
WEST MARTIN PRECINCT 2

OUTLINE DEVELOPMENT PLAN

May 2006

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T H E | **P L A N N I N G**
G R O U P

Level 7 182 St Georges Terrace
Perth Western Australia 6000
Telephone: +61 8 9289 8300
Facsimile: +61 8 9321 4786
planning@tpgwa.com.au
www.planninggroup.com.au

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CERTIFICATION OF OUTLINE DEVELOPMENT PLAN

IT IS HEREBY CERTIFIED THAT THE OUTLINE DEVELOPMENT PLAN FOR WEST MARTIN
PRECINCT 2 WAS APPROVED AND CERTIFIED FOR FIVE YEARS BY RESOLUTION OF THE
WESTERN AUSTRALIAN PLANNING COMMISSION ON

.....

.....
Being an officer of the Commission duly
authorised by the Commission pursuant to
Section 57 of the Western Australian Planning
Commission Act 1985

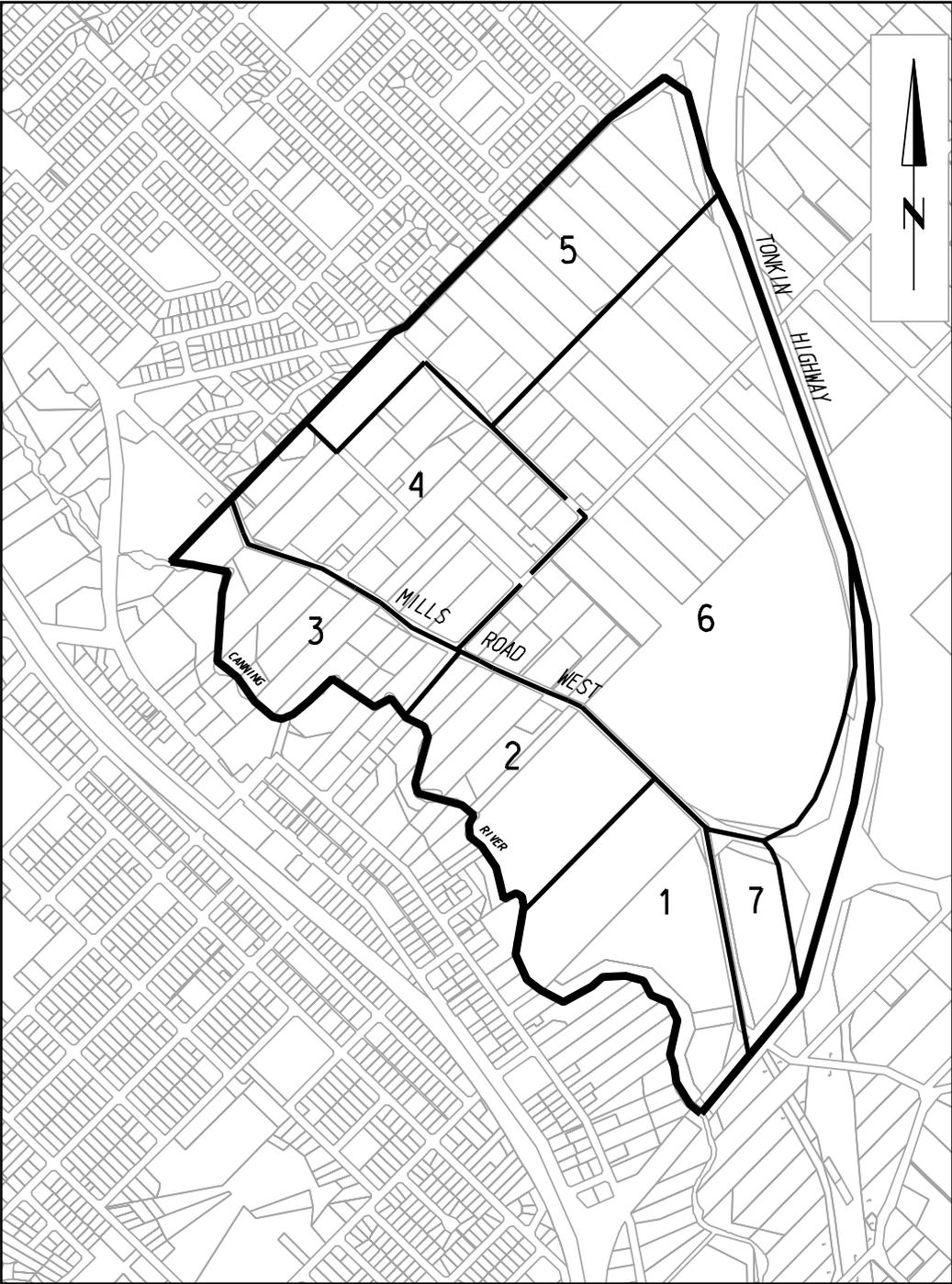
AND BY

RESOLUTION OF THE COUNCIL OF THE CITY OF GOSNELLS ON AND THE
SEAL OF THE MUNICIPALITY WAS PURSUANT TO THE COUNCIL'S RESOLUTION HERETO
AFFIXED IN THE PRESENCE OF

.....
MAYOR, CITY OF GOSNELLS

.....
CHIEF EXECUTIVE OFFICER, CITY OF GOSNELLS

Precincts for Land Use Planning in the West Martin Area



OVERVIEW

This Outline Development Plan comprises two parts, being:

- Part 1: Statutory Planning Section
- Part 2: Explanatory Report

The City of Gosnells Town Planning Scheme No. 6 (Scheme) requires under Clause 7.2.1 and 7.2.2 that an Outline Development Plan is required to be adopted and approved prior to approval of subdivision and development on the site.

WEST MARTIN

The West Martin area has been identified as being ideally situated for urban development by the Western Australian Planning Commission through its strategic policies such as the Urban Expansion Policy (1990), Metroplan (1990 and most recently Network City (2004). The land south of Mills Road West was included in the Urban and Urban Deferred Zones of the Metropolitan Region Scheme as part of a major scheme amendment in 1995.

The City of Gosnells through its Gosnells Town Centre Revitalisation Strategy identified that additional urban development in close proximity to the town centre would assist to revitalise the Town Centre and provide a high level of amenity for the new community.

The City of Gosnells in 2003 considered that the most appropriate way to progress the planning for the West Martin area was on a precinct basis. This approach was considered to be the most appropriate way to enable community input and consideration of issues specific to each precinct. The Council decision resulted in West Martin being divided into seven (7) precincts (refer to adjacent plan).

Each Precinct within West Martin has the ability to be developed independently (although as part of the broader West Martin planning initiative) once specific limitations (such as dust) have been resolved. With respect to Precinct 2 the Department of Environment has advised that it would not object to the subdivision of the existing urban zoned land to the west of Mills Road as it is located further from the quarry.

Therefore in terms of the West Martin area, Precinct 2 is capable and appropriate for residential development.

WEST MARTIN PRECINCT 2

This Outline Development Plan relates to Precinct 2 of West Martin. The Council of the City of Gosnells on 28 February 2006 resolved to initiate an amendment to Town Planning Scheme No. 6 to a rezone West Martin Precinct 2 from 'Residential R17.5 and R30' to 'Residential Development'.

Precinct 2 is bounded by Mills Road West to the north-east, station street to the west and the Canning River to the south.

The Outline Development Plan has been prepared to guide the subdivision and development of the land. The land use and development standards to be applied to the Precinct is controlled by this Outline Development Plan (Statutory Planning Section) and Town Planning Scheme No. 6.

The explanatory report provides a background and description of the Outline Development Plan.

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PART 1

STATUTORY PLANNING SECTION

Subject Area

The Outline Development Plan area comprises Precinct 2 of West Martin and is approximately 12.94 hectares in area. West Martin Precinct 2 contains Lots 3, 4, 5, 100, 204, 205, 822 and 823 Mills Road West, Martin.

The Scheme

Unless provided for by a specific requirement in this Outline Development Plan, all land use and development shall be in accordance with the Scheme standards and requirements.

Residential Density

The Outline Development Plan delineates and depicts the Residential Density Codes and Reserves applicable to the land.

Development Requirements

Objective

To provide for a range of lot sizes and housing types through the prescribed range of density codings.

Criteria

1. The general criteria to be satisfied within this precinct shall be as per the Residential Design Codes of Western Australia, the Scheme and related policies.
2. Those areas with a R30 density are subject to the preparation of Detailed Area Plans (DAPs).
3. The grouped dwelling site adjacent to Station Street is not to achieve direct vehicle access to/from Station Street.

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PART 2 - EXPLANATORY REPORT

INTRODUCTION

This report has been prepared by The Planning Group (WA) on behalf of the West Martin JV in support of an Outline Development Plan over West Martin Precinct 2 being Lots 3, 4, 5, 100, 204, 205, 822 and 823 Mills Road West, Martin. The West Martin JV currently have an option to purchase Lots 822 and 823 Mills Road West, Martin.

The Council of the City of Gosnells on 28 February 2006 resolved to initiate an amendment to Town Planning Scheme No. 6 to rezone West Martin Precinct 2 from 'Residential' to 'Residential Development'. Town Planning Scheme No. 6 requires that an Outline Development Plan is adopted and approved prior to the subdivision and development of the Precinct.

The Outline Development Plan (ODP) and supporting report have been prepared in order to facilitate the subdivision and development of a high quality residential precinct. The ODP aims to create a precinct which supports the principles of environmental, social and economic sustainability.

The report presents details of the site, the proposed design layout, and addresses the urban design, planning, and environmental issues relevant to the site.

The key elements of the proposal are identified below:

- Environmentally sustainable development principles used in the design represent a strong commitment to incorporate social responsibility in relation to environmental initiatives.
- The protection and acknowledgement of Aboriginal heritage adjoining the subject site.
- The road configuration considers the existing regional road network, and is in keeping with the requirements of Main Roads WA.
- The internal road layout applies a modified grid pattern road system following the principles outlined under the Liveable Neighbourhoods - Community Design Codes.
- The proposed design will accommodate pedestrian connectivity through to the Canning River Foreshore.
- Passive and active public open space is provided within the Precinct which exceeds the standards normally prescribed by the Western Australian Planning Commission.

OUTLINE DEVELOPMENT PLAN OBJECTIVE

The objective of this Outline Development Plan is to provide the City of Gosnells with a comprehensive plan and associated report to facilitate the subdivision and development of a high quality residential precinct. The ODP aims to create a precinct which supports the principles of environmental, social and economic sustainability.

THE SITE

The land subject of this Outline Development Plan is identified as Lots 3, 4, 5, 100, 204, 205, 822 and 823 Mills Road West, Martin. The subject site has a combined lot area of 12.94ha (excluding land areas required for Parks and Recreation Reserve).

The site is characterised by semi-rural residential uses, where a number of single storey dwellings and their associated ancillary structures exist. There are several orchards on site, with equestrian uses operating on the larger landholdings. A dental practice also operates from one of the buildings (Lot 205). Refer to **FIGURE 1 - SUBJECT SITE**.

NEED FOR AN OUTLINE DEVELOPMENT PLAN

An Outline Development Plan (ODP) is required to be prepared for areas zoned Residential Development under the City of Gosnell's Town Planning Scheme No.6. The ODP provides a detailed background and structure for the sites redevelopment, providing comprehensive planning prior to the subdivision, development and use of the land. The proposed Outline Development Plan and the supporting report has been prepared in accordance with Part 7 of the Scheme (Outline Development Plans).

CONSULTATION

Preliminary consultation has been undertaken with a number of various government agencies including the Swan River Trust, Department of Environment, Department for Planning and Infrastructure, Main Roads and the City of Gosnells. Discussions have also occurred with the town planning consultants acting on behalf of the adjoining landowners to the south-east of the site (John Chapman).

STUDY TEAM

This project is being undertaken by a multi-disciplinary team, consisting of the following consultants:

- The Planning Group – Town Planning Consultants;
- Daniel de Gand - Aboriginal Consultant;
- Ecoscape – Landscape Architects and Environmental Consultants;
- Van der Meer – Civil and Traffic Engineers;
- Sinclair Knight Merz – Traffic Engineers

The study team has been working in close collaboration to prepare the Outline Development Plan and the supporting report.

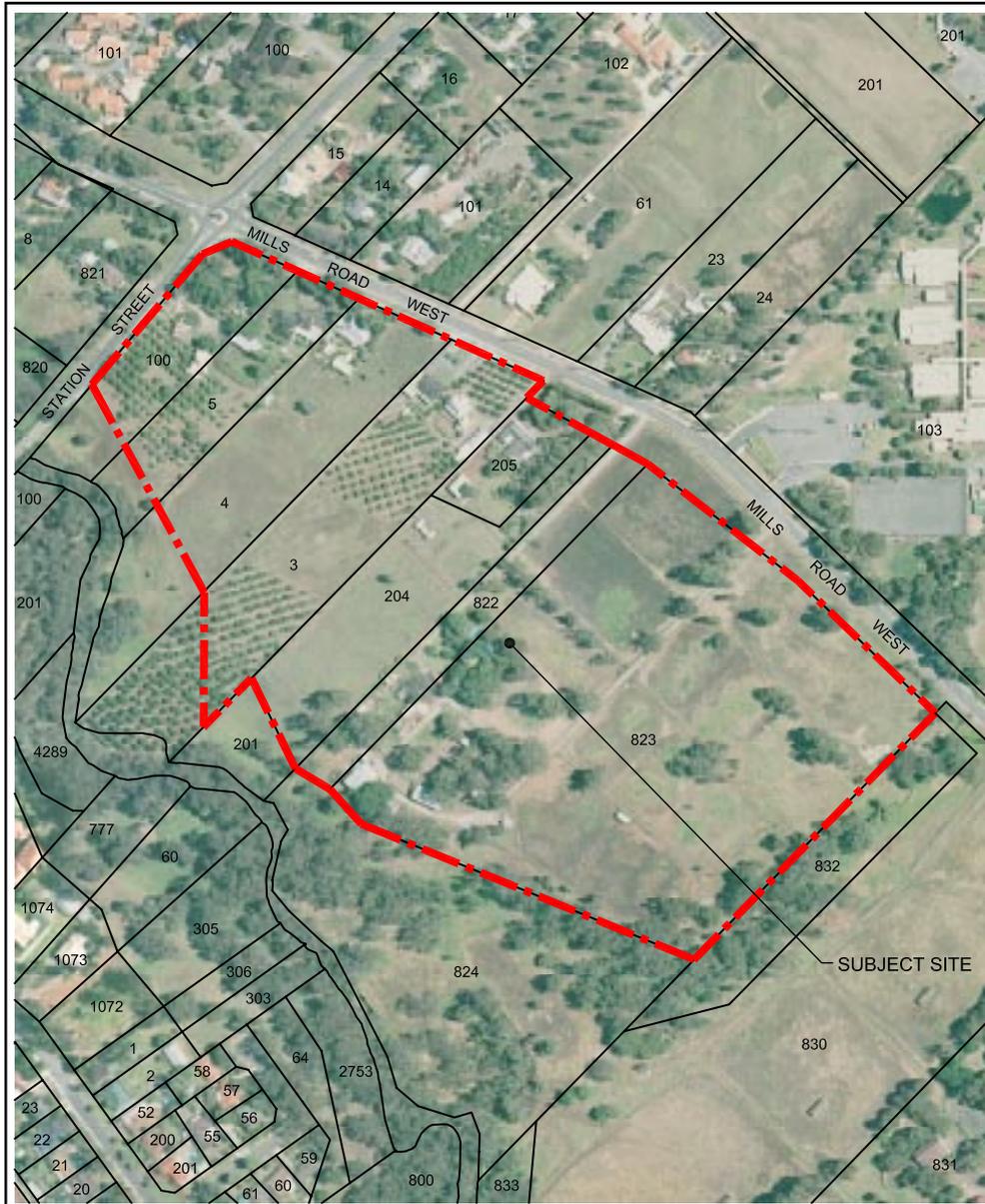


FIGURE 1 – SUBJECT SITE

SUBJECT SITE

REGIONAL CONTEXT

The site is located approximately 20 kilometres south-east of the Perth City Centre, and 1 kilometre east of the Gosnells Town Centre. The site is located in close proximity to the regional network roads of Tonkin Highway and Albany Highway, and is north of the Perth to Armadale rail line.

Refer to **FIGURE 2 - REGIONAL CONTEXT PLAN.**

LAND OWNERSHIP

The subject land is identified as Lots 3, 4, 5, 100, 204, 205, 822 and 823 Mills Road West, Martin. The current ownership and title details are provided below:

Lot Number	Diagram No.	Volume/Folio	Land Area	Owner
822	1122	1638/964	1.1931ha	W.Hannah, N Hannah, R & P Taylor, C Dixey
823	1122	1638/963	6.4051ha	W.Hannah, N Hannah, R & P Taylor, C Dixey
204	31517	2518/178	1.2435ha	D. Bennett
205	31517	2518/179	3873m ²	Allrivers Pty Ltd, I. Poli
100	71379	1760/662	8604m ²	E. Martin
5	2754	403/77A	7933m ²	E. Martin
4	2754	1076/38	1.6921ha	N. Martin
3	2754	2195/21	2.0335ha	A & Z Lendich

The subject site has a combined lot area of 12.94ha (excluding land areas required for Parks and Recreation Reserve). The West Martin JV have an option to purchase Lots 822 and 823, which is currently subject to the Contract of Sale.

A copy of the Certificates of Title for the subject sites are attached as Appendix A.

REFER TO **APPENDIX A - CERTIFICATES OF TITLE**

LOCAL CONTEXT

The subject land is in close proximity to the Gosnells Shopping Centre, leisure centre, library, post office, and civic centre to the west. The Lumen Christie Catholic College is located to the north of the site, and the Canning River regional parkland immediately abuts the site to the south.

