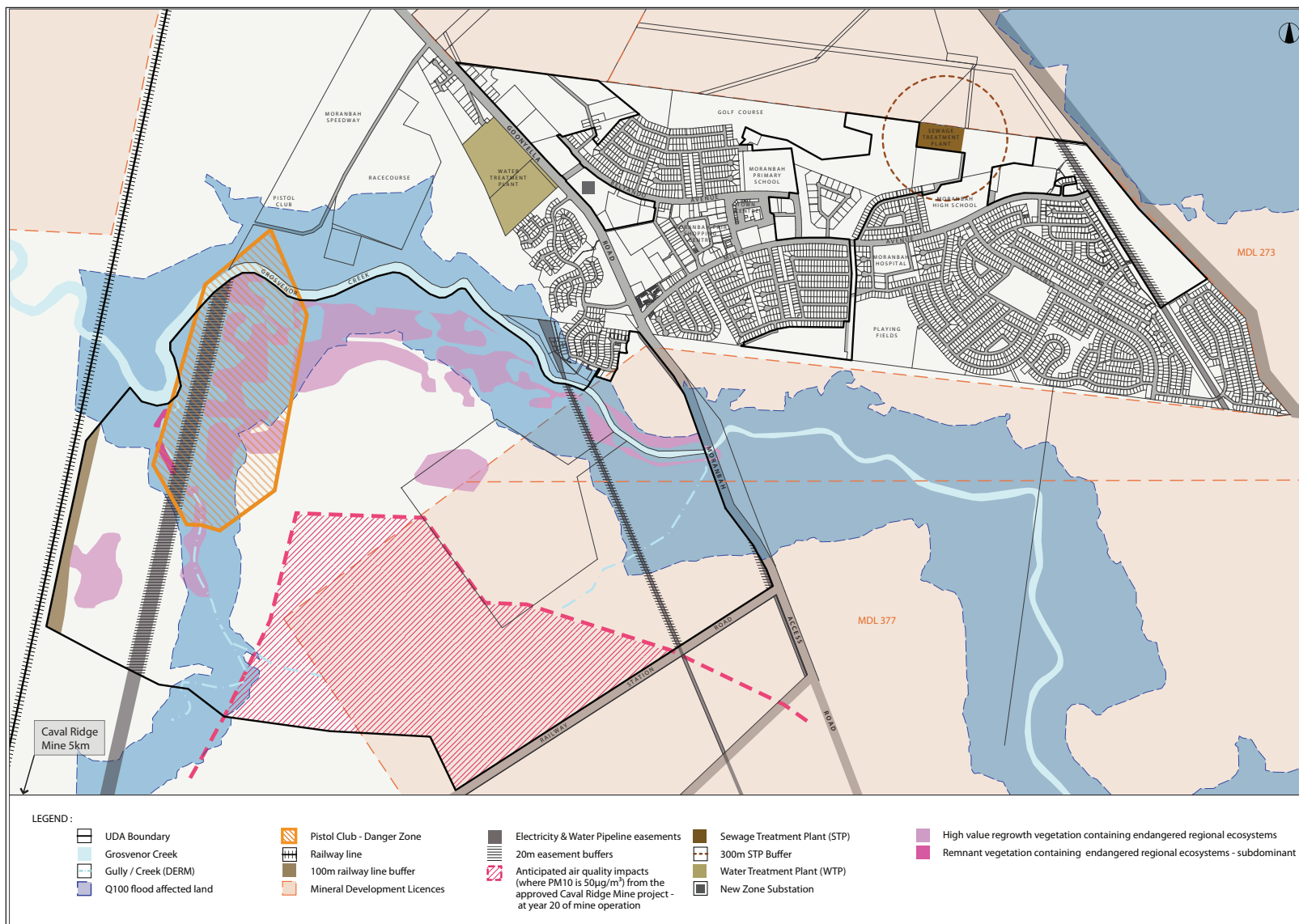
- c. accommodation intended for not more than 3 vehicles
- d. a combination of the above, or

2. a mezzanine.

Urban Design

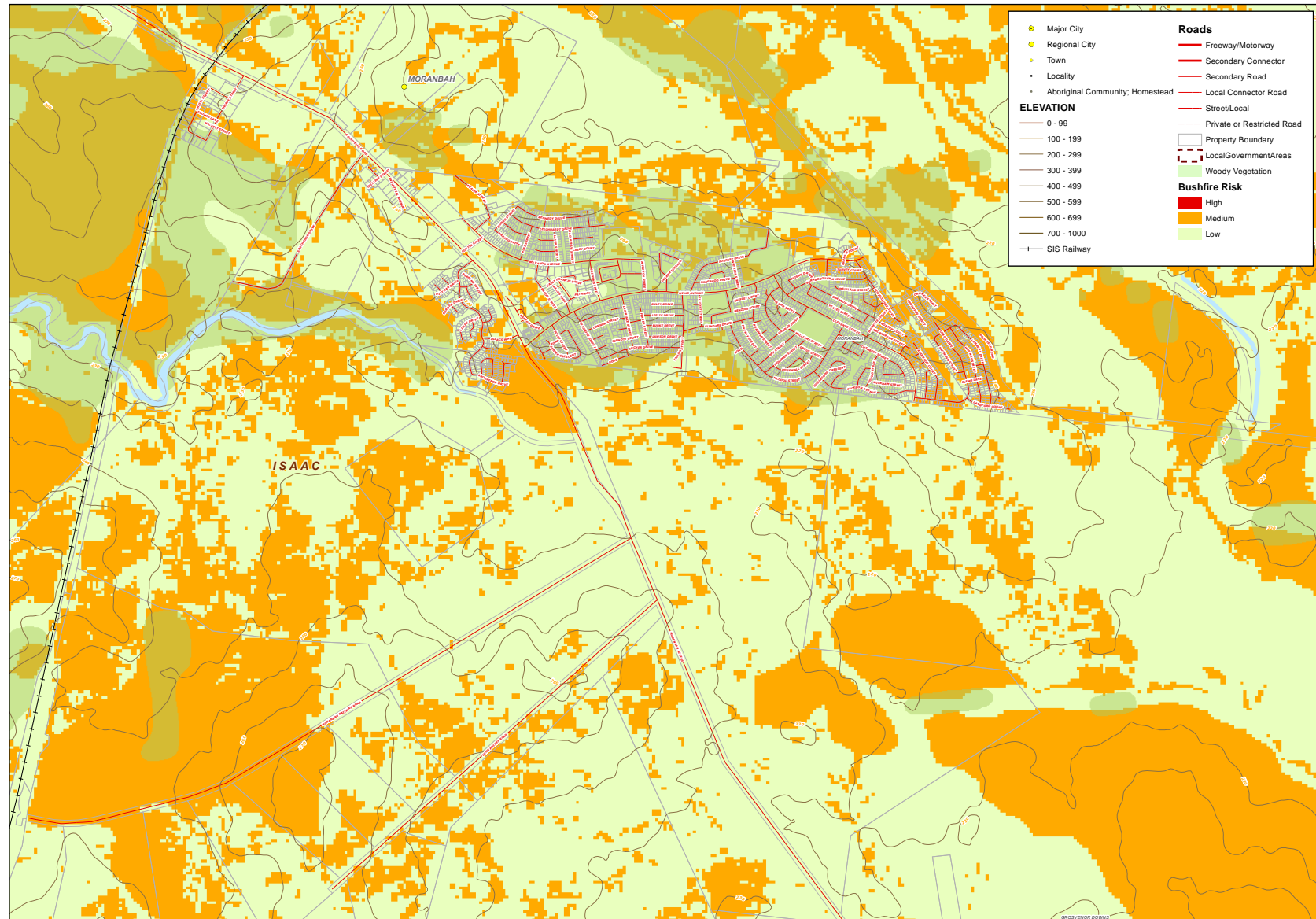
Refers to the holistic design of urban environments, including the overall townscape, individual buildings, street networks, streetscapes, parks and other public spaces.

Appendix 1: Constraints Map*



*With regard to the anticipated air quality impacts (where PM₁₀ is 50µg/m³) from the approved Caval Ridge Mine project - at year 20 of mine operation. In particular Figure 3-7 Fifth Highest 24-hour Average Ground-Level Concentration of PM₁₀ for Year 20, contained within the "Caval Ridge Air Quality Assessment - Supplementary Report, 30 October 2009, Prepared for BMA by URS Australia". This report by URS Australia was reviewed as part of the EIS process for the mine and it was considered that any adverse air quality impacts could be mitigated through the conditions recommended by the Coordinator-General. See also Footnote 16.

Appendix 2: Bushfire risk (as provided by Queensland Fire and Rescue Services, April 2011)



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Legend

- UDA Boundaries
- Cadastre
- Qld floodline
- Rail

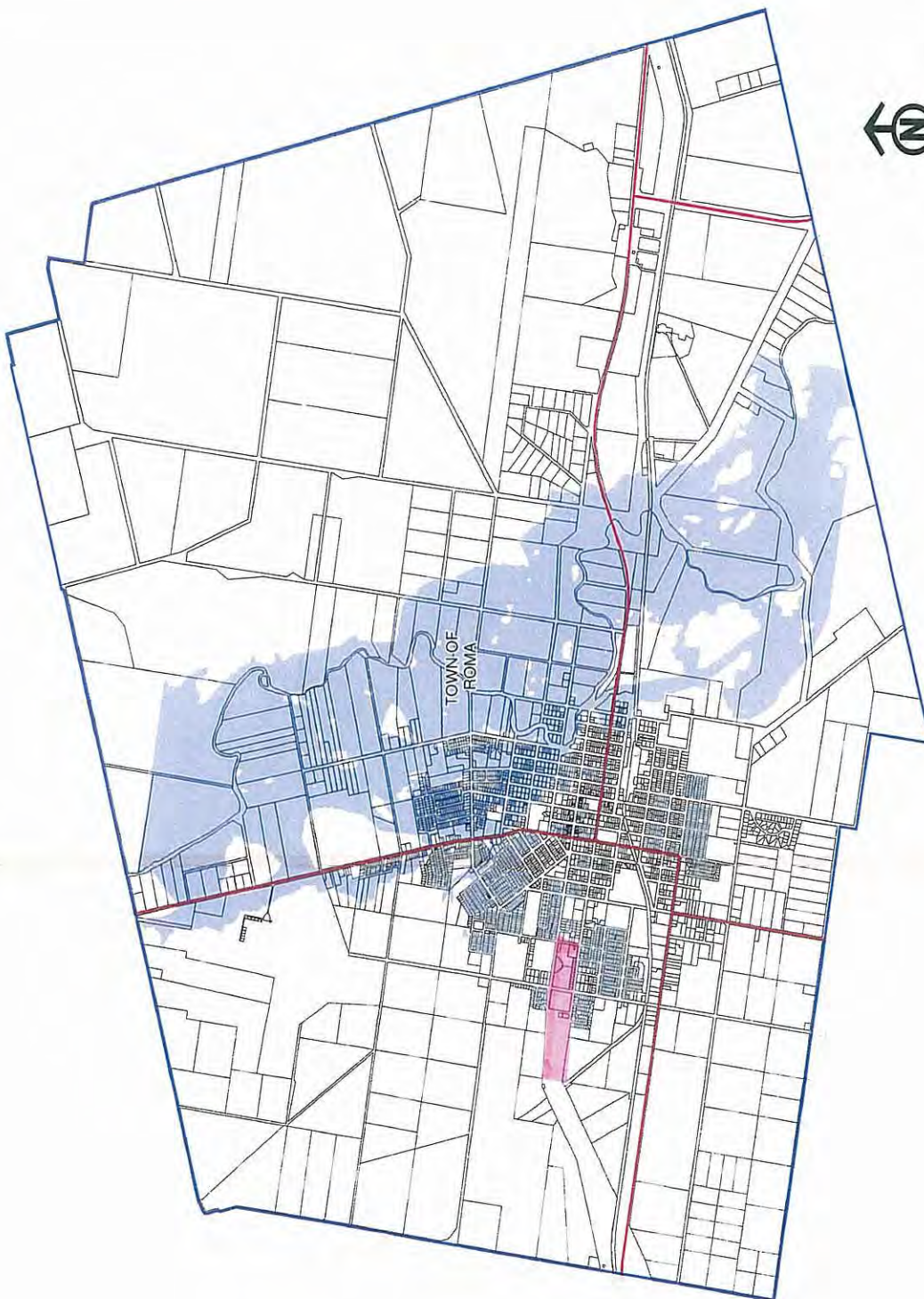




The Planning Scheme for the Town of Roma

-  UDA
-  1 IN 100 YEAR
FLOODING EVENT
-  Shire Boundary
-  Rail Lines
-  State Controlled Roads

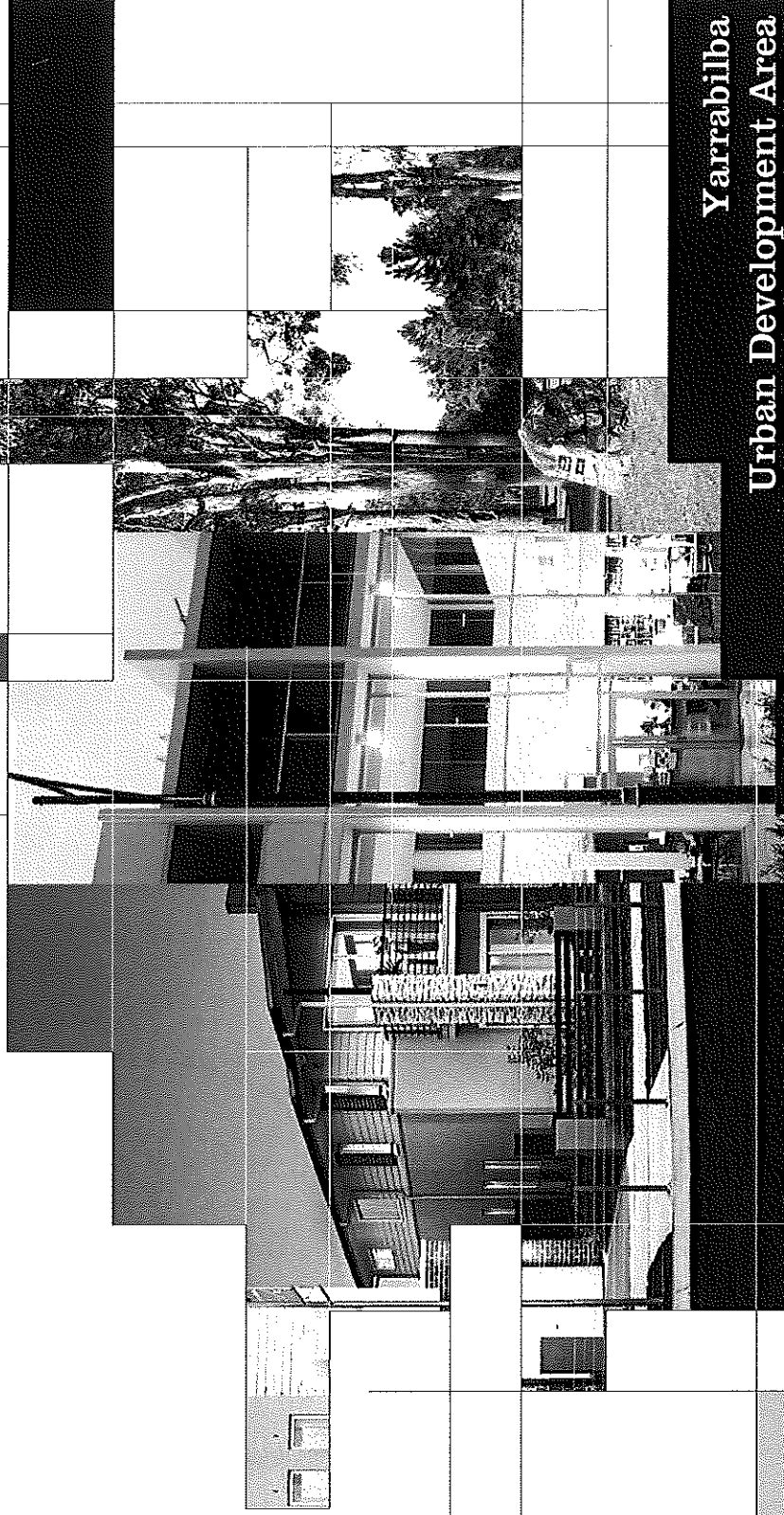
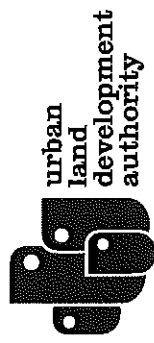
SHIRE OF
BUNGIL



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Planning Scheme
Map R6
1 IN 100 YEAR
FLOODING EVENT



Yarrabilba Urban Development Area Submitted Development Scheme

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1.1 The Urban Land Development Authority

The Urban Land Development Authority (ULDA) is a statutory authority under the *Urban Land Development Authority Act 2007* (the ULDA Act) and a key element of the Queensland Housing Affordability Strategy.

The role of the ULDA is to facilitate:

- (i) the availability of land for urban purposes
- (ii) the provision of a range of housing options to address diverse community needs
- (iii) the provision of infrastructure for urban purposes
- (iv) planning principles that give effect to ecological sustainability and best practice urban design
- (v) the provision of an ongoing availability of affordable housing options for low to moderate income households.

The ULDA works with local and state governments, community, local landowners and the development industry to deliver commercially viable developments that include diverse, affordable, sustainable housing and use best-practice urban design principles.

1.2 Urban Development Area

The Yarrabilba Urban Development Area (UDA) was declared by regulation on 8 October 2010.

1.3 Application of the development scheme

The Yarrabilba UDA Development Scheme (the scheme) is applicable to all development on land within the boundaries of the UDA.

From the date of approval under a regulation, the scheme replaces the Yarrabilba Urban Development Area Interim Land Use Plan which commenced upon declaration.

1.4 Elements of the development scheme

The scheme consists of:

- (i) a vision
- (ii) a land use plan
- (iii) an infrastructure plan
- (iv) an implementation strategy.

The vision for the UDA is expressed through the vision statement and Map 2 - Vision.

The land use plan regulates development in the UDA.

The infrastructure plan details the infrastructure necessary to support the land use plan for the UDA.

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the outcomes for the UDA.

1.5 Acknowledgements

The scheme was prepared in collaboration with key stakeholders including Logan City Council, State agencies and Alconnex Water.

The ULDA is particularly grateful for the technical assistance provided by Logan City Council's Major Cities Program.

The scheme draws on the extensive planning work undertaken in the preparation of the Yarrabilba Land Use Structure Plan (LUSP) which was endorsed by Logan City Council in December 2010.

Other key reference documents that have informed the preparation of the scheme include:

- » South East Queensland Regional Plan 2009-2031 (SEQ Regional Plan)
- » Draft Connecting SEQ 2031 - An Integrated Regional Transport Plan for South East Queensland
- » Strategic transport network investigations for Mt Lindesay/Beaudesert undertaken by the Department of Transport and Main Roads.

2.1 Background

The Yarrabilba UDA is approximately 2,200 hectares and is located in the south-west growth corridor of South East Queensland within the Logan City local government area.

The site is bounded by Waterford Tamborine Road to the west, areas of significant vegetation associated with the Plunkett Conservation Park to the east, Plunkett Road to the south and the Logan Village rural residential precinct to the north (refer to Map 1).

Yarrabilba is located approximately three kilometres south of Logan Village and seven kilometres east of Jimboomba. The predominant surrounding land uses are rural or rural residential.

Strategically located close to the Brisbane - Gold Coast corridor, within 15 minutes of the Pacific Motorway (M1), approximately 40 kilometres south-east of the Brisbane CBD, Yarrabilba enjoys ready access to the existing regional activity centres and sub-regional employment centres of Logan Central, Beenleigh, Yatala and Browns Plains. The site has good access to the existing road network providing links to Brisbane, the Gold Coast, Ipswich, Beaudesert and Beenleigh.

The SEQ Regional Plan identifies Yarrabilba North as a Regional Development Area (Major regional activity centre) and Greater Yarrabilba as an Identified Growth Area.

Map 1: Yarrabilba UDA boundary



The UDA site's natural features present significant opportunities and few constraints for urban development. The UDA has a natural valley setting created by the Coongee Range to the east (incorporating Plunkett Conservation Park), the Darlington Range to the south and southeast and the Birnam Range to the west providing potential views and a scenic backdrop for the future urban communities.

The land is gently undulating with a majority of the land having a less than 5% slope which is favourable for urban development to occur without major changes to the natural contours of the land. A ridgeline runs along Waterford Tamborine Road that branches through the site and gradually falls away to a central basin of flat lands. There are some steeper slopes to the east in areas that adjoin the Plunkett Conservation Park.

The majority of the land was formerly used for commercial pine production. Following the cessation of forestry practices the site now comprises small clusters and lineal stands of native regrowth and remnant vegetation predominately along the existing drainage lines and watercourses.

A number of drainage lines (tributaries of Quinze Creek flowing north to the Logan River and tributaries flowing south from the site to the Albert River) traverse the site with some corridors subject to Q100 flood inundation in the central flatter areas.

The site has potential wildlife corridor connections. A 275 kV Transmission line and easement runs through the northern section of the site. Investigations are underway for a proposed east-west arterial major transport corridor (the Southern Infrastructure Corridor) which would traverse the northern section of the UDA.

2.2 Vision statement

Yarrabilba will be a self-contained new town, *"with a strong, healthy and prosperous community, rich in social capital which provides employment, learning and diverse housing opportunities through the adoption of sustainable development principles."* (Yarrabilba LUSP, Vision statement)

It will provide an attractive lifestyle in a well designed urban community that will provide housing for up to 50,000 people in 20,000 dwellings.

Yarrabilba achieves the potential identified in the SEQ Regional Plan, providing a wide range of housing choices and employment opportunities, supported by community services and public transport.

The vision for Yarrabilba is expressed through five key themes:

A vibrant community

- » Development will provide a network of attractive, pedestrian friendly centres which provide readily accessible shopping, employment, entertainment, community and cultural activities.
- » Residents live in neighbourhoods which have a discernable identity and sense of place, and are designed around a community focal point which may be a local park, a school, a community facility or a neighbourhood centre.
- » Centres and open space facilities provide a wide range of opportunities for recreation, including community events that bring people together.

An inclusive community

- » Yarrabilba will provide a diversity of housing, including affordable and accessible housing to cater for the broad demographic mix attracted to the area and changes in lifestyle as the community matures.
- » A wide range of community facilities will cater for a variety of activities and interests, providing opportunities for lifelong learning and recreation, promoting health and safety and meet the needs of the future Yarrabilba community.
- » Yarrabilba will have early provision of a range of services and community facilities preferably co-located near schools or neighbourhood and district centres.

- » People have a multitude of opportunities for social interaction in the centres and parks that provide the focus for communities throughout Yarrabilba.

A prosperous community

- » Yarrabilba will provide a high level of local employment through the establishment of a wide range of employment opportunities that complement and strengthen the existing employment centres in Logan City.

- » Yarrabilba will foster life long learning opportunities through a network of public and private schools and strong links to universities.

An accessible community

- » Yarrabilba will be a compact, well planned community with higher density residential development within and adjacent to centres and transport nodes to enhance accessibility to services and facilities and reduce demand for travel by private vehicles.
- » Yarrabilba is designed for walking and cycling. It will have a network of pedestrian and cycle paths built around the major road network, community greenspace network, walkable streets and neighbourhoods.

- » An integrated public transport system will serve all neighbourhoods and centres and provide good access to work, education and other opportunities elsewhere in the region.

- » The road network will provide convenient movement for residents between their homes, employment, recreation, leisure, retail and community facilities.

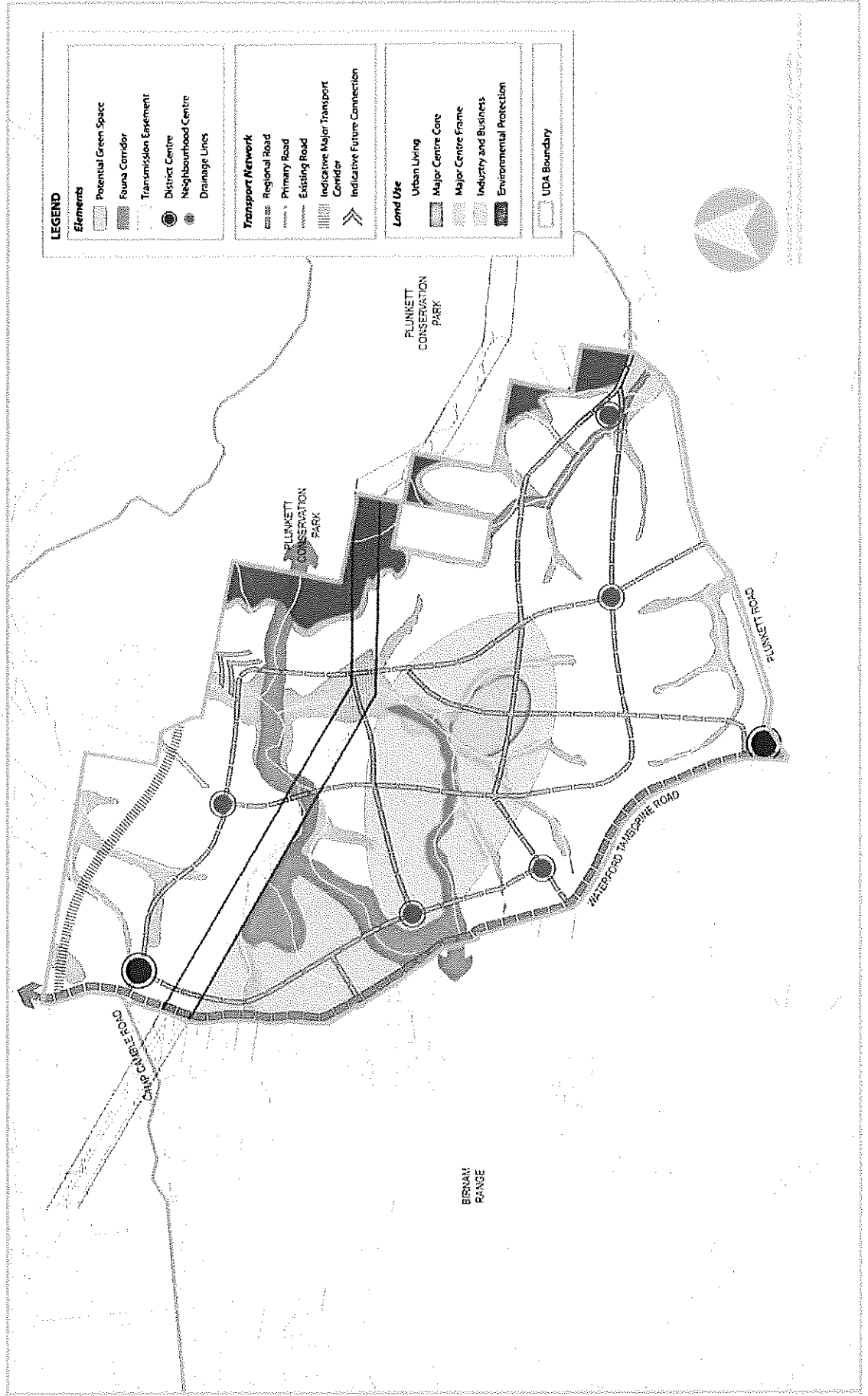
A sustainable community

- » Development will respect the natural topography and biodiversity values of the area. The gentle natural slope of the land facilitates the delivery of urban development without major changes to natural contours.
- » Water quality management and water sensitive design practices will protect waterways and tributaries of the Logan River (Quinzech Creek) and Albert River system. Sections of the creek system will be rehabilitated.
- » Development will respect the significant regional biodiversity values in the Plunkett Conservation Park through development setbacks, buffering and reinstated connectivity.
- » Development will protect and enhance important patches of remnant and regrowth vegetation within drainage reserves and surrounds that have the potential to provide local ecological linkages and wildlife corridors.

- » Development will establish and/or rehabilitate a fauna corridor linking remnant vegetation in the Plunkett Conservation Park in the east and the Birnam Range west of the UDA, providing movement opportunities and habitat for a number of species, in particular the koala.
- » Buildings and other development respond positively to the key environmental issues of climate change, healthy waterways and waste management and take advantage of attractive views and vistas.
- » Utilities and services are provided in an efficient and environmentally sustainable manner in accordance with industry best practice.

Map 2 - Vision is indicative only. Details of development, including greenspace, will be resolved through development applications and context planning.

Map 2 - Vision



3.1 Components of the land use plan

3.1.1 Components of the land use plan

The land use plan establishes the UDA development requirements which regulate development to achieve the vision for the UDA.

3.1.2 UDA development requirements

The UDA development requirements are expressed as:

- (i) UDA-wide criteria (see section 3.3)
- (ii) zone provisions (see section 3.4)
- (iii) self-assessable provisions (see Schedule 3).

Refer to Figure 1.

The UDA-wide criteria apply to all UDA assessable development in the UDA and do not apply to exempt or UDA-self assessable development.

The zone provisions for each zone apply to:

- (i) land in that zone (zone intent and zone map)
- (ii) all development in that zone (Table 2: Levels of assessment).

Self-assessable provisions:

- (i) do not apply to exempt development, and
- (ii) apply to UDA self-assessable development.

ULDA guidelines provide guidance on how to achieve the UDA-wide criteria. The guidelines are available on the ULDA website at www.ulda.qld.gov.au

3.1.3 Levels of assessment

Table 2: Levels of assessment prescribe for each zone:

- (i) UDA exempt development (column 1)
- (ii) UDA self assessable development (column 2)
- (iii) UDA assessable development which is permissible (column 3A)
- (iv) UDA assessable development which is prohibited (column 3B).

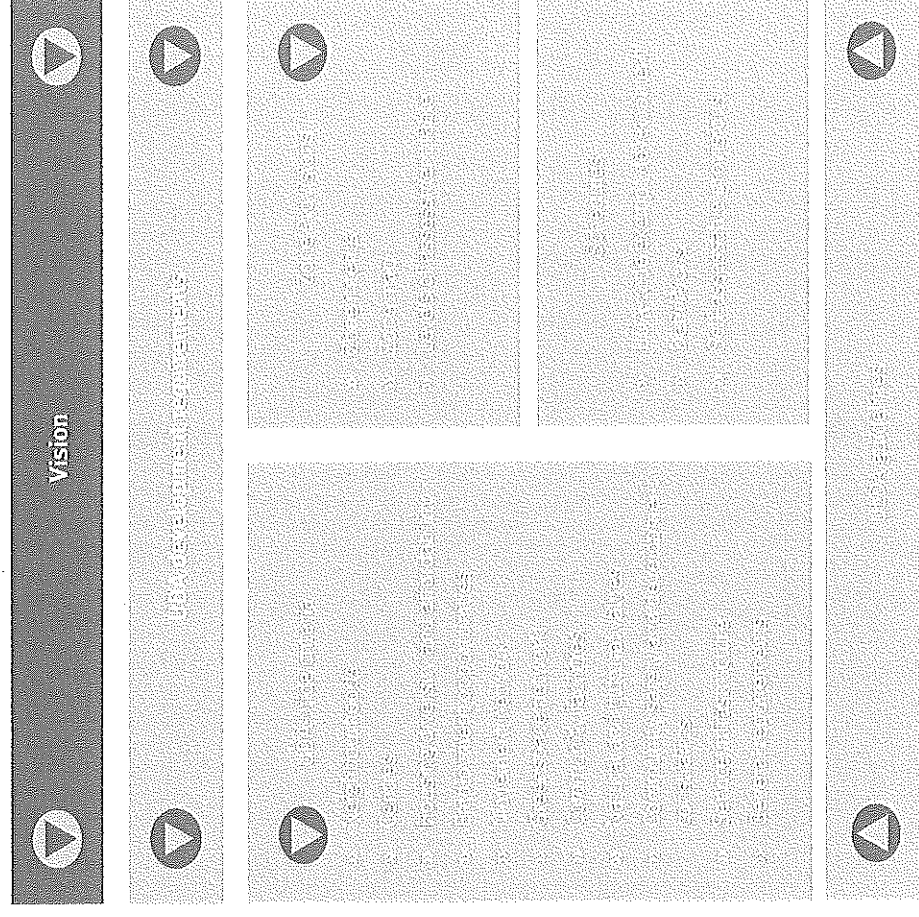
3.1.4 Schedules

Schedule 1 identifies development that is exempt from assessment for the whole of the UDA.

Schedule 2 provides the use and administrative definitions required to interpret and apply the scheme.

Schedule 3 sets out the specific requirements applying to self-assessable development and are referenced in the levels of assessment table.

Figure 1: Components of the land use plan and their relationship



3.2 Development assessment

3.2.1 Interpretation

Under the ULDA Act, section 6 development is development defined under the *Sustainable Planning Act 2009*, section 7.

Schedule 2 defines particular words used in this scheme, including uses and administrative terms.

3.2.2 Requirements for self-assessable development

UDA self-assessable development must comply with the applicable schedule (see schedule 3).

Under the ULDA Act, section 43, UDA self-assessable development must comply with the requirements under the development scheme for carrying out the UDA self-assessable development.

3.2.3 Development consistent with the land use plan

UDA assessable development is consistent with the land use plan if:

- (i) the development complies with all relevant UDA-wide criteria and the zone intents, or
- (ii) the development does not comply with one or more of the UDA-wide criteria or zone intent but:

- a. the development does not conflict with the UDA vision, and
 - b. there are sufficient grounds to justify the approval of the development despite the non compliance with the UDA-wide criteria or zone intents.
- UDA prohibited development is inconsistent with the land use plan. Under the ULDA Act, section 56 UDA assessable development that is inconsistent with the land use plan cannot be granted approval.

In this section 'grounds' means matters of public interest which include the matters specified as the main purposes of the Act as well as:

- (i) superior outcomes
- (ii) overwhelming community need.

'Grounds' does not include the personal circumstances of an applicant, owner or interested third party.

3.2.4 Development approval

Identification of development as UDA assessable development does not mean that a UDA development approval (with or without conditions) will be granted.

UDA assessable development requires a UDA development application to be lodged with the ULDA for assessment and decision.

Approval is required before UDA assessable development is undertaken.

3.2.5 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

3.2.6 Consideration in principle

A request may be made to the ULDA for consideration in principle for proposed development.

In considering the request, the ULDA may decide to:

- (i) support all or part of the proposed development, with or without qualifications that may amend the proposed development
- (ii) oppose all or part of the proposed development
- (iii) give no indication of either support or opposition to all or part of the proposed development.

The ULDA, when considering a development application:

- (i) is not bound by any decision made regarding an application for consideration in principle
- (ii) may give such weight as it considers appropriate to the decision in respect of the application for consideration in principle.

3.2.7 Development application

To the extent the UDA-wide criteria, zone intents and ULDA guidelines are relevant, they are to be taken into account in the preparation of a UDA development application and the assessment of the application by the ULDA.

The infrastructure plan and implementation strategy may include further information which should be taken into account in the preparation, design and feasibility of development proposals.

3.2.8 Context plans

The scheme maps provide a broad spatial framework to guide development of the UDA. Context plans provide the intermediate level of spatial planning between the scheme maps and individual development proposals. Context plans are required to ensure that the development proposal will not prejudice the achievement of the UDA vision, UDA-wide criteria and zone intents in a broader area around the development site.

Context plans are prepared by applicants and are required to accompany a UDA development application for:

- (i) the first permissible development in the relevant context plan area, or
- (ii) a later permissible development that is materially inconsistent with the existing ULDA-endorsed context plan for the context plan area.

However, a context plan is not required if:

- (i) in the ULDA's opinion the proposed development is of a nature or scale, or will operate for such period of time, that the UDA vision, UDA-wide criteria and zone intents will not be compromised, or
- (ii) the ULDA has undertaken more detailed planning for the broader area around the development site, has consulted with the community about the more detailed plan and the development proposal is materially consistent with the more detailed planning intentions for the area.

Applicants should discuss the requirement for a context plan with the ULDA in pre-application meetings.

A context plan is part of the supporting information for a UDA development application and will not form part of a UDA development approval.

The ULDA will assess the submitted context plan as part of the development assessment process for the UDA development application. The ULDA may request the applicant to change a context plan. A context plan may cover two or more contiguous context plan areas.

If the ULDA is satisfied that the context plan is consistent with the achievement of the UDA vision, UDA-wide criteria and zone intents the ULDA will signify that it has endorsed the context plan by placing the UDA endorsed context plan on the ULDA website. Once endorsed by the ULDA the context plan supersedes any previous ULDA-endorsed context plan for the same context

plan area. This process will allow context plans to evolve in response to changing market conditions or improved information and to progressively reflect the development intentions of various landowners in the context plan area.

A context plan should:

- (i) resolve (if required) any development constraints that may determine the extent of developable area or appropriate uses
- (ii) identify the location of major network infrastructure, including transport, within the context plan area
- (iii) resolve the boundaries of centres, community greenspace network and sites for major community infrastructure such as parks and schools, and
- (iv) demonstrate that the development proposal:
 - a. does not prejudice the ability for surrounding land to be developed in an orderly and efficient manner consistent with the UDA vision, UDA-wide criteria and zone intents, and
 - b. is consistent with existing and approved development in the context plan area and adjoining context plan areas.

A ULDA practice note provides details on how to prepare a context plan, and identifies the specific areas for which context plans are required (the context plan areas).

3.2.9 Plan of Development

A Plan of Development (PoD) may accompany an application for a material change of use or reconfiguring a lot and may deal with residential or non-residential uses as well as operational work.

A PoD is prepared by an applicant and may include maps, graphics and text that collectively demonstrate how proposed uses, works and lots will contribute towards the achievement of the vision and will be consistent with the relevant UDA development requirements.

The PoD can not include land beyond the boundary of the land the subject of the application, but may cover only part of the land the subject of the application.

Under Table 2: Levels of assessment, development approved in accordance with a PoD is exempt development and requires no further development approval under the scheme.

For further advice on preparing a PoD refer to the applicable ULDA practice note available on the ULDA website.

3.2.10 Notification requirements

A UDA development application will require public notification¹ if the application:

- » includes a proposal for development which does not comply with the zone intents

- » is accompanied by a context plan required under section 3.2.8, or
- » is for development which in the opinion of the ULDA, may have undue impacts on the amenity or development potential of adjoining land under separate ownership, including development for a non-residential use adjacent to land approved for or accommodating a residential use in the urban living zone.

The ULDA may require public notification in other circumstances if the development application is for a use, or of a size or nature which, in the opinion of the ULDA, warrants public notification.

3.2.11 Interim use

An interim use is a land use that, because of its nature, scale, form or intensity is not an appropriate long term use of the land. Interim land uses may occur if appropriately developed and operated and where located in areas which will not compromise the zone intent in the longer term. Possible interim uses are identified in the zone provisions.

The ULDA may approve an interim use if it can be demonstrated that an interim use will not preclude or delay an appropriate long term use or intensity of development. Information to support an application for an interim use may include:

- » a context plan
- » a schedule of land supply and projected take-up rates, or

¹ The ULDA practice note provides further guidance.

- » plans showing how the development could transition from the proposed interim use to an appropriate longer term use².

The ULDA may impose a condition of approval that limits the duration of an interim use.

Interim uses will only be approved if it can be demonstrated that the use will not prejudice the achievement of the vision for the UDA.

3.2.12 Relationship with local government planning scheme and other legislation

This scheme may apply a provision of a planning instrument, or a plan, policy or code made under the SPA or another Act. However, the scheme prevails to the extent of any inconsistency with those instruments.

Car parking provisions

For exempt and self-assessable development, the relevant car parking provisions in the planning scheme.

Other legislation

In addition to assessment against the scheme, development may require assessment against other legislation including for example the *Plumbing and Drainage Act 2002* and SPA.

3.2.43 Land not included in a zone

This section applies to land which is not shown in the land use plan as being included in a zone (unallocated land).

Where the unallocated land adjoins land in a zone, the unallocated land is deemed to be included in that zone.

Where the unallocated land adjoins land included in different zones, the unallocated land is deemed to be included in those zones with the centreline of the unallocated land being the boundary between the zones.

3.3 UDA-wide criteria

3.3.1 Neighbourhoods

Development delivers neighbourhoods that:

- » are compact and walkable. Neighbourhoods comprise the area within a 5 minute walk (400 metre radius) of a community focal point. A cluster of neighbourhoods supports a neighbourhood centre
- » have a highly permeable, legible street pattern, designed to promote walking and cycling as the primary modes for local movements
- » contain a variety of dwelling types including affordable and accessible housing
- » are designed to respond to local site characteristics, settings, landmarks, scenic amenity and views, and use natural features, such as ridges and waterways, or man made features such as built form and public parks to provide local identity and character
- » have a centrally located focal point which must comprise of at least a local recreation park but which can also include a public transport stop, community facility, local shop or similar
- » are interconnected and provide good access to public transport, parks, schools and other community facilities and neighbourhood centres
- » provide a safe environment through the application of Crime Prevention Through

Environmental Design (CPTED) principles such as passive surveillance of public spaces, and a legible street network that minimises traffic impacts on residential areas

- » locate higher density residential close to centres, significant transit opportunities, recreation and corridor parks, or along busier streets that lead directly to centres
- » are designed to promote optimum solar access and use of prevailing breezes
- » may be of an urban or suburban nature distinguished by residential density
- » locate urban neighbourhoods in the major centre with good accessibility to transport nodes
- » locate suburban neighbourhoods in residential areas
- » appropriately interface with existing residential development adjoining the UDA boundary by:
 - » considering densities through minimum lot sizes and the location of property boundaries
 - » access arrangements
 - » uses
 - » height.

Neighbourhoods are designed to achieve:

- » the standards set out in the applicable ULDA guideline and
- » the minimum net residential densities and specific requirements in Table 1.

² The applicable ULDA guideline provides examples of how this might be achieved to centres.

Table 1: Height, gross leasable area and density provisions

Zones	Urban living zone			Major centre zone		Industry and business zone
	Suburban neighbourhoods (each)	Neighbourhood centres (each)	District centres (each)	Core	Frame	
Maximum building height (storeys)	2**** (9.0m)	4	4	4 - 8 (with 4 adjoining Urban living zone) .	4 storeys.	4 - 8 (with 4 to Waterford Tamborine Road).
Minimum net residential density	15**	20	25	40	20	N/A
Retail uses gross leasable area (maximum)	N/A	4,000m ²	10,000m ²	30,000 - 40,000m ² **	30,000 - 40,000m ² **	1,200m ²
Showroom gross leasable area (maximum)	N/A	N/A	2,000m ²	40,000 - 80,000m ²		50,000m ² *
Commercial uses gross leasable area (maximum)	N/A	1,000m ²	2,500m ²	75,000m ²		40,000m ² *
Community services*** (indicative GFA)	300m ²	500-1,800m ²	3,000-8,000m ²	10,000-30,000m ²		N/A

* Development proposals that would result in the aggregate gross leasable area exceeding these indicative maximums must be accompanied by an economic impact assessment study report that assesses the likely impact on existing and proposed centres within and outside the UDA.

** Unless it can be demonstrated this density cannot be achieved due to site constraints.

*** Includes community facilities as well as privately delivered services such as health, child care, aged care and respite services, sport and recreation and youth services.

**** With opportunity for 3 storeys in appropriate locations.

3.3.2 Centres

Development delivers centres that:

- » provide for knowledge, community and commerce accommodating a range of employment, education, cultural and community, retail, community greenspace, entertainment, sport and recreational opportunities which meet the needs of the community, encourage community interaction and active, healthy lifestyles
- » are commensurate with their role in the SEQ Regional Plan, the broader Logan City network and the UDA centres network and the size of their service catchment
- » comprise the major centre, district centres and neighbourhood centres. Centres are focal points for their catchments and provide a wide range of services and facilities
- » respond to local site characteristics, settings, landmarks and views and use natural features to provide specific identity and character
- » are active places characterised by a high quality public realm and safe, attractive pedestrian areas
- » have a local recreation or civic park as a central focal point for community activities
- » are located to maximise accessibility and distributed to ensure convenient access for residents taking into account the likely catchment and the centres

hierarchy

- » provide a focus for corridor parks, the road network and act as hubs for feeder public transport and walking and cycling networks
- » give priority to public and active transport
- » have a permeable road network that provides vehicle access into centres through a network of low-speed urban streets
- » locate higher density development, including residential development and key community facilities in the core of the centre. The core is the area within the 400 metre primary walking catchment of the major transit node or central focal point
- » locates lower intensity and car dependent uses on the periphery of the centre. The major centre frame can also include neighbourhoods with a higher density residential development
- » contain commercial, retail and other uses which require high levels of accessibility.

The major centre is the focal point of the community. It will provide a wide range of facilities and services, including most higher-order services. The highest density of activities and key community facilities are in the core, close to the major transit node.

District centres are the intermediate tier in the centres hierarchy and provide a wide range of goods and services with relatively high densities.

Neighbourhood centres provide a range of services and activities to meet day-to-day needs. Neighbourhood centres are located on collector or higher order roads with good access by public and active transport.

Small scale shops and office activities, with an aggregate gross floor area of 250m² or less, are acceptable outside a centre where development will not constitute an incremental expansion to a designated centre and will not have a detrimental impact on residential amenity and the centres hierarchy.

Non-residential uses are located within or adjacent to centres, or in other locations that maintain a high quality of residential amenity.

Map 3 - Centres and transport networks indicates the general distribution of centres within the UDA

Centres are designed to achieve:

- » the principles and design standards set out in the applicable ULDA guideline and
- » the specific requirements set out in Table 1.

3.3.3 Housing diversity and affordability

Development delivers:

- » housing choice and diversity to meet the needs of the community, through a mix of densities, types, designs, tenures and levels of affordability, to cater for a range of lifestyles, incomes and life cycle needs

- » residential development that complements or enhances the character of the neighbourhood and streetscape and contributes to the creation of an attractive and safe environment

- » dwellings that provide appropriate levels of amenity and privacy and adequate outdoor areas and car parking to meet varying household needs

- » energy efficient, climatically responsive design including appropriate solar orientation, shading, cross ventilation, natural lighting and passive cooling techniques.

The ULDA's applicable guidelines provide additional information on how to achieve these criteria.

3.3.4 Employment opportunities

Development delivers:

- » a wide range of accessible employment opportunities
- » employment and training opportunities which complement those in nearby major industry employment areas such as Yatala

- » employment activities in centres, including centre frames, or local industry and business areas

- » low impact activities including low impact industry, service industry, research and technology facilities and warehouses
- » development of a scale and intensity which is compatible with existing and

proposed development in the vicinity.

Non-residential uses may be established in the urban living zone where

- » development does not impact on residential amenity
- » there is adequate access including access by public and active transport modes
- » development does not attract high volumes or unacceptable types of traffic (i.e. heavy service vehicles) into residential areas.

The applicable ULDA guideline provides additional information on how to achieve these criteria.

3.3-5 Movement network

Development contributes to:

- » an effective, efficient and integrated movement network that provides a high level of safety and accessibility, maintains residential amenity and promotes the use of public and active transport particularly for local trips
- » a major road network that provides effective links between centres and the neighbourhoods they serve, and to the external road network, and accommodates a range of users including cars, service vehicles, pedestrians,

cyclists and public transport

- » a road network that has a functional hierarchy, provides multiple access routes to and through neighbourhoods and minimises traffic impacts on residential areas
- » the provision of a public transport network that is readily accessible to the community (90% of all dwellings should be within 400 metres of a potential public transport service) and provides effective links to centres and key external destinations
- » a comprehensive active transport (walking and cycling) network based around major active transport spines, supplemented with local links and a safe and permeable street network within neighbourhoods³. The active transport network provides safe and direct links to and through key destinations including centres, parks and schools.

Map 3 - Centres and transport networks identifies the indicative road and public transport network for the UDA.

The applicable ULDA guideline provides additional information to assist in achieving these criteria.

3.3-6 Community greenspace network

Development contributes to the provision

- 3 Where active transport enters the on-road environment, treatment should be consistent with Austroads: "Cycling Aspects of Austroads Guides (March 2012)".

of an integrated, high quality, regional community greenspace network that caters for a range of environmental needs by:

- » retaining where possible locally significant remnant vegetation and habitat for fauna
- » achieving a 200 metre wide corridor across the central fauna corridor that traverses the site from Plunkett Conservation Park to the crossing at Waterford Tamborine Road
- » achieving a 100 metre wide corridor in the secondary fauna corridor south west of Plunkett Conservation Park along the tributary of the creek flowing south to the Albert River and the secondary central east-west corridor
- » locating and designing fauna connectivity structures for species native to the region in road infrastructure that traverses identified future fauna corridors
- » interface treatments between development and the primary and secondary fauna corridors will be designed to enhance the protection of significant fauna and flora habitat while also integrating open space adjacent to these corridors
- » protecting important landscape and visual quality values including scenic amenity areas
- » enhancing wetland communities as part of stormwater management

- » providing ecological corridors and linkages, including to areas outside the neighbourhood or community.

Development delivers parks that:

- » contribute to the achievement of an integrated, high quality greenspace network that caters for a variety of recreation functions and experiences to meet the needs of residents and visitors
- » are accessible for users
- » provide for multiple purposes and uses including recreational, sporting, ecological and stormwater management functions
- » incorporate existing natural features where possible and are landscaped to assist in creating neighbourhood identity and wayfinding
- » retain existing significant vegetation to the greatest extent practicable
- » are shaped and embellished to suit their anticipated use
- » support the community's recreational needs and provide opportunities for community and special events.

The community greenspace network is distributed generally in accordance with Map 4 - Community greenspace network.

The community greenspace network is located and designed to achieve the principles and design standards set out in

the applicable ULDA guideline.

The applicable ULDA guideline provides more detail on how to achieve environmental criteria.

3-3-7 Community facilities

Development facilitates the delivery of:

- » sustainable communities with a strong community identity and access to community facilities and services that meet diverse needs, maximise potential for community development and enhance community wellbeing

- » a range of community facilities and services that are accessible and appropriate to the needs of the community and reduce physical and social isolation

- » community facilities and services that are located where accessibility to the facility's target market is maximised through good access to public transport, pedestrian and cycle paths.

- » a hierarchy of community facilities and services in neighbourhood, district and major centres. Neighbourhood level community facilities and services are located within walking distance for most residents, meet everyday needs and are provided early in development. District level community facilities and services serve a broader population catchment, reflect the diverse needs of the population and are provided in response

to population growth thresholds. Major community facilities and services are of a higher order and accessed by a sub-regional population.

Map 5 - Community facilities indicates the general distribution of community facilities within the UDA.

Community facilities are designed to achieve the principles and standards set out in the applicable ULDA guideline.

3-3-8 Natural and cultural values

Development responds to the constraints of the land and delivers:

- » protection of significant environmental and ecological values
- » protection of Remnant Endangered vegetation where proven by groundtruthing to be viable
- » minimal emissions to land, water and atmosphere
- » protection of culturally significant places and items
- » efficient use of land and resources.

The design, siting and layout of development:

- » avoids, minimises or offsets development impacts on areas of biodiversity value
- » maintains or improves ecological connectivity in the local urban context
- » incorporates landscaping with endemic species that contribute to bushland character, flora and fauna habitat, and

fauna movement

- » respects cultural heritage values
- » minimises adverse impacts on natural landforms and the visual amenity of the site

- » maintains or improves the ecological health and environmental values of surface and groundwater in and adjacent to the UDA

- » maintains and improves the functioning and characteristics of the hydrological network (including surface and groundwater) and generally maintains the natural flow regime

- » incorporates total water cycle management and water sensitive urban design principles to appropriately manage floodwater and stormwater

- » applies best practice sediment and erosion control techniques

- » ensures that all land and groundwater will be fit for purpose in accordance with accepted standards and practices

- » manages air quality, noise and hazardous materials according to current standards

- » promotes innovative and efficient use of energy and water

- » maximises recycling opportunities and reduces waste generation.

Koala conservation

The design, siting and layout of development:

- » incorporates koala conservation and habitat protection outcomes in a way that contributes to a net increase in koala habitat and assists in the long term viability of koala populations in SEQ

- » avoids (to the greatest extent possible) the clearing of areas mapped as High Value Bushland on the relevant State Planning Policy 2/10: Koala Conservation in South East Queensland (SPP) Koala Habitat Values Map

- » caters for koala movement between conserved areas of bushland koala habitat

- » ensures impacts on koala habitat are offset⁴ through the delivery of a net benefit to koalas, including through the expansion of habitat on lands as suitable for rehabilitation

- » incorporates koala sensitive urban design.

Map 6 - Natural values shows the key natural and cultural values in the UDA.

The applicable ULDA guideline provides more detail on how to achieve these criteria.

4 Refer to the applicable ULDA guideline for koala offsets.

3.3.9 Community safety and development constraints

Development is sited, designed and constructed to avoid, minimise or withstand the incidence of a development constraint.

Development ensures that people and property are safe from potential hazards including landslip, bushfire, flooding⁵ and predicted effects of climate change.

Development does not compromise the integrity or operation of high voltage transmission lines/corridors⁶.

Residences and other sensitive uses are protected from the impacts of noise and dust from regional transport corridors.

⁵ The Queensland Floods Commission of Inquiry is investigating the January 2011 flood disaster, including a review of existing provisions relating to flooding and flood risk mitigation.

Consequently the provisions of this development scheme with respect to the management of flooding and flood risk mitigation may be subject to change at the direction of the Queensland Government in the near future.

This should be taken into account by applicants and assessment managers when considering development in this UDA. Applicants are advised to make relevant enquiries regarding the status of the provisions relating to flooding to the time of lodgement.

⁶ EnergeX's draft Electricity Overlay Code, Community Infrastructure Code and Safe Tree Guideline provide guidance on how to achieve this criterion.

To ensure protection from flooding and appropriate flood management:

- » development achieves an appropriate level of flood immunity⁷
- » development ensures that stormwater run off at the site's boundaries does not exceed that which presently exists, and there is 'no net worsening' of flood conditions at the site's boundaries.

To ensure protection from bushfire hazard, development is designed to mitigate bushfire risk. As development occurs, bushfire risk may diminish.

Map 7 - Development constraints shows the key community safety and development constraints affecting the UDA.

3.3.10 Service infrastructure

The UDA delivers efficient and effective use of infrastructure and services.

⁷ As identified in Map 7, a small part of the UDA is subject to inundation in a Q200 flood event.

For information on how to address potential flooding refer to:

- » UDA Guideline No 15 Protection from Flood and Storm Tide Inundation
- » The provisions of the relevant local government planning instrument and
- » State Planning Policy 1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide.

Development ensures infrastructure and services are:

- » provided in a timely, orderly, integrated and coordinated manner to support urban uses and works
- » available or capable of being made available (including key infrastructure such as roads, public and active transport, water supply, sewerage, drainage, park network, community facilities, electricity and telecommunications)
- » designed to allow for future developments in information technology and providing access to technology in neighbourhood facilities
- » located and designed to maximise efficiency and ease of maintenance.

Electricity distribution network infrastructure is provided and located within the UDA to protect electricity infrastructure from incompatible development, to ensure the safety and reliability of the electricity network and not adversely affect the health and safety of the community⁸.

Infrastructure is designed to achieve the principles and standards set out in the relevant ULDA guideline.

⁸ EnergeX's draft Electricity Overlay Code, Community Infrastructure Code and Safe Tree Guideline provide guidance on how to achieve this criterion.

3.3.11 General requirements

Site area and landscaping:

- » sites have sufficient dimensions to accommodate buildings, parking, access and circulation areas and landscaping
- » landscaping is provided to enhance the visual amenity of the locality.

Sub-tropical design measures

Development provides built forms that respond to the sub-tropical environment, including eaves, roof overhangs and sun shading devices.

Parking and end of trip facilities:

Parking is provided in accordance with the rates and standards set out in the planning scheme⁹. The ULDA will consider proposals for a reduced number of car parking spaces where it can be justified due to factors including:

- » availability of on-street car parking
- » public transport accessibility
- » overall accessibility, including for all residential development, location within or adjoining a neighbourhood centre
- » potential for sharing car parking spaces by different uses and activities
- » target markets for residential development.

⁹ Refer to the relevant council planning provisions.

End of trip facilities¹⁰ for pedestrians and cyclists, including secure undercover bicycle storage facilities, showers and lockers are to be provided as part of development.

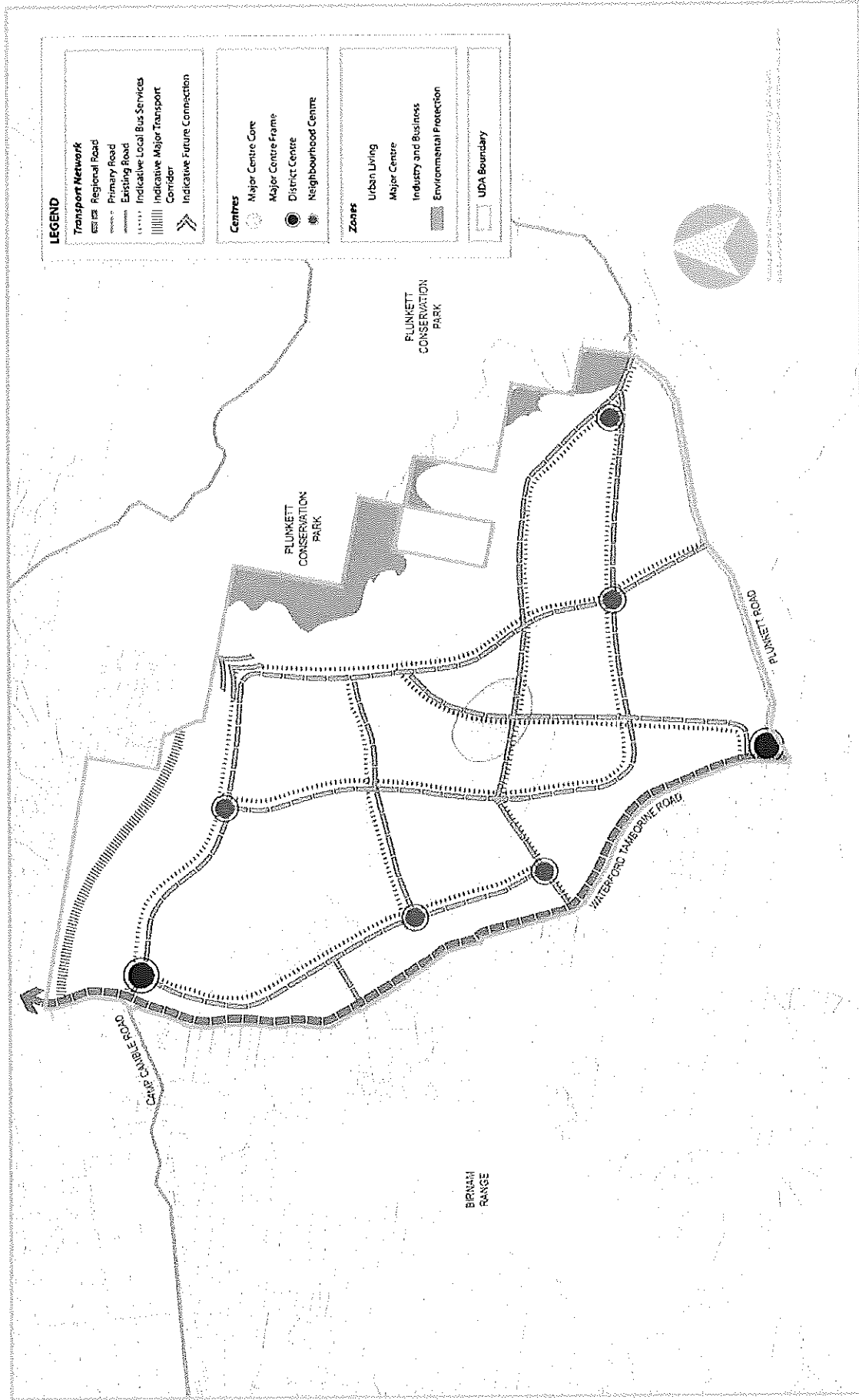
Advertising devices:

Advertising devices are in accordance with standards set out in the planning scheme¹¹.

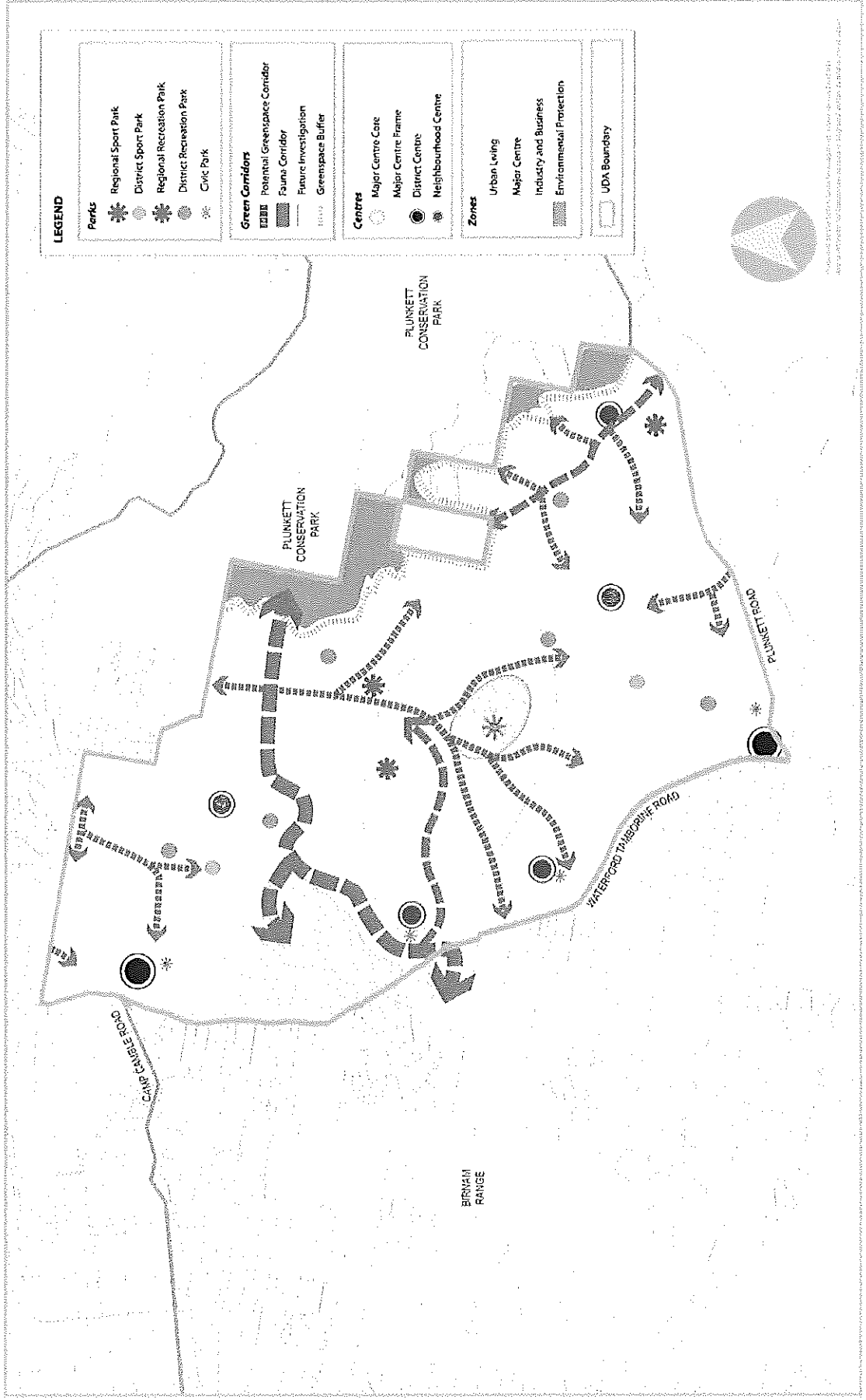
- » cater for the needs of display homes and businesses to clearly identify the location, the goods or services which are supplied to the public
- » are consistent with the scale and design of existing buildings and other works on the site and in the locality and complement the local streetscape
- » where appropriate, reflect the character of the area
- » are sited and provided on premises having regard to safety and amenity.

10 Refer to the Queensland Development Code 4.1 - Sustainable Buildings.
11 Refer to relevant council planning provisions.

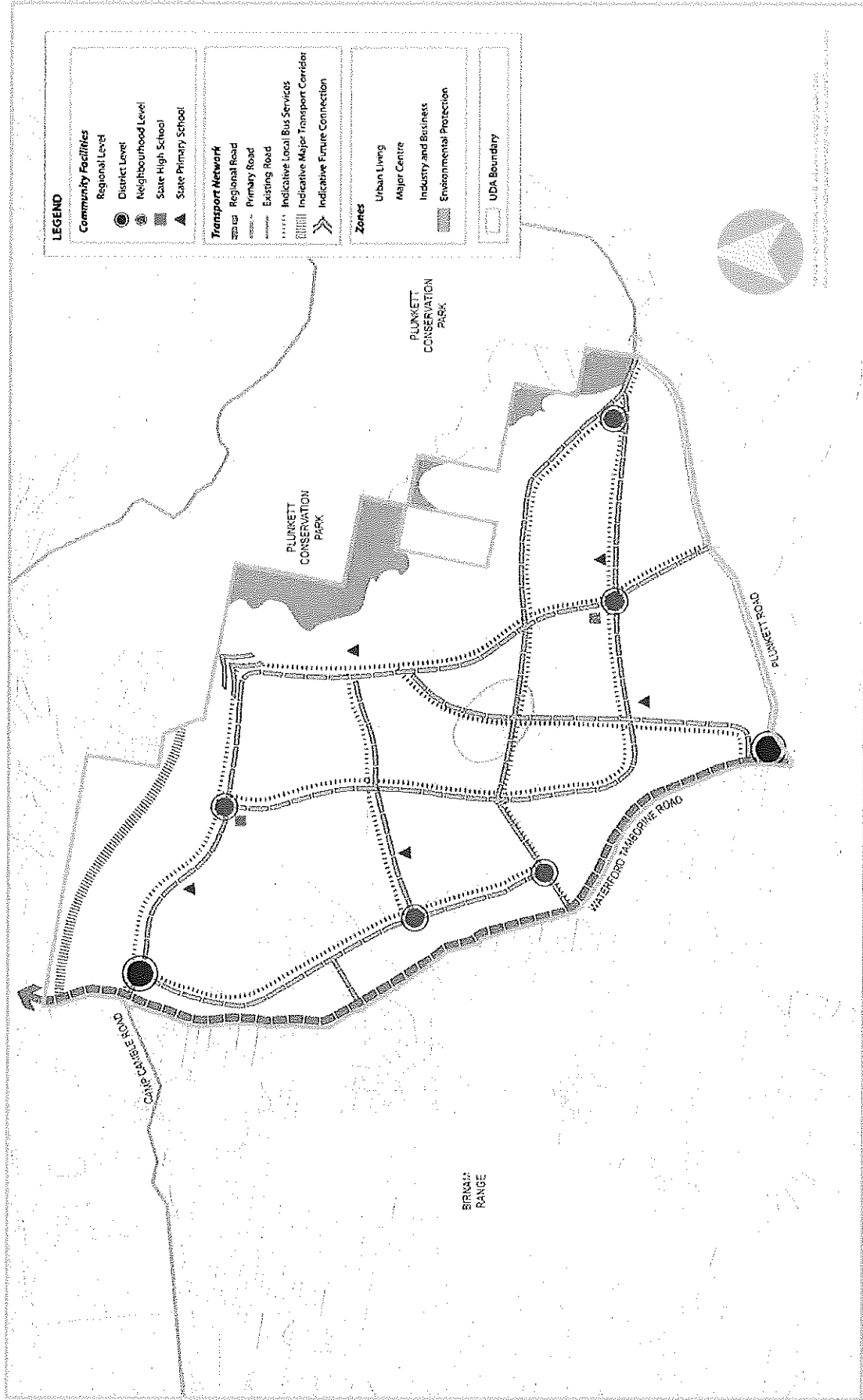
Map 3 - Centres and transport network



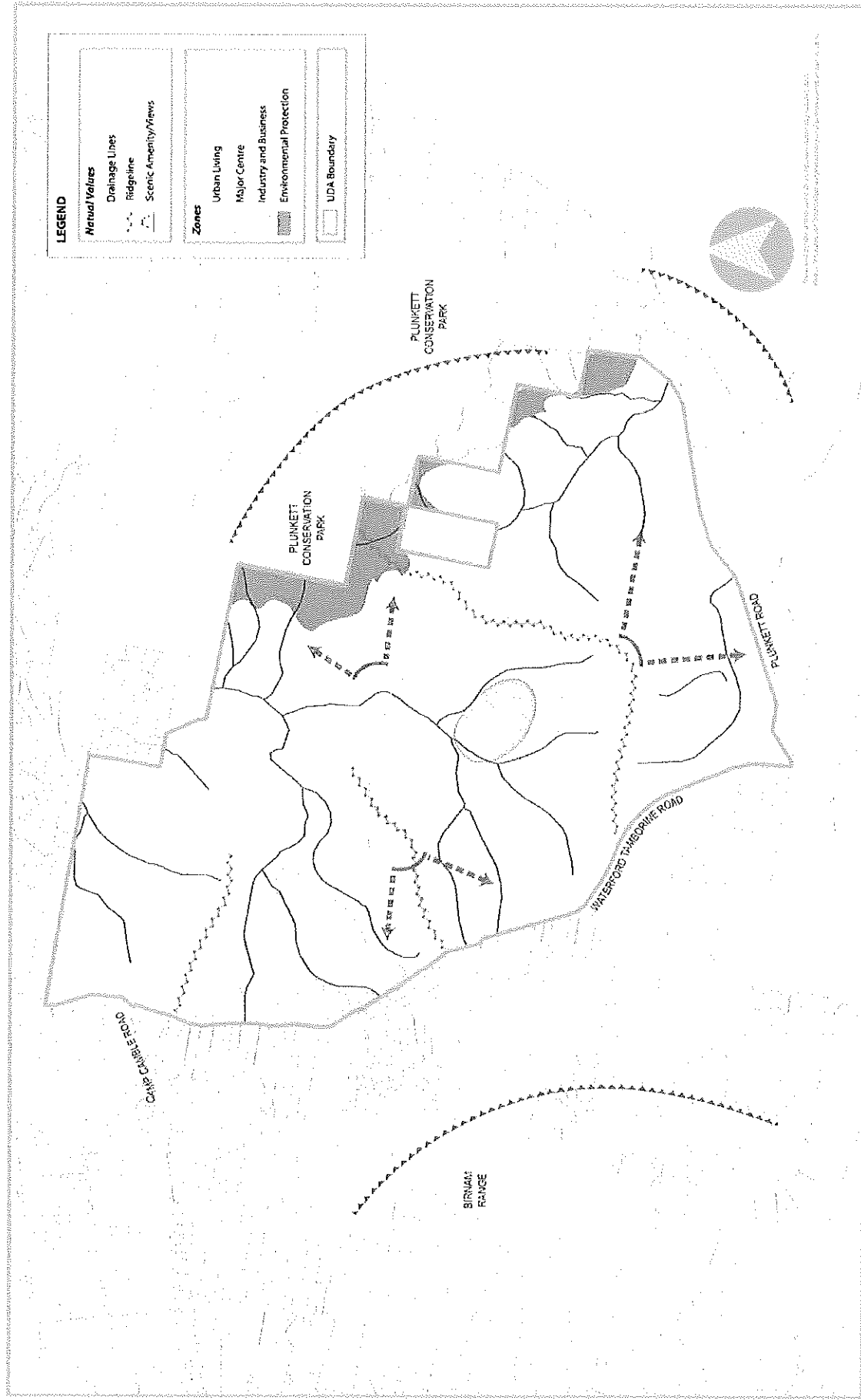
Map 4 - Community greenspace network



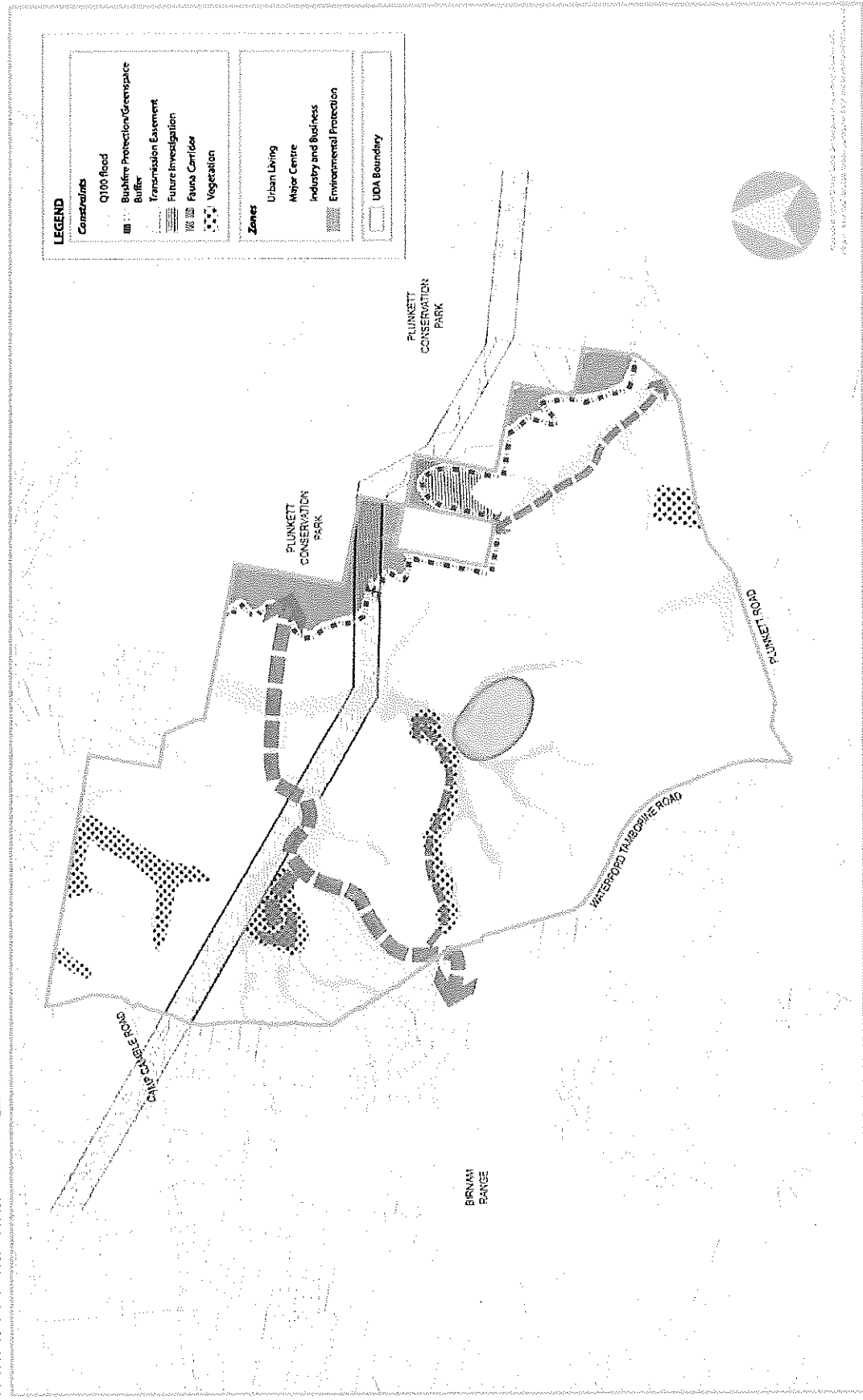
Map 5 - Community facilities



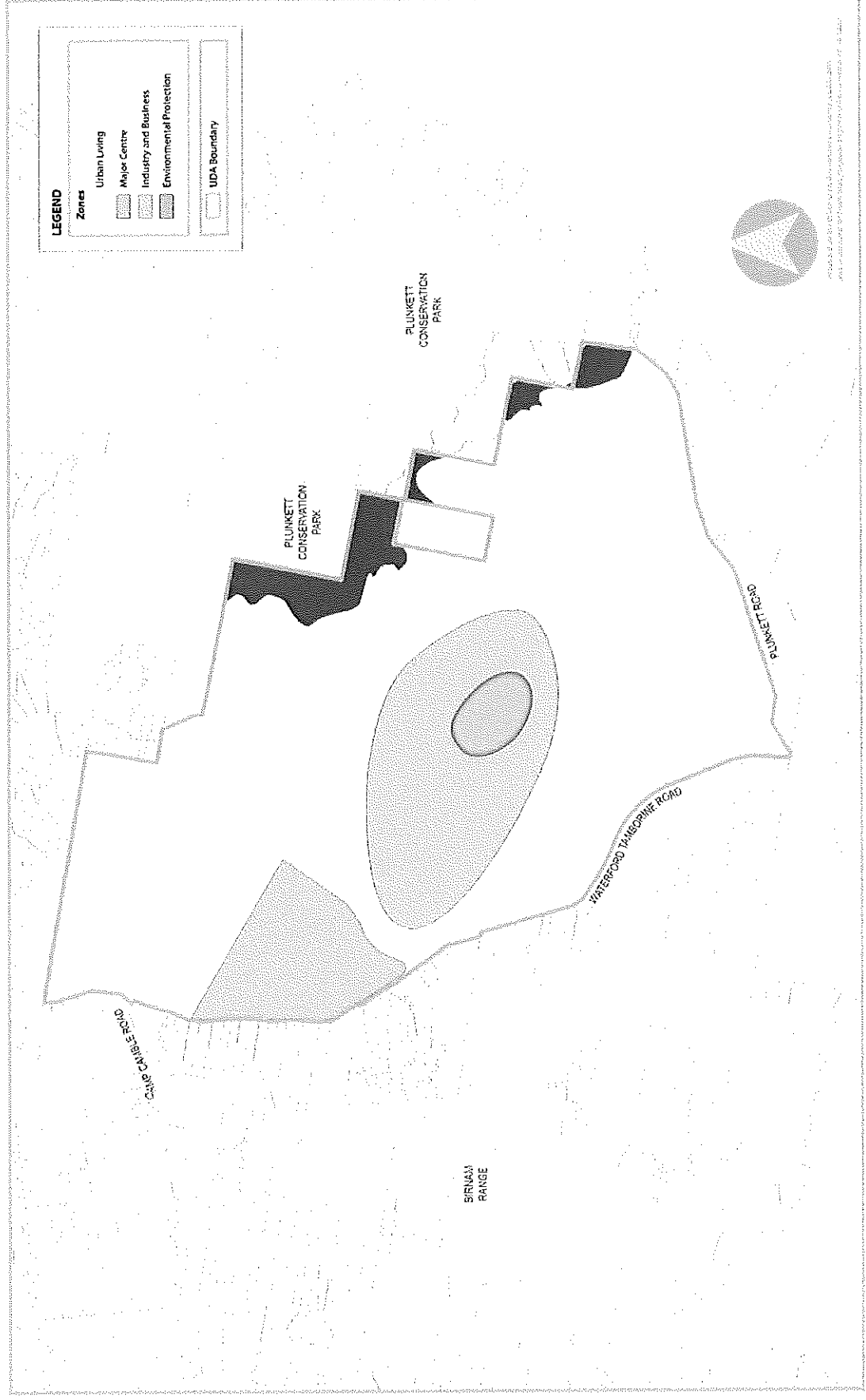
Map 6 - Natural values



Map 7 - Development constraints



Map 8 - Zones



3.4 Zone provisions

3.4.1 Zone map

Map 8 - Zones shows the location and boundaries of zones in the UDA. The UDA contains 4 zones:

- » Urban living
- » Major centre
- » Industry and business
- » Environmental protection

Inclusion of land within the urban living, major centre, industry and business zone does not imply that all such lands can be developed for urban purposes. Some land may not be available or appropriate to be developed due to local site conditions or other constraints.

