

northern expressway
environmental report
land use and zoning
technical paper



Australian Government



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Department for Transport,
Energy and Infrastructure



Northern Expressway

Land Use and Zoning Technical Paper

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Prepared by:

QED Pty Ltd

309 Angas Street
Adelaide SA 5001

Telephone: + 61 8 8227 0188

Facsimile: + 61 8 8227 0127

Prepared for:

Department for Transport, Energy and Infrastructure

33-37 Warwick Street
Walkerville SA 5081

PO Box 1
Walkerville SA 5081

Telephone: 1300 658 621

Facsimile: + 61 8 8343 2005

Email: northernexpressway@saugov.sa.gov.au

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List of abbreviations

ABS	Australian Bureau of Statistics
AHD	Australian Height Datum
DSTO	Defence Science and Technology Organisation
DTEI	Department for Transport, Energy and Infrastructure
LMC	Land Management Corporation
MFP	Multi-function Polis
MOSS	Metropolitan Open Space System
PAR	Plan Amendment Report
PIRSA	Primary Industries and Resources, South Australia
SMP	Strategic Management Plan

Executive Summary

This technical paper provides an overview of the strategic planning, zoning and land use in the area of the proposed Northern Expressway.

It outlines the existing land use characteristics along and within close proximity to the nominated route. Descriptions of the land use characteristics are provided as precinct statements describing clusters of common land use activity, for example, industrial, residential, recreational and primary industry. The precincts generally reflect the planning zones in local councils' Development Plans.

The paper identifies the anticipated effects of the proposed route on current strategic planning and land use policy in the area and outlines mitigation measures to minimise the effects where they are considered negative in nature.

The analysis was undertaken using site inspections, desktop research and knowledge acquired from previous work in the area by the consultant team. Discussions were also held with representatives of State Government agencies and local government in the area.

The construction and operation of the Northern Expressway from Gawler to Port Wakefield Road will have medium to high effects on the land use of properties located on the actual route, minor to medium effects on properties adjacent to the route and minor effects away from the route within the study area.

Changes in access to and from Port Wakefield Road are likely to lead to some minor to medium effects on land use in the commercial, industrial and horticultural areas adjacent to the road and minimal effects on residential areas within the study area.

An overall positive benefit to development is expected to be increased efficiency for the study area for access to other parts of the metropolitan Adelaide area, in particular the central business district, Port Adelaide and the employment market of northern and north-western Adelaide.

The businesses and residents of the area will benefit from improvements in accessibility by using the Northern Expressway for convenient and safe access to other community and recreation activities in the areas that are south and north of the study area.

Land and house acquisition will be a direct effect and will concern individuals along the route. The number of properties may change as design development occurs. The number of properties affected has changed since analysis occurred for this technical paper.

It is expected that growth will continue within the townships of Virginia and Angle Vale although the extent of the towns is limited by current policies. Importantly, this growth will be accompanied by increasing demand for urban services, particularly effluent and stormwater drainage.

The Expressway will directly affect some 54 agricultural and horticultural properties and will divide productive functions on that land. In some cases, it may be possible to adjust land parcels to offset any losses of land and/or adjust for loss through suitable monetary compensation.

The expected effects that the proposed route will have on land use include the severance and loss of agricultural, horticultural and recreational land, and open space. In particular, the existing Gawler Harness Racing Club will need to be acquired and removed for the construction of the Expressway. It is estimated that a total of 2.5% of horticultural land will be lost due to the Expressway and this is considered minor in relation to the 6–7% annual growth of horticulture.

Safeguards and mitigations proposed to reduce the negative effects of the Northern Expressway project include early consultation with local council, landowners and other stakeholders to determine how to maximise benefits and reduce the negative effects of the project; minimising closure/disruption to higher order local roads (e.g. Heaslip Road, Angle Vale Road, Womma Road); ensuring the locations for overpasses and intersections are selected with regard to local access arrangements; ensuring all properties have access to a public road; and ongoing communication and consultation with the local communities.

1 Introduction

1.1 Project description

The study area is shown in Figure 1.1 and should be read in conjunction with the overall locality map in Figure 1.2.

1.2 Planning, zoning and land use

This technical paper provides an overview of the strategic planning, zoning and land use in the area of the proposed Northern Expressway.

It outlines the existing land use characteristics along and within close proximity to the proposed route. Descriptions of the land use characteristics are provided as precinct statements describing clusters of common land use activity, for example, industrial, residential, recreational and primary industry. The precincts generally reflect the planning zones in the local councils' Development Plans.

The paper identifies the anticipated effects of the proposed route on current strategic planning and land use policy in the area and outlines mitigation measures to minimise the effects where they are considered negative in nature.

The analysis was undertaken using site inspections, desktop research and knowledge acquired from previous work in the area by the consultant team. Discussions were also held with representatives of State Government agencies and local government in the area.

1.3 Legislative requirements, policies and definitions

1.3.1 Legal requirements

The *Development Act 1993* establishes the Planning Strategy as the primary policy document to guide the preparation of Development Plans by councils and by the Minister for Urban Development and Planning.

The proposed route involves the *Planning Strategy for Metropolitan Adelaide* and the *Planning Strategy for the Outer Metropolitan Adelaide Region*.

The *Local Government Act 1999* requires local government authorities in South Australia to have a Strategic Management Plan (SMP). The purpose of the SMP is to:

- set out the council's directions, priorities and strategies
- shape annual budgetary deliberations

- guide the formulation of other plans and strategies, and in particular, the council's 10 year financial plan
- integrate the council's proposals with State and regional plans and strategies where appropriate.

Proposed amendments in 2007 to the Development Act will also require a council to link its SMP with the council's Development Plan and requires the preparation of an infrastructure investment plan by each council for its area.

1.3.2 Approving authorities

The Strategic Plan for South Australia is approved by Cabinet.

Development Plans are approved by the Governor on the recommendation of the Minister for Urban Development and Planning. Plan Amendment Reports may be initiated by the council for its area or by the Minister.

The *Development Act 1993* provides that generally the local government authority is the approving authority for development in its area except that certain types of development by the council and development of a prescribed form must be the decision of the State Government's Development Assessment Commission.

1.3.3 Environmental planning instruments

The following are the main environmental planning instruments relevant to the Northern Expressway that need to be considered:

- Development Act and Regulations – Development Plan
- Environmental Protection Act
- Heritage Places Act – South Australian Heritage Register
- Land Acquisition Act
- Port River Dolphin Sanctuary Protection Act.



500m investigation corridor Study area

Figure 1.1 Study Area



Figure 1.2 Northern Expressway and surrounding road network

2 Existing/current conditions

2.1 Strategic planning framework

2.1.1 Strategic Plan for South Australia

In March 2004, the Government of South Australia produced a strategic plan for the future development of South Australia. The Strategic Plan for South Australia is not required by legislation but forms the State Government's statement of directions. The State Government's policy program is shaped by the Strategic Plan and government agencies are required to develop their corporate plans and annual budgets with regard to the Strategic Plan.

Specific areas in the Strategic Plan which should be given due consideration include:

- Growing prosperity
 - provision of jobs
 - unemployment and youth unemployment reduction
 - economic growth
 - investment
 - productivity
 - tourism
- Improving well-being
 - lower than national levels of road accidents/trauma
- Attaining sustainability
 - land and marine biodiversity
 - native vegetation
 - use of public transport
 - ecological footprint.

The development of the Northern Expressway and Port Wakefield Road Upgrade has the potential to play a significant part in the delivery of the objectives and outcomes of the Strategic Plan and, in particular, strategic transport infrastructure supporting freight movement, export and regional communities.

The Strategic Plan for South Australia has been the subject of recent review by the State Government. Public consultation has been completed and an updated Strategic Plan was released in January 2007.

2.1.2 Planning Strategy for Metropolitan Adelaide

The Planning Strategy for Metropolitan Adelaide was released by the Minister for Urban Development and Planning in August 2006, following review and public consultation. The August 2006 Planning Strategy has been prepared with regard to the Strategic Plan for South Australia and incorporates many of the directions.

The Planning Strategy addresses the issues facing planning in metropolitan Adelaide. Of particular relevance to this project are integrated energy provision, transport planning and land use planning.

The Planning Strategy introduces an Urban Boundary. The boundary seeks to consolidate metropolitan Adelaide with Gawler, Angle Vale, Virginia and St Kilda as separate and defined townships. It is envisaged that urban development should be located within this boundary.

Land to the south of the Port River Expressway would be developed for industrial purposes including a cast metal precinct and eco-industry precinct, for example, materials recovery and recycling. Land to the east of Port Wakefield Road is to be developed for suburban residential, and business and industry clusters. The planning strategy identifies potential urban regeneration focus areas in the older Salisbury suburbs. No new centres are proposed in the study area. Land outside of the Urban Boundary and north of Port River Expressway, west of Port Wakefield Road and north of the proposed Northern Expressway is for primary and extractive industry purposes except for the designated townships.

The Planning Strategy identifies indicative connection points of a "Northern Expressway" at Gawler and on Port Wakefield Road.

The Planning Strategy also specifies the protection and enhancement of key biodiversity areas in the vicinity of Barker Inlet, St Kilda and the Port River Dolphin Sanctuary as well as the establishment of further wetlands and stormwater detention areas along watercourses and associated with new urban development. These form part of the Metropolitan Open Space System (MOSS).

The following priorities are drawn from the planning strategy and are considered relevant to this project:

- optimising integration between land use and the transport network
- facilitating an effective freight network that is protected from encroachment by incompatible activities
- potential for intermodal transport transfer station in northern Adelaide (now nominated near Waterloo Corner and Heaslip Road)
- the range of employment options and locations throughout metropolitan Adelaide are enhanced (or at best not compromised), in particular in the Edinburgh Parks estate and Burton area
- protection of strategic agricultural land including land on the Northern Adelaide Plains
- integrated transport and land use to improve quality of life for communities.

2.1.3 Planning Strategy for the Outer Metropolitan Adelaide Region

The Planning Strategy for the Outer Metropolitan Adelaide Region was released by the Minister for Urban Development and Planning in August 2006, following review and public consultation. The August 2006 Outer Metropolitan Planning Strategy has been prepared with regard to the Strategic Plan for South Australia and incorporates many of the directions.

The Outer Metropolitan Planning Strategy provides a framework for development based on principles of ecologically sustainable development and management for the outer metropolitan area. It also provides clear indication of the South Australian Government's policy direction for the physical development of the outer metropolitan Adelaide region.

The strategy identifies the Barossa Valley as a key tourist destination within South Australia with the proposed Northern Expressway to provide direct linkages from the city to the Barossa region.

The strategy also identifies where the major freight roads through the outer metropolitan Adelaide region link the Spencer Gulf cities and Eyre Peninsula to Adelaide. The proposed Northern Expressway will provide direct linkages with the Sturt Highway which is also identified as a primary freight route within South Australia.

The strategy seeks to protect agricultural land and focus urban development into the designated townships.

2.1.4 Infrastructure Plan

The Strategic Infrastructure Plan for South Australia (on p. 82) makes reference to the development of linkages between the Sturt Highway and the Port River Expressway. The Strategic Infrastructure Plan promotes industry clusters and primary freight routes consistent with South Australia's Strategic Plan and Planning Strategy. In particular, there are priority projects to improve the north-south freight corridor and to build the Port River bridges to connect metropolitan and other regions to the Port of Adelaide and to other export-related infrastructure at Outer Harbor.

2.1.5 Industry Plan for Metropolitan Adelaide

The *Draft Metropolitan Adelaide Industrial Land Strategy* (March 2006) sets out a policy framework to meet industry's short-term and long-term needs. In doing so, the strategy has identified the need for a 3 to 5 year supply of 'development-ready' industrial land and a rolling 15-year land bank to ensure supply for the future. Northern metropolitan Adelaide has the most 'development-ready' land for industry in the Edinburgh/Edinburgh Parks area and in north-west Adelaide towards Port Adelaide there is extensive 'constrained' land requiring infrastructure improvements.

The strategy identifies the development of the Northern Expressway and Mawson Connector as important freight routes for the development of industry in northern metropolitan Adelaide.

Issues identified in the Industrial Land Strategy which were considered in the route selection included:

- maintaining large allotment sizes adjacent (and accessible) to key transport routes
- the Gawler-Elizabeth-Bolivar trunk sewer requires duplication or an alternative means to process waste to facilitate industrial and residential development in northern metropolitan Adelaide
- potential for an intermodal transport terminal in the northern areas of metropolitan Adelaide (now nominated near Waterloo Corner and Heaslip Road).

2.1.6 Residential Metropolitan Development Program

The Residential Metropolitan Development Program supports South Australia's Strategic Plan to develop and support sustainable communities and, in particular, to optimise the use of available infrastructure in supplying residential land for the period 2004-2008.

The South Australian Government through the Land Management Corporation (LMC) and other agencies is responsible for 49% of land suitable for residential development. The areas of Playford and Gawler are growth areas. Major residential areas relevant to this project in northern metropolitan Adelaide are as follows:

- Munno Para West/Playford North Project (the Peachey Belt)
- Evanston South
- Blakeview
- Evanston Gardens
- Evanston Park
- Hillier.

The residential development of these areas necessitates wastewater and water supply infrastructure as well as road and public transport, shopping, community and recreational facilities. Master planning is progressing.

2.1.7 Housing Plan for South Australia

The Housing Plan for South Australia aims to:

- make affordable housing available to more people
- provide quality housing for those in greatest need in our community
- renew and reinvigorate neighbourhoods.

State Government housing projects, including those on land presently owned by the Land Management Corporation, will need to respond to these new targets. Housing projects at the Peachey Belt and Blakeview are relevant to meeting the targets in this plan.

2.2 Settlement pattern and land use

The study area is located in the outer northern metropolitan area some 12 to 30 km from the Adelaide central business district on the Northern Adelaide Plains.

The Northern Adelaide Plains are crossed by the Gawler River which runs from the Mount Lofty Range in the east past the towns of Angle Vale and Virginia to the coast in the west. The Little Para River similarly runs east to west through Salisbury and Parafield, joining Dry Creek at Globe Derby before entering the Barker Inlet. The majority of the land is used for agricultural or horticultural purposes, with urban development becoming more prominent as demand increases. Flooding occurs along sections of the Gawler River, and other main watercourses have also been subject to flooding in the past.

2.2.1 Early settlements/history

The Northern Adelaide Plains were inhabited by the indigenous Kurna people before European settlement in approximately 1837.

In 1837, Gawler became South Australia's first major settlement outside of Adelaide.

Salisbury followed, in 1847, and started to become an important town on the northern plains due to its close proximity to Adelaide, local farming and transport infrastructure. Munno Para as a locality was established in 1853.

The Second World War provided a major expansion in the area based on the production of munitions between 1942–46, and the training of armed services personnel.

The post-war years saw the rapid population growth of metropolitan Adelaide and the establishment of the new town of Elizabeth in 1955. The establishment and growth of manufacturing associated with motor vehicles, metal fabrication and defence, resulted in significant suburban expansion of the northern suburbs.

During the 1950s and 1960s, Elizabeth experienced much of its growth from immigration. Migrant population growth has also been attached to the horticultural areas on the northern plains around Virginia and Angle Vale.

A major factor influencing the characteristics of the area was the change over the past 30 years from extensive grain-based farming to horticulture. The movement of growers (originally migrants from Southern Europe) from the inner suburbs of Adelaide to the Virginia–Angle Vale area established a significant South Australian horticultural industry. In the last 20 years, new migrants, particularly from Cambodia and Vietnam, have joined the industry. Horticulture is expanding with investment of significant capital in irrigation and in the processing and value-adding of products. Important to this expansion is the reuse of water from treated sewage, undertaken at the Bolivar Sewage Treatment Plant and delivered through the Virginia pipeline.

2.2.2 Land use

Land use within the Northern Adelaide Plains was initially for grazing with extensive farmland. Over time, agriculture has intensified with increased horticulture particularly specialising in vegetable production, floriculture and viticulture.

Rural living is also prominent with subdivisions developed in Macdonald Park and around the townships of Angle Vale and Virginia, Penfield and the Munno Para West areas.

The northern metropolitan area, in particular the area that is likely to be affected by the Northern Expressway, is home to some of the nation's leading manufacturing and high technology companies. A feature of the region is the high percentage of companies that trade globally including General Motors Holden, Scholle Industries, Ingham and Exide Batteries.

The region accounts for around three-quarters of South Australia's manufacturing output.

The region also has major food value-adding industries including the former South Australian manufacturer of the year, Scholle Industries, which supplies 65% of the world's plastic wine cask market with its US parent company, playing a key role in the wine industry's research and development effort.

Another major land use within the Northern Adelaide Plains is the defence industry based at the RAAF Base Edinburgh. This site will soon accommodate a new battalion.

Edinburgh Parks is a 650 ha site that is located north and south of the existing Defence Science and Technology Organisation (DSTO) and east of RAAF Base Edinburgh. It is an industrial precinct that is focused as a logistics centre on growth in transport and warehouse industries.

A major intermodal facility in the vicinity of Direk/Waterloo Corner is contemplated utilising rail, road and possibly air access, through use of RAAF Base Edinburgh, for private freight movement.

The Northern Adelaide Plains have also experienced the expansion of retail centres at Elizabeth, Salisbury (John Street), Munno Para and Gawler. These retail centres offer many diverse services. Most of the major services are located in the east of the study area along the spine of Main North Road and grouped near the Gawler, Elizabeth and Salisbury centres. Angle Vale and Virginia are local centres with primary schooling, local supermarkets and some health care.

Elizabeth Shopping Centre has recently undergone a major upgrade.

Munno Para Shopping Centre has expanded over the past 10 years into a large-scale shopping complex that has extensive 'lifestyle' and comparison goods.

Recreation and open space within the Northern Adelaide Plains are significant. Areas that are specifically reserved for open space and recreation within the northern plains include the Gawler Gliding Club and Harness Racing Club in the north, and the Karna wetlands in the Salisbury Council area.

The Metropolitan Open Space System follows the Gawler River from approximately Angle Vale through to the Virginia area.

Figure 2.1 summarises the main land uses along the Northern Expressway route.