REFER TO **FIGURE 3 - LOCAL CONTEXT PLAN.**

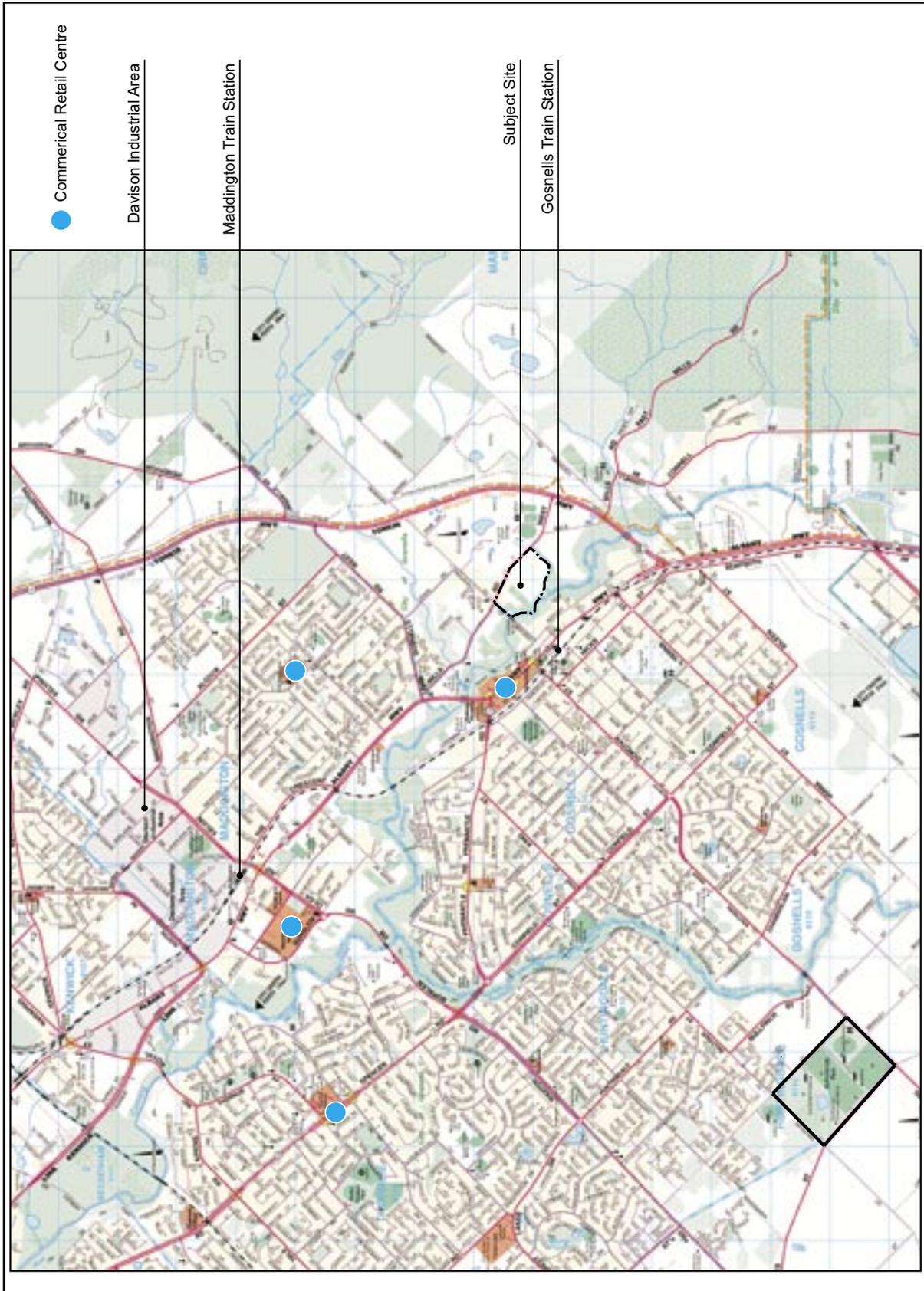


FIGURE 2 - REGIONAL CONTEXT PLAN

SURROUNDING LAND USES

The site is bound by the Canning River to the south, Mills Road West to the north and Station Street to the west. The site has frontage to both Station Street and Mills Road West.

Many of the lots within the area have been developed for rural lifestyle type operations. An Outline Development Plan is currently being prepared for the residential landholdings to the south-east of the site while Lot 5007 located on the corner of Tonkin Highway and Mills Road West has recently been rezoned to Mixed Business.

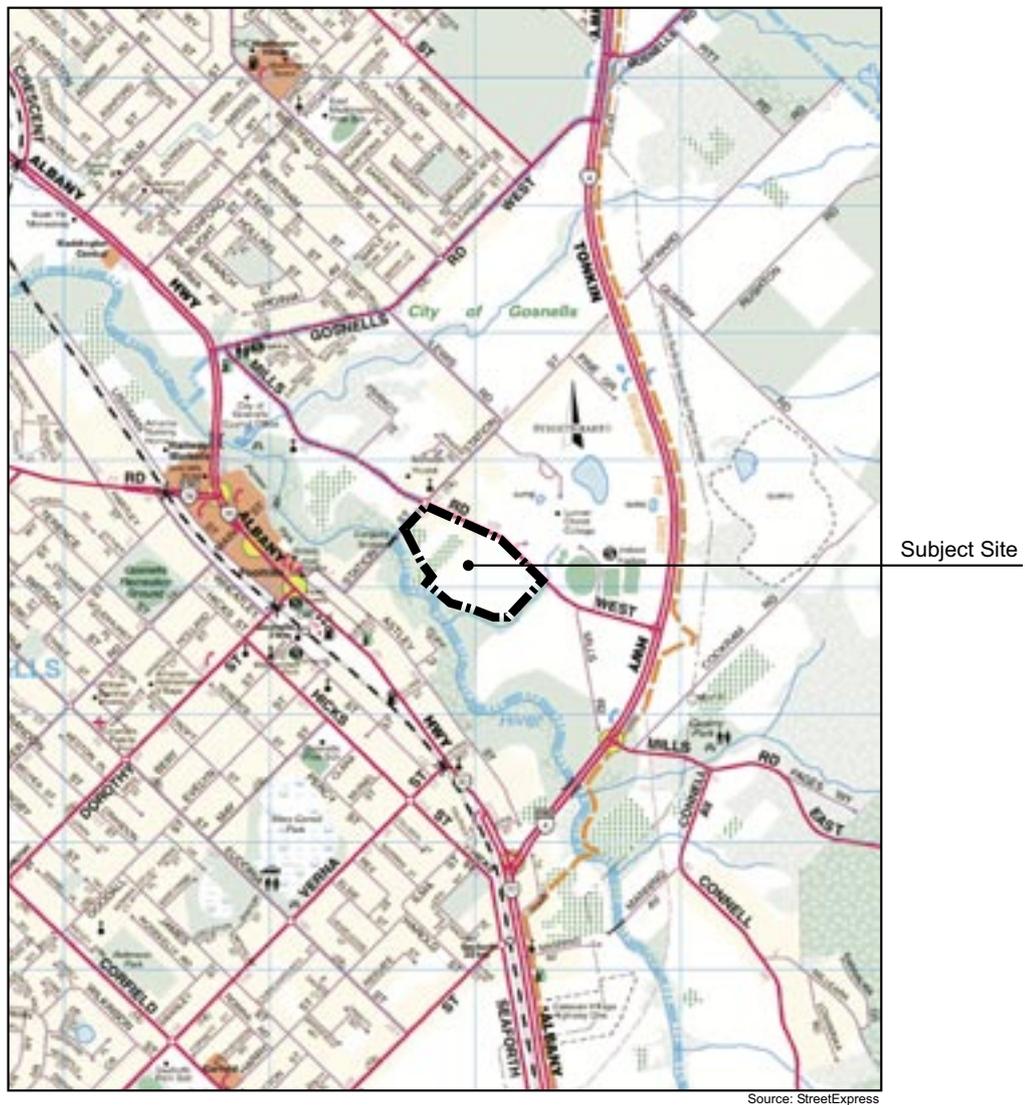


FIGURE 3 - LOCAL CONTEXT PLAN

PLANNING CONTEXT

STATE PLANNING STRATEGY

The subject site is identified as being within the Perth Urban Area of the West Australian Planning Commission's State Planning Strategy. The proposed ODP is in keeping with the principles and objectives of the Strategy, where it asserts the need to identify future land for urban and industrial development under the Metropolitan Development Program.

REFER TO FIGURE 4 - EXTRACT OF STATE PLANNING STRATEGY

METROPOLITAN DEVELOPMENT PROGRAM

The Metropolitan Development Program earmarks the site as anticipated land release areas. The north-western portion of the site is identified as being released between 2008/09 to 2012/13, whilst the south-eastern portion is anticipated for land release during 2004/05 to 2008/09.

The document asserts that Gosnells and Armadale are likely to become major players in the land development industry over the next five years. Much of this activity is happening in the western suburbs of these two local government areas. The reason for this is spill-over development from Perth's former most popular new suburb-Canning Vale.

REFER TO FIGURE 5 - EXTRACT OF METROPOLITAN DEVELOPMENT PROGRAM

NETWORK CITY

The subject site is located on the periphery of a designated Activity Centre under the Network City document. The land itself is identified as an older area having opportunities to strengthen networks and centres.

The development of this parcel of land would be in keeping with the intent of the Network City documentation, where it aims to utilise land resources efficiently, making fuller use of existing urban land by supporting additional residential development within existing urban areas, so that 60 per cent of all new dwellings are being constructed in this area as soon as possible.

REFER TO FIGURE 6 - EXTRACT OF NETWORK CITY

METROPOLITAN REGION SCHEME

Under the provisions of the Metropolitan Region Scheme the subject site is zoned 'Urban', with portions of Mills Road West being reserved as 'Primary Regional Road'. The land immediately to the south and south-east is reserved for 'Parks and Recreation'. The site is appropriately zoned under the MRS for residential development, as proposed.

REFER TO FIGURE 7 - METROPOLITAN REGION SCHEME

CITY OF GOSNELLS TOWN PLANNING SCHEME NO.6

Under the provisions of the City of Gosnell's Town Planning Scheme No.6 the subject site is currently zoned 'Residential' with a density coding of R17.5, and a small portion as R30. The Council at its meeting held on 28 February 2006 resolved to initiate an amendment to Town Planning Scheme No. 6 to a rezone West Martin Precinct 2 from 'Residential' to 'Residential Development'. The rezoning process of the site is being undertaken concurrently with the ODP process, to provide a more transparent and timely process for all agencies involved.