3.4.2 Zone intents

Urban living zone

The urban living zone applies to most of the area intended for urban development in the UDA. The majority of the zone is intended to be developed as urban and suburban neighbourhoods focused on identifiable and accessible centres and comprising of a mix of residential development including houses, multiple residential and other residential and live work opportunities through home based business.

The urban living zone is also intended to accommodate a wide range of other non-residential activities. These other activities include:

- » district centres and neighbourhood centres
- » a community greenspace network comprising parks, environmental areas and open space corridors along waterways
- » local employment areas such as small scale industry and business areas (e.g. service/trade clusters) and local shops
- » specific facilities and institutions such as educational establishments, child care centres and community facilities.

Other than in identified centres, non-residential uses may also be approved in the urban living zone where it is demonstrated to the satisfaction of the ULDA that:

- » the proposed use has appropriate vehicular access that will not result in excessive numbers of vehicles passing through residential areas
- » cater for the needs of the immediate community and are consistent with or do not compete/undermine the vitality of the centres hierarchy
- » any impacts associated with the use (e.g. noise, dust, emissions) will not affect residential or other sensitive uses.

Reference should be made to Table 1 and applicable ULDA guidelines for further detail on the preferred locations, scale, form and nature of development in the urban living zone.

The urban living zone may also accommodate Interim uses such as:

- » Agriculture
- » Agriculture supply store
- » Animal keeping and husbandry
- » Intensive horticulture.

The UDA-wide criteria provide guidance about the preferred nature and locations for some of these activities.

Major centre zone

The major centre zone provides the central focus of the UDA and is located in the geographic centre of Yarrabilba. The major centre zone accommodates the greatest mix of land uses and highest densities in the UDA.

Land within the major centre zone falls into two categories: the major centre core and the major centre frame.

The exact boundaries between the major centre core and major centre frame will be determined through the context planning and development assessment process.

Interim uses may include:

- » Bulk landscape supplies
- » Warehouse.

Rural uses are not envisaged in the major centre zone.

Major centre core

The major centre core accommodates the highest order mixed use centre activities providing a mix of commercial, business, professional, community, entertainment, retail and high density residential activities. The major centre core is the most intense urban setting, forms the heart of the UDA and is capable of servicing the whole UDA.

The major centre is characterized by high density development up to 8 storeys in height, transitioning to 4 storeys on properties adjacent to residential neighbourhoods.

Development within the major centre core delivers:

- » a centre which is commensurate with its role in the SEQ Regional Plan, UDA centres network, the broader Logan City Council network and the size of their service catchments
- » safe, attractive and permeable movement networks for pedestrians and cyclists
- » ground floor areas which are used primarily for retail, 'shop front' and other active uses

- » upper floor levels which are used for a variety of uses including retail, offices, entertainment and residential uses
- » provides north-south and east-west connections supporting vehicular and pedestrian/cycle traffic
- » lower intensity uses or large building format uses which are 'sleeved' by active street frontage uses
- » parking in basements or where provided at ground level, partially screened from streets and other public areas by buildings or landscaping
- » high quality design that recognises the importance of streetscape and public realm and contributes to the overall attractiveness of the major centre
- » buildings, streets and parks that optimize physical and visual connections to surrounding open space areas.

The major centre core is the principal focus of retail activities in the UDA. The retail precinct includes:

- » speciality retail
- » department stores, discount department stores and supermarkets
- » entertainment, recreation, leisure, cultural, education and community facilities
- » food, beverage and dining facilities, including alfresco dining
- » convenience retail for workers, residents and visitors.

The major centre core also accommodates major civic buildings, educational and health facilities and a centrally located public activity plaza as a social meeting point for the community.

Uses other than retail, residential and commercial should not have any off-site impacts that may affect the amenity of adjoining areas whether developed or not. Lower intensity uses and uses that do not require high levels of public transport accessibility, such as showrooms and warehouses are not appropriate long-term uses in the major centre core.

Major centre frame

The major centre frame accommodates a mix of land uses including:

- » uses that support activities in the major centre core (such as service industry and low impact industry)
- » uses that benefit from a central, accessible location within the UDA but are low intensity uses (such as warehouses, outdoor sales, showrooms and service stations)
- » residential uses take advantage of proximity to the range of employment opportunities, services and facilities located in the major centre core
- » a variety of public open spaces including local parks with play facilities and access to open space corridors.

Retail development that has the potential to detract from the vitality and viability of retailing in the major centre core is not suitable for the major centre frame. Retail development will only be approved in the major centre frame where it is:

- » not suitable for the major centre core
- » small scale retail to meet the needs of a local catchment of residents or workers
- » retailing activity that has a nexus with a use that is not suitable for the major centre
- » for a retail showroom.

The major centre frame will incorporate a number of urban neighbourhoods. The transitional nature of this area between the major centre core and the surrounding residential neighbourhoods means there is likely to be a wide variety of dwelling types ranging from small precincts of houses to multi-level apartment buildings, with densities increasing with proximity to the major centre core.

Key roads in the major centre frame, including those providing direct access to the major centre core, are pedestrian and cyclist friendly with high quality streetscapes and a distinct urban feel. Any large format retail/commercial buildings should ultimately be sleeved along these streets by smaller-scale shops, food premises and businesses, where practical, to ensure active frontages and visual interest.

Phasing of development in the major centre zone

The desired long-term layout, mix of uses and intensity of development will only be delivered in the long term. However it is important to ensure that the active, pedestrian friendly character is established as part of the initial stage of development of the major centre. Staging of development and interim uses may be acceptable where they do not compromise the delivery of the desired long term outcomes.

Some land within the major centre zone may not be developed until the Yarrabilba community reaches certain population thresholds. These areas should be retained for longer term development with interim uses supported where control of the land parcels allows later redevelopment. Context plans should demonstrate how earlier development takes into account longer term development areas and maintains the integrity and compactness of earlier development.

The applicable ULDA guideline provides more information on achieving these requirements including indicative staging of development.

Industry and business zone

The industry and business zone accommodates industrial, business park and commercial activities which do not generate dust, noise and odour emissions beyond the zone. The zone provides for a wide range of compatible industrial uses including low and medium impact industry, research and technological industries, knowledge creation, entrepreneurial activity and service industry activities.

A limited range of other uses may also be acceptable in the industry and business zone where it can be demonstrated that the use:

- » supports or otherwise has a clear nexus with the primary uses within the zone
- » provides a service to the workforce within the zone
- » will not prejudice the establishment or operation of the primary uses within the zone.

Non-industrial uses, such as commercial, trade retail activities, business and a range of other supporting/ complementary uses may locate in the zone where such uses do not compromise the intended industrial/ business character of the local area.

Uses that promote knowledge creation and entrepreneurial activity in industry, science and technology and research and development are encouraged.

The location, design, operation and management of uses and works contribute to the amenity, built form, landscaping and

streetscape which enhances the industrial and business character of the area.

Development will include visual buffering at appropriate locations along Waterford Tamboine Road to promote the establishment of a landscape screen for external properties facing the development in the Industry and business zone.

Development has linkages to existing and proposed transport infrastructure, public transport services, bicycle and pedestrian networks and community facilities and maximises the sustainable and efficient use of essential services, including water, sewer, energy, and telecommunications infrastructure.

The zone may accommodate unanticipated interim land uses that do not compromise the long term use of the land for its intended purpose.

Environmental protection zone

The environmental protection zone includes areas that are of environmental significance and have associated conservation, biodiversity, habitat or scenic amenity values. The zone may also provide for buffers between incompatible land uses and includes land constrained by features such as bushfire risk and steep slopes. The zone may accommodate elements of an integrated open space network providing for multi-purpose functions that respond to community needs provided they do not compromise environmental values.

Very low intensity development may occur where such uses do not affect the environmental significance of the local area. Development should embrace sustainable land management practices, minimise clearing and contribute to the amenity and landscape of the area. The environmental protection zone provides opportunities for habitat improvement.

Table 2: Levels of assessment

Column 1 Exempt development	Column 2 UDA self assessable development	Column 3A Permissible development	Column 3B Prohibited development
In the Urban living zone			
<p>1. An environmentally relevant activity if:</p> <p>(i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i>, and</p> <p>(ii) the activity complies with that code.</p> <p>2. If the land is not on the Environmental Management Register or Contaminated Land Register:</p> <p>(i) development specified in schedule 1</p> <p>(ii) development for Home based business</p> <p>(iii) development for a sales office where not greater than 150m²</p> <p>(iv) material change of use, where not involving building work (other than minor building work) or operational work, for a use other than Car park, where:</p> <p>(a) any existing use and the proposed use are both included in either the Commercial use or Retail use categories in Schedule 2 where complying with the parking rate in the planning scheme</p>	<p>1. If the land is not on the Environmental Management Register or Contaminated Land Register:</p> <p>(i) Material change of use for a House or Display home where:</p> <p>(a) the lot is 400m² or more</p> <p>(b) the lot frontage is 12.5 metres or more</p> <p>(c) it complies with the applicable self assessable provisions in Schedule 3, and</p> <p>(d) the house is situated outside a development constraint area depicted on Map 7.</p>	<p>1. Reconfiguring a lot that is not mentioned in schedule 1</p> <p>2. Making a material change of use if</p> <p>(i) the use is not defined in schedule 2, or</p> <p>(ii) the change of use is not mentioned in columns 1, 2, or 3B.</p> <p>3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.</p>	<p>Development for:</p> <p>1. Extractive industry</p> <p>2. High impact industry</p> <p>3. Medium impact industry</p> <p>4. Noxious and hazardous industry.</p>

Table 2: Levels of assessment

Column 1 Exempt development		Column 2 UDA self assessable development		Column 3 – UDA assessable development	
				Column 3A Permissible development	Column 3B Prohibited development
In the Urban living zone (continued)					
(v) material change of use if in accordance with an approved Plan of Development (PoD)					
(vi) operational work or building work in accordance with an approved PoD.					

Column 1 Exempt development		Column 2 UDA self assessable development	Column 3 – UDA assessable development		Column 3A Permissible development	Column 3B Prohibites development
In the Major centre zone						
1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i> , and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1 (ii) development for Home based business (iii) making a material change of use where complying with the parking rates in the planning scheme and not involving building work (other than minor building work) or operational work for: (a) Commercial uses (other than Car park) (b) Community facility (c) Educational establishment (d) Emergency services (e) Fast food premises (f) Food premises (g) Market (h) Multiple residential (i) Other residential			Nil	1. Reconfiguring a lot that is not mentioned in schedule 1 2. Making a material change of use if (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2, or 3B. 3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.		
			Development for: 1. Extractive industry 2. High impact industry 3. Medium impact industry 4. Noxious and hazardous industry.			

Column 1 Exempt development	Column 2 UDA self assessable development	Column 3 – UDA assessable development	Column 3B Prohibited development
Column 3A Permissible development			
In the Major centre zone (continued)			
<ul style="list-style-type: none"> (i) Place of assembly (k) Research and technology facility (l) Shop (m) Showroom (n) Sport, recreation and entertainment (o) Warehouse (iv) material change of use if in accordance with an approved Plan of Development (PoD) (v) operational work or building work in accordance with an approved PoD. 			

Column 1 Exempt development		Column 2 UDA self-assessable development	Column 3 – UDA assessable development		Column 3A Permissible development	Column 3B Prohibited development	
In the Industry and business zone							
1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i> , and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1 (ii) making a material change of use where complying with the parking rates in the planning scheme and not involving building work (other than minor building work) or operational work for: (a) Emergency services (b) Low impact industry (c) Research and technology facility (d) Service industry (e) Showroom (f) Warehouse.			Nil	1. Reconfiguring a lot that is not mentioned in schedule 1 2. Making a material change of use if (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2, or 3B. 3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.			Development for: 1. Extractive industry 2. High impact industry 3. Noxious and hazardous industry 4. Residential (other than Short term accommodation) 5. Rural 6. Tourist park.

Column 1 Exempt development		Column 2 UDA self assessable development		Column 3 – UDA assessable development		Column 3A Permissible development	Column 3B Prohibited development
In the Environmental Protection Zone							
Nil	Nil				<div>1. Operational work</div> <div>2. Development for:<div>» Agriculture</div><div>» Animal keeping and husbandry</div><div>» Emergency Services</div><div>» Environmentally relevant activities</div><div>» Park</div><div>» Telecommunication facility</div><div>» Tourist attraction</div><div>» Utility installation.</div></div>	All other development, including development not defined in Schedule 2, other than development mentioned in Columns 1, 2 and 3A.	

Infrastructure Plan

4.1 Approach

Infrastructure requirements to achieve the planning outcomes will be delivered through the development assessment process, imposed as conditions of a UDA approval for development and delivered as part of the building and operational works on the site.

Infrastructure delivery is divided into 2 components:

1. Local infrastructure will include all internal works and external water and sewerage connections required to deliver the development including:
 - a. transport (including roads, public transport and active transport)
 - b. community facilities (including parks and plazas, community facility sites, State school sites)
 - c. network infrastructure (including water supply and sewerage, stormwater management, telecommunications and power).
2. Sub-regional infrastructure which includes major trunk works for connection to council and state's transport network systems and the local water authority's treatment system. These works are detailed in section 4.4.

In this UDA the developer will be required to deliver all local infrastructure required to service the development along with a contribution towards sub-regional infrastructure.

Listed in Table 4.3 and 4.4 is the infrastructure currently associated with the Yarrabilba UDA. These infrastructure requirements reflect current understanding. However, further more detailed infrastructure investigations will occur as the development continues and the infrastructure requirements and delivery responsibilities may be amended to reflect the outcomes of these investigations.

State expenditure for investment in infrastructure will be subject to consideration through normal budgetary processes and will be part of an approved state agency capital works program.

4.2 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

For larger sites, to ensure the UDA community evolves over time to achieve innovation and best practice, a tiered infrastructure agreement approach is required with a head infrastructure agreement and numerous secondary infrastructure agreements.

The overarching head infrastructure agreement will contain commitments for the whole UDA and address the applicant's responsibilities in relation to the delivery of:

- » key infrastructure items delivered within the site
- » key infrastructure items delivered external to the site (eg. road upgrades, trunk water and sewerage infrastructure)
- » affordable housing
- » public transport
- » strategies to achieve ecological sustainability outcomes contained in the implementation strategy.

Separate agreements with individual utilities and the local authority may also be required.

The head infrastructure agreement will include provisions to identify the monitoring, compliance and enforcement system that will apply over the UDA's life.

Secondary infrastructure agreements will support the head infrastructure agreement and generally cover the same geographic areas as the context plans. Like context plans, these secondary infrastructure agreements will be progressively entered into at relevant points in the future which will ensure they include best practice standards and practices that are contemporary to that time. Secondary infrastructure agreements will address:

- » area specific infrastructure delivery obligations (eg. transport, water, open space, community facilities)

- » delivery of environmental protection areas
- » housing types and percentages
- » pedestrian and cycle network facilities
- » location and size of community land and facilities.

The combination of context plans and a tiered infrastructure agreement approach provides the mechanism to review the appropriateness of development standards and practices and to incorporate improvements in technology and practices in future context plans and secondary infrastructure agreements.

4.3 Local infrastructure

4.3.1 Transport and Network Infrastructure

Infrastructure	Description of works	When required
Water, sewerage, stormwater	Internal reticulation and trunk works required to service the development as agreed with the ULDA and relevant entity. A total water cycle management plan is to be approved and implemented with each stage of the development.	To be constructed at the time the development is being undertaken and delivered before improvements are demanded by additional loading from developments within the UDA.
Roads	Internal and trunk roads required to service the development as agreed with the relevant entity.	To be constructed at the time the development is being undertaken and delivered before improvements are demanded by additional loading from developments within the UDA.
Public transport	The developer is to provide, or subsidise, an interim public transport service for up to 5 years or until the fare box income exceeds 30% of running costs, whichever is sooner. This service is to provide a minimum of half hourly services in peak time and hourly services at other times from 6.00am to 9.00pm on weekdays and 8.00 am to 5.00pm on weekends.	On the completion of the zooth lot for the development.
Active transport	Active transport infrastructure required to service the development	To be constructed at the time development is being undertaken.
Other networks	Network infrastructure improvements will be undertaken in conjunction with the relevant responsible authority for items including but not limited to; Telephony, Broadband and Energy	Delivered before improvements are demanded by additional loading from developments within the UDA.

4.3.2 Community Infrastructure

Infrastructure	Description of works	When required
Parks, open space, playing fields, plazas	To be delivered in accordance with the requirements of the scheme and ULDA guidelines	To be provided at the time the adjacent development is being undertaken.
State school sites	To be delivered in accordance with the requirements of the scheme and ULDA guidelines	To be provided at the time the adjacent development is being undertaken.
Community facilities	To be delivered in accordance with the requirements of the scheme and ULDA guidelines	To be provided at the time the adjacent development is being undertaken.

4.4 Sub-regional infrastructure

4.4.1 The timing of the provision of Sub-Regional infrastructure is dependent on the rates of development for the UDA. The estimated development rates are shown below:

Year	Dwellings Developed
2015 (0 - 4 years)	600
2021 (5 - 10 years)	3,100
2051 (Ultimate)	20,000

4.4.2 The following sub-regional infrastructure is planned for the development of Yarrabilba*

Infrastructure	Description of works
Waste water	
Water reclamation centre	Construct Yarrabilba WRC
Effluent storage	Effluent Storage
Effluent transfer main	Effluent transfer main to Cedar Grove
Effluent Management	Effluent management at Cedar Grove
Roads (refer to map 9)	
Teviot Rd - map reference 1	Middle Road Roundabout to Klimoylar Road
Homestead Drive - map reference 2	Flagstone UDA (eastern boundary) to Teviot Road
Cusack Lane- map reference 3	Teviot Road to Johanna Street
Johanna Street- map reference 4	Cusack Lane to Mount Lindsay Highway
Waterford-Tamborine Road- map reference 5	Yarrabilba UDA (northern boundary) to Chambers Road Extension (currently Kirk Road / Anzac Avenue corridor)
Camp Cable Road - map reference 6	Mount Lindsay Highway to Waterford-Tamborine Road
Crowson Lane - map reference 7	Greenbank Road to Mount Lindsay Highway
Greenbank Road - map reference 8	Crowson Lane to Mount Lindsay Highway
Greenbank Road - map reference 9	Teviot Road to Crownson Lane
Stoney Camp Road- map reference 10	Teviot Road to Mt Lindsay Highway
Mt Lindsay Highway- map reference 11	Johanna St (Jimboomba) to Logan Motorway
Chambers Flat Rd Extension- map reference 12	Chambers Flat Rd to Waterford-Tamborine Rd
Goodna Road- map reference 13	Springfield Greenbank Arterial Road to Middle Road

Infrastructure		Description of works
New Beith Road- map reference 14	Pub Lane to Goodna Road	
Pub Lane- map reference 15	New Beith Road to Tevoit Downs UDA Boundary	
New Beith Road- map reference 16	Pub Lane to Flagstone UDA Boundary	
Flagstone Springfield Arterial Road- map reference 17	New Beith Road to Springfield Beaudesert Connection Road	
Olson Road- map reference 18	Flagstone UDA (eastern boundary) to Tevoit Road	
Mountain Ridge Road- map reference 19	Flagstone UDA (eastern boundary) to Tevoit Road	
Waterford-Tamborine Road- map reference 20	Hotz Road to Plunkett Road	
Quinzeh Creek Road- map reference 21	Waterford Tamborine Road to Veivers Road	
Chardons Bridge Road - map reference 22	Quinzeh Creek Road to Beenleigh Beaudesert Road	
Plunkett Road - map reference 23	Adjacent to Yarrabilba Southern UDA Boundary	
Chambers Flat Rd - map reference 24	Park Ridge Road to Pleasant View Road	
Veivers Road - map reference 25	Beenleigh Beaudesert Road to Chardons Bridge Road	

* Further investigation will determine the timing and entity responsible for delivery.

[illegible]

The contents of this plan are conceptual only. All areas and directions are approximate and subject to subsequent analysis, survey, engineering and ground approval.

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Date: 18/03/2011

Implementation Strategy

5.1 Introduction

The *Urban Land Development Authority Act 2007* (the Act) requires a development scheme to include an implementation strategy to "achieve the main purposes of the Act for this area, to the extent that they are not achieved by the land use plan or infrastructure plan." The implementation strategy for the Yarrabilba UDA Development Scheme (the scheme) fulfils this requirement by identifying a suite of goals, actions and commitments that support the achievement of the vision for the Yarrabilba community.

Fulfilling the vision for the Yarrabilba community will take approximately 30 to 40 years. Many things within our society will change and evolve during this time including; technologies, prevailing economic conditions, socio-demographic trends and attitudes and preferences towards housing. The Urban Land Development Authority (ULDA) also expects that Yarrabilba will become a 'model' new community embracing or even exceeding 'best practice' in ecological sustainability.

This implementation strategy responds to the challenge of delivering a 'model' community over a lengthy time period by establishing targets and goals, underpinned by a commitment to a cycle of data monitoring, review and, if warranted, amendment of standards, guidelines or targets. This

approach establishes a cycle of continuous adoption of 'best practice' over time through a rigorous process of monitoring and review. This cycle is depicted in the following diagram as an ever tightening review spiral over time heading closer and closer to the 'model' community aspiration (Figure 1).

Achieving the targets specified in this implementation strategy will not necessarily follow a linear path and there will be a range of actions and innovations driving change. Consequently, following a formal review of data against the specified 'targets' the ULDA may decide to:

- » amend an aspect of the implementation strategy (this may include amending existing targets or incorporating new targets)

- » amend existing, or create new, ULDA guidelines and standards that express minimum development requirements that are relevant to the targets.

This strategy focuses on:

1. Housing affordability - which is addressed by expressing 'stretch' targets which are supported by a series of actions. Data relevant to these targets will be regularly collected and will be initially reviewed five years after approval of the development scheme. Subsequent reviews of performance against housing affordability targets should be reviewed every 2 years thereafter.

2. Ecological sustainability - which is addressed by setting goals for a range of long term sustainability aspirations. 2016 'stretch' targets for a suite of sustainability criteria are also specified. These goals and targets are complemented by a range of actions aimed at stimulating development and behavioural outcomes that will contribute towards the targets. Data relevant to these targets will be regularly collected and will be initially reviewed five years after approval of the development scheme. Subsequent reviews of performance against ecological sustainability targets should be reviewed every 2 years thereafter.

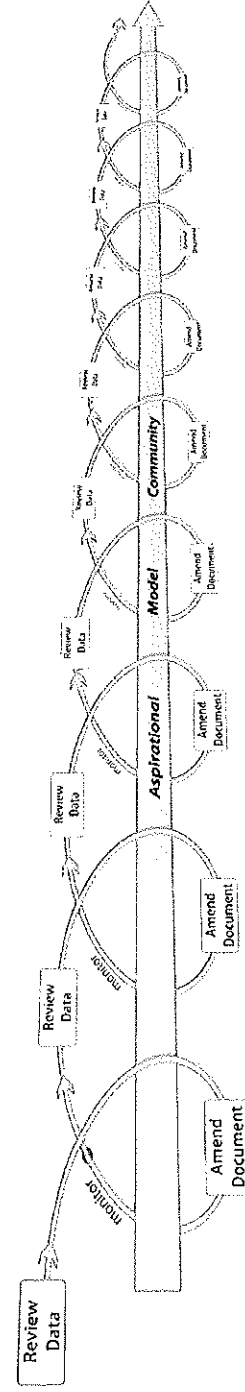


Figure 1

5.2 Housing options

Facilitating the provision of housing that is affordable to households on low to moderate incomes is set out as a core purpose in the Act.

The ULDA Housing Strategy defines low to moderate income households which is typically the income of first home buyers and key workers.

ULDA Actions	Specific targets	Goals
<p>The ULDA will:</p> <ul style="list-style-type: none"> » work with developers to produce suitable housing designs to meet defined price points » monitor dwelling prices and amount of accessible housing produced » include in landowner development agreements: <ul style="list-style-type: none"> » provisions requiring the land owner deliver housing to achieve nominated price points and accessibility targets where the monitoring process indicates targets are not being achieved » where subsidy is required to achieve these price points, additional provisions will be required to ensure the retention of the affordability over time 	<p>Greater than 25% housing that is affordable for key workers and first home buyers in accordance with the income targets in the ULDA Housing Strategy.</p> <p>Greater than 10% accessible housing</p>	<p>Neighbourhoods include a diversity of housing, including that which is affordable for households on low to moderate incomes, and accessible to reflect changing requirements as the community matures.</p>
<p>The ULDA will work with the Department of Communities, Not for Profit providers and the land owner to identify opportunities for the inclusion of social housing projects progressively over the life of the project.</p>	<p>5% Social housing</p>	

5.3 Ecological sustainability

The ULDA Act defines ecological sustainability as a balance that integrates:

- » protection of ecological processes and natural systems
- » economic development
- » maintenance of the cultural, economic, physical and social wellbeing of people and communities.

The achievement of ecological sustainability is required by the land use plan and can lead to reduced development and housing costs, including ongoing living costs. Energy, transport, water and access to services are major cost burdens on all household budgets. The land use plan is supported by guidelines which provides development standards to ensure the minimization of adverse impacts on ecological processes and natural systems. The infrastructure plan identifies the key infrastructure required with standards set by the applicable guideline.

This element of the implementation strategy will be critical to achieve continuous improvement in all aspects of ecological sustainability as technology and community needs change during the life of the ULDA.

There are aspirations for a growing community that cannot be achieved by the land use or infrastructure plans alone. This element of the implementation strategy is critical to achieve innovation and continuous improvement in ecological sustainability.

ULDA actions	Stretch targets	Goals
<p>The ULDA will work with landowners, councils, government agencies, utility providers and other organisations to develop:</p> <p>Strategies for:</p> <ul style="list-style-type: none"> » community education to promote the protection and enhancement of the natural environment » demand optimisation for water and energy efficiency and demand management strategies, including builder education » reducing, recycling and reusing demolition, construction and household waste » addressing urban heat island effect to ensure urban amenity and lower energy use in dwellings and buildings. <p>Demonstration projects to:</p> <ul style="list-style-type: none"> » deliver alternative technology and service model projects for local renewable energy, water self sufficiency and waste avoidance and recovery » deliver affordable sustainable housing projects that reduces energy use and inputs to achieve zero emissions » facilitate for early introduction of electric vehicles and associated infrastructure. <p>The ULDA will work with the Department of Transport and Main Roads (including the TransLink Transit Authority) and the council to facilitate the commencement of a public transport service to connect ULDA with education, health and retail centres in the regional area from the time the first residents move into the project.</p>	<p><u>Natural resources and environment</u></p> <p><u>By 2016</u></p> <p>Potable water usage reduction to an average of 140 litres per person per day</p> <p>Average household energy usage reduction to 15 kilovolt hours (kWh) per day</p> <p>20% peak energy demand reduction from 5 kilovolt ampere (kVa) to 4 kVa average diversified maximum demand</p> <p>Household waste reduction to 150kg per person per year</p> <p>75% reduction in demolition and construction waste</p> <p><u>Active and Public Transport</u></p> <p><u>By 2016</u></p> <p>Achieve 20% share of all trips as active transport (walking and cycling) trips</p> <p><u>Economic sustainability</u></p> <p><u>By 2016</u></p> <p>100% wireless internet connection for all centres</p>	<p>Communities that:</p> <ul style="list-style-type: none"> » are in a harmonised, built and natural environment that provides a socially inclusive, resilient and affordable place to live (in terms of set up and living costs) » generate no net green house gas emissions with all new buildings (being carbon neutral as a result of their normal use through a combination of thermal and energy efficiency and use of renewable energy from either centralised, community or direct sources) » maximise local sustainable water harvesting and the efficient utilisation of local water, wastewater, and stormwater resources while protecting the ecosystem health of natural waterways » have sustainable transport with zero emission private vehicles, active travel and public transport that is safe and equitable for all members of the community » have a sustainable waste avoidance and resource recovery that eliminates waste from household and commercial activities » support growth of regional connected economy through the provision of diverse sustainable livelihoods linked with public transport and other sustainable transport

This will be achieved by delivering affordable, sustainable living through early provision of community facilities and services, an early focus on demand management and ongoing technology, and service integration innovations during the life of the UDA.

ULDA actions	Strategic targets	Goals
<p>The ULDA will work with landowners, education providers and the community to:</p> <ul style="list-style-type: none"> » deliver active transport strategies such as walking school bus services » facilitate pilot community urban agriculture projects. <p>The ULDA will work with government agencies, the council and the landowner to:</p> <ul style="list-style-type: none"> » formulate and implement diverse and connected employment generation strategies » facilitate the concept design and development of centres for knowledge, community and commerce by establishing reference working groups including the council, relevant state agencies and the land owner ahead of the development of each neighbourhood » facilitate wireless internet connection for all centres for knowledge, community and commerce, and major transport stations » facilitate a local clean tech economic development strategy. <p>ULDA actions will be subject to monitoring and feedback processes.</p>		<ul style="list-style-type: none"> » provide services, facilities and infrastructure that meet the social, communication, recreational and entertainment needs of residents creating opportunities for social interaction and networking from outset of development.

ULDA actions	Short targets	Goals
<p>The ULDA will work with landowners, government agencies, Logan City Council and other organisations as required to:</p> <ul style="list-style-type: none"> » outline specific community infrastructure and community development requirements in a Development Agreement, prior to the commencement of development. » facilitate the development of a Community Development Strategy within twelve months of the gazettal of the Development Scheme » facilitate the delivery of community, health and recreational services and facilities as identified in the community development strategy in anticipation of the demands of the growing population » investigate the establishment of a Community Development Fund in conjunction with the Infrastructure Framework, and other potential sources of funds » identify a range of service delivery options delivered in a timely manner to meet the education needs of the community as determined by Department of Education and Training » monitor the delivery of community infrastructure. 		

Schedule 1: Exempt development

Development prescribed in Schedule 4 of the <i>Sustainable Planning Regulation 2009</i> , other than Table 2, item 2 and Table 5, item 14.	
Building work	
Minor building and demolition work.	
Carrying out building work associated with a material change of use that is UDA exempt or self assessable development.	
Carrying out building work associated with an approved material change of use.	
Material change of use of premises	
Making a material change of use of premises for a Park.	
Reconfiguring a lot	
Subdivision involving road widening and truncations required as a condition of development approval.	
Operational work	
Erecting no more than one (1) satellite dish on premises, where the satellite dish has no dimension greater than 1.8 metres.	
Filling or excavation where:	
(a) not exceeding 50m ³ in volume or	
(b) top dressing to a depth of less than 100 vertical millimetres from ground level.	
Carrying out operational work if consistent with an approved Plan for Development for a precinct.	
Carrying out operational work associated with a material change of use that is UDA exempt development (excluding Park).	
Carrying out operational work associated with an approved material change of use.	
Carrying out operational work associated with the decontamination of land.	
Carrying out operational work that is clearing of vegetation:	
(a) other than Significant vegetation, or	
(b) Significant vegetation where:	
» the clearing is consistent with an approved Plan of Development	
» carried out by or on behalf of Logan City Council or a public sector entity, where the works being undertaken are authorised under a state law.	
» in accordance with the conditions of a UDA development approval for a material change of use or reconfiguring a lot.	

<p>Carrying out operational work that is the placing of advertising devices that:</p> <ul style="list-style-type: none">» do not exceed 5m² for commercial, industrial, recreational or entertainment use» are attached to a front fence or facade of a main building» do not project more than 150mm from front facade or front fence» are not illuminated» contain the name of business or operator, the use of premises, the contact details or name and address of building and» comprise no more than two signs.
Plumbing or drainage work
Carrying out plumbing or drainage work.
All aspects of development
Development undertaken by the state, or a statutory body representing the state, for the purposes of public housing.

Schedule 2: Definitions

Use definitions

Commercial use category

Business

Means the use of premises for administration, clerical, technical, professional or veterinarian clinic or other business activity where any goods or materials made, sold or hired on the premises are ancillary.

Car park

Means the use of premises for the parking of motor vehicles where such parking is not ancillary to some other development on the same site.

Health care services

Means the use of premises for medical, paramedical, alternative therapies and general health care and treatment of persons that involves no overnight accommodation.

Sales office

Means the use of premises for the temporary promotion and/or sale of land and/ or buildings within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Industrial use category

Extractive industry

Means the use of premises for extraction of sand, gravel, soil, rock, stone or similar substance from land. The term includes ancillary storage, loading or cartage and any crushing, screening, washing, blending or other treatment processes of material extracted from the site.

High impact industry

Means the use of premises for industrial activities that have significant off-site impacts on non-industrial uses including air, noise or odour emissions that are not easily controlled or contained.

These uses may operate outdoors, but do not involve the manufacture of agricultural chemicals, pharmaceutical products, explosives or fertilisers.

Low impact industry

Means the use of premises for industrial activities which have negligible impacts on surrounding non-industrial uses.

The manufacturing aspects of the use are undertaken indoors.

Any off site impacts including air, noise and odour emissions are able to be readily mitigated.

Medium impact industry

Means the use of premises for industrial activities that have offsite air, noise and odour emissions.

Despite mitigation measures these activities would still have noticeable impacts on non-industrial uses.

The primary (noise, odour and air emitting) aspects of the use are undertaken indoors.

Noxious and hazardous industry

Means the use of premises for industrial activities that have the potential for extreme, adverse impacts on other land uses. This includes the potential for fire, explosion or toxic release.

These uses may involve the production of organic and inorganic chemicals, and the storage and production of explosives.

Research and technology facility

Means the use of premises for innovative and emerging technological industries involved in research design, manufacture, assembly, testing, maintenance and storage of machinery, equipment and component.

The use may include emerging industries such as energy, aerospace, and biotechnology.

Service Industry

Means the use premises for industrial activities that have no external air, noise or odour emissions from the site and can be suitably located with other non-industrial uses.

Warehouse

Means the use of premises for the storage of goods whether or not in a building, including self storage facilities or storage yards.

Residential use category

Display home

Means the temporary use of premises for the promotion and/ or sale of land and/ or houses within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Home based business

Means the use of a House or Multiple residential for an occupation or business activity as a secondary use where:

- » the floor area used specifically for the home business does not exceed 50m²
- » any visitor accommodation does not exceed 4 visitors
- » there is no hiring out of materials, goods, appliances or vehicles
- » there is only one sign related to the Home business, located within the premises or on a fence facing the road
- » there is no repairing or servicing of vehicles not normally associated with a residential use
- » there is no industrial use of premises
- » the maximum height of a new building, structure or object does not exceed the height of the House or Multiple residential and the setback is the same

- as, or greater than, buildings on adjoining properties
- » car parking is in accordance with the planning scheme
- » there is no display of goods
- » number of employees does not exceed 4.

House

Means a residential use of premises containing one primary single dwelling on a lot. The use includes out-buildings and works normally associated with a dwelling and may include a secondary dwelling.

The secondary dwelling is subordinate to the primary dwelling, capable of being used as a self-contained residence, and may be constructed under the primary dwelling, attached to it or free standing.

Multiple residential

Means the use of premises for residential purposes if there are two or more dwelling units on any one lot. Multiple residential dwelling units may be contained on one lot or each dwelling unit may be contained on its own lot subject to community title schemes. The term multiple residential does not include House.

Other residential

Means the use of premises for the

accommodation and care of aged and retired people, small groups of disadvantaged persons or persons who are being nursed, require ongoing supervision/support or are convalescing. This term may include but is not limited to ancillary dining and recreation facilities, administration offices, laundries, kitchens, ancillary medical facilities and residential accommodation for management and staff.

Relocatable home park

Means the use of premises for relocatable dwellings that provide long term residential accommodation.

The term includes ancillary facilities such as amenities, laundries, kitchens and recreation facility for persons associated with the development. It also includes a manager's office and residence.

Short term accommodation

Means the use of premises comprising primarily accommodation units for short-term accommodation, generally for travellers and visitors, such as motel or backpackers. The use may include dining, laundry and recreational facilities which cater exclusively for the occupants of the premises, a manager's office and residence. The term does not include Other residential, Hotel or Tourist park.

Retail use category

Bulk landscape supplies

Means the use of premises for bulk storage and sale of landscaping and gardening supplies including soil, gravel, potting mix and mulch, where the majority of materials sold from the premises are not in pre-packaged form.

Fast food premises

Means the use of premises for the preparation and sale of food to the public generally for immediate consumption off the premises. The term may include drive through facilities and ancillary facilities for the consumption of food on the premises.

Food premises

Means the use of premises for the preparation and sale of food and drink to the public for consumption on or off the site. The term includes a cafe, restaurant, coffee shop, bistro, tea room, milk bar, snack bar, kiosk, take-away, but does not include fast food premises as separately defined.

Garden Centre

Means the use of premises for the sale of plants and includes gardening and landscaping products and supplies where these are sold mainly in pre-packaged form. The use may include an ancillary cafe or coffee shop.

Market

Means the use of premises for the display and sale of goods to the public on a regular but infrequent basis, where goods are primarily sold from temporary structures such as stalls, booths or trestle tables. The use includes ancillary food and beverage sales and ancillary entertainment provided for the enjoyment of customers.

Outdoor sales

Means the use of premises for the display, sale, hire or lease of products where the use is conducted wholly or predominantly outdoors and may include construction, industrial or farm plant and equipment, vehicles, boats and caravans.

Service station

Means the use of premises for the retail sale of fuel including petrol, liquid petroleum and automotive distillate to refuel motor vehicles.

Shop

Means the use of premises for the display, sale or hire of goods or the provision of personal services or betting to the public.

Shopping centre

Means the use of premises comprising two or more individual tenancies that is comprised primarily of shops and which function as an integrated complex.

Showroom

Means the use of premises primarily for the sale of goods of a related product line that are of a size, shape or weight that requires

- » a large area for handling, display or storage and
- » direct vehicle access to the building by members of the public for loading and unloading items purchased or hired.

Rural use category

Agriculture

Means the use of premises for commercial purposes for the growing and harvesting of trees, crops, pastures, flowers, fruit, turf, vegetables and the like for commercial or business purposes.

The definition includes the storage and packing of produce grown on the subject site and the repair and servicing of machinery and other ancillary activities.

Agricultural supply store

Means the use of premises for the sale of agricultural products and supplies including agricultural chemicals and fertilisers, seeds, bulk veterinary supplies, farm clothing, saddlery, animal feed and irrigation materials.

Animal keeping and husbandry

Means the use of premises for keeping, depasturing, grazing or stabling of any animal, bird, insect and reptile. The term includes the use of land for keeping,

breeding, stabling, training or boarding animals.

Intensive animal industries

Means the use of premises for the intensive breeding of animals or animal products in an enclosure that may require the provision of food and water either mechanically or by hand.

The use includes the ancillary storage and packing of feed and produce.

Intensive horticulture

Means the use of premises for the intensive cultivation of plants or plant material on imported media and located within a building or structure or where outdoors, artificial lights or containers are used.

The use includes the storage and packing of produce and plants grown on the subject site.

Wholesale nursery

Means the use of premises for the sale of plants where the plants are grown on or adjacent to the site.

The use may include sale of gardening materials where these are ancillary to the primary use.

Service, community and other uses category

Cemetery

Means the use of premises for the interment

of the dead. The term does not include a crematorium or funeral parlour.

Child care centre

Means the use of premises for the minding or care, but not residence of children generally under school age. The use includes but is not limited to a kindergarten, creche or early childhood centre.

Community facility

Means the use of premises for social or community purposes, such as a community centre, library, public building or the like.

Crematorium

Means the use of premises for cremating bodies and may include the interment of the ashes. The term does not include a funeral parlour or cemetery.

Educational establishment

Means the use of premises for systematic training and instruction, including any other ancillary uses. This definition includes prep facilities, primary school, secondary school, college, university, technical institute, academy or other educational centre.

This term may include residential accommodation and other ancillary uses provided for the employees and the students of such premises.

Emergency Services

Means the use of premises by government

bodies or community organisations to provide essential emergency services, disaster management services and including management support facilities for the protection of persons, property and the environment.

Funeral parlour

Means the use of premises for arranging and conducting funerals, memorial services and the like, but does not include burial and cremation. The definition includes the storage and preparation of bodies for burial or cremation and includes a mortuary and funeral chapel. The term does not include a cemetery or crematorium.

Hospital

Means the use of premises for medical or surgical care or treatment of patients whether or not residing on the premises.

The use may include accommodation for employees and ancillary activities directly serving the needs of patients and visitors.

Place of assembly

Means the use of premises for worship and activities of a religious organisation, community or association.

Telecommunications facility

6.0 Schedules

Means the use of premises for the treatment of sick or injured animals where such animals are accommodated overnight or for long stay periods on the premises. The term does not include animal keeping and husbandry or veterinary clinic.

The term includes facilities such as (outdoor) public swimming pools, golf courses and driving ranges, outdoor courts and sportsgrounds and the like. The term also includes the provision of a clubhouse and

The use may include a manager's residence and office, kiosk, amenity buildings and the provision of recreation facilities for the exclusive use of occupants of the tourist park.

As defined in the Urban Land Development Authority Act 2007.

Administrative definitions

Accessible housing

Housing in accordance with the applicable ULDA guideline.

Affordable housing

Affordable housing' means private rental housing and home purchase options (including housing aimed at the first home owners market) for low to moderate income households.

Basement

A storey below ground level or where the underside of the ceiling projects no more than one metre above ground level.

Building

As defined in the *Building Act 1975*.

Building work

As defined in the *Urban Land Development Authority Act 2007*.

Building height

The maximum vertical distance between the natural ground level and the roof or parapet at any point but not including anything projecting from a building such as an antenna, aerial, chimney, flagpole or the like.

¹ Refer to the ULDA Affordable Housing Strategy

Caretaker's accommodation

The residential use of part of a premises where in connection with a non residential use on the same premises.

Community greenspace network

A network of parks and open space that are publicly accessible and deliver recreation and sporting opportunities to the community.

Contaminated Land Register

As defined in the *Environmental Protection Act 1994*.

Development scheme

As defined in the *Urban Land Development Authority Act 2007*.

Dwelling unit

Means a building or part of a building used or capable of being used as a self contained residence which must include:

- » food preparation facilities
- » a bath or shower
- » a toilet and wash basin.

The term includes works ancillary to a dwelling.

Environmental Management Register

As defined in the *Environmental Protection Act 1994*.

Environmentally relevant activities

As defined in the *Environmental Protection Act 1994*.

Gross floor area (GFA)

The total floor area of all storeys of a building, including mezzanines, measured from the outside of external walls or the centre of a common wall, excluding area used for:

- » building services
- » ground floor public lobby
- » a public mall in a shopping complex
- » the parking, loading and manoeuvring of motor vehicles
- » private balconies whether roofed or not.

Gross leasable area

Gross leasable area (GLA) of premises means the sum of the floor area of all buildings located on the premises:

- » inclusive of the area of any external use area and roofed balcony; and
- » exclusive of
 - » an area used for a building service, a public toilet, aground floor public lobby and a public mall in a shopping centre and
 - » an area exclusively used for the parking, loading and manoeuvring of a vehicle.

Ground level

Means:

- » the existing level of the site providing it has not been unlawfully altered; or
- » where the land has been unlawfully

altered the level of land prior to the alteration; or

- » the 'as-constructed' level of the land in accordance with an approval for filling and excavation.

High water mark

Refers to the ordinary high water mark at spring tides.

Interim Uses

Refer to section 3.2.9.

Mezzanine

An intermediate floor within a room.

Neighbourhood centre

Means the use of premises for servicing the convenience needs of the community. The term includes Business, Medical centre, Retail and Community facility which ultimately function as an integrated complex. It may include a key open space area (such as park or plaza).

Net residential density

Net residential density means the total number of dwellings divided by the combined area of residential lots, local parks, internal local roads and half the width of local roads bordering the site. Average net residential density means net residential density calculated for a whole neighbourhood.

Planning scheme

The planning scheme applying to the former Beaudesert Shire Council.

Plan of Development

See section 3.2.

Plot ratio

The ratio between the gross floor area of a building and the total area of the site.

Premises

As defined in the *Urban Land Development Authority Act 2007*.

Private open space

An outdoor area for the exclusive use of occupants.

Public benefit

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public housing

As defined in the *Sustainable Planning Act 2009*.

Public interest

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public realm

Refers to spaces that are used by the general public, including streets, squares, plazas and parks.

Sensitive uses

Means any of the following: Child care centre, Educational establishment, Health care services, Hospital, House, Multiple residential, Other residential, Relocatable home park and Short term accommodation.

Setback

The shortest distance measured horizontally from the wall of the building or structure to the vertical projection of the boundary of the lot (ie. excluding eaves).

Significant vegetation

Means all vegetation, except those listed as pest vegetation by State or local government, that is significant in its:

- » ecological value at local, state or national levels including
 - » vegetation mapped as endangered remnant vegetation on the regional ecosystem maps prepared under the *Vegetation Management Act 1999*
 - » vegetation in areas identified in a ULDA guideline as requiring koala habitat offset
- » contribution to the preservation of natural landforms
- » contribution to the character of the landscape
- » cultural or historical value
- » amenity value to the general public.

Note: vegetation may be living or dead and the term includes their root zone².

Site cover

The proportion of the site covered by buildings, including roof overhangs.

Storey

A space within a building which is situated between one floor level and the floor level next above or if there is no floor above, the ceiling or roof above. This does not mean:

1. a space that contains only:
 - a. a lift shaft, stairway or meter room
 - b. a bathroom, shower room, laundry, toilet or other sanitary compartment
 - c. accommodation intended for not more than 3 vehicles
 - d. a combination of the above
2. a mezzanine

Urban Design

Refers to the holistic design of urban environments, including the overall townscape, individual buildings, street networks, streetscapes, parks and other public spaces.

² The root zone is described by the vertical projection of the foliage to a depth of 1 metre below the surface and including buttress roots on and above the soil surface.

Schedule 3: Self-assessable provisions

Table 3: Self-assessable provisions for House - in the Urban living zone

Elements	Self-assessable provisions
For the primary house on a lot	
Design and siting of buildings and structures	Where on a lot 400m ² to 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.1 - Design and siting standards for single detached housing - on lots under 450m ² . Where on a lot more than 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.2 - Design and siting standards for single detached housing - on lots 450m ² and over. (Note: the 9m building height limit in the development scheme prevails over the 8.5m height limit in QDC).
Outdoor living space	Minimum 16m ² with a minimum dimension of 4m and directly accessible from a main living room.
Car parking	Minimum 1 covered space 5m x 3m.
Driveway	Minimum 3m wide.
Front entry	Pedestrian entry and door visible from and addressing the street.
Street surveillance	Minimum one habitable room fronting the street with large windows or balconies facing the street.
Front fencing	Up to 1.8m high, with a minimum of 50% transparency for that part of the fence exceeding 1.2m in height.
Building articulation	Minimum 0.5m wall articulation every 10m plus roof overhangs (eaves) and at least one of the following: a verandah, window hoods / screens, or awnings and shade structures.
Road access	The lot has physical access to a sealed or constructed road.
Infrastructure services	The lot is connected to a reticulated water supply network and a reticulated electricity network. The lot is connected to a reticulated sewerage network or is capable of providing for on site effluent treatment and disposal in accordance with the Queensland Plumbing and Wastewater Code
For the secondary dwelling on a lot	
Floor area of secondary dwelling	Minimum 45m ² to maximum 75m ²
Design and siting of buildings and structures	Where on a lot 400m ² to 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.1 - Design and siting standards for single detached housing - on lots under 450m ² . Where on a lot more than 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.2 - Design and siting standards for single detached housing - on lots 450m ² and over.
Materials and detailing	Materials, detailing, colours and roof form are consistent with those of the primary house.
Outdoor living space	Minimum 9m ² with a minimum dimension of 3m and directly accessible from a main living area. If the lot is on a corner, not located within the corner setback.
Car parking	Minimum one space 5m x 3m.
Driveway	Shared driveway with the primary house. However if the lot is on a corner a separate driveway must be provided with a minimum width of 3m.
Front entry	If the lot is on a corner - dedicated pedestrian entry and door visible from and addressing the secondary street.
Street surveillance	If the lot is on a corner - minimum of 1 habitable room fronting the secondary street with large windows or balconies facing the street.
Fencing (street front)	If the lot is on a corner - minimum 1.2 m high on secondary frontage.
Fencing (other)	Up to 1.8m high - minimum 50% transparency over 1.2m in height.
Verandahs	If the lot is on a corner - Minimum 50% of building frontage, not screened.



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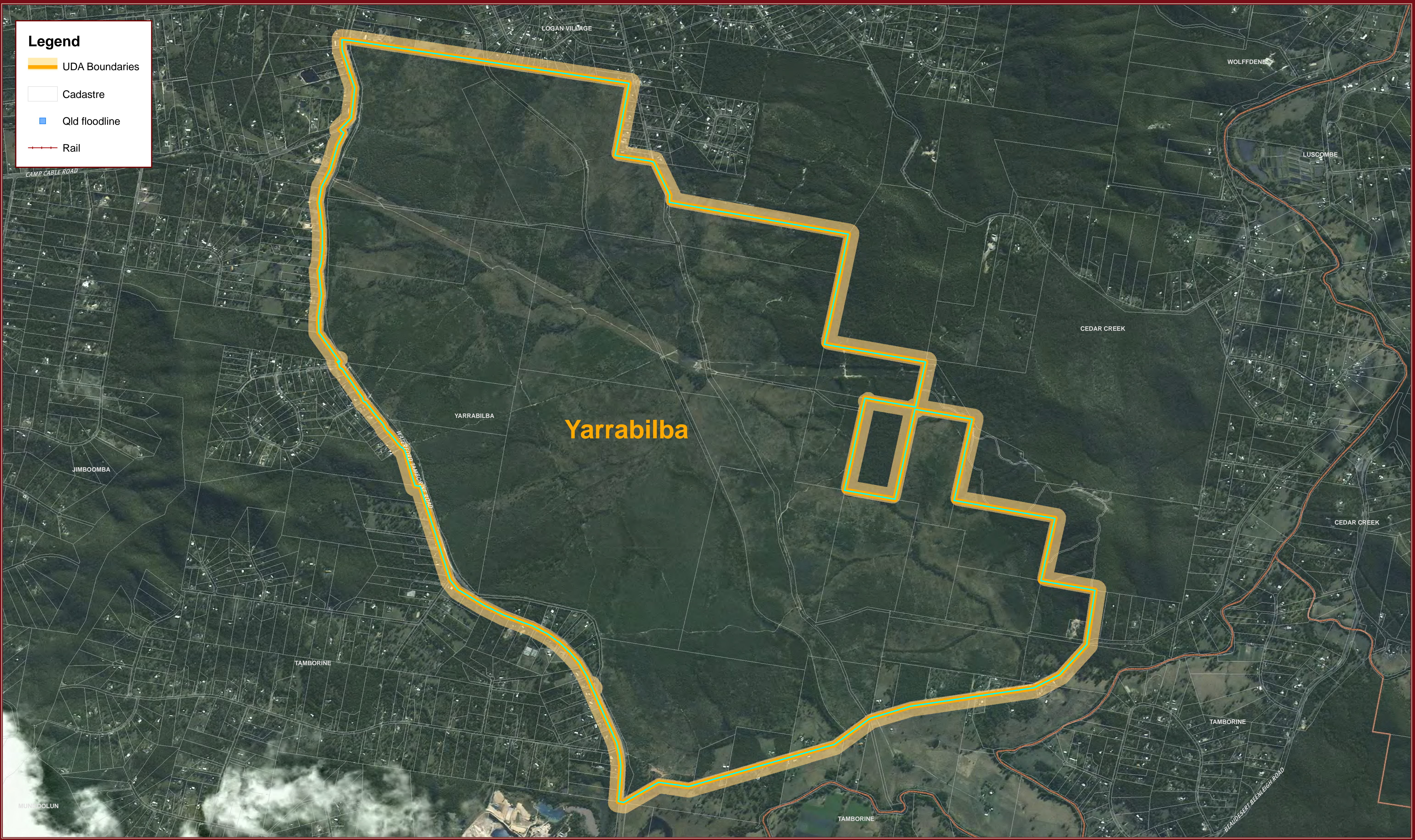
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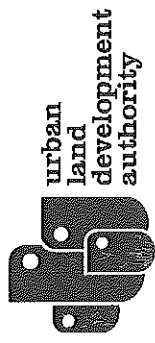
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Greater Flagstone
Urban Development Area
Submitted Development Scheme

1.1 The Urban Land Development Authority

The Urban Land Development Authority (ULDA) is a statutory authority under the *Urban Land Development Authority Act 2007* (the ULDA Act) and a key element of the Queensland Housing Affordability Strategy.

The role of the ULDA is to facilitate:

- (i) the availability of land for urban purposes
- (ii) the provision of a range of housing options to address diverse community needs
- (iii) the provision of infrastructure for urban purposes
- (iv) planning principles that give effect to ecological sustainability and best practice urban design
- (v) the provision of an ongoing availability of affordable housing options for low to moderate income households.

The ULDA works with local and state governments, community, local landowners and the development industry to deliver commercially viable developments that include diverse, affordable, sustainable housing and use best-practice urban design principles.

1.2 Urban Development Area

The Greater Flagstone Urban Development Area (UDA) was declared by regulation on 8 October 2010.

1.3 Application of the development scheme

The Greater Flagstone UDA Development Scheme (the scheme) is applicable to all development on land within the boundaries of the UDA.

From the date of approval under a regulation the scheme replaces the Greater Flagstone Interim Land Use Plan for the UDA which commenced upon declaration.

1.4 Elements of the development scheme

The scheme consists of:

- (i) a vision
- (ii) a land use plan
- (iii) an infrastructure plan
- (iv) an implementation strategy.

The vision for the UDA is expressed through the vision statement and Map 2 - Vision.

The land use plan regulates development in the UDA.

The infrastructure plan details the infrastructure necessary to support the land use plan for the UDA.

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and the infrastructure plan to achieve the outcomes for the UDA.

1.5 Acknowledgements

Preparation of the scheme has been a collaborative effort and the ULDA acknowledges the assistance, technical expertise and planning reports provided by the Major Cities Program team of Logan City Council and State agencies who have informed the preparation of the scheme. Development of the scheme has drawn heavily on many of the studies discussed below.

The South East Queensland Regional Plan 2009-2031 (Regional Plan) identifies Flagstone as a Regional Development Area and Greater Flagstone as an Identified Growth Area. The Regional Plan identifies an additional 70,000 dwellings will be required in the Logan local government area by 2031. Greater Flagstone UDA provides an opportunity to provide approximately 50,000 dwellings to house approximately 120,000 people.

Prior to the declaration of the Greater Flagstone UDA in 2010, Logan City Council commenced structure planning for Greater Flagstone in April 2009 undertaking a public consultation process on development options for the area. In February 2010 Council resolved to proceed with a centres model for development of the area that supports

self-containment and transit-oriented development principles.

Studies by the Department of Transport and Main Roads identified the potential to support a passenger rail service which will allow direct connection to the Brisbane metropolitan rail network in the longer term. Public transport will initially be provided by a bus service that will expand in response to community growth.

Investigations are also underway for upgrading of roads in the area and the proposed Southern Infrastructure Corridor to connect the area east to Yarrabilba and the Pacific Motorway. Outcomes from the Mt Lindesay-Beaudesert Strategic Transport Network investigation will determine the long-term transport network requirements for east-west and north-south roads, public transport, rail and cycle links to assist this area to service future growth.

Key reference documents that have been used to inform the scheme include:

- » South East Queensland Regional Plan 2009-2031
- » Logan City Council's Flagstone Strategic Plan, August 2010

2.1 Background

The Greater Flagstone UDA is located approximately 40 kilometres south-west of Brisbane's CBD within the southern part of the Logan City Council local government area. The UDA is strategically situated adjacent to existing infrastructure including the Brisbane-Sydney rail line to the west of the Mount Lindesay Highway, and linked by road to Jimboomba in the east and north to Park Ridge and Browns Plains.

Greater Flagstone UDA is situated within South East Queensland's south-west growth corridor which is one of the largest job and industry growth areas in Australia and offers opportunities to accommodate significant levels of residential and employment growth.

The Greater Flagstone UDA includes 3 discrete areas which were identified as suitable for urban development in the South East Queensland Regional Plan 2009-2031 (SEQRP 2031) (see Map 1).

The largest area, known as Flagstone, is the most southerly. It is located west of the Mount Lindesay Highway, adjoins the Brisbane - Sydney rail line and is adjacent to the existing residential community at Flagstone East. Part of this area is included in the Urban Footprint and identified as a Regional Development Area focused on a Major regional activity centre in SEQRP 2031. The regional plan states that "Flagstone is... proximate to existing urban infrastructure. It will be developed as an urban community with a full range of services, and employment

options. Ultimately the area will become a major regional activity centre with several employment clusters."

The area outside the Urban Footprint is included in two Identified Growth Areas in SEQRP 2031 - Greater Flagstone and New Beith-Round Mountain. The Greater Flagstone IGA is described as "...located to the west and south west of the Flagstone Urban Footprint... Greater Flagstone, in conjunction with the Flagstone Development Area, could accommodate a major centre for residential, employment, and other principal regional activity centre services... (and) generate enough demand to support the long-term extension of a public rail corridor between Flagstone and Salisbury."

Strategic planning work undertaken by Logan City Council indicates that the area known as Flagstone has the potential to accommodate over 40,000 new dwellings and an additional population of approximately 110,000.

The Greenbank Central portion of the UDA is significantly smaller, but also lies astride the Brisbane - Sydney rail line. The Greenbank Central area is focussed on existing retail, recreation and community facilities north of Pub Lane between Teviot Road and the rail line. That part of the Greenbank Central area west of Teviot Road is within the Urban Footprint and is identified as a Local Development Area in SEQRP 2031. The area east of Teviot Road is an Identified Growth Area, and is described in the regional plan as follows: "Subject to further investigation, this area could be developed as a residential

and employment precinct that benefits from access to a passenger rail system. Urban development and timing depends on providing passenger rail services and a rail station in the New Beith area."

Although the Greenbank Central area will not be provided with passenger rail services for some years yet, it was considered suitable for inclusion in the UDA because:

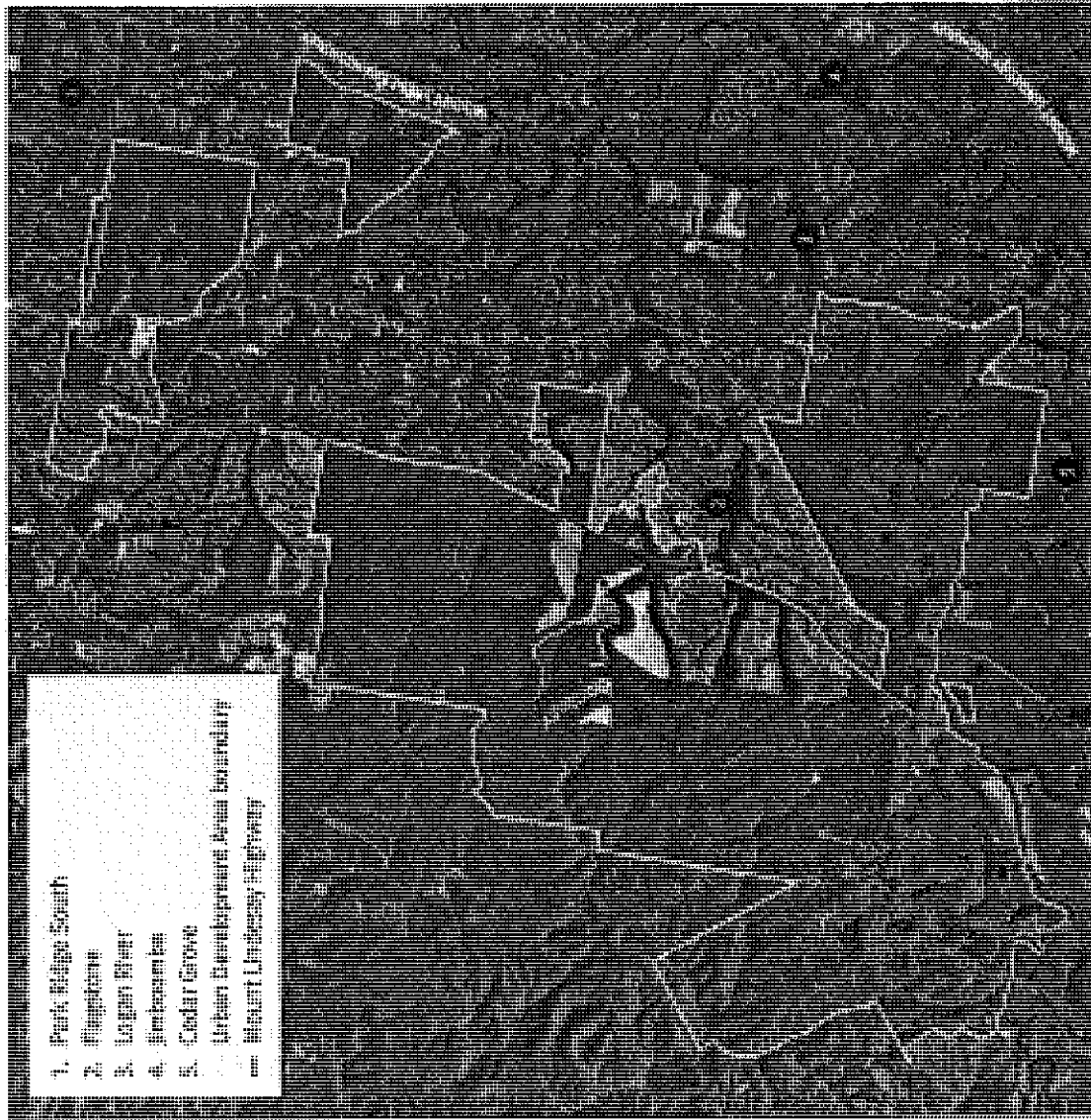
- » The land is relatively unconstrained and physically suitable for urban development.
- » The existing retail and community facilities hub provides a range of services that would support an urban community.
- » Strategic planning undertaken by Logan City Council indicates that Greenbank Central could accommodate approximately 2,100 new dwellings and 5,900 additional residents. A larger catchment population will support and strengthen the range of services available to both existing and new residents. These services would be accommodated in a district centre created by strengthening the existing retail/community hub, a new neighbourhood centre and a new primary school.
- » Higher density development around an identified future rail station will maximise the benefits of a significant public investment in transport infrastructure and services.
- » In the interim period, before a rail service is delivered, Greenbank Central will be

provided with enhanced road and public transport (bus) access provided primarily to service the substantially larger development at Flagstone.

The third area included in the Greater Flagstone UDA is North Maclean. This area is an Identified Growth Area in SEQRP 2031 which indicates that the "...area could accommodate an enterprise precinct with office, commercial, warehouse, retail services and low impact industrial uses."

Medium and heavy industries to serve growth in the Mount Lindesay Highway growth corridor will eventually be accommodated at the Bromelton State Development Area, located further south on the rail line near Beaudesert. Investigations commissioned by the ULDA indicate that significant development at Bromelton is not likely to occur for some years, and that a broader mix of industries and business should be accommodated at North Maclean to service planned growth in the corridor and broaden the range of employment opportunities available to local communities, including the growing population in the Greater Flagstone UDA. Industrial development at North Maclean should be appropriately planned and designed to ensure the residential amenity in the locality is maintained. Preliminary assessments suggest that North Maclean could accommodate up to 7,800 jobs.

Map 1 - Greater Flagstone UDA boundary



The current population of 3,500 is predominantly located in Flagstone East and serviced by a convenience shopping centre, two child care centres, a primary school and a secondary school. The residential development is mainly rural residential with some recently developed traditional urban lots.

The median income for the Logan area is within the income range identified by the ULDA as requiring affordable housing. A diversity of housing types for purchase and rent will provide increased housing affordability in the Greater Flagstone UDA for a range of household sizes.

The existing community infrastructure and networks in Flagstone East provide a base from which to develop the UDA community in partnership with the Logan City Council, State agencies and community organisations. The existing secondary school has established links with training organizations and arranged local employment for students.

Greater Flagstone UDA is located within the bushland setting between the Logan River and the foothills of Flinders Peak. The area enjoys regional scenic amenity with some significant natural and ecological values, in particular koala habitat. Planning for the UDA will need to preserve these important values and respond to a variety of site constraints

2.2 Vision statement

The vision for the Greater Flagstone UDA acknowledges the different characters of its 3 component areas:

Flagstone will be a large integrated urban community of about 100,000 people living in attractive, compact neighbourhoods, and provided with a wide range of facilities and services located in a network of accessible activity centres and low impact business and industry areas. Flagstone will be characterised by an extensive network of environmental and open space corridors that frame neighbourhoods and provide active transport links.

Greenbank Central will be a smaller urban community of around 6,000 people focussed around a district centre (and rail station in the longer term), neighbourhood centre and primary school. Services and facilities in Greenbank Central will serve the local community and a broader catchment of predominantly rural residential development.

North Maclean will be a substantial mixed industry and business area providing a wide range of services and employment opportunities to a large catchment that includes Flagstone, Yarrabilba, Greenbank Central and extensive rural residential areas.

There are 5 themes that describe the vision in more detail. Relevant aspects of each theme apply to the three component areas of the UDA.

A community framed by green landscapes

- » The natural features of Logan River/ Terviot Brook, Flinders Peak and Round Mountain define Greater Flagstone's unique character. Green corridors from Karawatha Forest along local ridgelines and waterways characterize Greater Flagstone's unique urban villages and connect each community to the natural environment.

- » Greater Flagstone is easily recognised as an important regional centre that establishes an enduring local identity underpinned by its scenic amenity and cultural context and promotes a sense of community for residents and visitors.

