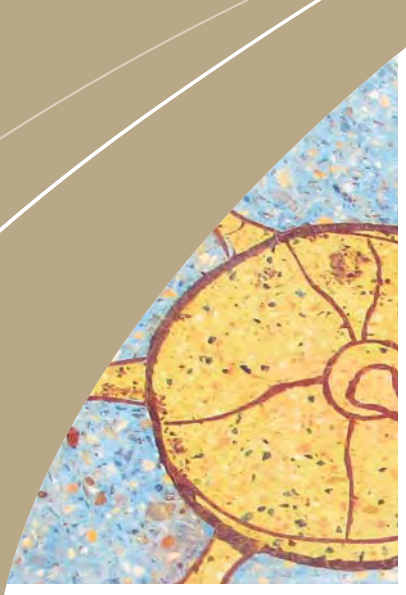
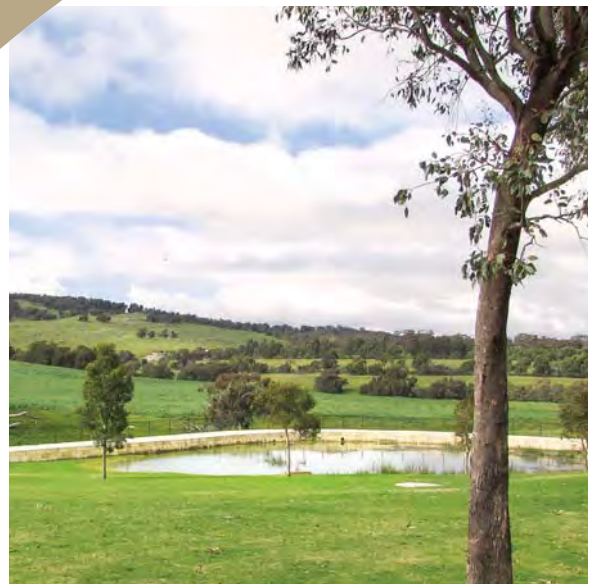
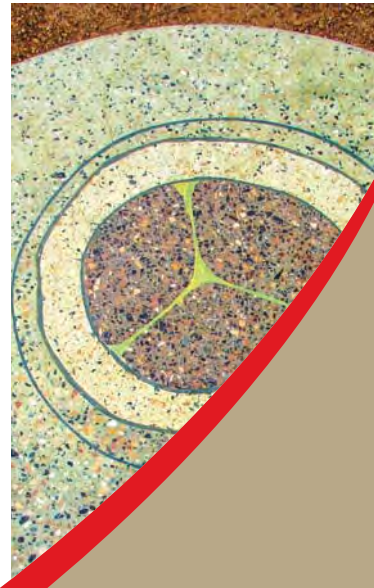
City of Swan

Bullsbrook Townsite
Land Use Master Plan



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Executive Summary

The Bullsbrook Townsite Land Use Master Plan is a strategy for the future development of Bullsbrook townsite. It is intended to provide guidance and advocacy for development of the townsite to 2031 and beyond, as the Western Australian government moves towards accommodating Perth metropolitan area's estimated population of at least 2.2 million.

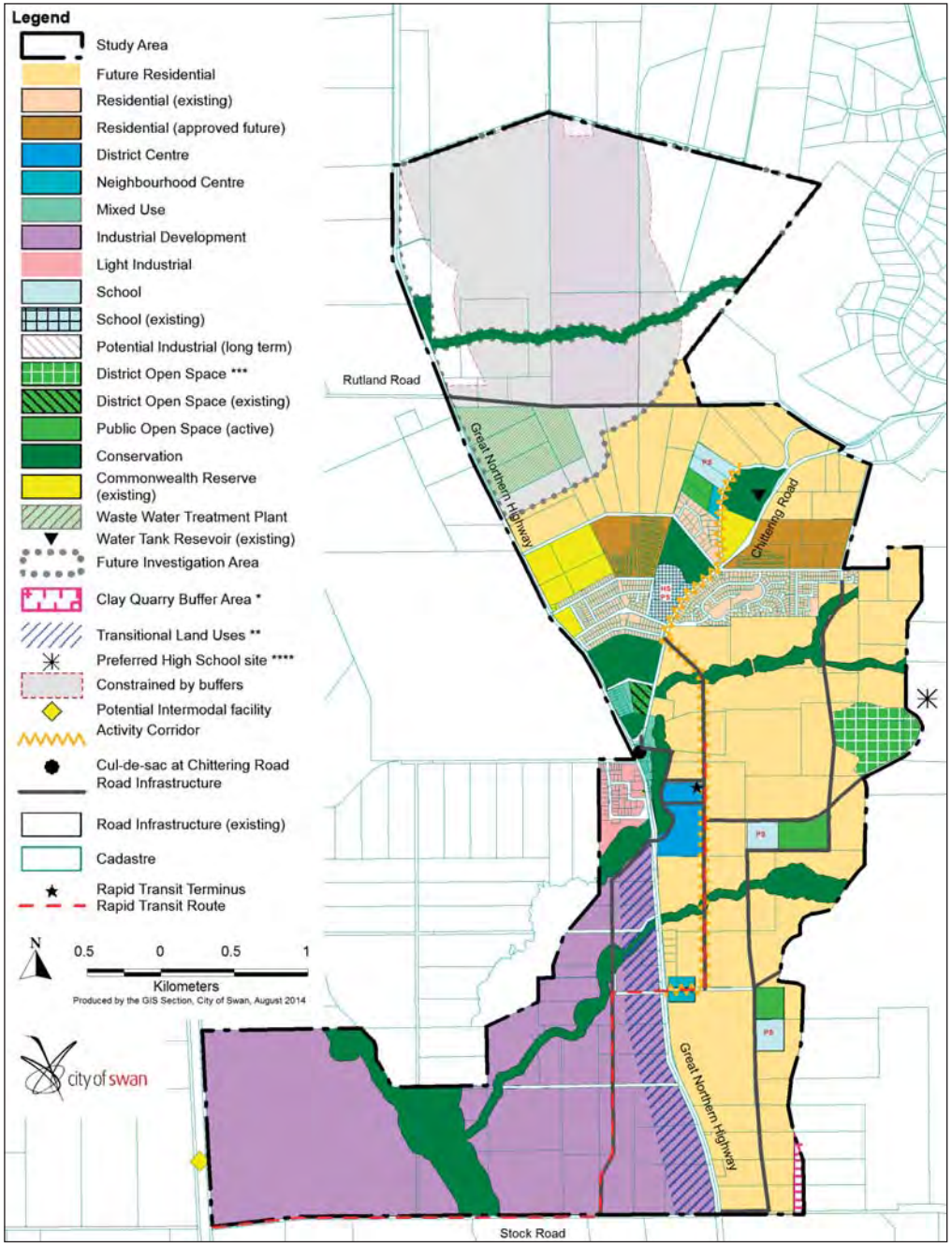
Proposed development is intended to work towards meeting the aims and requirements of the State Government, in particular its vision set out in *Directions 2031 and Beyond—Metropolitan Planning beyond the Horizon* to provide for anticipated population growth in a liveable town which is sustainable, vibrant and prosperous.

Bullsbrook is forecast to grow from a population of 5,614 to 17,146 in 2031 and 26,483 in 2036. In summary, this Master Plan provides a strategy for the growth of the townsite area to service this growing community as follows:

Item	Data	Section Reference
Total area covered by the Master Plan	1,756ha	3.1
Area of each land use within Master Plan (gross) **– Residential** **– Industrial** **– Commercial**	 526ha (313ha net) 414ha (331ha net) 16.4ha	3.1
Estimated lot yield	7,049 lots including 153 urban infill lots (plus 2,504 possible further lot potential from currently constrained sites—probably post 2031 [potential 40 lots within clay quarry buffer area and additional 2,464 lots within future investigation area])	3.1.1
Estimated population yield	19,736 people (plus 7,011 possible further potential from currently constrained sites—probably post 2031)[1]	3.1.1
Number of high schools	2 (1 existing)[2]	3.6.1
Number of primary schools	3	3.6.1
Estimated commercial floor space (for activity centre)	10,000m² net lettable area by 2031 (20,000m² probably post 2031)	3.1.2
Employment **Labour Force**	11,000 jobs 9,093 (probably post 2031)	3.1.2
Provision of Public Open Space **– Unrestricted** **– Restricted**	 61.6ha 15.4ha	3.2

[1] This figure does not include the existing population of 5,614.

[2] The addition of a second high school will be subject to a number of factors, described in detail within Section 3.1 of this report.



* The existing 500 metre clay quarry buffer may be reduced in the future, upon agreement of all relevant parties. This buffer is subject to detailed mapping.

** Transitional land uses are required along the western edge of the Great Northern Highway (refer Section 3.1.2 of the Bullsbrook Townsite Land Use Master Plan report).

*** City of Swan will only accept the vesting of land in this indicative location as DOS once fully remediated by the landowner to the satisfaction of the EPA and City.

**** In the event that an additional high school site is required, its siting and location will be required to meet those qualifications outlined within Section 3.6.1 of the Bullsbrook Townsite Land Use Master Plan report.

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Appendix 1.0 Report for Bullsbrook Townsite Area: Regional Water Management Strategy—GHD, 2012.

Appendix 2.0 Traffic Modelling and Analysis Report for City of Swan: Bullsbrook Development—Urbsol, 2013.

List of Abbreviations

ASS	Acid Sulphate Soils
BCIP	Bullsbrook Community Infrastructure Plan
BTRS	Bullsbrook Townsite and Rural Strategy
DCA	Development Contribution Area
DCP	Development Contribution Plan
DC2.3	Development Control Policy No. 23: Public Open Space in Residential Areas
DoE	Department of Education
DOW	Department of Water
DOS	District Open Space
EELS	Economic and Employment Land Strategy
EPA	Environmental Protection Authority
GNH	Great Northern Highway
GNH Access Strategy	Great Northern Highway West Swan to Muchea Access Strategy
LPS17	City of Swan Local Planning Scheme No. 17
Master Plan	Bullsbrook Townsite Land Use Master Plan
MRS	Metropolitan Region Scheme
PDNH	Perth to Darwin National Highway
POS	Public Open Space
RAAF	Royal Australian Air Force
RWMS	Regional Water Management Strategy
SPP	State Planning Policy
SPP2.4	State Planning Policy No. 2.4: Basic Raw Materials
SPP2.8	State Planning Policy No. 2.8: Bushland Policy for the Perth Metropolitan Region
SPP4.2	State Planning Policy No. 4.2: Activity Centres for Perth and Peel
SPP5.4	State Planning Policy No. 5.4: Road and Rail Transport Noise and Freight Considerations in Land Use Planning
SPP3.6	State Planning Policy No. 3.6: Development Contributions for Infrastructure
TECs	Threatened Ecological Communities
The City	City of Swan
TN	Total Nitrogen
TP	Total Phosphorous
WWTP	Wastewater Treatment Plant
WA	Western Australia

1.0 Planning Background

1.1 Introduction and purpose

Over the last decade, the Perth metropolitan area has experienced rapid growth, particularly as a result of the mining boom of the early 2000s. The north-east corridor of the Perth metropolitan area is expected to experience a population growth of over half a million people in the next 15–20 years. To assist in accommodating a portion of that growth, Bullsbrook has been identified as a future urban expansion area under the WA State Government's *Directions 2031 and Beyond—Metropolitan Planning beyond the Horizon* ('Directions 2031') and its *Outer Metropolitan Perth and Peel Sub-regional Strategy*.

Bullsbrook, which currently accommodates approximately 5,614 people, is forecast to grow to a population of 17,146 by 2031 and 26,483 by 2036.[3] The majority of this growth is expected to take place in and around the area's existing town centre. The City of Swan is currently facing pressure from strong demand for urbanisation within this area, including commercial, light industrial and residential activities. In order to ensure that a coordinated approach to future development takes place, the City of Swan has prepared a land use Master Plan for the Bullsbrook townsite to provide guidance over future structure planning and subdivision proposals. Figure 1 provides a contextual map showing the Bullsbrook Townsite Land Use Master Plan (Master Plan) study area.

The Master Plan has been prepared in order to provide planning guidance for the future urban growth of the area and is intended to act as a similar mechanism to a district structure plan. Whilst the Master Plan is not a statutory plan, this strategic document aims to provide guidance towards the future urban growth of the area by identifying appropriate land use zonings. These zonings could then be created via respective regional and local planning scheme amendments.

The Bullsbrook townsite is currently relatively disconnected from other urban areas within the Perth metropolitan region. In order for the WA State Government (State Government) medium to long term population growth targets of over 20,000 people to be realised, a strategic planning framework (i.e. the Master Plan) needs to be established to guide this growth. The Master Plan aims to steer the development of a self-sufficient townsite, which provides for diverse land uses and basic infrastructure needs, whilst considering the natural environment and existing major land uses including the Pearce RAAF Base, various resource extraction operations and adjacent agricultural and horticultural activities.

The area requiring a Master Plan was generally established in the City of Swan's (The City) Bullsbrook Townsite and Rural Strategy (BTRS), endorsed by the City in September 2008. Many of the recommendations outlined within the BTRS were informed by the outcomes of a comprehensive community consultation process carried out by the City in 2007, in the preparation of the Bullsbrook Place Plan 2008. As a result, the BTRS identified a Bullsbrook Townsite Land Management Precinct. It recommended that detailed planning would be required to facilitate townsite expansion, by guiding land use change in this precinct. Figure 2 indicates the townsite precinct (in brown) as identified in the BTRS.

[3] Source: Forecast id 2012.

Figure 1. Bullsbrook Townsite Land Use Master Plan: Study Area in Context of Surrounding Region

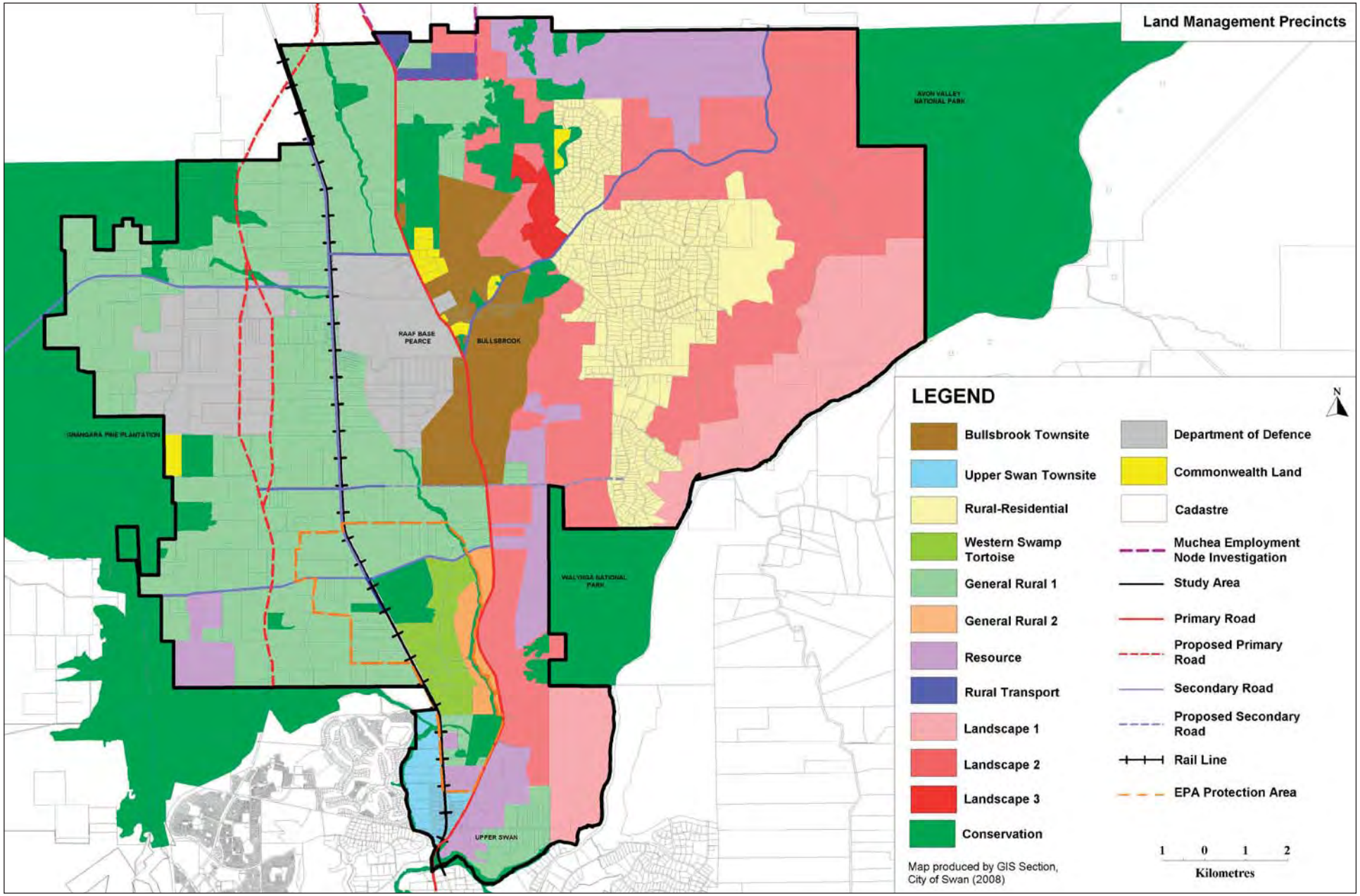


Figure 2. Bullsbrook Townsite and Rural Strategy—Land Management Precinct Study Area

The townsite area requiring a Master Plan has since been expanded in the south-east to include more land west of Great Northern Highway (GNH), directly north of Stock Road. This was due to guidance recently provided by the State Government, through the publication of its Economic and Employment Land Strategy (EELS), which resulted in the State Government's endorsement of an amendment to the Metropolitan Region Scheme (MRS) which allowed rezoning of this 'Rural' zoned land to 'Industrial' (Amendment 1219/41).

The current townsite area and subject of this Master Plan extends from Morrissey Road in the north to Stock Road in the south, GNH in the west to the Darling Scarp in the east, and south of Royal Australian Air Force (RAAF) Pearce Air Base from the escarpment in the east to Railway Parade in the west.

Of significance to the context of the Master Plan, the MRS was recently rezoned to allow a Primary Regional Road (red road) reservation for the Perth to Darwin National Highway (PDNH) approximately 1.6km to the west of the study area, which will eventually have direct access via Stock Road (located on the south boundary of the study area).

Figure 3 provides an aerial photo of the study area, also identifying the townsite in relation to existing roads, the proposed PDNH reserve and the RAAF Base. Superimposed aircraft noise contours illustrate that the townsite area is unaffected by aircraft noise, except for the 'Special Use' zoned industrial area south of the RAAF Base (SUZ No. 12) and a small portion of a reserve east of GNH which belongs to RAAF (this is discussed in further detail in Section 2.7.3).

The Master Plan provides strategic guidance for future land use planning and growth of the townsite to:

- allow for a diversity of land uses, which
  - provides for metropolitan and local residential land needs for the growing population
  - creates a vibrant activity centre with increased local employment and business opportunities, as well as improved services
  - assists in addressing the State's land shortage,
  - generates local employment opportunities to contribute to self-sufficiency; and
  - results in essential industrial growth within the existing 'Industrial' zone with an appropriate land use and built form interface along the GNH
- protect the natural environment;
- provide the necessary basic infrastructure (including Public Open Space and community facilities) to support urban development;
- protect existing and identified long-term land uses, including the Pearce RAAF Base, and resources;
- protect existing prime agricultural and horticultural land, where applicable.

The Master Plan has been prepared using information from landowners, developers and their consultants, State Government agencies and service providers as well as past State Government and City of Swan studies/ strategies, and should be read in conjunction with existing relevant State and City policies.

Much of the land which has been flagged for urban investigation is currently zoned 'Rural' or 'Urban Deferred' under the MRS, and 'General Rural' or 'Landscape' under the City's *Local Planning Scheme No. 17* (LPS17). The Master Plan identifies a range of lots which require future rezoning to 'Urban' under the MRS, and appropriate residential or commercial/industrial zonings under LPS17.

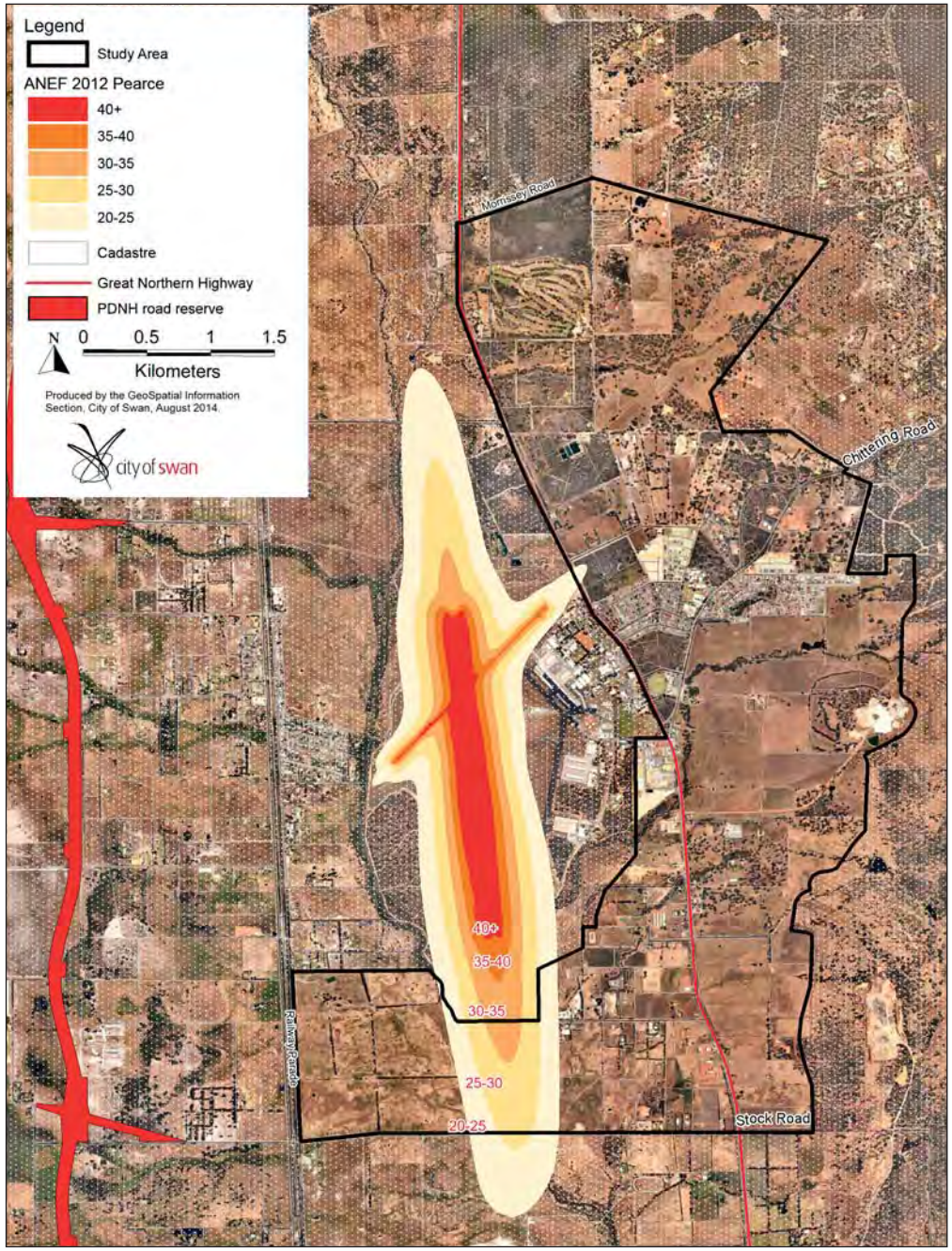
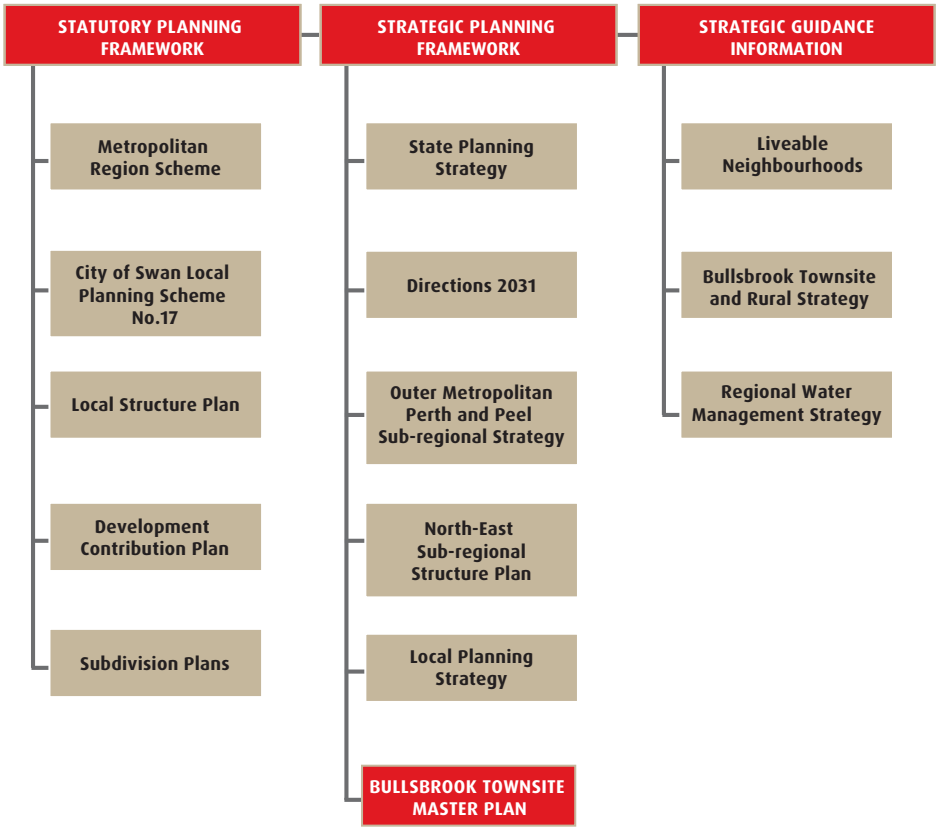


Figure 3. Bullsbrook Townsite Land Use Master Plan: Study Area—Aerial and Context Photo

The following diagram demonstrates the hierarchy of planning instruments that apply to the future urban development of the study area:



The BTRS anticipated that the necessary urban rezoning would not be required before 2020, unless employment and traffic growth, plus related statutory planning processes, occurred beforehand. However, the City of Swan is currently experiencing pressure for this planning work to commence and has received numerous structure plan proposals for various parcels of land within the study area. Furthermore, the Department of Planning has identified the area surrounding the existing 'Urban' or 'Urban Deferred' land in Bullsbrook as an 'Urban Expansion Area 2011–2015'.[4] Therefore, the necessary urban rezoning may occur soon after the Master Plan has been endorsed by Council.