Refer to FIGURE 8 - TOWN PLANNING SCHEME No. 6, EXISTING AND PROPOSED ZONING

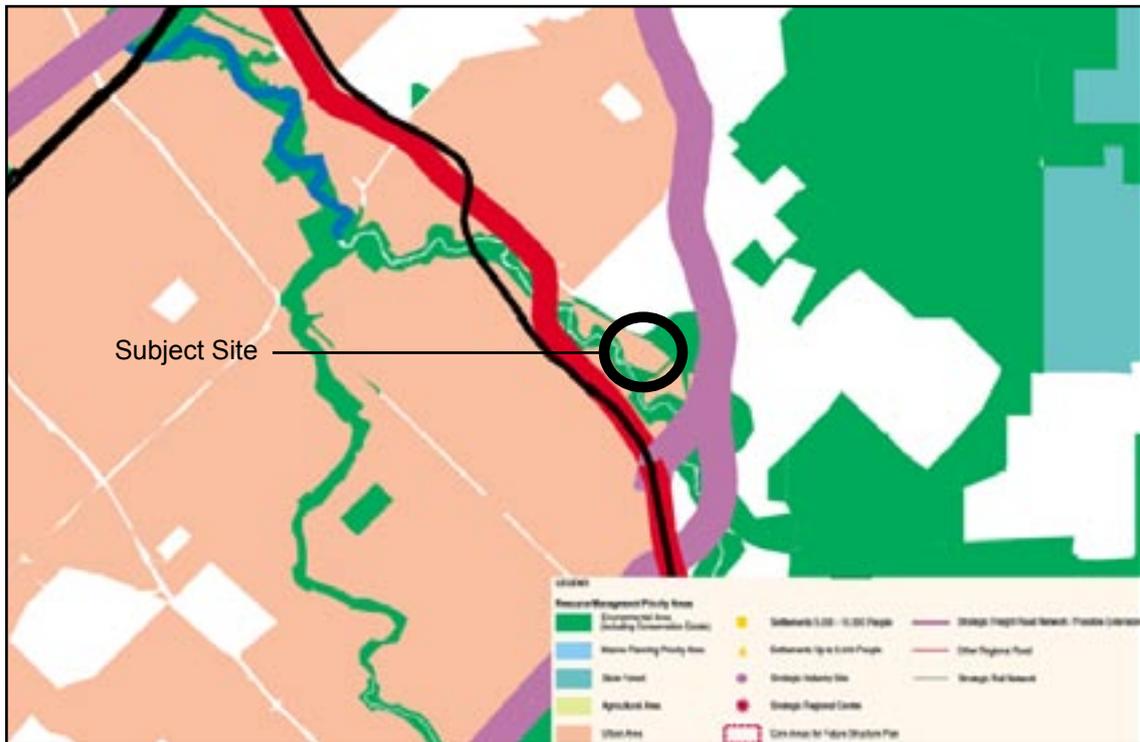


FIGURE 4 - EXTRACT OF STATE PLANNING STRATEGY

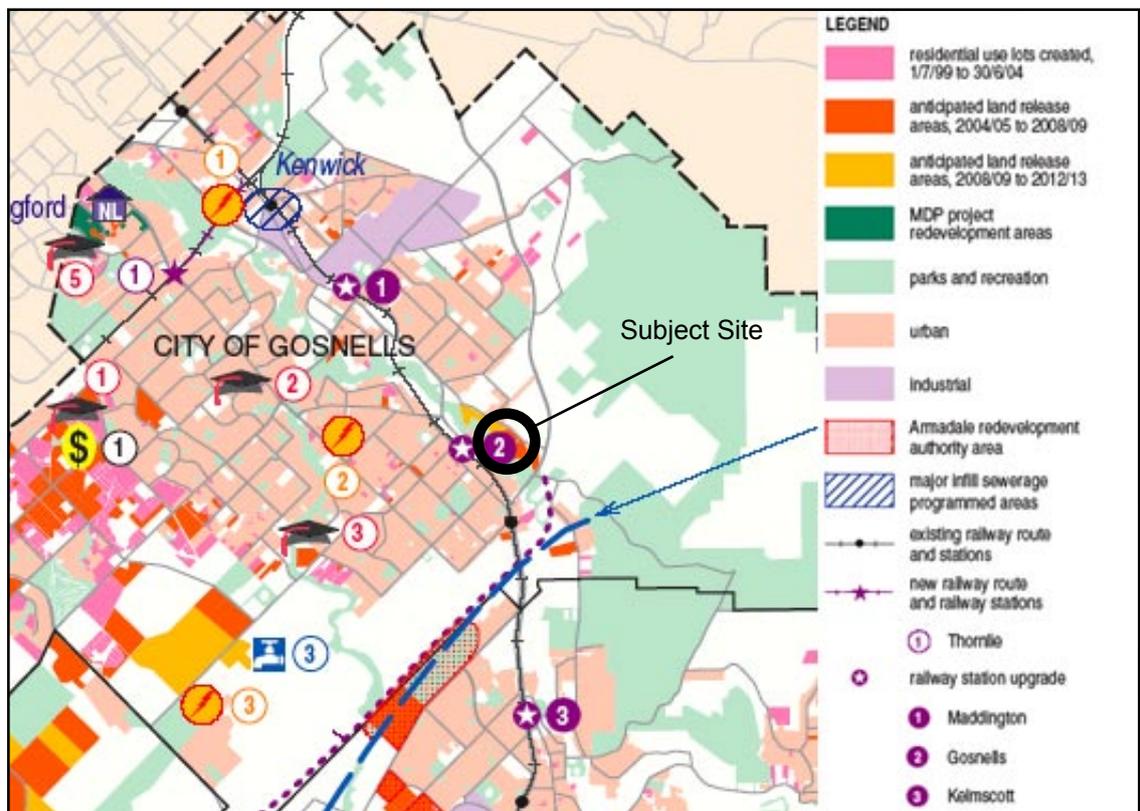


FIGURE 5 - EXTRACT OF METROPOLITAN DEVELOPMENT PROGRAM

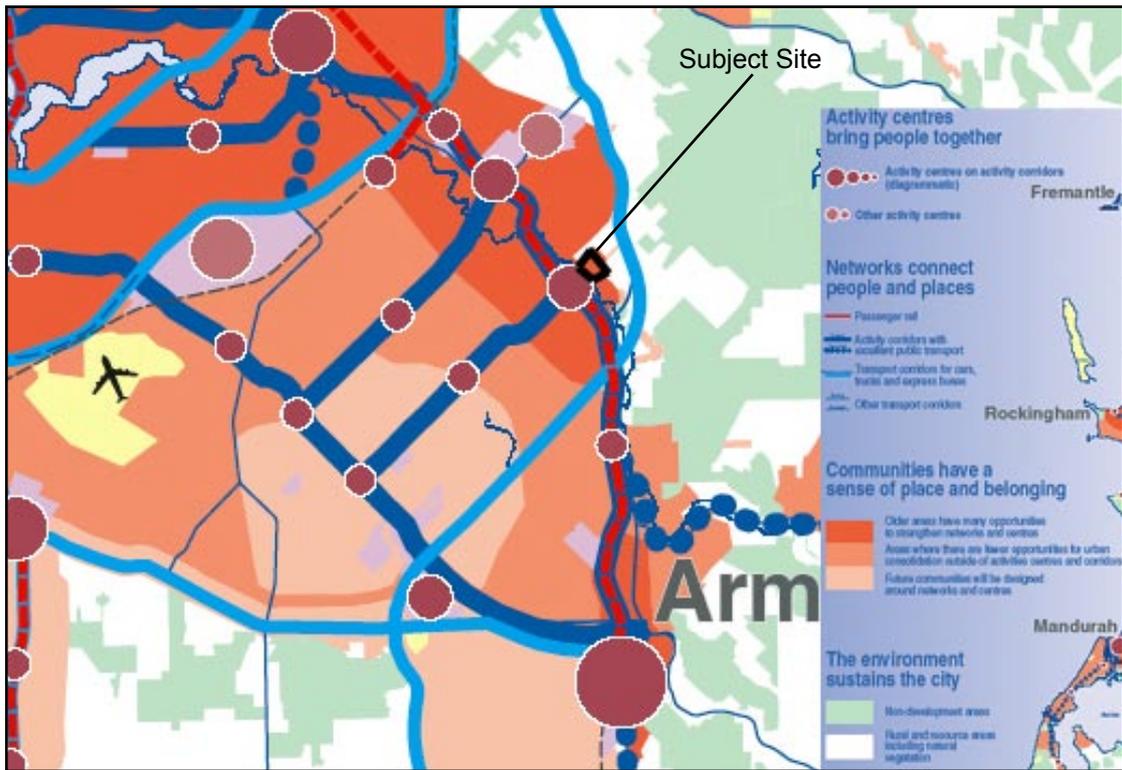


FIGURE 6 - EXTRACT OF NETWORK CITY

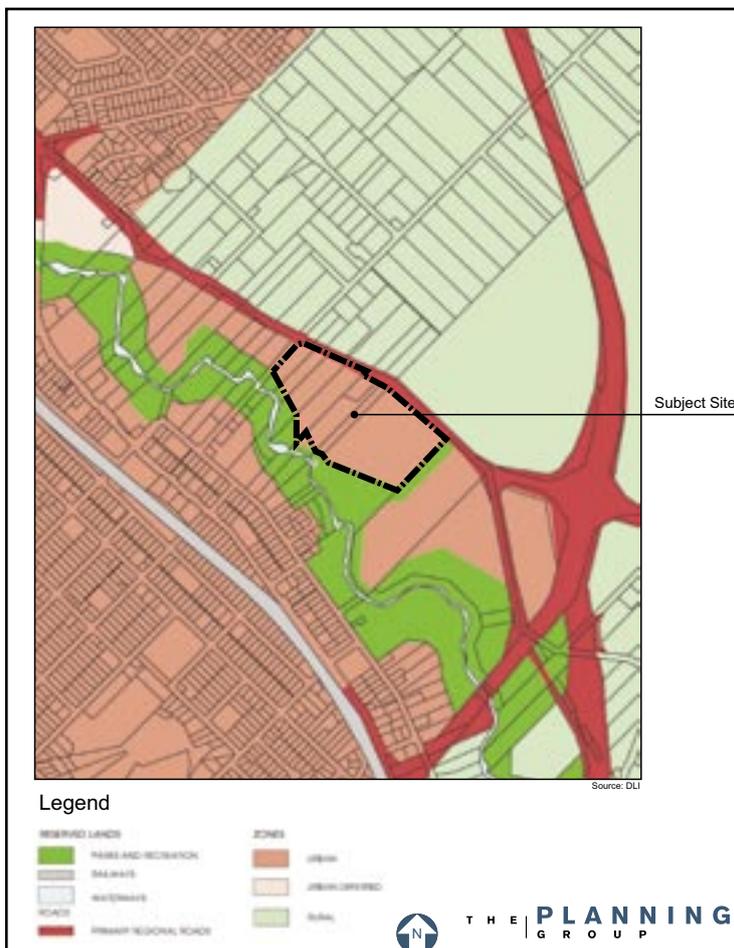


FIGURE 7 – METROPOLITAN REGION SCHEME

The Scheme stipulates the requirement of an Outline Development Plan for areas zoned Residential Development, where the Council determines there is a need for comprehensive planning prior to subdivision, development and use of the land.

Once the Outline Development Plan has been received by Council and it is deemed satisfactory for advertising, the document is referred to the Western Australian Planning Commission (WAPC). Within 60 days of Council receiving the Outline Development Plan, it should be advertised for a period of not less than 21 days. Council considers submissions and if it decides to adopt the Outline Development Plan, refers it to the WAPC for approval. Upon approval of the ODP by the WAPC, the Council is to make a final determination to adopt the ODP.

CITY OF GOSNELLS LOCAL HOUSING STRATEGY

The Local Housing Strategy was adopted by Council on 6 December 2003. Under the Strategy the site is identified under the West Martin Precinct. The document asserts that a precinct-based approach has been identified as the most appropriate way to address the future planning of the area. It anticipates that an outline development plan will provide the necessary guidance for any future subdivision and development. Key issues that will need to be addressed in planning for this area include the provision of servicing infrastructure, appropriate buffer measures to land uses including major roads and the identification of areas required for conservation purposes.

The Strategy aims to facilitate a more sustainable form of residential development by encouraging compact residential areas, which in turn make more efficient use of infrastructure. This is to be achieved through residential densities being based on accessibility to services and facilities, the promotion of diverse housing options; and adherence wherever possible to the Liveable Neighbourhoods principles.

It is noted that one of the Strategy's recommendations was to further consider the modification of the base residential density code across the Town Planning Scheme No. 6 Scheme Area from R17.5 to R20. The Strategy also recognises that there will be particular instances where the City may support higher residential densities or density bonuses despite a property being located outside of the recommended area. In these instances due regard needs to be given to the strategic objectives of the Local Housing Strategy.

BUSH FOREVER

Bush Forever is a 10 year strategic plan to identify, protect and manage around 51 000 ha of regionally significant bushland, identified as Bush Forever sites, within the Perth Metropolitan Region. Bush Forever is the result of the Perth's Bushland Project, which is part of a process that began with recommendations for System Six in the 1970's. Bush Forever recommendations supersede the System 6 recommendations for the Perth Metropolitan Region portion of the Swan Coastal Plain. Bush Forever aims to conserve, where possible, at least 10% of each of the original 26 vegetation complexes of the Perth Metropolitan Region portion of the Swan Coastal Plain, (Government of Western Australia, 2000). Bush Forever sites were selected using the following criteria:

- Representation of ecological communities;
- Diversity;
- Rarity;
- Maintenance of ecological systems or natural processes;
- Scientific or evolutionary performance;
- Protection of wetland, streamline, estuarine fringing vegetation and/or coastal vegetation; and
- Other values, e.g. historical or landscape – these did not determine regional significance alone, but contributed towards recognising the significance of particular areas of bushland.



Existing Zoning



Proposed Zoning

**FIGURE 8 – TOWN PLANNING SCHEME No. 6,
EXISTING AND PROPOSED ZONING**



The subject site adjoins Bush Forever Site 246 (Canning and Southern Rivers, Beckenham to Martin/Kelscott) and its recognition as regionally significant bushland is due to:

- It being part of a regionally significant bushland linkage forming parts of Greenways 70, 71 73 & 106 as well as of a regionally significant contiguous bushland/wetland linkage; and
- significant mammal species: Quenda.

STATEMENT OF PLANNING POLICY NO. 2 ENVIRONMENT AND NATURAL RESOURCES POLICY

The Environment and Natural Resources Policy (WAPC 2003b) sets out and defines the principles and considerations that represent good and responsible planning in terms of environmental and natural resources issues within the framework of the State Planning Strategy. The objectives of the policy are :

- to integrate the environment and natural resource management with broader land use planning and decision making;
- to protect, conserve and enhance the natural environment; and
- to promote and assist in the wise and sustainable use and management of natural resources.

The particular policy measures which are relevant to the subject site include: general measures, water resources, air quality, soil and land quality, biodiversity, landscape and greenhouse gas emissions and energy efficiency.

BUSHLAND POLICY FOR THE PERTH METROPOLITAN REGION STATEMENT OF PLANNING POLICY 2.8

This policy recognises the protection and management of significant bushland areas, which have been identified for protection through an endorsed strategy, as a fundamental consideration in the planning process, while also seeking to integrate and balance wider environmental, social and economic considerations, thereby reflecting the principles of sustainability (Western Australian Planning Commission 2004). The key objectives of this Policy are:

- To establish a conservation system that is, comprehensive, adequate, and representative of the ecological communities of the Swan Coastal Plain portion of the Perth Metropolitan Region (PMR).
- To seek to protect and manage bushland within the PMR through a range of mechanisms based on site opportunities and constraints and as a collective and shared responsibility and general duty of care on the part of government, landowners and the community.
- To provide a policy and implementation framework for bushland areas of significance that are identified for protection and management in the PMR to assist planning assessment and decision-making processes, and to ensure:
 - i. consistency, transparency and certainty for landowners, decision-makers and the broader community;
 - ii. integrated and balanced environmental, social and economic outcomes;
 - iii. existing planning or environmental commitments or approvals are recognised; and
 - iv. development and land uses which are compatible with bushland protection and/or provide for an improved environmental outcome, are supported and incorporate best practice performance based planning, design and management outcomes.

PLANNING GUIDELINES FOR ACID SULFATE SOILS

Acid Sulfate Soils (ASS) are soils containing iron sulphides (principally iron pyrite). Those ASS formed within the last 10,000 years after the last sea rise are of the most concern. It is during the disturbance of these soils by excavation, drainage or dewatering that major environmental problems can arise unless the ASS is managed properly.

Actual Acid Sulfate Soils (ASS) are (generally naturally occurring) soils containing sulfides that have reacted with oxygen to produce acids. Potential Acid Sulfate Soils (PASS) contains sulfides that have not reacted with oxygen (usually due to being permanently waterlogged). They produce acids when exposed to air by excavation, filling, creation of artificial water courses, or groundwater abstraction/dewatering (WAPC 2003).

The impacts associated with acid sulfate soils can be associated with the increase in acidity and/or the release of heavy metals into the environment. This can result in:

- Wetland degradation.
- Localised reduction in habitat and biodiversity.
- Deterioration of surface and groundwater quality.
- Loss of groundwater for irrigation.
- Increased health risks associated with arsenic and heavy metals contamination in surface and groundwater, and acid dust.
- Risk of long-term infrastructure damage through corrosion of sub-surface pipes and foundations by acid water.
- Invasion by acid tolerant waterplants and dominance of acid tolerant plankton species causing loss of biodiversity.

The environmental conditions found at the West Martin site have the potential to contain ASS and therefore have the potential to have environmental impacts.

Mapping of acid sulphate risk areas is shown in Planning Bulletin 64 (WAPC, 2003) for the Swan Coastal Plain. The West Martin site has both high and moderate risk areas for AASS actual acid sulphate soils) and PASS (potential acid sulphate soils) occurring at depths >3m.

ENVIRONMENTAL PROTECTION (SWAN AND CANNING RIVERS) POLICY 1998

The Environmental Protection (Swan and Canning Rivers) Policy (EPP) 1998 purpose is to restore, enhance, preserve and protect the environmental quality, ecological process and ecological integrity of the Swan and Canning Rivers.

The Government of Western Australia has recognised the importance of the Swan and Canning Rivers are in terms of environmental, aesthetic and recreational resources of the State. The Implementation Strategy of the EPP is known as Riverplan which was endorsed and released by the EPA and Swan River Trust (SRT) in 2004.

Riverplan is designed to guide efforts to restore, enhance, preserve and protect the environmental quality, ecological processes and ecological integrity of the Swan and Canning rivers. Under an agreement with the EPA, the Swan River Trust is responsible for implementing Riverplan.

Riverplan:

- establishes an environmental management framework for all projects and initiatives which underpin the management of the Swan and Canning rivers;

- proposes the need for partnership agreements and memoranda of understanding with public authorities to implement the Environmental Protection Policy - recognising that land use is the principal determinant of water quality;
- proposes the need for specific and measurable environmental values and criteria to increase accountability;
- identifies and provides a framework to protect environmental values such as ecosystem health, biodiversity, natural landscape, recreation, water supply, navigation fishing, aquaculture and culture;
- recognises that there is already a lot of work being done to protect the rivers by State Government agencies, local governments, industry and community groups; and
- aims to identify and address gaps in river management.

The West Martin Precinct 2 is not located (but adjoins) the Swan River Trust Management Area. The Swan River Trust Management Area is represented by the Metropolitan Region Scheme Parks and Recreation Reserve which is located to the west and south of the Precinct.

WATER AND RIVERS COMMISSION POSITION STATEMENT ON WETLANDS OF THE SWAN COASTAL PLAIN

The position statement was prepared by the Water and Rivers Commission to clarify the Commissions position on the management and protection of wetlands on the Swan Coastal plain and how this relates to development in the region. The statement includes definitions on the following;

- wetlands;
- wetland type;
- wetland evaluation and management;
- wetland database custodianship;
- wetlands re-evaluation; and
- wetland management requirements inkling wetland buffers and land use, land use compatibility and existing and proposed activities.

In terms of wetland type, the Semeniuk Research Group classification method was employed for wetland classification on the Swan Coastal Plain (Hill et al. 1996). This system classifies wetlands based on landform and water permanence, the various types of which are presented in the table below.

Wetland Type	General Description
Basin Wetlands	Basin Wetlands Dampland = seasonally waterlogged basin. Sumpland = seasonally inundated basin. Lake = permanently inundated basin. Artificial basins (e.g. dam, reservoirs).
Flat Wetlands	Flat Wetlands Floodplain = seasonally inundated flat. Palusplain = seasonally waterlogged flat

The wetland type classification for the adjoining Canning River is flat wetland/palusplain whose identification number is 5329 (Geomorphic Wetlands Dataset, DoE).

Wetland evaluation is the process of assessing the level of significance of a wetland (see Hill et al. 1996). An appropriate management category is assigned to the wetland based on the evaluation, which provides guidance on the nature of the management and protection the wetland should be afforded. The management classification for the adjoining Canning River is Conservation Category wetland (see table below).

Management Category	General Description of Wetlands	Management Objectives
C Conservation Wetlands (incorporates EPA Bulletin 686 categories H and C)	Wetlands which support high levels of attributes and functions	<p>Highest priority wetlands. Objective is preservation of wetland attributes and functions through various mechanisms including:</p> <ul style="list-style-type: none"> • reservation in national parks, crown reserves and State owned land, • protection under Environmental Protection Policies, and • wetland covenanting by landowners. <p>These are the most valuable wetlands and the Commission will oppose any activity that may lead to further loss or degradation. No development.</p>

ENVIRONMENTAL PROTECTION (SWAN COASTAL PLAIN LAKES) POLICY 1992

The Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 (the Lakes EPP) provides statutory protection for the Swan Coastal Plain Lakes from filling, draining, mining and effluent discharge (EPA, 1992). The lakes identified for protection under the Lakes EPP were those that had 1000 m² or more of standing water in the first week of December 1991. As such many of the sumplands and damplands on the Swan Coastal Plain are not protected under the Lakes EPP.

In 1999 the EPA reviewed the Lakes EPP and prepared a new draft Environmental Protection (Swan Coastal Plain Wetlands) Policy (EPA, 1999). The new policy proposes protection of the environmental values and functions of wetlands on the Swan Coastal Plain and aims to be consistent with the 1997 Wetlands Conservation Policy. Wetlands identified for protection under the draft Wetlands EPP are Conservation Category wetlands on the Register of Protected Wetlands or those coloured green on the Department of Land Administration Plan Miscellaneous Plan No. 1815 (which are those lakes already protected under the Lakes EPP). The draft Wetlands EPP was released in 2004.

The study area is bounded on its western side by the Canning River, this is not classified as an EPP wetland and is governed by its own EPP, the Environmental Protection (Swan and Canning Rivers) Policy 1998.

ENVIRONMENTAL PROTECTION OF WETLANDS - ENVIRONMENTAL PROTECTION AUTHORITY POSITION STATEMENT NO.4

The position statement provides a summary of the aspects regarding the environmental protection of wetlands within Western Australia that the EPA considers to be important in guiding its decisions and advice on matters of environmental protection. The scope of the position statement focuses on terrestrial wetlands with permanent or temporary inundation and excludes constructed wetlands. Rivers, creeks, estuaries, caves and shallow marine areas fall outside of the scope of this position paper and are proposed to be addressed through other position statements, guidelines or policies.

Position Statement No. 4 defines important environmental values and functions of wetlands and establishes principles for the environmental protection of wetlands in general.

The following set of principles underpins the environmental protection of wetlands:

- Overarching statement of goals;
- Ecological sustainable development;
- Wise use concept;
- Ecological management approach;
- Inter-generational equity; and
- Precautionary principle.

The policy does not strictly apply to the Canning River however the principles provide guidance for the proposed development.

DRAFT STATEWIDE POLICY NO. 4 WATERWAYS WA: A POLICY FOR STATEWIDE MANAGEMENT OF WATERWAYS IN WESTERN AUSTRALIA 2000

The Western Australian Government has recognised the value of the 208 major waterways in the State in terms of heritage, ecological functions, agriculture, recreation and tourism. It has also been recognised that, as a result of human activity, many of these waterways and their associated catchments have become degraded.

The Policy provides the foundations for a statewide strategy for waterways management and is intended to influence on-ground planning and works. The policy also binds statewide waterways management to Western Australia's Natural Resource Management Framework.

The intent of the policy is to:

- Articulate the principles that should guide statewide waterways management;
- Define the long-term vision and objectives for statewide waterways management;
- Outline the approach being used to develop a statewide strategy; and
- Outline the roles and responsibilities of the Water and Rivers Commission (Department of Environment) in managing the States waterways.

CORRIDORS AND LINKAGES

Habitat loss and fragmentation have been recognised as a key global issue facing conservation of biological diversity (World Conservation Strategy, IUCN 1980). Linkages are not necessarily linear or continuous, but they must enhance connectivity for species, communities and/or ecological processes.

Links and corridors have a number of benefits;

- They provide habitat for plants and animals;
- They are used as pathways by animals undertaking regular movements either daily, seasonally, are migratory or are moving between different habitats at different stages in its life cycle;
- They can allow individuals to move into isolated habitats to recolonise, introduce new genetic variation or supplement small and declining populations;
- They contribute to ecological processes such as, seed dispersal and pollination. Protect stream water quality and act as a buffer from runoff of nutrients and pollutants; and
- They provide important social benefits for people in urban areas as places for recreation, relaxation and appreciating nature, a sense of location and identity and landscape value.