- » The urban form ensures the ecological values of the waterways and ridgelines are protected and enhanced and adequate community greenspace and other outdoor recreation opportunities are provided. The use of topography to create a greenspace network aids the preservation of scenic amenity which in turn reinforces the sense of place and connection to the natural environment.

A liveable community

- » Development respects adjoining land uses that predated the UDA through planning and design that preserves existing amenity. Existing rural residential areas are buffered from higher density development by transitional

uses of intermediate density and scale. Non-residential uses preserve residential amenity through a variety of mechanisms such as greenspace or landscaped corridors, low impact transitional uses and reduced scale of buildings and other structures in transition areas

- » Greater Flagstone UDA has a strong sense of place and identity. It is an affordable, sustainable and connected community demonstrating best practice urban design and sound community development principles.

- » It achieves the potential identified in the South East Queensland Regional Plan (2009-2031), providing a wide range of housing choices and employment opportunities, supported by community services and a variety of transport modes.

- » Neighbourhoods are vibrant and active with rich social connections, community greenspace, outdoor recreation opportunities, movement networks and a prosperous economy.

- » Buildings and other development respond positively to the key environmental issues of climate change, healthy waterways and waste management.

- » Residents take advantage of opportunities to move around using active and public transport, reducing private motorised travel and its impacts on the environment.

- » Cultural and community services and community greenspace and outdoor recreation opportunities meet the needs of the community and encourage active, healthy lifestyles.

A prosperous community

- » Greater Flagstone is a significant community within Logan City and the South East Queensland region providing for an ultimate projected population of 100,000 to 120,000 people.

- » The creation of dynamic activity centres drives the prosperity and the sustainability of Greater Flagstone and provides jobs for many of its residents. Taking its place within the south-west growth corridor, with easy access to Bromelton and Park Ridge, the diverse and innovative economy will provide for around 60% self-containment of all jobs and services required by the local community.

- » The rail and inter-suburban bus services ensure that the workforce has good accessibility to employment opportunities elsewhere in the region including in the surrounding major employment areas of Bromelton to the south, Park Ridge to the north, Yatala to the east and Ebenezer to the west.

An inclusive community

- » Every neighbourhood in Greater Flagstone provides a diversity of housing, including affordable and accessible housing, to cater for a variety of households and changing requirements as the community matures.
- » Greater Flagstone meets the social, recreational and entertainment needs of residents through a combination of appropriately resourced existing services and the provision of new services in accessible locations, including multi-purpose community facilities located in centres throughout the UDA.
- » There is a wide range of community groups catering for a variety of activities and interests, and providing opportunities for life-long learning and recreation.
- » People have a multitude of opportunities for social interaction in the centres and public parks that provide the focus for communities throughout Greater Flagstone. Markets and other community events provide opportunities for residents to come together and celebrate the Greater Flagstone lifestyle.

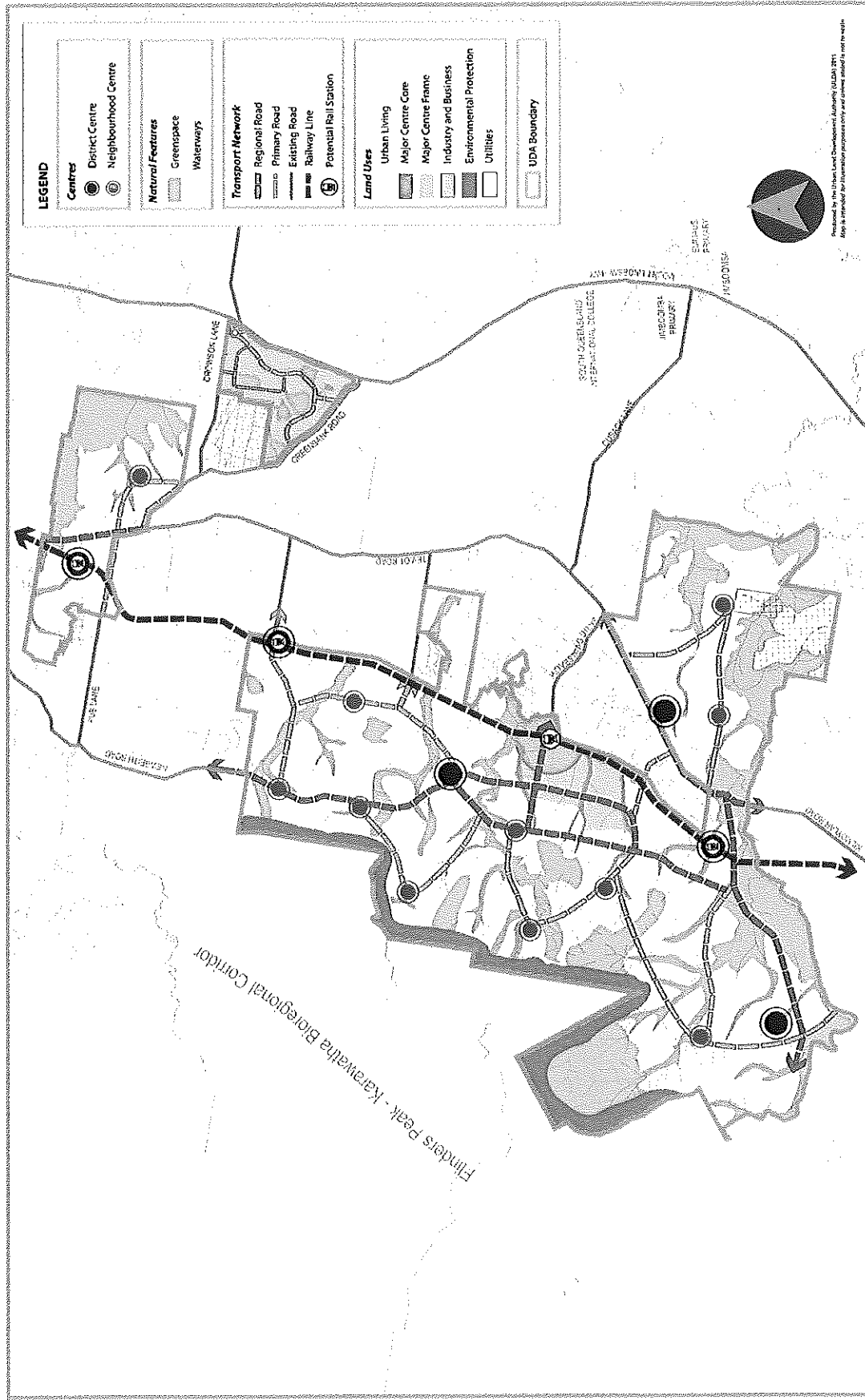
A connected community

- » Residents live in a compact urban structure of interconnected centres and complementary land uses that cluster to support convenient public transport and high levels of local service provision.
- » Greater Flagstone's major and district centres are located along the passenger rail line and provide opportunities for living, education, employment and recreation. The centres provide the community focus and are linked to neighbourhoods by walking, cycling, public transport and local road networks.
- » There is an integrated public transport system serving all neighbourhoods and centres and linking with the rail service to provide good access to work, education and other opportunities elsewhere in the region.
- » Greater Flagstone supports active and healthy lifestyles. It focuses on active transport modes and has been designed for walking and cycling.

Map 2 - Vision represents how Greater Flagstone may develop over time to meet the vision in the scheme.

Map 2 - Vision is indicative only. Details of development, including greenspace, will be resolved through development applications and context planning.

Map 2 - Vision



3.1 Components of the land use plan

3.1.1 Components of the land use plan

The land use plan establishes the UDA development requirements which regulate development to achieve the vision for the UDA.

3.1.2 UDA development requirements

The UDA development requirements are expressed as:

- (i) UDA-wide criteria (see section 3.3)
- (ii) zone provisions (see section 3.4)
- (iii) self-assessable provisions (see Schedule 3).

Refer to Figure 1.

The UDA-wide criteria apply to all UDA assessable development in the UDA and do not apply to exempt or UDA-self assessable development.

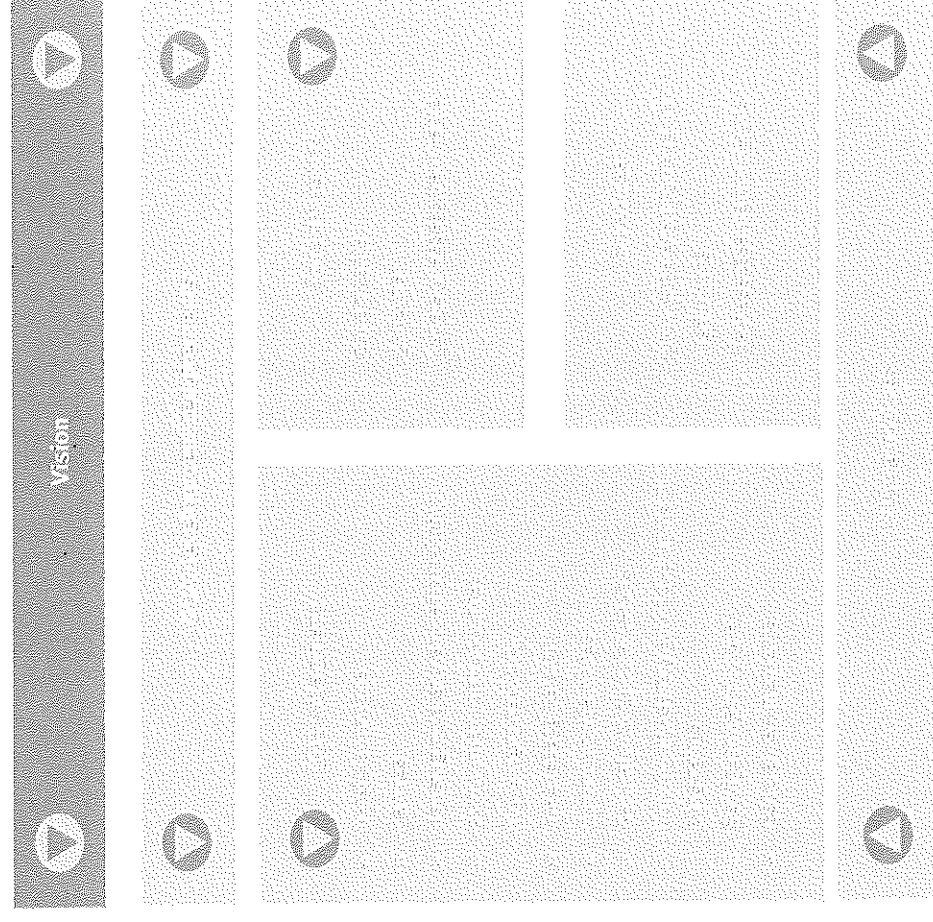
The zone provisions for each zone apply to:

- (i) land in that zone (zone intent and zone map)
- (ii) all development in that zone (Table 2: Levels of assessment table).

Self-assessable provisions:

- (i) do not apply to exempt development, and
- (ii) apply to UDA self-assessable development.

Figure 1: Components of the land use plan and their relationship



ULDA guidelines provide guidance on how to achieve the UDA-wide criteria. The guidelines are available on the ULDA website at www.uldqld.gov.au

3.1.3 Levels of assessment

Table 2: Levels of assessment prescribe for each zone:

- (i) UDA exempt development (column 1)
- (ii) UDA self assessable development (column 2)
- (iii) UDA assessable development which is permissible (column 3A)
- (iv) UDA assessable development which is prohibited (column 3B).

3.1.4 Schedules

Schedule 1 identifies development that is exempt from assessment for the whole of the UDA.

Schedule 2 provides the use and administrative definitions required to interpret and apply the scheme.

Schedule 3 sets out the specific requirements applying to self-assessable development and are referenced in the levels of assessment table.

3.2 Development assessment

3.2.1 Interpretation

Under the ULDA Act, section 6 development is development defined under the *Sustainable Planning Act 2009*, section 7.

Schedule 2 defines particular words used in this scheme, including uses and administrative terms.

3.2.2 Requirements for self-assessable development

UDA self-assessable development must comply with the applicable schedule (see schedule 3).

Under the ULDA Act, section 43, UDA self-assessable development must comply with the requirements under the development scheme for carrying out the UDA self-assessable development.

3.2.3 Development consistent with the land use plan

UDA assessable development is consistent with the land use plan if:

- (i) the development complies with all relevant UDA-wide criteria and the relevant zone intents, or

- (ii) the development does not comply with one or more of the UDA-wide criteria or zone intents but:
 - a. the development does not conflict with the UDA vision, and
 - b. there are sufficient grounds to justify the approval of the development despite the non compliance with the UDA-wide criteria or zone intents.

UDA prohibited development is inconsistent with the land use plan. Under the ULDA Act, section 56 UDA assessable development that is inconsistent with the land use plan cannot be granted approval.

In this section 'grounds' means matters of public interest which include the matters specified as the main purposes of the Act as well as:

- (i) superior outcomes
- (ii) overwhelming community need.

'Grounds' does not include the personal circumstances of an applicant, owner or interested third party.

3.2.4 Development approval

Identification of development as UDA assessable development does not mean that a UDA development approval (with or without conditions) will be granted.

UDA assessable development requires a UDA development application to be lodged with the ULDA for assessment and decision.

Approval is required before UDA assessable development is undertaken.

3.2.5 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

3.2.6 Consideration in principle

A request may be made to the ULDA for consideration in principle for proposed development.

In considering the request, the ULDA may decide to:

- (i) support all or part of the proposed development, with or without qualifications that may amend the proposed development
- (ii) oppose all or part of the proposed development
- (iii) give no indication of either support or opposition to all or part of the proposed development.

The ULDA, when considering a development application:

- (i) is not bound by any decision made regarding an application for consideration in principle
- (ii) may give such weight as it considers appropriate to the decision in respect of the application for consideration in principle.

3.2.7 Development application

To the extent the UDA-wide criteria, zone intents and ULDA guidelines are relevant, they are to be taken into account in the preparation of a UDA development application and the assessment of the application by the ULDA.

The infrastructure plan and implementation strategy may include further information which should be taken into account in the preparation, design and feasibility of development proposals.

3.2.8 Context plans

The scheme maps provide a broad spatial framework to guide development of the UDA. Context plans provide the intermediate level of spatial planning between the scheme maps and individual development proposals. Context plans are required to ensure that the development proposal will not prejudice the achievement of the UDA vision, UDA-wide criteria and zone intents in a broader area around the development site.

Context plans are prepared by applicants and are required to accompany a UDA development application for:

- (i) the first permissible development in the relevant context plan area, or
- (ii) a later permissible development that is materially inconsistent with the existing ULDA-endorsed context plan for the context plan area.

However, a context plan is not required if:

- (i) in the ULDA's opinion the proposed development is of a nature or scale, or will operate for such period of time, that the ULDA vision, ULDA-wide criteria and zone intents will not be compromised, or
- (ii) (the ULDA has undertaken more detailed planning for the broader area around the development site, has consulted with the community about the more detailed plan and the development proposal is materially consistent with the more detailed planning intentions for the area.

Applicants should discuss the requirement for a context plan with the ULDA in pre-application meetings.

A context plan is part of the supporting information for a ULDA development application and will not form part of a ULDA development approval.

The ULDA will assess the submitted context plan as part of the development assessment process for the ULDA development application. The ULDA may request the applicant to change a context plan. A context plan may cover two or more contiguous context plan areas.

If the ULDA is satisfied that the context plan is consistent with the achievement of the ULDA vision, ULDA-wide criteria and zone intents the ULDA will signify that it has endorsed the context plan by placing the ULDA endorsed context plan on the ULDA website. Once endorsed by the ULDA the context plan supersedes any previous ULDA-

endorsed context plan for the same context plan area. This process will allow context plans to evolve in response to changing market conditions or improved information and to progressively reflect the development intentions of various landowners in the context plan area.

A context plan should:

- (i) resolve, if required, any development constraint that may determine the extent of developable area or appropriate uses
- (ii) identify the location of major network infrastructure, including transport, within the context plan area
- (iii) resolve the boundaries of centres, the community greenspace network and sites for major community infrastructure such as parks and schools, and
- (iv) demonstrate that the development proposal:

- a. does not prejudice the ability for surrounding land to be developed in an orderly and efficient manner consistent with the ULDA vision, ULDA-wide criteria and zone intents, and
- b. is consistent with existing and approved development in the context plan area and adjoining context plan areas.

A ULDA practice note provides details on how to prepare a context plan, and identifies the specific areas for which context plans are required (the context plan areas).

3.2.9 Plan of Development

A Plan of Development (PoD) may accompany an application for a material change of use or reconfiguring a lot and may deal with residential or non-residential uses as well as operational work.

A PoD is prepared by an applicant and may include maps, graphics and text that collectively demonstrate how proposed uses, works and lots will contribute towards the achievement of the vision and will be consistent with the relevant ULDA development requirements.

The PoD can not include land beyond the boundary of the land the subject of the application, but may cover only part of the land the subject of the application.

Under Table 2: Levels of assessment, development approved in accordance with a PoD is exempt development and requires no further development approval under the scheme.

For further advice on preparing a PoD refer to the applicable ULDA practice note available on the ULDA website.

3.2.10 Notification requirements

A ULDA development application will require public notification¹ if the application:

- » includes a proposal for development which does not comply with the zone intents

- » is accompanied by a context plan required under section 3.2.8, or
- » is for development which, in the opinion of the ULDA, may have undue impacts on the amenity or development potential of adjoining land under separate ownership, including development for a non-residential use adjacent to land approved for or accommodating a residential use in the urban living zone.

The ULDA may require public notification in other circumstances if the development application is for a use, or of a size or nature which, in the opinion of the ULDA, warrants public notification.

3.2.11 Interim use

An interim use is a land use that, because of its nature, scale, form or intensity, is not an appropriate long term use of the land. Interim land uses may occur if appropriately developed and operated and where located in areas which will not compromise the zone intent in the longer term. Possible interim uses are identified in the zone provisions.

The ULDA may approve an interim use if it can be demonstrated that an interim use will not preclude or delay an appropriate long term use or intensity of development. Information to support an application for an interim use may include:

- » a context plan
- » a schedule of land supply and projected take-up rates, or

¹ The ULDA practice note provides further guidance.

- » plans showing how the development could transition from the proposed interim use to an appropriate longer term use².

The ULDA may impose a condition of approval that limits the duration of an interim use.

Interim uses will only be approved if it can be demonstrated that the use will not prejudice the achievement of the vision for the UDA.

3.2.12 Relationship with local government planning scheme and other legislation

This scheme may apply a provision of a planning instrument, or a plan, policy or code made under the *Sustainable Planning Act 2009* (SPA) or another Act. However, the scheme prevails to the extent of any inconsistency with those instruments.

Car parking provisions

For exempt and self-assessable development, the relevant car parking provisions in the planning scheme.

² The ULDA applicable guideline provides examples of how this might be achieved for centres.

Other Legislation

In addition to assessment against the scheme, development may require assessment against other legislation including for example the *Plumbing and Drainage Act 2002* and SPA.

3.2.13 Land not included in a zone

This section applies to land which is not shown in the land use plan as being included in a zone (unallocated land).

Where the unallocated land adjoins land in a zone, the unallocated land is deemed to be included in that zone.

Where the unallocated land adjoins land included in different zones, the unallocated land is deemed to be included in those zones with the centreline of the unallocated land being the boundary between the zones.

3.3 UDA-wide criteria

3.3.1 Neighbourhoods

Development delivers neighbourhoods that:

- » are compact and walkable.
Neighbourhoods comprise the area within a 5 minute walk (400 metre radius) of a community focal point. A cluster of neighbourhoods supports a neighbourhood centre
- » have a highly permeable, legible street pattern, designed to promote walking and cycling as the primary modes for local movements
- » contain a variety of dwelling types including affordable and accessible housing
- » are designed to respond to local site characteristics, settings, landmarks, scenic amenity and views, and use natural features, such as ridges and waterways, or man made features such as built form and public parks to provide local identity and character
- » have a centrally located focal point which must comprise of at least a local recreation park but which can also include a public transport stop, community facility, local shop or similar
- » are interconnected and provide good access to public transport, parks, schools and other community facilities and neighbourhood centres
- » provide a safe environment through the

application of Crime Prevention Through Environmental Design principles such as passive surveillance of public spaces, and a legible street network that minimises traffic impacts on residential areas

- » locate higher density residential close to centres, significant transit opportunities, recreation and corridor parks, or along busier streets that lead directly to centres
- » are designed to promote optimum solar access and use of prevailing breezes
- » neighbourhoods around transport nodes and higher order centres to maximise accessibility
- » appropriately interface with existing residential development adjoining the UDA boundary, by:
 - » considering densities through minimum lot sizes and the location of property boundaries
 - » access arrangements
 - » uses
 - » height.

Neighbourhoods are designed to:

- » achieve the standards set out in the applicable ULDA guideline
- » the minimum net residential densities and other specific requirements in Table 1.

3.3.2 Centres

Development delivers centres that:

- » are for knowledge, community and commerce, accommodating a range of employment, education, cultural and community, retail, community greenspace, entertainment, sport and recreational opportunities which meet the needs of the community, encourage community interaction and active, healthy lifestyles
- » are commensurate with their role in the SEQ Regional Plan, UDA centres network and the broader Logan City Council network, and the size of their service catchments
- » comprise the major centre, district centres and neighbourhood centres. Centres are focal points for their catchments and provide a wide range of services and facilities.
- » respond to local site characteristics, settings, landmarks and views, and use built form and natural features to provide specific identity and character
- » are active places characterised by a high quality public realm and safe, attractive pedestrian areas
- » have a local recreation or civic park as a central focal point for community activities
- » are located to maximise accessibility

Table 1: Height, gross floor area and density provisions

Zones	Major centre zone		Urban living zone				Industry and business zone
	Major centre core	Major centre fringe	District centre (per centre)	Neighbourhood centres (per centre)	Neighbourhoods		
Maximum building height (storeys)	12	6	5	3	2	4	
Minimum building height (storeys)	2	N/A	N/A	N/A	N/A	N/A	
Minimum net residential density	60	40	25	20	15**	n/a	
Indicative maximum gross floor areas*							
» retail and entertainment	100,000m ²		11,000m ²	4,000m ²	N/A	500m ²	
» commercial	90,000m ²		5,000m ²	1,000m ²	N/A	N/A	
» low intensity retail e.g. showrooms/outdoor sales	60,000m ² (frame)				N/A		
» service industry, large scale commercial use, low impact industrial uses	N/A		N/A	N/A	N/A	280 ha	
Community services *** (Indicative GFA)	40,000m ²		8,000m ²	1,800m ²	300m ²	N/A	

* Development proposals that would result in the aggregate gross floor area exceeding these indicative maximums must be accompanied by an economic impact assessment study report that assesses the likely impact on existing and proposed centres within and outside the UDA.

** Unless it can be demonstrated this density cannot be achieved due to site constraints.

*** Includes community facilities as well as privately delivered services such as health, child care, aged care and respite services, sport and recreation and youth services.

**** With opportunity for 3 storeys in appropriate locations.

- » provide a focus for corridor parks, the road network and act as hubs for feeder public transport and walking and cycling networks
- » have a permeable road network that provides vehicle access into centres through a network of low-speed urban streets
- » give priority to public and active transport
- » locate higher density development, including residential development, and key community facilities in the core of the centre. The core is the area within the 400 metre primary walking catchment of the major transit node or central focal point
- » locate lower intensity and car dependent uses on the periphery of the centre - the centre frame. The centre frame of major and secondary centres can also include neighbourhoods of higher density residential development
- » contain commercial, retail and other uses which require high levels of accessibility.

The major centre is the focal point of the community. It will provide a wide range of facilities and services, including most higher-order services. The highest density of activities and key community facilities are in the core close to the major transit node.

District centres are the intermediate tier in the centres hierarchy and provide a wide range of goods and services with relatively high densities.

Neighbourhood centres provide a range of services and activities to meet day-to-day needs. Neighbourhood centres are located on collector or higher order roads with good access by public and active transport.

Small scale shop or office activities with aggregate gross floor area of 250m² or less are acceptable outside a centre where the development will not constitute an incremental expansion to a designated centre and will not have a detrimental impact on residential amenity and the centres hierarchy.

Actual centre locations will be determined through the preparation of context plans.

Map 3 - Centres and transport network indicates the general distribution within the UDA. The map is indicative only. Details of development, including greenspace, will be resolved through development applications and context planning.

Centres are designed to achieve:

- » the principles and design standards set out in the applicable ULDA guideline
- » the specific requirements set out in Table 1.

3.3.3 Housing diversity and affordability

Development delivers:

- » housing choice and diversity to meet the needs of the community, through a mix of densities, types, designs, tenures and

levels of affordability, to cater for a range of lifestyles, incomes and life cycle needs

- » residential development that complements or enhances the character of the neighbourhood and streetscape, and contributes to the creation of an attractive and safe environment

- » dwellings that provide appropriate levels of amenity and privacy, and adequate outdoor areas and car parking to meet varying household needs

- » energy efficient, climatically responsive design including appropriate solar orientation, shading, cross ventilation, natural lighting and passive cooling techniques.

The ULDA's applicable guidelines provide additional information on how to achieve these criteria.

3.3.4 Employment opportunities

Development delivers:

- » a wide range of accessible employment opportunities
- » employment and training opportunities which complement those in nearby major industry employment areas such as Bromelton and Park Ridge

- » employment activities in designated centres and industry and business areas

- » activities including industry, research and technology facilities and warehouses
- » development of a scale and intensity which is compatible with existing and

proposed development in the vicinity

- » an appropriate transitioning of land uses at the interface with residential neighbourhoods
- » a buffer for sensitive receiving environments adjacent to the employment areas of North Maclean³.

Buffers are enhanced through:

- » the provision of a greenspace strip with a minimum width of 25 metres
- » the location of local and collector roads adjacent to the low impact industrial uses

- » a limited range of commercial and trade retail activities that support small scale industry and service the direct needs of the local employment population within North Maclean. Non-industrial uses are not to duplicate commercial and retail uses intended for the Centres network
- » limited access for industrial vehicles in streets adjacent to North Maclean

- » direct access to the arterial road network where possible to enhance the efficient movement of goods.

The ULDA's applicable guideline provides additional information on how to achieve these criteria.

3 For information about how to address buffers for sensitive receiving environments, refer to SPP 5/10 Air, Noise and Hazardous Materials.

3.3.5 Movement network

Development contributes to:

- » an effective, efficient and integrated movement network that provides a high level of safety and accessibility, maintains residential amenity and promotes the use of public and active transport particularly for local trips
- » a major road network that provides effective links between centres and the neighbourhoods they serve, and to the external road network, and accommodates a range of users including cars, service vehicles, pedestrians, cyclists and public transport
- » a road network that has a functional hierarchy, facilitates longer travel movements, provides multiple access routes to and through neighbourhoods and minimises traffic impacts on residential areas
- » the provision of a public transport network that is readily accessible to the community (90% of all dwellings should be within 400 metres of a potential public transport service), and provides effective links to centres, rail stations and external destinations
- » a comprehensive active transport (walking and cycling) network based around major active transport spines, supplemented with local links and a safe and permeable street network within

neighbourhoods⁴. The active transport network provides safe and direct links to key destinations including centres, railway stations, parks and schools.

Elements of the movement network should be delivered generally in accordance with Map 3 Centres and Transport Network.

The applicable ULDA guideline provides additional information to assist in achieving these criteria.

The map is indicative only. Details of development, including greenspace, will be resolved through development applications and context planning.

3.3.6 Community greenspace network

Development contributes to the provision of an integrated, high quality, regional community greenspace network that caters for a range of environmental needs by:

- » retaining where possible locally significant wetlands, remnant vegetation and habitat for fauna
- » protecting important landscape and visual quality values including scenic amenity areas
- » enhancing wetland communities as part of the rehabilitation of biodiversity corridors

⁴ Where active transport enters the on-road environment, treatment should be consistent with Austroads: "Cycling Aspects of Austroads Guides (March 2013)".

- » providing biodiversity corridors and linkages including to areas outside the neighbourhood or community
- » locating and designing fauna connectivity structures in road infrastructure that traverses an identified or potential fauna and flora corridor.

Development delivers parks that:

- » contribute to the achievement of an integrated, high quality greenspace network that caters for a variety of recreation functions and experiences to meet the needs of residents and visitors
- » are accessible for users
- » provide for multiple purposes and uses including recreational, sporting, ecological and stormwater management functions
- » incorporate existing natural features where possible and are landscaped to assist in creating neighbourhood identity and wayfinding
- » retain existing significant vegetation to the greatest extent possible
- » are shaped and embellished to suit their anticipated use
- » support the community's recreational needs and provide opportunities for community and special events.

The community greenspace network is distributed generally in accordance with Map 4 - Community greenspace network.

The map is indicative only. Details of development, including greenspace, will be resolved through development applications and context planning.

The community greenspace network is located and designed to achieve the principles and design standards set out in the applicable ULDA guideline.

3.3.7 Community facilities

Development facilitates the delivery of:

- » sustainable communities with a strong community identity and access to community facilities and services that meet diverse needs, maximise potential for community development and enhance community wellbeing
- » a range of community facilities and services that are accessible and appropriate to the needs of the community and reduce physical and social isolation
- » community facilities and services that are located where accessibility to the facility's target market is maximised through good access to public transport, pedestrian and cycle paths

- » a hierarchy of community facilities and services in neighbourhood, district and major centres. Neighbourhood level community facilities and services are located within walking distance for most residents, meet everyday needs and are provided early in development. District level community facilities and services serve a broader population: catchment, reflect the diverse needs of the population and are provided in response to population growth thresholds. Major community facilities and services are of a higher order and accessed by a sub-regional population.

Community facilities are distributed generally in accordance with the Map 5 - Community facilities.

The map is indicative only. Details of development, including greenspace, will be resolved through development applications and context planning.

Community facilities are designed to achieve the principles and standards set out in the applicable ULDA guideline.

3-3-8 Natural and cultural values

Greater Flagstone UDA adjoins the Flinders Peak/Karawatha Bioregional Wildlife and Landscape Corridor. Significant regional environmental features within the UDA include:

- » Round Mountain
- » Elevated land at Riverbend

- » Logan River
- » Flagstone Creek
- » Sandy Creek
- » Abade Creek
- » Oxley, Norris and Chambers Creeks, their tributaries and wetlands.

Development responds to the constraints of the land and delivers:

- » protection of significant environmental and ecological values
- » protection of Remnant Endangered vegetation where proven by groundtruthing to be viable
- » minimal emissions to land, water and atmosphere
- » protection of culturally significant places and items
- » efficient use of land and resources.

The design, siting and layout of development:

- » preserves and enhances important environment values, and respects local land forms
- » avoids, minimises and offsets development impacts on areas of biodiversity values and koala habitat values
- » maintains or improves ecological connectivity in the local urban context
- » incorporates landscaping with endemic species that contribute to bushland character, flora and fauna habitat, and fauna movement

- » respects cultural heritage values
- » minimises adverse impacts on natural landforms and the visual amenity of the site
- » maintains or improves the ecological health and environmental values of surface and groundwater, including wetlands and waterways in and adjacent to the UDA
- » maintains and improves the functioning and characteristics of the hydrological network (including surface and groundwater) and generally maintains the natural flow regime
- » incorporates total water cycle management and water sensitive urban design principles to appropriately manage floodwater and stormwater
- » applies best industry practice erosion and sediment control techniques giving particular regard to the local dispersive soils
- » ensures that all land and groundwater will be fit for purpose in accordance with accepted standards and practices
- » manages air quality, noise and hazardous materials according to current standards
- » promotes innovative and efficient use of energy and water
- » maximises recycling opportunities and reduces waste generation.

Koala conservation

The design, siting and layout of development:

- » incorporates koala conservation and habitat protection outcomes in a way that contributes to a net increase in koala habitat and assists in the long term viability of koala populations in SEQ
- » avoids (to the greatest extent possible) the clearing of areas mapped as High Value Bushland on the relevant State Planning Policy 2/10: Koala Conservation in South East Queensland (SPP) Koala Habitat Values Map
- » caters for koala movement between conserved areas of bushland koala habitat
- » ensures impacts on koala habitat are offset⁵ through the delivery of a net benefit to koalas, including through the expansion of habitat on lands as suitable for rehabilitation
- » incorporates koala sensitive urban design⁶.

Map 6 - Natural Values shows the key natural values in the UDA.

The map is indicative only. Details of development, including greenspace, will be resolved through development applications and context planning.

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- 5 Refer to the applicable ULDA guideline for koala offsets.
 - 6 Refer to Schedule 2 in SEQ Koala Conservation State Planning Regulatory Provision (SPRP).

3.3-9 Community safety and development constraints

Development is sited, designed and constructed to avoid, minimise or withstand the incidence of a development constraint.

Development ensures that people and property are safe from potential hazards including landslip, bushfire⁷, flooding⁸ and predicted impacts of climate change.

Development does not compromise the integrity or operation of high voltage transmission lines/corridors⁹.

⁷ Refer to SPP 1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide, and the associated SPP 1/03 Guideline for information and assessment criteria for landslip and bushfire hazard.

⁸ The Queensland Floods Commission of Inquiry is investigating the January 2011 flood disaster, including a review of existing provisions relating to flooding and flood risk mitigation.

Consequently the provisions of this development scheme with respect to the management of flooding and flood risk mitigation may be subject to change at the direction of the Queensland Government in the near future.

This should be taken into account by applicants and assessment managers when considering development in this UDA. Applicants are advised to make relevant enquiries regarding the status of the provisions relating to flooding to the time of lodgement.

Refer to ULDA Guideline 15: Flood and Storm Tide Inundation for information in relation to flood hazard

⁹ Energen's draft Electricity Overlay Code, Community Infrastructure Code and Safe Tree Guideline provide guidance on how to achieve this criterion.

Residences and other sensitive uses are protected from the impacts of noise and dust from regional transport corridors.

To ensure protection from flooding and appropriate flood management:

- » development occurs in areas with an appropriate level of flood immunity¹⁰
- » development ensures that stormwater run off at the site's boundaries does not exceed that which presently exists, and there is 'no net worsening' of flood conditions at the site's boundaries.

To ensure protection from bushfire hazard, development is designed to mitigate bushfire risk. As development occurs, bushfire risk may diminish.

Map 7 - Development Constraints shows the key community safety and development constraints affecting the UDA.

3.3-10 Service infrastructure

The UDA delivers efficient and effective use of infrastructure and services.

¹⁰ As identified in Map 7, a small part of the UDA is subject to inundation in a Q100 flood event.

For information on how to address potential flooding refer to:

- » ULDA Guideline No 15: Protection from Flood and Storm Tide Inundation
- » The provisions of the relevant local government planning instrument and
- » State Planning Policy 1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide.

Development ensures infrastructure and services are:

- » provided in a timely, orderly, integrated and coordinated manner to support urban uses and works
- » available or capable of being made available (including key infrastructure such as roads, public and active transport, water supply, sewerage, drainage, park network, community facilities, energy and telecommunications)
- » designed to allow for future developments in information technology and providing access to technology in neighbourhood facilities
- » located and designed to maximise efficiency and ease of maintenance.

Infrastructure is designed to achieve the principles and standards set out in the applicable ULDA guideline.

3.3-11 General requirements

Site area and landscaping:

- » sites have sufficient dimensions to accommodate buildings, parking, access and circulation areas and landscaping
- » landscaping is provided to enhance the visual amenity of the locality
- » incorporate endemic plant species including koala habitat trees.

Sub-tropical design measures

Development provides built forms that respond to the sub-tropical environment, including eaves, roof overhangs and sun shading devices.

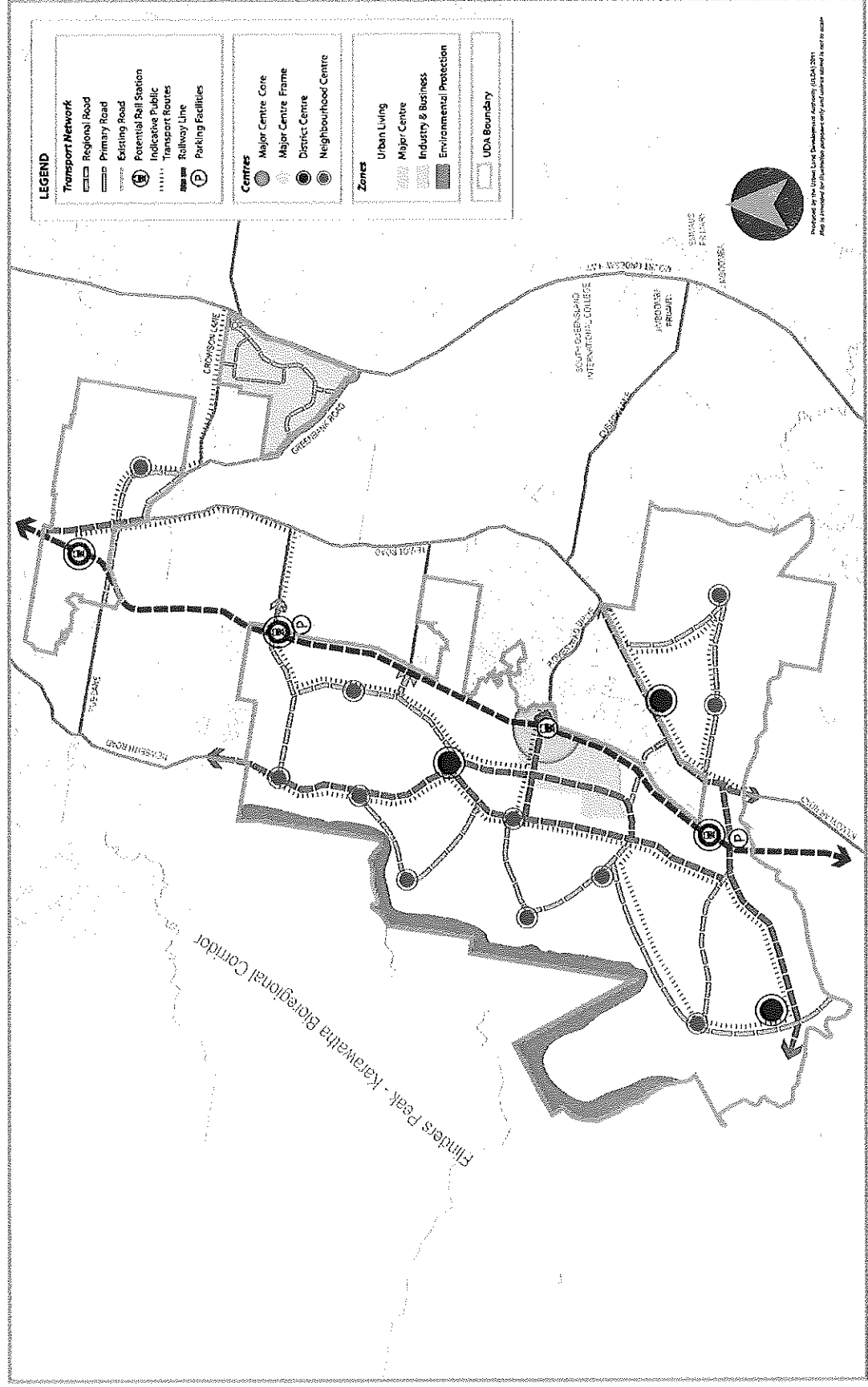
Parking and end of trip facilities:

Parking is provided in accordance with the rates and standards set out in the planning scheme¹¹. The ULDA will consider proposals for a reduced number of car parking spaces where it can be justified due to factors including:

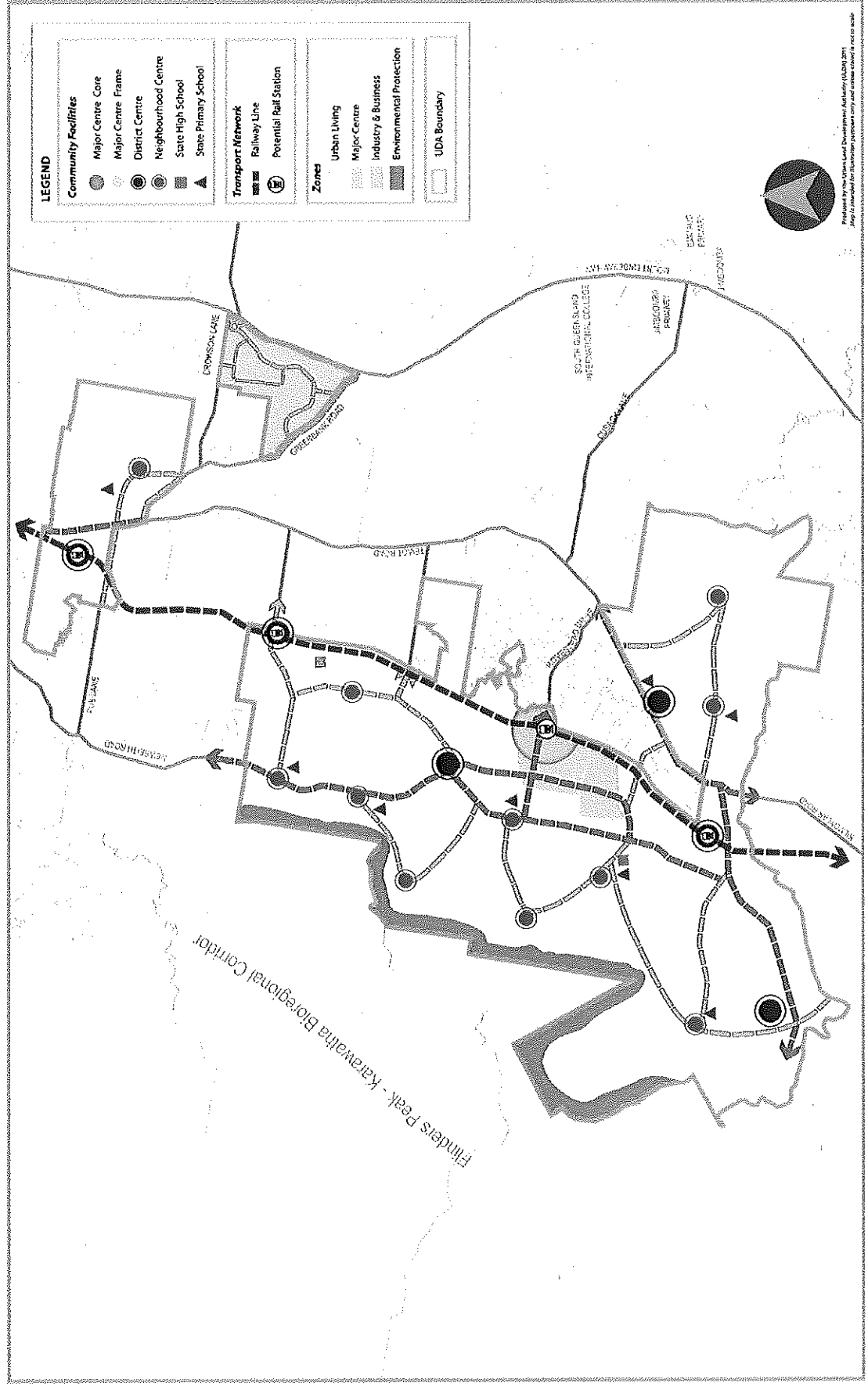
- » availability of on-street car parking
- » public transport accessibility
- » overall accessibility, including for all residential development, location within or adjoining a centre
- » potential for sharing car parking spaces by different uses and activities
- » target markets for residential development.

¹¹ Refer to Beaudesert Shire Planning Scheme 2007, Chapter 5, Part 3, Division 5 Parking and Servicing Code.

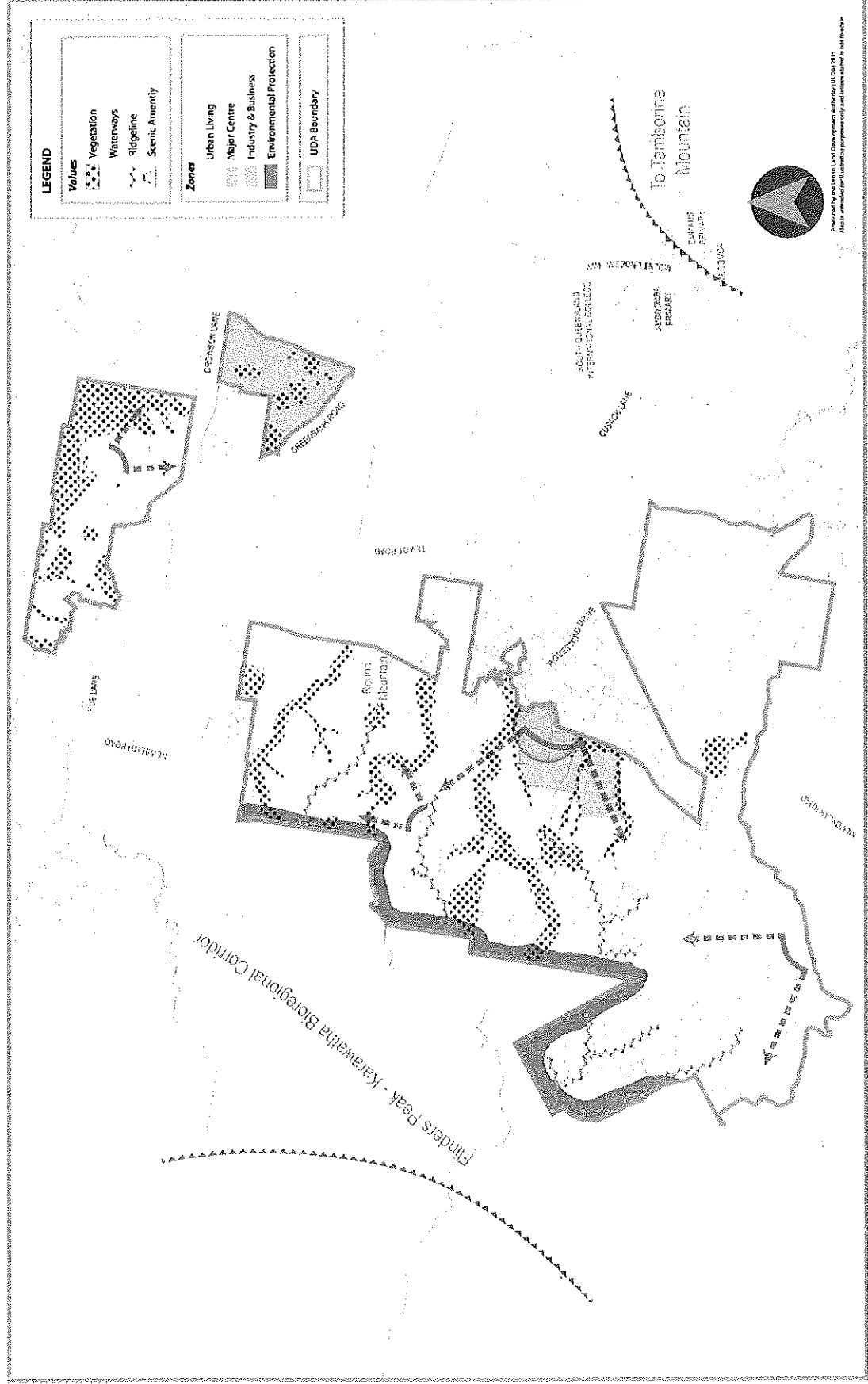
Map 3 - Centres and transport network



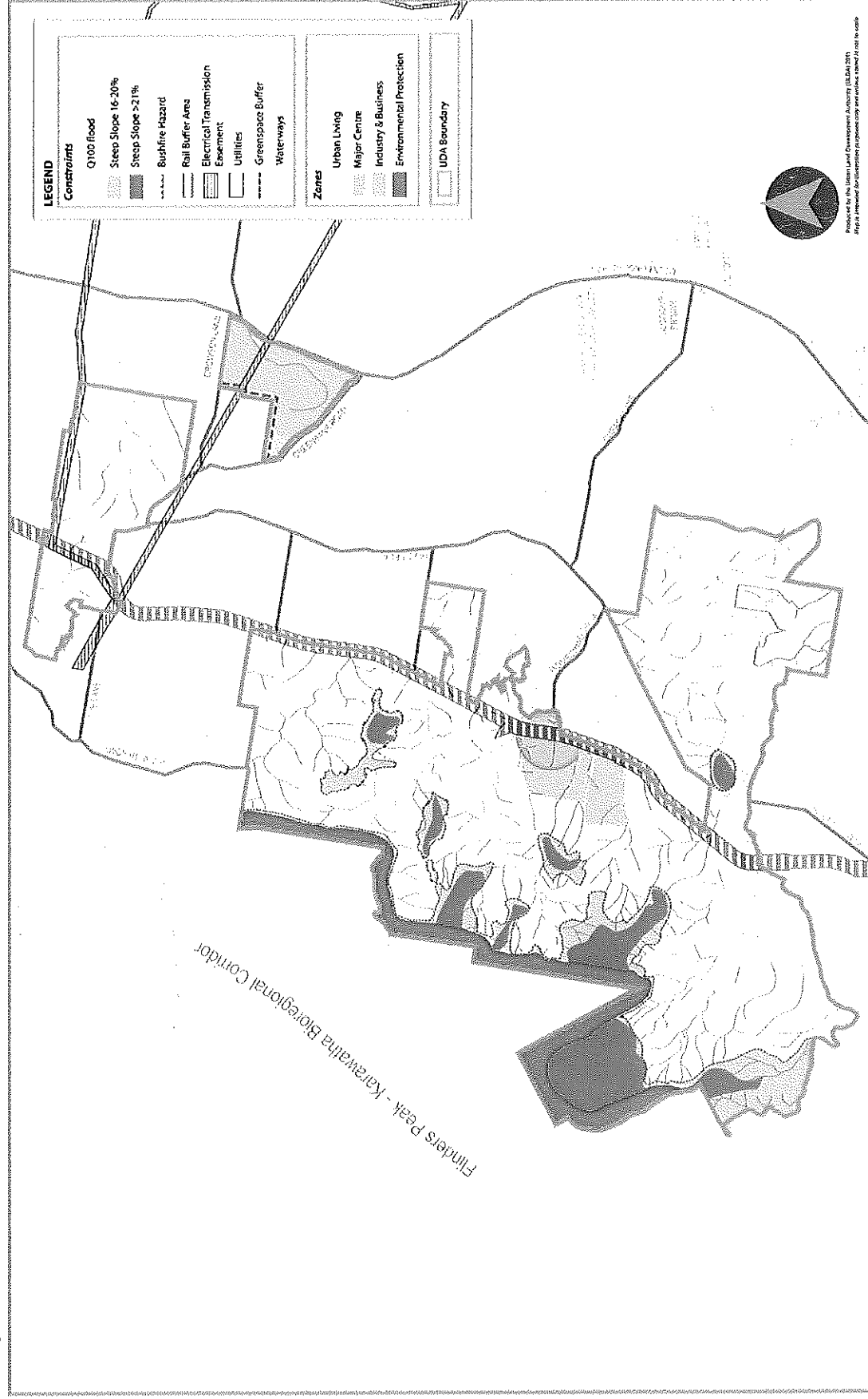
Map 5 - Community facilities



Map 6 - Natural values



Map 7 - Development constraints



End of trip facilities¹² for pedestrians and cyclists, including secure undercover bicycle storage facilities, showers and lockers are to be provided as part of development.

Advertising devices:

Advertising devices are in accordance with standards set out in the planning scheme¹³.

- » cater for the needs of display homes and businesses to clearly identify the location, the goods or services which are supplied to the public
- » are consistent with the scale and design of existing buildings and other works on the site and in the locality, and complement the local streetscape
- » where appropriate, reflect the character of the area
- » are sited and provided on premises having regard to safety and amenity.

3.4 Zone provisions

3-4.1 Zone map

Map 8 shows the location and boundaries of zones in the UDA. The UDA contains 4 zones:

- » Urban living
- » Major centre
- » Industry and business
- » Environmental protection

Inclusion of land within these zones does not imply that all such lands can be developed for urban purposes. Some land may not be available or appropriate to be developed due to local site conditions or other constraints.

3-4.2 Zone intents

Urban living zone

The urban living zone applies to most of the area intended for urban development in the UDA. The majority of the zone is intended to be developed as neighbourhoods focused on identifiable and accessible centres and comprising a mix of residential development including houses, multiple residential and other residential and live work opportunities through home based business.

The urban living zone is also intended to accommodate a wide range of other non-residential uses.

These other uses include:

- » district centres and neighbourhood centres
- » a community greenspace network comprising parks, environmental areas, significant tracts of koala habitat and open space corridors along waterways
- » local employment areas such as small scale industry and business areas and local shops
- » specific facilities and institutions such as educational establishments, child care centres and community facilities.

The UDA wide criteria provide guidance about the preferred nature and locations for some of these uses, but their actual location, nature and extent will be determined through more detailed local area planning and the preparation of context plans by applicants as outlined in section 3.2.5.

Other than in identified centres, non residential uses may be approved in the urban living zone where it is demonstrated to the satisfaction of the ULDA that:

- » the proposed use has appropriate vehicular access that will not result in excessive numbers of vehicles passing through residential areas
- » cater for the needs of the immediate community and are consistent with or do not compete/undermine the vitality of the centres hierarchy
- » any impacts associated with the use (e.g. noise, dust, emissions) will not affect residential or other sensitive uses.

Reference should be made to the applicable ULDA guideline for further detail on the preferred locations, scale, form and nature of development in the urban living zone.

The urban living zone uses may also accommodate interim uses such as:

- » Agriculture
- » Agriculture supply store
- » Animal keeping and husbandry
- » Intensive horticulture.

Major centre zone

The major centre zone provides the central focus of the UDA, and is located around the proposed main railway station and transport interchange. The major centre zone accommodates, the highest densities and the greatest mix of land uses including greenspace and community facilities.

Land within the major centre zone falls into two categories: the major centre core and the major centre frame.

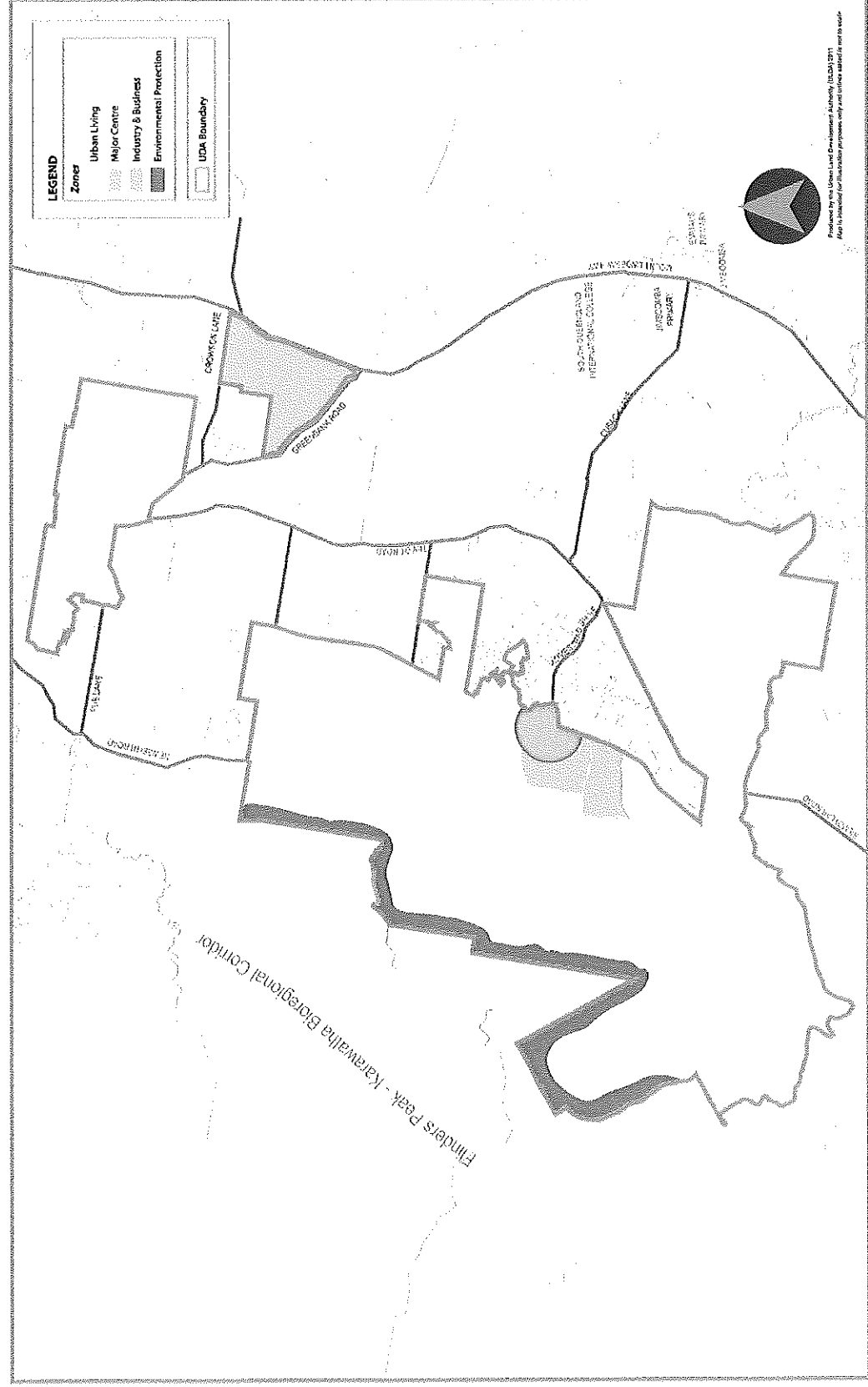
The major centre core component of the zone is located around the proposed railway station/transit interchange and extends westward to link up with attractive greenspace, recreation and active transport opportunities. The highest density development is focussed within the 400 metre primary walking catchment of the proposed railway station.

The major centre frame component occupies the balance area of the urban core zone.

¹² Refer to the Queensland Development Code 4.1 - Sustainable Buildings

¹³ Refer to Beaudesert Shire Planning Scheme 2007, Chapter 5, Part 3, Division 2 Advertising Devices Code.

Map 8 - Zones



The exact boundaries between the major centre core and major centre frame will be determined through the context planning and development assessment process.

Interim uses may include:

- » Bulk landscape supplies
- » Warehouse

Other Industrial uses and rural uses are not envisaged in the major centre zone.

Major centre core

The major centre core accommodates the highest order mixed use centre activities providing a mix of commercial, business, professional, community, entertainment, retail and high density residential activities.

The major centre is the most intense urban setting, forms the heart of the UDA and is capable of servicing the whole urban development area.

Development within the major centre core delivers:

- » a centre which is commensurate with its role in the SEQ Regional Plan, UDA centres network and the broader Logan City Council network, and the size of their service catchments
- » safe, attractive and permeable movement networks for pedestrians and cyclists
- » ground floor areas which are used primarily for retail, 'shop front' and other active uses

- » upper floor levels which are used for a variety of uses including retail, offices, entertainment and residential uses
- » buildings fronting streets that are a minimum two storeys in height

- » lower intensity or large building format uses which are 'sleeved' by active street frontage uses
- » parking in basements or where provided at ground level, screened from streets and other public areas by buildings or landscaping

- » high quality design that recognises the importance of streetscape and public realm and contributes to the overall attractiveness of the major centre

- » built form and associated earthworks that takes precedence over the natural environment in matters concerning pedestrian movements, building disposition, street and open space design

- » views to Round Mountain and Flinders Peak from key streets, public spaces and buildings

- » buildings, streets and parks that optimize physical and visual connections to greenspace corridors

- » a plaza which is integrated with the 'Main Street' is centrally located and is directly accessible from major public transport facilities.

The major centre core is the principal focus of retail activities in the UDA. It includes a vibrant retail precinct anchored by a public 'Main Street' The retail precinct includes:

- » speciality retail
- » department stores, discount department stores and supermarkets
- » entertainment, recreation, leisure, cultural and community facilities
- » food, beverage and dining facilities, including alfresco dining
- » convenience retail for workers, residents and visitors.

The major centre core also accommodates major civic buildings, educational and health facilities, and provides a safe, attractive public realm with a variety of urban parks, plazas and squares that provide recreation spaces and places for community events and promote opportunities for community interaction.

Uses other than retail, residential and commercial should not have any off-site impacts that may affect the amenity of adjoining areas whether developed or not.

Lower intensity uses and uses that do not require high levels of public transport accessibility, such as showrooms, warehouses and service stations are not appropriate long-term uses in the major centre core.

Major centre frame

The major centre frame component accommodates a mix of land uses including:

- » uses that support activities in the major centre core but are not suitable for the major centre core itself (such as service industry and low impact industry)
- » uses that benefit from a central accessible location within the UDA but are low intensity uses (such as warehouses, outdoor sales, showrooms and service stations)
- » residential uses, including short term and tourist accommodation, taking advantage of proximity to the range of employment opportunities, services and facilities located in the major centre core.

Retail development that has the potential to detract from the vitality and viability of retailing in the major centre is not suitable for the major centre frame. Retail development will only be approved in the major centre frame where it is:

- » not suitable for the major centre core or other designated centres
- » small scale retail to meet the needs of a local catchment of residents or workers
- » retailing activity that has a nexus with a use that is not suitable for the major centre core.

The major centre frame will incorporate a number of residential neighbourhoods. The transitional nature of this area between the frame and the surrounding residential neighbourhoods means there is likely to be a wide variety of dwelling types ranging from small precincts of houses to multi-level apartment buildings, with densities increasing with proximity to the major centre core.

Key roads in the major centre frame, including those providing direct access to the major centre core, are pedestrian and cyclist friendly with high quality streetscapes and a distinct urban feel. Any large format retail/commercial buildings should ultimately be sleeved along these streets by smaller-scale shops, food premises and businesses to ensure active frontages and visual interest.

Phasing of development in the major centre core

The desired long-term layout, mix of uses and intensity of development will only be delivered in the long term. However it is important to ensure that the active, pedestrian friendly character of key 'Main Street' elements is established as part of the initial stage of development of the major centre core. Staging of development and interim uses may be acceptable where they do not compromise the delivery of the desired long term outcomes.

Some land within the major centre may not be suitable for development until the Greater Flagstone community reaches certain

population thresholds. These areas should be retained for longer term development. Context plans should demonstrate how longer development takes into account earlier term development areas and maintains integrity and compactness of earlier development.

The applicable ULDA guideline provides more information on achieving these requirements including indicative staging of development.

Industry and business zone

The industry and business zone accommodates industrial activities which do not generate dust, noise and odour emissions beyond the zone. The zone provides for a wide range of compatible industrial uses including low and medium impact industry, research and technological industries, knowledge creation, entrepreneurial activity and service industry activities.

A limited range of other uses may also be acceptable in the industry and business zone where it can be demonstrated that the use:

- » supports or otherwise has a clear nexus with the primary uses within the zone
- » provides a service to the workforce within the zone
- » will not prejudice the establishment or operation of the primary uses within the zone.

Non-industrial uses, such as commercial and trade retail activities, business and a

range of other supporting, complementary uses may locate in the zone where such uses do not compromise the intended industrial/business character of the local area. Uses that promote knowledge creation and entrepreneurial activity in industry, science and technology and research and development are encouraged.

The location, design, operation and management of uses and works contribute to the amenity, built form, landscaping and streetscape which enhances the industrial character of the area.

Development has linkages to existing and proposed transport infrastructure, public transport services, bicycle and pedestrian networks and community facilities and maximises the sustainable and efficient use of essential services, including water, sewer, energy, and telecommunications infrastructure.

The zone may accommodate unanticipated interim land uses that do not compromise the long term use of the land for its intended purpose.

The applicable ULDA guideline provides more information on achieving these requirements.

Environmental protection zone

The environmental protection zone includes areas that are of environmental significance and have associated conservation, biodiversity, habitat or scenic amenity values. The zone may also provide for buffers between incompatible land uses,

and includes land constrained by features such as subsidence, contamination, saline and dispersive soils, bushfire risk, landslip, erosion and flooding. The zone may accommodate elements of an integrated open space network providing for multi-purpose functions that respond to community needs provided they do not compromise environmental values.

The zone allows only a limited range of low impact, low intensity land uses to protect areas identified as having significant values for biological diversity, water catchment, ecological functioning or cultural values.

Low intensity development such as agriculture and animal keeping and husbandry may occur where such uses do not affect significant values of the local area. Development should embrace sustainable land management practices, minimise clearing and contribute to the amenity and landscape of the area.

Table 2: Levels of assessment

Column 1 Exempt development				Column 2 UDA self-assessable development		Column 3 – UDA assessable development		Column 4B Prohibited development
In the Urban living zone								
1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i> , and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1 (ii) development for Home based business (iii) development for a sales office where not greater than 150m ² (iv) material change of use, where not involving building work (other than minor building work) or operational work for a use other than Car park, where: (a) any existing use and the proposed use are both included in either the Commercial use or Retail use categories in Schedule 2, where complying with the parking rates in the planning scheme.				1. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) Material change of use for a House or Display home where: (a) the lot is 400m ² or more (b) the lot frontage is 12.5 metres or more, and (c) it complies with the applicable self assessable provisions in Schedule 3.		1. Reconfiguring a lot that is not mentioned in schedule 1 2. Making a material change of use if (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2, or 3B. 3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.		Development for: 1. Extractive industry 2. High impact industry 3. Medium impact industry 4. Noxious and hazardous industry.

Table 2: Levels of assessment

Column 1 Exempt development	Column 2 UDA self-assessable development	Column 3a Permissible development	Column 3b UDA assessable development	Column 3c Prohibited development
In the Urban living zone (continued)				
(v) material change of use if in accordance with an approved Plan of Development (PoD)				
(vi) operational work or building work in accordance with an approved PoD.				

Column 1 Exempt development		Column 2 UDA self-assessable development	Column 3 – UDA assessable development		Column 3A Permissible development	Column 3B Prohibited development
In the Major centre zone						
<div>1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i>, and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1 (ii) development for Home based business (iii) making a material change of use where complying with the parking rates in the planning scheme and not involving building work (other than minor building work) or operational work for: (a) Commercial uses (other than Car park) (b) Community facility (c) Educational establishment (d) Emergency services (e) Fast food premises (f) Food premises (g) Market (h) Multiple residential (i) Other residential</div>			Nil.	<div>1. Reconfiguring a lot that is not mentioned in schedule 1 2. Making a material change of use if (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2, or 3B. 3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.</div>	<div>Development for: 1. Extractive industry 2. High impact industry 3. Medium impact industry 4. Noxious and hazardous industry.</div>	

Column 1 Exempt development	Column 2 UDA self-assessable development	Column 3 – UDA assessable development	Column 4 Exempt development	Column 5 Exempt development
In the Major centre zone (continued)				
<ul style="list-style-type: none"> (l) Place of assembly (k) Research and technology facility (l) Shop (m) Showroom (n) Sport, recreation and entertainment (o) Warehouse (iv) material change of use if in accordance with an approved Plan of Development (PoD) (v) operational work or building work in accordance with an approved PoD. 				

Column 1 Exempt development		Column 2 UDA self-assessable development		Column 3 – UDA assessable development		Column 3B Permissible development	Column 3B Prohibited development
In the Industry and business zone							
1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i> , and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1 (ii) making a material change of use where complying with the car parking rates in the planning scheme and not involving building work (other than minor building work) or operational work for: <ul style="list-style-type: none"> (a) Emergency services (b) Low impact industry (c) Research and technology facility (d) Service industry (e) Showroom (f) Warehouse. 		NIL.		1. Reconfiguring a lot that is not mentioned in schedule 1 2. Making a material change of use if <ul style="list-style-type: none"> (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2, or 3B. 3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.		Development for: <ul style="list-style-type: none"> 1. Extractive industry 2. High impact industry 3. Noxious and hazardous industry 4. Residential 5. Rural 6. Tourist park. 	

Column 1 Exempt development				Column 2 UDA self-assessable development		Column 3 - UDA assessable development		Column 4B Planned development
In the Environmental protection zone				Column 3A Permissible development				
Nil	Nil			Operational work Development for: » Agriculture » Animal keeping and husbandry » Emergency services » Environmentally relevant activities » Park » Telecommunication facility » Tourist attraction » Utility installation.		All other development, including development not defined in Schedule 2, other than development mentioned in Columns 1, 2 and 3A.		

Infrastructure Plan

4.1 Approach

Infrastructure requirements to achieve the planning outcomes will be delivered through the development assessment process, imposed as conditions of a UDA approval for development and delivered as part of the building and operational works on the site.

Infrastructure delivery is divided into 2 components:

1. Local infrastructure will include all internal works and external water and sewerage connections required to deliver the development including:
 - a. transport (including roads, public transport and active transport)
 - b. community facilities (including parks and plazas, community facility sites, State school sites)
 - c. network infrastructure (including water supply and sewerage, stormwater management, telecommunications and power).
2. Sub-regional infrastructure which includes major trunk works for connection to council and state's transport network systems and the local water authority's treatment system. These works are detailed in section 4.4 below.

As part of implementing this infrastructure plan, the ULDA will formulate an infrastructure funding framework for the funding of local infrastructure and appropriate contribution to sub-regional infrastructure that will apply to all development.

State infrastructure funding will be sought under the normal budgetary processes and will be part of an approved State agency capital program.

Listed below is the infrastructure currently identified for the Greater Flagstone UDA. These infrastructure elements reflect current understanding. However, further detailed infrastructure investigations will occur as the development continues and the infrastructure requirements and delivery responsibilities may be amended to reflect the outcomes of these investigations.

Local infrastructure required within any application area will be required to be constructed at the time of development of that area. Infrastructure charges credits will apply in accordance with the approved Infrastructure Funding Framework where the developer constructs nominated local infrastructure.

State expenditure for investment in infrastructure will be subject to consideration through normal budgetary processes and will be part of an approved state agency capital works program

4.2 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

For large sites, to ensure the UDA community evolves over time to achieve innovation and best practice, a tiered infrastructure agreement approach is required with a head infrastructure agreement and numerous secondary infrastructure agreements.

The overarching head infrastructure agreement will contain commitments for the whole UDA and address the applicant's responsibilities in relation to the delivery of:

- » key infrastructure items delivered within the site
- » key infrastructure items delivered external to the site (eg. road upgrades, trunk water and sewerage infrastructure)
- » affordable housing
- » public transport
- » strategies to achieve ecological sustainability outcomes contained in the implementation strategy.

Separate agreements with individual utilities and the local authority may also be required.

The head infrastructure agreement will include provisions to identify the monitoring, compliance and enforcement system that will apply over the UDA's life.

Secondary infrastructure agreements will support the head infrastructure agreement and generally cover the same geographic areas as the context plans. Like context plans, these secondary infrastructure agreements will be progressively entered into at relevant points in the future which will ensure they include best practice standards and practices that are contemporary to that time. Secondary infrastructure agreements will address:

- » area specific infrastructure delivery obligations (eg. transport, water, open space, community facilities)
- » delivery of environmental protection areas
- » housing types and percentages
- » pedestrian and cycle network facilities
- » location and size of community land and facilities.

The combination of context plans and a tiered infrastructure agreement approach provides the mechanism to review the appropriateness of development standards and practices and to incorporate improvements in technology and practices in future context plans and secondary infrastructure agreements.

4.3 Local infrastructure

4.3.1 Transport and Network Infrastructure

Infrastructure	Description of works	When required
Water, Sewerage, Stormwater	Internal reticulation and trunk works required to service the development as agreed with the relevant entity. A total water cycle management plan is to be approved and implemented with each stage of the development.	To be constructed at the time the development is being undertaken and delivered before improvements are demanded by additional loading from developments within the UDA.
Roads	Internal and trunk roads required to service the development as agreed with the relevant entity.	To be constructed at the time the development is being undertaken and delivered before improvements are demanded by additional loading from developments within the UDA.
Public Transport	Development will contribute to an interim public transport service for up to 5 years or until the fare box income exceeds 30% of running costs, whichever is sooner. This service is to provide a minimum of half hourly services in peak time and hourly services at other times from 6.00am to 9.00pm on weekdays and 8.00 am to 5.00pm on weekends.	On the completion of the 200th lot for the UDA or portion of the UDA.
Active transport	Active transport infrastructure required to service the development	To be constructed at the time development is being undertaken.
Other Networks	Network infrastructure improvements will be undertaken in conjunction with the relevant responsible authority	Delivered before improvements are demanded by additional loading from developments within the UDA.

4.3.2 Community Infrastructure

Infrastructure	Description of works	When required
Parks, open space, playing fields, plazas	To be delivered in accordance with the requirements of the scheme and ULDA guidelines	To be provided at the time the adjacent development is being undertaken.
State school sites	To be delivered in accordance with the requirements of the scheme and ULDA guidelines	To be provided at the time the adjacent development is being undertaken.
Community facilities	To be delivered in accordance with the requirements of the scheme and ULDA guidelines	To be provided at the time the adjacent development is being undertaken.

