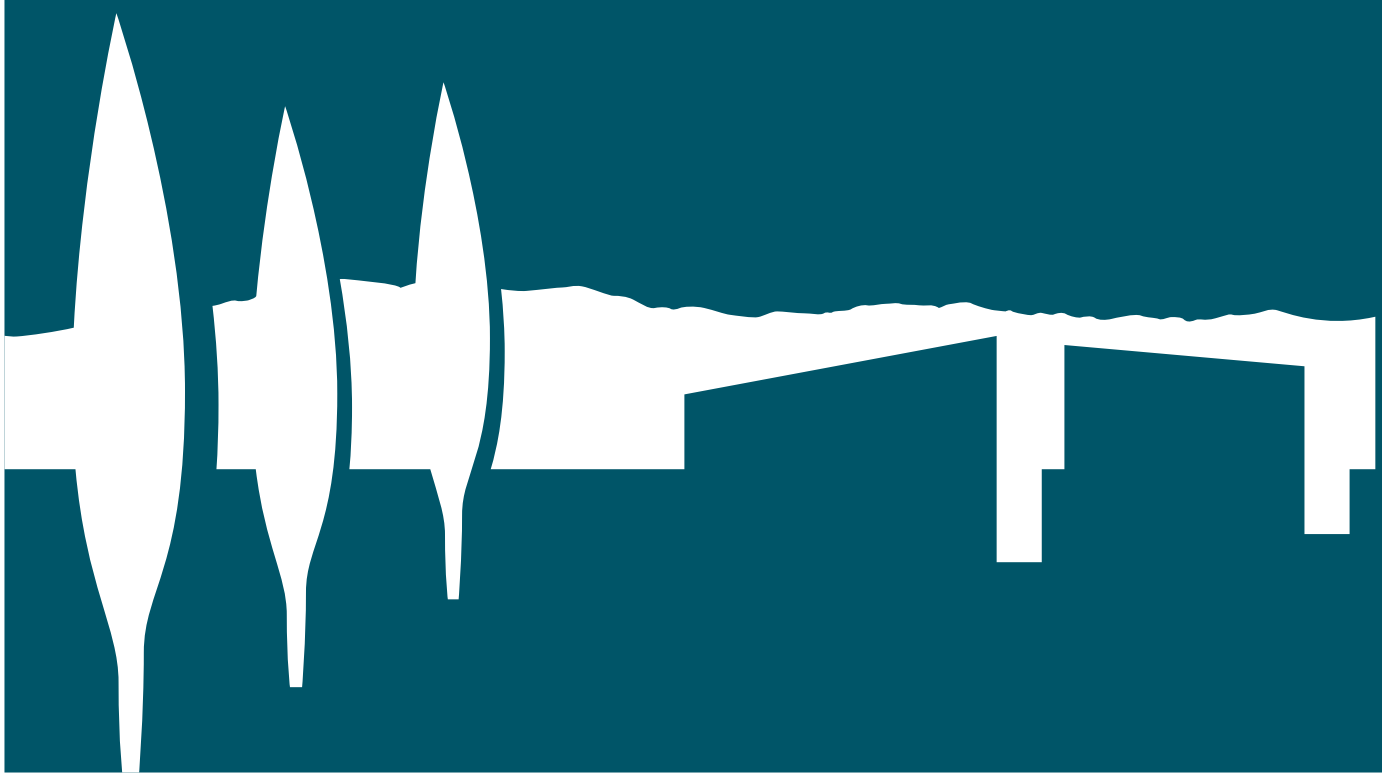
3.0

Context Analysis



3.1 Regional & District Context

Rolleston is located in the Selwyn District, south west of Christchurch on State Highway 1. A key characteristic of Rolleston is its proximity to Christchurch and the role it plays in servicing the rural communities of the District.

Rolleston is the most significant town in the Selwyn District, due to its central location, links to other townships and proposed long term size.

3.2 Statutory & Planning Framework

The Greater Christchurch Urban Development Strategy (UDS) seeks to strategically manage growth in Christchurch, Waimakariri and Selwyn Districts until 2041, with an associated action plan. This was adopted by all of the Councils in 2007. The UDS has identified Rolleston as a future growth area and as a Key Activity Centre.

To implement the vision and strategies of the UDS, Environment Canterbury has released Proposed Change No. 1 of the Regional Policy Statement (RPS PC1). RPS PC1 proposes to insert a new Chapter 12A, which determines metropolitan urban limits (MUL), sets residential densities and provides sequencing for development in Rolleston.

Relevant variations to the RPS PC1 include; Variation No.1 which will set the MUL for Rolleston and Variation No 4 which identified a revised airport noise contour of 50 dBA for Christchurch Airport.

The Rolleston Structure Plan will be adopted by Council under the provisions of the Local Government Act (LGA). It is anticipated that the Structure Plan will be implemented through changes to the District Plan and/or the Long Term Council Community Plan (LTCCP) and non-statutory documents. There are also opportunities for private initiatives to be developed.