The Canning River and its tributaries contribute to regionally significant bushland/wetland linkages particularly as part of the Perth's Strategic Plan for Perth's Greenways as Greenways 70, 71 73 & 106 (Tingay and Associates, 1998).

OUTLINE DEVELOPMENT PLAN

The following section of this report provides a description of the proposed design, land use layout, and the site specific objectives.

DESIGN OBJECTIVES

The objective of this Outline Development Plan is to facilitate the subdivision, land use and development of this portion of land to ensure the creation of an environmentally, socially and economically sustainable residential precinct that has minimal adverse impacts on the adjacent Canning River, whilst maximising its proximity to the Gosnells Town Centre.

LAND USE / DENSITY

The proposed design incorporates residential and associated public open space uses only. No commercial land uses are proposed within the precinct due to its close proximity to the Gosnells Town Centre.

The existing residential densities applicable to the site are R17.5 with a small area of R30. Under the proposed Scheme Amendment it is proposed to rezone the site to Residential Development to provide development in accordance with an Outline Development Plan. This Outline Development Plan seeks a base density of R20 with areas of R30. The R30 areas are located overlooking the public open space.

The City of Gosnells Local Housing Strategy identifies that consideration should be given to modifying the base residential density code across the Town Planning Scheme No. 6 Scheme Area from R17.5 to R20. This would bring the City into line with Metroplan and also provide a consistent approach to density, given that R20 is already being used as a minimum density in some of the newer areas of the City.

The Strategy identifies that there will be particular instances where the City may support higher residential densities or density bonuses despite a property being located outside of the recommended area. In these instances due regard needs to be given to the strategic objectives of the Local Housing Strategy which include accessibility to:

1. railway stations/public transport routes;
2. public open space areas;
3. local and retail centres; and
4. community facilities (schools, community and recreation centres, medical facilities).

The subject site has been mapped based on a 400 metre catchment from the facilities identified above (refer to Figure 9). The map indicates that the site is directly adjacent to the 400 metre catchment of the Gosnells Town Centre and the Gosnells Train Station (within 50-100 metres of the 400 metre catchment).

In accordance with the objectives above, the R30 density has been located adjacent to the local public open space which will increase passive surveillance over the POS in accordance with the objectives of the housing strategy. Furthermore, it should be noted that under the existing zoning an area of R30 exists on the eastern portion of the precinct and the ODP seeks to relocate this R30 density to a more appropriate location.

The WAPC's DC Policy 1.6 (Planning to Enhance Public Transport Use) aims to ensure that maximum development potential is achieved on appropriate land within walking distance to stations and public transport hubs, where medium to high densities are encouraged. Objective 4.11 of this Policy identifies a need for walking distances to be no more than 800 metres between dwellings and an existing rail stop. It is noted that the subject site benefits from being in close proximity to the Gosnells Rail Station, and six bus stops located along Albany Highway.

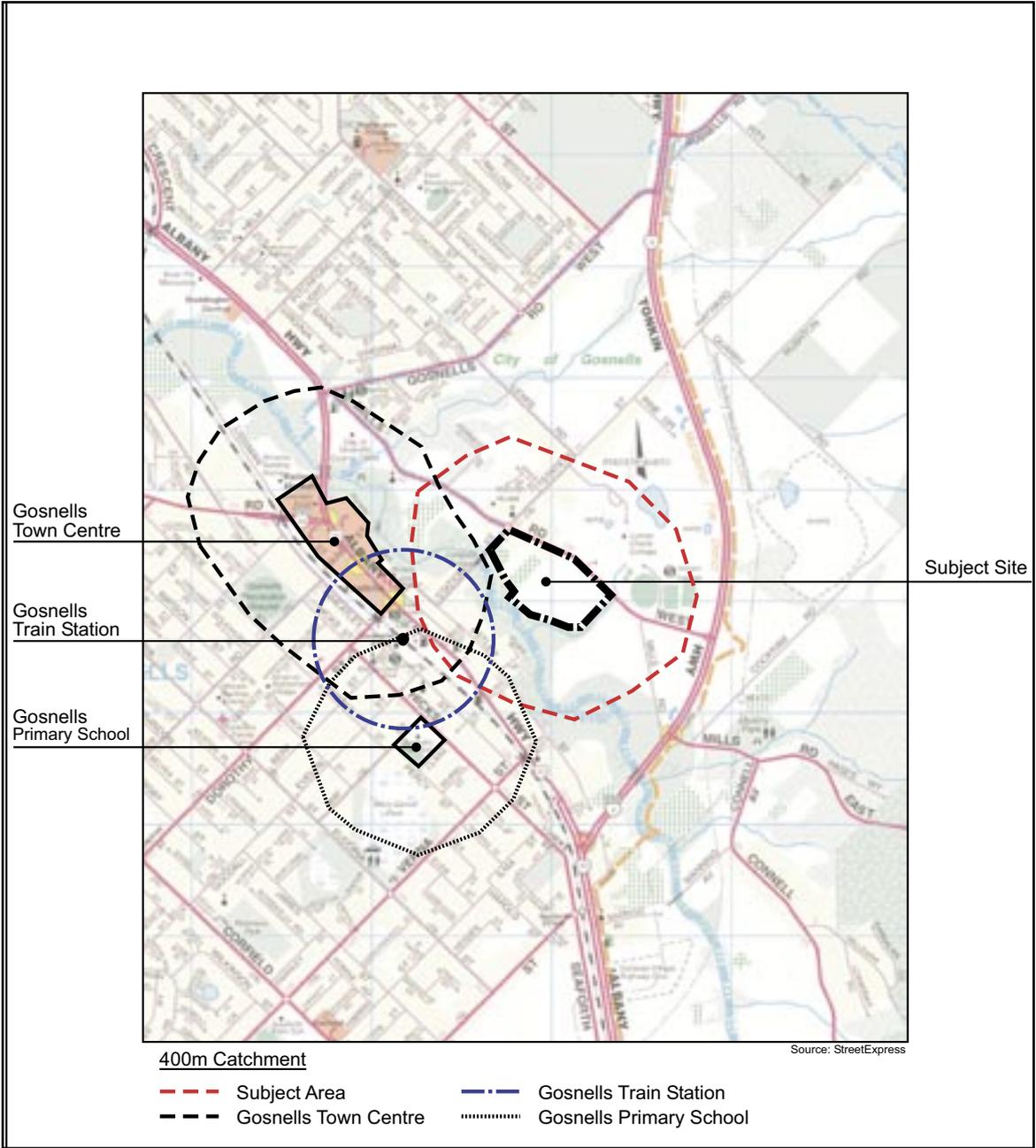


FIGURE 9 – 400 METRE CATCHMENT

While the site is just outside of the 400 catchment to the town centre and train station it is within close proximity. Additionally the site is located adjacent to regional open space and opposite a school. Based on the City of Gosnells Local Housing Strategy and an assessment of accessibility, the base density of R20 with small areas of R30 is justified to achieve a diverse dwelling mix with access to relevant facilities and services.

Indicative lot layouts have been provided for illustrative purposes only, as required under clause 7.3.4 (e) of TPS No.6. At this initial stage, a total of 150 residential lots are shown on the Outline Development Plan (including 1 grouped dwelling site). The indicative lot sizes shown on the Outline Development Plan range between approximately 310m² to 823m² in area.

TRAFFIC AND MOVEMENT SYSTEMS

Access to the site has been carefully considered in the context of the day to day function of Mills Road West, being a Primary Regional Road, servicing both the local and regional area. The design also follows the previous advice provided by Main Roads WA in their letter of 11 March 2004 to the City of Gosnells. Two access and egress points are proposed off Mills Road West into the development site, thereby reducing potential traffic conflicts along this major road. These points are in accordance with the preferred locations illustrated by Main Roads WA's plan (Ref:7821-78-2 - Refer to Figure 10).

The residential lots facing Mills Road West within the subject site will not gain direct frontage onto this road. A service road will perform this function, thereby separating local traffic directly from the regional road. The service road has been provided along the length of Mills Road West and will connect to the proposed roads from Mills Road West. Figure 11 indicates the intersection arrangement for the connection of the service road to the main internal access roads from Mills Road West while Figure 12 indicates the Movement Systems.

It is noted that the site is somewhat restricted in providing direct connectivity to the south-east residential subdivision being proposed on Lot 830 and 831, due to the existence of the brook system separating the two, and the Canning River separating the site directly from the township. However, traffic and pedestrian movement will still have a linkage to the town centre via Station Street.

It is also important to note that the road layout will provide direct access to the Canning River for the general public. This design component is in keeping with the Western Australian Planning Commission's Development Control Policy.

ROADS

The design of the internal road network will enable an efficient movement system with good circulation and accessibility. The modified grid pattern design is based on the existing road network within the area. In general a 14 metre road reserve is proposed within the site, with some reduced road reserve widths of 12 metres where lots abut public open space.

The proposed roads between the R30 lots and the public open space are 10 metres in width. The intent of the 10 metre road reserve is to minimise through traffic adjacent to the POS while providing access from the R30 lots to the POS. It is proposed as a pedestrian space while providing vehicle access to the R30 lots. It is proposed that this portion of road be paved and potentially raised to traffic calm the road and limit through traffic. Figure 13 provides a typical cross-section of the 10 metre wide road indicating the road reserve and servicing arrangements.

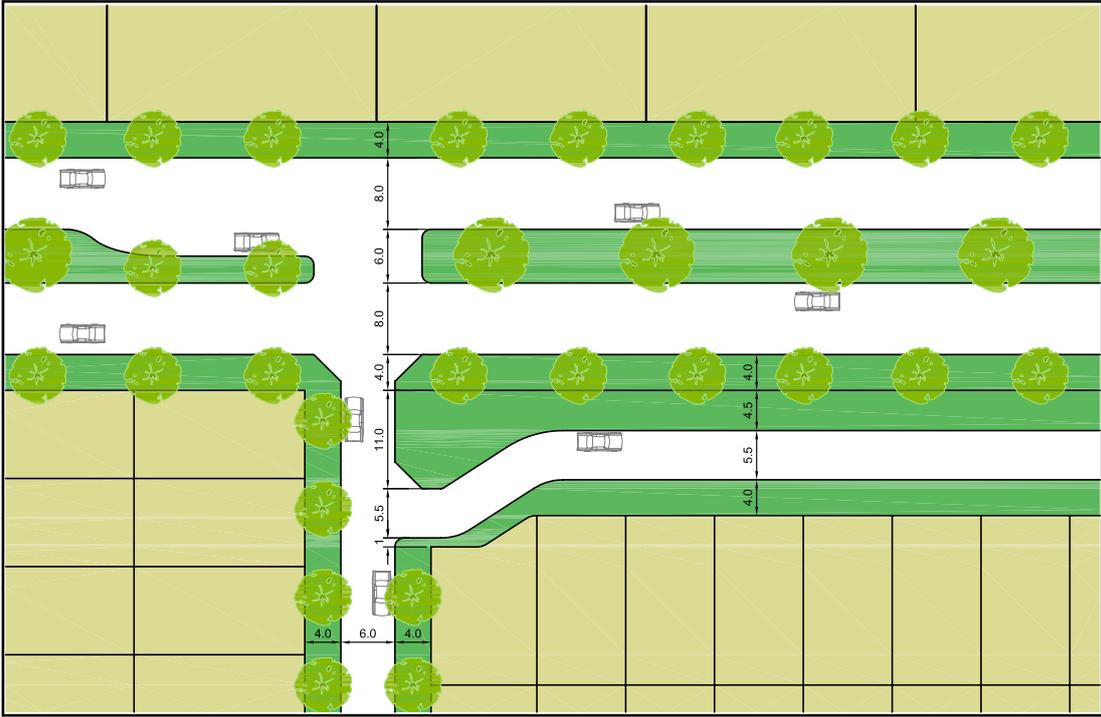
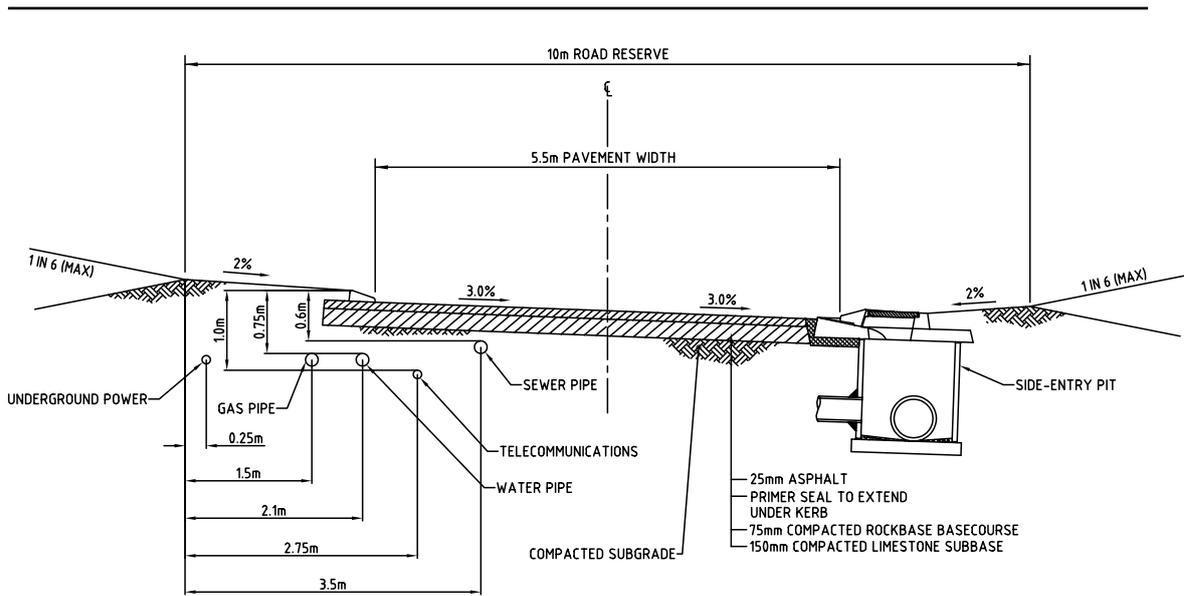
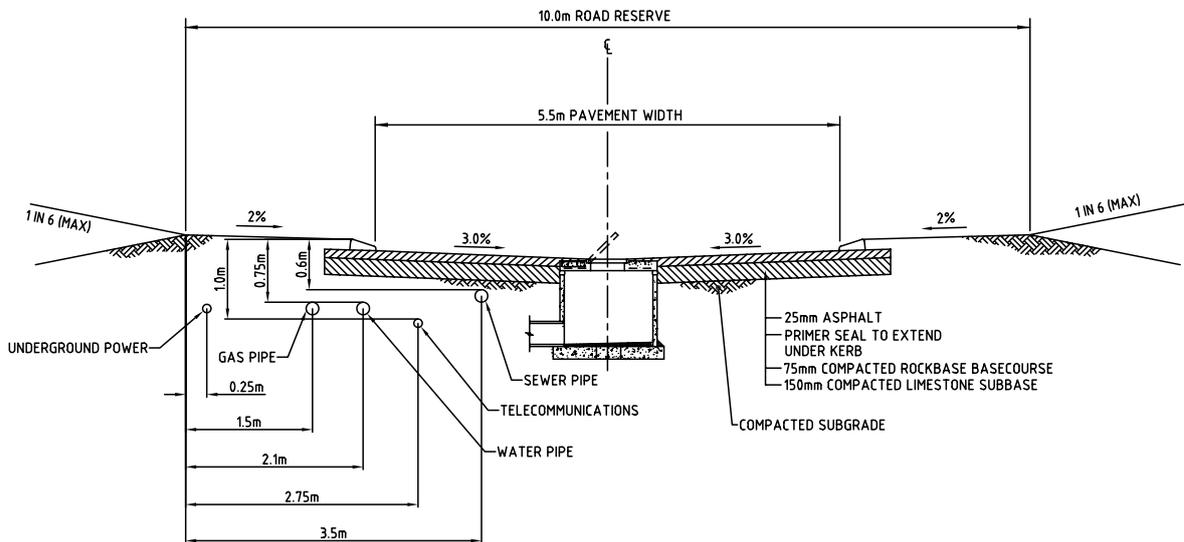


FIGURE 11 – MILLS ROAD INDICATIVE INTERSECTION TREATMENT



TYPICAL ROAD CROSS SECTION
 ONEWAY CROSSFALL WITH SIDE-ENTRY PIT
 SCALE 1:50



TYPICAL ROAD CROSS SECTION
 INVERTED CROSSFALL WITH GRATED GULLY PIT
 SCALE 1:50

FIGURE 13 – 10 METRE ROAD CROSS SECTION

LOTS

The indicative lot configurations illustrate the anticipated lot yield, lot sizes, and configurations within the site. The design incorporates various lot sizes, providing for different market demands, and lifestyle needs. The various lot sizes will comply with the minimum frontage requirements outlined under Table 1 (General Site Requirements) of the Residential Design Codes. Lots are rectangular in shape and orientated in a north-south configuration where possible, thereby facilitating solar access and energy efficiency opportunities. No lots will back onto the Parks and Recreation Reserve, where the service road acts as a separation measure.

The lots adjacent to Mills Road West will be screened from Mills Road West via landscaping proposed on the verge separating the service road and Mills Road West. It is identified that additional dwelling design features maybe required to alleviate road noise.

The lots identified with a density of R30 are subject to the preparation of Detailed Area Plans (DAP). The objectives of the DAP's will be to create an intimate streetscape around the POS and to promote passive solar design and courtyard principles. Detailed Area Plans will address issues such as:

- building form - eaves, verandahs, materials, roof form;
- streetscape - setbacks, visibility;
- garaging and access - setbacks;
- passive surveillance of POS; and
- privacy.