4.4 Sub-regional infrastructure

4.4.1 The timing of the provision of Sub-Regional Infrastructure is dependent on the rates of development for the UDA. The estimated development rates are shown below:

Year	Dwellings Developed
2015 (0 - 4 years)	1,575
2021 (5 - 10 years)	6,315
2062 (Ultimate)	50,000

4.4.2 The following sub-regional infrastructure is planned for the development of Greater Flagstone*:

Infrastructure	Description of works
Waste Water	
Effluent Management	Effluent Management
Waste Water Treatment	Construct Cedar Grove water reclamation centre
Roads (refer to map 9)	
Teviot Rd - map reference 1	Middle Road Roundabout to Klimoylar Road
Homestead Drive - map reference 2	Flagstone UDA (eastern boundary) to Tevoit Road
Cusack Lane - map reference 3	Tevoit Road to Johanna Street
Johanna Street - map reference 4	Cusack Lane to Mount Lindesay Highway
Waterford-Tamboyne Road - map reference 5	Yarrabilba UDA (northern boundary) to Chambers Road Extension (currently Kirk Road / Anzac Avenue corridor)
Camp Cable Road - map reference 6	Mount Lindesay Highway to Waterford-Tamboyne Road
Crowson Lane - map reference 7	Greenbank Road to Mount Lindesay Highway
Greenbank Road - map reference 8	Crowson Lane to Mount Lindesay Highway
Greenbank Road - map reference 9	Teviot Road to Crowson Lane
Stoney Camp Road - map reference 10	Tevoit Road to Mt Lindesay Highway
Mt Lindesay Highway - map reference 11	Johanna St (Jimboomba) to Logan Motorway
Chambers Flat Rd Extension - map reference 12	Chambers Flat Rd to Waterford-Tamboyne Rd
Goodna Road - map reference 13	Springfield Greenbank Arterial Road to Middle Road

Infrastructure	Description of works
New Beith Road- map reference 14	Pub Lane to Goodna Road
Pub Lane- map reference 15	New Beith Road to Tevoit Downs UDA Boundary
New Beith Road- map reference 16	Pub Lane to Flagstone UDA Boundary
Flagstone Springfield Arterial Road- map reference 17	New Beith Road to Springfield Beaudesert Connection Road
Olson Road- map reference 18	Flagstone UDA (eastern boundary) to Tevoit Road
Mountain Ridge Road- map reference 19	Flagstone UDA (eastern boundary) to Tevoit Road
Waterford-Tamborine Road- map reference 20	Hotz Road to Plunkett Road
Quinzeh Creek Road- map reference 21	Waterford Tamborine Road to Veivers Road
Chardons Bridge Road - map reference 22	Quinzeh Creek Road to Beenleigh Beaudesert Road
Plunkett Road - map reference 23	Adjacent to Yarrabilba Southern UDA Boundary
Chambers Flat Rd - map reference 24	Park Ridge Road to Pleasant View Road
Veivers Road - map reference 25	Beenleigh Beaudesert Road to Chardons Bridge Road

* Further investigation will determine the timing and entity responsible for delivery.

[illegible]

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Implementation Strategy

5.1 Introduction

The *Urban Land Development Authority Act 2007* (the Act) requires a development scheme to include an implementation strategy to "achieve the main purposes of the Act for this area, to the extent that they are not achieved by the land use plan or infrastructure plan." The implementation strategy for the Greater Flagstone Urban Development Scheme (the scheme) fulfils this requirement by identifying a suite of goals, actions and commitments that support the achievement of the vision for the Greater Flagstone community.

Fulfilling the vision for the Greater Flagstone community will take approximately 30 to 40 years. Many things within our society will change and evolve during this time including; technologies, prevailing economic conditions, socio-demographic trends and attitudes and preferences towards housing. The Urban Land Development Authority (ULDA) also expects that Greater Flagstone will become a 'model' new community embracing or even exceeding 'best practice' in ecological sustainability.

This implementation strategy responds to the challenge of delivering a 'model' community over a lengthy time period by establishing targets and goals, underpinned by a commitment to a cycle of data monitoring, review and, if warranted, amendment

of standards, guidelines or targets. This approach establishes a cycle of continuous adoption of 'best practice' over time through a rigorous process of monitoring and review.

This cycle is depicted in the following diagram as an ever tightening review spiral over time heading closer and closer to the 'model' community aspiration (Figure 1).

Achieving the targets specified in this implementation strategy will not necessarily follow a linear path and there will be a range of actions and innovations driving change. Consequently, following a formal review of data against the specified 'targets' the ULDA may decide to:

- » amend an aspect of the implementation strategy (this may include amending existing targets or incorporating new targets)

- » amend existing, or create new, ULDA guidelines and standards that express minimum development requirements that are relevant to the targets.

This strategy focuses on:

1. Housing affordability - which is addressed by expressing 'stretch' targets which are supported by a series of actions. Data relevant to these targets will be regularly collected and will be initially reviewed five years after approval of the development scheme. Subsequent reviews of performance against housing affordability targets should be reviewed every 2 years thereafter.

2. Ecological sustainability - which is addressed by setting goals for a range of long term sustainability aspirations. 2016 'stretch' targets for a suite of sustainability criteria are also specified. These goals and targets are complemented by a range of actions aimed at stimulating development and behavioural outcomes that will contribute towards the targets. Data relevant to these targets will be regularly collected and will be initially reviewed five years after approval of the development scheme. Subsequent reviews of performance against ecological sustainability targets should be reviewed every 2 years thereafter.

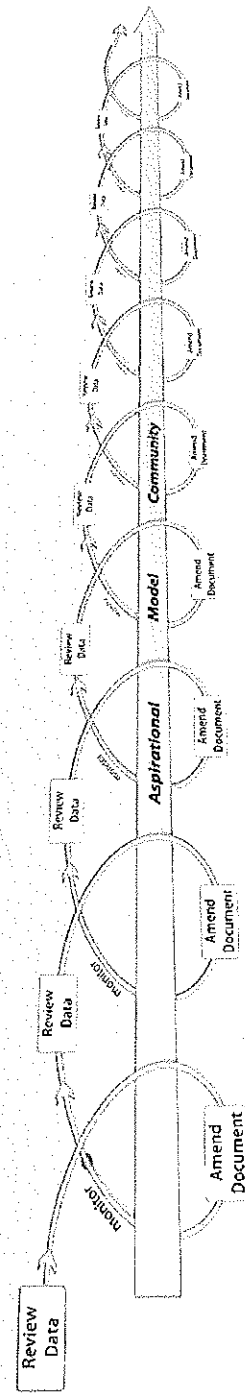


Figure 1

5.2 Housing options

Facilitating the provision of housing that is affordable to households on low to moderate incomes is set out as a core purpose in the Act.

The ULDA Housing Strategy defines low to moderate income households which is typically the income of first home buyers and key workers.

ULDA Actions	Stretch targets	Goals
<p>The ULDA will:</p> <ul style="list-style-type: none"> » work with developers to produce suitable housing designs to meet defined price points » monitor dwelling prices and amount of accessible housing produced » include in landowner development agreements: <ul style="list-style-type: none"> » provisions requiring the land owner deliver housing to achieve nominated price points and accessibility targets where the monitoring process indicates targets are not being achieved » where subsidy is required to achieve these price points, additional provisions will be required to ensure the retention of the affordability over time 	<p>Greater than 25% housing that is affordable for key workers and first home buyers in accordance with the income targets in the ULDA Housing Strategy.</p> <p>Greater than 10% accessible housing</p>	<p>Neighbourhoods include a diversity of housing, including that which is affordable for households on low to moderate incomes, and accessible to reflect changing requirements as the community matures.</p>
<p>The ULDA will work with the Department of Communities, Not for Profit providers and the land owner to identify opportunities for the inclusion of social housing projects progressively over the life of the project.</p>	<p>5% Social housing</p>	

5.3 Ecological sustainability

The ULDA Act defines ecological sustainability as a balance that integrates:

- » protection of ecological processes and natural systems
- » economic development
- » maintenance of the cultural, economic, physical and social wellbeing of people and communities.

The achievement of ecological sustainability is required by the land use plan and can lead to reduced development and housing costs, including ongoing living costs. Energy, transport, water and access to services are major cost burdens on all household budgets. The land use plan is supported by guidelines which provides development standards to ensure the minimization of adverse impacts on ecological processes and natural systems. The infrastructure plan identifies the key infrastructure required with standards set by the applicable guideline.

This element of the implementation strategy will be critical to achieve continuous improvement in all aspects of ecological sustainability as technology and community needs change during the life of the UDA.

There are aspirations for a growing community that cannot be achieved by the land use or infrastructure plans alone. This element of the implementation strategy is critical to achieve innovation and continuous improvement in ecological sustainability. This will be achieved by delivering affordable,

ULDA actions	Stretch targets	Goals
<p>The ULDA will work with landowners, councils, government agencies, utility providers and other organisations to develop:</p> <p>Strategies for:</p> <ul style="list-style-type: none"> » community education to promote the protection and enhancement of the natural environment » demand optimisation for water and energy efficiency and demand management strategies, including builder education » reducing, recycling and reusing demolition, construction and household waste » addressing urban heat island effect to ensure urban amenity and lower energy use in dwellings and buildings. <p>Demonstration projects to:</p> <ul style="list-style-type: none"> » deliver alternative technology and service model projects for local renewable energy, water self sufficiency, and waste avoidance and recovery » deliver affordable sustainable housing projects that reduces energy use and inputs to achieve zero emissions » facilitate for early introduction of electric vehicles and associated infrastructure. <p>The ULDA will work with the Department of Transport and Main Roads (including the Translink Transit Authority) and the Council to facilitate the commencement of public transport services to connect the UDA with education, health and retail centres in the regional area from the time the first residents move into the project.</p>	<p><u>Natural resources and environment</u></p> <p><u>By 2016</u></p> <p>Potable water usage reduction to an average of 140 litres per person per day</p> <p>Average household energy usage reduction to 15 kilowatt hours (kWh) per day</p> <p>25% peak energy demand reduction from 5 kilovolt ampere (kVa) to 4kVa average diversified maximum demand</p> <p>Household waste reduction to 150kg per person per year</p> <p>75% reduction in demolition and construction waste</p> <p><u>Active and Public Transport</u></p> <p><u>By 2016</u></p> <p>Achieve 20% share of all trips as active transport (walking and cycling) trips</p> <p><u>Economic sustainability</u></p> <p><u>By 2016</u></p> <p>100% wireless internet connection for all centres</p>	<p>Communities that:</p> <ul style="list-style-type: none"> » are in a harmonised, built and natural environment that provides a socially inclusive, resilient and affordable place to live (in terms of set up and living costs) » generate no net green house gas emissions with all new buildings (being carbon neutral as a result of their normal use through a combination of thermal and energy efficiency and use of renewable energy from either centralised, community or direct sources) » maximise local sustainable water harvesting and the efficient utilisation of local water, wastewater, and stormwater resources while protecting the ecosystem health of natural waterways » have sustainable transport with zero emission private vehicles, active travel and public transport that is safe and equitable for all members of the community » have a sustainable waste avoidance and resource recovery that eliminates waste from household and commercial activities » support growth of regional connected economy through the provision of diverse sustainable livelihoods linked with public transport and other sustainable transport

sustainable living through early provision of community facilities and services, an early focus on demand management and ongoing technology, and service integration innovations during the life of the UDA.

ULDA actions	Stretch targets	Goals
<p>The ULDA will work with landowners, education providers and the community to:</p> <ul style="list-style-type: none"> » deliver active transport strategies such as walking school bus services » facilitate pilot community urban agriculture projects. <p>The ULDA will work with government agencies, the council and the landowner to:</p> <ul style="list-style-type: none"> » formulate and implement diverse and connected employment generation strategies » facilitate the concept design and development of centres for knowledge, community and commerce by establishing reference working groups including the Council, relevant state agencies and the land owner ahead of the development of each neighbourhood » facilitate a local clean tech economic development strategy » facilitate wireless internet connection for all centres for knowledge, community and commerce, and major transport stations. <p>ULDA actions will be subject to monitoring and feedback processes.</p>		<ul style="list-style-type: none"> » provide services, facilities and infrastructure that meet the social, communication, recreational and entertainment needs of residents creating opportunities for social interaction and networking from outset of development.
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ULDA actions	Stretch targets	Goals
<p>The ULDA will work with landowners, government agencies, Logan City Council and other organisations as required to:</p> <ul style="list-style-type: none"> » outline specific community infrastructure and community development requirements in a Development Agreement, prior to the commencement of development. » facilitate the development of a Community Development Strategy within twelve months of the gazettal of the Development Scheme » facilitate the delivery of community, health and recreational services and facilities as identified in the community development strategy in anticipation of the demands of the growing population » investigate the establishment of a Community Development Fund in conjunction with the Infrastructure Framework, and other potential sources of funds » identify a range of service delivery options delivered in a timely manner to meet the education needs of the community as determined by Education Queensland » monitor the delivery of community infrastructure. 		

Schedule 1: Exempt development

Development prescribed in Schedule 4 of the *Sustainable Planning Regulation 2009*, other than Table 2, item 2 and Table 5, item 14.

Building work

Minor building and demolition work.

Carrying out building work associated with a material change of use that is UDA exempt or self assessable development.

Carrying out building work associated with an approved material change of use.

Material change of use of premises

Making a material change of use of premises for a Park.

Reconfiguring a lot

Subdivision involving road widening and truncations required as a condition of development approval.

Operational work

Erecting no more than one (1) satellite dish on premises, where the satellite dish has no dimension greater than 1.8 metres.

Filling or excavation where:

- (a) not exceeding 50m³ in volume or
- (b) top dressing to a depth of less than 100 vertical millimetres from ground level.

Carrying out operational work if consistent with an approved Plan for Development for a precinct.

Carrying out operational work associated with a material change of use that is UDA exempt development (excluding Park).

Carrying out operational work associated with an approved material change of use.

Carrying out operational work associated with the decontamination of land.

Carrying out operational work that is clearing of vegetation:

- (a) other than Significant vegetation, or
- (b) Significant vegetation where:

- » the clearing is consistent with an approved Plan of Development
- » carried out by or on behalf of Logan City Council or a public sector entity, where the works being undertaken are authorised under a state law.
- » in accordance with the conditions of a UDA development approval for a material change of use or reconfiguring a lot.

Carrying out operational work that is the placing of advertising devices that:

- » do not exceed 5m² for commercial, industrial, recreational or entertainment use
- » are attached to front fence or facade of a main building
- » do not project more than 150mm from front facade or front fence
- » are not illuminated
- » contain the name of business or operator, the use of premises, the contact details or name and address of building and
- » comprise no more than two signs.

Plumbing or drainage work

Carrying out plumbing or drainage work.

All aspects of development

Development undertaken by the state, or a statutory body representing the state, for the purposes of public housing.

Schedule 2: Definitions

Use definitions

Commercial use category

Business

Means the use of premises for administration, clerical, technical, professional or veterinarian clinic or other business activity where any goods or materials made, sold or hired on the premises are ancillary.

Car park

Means the use of premises for the parking of motor vehicles where such parking is not ancillary to some other development on the same site.

Health care services

Means the use of premises for medical, paramedical, alternative therapies and general health care and treatment of persons that involves no overnight accommodation.

Sales office

Means the use of premises for the temporary promotion and/or sale of land and/ or buildings within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Industrial use category

Extractive industry

Means the use of premises for extraction of sand, gravel, soil, rock, stone or similar substance from land. The term includes ancillary storage, loading or cartage and any crushing, screening, washing, blending or other treatment processes of material extracted from the site.

High impact industry

Means the use of premises for industrial activities that have significant off-site impacts on non-industrial uses including air, noise or odour emissions that are not easily controlled or contained.

These uses may operate outdoors, but do not involve the manufacture of agricultural chemicals, pharmaceutical products, explosives or fertilisers.

Low impact industry

Means the use of premises for industrial activities which have negligible impacts on surrounding non-industrial uses.

The manufacturing aspects of the use are undertaken indoors.

Any off site impacts including air, noise and odour emissions are able to be readily mitigated.

Medium impact industry

Means the use of premises for industrial activities that have offsite air, noise and odour emissions.

Despite mitigation measures these activities would still have noticeable impacts on non-industrial uses.

The primary (noise, odour and air emitting) aspects of the use are undertaken indoors.

Noxious and hazardous industry

Means the use of premises for industrial activities that have the potential for extreme, adverse impacts on other land uses. This includes the potential for fire, explosion or toxic release.

These uses may involve the production of organic and inorganic chemicals, and the storage and production of explosives.

Research and technology facility

Means the use of premises for innovative and emerging technological industries involved in research design, manufacture, assembly, testing, maintenance and storage of machinery, equipment and component.

The use may include emerging industries such as energy, aerospace, and biotechnology.

Service Industry

Means the use of premises for industrial activities that have no external air, noise or odour emissions from the site and can be suitably located with other non-industrial uses.

Warehouse

Means the use of premises for the storage of goods whether or not in a building, including self storage facilities or storage yards.

Residential use category

Display home

Means the temporary use of premises for the promotion and/ or sale of land and/ or houses within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Home based business

Means the use of a House or Multiple residential for an occupation or business activity as a secondary use where:

- » the floor area used specifically for the home business does not exceed 50m²
- » any visitor accommodation does not exceed 4 visitors
- » there is no hiring out of materials, goods, appliances or vehicles
- » there is only one sign related to the Home business, located within the premises or on a fence facing the road
- » there is no repairing or servicing of vehicles not normally associated with a residential use
- » there is no industrial use of premises
- » the maximum height of a new building, structure or object does not exceed the height of the House or Multiple residential and the setback is the same

as, or greater than, buildings on adjoining properties

- » car parking is in accordance with the planning scheme
- » there is no display of goods
- » number of employees does not exceed 4.

House

Means a residential use of premises containing one primary single dwelling on a lot. The use includes out-buildings and works normally associated with a dwelling and may include a secondary dwelling.

The secondary dwelling is subordinate to the primary dwelling, capable of being used as a self-contained residence, and may be constructed under the primary dwelling, attached to it or free standing.

Multiple residential

Means the use of premises for residential purposes if there are two or more dwelling units on any one lot. Multiple residential dwelling units may be contained on one lot or each dwelling unit may be contained on its own lot subject to community title schemes. The term multiple residential does not include House.

Other residential

Means the use of premises for the accommodation and care of aged and retired people, small groups of disadvantaged persons or persons who are being nursed, require ongoing supervision/support or are convalescing. This term may include but is not limited to ancillary dining and recreation facilities, administration offices, laundries, kitchens, ancillary medical facilities and residential accommodation for management and staff.

Relocatable home park

Means the use of premises for relocatable dwellings that provide long term residential accommodation.

The term includes ancillary facilities such as amenities, laundries, kitchens and recreation facility for persons associated with the development. It also includes a manager's office and residence.

Short term accommodation

Means the use of premises comprising primarily accommodation units for short-term accommodation, generally for travellers and visitors, such as motel or backpackers. The use may include dining, laundry and recreational facilities which cater exclusively for the occupants of the premises, a manager's office and residence. The term does not include Other residential, Hotel or Tourist park.

Retail use category

Bulk landscape supplies

Means premises used for bulk storage and sale of landscaping and gardening supplies including soil, gravel, potting mix and mulch, where the majority of materials sold from the premises are not in pre-packaged form.

Fast food premises

Means the use of premises for the preparation and sale of food to the public generally for immediate consumption off the premises. The term may include drive through facilities and ancillary facilities for the consumption of food on the premises.

Food premises

Means the use of premises for the preparation and sale of food and drink to the public for consumption on or off the site. The term includes a cafe, restaurant, coffee shop, bistro, tea room, milk bar, snack bar, kiosk, take-away, but does not include fast food premises as separately defined.

Garden Centre

Means the use of premises for the sale of plants and includes gardening and landscaping products and supplies where these are sold mainly in pre-packaged form. The use may include an ancillary cafe or coffee shop.

Market

Means the use of premises for the display and sale of goods to the public on a regular but infrequent basis, where goods are primarily sold from temporary structures such as stalls, booths or trestle tables. The use includes ancillary food and beverage sales and ancillary entertainment provided for the enjoyment of customers.

Outdoor sales

Means the use of premises for the display, sale, hire or lease of products where the use is conducted wholly or predominantly outdoors and may include construction, industrial or farm plant and equipment, vehicles, boats and caravans.

Service station

Means the use of premises for the retail sale of fuel including petrol, liquid petroleum and automotive distillate to refuel motor vehicles.

Shop

Means the use of premises for the display, sale or hire of goods or the provision of personal services or betting to the public.

Shopping centre

Means the use of premises comprising two or more individual tenancies that is comprised primarily of shops and which function as an integrated complex.

Showroom

Means the use of premises primarily for the sale of goods of a related product line that are of a size, shape or weight that requires

- » a large area for handling, display or storage and
- » direct vehicle access to the building by members of the public for loading and unloading items purchased or hired.

Rural use category**Agriculture**

Means the use of premises for commercial purposes for the growing and harvesting of trees, crops, pastures, flowers, fruit, turf, vegetables and the like for commercial or business purposes.

The definition includes the storage and packing of produce grown on the subject site and the repair and servicing of machinery and other ancillary activities.

Agricultural supply store

Means the use of premises for the sale of agricultural products and supplies including agricultural chemicals and fertilisers, seeds, bulk veterinary supplies, farm clothing, saddlery, animal feed and irrigation materials.

Animal keeping and husbandry

Means the use of premises for keeping, depasturing, grazing or stabling of any animal, bird, insect and reptile. The term includes the use of land for keeping, breeding, stabling, training or boarding animals.

Intensive animal industries

Means the use of premises used for the intensive breeding of animals or animal products in an enclosure that may require the provision of food and water either mechanically or by hand.

The use includes the ancillary storage and packing of feed and produce.

Intensive horticulture

Means the use of premises for the intensive cultivation of plants or plant material on imported media and located within a building or structure or where outdoors, artificial lights or containers are used.

The use includes the storage and packing of produce and plants grown on the subject site.

Wholesale nursery

Means the use of premises for the sale of plants where the plants are grown on or adjacent to the site.

The use may include sale of gardening materials where these are ancillary to the primary use.

Service, community and other uses category

Cemetery

Means the use of premises for the interment of the dead. The term does not include a crematorium or funeral parlour.

Child care centre

Means the use of premises for the minding or care, but not residence of children generally under school age. The use includes but is not limited to a kindergarten, creche or early childhood centre.

Community facility

Means the use of premises for social or community purposes, such as a community centre, library, public building or the like.

Crematorium

Means the use of premises for cremating bodies and may include the interment of the ashes. The term does not include a funeral parlour or cemetery.

Educational establishment

Means the use of premises for systematic training and instruction, including any other ancillary uses. This definition includes prep facilities, primary school, secondary school, college, university, technical institute, academy or other educational centre.

This term may include residential accommodation and other ancillary uses provided for the employees and the students

of such premises.

Emergency Services

Means the use of premises by government bodies or community organisations to provide essential emergency services, disaster management services and including management support facilities for the protection of persons, property and the environment.

Funeral parlour

Means the use of premises for arranging and conducting funerals, memorial services and the like, but does not include burial and cremation. The definition includes the storage and preparation of bodies for burial or cremation and includes a mortuary and funeral chapel. The term does not include a cemetery or crematorium.

Hospital

Premises used for medical or surgical care or treatment of patients whether or not residing on the premises.

The use may include accommodation for employees and ancillary activities directly serving the needs of patients and visitors.

Place of assembly

Means the use of premises for worship and activities of a religious organisation, community or association.

Telecommunications facility

Premises used for systems that carry communications by means of radio, including guided or unguided electromagnetic energy whether such facility is manned or remotely controlled.

The term does not include low impact

facilities that are exempt from State planning laws under the Telecommunications Act 1994 and specified in the Telecommunications (Low-impact facilities) Determination 1997.

Utility Installation

Means the use of premises used to provide the public with the following services:

- » supply of water, hydraulic power, electricity or gas
- » sewerage or drainage services
- » transport services including road rail or water
- » waste management facilities
- » network infrastructure.

The use includes maintenance and storage depots and other facilities for the operation of the use.

Veterinary hospital

Means the use of premises for the treatment of sick or injured animals where such animals are accommodated overnight, or for long stay periods on the premises. The term does not include animal keeping and husbandry or veterinary clinic.

Sport, recreation and

entertainment use category

Indoor entertainment

Means the use of premises for public entertainment predominantly within a building.

The term includes facilities commonly described as cinema, nightclub, adult entertainment, theatre and hotel.

Indoor sport and recreation

Means the use of premises for leisure, sport, recreation or conducting large scale receptions, displays and functions, predominantly within a building.

The term includes facilities commonly described as sports centre, gymnasium, convention centres, amusement and leisure centres.

Outdoor sport and recreation

Means the use of premises for recreation or sport activity, or other leisure past-time, which is conducted wholly or mainly outside of a building.

The term includes facilities such as (outdoor) public swimming pools, golf courses and driving ranges, outdoor courts and sportsgrounds and the like. The term also includes the provision of a clubhouse and other ancillary facilities.

Park

Means the use of premises by the public for free recreation and enjoyment and may be used for community events.

Facilities for may include children's playground equipment, informal sports fields, ancillary vehicle parking and other public conveniences.

Tourism use category**Tourist attraction**

Means the use of premises used for providing on site entertainment, recreation or similar facilities for the general public.

The use may include provision of food and drink for consumption on site.

Tourist park

Means the use of premises to provide accommodation in caravans, self contained cabins, tents and similar structures for the touring or holidaying public.

The use may include a manager's residence and office, kiosk, amenity buildings and the provision of recreation facilities for the exclusive use of occupants of the tourist park.

Other development**Filling or excavation**

Means the removal or importation of material to or from a lot that will change the ground level of the land.

Material change of use

As defined in the *Urban Land Development Authority Act 2007*.

Minor building work or demolition work

Means

- » internal building work
- » demolition work
- » external building work up to 25m² for roofs over existing decks or paved areas, sun hoods, carports and the like
- » demolition where not involving a place of cultural heritage listed building under the *Queensland Heritage Act 1992*
- » building work that increases the approved GFA or lawfully existing GFA at the time of commencement of this scheme by no more than 25m².
- » raising a house where the resultant height does not exceed 9m.

Operational work

As defined in the *Urban Land Development Authority Act 2007*.

Reconfiguring a lot

As defined in the *Urban Land Development Authority Act 2007*.

Administrative definitions

Accessible housing

Housing in accordance with the applicable ULDA guideline.

Affordable housing

Affordable housing¹ means private rental housing and home purchase options (including housing aimed at the first home owners market) for low to moderate income households.

Basement

A storey below ground level or where the underside of the ceiling projects no more than one metre above ground level.

Building

As defined in the *Building Act 1975*.

Building work

As defined in the *Urban Land Development Authority Act 2007*.

Building height

The maximum vertical distance between the natural ground level and the roof or parapet at any point but not including anything projecting from a building such as an antenna, aerial, chimney, flagpole or the like.

¹ Refer to the ULDA Affordable Housing Strategy

Caretaker's accommodation

The residential use of part of a premises where in connection with a non residential use on the same premises.

Community greenspace network

A network of parks and open space that are publicly accessible and deliver recreation and sporting opportunities to the community.

Contaminated Land Register

As defined in the *Environmental Protection Act 1994*.

Development scheme

As defined in the *Urban Land Development Authority Act 2007*.

Dwelling unit

Means a building or part of a building used or capable of being used as a self contained residence which must include:

- » food preparation facilities
- » a bath or shower
- » a toilet and wash basin.

The term includes works ancillary to a dwelling.

Environmental Management Register

As defined in the *Environmental Protection Act 1994*.

Environmentally relevant activities

As defined in the *Environmental Protection Act 1994*.

Gross floor area (GFA)

The total floor area of all storeys of a building, including mezzanines, measured from the outside of external walls or the centre of a common wall, excluding area used for:

- » building services
- » ground floor public lobby
- » a public mall in a shopping complex
- » the parking, loading and manoeuvring of motor vehicles
- » private balconies whether roofed or not.

Ground level

Means:

- » the existing level of the site providing it has not been unlawfully altered; or
- » where the land has been unlawfully altered the level of land prior to the alteration; or
- » the 'as-constructed' level of the land in accordance with an approval for filling and excavation.

High water mark

Refers to the ordinary high water mark at spring tides.

Interim Uses

Refer to section 3.2.9.

Mezzanine

An intermediate floor within a room.

Neighbourhood centre

Means the use of premises for servicing the convenience needs of the community. The term includes Business, Medical centre, Retail and Community facility which ultimately function as an integrated complex. It may include a key open space area (such as park or plaza).

Net residential density

Net residential density means the total number of dwellings divided by the combined area of residential lots, local parks, internal local roads and half the width of local roads bordering the site. Average net residential density means net residential density calculated for a whole neighbourhood.

Planning scheme

The planning scheme for Beaudesert Shire Council.

Plan of Development

See section 3.2.

Plot ratio

The ratio between the gross floor area of a building and the total area of the site.

Premises

As defined in the *Urban Land Development Authority Act 2007*.

Private open space

An outdoor area for the exclusive use of occupants.

Public benefit

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public housing

As defined in the *Sustainable Planning Act 2009*.

Public interest

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public realm

Refers to spaces that are used by the general public, including streets, squares, plazas and parks.

Relevant zone

Refers to the zone in which the land is located under the planning scheme.

Sensitive uses

Means any of the following: Child care centre, Educational establishment, Health care services, Hospital, House, Multiple residential, Other residential, Relocatable home park and Short term accommodation.

Setback

The shortest distance measured horizontally from the wall of the building or structure to the vertical projection of the boundary of the lot (i.e. excluding eaves).

Significant vegetation

Means all vegetation, except where listed as pest vegetation by State or local government, that is significant in its:

- » ecological value at local, state or national levels including
 - » vegetation mapped as endangered remnant vegetation on the regional ecosystem maps prepared under the *Vegetation Management Act 1999*
 - » vegetation in areas identified in a ULDA guideline as requiring koala habitat offset
- » contribution to the preservation of natural landforms
- » contribution to the character of the landscape
- » cultural or historical value
- » amenity value to the general public.

Note: vegetation may be living or dead and the term includes their root zone².

Site cover

The proportion of the site covered by buildings, including roof overhangs.

² The root zone is described by the vertical projection of the foliage to a depth of 1 metre below the surface and including buttress roots on and above the soil surface.

Storey

A space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above. This does not mean:

1. a space that contains only:
 - a. a lift shaft, stairway or meter room
 - b. a bathroom, shower room, laundry, toilet or other sanitary compartment
 - c. accommodation intended for not more than 3 vehicles
 - d. a combination of the above, or
2. a mezzanine

Urban Design

Refers to the holistic design of urban environments, including the overall townscape, individual buildings, street networks, streetscapes, parks and other public spaces.

Schedule 3: Self-assessable provisions

Table 2 - Self-assessable provisions for House - in the Urban living zone

Elements	Self-assessable provisions
For the primary house on a lot	
Design and siting of buildings and structures	Where on a lot 400m ² to 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.1 - Design and siting standards for single detached housing - on lots under 450m ² . Where on a lot more than 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.2 - Design and siting standards for single detached housing - on lots 450m ² and over. Note: the 9m building height limit in the development scheme prevails over the 8.5m height limit in the QDC.
Outdoor living space	Minimum 16m ² with a minimum dimension of 4m and directly accessible from a main living room.
Car parking	Minimum 1 covered space 5m x 3m.
Driveway	Minimum 3m wide.
Front entry	Pedestrian entry and door visible from and addressing the street.
Street surveillance	Minimum one habitable room fronting the street with large windows or balconies facing the street.
Front fencing	Up to 1.8m high, with a minimum of 50% transparency for that part of the fence exceeding 1.2m in height.
Building articulation	Minimum 0.5m wall articulation every 10m plus roof overhangs (eaves) and at least one of the following: a verandah, window hoods / screens, or awnings and shade structures.
Road access	The lot has physical access to a sealed or constructed road.
Infrastructure services	The lot is connected to a reticulated water supply network and a reticulated electricity network or is capable of providing on site effluent treatment and disposal in accordance with the Queensland Plumbing and Wastewater Code.
For the secondary dwelling on a lot	
Floor area of secondary dwelling	Minimum 45m ² to maximum 75m ²
Design and siting of buildings and structures	Where on a lot 400m ² to 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.1 - Design and siting standards for single detached housing - on lots under 450m ² . Where on a lot more than 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.2 - Design and siting standards for single detached housing - on lots 450m ² and over.
Materials and detailing	Materials, detailing, colours and roof form are consistent with those of the primary house.
Outdoor living space	Minimum 9m ² with a minimum dimension of 3m and directly accessible from a main living area. If the lot is on a corner, not located within the setback from the site boundary.
Car parking	Minimum one space 5m x 3m.
Driveway	Shared driveway with the primary house. However if the lot is on a corner a separate driveway must be provided with a minimum width of 3m.
Front entry	If the lot is on a corner - dedicated pedestrian entry and door visible from and addressing the secondary street.
Street surveillance	If the lot is on a corner - minimum of 1 habitable room fronting the secondary street with large windows or balconies facing the street.
Fencing (street front)	If the lot is on a corner - maximum 1.2 m high on secondary frontage.
Fencing (other)	Up to 1.8m high - minimum 50% transparency over 1.2m in height.
Verandahs	If the lot is on a corner - Minimum 50% of building frontage, not screened.

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Contact Us

Visit our website at: www.ula.qld.gov.au

Write to us at:

Urban Land Development Authority

City Hall

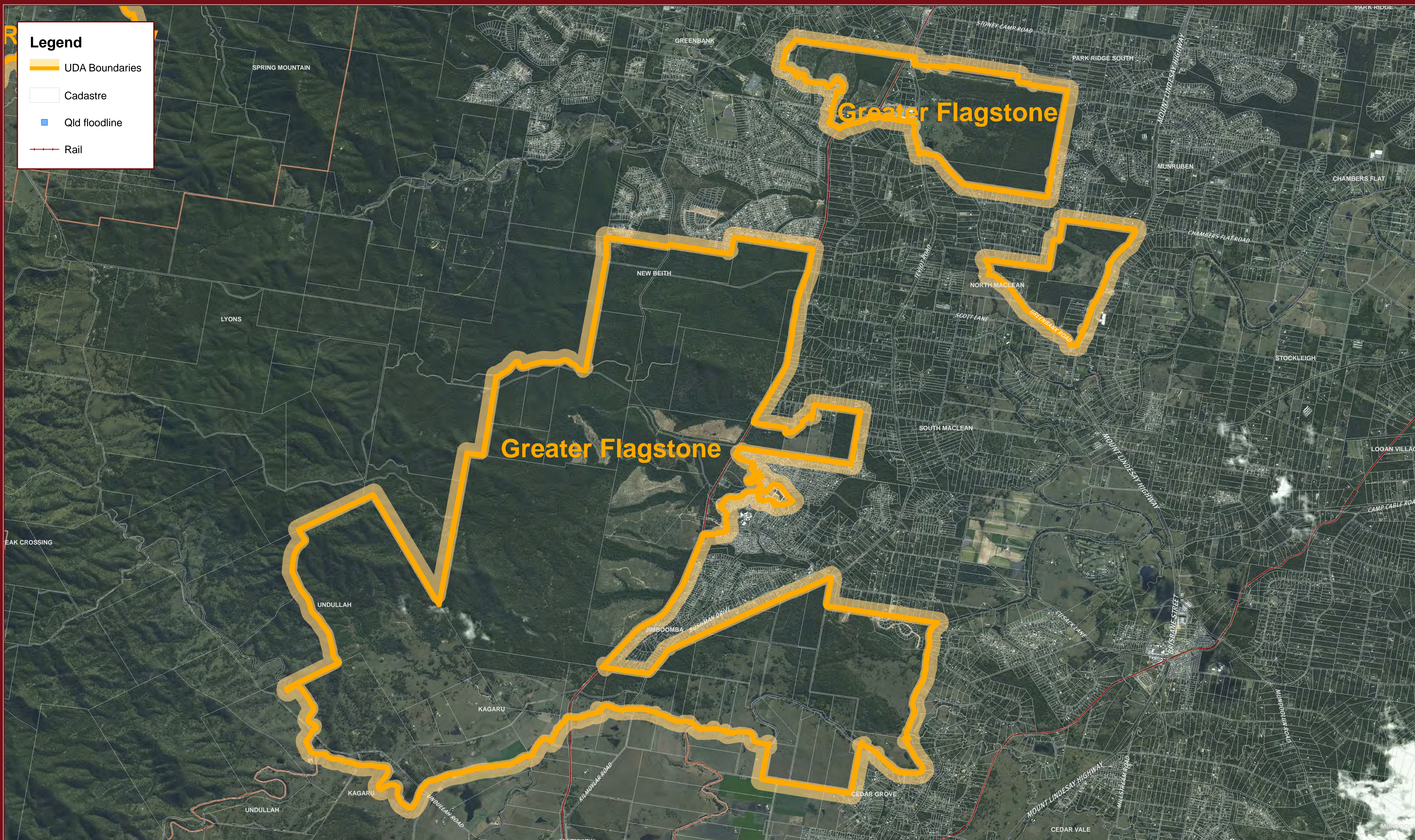
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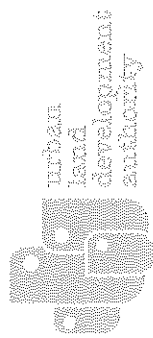
Telephone: 07 300 130 215

Fax: 07 300 130 219

Legend

- UDA Boundaries
- Cadastral
- Qld floodline
- Rail



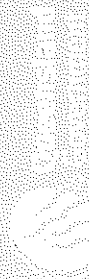
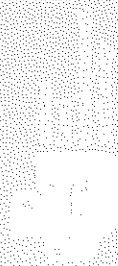


Ripley Valley Urban Development Area Submitted Development Scheme

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2.9 Planning objectives	7	2.1.16 Other	10
2.10 Planning objectives	7	2.1.17 Other	10
2.11 Planning objectives	7	2.1.18 Other	10
2.12 Planning objectives	7	2.1.19 Other	10
2.13 Planning objectives	7	2.1.20 Other	10
2.14 Planning objectives	7	2.1.21 Other	10
2.15 Planning objectives	7	2.1.22 Other	10
2.16 Planning objectives	7	2.1.23 Other	10
2.17 Planning objectives	7	2.1.24 Other	10
2.18 Planning objectives	7	2.1.25 Other	10
2.19 Planning objectives	7	2.1.26 Other	10
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2.24 Planning objectives	7	2.1.31 Other	10
2.25 Planning objectives	7	2.1.32 Other	10
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2.33 Planning objectives	7	2.1.40 Other	10
2.34 Planning objectives	7	2.1.41 Other	10
2.35 Planning objectives	7	2.1.42 Other	10
2.36 Planning objectives	7	2.1.43 Other	10
2.37 Planning objectives	7	2.1.44 Other	10
2.38 Planning objectives	7	2.1.45 Other	10
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2.78 Planning objectives	7	2.1.85 Other	10
2.79 Planning objectives	7	2.1.86 Other	10
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2.88 Planning objectives	7	2.1.95 Other	10
2.89 Planning objectives	7	2.1.96 Other	10
2.90 Planning objectives	7	2.1.97 Other	10
2.91 Planning objectives	7	2.1.98 Other	10
2.92 Planning objectives	7	2.1.99 Other	10
2.93 Planning objectives	7	2.1.100 Other	10



1.1 The Urban Land Development Authority

The Urban Land Development Authority (ULDA) is a statutory authority under the *Urban Land Development Authority Act 2007* (the ULDA Act) and a key element of the Queensland Housing Affordability Strategy.

The role of the ULDA is to facilitate:

- (i) the availability of land for urban purposes
- (ii) the provision of a range of housing options to address diverse community needs
- (iii) the provision of infrastructure for urban purposes
- (iv) planning principles that give effect to ecological sustainability and best practice urban design
- (v) the provision of an ongoing availability of affordable housing options for low to moderate income households.

The ULDA works with local and state governments, community, local landowners and the development industry to deliver commercially viable developments that include diverse, affordable, sustainable housing and use best-practice urban design principles.

1.2 Urban Development Area

The Ripley Valley Urban Development Area (UDA) was declared by regulation on 8 October 2010.

1.3 Application of the development scheme

The Ripley Valley UDA Development Scheme (the scheme) is applicable to all development on land within the boundaries of the UDA.

From the date of approval under a regulation, the scheme replaces the Ripley Valley Urban Development Area Interim Land Use Plan which commenced upon declaration.

1.4 Elements of the development scheme

The scheme consists of:

- (i) a vision
- (ii) a land use plan
- (iii) an infrastructure plan
- (iv) an implementation strategy.

The vision for the UDA is expressed through the vision statement (see section 2.2) and associated map (see Appendix 2, Figure 15.1).

The land use plan regulates development in the UDA.

The infrastructure plan details the infrastructure necessary to support the land use plan for the UDA.

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the vision for the UDA.

1.5 Acknowledgements

Preparation of the scheme was a collaborative effort and the ULDA was greatly assisted by officers from Ipswich City Council, as well as other key stakeholders.

The scheme has been based on the award winning planning work that had previously been undertaken by Ipswich City Council, in particular the work contained in the draft Traditional Neighbourhood Design (TND) Code and Part 15 Ripley Valley Master Planned Area Structure Plan of the Ipswich Planning Scheme.

The figure in Appendix 1 explains how the Transect Zones in the draft TND code relate to the zones in this scheme.

Referencing this work in the development scheme ensures it is given due regard in the planning, design and assessment of UDA development applications and guides future growth in the Valley.

2.1 Background

Ripley Valley UDA is located in South East Queensland's western growth corridor, which is one of the largest employment and industry growth areas in Australia. The UDA offers opportunities for significant residential growth, close to major employment areas to meet the region's affordable housing needs.

The UDA is situated approximately 5 kilometres south east of the Ipswich CBD and south of the Cunningham Highway. The Centenary Highway extension from Springfield in the east bisects the UDA and links with the Cunningham Highway at the Yamanto interchange in the west.

Ripley Valley is identified in the South East Queensland Regional Plan 2009-2031 (Regional Plan) as a Regional Development Area. The Regional Plan identifies a need for an additional 118,000 dwellings in the Ipswich local government area by 2031. Ripley Valley UDA has the potential to contribute approximately 50,000 dwellings to house a population of approximately 120,000 people.

The UDA contains some significant ecological values, including forested ridges, waterways and ecological corridors. The southern part of the UDA is framed by the Grampian Hills which are visually dominated by Flinders Peak. This area forms the western end of a key regional landscape corridor extending eastwards through Greenbank to Karawatha Forest. Bundamba Creek and its tributaries drain the central and eastern parts of the

site, whilst Deebling Creek drains the western part.

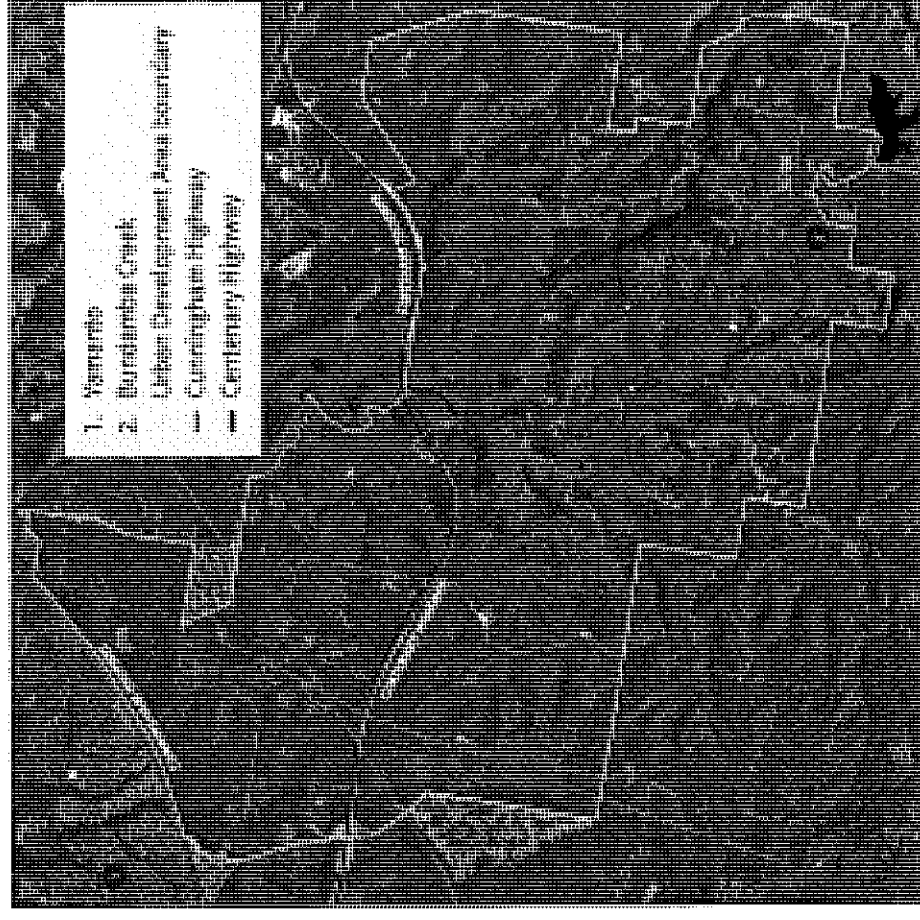
The current population of approximately 400 reside on rural landholdings, rural residential areas and in an existing residential village, and access facilities and services in adjoining areas including Ipswich Central, Yamanto, Raceview and Springfield.

The UDA is serviced by a significant major road network including the Centenary Highway extension and Ripley Road. A planned passenger rail line from Springfield will be ultimately extended to the UDA and link with the Ipswich to Brisbane line.

The UDA is strategically located for access to existing and planned major employment generators in Ipswich CBD, Springfield, Swanbank Enterprise Park, Citiswiche, Ebenezer Industrial Park and the Aerospace and Defence Support Centre at Amberley.

There are a number of tertiary education facilities in the immediate area including a TAFE in Bundamba, the University of Queensland in Ipswich and the University of Southern Queensland campus in Springfield.

Map 1: Ripley Valley UDA boundary



2.2 Vision statement

The scheme adopts the following vision for Ripley Valley from the Ipswich Planning Scheme, Part 15 - Ripley Valley Master Planned Area Structure Plan.

The Structure Plan for development in the Ripley Valley is shown on Figure 15.1 in Appendix 1 of this scheme.

The Structure Plan provides an indicative 'footprint' for future development.

The Ripley Valley Vision

Ripley Valley 2030 - is a rich and festive community which has developed as a series of distinctive neighbourhoods and smaller villages within the many and varied valley precincts, surrounded both close and afar by hills and views of the iconic Flinders Peak.

Vegetated hills, valleys, lakes, open space linkages and trails are a constant reminder of the connection and relationship this community has with its valley home.

This natural setting is celebrated by the community in every aspect of design, form and function.

Residents have easy access and connections to employment opportunities both locally and within the wider Ipswich district.

Ripley Valley is the heart of one of the State's employment and economic growth regions, with residents benefiting from employment prospects in neighbouring areas of Swanbank, Ebenezer and Amberley. An integrated public transport system operates

within and beyond the Valley to provide convenient travel alternatives.

A real 'sense of place' is instilled in the Valley, generating community pride in their active involvement in a safe, friendly and green living environment.

The Ripley town centre is stimulating and inspired by its marketplace style and is easily accessible to the community it services.

The valley is complimented by a network of smaller neighbourhood mixed use villages offering meeting places, cultural experiences, shopping, recreation, and state of the art transport connections both near and afar. The Ripley Valley has embraced the principles of sustainability and is a model for others to follow- acknowledged both in Australia and overseas.

Development Themes

The following themes further refine the Ripley Valley Vision Statement, and have been designed through a process of collaborative partnerships between government, business and community to guide the development and staging of an effective action framework according to the values and evolving needs of the community.

A Living Valley -

Each resident in Ripley Valley is connected to the Valley community and likewise, local residents rely on the Valley for cultural activities, entertainment, recreation, education, and their unique lifestyle.

An Accessible Valley-

Travelling around the Valley by foot, cycle, bus, or car is convenient, safe and equitable to all members of the community.

A Designed Valley -

Inspired by the natural surrounds, the built form is efficient, comfortable and distinctive reflecting the diverse needs of residents, specifically designed to be sensitive to the features of the Valley and provide residents with a unique living environment.

A Prosperous Valley -

The Valley provides employment and investment opportunities for residents and contributes significantly to the regional economy.

A Functional Valley -

Ripley Valley has been designed on global best practices in sustainability, including energy efficiency, waste minimisation and water sensitive design. Necessary utilities and services to residents are provided in an eco-efficient manner, maximising the community's self-sufficiency and capacity to cater for advancements in technology and infrastructure provision.

A Natural Valley -

The significant natural assets of the valley are conserved and enhanced, enabling the local environmental values to flourish and define the function of the community.

In addition to the above, the scheme complements this vision by ensuring:

- » Ripley Valley UDA is a significant community within Ipswich City and the South East Queensland region and achieves its potential as a Regional Development Area accommodating around 120,000 people
- » the UDA is an inclusive community which:
 - » provides a diversity of housing, including affordable and accessible housing, to cater for a variety of households and changing requirements as the community matures
 - » meets the social, recreational and entertainment needs of residents through a combination of appropriately resourced existing Ipswich services and the provision of new services in accessible locations, including multi-purpose community facilities located in centres throughout the UDA and
 - » provides a multitude of opportunities for social interaction in the centres and parks, that provide the focus for neighbourhoods throughout the UDA.

3.1 Components of the land use plan

ULDA guidelines provide guidance on how to achieve the UDA-wide criteria. The guidelines are available on the ULDA website at www.ulda.qld.gov.au

3.1.1 Components of the land use plan

The land use plan establishes the UDA development requirements which regulate development to achieve the vision for the UDA.

3.1.2 UDA development requirements

The UDA development requirements are expressed as:

- (i) UDA-wide criteria (see section 3.3)
- (ii) zone provisions (see section 3.4)
- (iii) self-assessable provisions (see Schedule 3).

Refer to Figure 1.

The UDA-wide criteria apply to all UDA assessable development in the UDA and do not apply to exempt or UDA-self assessable development.

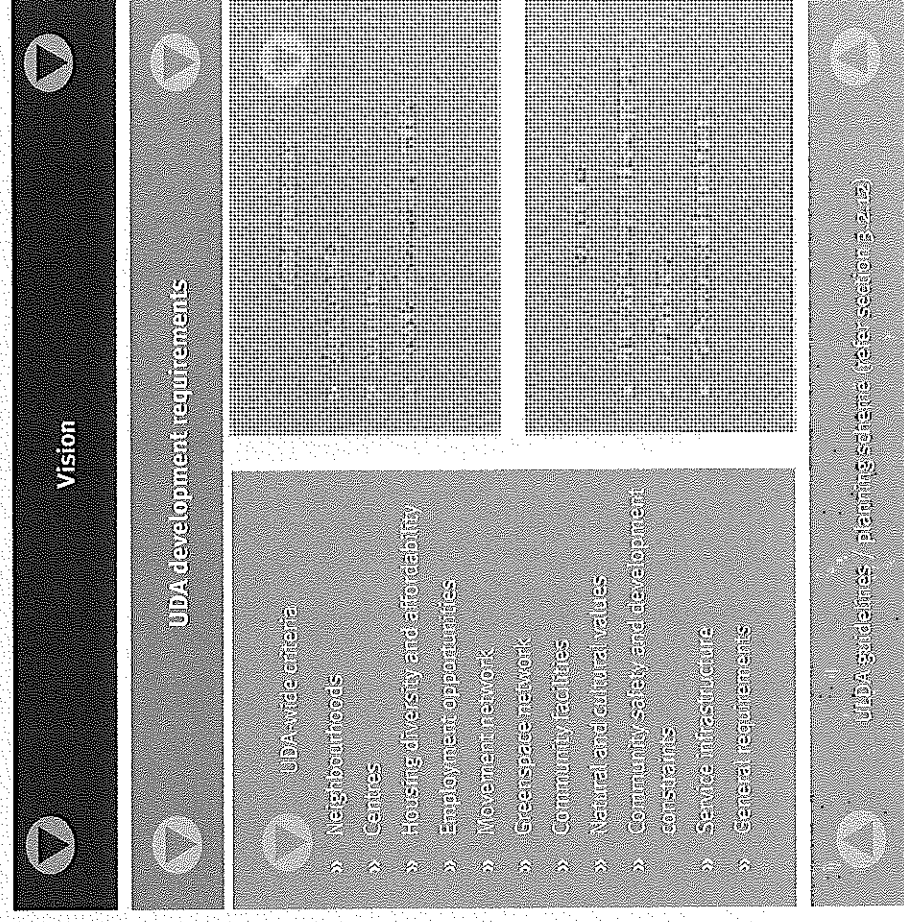
The zone provisions for each zone apply to:

- (i) land in that zone (zone intent and zone map)
- (ii) all development in that zone (Table 2 - Levels of assessment).

Self-assessable provisions:

- (i) do not apply to exempt development, and
- (ii) apply to UDA self-assessable development.

Figure 1: Components of the land use plan and their relationship



3.2 Development assessment

3.2.1 Interpretation

Under the ULDA Act, section 6 development is development defined under the *Sustainable Planning Act 2009*, section 7.

Schedule 2 defines particular words used in this scheme, including uses and administrative terms.

3.2.2 Requirements for self-assessable development

UDA self-assessable development must comply with the applicable schedule (see schedule 3).

Under the ULDA Act, section 43, UDA self-assessable development must comply with the requirements under the development scheme for carrying out the UDA self-assessable development.

3.2.3 Development consistent with the land use plan

UDA assessable development is consistent with the land use plan if:

- (i) the development complies with all relevant UDA-wide criteria and the relevant zone intents, or
- (ii) the development does not comply with one or more of the UDA-wide criteria or zone intent but:

- a. the development does not conflict with the UDA vision, and
 - b. there are sufficient grounds to justify the approval of the development despite the non compliance with the UDA-wide criteria or zone intents.
- UDA prohibited development is inconsistent with the land use plan. Under the ULDA Act, section 56 UDA assessable development that is inconsistent with the land use plan cannot be granted approval.

In this section 'grounds' means matters of public interest which include the matters specified as the main purposes of the Act as well as:

- (i) superior outcomes
 - (ii) overwhelming community need.
- 'Grounds' does not include the personal circumstances of an applicant, owner or interested third party.

3.2.4 Development approval

Identification of development as UDA assessable development does not mean that a UDA development approval (with or without conditions) will be granted.

UDA assessable development requires a UDA development application to be lodged with the ULDA for assessment and decision.

Approval is required before UDA assessable development is undertaken.

3.2.5 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

3.2.6 Consideration in principle

A request may be made to the ULDA for consideration in principle for proposed development.

In considering the request, the ULDA may decide to:

- (i) support all or part of the proposed development, with or without qualifications that may amend the proposed development
- (ii) oppose all or part of the proposed development
- (iii) give no indication of either support or opposition to all or part of the proposed development.

The ULDA, when considering a development application:

- (i) is not bound by any decision made regarding an application for consideration in principle
- (ii) may give such weight as it considers appropriate to the decision in respect of the application for consideration in principle.

3.2.7 Development application

To the extent the UDA-wide criteria, zone intents and ULDA guidelines are relevant, they are to be taken into account in the preparation of a UDA development application and the assessment of the application by the ULDA.

The infrastructure plan and implementation strategy may include further information which should be taken into account in the preparation, design and feasibility of development proposals.

3.2.8 Context plans

The scheme maps provide a broad spatial framework to guide development of the UDA. Context plans provide the intermediate level of spatial planning between the scheme maps and individual development proposals. Context plans are required to ensure that the development proposal will not prejudice the achievement of the UDA vision, UDA-wide criteria and zone intents in a broader area around the development site.

Context plans are prepared by applicants and are required to accompany a UDA development application for:

- (i) the first permissible development in the relevant context plan area, or
- (ii) a later permissible development that is materially inconsistent with the existing ULDA-endorsed context plan for the context plan area.

However, a context plan is not required if:

- (i) in the ULDA's opinion the proposed development is of a nature or scale, or will operate for such period of time, that the ULDA vision, UDA-wide criteria and zone intents will not be compromised, or
- (ii) the ULDA has undertaken more detailed planning for the broader area around the development site, has consulted with the community about the more detailed plan and the development proposal is materially consistent with the more detailed planning intentions for the area.

Applicants should discuss the requirement for a context plan with the ULDA in pre-application meetings.

A context plan is required for a neighbourhood unit (context plan area) identified in Figure 15-15 of the Ripley Valley Structure Plan (see Appendix 2). A ULDA practice note provides details on how to prepare a context plan. A context plan may cover two or more contiguous context plan areas.

A context plan is part of the supporting information for a UDA development application and will not form part of a UDA development approval.

The ULDA will assess the submitted context plan as part of the development assessment process for the UDA development application. The ULDA may request the applicant to change a context plan.

If the ULDA is satisfied that the context plan is consistent with the achievement of the UDA vision, UDA-wide criteria and zone

intents the ULDA will signify that it has endorsed the context plan by placing the UDA endorsed context plan on the ULDA website. Once endorsed by the ULDA the context plan supersedes any previous ULDA-endorsed context plan for the same context plan area. This process will allow context plans to evolve in response to changing market conditions or improved information and to progressively reflect the development intentions of various landowners in the context plan area.

A context plan should:

- (i) identify the location of major network infrastructure, including transport, within the context plan area
- (ii) resolve if required, any development constraints that may determine the extent of developable area or appropriate uses
- (iii) resolve the boundaries of centres, community greenspace network and sites for major community infrastructure such as parks and schools, and
- (iv) demonstrate that the development proposal:
 - a. does not prejudice the ability for surrounding land to be developed in an orderly and efficient manner consistent with the UDA vision, UDA-wide criteria and zone intents, and
 - b. is consistent with existing and approved development in the context plan area and adjoining context plan areas.

3.2.9 Plan of Development

A Plan of Development (PoD) may accompany an application for a material change of use or reconfiguring a lot and may deal with residential or non-residential uses as well as operational work.

A PoD is prepared by an applicant and may include maps, graphics and text that collectively demonstrate how proposed uses, works and lots will contribute towards the achievement of the vision and will be consistent with the relevant UDA development requirements.

The PoD can not include land beyond the boundary of the land the subject of the application, but may cover only part of the land the subject of the application.

Under Table 2 - Levels of assessment, development approved in accordance with a PoD is exempt development and requires no further development approval under the scheme.

For further advice on preparing a PoD refer to the applicable ULDA practice note available on the ULDA website.

3.2.10 Notification requirements

A UDA development application will require public notification¹ if the application:

- » includes a proposal for development which does not comply with the zone

intents

- » is accompanied by a context plan required under section 3.2.8, or
- » is for development which, in the opinion of the ULDA, may have undue impacts on the amenity or development potential of adjoining land under separate ownership, including development for a non-residential use adjacent to land approved for or accommodating a residential use in the urban living zone.

The ULDA may require public notification in other circumstances if the development application is for a use, or of a size or nature which, in the opinion of the ULDA, warrants public notification.

3.2.11 Interim use

An interim use is a land use that, because of its nature, scale, form or intensity, is not an appropriate long term use of the land.

Interim land uses may occur is appropriately developed and operated and where located in areas which will not compromise the zone intent in the longer term. Possible interim uses are identified in the zone provisions.

The ULDA may approve an interim use if it can be demonstrated that an interim use will not preclude or delay an appropriate long term use or intensity of development. Information to support an application for an interim use may include:

- » a context plan
- » a schedule of land supply and projected take-up rates, or

¹ The ULDA practice note provides further guidance.

- » plans showing how the development could transition from the proposed interim use to an appropriate longer term use².

The ULDA may impose a condition of approval that limits the duration of an interim use.

Interim uses will only be approved if it can be demonstrated that the use will not prejudice the achievement of the vision for the UDA.

3.2.12 Relationship with local government planning scheme and other legislation

This scheme may apply a provision of a planning instrument, or a plan, policy or code made under the *Sustainable Planning Act 2009* (SPA) or another Act. However, the scheme prevails to the extent of any inconsistency with those instruments.

This scheme reflects work undertaken by Council and specifically references sections outlined below.

Application of Part 15 Ripley Valley Master Planned Area Structure Plan

This scheme references certain maps and sections contained in Part 15 Ripley Valley Master Planned Area Structure Plan³ of the

Ipswich Planning Scheme. These maps and sections provide a spatial representation of some of the UDA-wide criteria, and provide guidance on how to achieve the UDA development requirements.

Application of Part 11, Division 4 Development Constraints Overlays

Certain provisions in Part 11, Division 4 provide guidance on how to achieve the UDA development requirements in relation to community safety and development constraints.

Alternative solutions will be considered provided these meet the UDA development requirements.

Application of Part 12, Division 3 TND Code

The provisions contained in the sections 12.3.5 and 12.3.6 of the Traditional Neighbourhood Design (TND) Code provide guidance on how to achieve the UDA development requirements⁴.

Alternative solutions will be considered provided these meet the UDA development requirements.

Application of Part 12, Division 14 Advertising Devices Code⁵

The provisions contained in this section provide guidance on how to achieve the requirements of the UDA-wide criteria relating to advertising.

Other legislation

In addition to assessment against the scheme, development may require assessment against other legislation including for example the *Plumbing and Drainage Act 2002* and SPA.

3.2.13 Land not included in a zone

This section applies to land which is not shown in the land use plan as being included in a zone (unallocated land).

Where the unallocated land adjoins land in a zone, the unallocated land is deemed to be included in that zone.

Where the unallocated land adjoins land included in different zones, the unallocated land is deemed to be included in those zones with the centreline of the unallocated land being the boundary between the zones.

² The applicable guideline provides examples of how this might be achieved for centres.

³ Parts 11, 12 and 15 of the Ipswich Planning Scheme are available on the Ipswich City Council's website: <http://pdonline.ipswich.qld.gov.au/pdonline/user/scheme>. Please note that it may be necessary to use other sections of the TND code in order to understand the context of the acceptable solutions.

⁴ Parts 11, 12 and 15 of the Ipswich Planning Scheme are available on the Ipswich City Council's website: <http://pdonline.ipswich.qld.gov.au/pdonline/user/scheme>. Please note that it may be necessary to use other sections of the TND code in order to understand the context of the acceptable solutions.

⁵ Parts 11, 12 and 15 of the Ipswich Planning Scheme are available on the Ipswich City Council's website: <http://pdonline.ipswich.qld.gov.au/pdonline/user/scheme>. Please note that it may be necessary to use other sections of the TND code in order to understand the context of the acceptable solutions.

3.3 UDA-wide criteria

3.3.1 Neighbourhoods

Development delivers neighbourhoods that:

- » are compact and walkable.
Neighbourhoods comprise the area within a 5 minute walk (400 metre radius) of a community focal point. A cluster of neighbourhoods supports a neighbourhood centre
- » have a highly permeable, legible street pattern, designed to promote walking and cycling as the primary modes for local movements
- » contain a variety of dwelling types including affordable and accessible housing
- » are designed to respond to local site characteristics, settings, landmarks, scenic amenity and views, and use natural features, such as ridges and waterways, or man made features such as buildings and public parks to provide local identity and character
- » have a centrally located focal point which must comprise of at least a local recreation park but which can also include a public transport stop, community facility, local shop or similar
- » are interconnected and provide good access to public transport, parks, schools and other community facilities and neighbourhood centres
- » provide a safe environment through the application of Crime Prevention Through

Environmental Design (CPTED) principles such as passive surveillance of public spaces, and a legible street network that minimises traffic impacts on residential areas

- » locate higher density residential close to centres, significant transit opportunities, recreation and corridor parks, or along busier streets that lead directly to centres
- » are designed to promote optimum solar access and use of prevailing breezes
- » locate urban neighbourhoods around transport nodes and higher order centres to maximise accessibility
- » contribute to a strong sense of community safety and security for the Ripley Valley as a whole and the specific neighbourhood in which they reside.

The Ripley Valley is designed as an assembly of neighbourhoods which vary in density and mix of uses in accordance with Figure 15.12.

Neighbourhoods are distributed generally in accordance with Figure 15-2 Neighbourhood Structure in Part 15 Ripley Valley Master Planned Area Structure Plan of the Ipswich Planning Scheme. A copy of these figures are provided in Appendix 2.

Neighbourhoods are designed to achieve:

- » the standards set out in the applicable ULDA guideline and
- » the minimum residential densities in table 1.

3.3.2 Centres

Development delivers centres that:

- » provide for knowledge, community and commerce, accommodating a range of employment, education, cultural and community, retail, community green space, entertainment, sport and recreational opportunities which meet the needs of the community, encourage community interaction and active, healthy lifestyles
- » are commensurate with their role in the SEQ Regional Plan, Ripley Valley centres network (see Figure 15-12 Centres and Employment) and the broader Ipswich Planning Scheme centres network, and the size of their service catchments
- » comprise the urban core, secondary centres and neighbourhood centres, and are focal points for their catchments and provide a wide range of services and facilities
- » respond to local site characteristics, settings, landmarks and views, and use built form and natural features to provide specific identity and character
- » are active places characterised by a high quality public realm and safe, attractive pedestrian areas
- » have a local recreation or civic park as a central focal point for community activities
- » are located to maximise accessibility and distributed to ensure convenient access for Ripley Valley residents, taking into account the likely catchment⁶ of an existing, or approved centre and the centres hierarchy
- » provide a focus for corridor parks, the road network and act as hubs for feeder public transport and walking and cycling networks with higher order centres designed around existing or planned high frequency public transport nodes
- » give priority for public and active transport within centres
- » have a permeable road network that provides vehicle access into centres through a network of low-speed urban streets
- » locates higher density development, including residential development, and key community facilities in the core of the centre. The core is the area within the 400 metre primary walking catchment of the major transit node or central focal point
- » locates lower intensity and car dependent uses on the periphery of the centre - the centre frame. The centre frame of major and secondary centres can also include neighbourhoods of higher density residential development

⁶ S15.3.4 of the Ripley Valley Master Planned Area Structure Plan sets out the likely population catchments.

Table 1: Height, gross floor area and density provisions

Zones	Urban core zone		Urban living zone			
	Urban Core centre and frame		Secondary centre (west)	Secondary centre (east)	Major neighbourhood centres (each)	Neighbourhood centres
Maximum building height	Major centre -12 storeys		5 storeys	5 storeys	3 storeys	9.0m
Minimum net residential density	Frame - 5 storeys 50-100 within the major centre core 20-50 within the Urban Core Frame		35-50 within 400m of the main transit stop (proposed rail station) 20-35 outside the above	20	20	15**
Indicative maximum gross floor areas*:						
» retail and indoor entertainment use categories	70,000m ²		20,000m ²	15,000m ²	6,000m ²	3,000m ²
» commercial use categories	32,000m ²		1,000m ²	1,000m ²	500m ²	200m ²
» low intensity retail e.g. showrooms/outdoor sales	100,000m ²		–	–	–	–
» service industry / research technology facility	15,000m ²		5,000m ²	5,000m ²	–	–
Community services*** (indicative GFA)	40,000m ²		8,000m ²	8,000m ²	1,800m ²	–

* Development proposals that would result in the aggregate gross floor area exceeding these indicative maximums must be accompanied by an economic impact assessment study report that assesses the likely impact on existing and proposed centres within and outside the UDA.

** Unless it can be demonstrated this density cannot be achieved due to site constraints.

*** Includes community facilities as well as privately delivered services such as health, child care, aged care and respite services, sport and recreation and youth services.

- » contain commercial, retail and other uses which require high levels of accessibility.

The urban core is the focal point of the community. It will provide a wide range of facilities and services, including most higher-order services. It has the greatest mix of uses and the highest development densities within the UDA. The highest density of activities and key community facilities are in the urban core close to the major transit node.

Secondary urban centres are the intermediate tier in the centres hierarchy and provide a wide range of goods and services with relatively high densities. They are also the focus for surrounding higher density neighbourhoods and provide higher order services for a broad catchment.

Neighbourhood centres provide a range of services and activities to meet day-to-day needs. Neighbourhood centres are located on collector or higher order roads with good access by public and active transport.

Non-residential uses are located within or adjacent to centres, or in other locations that through appropriate design continue to maintain a high quality of amenity for nearby residential uses.

Small scale shop or office activities with aggregate gross floor area of 250m² or less are acceptable outside a centre where the development will not constitute an incremental expansion to a designated centre and will not have a detrimental impact on residential amenity and the centres

hierarchy.

Centres are distributed generally in accordance with Map 15-12 Centres and Employment in Part 15 Ripley Valley Master Planned Area Structure Plan of the Ipswich Planning Scheme. A copy of this figure is provided in Appendix 2. It should be noted that Figure 15-12 provides a range of potential centre locations. Actual centre numbers and locations will be determined through the preparation of context plans.

Centres are designed to achieve:

- » the principles and design standards set out in the applicable ULDA guideline and
- » the specific requirements set out in Table 1.

3-3-3 Housing diversity and affordability

Development delivers:

- » housing choice and diversity to meet the needs of the community, through a mix of densities, types, designs, tenures and levels of affordability, to cater for a range of lifestyles, incomes and life cycle needs
- » residential development that complements or enhances the character of the neighbourhood and streetscape, and contributes to the creation of an attractive and safe environment
- » dwellings that provide appropriate levels of amenity and privacy, and adequate outdoor areas and car parking to meet varying household needs

- » energy efficient, climatically responsive design including appropriate solar orientation, shading, cross ventilation, natural lighting and passive cooling techniques.

The ULDA's applicable guidelines provide additional information on how to achieve these criteria.

3-3-4 Employment opportunities

Development delivers:

- » a wide range of accessible employment opportunities
- » employment and training opportunities which complement those in nearby major industry employment areas such as Swanbank, Ebenezer and Amberley
- » employment activities in centres, including centre frames, or local industry and business areas
- » industrial activities that serve and are compatible with a predominantly residential community including low impact industry, service industry, research and technology facilities and warehouses
- » development of a scale and intensity which is compatible with existing and proposed development in the vicinity.

Local industry and business areas have not been designated for Ripley Valley.

Local industry and business areas (e.g. service/trade clusters) may be established in the urban living zone where:

- » development does not compromise the centres hierarchy
- » development does not impact on residential amenity
- » there is adequate access including access by public and active transport modes
- » development does not attract high volumes or unacceptable types of traffic (i.e. heavy service vehicles) into residential areas.

The applicable ULDA guideline provides additional information on how to achieve these criteria.

Local employment opportunities are provided through the network of neighbourhoods and urban centres generally in accordance with Figure 15-12. A copy of this figure is provided in Appendix 2.

3-3-5 Movement network

Development contributes to:

- » connected communities with efficient and affordable access
- » an effective, efficient and integrated movement network that provides a high level of safety and accessibility, maintains residential amenity and promotes the use of public and active transport particularly for local trips

- » a major road network that provides effective links between centres and the neighbourhoods they serve, and to the external road network, and accommodates a range of users including cars, service vehicles, pedestrians, cyclists and public transport
- » a road network that has a functional hierarchy, facilitates longer travel movements, provides multiple access routes to and through neighbourhoods and minimises traffic impacts on residential areas
- » the provision of a public transport network that is readily accessible to the community (90% of all dwellings should be within 400 metres of a potential public transport service), and provides effective links to centres, rail stations and key external destinations
- » a comprehensive active transport (walking and cycling) network based around major active transport spines, supplemented with local links and a safe and permeable street network within neighbourhoods⁷. The active transport network provides safe and direct links to key destinations including centres, railway stations, parks and schools
- » the preservation and protection of key thoroughfares and indicative transport alignments.

Elements of the movement network should be delivered generally in accordance with Figure 15-7 Transit Plan, 15-8 Strategic Walk and Cycle Plan, 15-9 Thoroughfare Types and 15-10 Thoroughfare Hierarchy Plan in Part 15 Ripley Valley Master Planned Area Structure Plan of the Ipswich Planning Scheme. Copies of these figures are provided in Appendix 2.

The applicable ULDA guideline provides additional information to assist in achieving these criteria.

3.3.6 Community greenspace network

Development contributes to the provision of an integrated, high quality, regional, community greenspace network that caters for a range of environmental needs by:

- » retaining where possible locally significant wetlands, remnant vegetation and habitat for fauna
- » protecting important landscape and visual quality values including scenic amenity areas
- » enhancing wetland communities as part of stormwater management
- » providing ecological corridors and linkages such as along Bundamba and Deebling Creeks, including to areas outside the neighbourhood or community.

Development delivers parks that:

- » contribute to a the achievement of an integrated high quality greenspace network that caters for a variety of recreation functions and experiences to meet the needs of residents and visitors
- » are accessible for users
- » provide for multiple purposes and uses including recreational, sporting, ecological and stormwater management functions
- » incorporate existing natural features where possible and are landscaped to assist in creating neighbourhood identity and wayfinding
- » retain as much existing significant vegetation as possible whilst also meeting active recreation and sporting needs
- » are shaped and embellished to suit their anticipated use
- » support the community's recreational needs and provide opportunities for community and special events.