2.2.3 Access and main roads

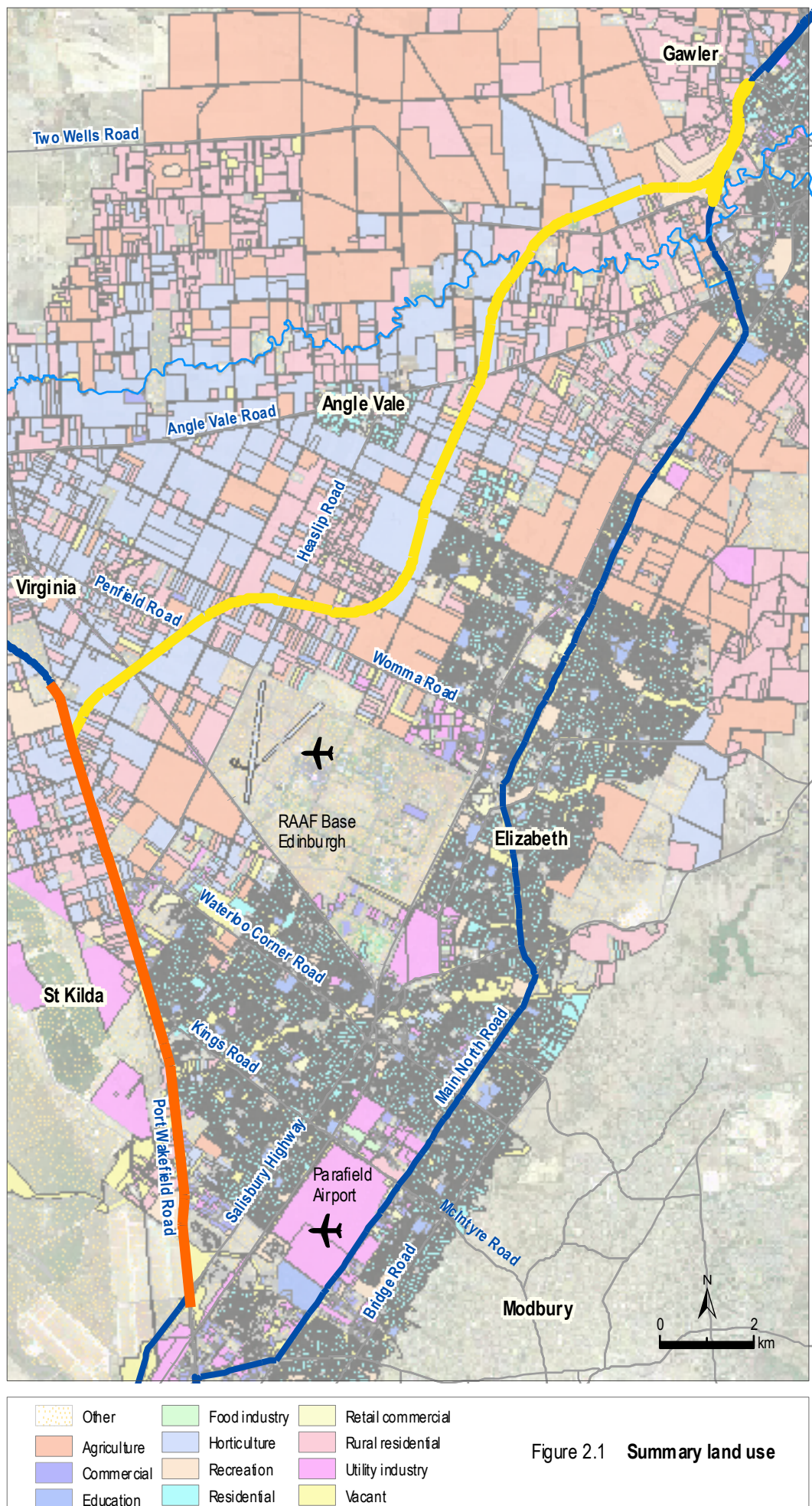
Main North Road links Adelaide with the northern suburbs and extends through Gawler to the Sturt Highway; this highway acts as the northern areas' gateway to the Barossa Valley and Riverland.

Port Wakefield Road is a major arterial road within South Australia and is a major freight route between Adelaide and the Adelaide plains, Mid North, Yorke Peninsula and the West Coast.

The Port of Adelaide has strong freight linkages with the region and is an efficient container port. A survey of Australian ports found Adelaide was cost-competitive on general sea cargo freight in relation to other cities. The Port of Adelaide comprises the inner and outer harbour with more than 20 wharves.

The area is in close proximity (10 to 30 km) to air services from the Adelaide Airport.

The Adelaide–Perth/Darwin rail line passes through the region and is crossed by the alignment of the Northern Expressway. The rail line became operational in January 2004. By 2010, one two-kilometre train will run daily in each direction and some 1.65 million tonnes of freight will be transported to Darwin each year.



Connecting to the Ports of Darwin and Adelaide, the rail line completes the infrastructure necessary for a transport system that links the local region with Asia, the world's fastest growing region.

Other main roads run through the area including Two Wells Road, Angle Vale Road, Heaslip Road, Womma Road, Waterloo Corner Road, Taylors Road and Penfield Road providing links and freight routes between Gawler, Elizabeth and Salisbury and the agricultural and horticultural regions in the Northern Adelaide Plains and beyond.

Wyatt Road has recently been upgraded and further upgrades by duplicating the road are contemplated by the council, subject to traffic volumes. Wyatt Road will act as a southern entry to Edinburgh Parks and will link Edinburgh with Heaslip Road. The Northern Expressway objectives include facilitating economic development in the region, improving accessibility to the National Highway network and reducing conflicts between freight and private vehicles.

2.3 Precinct analysis

Figure 2.2 shows the land use precincts and Table 2.1 lists the precinct numbers and names.

Table 2.1 Precincts by number

Precinct number	Precinct name
1	Gawler Gliding and Harness Racing Clubs
2	Gawler River Horticultural Precinct
3	Andrews Farm/Munno Para West
4	Macdonald Park/Penfield Gardens
5	Penfield Recreation/Rural Living
6	Penfield/Virginia Horticulture
7	Virginia/St Kilda Horticulture
8	Waterloo Corner (Burton) Industry
9	St Kilda
10	Eastern Residential
11	Tourism and Retail
12	SA Water Bolivar
13	Port Wakefield Road Frontage – Globe Derby Park
14	Parafield Gardens and Green Fields Commercial/Industrial
15	Globe Derby Park
16	Mawson Lakes Residential and Township
17	Salt Fields – Extractive Industry
18	Salisbury Wetlands

2.3.1 Precinct 1: Gawler Gliding and Harness Racing Clubs

Background

Precinct 1 is directly affected by the project.

Precinct 1 is bordered by two main arterial roads, these being the Gawler Bypass and Two Wells Road. Ward Belt and Gawler Belt are the two main areas that form Precinct 1. It is situated to the south-west of the Gawler township and includes the Gawler Gliding Club, Gawler Harness Racing Club and extensive rural living.

The Gliding Club and Harness Racing Club use the majority of the land in Precinct 1. The Gliding Club was formed in 1950 after the Adelaide Soaring Club moved to the Gawler Aerodrome from the Virginia Airstrip and it is located on former Commonwealth land now vested with the Light Regional Council. The Harness Racing Club is owned by Harness Racing SA Ltd. The Harness Racing Club area is also used on the weekends for a farmers' market. Farmers and horticulturalists from Gawler and surrounding areas such as Angle Vale and Virginia come to buy, sell and trade items such as livestock, horticultural equipment, etc.

The rural living blocks on the northern side of Precinct 1 are generally large allotments with an approximate area ranging from 375 m x 150 m for the largest to 100 m x 175 m for the smallest. There are approximately 25 allotments within the precinct.

Existing land use

As mentioned above, the main land use within the precinct involves recreation (Gliding Club and Harness Racing Club) and rural living.

Entry to the Gliding Club is via Two Wells Road and the Gawler Bypass provides the Gawler Harness Racing Club with its entry/exit points.

The precinct is zoned recreation and rural living.

Potential future land use

In the longer term, there are opportunities for the Gawler Harness Racing Club to incorporate additional activities, events and facilities. This may also be necessary for the economic benefit and future of the Harness Racing Club. The site is large enough and is appropriately zoned to accommodate harness racing training. The Gliding Club is situated on a substantially large parcel of land and could accommodate a broad range of ancillary uses including clubrooms, hangars, maintenance workshops and service industries.

Land use conflicts

There would be limited land use conflicts due to the open, generally quiet and limited use of the recreation zone.

2.3.2 Precinct 2: Gawler River Horticultural Precinct

Background

Precinct 2 is directly affected by the project.

Precinct 2 comprises land stretching from the south-west border of the Gawler Gliding Club through to Curtis Road and extends to approximately 1 km either side of the proposed Northern Expressway.

Angle Vale is an important centre located on the northern side of Precinct 2.

Existing land use

The land is held, generally, in private ownership in lot sizes ranging from 50,000 m² to 320,000 m². Land within the precinct is predominantly used and described as horticulture, including market gardening, floriculture, plant nurseries and some general farming. There are some dwellings throughout this precinct and these are contained on horticultural and rural living sized allotments.

The precinct is in the rural zone or horticultural zone.

Potential future land uses

The Planning Strategy for Metropolitan Adelaide identifies much of this area as significant horticultural/agricultural land that should be used for these purposes.

Land use conflicts

Some conflicts between horticultural production and residential occupation could be expected due to noise, odour, dust and chemical spray associated with farm operations.

2.3.3 Precinct 3: Andrews Farm/Munno Para West

Background

Precinct 3 is located near the project but is not directly affected.

The majority of Precinct 3 involves residential land uses including the areas of Munno Para West and Andrews Farm. Andrews Farm is a relatively new suburb that was developed and has grown rapidly whilst Munno Para West has been slow to develop but is currently experiencing some new growth.

Open space areas are provided for recreation and stormwater management purposes.

The properties are in private ownership but with segment tracts of land owned by the Land Management Corporation.

Existing land use

Land use within Munno Para West and Andrews Farm is primarily residential; however, there is a section of this precinct (mainly Munno Para West) that is currently used for horticulture and farming purposes.

At present in Munno Para West new subdivisions are being developed to utilise the vacant land, whilst Andrews Farm has developed quickly and now houses a large number of residents, a school and local shops.

Precinct 3 is zoned residential and residential (plains).

Potential future land use

There is significant potential for further residential development to occur within Munno Para West and as a part of the Playford North project, particularly on land that is owned by the Land Management Corporation.

Land use conflicts

As with many of the precincts in the Northern Adelaide Plains, the interface between residential and horticultural zoning may cause some issues to arise such as noise, odour, dust and the use of agricultural/chemical sprays.

2.3.4 Precinct 4: Macdonald Park/Penfield Gardens

Background

Precinct 4 is near the Northern Expressway route with only a small portion on the south-west corner of the precinct directly affected.

This area comprises rural living allotments and is bordered by Heaslip Road, Curtis Road and Pethererton Road. The properties are in private ownership.

Existing land use

The existing land use within the Macdonald Park and Penfield Gardens areas is rural living. The main access to the precinct is from Heaslip Road, Curtis Road or Pethererton Road. Ancillary activities in horse-keeping, orchards and market gardening are conducted on the properties.

There is a range of allotment sizes within this precinct and all are utilised for rural living with their sizes ranging from 17,500 m² to 43,750 m².

Precinct 4 consists of land in the rural living zone.

Potential future land use

Not all allotments have a dwelling and therefore additional dwellings may be constructed.

Land use conflicts

As with many of the precincts in the Northern Adelaide Plains, the interface between residential and horticultural zoning may cause some issues to arise such as noise, odour, dust and the use of agricultural/chemical spray.

2.3.5 Precinct 5: Penfield Recreation/Rural Living

Background

Precinct 5 is bordered by Petherton Road, Andrews Road, Penfield Road and Womma Road and is directly affected by the route.

The properties are predominantly private properties.

Existing land use

This precinct is mainly comprised of rural land uses, with a small portion zoned for recreation and rural living. Within this precinct, there are many greenhouses and a number of horse trotting training tracks.

Precinct 5 is located in rural and recreational zones.

Potential future land use

This precinct appears to be in transition between the horticultural land and rural living/rural land uses.

Land use conflicts

As with many of the precincts in the Northern Adelaide Plains, the interface between residential and horticultural zoning may cause some issues to arise such as noise, odour, dust and the use of agricultural/chemical spray.

2.3.6 Precinct 6: Penfield/Virginia Horticulture

Background

Precinct 6 is directly affected by the project.

The land within Precinct 6 covers parts of Penfield and Virginia. The precinct is bordered by Heaslip Road, Penfield Road and Diment Road, and also extends to a section of the Virginia township. Within this precinct, horticultural crops, greenhouses and some general farming are the prevalent uses.

The properties are predominantly in private ownership (by individuals, families or companies).

The land within the precinct is subject to localised flooding.

Existing land use

The existing land use within this precinct is predominantly horticulture with this including market gardening, nurseries and orchards. The precinct also has some areas zoned for recreation, and closer to the Virginia township there is an industrial area.

Precinct 6 consists of rural and recreational zones.

Potential future land use

This area is seen as an area of strategic interest for primary production within the Northern Adelaide Plains. The land is important to both State and local economies and is used predominantly for horticultural purposes.

Land use conflicts

Some conflicts between horticultural production and residential occupation could be expected due to noise, odour, dust and chemical spray associated with farm operations.

2.3.7 Precinct 7: Virginia/ St Kilda Horticulture

Background

Precinct 7 is directly affected by the route.

Precinct 7 is an area that covers parts of Virginia and St Kilda and is characterised by its horticultural and agricultural land uses. The area starts just to the east of Port Wakefield Road and extends 1.25 km west of Port Wakefield Road.

Existing land use

The precinct is predominantly in the rural zone and horticultural zone with a portion in the recreation zone.

There is also a recreational area to the north of the precinct that accommodates the Adelaide International Raceway.

Existing land use is primarily described as horticulture, including market gardening, floriculture and orchards, while a plant nursery (Woodstock Nursery) is located adjacent to Port Wakefield Road, north of the Undo Road junction. Dwellings are contained on horticultural and rural living sized allotments with some of these including horse-keeping activities and trotting track facilities.

While some of the properties in this precinct have direct frontage on Port Wakefield Road, most allotments have side or rear access.

Potential future operation

The area is shown in the Planning Strategy for Metropolitan Adelaide as an area of strategic interest for primary production. The properties in this precinct are outside the Urban Boundary.

The properties in this precinct are in the rural zone east of Port Wakefield Road and in the horticultural zone west of Port Wakefield Road. Properties in the precinct south of Undo Road and west of Port Wakefield Road are in a deferred industry zone.

Representations were made in response to the Draft Planning Strategy by the City of Salisbury requesting that this land be earmarked for future industrial development but this was not provided in the approved version (August 2006) of the Planning Strategy for Metropolitan Adelaide.

Land use conflicts

Some conflict between horticultural production and residential occupation could be expected due to noise, odour, dust and chemical spray associated with farm operations.

2.3.8 Precinct 8: Waterloo Corner (Burton) Industry

Background

Precinct 8 is adjacent to Port Wakefield Road.

Precinct 8 is located at Waterloo Corner, sits just south of Heaslip Road, takes in a portion of the western side of RAAF Base Edinburgh and then extends through to Port Wakefield Road.

The precinct is in the industry zone and deferred industry zone.

Existing land use

Existing land use is primarily described as light and general industrial, with some activities having a small retail component. Trade and equipment sales feature along Port Wakefield Road. Within the portion of the precinct set back from Port Wakefield Road, construction and engineering companies are the primary types of development. Access to allotments is generally via Angle Vale Crescent and Burton Road, and not directly via Port Wakefield Road. Some allotments have alternative side and rear access.

Some of the businesses with frontage on Port Wakefield Road are accessed from service roads while others access Port Wakefield Road directly.

The defence activities, including RAAF Base Edinburgh, are the other major use within the area. Dwellings in the area are few and dispersed.

Within the precinct, there are a variety of allotment sizes ranging from 5,000 m² to 200,000 m². This is a prime area for large-scale industry as it offers large allotment sizes close to major transport and other infrastructure.

Potential future land use

The properties in the precinct are in the industrial zone. Existing industrial and commercial land use is expected to remain with intensification of uses on underutilised sites and redevelopment for new businesses. Industrial zoning is not able to expand due to the residential zoned land to the east.

Land use conflicts

New residential subdivision has been approved east of the industrial area. Landscape buffering and stormwater detention areas have been included between the industrial and commercial properties and the new residential properties to reduce the land use conflicts between these two uses. However, some conflict relating to noise, odour and hours of operation could be anticipated between the two zones notwithstanding the separation areas. Road access, traffic and traffic safety issues could increase as a result of traffic controls along Port Wakefield Road and the Northern Expressway.

2.3.9 Precinct 9: St Kilda

Background

While not adjacent to Port Wakefield Road, the township of St Kilda could be affected by the Northern Expressway so it has been designated as a precinct to assist in the assessment.

The historic seaside town of St Kilda has been a popular destination since the days of the first settlers, when local families would spend the day crabbing, paddling and enjoying the sea air. It is a destination where the natural features are still very much intact.

St Kilda boasts the largest mangrove estuary, home to more than 100 species of birds, and the most significant nursery for recreational and commercial fish species in Gulf St Vincent.

Located only 10 minutes from the centre of Salisbury, the coastal town of St Kilda combines the quaintness of a remote fishing village, with the sophistication of a marina and boat club as well as a tram museum that preserves the transport icons of yesteryear. It also boasts an award-winning adventure playground that ensures repeat visitation.

The population of St Kilda is approximately 200.

Current land use

The St Kilda Mangrove Complex includes a 2 km boardwalk that meanders through the mangrove forest of the Barker Inlet Aquatic Reserve.

Situated on the shores of the Barker Inlet, the St Kilda Boat Club is a great asset, featuring a boat ramp and boat channel. The St Kilda Boat Club Marina reinforces the importance of St Kilda as a boating destination and welcomes the boating public to this favourite metropolitan fishing haven. The club's new marina complex incorporates affordable hard stands and marina berths, a private boat ramp, secure car park, clubrooms and slipping facilities.

The St Kilda Tramway Museum features many of the old trams from Adelaide's former tram network with a primary emphasis on the electric tramway system. Built in 1974, the museum includes numerous trams, several Adelaide-built Melbourne trams, Adelaide horse trams, electric trolley buses (including Australia's first) and historic tram rides on 2 km of track that runs between the museum and the St Kilda Adventure Playground.

Preserving every type of tram that operated on Adelaide's metropolitan tram network from 1878 to the mid-1950s, the museum is one of a kind. Trams, built in New York and Philadelphia, that served the Adelaide system are maintained and the museum also features Australia's first electric trolley bus and a 'drop centre' that served thousands of commuters from the 1920s.

Potential future land use

The township of St Kilda is within its own urban boundary and situated in the coastal township zone. There is vacant land within the township and other sites with the potential for further development.

The City of Salisbury is committed to the ongoing improvement and development of the recreational and environmental facilities at St Kilda.

Land use conflicts

The mangrove and samphire plant communities provide for coastal processes of sand movement and tidal inundation and protect against potential sea level rise. They also provide significant breeding grounds for marine and estuary habitat. There are potential conflicts in land use between conservation and recreation and between local amenity and access to recreation facilities.

2.3.10 Precinct 10: Eastern Residential

Background

Precinct 10 comprises land generally bounded by Port Wakefield Road, Waterloo Corner Road, Salisbury Highway and Ryans Road extending 1 to 2 km east of Port Wakefield Road.

Current land use

Existing land use is primarily described as low density residential with the average allotment size being in the order of 550–700 m² in area. Several community facilities are located within the precinct including: primary schools, reserves, local and neighbourhood centres, and a community house which runs programs for young people.

Open space corridors include the Little Para Linear Park which runs through the precinct, parallel with the Little Para River. Several large reserves abut the linear park. There are many other reserves throughout the precinct.

The design of the residential area facilitates vehicle movement into and out of the area to the east (away from Port Wakefield Road). There is no direct access from residential properties in the residential area to Port Wakefield Road.

Access to Port Wakefield Road from the residential areas is provided at three access points and from Bolivar Road which is a secondary arterial road as defined in map Sa/1 (Overlay 1) Part A of the Salisbury (City) Development Plan. Another signalled access point is located at the intersection of Bolivar Road and Port Wakefield Road. A BP service station is located at this intersection.

Potential future land use

The properties in the precinct are in the residential zone. The existing land use is expected to continue with infill on vacant land, residential extensions and limited demolition and redevelopment for predominantly residential purposes. Some further development of the neighbourhood centre zone on Bolivar Road can be expected.

Land use conflicts

Land use conflicts within the precinct are considered limited. Very few residential properties have rear frontages onto Port Wakefield Road. There are noise and amenity impacts on these areas from Port Wakefield Road and adjoining commercial and industrial zones. Traffic and traffic safety issues may arise in residential areas if road access to Port Wakefield Road was restricted for commercial and industrial businesses in Precincts 8 and 10.

2.3.11 Precinct 11: Tourism and Retail

Background

The Highway 1 Caravan and Tourist Park was established more than 30 years ago. The Whitehorse Inn Hotel complex was introduced into the precinct in the 1980s to service the expanding local community as well as the developing industry in the area.

Existing land use

This area is a key commercial focal point which is centred on the Whitehorse Inn Hotel complex. Located on the western side of Port Wakefield Road, the hotel is located on the corner of Port Wakefield Road and Hodgson Road and is accessed via Hodgson Road. The Whitehorse Inn Hotel complex has recently undergone significant renovations, the complex featuring 10 separate accommodation rooms, a gaming lounge, lounge bar, restaurant and function facilities. To the west of the hotel is the Bolivar Wastewater Treatment Plant, which is well screened from the hotel by screen planting and a heavily treed area immediately south-west of the hotel.