[4] *Outer Metropolitan Perth and Peel Sub-regional Strategy*—WAPC 2010.

1.2 Land description

1.2.1 Location

The Master Plan study area is indicated in Figure 3. It comprises 1,754ha.

1.2.2 Land use

The study area contains existing urban development including residential, commercial, retail, light industrial, community and Public Open Space (POS) land use, as well as a wide variety of rural land uses.

The land use pattern is as follows and generally in terms of the zoning under LPS17 indicated in Figure 4:

Urban

A small tract of the Bullsbrook study area comprises land already zoned 'Urban' under the MRS. See Figure 6. This land is generally located around the existing commercial hub, to the south-west and north-east of the existing intersection of GNH and Chittering Road. To the north, the urban land is occupied mostly by lots used for residential purposes. Directly to the east of this is a small portion of land which is yet to be developed. To the south, the 'Urban' zoned land is occupied by a commercial and semi-industrial estate.

Residential

There is an existing residential community located within the study area. Located to the north of the existing commercial hub, along Chittering Road, the area occupies 62.5ha of the study area where there are currently approximately 525 dwellings. The area zoned 'Residential', under LPS17, is established (see Figure 4). The area zoned 'Residential Development', under LPS17 (a zone requiring endorsed structure plans), occupies approximately 40.8ha and is generally vacant land, some of which is in the process of structure planning.

Non-residential

There is an existing commercial hub within the study area, based around the intersection of Bullsbrook Road and GNH. It is known as the Bullsbrook town centre and comprises an area of approximately 15.5ha. It consists of a newsagent, supermarket, service station, butcher, hotel, chemist, a hairdresser, bank, real estate agencies and food outlets. Directly to the west of the commercial hub is a quasi-light industrial estate with some retail along the GNH.

The areas, currently used for commercial and quasi-light industrial purposes are located within LPS17 'Special Use Zone No. 2' and 'Special Use Zone No. 7'. All land in the study area zoned appropriately for commercial/retail purposes has been exhausted, with the exception of the remnant vacant block on the existing hotel site. Previous surveys have found that many residents find the retail options in Bullsbrook to be inadequate and therefore travel to Midland and Joondalup for shopping.

Urban Deferred

Under the MRS, to the north-east and south-east of land zoned 'Urban' in the study area, portions of land are zoned 'Urban Deferred'. This land is predominantly zoned 'General Rural' under LPS17. However, there is a parcel of land in the north-east 'Urban Deferred' area which is zoned 'Residential Development' in LPS17. This appears to be an anomaly in LPS17 and the approval of any future structure plan would be based on demonstration that adequate services can be suitably provided to the area. Lifting of the urban deferment is likely to occur concurrently with such a structure plan.

Industrial

A recent MRS amendment rezoned a large area of land, located south-west of the existing commercial hub, from 'Rural' to 'Industry', and LPS17 was subsequently rezoned from 'General Rural' to 'Special Use No. 12'. This area is currently subject to a number of local structure plans which are under consideration by Council. The State Government has also earmarked the area for the possible location of an intermodal freight terminal.

Rural

The study area is predominantly zoned 'Rural' under the MRS. The 'Rural' land occupies an area of over 1,370ha and falls within the 'General Rural' and 'Landscape' zones of LPS17. It is located to the north and south of the existing 'Urban' zoned land and is dissected by creek lines. It is also impacted by two quarry sites referred to further on in this report.

1.2.3 Legal description and ownership

The study area can be largely divided into public and private ownership. The major public landowner is the Commonwealth Government of Australia (Department of Defence) which owns the RAAF Pearce Airbase and associated adjacent land. There are also several parcels of land owned by the State Government and the City of Swan which are reserved for conservation as well as POS.

The remaining area is generally privately owned, predominantly by four major land holders. There are of course other landholders in ownership of smaller land parcels. Figure 5 identifies those lots owned by major landholders within the Master Plan area.

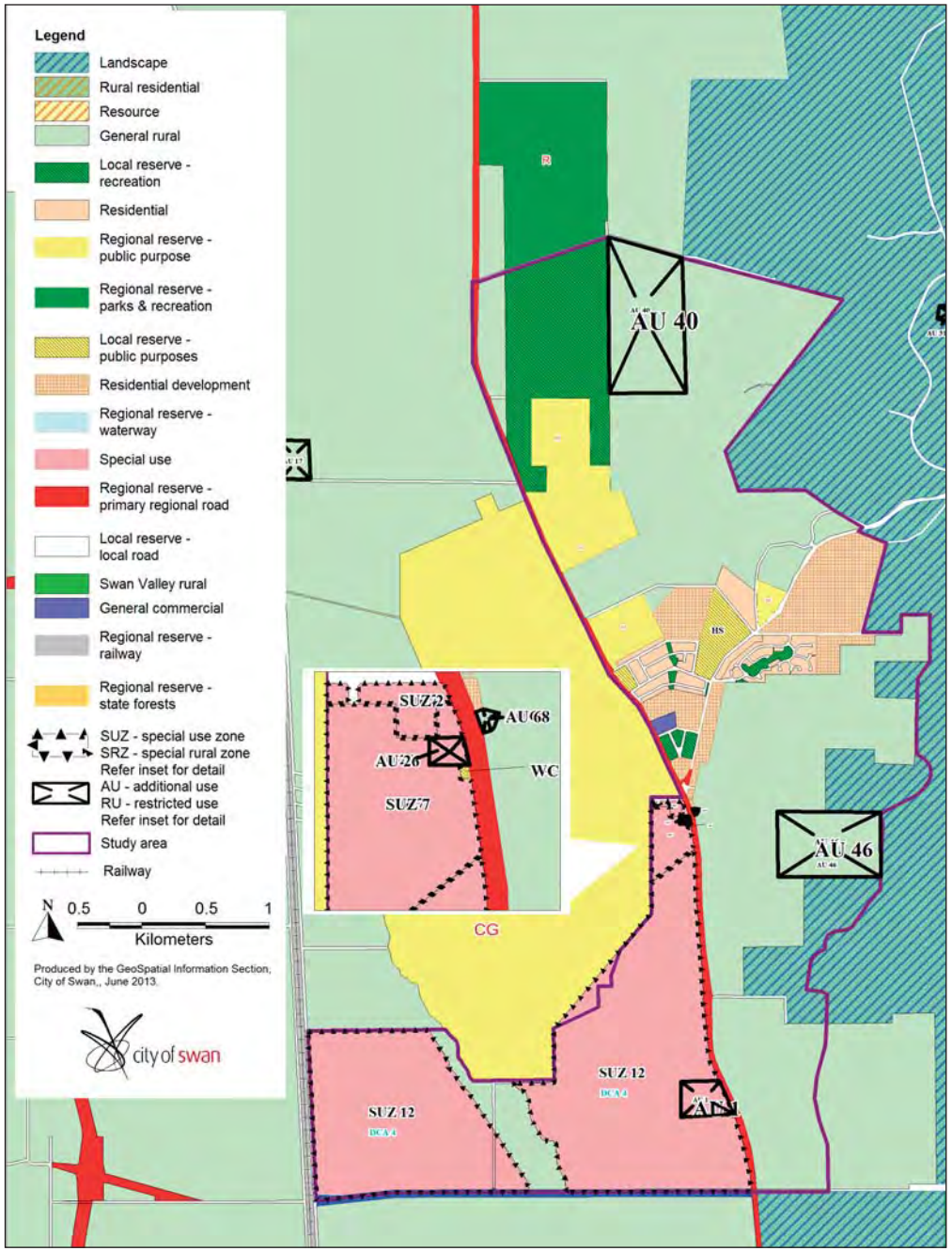


Figure 4. Bullsbrook Townsite Land Use Master Plan: City of Swan Local Planning Scheme No. 17

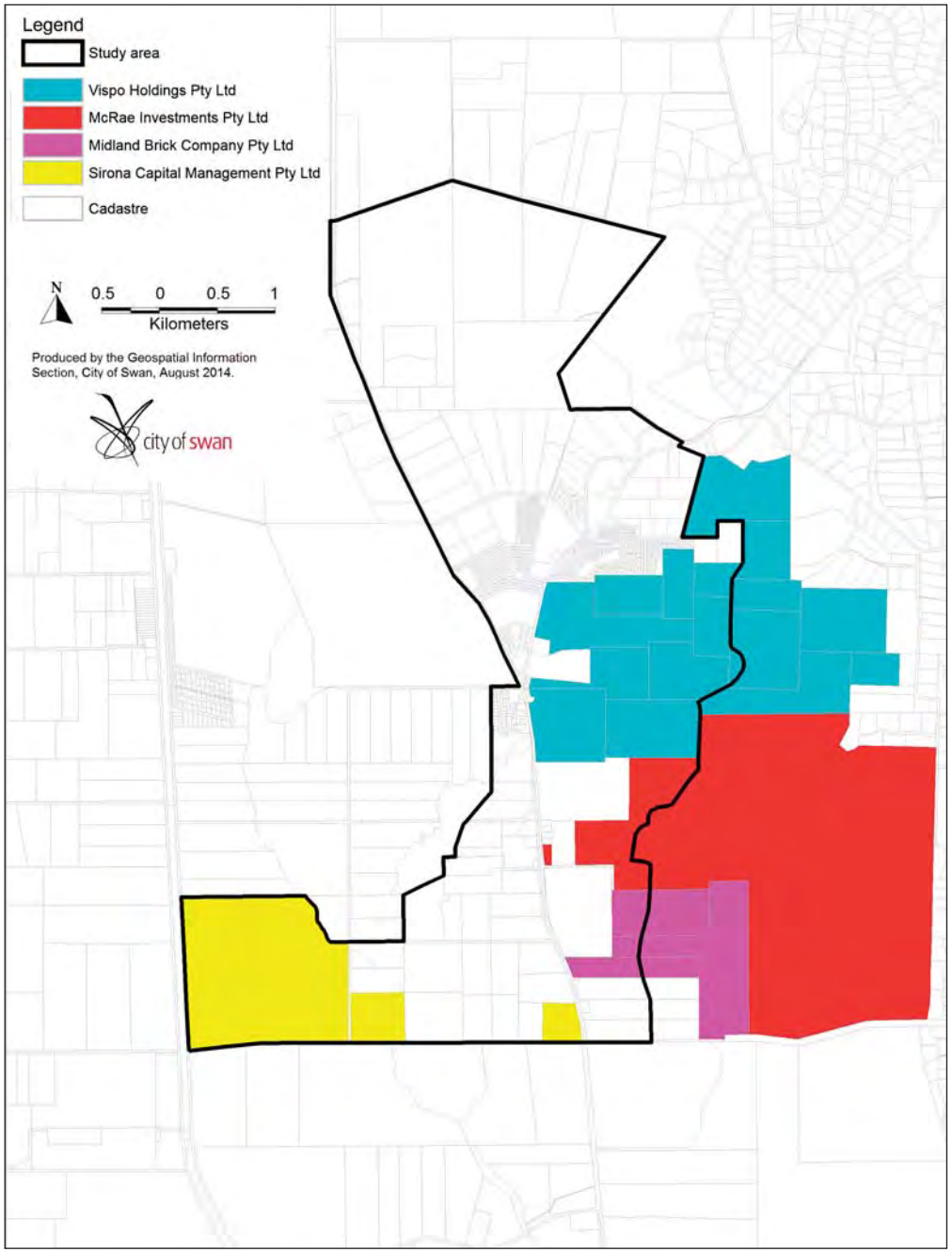


Figure 5. Bullsbrook Townsite Land Use Master Plan: Major Large Landholdings in the Master Plan

1.3 Planning framework

1.3.1 Zoning and reservations

Metropolitan Region Scheme (MRS)

The MRS is the regional land use planning scheme for the Perth metropolitan area. The MRS indicates the agreed strategic direction for land within the metropolitan region. It catalyses change to planning controls at the local level, when a specific reservation or rezoning occurs within it.

The study area is zoned, primarily; 'Rural' under the MRS. However some land has already been zoned 'Urban' and 'Urban Deferred'. A number of MRS reservations are also located within the study area including 'Public Purpose (Commonwealth Government)', 'Parks and Recreation' and 'Restricted Public Access'. The GNH, which divides the study area, is reserved as a 'Primary Regional Road' under the MRS. Figure 6 reflects the MRS mapping relevant to the study area.

City of Swan Local Planning Scheme No. 17 (LPS17)

LPS17 provides the statutory framework for any future development within the study area. The current zoning of the study area under LPS17 is indicated in Figure 4. The Master Plan and any subsequent structure plans will inform LPS17 on any rezonings required to facilitate the future expansion of the Bullsbrook townsite. The majority of the study area is zoned 'General Rural' under LPS17. Some lots are zoned 'Landscape' under LPS17 and others, already developed or flagged for development in the near future are zoned 'Residential Development'.

1.3.2 Regional and Sub-regional Structure Plans

Directions 2031 and Beyond—Metropolitan Planning beyond the Horizon

Directions 2031 and Beyond—Metropolitan Planning beyond the Horizon ('Directions 2031') is the State Government's high level spatial and strategic plan for WA's metropolitan region. The document establishes a vision for the future growth of the region, providing a framework of growth indicators to guide the detailed planning and delivery of housing, infrastructure and support services necessary to accommodate that growth. In relation to the Master Plan, it provides guidance to the City of Swan with reference to:

- Providing for a growing population in Bullsbrook in a sustainable manner, with consideration to available land, employment generation, water and energy resources;
- Providing the best possible integration of land use and transport infrastructure to suit the needs of the Bullsbrook community;
- Protecting the natural environment, including high quality natural resources; and
- Identifying infrastructure needs for the proposed future urban growth.

North-East Sub-Regional Structure Plan

The *North-East Sub-Regional Structure Plan* is currently being prepared by the State Government. The document aims to guide land use and infrastructure provision for the Swan, Kalamunda and Mundaring municipalities. As directed by 'Directions 2031' and the *Outer Metropolitan Perth and Peel Sub-Regional Strategy*, the Sub-Regional Structure Plan is required to address strategic issues by developing a long term spatial framework for the sub-region. Consequently, the Sub-Regional Structure Plan will identify any necessary MRS amendments, as well as funding, staging and implementation of future development. The Master Plan will inform the Sub-Regional Structure Plan.

'Providing for a growing population in Bullsbrook in a sustainable manner...'

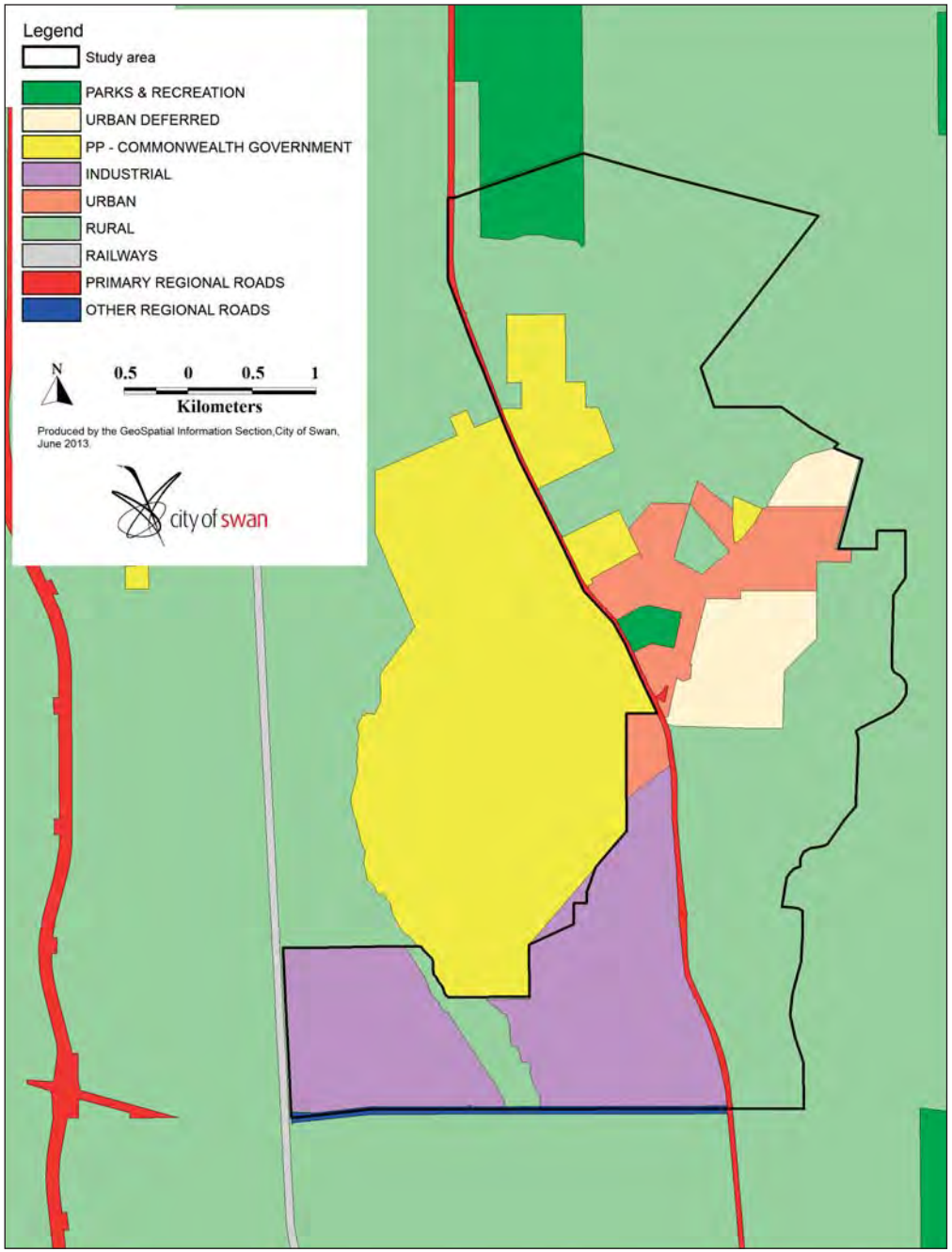


Figure 6. Bullsbrook Townsite Land Use Master Plan area: Current Metropolitan Region Scheme

1.3.3 Planning Strategies

A number of state and local planning strategies are relevant and have been considered in the preparation of the Master Plan. Accordingly, the plan is deemed to comply with the following:

State Planning Strategy

The State Government's *State Planning Strategy* sets a broad focus for land use planning in Western Australia (WA). The strategy recognises the need to accommodate population growth through the provision of residential land and to create value adding industries to areas of WA—including in Bullsbrook. The strategy specifically recognises the need to progress a structure plan for Bullsbrook as a priority action for the State.

Outer Metropolitan Perth and Peel Sub-Regional Strategy

The *Outer Metropolitan Perth and Peel Sub-Regional Strategy* provides a framework for delivering the objectives of 'Directions 2031'. The Strategy links State and Local Government strategic planning to inform the preparation and review of structure plans and local planning strategies. The Sub-Regional Strategy identifies Bullsbrook as requiring an urban expansion (2011–2015) of 228ha. The additional dwellings to be provided are proposed to result from infill of existing 'Urban' and 'Urban Deferred' zoned land, combined with the development of land identified for urban expansion and investigation. The Sub-Regional Strategy identifies a growth in the number of dwelling units of over 4,100.

State Economic and Employment Land Strategy

The State Government has published the *State Economic and Employment Land Strategy* to guide future commercial and industrial growth in the Perth metropolitan and Peel regions. This is in response to the recognised shortage of industrial land supply. In particular, the strategy identifies the areas, type and locations of general and light industrial land required over the next 20 years. This includes land nominated in south Bullsbrook as a 'potential industrial—medium term' area (with a proposed intermodal facility), and land in north Bullsbrook nominated as a 'potential industrial—long term' area.

City of Swan Local Planning Strategy

The City is currently drafting the *City of Swan Local Planning Strategy*. The aim of this document is to:

- Provide strategic direction for land use planning and development over the next 10 years and beyond;
- Provide strategic direction for sustainable resource management and development in the context of state and regional planning;
- Provide rationale for the provision and zoning and reservation of land under LPS17, in relation to development control;
- Provide a strategic framework for assessment and decision-making in relation to any development, subdivision and/or proposed amendments to LPS17;
- Provide the context for coordinated planning and programming of physical and social infrastructure at a local level;
- Identify the need for further studies or investigation by the City to address longer-term strategic planning and development issues.

The draft Local Planning Strategy identifies the need for land use studies in the Bullsbrook area and provides general direction for these. As part of this, the Master Plan responds directly to key issues identified within the draft Local Planning Strategy.