The DAP's will be based on the acceptable development provisions of the Residential Design Codes, however, performance criteria will be provided to achieve certain outcomes, such as solar design and surveillance of the public open space.

PUBLIC OPEN SPACE

Public Open Space represents 12.3% (17400m²) of the total site. This amount of POS exceeds the required 10% stipulated under the Western Australian Planning Commission's Development Control Policy 2.3 (Public Open Space In Residential Areas).

The Outline Development Plan includes two pockets of Public Open Space within the centre of the proposed residential precinct, being 1792m² and 2166m² in area respectively. The remaining 13,442m² of public open space is located along the south and south-eastern boundary of the site, abutting the Canning River Reserve. The proposed configuration of the public open space will ensure that all residents within the precinct will have direct access to areas for active and passive recreation.

The public open space along the boundary of the site achieves a number of requirements. The public open space acts as an environmental buffer between the development and the CCW, provides an enlarged Canning River Reserve to promote the significance of the reserve, provides a space for recreation (although not active) and provides public access to the Canning River Reserve. Access to the reserve will be provided via the adjoining road reserve which runs the length of the ODP (with the exception of the grouped dwelling site, however, pedestrian access will be provided from Station Street to the reserve). The reserve, while not provided for active uses, provides an area for passive recreation in which to walk, picnic and appreciate the Canning River environment.

The inclusion of two pocket parks at either end of the precinct will enhance the amenity of the development, and provide for the active recreational needs of the local residents. The pocket

parcs will also open up the development, encouraging more community usage and interaction. Residential development will face onto the two pocket parks, thereby providing surveillance of the area and assisting as a crime preventive measure.

It is acknowledged that the parks are smaller than preferred in terms of maintenance, however, they serve a purpose in terms of providing active spaces for the residents. The reserves are located such that all dwellings are within 100-150 metres of the reserves. In terms of maintenance, the reserves are close enough to offset the maintenance issues in terms of the reserve sizes.

A Public Open Space schedule is provided in the following table:

Lot	Developable Area	Public Open Space Area	Public Open Space Percentage	Percentage Difference
Lots 822, 823	75,982 sqm	11,385 sqm	14.99%	+4.99
Lots 204	12,435 sqm	960 sqm	7.72%	-2.28
Lot 205	3,873 sqm	-	-	-10
Lot 3	20,335 sqm	3,771 sqm	18.54%	+8.54
Lot 4	16,921 sqm	298 sqm	1.76%	-8.24
Lot 5	7,933 sqm	566 sqm	7.13%	-2.87
Lot 100	8,604 sqm	420 sqm	4.88%	-5.12
Total	141458 sqm	17400 sqm	12.3%	

The table above indicates that several lots provide more than 10% POS while several lots provide less. Those lots that provide less are required to pay cash-in-lieu to the 10% while those lots that provide more will be credited (refunded) above 10%.

Public Open Space Maintenance

The public open space will be constructed in accordance with the City of Gosnells requirements which include, as a minimum, grassing, bollards and maintenance access. It is proposed that the developer will undertake the maintenance of the public open space for two years from establishment of the reserves.

URBAN WATER MANAGEMENT

An Urban Water Management Strategy has been proposed for the site which has adopted the following principles:

- Minimising any impacts on groundwater quality through appropriate separation between the development and groundwater to ensure that urban stormwater is not discharged into the groundwater without first receiving appropriate treatment;
- Managing surface water quality through a number of non structural and structural methods using Water Sensitive Urban Design (WSUD) principles;
- Surface water quantity will be managed by: containing up to a 1:1 year storm event on site through a process of infiltration and treatment; designing for all larger stormwater events through a number of Best Management Practices (BMP's) such as swales, pools, riffles and drop structures that deliver water to the Canning River without erosion and sediment impacts on the receiving environment.

The detail of the Urban Water Management Strategy is contained in Appendix B.

ENVIRONMENTAL PROTECTION (BUFFER/FORESHORE)

The development has the potential to impact on the ecological values of the adjoining Canning River waterways and wetlands. Some of the potential impacts include the following:

- Construction impacts (erosion, sediment, dust, noise pollution);
- Pollution of groundwater;
- Pollution of surface water;
- Erosion and sedimentation;
- Impacts on native fauna through uncontrolled access and domestic pets;
- Introduction of exotic flora and fauna; and
- Increase incidence of fire.

However current land uses such as horse agistment, grazing, and citrus production also have a significant impact on the existing environment. Many of these impacts will be reduced through the change in land use to residential.

The Canning River environment is also a place of beauty and provides appeal for both recreation and land care interest by future residents. Access to the river environment is proposed to be controlled and therefore signage and interpretation of the natural and cultural features will be highlighted.

The developers are employing a number of strategies to ensure impacts on the Canning River environment are minimised, these include:

- Keeping the development to the plateau above the river floodway which creates a physical separation between the two spaces;
- Developing a Water Management Strategy which ensures that good quality water is added to the Canning River catchment without erosion and sediment impacts;
- Controlling access to the natural environment and providing interpretation of the natural and cultural features of the site; and
- Ensuring that there is an appropriate buffer between the wetland boundary and the edge of the development which in some places meets the DoE 50 metre buffer requirement but in other places is less than the DoE requirements.

Figure 14 indicates the CCW boundary, the 50 metre buffer and the proposed development buffer.

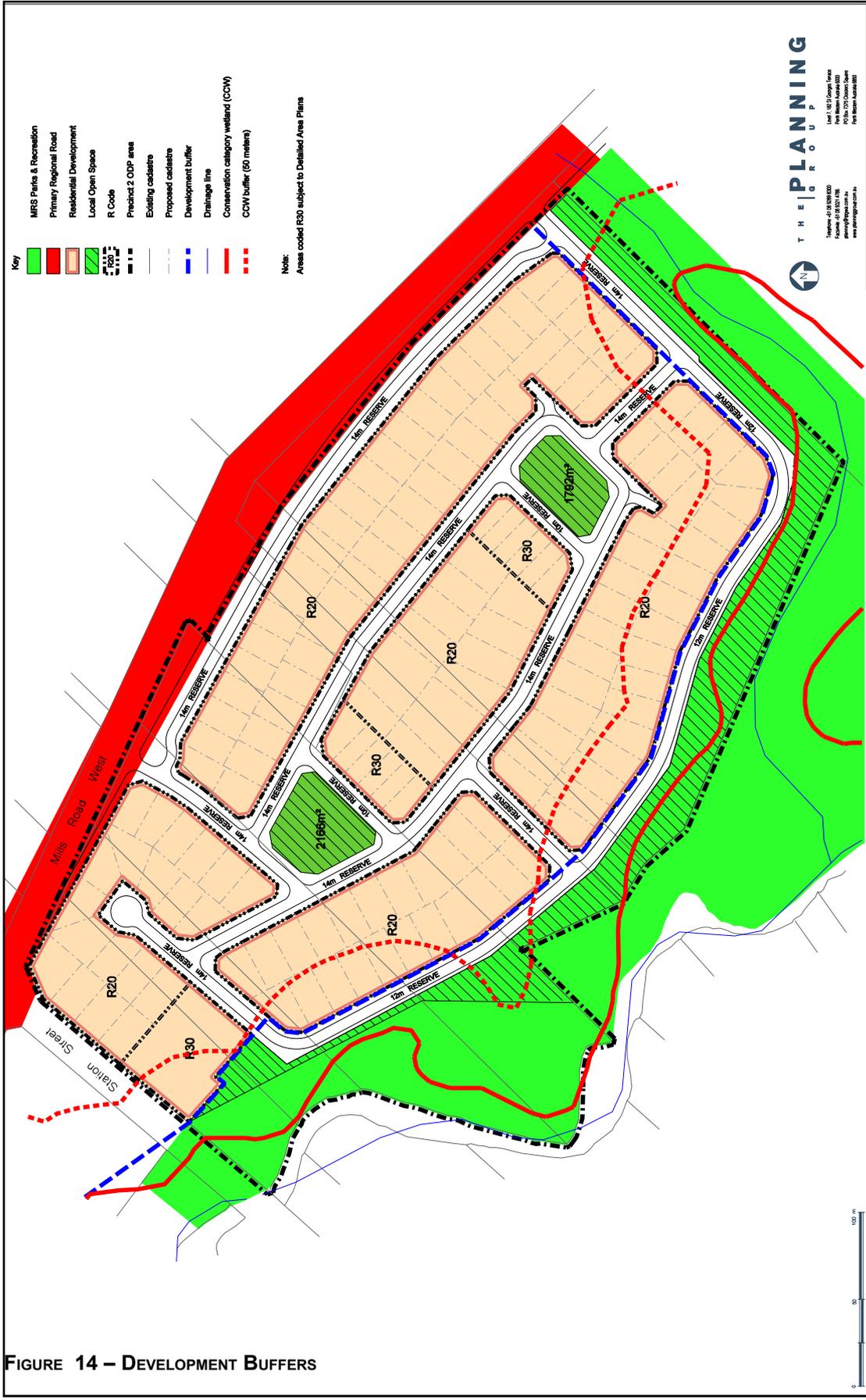


FIGURE 14 – DEVELOPMENT BUFFERS

HERITAGE

EUROPEAN HERITAGE

A search of the Heritage Council of Western Australia's Register and database revealed that there are no places within the subject site that are listed on the State Register. There is however a site in the locality that is listed on the database and included on the City of Gosnell's Municipal Heritage Inventory (adopted 25/08/1998), being a house at No. 64 Mills Road West. The small rectangular timber boarded house is located well north-west of the proposed ODP area, and would not be affected by the development of the proposed site.

ABORIGINAL HERITAGE

A comprehensive ethnographic survey was undertaken by Aboriginal Heritage Consultants de Gand Pty Ltd. A copy of the report is provided within Appendix D.

The report reveals that during the field assessment, no new Aboriginal sites of Aboriginal Heritage significance were located in the proposed Project Areas. Four previously recorded areas of Aboriginal Heritage significance were located, as tabled below. None of these four previously recorded Sites of Aboriginal Heritage Significance will be impacted by the proposed works.

Site ID	Site Number	Type	Status	Access	Restriction
3528	Canning River	Mythological	Permanent Register	Open	No Restriction
18193	Frog Dreaming	Mythological	Permanent Register	Closed	No Restriction
18177	Tonkin Highway – Mundijong Road Scatter #1	Artefacts / Scatter	Stored Data	Open	No Restriction
18193	Swan	Mythological	Permanent Register	Open	No Restriction

The Aboriginal Heritage assessment report recommends that the developer ensure their employees and contractors are:

1. Advised of the existence and location of four previously recorded sites of Aboriginal Heritage significance.
2. Informed that these four locations constitute Aboriginal Sites to which the Aboriginal Heritage Act 1972 (the Act) applies and should therefore be avoided in accordance with Section 17 of the Act. This Section of the Act stipulates that it is an offence to excavate, to damage, to conceal or in any way alter an Aboriginal site that is not sanctioned by relevant Aboriginal Heritage consultants.
3. Informed that during the Aboriginal Heritage Survey that was conducted for the West Martin JV & Gold City Assets Pty Ltd on the proposed Project Areas, the Aboriginal Heritage Consultants endorsed the proposed works (as stipulated in this Preliminary Advice in the Section - Project Area and Proposed Works that will be undertaken on behalf of the West Martin JV & Gold City Assets Pty Ltd.

-
4. Informed of the request of the Aboriginal consultants to monitor heavy earthworks on the proposed development within the 30 meters exclusion zone adjacent to the Southern River (The time, the duration and the number of Aboriginal Heritage consultants that will participate in the monitoring component are to be negotiated between the Nyangah Action Committee and the developer).
 5. Informed of the request of the Aboriginal consultants that a qualified archaeologist will be consulted if prehistoric material is located or discovered during these earthworks or other excavations during the development.
 6. Informed of the request of the Aboriginal consultants that contractors be encouraged to hire local Aboriginal people.
 7. Informed of the request of the Aboriginal consultants that the development will be signposted with signs demonstrating the history of Aboriginal people in the Project Areas and in the region.

ENVIRONMENTAL CONSIDERATIONS

CLIMATE

The climate of the West Martin area is typical of much of Perth, with cool wet winters and warm to hot dry summers. For the Gosnells area the Bureau of Meteorology has recorded an annual average mean maximum temperature range of 18.6°C – 32.9°C and a minimum average range of 8.8°C – 17.10°C. Gosnells experiences on average rainfall of 836.6mm with the highest rainfall recorded between May and August.

TOPOGRAPHY

The study area is part of the topographic unit called the Pinjarra Plain which consists of unconsolidated sediments of fluvial origin (Swan River Trust, 1997). The area is also part of the low-lying Canning River floodplain and river terrace. It is generally flat to slightly undulating and has relatively steep to moderately steep embankments where the study area meets the river floodway. The contours of the study area range from 14m AHD to 16m AHD whereas the river floodway adjoining the site range from 6m AHD to 9m AHD. Essentially the proposed development site sits on a plateau above the Canning River floodway.

SOILS

According to Jordon (1986) the soils are part of the Guildford Formation and consist of Sandy Clays on the upland areas whilst the floodway and river environs are dominated by Sandy Silty Clays. The sandy clays are white-grey to brown, fine to coarse grained, sub angular to rounded sand and clay of moderate plasticity levels with gravels and silt layers near the scarp. The Swan Soils Association, which is found along the present stream course is classified as being red, podsollic and undifferentiated, alluvial soils. In a recent geotechnical survey undertaken for the site more detailed analysis of the soil was undertaken. The results of this confirm the general statement above but give more detail for each bore log.

NATURAL ENVIRONMENT

Vegetation and Flora

The majority of the study area has been cleared of natural vegetation for agricultural purposes. Hence most of the site contains exotic species including a number of eastern states eucalypt species. Citrus orchards have been planted on the northern section of the site.

A general vegetation and flora survey was undertaken by Ecoscape of Lot 822 and 823 and adjoining riparian system in October 2005. The site is dominated by exotic pasture species including kikuyu grass (*Pennisetum clandestinum*), Paterson's Curse (*Echium plantagineum*), couch grass (*Cynodon dactylon*), rye grass (*Lolium sp*) etc. A range of ornamental species such as Cupressus Pines, are also found on the site.

The southern and western fringes of the site contain native vegetation which is part of the riparian vegetation associated with the Canning River and southern tributary. The indigenous vegetation has been classified as being part of the Swan Complex (DCE, 1980). The vegetation is largely dominated by woodland of flooded gum (*Eucalyptus rudis*) and swamp paperbark (*Melaleuca raphiophylla*). In places higher up the embankment Marri (*Corymbia calophylla*) is also found with the flooded gum, indicating a possible remnant ecotone.