To the north of the hotel is the Highway 1 Caravan Park. This is well screened from Port Wakefield Road by the use of pine screen planting and grassed mounding. The park provides caravan, mobile home and cabin accommodation and is close to public transport, providing access to Salisbury Interchange where users are able to use either bus or train services to access many locations within the metropolitan Adelaide area. It is a popular caravan park with appeal to sporting organisations, social groups and tourists seeking centrally located accommodation.

The precinct also includes a Caltex service station, which has outdoor seating located on the western side of Port Wakefield Road, adjacent to the service station for use by the travelling public. The service station is the first convenient stop-off point outside the city and is utilised by groups meeting to travel northwards, for refreshments and amenities. The service station is also used to collect passengers travelling on Stateliner bus services to northern regional areas within South Australia.

The Highway 1 Caravan and Tourist Park and the service station both have direct access to Port Wakefield Road.

Potential future land use

There is opportunity for the Whitehorse Inn Hotel complex to further expand and the next logical upgrade would be additions to the accommodation incorporated within the complex. In addition, it is feasible that the caravan and tourist park could also expand its activities, possibly providing more up-market cabin style accommodation which is becoming increasingly popular in tourist parks throughout the State. Cabin accommodation could also serve persons relocating to the area for employment and other reasons.

While the service station already provides a good range of goods and services for the travelling public, in the future it may choose to expand its current operation and provide a broader range of products.

Land use conflicts

The properties in this precinct are located in the rural zone.

There are no significant land use conflicts associated with this precinct other than the issues of odour and midges arising from the Bolivar Wastewater Treatment Plant in the adjacent Precinct 12.

2.3.12 Precinct 12: SA Water Bolivar

Background

The Bolivar Wastewater Treatment Plant is located on the western side of Port Wakefield Road at Bolivar. The site extends across the localities of Bolivar and St Kilda and comprises a land area in the order of 1000 ha including plant equipment, lagoons and landscaping. The main entrance to the plant is provided via Hodgson Road, Bolivar. Secondary access is available via St Kilda Road, St Kilda. The plant is set well back and buffered from Port Wakefield Road.

The following is an excerpt from further details of the plant available on its website
http://www.uwi.com.au/main_adl_wastewater_bolivar.php

Constructed in three stages from 1966–69, Bolivar is the largest wastewater treatment plant in Adelaide with a drainage area stretching from Gawler to Mitcham. On average each day, 135 million litres of household and industrial wastewater enters the Bolivar plant. The plant has the capacity to handle the wastewater treatment needs of 1.3 million people.

Present land use

Digested sludge (bio-solids) from Port Adelaide and Glenelg as well as Bolivar are dried for up to three years and then stockpiled. The stockpiled sludge can then be used by farmers to recondition soil.

Treated wastewater from Bolivar is pumped to Virginia where it is used to irrigate horticultural land.

SA Water completed a three-stage Environment Improvement Program in December 2005 worth \$240 million. The Environment Improvement Program's many benefits include:

- reduced nitrogen concentrations in the treated wastewater
- reduced outflows of treated wastewater to the sea
- reduced odours
- reduced demand on the Northern Adelaide Plains groundwater basin by providing an alternative source of water for irrigation.

Source:

<http://www.sawater.com.au/SAWater/Environment/EnvironmentImprovementProgram/Bolivar+EIP.htm>

SA Water traffic generally enters the plant via Hodgson Road. Other activities, ranging from stock grazing, Adelaide Zoo's use of the woodlots, a go-kart club and a wastewater disposal centre are concentrated at the northern end of the plant site with traffic generally entering from St Kilda Road.

Trade wastes are also delivered to the Bolivar plant by truck. There is also movement to and from the precinct by trucks removing by-products for use in primary production.

Potential future land use

At this stage SA Water has no plans to increase the area of the plant.

The *Draft Metropolitan Adelaide Industrial Land Strategy* (March 2006) notes that the Gawler–Elizabeth–Bolivar trunk sewer main requires duplication; however, this has not been included in SA Water's budget forecasting to date.

Work currently conducted in laboratories on SA Water land at Bolivar will be relocating to the new SA Water centre in Victoria Square, Adelaide. The existing facilities may be considered for lease for other related purposes.

SA Water is investigating methods to combat midges, including additional screen plantings, chemical treatments and screens around the treatment ponds.

Land use conflicts

The Bolivar Wastewater Treatment Plant has been established for a long period and is in a special uses zone. As a result, and given the size and extensive landscape buffers, there are few land use conflicts associated with the sewage treatment plant.

The reported issues are occasional odour and insects (midges) affecting the adjoining areas.

2.3.13 Precinct 13: Port Wakefield Road Frontage – Globe Derby Park

Background

This precinct is associated with Precinct 15–Globe Derby Park but has been specifically identified, as some of the allotments in this precinct have direct access to Port Wakefield Road via the road verge.

Current land use

This precinct features rural living and small farm horticultural production with some tree planting and crop production. Properties, because there is no formalised service road, have direct frontages and access onto Port Wakefield Road with no alternative rear access. This results in an increased number of crossover points along this stretch of the road, which has safety implications for property owners and road users.

The area is also low lying and subject to local flooding.

Included in this precinct is at least one primary producer who sells produce directly to the public via a roadside stall. This small operation adds a personal element to the character of the area.

Potential future land use

Given the limitations associated with the low lying nature of the land, current zoning, and its relation to the Urban Boundary, future residential or industrial development in this precinct is expected to be limited to houses on existing sites and primary production.

Land use conflicts

The precinct is situated in the rural and rural living zones. This land is also outside the Urban Boundary.

There are reported complaints about odour relating to the Bolivar Wastewater Treatment Plant and dust and odour from horse-keeping, particularly in summer.

Access to Port Wakefield Road is critical for the continued operation of the primary producer's roadside stall.

2.3.14 Precinct 14: Parafield Gardens and Green Fields Commercial/Industrial

Background

This precinct comprises land adjacent to Port Wakefield Road, between Shepherdson Road and Ryans Road.

Current land use

Existing land use is primarily described as light and general industrial with most activities having a small retail component and/or a display area. Access to allotments ranges from individual access to Port Wakefield Road and service road access north of Ryans Road.

The type of land use found in this precinct includes a mix of horticultural, commercial and industrial land uses with some vacant land.

Potential future land use

The properties in this precinct are in the industrial zone.

Existing land use is expected to continue in the long term. Existing industrial and commercial land use is expected to remain with intensification of uses on underutilised sites and redevelopment for new businesses. The precinct and zone are not able to expand due to the residential zoned land to the east.

Land use conflicts

New residential subdivision has been approved east of the industrial area. Landscape buffering and stormwater detention have been included to reduce the land use conflicts between these two uses. However, some conflict relating to noise, odour and hours of operation could be anticipated notwithstanding the separation areas. Road access, traffic and traffic safety issues could increase as a result of traffic controls along Port Wakefield Road associated with the Northern Expressway.

2.3.15 Precinct 15: Globe Derby Park

Background

This precinct consists of the Globe Derby Park harness racing track, nearby dwellings and open space. The precinct features horse agistment and training activities associated with the Globe Derby Park sporting complex. The Globe Derby Park venue also provides a restaurant, offices and amenities. The precinct is located on the western side of Port Wakefield Road and is accessible via Globe Derby Drive, Daniel Avenue and Ryans Road.

Existing land use

The residential area is located in the north and western parts of the precinct. The residential area's mixed land use includes a combination of residential properties, rural residential land, horse holding paddocks and a water retention area. Adjacent to the water retention area is the North Adelaide

Regional Horse Centre. An ETSA transmission line traverses this part of the precinct. The sewer trunk main and easement from southern Adelaide to Bolivar Sewage Treatment Plant crosses the precinct.

The Little Para River, and Little Para Linear Park and wetlands wrap around the western edge of the precinct with the North Adelaide Regional Horse Centre forming part of the linear park within the Metropolitan Open Space System in the north-western corner of the area.

The land within the precinct is low lying (approximately 2–3 m Australian Height Datum (AHD)) and is subject to localised flooding.

The properties in Precinct 15 are outside the Urban Boundary.

Potential future land use

On the longer term, there are opportunities for the precinct to incorporate additional equestrian activities, events and facilities. The opportunity to accommodate greyhound racing has been suggested.

The low lying nature of the area and local flooding require new dwellings to be elevated and land division is restricted.

Land use conflicts

Globe Derby Park is located in a recreational zone. The residential areas are in the rural living zone and the watercourse and linear open space in the MOSS recreation zone.

There are some reported complaints about odour relating to the Bolivar Sewage Treatment Plant and dust and odour from horse-keeping, particularly in summer.

2.3.16 Precinct 16: Mawson Lakes Residential and Township

Background

Mawson Lakes is a fully planned 620 ha community with a growing reputation enhanced by the bustling Promenade Town Centre featuring cafés, restaurants and shopping; links with the University of South Australia; and the growing business precincts of Technology Park and Mawson Central.

The precinct is set well back from Port Wakefield Road.

Current land use

Land use within Mawson Lakes is mixed and features residential, education, commercial/industrial, retail and community uses.

A transport hub is in the final stages. This includes the development of the Mawson Connector which will join the Salisbury Highway. There is no direct access from Mawson Lakes to Port Wakefield Road.

Mawson Lakes features an extensive open space network incorporating formal parks, landscape buffers and wetland reserves.

Potential future land use

Mawson Lakes is progressing in stages over the next five years in accordance with the approved master plan.

Development through new businesses and facilities in Technology Park, in the town centre and at the university campus can be expected.

Land use conflicts

There are no significant land use conflicts associated with the Mawson Lakes precinct relevant to this proposal.

2.3.17 Precinct 17: Salt Fields – Extractive Industry

Background

The Ridley Corporation purchased the Dry Creek Salt Crystallisation Pans (salt fields) from Penrice in May 2005. Cheetham Salt Limited, a wholly owned subsidiary of Ridley Corporation Limited, is Australia's largest producer and refiner of salt for food and industrial markets.

Soda ash operations began in Adelaide in 1940, and have continued to expand to meet Australian and overseas demand. Penrice Soda Holdings was formed in June 1989 after a leveraged buy-out of ICI Australia's soda ash operations, based at Osborne in outer Adelaide.

Penrice Soda Holdings produces 325,000 tonnes of soda ash, and 22,000 tonnes of sodium bicarbonate per year, with annual sales in excess of \$105 million in 1997–98. The company employs 280 staff at its three sites, which are located at Angaston, Osborne and Wingfield.

Existing land use

Evaporation ponds extend from Dry Creek as far north as Middle Beach, some 30 km to the north. These evaporation ponds effectively comprise an area of 4,000 ha, a significant land mass within the northern metropolitan area. The sea water takes about two years to travel through a series of concentration ponds before it can be harvested as salt.

The evaporation ponds precinct extends from South Road, Dry Creek and continues north to St Kilda. Evaporation ponds between South Road, Dry Creek and St Kilda make up approximately one-third of the northern metropolitan pond area.

The salt fields adjacent to Port Wakefield Road and the Salisbury Highway provide the final stage of producing the raw materials for the production of sodium bicarbonate by Penrice at Osborne.

Entry to the southern end of the salt fields is gained by a private road being the extension of Magazine Road off the Salisbury Highway and to the northern side, by Globe Derby Drive off Port Wakefield Road. The operational base is at the southern end of the salt fields.

In addition to the salt fields, there are a series of heritage-listed magazine structures surrounded by earth embankments located along the private access road to the Cheetham operational base. The property is owned by the Commonwealth Government and has been used for the storage of munitions and other hazardous substances in the past.

Potential future operations

The salt from the evaporation ponds is a core ingredient in the production of soda ash and it is expected that Penrice will seek to maintain their easy access to this valuable resource.

Discussions with the company are required to clarify future development intentions; to evaluate the effect of the Northern Expressway on the operations alignment; and to understand ownership of the land (part-owned by Cheetham and part-leased) as these all have implications for the future development of the site.

Land use conflicts

The land is outside the Urban Boundary and is zoned for extractive industry and primary industry in the Planning Strategy for Metropolitan Adelaide. The precinct is located in the Multi-function Polis zone which was established in the early 1990s as a deferred future residential development area but is no longer intended for this purpose. The current uses are protected by existing use rights. MOSS recreation zone is applied to the Dry Creek stormwater channel and a 70 m wide landscape buffer zone is applied to the western edge of Port Wakefield Road incorporating the roadside shoulder, stormwater detention areas and tree planting.

There are no known land use conflicts associated with the salt extraction works or nearby munitions storage area.

2.3.18 Precinct 18: Salisbury Wetlands

Background

The City of Salisbury, in partnership with business and the community, over several years has established a system of wetlands throughout the council area. The first wetlands were established in the late 1960s. It was observed that water was pooling in an underutilised area of land so the council determined to *sculpt it into a recreational area*. It was found that bird life and other fauna thought to no longer exist were again present in the area. Water quality benefits from slowing water flow were also observed.

The City of Salisbury now has some 36 major wetlands, covering several square kilometres. Through the use of wetlands and underground storage, the City of Salisbury reuses much of the stormwater collected in the council area for irrigation.

A network of wetlands runs through the study area, importantly including a large parcel of land parallel to Salisbury Highway and at the junction of Salisbury Highway with Port Wakefield Road. These wetlands are referred to as the Greenfields wetlands. The Greenfields system extends over 114 ha. The Greenfields wetlands are linked with the Barker Inlet wetlands which are located further west alongside the Salisbury Highway. Where practicable, the wetlands are integrated into the drainage of new subdivisions, providing landscape enhancement, water quality improvement and a reduction in peak stormwater flows.

The ecologically responsible approach to stormwater management returns flows to the ground surface and utilises natural elements such as swales, ponds, streams and wetlands to control and filter urban stormwater. Wetlands remove pollutants from water by a complex range of processes and mechanisms - physical, chemical and biological.

These include:

- *filtering and settling out of particles*
- *decomposition of organic matter by micro-organisms*
- *the effect of sunlight and oxygen on bacteria*
- *the uptake of nutrients by plants*
- *the reaction of clay and soil with heavy metals and other chemicals.*

Wetlands act as a self-sustaining natural filtration and water treatment system. The reed beds, open water (shallow and deeper), sedimentation ponds and gross pollutant traps are all part of a system designed to maximise the removal of pollutants from stormwater by retaining flows for as long as possible - desirably, a minimum of ten days. As flow rates are reduced, sediments and pollutants settle out, organic matter is consumed by aquatic organisms, and nutrients are taken up by aquatic plants. Outflows from wetlands are usually of excellent quality, enabling reuse for aquifer recharge and storage, irrigation or commercial uses.

(Source: City of Salisbury web page <http://cweb.salisbury.sa.gov.au>)

Potential future development options

The wetlands are in either the landscape buffer zone or the MOSS recreation zone.

The wetlands provide for important environmental and engineering functions, enhance the visual appearance and provide physical separation between residential and commercial/industrial areas, Port Wakefield Road and the main northern rail line.

The wetlands are expected to remain and to be extended where surplus land becomes available, and development will be limited to further improvements to the landscape and wetland functionality.

In August 2006, the Commonwealth Government announced a \$38 million funding package as a contribution towards a \$90 million project to utilise stormwater from these and other wetlands in the northern area of metropolitan Adelaide for water reuse for industrial and recreational purposes. The project will use underground aquifer storage recharge. The project has the potential to meet one-third of Adelaide's draw-down from the River Murray.

Land use conflicts

The wetlands are considered a very positive and important measure in addressing land use conflict, stormwater management and visual enhancement of the area. There are issues of management and maintenance associated with the wetlands and landscape buffers in an urban area, including protecting biodiversity, bushfire prevention, weed management and pollution resulting from spills and urban development generally.

2.4 Zones and policy areas

Table 2.2 is a summary of the zones and policy areas along the proposed Northern Expressway route. There are four council areas that the proposed route adjoins or through which it traverses. These are the Corporation of the Town of Gawler, Light Regional Council, City of Playford and City of Salisbury. The zones are shown on Figure 2.3 and summarised in Table 2.2. The detailed summary of zones and policy areas is in Attachment A.

Table 2.2 Zone and policy area descriptions by council areas

Zones and policy areas	Description	Precinct
Corporation of the Town of Gawler		
Light Historic (Conservation) Policy Area	Retention and/or reinstatement of the street layout and subdivision pattern as designed by Light, Finniss and Co.	1
Residential 2G Zone	A zone primarily accommodating detached dwellings, and semi-detached dwellings with row dwellings or residential flat buildings of medium-densities, or the keeping of horses, in suitable areas	1
Deferred Urban Zone	A zone accommodating a range of low-intensity rural uses that do not compromise future opportunities for coordinated urban development	1
General Industry Zone	A zone primarily accommodating general industrial development	1
Special Uses Zone	A zone accommodating public and private development of an institutional or open character	1
Rural Living Zone	A zone primarily accommodating detached dwellings on large allotments set in a semi-rural environment, with a range of agricultural activities, including small hobby farms and some non-agricultural activities, in suitable areas	1
Willaston North (Area 3)	Development of the area as an integrated extension to the Gawler town residential area and providing opportunities for the construction of detached dwellings and tourist accommodation at low-densities	1
Willaston West (Area 4)	Provision for the continuation of the existing mix of residential and rural uses of land in a way that will retain the opportunity for the future expansion of the Gawler urban area in the form of low-density residential and tourist accommodation	1
Light Regional Council		
Primary Industry Zone	A zone for farming on large properties, predominantly for cereal cropping and grazing with designated areas for horticulture and market gardening	1
Rural Living Zone	A zone accommodating detached dwellings at low densities in association with a mixture of small-scale, part-time rural activities	1
Residential (Gawler Belt) Zone	Development functionally integrated with the Gawler township and complementing the town's principal structural elements in accordance with the Structure Plan	1
Industry (Gawler Belt) Zone	An area for the development of industrial or commercial uses of land in a manner which will permit the safe and convenient flow of traffic along adjacent primary and secondary arterial roads, and which will enhance the appearance of the land	1

Zones and policy areas	Description	Precinct
Rural Agistment (Gawler Belt) Zone	Land primarily used for grazing activities particularly horse agistment with associated detached dwellings and outbuildings, as well as for farming and horticulture, and native flora is retained and enhanced	1
Recreation (Gawler Belt) Zone	A zone accommodating major public and private land uses of a recreational nature, all with an open character	1
Industry (She-Oak Log) Zone	A zone for commercial and industrial uses of land	1
Playford City Council		
Residential (Plains) Zone	A zone primarily accommodating dwellings of various types at low and medium densities and one to two storeys in height to meet the needs of the changing population profile	2
Residential (Regeneration) Zone	A zone primarily accommodating dwellings of various types at low and medium densities and one to two storeys in height, that incorporate a high level of amenity and ecologically sustainable principles within their design	3,4
Horticultural Zone	Retention of land for horticultural purposes	2
Policy Area 24 – Angle Vale Buffer	–	2
Policy Area 25 – Rural/Urban Buffer	–	4
Rural Living Zone	Small allotments suitable for accommodating people wishing to live in a rural setting in association with rural activities of a minor nature	5
Recreation Zone	A zone primarily accommodating public and private facilities of a recreational, either of an active or passive, nature, or open character within a well-landscaped setting	2, 4, 5, 6, 7, 9
Salisbury City Council		
Residential Zone	A zone primarily accommodating a range of low and medium density dwellings to meet the diverse needs and preferences of the community	10, 14, 15, 16
Industry Zone	A zone accommodating primarily industries, warehousing and storage activities	8, 11, 12, 14
Deferred Industry Zone	Land within the zone preserved for future industrial use	8
Rural Zone	A zone comprising land primarily for agricultural purposes by preventing the further division of land	6, 7, 17, 18
Rural Living Zone	A rural living character derived from large allotments, mixed small-scale rural activities and detached dwellings	15
Policy Area 23 (Bolivar)	–	
Horticultural Zone	A zone primarily accommodating horticultural activities in association with packaging and processing sheds	6, 7
Recreation Zone	A zone primarily accommodating organised active recreation uses, and associated spectator facilities and administrative functions, within a well-landscaped setting	13, 15
MOSS (Recreation) Zone	A zone in which a predominantly open space character is preserved and enhanced to provide a visual contrast to the urban area	11, 12, 15, 17, 18