Elements of the integrated community green space network should be distributed generally in accordance with Figure 15-3 Open Space in Part 15 Ripley Valley Master Planned Area Structure Plan of the Ipswich Planning Scheme. A copy of this figure is provided in Appendix 2.

Community greenspace network are located and designed to achieve the principles and design standards set out in the applicable ULDA guideline.

3.3.7 Community facilities

Development facilitates the delivery of:

- » sustainable communities with a strong community identity and access to community facilities and services that meet diverse needs, maximise potential for community development and enhance community wellbeing
- » a range of community facilities and services that are accessible and appropriate to the needs of the community and reduce physical and social isolation
- » community facilities and services that are located where accessibility to the facility's target market is maximised through good access to public transport, pedestrian and cycle paths
- » a hierarchy of community facilities and services in neighbourhood, secondary and major centres. Neighbourhood level community facilities and services are located within walking distance for most residents, meet everyday needs and are provided early in development. District level community facilities and services serve a broader population catchment, reflect the diverse needs of the population and are provided in response to population growth thresholds. Major community facilities and services are of a higher order and accessed by a sub-regional population.

Potential locations for community facilities are indicated in Figure 15-5 Community

⁷ Where active transport enters the on-road environment, treatment should be consistent with Austroads: "Cycling Aspects of Austroads Guides (March 2013)".

Facilities and Schools in Part 15 Ripley Valley Master Planned Area Structure Plan of the Ipswich Planning Scheme. A copy of this figure is provided in Appendix 2.

Community facilities are designed to achieve the principles and standards set out in the applicable ULDA guideline.

3-3-8 Natural and cultural values

Development delivers:

- » protection of significant environmental and ecological values
- » protection of Remnant Endangered vegetation where proven by groundtruthing to be viable
- » minimal emissions to land, water and atmosphere
- » protection of culturally significant places and items
- » efficient use of land and resources.

The design, siting and layout of development:

- » preserves and enhances important local, natural, environmental values, and respects local landforms
- » avoids, minimises and/or offsets development impacts on areas of biodiversity value
- » maintains or improves ecological connectivity in the local urban context
- » incorporates landscaping with endemic species that contribute to bushland character, flora and fauna habitat, and

fauna movement

- » respects cultural heritage values
- » minimises adverse impacts on natural landforms and the visual amenity of the site
- » maintains or improves the natural functions and environmental, social and economic values of the area's waterways, wetlands, riparian corridors and floodplains

maintains or improves the ecological health and environmental values of surface and groundwater, including wetlands and waterways in and adjacent to the UDA

- » maintains and improves the functioning and characteristics of the hydrological network (including surface and groundwater and the riparian ecology of Bundamba and Deebling Creeks) and generally maintains the natural flow regime
- » incorporates total water cycle management and water sensitive urban design principles to appropriately manage floodwater and stormwater
- » applies best practice erosion and sediment control techniques giving particular regard to the local highly dispersive soils⁸
- » ensures that all land and groundwater will be fit for purpose in accordance with accepted standards and practices

8 Ipswich City Council's Soils of Ipswich Field Guide assists in identifying soils at risk of erosion.

- » manages air quality, noise and hazardous materials according to current standards

- » promotes innovative and efficient use of energy and water

- » maximises recycling opportunities and reduces waste generation.

Map 2 - Values shows the key natural and cultural values in the UDA. Development is sited, designed and constructed to avoid or minimise impacts on natural and cultural values.

The applicable ULDA guideline provides more detail on how to achieve these criteria.

3-3-9 Community safety and development constraints

Development ensures that people and property are safe from potential hazards including landslip, bushfire, flooding⁹, saline

9 The information contained within these maps may be subject to review. Applicants should check Ipswich City Council's planning scheme overlays for the most up to date information at <http://pdonline.ipswich.qld.gov.au>.

10 The Queensland Floods Commission of Inquiry is investigating the January 2011 flood disaster, including a review of existing provisions relating to flooding and flood risk mitigation.

Consequently the provisions of this development scheme with respect to the management of flooding and flood risk mitigation may be subject to change at the direction of the Queensland Government in the near future.

This should be taken into account by applicants and assessment managers when considering development in this UDA. Applicants are advised to make relevant enquiries regarding the status of the provisions relating to flooding to the time of lodgement.

and dispersive soils, predicted effects of climate change, mining subsidence¹¹ and unexploded ordnance¹².

Development does not compromise the integrity or operation of defence facilities, the Swanbank power station or high voltage transmission lines/corridors¹³.

Residences and other sensitive uses are protected from the impacts of noise and dust from regional transport corridors.¹⁴

To ensure protection from flooding and appropriate flood management:

- » development achieves an acceptable level of flood immunity¹⁵

11 Ensure that land identified by the planning scheme as being potentially affected by subsidence caused by underground mining is either avoided or investigated to determine the safety of development.

12 The information contained within these maps may be subject to review. Applicants should check Ipswich City Council's planning instruments for the most up to date information at <http://pdonline.ipswich.qld.gov.au>.

13 Energex's draft Electricity Overlay Code, Community Infrastructure Code and Safe Tree Guideline provide guidance on how to achieve this criterion.

14 A ULDA guideline has been prepared to provide further clarity.

15 As identified on Map 3a, part of the UDA is subject to inundation. For information about how to address potential flooding, refer to:

- i) Ipswich City Council's planning instruments including relevant provisions contained in Part 11 of the Ipswich Planning Scheme
- ii) State Planning Policy 1/03 and associated guideline for siting requirements for key elements of community infrastructure and
- iii) the applicable ULDA guideline addressing flooding.

- » development ensures that stormwater run off at the site's boundaries does not exceed that which presently exists, and there is 'no net worsening' of flood conditions at the site's boundaries.

To ensure protection from bushfire hazard, development is designed to mitigate bushfire risk. In Transitional Bushfire Areas the risk may diminish as development occurs.

Maps 3a and 3b show the key community safety and operational constraints affecting the UDA⁴. Development is sited, designed and constructed to avoid, minimise or withstand the incidence of a development constraint.

The relevant sections of Part 11 - Overlays, Division 4 - Development Constraints Overlays of the Ipswich Planning Scheme provide guidance on how to achieve these criteria.

3.3.10 Service infrastructure

The UDA delivers efficient and effective use of infrastructure and services.

Development ensures infrastructure and services are:

- » provided in a timely, orderly, integrated and coordinated manner to support urban uses and works
- » available or capable of being made available (including key infrastructure such as roads, public and active transport, water supply, sewerage, drainage, park network,

- community facilities, electricity and telecommunications)
- » designed to allow for future developments in information technology and providing access to technology in neighbourhood facilities
- » located and designed to maximise efficiency and ease of maintenance.

Infrastructure is designed to achieve the principles and standards set out in the applicable ULDA guideline.

3.3.11 General requirements

Site area and landscaping:

- » sites have sufficient dimensions to accommodate buildings, parking, access and circulation areas and landscaping
- » landscaping is provided to enhance the visual amenity of the locality.

Sub-tropical design measures

Development provides built forms that respond to the sub-tropical environment, including eaves, roof overhangs and sun shading devices.

Parking and end of trip facilities:

Parking is provided in accordance with the rates and standards set out in the Ipswich Planning Scheme. The ULDA will consider proposals for a reduced number of car parking spaces where it can be justified due to factors including:

- » availability of on-street car parking

- » public transport accessibility
- » overall accessibility, including for residential development, whether the proposed development is located within or adjoining a neighbourhood centre
- » potential for sharing car parking spaces by different uses and activities
- » target markets for residential development.

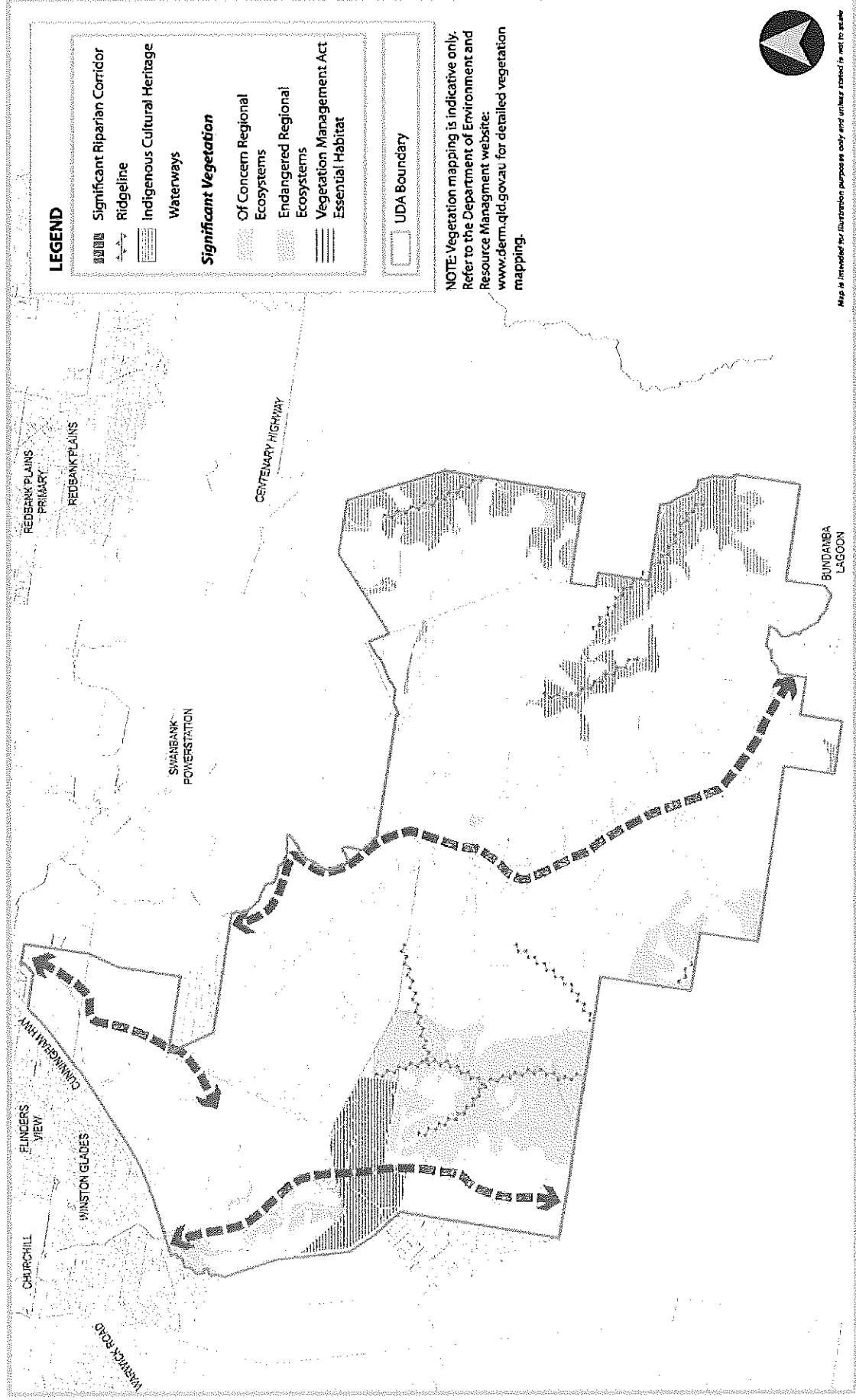
End of trip facilities⁶ for pedestrians and cyclists, including secure undercover bicycle storage facilities, showers and lockers are to be provided as part of non-residential development.

Advertising devices

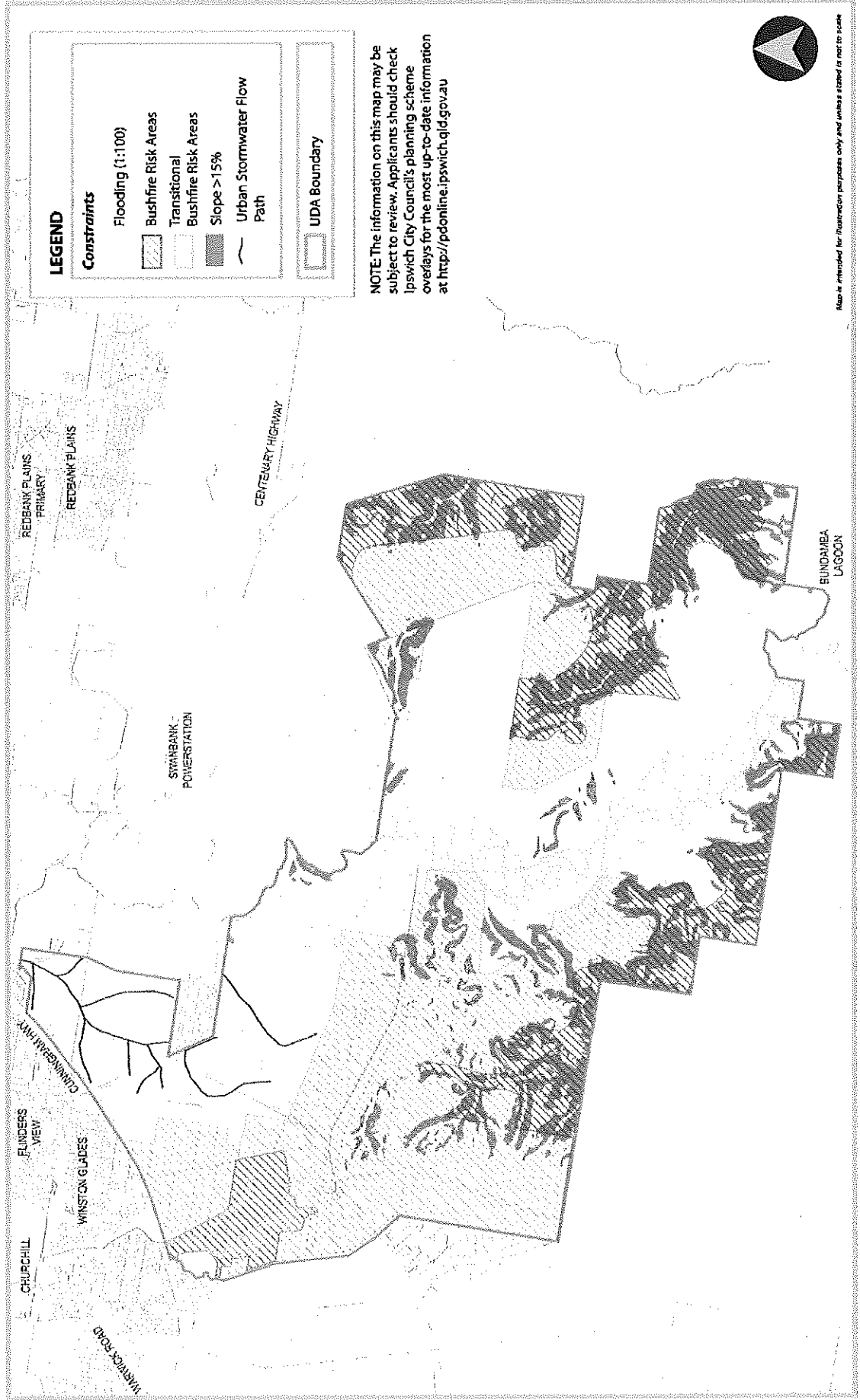
- » cater for the needs of display homes and businesses to clearly identify the location, the goods or services which are supplied to the public
 - » are consistent with the scale and design of existing buildings and other works on the site and in the locality and complement the local streetscape
 - » where appropriate, reflect the character of the area
 - » are sited and provided on premises having regard to safety and amenity.
- Part 12, Division 14 Advertising Devices Code of the Ipswich Planning Scheme provides guidance on how to achieve these requirements.

¹⁶ Refer to the Queensland Development Code 4.1 - Sustainable Buildings

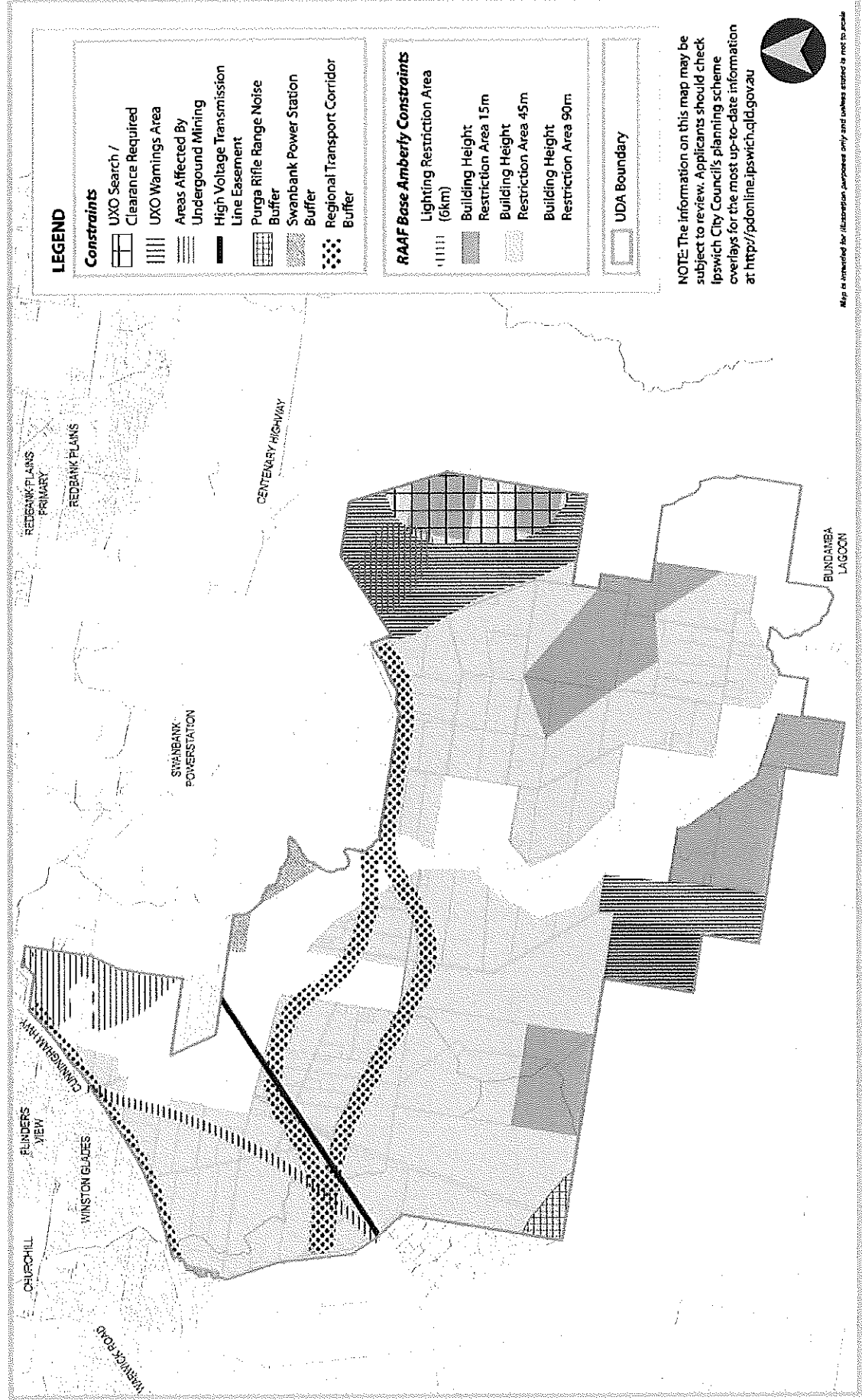
Map 2 -Values



Map 3a - Development constraints



Map 3b - Development constraints



3.4 Zone provisions

3.4.1 Zone map

Map 4 - Zones shows the location and boundaries of zones in the UDA. The map establishes 3 zones:

- » Urban living
- » Urban core
- » Environmental protection.

Inclusion of land within the urban living or the urban core zones does not imply that all such lands can be developed for urban purposes. Some land may not be available or appropriate to be developed due to local site conditions such as slope, flooding, vegetation or other constraints including the need to provide roads, open space, community facilities, schools etc. Particular regard should be given to Development Constraints (refer maps 3A and 3B) and the Open Space Network Plan (refer Appendix 1, Figure 15-3).

3.4.2 Zone intents

Urban living zone

The urban living zone applies to most of the area intended for urban development in the UDA. The majority of the zone is intended to be developed as urban and suburban neighbourhoods focused on identifiable and accessible centres and comprising of a mix of residential development including houses, multiple residential and other residential and live work opportunities through home

based business. The urban living zone is also intended to accommodate a wide range of other non-residential uses.

These other uses include:

- » secondary centres and neighbourhood centres (generally in accordance with Figure 15-12 in Appendix 2)
- » a community greenspace network comprising parks, environmental areas and open space corridors along waterways (generally in accordance with Figure 15-3 in Appendix 2)
- » local employment areas such as small scale industry and business areas (e.g. service/trade clusters) and local shops (as outlined in section 3.3.4)
- » specific facilities and institutions such as educational establishments, child care centres and community facilities (generally in accordance with Figure 15-5 in Appendix 2).

The UDA-wide criteria provide guidance about the preferred nature and locations for some of these uses, but their actual location, nature and extent will be determined through more detailed planning and the preparation of context plans as outlined in section 3.2.8.

Other than in identified centres, non-residential uses may also be approved in the urban living zone where it is demonstrated to the satisfaction of the ULDA that:

- » the proposed use has appropriate vehicular access that will not result in excessive numbers of vehicles passing

- » through residential areas
- » the proposed use will cater for the needs of the immediate community and will not compete with or undermine the vitality of the centres hierarchy
- » any impacts associated with the use (e.g. noise, dust, emissions) will not affect residential or other sensitive uses.

Reference should be made to Appendix 1, Table 1 and applicable ULDA guidelines for further detail on the preferred locations, scale, form and nature of development in the urban living zone.

The urban living zone may also accommodate interim uses such as:

- » Agriculture
- » Agriculture supply store
- » Animal keeping and husbandry
- » Intensive horticulture.

Urban core zone

The urban core zone provides the central focus of the UDA, and is located around the proposed main railway station and transport interchange. The urban core zone accommodates the highest densities and the greatest mix of land uses including greenspace and community facilities.

Land within the urban core zone falls into two categories: the urban core zone and the Urban Core Frame.

The urban core centre component of the zone is located between the proposed

railway station / transit interchange and extends eastward to link up with attractive greenspace, recreation and active transport opportunities presented by the Bundamba Creek corridor. The highest density development is focussed within the 400 metre primary walking catchment of the proposed railway station extending across the eastern side of Ripley Road through to the Bundamba Creek greenspace corridor. The Urban Core Frame component occupies the less accessible balance area of the urban core zone.

The exact boundaries between the Urban Core Centre and Urban Core Frame will be determined through the context planning and development assessment process.

Interim uses may include:

- » Bulk landscape supplies
- » Warehouse.

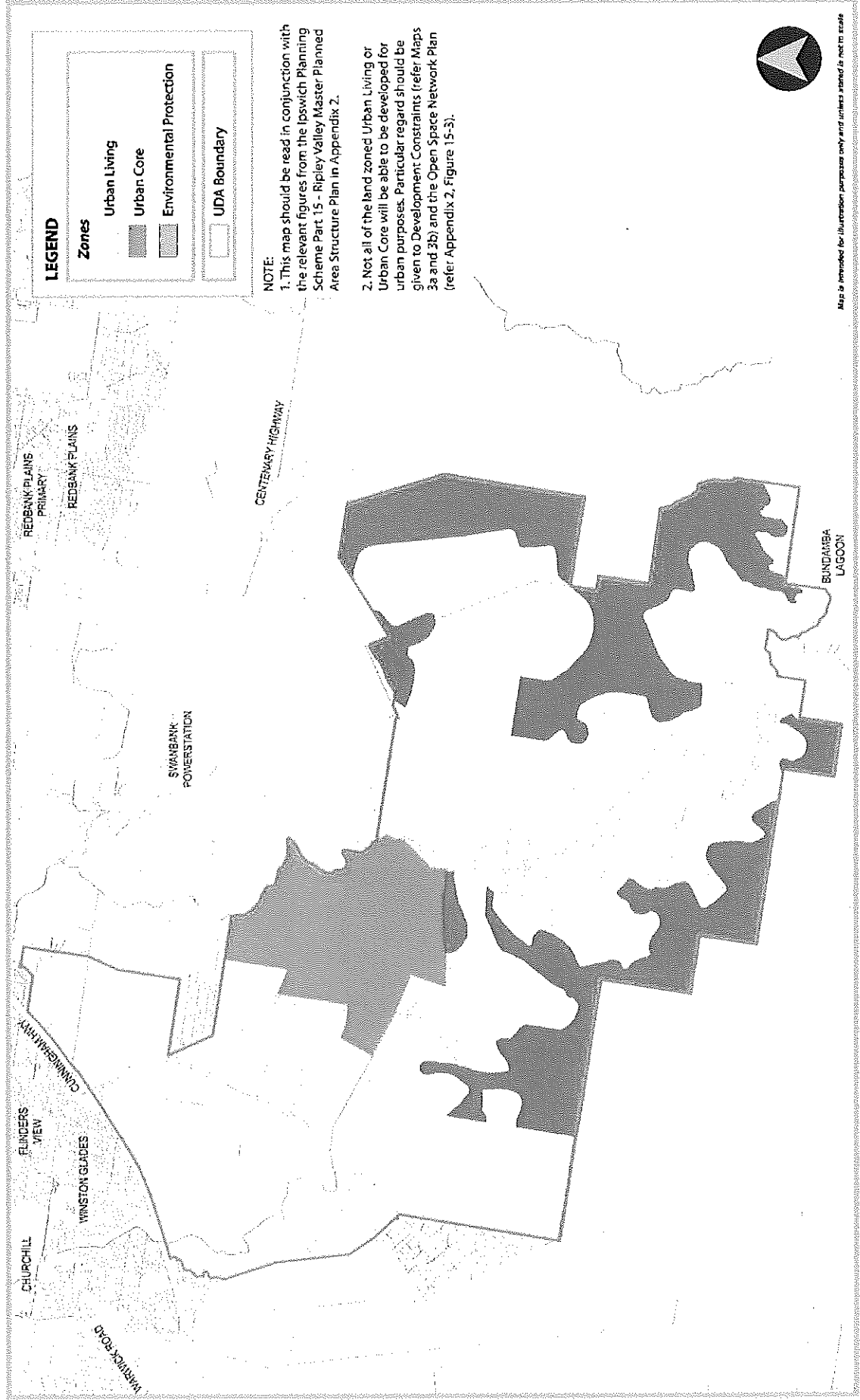
Other industrial uses and rural uses are not envisaged in the urban core zone.

Urban Core Centre

The Urban Core Centre component of the urban core zone accommodates the highest order mixed use centre activities providing a mix of commercial, business, professional, community, entertainment, retail and high density residential activities. The Urban Core Centre is the most intense urban setting, forms the heart of the UDA and is capable of servicing the whole urban development area.

The Urban Core Centre is characterized by

MAP 4 - Zones



high density development up to 12 storeys in height.

Development within the Urban Core Centre delivers:

- » safe, attractive and permeable movement networks for pedestrians and cyclists
- » ground floor areas which are used primarily for retail, 'shop front' and other active uses
- » upper floor levels which are used for a variety of uses including retail, offices, entertainment and residential uses
- » buildings fronting streets that are a minimum two storeys in height
- » lower intensity or large building format uses which are 'sleeved' by active street frontage uses
- » parking in basements or where provided at ground level, screened from streets and other public areas by buildings or landscaping
- » high quality design that recognises the importance of streetscape and public realm and contributes to the overall attractiveness of the Urban Core Centre
- » built form and associated earthworks that takes precedence over the natural environment in matters concerning pedestrian movements, building disposition, street and open space design
- » views to Flinders Peak and the Grampian Hills from key streets, public spaces and buildings
- » buildings, streets and parks that optimize

physical and visual connections to the Bundamba Creek greenspace corridor.

The Urban Core Centre is the principal focus of retail activities in the UDA. It includes a vibrant retail precinct anchored by a public 'Main Street' (or streets). The retail precinct includes:

- » speciality retail
- » entertainment, recreation, leisure, cultural and community facilities
- » food, beverage and dining facilities, including alfresco dining
- » convenience retail for workers, residents and visitors.

The Urban Core Centre also accommodates major civic buildings, educational and health facilities, and provides a safe, attractive public realm with a variety of urban parks, plazas and squares that provide recreation spaces and places for community events and promote opportunities for community interaction.

Uses other than retail, residential and commercial should not have any off-site impacts that may affect the amenity of adjoining areas whether developed or not. Lower intensity uses and uses that do not require high levels of public transport accessibility, such as showrooms, warehouses and service stations are not appropriate long-term uses in the Urban Core Centre component of the zone.

Urban Core Frame

The Urban Core Frame accommodates a mix

of land uses including:

- » uses that support activities in the urban core centre but are not suitable for the urban core centre itself (such as service industry and low impact industry)
- » uses that benefit from a central accessible location within the UDA but are low intensity uses (such as warehouses, outdoor sales, showrooms and service stations)
- » residential uses, including short term and tourist accommodation, taking advantage of proximity to the range of employment opportunities, services and facilities located in the major centre.

The maximum building height in the Urban Core Frame zone is 5 storeys.

Retail development that has the potential to detract from the vitality and viability of retailing in the major centre is not suitable for the Urban Core Frame. Retail development will only be approved in the Urban Core Frame zone where it is:

- » not suitable for the urban core centre or other designated centres
- » small scale retail to meet the needs of a local catchment of residents or workers
- » retailing activity that has a nexus with a use that is not suitable for the major centre.

The Urban Core Frame will incorporate a number of urban neighbourhoods. The transitional nature of this area between the urban core centre and the surrounding

residential neighbourhoods means there is likely to be a wide variety of dwelling types ranging from small precincts of houses to multi-level apartment buildings, with densities increasing with proximity to the major centre.

Key roads in the Urban Core Frame, including those providing direct access to the urban core centre, are pedestrian and cyclist friendly with high quality streetscapes and a distinct urban feel. Any large format retail/commercial buildings should ultimately be sleeved along these streets by smaller-scale shops, food premises and businesses where practical to ensure active frontages and visual interest.

Phasing of development in the urban core zone

Development is to occur in an orderly and efficient manner. The desired long-term layout, mix of uses and intensity of development will only be delivered in the long term. However it is important to ensure that the active, pedestrian friendly character of key 'Main Street' elements is established as part of the initial stage of development of the major centre. The 'Main Street' spine should extend from the proposed railway station to the open space located in association with Bundamba Creek. Staging of development and interim uses may be acceptable where they do not compromise the delivery of the desired long term outcomes.

Some land within the urban core centre may

not be suitable for development until the Ripley Valley community reaches certain population thresholds. These areas should be retained for longer term development. Context plans should demonstrate how earlier development takes into account longer term development areas and maintains integrity and compactness of earlier development.

Reference should be made to Appendix 2 (particularly Figure 15-14), Table 1, Part 15 and the TND Code from the Ipswich Planning Scheme and applicable ULDA guidelines for further detail.

Low intensity development may occur where such uses do not affect the environmental significance of the local area. Development should embrace sustainable land management practices, minimise clearing and contribute to the amenity and landscape of the area.

The environmental protection zone provides opportunities for habitat improvement.

Reference should be made to Appendix 2, Table 1, Part 15 and the TND Code from the Ipswich Planning Scheme, and applicable ULDA guidelines for further detail.

Environmental protection zone

The environmental protection zone includes areas that are of environmental significance and have associated conservation, biodiversity, habitat or scenic amenity values. The zone may also provide for buffers between incompatible land uses and includes land constrained by features such as subsidence, contamination, dispersive soils, bushfire risk, landslip, erosion and flooding. The zone may accommodate elements of an integrated open space network providing for multi-purpose functions that respond to community needs provided they do not compromise environmental values.

The zone allows only a limited range of low impact, low intensity land uses to protect areas identified as having significant values for biological diversity, water catchment, ecological functioning or cultural values.

Table 2 - Levels of assessment

Column 1 Exempt development		Column 2 UDA self-assessable development	Column 3A Permissible development	Column 3B Prohibited development
In the Urban living zone				
<p>1. An environmentally relevant activity if:</p> <p>(i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i>, and</p> <p>(ii) the activity complies with that code.</p> <p>2. If the land is not on the Environmental Management Register or Contaminated Land Register:</p> <p>(i) development specified in schedule 1</p> <p>(ii) development for Home based business</p> <p>(iii) development for a sales office where not greater than 150m²</p> <p>(iv) material change of use when not involving building work (other than minor building work) or operational work, for a use other than Car park where:</p> <p>(a) any existing use and the proposed use are both included in either the Commercial use or Retail use categories in Schedule 2 where complying with the parking rates in the planning scheme.</p>	<p>1. If the land is not on the Environmental Management Register or Contaminated Land Register:</p> <p>(i) Material change of use for a House or Display home where:</p> <p>(a) the lot is 400m² or more</p> <p>(b) the lot frontage is 12.5 metres or more</p> <p>(c) it complies with the applicable self assessable provisions in Schedule 3, and</p> <p>(d) the site is located outside a development constraint area on Maps 3a or 3b other than a RAAF Base Amberly Constraint area or a Transitional Bushfire Risk Area if, for the Transitional Bushfire Risk Area, the site adjoins an existing or approved urban development.</p>	<p>1. Reconfiguring a lot that is not mentioned in schedule 1</p> <p>2. Making a material change of use if</p> <p>(i) the use is not defined in schedule 2, or</p> <p>(ii) the change of use is not mentioned in columns 1, 2, or 3B.</p> <p>3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.</p>	<p>Development for:</p> <p>1. Extractive industry</p> <p>2. High impact industry</p> <p>3. Medium impact industry</p> <p>4. Noxious and hazardous industry.</p>	

Table 2 - Levels of assessment

Column 1 Exempt development	Column 2 UDA self-assessable development	Column 3 – UDA assessable development	
		Column 3A Permissible development	Column 3B Prohibited development
In the Urban living zone (continued)			
(v) material change of use if in accordance with an approved Plan of Development (PoD)			
(vi) operational work or building work in accordance with an approved PoD.			

Column 1 Exempt development		Column 2 UDA self-assessable development	Column 3 – UDA assessable development	
			Column 3A Permissible development	Column 3B Prohibited development
In the Urban core zone				
1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i> , and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1 (ii) development for Home based business (iii) making a material change of use where complying with the parking rates in the planning scheme and not involving building work (other than minor building work) or operational work for: (a) Commercial uses (other than Car park) (b) Community facility (c) Educational establishment (d) Fast food premises (e) Food premises (f) Market (g) Multiple residential (h) Other residential	Nil	1. Reconfiguring a lot that is not mentioned in schedule 1 2. Making a material change of use if (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2, or 3B. 3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.	Development for: 1. Extractive industry 2. High impact industry 3. Medium impact industry 4. Noxious and hazardous industry.	

Column 1 Exempt development	Column 2 UDA self-assessable development	Column 3 – UDA assessable development	
In the Urban core zone (continued)		Column 3A Permissible development	Column 3B Prohibited development
(i) Place of assembly (k) Research and technology facility (l) Shop (m) Showroom (n) Warehouse (iv) material change of use if in accordance with an approved Plan of Development (PoD) (v) operational work or building work in accordance with an approved PoD.			

Column 1 Exempt development		Column 2 UDA self-assessable development	Column 3 – UDA assessable development
			Column 3A Permissible development
			Column 3B Prohibited development
In the Environmental protection zone			
Nil	Nil	<div>1 Operational work</div> <div>2 Development for:</div> <div>» Agriculture</div> <div>» Animal keeping and husbandry</div> <div>» Emergency services</div> <div>» Environmentally relevant activities</div> <div>» House</div> <div>» Intensive animal husbandry (where involving stabling)</div> <div>» Park</div> <div>» Short term accommodation</div> <div>» Telecommunication facility</div> <div>» Tourist attraction</div> <div>» Utility installation.</div>	All other development, including development not defined in Schedule 2, other than development mentioned in Columns 1, 2 and 3A.

Infrastructure Plan

4.1 Approach

Infrastructure requirements to achieve the planning outcomes will be delivered through the development assessment process, imposed as conditions of a UDA approval for development and delivered as part of the building and operational works on the site.

Infrastructure delivery is divided into 2 components:

1. Local infrastructure will include all internal works and external water and sewerage connections required to deliver the development including:
 - a. transport (including roads, public transport and active transport)
 - b. community facilities (including parks and plazas, community facility sites, State school sites)
 - c. network infrastructure (including water supply and sewerage, stormwater management, telecommunications and power).

2. Sub-regional infrastructure which includes major trunk works for connection to council and state's transport network systems and the local water authority's treatment system. These works are detailed in section 4.3 below.

As part of implementing this infrastructure plan, the ULDA will formulate an infrastructure funding framework for the funding of local infrastructure and

appropriate contribution to sub-regional infrastructure. State infrastructure funding will be sought under the normal budgetary processes and will be part of an approved State agency capital program.

Listed below is the infrastructure currently identified for the Ripley Valley UDA. These infrastructure elements reflect current understanding. However, further detailed infrastructure investigations will occur as the development continues and the infrastructure requirements and delivery responsibilities may be amended to reflect the outcomes of these investigations.

Local infrastructure required within any application area will be required to be constructed at the time of development of that area. Infrastructure charges credits will apply in accordance with the approved Infrastructure Funding Framework where the developer constructs nominated local infrastructure.

State expenditure for investment in infrastructure will be subject to consideration through normal budgetary processes and will be part of an approved state agency capital works program.

4.2 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

For large sites, to ensure the UDA community evolves over time to achieve innovation and best practice, a tiered infrastructure agreement approach is required with a head infrastructure agreement and numerous secondary infrastructure agreements.

The overarching head infrastructure agreement will contain commitments for the whole UDA and address the applicant's responsibilities in relation to the delivery of:

- » key infrastructure items delivered within the site
- » key infrastructure items delivered external to the site (eg. road upgrades, trunk water and sewerage infrastructure)
- » affordable housing
- » public transport
- » strategies to achieve ecological sustainability outcomes contained in the implementation strategy.

Separate agreements with individual utilities and the local authority may also be required.

The head infrastructure agreement will include provisions to identify the monitoring, compliance and enforcement system that will apply over the UDA's life.

Secondary infrastructure agreements will support the head infrastructure agreement and generally cover the same geographic areas as the context plans. Like context plans, these secondary infrastructure agreements will be progressively entered into at relevant points in the future which will ensure they include best practice standards

and practices that are contemporary to that time. Secondary infrastructure agreements will address:

- » area specific infrastructure delivery obligations (eg. transport, water, open space, community facilities)
- » delivery of environmental protection areas
- » housing types and percentages
- » pedestrian and cycle network facilities
- » location and size of community land and facilities.

The combination of context plans and a tiered infrastructure agreement approach provides the mechanism to review the appropriateness of development standards and practices and to incorporate improvements in technology and practices in future context plans and secondary infrastructure agreements.

4.3 Local Infrastructure

4.3.1 Transport and Network Infrastructure

Infrastructure	Description of works	When required
Water, Sewerage, Stormwater	Internal reticulation and trunk works required to service the development as agreed with the ULDA and relevant entity. A total water cycle management plan is to be approved and implemented with each stage of development.	To be constructed at the time the development is being undertaken and delivered before improvements are demanded by additional loading from developments within the UDA.
Roads	Internal and trunk roads required to service the development as agreed with the relevant entity.	To be constructed at the time the development is being undertaken and delivered before improvements are demanded by additional loading from developments within the UDA.
Public Transport	Development will contribute to an interim public transport service for up to 5 years or until the fare box income exceeds 30% of running costs, whichever is sooner. This service is to provide a minimum of half hourly services in peak time and hourly services at other times from 6.00am to 9.00pm on weekdays and 8.00 am to 5.00pm on weekends.	On the completion of the 200th lot for the UDA or portion of the UDA.
Active Transport	Active transport infrastructure required to service the development.	To be constructed at the time the development is being undertaken.
Other Networks	Network infrastructure improvements will be undertaken in conjunction with the relevant responsible authority for items including but not limited to; Telephony, Broadband, Electricity and Gas.	Generally to be constructed at the time the development is being undertaken and delivered before improvements are demanded by additional loading from developments within the UDA.

4.3.2 Community Infrastructure

Infrastructure	Description of works	When required
Parks, open space, playing fields, plazas	To be delivered in accordance with the requirements of the scheme and ULDA guidelines.	To be provided at the time the adjacent development is being undertaken.
State school sites	To be delivered in accordance with the requirements of the scheme and ULDA guidelines.	To be provided at the time the adjacent development is being undertaken.
State and council community facilities sites	To be delivered in accordance with the requirements of the scheme and ULDA guidelines.	To be provided at the time the adjacent development is being undertaken.

4.4 Sub-Regional Infrastructure

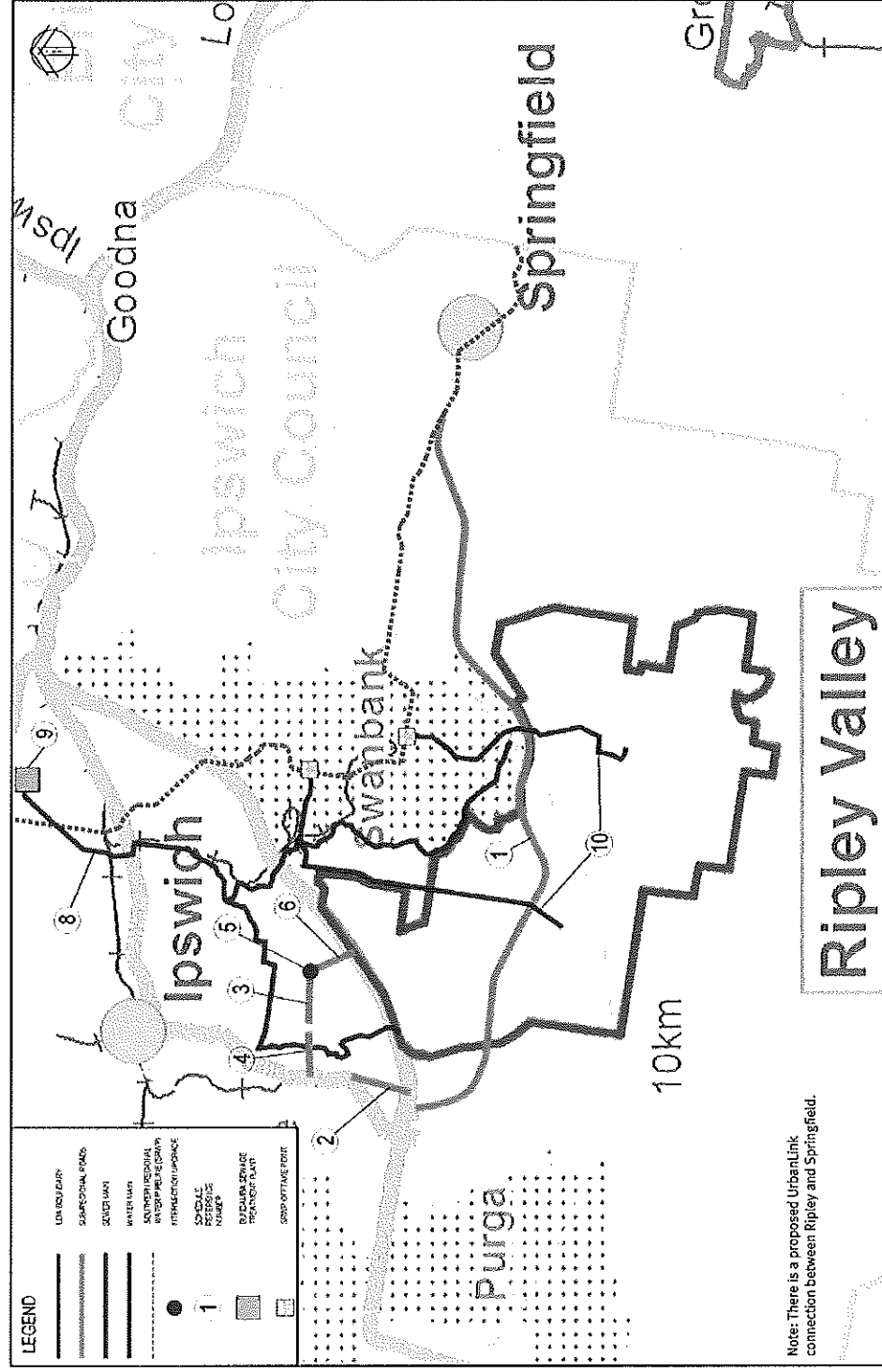
4.4.1 The timing of the provision of Sub-Regional Infrastructure is dependent on the rates of development for the UDA. The estimated development rates are shown below:

Year		Dwellings developed
2015 (0 - 4 years)		2,375
2021 (5 - 10 years)		9,000
2057 (Ultimate)		50,000

4.4.2 The following sub-regional infrastructure is planned for the development of Ripley Valley*

Map 5 Ref.	Infrastructure	Description of works
Roads		
1	Centenary Highway extension	Augusta Parkway to Cunningham Highway
2	Kerners Road Deviation	Deebing Creek Connection Road to Warwick Road
3	Edwards Street upgrade	Ripley Road to Warwick Road
4	Edwards Street extension	Ripley Road to Warwick Road
5	Ripley Road intersection upgrade	Edwards St / Ripley Rd / Raceview St Signalisation
6	Ripley Road upgrade	Edwards Street to Cunningham Highway
Waste Water		
7	Upgrade of downstream sewer	Upgrade of downstream sewer connecting to the Bundamba Treatment Plant
8	Waste Water Treatment	Upgrade of Bundamba waste water treatment plant to service Ripley Valley
Water		
9	Water Connections	External water connections to the SRWP

* Further investigation will determine the timing and entity responsible for delivery.



Greenfield UDA Sites - Ripley Valley

Sub-Regional Infrastructure Map

Don't Stop Talking About Us



NOT TO SCALE

Ref Number: 790270/005 SK005-0
Date: 11/09/2011

1102/98/71-2784F

Implementation Strategy

5.1 Introduction

The *Urban Land Development Authority Act 2007* (the Act) requires a development scheme to include an implementation strategy to "achieve the main purposes of the Act for this area, to the extent that they are not achieved by the land use plan or infrastructure plan." The implementation strategy for the Ripley Valley Urban Development Scheme (the scheme) fulfils this requirement by identifying a suite of goals, actions and commitments that support the achievement of the vision for the Ripley Valley community.

Fulfilling the vision for the Ripley Valley community will take approximately 30 to 40 years. Many things within our society will change and evolve during this time including; technologies, prevailing economic conditions, socio-demographic trends and attitudes and preferences towards housing. The Urban Land Development Authority (ULDA) also expects that Ripley Valley will become a 'model' new community embracing or even exceeding 'best practice' in ecological sustainability.

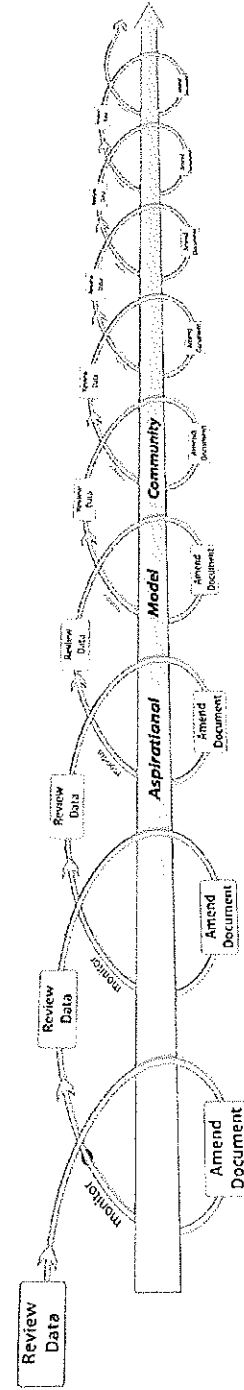
This implementation strategy responds to the challenge of delivering a 'model' community over a lengthy time period by establishing targets and goals, underpinned by a commitment to a cycle of data monitoring, review and, if warranted, amendment

of standards, guidelines or targets. This approach establishes a cycle of continuous adoption of 'best practice' over time through a rigorous process of monitoring and review.

This cycle is depicted in the following diagram as an ever tightening review spiral over time heading closer and closer to the 'model' community aspiration (Figure 1).

Achieving the targets specified in this implementation strategy will not necessarily follow a linear path and there will be a range of actions and innovations driving change. Consequently, following a formal review of data against the specified 'targets' the ULDA may decide to:

- » amend an aspect of the implementation strategy (this may include amending existing targets or incorporating new targets)
 - » amend existing, or create new, ULDA guidelines and standards that express minimum development requirements that are relevant to the targets.
- This strategy focuses on:
1. Housing affordability - which is addressed by expressing 'stretch' targets which are supported by a series of actions. Data relevant to these targets will be regularly collected and will be initially reviewed five years after approval of the development scheme. Subsequent reviews of performance against ecological sustainability targets should be reviewed every 2 years thereafter.
 2. Ecological sustainability - which is addressed by setting goals for a range of long term sustainability aspirations. 2016 'stretch' targets for a suite of sustainability criteria are also specified. These goals and targets are complemented by a range of actions aimed at stimulating development and behavioural outcomes that will contribute towards the targets. Data relevant to these targets will be regularly collected and will be initially reviewed five years after approval of the development scheme. Subsequent reviews of performance against ecological sustainability targets should be reviewed every 2 years thereafter.



5.2 Housing options

Facilitating the provision of housing that is affordable to households on low to moderate incomes is set out as a core purpose in the Act.

The ULDA Housing Strategy defines low to moderate income households which is typically the income of first home buyers and key workers.

ULDA actions	Stretch targets	Goals
<p>The ULDA will:</p> <ul style="list-style-type: none"> » work with developers to produce suitable housing designs to meet defined price points » monitor dwelling prices and amount of accessible housing produced » include in landowner development agreements: <ul style="list-style-type: none"> » provisions requiring the land owner deliver housing to achieve nominated price points and accessibility targets where the monitoring process indicates targets are not being achieved » where subsidy is required to achieve these price points, additional provisions will be required to ensure the retention of the affordability over time. <p>The ULDA will work with the Department of Communities, Not for Profit providers and the land owner to identify opportunities for the inclusion of social housing projects progressively over the life of the project.</p>	<p>Greater than 25% housing that is affordable for key workers and first home buyers in accordance with the income targets in the ULDA Housing Strategy.</p> <p>Greater than 10% accessible housing</p>	<p>Neighbourhoods include a diversity of housing, including that which is affordable for households on low to moderate incomes, and accessible to reflect changing requirements as the community matures.</p>
	5% Social housing	

5.3 Ecological sustainability

The ULDA Act defines ecological sustainability as a balance that integrates:

- » protection of ecological processes and natural systems
- » economic development
- » maintenance of the cultural, economic, physical and social wellbeing of people and communities.

The achievement of ecological sustainability is required by the land use plan and can lead to reduced development and housing costs, including ongoing living costs. Energy, transport, water and access to services are major cost burdens on all household budgets. The land use plan is supported by guidelines which provides development standards to ensure the minimization of adverse impacts on ecological processes and natural systems. The infrastructure plan identifies the key infrastructure required with standards set by the applicable guideline.

This element of the implementation strategy will be critical to achieve continuous improvement in all aspects of ecological sustainability as technology and community needs change during the life of the UDA.

There are aspirations for a growing community that cannot be achieved by the land use or infrastructure plans alone. This element of the implementation strategy is critical to achieve innovation and continuous improvement in ecological sustainability. This will be achieved by delivering affordable,

UDA actions	Stretch targets	Goals
<p>The ULDA will work with landowners, councils, government agencies, utility providers and other organisations to develop:</p> <p>Strategies for:</p> <ul style="list-style-type: none"> » community education to promote the protection and enhancement of the natural environment » demand optimisation for water and energy efficiency and demand management strategies, including builder education » reducing, recycling and reusing demolition, construction and household waste » addressing urban heat island effect to ensure urban amenity and lower energy use in dwellings and buildings. <p>Demonstration projects to:</p> <ul style="list-style-type: none"> » deliver alternative technology and service model projects for local renewable energy, water self sufficiency, and waste avoidance and recovery » deliver affordable sustainable housing projects that reduces energy use and inputs to achieve zero emissions » facilitate for early introduction of electric vehicles and associated infrastructure. <p>The ULDA will work with the Department of Transport and Main Roads and the Council to facilitate the commencement of a public transport service to connect UDA with education, health and retail centres in the regional area from the time the first residents move into the project.</p>	<p><u>Natural resources and environment</u></p> <p><u>By 2016</u></p> <p>Potable water usage reduction to an average of 140 litres per person per day</p> <p>Average household energy usage reduction to 15 kilowatt hours (kWh) per day</p> <p>20% peak energy demand reduction from 5 kilovolt ampere (kVa) to 4kVa average diversified maximum demand</p> <p>Household waste reduction to 150kg per person per year</p> <p>75% reduction in demolition and construction waste</p> <p><u>Active and Public Transport</u></p> <p><u>By 2016</u></p> <p>Achieve 20% share of all trips as active transport (walking and cycling) trips</p> <p><u>Economic sustainability</u></p> <p><u>By 2016</u></p> <p>100% wireless internet connection for all centres</p>	<p>Communities that:</p> <ul style="list-style-type: none"> » are in a harmonised, built and natural environment that provides a socially inclusive, resilient and affordable place to live (in terms of set up and living costs) » generate no net green house gas emissions with all new buildings (being carbon neutral as a result of their normal use through a combination of thermal and energy efficiency and use of renewable energy from either centralised, community or direct sources) » maximise local sustainable water harvesting and the efficient utilisation of local water, wastewater, and stormwater resources while protecting the ecosystem health of natural waterways » have sustainable transport with zero emission private vehicles, active travel and public transport that is safe and equitable for all members of the community » have a sustainable waste avoidance and resource recovery that eliminates waste from household and commercial activities » support growth of regional connected economy through the provision of diverse sustainable livelihoods linked with public transport and other sustainable transport

sustainable living through early provision of community facilities and services, an early focus on demand management and ongoing technology, and service integration innovations during the life of the UDA.

ULDA actions	Stretch targets	Goals
<p>The ULDA will work with landowners, education providers and the community to:</p> <ul style="list-style-type: none"> » deliver active transport strategies such as walking school bus services » facilitate pilot community urban agriculture projects. <p>The ULDA will work with government agencies, the council and the landowner to:</p> <ul style="list-style-type: none"> » formulate and implement diverse and connected employment generation strategies » facilitate the concept design and development of centres for knowledge, community and commerce by establishing reference working groups including the council, relevant state agencies and the land owner ahead of the development of each neighbourhood » facilitate wireless internet connection for all centres for knowledge, community and commerce, and major transport stations. <p>ULDA actions will be subject to monitoring and feedback processes.</p>		<ul style="list-style-type: none"> » provide services, facilities and infrastructure that meet the social, communication, recreational and entertainment needs of residents creating opportunities for social interaction and networking from outset of development.

ULDA actions	Stretch targets	Goals
<p>The ULDA will work with landowners, government agencies, Ipswich City Council and other organisations as required to:</p> <ul style="list-style-type: none"> » outline specific community infrastructure and community development requirements in a Development Agreement, prior to the commencement of development. » facilitate the development of a Community Development Strategy within twelve months of the gazettal of the Development Scheme » facilitate the delivery of community, health and recreational services and facilities as identified in the community development strategy in anticipation of the demands of the growing population » investigate the establishment of a Community Development Fund in conjunction with the Infrastructure Framework, and other potential sources of funds » Identify a range of service delivery options delivered in a timely manner to meet the education needs of the community as determined by the Department of Education and Training » monitor the delivery of community infrastructure. 		

5.4 Urban land availability for development

A key measure of success of the development scheme is that it leads to development on the ground, rather than be just a planning document. While the land use plan indicates the vision, intent and land uses for precincts within the UDA, certain circumstances may occur where intervention is required to ensure development can and does proceed.

Specific instances are where land fragmentation, multiple agency interests or infrastructure constraints results in a delay in land being able to be brought to market. The fragmentation of landholdings in Ripley Valley requires co-ordinated development that achieves integrated planning and promotes the timely and efficient provision of infrastructure.

UDA Actions	Stretch Targets	Goals
<p>The ULDA will work with Ipswich City Council to, where required, take the necessary action to facilitate land development in Ripley Valley by:</p> <ul style="list-style-type: none"> » working with small landowners in Ripley Valley to co-ordinate development of fragmented landholdings through neighbourhood planning to achieve integrated outcomes with high quality urban design outcomes » preparing infrastructure plans to facilitate the co-ordinated provision of infrastructure for fragmented areas » working with government agencies to bring government land to the market where the land is surplus to their requirements » undertaking studies to address area wide issues » arrange funding for catalyst infrastructure to open up multiple development fronts. 	<p>Development in the UDA commences quickly and maintains a supply of land on at least four (4) development fronts.</p>	<p>Land development is co-ordinated through integrated planning and with timely and efficient provision of infrastructure.</p>

Schedule 1: Exempt development

NOTE: Does not include land affected by subsidence caused by underground mining.

Development prescribed in Schedule 4 of the *Sustainable Planning Regulation 2009*, other than Table 2, item 2 and Table 5, item 14.

Minor building and demolition work.

Carrying out building work associated with a material change of use that is UDA exempt or self assessable development.

Carrying out building work associated with an approved material change of use.

Making a material change of use of premises for a Park.

Subdivision involving road widening and truncations required as a condition of development approval.

Erecting no more than one (1) satellite dish on premises, where the satellite dish has no dimension greater than 1.8 metres.

Filling or excavation where:

- (a) not exceeding 50m³ in volume or
- (b) top dressing to a depth of less than 100 vertical millimetres from ground level.

Carrying out operational work if consistent with an approved Plan for Development for a precinct.

Carrying out operational work associated with a material change of use that is UDA exempt development (excluding Park).

Carrying out operational work associated with an approved material change of use.

Carrying out operational work associated with the decontamination of land.

Carrying out operational work that is clearing of vegetation:

(a) other than Significant vegetation, or

(b) Significant vegetation where:

- » the clearing is consistent with an approved Plan of Development
- » carried out by or on behalf of Ipswich City Council or a public sector entity, where the works being undertaken are authorised under a state law.
- » in accordance with the conditions of a UDA development approval for a material change of use or reconfiguring a lot.

Carrying out operational work that is the placing of advertising devices that:

- » do not exceed 5 m² for commercial, industrial, recreational or entertainment use
- » are attached to a front fence or facade of a main building
- » do not project more than 150mm from front facade or front fence
- » are not illuminated
- » contain the name of a business or operator, the use on premises, the contact details or name and address of building
- » comprise no more than two signs.

Plumbing or drainage work

Carrying out plumbing or drainage work.

All aspects of development

Development undertaken by the state, or a statutory body representing the state, for the purposes of public housing.

Schedule 2: Definitions

Use definitions

Industrial use category

Commercial use category

Business

Means the use of premises for administration, clerical, technical, professional or veterinarian clinic or other business activity where any goods or materials made, sold or hired on the premises are ancillary.

Car park

Means the use of premises for the parking of motor vehicles where such parking is not ancillary to some other development on the same site.

Health care services

Means the use of premises for medical, paramedical, alternative therapies and general health care and treatment of persons that involves no overnight accommodation.

Sales office

Means the use of premises for the temporary promotion and/or sale of land and/or buildings within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Extractive industry

Means the use of premises for extraction of sand, gravel, soil, rock, stone or similar substance from land. The term includes ancillary storage, loading or cartage and any crushing, screening, washing, blending or other treatment processes of material extracted from the site.

High impact industry

Means the use of premises for industrial activities that have significant off-site impacts on non-industrial uses including air, noise or odour emissions that are not easily controlled or contained.

These uses may operate outdoors, but do not involve the manufacture of agricultural chemicals, pharmaceutical products, explosives or fertilisers.

Low impact industry

Means the use of premises for industrial activities which have negligible impacts on surrounding non-industrial uses.

The manufacturing aspects of the use are undertaken indoors.

Any off site impacts including air, noise and odour emissions are able to be readily mitigated.

Medium impact industry

Means the use of premises for industrial activities that have offsite air, noise and odour emissions.

Despite mitigation measures these activities would still have noticeable impacts on non-industrial uses.

The primary (noise, odour and air emitting) aspects of the use are undertaken indoors.

Noxious and hazardous industry

Means the use of premises for industrial activities that have the potential for extreme, adverse impacts on other land uses. This includes the potential for fire, explosion or toxic release.

These uses may involve the production of organic and inorganic chemicals, and the storage and production of explosives.

Research and technology facility

Means the use of premises for innovative and emerging technological industries involved in research design, manufacture, assembly, testing, maintenance and storage of machinery, equipment and component.

The use may include emerging industries such as energy, aerospace, and biotechnology.

Service Industry

Means the use of premises for industrial activities that have no external air, noise or odour emissions from the site and can be suitably located with other non-industrial uses.

Warehouse

Means the use of premises for the storage of goods whether or not in a building, including self storage facilities or storage yards.

*Residential use category***Display home**

Means the temporary use of premises for the promotion and/or sale of land and/or houses within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Home based business

Means the use of a House or Multiple residential for an occupation or business activity as a secondary use where:

- » the floor area used specifically for the home business does not exceed 50m²
- » any visitor accommodation does not exceed 4 visitors
- » there is no hiring out of materials, goods, appliances or vehicles
- » there is only one sign related to the Home business, located within the premises or on a fence facing the road
- » there is no repairing or servicing of vehicles not normally associated with a residential use
- » there is no industrial use of premises

- » the maximum height of a new building, structure or object does not exceed the height of the House or Multiple residential and the setback is the same as, or greater than, buildings on adjoining properties
- » car parking in accordance with the planning scheme
- » there is no display of goods
- » number of employees does not exceed 4.

House

Means a residential use of premises containing one primary single dwelling on a lot. The use includes out-buildings and works normally associated with a dwelling and may include a secondary dwelling.

The secondary dwelling is subordinate to the primary dwelling, capable of being used as a self-contained residence, and may be constructed under the primary dwelling, attached to it or free standing.

Multiple residential

Means the use of premises for residential purposes if there are two or more dwelling units on any one lot. Multiple residential dwelling units may be contained on one lot or each dwelling unit may be contained on its own lot subject to community title schemes. The term multiple residential does not include House.

Other residential

Means the use of premises for the accommodation and care of aged and retired people, small groups of disadvantaged persons or persons who are being nursed, require ongoing supervision/support or are convalescing. This term may include but is not limited to ancillary dining and recreation facilities, administration offices, laundries, kitchens, ancillary medical facilities and residential accommodation for management and staff.

Relocatable home park

Means the use of premises for relocatable dwellings that provide long term residential accommodation.

The term includes ancillary facilities such as amenities, laundries, kitchens and recreation facility for persons associated with the development. It also includes a manager's office and residence.

Short term accommodation

Means the use of premises comprising primarily accommodation units for short-term accommodation, generally for travellers and visitors, such as motel or backpackers. The use may include dining, laundry and recreational facilities which cater exclusively for the occupants of the premises, a manager's office and residence. The term does not include Other residential, Hotel or Tourist park.

Retail use category

Bulk landscape supplies

Means the use of premises for bulk storage and sale of landscaping and gardening supplies including soil, gravel, potting mix and mulch, where the majority of materials sold from the premises are not in pre-packaged form.

Fast food premises

Means the use of premises for the preparation and sale of food to the public generally for immediate consumption off the premises. The term may include drive through facilities and ancillary facilities for the consumption of food on the premises.

Food premises

Means the use of premises for the preparation and sale of food and drink to the public for consumption on or off the site. The term includes a cafe, restaurant, coffee shop, bistro, tea room, milk bar, snack bar, kiosk, take-away, but does not include fast food premises as separately defined.

Garden Centre

Means the use of premises for the sale of plants and includes gardening and landscaping products and supplies where these are sold mainly in pre-packaged form. The use may include an ancillary cafe or coffee shop.

Market

Means the use of premises for the display and sale of goods to the public on a regular but infrequent basis, where goods are primarily sold from temporary structures such as stalls, booths or trestle tables. The use includes ancillary food and beverage sales and ancillary entertainment provided for the enjoyment of customers.

Outdoor sales

Means the use of premises for the display, sale, hire or lease of products where the use is conducted wholly or predominantly outdoors and may include construction, industrial or farm plant and equipment, vehicles, boats and caravans.

Service station

Means the use of premises for the retail sale of fuel including petrol, liquid petroleum and automotive distillate to refuel motor vehicles.

Shop

Means the use of premises for the display, sale or hire of goods or the provision of personal services or betting to the public.

Shopping centre

Means the use of premises comprising two or more individual tenancies that is comprised primarily of shops and which function as an integrated complex.

Showroom

Means the use of premises primarily for the sale of goods of a related product line that

- are of a size, shape or weight that requires
- » a large area for handling, display or storage and
 - » direct vehicle access to the building by members of the public for loading and unloading items purchased or hired.

Rural use category

Agriculture

Means the use of premises for commercial purposes for the growing and harvesting of trees, crops, pastures, flowers, fruit, turf, vegetables and the like for commercial or business purposes.

The definition includes the storage and packing of produce grown on the subject site and the repair and servicing of machinery and other ancillary activities.

Agricultural supply store

Means the use of premises for the sale of agricultural products and supplies including agricultural chemicals and fertilisers, seeds, bulk veterinary supplies, farm clothing, saddlery, animal feed and irrigation materials.

Animal keeping and husbandry

Means the use of premises for keeping, depasturing, grazing or stabling of any animal, bird, insect and reptile. The term includes the use of land for keeping, breeding, stabling, training or boarding animals.

Intensive animal industries

Means the use of premises for the intensive breeding of animals or animal products in an enclosure that may require the provision of food and water either mechanically or by hand.

The use includes the ancillary storage and packing of feed and produce.

Intensive horticulture

Means the use of premises for the intensive cultivation of plants or plant material on imported media and located within a building or structure or where outdoors, artificial lights or containers are used.

The use includes the storage and packing of produce and plants grown on the subject site.

Wholesale nursery

Means the use of premises for the sale of plants where the plants are grown on or adjacent to the site.

The use may include sale of gardening materials where these are ancillary to the primary use.

Service, community and other uses category

Cemetery

Means the use of premises for the interment of the dead. The term does not include a crematorium or funeral parlour.

Child care centre

Means the use of premises for the mind or care, but not residence of children generally under school age. The use includes but is not limited to a kindergarten, crèche or early childhood centre.

Community facility

Means the use of premises for social or community purposes, such as a community centre, library, public building or the like.

Crematorium

Means the use of premises for cremating bodies and may include the interment of the ashes. The term does not include a funeral parlour or cemetery.

Educational establishment

Means the use of premises for systematic training and instruction, including any other ancillary uses. This definition includes prep facilities, primary school, secondary school, college, university, technical institute, academy or other educational centre.

This term may include residential accommodation and other ancillary uses provided for the employees and the students of such premises.

Emergency Services

Means the use of premises by government bodies or community organisations to provide essential emergency services, disaster management services and including management support facilities for the

protection of persons, property and the environment.

Funeral parlour

Means the use of premises for arranging and conducting funerals, memorial services and the like, but does not include burial and cremation. The definition includes the storage and preparation of bodies for burial or cremation and includes a mortuary and funeral chapel. The term does not include a cemetery or crematorium.

Hospital

Means the use of premises for medical or surgical care or treatment of patients whether or not residing on the premises.

The use may include accommodation for employees and ancillary activities directly serving the needs of patients and visitors.

Place of assembly

Means the use of premises for worship and activities of a religious organisation, community or association.

Telecommunications facility

Means the use of premises for systems that carry communications by means of radio, including guided or unguided electromagnetic energy whether such facility is manned or remotely controlled.

The term does not include low impact facilities that are exempt from State planning laws under the Telecommunications Act 1994 and specified in the Telecommunications

(Low-impact facilities) Determination 1997.

Utility Installation

Means the use of premises to provide the public with the following services:

- » supply of water, hydraulic power, electricity or gas
- » sewerage or drainage services
- » transport services including road rail or water
- » waste management facilities
- » network infrastructure.

The use includes maintenance and storage depots and other facilities for the operation of the use.

Veterinary hospital

Means the use of premises for the treatment of sick or injured animals where such animals are accommodated overnight or for long stay periods on the premises. The term does not include animal keeping and husbandry or veterinary clinic.

Sport, recreation and entertainment use category

Indoor entertainment

Means the use of premises for public entertainment predominantly within a building.

The term includes facilities commonly described as cinema, nightclub, adult

entertainment, theatre and hotel.

Indoor sport and recreation

Means the use of premises for leisure, sport, recreation or conducting large scale receptions, displays and functions, predominantly within a building.

The term includes facilities commonly described as sports centre, gymnasium, convention centres, amusement and leisure centres.

Outdoor sport and recreation

Means the use of premises for recreation or sport activity, or other leisure past-time, which is conducted wholly or mainly outside of a building.

The term includes facilities such as (outdoor) public swimming pools, golf courses and driving ranges, outdoor courts and sportsgrounds and the like. The term also includes the provision of a clubhouse and other ancillary facilities.

Park

Means the use of premises by the public for free recreation and enjoyment and may be used for community events.

Facilities may include children's playground equipment, informal sports fields, ancillary vehicle parking and other public conveniences.

A park does not include pest vegetation as listed by State or local government. A park may include small scale community gardens.

Tourism use category

Tourist attraction

Means the use of premises for providing on site entertainment, recreation or similar facilities for the general public.

The use may include provision of food and drink for consumption on site.

Tourist park

Means the use of premises to provide accommodation in caravans, self contained cabins, tents and similar structures for the touring or holidaying public.

The use may include a manager's residence and office, kiosk, amenity buildings and the provision of recreation facilities for the exclusive use of occupants of the tourist park.

Other development

Filling or excavation

Means removal or importation of material to or from a lot that will change the ground level of the land.

Material change of use

As defined in the *Urban Land Development Authority Act 2007*.

Minor building work or demolition work

Means

- » internal building work
- » demolition work

- » external building work up to 25m² for roofs over existing decks or paved areas, sun hoods, carports and the like

- » demolition where not involving a place of cultural heritage listed building under the *Queensland Heritage Act 1992*

- » building work up to 10% of approved GFA or lawfully existing GFA at the time of commencement of this scheme

- » raising a house where the resultant height does not exceed 9m.

Operational work

As defined in the *Urban Land Development Authority Act 2007*

Reconfiguring a lot

As defined in the *Urban Land Development Authority Act 2007*

Administrative definitions

Accessible housing

Housing in accordance with the applicable ULDA guideline.

Affordable housing

Affordable housing⁴⁷ means private rental housing and home purchase options (including housing aimed at the first home owners market) for low to moderate income households.

Basement

A storey below ground level or where the underside of the ceiling projects no more than one metre above ground level.

Building

As defined in the *Building Act 1975*.

Building work

As defined in the *Urban Land Development Authority Act 2007*.

Building height

The maximum vertical distance between the natural ground level and the roof or parapet at any point but not including anything projecting from a building such as an antenna, aerial, chimney, flagpole or the like.

Caretaker's accommodation

The residential use of part of a premises where in connection with a non residential use on the same premises.

Contaminated Land Register

As defined in the *Environmental Protection Act 1994*.

Development scheme

As defined in the *Urban Land Development Authority Act 2007*.

Dwelling unit

A building or part of a building used or capable of being used as a self contained residence which must include:

- » food preparation facilities
- » a bath or shower
- » a toilet and wash basin.

The term includes works ancillary to a dwelling.

Environmental Management Register

As defined in the *Environmental Protection Act 1994*.

Environmentally relevant activities

As defined in the *Environmental Protection Act 1994*.

Existing or approved urban development

Means where one or more of the uses in any of the definitions use categories exists or is approved other than:

- » the Rural use category and
- » within the Service and community use category, a Cemetery or Crematorium.

Greenspace network

An integrated greenspace network including both active and passive recreation, linear/riparian corridors, parks and private and public sporting recreation facilities.

Gross floor area (GFA)

The total floor area of all storeys of a building, including mezzanines, measured from the outside of the external walls or the centre of a common wall, excluding area used for:

- » building services
- » ground floor public lobby
- » a public mall in a shopping complex
- » the parking, loading and manoeuvring of motor vehicles
- » private balconies whether roofed or not.

Ground level

Means:

- » the existing level of the site providing it has not been unlawfully altered; or
- » where the land has been unlawfully altered the level of land prior to the alteration; or
- » the 'as-constructed' level of the land in accordance with an approval for filling and excavation.

Interim Uses

Refer to section 3.2.9.

Mezzanine

An intermediate floor within a room.