REFER TO FIGURE 15 – VEGETATION AND HABITAT

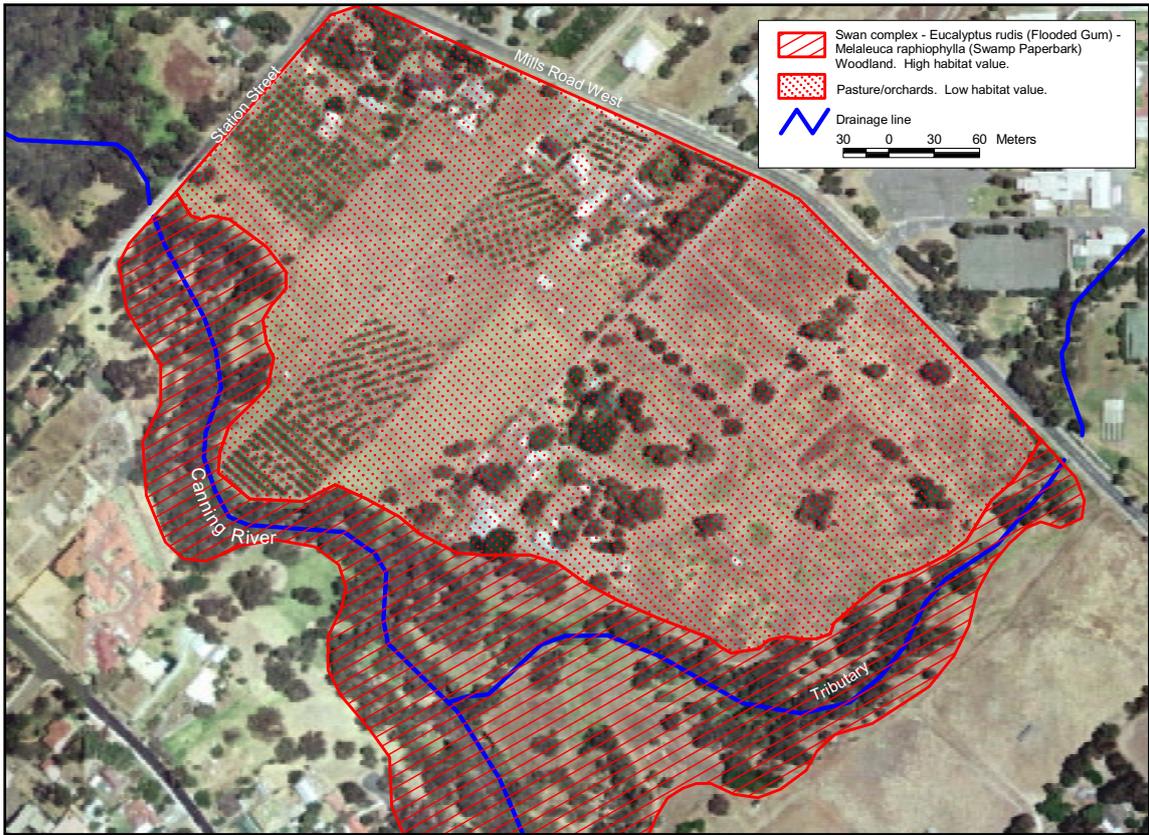


FIGURE 15 – VEGETATION AND HABITAT

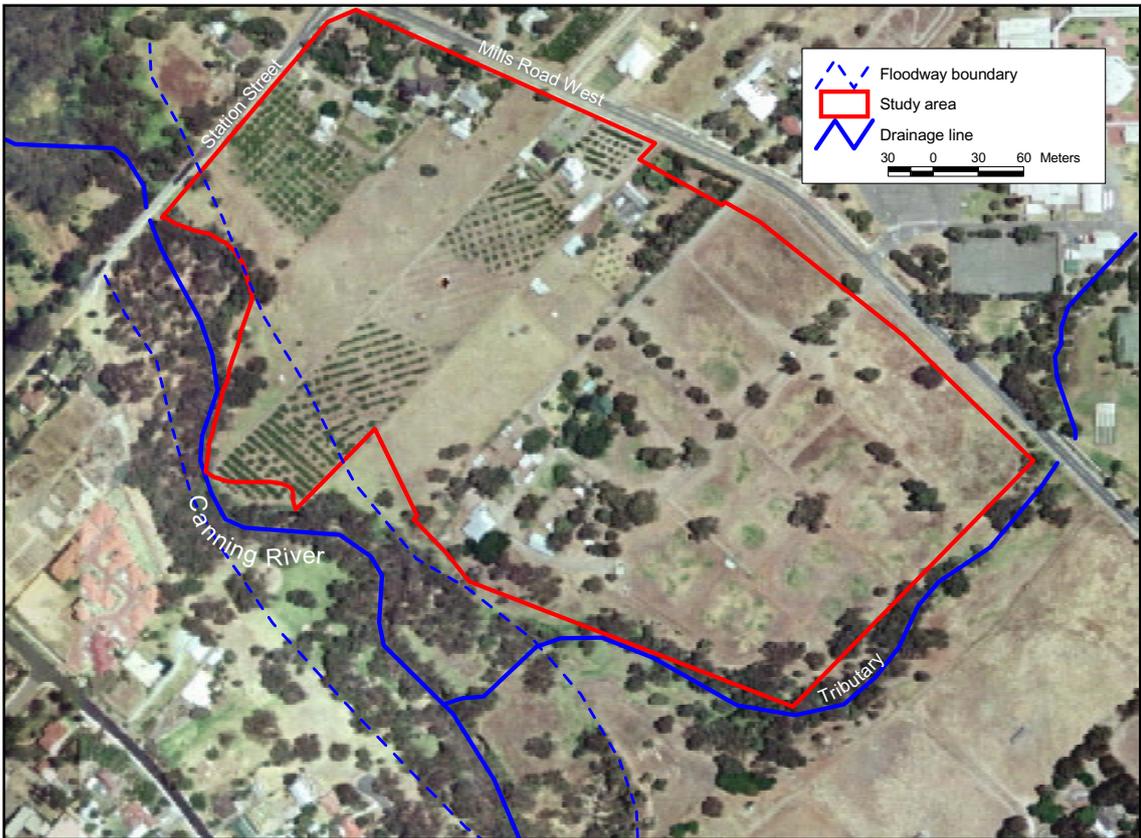


FIGURE 16 – FLOODWAY BOUNDARY

The understorey is completely degraded because the area has been used for grazing and horse agistment and is dominated by exotic broadleaf and grass weeds. In some places native understorey species such as *Astartea fascicularis* and rush species *Juncus pallidus* is found however it is generally dominated by such species kikuyu grass, Paterson's curse, Japanese Peppertree, blackberry etc.

Fauna

No fauna surveys of the area have been undertaken however habitat values were noted during the vegetation and flora survey of the area in October 2005. The main habitat area is within the Canning River and tributary which contain riparian vegetation. This area provides important habitat for a number of aquatic and wetland fauna species including reptiles, amphibians, birds and mammals possibly quenda. The proposed subdivision area is a modified landscape and therefore has limited habitat value.

CANNING RIVER ENVIRONMENT/FORESHORE

The Canning River irregularly meanders through the West Martin area. It forms a small confluence with a small tributary on the southern end of the study area boundary. The catchment for this tributary includes land to the east incorporating Lumen Christi College.

The Canning River channel width varies but is generally 2-4 metres wide. The bathymetry of the river channel indicates that it is shallow with a depth of often less than 1 metre. Water flow is fluvial in origin which is often fed from a number of tributaries (Swan River Trust, 1997).

The confluence of the tributary on the southern end of the study area broadens out into a larger slightly undulating floodplain and floodway. The floodway boundary is confined to the toe of the broader river embankment and is well outside the proposed subdivision. There is also considerable grade separation between the subdivision and the floodway boundary (ie up to 5m).

REFER TO FIGURE 16 – FLOODWAY BOUNDARY

The floodway and general riparian environment of the Canning River in this location has been severely modified through the previous land uses which has resulted in much of the understorey been replaced by exotic pasture species. Whilst the understorey is degraded the overstorey vegetation, which is dominated by the flooded gum, contains a mixed age stand which included a number of well formed mature specimens.

The intention of the development is to improve the quality of the river environment through a process of weed control and revegetation and therefore minimise the impacts on the existing environment. Changes to the existing land uses will result in a positive benefit to the environment through the reduction in nutrients loads (from livestock) and grazing pressures on the native vegetation. Removal of horses and other livestock will increase the potential for recruitment of native vegetation. Weed control will be undertaken through a landscaping and ecological restoration program to the river environs.

WETLAND/WETLAND BUFFER

The river environment adjoining the development site is classified as a conservation category wetland. Conservation category wetlands (CCW's) are the highest priority wetlands on the Swan Coastal Plain and therefore environmental impacts need to be minimized.

The EPA's (1997) minimum buffer recommendation for conservation category wetland is 50 metre or 1 m AHD higher than the furthest extent of the wetland vegetation, whichever is the largest. In the case of the study area it would defer to the 50m because it is the largest distance.

The developable area is outside the wetland boundary however is generally within the 50m buffer. The distance between the wetland boundary and the lot frontages varies between 10m and 60m.

Whilst the distance between the wetland boundary is less than 50m there is a high level of separation between the development site and the CCW in term of the gradients, for example there is an average of 4-5m generally between the toe of the river embankment and the edge of the lot frontages.

While there is a requirement to develop outside the 50m buffer, a relaxation on this requirement is sought because:

- There is a significant grade separation between the CCW and the proposed development (4-5 metres);
- In some parts of the development the buffer distance is greater than 50m;
- The initial results of the groundwater levels indicate that maximum groundwater levels are approximately 2.7m or greater below natural ground surface illustrating that water flow to the CCW is generally at the toe of the embankment;
- The mapping of the wetland boundary does not accurately represent the extent of riparian vegetation;
- The ecological values have been compromised though previous land uses;
- Stormwater quality and quantity are to be managed to limit any environmental impacts on the river system;
- There is an intention to undertake ecological restoration/rehabilitation works within the CCW to improve ecological function and value (Refer to Figure 18);
- There is sufficient difference between the ground surface and the groundwater to remove nutrients and other pollutants; and
- There is little natural surface flows to the river from the development site because soils types allow sufficient infiltration of water under average rainfall events.

REFER TO FIGURE 17 – WETLAND BUFFER

To further mitigate the impacts of the reduced buffer it is proposed to undertake riparian restoration works as indicated in Figure 18.

ACID SULFATE SOILS

The study area has been mapped as having both moderate and high risk of actual acid sulfate soils (ASS) and potential acid sulfate soils (PASS) generally occurring at depths >3m (WAPC 2003).

REFER TO FIGURE 19 – ACID SULFATE SOILS

Actual Acid Sulfate Soils (ASS) are (generally naturally occurring) soils containing sulfides that have reacted with oxygen to produce acids. Potential Acid Sulfate Soils (PASS) contains sulfides that have not reacted with oxygen (usually due to being permanently waterlogged). They produce

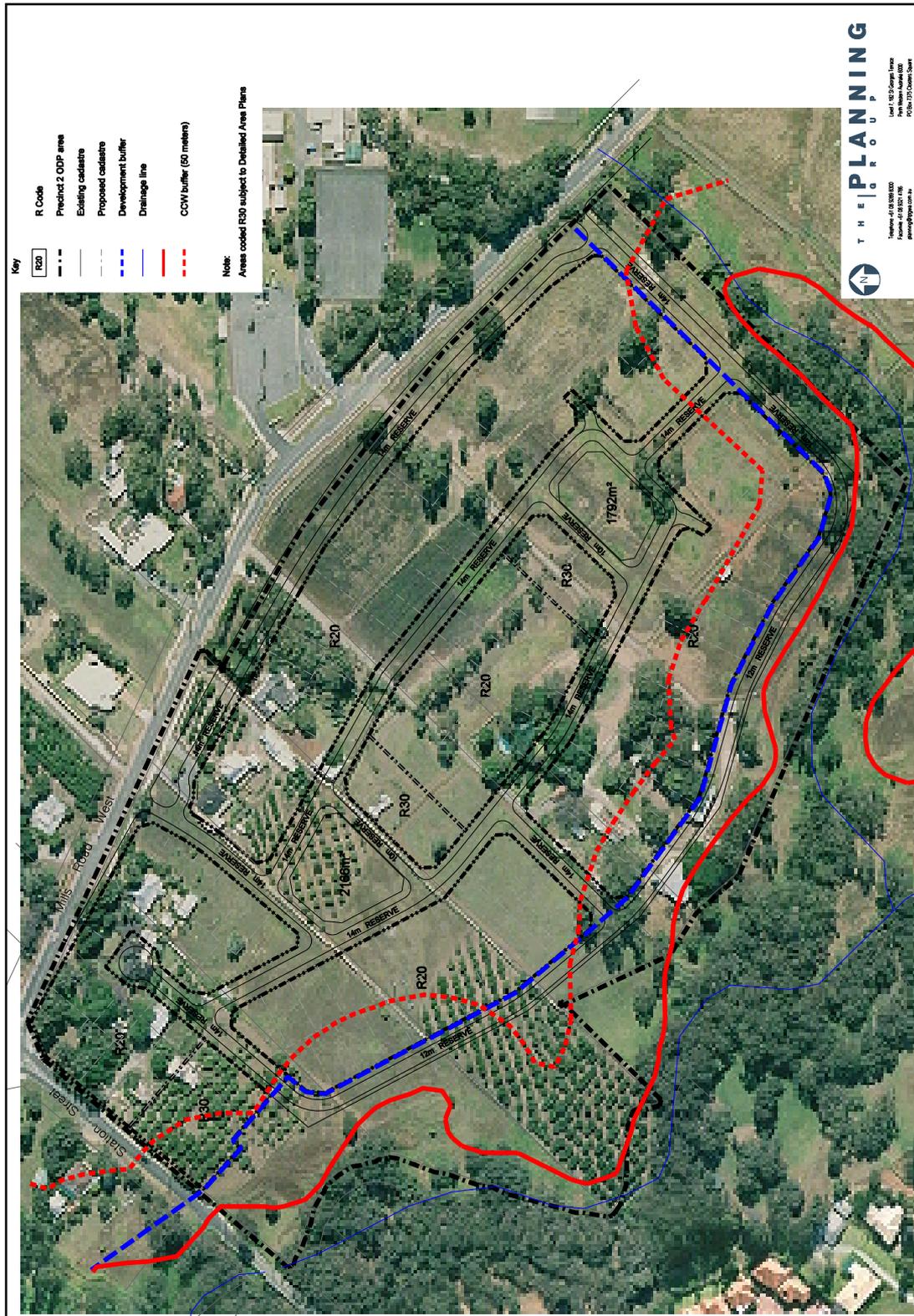


FIGURE 17 – WETLAND BUFFER



- Legend
- Local Public Open Space:
Passive recreation
 - Regional Public Open Space:
Passive recreation / interpretation
 - Riparian Restoration Zone:
Ecological restoration and drainage function
 - Swale Drains
 - Constructed / Enhanced Wetland Feature with Rock Weirs
 - Access Paths

FIGURE 18 – ECOLOGICAL RESTORATION/REHABILITATION WORKS

acids when exposed to air by excavation, filling, creation of artificial water courses, or groundwater abstraction/dewatering (WAPC 2003).

The impacts associated with acid sulfate soils can be associated with the increase in acidity and/or the release of heavy metals into the environment. This can result in:

- Wetlands degradation;
- Localised reduction in habitat and biodiversity;
- Deterioration of surface and groundwater quality;
- Loss of groundwater for irrigation;
- Increased health risks associated with arsenic and heavy metals contamination in surface and groundwater, and acid dust;
- Risk of long-term infrastructure damage through corrosion of sub-surface pipes and foundations by acid water; and
- Invasion by acid tolerant waterplants and dominance of acid tolerant plankton species causing loss of biodiversity.

In a preliminary acid sulfate investigation for part of the site (Lots 822 and 823 Mills Road) the following results were found (Refer to Appendix C).

The field analysis showed that pH_f measurement indicated that the soils were not AASS and pH_{ox} measurement indicated there is low PASS beneath the site for the five sample sites. Laboratory analysis on the other hand confirmed that the soil exceeded the Department of Environments "Action Criteria" of 18 moles H⁺/tonne for medium textured soils, indicating that management is required where dewatering or excavation is to be undertaken. The DoE guidelines also indicate that an ASS Management Plan for the site should be done if the project intends to disturb greater than 1,000 tonnes of ASS.

While the investigations do not meet the guidelines proposed for ASS investigative work by the DoE they do confirm that ASS are likely to low to moderate risk. However an ASS Management Plan will need to be prepared should soil disturbance or site dewatering be significant.

DUST BUFFER

The Readymix Quarry operation on the Darling Scarp is a major source of dust emissions, however, there are other local sources of dust in the area and this has been identified as an issue with potential environmental impacts. In 2002 a dust study was carried out by Sinclair Knight Mertz (SKM) Consultants to identify a buffer area and determine the area of West Martin which may not be suitable for any development which involves sensitive land uses, such as residential development.

An additional dust study is currently being undertaken through the Quarry Buffer Definition Working Group, established by the Department for Planning and Infrastructure. This study is aimed at providing robust scientific information as a basis for future land use planning decisions and the identification of an appropriate buffer.

The subject development site is one of the West Martin precincts that has been deemed to be unconstrained by dust emissions and for which planning and development can progress. It is understood that the DoE have no objection to those properties on the southern side of Mills Road West that are currently zoned Urban being redeveloped for residential subdivision purposes.

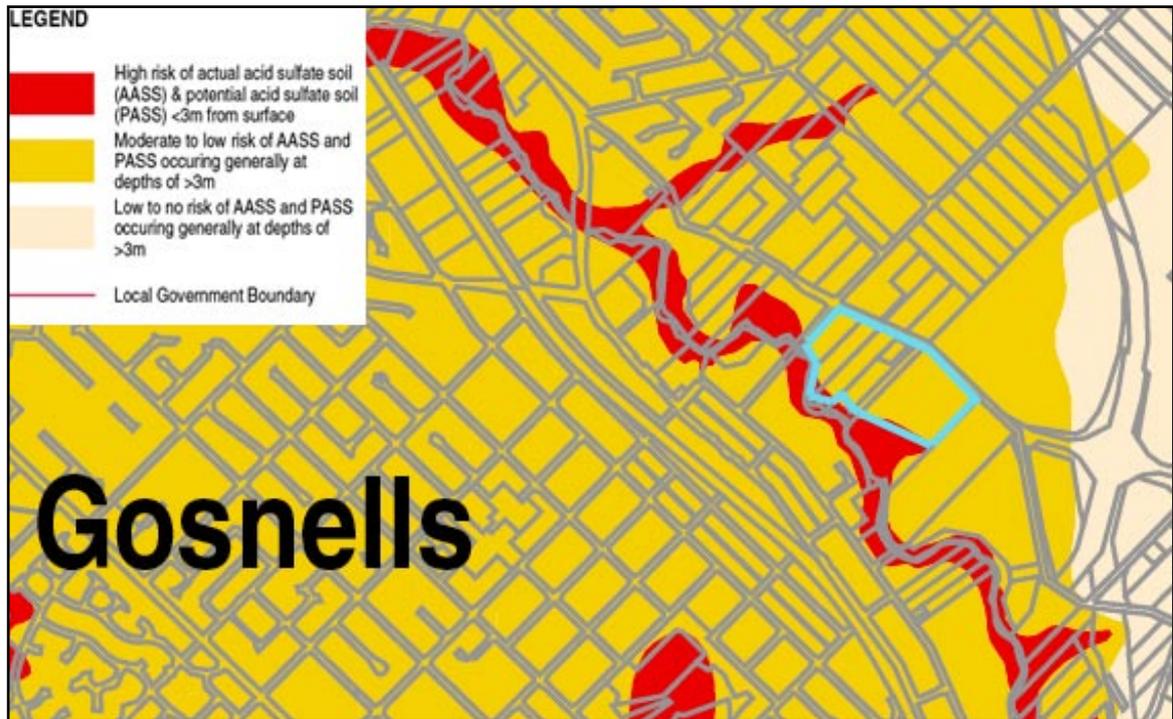


FIGURE 19 – ACID SULFATE SOILS

SITE CONTAMINATION

A preliminary Site Investigation (PSI) was undertaken for Lots 822 and 823 Mills Road West to determine whether there were any significant contamination issues for the site. The full report is presented in Appendix E. While there was no significant contamination issues associated with the site a number of minor issues were identified which include:

- Some of the building material is suspected of containing asbestos and therefore it is recommended that an adoption of programmed inspection of encapsulated asbestos fibre cement building material occur. Additionally, asbestos management procedures during building demolition will also be adopted;
- A soil investigation should be undertaken at the perimeter of on-site buildings to ensure that potential application of pesticides has been historically undertaken legally at the site and the potential application of pesticides does not pose a problem to human health risk;
- All spent flooded lead acid batteries should be temporarily stored under cover on sealed surfaces to allow spillage clean-up and regularly removed for off-site recycling; and
- All storage drums located on-site should be appropriately disposed of at a location off-site and soil sampling be undertaken below the drum footprint to determine if there are any pollution impacts.