Zones and policy areas	Description	Precinct
Landscape Buffer Zone	A zone that provides for: (a) the separation of urban districts through open space located adjacent to major transport routes; and (b) separation of industrial and living areas	11, 13, 15, 17, 18
Public Purposes (Rail Transport) Zone	A zone accommodating major railway lines linking Adelaide with northern country and interstate centres	16
MFP (The Levels) Zone	A zone designated for the development of Stage 1 of the Multi-function Polis (MFP) Australia urban development and for the University of South Australia's Mawson Lakes campus	16

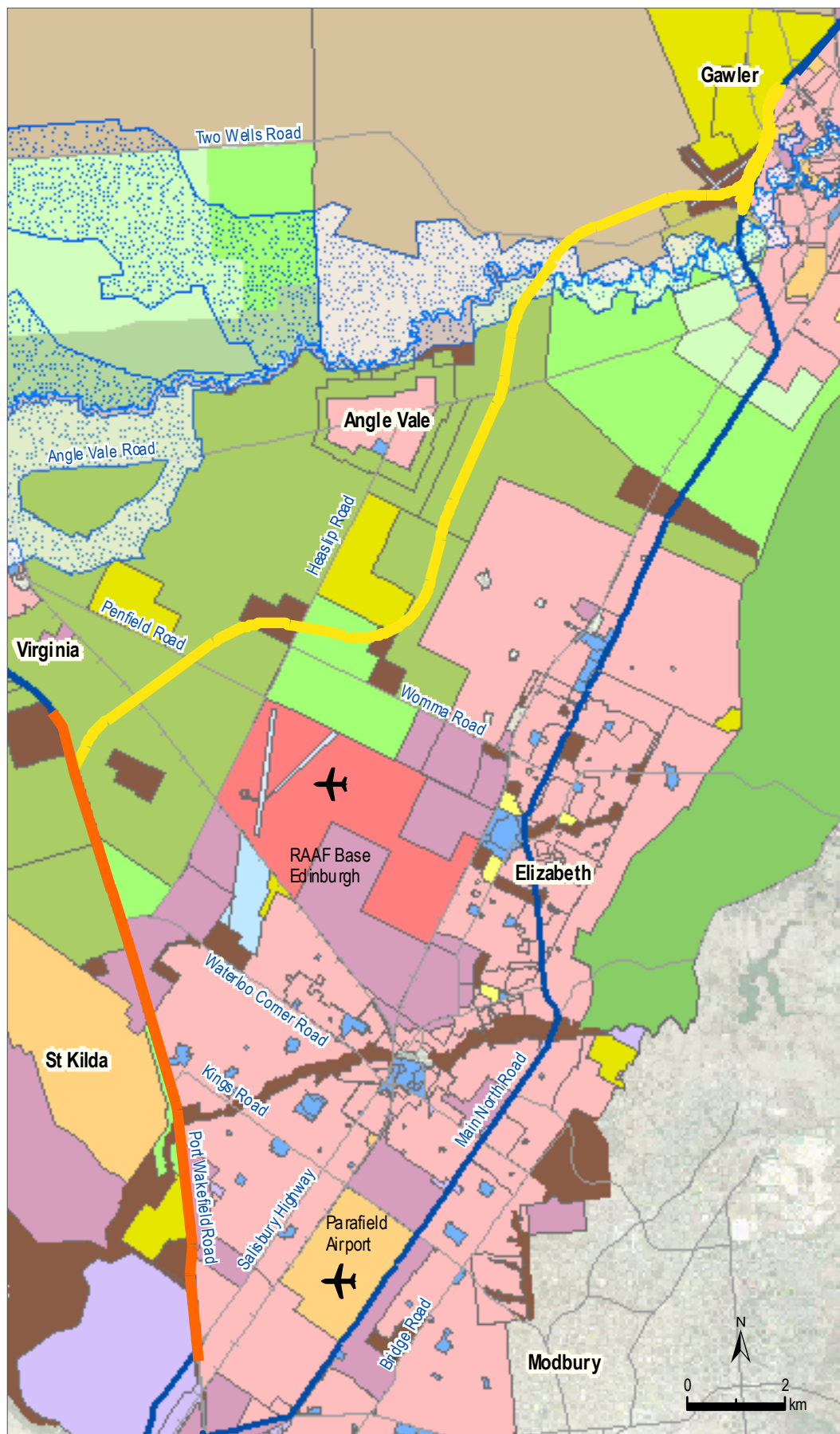


Figure 2.3 Zoning

2.5 Proposals and projects

Table 2.3 summarises the main proposals and projects identified from consultants and investigations in the area that were considered to have an influence on planning and land use matters.

Table 2.3 Significant proposals and projects in the study area by government or industry

Significant project	Description	Precinct	Council
Evanston South	An extension of the town of Gawler to the south including a new residential subdivision, with focus on transport orientated design around the local train stations	1	Gawler
Adelaide Plains – ‘Foodbowl’	Protecting this area’s economic future as it provides the State with much of its fruit and vegetables	2	Playford
Gawler River–Open Space	The Gawler River’s open space system which is aimed at protecting the future of the river. There is also a flood management scheme for this area	1, 2	Gawler/ Playford
Playford North	Residential development which is aimed at strengthening communities by improving housing, education, employment, safety and other programs	3	Playford
Womma Road–Industrial Development	Industrial development along Womma Road is becoming more prominent. Much of the land use was agricultural/ horticultural land along Womma Road, but a portion of land is now under development for industrial land uses	3	Playford
Edinburgh Parks	Edinburgh Parks is a new industrial precinct created within RAAF Base Edinburgh that will house transport and warehouse type industry. It will also provide space for an armoured battalion with an expected 3000 members Greater Edinburgh Parks investigation for future development of industrial precinct on the northern and western side of DSTO/Edinburgh	4	Salisbury
Intermodal Precinct	This proposed future road/rail intermodal precinct will provide the Northern Adelaide Plains with many opportunities	6, 8	Salisbury
Wyatt Road	Wyatt Road has recently been upgraded and it will link RAAF Base Edinburgh with Heaslip Road. This will provide efficient transport linkages between the RAAF Base and Heaslip Road	8	Salisbury
Inghams Chicken Processing Works	Major industry for the Northern Adelaide Plains. \$102 million plant, to be located at Edinburgh Parks, that will create approximately 245 jobs	7	Salisbury
Little Para River–Open Space	Improving overall quality of the catchment area and ensuring the safety of the open space system along the Little Para River corridor	8	Salisbury
Direk Industry Plan Amendment Report (PAR)	The Direk Industry PAR sought to rezone the deferred industry zone at Heaslip Road and Diment Road to an industry zone	6	Salisbury

Significant project	Description	Precinct	Council
Mawson Lakes	Continual improvements and ongoing assessment of residential areas and the town centre. Maintaining Technology Park as an important ancillary use to Mawson Lakes	16	Salisbury
Mawson Connector	Mawson Connector is a proposed two-lane connector that will link Salisbury Highway to Main North Road	16	Salisbury
St Kilda Mangroves/ Town Centre	Preservation and maintenance of the mangrove boardwalk. Continuing improvement to the town centre. Improving the major fresh and salt water wetlands within the area	9	Salisbury
Barker Inlet	Ensuring the environmental sustainability of the Barker Inlet and its uses	9	Salisbury/ Port Adelaide Enfield
Dry Creek–Open Space	Improving the overall quality of catchment area and ensuring the safety of the open space system along the Little Para River corridor	17	Salisbury/ Port Adelaide Enfield

3 Effects of the project on existing conditions

3.1 Overview

The construction and operations of the proposed Northern Expressway will not occur without some effects on existing land uses in the area. The proposed Northern Expressway from Gawler to Port Wakefield Road and the proposed Port Wakefield Road Upgrade will have effects on the current land uses, depending on the specifics of each land use, the location of each property, how the property is operated and the extent of change brought to the area by the project.

The main land use effects include:

- severance of land holdings affecting land use and land management
- restricted road access affecting land use
- loss of land used for agricultural, horticultural, recreational and rural living
- change in built form
- local amenity effects.

The construction of the Expressway will have short-term effects on land use including farm operations, access, and trading and amenity (noise, dust, vibration) aspects.

The ongoing operation will also have long-term effects on land use including pressures for intensification of land uses, for example, horticulture and industry in some areas, and potential change of land use for urban activities in areas where road access has been enhanced.

3.2 Construction effects

The short-term effects on land use arising from construction were identified and are outlined below:

- noise, dust, vibration and other issues of amenity
- changes to traffic movement patterns
- increased time to travel
- restricted access for businesses and community facilities.

3.3 Ongoing operational effects

The long-term effects on land use arising from the project's ongoing operations are identified and outlined below.

3.3.1 Access

The proposed Northern Expressway will affect accessibility at many levels. This will affect both businesses and community operation.

At the inter-regional level, it is envisaged that access from northern parts of South Australia and Australia into Port Adelaide and Adelaide will be greatly improved. This analysis was associated with movements within or originating/concluding in the study area.

An assessment of the effect of the project at the precinct level was undertaken to measure the travel and time distance to designated locations for the existing situation and then for the expected local road network conditions when the proposed Expressway is operational. Similar calculations were also undertaken for movement patterns identified in the consultation process and the *Social and Demographic Profile Technical Paper*, and for movement between identified precincts along Port Wakefield Road.

It is acknowledged that access to individual properties may be more significantly affected than assessed at the precinct level due to specific operational requirements or locational considerations.

The analysis suggests that accessibility within the study area is generally maintained and in some cases improved. There are, however, some instances where the proposed Northern Expressway is expected to have a negative effect on local accessibility. The areas expected to be more significantly affected by the proposal include the north-western section of the Gawler Glider and Harness Racing Clubs precinct, Macdonald Park, Penfield and Globe Derby Park.

3.3.2 Amenity

The project is likely to have some effect on the amenity of the area. This will be most significant for land in close proximity to the route. Amenity effects including noise, air quality, vibration and visual amenity are discussed further in other technical papers which outline the existing situation, expected effect of the project and ways to manage this effect.

3.3.3 Built form

The effect that the proposed Northern Expressway will have on the built form of the Northern Adelaide Plains will be significant during construction. A total of 37 dwellings as well as farm sheds and greenhouses and fences, outbuildings and sheds will be acquired by the South Australian Government and removed in order to begin construction on the Expressway. Siteworks will be substantial in cutting in the proposed route and building the interchanges.

3.3.4 Severance

The proposed Northern Expressway will sever some properties along the proposed route. This may occur when, for example, a dwelling is set on a large property and is cut off from the balance of the property, or a paddock is split requiring travel by the most available route to undertake farm management of the other parcel. This effect can be minor for small severance and high where the severance is large and travel distance to the other portion of the property is increased. This is particularly the case for the relocation of farm machinery and farm product to storage sheds. The extent of severance can have significant effect on irrigation systems, separating water supplies from established irrigated crops.

There are 79 properties along the northern section of the Expressway that will be affected by severance. The severity of the severance on each property ranges from either 1% of the property being split to 50% in some cases. The majority of properties, 37, suffer from severance ranging from 0–10%, meaning that the proposed route either does not directly affect the property or only a small portion of the property will be affected. However, 19 of the 79 properties will suffer from severe severance, as the property will be split into two equal-sized portions, or 50%. The remaining 23 properties' severance issues range from 11–20% (four properties), 21–30% (14 properties) and 31–40% (five properties). The calculation of physical severance of properties is in Attachment B. Table 3.1 presents a summary of physical severance of those properties that will be acquired in part or whole.

Table 3.1 Summary of severance of properties to be acquired

Severance %	No. of properties
Minor (0–10)	37
Minor-Medium (11–20)	4
Medium (21–30)	14
High (31–40)	5
Very High (41–50)	19

Note: Number of affected properties may change as design details are developed.

The majority of the properties affected are owned by business owners within the area, with 53 of the properties used for primary production. This is compared to 24 of the properties used solely for residential uses and the remaining two properties which are vacant blocks.

The proposed route severs three major land uses which are horticulture (53 properties), rural (21 properties) and residential (five properties).

There is an option to re-arrange or re-align property holdings to consolidate severed allotments. This will re-establish viable farm holdings that will lessen the effect of severance on local industry.

3.3.5 Recreation facilities and open space

The proposed route for the Northern Expressway will pass through the existing Gawler Harness Racing Club, owned by Harness Racing SA. This land will be acquired and the associated buildings and track removed for the construction of the Expressway.

The harness track, ancillary clubrooms and function centre provide for harness racing, serve as a community function centre, provide for other forms of recreation and on the weekends are used for an agricultural market, where livestock, plants and equipment are sold or traded.

Alternate venues for these events may be found in the area or the Gawler Harness Racing Club may be able to amalgamate with Globe Derby Park and/or, through the upgrading of other regional tracks such as Kapunda or Port Pirie, utilise their facilities.

A training track has been suggested by the club and this may be provided on the gliding field or on other appropriate land.

The Gawler Gliding Club has a section to the south of the land that will be severed due to the proposed Expressway. This will cause hangars and sheds to be separated from the airstrip and will also sever land owned by adjoining landowners, who keep gliders on their properties, from the airstrip. There is

the opportunity to either relocate the hangar sheds and other outbuildings to other portions of the airfield and/or build new buildings to replace the existing ones.

The proposed roadworks adjacent to Globe Derby Park will restrict access for trotters from the northern rural allotments to the Globe Derby training track but not from the Globe Derby estate which features its own internal access track.

The proposed route will affect MOSS and recreation zoned land at Macdonald Park and Penfield. The northern section of the project will directly affect approximately 27 ha of land zoned MOSS or for recreation use. These parcels of land are generally not established recreation areas. Some of this land is used for horticultural purposes and the balance used for crop or grazing purposes.

3.3.6 Agricultural and horticultural production

The proposed Northern Expressway route passes through the eastern and south-eastern parts of the Virginia horticultural district, north of Adelaide. The southern portion of the alignment runs close to the main core of horticultural production, centred on the Virginia township, and crosses Taylors Road, which is the focus of horticulture-related packing, processing and distribution activity in the district.

The 'Virginia Triangle' situated on the Northern Adelaide Plains is one of South Australia's major horticultural districts and an important asset for realising the State's goals of food production for export. The district has good conditions for cropping with a mild maritime climate, well-drained soils and underground water supplies which, in recent times, have been augmented by recycled water from the Bolivar Sewage Treatment Plant. The district produces a range of mainly vegetable crops in greenhouse, hydroponic and field production systems, and has a small but growing wine grape sector. Poultry farming and processing are also significant in the region.

In 2004–05, the Northern Adelaide Plains region generated \$97 million (2.3%) of South Australia's total gross value of agricultural production including \$76 million (16%) of total horticultural production value. Much of this value is from tomato and cucumber crops, production of which is strongly concentrated around Virginia. The region was also responsible for \$498 million of the State's agri-food processing value (i.e. value-adding), that is, 9% of the South Australian total and \$474 million (41%) of the interstate export income from food production and processing including \$220 million (43%) of the interstate export income from horticulture.

This reflects the large volume of raw produce being trucked to Virginia from other parts of the State. Estimated farm gate and wholesale processing values for the region in the 2002–03 period are summarised in Table 3.2.

Virginia ranks among South Australia's leading agricultural districts. This calculation is based on Australian Bureau of Statistics (ABS) Agricultural Census data for South Australian local government areas with more than 5000 ha of agricultural establishments during 2001. On this basis, the City of Playford, which comprises the bulk of the Virginia horticultural district is ranked second (\$6747 per ha) behind the District Council of Berri–Barmera (\$7966 per ha). A calculation that includes those parts of the district outside the City of Playford (i.e. sections of Mallala, Salisbury and Gawler local government areas) would probably increase this ranking.

Table 3.2 Agri-food production and processing Northern Adelaide Plains 2002–03

Sector	Gross farm gate production value (\$ million)	SA production value (%)	Wholesale processing value (\$ million)	SA processing value (%)
Tomatoes	19.2	80	41.5	82.0
Cucumbers	16.2	58	33.0	63.0
Potatoes	2.9	3	45.0	22.0
Carrots	6.0	53	11.7	23.5
Other horticulture (excluding wine)	29.3	9	53.6	10.0
Wine	6.3	1	18.3	1.0
Livestock	13.3	1	190.6	13.0
Other agriculture	1.9	0.2	8.8	1.0
Total Agri-food and wine	95.1	3	402.5	15.0

Since the late 1960s, there has been major private and public investment in the area in greenhouse technology and irrigation infrastructure. Virginia now has the largest concentration of greenhouse structures in Australia (more than 700 ha) and, following recent investment in water treatment capacity and pipelines, is one of the major sites for recycled water use.

Currently about 7,500 ha in the Virginia district are irrigated using a combination of groundwater and approximately 50% of the recycled water output from the Bolivar treatment plant. In all, approximately 14,500 ha are zoned for horticulture and other primary production purposes.

Horticultural production in the Virginia area has consolidated and many operators have interests in other parts of the State, with significant value-adding establishments such as highly automated packing activities retained in the Virginia region. In recent years, there has been substantial investment by some of the larger vegetable growers in processing facilities, which are multimillion dollar investments.

Investment in broad acre production systems has also been significant. Given establishment costs of \$10–20,000 per ha, the expansion of broad acre production represents a substantial industry investment.

Information relating to this section has been taken from three studies prepared by Primary Industries and Resources, South Australia (PIRSA).

The majority of the land along the northern section of the proposed route between Gawler and Port Wakefield Road is used for agricultural and horticultural activities. Some 53 rural properties are affected and will lose sections of their agricultural land due to the proposed Expressway. Section 3.4, Summary details the extent of the effects. Businesses affected will be compensated to ease the overall effect that the proposed Expressway could potentially have on local farmers and businesses. The options would be to cease the business, relocate, re-configure the property or the form of production.

The loss of land zoned for horticulture and rural purposes that will be taken out by the Expressway corridor and nominated intersections is calculated to be 192 ha. This is approximately 16% of the area of land identified for part or whole acquisition.

It is estimated that about 2.5% of horticultural land in the Virginia horticultural region will be directly affected by the proposed route.

This is based upon analysis in 2005 that calculated the extent of production of broad acre and seasonal vegetables; greenhouse and shadehouse vegetables; and orchard, tree crops and vines within the Northern Adelaide Plains, and the length and width of the corridor that has a direct physical effect on these land uses within the area.

The horticultural industry is changing in terms of crops, crop production techniques and in particular intensification. Shedding and out-of-ground crop production is increasing as a means to manage climate, pests and water usage.

Industry representatives advise that the horticultural sector is growing at 6–7% per annum.

The loss of 2.5% of horticultural land is considered to be a minor effect on the Northern Adelaide Plains' horticultural industry in the context of 6–7% annual growth in production, with new areas opening and new more intensive methods of production being introduced. However, the effect on current operators directly affected by the proposed Northern Expressway will be minor to high depending on the level of severance and opportunities to re-configure land holdings and production operations.

PIRSA and horticultural industry representatives have also suggested that the location and construction and operation of the proposed Expressway will have long-term effects arising from severance of properties and restricted access. There is also concern that the Expressway will create some uncertainty about long-term investment and/or the holding of land for speculative urban purposes. PIRSA anticipates that over the long term, and without tangible expressions of State and local government support for continuing horticultural development, production activity will wind down in the area east of the Northern Expressway corridor.