Neighbourhood centre

The use of premises for servicing the convenience needs of the community. The term includes Business, Medical centre, Retail and Community facility which ultimately function as an integrated complex. It may include a key open space area (such as park or plaza).

Net residential density

Net residential density means the total number of dwellings divided by the combined area of residential lots, local parks, internal local roads and half the width of local roads bordering the site. Average net residential density means net residential density calculated for a whole neighbourhood.

Planning scheme

The planning scheme for Ipswich City Council.

Plan of Development

See section 3.2.

Plot ratio

The ratio between the gross floor area of a building and the total area of the site.

Premises

As defined in the *Urban Land Development Authority Act 2007*.

Private open space

An outdoor area for the exclusive use of occupants.

Public housing

As defined in the *Sustainable Planning Act* 2009.

Public interest

Refers to an outcome that benefits the wider community rather than local, site specific or land ownership desires.

Public realm

Refers to spaces that are used by the general public, including streets, squares, plazas and parks.

Sensitive uses

Means any of the following: Child care centre, Educational establishment, Health care services, Hospital, House, Multiple residential, Other residential, Relocatable home park and Short term accommodation.

Setback

The shortest distance measured horizontally from the wall of the building or structure to the vertical projection of the boundary of the lot (i.e. excluding eaves).

Significant vegetation

Means all vegetation, except those listed as pest vegetation by State or local government, that is significant in its:

- » ecological value at local, state or national levels including vegetation mapped as endangered remnant vegetation on the regional ecosystem maps prepared under the Vegetation Management Act 1999

- » contribution to the preservation of natural landforms

- » contribution to the character of the landscape

- » cultural or historical value

- » amenity value to the general public.

Note: vegetation may be living or dead and the term includes their root zone^{a8}.

Site cover

The proportion of the site covered by buildings, including roof overhangs.

Storey

A space within a building which is situated between one floor level and the floor level next above or if there is no floor above, the ceiling or roof above. This does not mean:

1. a space that contains only:
 - e. a lift shaft, stairway or meter room
 - f. a bathroom, shower room, laundry, toilet or other sanitary compartment
 - g. accommodation intended for not more than 3 vehicles
 - h. a combination of the above.
2. a mezzanine

Urban Design

Refers to the holistic design of urban environments, including the overall

townscape, individual buildings, street networks, streetscapes, parks and other public spaces.

¹⁸ The root zone is described by the vertical projection of the foliage to a depth of 1 metre below the surface and including buttress roots on and above the soil surface.

Schedule 3: Self assessable provisions

Self-assessable provisions for House - in the Urban living zone

Provision	Provision
For the primary house on a lot.	
Design and siting of buildings and structures	Where on a lot 400m ² to 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.1 - Design and siting standards for single detached housing - on lots under 450m ² . Where on a lot more than 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.2 - Design and siting standards for single detached housing - on lots 450m ² and over*.
Outdoor living space	Minimum 16m ² with a minimum dimension of 4m and directly accessible from a main living room.
Car parking	Minimum 1 covered space 5m x 3m.
Driveway	Minimum 3m wide.
Front entry	Pedestrian entry and door visible from and addressing the street.
Street surveillance	Minimum one habitable room fronting the street with large windows or balconies facing the street.
Front fencing	Up to 1.8m high, with a minimum of 50% transparency for that part of the fence exceeding 1.2m in height.
Building articulation	Minimum 0.5m wall articulation every 10m plus roof overhangs (eaves) and at least one of the following: a verandah, window hoods / screens, or awnings and shade structures.
Road access	The lot has physical access to a sealed road, or a constructed road on Council's maintenance list.
Infrastructure services	The lot is connected to a reticulated water supply network and a reticulated electricity network. The lot is connected to a reticulated sewerage network or is capable of providing for on site effluent treatment and disposal in accordance with the Queensland Plumbing and Wastewater Code.
Cleared area along boundaries	Minimum 15m if the boundary adjoins a Bushfire Risk Area.
For the secondary dwelling on a lot	
Floor area of secondary dwelling	Minimum 45m ² to maximum 75m ²
Design and siting of buildings and structures	Where on a lot 400m ² to 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.1 - Design and siting standards for single detached housing - on lots under 450m ² . Where on a lot more than 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.2 - Design and siting standards for single detached housing - on lots 450m ² and over.
Materials and detailing	Materials, detailing, colours and roof form are consistent with those of the primary house.
Outdoor living space	Minimum 9m ² with a minimum dimension of 4m and directly accessible from a main living area. If the lot is on a corner, not located within the corner setback.
Car parking	Minimum one space 5m x 3m.
Driveway	Shared driveway with the primary house. However if the lot is on a corner a separate driveway must be provided with a minimum width of 3m.
Front entry	If the lot is on a corner - dedicated pedestrian entry and door visible from and addressing the secondary street.
Street surveillance	If the lot is on a corner or overlooks a lane - minimum of 1 habitable room fronting the secondary street or lane with large windows or balconies facing the street or lane.
Fencing (street front)	If the lot is on a corner - maximum 1.2 m high on secondary frontage.
Fencing (other)	Up to 1.8m high - minimum 50% transparency over 1.2m in height.
Verandahs	If the lot is on a corner - Minimum 50% of building frontage, not screened.

* Note: the 9m building height limit in the development scheme prevails over the 8.5m height limit in QDC

Appendix 1 - Relationship between draft IND Transect zones and UDA zones.

UDA Zones	ENVIRONMENTAL PROTECTION					
	URBAN LIVING					
Transect Zones	URBAN CORE					
	T1	T2	T3	T4	T5	T6
	CONSERVATION	RURAL CONSERVED	NEIGHBOURHOOD	URBAN CENTRE	URBAN CORE	

The following is an excerpt from Ipswich City Council's Traditional Neighbourhood Design Code (TND):

The TND

... provides for the creation of a predictable urban environment through stipulating the physical form and intensity of development in accordance with TND and Transect Based Planning principles.

It is primarily concerned with built form outcomes rather than the management and segregation of land uses. Key matters addressed by the code are the relationship between buildings and the public realm, the form and scale of buildings in relation to one another and the types and layout of streets and allotments.

The Transect is a system of classification deploying the conceptual range from rural to urban to arrange in useful order the typical elements of urbanism. Neighbourhoods are designed from the least urban to the most urban.

The Transect is an ordering system that ensures every urban element finds a place within its continuum.

Spatial definition is the way in which buildings relate to adjoining buildings and the street and their place within the neighbourhood.

Spatial definition is created where building facades or other elements such as street trees are aligned in a consistent manner to achieve a height to width ratio and sense of

enclosure.

Buildings and frontage treatment are designed to

» Create a spatial definition...

» Contribute to the character of the neighbourhood ...

(For example:

» Buildings at the centre of a neighbourhood are placed close to the footpath and to each other, creating a tighter ratio and therefore an urban spatial definition; whereas

» Buildings at the edge of a neighbourhood are positioned further away from the footpath and further apart from each other, creating a broader ratio and therefore a sub-urban spatial definition.)

Development is ... designed and located to -

» Create a discernable centre for the neighbourhood to promote community identity and a 'sense of place'

» Position dwellings within walking distance from the centre of the neighbourhood

» Position dwellings within walking distance from open space and encourage pedestrian connectivity throughout neighbourhoods

» Encourage the use of public transport, walking and cycling

» Provide for... [secondary dwellings] to ... detached dwellings

» Offer a variety of dwelling types to

accommodate a range of people with different lifecycle and lifestyle needs

» Position buildings in relation to the street and to other buildings at a scale commensurate with the intent of the ...zone...

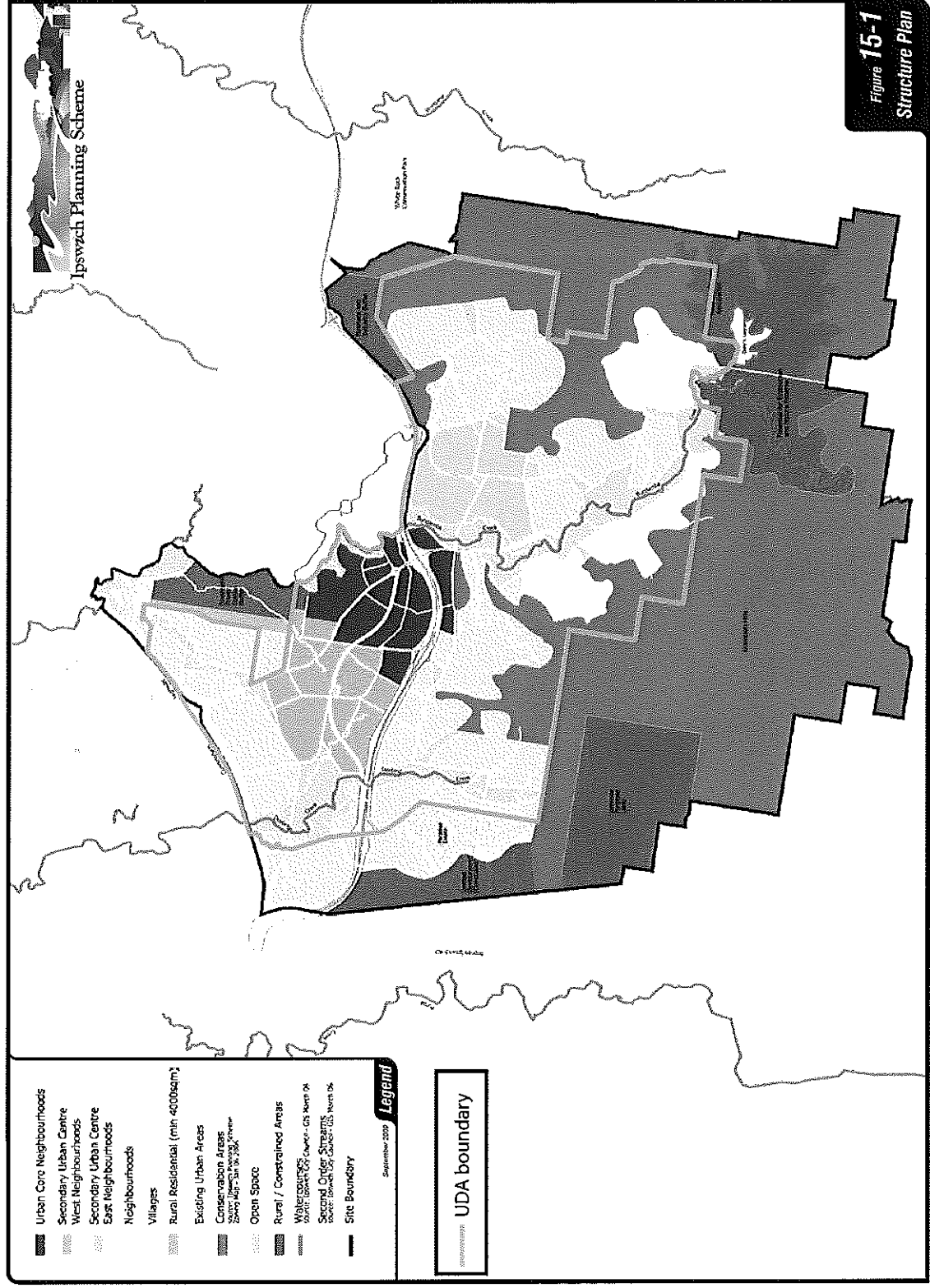
» Provide local employment opportunities and support the daily needs of households with commercial activities of a type and scale commensurate with the intent of the ...zone...

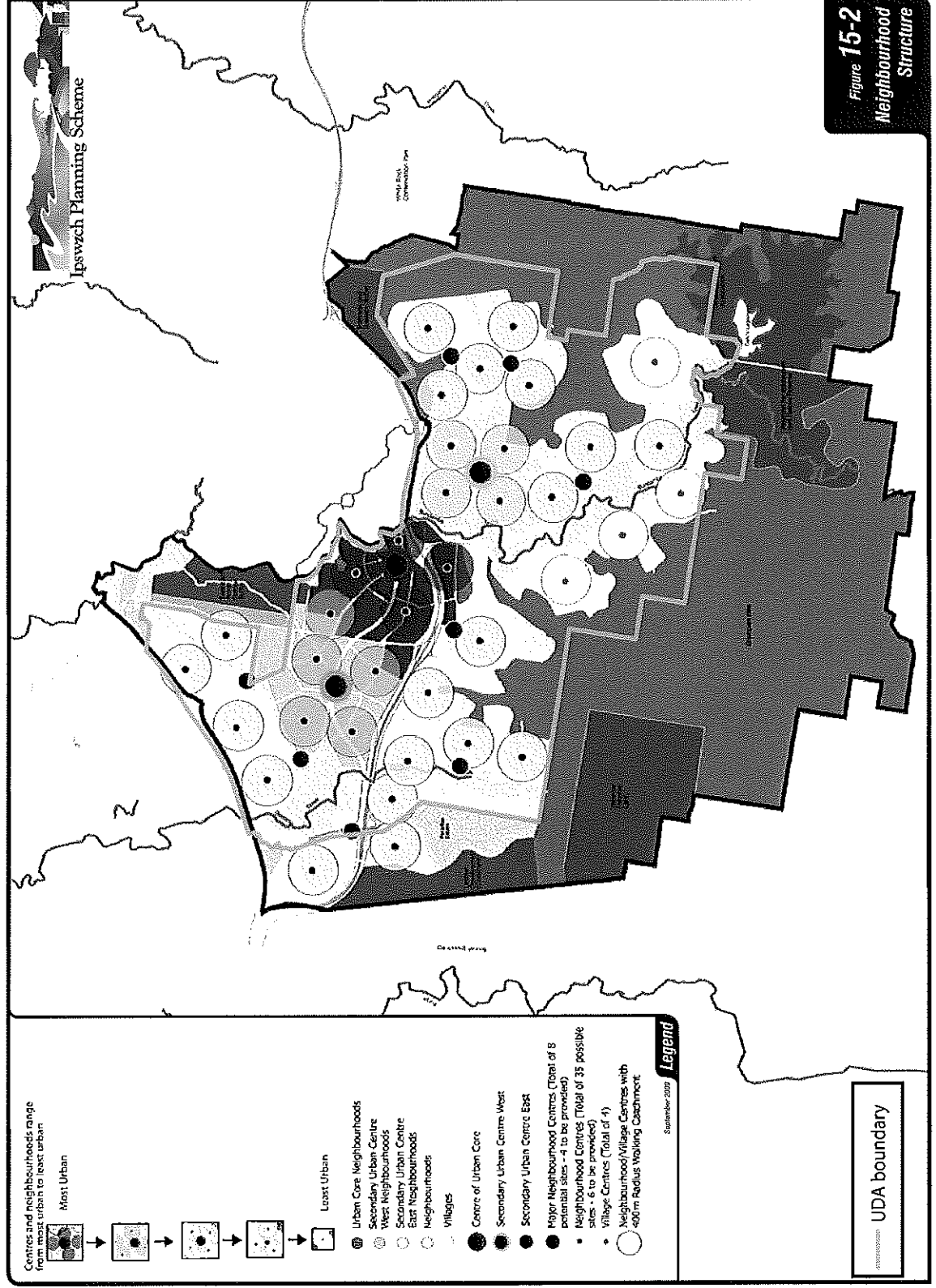
The UDA development requirements seek to achieve similar outcomes.

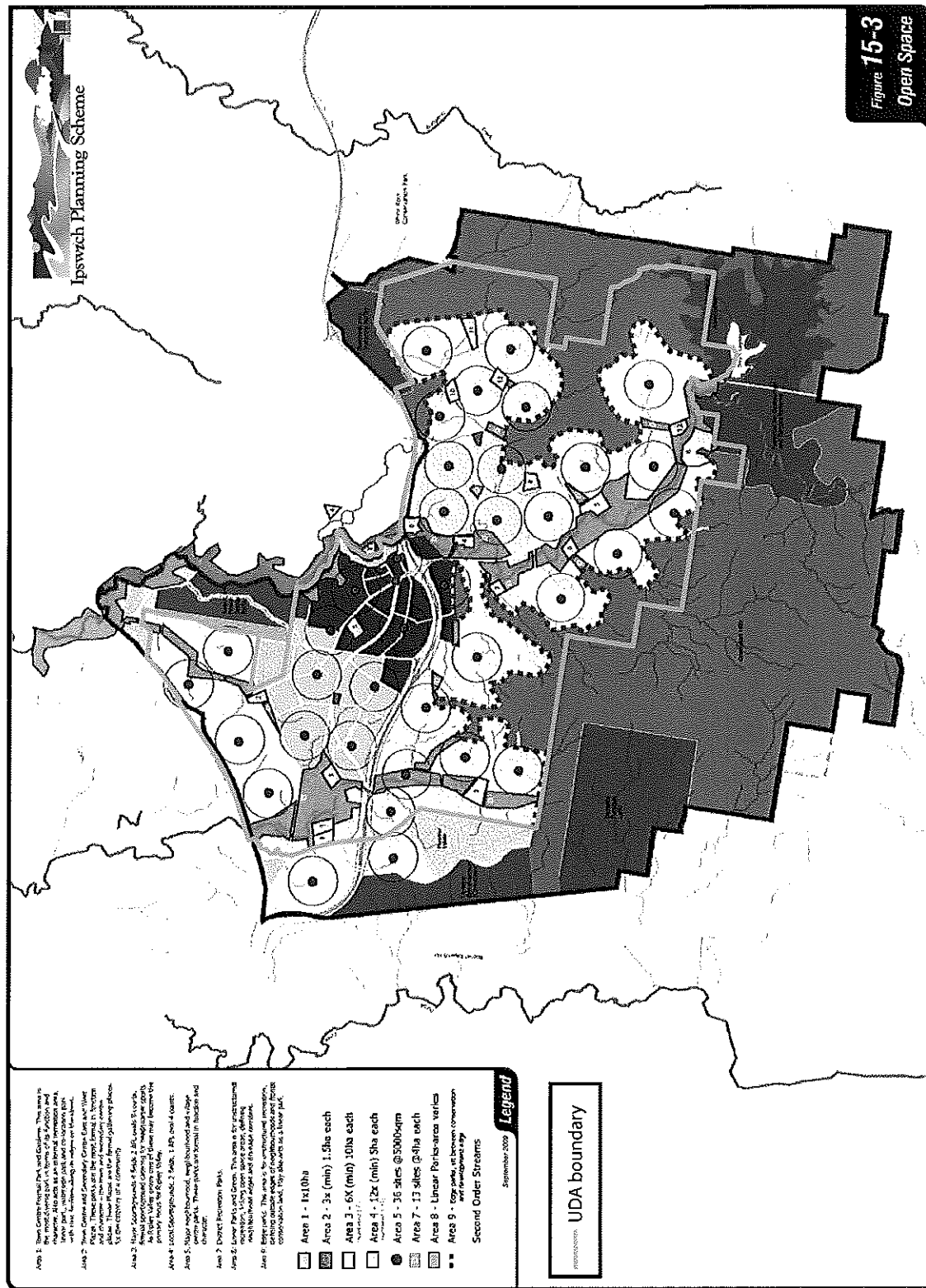
In the preparation of context plans, applicants should demonstrate how the proposal meets TND and Transect based principles, including the potential allocation of Transect zones and any alternative approaches that will create a superior outcome to meet the UDA development requirements.

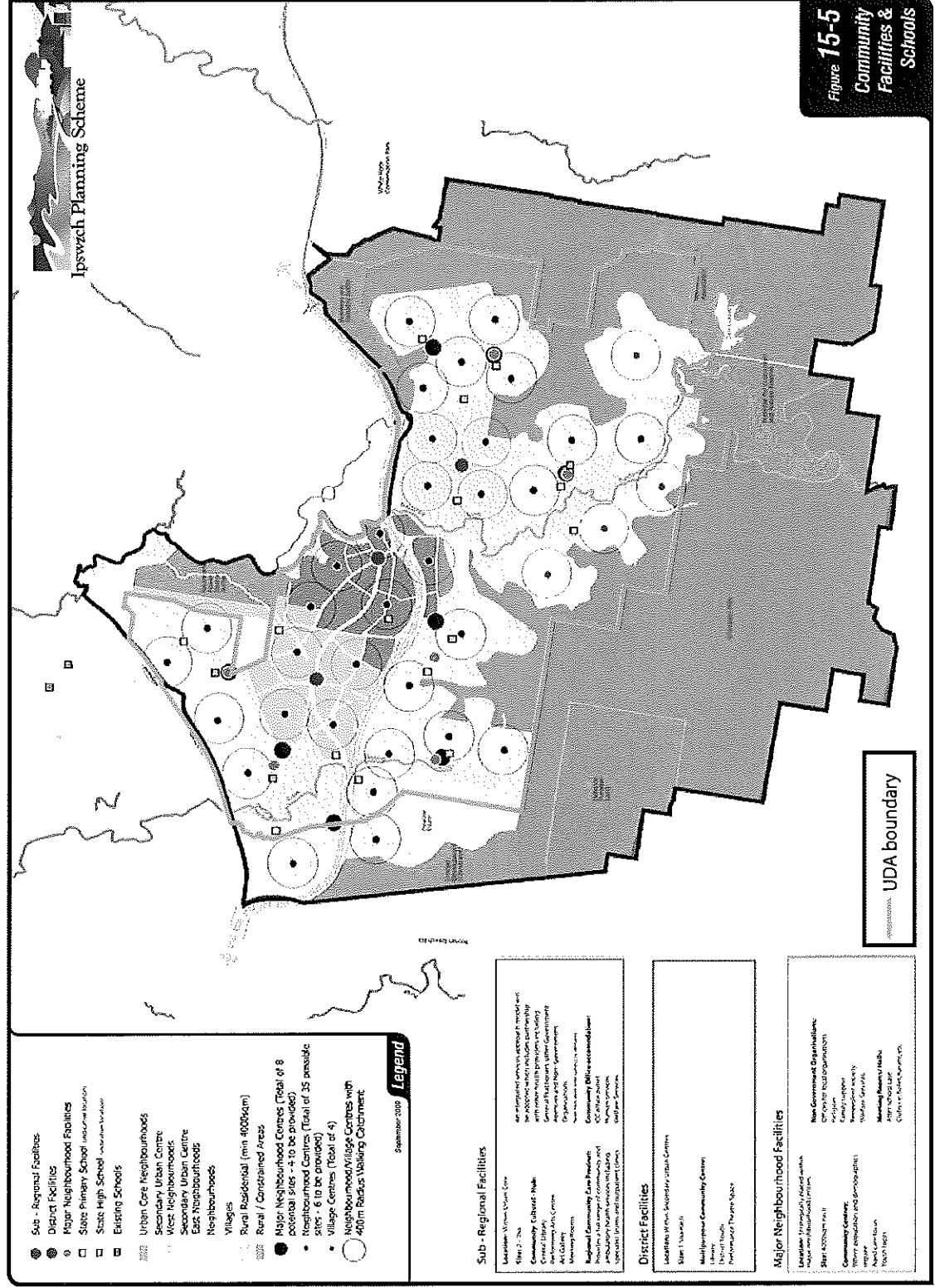
Appendix 2 - Relevant figures from part 15 - Ripley Valley Master Planned Area Structure Plan

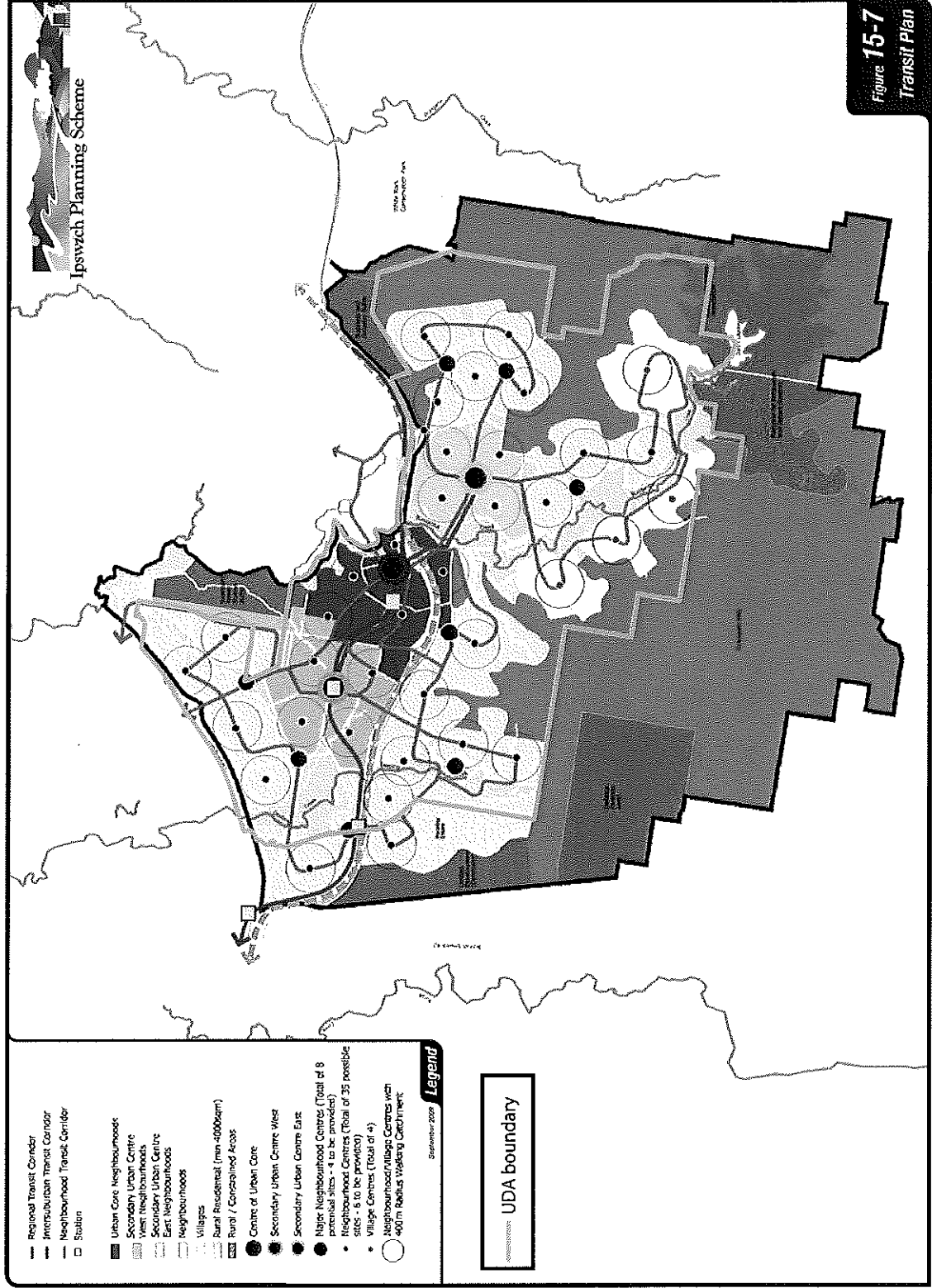
- Figure 15.1 Structure Plan
- Figure 15.2 Neighbourhood Structure
- Figure 15-3 Open Space
- Figure 15.5 Community Facilities and Schools
- Figure 15.7 Transit Plan
- Figure 15.8 Strategic Walk and Cycle Plan
- Figure 15.9 Thoroughfare Types
- Figure 15.10 Thoroughfare Hierarchy Plan
- Figure 15.12 Centres and Employment
- Figure 15.14 Development Sequencing
- Figure 15.15 Neighbourhood Unit Plan

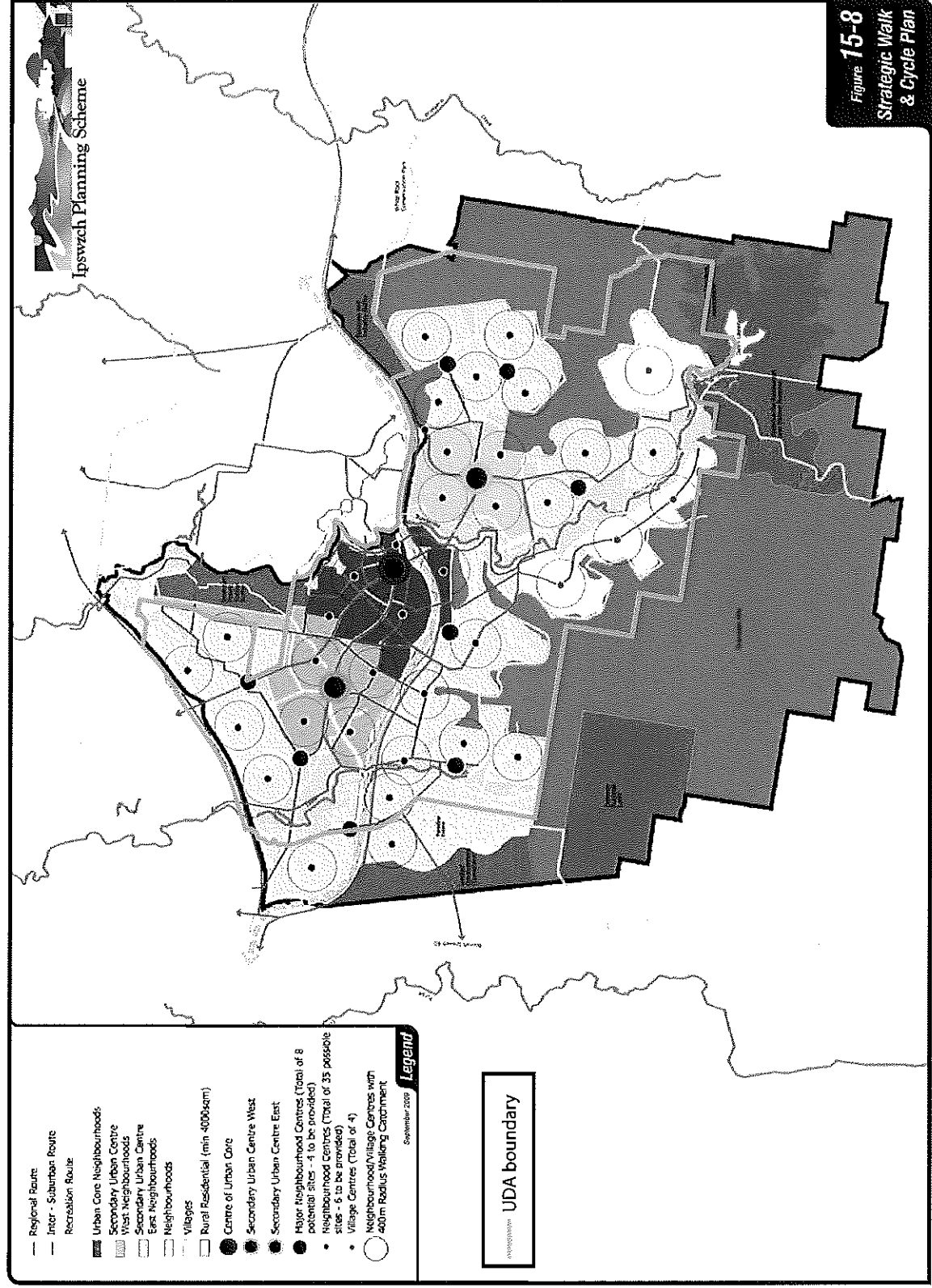


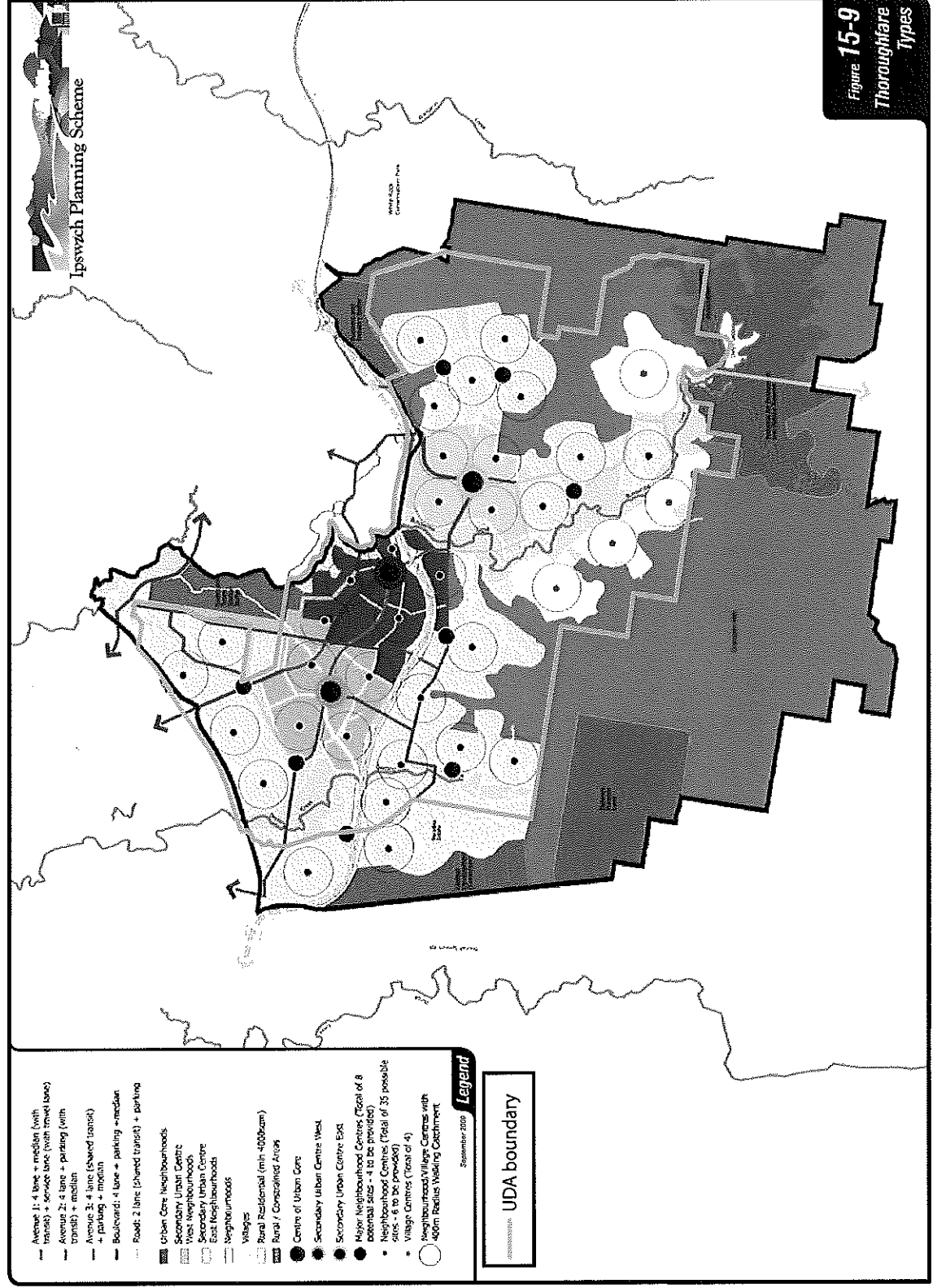


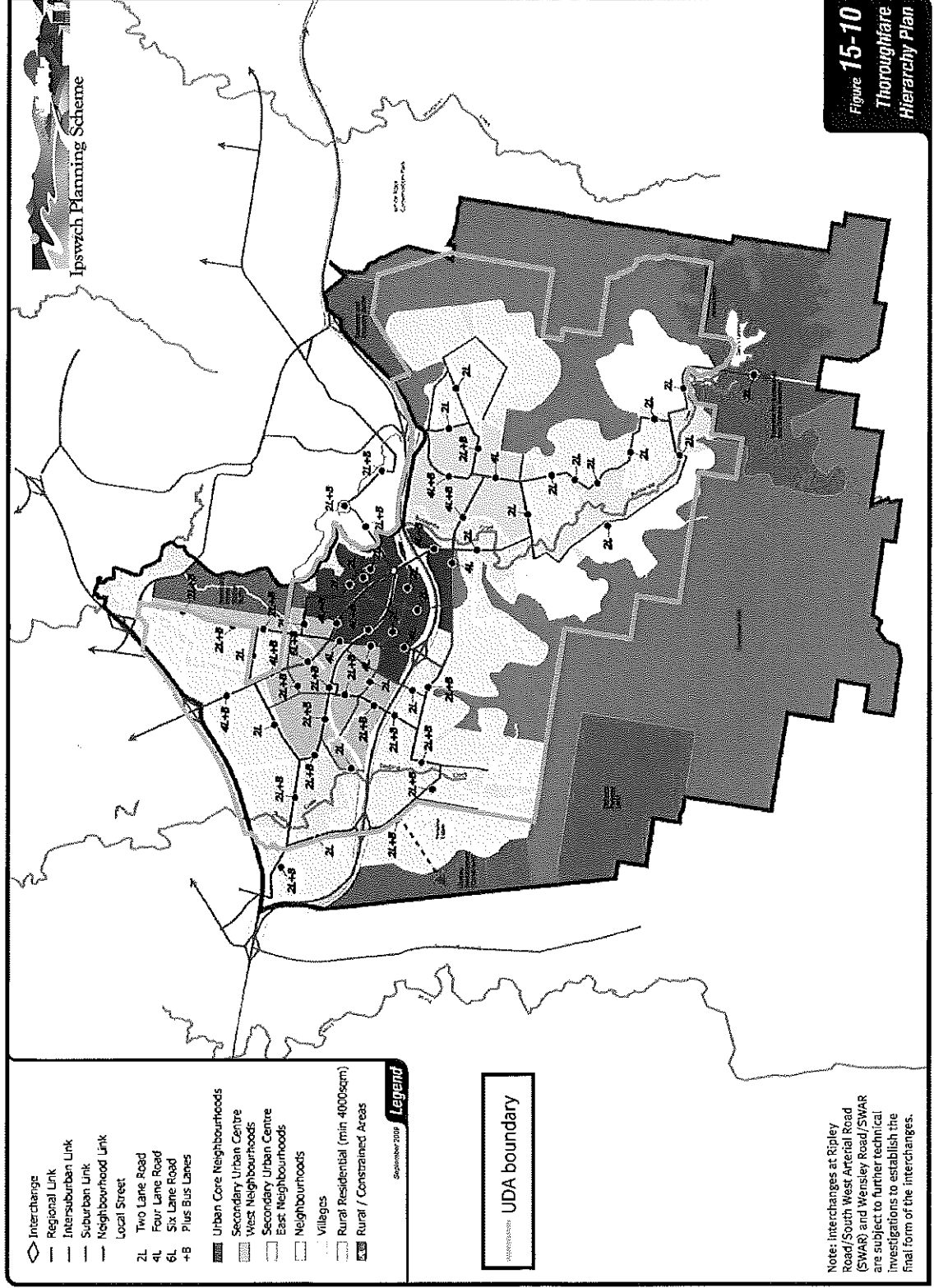


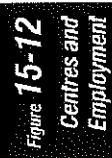












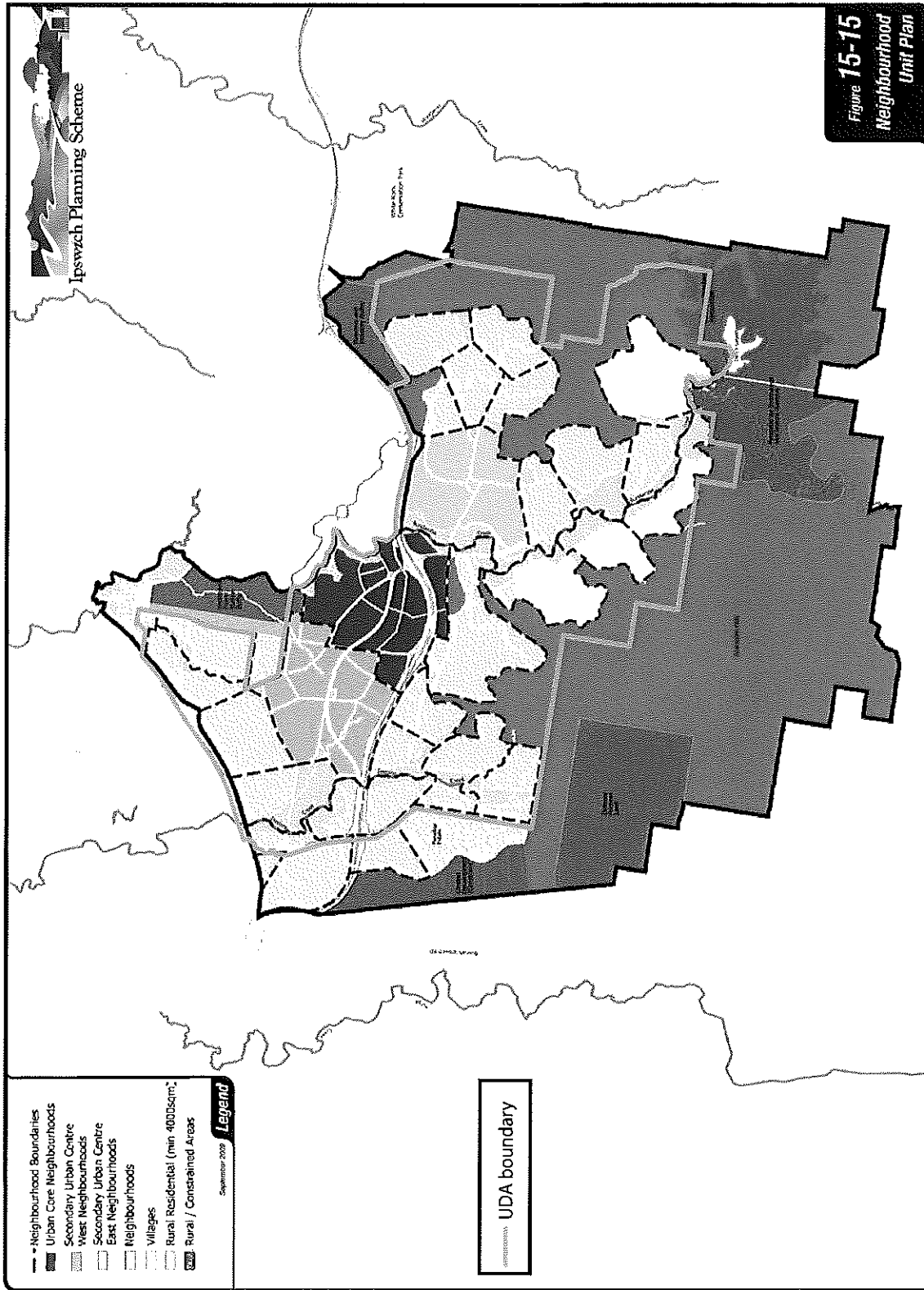


Figure 15-15
Neighbourhood
Unit Plan



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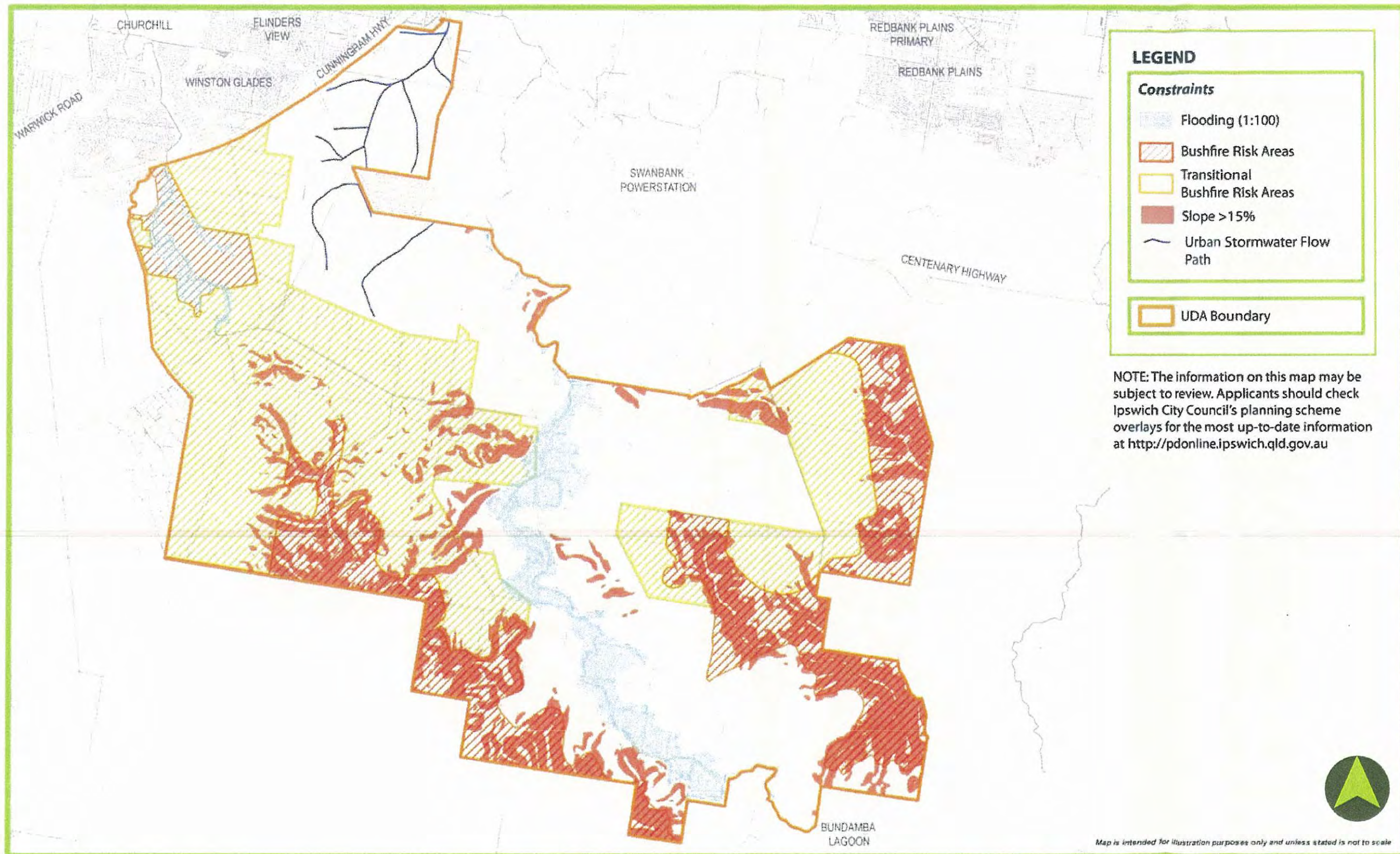
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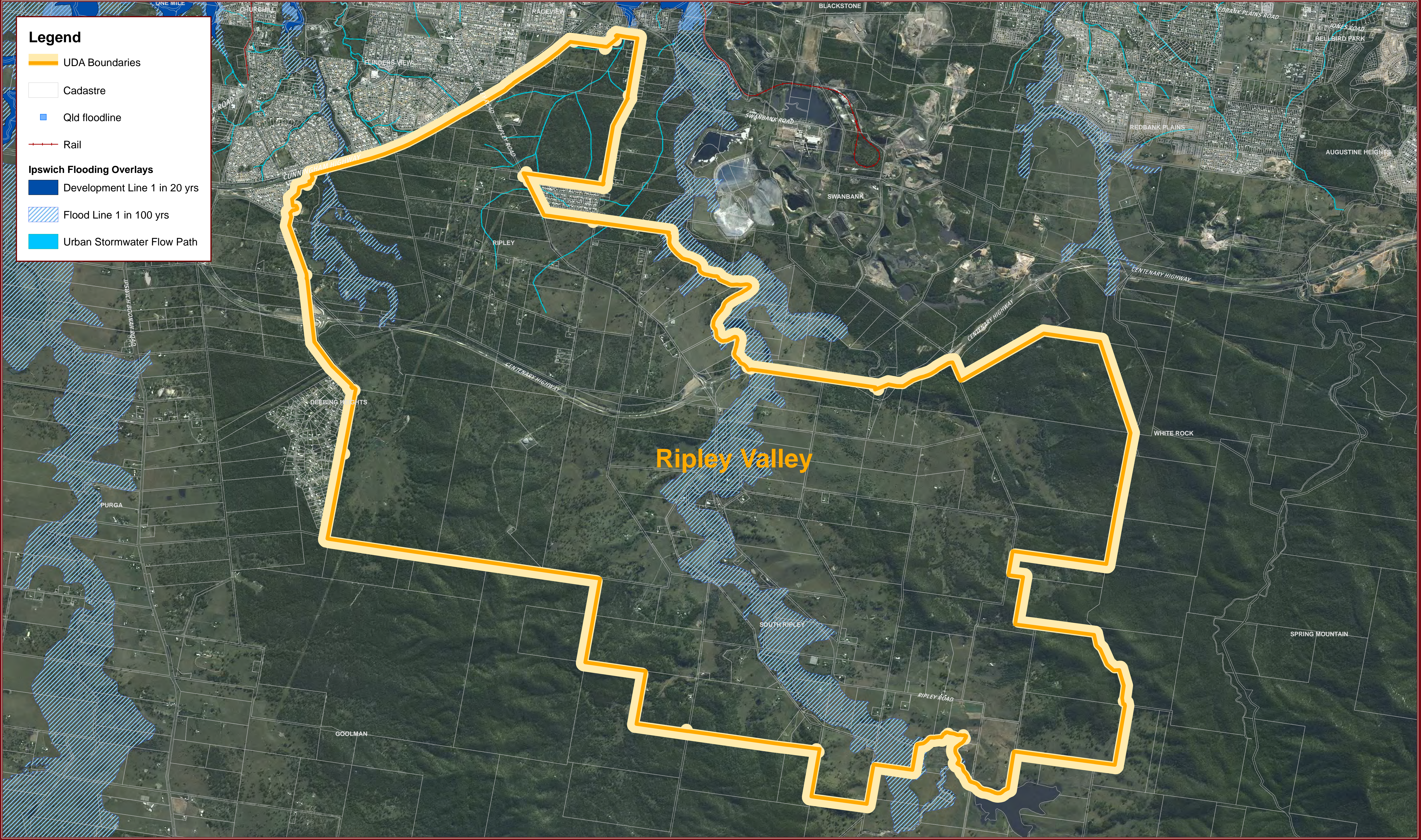
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Map 3a - Development constraints



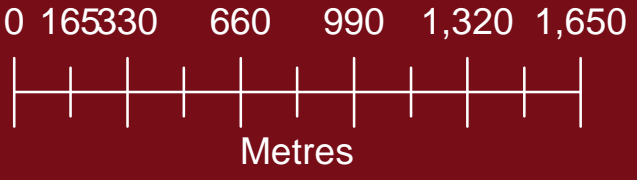
UDA Flood Extent: Ripley Valley

Area mapped: Jan/Mar 2010 flood data does not intersect. Site is intersected by ICC flood overlays



Working Draft not Commonwealth, State or Local Government Policy

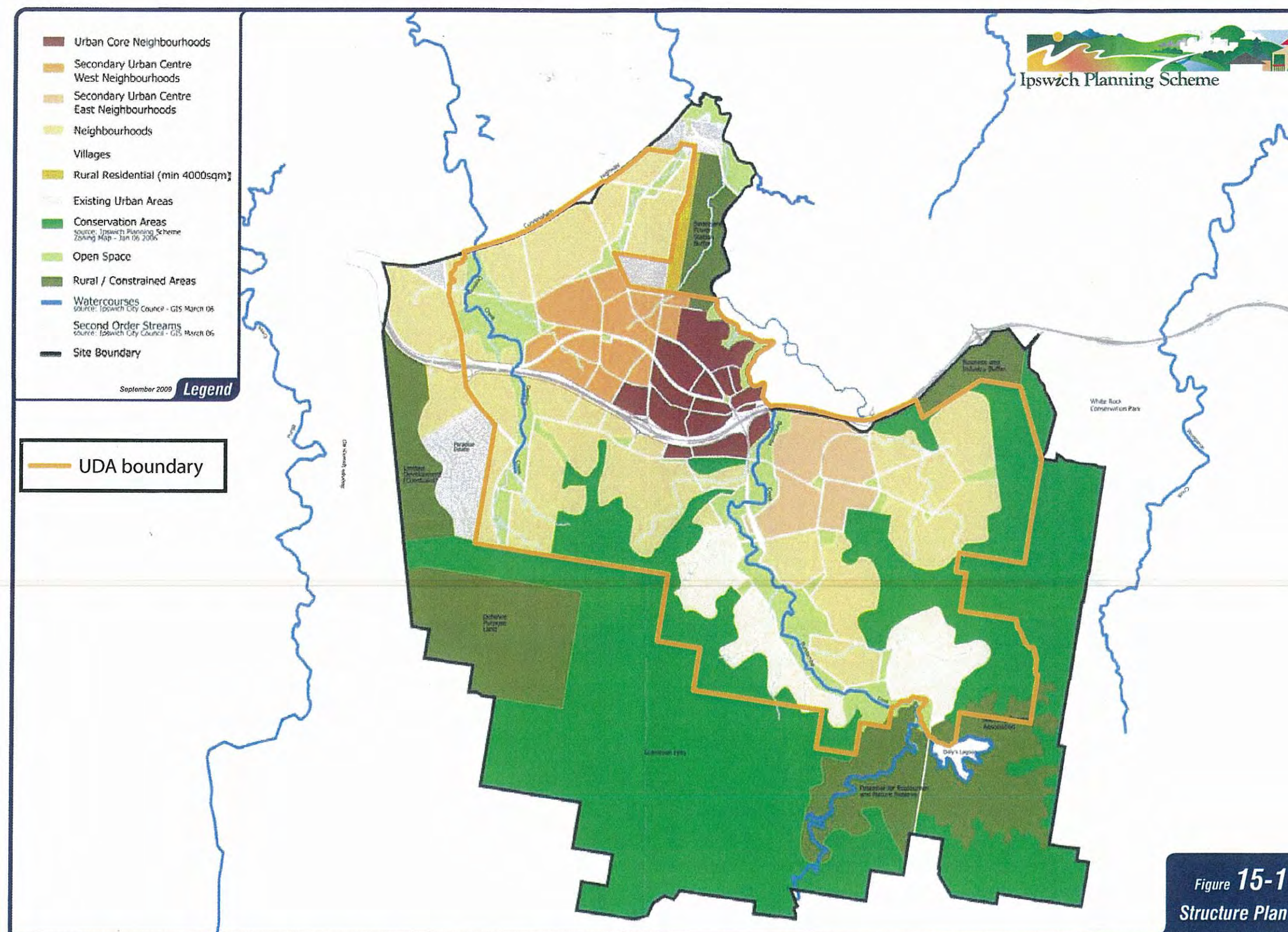
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Map Produced by: Department of Infrastructure and Planning
Spatial Services 2011
Cadastre: July 2011
Flood Extent: DERM web service 2011
Imagery: DERM Flood Imagery Service 2011
2009 SPOT satellite
DERM Aerial photography



Queensland Government
Department of Infrastructure and Planning



Caloundra South

Review of Flood Risk Management Strategy and Stormwater Quality Management

Project Number: J10048

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1 INTRODUCTION

The Urban Land Development Authority (ULDA) is completing master planning with respect to the Caloundra South area. Stockland, the major landowner in the Caloundra South area, has prepared a Flood Risk Management Strategy and a Stormwater Quality Management Master Plan in support of its proposed urban footprint.

This footprint is greater than that previously derived by the Sunshine Coast Regional Council. Further, the solution developed by Stockland would result in a greater proportion of the footprint being available for the creation of lots by virtue of the measures necessary to ameliorate the impact of development on flooding being located within the proposed waterway corridors rather than within the urban development footprint.

Stockland also propose to locate a number of water quality improvement devices within the waterway corridors provided for the conveyance of flow.

Cardno was commissioned by the ULDA to complete the following tasks:

- review the flood solutions developed by Sunshine Coast Regional Council and Stockland;
- consider whether the larger footprint proposed by Stockland could be achieved without causing unacceptable flood impacts;
- consider whether the use of measures within the waterway corridor will offset the impact of development on flooding upstream and downstream of the site;
- identify any additional flood modelling required to confirm the footprint proposed by Stockland; and
- review the potential for stormwater treatment measures to be located within the waterway corridor.

The commission has considered flooding and stormwater management issues associated with the development of the Caloundra South land. Saunders Havill has considered other potential environmental impacts for the ULDA.

2 SCOPE OF REVIEW

2.1 Work Reviewed

The review undertaken by Cardno focussed on the following documents relating to the Caloundra South urban development area.

- BMT WBM (2010), *Caloundra Downs Development: Flood Risk Management Strategy*, November.
- BMT WBM (2010), *Caloundra Downs Stormwater Quality Management Master Planning Advice*, November.
- Sinclair Knight Merz (2010). *Caloundra South Flood Study*, Version 1, April.

It can be noted that there is no dispute in relation to the work completed in support of the Sinclair Knight Merz report. The purpose of the commission was to peer review the BMT WBM flood risk management strategy and proposed stormwater quality management.

A brief overview of the reports is provided in the following sections.

Although a request was made to access the computer model prepared in support of the BMT WBM flood study, it was not possible to obtain the model within the time available for the review. The review has therefore been based on the work as presented in the reports.

2.2 BMT WBM Flood Risk Management Strategy

BMT WBM completed a flood study on behalf of Stockland to consider the impact of development and available mitigation strategies. As noted in the report, the flood risk management strategy is broad-scale and preliminary in nature. Additional investigations will be undertaken as the development proceeds to define the flood solution for the site. The flood modelling completed by BMT WBM is based on the hydrology and ground level information used in the Sinclair Knight Model of the area that was developed for Council (refer Section 2.4).

The main difference in approach between the BMT WBM modelling and that completed by Sinclair Knight Merz is the proposed use of waterway corridors (those areas to be left undeveloped to allow the passage of flow within existing creek systems), and channels to mitigate both the impact of development on the peak flow discharged from developed areas and the impact of filling within the 100 year flood extent.

This approach, if successful, would allow a larger footprint to be achieved compared to that proposed in the Sinclair Knight Merz study completed for Council.

2.3 BMT WBM Stormwater Quality Management Master Planning Advice

On behalf of Stockland, BMT WBM developed an overall strategy for the management of stormwater runoff from its Caloundra South site. The solution derived involves the following (p6-13):

- education;
- rainwater tanks;
- streetscape bioretention; and
- ephemeral wetlands.

The report envisages that it will be necessary to treat runoff via streetscape bio-retention systems followed by ephemeral (i.e. subject to wetting and drying depending on weather conditions) wetlands in order to meet the stringent requirements of the Water Quality Objectives adopted for Pumicestone Passage under Schedule 1 of the Environmental Protection (Water) Policy (EPP Water). The Department of Environment and Resource Management publication *Environment Protection (Water) Policy 2009, Pumicestone Passage Environmental Values and Water Quality Objectives, Basin 141 (part), including waters of Bribie Island and Bells, Coochin, Dux, Elimbah, Mellum, Ningi, and Tibrogargan Creeks* (July 2010), which is included under Schedule 1 of the EPP Water, specifies that for the northern part of Pumicestone Passage, the water quality objective is to maintain existing water quality (20th, 50th, and 80th percentiles).

To demonstrate that this water quality objective can be achieved, the Master Plan has determined the works required to achieve no worsening in terms of annual pollutant export from the site compared to current conditions. This has resulted in the need for a considerably higher level of treatment than the load based reduction targets stipulated in both the *South East Queensland Regional Plan 2009–2031 Implementation Guideline No. 7 Water Sensitive Urban Design: Design Objectives for Urban Stormwater Management* (Department of Infrastructure and Planning, November 2009) and the guidelines of the former Caloundra City Council (now part of Sunshine Coast Regional Council).

For example, whereas the standard requirement for the reduction in Total Nitrogen load from urban development is 45 percent, to achieve no increase compared to existing conditions, a reduction of between 80 and 87 percent is required (p6-8). It can be noted that BMT WBM is currently completing sampling with respect to the quality of the runoff that currently occurs from the site in order to allow a more accurate base line assessment of the current quality of runoff from the site to be completed.

Due to the need to achieve a higher level of treatment, the master plan makes recourse to the use of bio-retention systems followed by wetlands. The master plan notes that the bio-retention systems would be integrated into the streetscape, suggesting that the wetlands would be located within waterway corridor areas (p6-18).

The initial estimate of the overall footprint of the wetlands is 5 percent of the total developable area, plus the area occupied by pre-treatment devices (if required). Given an assumed total land usage of 1,600 hectares (subject to definition of final development area), wetlands with an area of at least 80 hectares would need to be provided within the waterway corridors. If this was ultimately not possible, it would be necessary to incorporate basins into the development footprint, thereby reducing the area available for the creation of lots.

2.4 Sinclair Knight Merz Caloundra South Flood Study

Sinclair Knight Merz completed detailed hydraulic modelling of the Caloundra South area on behalf of Sunshine Coast Regional Council. Based on the results of modelling, flood hazard mapping (with areas of low, medium, high and extreme flood hazard defined based on the depth and velocity of flow) was completed.

Based on the flood hazard mapping, options for development within the floodplain were considered. The report considered a number of layouts (Scenarios A to F in Section 6.2.2 of the report).

The report recommended that development footprints be derived based on allowing development (and associated earthworks) to occur in the following areas.

- ***Land above the existing 100 year flood level***

Earthworks in areas above the 100 year flood extent will not impact 100 year flood levels and therefore unrestricted earthworks would be permitted in this area.

- ***Land within low and medium flood hazard areas***

As the depth and velocity of flooding in areas defined as having a low or medium flood hazard are relatively low, it is likely that earthworks can occur in such areas to provide land above the 100 year flood level which, combined with appropriate ameliorative works, will not impact on flood levels to an unacceptable degree.

The report indicated that any earthworks would need to be compensatory in nature (i.e. any filling occurring between existing ground levels and the 100 year flood level will need to be matched by an equal volume of excavation) and that it would need to be demonstrated that any earthworks would not produce flooding or environmental impacts that would cause actionable nuisance on adjacent properties.

- ***Land within high and extreme flood hazard categories***

For the purposes of the report, it was considered that it would not be appropriate to fill land presently within high and extreme flood hazard areas for urban purposes. The only exception to this would be the creation of roads and other infrastructure within high and extreme hazard areas. Even then, it will be necessary to achieve the same outcomes as defined for earthworks within low and medium flood hazard areas.

The report therefore envisaged that filling will occur within the extent of flooding produced by the 100 year event, provided that a balanced earthworks operation is undertaken (together with any other works required to mitigate flood impacts) to ensure that there is no reduction in the overall volume available beneath the 100 year flood level for the storage of flood waters.

It can be noted that the development footprints subsequently analysed in the report assume filling of areas of low, medium and high flood hazard without compensatory earthworks.

For the analysis, it was assumed that the peak flow rates derived for the existing (undeveloped) case would be applicable to the developed site. In practice, this would be achieved by the use of detention basins (or other methods providing temporary storage of flow) to attenuate the peak flow rate discharged from developed areas to match that occurring prior to development. The basins would be sited within the urban footprint and would reduce the area available for the creation of lots. Based on previous experience by Cardno with similar projects, it is estimated that approximately five percent of the total developable area (approximately 80 hectares assuming that a development footprint of 1,600 hectares is achieved) would be occupied by detention basins.

The most recent layout considered in the flood report (Scenario F) was compared to that modelled by BMT WBM. The development footprint proposed in the BMT WBM report is larger than that considered in the Sinclair Knight Merz study. Further, provided it can be demonstrated that the footprint can be achieved without producing unacceptable flood level impacts, the BMT WBM solution would not require a reduction in developable area for the provision of detention basins.

3 DETAILED COMMENTS IN RELATION TO REPORTS

3.1 Hydrology

As there is no stream gauge on any of the watercourses that pass through the Caloundra South area, it is not possible to calibrate a runoff routing model for Lamerough Creek, Bells Creek, or any of their tributaries. BMT WBM has installed stream gauges and will be able to calibrate models to recorded values following the occurrence of significant flood events.

For the Sinclair Knight Merz study, recourse was made to an existing stream gauge on the Upper Maroochy River. The parameters derived from calibrating a runoff routing model to the peak flows predicted at the gauge (based on a flood frequency analysis and the consideration of a historic verification event) were applied to the model of the catchments related to Caloundra South. The Caloundra South model was used to derive runoff hydrographs for use in the hydraulic model for a range of flood events and storm durations.

A review of the modelling suggests that the peak flows predicted by the use of the parameters will be conservatively high. However, it is noted that a check of the reasonableness of the peak flow predicted to occur from each subcatchment of the model using the empirical Rational Method was not completed. Such a check would have provided additional confidence with respect to the quantum of the predicted flow from each subcatchment.

Based on the report prepared by BMT WBM, it is understood that their runoff modelling was based on the same parameters adopted for the Sinclair Knight Merz flood study.

Of the parameters adopted for the investigation, the adopted loss rates are of relevance. For both analyses, an initial loss of 10 mm, followed by a continuing loss rate of 5 mm per hour was adopted for pervious areas. For impervious areas, zero initial and continuing losses were adopted. Typically, and more conservatively, an initial loss of zero followed by a continuing loss of 2.5 mm per hour is adopted for the modelling of design events. It is therefore anticipated that the modelling will result in the calculation of flood levels that are slightly lower than those obtained through the use of reduced loss rates. However, it is also expected that the use of such loss rates will increase the relative impact of development on peak flow rates compared to existing conditions by virtue of the transition of pervious areas (with initial and continuing loss rates of 10 mm and 5 mm/h respectively) to impervious areas (with zero rainfall loss). It would be suggested that as a sensitivity case the peak flood levels obtained by the use of lower initial and continuing losses be calculated to confirm that adequate flood immunity is provided for development.

In this case, the issue of initial loss is potentially of more importance when considering the impact of development. As noted in Section 2.4, the modelling of development completed by Sinclair Knight Merz assumed that detention measures would be provided within the development footprint to offset the impact of development and provide peak flow rates that match those calculated for the existing situation.

This approach does not take into account potential changes in the time at which the peak discharge occurs from each basin or changes in hydrograph shape (i.e. the variation in flow over time throughout an event) that occur as a result of development. While the inclusion of a detention basin may allow the magnitude of the peak flow from developed areas to be limited to match that of the existing case, the peak flow may occur at a slightly different time to that estimated for the existing case, and the shape of the hydrograph may also alter. Despite this, it needs to be acknowledged that it is simply not possible to predict the location, size, and outlet configuration of detention basins at this point in the development process. Recourse is generally necessary to the assumptions made for the Sinclair Knight Merz study.

However, in this case the use of runoff hydrographs calculated for the existing situation will reflect the losses associated with the pervious areas rather than the reduced losses associated with the impervious areas introduced as part of development. The runoff hydrographs used in the Sinclair Knight Merz modelling will therefore underestimate the volume of runoff from those areas identified for development.

In the case of the BMT WBM modelling, it is intended that the detention necessary to achieve a non-worsening outcome will be provided within the waterway corridors. This allowed the runoff routing model to be revised to reflect the losses associated with the developed case and revised hydrographs applied to the hydraulic model.

The only concern in relation to this approach is with regard to the temporal patterns (which specify the distribution of rainfall over time) used to derive the runoff hydrographs. *Australian Rainfall and Runoff* (Institution of Engineers Australia) nominates design temporal patterns for use when modelling design storms. As the overall objective of the hydraulic study is to confirm that development can proceed without producing unacceptable flood level impacts, it is necessary to ensure that the outcome is not affected by the relative timing of peak flows in the system (i.e. runoff from the site compared to that from the larger catchment). It would therefore be desirable to complete a sensitivity analysis using alternate temporal patterns to confirm that the result obtained is not particularly sensitive to the temporal pattern used for the analysis.

3.2 Hydraulics

3.2.1 Sinclair Knight Merz Study for Sunshine Coast Regional Council

As noted in Section 2.4, the development solution developed by Sinclair Knight Merz for Sunshine Coast Regional Council involved the completion of balanced earthworks in areas of low and medium flood risk to increase the area above flood level available for development.

Based on the results presented in Appendix L of the report, it would appear that the development footprints identified in the report could be made to work following the completion of more detailed modelling.

The report notes that excavation would occur to compensate for any proposed filling. As the report contains no details with respect to the proposed location, area or volume of fill, it is not possible to comment in relation to the potential impact of the works compared to those detailed in the BMT WBM report.

Further, as the Sinclair Knight Merz report does not provide information in relation to the Mannings 'n' (i.e. level of vegetation) assumed within areas of cut, it is not possible to provide comparative advice in relation to potential maintenance costs associated with maintaining areas where excavation has occurred. For example, it would be expected that the long term maintenance requirements for an area that is thoroughly revegetated would be less than those for an area which needs to be maintained with a certain level of vegetation in order for the adopted hydraulic solution to be achieved.

3.2.2 BMT WBM Study for Stockland

In order to minimise flood level impacts associated with filling and development without the use of internal detention basins, the BMT WBM study recommends the construction of a number of drainage channels, high flow flood relief channels, the excavation of an additional flood storage area, the creation of a maintained grassed area, and the construction of an embankment (with associated culverts).

As the model used in the analysis was not provided for review, it was not possible to confirm the design assumptions made in relation to the flood control measures (for example, the actual width of channels, the level of vegetation assumed in the channels, and the fall of the channels). Further, it was not possible to confirm that the additional storage area will be free draining. The results presented in the report suggest that a fall has been applied to the storage area. However, given the size of the area involved, the ability for the final surface of the storage area to drain will need to be confirmed (or alternatively a different treatment adopted in the storage area).

For the BMT WBM analysis, the 100, 50, and 5 year events were considered.

The results presented in the report indicate that the proposed development will not produce significant off-site impacts for the 100 year event, with a reduction in flood level obtained downstream of the developed area. As noted in the report, a slight increase in level is predicted in the vicinity of the flood prone Koala Court. However, it is agreed that the increase can be ameliorated by the completion of localised works. There is also a small increase in level upstream of the Bruce Highway at the Bells Creek North crossing. Again, this is considered to be a relatively localised increase that could be resolved with further modelling.

For the 50 year event, a similar result is achieved.

For the 5 year event, an increase in level of between 40 and 90 mm is predicted to occur downstream (to the east) of the development. The report argues that this is acceptable on the basis of the fact that the resultant levels are well below the 100 year flood and storm surge levels used for the definition of minimum development levels in the Pelican Waters area. It is agreed that the increase in level would not affect the existing flood immunity of the Pelican Waters development.

To provide a simplistic representation of the proposed solution, the analogy of a detention basin can be considered. The outlet and storage of a typical detention basin are designed to reduce the peak flow rate discharged from the basin to match that predicted for the undeveloped catchment for a range of flood events. For small events, the use of a small outlet will effectively throttle peak flows. However, the same small outlet will overly restrict discharge for larger events, resulting in a greater depth and volume of ponding in the basin than would normally be required.

Similarly, if a relatively large outlet is adopted in order to minimise the depth and volume of water stored in the basin for large events, the relatively large outlet will allow a relatively greater flow to discharge from the basin for small events.

In this case, consideration also needs to be given to the location of the development area within the catchment. In the lower reaches of a catchment (such as the location of Pelican Waters), it is beneficial to discharge runoff from a developed site without the use of detention basins because the peak flow will be discharged prior to the peak flow occurring from the catchment as a whole.

The Caloundra South development area is located in the middle of the catchment. Although there is some benefit to be had by the release of discharge without detention, there is still the requirement to provide detention storage (in this case proposed within the waterway corridors) to ensure that peak flows downstream of the site are not increased to any significant degree.

Based on the solution presented in the BMT WBM report, it is considered that the latter detention basin approach described above has been achieved. The proposed works will provide adequate control over flood levels and flows for large events and not cause an increase in level in upstream areas, with a small increase in flow rate and flood level predicted downstream of the site for the lesser 5 year event.

Whilst it is agreed that the identified impact associated with the 5 year event is minor, it is considered that additional consideration needs to be paid to more frequent events to ensure that the proposed solution will not adversely impact on the stability of downstream waterways.

For instance, the *South East Queensland Regional Plan 2009–2031 Implementation Guideline No. 7 Water Sensitive Urban Design: Design Objectives for Urban Stormwater Management* (Department of Infrastructure and Planning, November 2009) contains a waterway stability criterion which indicates that the peak flow in a stream should not increase for an event with a recurrence interval of 1 year in order to ensure the stability of the watercourse.

While it is considered likely that the impact of the development on the peak flow in the Lamerough and Bells Creek system will be small, it is recommended that additional modelling of the 1 and 2 year recurrence interval events be undertaken to assess the impact of development on flow rates and flow velocities. The impact would need to consider increases in magnitude as well as duration. It can be noted that it is considered that adequate control over runoff produced by events with recurrence intervals of less than one year will be obtained by virtue of the stormwater management system proposed for the site.

Overall, provided the additional modelling detailed above confirms the viability of the proposed development footprint, it is considered that the development area identified in the BMT WBM report can be achieved.

The required additional modelling is summarised in Section 4.