City of Swan Local Rural Planning Strategy

The City is currently preparing the *City of Swan Local Rural Planning Strategy*. The Strategy will amalgamate the City's numerous existing rural strategies that apply to individual rural areas within the municipality. In respect of Bullsbrook, the Strategy will take into account the need to find a balance between urban expansion and protection of existing agricultural activities in the area. The City contains many examples of agricultural and non-rural land uses in the one location, which can often create conflict due to incompatibility. This is likely to be the case in Bullsbrook as urbanisation continues. Therefore, appropriate measures will need to be taken to minimise land use conflict.

City of Swan Urban Housing Strategy

The *City of Swan draft Urban Housing Strategy* was endorsed by Council on 13 June 2012. It sets out a strategy for meeting the future housing need and managing the character and amenity of existing residential areas.

The Strategy proposes to increase the area of land zoned 'Residential' under LPS17. It also introduces a 'Dual Residential Code' which provides the opportunity for landholders of identified 'Residential' properties to seek higher density development bonuses. Such bonuses will only be supported if an applicant can demonstrate compliance with a specific set of design criteria.

In line with the Strategy, the Master Plan proposes an increase in residential density within the brown field development sites located in the study area (as identified in Figure 20), and supports appropriate density codes for identified greenfield urban development sites, through future structure planning.

City of Swan Integrated Transport Strategy

The City is currently preparing the *City of Swan Integrated Transport Strategy* as a sub-strategy of the City's Local Planning Strategy. This Strategy, and subsequent Infrastructure Implementation Plan, aims to enable and create an innovative, balanced transport system within the City of Swan. Any recommendations from this draft Strategy, which relate to transport in Bullsbrook, will be required to be considered in future structure planning of the area.

Bullsbrook Townsite and Rural Strategy 2008

The City's *Bullsbrook Townsite & Rural Strategy* was produced in response to the State Government's 2003 publication of the North East Corridor Extension Strategy which aimed to facilitate effective and acceptable land use within areas north of Ellenbrook, including the townsites of Upper Swan, Bullsbrook and Muchea. In examining the opportunities and constraints within the existing Bullsbrook townsite and surrounding areas, the Strategy identified the future Bullsbrook townsite which forms the basis for the boundaries of the current Master Plan. Key findings and recommendations of the strategy have been considered in the preparation of the Master Plan.

1.3.4 Policies

A number of State Government policies are relevant to, and have been considered in the design of the Master Plan. Accordingly, the Plan is deemed to comply with the following:

Policy No.	Policy Name	Brief Summary
State Planning Policy (SPP)		
SPP 1	State Planning Framework Policy	• Overarching SPP which groups the existing state and regional policies and plans into a central State Planning Framework. • Provides context to land use and development decision making in WA. • Builds on the key principles of the State Planning Strategy by addressing the need for planning for sustainable land use and development.
SPP 2	Environment and Natural Resources	• Outlines key implications for planning in the promotion of sustainability and sustainable development. • Sets objectives for the consideration of the natural environment in broader land use planning and decision making.
SPP 2.4	Basic Raw Materials	Aims to: • protect the state's basic raw materials by identifying key extraction areas and priority resource locations; • ensure incompatible development cannot occur in such areas where it would potentially limit future exploitation; and • ensure that the use and development of land for the extraction of basic raw materials does not negatively impact on the environment or amenity in the locality of the operation during or after extraction.
SPP 2.5	Agricultural and Rural Land Use Planning	• Recognises that agricultural production from rural areas is a significant part of the WA economy. • Responds to various planning issues including the need to improve agricultural productivity whilst considering the impacts of agricultural activity on natural resources, and relocating inappropriately located and poorly planned rural-residential and hobby farm development which are constraining opportunities for required urban growth on the fringe of urban areas. • Considers potential conflict between incompatible land uses. • Identifies some lots within the Master Plan study area as 'Existing Priority Management Areas' requiring further investigation (for their state or regional significance) and other lots as 'High for Annual and Perennial Horticulture'.
SPP 2.8	Bushland Policy for the Perth Metropolitan Region	• Applies to Bush Forever area and local bushland within the Perth Metropolitan Region. • Aims to ensure the protection of bushland and management issues are addressed and integrated with broader land use planning decision making.

Policy No.	Policy Name	Brief Summary
State Planning Policy (SPP) (continued)		
SPP 2.9	Water Resources	• Sits under SPP 2, providing additional guidance for the consideration of water resources in land use planning processes. • Aims to protect, conserve and enhance water resources, assist in ensuring availability of water resources as required by humans and other biological life and promote the sustainable use of water resources.
SPP 3	Urban Growth and Settlement	• Sets out the principles and considerations which apply to planning for urban growth and settlements in WA. • Aims to manage the growth of urban areas while promoting sustainable and well planned settlement patterns which provide for variety of housing, employment and economy building opportunities, recreation facilities and open space. • Sets objectives for State and Local Government to ensure the coordination of new development with the efficient, economical and timely provision of infrastructure and services in 'liveable neighbourhoods'.
SPP 3.4	Natural Hazards and Disasters	• Sets objectives for State and Local Government to include planning for natural disasters as a key element in the preparation of all statutory and non-statutory planning documents to minimise the adverse impacts of natural disasters on communities, the economy and the environment. • Establishes the need for the creation of the WAPC *Planning for Bushfire Protection* guidelines.
SPP 3.6	Development Contributions for Infrastructure	• Recognises the need for careful planning and coordination for the provision of fundamental infrastructure in new communities including roads, public transport, water supply, sewerage, electricity, gas, telecommunications, drainage, open space, schools, health services, as well as community and recreation facilities. • Aims to ensure that development contributions are actually necessary and relevant to the proposed development and to ensure that those benefiting from the infrastructure and facilities are charged consistently, with complete transparency and equity in the apportioning, collecting and spending of such development contributions.
SPP 4.1	State Industrial Buffer	• Sets out objectives to ensure that industrial emissions such as noise, dust, gas, odour, fumes and lighting overspill, which may not be compatible with other land uses, are managed through the provision of appropriate zonings and associated buffers. • Provides a consistent state-wide approach for the protection and long-term security of industrial zones, transport terminals (including ports), other utilities and special uses.

continued over...

Policy No.	Policy Name	Brief Summary
State Planning Policy (SPP) (continued)		
SPP 4.2	Activity Centres for Perth and Peel	• Triggers the need for Activity Centre Structure Plans. • Sets out to ensure that an even distribution of jobs, services and amenities are provided to communities in the Perth and Peel region. • Specifies broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in the region. • Aims to ensure integration of activity centres with public transport and that activity centres contain a range of activities to promote community benefits.
SPP 5.4	Road and Rail Transport Noise and Freight Considerations in Land Use Planning	• Aims to promote a sustainable transport system which is compatible with surrounding land uses. • Sets out to minimise the adverse impact of transport noise, without placing excessive restrictions on noise-sensitive residential development, or unduly contributing to the cost of transport infrastructure.
Other Policies		
	Liveable Neighbourhoods	• State Government operational policy which acts as a neighbourhood design code and aims to facilitate the development of sustainable communities. • Seeks to provide an urban structure which is walkable and incorporates mixed uses for the purpose of reducing car dependency and providing a diverse range of living, employment and leisure opportunities. • Promotes interconnected street networks to make walking, cycling and driving pleasant and safe. • Strong focus on fostering a sense of community and local identity in neighbourhoods and towns.

1.3.5 Other approvals and decisions

The North-East Corridor Extension Strategy 2003

In order to address growing development pressures occurring to the north of Ellenbrook, the *North-East Corridor Extension Strategy* was completed by the State Government in 2003. The Strategy identifies the need to provide for the continued role of the Bullsbrook and Upper Swan townsites as urban areas while, at the same time, protecting the scarp of the Darling Range.

Bullsbrook Place Plan 2008

The City of Swan has divided its jurisdiction into five Place Management Areas. Each Place Management Area is then further divided into thirteen different communities across the City. These are referred to as Place Areas or Places. A Place Plan has been compiled for Bullsbrook Place (Figure 7 indicates the Bullsbrook Place boundary). A *Bullsbrook Local Area Plan* is proposed to replace the *Bullsbrook Place Plan* in the future.

Bullsbrook Place Plan recommends a range of broad priority actions pertaining to the social, economic, natural and developed environments of the area. One of the key recommendations is for the development of this Master Plan.

Economic and retail needs relating to Bullsbrook

In 2007, the City commissioned 'Quick Ideas' to produce the *State of the Bullsbrook Economy* report (funded through the 'Rapid Outer Swan Economic Spin-offs Program'). It put forward proposals towards viable, diverse and long-term economic activity to help create local employment opportunities and protect and strengthen the rural landscape and economy in Bullsbrook and Gidgegannup.[5]

The report provides an overview of a broad range of industry and business perspectives throughout the Bullsbrook area. It also assesses the dominant issues, opportunities and constraints within the Bullsbrook business community and sets a series of actions and recommendations for the future economic development of the Bullsbrook business community.

[5]Source: Quick Ideas 2007.

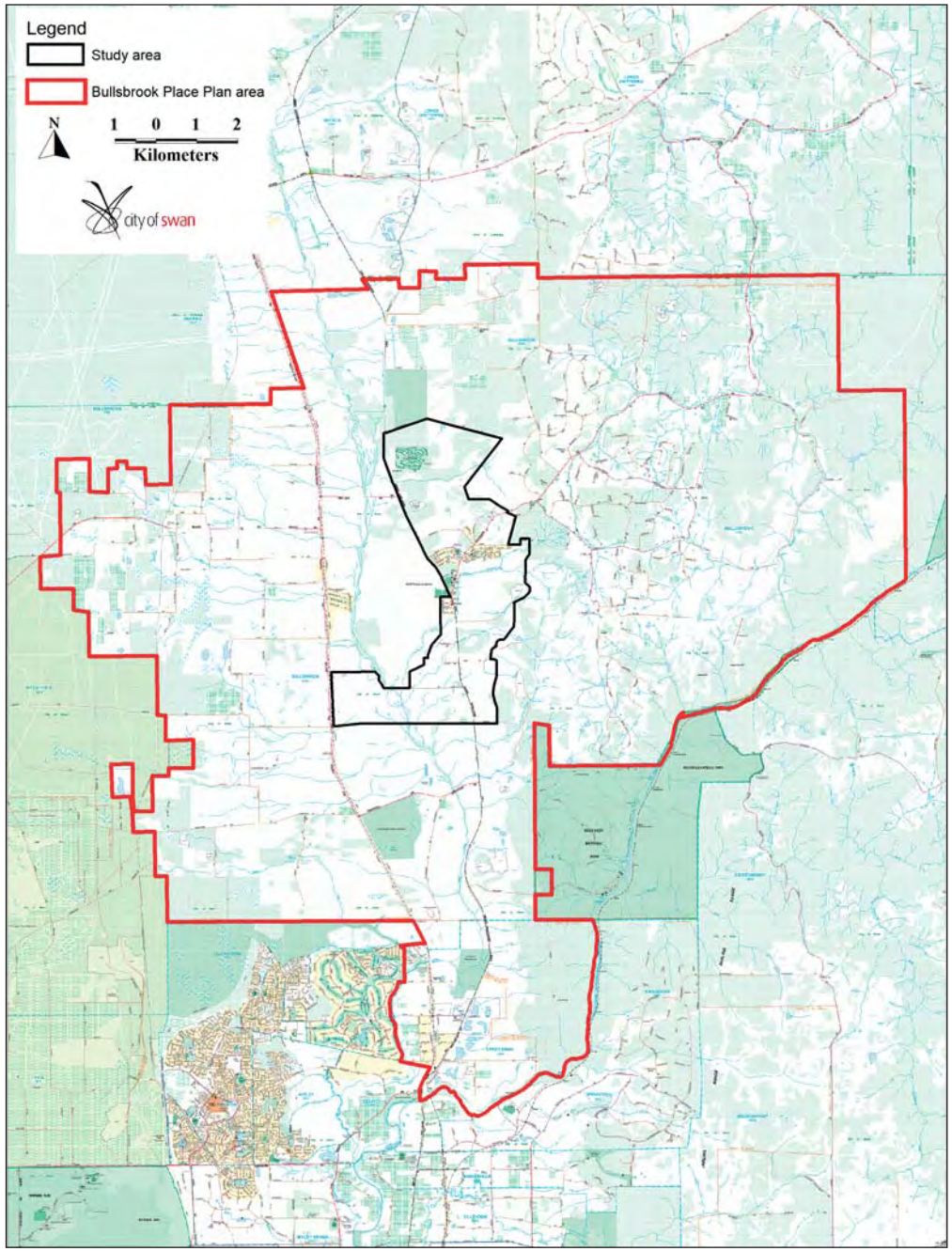


Figure 7. Bullsbrook Townsite Land Use Master Plan: Bullsbrook Place Plan Boundary (shown in red)

2.0 Site Conditions and Constraints

Bush Forever sites reflect areas which have regionally significant bushland requiring retention and protection...'

2.1 Biodiversity and natural area assets

2.1.1 Vegetation

The natural vegetation in this area has been cleared extensively. Remaining vegetation is limited to a few sites protected under Bush Forever, and minor patches of riparian vegetation along the Ki-it Monger and Ellen Brooks. Remaining vegetation is dominated by the Guildford Vegetation Complex within the central portion of the study area, the Beermullah Vegetation Complex in the north; and the Reagan Vegetation Complex in the north-eastern portions (refer Figure 8)[6].

Bush Forever

Bush Forever sites have been identified by the Urban Bushland Council to reflect areas which have regionally significant bushland requiring retention and protection, in accordance with the Bushland Policy for the Perth Metropolitan Region SPP2.8 and 'Planning Bulletin No. 69'. There are seven separate areas within the Bullsbrook townsite area which are classified under Bush Forever and therefore subject to retention requirements. These are generally set aside for conservation, or outlined as Commonwealth land.

Threatened ecological communities

Threatened ecological communities are protected by the *Environmental Protection and Biodiversity Conservation Act 1999*. There are 14 listed threatened community sites, and associated buffer zones, which impact the study area. These sites can be categorised into the following communities:

- Shrublands and woodlands on Muchea limestone—endangered;
- *Eucalyptus calophylla—xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain—critically endangered;
- Forests and woodlands of deep seasonal wetlands of the Swan Coastal Plain—vulnerable; and
- Herb rich shrublands in clay pans—endangered.

2.1.2 Threatened and rare fauna

Threatened and rare fauna are species which are under threat from extinction and protected under the *Wildlife and Conservation Act 1950*. There are seven species, identified as priority fauna, which can be found in the Bullsbrook area. These are listed below:

- Schedule 1 (Fauna which is rare or likely to become extinct, in need of special protection)—**Chuditch** (*Dasyurus geoffroii*) and **Western Swamp Tortoise** (*Pseudemydura umbrina*);
- Schedule 4 (Declared to be fauna in need of special protection)—**Carpet Python** (*Morelia spilota imbricata*);
- Priority One (Taxa which are known from a small number of specimens or sighting and populate land which is under threat)—**Trapdoor Spider** (*Arbanitis inornatus*);
- Priority Three (Taxa which are known from few specimens or sightings and some populations are not habituating land under immediate threat)—**Bee** (*Leioproctus contraties*);
- Priority Four (Taxa which have sufficient knowledge available and are not under threat but need a particular level of monitoring)—**Carpet Python** (*Morelia spilota imbricata*).

The Regional Water Management Strategy (RWMS) undertaken noted that none of these have recently been encountered in the study area. However, through community consultation it was noted that the Chuditch has been regularly sighted and thus protection measures should be made in any future planning.

[6]Source: City of Swan 2008.

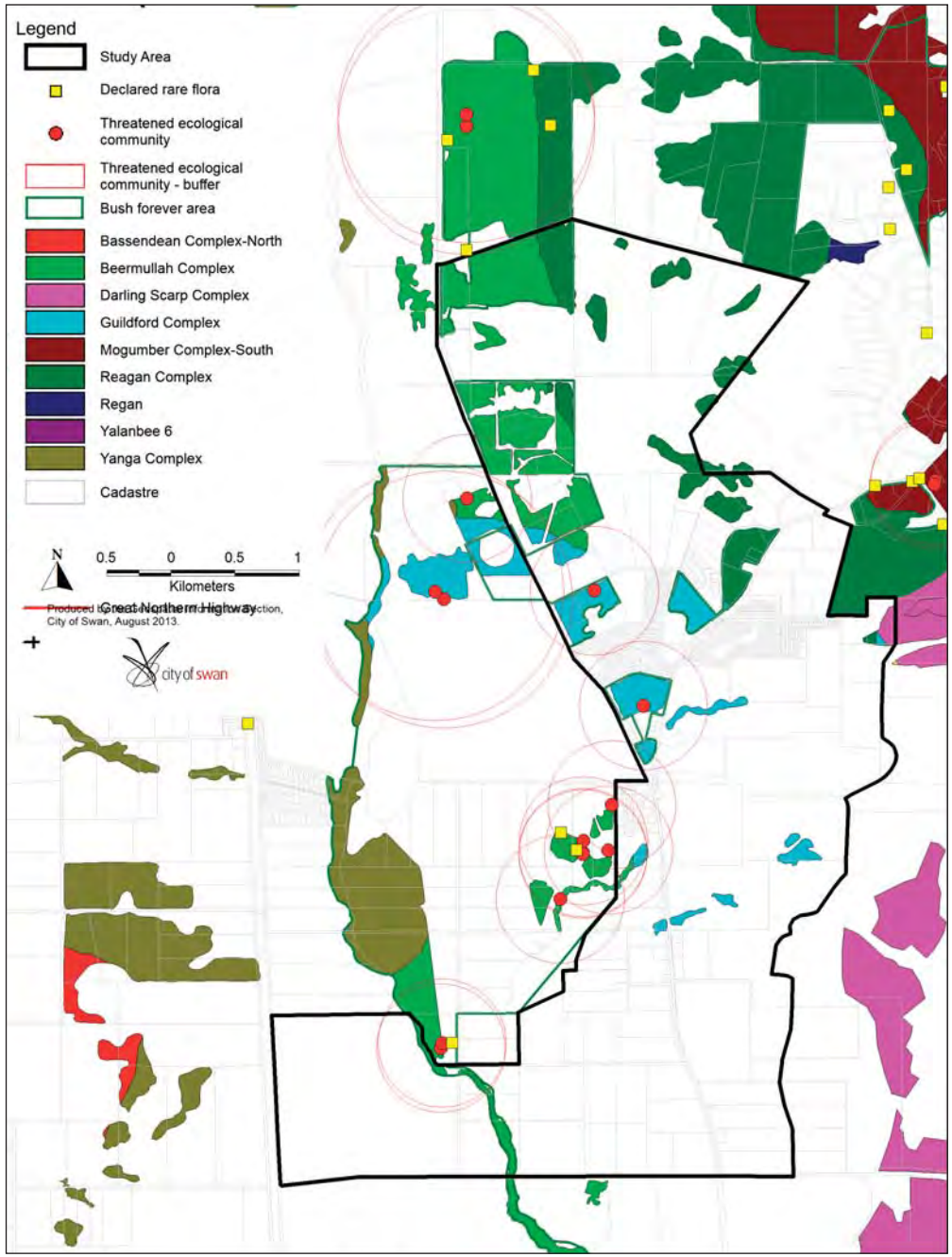


Figure 8. Bullsbrook Townsite Land Use Master Plan: Existing Vegetation

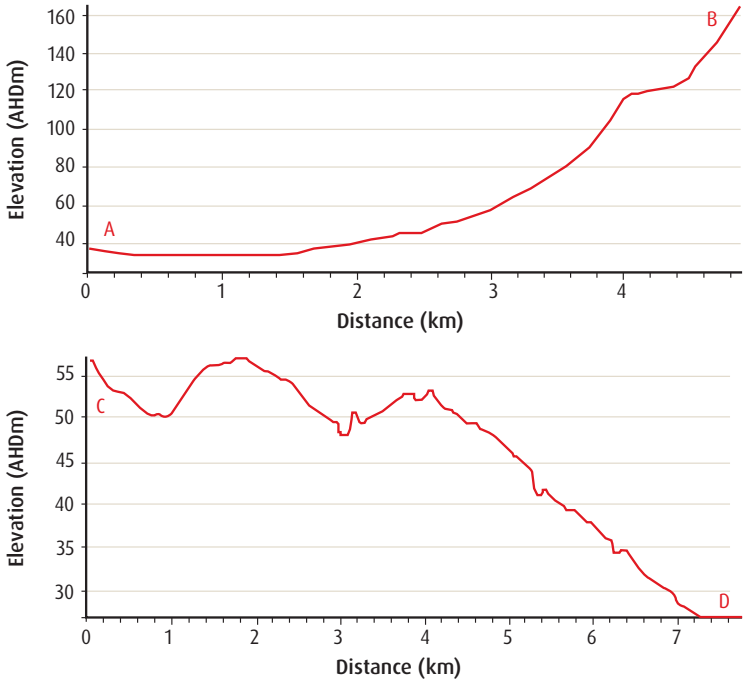
2.2 Landform and soils

2.2.1 Geomorphology

The geomorphology of the study area is characteristic of the larger regional Darling System. The Darling System mainly constitutes the Darling Plateau (undulating, dissecting land surfaces) but, in the Bullsbrook area, also includes the Dandaragan Plateau (gently undulating surfaces) and the Swan Coastal Plain (generally flat).

2.2.2 Topography

The study area lies at the base of the foothills to the immediate west of the Darling Scarp. The topography of the precinct is relatively low lying, and forms at the intersection of the Dandaragan Plateau, Darling Plateau and Swan Coastal Plain. The western part of the study area forms on the relatively flat fluviatile deposits of the Swan Coastal Plain and therefore is most appropriate for townsite development. The topography undulates slightly in the northern half of the study area.[7] The north-eastern section of the study area is slightly higher in elevation, located along the Dandaragan Plateau scarps.[8] Digital models of the area have found the study area topography ranges from 55 to 27m AHD north to south, and 36 to 158m AHD from west to east[9]—as indicated below, where A–B is west to east, and C–D is north to south.



2.2.3 Soils

Soil data indicates that sands and deep sands are dominant north of Chittering and Hurd Roads, which are likely to be well drained provided there is sufficient clearance to groundwater. To the south of Chittering and Hurd Roads shallower soils such as alluvials, shallow sands, sands subject to inundation and duplex soils are found. Shallow groundwater levels are usually associated with these soil types and, as such, these soils are generally moderate to poorly drained soils with low storage capacity.

2.2.4 Land degradation

A land degradation analysis indicates that the area is susceptible to salinity in the north-western sections and to phosphorous export throughout the majority of the precinct. In the western sections the land is susceptible to water logging, and in the north the land is highly susceptible to wind erosion.[10]

2.2.5 Acid sulphate soils and contaminated sites

The State Government has produced mapping which identifies Acid Sulphate Soils (ASS), either of high to moderate risk, or moderate to low risk, as well as Contaminated Sites. There are no 'high to moderate risk' ASS sites identified in the Bullsbrook study area. However, a small area of land associated with Ellen Brook, which runs through the south-west of the Bullsbrook study area, has been classified as 'moderate to low risk'. Consequently, the risk of ASS within the Bullsbrook Townsite area is considered to be low (refer Figure 9).

A number of sites within the study area have been identified on the Department of Environment and Conservation 'Contaminated Sites Register' as being either potentially contaminated (with further investigation required) or contaminated (and therefore restrictions on land use apply). In order to allow development, this classification will be required to be reversed through investigation or remediation. The total area that these potentially contaminated or contaminated sites occupy is 198ha (refer Figure 9).

[7] Source: GHD 2012.

[8] Source: City of Swan 2008.

[9] Source: GHD 2012.

[10] Source: City of Swan 2008.