This outcome is dependent on other planning policy decisions relating to the Urban Boundary and the zoning of land through this area. The City of Salisbury has declared a position to promote urban industrial development north of RAAF Base Edinburgh that will, over time, result in the loss of agricultural and horticultural production in this area. The City of Playford's stated position, however, is to maintain agricultural and horticultural production.

There is a cluster of packing sheds, cold stores and freight forwarders where the route crosses Taylors Road. The removal of these facilities will have a short to medium effect on some dependent local horticultural businesses.

There are also four poultry businesses affected by the Northern Expressway route. One of the four poultry establishments is a major producer providing chicks for national and local growers. This business has strategic significance for the poultry industry in South Australia and its relocation will have effects on the poultry industry.

3.3.7 Manufacturing, storage and transport industries

The route for the Northern Expressway from Gawler to Port Wakefield Road avoids suburban residential areas, townships, rural living areas and industrial areas. The only land zoned for industrial or utility purposes directly affected by acquisition or by the construction of the Northern Expressway is the rail line which is crossed. The Expressway has been designed to enable ongoing operation of the railway network and it is not expected to be affected.

The Port Wakefield Road Upgrade passes industrial and commercial zoned land along the eastern side of Port Wakefield Road but does not directly affect this land by acquisition.

The roadworks to Port Wakefield Road, however, will have localised effects on access to various business properties especially those that presently have direct frontage to the road. These include closures of direct access or provision of service roads which may bring about some change in land use where an individual business depends on direct access.

The Burton industrial commercial precinct (which also includes a small retail component), located on the eastern side of Port Wakefield Road and bounded by Waterloo Corner Road, Angle Vale Crescent, Burton Road and Deuter Road, is an important and prominent precinct within the region.

The area has very strong visual linkages with motorists slowing down to turn onto or out of Waterloo Corner Road and it is also a key freight route to Heaslip Road.

Current access to the allotments can be via Angle Vale Crescent (half of which runs parallel to Port Wakefield Road) and Burton Road, and is not dependent on access via Port Wakefield Road.

While the majority of the businesses within this precinct do not rely on direct access from Port Wakefield Road, a number still do. These businesses, however, could be accommodated by extending the Angle Vale Crescent service road or by connecting Burton Road through to Deuter Road, which also provides rear access to a number of businesses fronting Port Wakefield Road.

The Parafield Gardens industrial commercial area comprises land generally bounded by Port Wakefield Road, Ryans Road, Salisbury Highway and the Greenfields wetlands (on the eastern side of Port Wakefield Road), while a smaller commercial industrial area is located on the same side of Port Wakefield Road, just north of this area. The area is largely underdeveloped, with the majority of the businesses located along the western boundary, fronting Port Wakefield Road.

The City of Salisbury Development Plan (Consolidated–25 January 2006) states that the Parafield Gardens industrial area is a ‘gateway’ location that provides the opportunity for industrial activities to have a presence on the primary arterial road of Port Wakefield Road. The plan states that *the visibility of the zone has attracted a range of land uses willing to promote their presence to passing traffic. As a consequence of the nature of activities in the locality, the Parafield Gardens Industrial Area is primarily for service trade premises and light industries, rather than general industry.*

The desired forms of industries within the precinct include light industry, service industry and service trade premises, and small-scale transport activities. Industries that require large volumes of large vehicle movements are not considered appropriate for the area. *An extension to the service road to improve access arrangements for locality and provide a link through to the Mawson Connector has been proposed.*

Access to the commercial industrial precinct east of Martins Road is generally from Salisbury Highway and Ryans Road.

The Green Fields industrial commercial precinct, just north of the Parafield Gardens precinct on the same western side of Port Wakefield Road, is a modern industrial estate designed to accommodate a range of commercial and industrial land use activities.

The proposed works will have no adverse effect on this area and it is expected to increase development due to improved access.

It should also be noted that many of the businesses with direct access to Port Wakefield Road have already responded to safety issues that result from turning into premises directly from Port Wakefield

Road. Inghams, one of the largest businesses within the study area, has responded to this issue by locking their front gates located on Port Wakefield Road and directing clients and employees to enter by the rear entrance. Many other large and prominent businesses, such as Northside Trailers, The Truck Factory and ATD Tools, similarly encourage access by their rear access points and not from Port Wakefield Road.

More significantly, the Northern Expressway can provide the key linkage between various regions and the Port of Adelaide and other precincts of economic and industrial activity in northern Adelaide (see Figure 3.1). The *Draft Metropolitan Adelaide Industrial Land Strategy* (March 2006) identifies the following precincts for strategic industrial land use in northern metropolitan Adelaide:

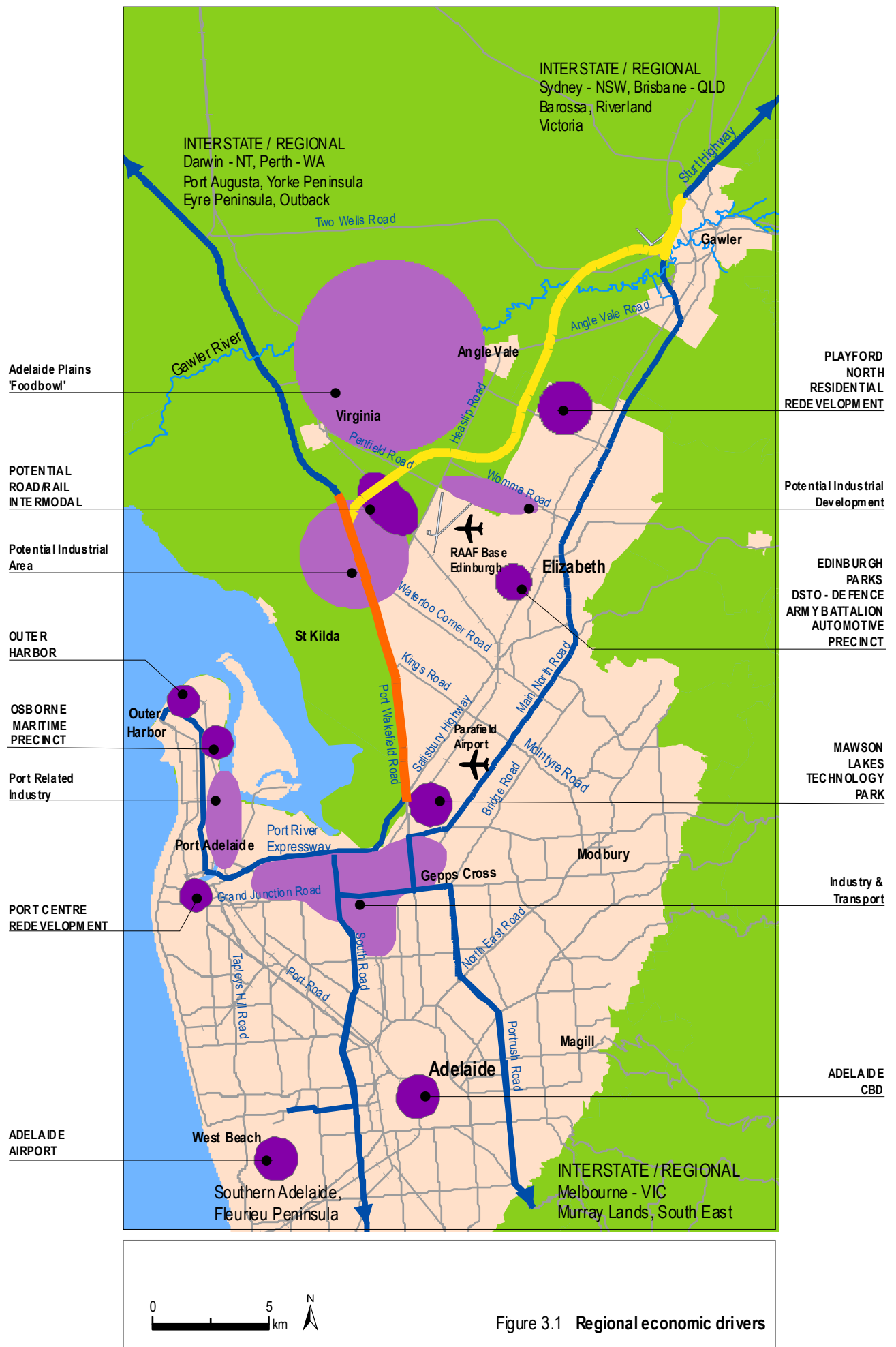
- sections of Edinburgh Parks for automotive parts, manufacturing and distribution
- Wingfield as a cast metals precinct
- Port Adelaide/Outer Harbor, near the unused portions of the Adelaide Freight Terminal, for transport and logistics companies
- Technology Park and DSTO (Mawson Innovation Precinct) for information communications technology (ICT) and defence-related companies
- Gillman eco-industrial precinct for resource recovery activities
- principal freight and transport terminals south-west of Port Wakefield Road including Regency Park, Outer Harbor, Port Adelaide and Adelaide Airport.

Two of the States' principal freight and transport terminals (as noted in the Planning Strategy for Metropolitan Adelaide) are located directly north (along Heaslip Road) and south (Salisbury Highway) of the study area. Edinburgh Parks is located north-east of the Port Wakefield Road study area and is also considered to be a principal freight terminal.

Key businesses and business precincts within the broader region, reliant on freight and/or good access through this region and which would benefit from the Northern Expressway, include:

- Inghams
- Edinburgh Parks industries
- General Motors Holden plant at Elizabeth and suppliers to the plant located at Edinburgh Parks
- Defence Science and Technology Organisation (DSTO)
- RAAF Base Edinburgh
- Coles/Myer (currently under construction)
- packing sheds in the horticultural areas of Virginia, Penfield Gardens, Lewiston, Hillier and Gawler River
- Gepps Cross/Regency Park distribution centres.

The Northern Expressway, together with the existing and planned principal freight and transport terminals and the existing and planned B-double routes, is expected to enhance accessibility to commercial and industrial precincts in northern metropolitan Adelaide. Overall, industrial and commercial development would be facilitated and supported by the proposed Expressway.



3.4 Summary of effects

The roadworks associated with the Northern Expressway will have a number of positive and negative effects on the communities living within the study area and, in particular:

- Land and house acquisition will be a direct and concerning effect for the community and the directly affected individuals along the entire route. An estimated 79 properties or parts of properties are to be acquired and of these 27 are individual residential dwellings. Some of these dwellings may need to be demolished and the owners compensated because of projected roadworks.
- The Expressway will directly affect the livelihood of some individuals and in some cases, their employees as it will sever land parcels and areas of ownership, and will divide productive functions on that land. In some cases, it may be possible to adjust land parcels to offset any losses of land and/or adjust for loss through suitable monetary compensation.
- It is considered that a major effect of the road will be on residents who are close enough to the road to be affected by its externalities and in particular, noise, visual appearance and exhaust pollution. This effect will decline the greater the distance away from the road. It is the case, however, that these effects will be a matter of perception and will vary between individuals. Nevertheless, these effects can cause significant stress to some people and communities, particularly as many people have chosen to live in a quiet rural setting.
- An overall positive benefit is expected to be an increase in the efficiency for the study area in regard to its access to other parts of the metropolitan Adelaide area, in particular the central business district, Port Adelaide and the employment market of northern and north-western Adelaide. The productivity of the expanding northern industrial and commercial enterprises will be increased as their accessibility to other places is improved and the flow-on effect will be felt in the employment opportunities for the communities of the study area.
- The businesses and residents of the area will benefit from improvements in accessibility by using the Northern Expressway for convenient and safe access to other community and recreation activities in the areas that are south and north of the study area. The northern areas will become more desirable for residential growth and renewal if they are more accessible to other parts of Adelaide and its attractive fringe areas, particularly the Barossa Valley and the coast.
- A positive outcome of the Northern Expressway will be the reduction of specific traffic bottleneck and safety issues in regard to Angle Vale/Heaslip roads. A very good example of this is the Angle Vale/Heaslip Road intersection within the community of interest area of Angle Vale. The traffic volumes, and in particular, the significant number of freight movements through the town, are not only at dangerous levels but affect the amenity of the community.
- Growth will continue within the townships of Virginia and Angle Vale although the extent of the towns is limited by current policies. Importantly, this growth will be accompanied by increasing demand for urban services, particularly effluent and stormwater drainage.
- The expansion of the defence activities at Edinburgh has been announced with the establishment of the new army battalion. This could comprise a total increase in personnel of 1200 to 1500 plus relocations from other bases and an electronic warfare initiative (900) personnel bringing the total potential new base personnel up to 2400. This would give the total number of DSTO/RAAF/Army personnel of 6300 (3900 + 2400). Whilst the defence presence will increase, the actual numbers living on-base are only estimated to increase by 250 army staff. Notwithstanding this situation, the movements of personnel on and off base will be significant as they commute from their residential accommodation in the northern suburbs. In addition, materiel and ordnance movements will also increase.

- The Cities of Playford and Salisbury have announced plans to investigate the future possibilities for a Greater Edinburgh Parks involving industrial/commercial expansion into the areas to the north and west of RAAF Base Edinburgh. More employment land and enterprise opportunity will have flow-on effects to the betterment of the study area communities.

Table 3.3 provides a summary of the effects of the project for each of the nominated precincts with an assessment of the significance of effect. It is acknowledged that the effects and significance of effect will be higher for some properties closer to the route or on the route than that assessed for the various precincts. Items identified as 'potential effects' are not assessed as the outcomes are contingent upon planning policy decision made by State and local government and are outside the direct effects arising from this project. Refer to Figure 2.2 for precinct locations and sub-precincts.

Table 3.3 Summary of effects by precinct

Precinct	Zone	Effect	Significance
Precinct 1 – Gawler Gliding and Harness Racing Clubs	Recreation Zone	Current track will be lost due to proposed Expressway	High
		Required modification to airfield access and positioning of sheds and hangars	Moderate
		Increase travel times from north/south	Minor
		Increase travel times from northern portion of the precinct	Minor
Precinct 2 – Gawler River Horticultural Precinct	Horticulture and Rural Zones	Loss of horticultural land	Moderate
		Severing of farming, rural living and horticultural properties	Moderate
		Reduction in rural living amenity and desirability	Minor
		Potential for the intensification of horticulture	–
		Potential for establishment of freight services for horticulture at Angle Vale Road	–
Precinct 3 – Andrews Farm/ Munno Para West	Local Centre and Residential Zones	Precinct 3 is substantially developed therefore limited land use change is anticipated	–
		Curtis Road intersection provides improved access to Port Adelaide and Adelaide	–
Precinct 4 – Macdonald Park/ Penfield Gardens	Rural Living and Horticulture Zones	Reduced access to local centre at Andrews Farm (schools, local shops, public transport)	Moderate
		Effect on rural living amenity in south-east corner of Macdonald Park	Moderate
		Loss of horticultural land (grapes and potatoes)	High
		Severing of horticultural land and properties	High
Precinct 5 – Penfield Recreation/Rural Living	Recreation and Rural Zones	Severing of farming units	Moderate
		Loss of horticultural, rural land and recreational land	Moderate–High
Precinct 6 – Penfield/Virginia Horticulture	Rural and Recreation Zones	Severing of allotments	Minor–Moderate
		Loss of horticultural and rural land	Minor–Moderate
		Potential pressure to continue to intensify horticulture to the north and west of Expressway	–

Precinct	Zone	Effect	Significance
Precinct 7 – Virginia/St Kilda Horticulture	Recreation and Horticulture Zones	Severance issues of allotments	Minor
		Loss of horticultural land	Minor
		Potential pressure for intensification of horticulture to the north of the Expressway	–
Precinct 8 – Waterloo Corner (Burton) Industry	Industrial Zone	Restricted access to Port Wakefield Road will affect land use	Minor–Moderate
		Reduced access off Port Wakefield Road will affect land use	Minor
		Potential to generate intensification of industrial uses due to the improved access	–
		Potential to promote development within the precinct	–
Precinct 9 – St Kilda	Township and Horticulture Zones	No anticipated land use effects	–
		Access to St Kilda road may be detrimentally affected due to increased traffic and location of U-turns	–
Precinct 10 – Eastern Residential	Residential Zone	Reduced residential amenity	Minor
		Already zoned residential and is extensively developed -unlikely to have any changes to land use	–
Precinct 11 – Tourism and Retail	Rural Zone	Reduced amenity	Minor
		Unlikely to have any changes to land use	–
Precinct 12 – SA Water Bolivar	Special Uses Zone	No direct effect on land use as current access is retained	–
Precinct 13 – Port Wakefield Road Frontage – Globe Derby Park	Recreation and Rural Living Zones	Access is to be provided by new service road, removing direct access to Port Wakefield Road	–
		Existing fruit and vegetable business may close due to restricted access	–
Precinct 14 – Parafield Gardens and Green Fields Commercial/Industrial	Industry Zone	Intersection upgrade and Expressway improving overall access, therefore promotion of commercial/industrial development will occur	Moderate
		Access to be provided by new service road, removing direct access to Port Wakefield Road	–
		Potential change in business	–
Precinct 15 – Globe Derby Park	Rural Living and Recreation Zones	Some restrictions to road access off Port Wakefield Road affecting access to training facilities	–
		Main entrance to be retained	–
		Anticipate current land uses continuing	–
		Potential for increased usage of Globe Derby trotting tracks due to proposed closure of Gawler trotting track	–
		Recreational zoning of Globe Derby Park limits range of land use and land use change	–
		Formalisation of service road will result in loss of informal equestrian access to the trotting track from rural living allotments to the north	–

Precinct	Zone	Effect	Significance
Precinct 16 – Mawson Lakes Residential and Township	Town Centre, Residential and MFP Zone	No direct effects on land use	–
Precinct 17 – Salt Fields – Extractive Industry	Extractive Industry Zones	No direct effects on land use	–
Precinct 18 – Salisbury Wetlands	MOSS Zone	No direct effects on land use	–

4 Safeguards and mitigation measures

4.1 General principles

The construction and operation of the Expressway from Gawler to Port Wakefield Road will have medium to high effects on the land use of properties located on the actual route but minor to medium effects for properties adjacent to the route and minor effects away from the route within the study area.

Changes in access to and from Port Wakefield Road are likely to lead to some minor to medium effects on land use in the commercial, industrial and horticultural areas adjacent to the road and minimal effects on residential areas within the study area.

The following general principles are proposed to provide safeguards and mitigation measures against adverse effects from the project:

- Undertake consultation with local council, landowners and other stakeholders to determine how to maximise benefits and reduce the negative effects of the project.
- Minimise closure/disruption to higher order local roads (e.g. Heaslip Road, Angle Vale Road, Womma Road).
- When determining the location of intersections, ensure that these are in the best location for the population to be served.
- Ensure all properties have access to a public road.
- Ensure ongoing communication and consultation with the local communities.

4.2 Measures to minimise effects during planning and design

The following measures were considered during the planning and design phase. Minor adjustment to the route utilising the above principles, and the adoption of these measures may further reduce negative effects on land use:

- route alignment to follow property boundaries where possible.
- identification and maintenance of principal access routes within and between precincts.

4.3 Measures to minimise effects during construction

Much of the proposed Northern Expressway does not follow existing road alignments and can therefore be constructed 'off-line' and be staged to minimise effects. In addition, the road traverses open rural land and for the most part is removed from direct contact with well-populated areas. Therefore, it is possible to minimise dust and noise effects, and traffic disruption. Dust will be an issue in regard to its effect on sensitive crops. The Port Wakefield Road Upgrade section is substantially

established but careful staging and construction management are required to minimise the effects on adjacent and nearby properties.