No assessment has been undertaken on other parts of the development site. However there is anecdotal information that an egg production facility operated on the northern part of the site and currently there is a small citrus orchard in operation. These land uses potentially may have pollution impacts on the current development site and therefore will be subject to a further investigations under the DoE's Guidelines.

TRAFFIC & TRANSPORT CONSIDERATIONS

INTRODUCTION

This section of the report relates to traffic and transport planning for the residential precinct and presents information and recommendations for:

- Site Access and Local Traffic Conditions;
- Bus Service Planning; and
- Pedestrian/Cycle Facilities Planning.

A Traffic Impact Study has been undertaken by Van Der Meer Consultants in relation to the proposed Outline Development Plan. Sinclair Knight Merz has also assessed the ODP in terms of access to Mills Road West. The study provides an analysis of approximated existing traffic volumes and movements within the locality of the subject site, and projected traffic models based on the proposed Outline Development Plan. A copy of the Traffic Impact Study is included in Appendix F of this report.

REGIONAL ROAD NETWORK

The site is located in close proximity to two regional roads, being Tonkin Highway (Category 1) to the north-east, and Albany Highway (Category 1) to the south-west.

Mills Road West (Category 2) is under the control of Main Roads WA. The subject site is partially affected by a road reserve which will enable the widening of Mills Road West at a future stage. The proposed Outline Development Plan accommodates for this anticipated future road widening.

It is understood that the City of Gosnells Council are currently undertaking a regional traffic study for the area, and that the access and egress points proposed under this ODP from Mills Road West are in accordance with Councils preferences.

ANTICIPATED TRAFFIC VOLUMES

The traffic assessment by Van Der Meer Consultants concludes that the anticipated traffic volumes generated by the residential land use component of the precinct can be accommodated by Mills Road West quite competently. An analysis of the impacts of the development on Mills Road West suggests that the existing carriageway width is sufficient to cater for the expected increase in vehicle movements. The development is not considered to result in a detriment to the residential amenity of Mills Road West.

Based on the proposed 150 residential lots, the development would be expected to generate a total of 1200 vehicle movements per day. Taking into account the existing land uses, the development is expected to increase local traffic movements by 1148 vehicles per day.

PUBLIC TRANSPORT

The subject site is serviced by a major bus route along Albany Highway. Transperth bus route No.220 runs between Armadale to Perth via Gosnells. There are four bus stops along the Highway within 800 metres of the subject site. There are currently no bus services available off Mills Road West.

The site also benefits from being in close proximity to the Gosnells Train Station to the south-west, which is serviced by the Armadale line through to Perth.

PEDESTRIAN & CYCLIST FACILITIES

It is understood that there is the requirement for the construction of a dual use path within the Mills Road West reservation, and that the WAPC will be responsible for its construction once the upgrading of the road occurs.

Pedestrian links within the subject site will be provided from Mills Road West to the area of Public Open Space along the southern boundary. Details regarding these linkages will be further discussed with Council during the assessment process.

SERVICE & INFRASTRUCTURE CONSIDERATIONS

INTRODUCTION

The project Civil and Traffic Engineers, Van der Meer Consulting, collated and reviewed all servicing requirements for the subject site. The following key activities were undertaken in relation service and infrastructure investigations:

- A review of the Outline Development Plan design and subdivisional layout.
- Review of the various heritage reports and data for the site.
- An appraisal of development opportunities and constraints.
- Assistance in the review of the subdivision potential of the site for residential development.
- Identifying the infrastructure requirements for the proposed development.
- Consultation with the Water Corporation, the City of Gosnells officers, and various service authorities.

SITE WORKS

Site Topographical Evaluation

The majority of the subjects site has been previously cleared for rural living, orchard and equestrian purposes and predominant vegetation is introduced species including citrus and fruit trees. Lots 822 & 823 have mature planted trees around the existing residence and associated structures.

The only native vegetation (regrowth predominantly) is located along the Canning River foreshore area and the unnamed creek along the southeast boundary of the site. The quality of the vegetation is poor and degraded due to rural land uses , however, mature trees will be retained wherever possible particularly along the river foreshore interface.

The subject land is generally flat (with a plateau of between RL 15.0 to 16.0 AHD) and gently slopes from Mills Road West along the northeastern boundary towards the river foreshore. At the Foreshore interface (along the southwestern western boundary) the site drops steeply between RL14.0 AHD to around RL 8.0 AHD.

The highest point of the site is adjacent to Mills Road West at around RL 16.0 AHD. Site gradients range between 1 in 60 to 1 in 200, with an average slope of 1 in 80.

Levels across the site within developable land range from RL 13 AHD along the foreshore Reserve to RL 16 AHD approximately along Mills Road West.

One in 100 year flood levels along the Canning River range from RL 8.96 at the bridge crossing at Station Street and RL 9.21 AHD at the south-eastern corner of the site.

Site Geology & Geotechnical Investigation

Reference to the Perth Geological Survey Map series indicates the primary soil condition is classified as Sandy Clay (CS), white-grey to brown, fine to coarse-grained sub-angular to rounded, clay of moderate plasticity gravel and silt layers near scarp.

The CS clay layers vary in depth up to the underlying Sandstone layers, the base geological unit.

The permeability of the sandy clays is variable but in the low permeability range according to the physical properties listed in the General Features for the material. The clays are likely to have moderate shrink-swell properties with medium to low bearing capacities.

A formal geotechnical investigation as undertaken by MPA Williams on behalf of the proponents. This confirmed that the predominant soil characteristics across the site are silty sands of variable depths overlaying sandy clays.

The site conditions will enable development of the land for residential purposes with a combination of cut and full preparation and importation of sand. The site will achieve a minimum Class S Classification.

Based on the data available and excluding the wetland areas themselves, it is not expected that any major difficulties will be experienced during construction provided the guidelines for development recommended in the geotechnical report are followed. The recommendations made in the geotechnical report on the site do not impose any severe geotechnical or financial cost constraints on the development viability.

Ground Water Level

According to Groundwater Contour Maps compiled by the Water Corporation (estimated maximum recorded water levels 1993) the Groundwater Levels across the site are essentially at between 2 – 3m below surface levels.

As part of the site geotechnical and acid sulphate soils examinations, groundwater levels were logged across the site. The typical groundwater level in the study area is therefore approximately 2.7m below ground level or around RL 13.3m AHD.

The permeability of the soils in the area is low (for the silty sands around 5×10^{-7} m/s compared with free drainage sand of 1×10^{-4} m/s). On this basis soakwells for development of lots will only work if additional fill is placed in areas where silty sands are exposed to the surface.

Based on these general conditions the site is partly suitable for on site disposal of Stormwater by soakage. This is to be undertaken only by filling the site and encouraging recharge in specific locations. It is likely that the individual lots will require direct connections to the piped drainage network.

Groundwater water quality is an important issue and should be given priority consideration under all development options considered. Techniques and strategies that require consideration include:

- Limiting or avoiding direct runoff discharge or stormwater disposal into wetlands.
- Maximising on-site stormwater disposal by soakage or storage techniques both on a micro and macro scales within the areas dedicated to wetland landscaping and stormwater management facilities.

Bulk Earthworks/Site Works

The majority of the site is cleared, with some previously developed buildings, parking and paved areas and associated tanks and structures that formed part of the rural residential precincts.

Preparatory works should be limited to the following:

- Demolition of selected existing outbuildings, slabs structures and remnant improvements.
- Removal of walls, fencing and other improvements as necessary, however, retaining as many existing and significant trees and vegetation as possible.

-
- Stripping and grubbing of areas to be earthworked with due regard to vegetation preservation in selected areas.

The typical lot configuration for residential land uses will likely attract a requirement from the local authority for minimum slopes across building pads and the need for defined retaining structures but these will be limited in scale and height.

Consideration of landscape treatments for road verges, common areas, and site entries, will be an important feature of any re-development strategy of the site.

Van der Meer anticipate that the bulk earthwork operations for the recommended development option will be completed using material available from site with some importation of additional fill as required to fulfil the geotechnical obligation of the site.

Once the earthworks have been completed, the site will be temporarily stabilised (prior to construction commencing) either by the respreading of stockpiled topsoil from the bulk earthwork operations, or by hydromulch stabilisation as appropriate and in accordance with the requirements of the local authority.

Roadworks

All internal roadworks will be designed and constructed in accordance with the requirements and standards of the City of Gosnells as appropriate to the regulatory control requirement of the individual roads and hierarchy requirements. Roadworks will generally consist of traditional kerbed and asphalted pavements.

All entrance roads into the development cells will be subject to intersection treatments, to include refuge islands and high level treatments to provide an “Identity entry statement” as required by the Streetscape concept. The intersection treatment onto perimeter distributor roads will offer a high level of control for all traffic flow.

Minimum recommended carriageway widths will be selected with due reference to local authority and the Liveable Neighbourhoods Community codes and will include parking provisions for local traffic.

In order to achieve a legible road hierarchy within the development cells it is recommended that the following carriageway widths be planned within the development:

- (i) Main loop road 14m reserve with 6.0m seal width.
- (ii) Minor internal roads 14m reserve with 6.0m seal width (10 metre accessway opposite POS for minor link/accessway).

The above reserve widths are also designed to accommodate the relevant services corridors required to provide reticulated essential services to the proposed development.

Pedestrian linkages (by way of footpaths) will be incorporated in all road reserves with dual use/ shared paths along Mills Road and to regional roads and recreation reserves along the Canning river.

Existing perimeter roads may require minor upgrading where new roadworks intersect, however, it is not envisaged that perimeter roads require upgrading.

STORMWATER DRAINAGE

Preliminary discussions with the City of Gosnells indicates that the design philosophy for drainage in the area is to ensure that downstream discharges are limited to existing flows, which includes compensation and nutrient stripping prior to being allowed to overflow into the adjacent road drainage networks and the river foreshore area.

The study area includes a floodplain area that in some instances require filling to above the 1 in 100 year flood level. The area adjacent to the foreshore reserve will be used to incorporated soakage and storage prior to discharge into gross pollutant traps and ultimately the river foreshore area.

Stormwater collection disposal strategies will incorporate storage and flood attenuation prior to discharge to existing watercourses.

All road reserves will be drained with a conventional piped drainage system consisting of collector gullies, manholes and controlled outfalls to the proposed soakage / flood attenuation areas, and wherever possible incorporating water sensitive design principles which may include swale drains within the dedicated swale and nutrient stripping areas.

Any soakage or compensation basin systems will require a drainage reserve or easement and should be extensively landscaped to encourage nutrient stripping and natural filtration of the stormwater drainage

In general Stormwater management for all development options would comprise the following general features:

- maximising on site storage and recharge of surface runoff into existing aquifers.
- Limiting runoff to pre-development conditions by promoting filtration of runoff through enhanced natural vegetation and storage systems.

REFER TO FIGURE 20 – STORM WATER MANAGEMENT PLAN

REFER TO FIGURE 21 – STORM WATER MANAGEMENT DETAILS

Road Verges & Medians

The use of verge drainage areas is required to enable areas of planting to benefit from seasonal “passive irrigation”. Species selection will directly reflect the anticipated water regime ranging from permanently dry areas through to seasonal inundation.

The location of swales in verges and medians will create areas that are seasonally inundated and generally wetter than other areas. The resultant plant species selection of littoral plants (sedges etc) for the swales and trees such as Paperbark and Flooded gum will create a distinct landscape character for those areas.

Drainage Basins / Ponds

The new linked linear drainage reserves between Mills Road and the Canning River will be landscaped to create new damp-land and wetland habitats using native species. The interface with the existing Wetland offers the opportunity to create an extended and enhanced habitat range in that locality. Areas of littoral planting will be established around the basins and will eventually colonise the basin areas. During the initial establishment period, maintenance (especially weed species suppression) will be undertaken as part of an open space management plan for the area.



FIGURE 20 - STORM WATER MANAGEMENT PLAN

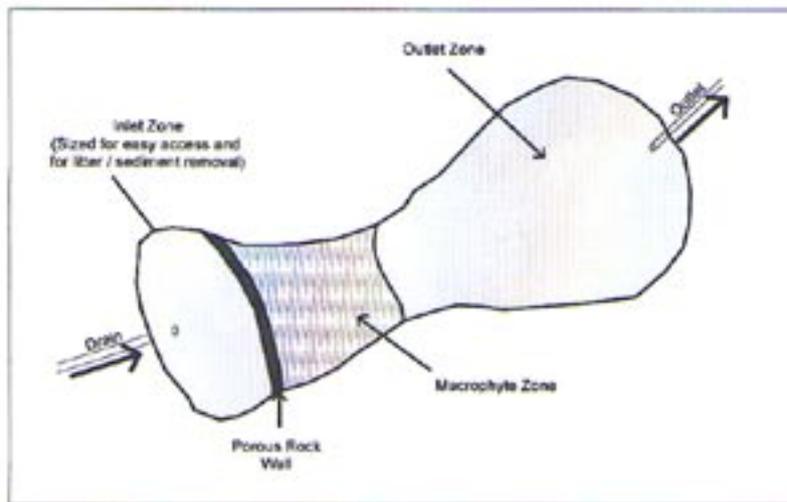


Figure 1 Plan View of Typical Treatment System

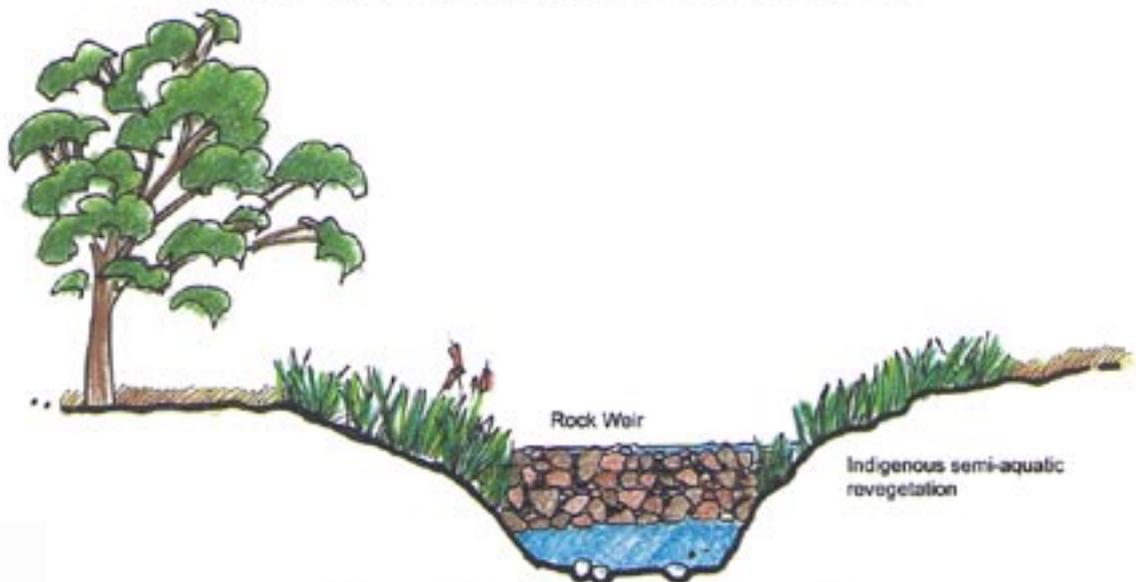


Figure 2 Typical Wier Arrangement

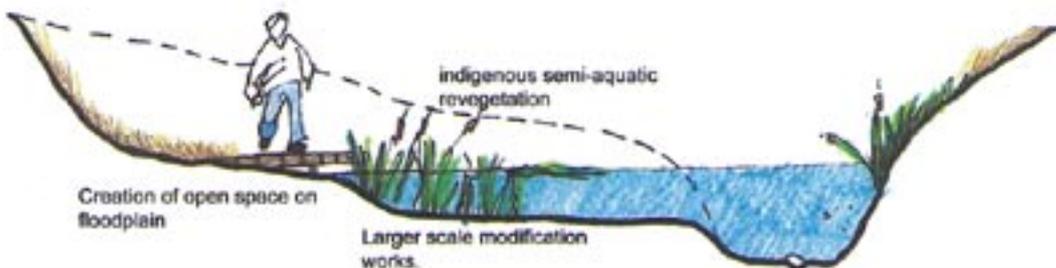


Figure 3 Typical Wetland & Public Access Interface

FIGURE 21 - STORM WATER MANAGEMENT DETAILS

Public access will be managed to ensure limited recreational routes through the use of signage, fencing, paths and boardwalks. One of the linked drainage basins will have a direct frontage to road reserves and is therefore readily accessible to the public. It is in this situation that access to interpretation and recreation decks and boardwalks will provide valuable incidental recreational facilities for the industrial employment community.

Water Quality Control

Water quality from surface flows within the development areas will be controlled by incorporating nutrient stripping facilities within the proposed and existing soakage areas and formal landscaped features. The general guidelines and methods to be employed are described in the section "Nutrient Stripping Ponds".

Groundwater Resource Management

Groundwater Resource Management will include limiting drainage inverts to above the established Annual Average Maximum Groundwater Level.

As discussed above, groundwater levels across the site are at medium depths but may be managed by careful water sensitive design management.

Nutrient Stripping Ponds

Nutrient stripping ponds or water pollution control ponds will be incorporated in the landscaped swale area within the treatment train ponds. The basins or ponds will be incorporated in the stormwater drainage system to collect and retain runoff for sufficient time to allow self-purification processes inherent in natural wetland systems to reduce the nutrient and chemical load.

The primary aim is to protect waterbodies both on-site and interconnected ecosystems from nitrification and the possibility of algal blooms. Nutrient stripping ponds work to improve water quality, physically, biologically and through chemical reactions.

Dense planting's slow the progress of water through the system and allow suspended particles to settle. At the same time the plant biomass and porous substratum act as a filter that removes both suspended and colloidal solids. Removed solids are then degraded by microbial action.

Many aquatic plants compensate for natural fluctuations in levels of nutrients in water by the ability to absorb an amount of nutrients greater than their immediate requirements, storing these up for later use, removing them from the water.