3.3 Stormwater Management- Wetlands

The BMT WBM Caloundra Downs Stormwater Quality Management Master Planning Assistance report (2010, refer Section 2.3) includes the use of ephemeral wetlands within the waterway corridor for the treatment of runoff from the site. Based on the initial sizing presented in the report, a total area of up to 80 hectares could be required within the waterway corridors for the provision of wetlands (assuming that the overall development area that is achieved is 1,600 hectares). It can be noted that the sizing completed to date is also based on an assumed infiltration rate of 25 mm/h. While this is a relatively low infiltration rate, given the clay soils present on site the actual rate of infiltration may be less than this value, which in turn could affect the required wetland area. As noted in the BMT WBM report, a geotechnical investigation is required to confirm the actual infiltration rate across the site.

In general, it is considered that no significant issues exist with respect to the placement of wetlands within waterway corridors due to the complementary nature of wetlands and waterway corridors. However, additional consideration is required in relation to their placement in terms of their operation and maintenance and the potential impact of wetlands on flooding.

A number of guidelines exist with respect to the design of wetlands. A typical guideline is contained in Section 6 of the Healthy Waterways *Water Sensitive Urban Design Technical Design Guidelines for South East Queensland* (Version 1, June 2006). The wetlands described in the guideline consist of an inlet zone, followed by a macrophyte zone. The purpose of the inlet zone is to settle out coarse sediment and provide a means to limit the flow transferred to the macrophyte zone (high flows greater than the peak flow for the 1 year event are directed away from the macrophyte zone (p 6-4). In this case, it is uncertain whether the sediment function will be required if runoff is first passed through a bio-retention system.

Within the macrophyte zone, a maximum extended detention depth of 0.5 metres is recommended. To preclude the potential for the resuspension of pollutants and the loss of biofilms, a low velocity of flow is preferred. The Healthy Waterways guidelines suggest a limiting velocity of 0.05 m/s (p 6-18). Although it is considered that this design velocity is conservatively low, consideration will need to be given to the acceptable velocity within wetlands during flood events.

Given the above, consideration will need to be given to the placement of wetlands within waterway corridors. As noted in the Healthy Waterway guidelines, it is possible to have wetlands subject to flood inundation provided the duration of inundation is relatively short and does not affect the health of vegetation (p 6-5). Further, it is desirable for flooding of wetlands to occur by backwater flooding to minimise the potential for scour.

In terms of their placement within waterway corridors, the wetlands and any protective bunds need to be set at a level sufficiently high to prevent inundation and damage during relatively small events in Lamerough Creek and Bells Creek. Inundation during relatively minor events could also result in sedimentation occurring and the consequent need to complete more frequent maintenance than would normally be the case.

At the same time, if a bund is used to prevent inundation from occurring, the area inside the bund will not be part of the effective storage of the waterway corridor until the bund is overtopped. There is a consequent potential impact on at least minor event flooding if it is necessary to place bunds around wetlands to provide immunity to frequent creek flooding. Alternatively, if it is possible to locate wetlands in relatively high overbank areas it may not be necessary to use a protective bund. In such a case, there would be no adverse impact on available flood storage and conveyance.

To confirm that wetlands can be successfully incorporated into waterway corridors, it is necessary to complete a preliminary assessment of the level of flood immunity against creek flooding to be provided to wetlands to minimise maintenance costs and to then locate wetland areas accordingly.

Depending on whether bunding is required around the wetland areas to achieve the required level of flood immunity, additional flood modelling will be required to confirm that the impact of the wetlands on flood conditions for a range of events.

4 CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

Based on a review of the flooding and stormwater management reports completed in relation to the development of the Caloundra South area, subject to the additional modelling detailed in the following section, the following conclusions are made.

- The development footprint identified in Figure 1-5 of the BMT WBM *Caloundra Downs Development: Flood Risk Management Strategy* (2010) can be achieved without producing unacceptable flood level impacts. It can be noted that the modelling reported in the Sinclair Knight Merz study for Sunshine Coast Regional Council is not in dispute.
- Hydraulically, the location of wetlands as stormwater treatment measures within waterway corridors can be achieved provided sufficient flood immunity is provided for the wetlands. Further, flow conditions during flood events sufficient to cause inundation of macrophyte areas will need to be such that the inundation does not cause the resuspension of sediment or damage to vegetation.

4.2 Recommendations

In order to confirm the conclusions made in Section 6.1, additional flood modelling is required.

The required flood modelling is described below.

- *Alternate temporal patterns*

To confirm that the solution developed by BMT WBM is not sensitive to the choice of temporal pattern, the model should be rerun with alternate temporal patterns.
- *Sensitivity analysis- loss rates*

As a sensitivity analysis, the impact on flood levels associated with the use of a zero initial loss followed by a continuing loss rate of 2.5 mm/h should be considered for pervious areas.
- *Review of runoff model*

The peak flows predicted for each catchment should be checked for reasonableness using alternate methods such as the Rational Method if appropriate.
- *Flood Storage*

Additional comment should be provided in relation to the impact of the development on the available flood storage within the Lamerough and Bells Creek systems.

- *Minor flood events*

It is noted that an increase in flow is predicted to occur for the 5 year event. Given this, the 1 and 2 year events need to be modelled to confirm that the impact of the proposed development and drainage works on the Lamerough and Bells Creek systems for smaller events is not significant. The assessment will need to consider peak flows and velocities and the duration over which any increase in flow or velocity occurs relative to existing conditions and the stability of existing creek banks.

- *Wetlands*

Following the preliminary location of the wetlands proposed for the waterway corridor (refer below), potential impacts on flood levels and required additional flood mitigation measures will need to be assessed.

The required additional work in relation to the location of the wetlands is described below.

- *Required flood immunity level*

Consideration will need to be given to the required flood immunity level for wetlands against creek flooding to minimise maintenance costs.

- *Location of wetlands*

To inform the additional flood modelling, the location and level of any bunds required around proposed wetlands will need to be defined at a preliminary level.

- *Permissible velocities in wetland areas*

The flood modelling undertaken including wetland areas will need to be reviewed and the potential impact of calculated peak flow velocities upon wetland areas assessed with respect to the potential for damage to vegetation or resuspension of sediment to occur.



Caloundra South Urban Development Area Submitted Development Scheme

The Urban Land Development Authority (ULDA) is a statutory authority under the *Urban Land Development Authority Act 2007* (the ULDA Act) and a key element of the Queensland Housing Affordability Strategy.

The role of the ULDA is to facilitate:

- (i) the availability of land for urban purposes
- (ii) the provision of a range of housing options to address diverse community needs
- (iii) the provision of infrastructure for urban purposes
- (iv) planning principles that give effect to ecological sustainability and best practice urban design
- (v) the provision of an ongoing availability of affordable housing options for low to moderate income households.

The ULDA works with local and state governments, community, local landowners and the development industry to deliver commercially viable developments that include diverse, affordable, sustainable housing and use best-practice urban design principles.

The Caloundra South Urban Development Area (UDA) was declared by regulation on 22 October 2010.

The Caloundra South UDA Development Scheme (the scheme) is applicable to all development on land within the boundaries of the UDA.

From the date of approval under a regulation, the scheme replaces the Caloundra South Urban Development Area Interim Land Use Plan which commenced upon declaration.

The scheme consists of:

- (i) a vision
- (ii) a land use plan
- (iii) an infrastructure plan
- (iv) an implementation strategy.

The vision for the UDA is expressed through the vision statement and Map 2 - Vision.

The land use plan regulates development in the UDA.

The infrastructure plan details the infrastructure necessary to support the land use plan for the UDA.

The implementation strategy describes other strategies and mechanisms that the ULDA will use to complement the land use plan and infrastructure plan to achieve the outcomes for the UDA.

The scheme draws on the extensive planning work that has been undertaken in the preparation of the Caloundra South Structure Plan by Sunshine Coast Regional Council, in collaboration with the landowner and key State agencies.

Prior to the declaration of Caloundra South, Sunshine Coast Regional Council undertook public consultation on a draft Structure Plan for Caloundra South. Submissions on the draft Structure Plan have been considered in the preparation of the scheme.

2.1 Background

Caloundra South is located at the southern limit of the Sunshine Coast Region, immediately south of Caloundra. Caloundra South UDA comprises approximately 2310 hectares generally defined by:

- » Caloundra Aerodrome, Bellvista residential estate, the Sunshine Coast Regional Industrial Park and the northern branch of Bells Creek in the north;
- » Caloundra Conservation Park, Bells Creek and the western edge of the Golden Beach and Pelican Waters neighbourhoods in the east;
- » Bells Creek Road in the south; and
- » Bruce Highway in the west.

The UDA is characterised by a predominantly flat to gently undulating topography which reflects its location on the margins of the coastal plain. The land slopes generally from west to east with a ridgeline along the southern boundary. The site is traversed by Lamerough Creek and the northern and southern arms of Bells Creek which all drain east to Pumicestone Passage.

The *South East Queensland Regional Plan 2009-2031* (Regional Plan) identifies Caloundra South as a Regional Development Area to be developed as a compact community supported by public transport, housing choice and affordability, employment opportunities, facilities and services. The Regional Plan identifies an additional 98,000 dwellings will be required

in the Sunshine Coast local government area by 2031.

While most of the UDA has been cleared for previous land uses including forestry and grazing, stands of remnant vegetation remain in waterway corridors and some peripheral areas. Views south-west towards the Glass House Mountains are possible from the site.

Pumicestone Passage is a significant environmental feature within the Sunshine Coast sub-region. Wetlands associated with Pumicestone Passage, to the south east of the UDA, are recognised as being of national and international significance.

The UDA is serviced by a number of existing and future regional transport linkages. The Bells Creek Road intersection on the Bruce Highway provides opportunity for the future provision of an interchange to access the UDA and provide linkages to west of the highway.

2.2 Vision statement

Caloundra South will provide an attractive lifestyle in a well designed urban community for approximately 50,000 residents, in 20,000 dwellings and providing the employment opportunities of approximately 15,000 jobs.

The vision for Caloundra South is expressed through six key themes:

Map 1: Caloundra South UDA boundary



A vibrant community

- » Caloundra South is serviced by a network of centres, the major centre being the Caloundra South Major Regional Activity Centre (MRAC). The network of centres within Caloundra South complements the hierarchy of centres that supports Maroochydore as the Principal Regional Activity Centre and nearby Caloundra as a MRAC.
- » The Caloundra South MRAC serves a sub-regional catchment and develops as a high quality town centre providing a diverse range of retail, business and commercial, civic, health, community, educational, recreational and entertainment facilities in conjunction with more intensive residential development. This is supported by district and neighbourhood centres that provide a focus for the community.
- » Residents live in neighbourhoods which have a discernable identity and sense of place, and are designed around a community focal point which may be a local park, school, community facility or neighbourhood centre.
- » Centres and open space facilities provide a wide range of opportunities for recreation, including community events that bring people together.

An inclusive community

- » Caloundra South provides a diversity of housing, including affordable and accessible housing, to cater for a variety of households and changing requirements as the community matures.
- » Caloundra South meets the social, community, recreational and entertainment needs of residents through the provision of new services in accessible locations, including multi-purpose community facilities located in centres throughout the UDA.
- » Caloundra South will have early provision of a range of services and community facilities preferably co-located near schools or district and neighbourhood centres.
- » People have a multitude of opportunities for social interaction in the centres and parks that provide the focus for communities throughout Caloundra South.

An accessible community

- » Caloundra South is a compact, well planned community with higher density residential development within and adjacent to centres and major transport nodes to enhance accessibility to services and facilities, and reduce demand for travel by private vehicles.

- » Caloundra South is serviced by an integrated public transport system that connects neighbourhoods and centres, linking with the future bus rapid transit and rail service to provide good access to work, education and other opportunities elsewhere in the region.

- » Caloundra South is designed for walking and cycling. It has a network of pathways built around several major off-road spines along the greenspace corridors including Bells and Lamerough Creeks, and along major roads. These spines are supplemented by a comprehensive network of smaller links and safe, legible street layouts that link to and between centres, parkland and other community facilities.

- » Residential uses, work from home opportunities and non-residential uses to serve the community needs will be provided within well designed, walkable neighbourhoods.

A connected community

- » Caloundra South is serviced by an integrated transport infrastructure network which supports transit oriented development, promotes pedestrian, bicycle and public transport modes over private vehicle use, provides for the integration between public transport modes and connects Caloundra South to the sub-regional transport network.

- » High quality and frequent public transport services are provided that connect Caloundra South to other parts of the Sunshine Coast and the rail line that connects to Brisbane and other destinations within South East Queensland.

- » The road network provides for convenient movement for residents between their homes, employment, recreation, leisure, retail and community facilities and takes account of the topography, natural vegetation and where possible views and vistas to the Glasshouse Mountains.

- » The road network provides an efficient system where the function of streets is clearly identified, allowing for a permeable street network.

- » A community greenspace network will follow the Bells and Lamerough Creek systems. The network includes an integrated pedestrian and cycle network linking neighbourhoods, community facilities, public transport nodes and places of employment to the greenspace network.

A prosperous community

- » Caloundra South is a significant community within the Sunshine Coast and the South East Queensland region. It achieves the potential identified in the Regional Plan, providing a wide range of housing choices and employment opportunities, supported by community services and a variety of transport modes.

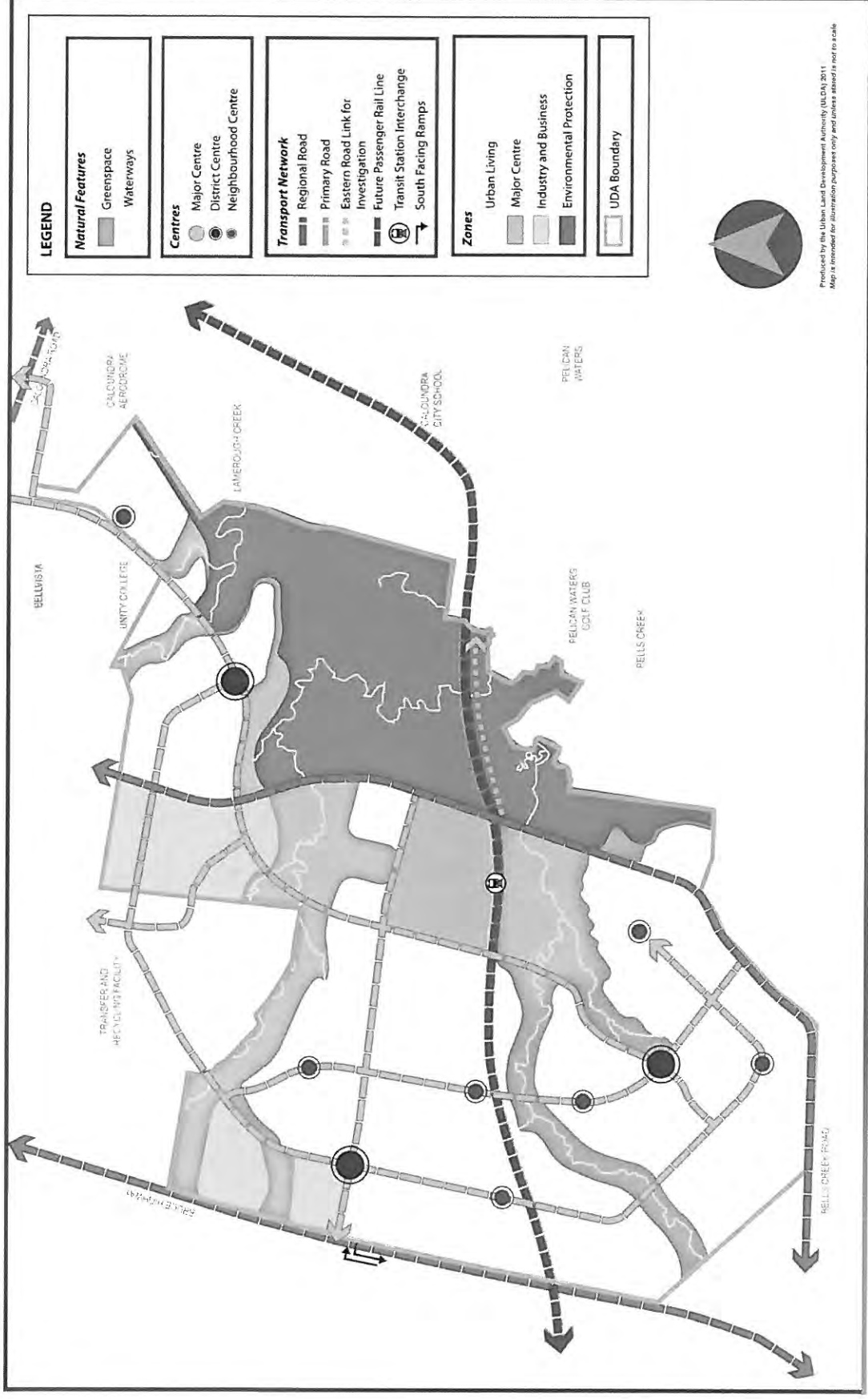
- » A mix of land uses facilitates the delivery of jobs that contribute to a high level of self containment within the Sunshine Coast region. This is promoted through the provision of local employment opportunities through a network of centres and the development of industrial areas which contributes to a resilient economy.
- » Caloundra South provides opportunities for a wide range of employment activities to establish in the community, including work-from-home opportunities and start-up opportunities for local entrepreneurs.
- » Caloundra South fosters life long learning opportunities through a network for public and private schools and strong links to universities.
- » Caloundra South's wide range of education and training opportunities means that the community is well equipped to compete in the global economy.
- » Integrated water cycle management and water sensitive urban design contributes to the water quality values of the Pumicestone Passage and the Bells and Lamerough Creek riparian corridors.
- » Buildings and other development respond positively to the key environmental issues of climate change, energy efficiency and waste management.
- » A comprehensive greenspace network ensures important ecological and scenic values are protected and enhanced, and adequate parks and recreation opportunities are provided.
- » Residents take advantage of opportunities to move around using active and public transport, thus reducing private motorised travel and its impacts on the environment.
- » Cultural and community services, open space, sport and recreational facilities meet the needs of the community and encourage active, healthy lifestyles.
- » Development provides a visual and acoustic buffer adjacent to the Bruce Highway ensuring the character and visual values of this gateway to the Sunshine Coast are sustained.

Map 2 - Vision is indicative only. Details of development, including greenspace, will be resolved through development applications and context planning.

A sustainable community

- » Development protects and supports the regional and national biodiversity values external to the UDA in the Pumicestone Passage.
- » Development within Caloundra South provides for the enhancement of natural ecosystems and biodiversity values through the protection of ecologically important areas and the establishment of buffers to these areas.

Map 2 - Vision



3.1 Components of the land use plan

3.1.1 Components of the land use plan

The land use plan establishes the UDA development requirements which regulate development to achieve the vision for the UDA.

3.1.2 UDA development requirements

The UDA development requirements are expressed as:

- (i) UDA-wide criteria (see section 3.3)
- (ii) zone provisions (see section 3.4)
- (iii) self-assessable provisions (see Schedule 3).

Refer to Figure 1.

The UDA-wide criteria apply to all UDA assessable development in the UDA and do not apply to exempt or UDA-self assessable development.

The zone provisions for each zone apply to:

- (i) land in that zone (zone intent and zone map)
- (ii) all development in that zone (Table 2 - levels of assessment).

Self-assessable provisions:

- (i) do not apply to exempt development, and
- (ii) apply to UDA self-assessable development.

UDA guidelines provide guidance on how to achieve the UDA-wide criteria. The guidelines are available on the ULDA website at www.uda.qld.gov.au

3.1.3 Levels of assessment

Table 2 - Levels of assessment prescribe for each zone:

- (i) UDA exempt development (column 1)
- (ii) UDA self assessable development (column 2)
- (iii) UDA assessable development which is permissible (column 3A)
- (iv) UDA assessable development which is prohibited (column 3B).

3.1.4 Schedules

Schedule 1 identifies development that is exempt from assessment for the whole of the UDA.

Schedule 2 provides the use and administrative definitions required to interpret and apply the scheme.

Schedule 3 sets out the specific requirements applying to self-assessable development and are referenced in the levels of assessment table.

Figure 1: Components of the land use plan and their relationship



3.2 Development assessment

3.2.1 Interpretation

Under the ULDA Act, section 6 development is development defined under the *Sustainable Planning Act 2009*, section 7.

Schedule 2 defines particular words used in this scheme, including uses and administrative terms.

3.2.2 Requirements for self-assessable development

UDA self-assessable development must comply with the applicable schedule (see schedule 3).

Under the ULDA Act, section 43, UDA self-assessable development must comply with the requirements under the development scheme for carrying out the UDA self-assessable development.

3.2.3 Development consistent with the land use plan

UDA assessable development is consistent with the land use plan if:

- (i) the development complies with all relevant UDA-wide criteria and the relevant zone intent, or
- (ii) the development does not comply with one or more of the UDA-wide criteria or zone intents but:

- a. the development does not conflict with the UDA vision, and

- b. there are sufficient grounds to justify the approval of the development despite the non compliance with the UDA-wide criteria or zone intents.

UDA prohibited development is inconsistent with the land use plan. Under the ULDA Act, section 56 UDA assessable development that is inconsistent with the land use plan cannot be granted approval.

In this section 'grounds' means matters of public interest which include the matters specified as the main purposes of the Act as well as:

- (i) superior outcomes
- (ii) overwhelming community need.

'Grounds' does not include the personal circumstances of an applicant, owner or interested third party.

3.2.4 Development approval

Identification of development as UDA assessable development does not mean that a UDA development approval (with or without conditions) will be granted.

UDA assessable development requires a UDA development application to be lodged with the ULDA for assessment and decision.

Approval is required before UDA assessable development is undertaken.

3.2.5 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

3.2.6 Consideration in principle

A request may be made to the ULDA for consideration in principle for proposed development.

In considering the request, the ULDA may decide to:

- (i) support all or part of the proposed development, with or without qualifications that may amend the proposed development
- (ii) oppose all or part of the proposed development
- (iii) give no indication of either support or opposition to all or part of the proposed development.

The ULDA, when considering a development application:

- (i) is not bound by any decision made regarding an application for consideration in principle
- (ii) may give such weight as it considers appropriate to the decision in respect of the application for consideration in principle.

3.2.7 Development application

To the extent the UDA-wide criteria, zone intents and ULDA guidelines are relevant, they are to be taken into account in the preparation of a UDA development application and the assessment of the application by the ULDA.

The infrastructure plan and implementation strategy may include further information which should be taken into account in the preparation, design and feasibility of development proposals.

3.2.8 Context plans

The scheme maps provide a broad spatial framework to guide development of the UDA. Context plans provide the intermediate level of spatial planning between the scheme maps and individual development proposals. Context plans are required to ensure that the development proposal will not prejudice the achievement of the UDA vision, UDA-wide criteria and zone intents in a broader area around the development site.

Context plans are prepared by applicants and are required to accompany a UDA development application for:

- (i) the first permissible development in the relevant context plan area, or
- (ii) a later permissible development that is materially inconsistent with the existing ULDA-endorsed context plan for the context plan area.

However, a context plan is not required if:

- (i) in the ULDA's opinion the proposed development is of a nature or scale, or will operate for such period of time, that the UDA vision, UDA-wide criteria and zone intents will not be compromised, or
- (ii) the ULDA has undertaken more detailed planning for the broader area around the development site, has consulted with the community about the more detailed plan and the development proposal is materially consistent with the more detailed planning intentions for the area.

Applicants should discuss the requirement for a context plan with the ULDA in pre-application meetings.

A context plan is part of the supporting information for a UDA development application and will not form part of a UDA development approval.

The ULDA will assess the submitted context plan as part of the development assessment process for the UDA development application. The ULDA may request the applicant to change a context plan. A context plan may cover two or more contiguous context plan areas.

If the ULDA is satisfied that the context plan is consistent with the achievement of the UDA vision, UDA-wide criteria and zone intents the ULDA will signify that it has endorsed the context plan by placing the UDA endorsed context plan on the ULDA website. Once endorsed by the ULDA the context plan supersedes any previous ULDA-

endorsed context plan for the same context plan area. This process will allow context plans to evolve in response to changing market conditions or improved information and to progressively reflect the development intentions of various landowners in the context plan area.

A context plan should:

- (i) resolve if required, any development constraints that may determine the extent of developable area or appropriate uses
- (ii) identify the location of major network infrastructure, including transport, within the context plan area
- (iii) resolve the boundaries of centres, community greenspace network and sites for major community infrastructure such as parks and schools, and
- (iii) demonstrate that the development proposal:
 - a. does not prejudice the ability for surrounding land to be developed in an orderly and efficient manner consistent with the UDA vision, UDA-wide criteria and zone intents, and
 - b. is consistent with existing and approved development in the context plan area and adjoining context plan areas.

A ULDA practice note provides details on how

to prepare a context plan, and identifies the specific areas for which context plans are required (the context plan areas).

3.2.9 Plan of Development

A Plan of Development (PoD) may accompany an application for a material change of use or reconfiguring a lot and may deal with residential or non-residential uses as well as operational work.

A PoD is prepared by an applicant and may include maps, graphics and text that collectively demonstrate how proposed uses, works and lots will contribute towards the achievement of the vision and will be consistent with the relevant UDA development requirements.

The PoD can not include land beyond the boundary of the land the subject of the application, but may cover only part of the land the subject of the application.

Under Table 2 - Levels of assessment, development approved in accordance with a PoD is exempt development and requires no further development approval under the scheme.

For further advice on preparing a PoD refer to the applicable ULDA practice note available on the ULDA website.

3.2.10 Notification requirements

A UDA development application will require public notification¹ if the application:

- » includes a proposal for development which does not comply with the zone intents
- » is accompanied by a context plan required under section 3.2.8, or
- » is for development which, in the opinion of the ULDA, may have undue impacts on the amenity or development potential of adjoining land under separate ownership, including development for a non-residential use adjacent to land approved for or accommodating a residential use in the urban living zone.

The ULDA may require public notification in other circumstances if the development application is for a use, a size or nature which, in the opinion of the ULDA, warrants public notification.

3.2.11 Interim use

An interim use is a land use that, because of its nature, scale, form or intensity, is not an appropriate long term use of the land.

Interim land uses may occur if appropriately developed and operated and where located in areas which will not compromise the zone intent in the long term. Possible interim uses are identified in the zone provisions.

¹ The ULDA practice note provides further guidance.

The ULDA may approve an interim use if it can be demonstrated that the interim use will not preclude or delay an appropriate long term use or intensity of development. Information to support an application for an interim use may include:

- » a context plan
- » a schedule of land supply and projected take-up rates or
- » plans showing how the development could transition from the proposed interim use to an appropriate longer term use².

The ULDA may impose a condition of approval that limits the duration of an interim use.

Interim uses will only be approved if it can be demonstrated that the use will not prejudice the achievement of the vision for the UDA.

3.2.12 Relationship with local government planning scheme and other legislation

This scheme may apply a provision of a planning instrument, a plan, policy or code made under the SPA or another Act. However, the scheme prevails to the extent of any inconsistency with those instruments.

Other legislation

In addition to assessment against the scheme, development may require assessment against other legislation including for example the *Plumbing and Drainage Act 2002* and SPA.

3.2.13 Land not included in a zone

This section applies to land which is not shown in the land use plan as being included in a zone (unallocated land).

Where the unallocated land adjoins land in a zone, the unallocated land is deemed to be included in that zone.

Where the unallocated land adjoins land included in different zones, the unallocated land is deemed to be included in those zones with the centreline of the unallocated land being the boundary between the zones.

2 The applicable ULDA guideline provides examples of how this might be achieved for centres.

Table 1 - Height, gross floor area and density provisions

Zones	Urban living zone					Major centre zone		Industry and business zone
	Neighbourhoods	Neighbourhood centres (each)	District centre north	District centre south	District centre west	Core	Frame	
Maximum building height (storeys)	2*** (gm)	3	5	5	5	10	6	Area adjacent to Bruce Hwy - 15m Area adjacent to Kawana Arterial - 15m *
Minimum net residential density	15	20	35	35	35	60	40	N/A
Gross Floor Area								
» Retail and indoor entertainment use categories	N/A	1,500m ²	8,000m ²	5,000m ²	5,000m ²	90,000m ²		
» Commercial use categories	N/A	1,000m ²	4,000m ²	2,000m ²	2,000m ²	50,000m ² 140,000m ²		650,000m ²
Total								
Community services** (indicative GFA)		500-1,800m ²	3,000-8,000m ²	3,000-8,000m ²	3,000-8,000m ²	10,000 - 30,000m ²		

*Greater heights in the Industry and Business Zone may be considered adjacent to the Kawana Arterial where unable to be seen when travelling on the Kawana Arterial and by residential neighbourhoods, within and external to the UDA boundary.

**Includes community facilities as well as privately delivered services such as health, child care, aged care and respite services, sport and recreation and youth services.\

*** With opportunity for 3 storeys in appropriate locations.

3.3 UDA-wide criteria

3.3.1 Neighbourhoods

Development delivers neighbourhoods that:

- » are compact and walkable, comprising the area within a 5 minute walk (400 metre radius) of a community focal point. A cluster of neighbourhoods supports a neighbourhood centre
- » have a highly permeable, legible street pattern designed to promote walking and cycling as the primary modes for local movement
- » contain a variety of dwelling types including affordable and accessible housing
- » are designed to respond to local site characteristics, settings, landmarks, scenic amenity and views, and use natural features such as waterways, or man made features such as the built form and public parks, to provide local identity and character
- » have a centrally located focal point which must comprise of at least a local recreation park but which can also include a public transport stop, community facility, local shop or similar
- » are interconnected and provide good access to public transport, parks, schools and other community facilities and neighbourhood centres

- » provide a safe environment through the application of Crime Prevention Through Environmental Design (CPTED) principles such as passive surveillance of public spaces, and a legible street network that minimises traffic impacts on residential areas
- » locate higher density residential close to centres, transit nodes, recreation and corridor parks, or along busier streets that lead directly to centres
- » are designed to promote optimum solar access and use of prevailing breezes
- » locate urban neighbourhoods around transport nodes and higher order centres to maximise accessibility
- » appropriately interface with existing residential development adjoining the UDA boundary by considering:
 - » densities through minimum lot sizes and the location of property boundaries
 - » access arrangements
 - » uses
 - » height.

Neighbourhoods are designed to achieve:

- » the standards set out in the applicable ULDA guideline
- » the minimum net residential densities and specific requirements in Table 1.

3.3.2 Centres

Development delivers centres that:

- » provide for knowledge, community and commerce, accommodating a range of employment, education, cultural and community, retail, community greenspace, entertainment, sport and recreational opportunities which meet the needs of the community, encourage community interaction and active, healthy lifestyles
- » are commensurate with their role in the Regional Plan and the UDA centres network comprising major, district and neighbourhood centres and are focal points for their catchments providing a wide range of services and facilities
- » respond to local site characteristics, settings, landmarks and views, and use natural features to provide specific identity and character
- » are active places characterised by a high quality public realm and safe, attractive pedestrian areas
- » have a local recreation or civic park as a central focal point for community activities
- » are located to maximise accessibility and act as hubs for feeder public transport and walking and cycling networks
- » ensure higher order centres are designed around planned public transport services. Public and active transport is given priority within centres

- » have a permeable road network that provides vehicle access into centres through a network of low-speed urban streets
- » contain a core and frame in the major centre, where the core accommodates the highest order mixed use activities. The frame accommodates lower intensity and car dependent uses (i.e. showrooms) on the periphery of the centre to support the core
- » locate higher density development, including residential, and key community facilities in the core of the centre. The core is the area within the 400 metre primary walking catchment of the major transit node or central focal point
- » the frame and district centres can also include urban neighbourhoods with higher density residential development
- » contain commercial, retail and other uses which require high levels of accessibility.

The major centre is the focal point of the community. It will provide a wide range of facilities and services, including most higher-order services. It has the greatest mix of uses and the highest development densities within the UDA.

The highest density of activities and key community facilities are in the core of the major centre close to the major transit node.

District centres are the intermediate tier in the centres hierarchy and provide a wide range of goods and services with relatively high densities.

Neighbourhood centres provide a range of services and activities to meet day-to-day needs. Neighbourhood centres are located on collector or higher order roads with good access by public and active transport.

Small scale shop or office activities with an aggregate gross floor area of 250m² or less are acceptable outside a centre where the development will not constitute an incremental expansion to a designated centre, and will not have a detrimental impact on residential amenity and the centres hierarchy.

The delivery of the major centre must not prejudice the network of centres on the Sunshine Coast. Maroochydore as the Principal Regional Activity Centre is to be the most significant location for economic and employment growth on the Sunshine Coast.

A development application within the major centre that seeks to exceed the requirements in Table 1 must be accompanied by an Economic Impact Assessment. This must demonstrate how the proposed centre development will complement and not compromise the network of centres on the Sunshine Coast. Furthermore, any analysis must demonstrate:

- » transport infrastructure can service the future development and not jeopardise the road hierarchy and movement network
- » growth contributes to self containment within the Sunshine Coast sub-region providing opportunities for economic

growth and increased employment opportunities.

Map 3 - Centres and transport network indicates the general distribution of centres within the UDA. Centres are designed to achieve:

- » the principles and design standards set out in the applicable ULDA guideline
- » the specific requirements in Table 1.

3-3-3 Housing diversity and affordability

Development delivers:

- » housing choice and diversity to meet the needs of the community, through a mix of densities, types, designs, tenures and levels of affordability, to cater for a range of lifestyles, incomes and life cycle needs

- » residential development that complements or enhances the character of the neighbourhood and streetscape, and contributes to the creation of an attractive and safe environment

- » dwellings that provide appropriate levels of amenity and privacy, and adequate outdoor areas and car parking to meet varying household needs

- » energy efficient, climatically responsive design including appropriate solar orientation, shading, cross ventilation, natural lighting and passive cooling techniques.

The ULDA's applicable guidelines provide additional information on how to achieve these criteria.

3-3-4 Employment opportunities

Development delivers:

- » a diverse range of employment and training opportunities that complement and reinforce the Sunshine Coast Industrial Park to the north of the UDA and contributes towards self containment in the Sunshine Coast Region

- » low and medium impact industry including research and technology facilities, service industry and warehouses

- » an appealing industrial and business environment providing a high level of amenity

- » non-industrial uses which are limited in scale and type to those uses that are compatible and able to demonstrate a nexus with industrial uses. Non-industrial uses are not to duplicate commercial or retail uses intended for the centres network

- » industrial uses that do not prejudice adjoining land uses outside the UDA
- » appropriate transitioning of land uses at the interface with residential

neighbourhoods

- » an appropriate height of buildings, structures and advertising devices that does not impact upon the amenity of the area, in particular the visual amenity of the Bruce Highway as an important gateway to the Sunshine Coast
- » industry and business areas with access from a collector or higher order road that does not require heavy vehicles to pass through residential areas, and in which lots generally have access from the internal street network only.

The applicable ULDA guideline provides additional information on how to achieve these criteria.

3-3-5 Movement network

Development contributes to:

- » an effective, efficient and integrated movement network that provides a high level of safety and accessibility, maintains residential amenity and promotes the use of public and active transport particularly for local trips
- » a major road network that provides effective links between centres and the neighbourhoods they serve, and to the external road network
- » a road network that accommodates a range of users including cars, service vehicles, pedestrians, cyclists and public transport

<p>» a road network that has a functional hierarchy, facilitates longer travel movements, provides multiple access routes to and through neighbourhoods and minimises traffic impacts on residential areas</p> <p>» the provision of a public transport network that is readily accessible to the community (90% of all dwellings should be within 400 metres of a potential public transport service), and provides effective links to centres, the rail station, public transport interchange and key external destinations</p> <p>» the delivery of a future rail line which follows the protected corridor and is integrated into the urban fabric. Opportunity to slightly move the corridor will only be considered where it does not compromise the geometry and operation of heavy rail</p> <p>» a transit station interchange integrated into the major centre, greenspace network and pedestrian cycle network, creating an important focal point for residents, workers and visitors to Caloundra South</p>	<p>» a comprehensive active transport (walking and cycling) network based around major active transport spines, supplemented with local links and a safe and permeable street network within neighbourhoods³. The active transport network provides safe and direct links to key destinations including centres, public transport stops, parks and schools</p> <p>An eastern road link from Caloundra South to the east is desirable to deliver a connected and permeable movement network. Investigations into the preferred route are ongoing.</p> <p>Map 3 - Centres and transport network identifies the preliminary road, public transport and active transport network for the UDA.</p> <p>The applicable ULDA guideline provides additional information to assist in achieving these criteria.</p>	<p>» protecting important landscape and visual quality values including scenic amenity areas</p> <p>» enhancing wetland communities as part of the rehabilitation of ecological corridors</p> <p>» providing ecological corridors and linkages, including to areas outside the neighbourhood or community</p> <p>» providing new planting that comprises predominantly endemic species.</p> <p>The riparian corridors are a sufficient width to protect and improve the ecological function of these corridors and include:</p> <ul style="list-style-type: none"> » approximately 100m across Bells Creek South » approximately 200m across Lamerough Creek » approximately 200m across Bells Creek North recognising that part of the corridor is located outside the UDA boundary. <p>The immediate waterway corridor adjacent to the creek top of bank is to be retained for environmental protection and rehabilitation purposes. The outer edges of these corridors away from the creek top of bank may include:</p> <ul style="list-style-type: none"> » stormwater management devices » fauna refuge areas » pedestrian / cyclist paths » passive open space. <p>The riparian corridors of Lamerough Creek, Bells Creek North and Bells Creek South will be subject to extensive rehabilitation works</p>	<p>to enhance flora and fauna habitat values. Vegetated buffers planted with endemic species will extend from the creek top of bank. The corridors will contain a diversity of habitat types to provide wildlife connectivity and linear habitat. Fauna refuge areas are to be located adjacent to Bells Creek North and Bells Creek South to provide a safe haven for fauna during heavy rainfall.</p> <p>Development adjacent to the greenspace network which contains or is within close proximity to valuable ecological features, such as the Blackbutt Forest in the north east of the site, must address potential edge effects. This will vary dependent upon the nature of the ecological feature but may include a variety of treatments such as additional planting with endemic species, linear open space, boulevard streets and larger lots. The appropriate response will be determined at the development application stage.</p> <p>Development delivers parks that:</p> <ul style="list-style-type: none"> » contribute to the achievement of an integrated, high quality greenspace network that caters for a variety of recreation functions and experiences to meet the needs of residents and visitors » are accessible for users » provide for multiple purposes and uses including recreational, sporting, ecological and stormwater management functions
<p>3-3.6 Community greenspace network</p> <p>Development contributes to the provision of an integrated, high quality, regional community greenspace network that caters for a range of environmental needs by:</p> <ul style="list-style-type: none"> » retaining where possible locally significant wetlands, remnant vegetation and habitat for fauna <p>³ Where active transport enters the on-road environment treatment should be consistent with the Austroads' 'Cycling Aspects' of Austroads' s Guides (March 2011).</p>			

- » incorporate existing natural features where possible and are landscaped to assist in creating neighbourhood identity and wayfinding
- » retain existing significant vegetation to the greatest extent practicable
- » contains landscaping and planting with endemic species
- » are shaped and embellished to suit their anticipated use
- » support the community's recreational needs and provide opportunities for community and special events.

The initial development application lodged over Caloundra South must be accompanied with an open space strategy for the entire UDA. This will address the recreational and sporting open space requirements for this community as set out in the applicable ULDA guideline.

The community greenspace network is distributed generally in accordance with Map 4- Community greenspace network.

The community greenspace and open space network is located and designed to achieve the principles and design standards set out in the applicable ULDA guideline.

3.3.7 Community facilities

Development facilitates the delivery of:

- » sustainable communities with a strong community identity and access to services and community facilities that meet diverse needs, maximise potential for community development and enhance community wellbeing
- » a range of services and community uses such as schools, child care centres and medical facilities that are accessible and appropriate to the needs of the community and reduce physical and social isolation
- » community services and uses where accessibility to the facility's target market is maximised though good access to public transport, pedestrian and cycle paths
- » a hierarchy of services and community uses in neighbourhood, district and major centres. Neighbourhood level community facilities and services are located within walking distance for most residents, meet everyday needs and are provided early in development. District level community facilities and services serve a broader population catchment, reflect the diverse needs of the population and are provided in response to population growth thresholds. Major level of services and community uses are of a higher order and accessed by a sub-regional population.

Map 5 - Community facilities indicates the general distribution of community facilities within the UDA.

Community facilities are designed to achieve the principles and standards set out in the applicable ULDA guideline.

3.3.8 Natural values

Caloundra South UDA is located within the catchment that connects to the Pumicestone Passage and the Fish Habitat Area and the internationally recognised Ramsar wetlands. Pumicestone Passage is a significant environmental feature within the region and forms part of the Moreton Bay State Marine Park.

Development responds to the natural features of the land and delivers:

- » protection of significant environmental and ecological values
- » minimal emissions to land, water and atmosphere
- » efficient use of land and resources.

The design, siting and layout of development:

- » avoids and/or minimises impacts on areas of biodiversity value
- » maintains and improves ecological connectivity in the local urban context
- » incorporates landscaping with endemic species that contribute to the bushland character and flora and fauna habitat, and fauna movement

- » minimises adverse impacts on natural landforms and the visual amenity of the site
- » maintains the ecological health and environmental values of surface and groundwater, including wetlands and waterways in and adjacent to the UDA
- » maintains the functioning and characteristics of the hydrological network, including surface and groundwater
- » incorporates total water cycle management and water sensitive urban design principles to appropriately manage floodwater and stormwater
- » manages air quality, noise and hazardous materials according to current standards
- » occurs in accordance with best practice techniques for the management of acid sulphate soils
- » promotes innovative and efficient use of energy and water
- » maximises recycling opportunities and reduces waste generation
- » incorporates native vegetation and natural elements through the built environment.

Land in the greenspace and Environmental protection zone provides opportunities for habitat improvement and is to be protected through a staged Rehabilitation Plan. The Rehabilitation Plan is to be developed from the outset (except for the provision of community infrastructure located south of Bellvista). Revegetation is to be primarily

comprised of endemic species. This is to be linked to development stages with the majority of land in the Environmental protection zone rehabilitated before filling and earthworks occurs in association with the major centre.

In the northern part of the UDA in the vicinity of Lamerough Creek, a Flora and Fauna Management Plan is required to address the Acid Frog habitat and management of flora values

Protection of Water Quality in Pumicestone Passage, Bells Creek and Lamerough Creek

Development protects the water quality of surface and groundwater and the ecological condition of the Pumicestone Passage, Bells Creek North, Bells Creek South and Lamerough Creek.

In order to protect the ecological condition of the Pumicestone Passage, Bells Creek and Lamerough Creek, development is to incorporate best practice stormwater management, water management solutions and sediment and erosion control

techniques⁴. This is to achieve no net worsening of water quality levels at the site's boundaries. Where planting occurs in water sensitive urban design features such as bioretention areas and wetlands, the species used are endemic to the area.

A 'multi barrier' water sensitive urban design (WSUD) treatment train approach to stormwater quantity and quality management is to be used that achieves a no net long term worsening of down stream water quality.

This treatment train is expected to include:

1. rainwater tanks
2. roadside bioretention and swale systems
3. lateral bioretention systems that will be heavily vegetated delivering treated site runoff to regional wetland style waterbodies.

An 'adaptive management approach' is to be adopted and may result in changes to the nature and design of treatment measures implemented.

⁴ Development protects downstream receiving waters by demonstrating water quality discharges from the site comply with:

- (i) the water quality objectives specified in the Pumicestone Passage Environmental Values and Water Quality Objectives set by DERM in the Environmental Protection (Water) Policy 1999, in particular the area within Basin No. 141 designated as area PLE - Pumicestone Passage North (Enclosed Coastal/Lower Estuary), and
- (ii) the water discharge requirements specified in the State Planning Policy 4/10 Guideline Healthy Waters and its supporting document 'Urban Stormwater Quality Planning Guidelines 2010'.

A water quality monitoring program must be developed at the outset of development, except for the provision of community infrastructure located south of Bellvista. This is to be endorsed by the ULDA and set out requirements and processes for water quality monitoring.

The process is to comply with the water quality monitoring and compliance regime described in Section 5.4 within the Implementation Strategy.

The adoption of the formal Water Quality Objectives for Pumicestone Passage necessitates the adoption of water treatment measures that are more stringent than those required elsewhere in South East Queensland for other catchments and developments.

Protection of Groundwater Resources

Development incorporates best practice groundwater management which:

- » substantially maintains the regional (large scale) flow paths and water quality of groundwater;
- » protects downstream groundwater dependent ecosystems; and
- » provides for artificial groundwater recharge infiltration systems that involve passive engineering solutions, such as seasonal wetlands where necessary, to avoid any adverse impacts of development.

Development complies with a Groundwater Management Plan, established at the outset, documenting measures to comply with the groundwater management criteria stated above.

Map 6 - Natural values shows the key natural and cultural values in the UDA. Development is sited, designed and constructed to avoid or minimise impacts on natural and cultural values.

Reference should be made to the applicable ULDA guidelines for further detail.

3.3.9 Community safety and development constraints

Development ensures that people and property are safe from potential hazards and disturbances including landslip, bushfire, noise, flooding⁵ and the predicted effects of climate change.

Future residents are to be provided with a level of amenity that addresses noise sources. Sensitive uses to nearby noise

⁵ The Queensland Floods Commission of Inquiry is investigating the January 2011 flood disaster, including a review of existing provisions relating to flooding and flood risk mitigation.

Consequently the provisions of this development scheme with respect to the management of flooding and flood risk mitigation may be subject to change at the direction of the Queensland Government in the near future.

This should be taken into account by applicants and assessment managers when considering development in this UDA. Applicants are advised to make relevant enquiries regarding the status of the provisions relating to flooding at the time of lodgement.

sources such as the Caloundra Aerodrome and the Bruce Highway are to be protected. The preferred means to control noise impacts will be determined at the development application stage.

Development adjoining the Bruce Highway
A buffer is to be provided between the limit of development, the Bruce Highway corridor and the south west boundary of the site fulfilling the following:

- » provision of a predominantly landscaped treatment that achieves a natural and rural edge as viewed from the Bruce Highway
- » provision of visual separation between development and the highway. Acoustic walls are not visually prominent and do not result in a continuous, monotonous stretch of acoustic wall along the length of the site's frontage to the Bruce Highway
- » inclusion of a variety of techniques at different locations including separation distances, mounding, landscaping, noise attenuation measures and recreational opportunities
- » compliance with the applicable noise standards and requirements⁶.

The visual buffer is designed to achieve the principles and standards set out in the

applicable ULDA guideline.

Development located near the Caloundra Aerodrome

Development located near the Caloundra Aerodrome must not prejudice the ongoing operations of the Aerodrome. Nearby noise sensitive development that has the potential to receive intrusive noise is required to address the following:

- » Justify that the proposed land use is suitable on amenity grounds based on the extent of aircraft noise at the subject site and information about future noise projections from the aerodrome operator comprising both fixed wing aircraft and helicopter movements. This will include information about:
 - » Areas forecast to be exposed to above 20 noise events a day exceeding 70dB(A)
 - » The Transparent Noise Information Package (TNIP) N70 contour forecast for the year 2030
- » Inclusion of a variety of appropriate noise attenuation measures
- » Provision of suitable levels of indoor residential amenity (by appropriate building siting and construction) to comply with the indoor design sound levels from the applicable Australian

Standard⁷.

⁷ Refer to Section 3.2 Noise Reduction Requirements and Table 3.3 Indoor Design Sound Levels for Determination of Aircraft Noise Reduction of Australian Standard 2021: 2000 'Acoustics - Aircraft Noise Intrusion - Building Siting and Construction'.

Flooding and Flood Management

To ensure protection from flooding:

- » development achieves an appropriate level of flood immunity⁸.
- » development ensures that stormwater run off at the site's boundaries does not exceed that which presently exists, and there is 'no net worsening' of flood conditions at the site's boundaries.

Any seasonal wetlands installed for stormwater management purposes are to be subject to a maintenance arrangement between ULDA and the land owner confirming the maintenance obligations.

Map 7 - Development constraints shows the key community safety and development constraints affecting the UDA. Development is sited, designed and constructed to avoid, minimise or withstand the incidences of a development constraint.

Buffers are designed to achieve the principles and standards set out in the applicable ULDA guideline.

⁸ As identified on Map 7, parts of the UDA are subject to inundation by a Q100 flood event. For information about how to address potential flooding, refer to:

- i) the Queensland Coastal Plan
- ii) Sunshine Coast Regional Council for habitable floor levels
- iii) State Planning Policy 1/03 and associated guideline for siting requirements for key elements of community infrastructure and
- iv) the applicable ULDA guideline addressing flooding.

⁶ This includes the Department of Transport and Main Road Traffic Noise Management: Code of Practice with respect to external road traffic noise levels and the Queensland Development Code and Section MP 4.4 'Buildings in a Transport Noise Corridor'.

3.3.10 Service infrastructure

The UDA delivers efficient and effective use of infrastructure and services.

Development ensures infrastructure and services are:

- » provided in a timely, orderly, integrated and coordinated manner to support urban uses and works
- » available or capable of being made available (including key infrastructure such as roads, public and active transport, water supply, sewerage, drainage, park network, community facilities, medical facilities and GP services, electricity and telecommunications)
- » designed to allow for future developments in information technology and providing access to technology in neighbourhood facilities
- » located and designed to maximise safety efficiency and ease of maintenance⁹
- » located and designed to consider total life-cycle costs.

Infrastructure is designed to achieve the principles and standards set out in the applicable ULDA guideline.

⁹ Energex's draft Electricity Overlay Code, Community Infrastructure Code and Safe tree guideline provide guidance on how to achieve this criterion.

3.3.11 General requirements

Site area and landscaping:

Sites have sufficient dimensions to accommodate:

- » buildings,
- » parking,
- » access and circulation areas
- » water treatment and retention areas if required and
- » landscaping.

Landscaping is provided to enhance the visual amenity of the locality.

Sub-tropical design measures

Development provides built forms that respond to the subtropical environment, including eaves, roof overhangs and sun shading devices.

Parking and end of trip facilities:

Parking is provided in accordance with the rates and standards set out in the planning scheme¹⁰. The ULDA will consider proposals for a reduced number of car parking spaces where it can be justified due to factors including:

- » availability of on-street car parking
- » public transport accessibility
- » overall accessibility, including, for residential development, location within or adjoining a centre

¹⁰ Refer to Sunshine Coast Regional Council's Planning Scheme

- » potential for sharing car parking spaces by different uses and activities
- » target markets for residential development.

End of trip facilities for pedestrians¹¹ and cyclists, including secure undercover bicycle storage facilities, showers and lockers are to be provided as part of development.

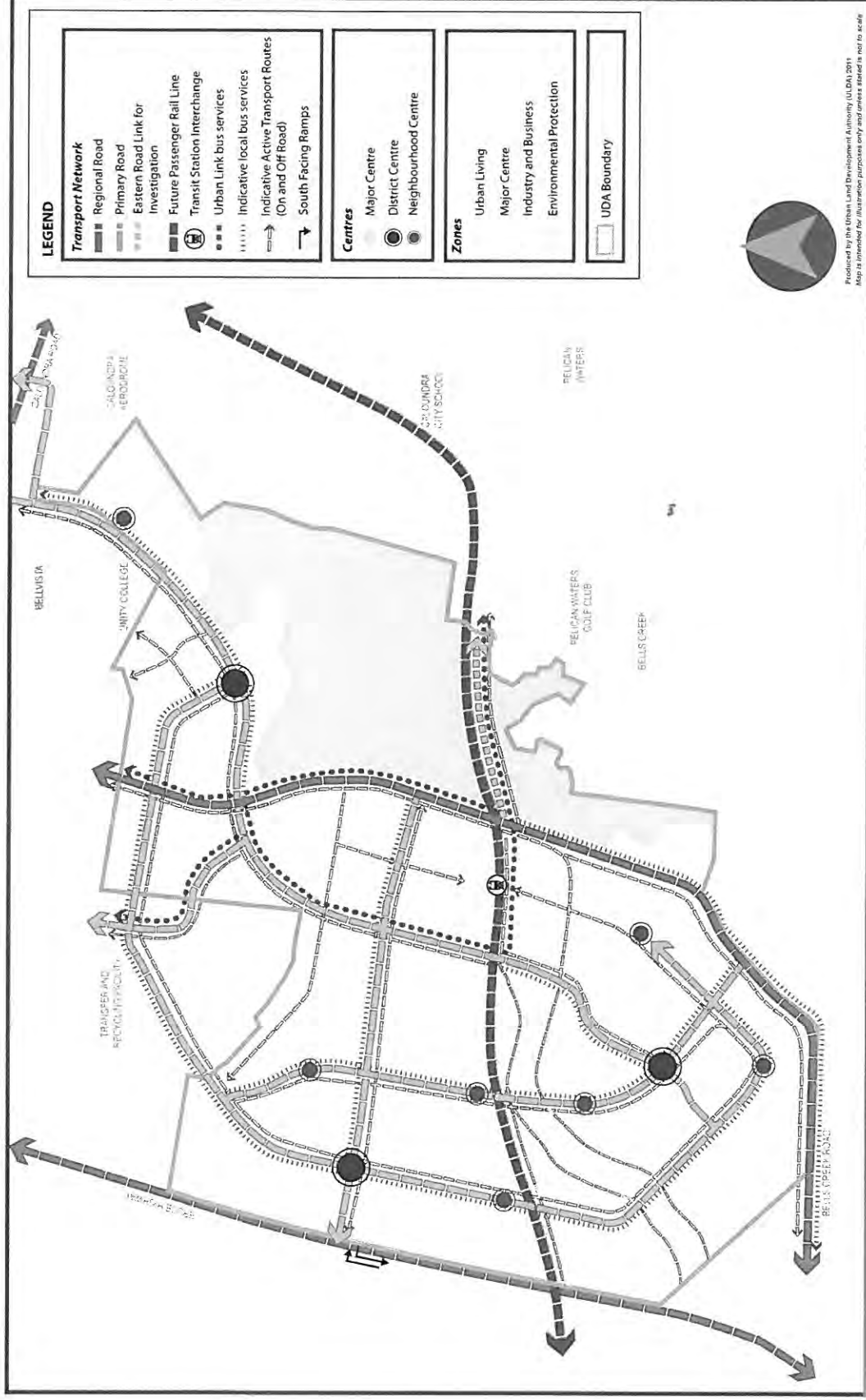
Advertising devices¹²:

- » cater for the needs of display homes and businesses to clearly identify the location and the goods or services which are supplied to the public
- » are consistent with the scale and design of existing buildings and other works on the site and in the locality, and complement the local streetscape
- » where appropriate, reflect the character of the area
- » are sited and provided on premises having regard to safety and amenity.

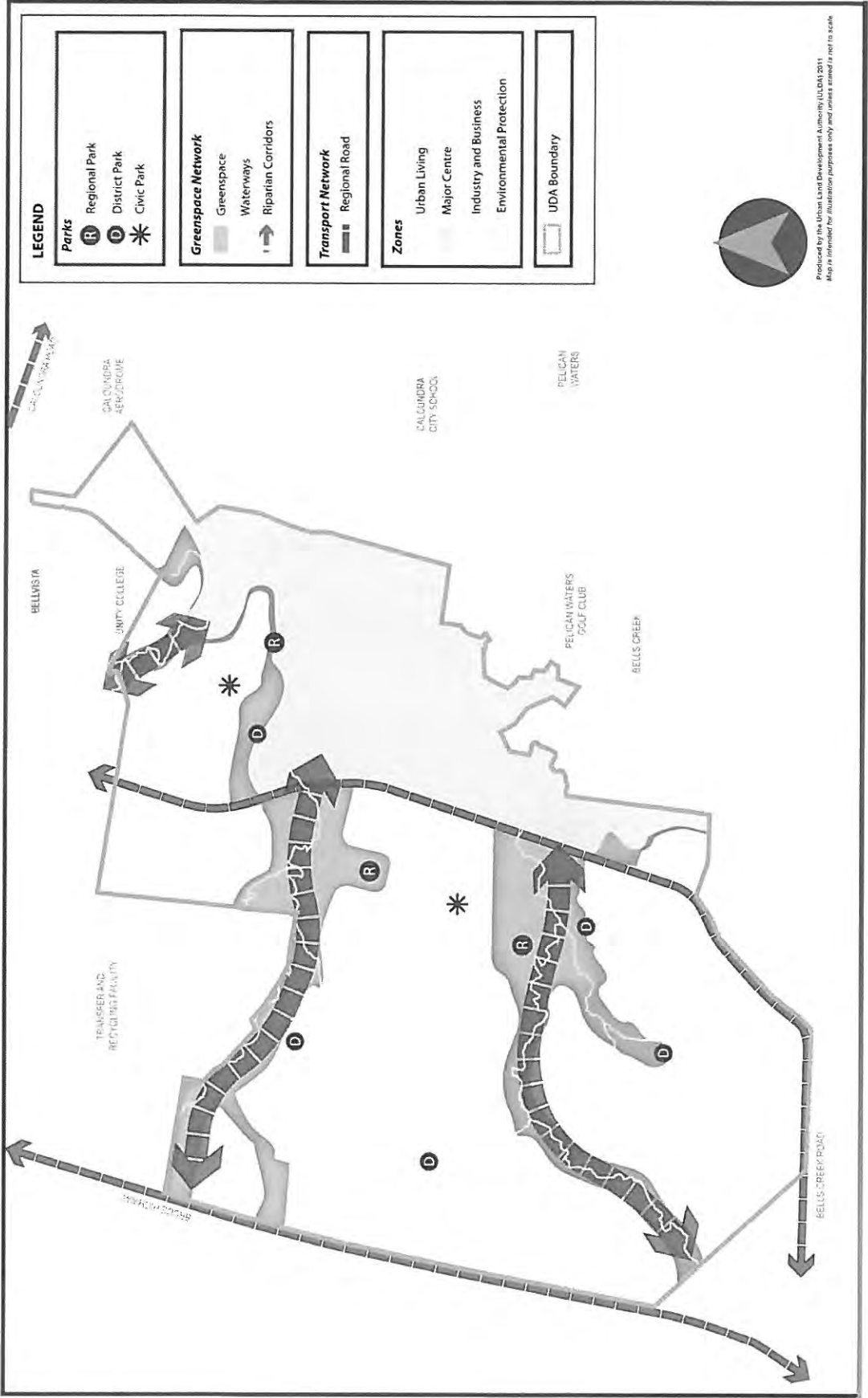
¹¹ Refer to the Queensland Development Code 4.1 - Sustainable Buildings

¹² Refer to Sunshine Coast Regional Council's Planning Scheme

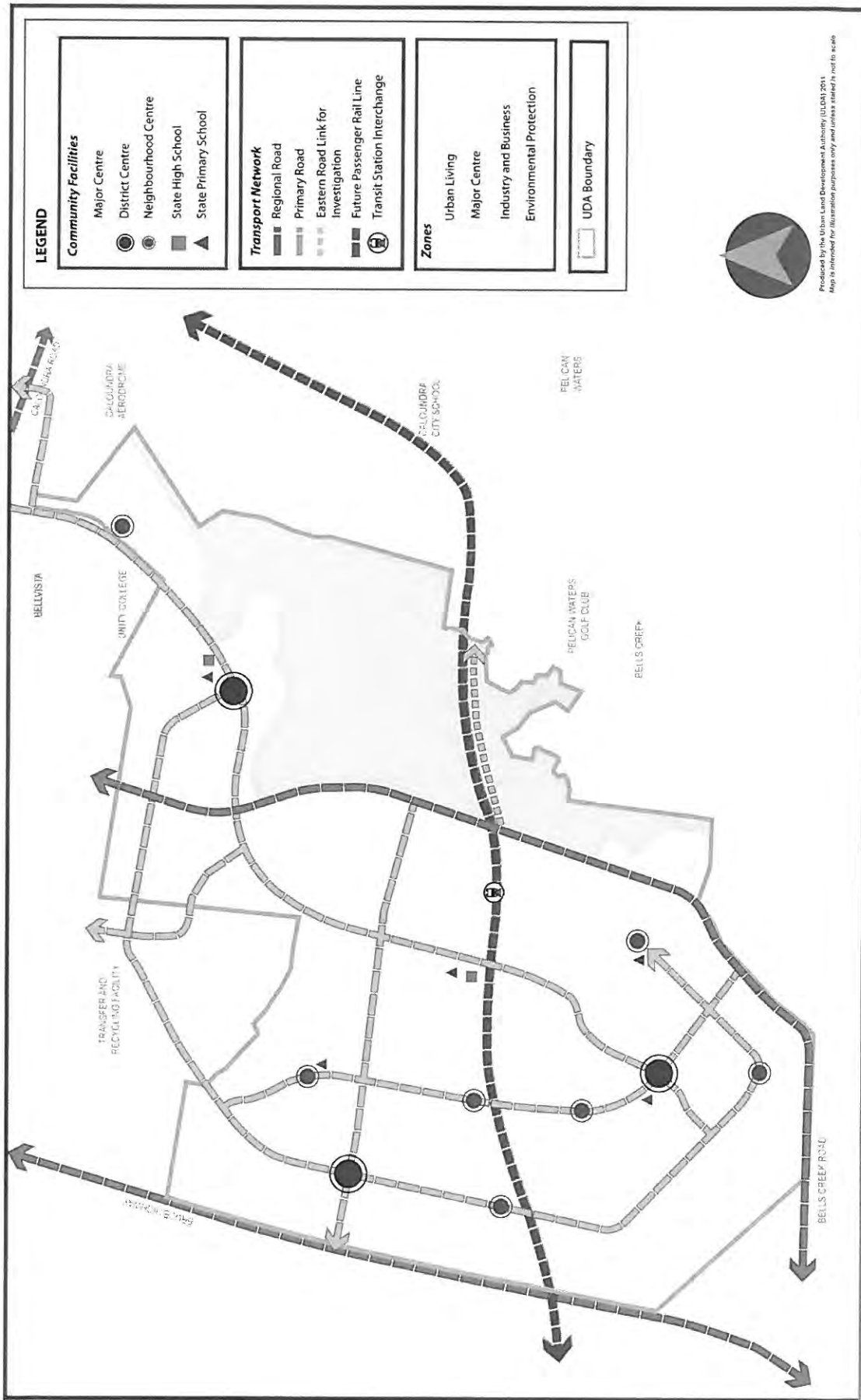
Map 3 - Centres and transport network



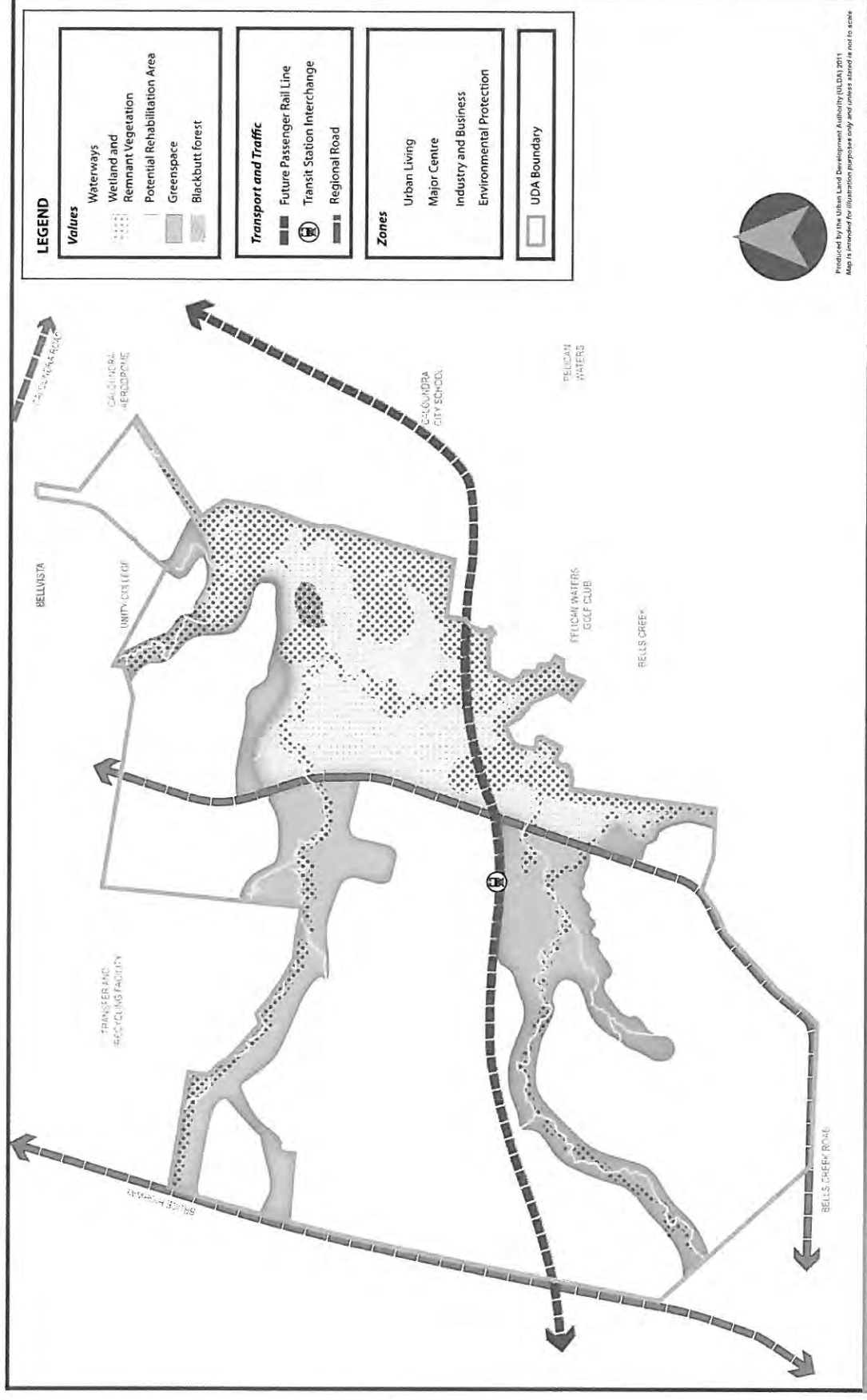
Map 4 - Community greenspace network



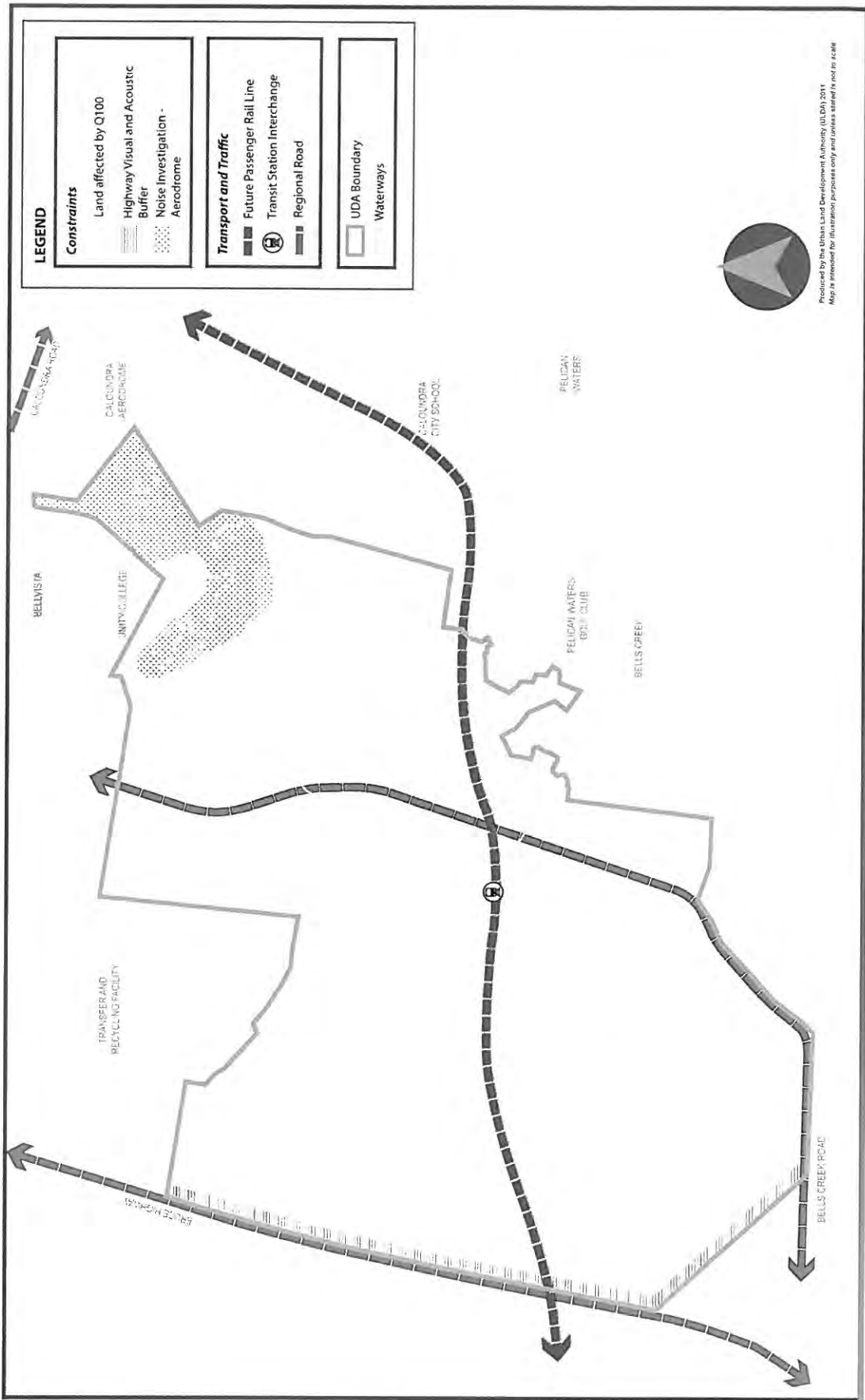
Map 5 - Community facilities



Map 6 - Natural Values



Map 7 - Development constraints



3.4 Zone provisions

3.4.1 Zone map

Map 8 shows the location and boundaries of zones in the UDA. The UDA contains four zones:

- » Urban living
- » Major centre
- » Industry and business
- » Environmental protection

Inclusion of land within these zones, excluding the Environmental protection zone, does not imply that all such lands can be developed for urban purposes. Some land may not be available or appropriate to be developed due to local site conditions or other constraints.

3.4.2 Zone intents

Urban living zone

The urban living zone applies to most of the area intended for urban development in the UDA. The majority of the zone is intended to be developed as neighbourhoods focused on identifiable and accessible centres and comprising of a mix of residential development including houses, multiple residential and other residential and live work opportunities through home based business.

The urban living zone is also intended to accommodate a wide range of other non-residential uses. These other uses include:

- » district centres and neighbourhood centres
- » a community greenspace network comprising parks, environmental areas and open space corridors along waterways
- » local employment areas such as small scale low impact industry, service industry and local shops
- » specific facilities and institutions such as educational establishments, child care centres and community facilities.

Other than in identified centres, non residential uses may also be approved in the urban living zone where it is demonstrated to the satisfaction of the ULDA that:

- » the proposed use has appropriate vehicular access that will not result in excessive numbers of vehicles passing through residential areas
- » cater for the needs of the immediate community and or do not compete/undermine the vitality of the centres hierarchy
- » any impacts associated with the use (e.g. noise, dust, emissions) will not affect

residential or other sensitive uses.

The urban living zone may also accommodate interim uses which include:

- » Agriculture
- » Agriculture supply store
- » Animal keeping and husbandry
- » Intensive horticulture.

Reference should be made to Table 1 and applicable ULDA guidelines for further detail.

Major centre zone

The major centre zone provides the focus of the UDA, and accommodates the greatest mix of land uses and highest densities in the UDA.

Land within the major centre zone falls into two categories: core and frame.

The core is located adjacent to the future railway station/transit interchange. The highest density development is focussed within the 400 metre primary walking catchment of the future railway station/transit interchange.

The frame occupies the less accessible balance area of the major centre zone.

The exact boundaries between the core and frame will be determined through the context planning as part of the development assessment process.

Interim uses may include:

- » Bulk landscape supplies
- » Warehouse

Other industrial uses and rural uses are not envisaged in the major centre frame.

Core

The core accommodates the highest order mixed use centre activities providing a mix of commercial, business, professional, community, entertainment, retail and high density residential activities. The core is the most intense urban setting and is capable of servicing the whole UDA.