The following measures can be applied in the construction phase to minimise effects on land use:

- Provide early and clear information to the community about future changes to traffic conditions during construction and about how the community will be affected after the construction is completed.
- Site management plans should be prepared prior to the commencement of construction. These should incorporate details of how access will be maintained during the construction of overpasses.
- Ensure overpasses are completed as quickly as possible once work commences.
- Stage the construction program to retain access where possible so that existing access routes are not severed prior to construction of overpasses and new access roads.
- The number of road closures required for construction at any point in time should be minimised to enable road users to access alternative routes.
- Manage construction phasing and timing to minimise potential noise effects on residents.
- Manage construction to minimise dust effects on residents and crops.
- Ensure information about road closures and works during construction is clearly communicated with the community to avoid confusion.

4.4 Measures to minimise effects post-construction

As well as the matters considered in the design and construction phases of the project, the following are considered important in the minimisation of operational effects:

- Provide early and clear information about how the community will be affected after the construction is completed.
- Emphasise the ongoing advantages of the upgrades particularly in regard to convenience and safety.
- Establish ongoing monitoring of the upgraded road to identify any operational problems.
- Negotiate with local government and local communities any measures that could be applied to correct any significant operational issues.

Table 4.1 Safeguards and mitigations by precinct

Precinct	Safeguards and mitigations
Precinct 1 – Gawler Gliding and Harness Racing Clubs	<p>Provide training track within the locality, potentially on the airfield, to replace existing track</p> <p>Relocate existing sheds or provide new sheds from the southern side of the airfield to the northern side</p> <p>Upgrade and seal Wingate Road to Two Wells Road, and Ward Belt Road to Wingate Road</p>
Precinct 2 – Gawler River Horticultural Belt	Consolidate land parcels separated by acquisition to provide for continuing horticultural land uses
Precinct 3 – Andrews Farm/Munno Para West	No safeguards or mitigations required
Precinct 4 – Macdonald Park/Penfield Gardens	<p>Consolidate land parcels separated by acquisition to provide for continuing horticultural and industrial land uses</p> <p>Investigate the necessity to provide pedestrian connection from Macdonald Park to Andrews Farm</p> <p>Investigate the necessity to construct Petherton Road overpass to maintain access to Andrews Farm and Munno Para</p> <p>Provide earth mound landscaping and sound walls to the southern edge of Macdonald Park rural living zone</p>
Precinct 5 – Penfield Recreation/Rural Living	<p>Consolidate land parcels separated by acquisition to provide for continuing horticultural and industrial land uses</p> <p>Investigate the need to construct Petherton Road overpass to maintain access to Andrews Farm and Munno Para</p>
Precinct 6 – Penfield/ Virginia Horticulture	Consolidate land parcels separated by acquisition to provide for continuing horticultural and industrial land uses
Precinct 7 – Virginia/ St. Kilda Horticulture	Consolidate land parcels separated by acquisition to provide for continuing horticultural and industrial land uses
Precinct 8 – Waterloo Corner (Burton) Industry	<p>Provide service road along Port Wakefield Road</p> <p>Provide directional signage</p>
Precinct 9 – St Kilda	Provide directional and tourist signage
Precinct 10 – Eastern Residential	<p>Supplement landscaping along Port Wakefield Road</p> <p>Consider noise attenuation along Port Wakefield Road</p>
Precinct 11 – Tourism and Retail	<p>Provide directional and tourist signage</p> <p>Supplement landscaping along Port Wakefield Road and noise attenuation for caravan park</p>
Precinct 12 – SA Water Bolivar	Provide directional signage
Precinct 13 – Port Wakefield Road Frontage – Globe Derby Park	<p>Provide service road along Port Wakefield Road</p> <p>Provide directional signage</p> <p>Investigate provision of equestrian access between rural living properties and trotting track facilities</p>
Precinct 14 – Parafield Gardens and Green Fields Commercial/Industrial	Provide directional signage

Precinct	Safeguards and mitigations
Precinct 15 – Globe Derby Park	Provide directional and tourist signage Supplement landscaping Investigate provision of equestrian access between rural living properties in the north and trotting track facilities
Precinct 16 – Mawson Lakes Residential and Township	No safeguards or mitigations required
Precinct 17 – Salt Fields – Extractive Industry	No safeguards or mitigations required
Precinct 18 – Salisbury Wetlands	Supplement landscaping with a focus on treating stormwater from Port Wakefield Road

4.5 Specific treatments/actions to minimise effects during construction

This has been addressed in Section 4.3, in particular the timing of construction to consider the effect on crops.

4.6 Specific treatment/actions to minimise effects during ongoing operations

Specific measures to minimise the operational effects on the five precincts considered to be the most significantly affected are detailed below.

Precinct 1: Gawler Gliding and Harness Racing Clubs

This effect is largely associated with the severance of Whitelaw Road. The alternative route to Whitelaw Road is an unsealed road. While Whitelaw Road is also unsealed, the Northern Expressway project is likely to result in an increase in the distance travelled by the community within Precinct 1 on unsealed roads. A potential mitigation measure to reduce the effect of the project on safety for this precinct would be to seal this section of road. A shared arrangement may be negotiated with Light Regional Council whereby the cost of sealing the road may be shared. To reduce construction effects, it is proposed that this occur prior to the closure of Whitelaw Road.

Precinct 3: Andrews Farm/Munno Para West

The travel and time distance between the precinct and Virginia will increase. Before detailed mitigation measures are introduced, an assessment of the importance of this route should be undertaken. While it is expected that some residents in Andrews Farm are employed in Virginia and surrounds, it is expected this community is more reliant on Munno Para, Salisbury and Elizabeth for day-to-day needs.

Precinct 4: Macdonald Park/Penfield Gardens

The provision of direct access from the southern section of Macdonald Park to Andrews Farm should be investigated. Options for this may include the following:

- Option 1 – the construction of a vehicle overpass at Petherton Road
- Option 2 – a pedestrian overpass halfway between Curtis Road and Petherton Road.

Constructing a vehicle overpass at Petherton Road would provide closer vehicular access to Andrews Farm. Construction of a vehicle overpass is likely be quite expensive and may not provide sufficient access for people who walk to Andrews Farm to access public transport and schooling. If this option were selected in isolation of Option 2, it would result in Macdonald Park becoming car dependent. Option 1 would allow the existing pedestrian linkages to be retained.

Precincts 5 and 6: Penfield

There is an increase in travel and time distance to several destinations from Penfield. Further discussions should be undertaken with the council to determine what mitigation measures may be appropriate.

Precincts 13 and 15: Globe Derby Park

Options should be investigated for the provision of equestrian access between Precincts 13 and 15.

5 Conclusion

The construction and operation of the Northern Expressway from Gawler to Port Wakefield Road will have medium to high effects on the land use of properties located on the actual route, minor to medium effects for properties adjacent to the route and minor effects away from the route within the study area.

Changes in access to and from Port Wakefield Road are likely to lead to some minor to medium effects on land use in the commercial, industrial and horticultural areas adjacent to the road and minimal effects on residential areas within the study area.

An overall positive benefit to development is expected to be an increase in the efficiency for the study area by way of access to other parts of the metropolitan Adelaide area, in particular the central business district, Port Adelaide and the employment market of northern and north-western Adelaide.

The businesses and residents of the area will benefit from improvements in accessibility by using the Northern Expressway for convenient and safe access to other community and recreation activities in the areas that are south and north of the study area.

Land and house acquisition will be a direct effect and will concern individuals along the route with an estimated 79 properties or parts of properties being acquired, including 27 dwellings.

It is expected that growth will continue within the townships of Virginia and Angle Vale although the extent of the towns is limited by current policies. Importantly, this growth will be accompanied by increasing demand for urban services, particularly effluent and stormwater drainage.

The Expressway will directly affect some 54 agricultural and horticultural properties and will divide productive functions on that land. In some cases, it may be possible to adjust land parcels to offset any losses of land and/or adjust for loss through suitable monetary compensation.

The expected effects that the proposed route will have on land use include the severance and loss of agricultural, horticultural and recreational land, and open space. In particular, the existing Gawler Harness Racing Club will need to be acquired and removed for the construction of the Expressway. It is estimated that a total of 2.5% of horticultural land will be lost due to the Expressway and this is considered minor in relation to the 6–7% annual growth of horticulture.

Safeguards and mitigations proposed to reduce the negative effects of the Northern Expressway project include early consultation with local councils, landowners and other stakeholders to determine how to maximise benefits and reduce the negative effects of the project; minimising closure/disruption to higher order local roads (e.g. Heaslip Road, Angle Vale Road, Womma Road); ensuring the locations for overpasses and intersections are selected with regard to local access arrangements; timing construction works to accommodate horticultural work cycles; ensuring all properties have access to a public road; and ongoing communication and consultation with the local communities.

6 References

Planning Strategy for Metropolitan Adelaide (August 2006)

Planning Strategy for the Outer Metropolitan Adelaide Region (August 2006)

South Australia's Strategic Plan (and updated plan January 2007)

Strategic Infrastructure Plan for South Australia

Draft Metropolitan Adelaide Industrial Land Strategy (March 2006)

Housing Plan for South Australia

City of Salisbury Development Plan (25 January 2006)

Department of Primary Industries and Resources, SA (PIRSA). *Submission on a proposed Inter-Modal Freight Facility near Waterloo Corner*. February 2005.

Primary Industries and Resources, SA, Agriculture and Wine Division. *Report on the impact of alternate alignments for the southern portion of the Northern Expressway and for new industry zones adjacent to the Virginia horticulture district*. September 2006.

Department of Primary Industries and Resources, SA. *Agriculture and Wine Division. Report on the anticipated agri-food impacts of the proposed Northern Expressway*. November 2006.

Attachment A

Council zoning and policy areas

Northern Expressway

Council Areas and Zoning

Light Regional Council

PRIMARY INDUSTRY ZONE

Introduction

The objective and principles of development control that follow apply in the Primary Industry Zone, shown on [Maps Lig/3 to 15, 17 to 23, 27 to 34 and 36 to 40](#). They are additional to those expressed for the whole of the council area.

There are four policy areas within the zone, namely the Gawler River Flood Plain Policy Area 1 ([Maps Lig/28 and 29](#)) Primary Industry Policy Area 2 - Market Gardening ([Maps Lig/3, 8, 9 and 26 to 29](#)) Primary Industry Policy Area 3 – Horticulture ([Maps Lig/3, 9, 12 to 15, 17, 23, 26, 29 to 34 and 36 to 38](#)) and the Historic Conservation (Daveyston) Policy Area 18 ([Map Lig/31 and 46](#)).

A Principle of Development Control may include one or more associated Design Techniques beneath the Principle. The Principles are general statements that will achieve the Objectives. A Design Technique accompanying a Principle provides a specific quantitative example of what can satisfy the Principle. Design Techniques illustrate ONE WAY of satisfying a Principle and, unless otherwise stated, are not intended to be prescriptive or minimum standards. There may be other, sometimes better, ways of satisfying the Principle, or in some cases using lesser numerical standards may involve an acceptable or necessary trade-off against other Principles.

OBJECTIVE

Objective 1: A zone for farming on large properties, predominantly for cereal cropping and grazing with designated areas for horticulture and market gardening, which will:

- (a) protect and improve soil and water resources and air quality;
- (b) prevent environmental nuisance or harm resulting from noise, smoke, dust, fumes and odour;
- (c) retain and maintain existing native vegetation for its conservation, bio-diversity and habitat value and environmental management function;
- (d) protect sensitive uses from external noise;
- (e) prevent environmental nuisance or harm resulting from a biological chemical or fire hazard, energy emission or explosion;

- (f) ensure effective on-site treatment and management of solid and liquid wastes to prevent environment nuisance and harm and adverse impacts on public and worker health and the amenity of the locality;
- (g) retain the rural character comprising individual farm buildings in a landscape of undulating to rugged hills;
- (h) preserve the extensive dunefield of sands in the vicinity of Ward Belt together with the associated vegetation;
- (i) protect the Light, North Para and Gawler Rivers from incompatible development and pollution, and their recognition as natural resources of significant value to the district as a pleasant rural contrast to the surrounding countryside and a permanent supply of fresh water;
- (j) provide for the extraction of minerals in a manner compatible with the continuation of general farming as the primary use;
- (k) protect development on the Gawler River floodplain from flooding;
- (l) reserve the white quartz sand reserves occurring north of Freeling and the brick clays west of Freeling as significant mineral resources; and
- (m) recognise the limited physical and social infrastructure such as all-weather roads, public utilities and community facilities in the area.

RURAL LIVING ZONE

Introduction

The objectives and principles of development control that follow apply in the Rural Living Zone shown on [Maps Lig/5 to 7, 9 to 12, 18 to 20, 24, 26, 29, 30, 34, 39 and 40](#). They are additional to those expressed for the whole for the council area.

The rural living areas in the council area are located on the outskirts of the townships of Gawler, Kapunda, Freeling, Greenock, Roseworthy and Wasleys, and in the area of Shea-Oak Log and Allendale North. There are principles of development control which apply throughout the zone and others which apply to specific rural living areas adjacent specified settlements and Policy Area 9 (Gawler Belt–west) shown on [Maps Lig/9, 26 and 29](#).

OBJECTIVES

Objective 1: A zone accommodating detached dwellings at low densities in association with a mixture of small-scale, part time rural activities, in which:

- (a) development is designed, sited and landscaped, and properties are managed to minimise adverse impacts on the amenity of adjoining occupants; and
- (b) land is landscaped and managed to retain and enhance native vegetation.

RESIDENTIAL (GAWLER BELT) ZONE

Introduction

The objectives and principles of development control that follow apply in that part of the council area referred to as Residential (Gawler Belt) Zone shown on [Maps Lig/9, 26 and 29](#). They are additional to those expressed for the whole of the council area.

This Zone land represents the last available broad hectare land development area which links directly with the Town of Gawler and is a strategic discrete land parcel bounded by the North Para River and Sturt Highway. Its urban development should sensitively link with the Town of Gawler road hierarchy and complement its desired residential character and also assist in providing community, educational and shopping needs.

Housing should take advantage of site features, maximise views and access to the extensive open spaces, and efficiently utilise land and urban services.

A total of 800 to 1000 households can be supported and development should yield, on average, eight to 12 dwellings per hectare, exclusive of the school and local centre sites and shown on [Map Lig/1 \(Overlay 1\) Enlargement B](#).

OBJECTIVES

Objective 1: Development functionally integrated with the Gawler township and complementing the town's principal structural elements in accordance with Structure Plan [Map Lig/1 \(Overlay 1\) Enlargement B](#), including:

- (a) retention of the town's rural backdrop and clear delineation of this area as a new township extension;
- (b) extension of the North Para River open space to link with the parkland belt;
- (c) adoption of the prevailing principal movement patterns, and direct links with the main traffic thoroughfares;
- (d) provision for local shops and educational facilities;
- (e) maximising public access to shared school playing fields and to the linear park; and
- (f) a buffer along the northern boundary of the area to minimise impact from nearby rural and industrial uses.

Objective 2: A zone accommodating a range of dwellings of a form, scale and design appropriate to the site conditions and consistent with the desired character.

Objective 3: A desired future character comprising:

- (a) a built-scale sympathetic to the natural landform, minimising, on sloping sites, extensive benching or filling of land in order to create a large single-level building site;
- (b) streetscapes of varying built character, but not dominated by larger-scale buildings which are set-back further and designed to avoid large massed facades;

- (c) landscaped gardens set within tree-lined streets; and
- (d) dwellings on sites with public road and reserve frontages, designed to maximise views, promote sympathetic street frontages and afford secure courtyard private yards.

Objective 4: A high quality residential environment comprising:

- (a) safe and pleasant streets;
- (b) a residential setting free from incompatible land uses and activities;
- (c) safe and convenient access to open space, community facilities and local services;
- (d) dwellings with optimal access to natural sources of light and energy; and
- (e) efficient use of land for a range of housing.

Significant Trees

Objective 5: The preservation of significant trees which provide important aesthetic and environmental benefit.

Trees are a highly valued part of the Metropolitan Adelaide environment and are important for a number of reasons including high aesthetic value, preservation of bio-diversity, provision of habitat for fauna, and preservation of original and remnant vegetation.

While indiscriminate and inappropriate significant tree removal should be generally prevented, the preservation of significant trees should occur in balance with achieving appropriate development.

INDUSTRY (GAWLER BELT) ZONE

Introduction

The objective and principles of development control that follow apply in the Industry (Gawler Belt) Zone shown on [Maps Lig/9, 26 and 29](#). They are additional to those expressed for the whole of the council area.

There are two policy areas within the zone where additional provisions apply. They are identified as Industry (Gawler Belt) Policy Area 16 and Policy Area 17 shown on [Maps Lig/9, 26 and 29](#).

OBJECTIVE

Objective 1: An area for the development of industrial or commercial uses of land in a manner which will permit the safe and convenient flow of traffic along adjacent primary and secondary arterial roads, and which will enhance the appearance of the land.

The zone is divided into two policy areas, Policy Area 16 primarily for general industry, and Policy Area 17 for light industries and commercial development supporting the northern areas of Gawler and the rural and wine industries in the wider region.

Desired uses include large transport related industries and manufacturing industries which support the wider region's agricultural, viticultural and wine production industries.

Industries which generate air emissions and require large site areas to provide environmental separation distances to rural dwellings are appropriate subject to the management of off-site impacts.

General industries which require extended 24 hour operation are appropriate where noise emissions do not generate nuisance beyond the zone which adversely affect the amenity of rural residents.

Light industries which form a component of a general industrial development are appropriate in Policy Area 16. Light industries not required to be co-located on the same site as a general industry should be developed in Policy Area 17 or other suitable Industry Zones.

RURAL AGISTMENT (GAWLER BELT) ZONE

Introduction

The objective and principles of development control that follow apply in the Rural Agistment (Gawler Belt) Zone, shown on [Maps Lig/9, 26 and 29](#). They are additional to those expressed for the whole of the council area.

Part of the zone is affected by the provisions of the Gawler River Flood Plain Policy Area 1 shown on [Maps Lig/28 and 29](#).

This area adjacent to the Gawler River is constrained by flooding impact and environmental character considerations. Given these factors and its proximity to the trotting track it is desirable that the land be maintained for the grazing of horses and ancillary uses, subject to careful design considerations.

OBJECTIVE

Objective 1: Land primarily used for grazing activities particularly horse agistment with associated detached dwellings and outbuildings, as well as for farming and horticulture, and native flora is retained and enhanced.

RECREATION (GAWLER BELT) ZONE

Introduction

The objectives and principles of development control that follow apply in the Recreation (Gawler Belt) Zone shown on [Maps Lig/9, 26 and 29](#). They are additional to those expressed for the whole of the council area.

The "Gawler Aerodrome", council land currently sub-leased to the Glider Club, and the trotting track are major regional recreation facilities in this zone. This use and role are desired to continue at least for the medium-term.

OBJECTIVES

Objective 1: A zone accommodating major public and private land uses of a recreational nature, all with an open character.

Objective 2: Development exhibiting a pleasant landscape appearance as viewed from the Sturt Highway.

INDUSTRY (SHEA-OAK LOG) ZONE

Introduction

The objectives and principles of development control that follow apply to that part of the council area referred to as the Industry (Shea-Oak Log) Zone shown on [Maps Lig/12, 26 and 30](#). They are additional to those expressed for the whole of the council area.

OBJECTIVES

Objective 1: A zone for commercial and industrial uses of land.

Objective 2: Noisy uses and activities located towards William Street.

Objective 3: Industrial and commercial development designed, sited and landscaped to enhance its appearance when viewed from William Street, Ahrens Road and the adjacent Rural Living Zone (Shea-Oak Log area shown on [Map Lig/12](#)).

District Township of Gawler

LIGHT HISTORIC (CONSERVATION) POLICY AREA

Introduction

The objectives and principles of development control that follow apply in the Light Historic (Conservation) Policy Area shown on [Maps Ga/13, 14 and 16](#) and [Figures H\(C\)/2 and \(C\)/2 Enlargement A](#). They are additional to those expressed for the whole of the Council area and the Residential 2 Gawler, Residential 1A, Town Centre, Town Centre (Retail Core), Town Centre (Fringe) and Special Uses Zones, where applicable.