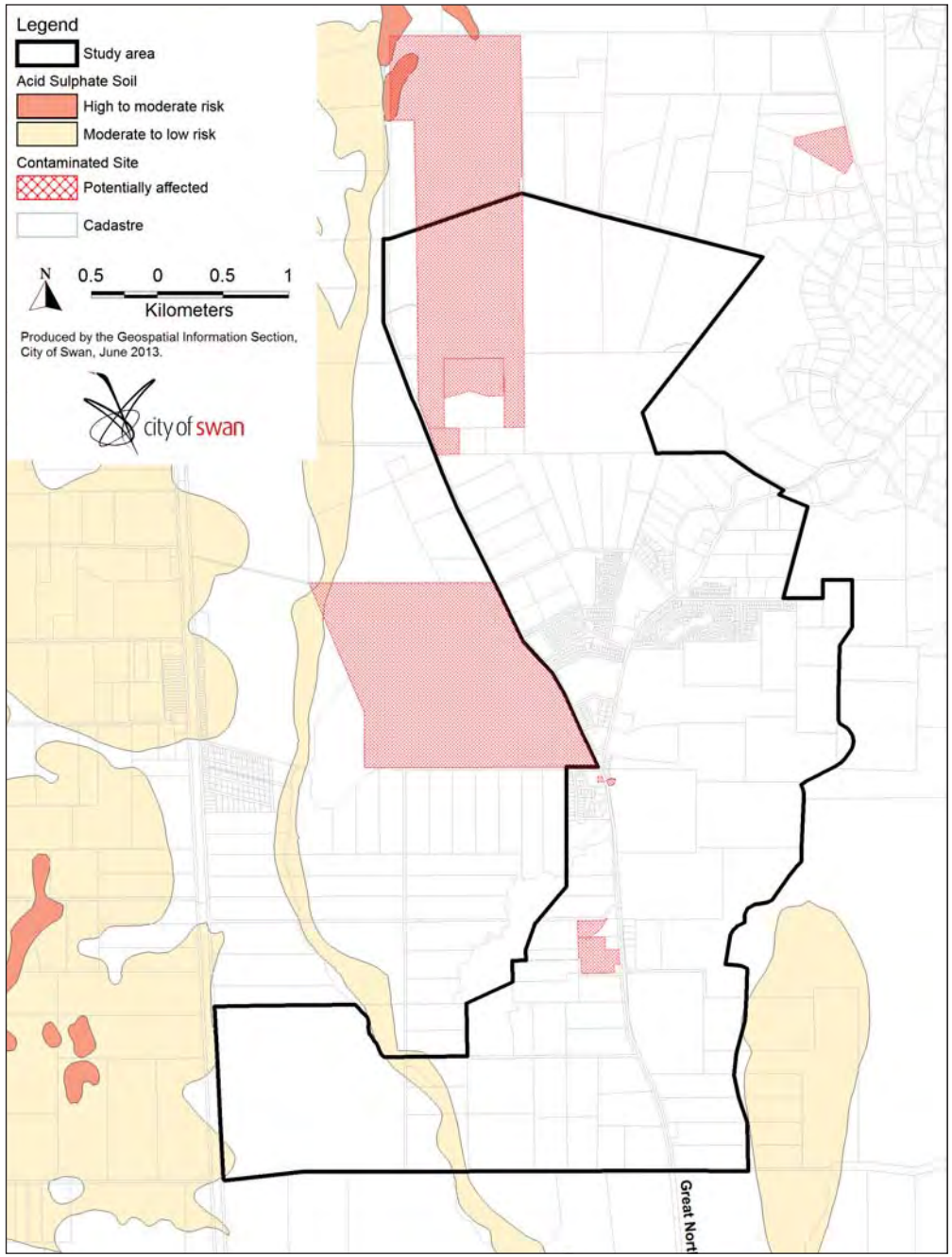


Figure 9. Bullsbrook Townsite Land Use Master Plan: Acid Sulphate Soils and Contaminated Sites

2.2.6 Basic raw materials

The Bullsbrook area contains several quarries which are classified as raw materials under the SPP2.4. In terms of the Policy, there are a number of 'Priority Resource Locations' and their buffers, in the Bullsbrook study area (refer Figure 10).

The 'Marlin Bullsbrook' Structure Plan (Local Structure Plan SP-011), for an area east of the south-eastern edge of the study area, was approved subject to conditions by the State Government in 2012 (these conditions were further modified in March 2014). Although it acknowledged the removal of the 'Hard Rock Quarry Priority Resource' site and associated buffer in the north of the structure planning area, the clay quarry is required to have a 500m buffer. It is understood that in the future this buffer may be reduced by agreement between all relevant parties. This buffer extends into the south-east corner of the Bullsbrook townsite study area.

Any application for development within a 500m buffer of this current operation must consider the potential impacts of the operation on proposed development. It will therefore be the responsibility of developers to investigate and prove that a development will not be impacted by an existing extractive industry, as per SPP2.4.

There are also two other existing extraction areas (not classified as Priority Resource Locations under SPP2.4) that affect the study area:

Lots 1288 and 2792 Taylor Road, Bullsbrook

The quarry located within Lots 1288 and 2792 Taylor Road, Bullsbrook was used for rock extraction. It is an expired tenement, which is currently undergoing rehabilitation/revegetation. In recent considerations, the site has not been noted as an important resource area and therefore is not identified as a 'regionally significant basic raw materials area' under the policy.[11] The State Government is currently reviewing SPP2.4. It is likely that this site will be removed from the revised SPP2.4 mapping.

Lots 801 and 802 Morrissey Road

This site has a number of mineral and basic raw material constraints. Within the site is a 'strategic mineral resource protection area' (titanium–zircon mineralisation) and a 'regionally significant basic raw materials'–clay site, both requiring appropriate protection with a buffer of 500m. The protection of these raw materials will impact on the design of the Master Plan.

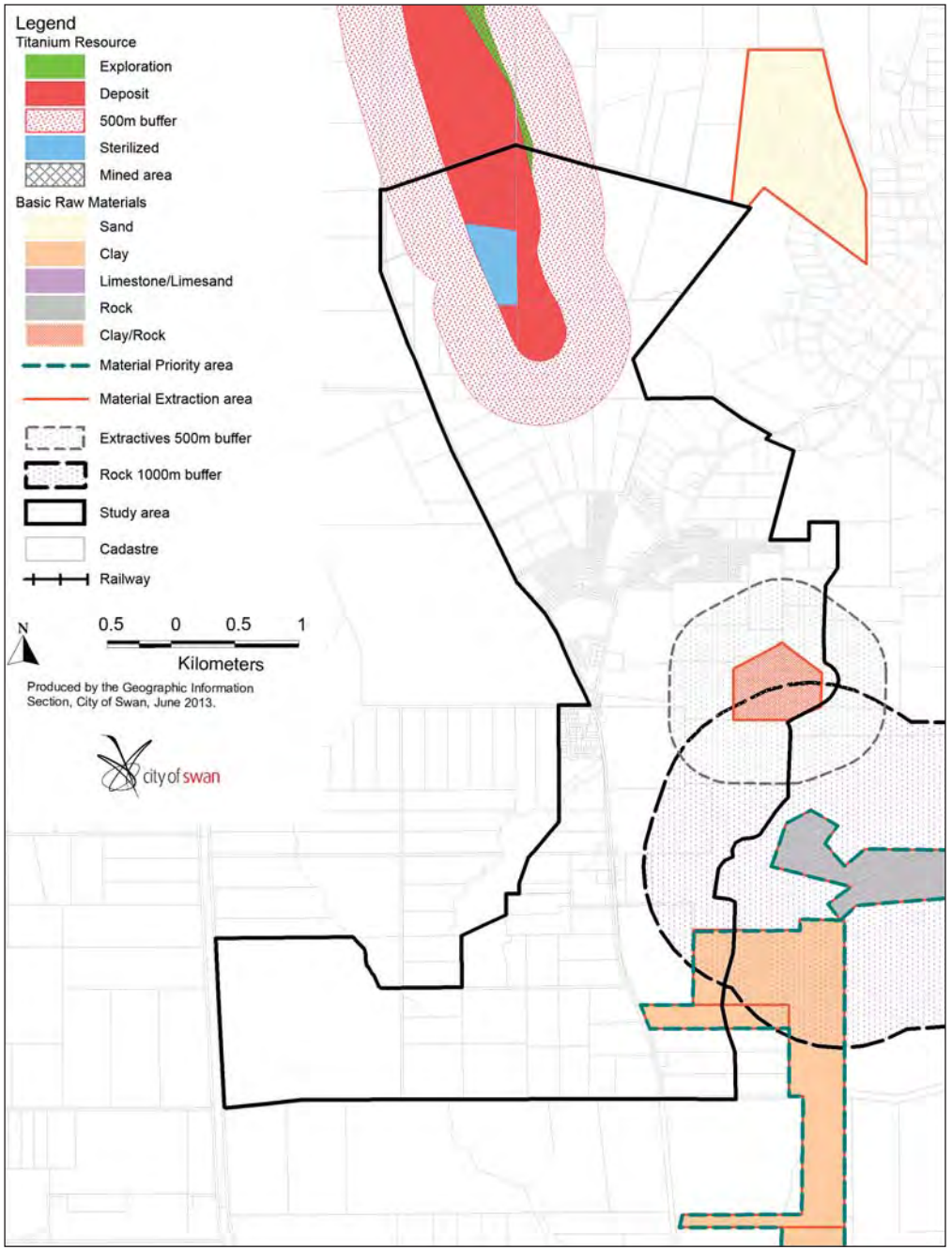


Figure 10. Bullsbrook Townsite Land Use Master Plan: SPP2.4—Basic Raw Materials—Bullsbrook Townsite and Surrounds

[11] Source: WAPC 2012.

2.3 Ground water and surface water

The study area contains a number of surface water features, including streams and creek lines, which generally flow south-west towards the Ellen Brook. The majority of the southern section of the precinct forms part of the 'Ellen Brook Sustainable/Multiple Use Wetland'. Figure 11 indicates the surface water features within the study area.[12]

2.3.1 Surface water

The primary drainage line for the study area is the Ellen Brook, crossing the area from north to south along the south-west of the Bullsbrook Townsite area. Some properties adjacent to the Ellen Brook are impacted by the 100 year flood plain. These sites, occupying a total area of 15.38ha, will impact on the total yield of appropriate land for development. Other drainage lines run east to west through the study area and lead into the primary drainage channel.[13]

As indicated in Figure 11, there are some wetlands in the general Bullsbrook area. The Department of Water (DoW) has set wetland management categories based on the level of ecological attributes and functions of a wetland. These are known as 'Conservation', 'Resource Enhancement' and 'Multiple Use'. The majority of wetlands in Bullsbrook are outside the study area and listed within the highest management category ('Conservation C'). There are a small number of 'Resource Enhancement' and 'Multiple Use' category wetlands. There are also a number of other wetlands (not identified as having a management category) dispersed through the area.

In relation to the Ellen Brook catchment, identified as being the greatest contributor of total nitrogen and phosphorous loads to the Swan Canning estuary, the Bullsbrook townsite area does not discharge high concentrations of nutrients to the Ellen Brook.

Development adjacent to creek lines and wetlands require, as a general rule, buffers of at least 30m and 50m respectively. However final buffers to residential developments (envisaged to be taken up as foreshore reserves and to be separated from required 10% POS contributions), are to be determined at a more detailed structure planning stage upon detailed assessments of site specific biophysical factors.[14]

2.3.2 Groundwater levels and quality

The management of groundwater and its quality in planning for the Bullsbrook townsite area is of great significance, given the major role groundwater plays in transport of nutrients to the Ellen Brook and the Swan-Canning estuary.[15]

Based on the limited information currently available, it is not possible to generate accurate groundwater contours or make specific comments on the groundwater condition within the Bullsbrook Townsite area. Further work would be required at the structure planning stage; however, the City will also be required to support future monitoring by developers.[16]

From the limited data available about the groundwater quality within the study area, indications are that the water has Total Nitrogen (TN) and Total Phosphorous (TP) levels which are below the Swan River Trust's long term target of 1.0 and 0.1 mg/L respectively, with the exception of point source contamination. These are sites where elevated heavy metal concentrations, or contamination, occur and result in TN and TP levels which are at or slightly above the long term target.[17]

[12] Source: City of Swan 2008.

[13] Source: GHD 2012.

[14] ibid.

[15] ibid.

[16] ibid.

[17] ibid.

'The management of groundwater and its quality in planning for the Bullsbrook townsite area is of great significance...'

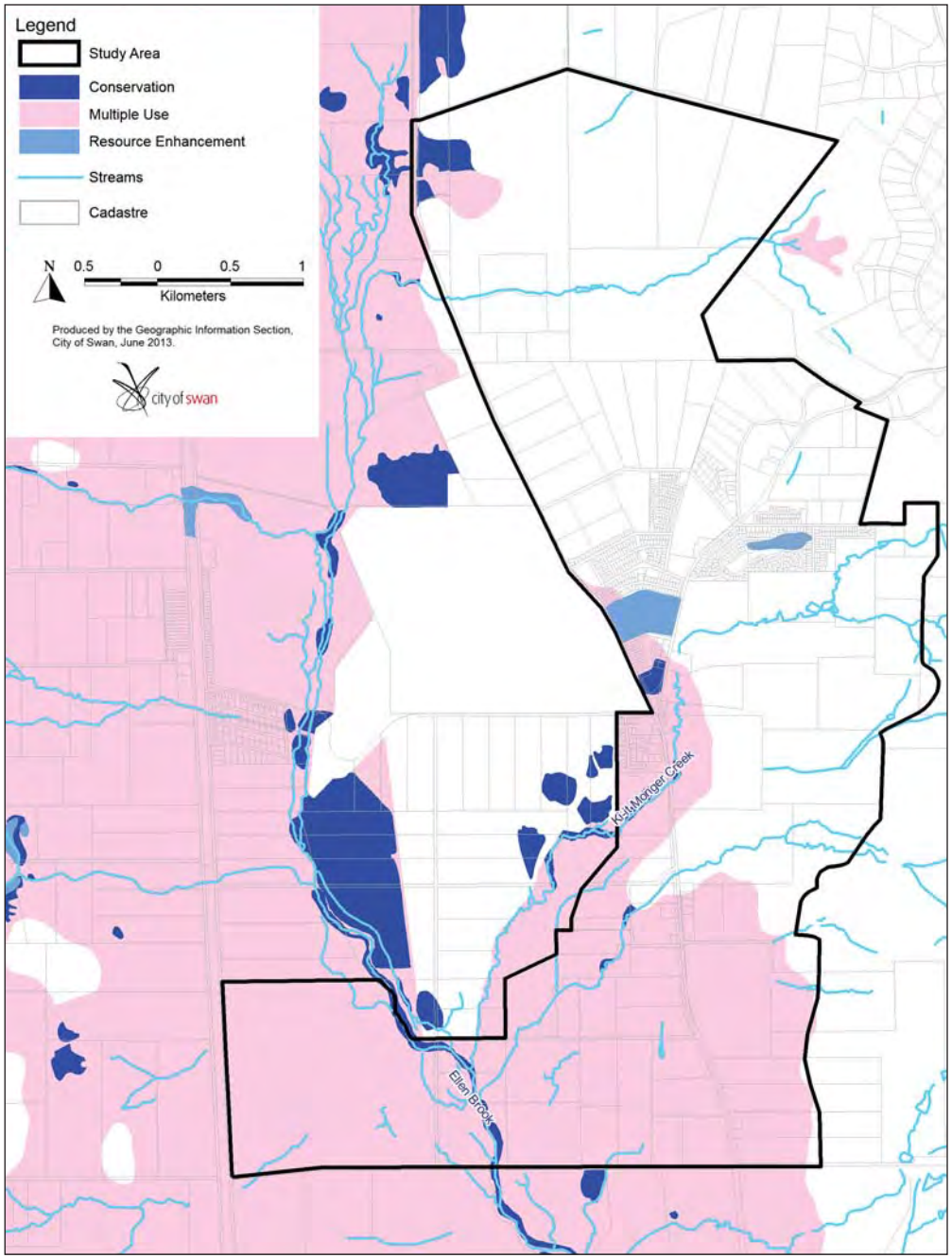


Figure 11. Bullsbrook Townsite Land Use Master Plan: Surface Water Features

2.4 Bushfire Hazard

Figure 12 identifies the bushfire hazard levels which have been mapped by the City of Swan for the Bullsbrook area. A large proportion of the study area is identified as being within 'extreme' and 'moderate' bushfire hazard areas, posing a real threat to lives if not managed appropriately. The City of Swan has just approved an amendment to its Scheme to deem land in 'moderate' and 'extreme' bushfire risk areas as Bushfire Prone. This amendment is currently awaiting approval by the Minister for Planning.

All subdivision and development in Bushfire Prone areas will require a Bushfire Attack Level assessment and construction shall be in accordance with AS3959 as appropriate for the level of bush fire hazard applying to the land and any other relevant requirements of LPS17. Development of land within 'extreme' hazard levels must demonstrate acceptable permanent hazard reduction measures before approval will be granted.

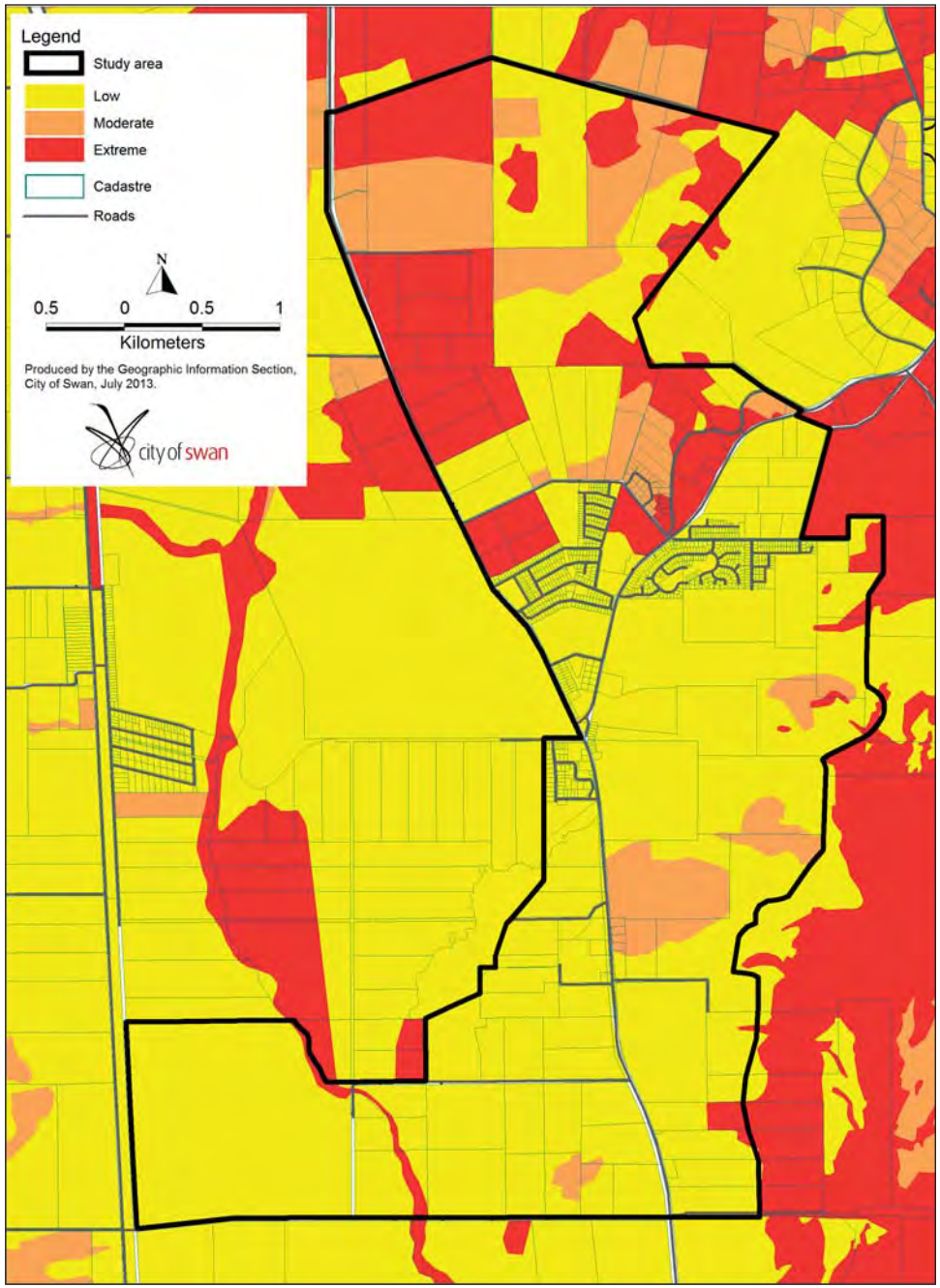


Figure 12. Bullsbrook Townsite Land Use Master Plan: Bushfire Hazard

2.5 Heritage

The *Aboriginal Heritage Act* introduced in WA in 1972, recognises the strong relationship that Indigenous people have with the land. It provides protection to places and objects in WA that are important to the culture of Indigenous people. There are currently five registered Aboriginal sites within the Bullsbrook townsite area (refer Figure 13), and these will need to be taken into account at structure planning stage
The sites are listed as:

- Ki-it Monger Brook 2: Ceremonial, Mythological, Modified Tree;
- Ki-it Monger Brook 1: Artefacts / Scatter;
- Sounness Drive Camp (GNHE#3): Historical;
- Ellen Brook: Upper Swan: Mythological (waterways and wetlands between Bullsbrook and Moore River);
- South Bullsbrook: Artefacts / Scatter.

There are no sites or buildings within or directly adjacent to the study area currently listed on the State Register of Heritage Places. However, the following buildings have been noted on the State Heritage Office website as having some heritage significance as identified through other surveys:

- Chequers Hotel (formerly known as the Bullsbrook Hotel): Lot 13, No. 2543 Great Northern Highway, Bullsbrook
- Royal Australian Air Force Base Pearce: Great Northern Highway, Bullsbrook

It is noted that many members of the community hold high regard and value to the rural activities synonymous with the area's history. It has become clear through dialogue with the community that whilst change and growth in the area is inevitable, future development should respect the area's historical rural character through its built form.