Aquatic macrophytes (large leaved water plants) have a great capacity for transporting oxygen to their root zones, this in turn creates a favourable environment for the microbial activity involved in pollutant removal or immobilisation. Microorganisms attached to plant roots or substratum in this oxygen enriched root zone are able to aerobically oxidise organic matter.

Chemical conversions of nutrients into ammonium and ammonia gas are released to the atmosphere.

Nutrient stripping systems will be incorporated in the drainage system as appropriate to the levels of nutrients found when the relevant investigations are undertaken during the detail design of the selected development option.

Sediment accumulation will only occur in the early years of the development which will be managed by the developer.

Maintenance access to nutrient stripping ponds and sediment collection zones will be provided via informal 'disguised' access points utilising stable pavement material (such as cement stabilised limestone) covered with mulched material or grass blocks depending on the location.

SEWER RETICULATION

Preliminary information from Water Corporation of WA indicates that there are no existing services available in the vicinity of the site.

The Water Corporation indicated during discussions that a 300mm diameter sewer line is required along Mills Road West to accommodate collection of sewerage to the north of the site as well as the subject site. The timing of the construction of this gravity connection is dependant on the number of lots developed within the catchment and the Water corporation has indicated that it has not completed detailed investigations as to where the sewer connection point will be, however, have guaranteed an outfall for the sewage from the catchment.

A prefunded sewer pump station is also proposed within lot 823 that enables the sewage to be pumped to any location accepted by the Water Corporation.

REFER TO FIGURE 22 - SEWER CATCHMENT PLAN

The proposed pump station will cater for the whole catchment within the ODP area and adjacent landholdings. Standard Water Corporation policy for overflow storage adjacent to waterways will be incorporated in the design. Below ground emergency storage will be provided to ensure adequate overflow storage is available to cater for acceptable response time to Water Corporation's criteria. Emergency storage will consist of a combination of system storage (within the pipe and manhole network) plus below ground tank storage at the pump station site.

All created lots would need to be served with a gravity sewer system connected to the Water Corporation's sewer reticulation network as a condition of development. All developed lots will therefore be served by a conventional gravity sewer system with the majority of the reticulation sewers located within road reserves. The internal sewer reticulation would be designed in accordance with the Water Authority Sewerage manual and would discharge to treatment facilities located within the study area.

Standard Water Corporation sewerage headwork charges would to development options that require Water Corporation service infrastructure.

WATER RETICULATION

The site is serviced by existing mains on all street frontages. The Water Corporation has indicated that it will require the interconnection of the existing 250mm watermain in Lewis Road to the site. This will require an extension of a 250mm watermain some 750m.

REFER TO FIGURE 23 - WATER HEADWORKS & UPGRADE PLAN

The internal water reticulation would be designed and constructed in accordance with standard Water Corporation requirements. Standard Water Corporation water headwork charges would be applied to the development.

WESTERN POWER

Preliminary information from Western Power indicates there is a service network within the study area. It is anticipated that this network will have sufficient capacity to service the development with underground power.

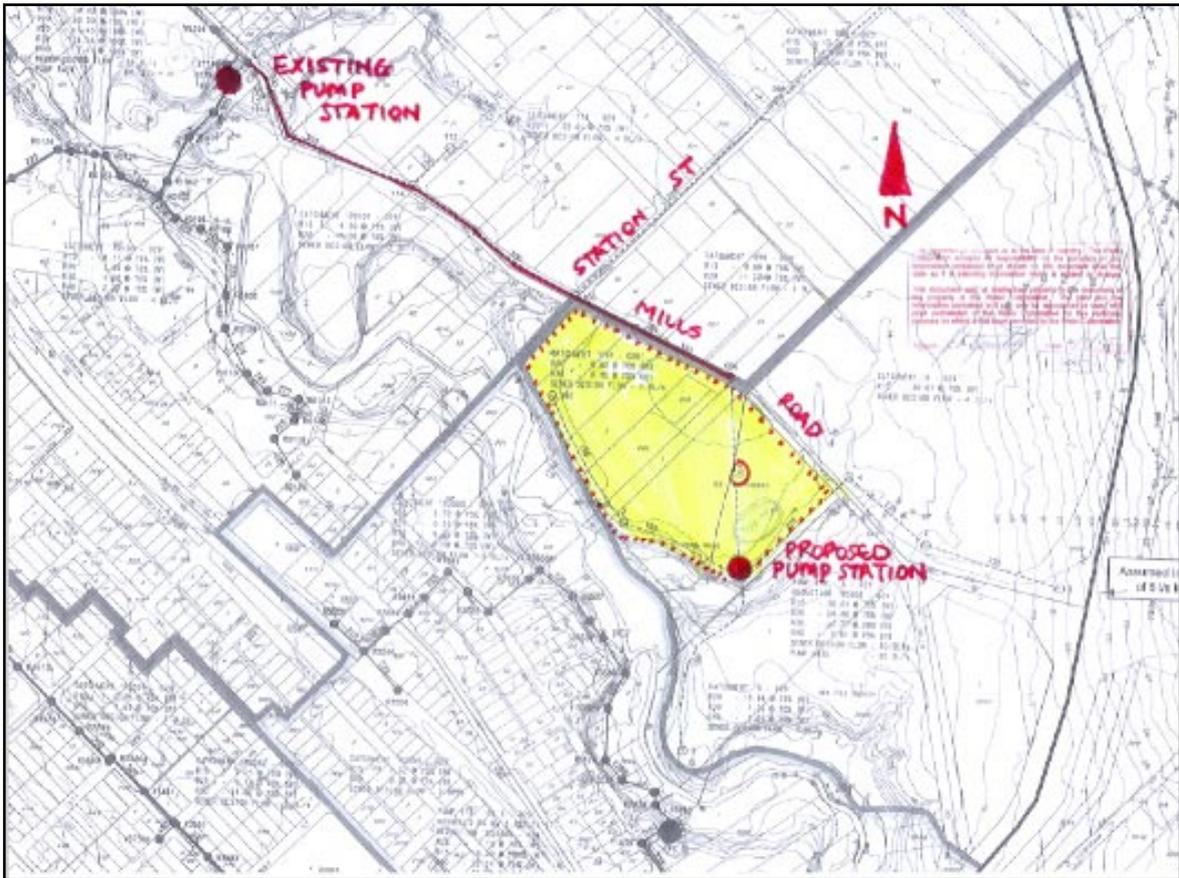


FIGURE 22 - SEWER CATCHMENT PLAN

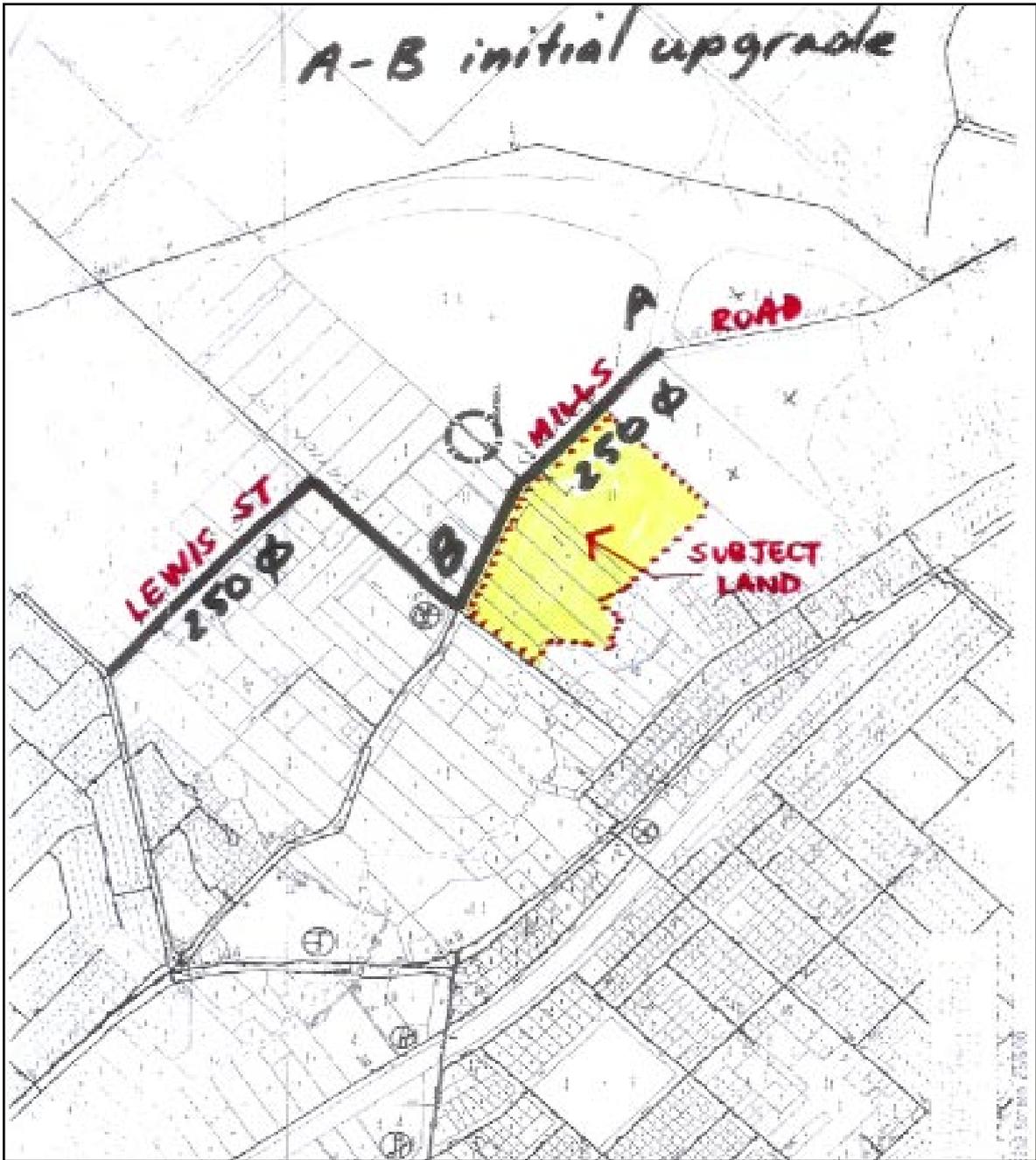


FIGURE 23 - WATER HEADWORKS & UPGRADE PLAN

Western Power will require that all lots within the proposed development will be served by extension the existing infrastructure. At this stage the study is serviced by a combination of overhead and underground distribution system (depending on the date of original installation). It is likely that an underground network will be required for the proposed development options being considered as apart of the Structure Plan study.

The cost of this work will need to be met in full by the developer. Standard Western Power requirements will apply.

Street Lighting

Standard Western Power Street lighting design principles would be adopted for all development options. In the case of urban development it is likely that a high quality system would be incorporated in the design to ensure maximum presentation value is achieved to enhance sales and return on investment.

Should it be requested that non-standard Western Power Street Lighting be adopted for gazetted roads, prior approval of the local authority would be required.

Western Power will provide one point of connection and a separate reticulation system will be required to be designed and installed as a part of the construction of the reticulated lighting network.

TELECOMMUNICATIONS

Preliminary information from Telstra indicates there is an extensive service network in the vicinity of the proposed development. It is anticipated that this network will have sufficient capacity to service the development with Telecommunication services.

Telstra will install any new telecommunication network facilities to the proposed lots, subject to the developer providing at their cost, trenching for cable laying.

Alternatively, where cable routes match Western Power underground power supply routes, Telstra will wherever possible use the Western Power trenches in lieu of the developer providing additional trenching.

No headwork charges for Telstra services are anticipated.

GAS SUPPLY

Alinta gas have not formally responded to preliminary enquiries, however, it is envisaged that reticulated gas services are available in the area. It is anticipated that this network will have sufficient capacity to service the development with reticulated Gas services by extension of the existing mains.

It is anticipated that Alinta Gas would fund these works at the appropriate time.

MISCELLANEOUS

Other site development infrastructure which may include footpaths (dual use paths to foreshore reserve and along Mills Road West), fencing and landscape treatments have not been specifically discussed with Council at the Engineering level, however, will be incorporated in the development guidelines or the subdivisional requirements that will be issued in due course.

Landscape Elements

The landscape treatment options will vary according to budget and return based on more extensive studies which are to be undertaken at the detailed stage of development. As a minimum, however, the treatment will include grassing, bollards and maintenance access. It is proposed that the developer maintain the areas for two years.

The existing vegetation species will become the key landscape elements supported by ancillary plantings particularly for options that include retention of the substantial vegetation in the vicinity of the northern POS area. A feature of the soakage areas will be the utilisation of wetland planting (where this is proved to be feasible).

The use of a common theme with all landscaping elements and street furniture (eg. Signage, bins, seating etc) will be consistent with a high quality development.

Development Constraints

No major servicing constraints are envisaged for the proposed development, other than those discussed under the preceding Engineering Services section of this report.

The site is capable of being serviced with all essential services. It has no identifiable problematic soil conditions based on the desktop study of geological mapping, and a visual examination of the site.

PERFORMANCE OF OUTLINE DEVELOPMENT PLAN

The following section of this report provides an assessment of the proposal in accordance with the relevant statutory and strategic planning tools utilised by the City of Gosnell, and policies applied by State Government departments.

The Outline Development Plan applies the latest policy directions from the Department for Planning and Infrastructure, the Waters and Rivers Commission and the Environmental Protection Authority. The implementation of these policies and principles has resulted in a conscientious land proposal that supports the various elements of sustainability. These key elements can be identified as environmental, social (heritage), and economic. The performance of the Outline Development Plan in relation to these elements is established below.

PLANNING

Heritage

The Outline Development Plan acknowledges the existing Aboriginal heritage elements of the Canning River and foreshore, where all proposed residential development is sufficiently separated from the river and its surrounds by the Parks and Recreation, and Public Open Space reserved lands.

The Outline Development Plan will embrace the recommendations outlined in their report (refer to Appendix D) including appropriate signposting which demonstrates the history of Aboriginal people in the Project Areas and in the region.

Environmental

The Outline Development Plan takes due consideration of the outcomes of the Geotechnical Investigations, and the Urban Water Management Strategy prepared for the site. The Conservation Category Wetland boundary is adhered to, where no development occurs within this boundary. Although some development will occur within 50 metres of this boundary, the type of development will consist of low density residential and road reserve. The reduction of this buffer will be addressed by the implementation of effective site sensitive principles, more specifically through Water Sensitive Urban Design. These principles are to be incorporated throughout the site to minimise the potential impact upon the river system.

There is also an intention to undertake ecological restoration/rehabilitation works within the CCW to improve ecological function and value (Refer to Figure 18).

The proposed road configuration will front the public open space and Parks and Recreation conservation area along the expanse of the south-western boundary, providing direct access to open space. Road and pedestrian access links will provide permeability that ultimately focus on the Canning River environs and more formalised open space.

The site is somewhat constrained by its configuration to provide a true north-south and east-west road network based on the boundary road network. Despite this, the grid configuration of the internal road network does provide opportunities in establishing good solar access and energy efficiency, which will be carried through at the Development Application stage.

Accessibility

The development area will feature an efficient movement network with good circulation and accessibility for vehicles. The modified grid pattern design will ensure permeability and legibility throughout the site, and will facilitate pedestrian and cycle movement, particularly in relation to the access of the Canning River reserve and the two internal Public Open Space areas.

Traffic

The proposed internal road configuration considers the existing regional road network, where the two access and egress points into the subject site are in keeping with the requirements of Main Roads WA. These access points will not impinge upon the function of the Category 2 road, nor to any other existing roads in close proximity to the site

The proposed road layout will enable the effective distribution of vehicles within the site, preventing potential congestion to occur. The application of a modified grid pattern road system running parallel to Mills Road West and the Parks and Recreation reserve conforms to the principles outlined under the Liveable Neighbourhoods - Community Design Codes.

Economic

The subject site benefits from being located adjacent to a primary regional road (Mills Road West) which provides connectivity to regional locations. The establishment of this residential precinct will assist in the strengthening and support of the Gosnells Town Centre which is located within 800 metres of the subject site.

STAGING AND IMPLEMENTATION

STAGING

At this point in time, staging of the development will be undertaken in two separate phases. The first stage will create the lots between the south-eastern boundary and the mid point of the site, being Lots 822 and 823.

The second stage will cover the remaining lands to the north-west. Development of the second stage is anticipated to flow on shortly after the completion of stage 1.

CONCLUSION

This Outline Development Plan has been prepared in order to facilitate the future subdivision, land use and development of the land that forms Lots 3, 4, 5, 100, 204, 205, 822 and 823 Mills Road West, Martin. The ODP relates to a rezoning application that the Council of the City of Gosnells on 28 February 2006 resolved to initiate to Town Planning Scheme No. 6.

The ODP and the supporting report demonstrates how the proposed development is accordance with State and Local Government provisions. Furthermore, the environmental studies undertaken for this process have resulted in a conscientious design which addresses the perceived environmental constraints of the site. In particular, a Urban Water Management Strategy has been formulated in consultation with the Water and Rivers Commission and the Swan River Trust.

In addition to this, the design considers the protection of heritage elements, the appropriate integration of access and egress points to the existing abutting road system, and the utilisation of the existing public transport system within the nearby Gosnells Town Centre.

The incorporation of the above elements has resulted in a Outline Development Plan design that will ensure a high quality land development.

On the basis of the above, we request that the City of Gosnells support the proposed Outline Development Plan.

REFERENCES

Aboriginal Affairs Department Register of Aboriginal Sites

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APPENDIX A

CERTIFICATES OF TITLE

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APPENDIX B

URBAN WATER MANAGEMENT STRATEGY

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APPENDIX C

ACID SULFATE SOILS ASSESSMENT

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APPENDIX D

ABORIGINAL HERITAGE REPORT

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APPENDIX E

GEOTECHNICAL REPORT

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APPENDIX F

TRAFFIC IMPACT STATEMENT

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