OBJECTIVES

Objective 1: Retention and/or reinstatement of the street layout and subdivision pattern as designed by Light, Finnis & Co.

Objective 2: Development complementary to the historic character and significance of the policy area as expressed in the Statement of Historical Significance and desired character.

Objective 3: Retention of all places (including landscape elements) which contribute to the historic character of the policy area.

RESIDENTIAL 2G ZONE

Introduction

The objective and principles of development control that follow apply in the Residential 2G Zone shown on [Maps Ga/3, 5, 6, 8, 9 and 12](#). They are additional to those expressed for the whole of the council area. Reference should also be made to the Willaston Historic (Conservation), Willaston Residential Historic (Conservation), Gawler East Historic (Conservation), Gawler South Historic (Conservation) and Light Historic (Conservation) Policy Areas as shown on [Maps Ga/13, 14, 16 and 17](#) and the Gawler Rivers Flood Plain Policy Area as shown on [Figure GRFP/1](#) and [Maps Ga/13, 14 and 16 to 20](#).

OBJECTIVE

Objective 1: A zone primarily accommodating detached dwellings, and semi-detached

dwellings with row dwellings or residential flat buildings of medium-densities, or the keeping of horses, in suitable areas.

DEFERRED URBAN ZONE

Introduction

The objectives and principles of development control that follow apply to the Deferred Urban Zone shown on [Maps Ga/4, 5, 8, 9 and 11](#). They are additional to those Council Wide provisions expressed for the whole of the council area.

Reference should also be made to the Gawler Rivers Flood Plain Policy Area as shown on [Figure GRFP/1](#) and [Maps Ga/13, 14 and 16 to 20](#).

DESIRED CHARACTER

The Deferred Urban Zone identifies those areas within the Urban Boundary which have been set aside for urban expansion. The development of land is dependent on resolution of outstanding issues; the timing of detailed structure planning and demand for future housing. Accordingly, this Zone aims to limit development that is incompatible with future housing, and to prevent development likely to prejudice the orderly conversion of the land to urban residential use. Urban development should only occur after detailed structure planning and rezoning has been undertaken to ensure an orderly extension of existing urban areas, to prevent the creation of isolated communities that are removed from infrastructure and services.

The future character of this land should be defined by development that incorporates:

- (a) Water sensitive urban design principles.
- (b) Movement linkages to the balance of the Gawler Township and existing public transport services, with a focus on walking and cycling.
- (c) Community services and facilities, such as education facilities, accessible to the community they serve.
- (d) Active and vibrant public spaces that promote community interaction.
- (e) Provision of effective noise attenuation buffers to major transport corridors.

The progressive rezoning of land within the suburbs of Evanston Gardens, Evanston South and Evanston Park is planned to occur in order to maintain an adequate land supply within the region while ensuring undue pressure is not placed on infrastructure and social services.

OBJECTIVES

Objective 1: A zone accommodating a range of low-intensity rural uses that do not compromise future opportunities for co-ordinated urban development.

Objective 2: A zone comprising land to be used primarily for non-intensive farming purposes until required for future urban expansion.

Objective 3: Prevention of development likely to be incompatible with long-term urban development, or likely to be detrimental to the orderly and efficient servicing and conversion of the land for urban use.

Objective 4: Use of buffers to accommodate stormwater and waste water management practices and provision of linear buffers along transport corridors and adjacent rural zones to manage potential sources of impact.

Objective 5: Development that contributes to the desired character of the zone.

GENERAL INDUSTRY ZONE

Introduction

The objective and principles of development control that follow apply in the General Industry Zone shown on [Map Ga/5](#). They are additional to those expressed for the whole of the council area.

Reference should also be made to the Gawler Rivers Flood Plain Policy Area as shown on [Figure GRFP/1](#) and [Maps Ga/13, 14 and 16 to 20](#).

OBJECTIVE

Objective 1: A zone primarily accommodating general industrial development.

Desired Character and Use of Land

The zone is intended to accommodate a wide range of uses including service and manufacturing industry, wholesaling, warehousing and storage.

The zone's image will be improved with the infill of vacant and underutilised land with attractive and suitably scaled development. Paxton Street and Kellys Road should be transformed by the development of attractive streetscapes with large street trees to form a more impressive entrance to this industrial precinct.

Signage should provide a single and clear identification of each site with Pylon or Freestanding signs being the most appropriate for this purpose. Flat wall signs involving direct application to large scale walls is encouraged providing the overall size is in proportion to the building. Priority should be given to legibility and avoiding clutter, both in terms the number of signs and unnecessary detailing. Third party or product advertising is inappropriate in the zone.

Desired Uses:

Emergency services

General Industry

Industry

Light Industry

Motor Repair Station

Offices associated with the desired uses for the zone

Public Service Depot

Service Industry

Showroom

Store

Timberyard

Warehouse

Wholesaling

Uses listed in Principle 6 (Complying Development).

SPECIAL USES ZONE

Introduction

The objective and principles of development control that follow apply in the Special Uses Zone shown on [Maps Ga/3, 5, 6, 8, 9 and 12](#). They are additional to those expressed for the whole of the council area. Reference should also be made to the Light Historic (Conservation), Gawler East Historic (Conservation) and the Gawler South Historic (Conservation) Policy Areas as shown on [Maps Ga/13, 14 and 16](#) and the Gawler Rivers Flood Plain Policy Area as shown on [Figure GRFP/1 and Maps Ga/13, 14 and 16 to 20](#).

OBJECTIVE

Objective 1: A zone accommodating public and private development of an institutional or open character.

Desired Character and Use of Land

The zone comprises a range of identifiable land use precincts including cultural activities, passive recreation, active recreation, spectator sports, tourist uses, and natural or conservation areas, essentially along parts of the North and South Para Rivers.

The prime factor of the zone revolves around community use and in general terms it is not proposed that this zone will be used for business uses.

In addition to accommodating community activities and uses, the zone has a significant amenity function by providing a distinctive setting for urban development and an opportunity for either tall mature trees, such as occurs along the urban river system or long vistas over open and green spaces such as the Gawler Racecourse.

Desired Uses:

Active Outdoor Recreation	Landscaping
Car parking	Licensed Premise
Caravan Park	Meeting Room
Community Centre	Oval
Community Hall	Playground
Conservation Area	Stadium
Education	Spectator Stand
Golf Course	Swimming Pool
Hard Surface Court	Racecourse
Indoor Recreation Facility	Uses listed in Principle 6 (Complying Development)
Intensive Outdoor Recreation (of playing fields, hardcourts)	

RURAL LIVING ZONE

Introduction

The objective and principles of development control that follow apply in the Rural Living Zone shown on [Maps Ga/5, 6, 9 and 12](#). They are additional to those expressed for the whole of the council area.

OBJECTIVE

Objective 1: A zone primarily accommodating detached dwellings on large allotments set in a semi-rural environment, with a range of agricultural activities, including small

hobby farms and some non-agricultural activities, in suitable areas.

Willaston North (Area 3)

Introduction

The objectives and principles of development control that follow apply to that part of the area of the Corporate Town of Gawler referred to as Willaston North (Area 3) shown on [Map Ga/13](#). They are additional to those expressed for the whole council area.

OBJECTIVES

Objective 1: Development of the area as an integrated extension to the Gawler town residential area and providing opportunities for the construction of detached dwellings and tourist accommodation at low-densities.

Objective 2: The protection of residential land uses from the effects of traffic on the Gawler Bypass.

Objective 3: Development designed and sited to minimise visibility from the bypass and provide a high standard of residential amenity.

Willaston West (Area 4)

Introduction

The objectives and principles of development control that follow apply to that part of the area of the Corporate Town of Gawler referred to as Willaston West (Area 4) shown on [Map Ga/13](#). They are additional to those expressed for the whole council area.

OBJECTIVES

Objective 1: Provision for the continuation of the existing mix of residential and rural uses of land in a way that will retain the opportunity for the future expansion of the Gawler urban area in the form of low-density residential and tourist accommodation.

Objective 2: The area developed so as to have a minimal adverse visual impact from the Gawler Bypass.

City of Playford

RESIDENTIAL (PLAINS) ZONE

Introduction

The objectives and principles of development control that follows apply in the Residential (Plains) Zone shown on [Maps Play/5, 6 and 13 to 20](#). They are additional to those expressed for the whole of the council area and, in cases of apparent conflict, take precedence over the more general provisions.

OBJECTIVES

Objective 1: A zone primarily accommodating dwellings of various types at low and medium densities and one to two storeys in height to meet the needs of the changing population profile.

Objective 2: A desired future character comprising:

- (a) the orderly and sequential development of new areas on the fringe that promote a high level of amenity and incorporate ecologically sustainable principles into their design;
- (b) the re-development of areas and upgrading of dwellings having a low-level of amenity;
- (c) development integrated with communities in the adjoining Residential (Regeneration) Zone;
- (d) varied streetscapes with a focus on high public amenity and an attractive public environment enhanced by pleasant streetscapes, landscaping and various public works, with an emphasis on good urban design; and
- (e) limited vehicular intrusion to protect residential areas from through traffic.

The Residential (Plains) Zone encompasses the majority of residential areas within Playford, and as such is a mixed area consisting of:

- (a) undeveloped residential land on the urban fringe;
- (b) established areas, developed from the 1980's to current; and
- (c) Housing Trust developed areas, now of mixed ownership.

In order to promote an improved quality of life to residents within Playford, it is essential that good design practices be encouraged to not only ensure innovation and sustainability in the design of any new development, but also to preserve and/or improve the quality of the surrounding residential environment.

Opportunities for new development are, and will continue to be predominantly in undeveloped fringe areas. However, opportunities also exist to gradually develop under-utilised and vacant land within established areas, particularly when a specific housing need arises within the population, but also as an opportunity for improving access to existing services and facilities.

Medium density forms of housing, particularly detached dwellings designed for small allotments have been promoted throughout the life of more recent established

areas. Other forms of medium density development also exist, but are predominantly located close to services and facilities. The changing needs of the population will ensure a demand for a range of housing will continue within undeveloped and established residential areas.

New neighbourhood planning and development in the suburbs of Andrews Farm and Munno Para West should be designed to encourage social and physical linkages with established communities in Smithfield Plains and Davoren Park (eg linkages to established public open spaces, buildings addressing public open spaces such as the linear park).

Objective 3: An orderly sequence of development which allows economic and effective provision of public infrastructure and services and which exploits existing under utilized public services such as community, education and retail facilities.

Objective 4: Open space systems designed to provide multiple use reserve areas that promote water management, habitat retention and enhancement, and informal recreational linkages.

Objective 5: Formal recreational opportunities for the developing fringe area are to take into account the open space provided at the Uley Road Reserve area.

Quality of life is measured in part by resident's access to community, education and recreation opportunities. Opportunities exist for the provision of these facilities by non- government agencies, and as such the establishment of schools and recreation facilities should not be considered the sole responsibility of local government. The City of Playford considers developers of new residential estates should take a greater responsibility in planning and providing for such facilities.

Objective 6: The former Smithfield township identified in [Map/Play 33](#) accommodating allotments and dwellings of dimensions and forms consistent with its historic subdivision pattern and residential character.

Objective 7: Continued residential growth within Munno Para West and Andrews Farm developed in an integrated and co-ordinated manner having regard to residential opportunities in adjoining areas.

RESIDENTIAL (REGENERATION) ZONE

Introduction

The objectives and principles of development control that follows apply in the Residential (Regeneration) Zone shown on [Maps Play/9, 13, 15, 17, 19 and 20](#). They are additional to those expressed for the whole of the council area and, in cases of apparent conflict, take precedence over the more general provisions.

OBJECTIVES

Objective 1: A zone primarily accommodating dwellings of various types at low and medium densities and one to two storeys in height, that incorporate a high level of amenity and ecologically sustainable principles within their design.

Objective 2: The development of each component of the zone in accordance with a comprehensive plan which allows for the complete or staged development or redevelopment of the area and which:

- (a) identifies dwellings or buildings which should be retained and the purpose for which those buildings will be used;
- (b) aggregates public open space, including resumed road reserve into usable recreation areas;
- (c) identifies an appropriate hierarchy of roads to reduce through traffic movements; and
- (d) minimises direct access to arterial roads.

Objective 3: A desired future character distinguished by:

- (a) an appropriate mix of new dwellings and upgraded older style dwellings aimed at diversifying the population profile, integrating public and private housing and creating an attractive and sustainable residential environment;
- (b) upgraded and attractive community facilities and centres in close proximity to all residents;
- (c) well landscaped, pedestrian dominated streets with a high level of amenity enriched by co-ordinated street landscaping, street furniture and paving treatments;
- (d) limited vehicular intrusion, with a defined hierarchy of roads to protect residential areas from through traffic;
- (e) attractively landscaped, safe and useable areas of public open space; and
- (f) open or low-fenced front gardens, which are extensively landscaped.

The Residential (Regeneration) Zone incorporates the Peachey Belt suburbs of Davoren Park and Smithfield Plains (both west of Coventry Road) and the suburb of Elizabeth Grove. These areas comprise mainly those Housing Trust residential estates of the 1950's and 1960's and accommodate primarily low-density, two to three bedroom, single and double unit houses.

For Playford these areas are seen as key regeneration opportunities. Many of the dwellings in these areas are nearing the end of their economic life and an

opportunity is available to make more efficient use of the land. In doing so, Council seeks to improve the quality of life offered to residents through improved housing and environmental quality, to produce housing which is most able to meet the changing demographic and financial needs of the community, and to ensure that residential areas, public open space and housing development achieve improved integration with the adjacent residential communities in the Residential (Plains) Zone.

Additionally, the planned redevelopment of these areas will permit the Housing Trust to realise the value of its holdings but also allows Council to encourage improved social mix by promoting private housing initiatives.

It is necessary that development be undertaken on a structured basis to permit the most efficient use of land, the extension or expansion of infrastructure services and the timely provision of community facilities.

Comprehensive plans for the redevelopment of an area within the Zone should be prepared jointly by the Council and developer, in consultation with the local community.

Comprehensive plans may be prepared for an entire component of the zone, a residential block or a smaller area, subject to the overall Zone objectives being attained.

HORTICULTURE ZONE

Introduction

The objectives and principles of development control that follow apply in the Horticulture Zone shown on [Maps Play/4 to 6, 8, 9, 13, 14, 15, 38 and 40](#). They are additional to those expressed for the whole of the council area. The Zone includes a number of policy areas, shown on [Maps Play/22 to 30](#).

In addition to the objectives and principles of development control, *Design Techniques* are one way in which the relevant principle may be satisfied. There may be other, sometimes better, design techniques depending upon local circumstances. It is not necessary for every proposal to satisfy every design technique. An “on-balance” decision must be made, having regard to all relevant principles and assigning them appropriate weight.

OBJECTIVES

Objective 1: Retention of land for horticultural purposes.

Objective 2: A zone characterised by open rural areas, market gardens, glasshouses, vineyards, orchards and pasture.

Objective 3: Increased employment opportunities in primary production and related industries.

Objective 4: Horticultural activities supported by horticultural related industrial and commercial activities such as packing sheds, cold storage facilities and small-scale processing facilities.

Objective 5: Intensive horticulture in appropriate locations and supported by adequate infrastructure and environmental management techniques.

Objective 6: Protection of horticultural activities from the encroachment of residential development.

Objective 7: Development which provides for the proper storage, collection and disposal of waste without environmental, health or water pollution risk.

Objective 8: Preservation and enhancement of rural character.

Objective 9: Recognition of constraints to development imposed by existing and forecast noise nuisance from Edinburgh Airfield, and limited kinds of development in close proximity to the airfield.

Objective 10: The Gawler River 100-year Average Return Interval Flood Plain kept free of development which could impede the flow of flood waters.

Building, solid fences and increases in the level of land all have the potential to impede the flow of floodwaters or change the pattern of the movement of floodwaters. This in turn may increase the depth, velocity or spread to floodwaters in other parts of the floodplain, resulting in an increase in damage or inconvenience in that location.

Objective 11: Development within the Gawler River Flood Plain Policy Area 1, as shown on [Maps Play/22 to 28](#), which recognises varying degrees of flood hazard.

Policy Area 1 identifies the land which is in the Gawler River flood plain. Within this flood plain are different degrees of flood hazard. A Gawler River Flood Hazard Map, (GRP Map No. 238/1993), which is available for inspection at the Council, has been prepared to identify three levels of 'Hazard Zones' which in turn relate to different degrees of flood hazard. For example, in a 100-year ARI flood event, vehicles would be unstable in Hazard Zone 2 and wading would be unsafe in Hazard Zone 3.

Objective 12: Horticultural activity within Policy Area 24, as shown on [Map Play/26](#), that is compatible with the Angle Vale township and in particular the residential and educational use of land.

Objective 13: Horticultural and agricultural activity within Policy Area 25, as shown on [Maps](#)

[Play/26, 27, 29 and 30](#), that is compatible with the adjacent urban areas.

Policy Area 24 – Angle Vale Buffer

The principles of development control that follow apply to that part of the Horticulture Zone shown as the Angle Vale Buffer – Policy Area 24 on [Map Play/26](#). They are additional to those expressed for the whole of the Horticulture Zone and for the Council area as a whole.

The purpose of the Angle Vale Buffer policy area is to specifically identify the horticultural land which needs to take into account land use compatibility considerations. Horticultural activity is appropriate within this policy area provided that suitable techniques or precautions have been adopted to minimise any negative impacts on the use of land within the township.

Policy Area 25 – Rural/Urban Buffer

Introduction

The principles of development control that follow apply to that part of the Horticulture Zone shown as the Rural/Urban Buffer – Policy Area 25 on [Maps Play/26, 27, 29 and 30](#). They are additional to those expressed for the whole of the Horticulture Zone and for the Council area as a whole.

The purpose of the Rural/Urban Buffer policy area is to identify land that is appropriate for horticulture, but where additional considerations are needed to be taken into account due to the proximity of the urban area, including future residential development. Horticultural activity is appropriate within this policy area provided that suitable techniques have been adopted to minimise any negative impacts on the use of land within the urban area.

RURAL LIVING ZONE

Introduction

The objectives and principles of development control that follow apply in the Rural Living Zone shown on [Maps Play/4, 5 and 11](#). They are additional to those expressed for the whole of the council area.

OBJECTIVES

Objective 1: Small allotments suitable for accommodating people wishing to live in a rural setting in association with rural activities of a minor nature.

Objective 2: Land division undertaken such that new allotments are connected to a range of services comparable to those within townships.

Objective 3: Maintenance of a high standard of amenity, by a combination of high quality detached dwellings, ancillary structures and extensive landscaping.

RECREATION ZONE

Introduction

The objectives and principles of development control that follow apply in the Recreation Zone shown on [Maps Play/4, 5, 8, 9, 15 and 17 to 20](#). They are additional to those expressed for the whole of the council area.

OBJECTIVES

Objective 1: A zone primarily accommodating public and private facilities of a recreational, either of an active or passive nature, or open character within a well landscaped setting.

Objective 2: Provision of future regional recreational facilities at the Penfield Reserve.

Objective 3: The Gawler River 100-year Average Return Interval Flood Plain kept free of development which could impede the flow of floodwaters.

Buildings, solid fences and increases in the level of land all have the potential to impede the flow of floodwaters or change the pattern of the movement of floodwaters. This in turn may increase the depth, velocity or spread to floodwaters in other parts of the floodplain, resulting in an increase in damage or inconvenience in that location.

Objective 4: Development of the Gawler River Flood Plain which recognises varying degrees of flood hazard.