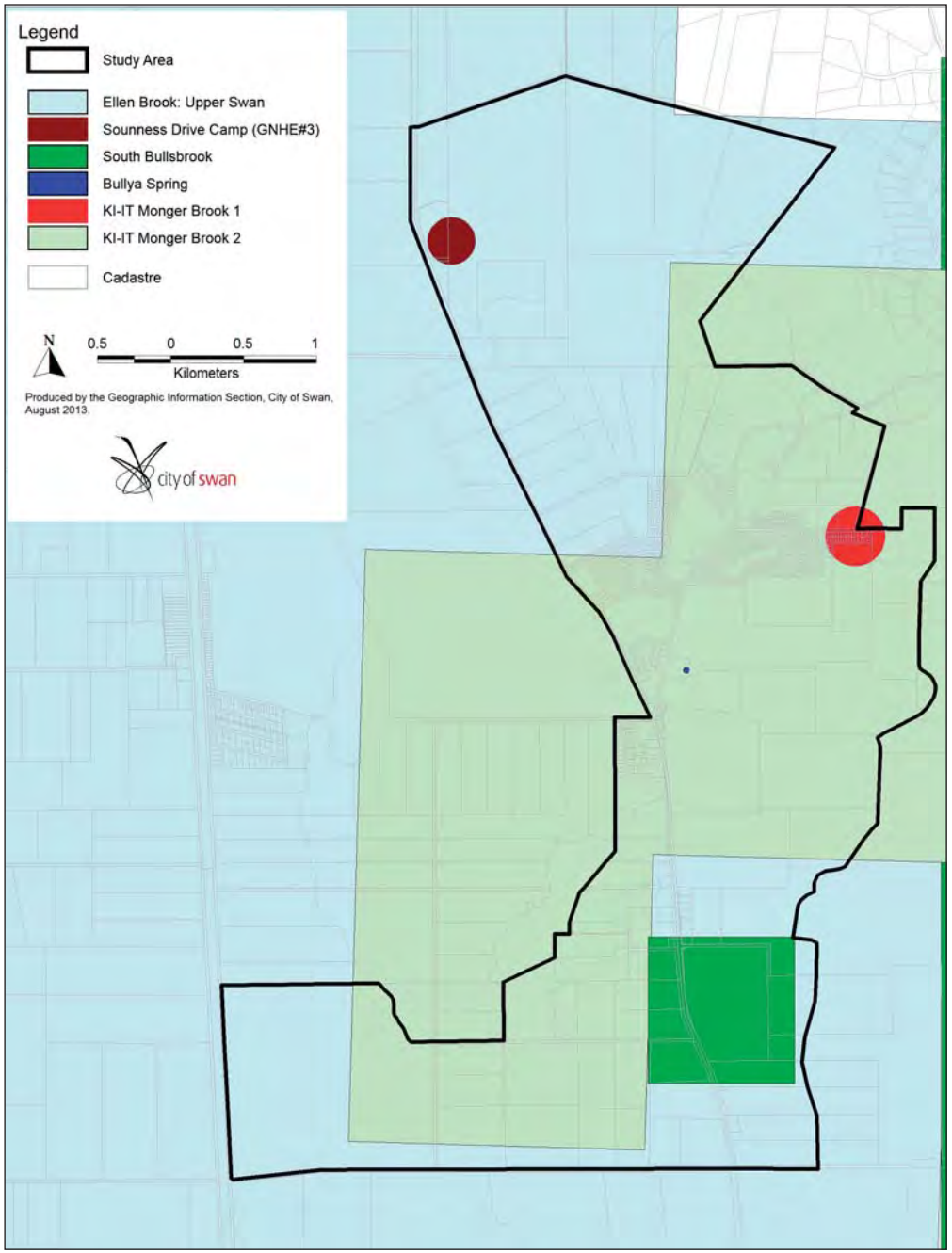


Figure 13. Bullsbrook Townsite Land Use Master Plan: Aboriginal Heritage Sites

2.6 Road Network

2.6.1 Regional road network

Great Northern Highway

The GNH is classified as a 'Primary Regional Road' under the State's MRS. It is a key trade and commercial link to and from Perth, servicing the road transport needs of the northern regions of WA and the Northern Territory. It forms part of the Perth-Darwin National Highway Auslink Network (PDNH).[18] It is also the key route for many parts of the Swan Valley, Muchea and Bullsbrook. It cuts right through the existing centre of Bullsbrook in a north–south direction providing a barrier of sorts between the east and west. The significance of this route is continuing to increase with demands for freight servicing the northern parts of WA expected to grow considerably in the near future.

'Directions 2031', identifies North Ellenbrook, Upper Swan, South Bullsbrook and east of Bullsbrook centre as future development locations. This has necessitated the development of an access strategy aimed at guiding future planning decisions to allow development of the area to proceed without compromising the function, safety and efficiency of GNH. The 'Great Northern Highway West Swan to Muchea Access Strategy' (GNH Access Strategy), produced by representatives from Main Roads WA, State Government, the Department of Transport and the City, details future access to the GNH between West Swan Road and Rutland Road, including the townsites of Upper Swan and Bullsbrook. The Strategy proposes technical provisions, such as appropriate spacing of access points, speed zoning and the treatment of intersections (refer Figure 14), and examines the state, regional and local planning framework as well as planned future land uses. The Strategy also considers the constraints and opportunities within the study area, providing recommendations relating to road access which will inform future planning decisions and facilitate the assessment of structure pans, subdivisions and development applications.[19]

Stock Road

Stock Road is classified as an 'Other Regional Road' under the State's MRS and provides access to the south-west section of the study area and the new south Bullsbrook industrial area, as identified by the State. It is also identified as a key connection route from GNH to the proposed PDNH to the west.

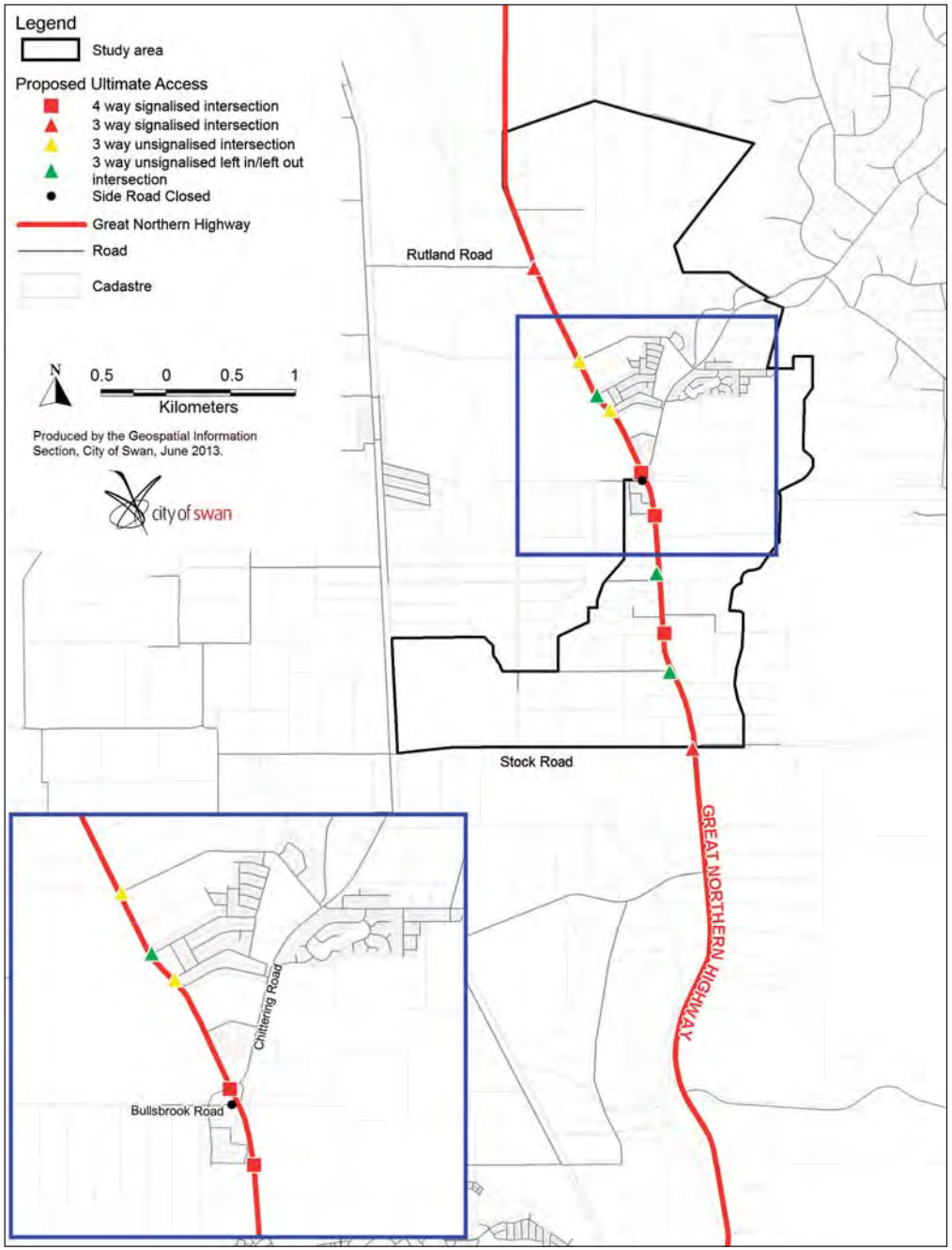


Figure 14. 'Great Northern Highway West Swan to Muchea Access Strategy': Main Roads WA: Proposed Ultimate Access

[18] Source: Department of Planning; City of Swan; Department of Transport & Main Roads WA 2011.

[19] Note: Following finalisation of the GNH Access Strategy, further information has come to light, warranting the need for some minor changes to the agreed access points. These changes are evident within the Master Plan.

The State Government has allocated funding to progress the planning and construction of the route of the Perth to Darwin National Highway between Reid Highway and Muchea.

Perth to Darwin National Highway

Planning for the alignment of the PDNH from Reid Highway to Maralla Road has been completed, and the reservation for the section of road located between Ellenbrook and Maralla Road included in the MRS (refer Figure 3). The State Government has allocated funding to progress the planning and construction of the route of the PDNH between Reid Highway and Muchea. This link will reduce a significant amount of demand for the GNH.[20]

2.6.2 Bullsbrook townsite area

There are a number of existing local roads which feed into the study area from GNH. From the east these include North Avenue, Brearley Street and Lage Road. From the west, the most significant is Rutland Road which links Railway Parade on the west, whilst others include Bullsbrook Road, Brigg Way, Butternab Road, Dewar Road and Warren Road.

2.6.3 Public transport

The study area is currently poorly served by public transport, with only one Transperth bus route serving it. The route leads directly to the Midland Train Station and provides two services per peak period and one mid-day during the week. This bus service is not directly connected to other major retail areas such as Joondalup.

2.6.4 Pedestrian and cycle network

The existing built-up residential area of Bullsbrook is well serviced by footpaths which offer good connectivity to the existing district school and to GNH. This connection becomes somewhat fragmented between the residential area and the town hub area.

In 2012, the City adopted its *Swan Cycle Connect Strategy* to guide future investment in dual use path infrastructure. Whilst no specific requirements are set out within the strategy for the Bullsbrook townsite, all future development will be required to comply with the guidelines within this Strategy.

[20] Source: Department of Planning; City of Swan; Department of Transport & Main Roads WA 2011.

2.7 Infrastructure and other land use constraints

2.7.1 Utilities

Water supply

The Water Corporation advises that existing public water supply infrastructure in the Bullsbrook area is restricted to servicing the Bullsbrook townsite and the Upper Swan area west of GNH. Scheme Water Service infrastructure is shown in Figure 15. In order to facilitate Scheme water supply for further residential, commercial and industrial development within the Bullsbrook townsite, significant upgrades to the current water infrastructure will be required. The short, medium and long term plans included in the Water Corporation's planning to date includes:

- Installation of a separate outlet from the current Bullsbrook service tank, and new distribution mains to serve the town. These will be dependent upon the availability of capital and actual growth in the area.
- Acquisition of land for a new Bullsbrook high level tank and construction of pump station for transfer from the current tank to the new high level tank. Timing will be based on demand in the area and availability of land for acquisition.

Wastewater treatment

A Water Corporation wastewater treatment plant (WWTP) is located in the north-west corner of the study area (refer Figure 16). Wastewater is treated to remove nutrients and pathogens, and then infiltrated into the ground via on-site infiltration basins. Buffer distances are applied to the plant on a case by case scenario. The buffer distance that is currently applied to the Bullsbrook plant is shown in Figure 16.

The Water Corporation has carried out some long term planning for the area and has indicated that, in the future, it is likely that the plant will be decommissioned and waste water will be pumped through a pipeline to Ellenbrook which would then convey the raw wastewater into the existing metropolitan sewer network. Delivery of this infrastructure will be based on timing, availability of capital and actual growth in the area (likely to be post 2017).

The Water Corporation advises that all properties outside of the Bullsbrook townsite rely on individual or grouped septic tanks or on-site effluent treatment systems.

Power supply

Western Power currently supplies electricity to the Bullsbrook townsite area via two 22kV feeders that radiate from a 132/22kV zone substation at Muchea, which is connected to the South West Transmission Network via a 132kV transmission line.[21] These lines service the entire Bullsbrook area, as highlighted in the previous Bullsbrook Townsite and Rural Strategy. Refer to Figure 17. Expansion and extension to this infrastructure will be provided at the cost of developers.

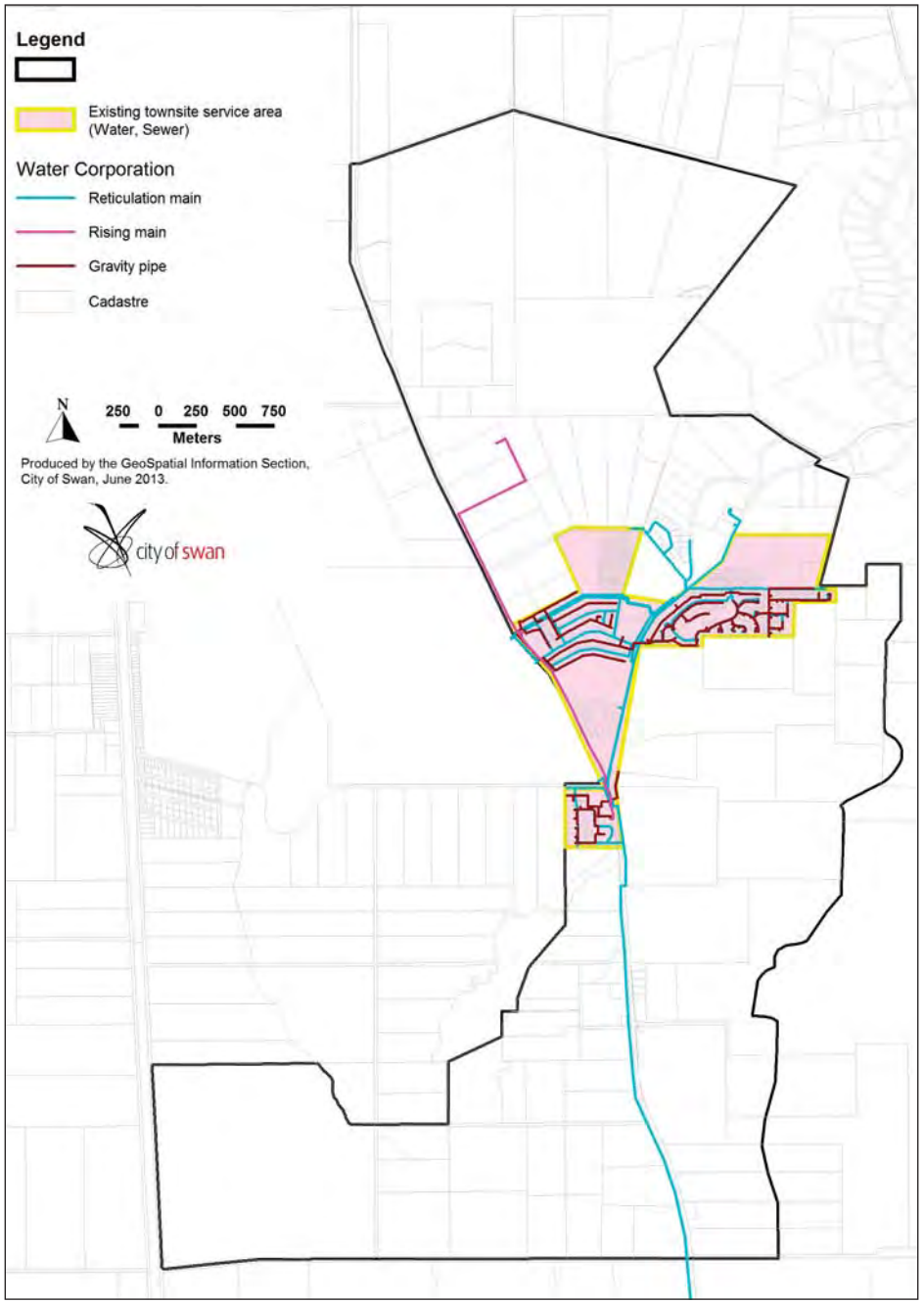


Figure 15. Bullsbrook Townsite Land Use Master Plan: Scheme Water Service Infrastructure

[21] Source: WAPC 1999.

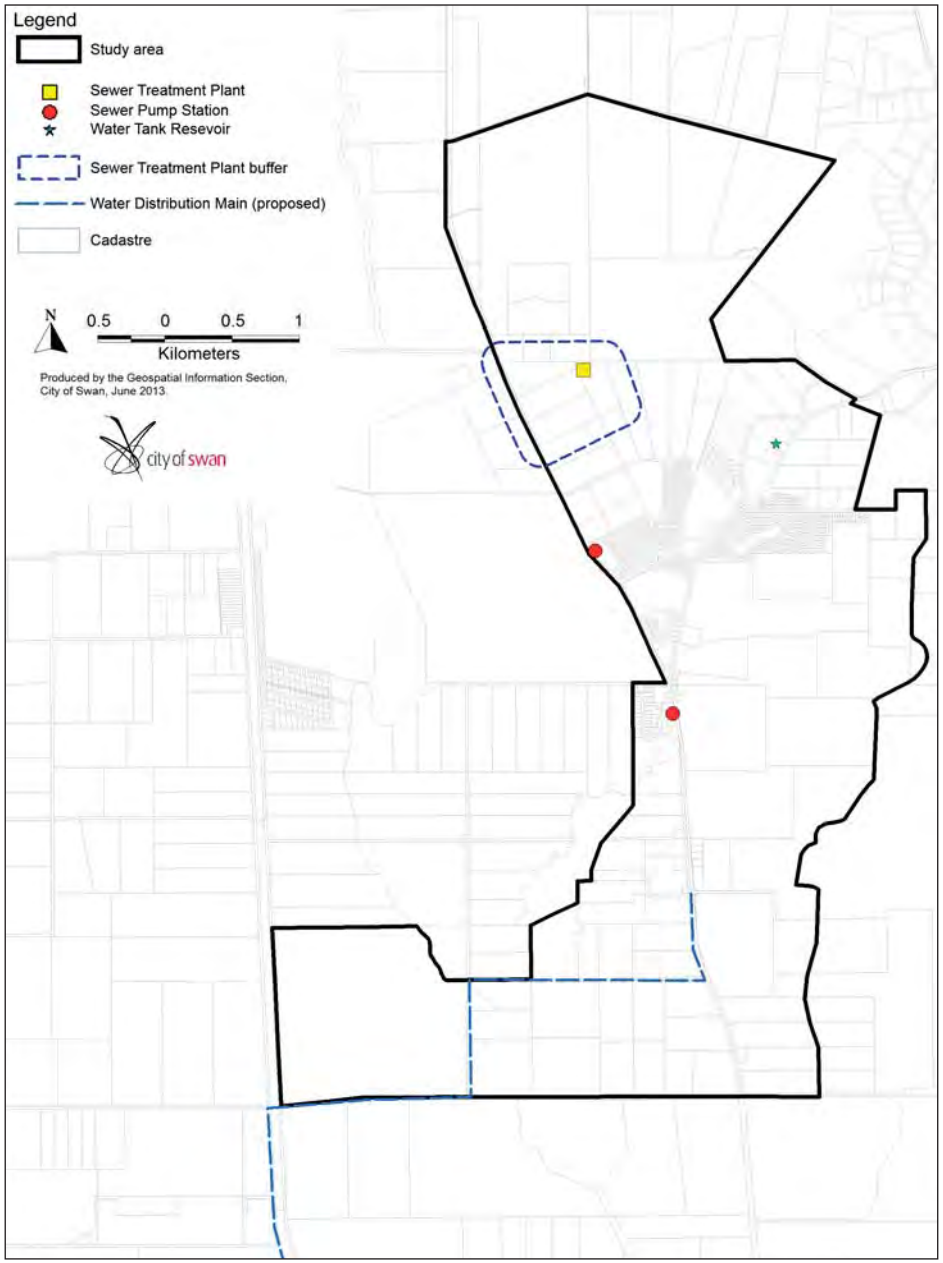


Figure 16. Bullsbrook Townsite Land Use Master Plan:
Water Corporation Waste Water Treatment Plant and Associated Buffer

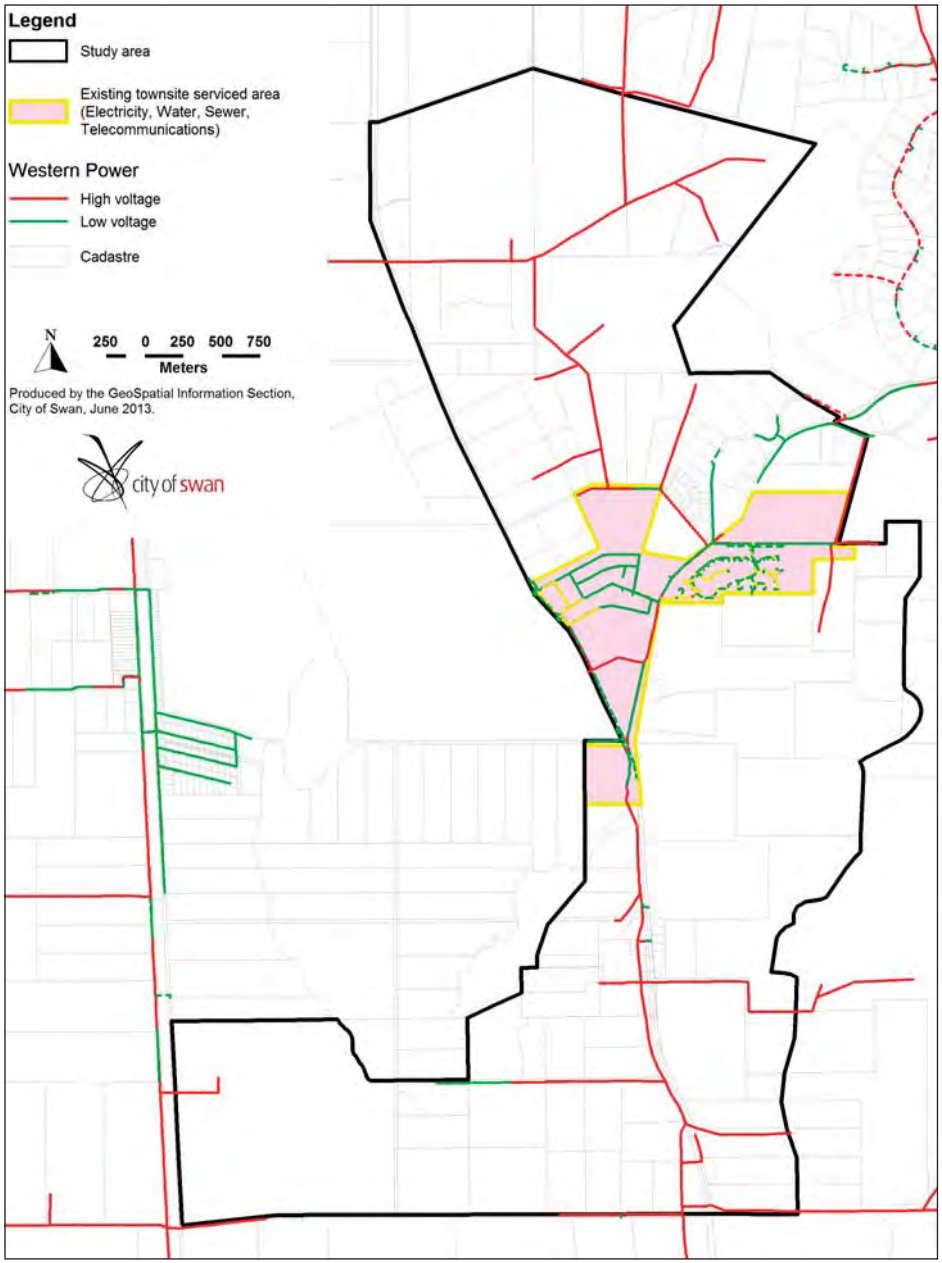


Figure 17. Bullsbrook Townsite Land Use Master Plan:
Power Supply

Gas supply

Alinta Gas advises that the Dampier–Bunbury Natural Gas Pipeline runs adjacent to the western boundary of the study area, with a dedicated easement of 30m. This pipeline, along with the Parmelia Pipeline, provides natural gas to major industrial users and residential development in the south-west of the State, on the coastal plain from Perth to Busselton.[22]

Natural gas is currently drawn off the Pipeline at two points, and is a discretionary service which can be provided to new industrial, commercial and residential estates at the cost of the developer.[23]

2.7.2 Community facilities

Existing facilities

Bullsbrook is currently well serviced by a number of community facilities (not all within the townsite area) as summarised below:

Facility Type	Name
Community Buildings	Pickett Park Hall (Bullsbrook Community Hall) West Bullsbrook Hall Bullsbrook Neighbourhood Centre (youth facility, crèche and activity room) Bullsbrook Community Library Bullsbrook Child Health Care and Preschool Bullsbrook Sports Club
BMX and Skate Parks	Bullsbrook Skate Park and BMX track West Bullsbrook BMX track and play park
Sporting Facilities and Infrastructure	Pickett Park Oval Pickett Park basketball/netball courts and lawn bowls Lowery Park Pavilion and tennis courts District school (soccer field, gymnasium, dance studio and hard courts)
Parks and Reserves	Lowery Park Ballad Park Brearley Park Burley Park Wally Jones Park Wattlebark Park
Additional Facilities (private open space)	Various bushland areas Chequers Golf Club and bushland State Equestrian Centre Various bridle trails

[22] Source: City of Swan 2008.