Development within the core delivers:

- » safe, attractive and permeable movement networks for pedestrians and cyclists
- » ground floor areas which are used primarily for retail, 'shop front' and other active uses
- » upper floor levels which are used for a variety of uses including retail, offices, entertainment and residential uses
- » buildings fronting streets that are a minimum two storeys in height
- » lower intensity uses which are 'sleeved' by active street frontage uses
- » parking in basements or where provided at ground level, screened from streets and other public areas by buildings or landscaping

Map 8 - Zones



- » high quality design that recognises the importance of streetscape and public realm and contributes to the overall attractiveness of the core
- » views to the Glasshouse Mountains are provided from key streets and public spaces
- » a civic park or plaza which is integrated with the 'main street' and centrally accessible from the public transport interchange
- » buildings, streets and parks that optimise physical and visual connections to the Bells Creek community greenspace network.

The core is the principal focus of retail activities in the UDA. It includes a vibrant retail precinct anchored by a public 'main street'. The retail component includes:

- » speciality retail
- » department stores, discount department stores and supermarkets
- » entertainment, recreation, leisure, cultural and community facilities
- » food, beverage and dining facilities, including alfresco dining
- » convenience retail for workers, residents and visitors.

The core also accommodates major civic buildings, educational and health facilities. The core delivers a safe, attractive public realm with a variety of urban parks, plazas and squares that provide recreation spaces and places for community events

and promote opportunities for community interaction.

Uses other than retail, residential and commercial should not have any off-site impacts that may affect the amenity of adjoining areas whether developed or not. Lower intensity uses and uses that do not require high levels of public transport accessibility, such as showrooms, warehouses and service stations are not appropriate long term uses in the core.

Frame

The frame accommodates a mix of land uses including:

- » uses that support activities in the frame but are not suitable for the core (such as service industry and low impact industry)
- » uses that benefit from a central accessible location within the UDA but are low intensity uses (such as warehouses, outdoor sales, showrooms and service stations)
- » residential uses, including short term and tourist accommodation, taking advantage of proximity to the range of employment opportunities, services and facilities located in the core.

Retail development that has the potential to detract from the vitality and viability of the core is not suitable for the frame. Retail development will only be approved in the frame where it is:

- » low intensity retailing such as showrooms, that is unsuitable for the core
- » small scale retail to meet the needs of a local catchment of residents or workers
- » retailing activity that has a nexus with a use that is not suitable for the core.

The frame will incorporate residential neighbourhoods and will incorporate a wide variety of dwelling types ranging from small precincts of houses to multi-level apartment buildings, with densities increasing with proximity to the core.

Key roads in the frame, including those providing direct access to the core, are pedestrian and cyclist friendly with high quality streetscapes and a distinct urban feel. Any large format retail/commercial buildings should ultimately be sleeved along these streets by smaller-scale shops, food premises and businesses to ensure active frontages and visual interest.

Phasing of development in the core

The desired long-term layout, mix of uses and intensity of development will only be delivered in the long term. However it is important to ensure that the active, pedestrian friendly character of key 'main street' elements is established as part of the initial stage of development of the

core. Staging of development and interim uses may be acceptable where they do not compromise the delivery of the desired long term outcomes.

Some land within the core may not be suitable for development until the Caloundra South community reaches certain population thresholds. These areas should be retained for longer term development. Context plans should demonstrate how earlier development takes into account longer term development areas and maintains integrity and compactness of earlier development.

The applicable ULDA guideline provides more information on achieving these requirements including indicative staging of development.

Industry and business zone

The industry and business zone accommodates industrial uses which do not generate dust, noise and odour emissions beyond the zone. The zone provides for a wide range of compatible industrial uses including low and medium impact industry, research and technology facilities, and service industry activities.

A limited range of other uses may also be acceptable in the industry and business zone where it can be demonstrated that the use:

- » supports or otherwise has a clear nexus with the primary uses within the zone and is not the predominant use
- » does not compete / undermine the vitality and performance of the centres network

- » provides a service to the workforce within the zone
- » will not prejudice the establishment or operation of the primary uses within the zone.

The industry and business zone, located adjacent to the Bruce Highway, has an emphasis on low impact industry and research and technology facilities with a limited range of business and commercial uses. Uses are not to rely on highway frontage for exposure and visibility.

Non-industrial uses, such as commercial and trade retail activities, may locate in the zone where such uses do not compromise the intended industrial/business character of the local area. Uses that promote knowledge creation and entrepreneurial activity in industry, science and technology and research and development are encouraged.

The location, design, operation and management of uses and works contribute to the amenity, built form, landscaping and streetscape which enhances the industrial character of the area.

Development has linkages to existing and proposed transport infrastructure, public transport services, bicycle and pedestrian networks and community facilities and maximises the sustainable and efficient use of essential services, including water, sewer, energy, and telecommunications infrastructure.

The zone may accommodate unanticipated interim land uses that do not compromise the long term use of the land for its intended purpose and may include:

- » Agriculture
- » Agricultural supply store
- » Animal keeping and husbandry
- » Intensive horticulture

Environmental protection zone

The environmental protection zone includes areas that are of environmental significance and have associated conservation, biodiversity, habitat or scenic amenity values. The zone may also provide for buffers between incompatible land uses and includes land constrained by features such as saline and dispersive soils, bushfire risk, erosion and flooding. The zone may accommodate elements of an integrated open space network providing for multi-purpose functions that respond to community needs provided they do not compromise environmental values.

The zone allows only a limited range of low impact, low intensity land uses to protect areas identified as having significant values for biological diversity, water catchment, ecological functioning or cultural values.

The environmental protection zone provides opportunities for habitat improvement.

Table 2 - Levels of assessment

Column 1 Exempt development		Column 2 UDA self-assessable development		Column 3 – UDA assessable development	
				Column 3A Permissible development	Column 3B Prohibited development
In the Urban living zone					
1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i> , and (ii) the activity complies with that code.	1. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) Material change of use for a House or Display home where: (a) the lot is 400m ² or more (b) the lot frontage is 12.5 metres or more (c) it complies with the applicable self assessable provisions in Schedule 3, and (d) the house is situated outside a development constraint area depicted on Map 7.	1. Reconfiguring a lot that is not mentioned in schedule 1 2. Making a material change of use if (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2, or 3B. 3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.	Development for: 1. Extractive industry 2. High impact industry 3. Medium impact industry 4. Noxious and hazardous industry.		
2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1 (ii) development for Home based business (iii) development for a sales office where not greater than 150m ² (iv) material change of use, where not involving building work (other than minor building work) or operational work, for a use other than Car park, where: (a) any existing use and the proposed use are both included in either the Commercial use or Retail use categories in schedule 2. 2. Where complying with the parking rates in the planning scheme.					

Column 1 Exempt development	Column 2 UDA self-assessable development	Column 3 – UDA assessable development Column 3A Permissible development	Column 3B Prohibited development
In the Urban living zone (continued)			
(v) material change of use if in accordance with an approved Plan of Development (PoD). (vi) operational work or building work in accordance with an approved PoD.			

Column 1 Exempt development		Column 2 UDA self-assessable development	Column 3 – UDA assessable development	Column 3A Permissible development	Column 3B Prohibited development
In the Major centre zone					
1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i> , and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1 (ii) development for Home based business (iii) making a material change of use where complying with the parking rates in the planning scheme and not involving building work (other than minor building work) for: (a) Commercial uses (other than Car park) (b) Community facility (c) Educational establishment (d) Emergency services (e) Fast food premises (f) Food premises (g) Market (h) Multiple residential (i) Other residential		Nil.	1. Reconfiguring a lot that is not mentioned in schedule 1 2. Making a material change of use if (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2, or 3B. 3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.	Development for: 1. Extractive industry 2. High impact industry 3. Medium impact industry 4. Noxious and hazardous industry.	

Column 1 Exempt development	Column 2 UDA self-assessable development	Column 3 – UDA assessable development Column 3A Permissible development	Column 3B Prohibited development
In the Major centre zone (continued)			
(i) Place of assembly (k) Research and technology facility (l) Shop (m) Showroom (n) Sport, recreation and entertainment (o) Warehouse (iv) material change of use if in accordance with an approved Plan of Development (PoD) (v) operational work or building work in accordance with an approved PoD.			

Column 1 Exempt development		Column 2 UDA self-assessable development	Column 3 – UDA assessable development	
In the Industry and business zone			Column 3A Permissible development	Column 3B Prohibited development
1. An environmentally relevant activity if: (i) a code of environmental compliance has been made for that activity under the <i>Environmental Protection Regulation 2008</i> , and (ii) the activity complies with that code. 2. If the land is not on the Environmental Management Register or Contaminated Land Register: (i) development specified in schedule 1 (ii) making a material change of use where complying with the car parking rates in the planning scheme and not involving building work (other than minor building work) or operational work for: (a) Emergency services (b) Low impact industry (c) Research and technology facility (d) Service industry (e) Showroom (f) Warehouse.		Nil.	1. Reconfiguring a lot that is not mentioned in schedule 1 2. Making a material change of use if (i) the use is not defined in schedule 2, or (ii) the change of use is not mentioned in columns 1, 2, or 3B. 3. Operational work or building work if the work is not mentioned in columns 1, 2, or 3B.	Development for: 1. Extractive industry 2. High impact industry 3. Noxious and hazardous industry 4. Residential 5. Rural 6. Tourist park.

Column 1 Exempt development		Column 2 UDA self-assessable development	Column 3 – UDA assessable development	
			Column 3A Permissible development	Column 3B Prohibited development
In the Environmental Protection Zone				
Nil	Nil		1. Operational work 2. Development for: <ul style="list-style-type: none"> » Emergency Services » Environmentally relevant activities » Park » Telecommunication facility » Tourist attraction » Utility installation. 	All other development, including development not defined in Schedule 2, other than development mentioned in Columns 1, 2 and 3A.

Infrastructure Plan

4.1 Approach

Infrastructure requirements to achieve the planning outcomes will be delivered through the development assessment process, imposed as conditions of a UDA approval for development and delivered as part of the building and operational works on the site.

Infrastructure delivery is divided into two components:

1. Local infrastructure will include all internal works and external water and sewerage connections required to deliver the development including:
 - a. transport (including roads, public transport and active transport)
 - b. community facilities (including parks and plazas, community facility sites, State school sites)
 - c. network infrastructure (including water supply and sewerage, stormwater management, telecommunications and power).

2. Sub-regional infrastructure which includes major trunk works for connection to council and state's transport network systems and the local water authority's treatment system. These works are detailed in section 4.3 below.

In this UDA the developer will be required to deliver all local infrastructure required to service the development along with appropriate contribution to the sub-regional infrastructure.

Listed below is the infrastructure currently associated with the Caloundra South UDA. These infrastructure requirements reflect current understanding. However, further detailed infrastructure investigations will occur as the development continues and the infrastructure requirements and delivery responsibilities may be amended to reflect the outcomes of these investigations.

State expenditure for investment in infrastructure will be subject to consideration through normal budgetary processes and will be part of an approved state agency capital works program.

4.2 Infrastructure agreements

A UDA development condition may require the land owner to enter into an infrastructure agreement, under section 97 of the Act, to address the provisions and requirements of the infrastructure plan and implementation strategy.

For larger sites, to ensure the UDA communities evolves over time to achieve innovation and best practice, a tiered infrastructure agreement approach is required with a head infrastructure agreement and numerous secondary infrastructure agreements.

The overarching head infrastructure

agreement will contain commitments for the whole UDA and address the applicant's responsibilities in relation to the delivery of:

- » key infrastructure items delivered within the site
- » key infrastructure items delivered external to the site (eg. road upgrades, trunk water and sewerage infrastructure)
- » affordable housing
- » public transport
- » strategies to achieve ecological sustainability outcomes contained in the implementation strategy.

Separate agreements with individual utilities and the local authority may also be required.

The head infrastructure agreement will include provisions to identify the monitoring, compliance and enforcement system that will apply over the UDA's life.

Secondary infrastructure agreements will support the head infrastructure agreement and generally cover the same geographic areas as the context plans. Like context plans, these secondary infrastructure agreements will be progressively entered into at relevant points in the future which will ensure they include best practice standards and practices that are contemporary to that time. Secondary infrastructure agreements will address:

- » area specific infrastructure delivery obligations (eg. transport, water, open space, community facilities)
- » delivery of environmental protection

areas

- » water quality measures
- » housing types and percentages
- » pedestrian and cycle network facilities
- » location and size of community land and facilities.

The combination of context plans and a tiered infrastructure agreement approach provides the mechanism to review the appropriateness of development standards and practices and to incorporate improvements in technology and practices in future context plans and secondary infrastructure agreements.

4.3 Local infrastructure

4.3.1 Transport and network infrastructure

Infrastructure	Description of works	When required
Water, sewerage, stormwater	Internal reticulation and trunk works required to service the development as agreed with the relevant entities. A total water cycle management plan is to be approved and implemented with each stage of the development. For Caloundra South, the developer is also to construct works in relation to the provision of water supply from the Northern Regional Pipeline to the site. The developer may also be required to provide an interim waste water solution until the final treatment plant is constructed.	To be constructed at the time the development is being undertaken and delivered before improvements are demanded by additional loading from developments within the UDA.
Roads	Internal and trunk roads required to service the development as agreed with the relevant entity.	To be constructed at the time the development is being undertaken and delivered before improvements are demanded by additional loading from developments within the UDA.
Public transport	The developer is to provide, or subsidise, an interim public transport service for up to 5 years or until the fare box income exceeds 30% of running costs, whichever is sooner. This service is to provide a minimum of half hourly services in peak time and hourly services at other times from 6.00am to 9.00pm on weekdays and 8.00 am to 5.00pm on weekends.	On the completion of the 200th lot for the development.
Active Transport	Active transport infrastructure required to service the development.	To be constructed at the time the development is being undertaken.
Other networks	Network infrastructure improvements will be undertaken in conjunction with the relevant responsible authority for items including but not limited to; Telephony, Broadband and Energy.	Delivered before improvements are demanded by additional loading from developments within the UDA.

4.3.2 Community infrastructure

Infrastructure	Description of works	When required
Parks, open space, playing fields, plazas	To be delivered in accordance with the requirements of the scheme and ULDA guidelines.	To be provided at the time the adjacent development is being undertaken.
State school sites	To be delivered in accordance with the requirements of the scheme and ULDA guidelines.	To be provided at the time the adjacent development is being undertaken.
Community facilities	To be delivered in accordance with the requirements of the scheme and ULDA guidelines.	To be provided at the time the adjacent development is being undertaken.

4.4 Sub-regional infrastructure

4.4.1 The timing of the provision of Sub-Regional Infrastructure is dependent on the rates of development for the UDA. The estimated development rates are shown below:

Year	Dwellings developed
2015 (0 - 4 years)	1,330
2021 (5 - 10 years)	5,130
2045 (Ultimate)	20,000

4.4.2 The following sub-regional infrastructure is planned for the development of Caloundra South*:

Plan Ref.	Description
Roadworks (refer to map 9)	
1	Upgrade Bellvista Boulevard to Caloundra Road
2	Upgrade Bellvista Boulevard/Caloundra Road intersection
3	Bunnings Road - new road and intersection with Caloundra Road
4	Upgrade of Bowman Road from Nicklin Way East
5	Nicklin Way/Caloundra Road Interchange
6	Northern bridge across the Bruce Highway
7	Intersection of Caloundra Road and Kawana Arterial
8	Kawana Arterial extension - from Caloundra Road to the northern boundary of the UDA
9	Kawana Arterial extension - from northern boundary of the UDA to the Major centre
10	Kawana Arterial extension - from the Major centre to the southern boundary of the UDA
11	Kawana Arterial extension - from Bruce Highway to the southern boundary of the UDA
12	Southern interchange with Bruce Highway
13	Upgrade of Kawana Arterial north of Caloundra Road
14	New eastern road from Major centre to Pelican Waters Boulevard
15	Intersection of Kawana Arterial extension and new eastern road
16	Racecourse Road - connecting northern boundaries of the UDA to the industrial estate
17	Upgrade Caloundra Road

Plan Ref.	Description
Water and wastewater**	
	Stage 1 waste water treatment plant (1,300 lots)
	Stage 2 waste water treatment plant (4,000 lots)
	Ultimate waste water treatment plant
	Sewerage outfall
	Stage 1 potable water storage (20ML)
	Stage 2 potable water storage upgrade (20ML)
	Stage 1 potable water from NP to reservoir
	Stage 2 potable water from NP to reservoir
	Potable mains from reservoir to UDA
* Further investigation will determine the timing and entity responsible for delivery.	

** The Infrastructure items in this table have been identified by Unity Water. The ULDA will work with Unity Water to ensure that innovative solutions to the water and wastewater strategies are investigated to achieve the goals and targets identified in the Implementation Strategy. Consequently the actual Infrastructure items constructed may vary from this table as a result of these investigations.

LEGEND

- UDA BOUNDARY
- FUTURE PASSENGER RAIL ALIGNMENT
- STATE ROADS
- LOCAL ROADS
- STATE INTERSECTIONS
- LOCAL INTERSECTIONS
- SCHEDULE REFERENCE NUMBER

Greenfield UDA Sites - Caloundra South Sub-Regional Road Infrastructure

The contents of this plan are conceptual only. All areas and dimensions are approximate and subject to relevant authority, survey, engineering and Council approval.

NOT TO SCALE

Ref Number: 790270/009 SK009-1
 Date: 14/06/2011
 File: L:\790270 - UDA\009 Caloundra South\Design and Documentation\Kad\Sketch\790270-009-SK009-Ren - Council\UDA sites - Caloundra.rvt

Implementation Strategy

5.1 Introduction

The *Urban Land Development Authority Act 2007* (the Act) requires a development scheme to include an implementation strategy to "achieve the main purposes of the Act for this area, to the extent that they are not achieved by the land use plan or infrastructure plan." The implementation strategy for the Caloundra South UDA Development Scheme (the scheme) fulfils this requirement by identifying a suite of goals, actions and commitments that support the achievement of the vision for the Caloundra South community.

Fulfilling the vision for the Caloundra South community will take approximately 30 to 40 years. Many things within our society will change and evolve during this time including: technologies, prevailing economic conditions, socio-demographic trends and attitudes and preferences towards housing. The Urban Land Development Authority (ULDA) also expects that Caloundra South will become a 'model' new community embracing or even exceeding 'best practice' in ecological sustainability.

This implementation strategy responds to the challenge of delivering a 'model' community over a lengthy time period by establishing targets and goals, underpinned by a commitment to a cycle of data monitoring, review and, if warranted, amendment

of standards, guidelines or targets. This approach establishes a cycle of continuous adoption of 'best practice' over time through a rigorous process of monitoring and review. This cycle is depicted in the following diagram as an ever tightening review spiral over time heading closer and closer to the 'model' community aspiration (Figure 1).

Achieving the targets specified in this implementation strategy will not necessarily follow a linear path and there will be a range of actions and innovations driving change. Consequently, following a formal review of data against the specified 'targets' the ULDA may decide to:

- » amend an aspect of the implementation strategy (this may include amending existing targets or incorporating new targets)

- » amend existing, or create new, ULDA guidelines and standards that express minimum development requirements that are relevant to the targets.

This strategy focuses on:

1. Housing affordability - which is addressed by expressing 'stretch' targets which are supported by a series of actions. Data relevant to these targets will be regularly collected and will be initially reviewed five years after approval of the development scheme. Subsequent reviews of performance against housing affordability targets should be reviewed every two years thereafter.

2. Ecological sustainability - which is addressed by setting goals for a range of long term sustainability aspirations. 2016 'stretch' targets for a suite of sustainability criteria are also specified. These goals and targets are complemented by a range of actions aimed at stimulating development and behavioural outcomes that will contribute towards the targets. Data relevant to these targets will be regularly collected and will be initially reviewed five years after approval of the development scheme. Subsequent reviews of performance against ecological sustainability targets should be reviewed every two years thereafter.
3. Water quality monitoring and compliance regime.

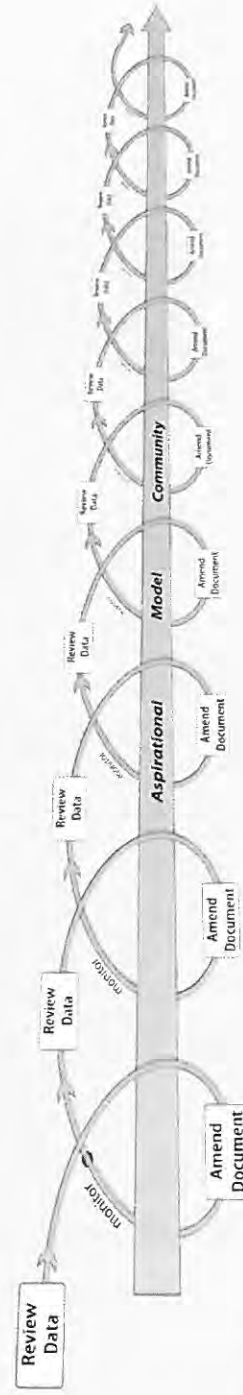


Figure 1

5.2 Housing options

Facilitating the provision of housing that is affordable to households on low to moderate incomes is set out as a core purpose in the Act.

The ULDA Housing Strategy defines low to moderate income households which is typically the income of first home buyers and key workers.

ULDA actions	Strategic targets	Goals
<p>The ULDA will:</p> <ul style="list-style-type: none">» work with developers to produce suitable housing designs to meet defined price points» monitor dwelling prices and amount of accessible housing produced» include in landowner development agreements:<ul style="list-style-type: none">» provisions requiring the land owner deliver housing to achieve nominated price points and accessibility targets where the monitoring process indicates targets are not being achieved» where subsidy is required to achieve these price points, additional provisions will be required to ensure the retention of the affordability over time. <p>The ULDA will work with the Department of Communities, Not for Profit providers and the land owner to identify opportunities for the inclusion of social housing projects progressively over the life of the project.</p>	<p>Greater than 25% housing that is affordable for key workers and first time home buyers in accordance with the income targets in the ULDA Housing Strategy.</p> <p>Greater than 10% accessible housing</p>	<p>Neighbourhoods include a diversity of housing, including that which is affordable for households on low to moderate incomes, and accessible to reflect changing requirements as the community matures.</p>

5.3 Ecological sustainability

The ULDA Act defines ecological sustainability as a balance that integrates:

- » protection of ecological processes and natural systems
- » economic development
- » maintenance of the cultural, economic, physical and social wellbeing of people and communities.

The achievement of ecological sustainability is required by the land use plan and can lead to reduced development and housing costs, including ongoing living costs. Energy, transport, water and access to services are major cost burdens on all household budgets. The land use plan is supported by guidelines which provides development standards to ensure the minimisation of adverse impacts on ecological processes and natural systems. The infrastructure plan identifies the key infrastructure required with standards set by the applicable guideline.

This element of the implementation strategy will be critical to achieve continuous improvement in all aspects of ecological sustainability as technology and community needs change during the life of the UDA.

There are aspirations for a growing community that cannot be achieved by the land use or infrastructure plans alone. This element of the implementation strategy is critical to achieve innovation and continuous improvement in ecological sustainability. This will be achieved by delivering affordable,

ULDA actions	Stretch targets	Goals
<p>The ULDA will work with landowners, council, government agencies, utility providers and other organisations to develop:</p> <p>Strategies for:</p> <ul style="list-style-type: none"> » community education to promote the protection and enhancement of the natural environment » demand optimisation for water and energy efficiency and demand management strategies, including builder education » reducing, recycling and reusing demolition, construction and household waste » addressing urban heat island effect to ensure urban amenity and lower energy use in dwellings and buildings. <p>Demonstration projects to:</p> <ul style="list-style-type: none"> » deliver alternative technology and service model projects for local renewable energy, water self sufficiency, and waste avoidance and recovery » deliver affordable sustainable housing projects that reduces energy use and inputs to achieve zero emissions » facilitate for early introduction of electric vehicles and associated infrastructure. 	<p>Natural resources and environment</p> <p>By 2016</p> <p>Potable water usage reduction to an average of 140 litres per person per day</p> <p>Average household energy usage reduction to 15 kilowatt hours (kWh) per day</p> <p>20% peak energy demand reduction from 5 kilovolt ampere (kVa) to 4kVa average diversified maximum demand</p> <p>Household waste reduction to 150kg per person per year</p> <p>75% reduction in demolition and construction waste</p> <p>Active and Public Transport</p> <p>By 2016</p> <p>Achieve 20% share of all trips as active transport (walking and cycling) trips</p> <p>Economic sustainability</p> <p>By 2016</p> <p>100% wireless internet connection for all centres</p>	<p>Communities that:</p> <ul style="list-style-type: none"> » are in a harmonised, built and natural environment that provides a socially inclusive, resilient and affordable place to live (in terms of set up and living costs) » generate no net green house gas emissions with all new buildings (being carbon neutral as a result of their normal use through a combination of thermal and energy efficiency and use of renewable energy from either centralised, community or direct sources) » maximise local sustainable water harvesting and the efficient utilisation of local water, wastewater, and stormwater resources while protecting the ecosystem health of natural waterways » have sustainable transport with zero emission private vehicles, active travel and public transport that is safe and equitable for all members of the community » have a sustainable waste avoidance and resource recovery that eliminates waste from household and commercial activities » support growth of regional connected economy through the provision of diverse sustainable livelihoods linked with public transport and other sustainable transport.

sustainable living through early provision of community facilities and services, an early focus on demand management and ongoing technology, and service integration innovations during the life of the UDA.

ULDA actions	Stretch targets	Goals
<p>The ULDA will work with the Department of Transport and Main Roads (including the TransLink Transit Authority) and the Council to facilitate the commencement of a public transport service to connect the UDA with education, health and retail centres in the regional area from the time the first residents move into the project.</p> <p>The ULDA will work with landowners, education providers and the community to:</p> <ul style="list-style-type: none">» deliver active transport strategies such as walking school bus services» facilitate pilot community urban agriculture projects <p>The ULDA will work with government agencies, the council and the landowner to:</p> <ul style="list-style-type: none">» formulate and implement diverse and connected employment generation strategies» facilitate the concept design and development of centres for knowledge, community and commerce by establishing reference working groups including the council, relevant state agencies and the land owner ahead of the development of each neighbourhood» facilitate wireless internet connection for all centres for knowledge, community and commerce, and major transport stations. <p>ULDA actions will be subject to monitoring and feedback processes.</p>		<ul style="list-style-type: none">» provide services, facilities and infrastructure that meet the social, communication, recreational and entertainment needs of residents creating opportunities for social interaction and networking from outset of development.

ULDA actions	Stretch targets	Goals
<p>The ULDA will work with the landowner, government agencies, Sunshine Coast Regional Council and other organisations as required to:</p> <ul style="list-style-type: none"> » outline specific community infrastructure and community development requirements in a Development Agreement, prior to the commencement of development » facilitate the development of a Community Development Strategy within twelve months of the gazettal of the Development Scheme » facilitate the delivery of community, health and recreational services and facilities as identified in the community development strategy in anticipation of the demands of the growing population » investigate the establishment of a Community Development Fund in conjunction with the Infrastructure Framework, and other potential sources of funds » identify a range of service delivery options delivered in a timely manner to meet the education needs of the community as determined by the Department of Education and Training » monitor the delivery of community infrastructure. 		

5.4 Water quality monitoring and compliance regime

The ULDA will monitor compliance with the formal water quality standards specified in the scheme, including the following:

- » Development protects downstream receiving waters by demonstrating water quality discharges from the site comply with:
 - » the water quality objectives specified in the *Pumicestone Passage Environmental Values and Water Quality Objectives* set by DERM in the *Environmental Protection (Water) Policy 1999*, in particular the area within Basin No. 141 designated as area PLE - Pumicestone Passage North (Enclosed Coastal/Lower Estuary), and
 - » the water discharge limits specified in the *State Planning Policy 4/10 Guideline Healthy Waters* and its supporting document '*Urban Stormwater Quality Planning Guidelines 2010*'.

A water quality monitoring regime is to be established at the outset of development, and submitted to ULDA for endorsement and approval. The regime is to establish the process for water quality monitoring for construction and operational phases of development, including:

- » water quality data collection (via automated system)
- » water quality monitoring (frequency and process)
- » reporting (frequency and process)
- » corrective action, if required

Annual water quality reporting is required to demonstrate compliance with the site's water quality objectives.

Water quality monitoring and reporting is required to be conducted throughout the duration of development of the site, or until such time as water quality monitoring within the localised catchment within the development site is deemed to be consistently meeting the desired water quality objectives. This will be undertaken over a 12 month post development monitoring period.

Schedule 1: Exempt development

Development prescribed in Schedule 4 of the <i>Sustainable Planning Regulation 2009</i> , other than Table 2, item 2 and Table 5, item 14.	
Building work	
Minor building and demolition work.	
Carrying out building work associated with a material change of use that is UDA exempt or self assessable development.	
Carrying out building work associated with an approved material change of use.	
Material change of use of premises	
Making a material change of use of premises for a Park.	
Reconfiguring a lot	
Subdivision involving road widening and truncations required as a condition of development approval.	
Operational work	
Erecting no more than one (1) satellite dish on premises, where the satellite dish has no dimension greater than 1.8 metres.	
Filling or excavation where:	
(a) not exceeding 50m ³ in volume or	
(b) top dressing to a depth of less than 100 vertical millimetres from ground level.	
Carrying out operational work if consistent with an approved Plan for Development for a precinct.	
Carrying out operational work associated with a material change of use that is UDA exempt development (excluding Park).	
Carrying out operational work associated with an approved material change of use.	
Carrying out operational work associated with the decontamination of land.	
Carrying out operational work that is clearing of vegetation:	
(a) other than Significant vegetation, or	
(b) Significant vegetation where:	
» the clearing is consistent with an approved Plan of Development	
» carried out by or on behalf of Sunshine Coast Regional Council or a public sector entity, where the works being undertaken are authorised under a state law.	
» in accordance with the conditions of a UDA development approval for a material change of use or reconfiguring a lot.	

Carrying out operational work that is the placing of advertising devices that: <ul style="list-style-type: none">» do not exceed 5m² for commercial, industrial, recreational or entertainment use» are attached to a front fence or facade of a main building» do not project more than 150mm from front facade or front fence» are not illuminated» contain the name of business or operator, the use of premises, contact details or name and address of building and» comprise no more than two signs.
Plumbing or drainage work
Carrying out plumbing or drainage work.
All aspects of development
Development undertaken by the state, or a statutory body representing the state, for the purposes of public housing.

Schedule 2: Definitions

Use definitions

Commercial use category

Business

Means the use of premises for administration, clerical, technical, professional or veterinarian clinic or other business activity where any goods or materials made, sold or hired on the premises are ancillary.

Car park

Means the use of premises for the parking of motor vehicles where such parking is not ancillary to some other development on the same site.

Health care services

Means the use of premises for medical, paramedical, alternative therapies and general health care and treatment of persons that involves no overnight accommodation.

Sales office

Means the use of premises for the temporary promotion and/ or sale of land and/ or buildings within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Industrial use category

Extractive industry

Means the use of premises for extraction of sand, gravel, soil, rock, stone or similar substance from land. The term includes ancillary storage, loading or cartage and any crushing, screening, washing, blending or other treatment processes of material extracted from the site.

High impact industry

Means the use of premises for industrial activities that have significant off-site impacts on non-industrial uses including air, noise or odour emissions that are not easily controlled or contained.

These uses may operate outdoors, but do not involve the manufacture of agricultural chemicals, pharmaceutical products, explosives or fertilisers.

Low impact industry

Means the use of premises for industrial activities which have negligible impacts on surrounding non-industrial uses.

The manufacturing aspects of the use are undertaken indoors.

Any off site impacts including air, noise and odour emissions are able to be readily mitigated.

Medium impact industry

Means the use of premises for industrial activities that have offsite air, noise and odour emissions.

Despite mitigation measures these activities would still have noticeable impacts on non-industrial uses.

The primary (noise, odour and air emitting) aspects of the use are undertaken indoors.

Noxious and hazardous industry

Means the use of premises for industrial activities that have the potential for extreme, adverse impacts on other land uses. This includes the potential for fire, explosion or toxic release.

These uses may involve the production of organic and inorganic chemicals, and the storage and production of explosives.

Research and technology facility

Means the use of premises for innovative and emerging technological industries involved in research design, manufacture, assembly, testing, maintenance and storage of machinery, equipment and component.

The use may include emerging industries such as energy, aerospace, and biotechnology.

Service Industry

Means the use of premises for industrial activities that have no external air, noise or odour emissions from the site and can be suitably located with other non-industrial uses.

Warehouse

Means the use of premises for the storage of goods whether or not in a building, including self storage facilities or storage yards.

Residential use category

Display home

Means the temporary use of premises for the promotion and/ or sale of land and/ or houses within an estate, where such premises are located within the estate which is proposed to be promoted or sold.

Home based business

Means the use of premises for a House or Multiple residential for an occupation or business activity as a secondary use where:

- » the floor area used specifically for the home business does not exceed 50m²
- » any visitor accommodation does not exceed 4 visitors
- » there is no hiring out of materials, goods, appliances or vehicles
- » there is only one sign related to the Home business, located within the premises or on a fence facing the road
- » there is no repairing or servicing of vehicles not normally associated with a residential use
- » there is no industrial use of premises

- » the maximum height of a new building, structure or object does not exceed the height of the House or Multiple residential and the setback is the same as, or greater than, buildings on adjoining properties
- » car parking is in accordance with the planning scheme
- » there is no display of goods
- » number of employees does not exceed 4.

House

Means a residential use of premises containing one primary single dwelling on a lot. The use includes out-buildings and works normally associated with a dwelling and may include a secondary dwelling.

The secondary dwelling is subordinate to the primary dwelling, capable of being used as a self-contained residence, and may be constructed under the primary dwelling, attached to it or free standing.

Multiple residential

Means the use of premises for residential purposes if there are two or more dwelling units on any one lot. Multiple residential dwelling units may be contained on one lot or each dwelling unit may be contained on its own lot subject to community title schemes. The term multiple residential does not include House.

Other residential

Means the use of premises for the accommodation and care of aged and retired people, small groups of disadvantaged persons or persons who are being nursed, require ongoing supervision/support or are convalescing. This term may include but is not limited to ancillary dining and recreation facilities, administration offices, laundries, kitchens, ancillary medical facilities and residential accommodation for management and staff.

Relocatable home park

Means the use of premises for relocatable dwellings that provide long term residential accommodation.

The term includes ancillary facilities such as amenities, laundries, kitchens and recreation facility for persons associated with the development. It also includes a manager's office and residence.

Short term accommodation

Means the use of premises comprising primarily accommodation units for short-term accommodation, generally for travellers and visitors, such as motel or backpackers. The use may include dining, laundry and recreational facilities which cater exclusively for the occupants of the premises, a manager's office and residence. The term does not include Other residential, Hotel or Tourist park.

Retail use category

Bulk landscape supplies

Means premises used for bulk storage and sale of landscaping and gardening supplies including soil, gravel, potting mix and mulch, where the majority of materials sold from the premises are not in pre-packaged form.

Fast food premises

Means the use of premises for the preparation and sale of food to the public generally for immediate consumption off the premises. The term may include drive through facilities and ancillary facilities for the consumption of food on the premises.

Food premises

Means the use of premises for the preparation and sale of food and drink to the public for consumption on or off the site. The term includes a cafe, restaurant, coffee shop, bistro, tea room, milk bar, snack bar, kiosk, take-away, but does not include fast food premises as separately defined.

Garden Centre

Means the use of premises for the sale of plants and includes gardening and landscaping products and supplies where these are sold mainly in pre-packaged form. The use may include an ancillary cafe or coffee shop.

Market

Means the use of premises for the display and sale of goods to the public on a regular but infrequent basis, where goods are primarily sold from temporary structures such as stalls, booths or trestle tables. The use includes ancillary food and beverage sales and ancillary entertainment provided for the enjoyment of customers.

Outdoor sales

Means the used for the display, sale, hire or lease of products where the use is conducted wholly or predominantly outdoors and may include construction, industrial or farm plant and equipment, vehicles, boats and caravans.

Service station

Means the use of premises for the retail sale of fuel including petrol, liquid petroleum and automotive distillate to refuel motor vehicles.

Shop

Means the use of premises for the display, sale or hire of goods or the provision of personal services or betting to the public.

Shopping centre

Means the use of premises comprising two or more individual tenancies that is comprised primarily of shops and which function as an integrated complex.

Showroom

Means the use of premises primarily for the sale of goods of a related product line that are of a size, shape or weight that requires:

- » a large area for handling, display or storage and
- » direct vehicle access to the building by members of the public for loading and unloading items purchased or hired.

Rural use category**Agriculture**

Means the use of premises for commercial purposes for the growing and harvesting of trees, crops, pastures, flowers, fruit, turf, vegetables and the like for commercial or business purposes.

The definition includes the storage and packing of produce grown on the subject site and the repair and servicing of machinery and other ancillary activities.

Agricultural supply store

Means the use of premises for the sale of agricultural products and supplies including agricultural chemicals and fertilisers, seeds, bulk veterinary supplies, farm clothing, saddlery, animal feed and irrigation materials.

Animal keeping and husbandry

Means the use of premises for keeping, depasturing, grazing or stabling of any animal, bird, insect and reptile. The term includes the use of land for keeping, breeding, stabling, training or boarding animals.

Intensive animal industries

Means the use of premises for the intensive breeding of animals or animal products in an enclosure that may require the provision of food and water either mechanically or by hand.

The use includes the ancillary storage and packing of feed and produce.

Intensive horticulture

Means the use of premises for the intensive cultivation of plants or plant material on imported media and located within a building or structure or where outdoors, artificial lights or containers are used.

The use includes the storage and packing of produce and plants grown on the subject site.

Wholesale nursery

Means the use of premises for the sale of plants where the plants are grown on or adjacent to the site.

The use may include sale of gardening materials where these are ancillary to the primary use.

Service, community and other uses category

Cemetery

Means the use of premises for the interment of the dead. The term does not include a crematorium or funeral parlour.

Child care centre

Means the use of premises for the minding or care, but not residence of children generally under school age. The use includes but is not limited to a kindergarten, creche or early childhood centre.

Community facility

Means the use of premises for social or community purposes, such as a community centre, library, public building or the like.

Crematorium

Means the use of premises for cremating bodies and may include the interment of the ashes. The term does not include a funeral parlour or cemetery.

Educational establishment

Means the use of premises for systematic training and instruction, including any other ancillary uses. This definition includes prep facilities, primary school, secondary school, college, university, technical institute, academy or other educational centre.

This term may include residential accommodation and other ancillary uses provided for the employees and the students of such premises.

Emergency Services

Means the use of premises for by government bodies or community organisations to provide essential emergency services, disaster management services and including management support facilities for the protection of persons, property and the environment.

Funeral parlour

Means the use of premises for arranging and conducting funerals, memorial services and the like, but does not include burial and cremation. The definition includes the storage and preparation of bodies for burial or cremation and includes a mortuary and funeral chapel. The term does not include a cemetery or crematorium.

Hospital

Means the use of premises for medical or surgical care or treatment of patients whether or not residing on the premises.

The use may include accommodation for employees and ancillary activities directly serving the needs of patients and visitors.

Place of assembly

Means the use of premises for worship and activities of a religious organisation, community or association.

Telecommunications facility

Means the use of premises for systems that carry communications by means of radio, including guided or unguided electromagnetic energy whether such facility is manned or remotely controlled.

The term does not include low impact facilities that are exempt from State planning laws under the *Telecommunications Act 1994* and specified in the Telecommunications (Low-impact facilities) Determination 1997.

Utility Installation

Means the use of premises to provide the public with the following services:

- » supply of water, hydraulic power, electricity or gas
- » sewerage or drainage services
- » transport services including road rail or water
- » waste management facilities
- » network infrastructure.

The use includes maintenance and storage depots and other facilities for the operation of the use.

Veterinary hospital

Means the use of premises for the treatment of sick or injured animals where such animals are accommodated overnight or for long stay periods on the premises. The term does not include animal keeping and husbandry or veterinary clinic.

Sport, recreation and entertainment use category**Indoor entertainment**

Means the use of premises for public entertainment predominantly within a building.

The term includes facilities commonly described as cinema, nightclub, adult entertainment, theatre and hotel.

Indoor sport and recreation

Means the use of premises for leisure, sport, recreation or conducting large scale receptions, displays and functions, predominantly within a building.

The term includes facilities commonly described as sports centre, gymnasium, convention centres, amusement and leisure centres.

Outdoor sport and recreation

Means the use of premises for recreation or sport activity, or other leisure past-time, which is conducted wholly or mainly outside of a building.

The term includes facilities such as (outdoor) public swimming pools, golf courses and driving ranges, outdoor courts and sportsgrounds and the like. The term also includes the provision of a clubhouse and other ancillary facilities.

Park

Means the use of premises by the public for free recreation and enjoyment and may be used for community events.

Facilities may include children's playground equipment, informal sports fields, ancillary vehicle parking and other public conveniences.

Tourism use category**Tourist attraction**

Means the use of premises for providing on site entertainment, recreation or similar facilities for the general public.

The use may include provision of food and drink for consumption on site.

Tourist park

Means the use of premises to provide accommodation in caravans, self contained cabins, tents and similar structures for the touring or holidaying public.

The use may include a manager's residence and office, kiosk, amenity buildings and the provision of recreation facilities for the exclusive use of occupants of the tourist park.

Other development**Filling or excavation**

Means removal or importation of material to or from a lot that will change the ground level of the land.

Material change of use

As defined in the *Urban Land Development Authority Act 2007*.

Minor building work or demolition work

Means:

- » internal building work
- » demolition work
- » external building work up to 25m² for roofs over existing decks or paved areas, sun hoods, carports and the like
- » demolition where not involving a place of cultural heritage listed building under the *Queensland Heritage Act 1992*
- » building work that increases the approved Gross Floor Area (GFA) or lawfully existing GFA at the time of commencement of this scheme by no more than 25m²
- » raising a house where the resultant height does not exceed 9m.

Operational work

As defined in the *Urban Land Development Authority Act 2007*.

Reconfiguring a lot

As defined in the *Urban Land Development Authority Act 2007*.

Administrative definitions**Accessible housing**

Housing in accordance with the applicable ULDA guideline.

Affordable housing

'Affordable housing' means private rental housing and home purchase options (including housing aimed at the first home owners market) for low to moderate income households.

Basement

A storey below ground level or where the underside of the ceiling projects no more than one metre above ground level.

Building

As defined in the *Building Act 1975*.

Building work

As defined in the *Urban Land Development Authority Act 2007*.

Building height

The maximum vertical distance between the natural ground level and the roof or parapet at any point but not including anything projecting from a building such as an antenna, aerial, chimney, flagpole or the like.

Caretaker's accommodation

The residential use of part of a premises where in connection with a non residential use on the same premises.

Contaminated Land Register

As defined in the *Environmental Protection Act 1994*.

Development scheme

As defined in the *Urban Land Development Authority Act 2007*.

Dwelling unit

Means a building or part of a building used or capable of being used as a self contained residence which must include:

- » food preparation facilities
- » a bath or shower
- » a toilet and wash basin.

The term includes works ancillary to a dwelling.

Environmental Management Register

As defined in the *Environmental Protection Act 1994*.

Environmentally relevant activities

As defined in the *Environmental Protection Act 1994*.

Community Greenspace network

An integrated greenspace network including both active and passive recreation, linear/riparian corridors, parks and private and public sporting recreation facilities.

Gross floor area (GFA)

The total floor area of all storeys of a building, including mezzanines, measured from the outside of external walls or the centre of a common wall, excluding area used for:

- » building services
- » ground floor public lobby
- » a public mall in a shopping complex
- » the parking, loading and manoeuvring of motor vehicles
- » private balconies whether roofed or not.

Ground level

Means:

- » the existing level of the site providing it has not been unlawfully altered; or
- » where the land has been unlawfully altered the level of land prior to the alteration; or
- » the 'as-constructed' level of the land in accordance with an approval for filling and excavation.

High water mark

Refers to the ordinary high water mark at spring tides.

Interim Uses

Refer to section 3-2.9.

Mezzanine

An intermediate floor within a room.

Neighbourhood centre

Means the use of premises for servicing the convenience needs of the community. The term includes Business, Medical centre, Retail and Community facility which ultimately function as an integrated complex. It may include a key open space area (such as park or plaza).

Net residential density

Net residential density means the total number of dwellings divided by the combined area of residential lots, local parks, internal local roads and half the width of local roads bordering the site. Average net residential density means net residential density calculated for a whole neighbourhood.

Planning scheme

The planning scheme for the Sunshine Coast Regional Council.

Plan of Development

See section 3-2.

Plot ratio

The ratio between the gross floor area of a building and the total area of the site.

¹ Refer to the ULDA Affordable Housing Strategy

<p>Premises As defined in the <i>Urban Land Development Authority Act 2007</i>.</p>	<p>Significant vegetation Means all vegetation, except those listed as pest vegetation by State or local government, that is significant in its:</p>	<p>Storey A space within a building which is situated between one floor level and the floor level next above or if there is no floor above, the ceiling or roof above. This does not mean:</p>
<p>Private open space An outdoor area for the exclusive use of occupants.</p>	<p>» ecological value at local, state or national levels including vegetation mapped as endangered remnant vegetation on the regional ecosystem maps prepared under the <i>Vegetation Management Act 1999</i></p>	<p>1. a space that contains only:</p>
<p>Public housing As defined in the <i>Sustainable Planning Act 2009</i>.</p>	<p>» contribution to the preservation of natural landforms</p>	<p>a. a lift shaft, stairway or meter room b. a bathroom, shower room, laundry, toilet or other sanitary compartment</p>
<p>Public interest Refers to an outcomes that benefits the wider community rather than local, site specific or land ownership desires.</p>	<p>» contribution to the character of the landscape</p>	<p>c. accommodation intended for not more than 3 vehicles d. a combination of the above</p>
<p>Public realm Refers to spaces that are used by the general public, including streets, squares, plazas and parks.</p>	<p>» cultural or historical value » amenity value to the general public.</p>	<p>2. a mezzanine</p>
<p>Sensitive uses Means any of the following: Child care centre, Educational establishment, Health care services, Hospital, House, Multiple residential, Other residential, Relocatable home park and Short term accommodation.</p>	<p>Note: vegetation may be living or dead and the term includes their root zone².</p>	<p>Urban Design Refers to the holistic design of urban environments, including the overall townscape, individual buildings, street networks, streetscapes, parks and other public spaces.</p>
<p>Setback The shortest distance measured horizontally from the wall of the building or structure to the vertical projection of the boundary of the lot (ie. excluding eaves).</p>	<p>Site cover The proportion of the site covered by buildings, including roof overhangs.</p>	

² The root zone is described by the vertical projection of the foliage to a depth of 1 metre below the surface and including buttress roots on and above the soil surface.

Schedule 3: Self-assessable provisions

Self-assessable provisions for House in the urban living zone

Elements	Self-assessable provisions
For the primary house on a lot.	
Design and siting of buildings and structures	Where on a lot 400m ² to 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.1 - Design and siting standards for single detached housing - on lots under 450m ² . Where on a lot more than 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.2 - Design and siting standards for single detached housing - on lots 450m ² and over. Note: The 9m building height limit in the development scheme prevails over the 8.5 m height limit in the QDC.
Outdoor living space	Minimum 16m ² with a minimum dimension of 4m and directly accessible from a main living room.
Car parking	Minimum 1 covered space 5m x 3m.
Driveway	Minimum 3m wide.
Front entry	Pedestrian entry and door visible from and addressing the street.
Street surveillance	Minimum one habitable room fronting the street with large windows or balconies facing the street.
Front fencing	Up to 1.8m high, with a minimum 50% transparency for that part of the fence exceeding 1.2m in height.
Building articulation	Minimum 0.5m wall articulation every 10m plus roof overhangs (eaves) and at least one of the following: a verandah, window hoods / screens, or awnings and shade structures.
Road access	The lot has physical access to a sealed road or constructed road.
Infrastructure services	The lot is connected to a reticulated water supply network and a reticulated electricity network. The lot is connected to a reticulated sewerage network or is capable of providing for on site effluent and disposal in accordance with the Queensland Plumbing and Wastewater Code.
For the secondary dwelling on a lot	
Floor area of secondary dwelling	Minimum 45m ² to maximum 75m ²
Design and siting of buildings and structures	Where on a lot 400m ² to 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.1 - Design and siting standards for single detached housing - on lots under 450m ² . Where on a lot more than 450m ² - the acceptable solutions in Element 1 of the Queensland Development Code (QDC), MP1.2 - Design and siting standards for single detached housing - on lots 450m ² and over.
Materials and detailing	Materials, detailing, colours and roof form are consistent with those of the primary house.
Outdoor living space	Minimum 9m ² with a minimum dimension of 3m and directly accessible from a main living area. If the lot is on a corner, not located within the corner setback.
Car parking	Minimum one space 5m x 3m.
Driveway	Shared minimum driveway with the primary house. However if the lot is on a corner, a separate driveway must be provided with a minimum width of 3m.
Front entry	If the lot is on a corner - dedicated pedestrian entry and door visible from and addressing the secondary street.
Street surveillance	If the lot is on a corner - minimum of 1 habitable room fronting the secondary street with large windows or balconies facing the street.
Fencing (street front)	If the lot is on a corner - maximum 1.2 m high on secondary frontage.
Fencing (other)	Up to 1.8m high - minimum 50% transparency over 1.2m in height.
Verandahs	If the lot is on a corner - Minimum 50% of building frontage, not screened.



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Map 7 - Development constraints

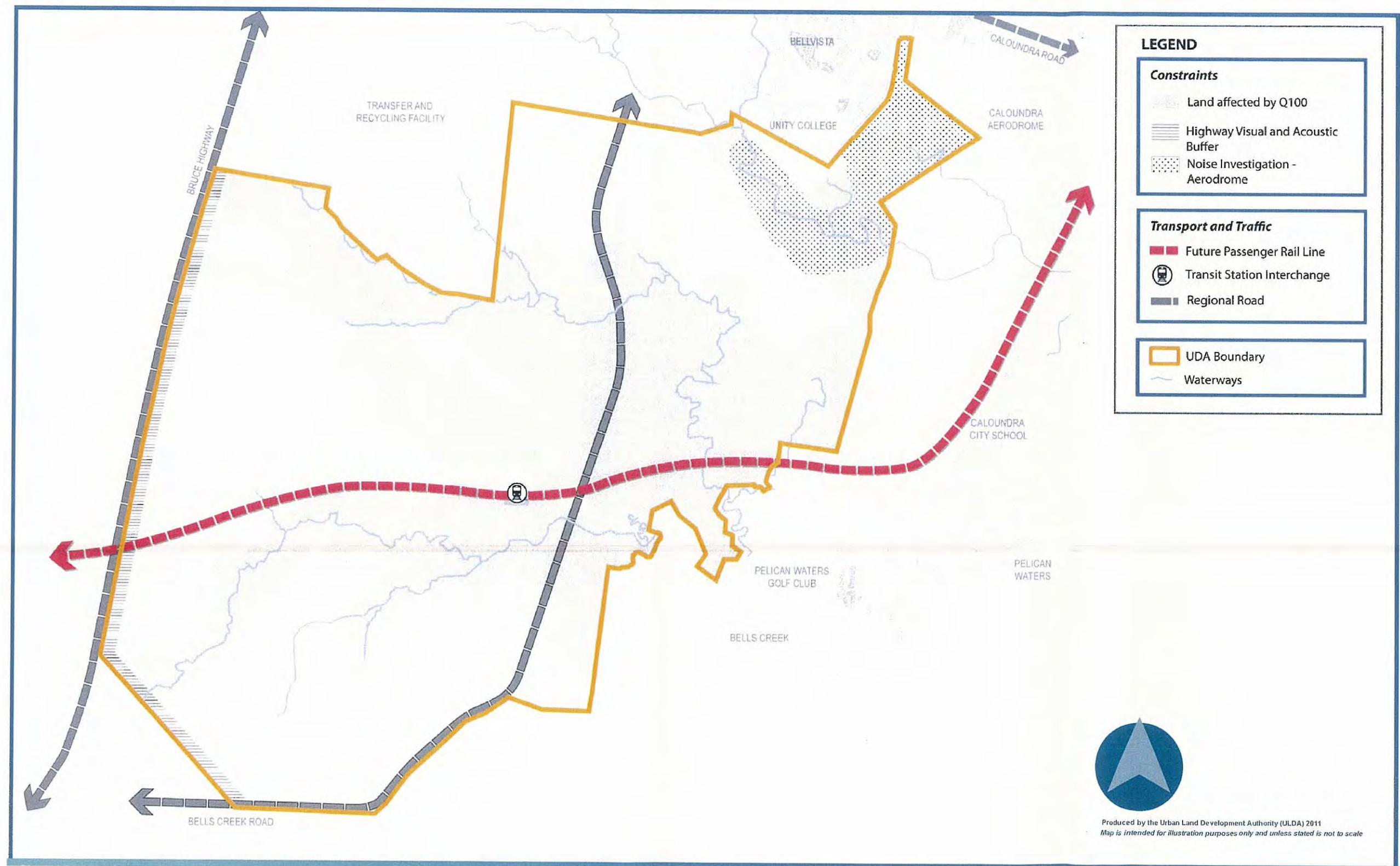


Table as an attachment

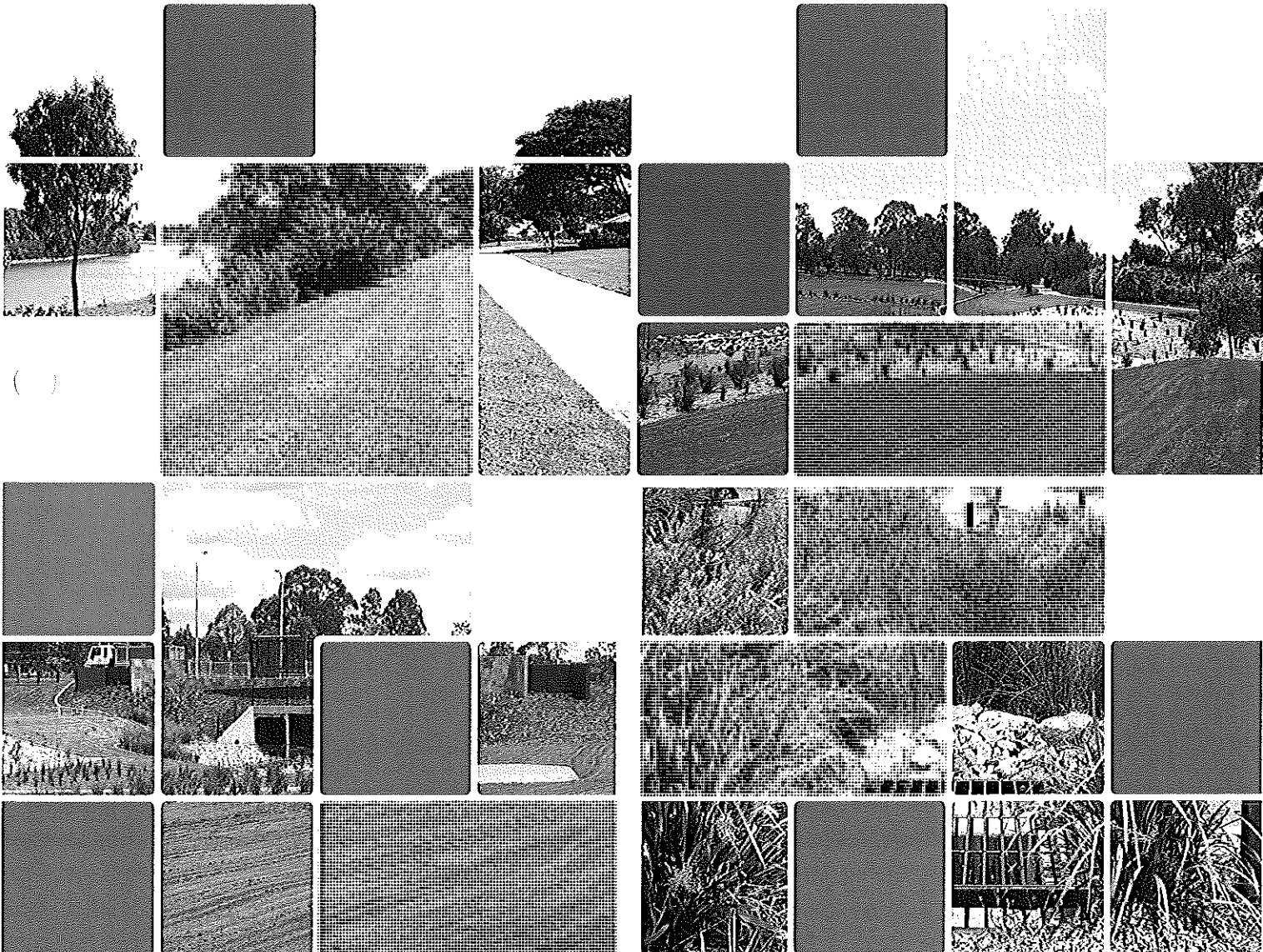
ILUP / Development Scheme	Description of Flood Detail	Page
Bowen Hills, Brisbane	<ul style="list-style-type: none"> Assessment criteria to ensure habitable rooms and non-habitable areas have acceptable levels of flood immunity and lot layouts enable buildings to be sited to address flooding constraints 	23
Northshore Hamilton, Brisbane	<ul style="list-style-type: none"> Assessment criteria to ensure habitable rooms and non-habitable areas have acceptable levels of flood immunity and lot layouts enable buildings to be sited to address flooding constraints 	16, 17
Fitzgibbon, Brisbane	<ul style="list-style-type: none"> Assessment criteria to ensure habitable floor levels and non-habitable areas comply with specified flood immunity levels 	16, 20
Fitzgibbon Development Scheme Amendment	<ul style="list-style-type: none"> Assessment criteria to ensure lot layouts enable buildings to be sited to address flooding constraints and have regard to SPP 1/03 Precinct outcome state development is to be flood free and results in no worsening of flood levels in other areas Refers to the relevant ULDA Guideline, Flooding and Stormwater Management Report and Plan and local government planning scheme 	14, 30
Oonoonba, Townsville	<ul style="list-style-type: none"> Assessment criteria to ensure the design, siting and layout of development achieves an appropriate level of flood immunity The Defined Flood Event for the Oonoonba UDA is the 100 year ARI. This flood level is mapped in the Oonoonba Flood and Stormwater Management Study. 	9
Woolloongabba, Brisbane	<ul style="list-style-type: none"> No reference to flooding 	-
Blackwater	<ul style="list-style-type: none"> Assessment criteria to ensure the design, siting and layout of uses, works and lots achieves an appropriate level of flood immunity Notes that flood management provisions are subject to change following the Queensland Floods Commission of Inquiry Refers applicants to the relevant ULDA Guideline for further flood information 	12, 26
Moranbah	<ul style="list-style-type: none"> Q100 flood map 	10, 29, 41

	<ul style="list-style-type: none"> ▪ Assessment criteria to ensure development responds to flooding constraints and achieves an appropriate level of flood immunity ▪ Notes that flood management provisions are subject to change following the Queensland Floods Commission of Inquiry ▪ Refers applicants to the relevant ULDA Guideline for further flood information 	
Roma	<ul style="list-style-type: none"> ▪ No reference to flooding 	-
Yarrabilba	<ul style="list-style-type: none"> ▪ Map 7 Development Constraints ▪ Assessment criteria to ensure development occurs in areas with an appropriate level of flood immunity, there is no 'net worsening' of flood conditions and people and property are safe from potential flooding ▪ Notes that flood management provisions are subject to change following the Queensland Floods Commission of Inquiry ▪ Refers applicants to the relevant ULDA Guideline, local government planning scheme and SPP 1/03 for further flood information 	14, 20
Greater Flagstone	<ul style="list-style-type: none"> ▪ Map 7 Development Constraints ▪ Assessment criteria to ensure development occurs in areas with an appropriate level of flood immunity, there is no 'net worsening' of flood conditions and people and property are safe from potential flooding ▪ Notes that flood management provisions are subject to change following the Queensland Floods Commission of Inquiry ▪ Refers applicants to the relevant ULDA Guideline, local government planning scheme and SPP 1/03 for further flood information 	15, 20
Ripley Valley	<ul style="list-style-type: none"> ▪ Map 3A Development Constraints ▪ Assessment criteria to ensure development occurs in areas with an appropriate level of flood immunity, there is no 'net worsening' of flood conditions and people and property are safe from potential flooding ▪ Notes that flood management provisions are subject to change following the 	12, 13, 15

	<p>Queensland Floods Commission of Inquiry</p> <ul style="list-style-type: none"> ▪ Refers applicants to the relevant ULDA Guideline, local government planning scheme and SPP 1/03 for further flood information 	
Caloundra South	<ul style="list-style-type: none"> ▪ Map 7 Development Constraints ▪ Assessment criteria to ensure development occurs in areas with an appropriate level of flood immunity, there is no 'net worsening' of flood conditions and people and property are safe from potential flooding ▪ Notes that flood management provisions are subject to change following the Queensland Floods Commission of Inquiry ▪ Refers applicants to the relevant ULDA Guideline, local government planning scheme, SPP 1/03 and Queensland Coastal Plan for further flood information 	15, 16, 22



April 2011



Superfund Remedial Action

The remedial action for the Superfund site at the former site of the...
The remedial action for the Superfund site at the former site of the...
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U.S. Environmental Protection Agency



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Introduction



Protection from Flood and Storm Tide Inundation Guideline

This guideline outlines the Urban Land Development Authority (ULDA) standards for protection of development from flooding and storm tide inundation in Urban Development Areas (UDA's) in Queensland.

This guideline should be read in conjunction with the provisions of UDA development schemes and ILUP's. A development scheme or ILUP may specify a different standard.

Background

State Planning Policy 1/03

The Queensland Government's position in protecting people and property from the adverse impacts of flooding is set out in State Planning Policy 1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide, and the associated SPP 1/03 Guideline.

The SPP provides guidance on how these hazards should be addressed through the planning and development assessment process, and is intended to be implemented primarily through the incorporation of appropriate measures consistent with the SPP in local government planning schemes.

SPP 1/03 introduces the term 'natural hazard management area' as the area defined for the management of a natural hazard such as flooding. Annex 3 of the SPP states that a natural hazard management area (flood) is land inundated by a Defined Flood Event (DFE)¹ and identified in a planning scheme. This means that, in relation to flood hazard, SPP 1/03 does not have effect in a particular area until the local government adopts a DFE for that area. In practice, virtually all local governments have adopted DFEs for existing and future urban areas.

Annex 3 of SPP 1/03 also sets out the Queensland Government's position "... that, generally, the appropriate flood event for determining a natural hazard area (flood) is the 1% Annual Exceedance Probability (AEP) flood. However, it may be appropriate to adopt a different DFE depending on the circumstances of individual localities. This is a matter that should be reviewed when preparing or undertaking relevant amendments to a planning scheme. Local governments proposing to adopt a lower DFE in their planning scheme to determine a natural hazard management area (flood) for a particular locality will be expected to demonstrate to the satisfaction of the Department of Emergency Services (DES) and the Department of Natural Resources and Mines (NR&M) that the proposed DFE is appropriate to the circumstances of the locality".

¹ A DFE is the flood event adopted for the management of development in a particular locality.

SPP 1/03 requires development in a natural hazard management area to be compatible with the nature of the natural hazard except where it is a development commitment² or there is overriding need for the development in the public interest and no other site is suitable and reasonably available for the proposed development.

Annex 4 of the SPP sets out the specific outcomes that must be achieved for development to be compatible with the nature of the natural hazard. For flood, these outcomes are:

1. Development maintains the safety of people on the development site from all floods up to and including the DFE.
2. Development does not result in adverse impacts on people's safety or the capacity to use land within the flood plain.
3. Development minimises the potential damage from flooding to property on the development site.
4. Public safety and the environment are not adversely affected by the detrimental impacts of floodwater on hazardous materials manufactured or stored in bulk.
5. Essential services infrastructure (e.g. on-site electricity, gas, water supply, sewerage and telecommunications) maintains its function during a DFE.

Appendix 2 of the SPP Guideline provides guidance on how to undertake a natural hazard assessment for flood, and to determine an appropriate DFE. The guideline notes that the matters to be addressed in undertaking a flood assessment include tide and storm surge, and the potential impacts of climate change. These issues are discussed separately below.

Table A in Appendix 5 of the SPP Guideline sets out example detailed measures that should be incorporated in planning schemes to ensure development achieves these outcomes.

² Development commitment is defined in the glossary of SPP 1/03. In practical terms it means development that either already has a development approval or does not require a development approval.

The SPP Guideline states that, where the SPP has not been appropriately reflected in a planning scheme, these measures should be used to assist interpreting the SPP in development assessment.

SPP 1/03 also requires that, wherever practicable, important community infrastructure is located and designed to function effectively during and immediately after natural hazard events commensurate with a specified level of risk. Appendix 9 of the SPP Guideline sets out specific measures for achieving this outcome included recommended flood immunity levels for specific infrastructure. These measures can also be varied in planning schemes to reflect local circumstances.

Coastal Plans

The Department of Environment and Resource Management (DERM) has prepared a Draft Queensland Coastal Plan that addresses the outcomes of a review of the existing State Coastal Management Plan (SCMP)³.

The Draft Queensland Coastal Plan contains two policy components:

- » Draft State Policy Coastal Management - provides policy direction and guidance for maintaining, rehabilitating, and protecting coastal land, and managing activities undertaken on it, with particular emphasis on managing public coastal land.
- » Draft State Planning Policy Coastal Protection (draft SPPCP) - outlines criteria for land-use planning and assessment of development to manage development in the coastal zone.

One of the outcomes sought by the draft SPPCP is that development in the coastal zone ensures the protection of people and property from coastal hazards taking into account the predicted effects of climate change.

³ The existing State Coastal Management Plan and Regional Coastal Management Plans will remain in force until the new Queensland Coastal Plan is released.

The Draft SPPCP, if adopted, will require regional plans or local planning instruments to identify storm tide⁴ inundation areas (among other things) and to avoid allocating land for urban or rural residential purposes within these areas.

Annexe 2, Table 2.1 sets out the following minimum assessment factors for determining storm tide inundation areas for general planning purposes:

- » Planning period of 100 years
- » Projected sea level rise of 0.8 metres by 2100 due to climate change (relative to 1990 value)
- » Adoption of the 100 year average recurrence interval extreme storm event/ or water level
- » Increase in cyclone intensity by 10% (relative to maximum potential intensity) due to climate change.

The Draft Guideline Coastal Hazards sets out the methodology for determining a storm tide inundation area, and states that if a storm tide inundation assessment has not been completed in relation to a proposed development then the storm tide inundation area is taken to be all land between high water mark and a minimum default defined storm tide event level of:

- » 1.5 metres above the level of HAT in south-east Queensland; or
- » 2 metres above the level of HAT in the rest of Queensland.

Annexe 3 of the Draft SPPCP provides a development assessment code for various coastal hazards and values including storm tide inundation. Annexe 6 sets out recommended storm tide event levels for essential community service infrastructure.

⁴ The Draft SPPCP defines storm tide as 'the effect on coastal water of a storm surge combined with the normally occurring astronomical tide'.

Climate Change Impacts on Inland Flooding

As outlined above the Draft SPPCP sets out climate change assessment factors for coastal areas. Increasing Queensland's resilience to inland flooding in a changing climate: Final report on the Inland Flooding Study (Office of Climate Change, DERM et al, 2010) documents the Queensland Government's response to a request from the Local Government Association of Queensland (LGAQ) to provide a benchmark figure for taking climate change into account when assessing inland flooding risk.

The report makes a number of policy and general recommendations for government consideration as part of the review of SPP1/03, and the following three scientific recommendations that are relevant to the conduct of flood risk assessments:

- » Recommendation 1 - Local governments should factor a 5 per cent increase in rainfall intensity per degree of global warming into the 1 per cent (Q100), 0.5 per cent (Q200) and 0.2 per cent (Q500) AEP flood events recommended in SPP 1/03 for the location and design of new development.
- » Recommendation 2 - The following temperatures and timeframes should be used for the purposes of applying the climate change factor in Recommendation 1:
 - 20C by 2050
 - 30C by 2070
 - 40C by 2100.
- » Recommendation 3 - The Queensland Government will review and update this climate change factor when a national position on how to factor climate change into flood studies is finalised as part of the current review of AR&R (Australian Rainfall and Runoff, Engineers Australia Publication).

Habitable Floor Levels

The Queensland Building Regulation 2006 (part3, section 13) allows a local government to designate part of its area as a natural hazard management area (flood) and declare the level to which the floor levels of habitable rooms as defined under the Building Code of Australia must be built. Most local governments in Queensland have adopted this approach in their planning schemes. For example Brisbane City Plan requires an additional 500mm of 'freeboard' above the DFE to allow for a factor of safety, uncertainty and localised events (Brisbane City Council Joint Flood Taskforce Report, March 2011, p17)

The Queensland Urban Drainage Manual (Table 7.03.1) requires freeboard of not less than 300mm below the finished floor level (FFL) of adjoining properties when designing major drainage infrastructure.

Possible Changes in Response to 2011 Flood

The Queensland Government has established the Queensland Floods Commission of Inquiry to investigate the January 2011 flood disaster, including a review of the existing town planning provisions relating to flooding and flood risk mitigation.

Several local governments are also undertaking separate investigations into the flooding. The Brisbane City Council Joint Flood Taskforce has already made several recommendations for changes in the way flood issues are addressed in Brisbane City including adopting the actual 2011 flood event as the new interim standard on which Council bases decisions on development, and a move away from the Q100 mentality to a risk management approach.

The findings of these investigations and the final report of the Commission may recommend other changes to planning schemes and changes to SPP 1/03.

ULDA Position

The ULDA adopts the Queensland Government's policy position set out in SPP1/03 in relation to flooding and the position set out in the Draft SPPCP in relation to storm tide inundation. This position will be reviewed and revised to take account of recommended changes to flood policy arising from the Queensland Floods Commission of Inquiry, and any changes between the Draft SPPCP and the SPPCP adopted by Government.

The following tables set out the ULDA's requirements to ensure development is adequately protected from flood and storm tide inundation.

Table 1: ULDA Requirements for Flood Protection

	ULDA Requirement	
Defined Flood Event (DFE)	1. The DFE adopted ¹ by the relevant Council for the area ² , OR	
	2. Where 1 is not available, the DFE adopted by the Council for a similar area, OR	For options 2 and 3 the DFE will be identified through a flood study undertaken by an appropriately qualified professional engineer in accordance with the preferred methodology set out in Appendix 2 of the SPP 1/03 Guideline and adopting as appropriate: <ul style="list-style-type: none"> » the minimum assessment factors from Annexe 2 of the Draft SPPCP or » recommendations 1 and 2 from <i>Increasing Queensland's resilience to inland flooding in a changing climate: Final report on the Inland Flooding Study</i>.
	3. Where 2 is not available, the 1% AEP flood.	
Habitable Floor Level (or 'freeboard')	1. The habitable floor level or freeboard adopted by the relevant Council for the area, OR	
	2. Where 1 is not available, the habitable floor level or freeboard adopted by the Council for a similar area, OR	
	3. Where 2 is not available, 300mm above the DFE adopted for the area.	

	ULDA Requirement
Development Assessment Criteria	1. Where the Minister for Local Government and Planning has endorsed the Council planning scheme as adequately reflecting SPP 1/03, the relevant provisions in the planning scheme, OR
	2. Where the Minister for Local Government and Planning has not endorsed the Council planning scheme as adequately reflecting SPP 1/03, the solutions set out in Table A of Appendix 5 of the SPP Guideline, and, for the specified community infrastructure, the solutions for Specific Outcome 1 in Appendix 9 of the SPP Guideline.

Notes

'Adopted means adopted by a resolution of Council or by incorporation in a planning scheme.

'For the purposes of this guideline 'area' means all or part of a UDA.

Table 2: ULDA Requirements for Storm Tide Protection

	ULDA Requirement
Storm Tide Inundation Area	<p>1. The storm tide inundation area adopted by the relevant Council, OR</p> <p>2. Where 1 is not available, the storm tide inundation area identified through a coastal hazard risk assessment undertaken by an appropriately qualified professional engineer in accordance with the preferred methodology set out in the draft Guideline Coastal Hazards, and adopting the minimum assessment factors from Annexe 2 of the Draft SPPCP, OR</p> <p>3. Where 2 is not available the relevant default defined storm tide event level set out in the draft Guideline Coastal Hazards.</p>
Habitable Floor Level (or 'freeboard')	<p>1. The habitable floor level or freeboard adopted by the relevant Council for the area, OR</p> <p>2. Where 1 is not available, 300mm above the storm tide inundation level.</p>
Development Assessment Criteria	<p>1. Where the Minister for Local Government and Planning has endorsed the Council planning scheme as adequately reflecting Draft SPPCP (once adopted), the relevant provisions in the planning scheme, OR</p> <p>2. Where the Minister for Local Government and Planning has not endorsed the Council planning scheme as adequately reflecting Draft SPPCP (once adopted), the relevant parts of the Development Assessment Code in Annexe 3 of the Draft SPPCP.</p>

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