Flood hazard varies across flood liable areas because of property types, floodwater depths and velocities, and difficulties of evacuation. Towards the edge of the flooded areas, depths are generally shallow and floodwaters move at low speed. Consequently, such areas generally have a low degree of hazard. In contrast, floodwaters are generally deeper and move more swiftly in the vicinity of the main flow channel and other major flood paths. These areas generally have a high degree of flood hazard. A Gawler River Flood Hazard Map, (GRO Map No. 238/1993), has been deposited in the General Registry Office and is available for inspection at the offices of the council and the Development Policy Advisory Committee. Three Hazard Zones are depicted on this map. In a 100- year ARI flood event, vehicles would be unstable in Hazard Zone 2 and wading would be unsafe in Hazard Zone 3.

CITY OF SALISBURY

RESIDENTIAL

Introduction

The objectives and principles of development control that follow apply in the Residential Zone shown on [Maps Sal/10, 11, 17 to 19, 24 to 28, 32 to 37, 40 to 44, 48 to 51 and 54 to 57](#). They are additional to, and more particular than, those expressed for the whole of the council area.

The Residential Zone also contains a portion of the Salisbury Town Centre, which is shown on [Maps Sal/61 and 62](#). The objectives and principles of development control that apply to the Salisbury Town Centre are additional to those expressed for the council area and for the Residential Zone.

OBJECTIVES

Objective 1: A zone primarily accommodating a range of low and medium density dwellings to meet the diverse needs and preferences of the community.

Objective 2: Development of medium density housing in suitable locations.

Objective 3: Development of vacant or under-utilised land in an efficient and coordinated manner so as to increase the density and diversity of housing, and enable the orderly and efficient development of any adjacent land.

Objective 4: A desired character of primarily low-rise (1 or 2-storey) dwellings, pleasant streetscapes, landscaping, and local open space, with residential development of up to 3 or 4 storeys in close proximity to district centres.

Objective 5: Development within F17671/3, D27807/283, F115110/2, D27398/275, D27398/276, D27398/211, D26457/263, D26457/264, D25393/253, D25457/262, D31539/3, SP12299, F114431/70, D26389/40, D8583/328, D8582/313, D9462/156, D9462/157, F11488/2, F11488/1, D29272/54, D29272/58, D29272/59, D33367/192, D33367/101 and D33367/105 in accordance with the Structure Plan contained in [Map Sal/1 \(Overlay 1\) Enlargement C](#) with respect to land use, vehicular and pedestrian access and landscaping buffers.

Objective 6: Within the areas indicated on [Figs R\(D\)/1, R\(B\)/1 and R\(B\)/2](#) (at Burton, Direk and Paralowie):

- (a) development in accordance with [Figs R\(D\)/1, R\(B\)/1 and R\(B\)/2](#); and
- (b) residential development designed and insulated to minimise effects of predicted aircraft noise and industrial noise.

Objective 7: The areas indicated on [Figs R/5, R/6, R/7, R/8, R/9, R/10, R/11, R/12, R/13, R/14 and R/15](#) (at Burton, Paralowie, Salisbury, Salisbury Downs, Parafield Gardens and Salisbury Plain) developed in accordance with [Figs R/5, R/6, R/7, R/8, R/9, R/10, R/11, R/12, R/13, R/14 and R/15](#).

Objective 8: Development within Policy Area 29 in accordance with Concept Plan [Fig R\(SEMU\)/1](#) and thereby accommodating a mix of activities, relating to residential, commercial, recreational, offices, education, and community uses.

The Residential Zone is suitable for a range of low and medium density housing. An overall increase in the residential density is desirable in keeping with the council-wide objectives for residential development.

The following forms of residential development are appropriate in the Residential Zone:

- (a) cost-effective and energy-efficient forms of housing;
- (b) efficient layouts, allotment sizes and shapes, and road widths;
- (c) development which makes efficient use of sites, eg 2-storey dwellings;
- (d) selective infill development at densities higher than, but compatible with, adjoining development;
- (e) nodes of medium density housing; and
- (f) more compact development on the urban fringe.

Medium density forms of housing including detached dwellings designed for small allotments (eg courtyard dwellings), semi-detached dwellings, row dwellings, residential flat buildings, and group dwellings are encouraged in areas with good access to essential services, with concentrated nodes of medium density development close to centres and shops, public transport and areas of public open space.

Objective 9: The area indicated on [Fig R/1](#) developed in accordance with [Map Sal/1 \(Overlay 1\) Enlargement D](#) and [Fig R/1](#) with respect to land use, vehicular access, open space, drainage, and landscaped buffers.

Objective 10: Within the Parafield Gardens Residential Area, as defined in [Fig R/1](#), existing and new development should be sited, designed and managed so as not to conflict or jeopardise the continuance of the existing industrial uses within adjoining zones.

INDUSTRY ZONE

Introduction

The objectives and principles of development control that follow apply to the Industry Zone shown on [Maps Sal/9, 10, 17 to 19, 24, 26 to 28, 32 to 36, 40 to 43, 47 to 50, 53 and 54](#). They are additional to, and more particular than, those expressed for the whole council area.

OBJECTIVES

Form of Development

Objective 1: A zone accommodating primarily industries, warehousing and storage activities.

Objective 2: Avoidance of impacts on residential areas, or adverse effects on other development within the zone or locality through noise, traffic, fumes, dust, vibration or any other harmful or nuisance-creating impact.

Objective 3: The establishment of uses that have low external impacts with respect to noise, emissions, traffic and visually, in close proximity to areas where residential development exists or is expected to be established.

Objective 4: Minimisation of risks associated with hazardous substances.

Objective 5: Development compatible with existing and forecast noise nuisance from aircraft operations based at RAAF Edinburgh or Parafield Airport.

Design and Appearance

Objective 6: Enhancement of the appearance of localities through appropriate landscaping, design and siting of development, especially in areas prominent to the general public (eg along arterial roads) or local residents.

Objective 7: Development which contributes to the creation of visually-attractive entrances to Adelaide and Salisbury.

Objective 8: Provision of landscaped buffers adjacent to main roads and residential areas.

Vehicle Access

Objective 9: Safe, convenient and limited access to adjoining primary arterial and secondary arterial roads.

Land Division

Objective 10: Land division undertaken in a coordinated manner to ensure that the layout, sequence and servicing of development is orderly and economic.

Objective 11: Adequate and coordinated drainage and servicing of land before development takes place.

Desired Uses and Future Character

The following statement refers to the “Parafield Gardens Industrial Area” portion of the zone defined on [Maps Sal/32, 33 and 40 and Fig In/1](#).

As the zone is adjacent Port Wakefield Road, it is a 'gateway' location that provides the opportunity for industrial activities to have a presence to this primary arterial road. The visibility of the zone has attracted a range of land uses wishing to promote their activities to passing traffic. As a consequence of the nature of activities in the locality, the Parafield Gardens Industrial Area is primarily for service trade premises and light industries, rather than general industry.

The design, scale and siting of land uses in the Parafield Gardens Industrial Area needs to be carefully controlled to ensure a high quality of urban design to Port Wakefield Road and to ensure minimal impacts to the adjoining residential areas to the north and east of the site.

The desired forms of industries include light industry, service industry and service trade premises and small-scale transport activities. Industries that require large volumes of large vehicle movements are generally not appropriate for the area. An extension to the service road to improve access arrangements for this locality and provide a link through to the Mawson Connector is proposed in accordance with [Map Sal/1 \(Overlay 1\) Enlargement D](#) and [Fig In/1](#).

Objective 12: The "Parafield Gardens Industrial Area" defined on [Maps Sal/32, 33 and 40](#) and [Fig In/1](#) should:

- (a) accommodate a range of industrial activities which are of a size and scale which have low external impacts and emissions;
- (b) not require direct access to Port Wakefield Road;
- (c) not generate large volumes of commercial or industrial vehicle movements; and
- (d) not adversely impact on the adjoining Residential Zone to the north and east.

Objective 13: New buildings that are visible from gateway arterial roads should be designed to contribute positively to the area, having particular regard to siting, height and bulk, external appearance of materials and colours and visual integration with other development in the locality.

Greater Levels Industrial Area

Objective 14: The "Greater Levels Industrial Area" defined on [Maps Sal/47, 48 and 54](#), developed in accordance with Structure Plan [Map Sal/1 \(Overlay 1\) Enlargement B](#).

Objective 12: The "Parafield Gardens Industrial Area" defined on [Maps Sal/32, 33 and 40](#) and [Fig In/1](#) should:

- (a) accommodate a range of industrial activities which are of a size and scale which have low external impacts and emissions;
- (b) not require direct access to Port Wakefield Road;
- (c) not generate large volumes of commercial or industrial vehicle movements; and
- (d) not adversely impact on the adjoining Residential Zone to the north and east.

Objective 13: New buildings that are visible from gateway arterial roads should be designed to contribute positively to the area, having particular regard to siting,

height and bulk, external appearance of materials and colours and visual integration with other development in the locality.

Greater Levels Industrial Area

Objective 14: The “Greater Levels Industrial Area” defined on [Maps Sal/47, 48 and 54](#), developed in accordance with Structure Plan [Map Sal/1 \(Overlay 1\) Enlargement B](#).

Burton Poultry Processing Area

Objective 23: The Burton Poultry Processing Area as contained within [Map Sal/17](#) and defined in [Figure In/4](#) is to accommodate high quality poultry processing operations.

DEFERRED INDUSTRY ZONE

Introduction

The objectives and principles of development control that follow apply in the Deferred Industry Zone shown on [Maps Sal/3, 10, 16, 17, 23 and 24](#). They are additional to, and more particular than, those expressed for the whole of the council area.

OBJECTIVES

Objective 1: Land within the zone preserved for future industrial use.

The Development Plan recognises that the area within this zone may, subject to service provision, ultimately be developed for industrial purposes. Accordingly, this objective aims to restrict development incompatible with industry, and to prevent development likely to prejudice the orderly conversion of the land to industrial use.

Objective 2: A zone comprising land primarily for agricultural purposes.

Objective 3: Safe, convenient and limited access to adjoining primary and secondary arterial roads.

RURAL ZONE

Introduction

The objectives and principles of development control that follow apply in the Rural Zone shown on [Maps Sal/8, 9, 17, 23, 24 and 32](#). They are additional to, and more particular than, those expressed for the whole of the council area.

OBJECTIVES

Objective 1: A zone comprising land primarily for agricultural purposes by preventing the further division of land.

Objective 2: Enhancement of the appearance of localities through appropriate landscaping, design and siting of development.

Objective 3: Safe, convenient and limited access to adjoining primary arterial and secondary arterial roads.

RURAL LIVING ZONE

Introduction

The objectives and principles of development control that follow apply in the Rural Living Zone shown on [Maps Sal/10, 11, 18, 19, 28, 29, 32, 39 and 40](#). They are additional to, and more particular than, those expressed for the whole of the council area.

The Rural Living Zone is further divided into 3 policy areas, shown on [Maps Sal/65 to 67](#), each expressing policies relevant to that particular area.

OBJECTIVES

Objective 1: A rural living character derived from large allotments, mixed small-scale rural activities and detached dwellings.

Objective 2: A zone primarily accommodating detached dwellings in association with a range of compatible rural activities.

Objective 3: Development which is compatible with adjoining residential areas, and which conserves and enhances the rural character of the zone.

Objective 4: Development having a high standard of appearance by means of design, external materials, colours, siting and landscaping, which is unobtrusive and does not detract from the desired open space and rural living character of the locality.

Policy Area 23 (Bolivar)

Introduction

The policy area encompasses land set aside for persons desiring to live within detached dwellings on allotments that also accommodate stables. Uses within the site are generally linked to the Globe Derby Park sporting venue.

HORTICULTURE ZONE

Introduction

The objectives and principles of development control that follow apply in the Horticulture Zone shown on [Maps Sal/7 to 9 and 15 to 17](#). They are additional to, and more particular than, those expressed for the whole of the council area.

OBJECTIVES

Objective 1: A zone primarily accommodating horticultural activities in association with packaging and processing sheds.

Objective 2: A zone in which the horticultural character is conserved and improved.

Objective 3: The long-term sustainability of horticultural production by preventing the further division of land and supporting the amalgamation of rural allotments into viable horticultural units.

Objective 4: Enhancement of the appearance of localities through appropriate landscape, design and siting of development.

Objective 5: Safe, convenient and limited access to adjoining primary and secondary arterial roads.

Land within the Horticulture Zone should be predominantly open in character in association with commercially sustainable horticultural production. Buildings, structures and car parking areas should be unobtrusive and well set back from public roads. Landscaping should be a prominent feature and consist of a range of native vegetation along road frontages and around buildings and structures.

RECREATION ZONE

Introduction

The objectives and principles of development control that follow apply in the Recreation Zone shown on [Maps Sal/16 and 40](#). They are additional to, and more particular than, those expressed for the whole of the council area.

OBJECTIVES

Objective 1: A zone primarily accommodating organised active recreation uses, and associated spectator facilities and administrative functions, within a well landscaped setting.

Objective 2: Avoidance of impacts on nearby residents, or adverse effects on other development within the zone or locality, through noise, traffic, dust, vibration and any other harmful or nuisance creating impact.

Objective 3: Development of a high architectural standard, designed and landscaped to enhance the amenity of the locality.

Objective 4: Provision of well designed and coordinated landscaping, parking, access and services areas.

Objective 5: Safe, convenient and limited access to adjoining primary arterial and secondary arterial roads.

Globe Derby Park

Objective 6: Development within Sections 3072, 2262 and 2263 (bounded by Globe Derby Drive, Port Wakefield Road and Daniel Avenue) should primarily accommodate harness racing meetings, associated training, and a range of activities appropriate to the sporting complex, compatible with nearby residential activities. A retail fuel sales complex, incorporating a convenience goods shop or shops, and which may also include integrated restaurant facilities and vehicle wash facilities may be appropriate to serve the needs of nearby residents and passing motorists.

MOSS (RECREATION) ZONE

Introduction

The objectives and principles of development control that follow apply in the MOSS (Recreation) Zone shown on [Maps Sal/24 to 29, 32, 33, 36, 37, 39, 40, 43, 44, 51, and 54 to 56](#). They are additional to, and more particular than, those expressed for the whole of the council area.

The MOSS (Recreation) Zone also contains a portion of the Salisbury Town Centre (Policy Areas 4 and 6), which is shown on [Maps Sal/61 and Sal/62](#). The objectives and principles of development control that apply to the Salisbury Town Centre are additional to those expressed for the council area and the MOSS (Recreation) Zone.

OBJECTIVES

Objective 1: A zone in which a predominantly open space character is preserved and enhanced to provide a visual contrast to the urban area.

Objective 2: A zone accommodating primarily district and regional open space for a range of public activities including passive and active recreational land uses in an open and natural landscape setting where structures are not a dominant feature of the landscape.

Objective 3: Provision of cycle and walking paths within an integrated system of open spaces linking adjoining land uses.

Objective 4: The development in appropriate locations of recreation, tourist, education and research activities which do not detrimentally affect fauna, flora or other features of the natural environment, or nearby urban development.

Objective 5: An attractive landscape featuring native plantings and watercourses. Little Para River/Walpole Road, Parafield Gardens

Objective 6: Development in Section 2279, Hundred of Munno Para and part Section 2278, Hundred of Yatala in accordance with the Concept Plan contained in [Fig MOSS\(R\)/1](#).

LANDSCAPE BUFFER ZONE

Introduction

The objectives and principles of development control that follow apply in the Landscape Buffer Zone shown on [Maps Sal/17, 18, 40, 47 to 49, 54 and 55](#). They are additional to, and more particular than, those expressed for the whole of the council area.

OBJECTIVES

Objective 1: A zone that provides for:

- (a) the separation of urban districts through open space located adjacent to major transport routes; and
- (b) separation of industrial and living areas.

Objective 2: An open space character and appearance of wide expanses of open space adjacent to major transport routes.

Objective 3: An enhanced environment in urban areas adjacent the zone.

Objective 4: A zone accommodating the primary open space for adjacent industrial areas, innovative stormwater treatment, and at Burton, low-intensity rural or recreational activities.

PUBLIC PURPOSES (RAIL TRANSPORT) ZONE

Introduction

The objective and principles of development control that follow apply to the Public Purposes (Rail Transport) Zone shown on [Maps Sal/47 and 53](#). They are additional to, and more particular than, those expressed for the whole council area.

OBJECTIVE

Objective 1: A zone accommodating major railway lines linking Adelaide with northern country and interstate centres.

MFP (THE LEVELS) ZONE

Introduction

The objectives and principles of development control that follow apply to the MFP (The Levels) Zone shown on [Maps Sal/40, 41, 47 to 49, and 54](#), and Policy Area [Map Sal/63](#). They are additional to, and more particular than, those expressed for the whole council area.

OBJECTIVES

Objective 1: A zone designated for the development of Stage 1 of the MFP Australia urban development and for the University of South Australia's Mawson Lakes campus.

The development seeks to fulfil the objects of the MFP Development Act, 1992. It will comprise a comprehensive, integrated and staged urban development that:

- (a) is mixed use in nature, integrating living, working, learning and recreational activities and uses;
- (b) provides a broad range of housing types and tenures at medium net dwelling densities;
- (c) is designed and developed on the principles of environmental sustainability and conservation of the natural environment and resources;
- (d) ensures appropriate, equitable and timely provision of human service infrastructure;
- (e) is a centre for international Co-operative research, innovation and business development in science, technology, education, the arts and industries with a business development focus in education, environmental management, health, information technology, leisure and media;
- (f) incorporates information technology and telecommunications for the benefit of the residential and business communities;
- (g) contributes to the improvement of physical, social and economic conditions in surrounding communities, Adelaide and Australia;
- (h) is integrated with existing on-site education and research and development activities and adjoining communities; and
- (i) on an ongoing basis utilizes the best available technology and design to demonstrate MFP Australia's objectives.

Objective 2: The continuation, expansion and intensification of education, research and development high technology industry, commercial, light industrial, recreational, the Metropolitan Open Space System, and drainage uses, in a manner which is consistent with the future mixed use development of the zone.

Objective 3: Development designed and located to ameliorate external environmental impacts and emissions, especially noise from vehicles on arterial roads, aircraft, industrial activities and the railway yards and trains.

Attachment B

**Summary of the extent of severance of properties
directly affected by part or whole acquisition**

Area (m²)	Property ID	Severance (%)	Area (m²)	Property number	Severance (%)
92695.63	406	1	81722.46	1575	50
245591.88	474	35	81592.73	1605	1
270930.74	493	25	69033.50	2192	5
213602.36	555	1	15848.30	494	1
98036.30	592	5	82285.16	499	10
716369.86	594	5	11831.29	501	50
119733.33	595	40	15238.20	506	5
325749.96	610	40	47509.73	552	1
40497.54	630	5	42054.26	554	30
39931.83	636	5	283801.80	593	35
323471.04	646	50	40306.50	631	25
168184.31	647	50	40642.74	632	50
573190.63	1571	1	41831.17	634	50
173605.19	1573	50	40071.37	635	25
78400.11	1602	1	323546.21	645	25
81029.11	1622	10	82965.35	1576	10
81477.20	1623	10	82323.11	1577	5
82067.33	1625	10	183928.75	1591	50
40825.00	1627	20	2409.97	1603	5
327990.28	1628	10	399676.48	1604	50
206763.72	1629	30	36923.52	1611	50
131179.20	1653	30	20250.51	1612	50
97862.74	1654	45	20352.25	1613	50
2199912.68	1657 & 1658	30	80862.13	1621	10
248000.71	1848	30	81541.29	1624	10
36097.07	1850	50	224874.73	1631	25
41555.00	1855	50	50404.82	1814	30
85075.05	1859	10	50534.36	1842	50
84719.91	1860	5	41493.73	1856	5
81877.53	1861	5	75290.13	1871	50
68076.12	1866	25	1900.53	1951	5
40377.74	1867	50	8093.95	2135	1
40987.21	1868	35	18860.70	2136	1
59790.89	1875	5	339549.37	2137	10
442813.57	2105	10	275570.61	2139	20
699076.19	2107	10	587611.59	2198	10
391959.58	2108	25	40599.78	495	10