[23] Source: WAPC 1999.

2.7.3 Royal Australian Air Force—Pearce Airbase

The RAAF Pearce Airbase is located along the western boundary of the study area (north of the industrial estate).

Aircraft noise contours (refer Figure 3) demonstrate that the townsite area is unaffected by aircraft noise, with the exception of the 'Special Use' zoned industrial area south of the RAAF Base (SUZ No. 12) and a small portion of a reserve east of GNH which belongs to RAAF. There may be some affect to future urban land directly north of Kimberley Street and detailed acoustic planning will be required to ensure this can be managed suitably.

Future developers will need to liaise with RAAF via the City to ensure that adequate measures are made to appropriately address pertinent matters associated with development in proximity to an airbase. These include:

- Bird strike;
- Defence (Areas Control) Regulations;
- Extraneous Lighting and Glare; and
- Explosive Ordnance Safeguarding.

The Master Plan will need to take these matters into account where relevant to the level of planning detail provided.

3.0 The Master Plan

Vision

As stated previously, the population forecast for Bullsbrook is 17,146 people by 2031, and 26,483 people by 2036[24], and the State has set an employment self-sufficiency target of 75% for the North-East Corridor.[25] The Master Plan provides a strategy for the growth of the townsite area to accommodate this population and to provide employment.

> The City's vision for the Master Plan is to promote the Bullsbrook townsite as the City of Swan's Northern Gateway and to accommodate this growing community in a liveable town which is sustainable, vibrant and prosperous.

Towards achieving this vision and, taking into account the site conditions and constraints referred to in the foregoing, the study area is considered capable of providing a consolidated urban area which can be well served by transport, essential utilities, community facilities, retail outlets and employment.

[24] Source: Forecast id 2012.

[25] 'Directions 2031', WAPC 2010.

Objectives

To this end, strategic objectives have been set for the Master Plan. These are:

To:

- provide a coordinated approach to future urban development and implementation of associated infrastructure for those areas in Bullsbrook identified for urban expansion, particularly in relation to land use;
- incorporate key transport routes throughout the Master Plan area;
- identify suitable community facilities, open space and employment generating sites that provide equitable access for existing and future residents.
- ensure that future urban development provides for environmentally sensitive design, protecting existing landscape and natural water features;
- ensure that future urban development minimises conflict with existing agricultural land uses that are significant to the supply of produce to the Perth metropolitan region and beyond;
- provide for diversity of housing stock by promoting a range of residential densities within the study area;
- provide for development which is consistent with 'Liveable Neighbourhoods' principles, incorporating walkable catchments and a well serviced public transport system;
- provide for a self-sustainable community by promoting a mix of residential and non-residential uses, including industrial, commercial, community-based uses and mixed-use development; and
- protect existing major land uses including the Pearce RAAF Base, various resource extraction operations and adjacent agricultural and horticultural activities.

Key design considerations

As highlighted within the site conditions and constraints section of this report, various existing natural and built form features affect the study area. These features have formed distinct parameters in the design of the townsite, which in turn have shaped the mix and location of land use within the Master Plan (refer Figure 18). In terms of this, and taking into account the above objectives, key considerations in the design of the Master Plan are discussed below:

District Centre

SPP4.2 stipulates a requirement for a District Centre to service populations over 20,000. In early planning stages of the Master Plan, the City recognised the need for an expanded retail/commercial centre in Bullsbrook and the limitations of the existing centre to allow expansion. Therefore, it is concluded that a new **District Centre** would need to be planned for. However, it also recognised that the existing central retail/commercial area should not be isolated from the new centre, particularly during the transition stage. As such, the City recognised that the new centre would need to be located as close as possible to the existing centre, to provide connection between the two.

With the RAAF Pierce base and an identified industrial estate directly south-west of GNH, it was apparent that future residential development would need to continue along the east side of GNH. Therefore, in accordance with orderly and proper planning, the new centre would need to be integrated with this residential expansion area, so that future commercial growth would not be dissected or interrupted by GNH. It was determined that the most appropriate location for the new District Centre would be directly east of the existing hub, across the GNH.

Related uses

With this proposed location of the District Centre and related land uses, it is deemed appropriate to co-locate essential district level community facilities and open space at Pickett Park (including proposed future upgrades).

It would be expected that denser residential opportunities would be made available along the identified **Activity Corridor**, which is the main north-south link through the townsite (Section 3.4.2).

As the townsite expands outwards from the District Centre, it is expected that residential expansion will occur to the south first and then to the north of the existing residential development. Three new primary schools and potentially one new high school site, in addition to the existing district school, as well as **Neighbourhood Centres** will be required as the townsite expands southwards. Indicative proposed school and neighbourhood centre sites are shown in the Master Plan.

The study area is enriched with natural water features and it is expected that much of the local open space will be distributed adjacent to these creek lines and wet areas. Other passive local open space opportunities will be required to be provided within individual walkable catchments. The majority of required active open space will be addressed through the provision of local playing fields and the proposed **District Open Space** (DOS) indicated in the Master Plan.

Industrial use

The land zoned 'Industry' within the MRS is zoned 'Special Use No. 12' under LPS17 and is currently subject to a number of structure plans being assessed by Council. DCPs are also currently being prepared to ensure the appropriate coordination of delivery and distribution of necessary infrastructure within the estate. The State Government has also earmarked the area for the possible location of an intermodal freight terminal. The Master Plan recognises this **Industrial** area along the western edge of GNH, north of Stock Road, for the provision of key job opportunities to the future expanded community of Bullsbrook. Signalised intersections with GNH are proposed at Stock Road and future Lage Road extension to facilitate easy and safe access (refer Section 3.4).

Land in the north and south-east of the study area is strictly constrained by various environmental buffers and currently quarantined from future development. These areas have been identified within the Master Plan as **Future Investigation Area** and **Clay Quarry Buffer Area**. Within the **Future Investigation Area** is a site identified by the State Government as having potential for non-heavy industrial use in the long term.

The vision, objectives and design considerations discussed above are an integral part of the Master Plan indicated below.

The following Sections 3.1 to 3.7 each discuss a key aspect of the Master Plan, particularly in relation to the most relevant of the stated objectives which are set out at the beginning of each section.

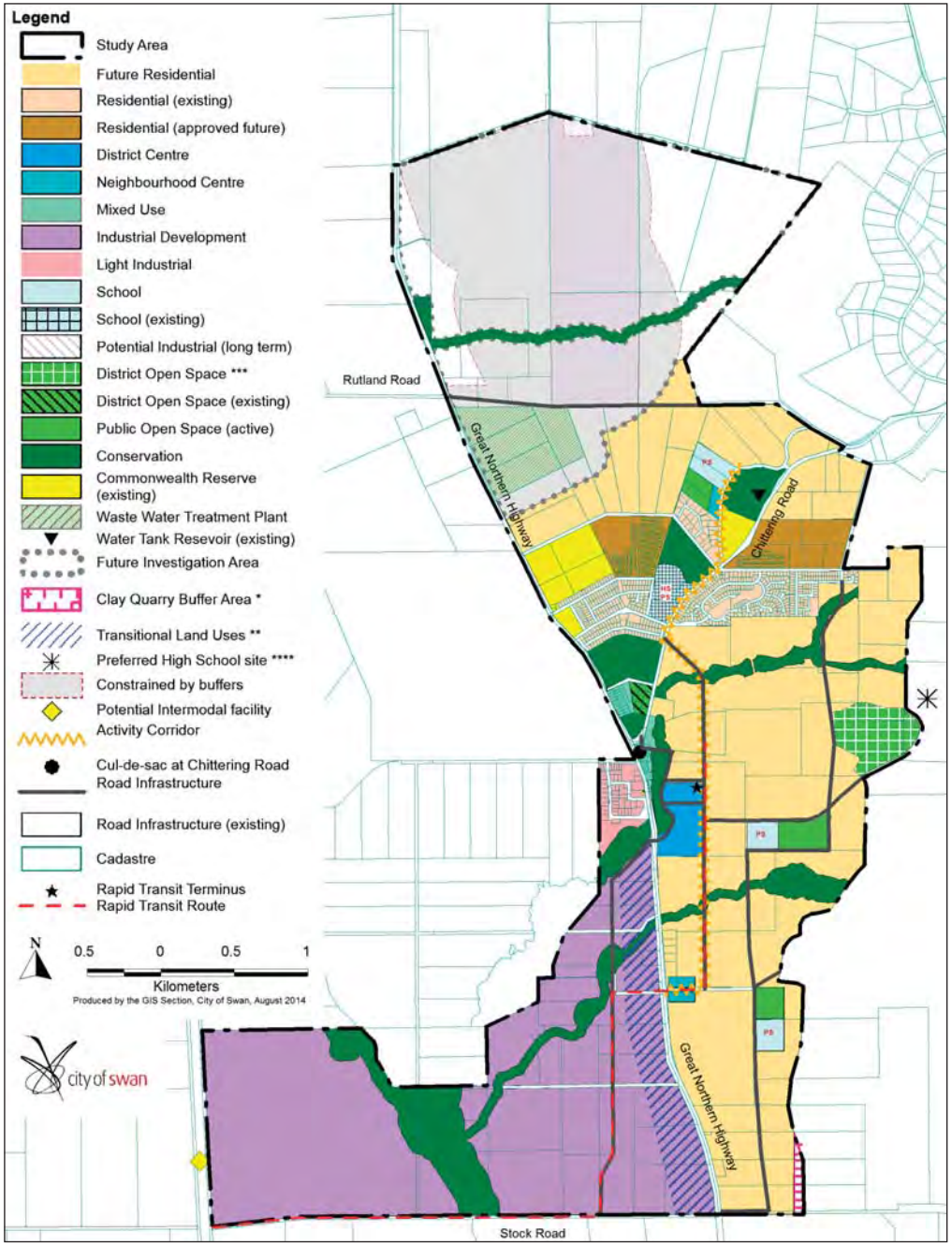


Figure 18. Bullsbrook Townsite Land Use Master Plan

* The existing 500 metre clay quarry buffer may be reduced in the future, upon agreement of all relevant parties. This buffer is subject to detailed mapping.

** Transitional land uses are required along the western edge of the Great Northern Highway (refer Section 3.1.2 of the Bullsbrook Townsite Land Use Master Plan report).

*** City of Swan will only accept the vesting of land in this indicative location as DOS once fully remediated by the landowner to the satisfaction of the EPA and City.

**** In the event that an additional high school site is required, its siting and location will be required to meet those qualifications outlined within Section 3.6.1 of the Bullsbrook Townsite Land Use Master Plan report.

3.1 Land use

Objectives

- Provide for diversity of housing stock by promoting a range of residential densities within the study area;
- Provide for a self-sustainable community by promoting a range of non-residential uses including industrial, commercial, community-based uses and mixed-use development; and
- Protect existing major land uses including the Pearce RAAF Base, various resource extraction operations and adjacent agricultural and horticultural activities;
- Ensure that future urban development minimises conflict with existing agricultural land uses that are significant to the supply of produce to the Perth metropolitan region and beyond.

A summary of key land uses and population to be provided for within the Master Plan is as follows:

Land Use and Population Yield	
Total area covered by the Master Plan	1,756ha
Area of each land use with Master Plan (gross) – Residential – Industrial – Commercial	 526ha (313ha net) 414ha (331ha net) 16.4ha
Estimated residential lot yield[26]	7,049 lots including 153 urban infill lots (plus 2,504 possible further lot potential from currently constrained sites—probably post 2031 [potential 40 lots within clay quarry buffer area and additional 2,464 lots within future investigation area])
Estimated population yield[27]	19,736 people (plus 7,011 possible further potential from currently constrained sites—probably post 2031)[28]
Number of high schools[29]	2 (1 existing)[30]
Number of primary schools	3
Estimated commercial floor space (for activity centre)	10,000m² net lettable area by 2031 (20,000m² probably post 2031)
Employment (Industry) Labour force[31]	11,000 jobs[32] 9,093 (probably post 2031)[33]
Provision of Public Open Space – Unrestricted – Restricted	 61.6ha 15.4ha

[26] At 22 lots per net site ha (15 dwellings per gross urban zoned ha) for 'Connected City', under the WAPC's *Outer Metropolitan Perth and Peel Sub-regional Strategy*.

[27] At 2.8 people per household—Forecast id: average for 2011.

[28] This figure does not include the existing population of 5,614.

[29] At 1/1,500 lots—'Liveable Neighbourhoods'—WAPC.

[30] The addition of a second high-school will be subject to a number of factors, described in detail within Section 3.1 of this report.

[31] Members of population working full time, part time or currently looking for work.

[32] This figure includes only employment generated within the industrial estate at 30 employees per ha (Macroplan Dimasi 2013). On top of this figure will include commercial, retail and community use employment.

[33] Based on 2.8 people per household (Forecast id average for 2006–2036), 1.29 employees per dwelling (City of Swan ID Forecast average 2011).

3.1.1 Residential

The residential component of the Master Plan is made up of:

- Existing residential;
- Approved structure plan areas;
- Existing 'Urban Deferred' zoned sites under the MRS; and
- Proposed future residential.

These are indicated in Figures 19 and 20.

The estimated future yield of the residential component is set out in the following table:

Component	Gross Site Area (ha)	Net Site Area (ha)[34]	Lots[35] (dwellings)	Population Yield[36]
Existing Residential[37]	–	–	153	428
Approved Structure Plans	41	22.55[38]	496	1,389
Urban Deferred[39]	97.69	58.6	1,289	3,609
Future Residential	387.2	232.3	5,111	14,310
Total Yield	525.89	313.4	7,049	19,736

This has been estimated by considering the net area of land available to be developed within the Master Plan study area (after land required for non-residential uses, streets, laneways, open space and community facilities has been deducted from the gross developable area) and then applying the State Government target of 22 dwellings per net site ha followed by a projected household size of 2.8 persons per dwelling.

Local structure planning for any new development within the area will need to make provision for the buffering of any heavy haulage noise associated with traffic from GNH. This matter will need to be appropriately addressed in accordance with SPP5.4 by a suitably qualified acoustic consultant.

Future investigation areas, including the clay quarry buffer area, are not included in the above forecast. These are considered in Sections 3.1.3 and 3.1.4.

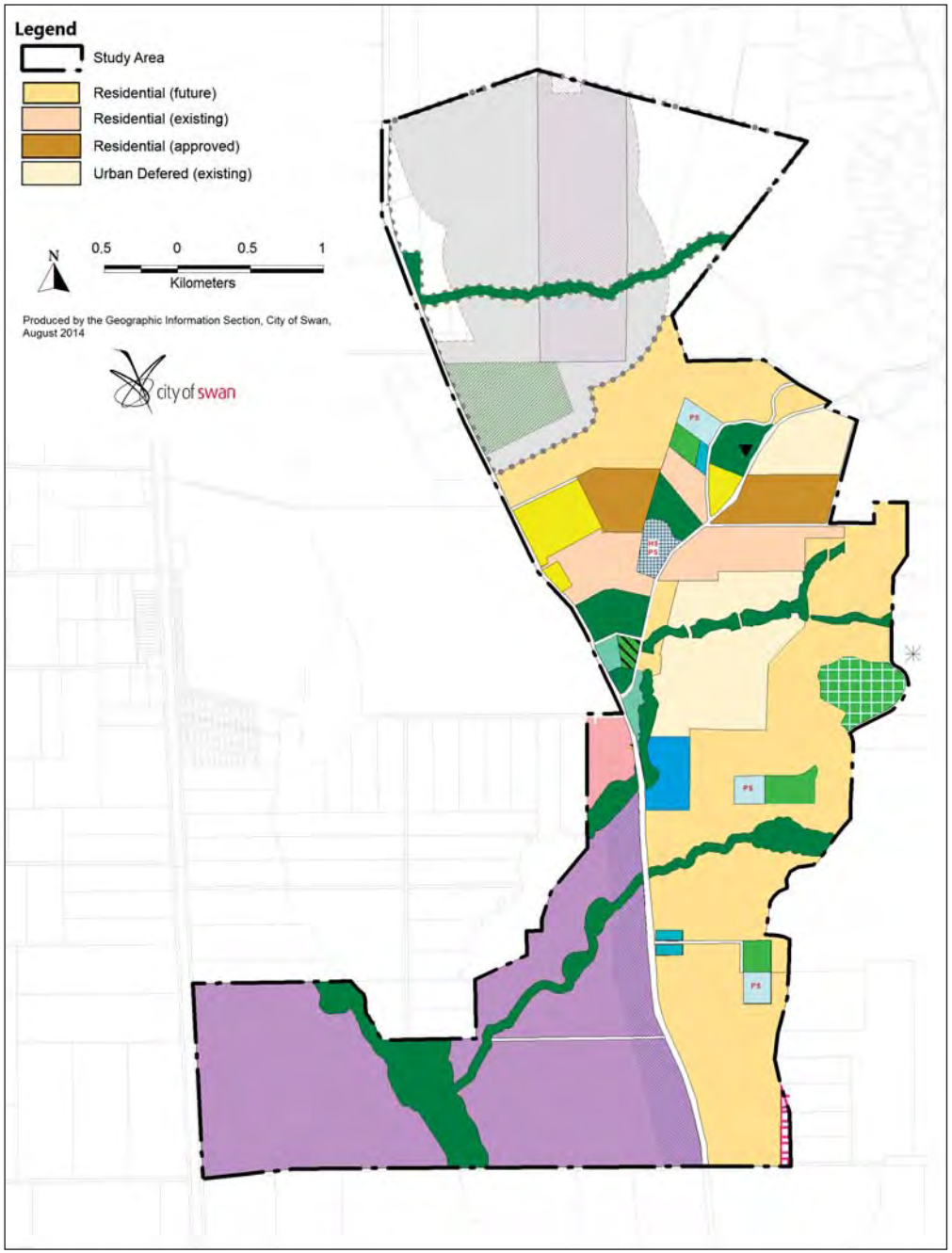


Figure 19. Bullsbrook Townsite Land Use Master Plan: Residential Component

[34] Total site yield, based on area after deducting required areas for DOS, Conservation, District Centre and three Primary Schools (43.3 ha) as well as 40% for roads, drainage, POS and allowance for steep terrain in local area.

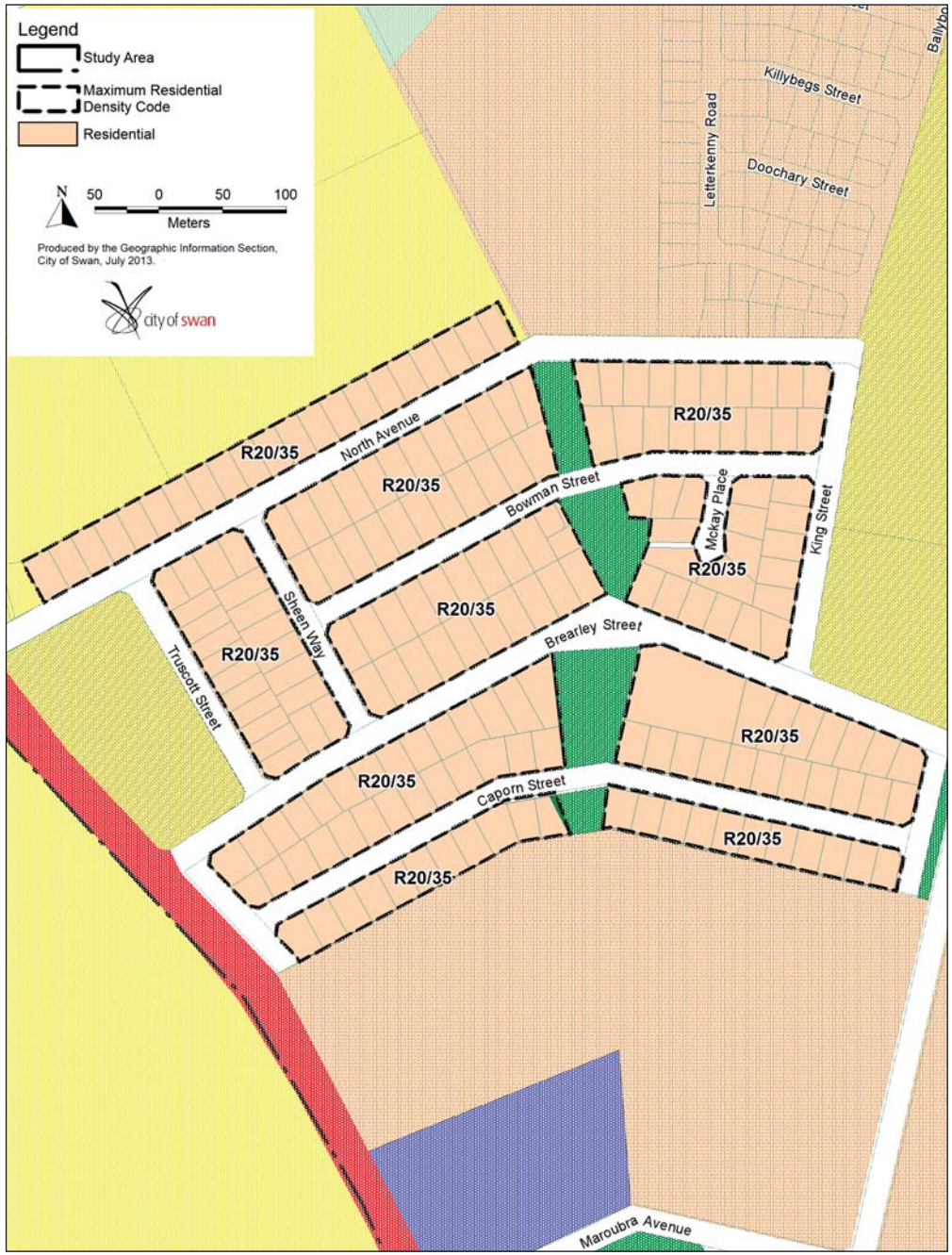
[35] At 22 lots per net site ha (15 dwellings per gross urban zoned ha) for 'Connected City', under the WAPC's *Outer Metropolitan Perth and Peel Sub-regional Strategy*.

[36] At 2.8 people per household—Forecast id: average for 2011.

[37] Refers to potential for further growth (3% assumption based on Urban Housing Strategy).

[38] Refers to further growth available (where subdivision has not yet been approved) at time of calculation.

[39] Land zoned 'Urban Deferred' under the MRS.



Existing residential areas

With the endorsement of the City's Urban Housing Strategy in June 2012 and the finalisation of associated LPS17 amendments, the **Existing Residential** area is expected to accommodate an additional 153 dwellings by 2031. This means that the existing housing stock in the area of 525 dwellings could be increased by 153 new dwellings. Figure 20 indicates the proposed new density codes within the existing residential area.

Approved Structure Plan areas

The **Approved Future Development** component of the Master Plan comprises three approved structure plans. These occupy several parcels of land, two being located between Kimberley and North Streets, and the third located to the north of Hurd Road. These structure plans facilitate the future development of approximately 496 lots which will accommodate over 1,389 residents.[40]

Existing Urban Deferred Sites

The Urban Deferred' sites occupy land located directly east of Chittering Road (in the north-east section of the study area) and a number of sites located to the south-east of Chittering Road (directly south of the existing residential area), as indicated in Figure 6.

The urban deferment of the north-east site appears to be an anomaly, as it is zoned 'Residential Development' within the City's LPS17. However, irrespective of this, the urban deferment would require lifting upon the endorsement of any structure plan for the site (refer Figure 21).

The south-east 'Urban Deferred' site is currently zoned 'General Rural' under LPS17 and has been constrained by the existing hard rock quarry resource buffer (Figure 10). It is understood that the State's position is to delete the quarry from protection under its policy SPP2.4 in the near future. In this case, it is considered that a future MRS amendment to facilitate the lifting of this 'Urban Deferment' would be supported by the State.

As both existing 'Urban Deferred' sites are adjacent to the existing urban area, there is likely to be a relative ease of access to existing service connections. Therefore, it would be expected that first stages of new urban growth will emerge from these two sites (less so from the north-eastern site which is restricted by its topography), upon relevant amendments to the MRS and LPS. The component of existing 'Urban Deferred' sites occupies a net area of approximately 58.6ha which could accommodate up to 1,289 new lots.[41]

Figure 20. Bullsbrook Townsite Land Use Master Plan: City of Swan Urban Housing Strategy—Proposed Rezoning Bullsbrook

[40] At 2.8 persons per dwelling.

[41] At 22 lots per net site ha (15 dwellings per gross urban zoned ha) for 'Connected City', under the WAPC's *Outer Metropolitan Perth and Peel Sub-regional Strategy*.

Future residential

The townsite study area comprises a **Future Residential** component of just over 232.3ha, based on the area of land available for urban development (upon deduction of those areas required for non-residential uses and infrastructure, as well as parcels of land that will continue to be constrained by relevant environmental buffers in the immediate to long term future). This translates to the opportunity to provide approximately 5,111 additional lots within the townsite. In order for this land to be developed, landowners would need to prepare a Local Structure Plan to initiate an MRS amendment and subsequent LPS amendment, to rezone the land from 'Rural' to 'Urban' and 'General Rural' to 'Residential Development', respectively.

Future structure plans for the 'Urban Deferred' and Future Residential Precincts will be required to refine the identified boundaries and detail density distribution, to demonstrate how the State Government's 'Directions 2031', *Outer Metropolitan Perth and Peel Sub-regional Strategy* and 'Liveable Neighbourhoods' policy can be achieved. The diversity and quality of housing within these areas will need to demonstrate attractive, safe and liveable communities through best practice urban design and architecture. It could be expected that as a result of Bullsbrook's 'rural' location, there will be a greater demand for lots larger than those yielding 22 dwellings per net ha, especially in the earlier stages of development.

The overall estimated future yield of dwellings based on total build out (excluding yield from the Future Investigation Area and Clay Quarry Buffer Area) accommodates approximately 19,736 people (excluding the existing 2011 population of 5,614) which can accommodate the forecasted population of 17,146 by 2031 and will significantly address the forecasted population of 26,483 by 2036.

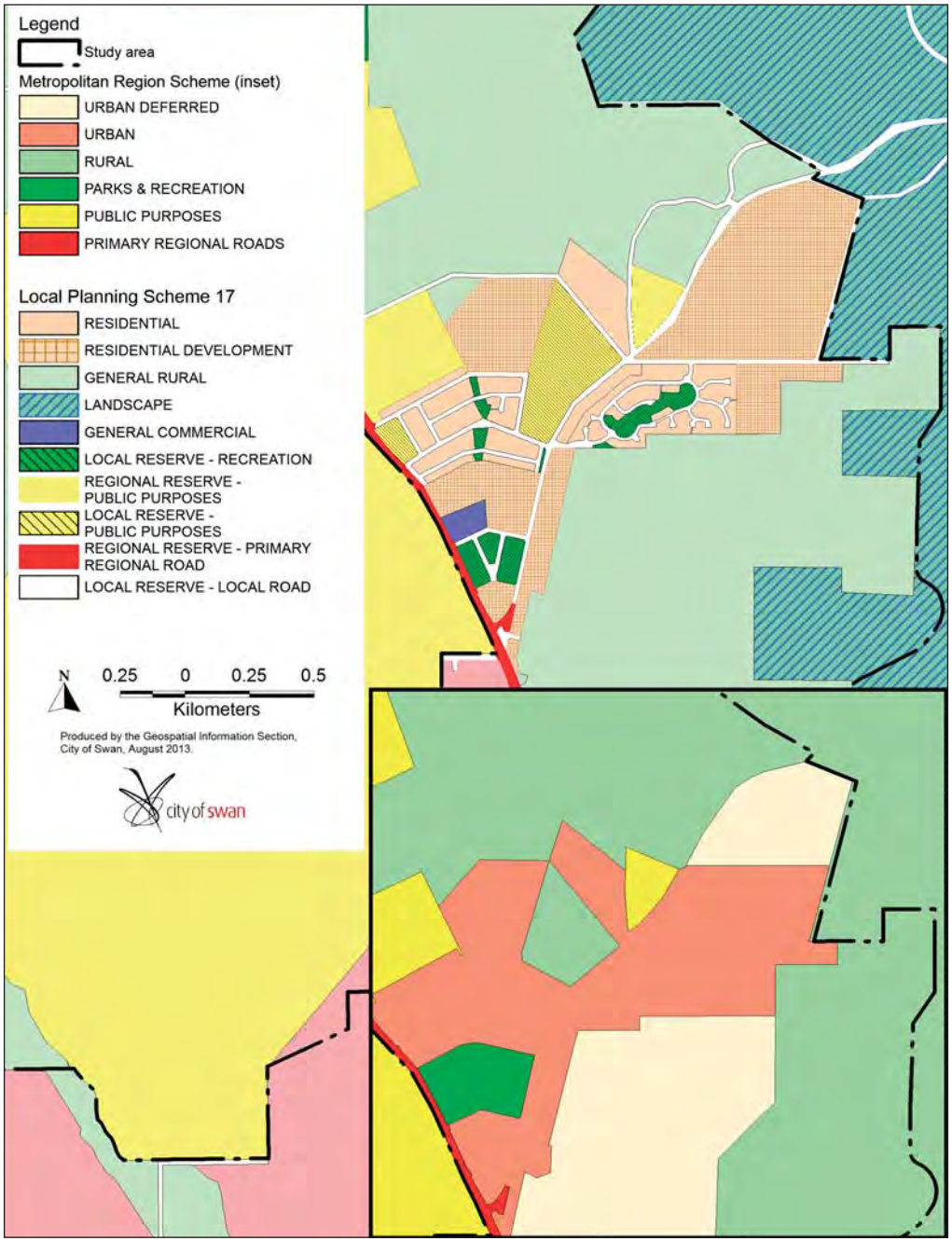


Figure 21. Bullsbrook Townsite Land Use Master Plan: Existing MRS and LPS17 Zoning in North-East

3.1.2 Activity nodes and employment

Activity centres and an industrial area have been proposed within the Master Plan. This is in accordance with State Government planning guidance, in particular the EELS. These are discussed in the following:

Existing Commercial/Industrial hub

There is no further land available for retail expansion in Bullsbrook. The existing hub is small, occupying a total area of 1,900m^2 (including food and services), and is perceived as deficient by local residents. This area is noted as 'Light Industrial' within the Master Plan, reflecting the predominant land use within the immediate area. The envisaged change to the commercial/retail aspect of this area is further discussed below.

Future retail needs

The City carried out a retail needs assessment for the municipality in 2012. The assessment identified the need for a larger centre in Bullsbrook (with approximately 8,000–10,000m^2 of retail floor space) between 2021 and 2031, to grow to a District Centre (with up to 20,000m^2 retail floor space) beyond 2031. The District Centre would provide weekly grocery shopping facilities, convenience/service shops, a significant range of lower order comparison shops, cafes, restaurants and niche traders. Much of the work for the retail needs assessment was carried out prior to the publishing of State Government's EELS and the compilation of the Master Plan. Therefore further detailed investigation would be required, at future local structure planning stage, to determine whether a shopping facility of a district capacity would be required earlier.

The need for two future small Neighbourhood Centres has also been identified. The southern Neighbourhood Centre has been oriented along Lage Road with allowance for a main street style of development, having clear visibility and connection to the GNH and adjacent industrial estate.

The inclusion of the additional district and neighbourhood retail floor space will contribute positively to the recommended 75%[42] self-sufficiency target for the expected workforce population in the north-east.

Expansion of retail/commercial area

Previously, prior to the construction of the Perth coastal highway, Indian Ocean Drive, a large amount of tourists heading to the north of Perth would travel through Bullsbrook. This has already reduced substantially and will reduce even further when the PDNH is constructed, diverting most traffic away from the Bullsbrook townsite. Taking this into account, it is considered that expansion of commercial/retail use would be more appropriate on the east side of GNH (rather than in its existing location west of GNH which developed predominately to serve the Highway) where it can better serve residential development east of the Highway. Notwithstanding this, existing commercial traders located to the west of the Highway would be able to continue to enjoy existing use rights into the future. Connectivity between the commercial development west and east of GNH is encouraged through the proposed location of the new centre directly to the east (with clear visibility from the GNH), particularly through the transition stage.

[42] 'Directions 2031', WAPC 2010.

District Centre

The proposed **District Centre** is expected to commence expansion within its western edge to provide an early connection with the existing hub to the west, and to take advantage of the exposure to GNH. The proposed District Centre is located along a north–south distributor road close to proposed community facilities, DOS and the district school in order to create a vibrant and connected centre with a diverse range of activities.

In regard to GNH, whilst street parking is not encouraged along the Highway (which will remain as a high wide load route), a number of other traffic calming devices (such as a pedestrian crossing, street art and street trees) should be considered. As such, the Highway would help towards providing safety, amenity and definition for the Centre, whilst connecting it to growth areas.

An Activity Centre Structure Plan would be required for the District Centre, in accordance with SPP4.2 to ensure it conforms with the model framework provided in the policy.

The initial stage of development is likely to provide for food services, smaller scale weekly grocery needs and other convenience shops, mixed with some residential opportunities. At subdivision stage, structure plans would be required to promote good quality urban design and 'Liveable Neighbourhoods—Main Street' principles.

Expansion of the Centre would occur eastwards, where appropriate siting would need to be considered to ensure the extent of the District Centre can be accommodated.

If pressure occurs for further Mixed Use opportunities, in addition to those on the western edge of the new Centre, this could be accommodated on the western side of Pickett Park. In this event, an alternate, appropriately sized and located site would need to be identified for a replacement playing field (most likely in the north of the Master Plan).

Aged Care

The Master Plan recognises the need to cater for **Aged Care** in the future. In accordance with 'Liveable Neighbourhoods' principles, Aged Care Accommodation is best located within the activity centre. It is envisaged that this would be provided adjacent to the District Centre, which offers the advantage of providing nearby shopping, medical, public transport services and other commercial facilities.

Neighbourhood Centres

Two new small **Neighbourhood Centres** are proposed to complement the District Centre. A Neighbourhood Centre is proposed to be located in the southern part of the study area to provide amenity and convenience to this future structure planning area, and to also serve the needs of the large industrial employment node located opposite (on the west side of GNH). Located close to a proposed future four-way signalised intersection of GNH with Dewar Road–Lage Street, patrons travelling from the industrial estate will have the advantage of not needing to enter the Highway. The Neighbourhood Centre will provide catchment support to the District Centre and improve walkable catchment within the surrounding urban village.

The need for the second Neighbourhood Centre is only likely to arise when the northern section of the study area experiences development pressure. The proposed site, located close to a Primary School, centrally within the neighbourhood, will provide a similar level of service as the other Neighbourhood Centre serving the southern residential area.

Both Neighbourhood Centres are located along the proposed Activity Corridor (Section 3.4.2), which will ensure good exposure and good public transport access to each site.

All District and Neighbourhood Centre buildings are required to be designed using 'Liveable Neighbourhoods—Main Street' principles, addressing and fronting adjacent streets. These Centres will provide a mix of commercial, residential and community uses.

Industrial Node

The Industrial node has been added to the west of the townsite study area, though not previously identified within the 'Bullsbrook Townsite Rural Strategy'. As previously discussed, this node has been recognised within EELS for future industrial development. An amendment to the MRS was recently approved by the State Government to rezone land identified in the node (331ha net[43]) from 'Rural' to 'Industrial'. At full build out, this node is estimated to trigger at least 11,000 jobs.[44]

The node, bounded by Stock Road, GNH, the Ellen Brook and Railway Parade, is suitably located along the expected connection point to the future PDNH–Stock Road. An intermodal freight facility is expected to be constructed to the west of this node, expanding the need for complementary transport related industries. The node is well located to serve WA's growing industrial sector in terms of its strategic location on the State's major route north (especially in respect of the oil and gas and mining industry), and its substantial separation from key bushfire-prone areas.

[43] Net industrial area, excluding 20% of gross industrial land for road and drainage infrastructure.

[44] Macroplan Dimasi 2013.

The land has several constraints, including being dissected by Ellen Brook and 100 year flood plain. An existing poultry farm is located in this area and the land is affected by noise generated by the flight paths of planes utilising the Pierce RAAF base air strip.

The GNH forms a key transport corridor through the City, offering a window into Swan seen by many passers-by on a daily basis. The future townsite development presents an opportunity to improve the built form along the highway and to ensure an appropriate interface between non-residential and residential development. The eastern section of the industrial precinct will need to address the sensitive land uses proposed for the land located directly to the east of the GNH. An indicative 'Transitional Land Uses' precinct is identified along this side of the precinct and shall be required to be noted within any future structure plan and associated local development plan (where relevant). Development within this area will need to address the Environmental Protection Authority (EPA) 'Guidance for the Assessment of Environmental Factors Western Australia (in accordance with the *Environmental Protection Act 1986*): Separation Distances between Industrial and Sensitive Land Uses'[45] to ensure noise, dust and odour is appropriately managed. Furthermore, development within 'Transitional Uses' zone will need to respect the preferred built form character of the local community, ensuring an enhanced aesthetic appearance along the highway.

Job yield identified in the Master Plan will strongly support the north-east corridor self-sufficiency target of 75%.

3.1.3 Future investigation area

The **Future Investigation Area** (refer Figure 18) is currently mostly quarantined, as it is constrained by several environmental buffers. These include creek line buffers, Bush Forever sites, the Water Corporation WWTP buffer and buffers likely to be required by the Department of Mining and Petroleum for the purpose of protecting the Titanium Zircon resource partially located along the northern boundary of the study area. However, the Wastewater Plant buffer is likely to be lifted upon the decommissioning of the plant in future years.

The north-east section of the study, located outside these buffers, is located within an extreme bushfire risk area and currently has only one main access/egress point. Therefore, it may be difficult for development of this area to achieve compliance with the State Government's *Planning for Bushfire Protection* policy and with the City's LPS17 requirements.

Through the preparation of EELS, the Department of Planning have also identified a long term potential non-heavy industrial site within this area.

Were all the constraints of the Future Investigation Area to be satisfactorily addressed, it has the ability to potentially accommodate 2,464 additional lots or 6,900 people.[46] It is recommended that this area not be considered for urban development until all the constraints have been removed.

3.1.4 Clay quarry buffer area

The **Clay Quarry Buffer Area** has been identified as a result of the buffer required to the existing Midland Brick quarry site located to the south-east of the study area. The buffer is calculated from the identified extraction areas, and Midland Brick has also identified that this work will be likely carried out in stages from north to south. Furthermore, the existing 500m buffer may be reduced further in the future, upon agreement of all relevant parties. Therefore there may be potential, in the future, for this area to become available for urban. The Clay Quarry precinct has the ability to accommodate approximately 40 lots or 112 people.

Together with the estimated yield from the proposed residential components of the Master Plan of 7,049 dwellings (Section 3.1.1) plus the estimated potential yield from the currently constrained 'Future Investigation Area' and 'Clay Quarry Buffer Area' of 2,504 dwellings (Section 3.1.3), would result in a total estimated build out yield of 9,553 dwellings which could accommodate approximately 26,747 people (excluding the existing 2013 population of 5,614).

This fits well with the State Government's target to accommodate Bullsbrook's forecast population of 26,483 people by 2036.

[45] Environmental Protection Authority Guidance Statement No. 3 (June 2005).

[46] This figure excludes the identified long term industrial site as well as Conservation and Bush Forever Sites.

3.2 Public Open Space

The future urban expansion of the study area will accommodate a variety of open space types in order to support the quality of life to future residents and people working within the area, taking advantage of and respecting the remnant bushland and natural water features which enrich this area.

The POS provision includes DOS with a district wide catchment, playing fields with an emphasis on active recreation, foreshore reserves with an emphasis on conservation and passive recreation, as well as local parks. The table below provides a schedule of existing and proposed POS within the study area.

Whilst it is beyond the scope of the Master Plan to specify in detail the location and exact amount of all future POS, the following table provides some guidance towards planning for the proposed residential components of the Master Plan in the medium term. Proposed DOS and active playing fields are in accordance with the City's draft Bullsbrook Community Infrastructure Plan (BCIP).

Local Structure Plans will be required to address requirements of the State's 'Liveable Neighbourhoods' policy by demonstrating how planned POS sites are of appropriate location and size and are well connected and designed from a usability, safety and surveillance perspective. A detailed schedule will be required to include the amount, distribution and staging of the POS delivery for each Local Structure Plan. The types of open space provided will need to meet the needs of all users and age groups. Developers will generally be required to design and construct all local open space in consultation with the City. Establishment/ maintenance programs are to be set up and agreed upon at Local Structure Plan stage in accordance with the City's current policy in this regard (most likely with a required minimum five year maintenance program by the developer, before handover to the City).

All Bush Forever sites are to be treated in accordance with SPP2.8 and are therefore not included in the consideration of open space.

Calculation of Subdivisible Area and Public Open Space Requirement

		Hectares
Study area	1,756	
Deductions		
Future Investigation Area		184.7
Clay Quarry Buffer Area		3
Conservation Sites		40.5
Foreshore reserves to be ceded		117.5
Public Purpose Sites		60.4
Private Open Space (Chequers Golf Course)		110
Total deductions		516.1
Net site area		1239.9
Deductions		
Primary school sites		13.3
Town centres and commercial[47]		16.4
Industrial land[48]		414.1
Regional Roads (GNH & Chittering Road)		16.6
Total deductions		460.4
Net Subdivisible area		779.5
Public Open Space requirement at minimum of 10% of net subdivisible area[49]		77.95
Minimum unrestricted Public Open Space requirement (80%)[50]	62.36	
Less existing unrestricted Public Open Space sites		
Existing local parks:		
Wally Jones Park	0.24	
Existing neighbourhood parks:		
Ballad Park	0.74	
Brearley Park	0.63	
Existing district park		
Pickett Park	8	
Lowery Park Pavilion and Tennis Courts	2.84	
Total existing unrestricted Public Open Space		12.5
Proposed District Open Space (DOS)	19.5	
Other proposed POS adjacent to **primary schools**	13.8	
Total unrestricted Public Open Space (including DOS)		45.8

continued over...

Calculation of Subdivisible Area and Public Open Space Requirement			
		Hectares	
Maximum Restricted Public Open Space requirement (20%)[51]	15.59		
Less existing restricted use Public Open Space sites			
Existing restricted use sites:			
Ballad Park Drainage Basin	0.15		
Future restricted use sites[52]:			
128 North Ave Bullsbrook	0.77		
9002 North Ave Bullsbrook	0.2		
Chittering/Hurd/Burley Rd Bullsbrook Structure Plan	1.12		
Total existing restricted use Public Open Space		2.2	
Total minimum Public Open Space to be provided (ha)			29.95[53]
Minimum unrestricted Public Open Space to be provided (ha)		16.56[54]	
Maximum restricted Public Open Space to be provided (ha)		13.39	

3.2.1 Active open space

The majority of required active open space will be addressed through the provision of the DOS identified within the Master Plan, in addition to the existing Pickett Park oval site.

A fourth playing field site may need to be identified in the north of the study area, at Local Structure Planning stage, at the point in time that this area begins to experience development pressure.

Sites identified by the City for active open space are to be relinquished to the City by the developer. These will generally be constructed by the City unless otherwise agreed with a developer. Cost sharing arrangements associated with such development are described further on in this report.

[47] 3ha allowed for non-residential uses within the Mixed Use precincts.

[48] Includes existing commercial/industrial centre which is proposed for Light Industrial uses.

[49] Minimum under the State's *Development Control Policy No. 2.3: Public Open Space in Residential Areas* (DC2.3). However the City is likely to request at least 13% to compensate for the area of POS used for drainage.

[50] DC2.3.

[51] ibid.

[52] Based on previously approved structure plans.

[53] Minimum under DC2.3—required in addition to the proposed DOS and school oval sites. However the City is likely to request at least 13% to compensate for the area of POS used for drainage.

[54] Based on 'Liveable Neighbourhoods'—required in addition to the proposed DOS and school oval sites.

3.2.2 Passive open space

This is required to be evenly distributed throughout the residential components of the Master Plan within walkable catchments. The study area is enriched with natural water features and it is expected that much of the local open space will be distributed adjacent to these creek lines and wet areas. Some open space credits (at a maximum of 2%) may be attributed to these natural areas, in addition to urban water management/drainage areas and natural wetlands, where the developer can demonstrate appropriate design and treatment in consultation with the City.

Minimum creek line buffers of 30m (subject to further investigation on a case by case basis at the Local Structure Planning stage) will be required to form foreshore reserves where applicable. The City will also require the provision of a hard edge separation of creek line and bushland areas to other development via roads. A developer may be able to demonstrate appropriate separation through shared path networks. This is provided adequate surveillance and fire separation can be provided without the need for clearing of remnant bushland/vegetation as identified for protection within the City's Local Biodiversity Strategy.

3.2.3 District open space

The City has identified the need for a DOS containing four possible additional ovals.

The area of 19.5ha indicatively set aside in the east, at the end of Taylor Road, would accommodate:

- 2 senior AFL/cricket ovals—which can accommodate 4 soccer fields;
- 5 cricket practice nets;
- 8 hard courts;
- supporting community building, inclusive of change rooms and amenity block;
- 249 (approximately) on-site parking bays.

Development of the DOS will be required to commence once 50% of residential lots are created in the catchment area. This is likely to occur between 2021 and 2026 when the population has reached 10,000–12,000 people.

Beyond this, additional ovals will be provided adjacent to the proposed new primary schools.

The DOS is indicatively identified on the Master Plan (Figure 18). It will form part of an area to be identified as a Development Contribution Area (DCA) in LPS17. A Development Contribution Plan (DCP) will need to be prepared that includes the DOS as a contribution item.

The City of Swan will only accept the vesting of the land in the indicatively identified location as DOS once fully remediated by landowner to the satisfaction of the EPA and City of Swan.

3.3 Community facilities

District Community Centre

With an expected population growth in Bullsbrook, the District Community Centre will be required to provide essential meeting, service and program space. The building will be constructed in two stages as the population gradually increases. The building will include a Place Office, meeting rooms, function room, youth and child care facilities and, eventually, Home and Community Care services. The multi-use District Community Centre will be located at Pickett Park and will form part of the Community Hub. With close proximity to future town centre and sporting facilities, and separation from the district school, the site is considered most suitable. It already has a sense of identity and connection for existing residents, who currently patronise the adjacent sporting facilities; community hall and skate park.

The District Community Centre is primarily to cater for the needs of the Bullsbrook community, with the first stage proposed to be constructed in 2015 to replace a number of existing facilities in Bullsbrook. Further expansion of the facility will occur in response to population growth as a result of residential development, with the trigger for design and construction of the district level facilities being 50% of lots created in the study area. This is likely to occur between 2021 and 2026.

These facilities are proposed in accordance with the City's draft BCIP.

Local facilities

The district school has expressed an interest in relocating the local child health care clinic to the school site. This is supported and would be funded by the State Government.

Existing playgrounds are to be maintained or replaced in accordance with the City's existing 'Playspace Strategy'. These should be identified in individual Local Structure Plans where relevant.

The draft BCIP identifies that the public library will need to be relocated, preferably to the district community centre, and will require approximately 800m^2 in area.

The City has also recognised, through the draft BCIP, the need for a local community centre in the north-east area of Bullsbrook, in the event the currently constrained area was to be built out. Given the preference for facilities to be located on vested land, the flagged district school site could be an appropriate location for a future local community centre and should be considered in the design of the school site.

3.4 Movement network

Objectives

- Incorporate key transport routes throughout the Master Plan study area; and
- Provide for development which is consistent with 'Liveable Neighbourhoods' principles, incorporating walkable catchments and a well serviced public transport system.

The Bullsbrook Master Plan recognises the need to ensure that movement networks within the study area provide connectivity and amenity, achieving a safe, efficient, attractive and environmentally sensitive intermodal transport grid.

3.4.1 Regional road network

Main Roads WA's GNH Access Strategy recognises that, in time, the PDNH will relieve the regional freight function currently fulfilled solely by the GNH. Heavy vehicle traffic will be generally encouraged to use this route. Notwithstanding this, GNH will remain a high-wide load route and will therefore still accommodate a significant number of freight vehicles. Stock Road will serve as a major connector between the PDNH and GNH. The GNH Access Strategy recognises that the large number of property accesses along portions of this section of GNH reduce the safety and efficiency of the route. The strategy therefore recommends that new property accesses should not be supported, unless there is no reasonable alternative. As such the Master Plan proposes a road network that facilitates future development, but is consistent with the GNH Access Strategy, by attempting to reduce any further demand on GNH (refer Figure 22).

3.4.2 Local road network

The Master Plan's proposed movement network has been developed at an arterial and neighbourhood connector level, with input from the City's appointed traffic and transportation consultants and with regard to Main Roads WA's GNH Access Strategy referred to above.

The network was developed through analysis, modelling and assessment and represents the best and safest outcome in terms of both traffic flow around the proposed new town centre and connection to GNH.

The movement network is indicated in Figure 22.

The local network generally comprises the following for which the staging and funding mechanisms should be addressed in structure plans:

East of Great Northern Highway

- A proposed north south arterial route through the townsite between existing Chittering Road to the north and existing Lage Road to the south.[55]
- A proposed north south arterial route through the townsite, connecting existing Chittering Road to Stock Road via Burley Road and Alto Way.[56]
- Existing Maroubra Avenue to the north to be linked to GNH via a new 3 way un-signalised intersection.
- Existing Chittering Road to be converted to a cul-de-sac just prior to its existing intersection with GNH.
- Existing Brearley Street to the north to be linked to GNH via a new 3 way un-signalised intersection.
- Existing Lage Road to the south to be linked to GNH via a new 4 way signalised intersection.
- A new east west link to GNH from the existing unsealed Taylor Road linking southward via the arterial connector to a future 4 way signalised intersection.
- North of Brearley Street, existing North Avenue to link to GNH via a new 3 way un-signalised left-in left-out intersection.
- North of existing North Avenue, existing Kimberley Street to link to GNH via a new 3 way un-signalised intersection.
- A new road from existing Rutland Road linking eastward across GNH via a future 4 way signalised intersection, continuing eastwards to meet Chittering Road via Crocker Road.
- Existing Lage Road to be extended to the north-east, eventually linking to Clarkson Road, east of the study area.[57]

[55] Refer 'Activity Corridor and Public Transport'.

[56] The traffic volume expected on this road will increase substantially from just south of existing Nocturne Rise (as new development occurs). This road is likely to reflect a 'District Distributor' road as classified within the Main Roads WA Road Hierarchy for Western Australia. During initial stages of development, it is likely that this route will carry much of the heavy vehicle traffic through from Chittering Road to GNH via Stock Road. Once the proposed Rutland Road extension is constructed, heavy vehicle traffic will be encouraged to use this route to access GNH and PDNH via Rutland/Neaves Road. Confirmation of and details relating to the District Distributor classification will be determined via detailed traffic modelling provided in association with future structure plans for the area.

[57] This road connection is required as part of the adjacent approved 'Marlin Bullsbrook Structure Plan'—SP-011, approved subject to conditions in 2012, with subsequent modifications in March 2014).

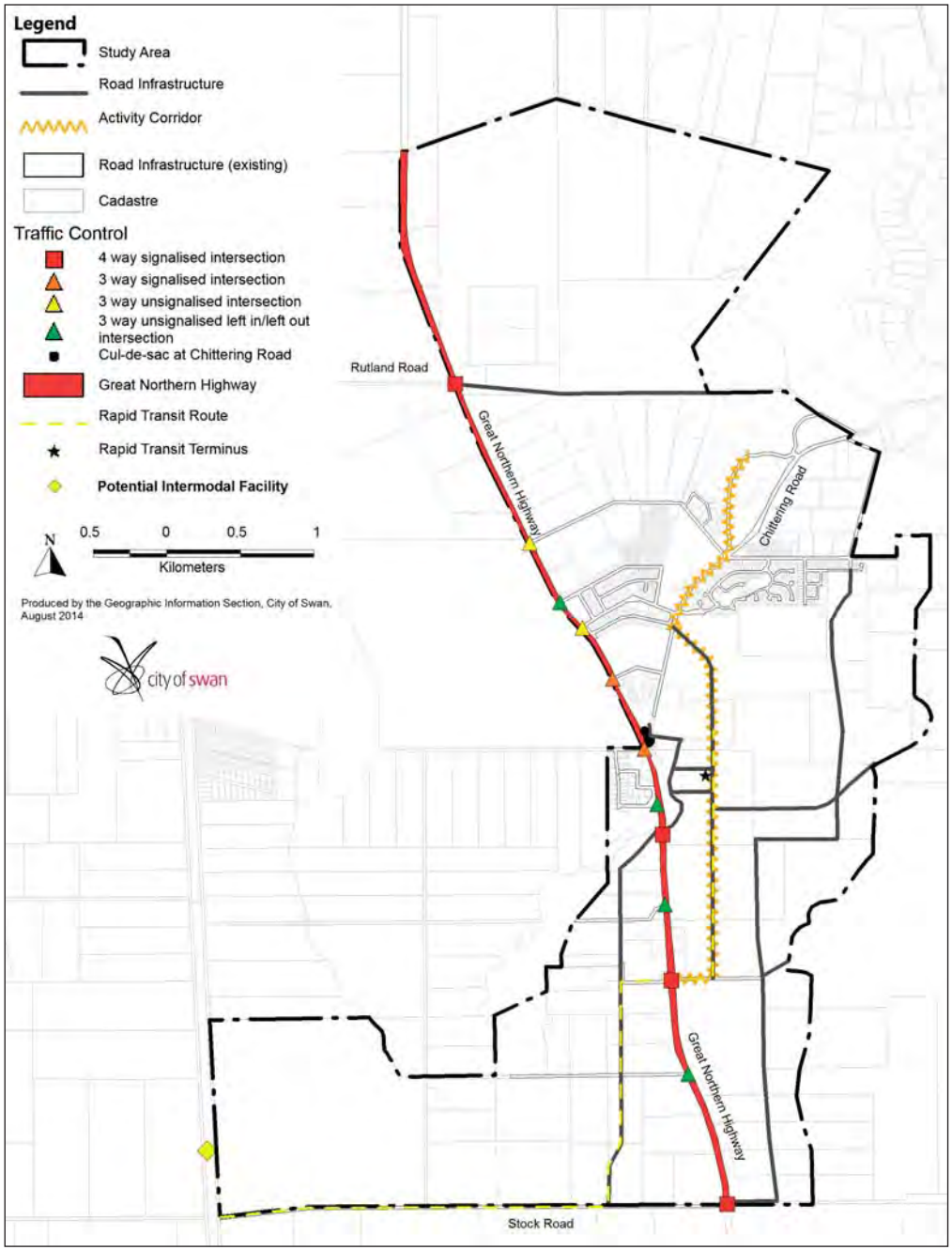


Figure 22. Bullsbrook Townsite Land Use Master Plan: Traffic Movement Network

West of Great Northern Highway

- Existing Stock Road to link to GNH via a new 4 way signalised intersection.
- Existing Warren Road to link to GNH via a 3 way un-signalised left-in left-out intersection.
- Existing Lage Street to link across GNH into existing Dewar Road via a new 4 way signalised intersection linking southwards to Stock Road.
- Existing Butternab Road to link to GNH via a new 3 way un-signalised left-in left-out intersection.
- A proposed new road extending south of Ki-It Monger Brook, to link across GNH to Taylor Road via a new 4 way signalised intersection, extending southwards to Warren Road.
- Existing Brig Way to link to GNH via a new 3 way un-signalised left-in left-out intersection.
- Existing Bullsbrook Road to link to GNH via a 3 way signalised intersection.
- Existing Rutland Road to link across GNH from a proposed new road via a future 4 way signalised intersection.

Activity Corridor and Public Transport

The Activity Corridor will be along the proposed arterial connector road from Lage Road to Chittering Road. The corridor will provide a central spine for movement and activity within the townsite. It will link the south Bullsbrook industrial area, shopping centres, schools and community facilities for residents and visitors. The Activity Corridor will accommodate the future public transport route, whilst also accommodating footpaths, cycling lanes and a focus point for medium/high density residential development.

The Master Plan identifies a public transport link to Bullsbrook via the future Rapid Transit Service line which is intended to service the Swan Urban Growth Corridor and Ellenbrook. The public transport link is proposed to follow the PDNH route to the north of Ellenbrook and then service the proposed south Bullsbrook Industrial area via Stock Road and Bullsbrook town centre via the Master Plan Activity Corridor. The intention of the Rapid Transit Route is to identify the long term need for the proposed Bullsbrook town centre to be linked to the regional public transport network. Whilst the reference of a 'Rapid Transit Route' may be interpreted in different ways, the projected population of Bullsbrook is considered to be of a size that will only support a bus system (bus route that may in the long term, at best, include priority interchanges). A rapid transit terminus is proposed on the edge of the District Centre, along the Activity Corridor, to serve as a central passenger collection and distribution point. Additional bus services would also be provided within the new residential areas, connecting into the Activity Corridor.

It is recommended that the City lobby the Public Transport Authority to plan and in the future extend the proposed Ellenbrook Rapid Transit route through the future north Ellenbrook and south Bullsbrook industrial area to the Bullsbrook town centre, via the PDNH and Stock Road.

3.4.3 Neighbourhood network

Neighbourhood networks will be designed and developed by developers through Local Structure Planning to the satisfaction of the City of Swan and will be required to conform to the standards and requirements of 'Liveable Neighbourhoods' by providing connective, amenable and integrated street networks which are safe, efficient, attractive and encourage walkability within individual catchments.

'The Bullsbrook Master Plan recognises the need to ensure that movement networks within the study area provide connectivity and amenity, achieving a safe, efficient, attractive and environmentally sensitive intermodal transport grid....'

3.5 Environmental and water management

Objective

- Ensure that future development provides for environmentally sensitive design, protecting existing landscape and natural water features whilst ensuring safety for future communities.

3.5.1 Management of water

An RWMS has been prepared for the study area by GHD on behalf of the City of Swan. This is attached at Appendix 1.

The RWMS has been prepared in accordance with the Better Urban Water Management Strategy with enough detail so that a District Water Management Strategy is not required. However, future structure plan proposals will be required to be accompanied by a Local Water Management Strategy and relevant district and local level water monitoring.

The RWMS demonstrates how water resources can be considered in land use planning and proposes a range of recommendations which will need to be taken into account at structure planning stage to conserve water supply in Bullsbrook and to meet the requirements of:

- *State Water Plan 2007*;
- *State Planning Strategy 1997*;
- *Liveable Neighbourhoods 2007*;
- *State Planning Policy 2.9 Water Resources 2006*;
- *Better Urban Water Management Strategy*.

Wetland and creek line buffers

The RWMS outlines a range of environmental asset management criteria, including the maintenance of minimum wetland and creek line buffers at 50m and 30m respectively (subject to further investigation on a case by case basis at the Local Structure Planning stage). It proposes the maintenance of creek buffer lines as foreshore reserves in accordance with State requirements, as well as the encouragement of passive recreation such as walking, rowing and canoeing along waterways. The RWMS also recommends passive bank stabilisation techniques, such as revegetation, prevention of stock access and Foreshore Condition Assessments along river banks, to prevent and remediate foreshore erosion.

Water conservation

The recommendations of the RWMS refer to utilising water conservation techniques such as fit-for-purpose water; rainwater tanks; urban run-off (stormwater) for irrigation; treating domestic grey water and treating wastewater.

The RWMS notes that there will be limited groundwater made available by the DoW for the irrigation of POS. A range of techniques is outlined in order to conserve the limited ground water available for irrigation of future POS. This includes Xeriscaping, Hydrozoning, incorporation of rain gardens/swales, and sourcing of alternative water supplies (e.g. water recycling) and ground surfaces. Further detailed studies are being carried out by the City to determine the most appropriate option in order to facilitate future urban development.

3.5.2 Vegetation protection

Much of the area within the townsite has already been cleared for past agricultural uses. However, a number of key sites have been identified which contain vegetation considered to have significance.

Threatened ecological community

The Master Plan design attempts to avoid development within or near to any known Threatened Ecological Communities (TECs). However, in the event that a TEC is identified in a more detailed Local Structure Plan investigation, it is generally accepted that it is the proponent's responsibility to prove the TEC is not within the development area, or else provide some form of natural corridor to ensure its sustainability (GHD, 2011).

Planning for bushfire protection

The Master Plan design attempts to avoid any known areas of extreme bushfire risk. Whilst most developable land within the study area is relatively cleared, the close proximity of the Darling Scarp and associated National Park with its bushfire risks, poses a serious threat to lives. Significant consideration must be given to this at structure planning stage. All subdivisions will be required to comply with the State Government's *Planning for Bushfire Protection* policy and the City's LPS17, in particular with regard to the need for fire management plans and construction of buildings in accordance with Australian Standards AS3959.

3.6 Education and cultural considerations

Objective

- Identify suitable community facilities, open space and employment generating sites that provide equitable access for existing and future residents.

3.6.1 Education

Based on the number of new lots which can be accommodated within the study area, a total of three new primary schools are likely to be required. An additional high school may also be required if the developable land area of the existing district high school level facilities on the existing Bullsbrook College site cannot be expanded and upgraded, due to existing natural environmental constraints, to meet the demand of the future community needs for secondary education service delivery (for Year 7 to Year 12 students).

The City has identified the need for three senior ovals in the study area (in addition to the DOS and the existing Pickett Park oval). These can be co-located and thus shared with the primary schools where appropriate and should be distributed across the study area. The City requires each senior oval to comprise a minimum gross area of approximately 3.6ha (dimensions 165m x 135m) with the playing field wholly located on City land. These would be considered as neighbourhood playing fields and are identified as POS within the master plan.

If a new high school site is required, its location will need to be confirmed through future investigatory studies. However, the preferred approximate location is identified in Figure 18, to the east of the study area, directly adjacent to the proposed DOS site (to allow for shared use of facilities). Given that the potential school site would serve a district function, the suggested location is considered appropriate. Further investigation will be required into the exact location of the school (taking into consideration topography, water bodies, bushfire risk, agricultural land capability and the need to preserve visual amenity along the scarp line). If such matters cannot be resolved, an alternative appropriate site will need to be identified.

Normally provided at a rate of one stand-alone 4.0 hectare primary school for every 1,500 lots and one stand-alone 10.0 hectare high school for every 6,500–7,000 lots, the provision of shared use of playing field facilities co-located with schools will potentially allow a reduction in the size of a primary school site (3.5ha) and the high school site (9.0ha), following consultation with the Department of Education (DoE).

3.6.2 Aboriginal heritage

There are five Aboriginal Heritage sites located within the study area (refer Figure 13). In relation to these, and the assessment of future Local Structure Plans or individual site developments, applicants may be required to:

- Consult with relevant Aboriginal people about the proposal in general, or areas that may be subject to physical alteration;
- Undertake an Aboriginal Heritage survey or investigation;
- Develop a full inventory of heritage values;
- Reference Cultural Heritage Due Diligence Guidelines;
- Satisfy the requirements of the Department of Aboriginal Heritage.

3.6.3 Rural character

Future development should provide interpretations of the historical rural character of the area. This can be achieved through the encouragement of a diversity in lot types and residential design guidelines which support distinct built form and design elements that can reflect the area's rural past.

3.7 Infrastructure coordination, servicing and staging

Objective

- Provide a coordinated approach to the future urban development and implementation of associated infrastructure for those areas in Bullsbrook identified for urban expansion.

3.7.1 Servicing

Water supply

As outlined earlier, the Water Corporation has plans to acquire private land on which a new high level tank can be constructed to allow adequate water pressure to supply the expanded townsite. This site is likely to be located outside the study area (in order to be located in a suitably high position). The tank is likely to have sufficient capacity to feed the majority of the proposed future lots. However, if required, the Water Corporation will investigate an additional lower level tank in the future.

Headworks will be required to be funded via cost-sharing arrangements directly with the Water Corporation, in the event that future structure plans encompass land owned by multiple parties.

Wastewater management

The Water Corporation advises that the Bullsbrook Wastewater Treatment Plan (WWTP) will be decommissioned within the next few years and future service to the area will be linked to the WWTP in North Ellenbrook. No further upgrades are planned for the Bullsbrook WWTP. In the interim, development directly adjacent to the Bullsbrook WWTP will be impacted by existing buffers.

Future urban waste water will be pumped through a pipeline to Ellenbrook which would then convey the raw wastewater into the existing metropolitan sewer network. Delivery of this infrastructure will be based on timing, availability of capital and actual growth in the area (likely to be post 2017).

The Water Corporation advises that all properties outside of the Bullsbrook townsite will continue to rely on individual or grouped septic tanks or on-site effluent treatment systems.

Electricity

To support any major residential and industrial development within the Bullsbrook area, the construction of a new electricity zone substation between Maralla Road and Neaves Road (outside study area), supported by a network of distribution feeders, would be required.[58]

Gas supply

The potential expansion of residential and industrial uses in the study area could be supplied by natural gas through the MLV117 connection (south of Neaves Road), though this is a discretionary service and would be subject to economic viability.[59]

3.7.2 Developer contribution arrangements

As part of the future urban development, road infrastructure, utility headworks, POS and community facilities will need to be implemented via cost-sharing mechanisms. Individual developers will need to outline the method of cost-sharing for hard infrastructure items within their respective structure plans. The exception, however, will be cost sharing of community facilities and possible district level roads and stormwater infrastructure.

Given that the City has conducted pre-planning for the required facilities and their locations, the City will require an amendment to LPS17 to include the entire study area as a DCA. A subsequent DCP will need to be compiled to ensure that future developers contribute towards the costs of land provision and development of the necessary community facilities and possibly district level roads and drainage infrastructure.

Cost contributions will be levied on a full cost recovery basis. The need for shared infrastructure items included will be generated by development within Bullsbrook. The City will seek, where applicable and feasible, contributions from third parties (e.g. DoE and Department of Sport and Recreation) towards various infrastructure items, including the DOS, active POS and community facilities.

Any proposed DCPs will be prepared in accordance with the *Planning and Development Act 2005* (and associated amendments), SPP3.6 and the LPS17. The DCPs will be based on the City's *Local Planning Policy Pol-TP-138 Swan Urban Growth Corridor—Infrastructure Strategy for Development Contributions*, while taking into consideration the more refined outcomes of relevant structure plans.

As per SPP3.6, DCPs shall contain the following information:

- The DCA to which the DCP applies;
- Schedules and mapping of the shared infrastructure items for development area;
- Infrastructure cost schedules detailing the cost of each item;
- The method of calculating the cost contribution;
- The method of cost apportionment;
- The process for review of cost contributions;
- Additional infrastructure which could be added.

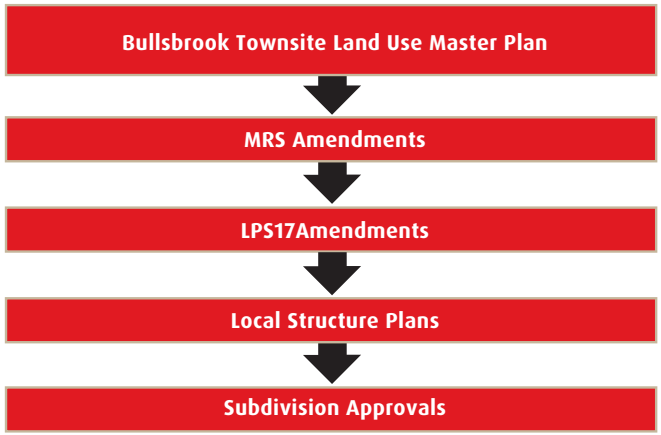
[58] Source: City of Swan 2008.

[59] Source: Ministry for Planning 1999.

3.8 Other requirements

The intention of this Master Plan is to highlight appropriate locations for key land uses, particularly those that will require cost sharing arrangements between future developers. In order for further urban development to commence within the study area, developers will be required to progress relevant MRS and LPS17 amendments and to gain approval for local structure plans for respective landholdings.

The process for this is indicated in the diagram below and discussed in the following.



3.8.1 Metropolitan Region Scheme amendments

For the Master Plan to be realised, the MRS will need to be amended, through the State Government. This shall include (though not necessarily limited to) appropriate rezoning of land, in accordance with the Master Plan, from:

- 'Urban Deferred' to 'Urban';
- 'Rural' to 'Urban';
- 'Rural' to 'Parks and Recreation'.

Such amendments could be progressed by landholders seeking to develop their land.

3.8.2 Local planning framework

Amendments

For the Master Plan to be realised, amendments to the City of Swan LPS17 is envisaged to be initiated by the City, and processed through State Government, including (but not necessarily limited to):

- Rezoning of land from 'General Rural' to 'Residential Development'; and 'Special Use'
- Creation of a 'DCA'.

Such amendments could be progressed by landholders seeking to develop their land. The purpose of rezoning land to 'Residential Development' or 'Special Use', is to ensure that development occurs only under careful structure planning for the area, which would allow the vision of the Master Plan to be achieved.

Local Structure Plans

As areas are rezoned to 'Residential Development' and 'Special Use' under LPS17, structure plans will be required to be lodged with the City to coordinate the proposed development.

Structure plans will need to address design (in accordance with 'Liveable Neighbourhoods' State policy principles) together with residential densities, employment and retail opportunities, services, community facilities, POS, environmental issues, as well as provision of a range of infrastructure services and its cost sharing arrangements.

Once Local Structure Plans have been approved by the City and the WAPC, development can proceed.

4.0 Conclusion

The foregoing demonstrates that this Master Plan for Bullsbrook townsite meets the objectives of the strategy, satisfies the targets of 'Directions 2031' and goes towards meeting the City's vision for the Master Plan which is to accommodate the future community in a liveable town which is sustainable, vibrant and prosperous.

Accordingly, it is recommended that this Master Plan be used as the basis for future development of the Bullsbrook Townsite.

CHEQUERS
HOTEL

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This document can be made available in alternative formats on request.

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