3.2.1 POPULATION GROWTH

The 2008 population of Rolleston is estimated to be 6,800 people, residing in 2,242 households . A high proportion of married couples and young families live in Rolleston, while low numbers of residents aged over 65 were recorded during the 2006 census.

Variation No.1 to RPS PC1 determines target future household growth allocations for Rolleston. The growth has been staged into three phases until the year 2041 with a total of 7,677 households allocated by 2041 (5,435 new households). Further detail is provided in Section 7.2.1.

Selwyn District Council undertook some population prediction modelling for Rolleston that estimated an increase in the number of residents to 18,368 by 2041 with persons per household decreasing from 3.04 in 2008 to 2.63 in 2041.

Using the estimated persons per household and applying these to the RPS PC1 household allocation, a future population range of between 21,100 and 23,300 is estimated for 2041.

In addition to the RPS PC1 allocation for greenfield development, areas within the existing residential zoned land have been identified as likely for intensification and subdivision to occur. Should all the anticipated intensification occur an additional 3,000 households could be built. The actual rate of growth will depend on market demand for new properties.

The possible maximum population has been included in the Structure Plan because it has the potential to affect facility planning, for example the amount of school places that may be required.

The MUL identified by the RPS PC1 includes an area of 886 ha (gross) of greenfield sites for residential development. This area will not be fully developed during the period to 2041. To achieve the desired household densities (discussed further in Section 7.2), development of much of the land inside the urban limit will occur post-2041. With development of all land within the urban limit an anticipated population range of 43,000 to 49,000 is expected; the time at which this population range is reached will depend on market demand for properties within Rolleston.

3.3 Strategies and Guidelines of Influence

In addition to the statutory planning and policy documents, there is a series of strategies and guidelines that inform the Structure Plan. These include; the Ministry for the Environment New Zealand Urban Design Protocol, the Crime Prevention through Environmental Design Strategy (CPTED), SDC Subdivision Design Guidelines and SDC Economic and Community Development Strategies.

One of the key inputs to the development of this Structure Plan is The 5 Waters Strategy, in which Seven Sustainability Principles have been adopted to provide direction for long term planning. The 5 Waters Strategy outlines the vision for the District's water supply, waste water treatment and disposal, water races, land drainage and stormwater.

Another key input is the Christchurch Rolleston Environs Transportation Study (CRETS) that provides a transport strategy up to 2021. The strategy seeks to address growth-related issues in the Rolleston and south-west Christchurch area by proposing a roading hierarchy with improved connections. CRETS has identified changes to the junctions connecting Rolleston to the State Highway and key routes into the town.

3.4 Existing Physical Context

3.5.1 NATURAL ENVIRONMENT

Before the intensification of farming and settlement, the plains in the Rolleston area were probably covered by tussock grasslands growing on the free-draining outwash soils of the plains. Intensification and natural or induced fires have removed the natural patterns of vegetation, but there may have been patches of more diverse grassland or shrubland vegetation. Tussock planting in the urban area reflects this historical cover.

Pastoral land, roadside rough grasslands and shelterbelts of exotic species now grow outside the urban area. There are no natural streams in the area, but the stockwater race system brings water through the town from the Waimakariri River.

The former native vegetation and agricultural water supply can provide the expanding town with a sense of its history as well as guiding design and layout towards patterns and plant species that are best suited to the plains environment.

Rolleston township falls within the takiwā of Ngāi Te Rūāhikihiki ki Taumutu, through Te Taumutu Rūnanga. The takiwā boundaries encompass Birdlings Flat, Upper Riccarton, the Waimakariri River, Black Hill Range, and the Rakaia River, with shared interests south to the Ashburton River. Ngāi Te Rūāhikihiki ki Taumutu hold the customary status of manawhenua, ahi ka and kaitiaki for this takiwā. The natural environment is particularly important to Ngāi Te Rūāhikihiki as it supports and sustains all life, and also because it holds many significant places that connect Ngāi Tahu today with their heritage and cultural practices. The use of public open space and native plantings will restore many values of importance to Ngāi Te Rūāhikihiki.

3.5.2 URBAN MORPHOLOGY AND HISTORICAL DEVELOPMENT

Gaining an appreciation of Rolleston's development history helps inform future development strategies. Rolleston's urban form developed in three broad stages:

- Rural roads - accessing the plains (see Figure 3.2)
- Grid pattern - the original housing and commercial activities set on a grid street pattern (see Figure 3.3)
- Piecemeal subdivision - Lower density residential developments accessed largely by looped roads and cul-de-sacs. These have developed independently with poor integration between them and increasing plot sizes

Rural roads and the grid pattern provide a strong basis for future expansion of the town and have guided the Structure Plan approach.

The current zoning provision in Rolleston is shown on Figure 3.4.

Figure 3.1: Aerial Photo Rolleston 1960s

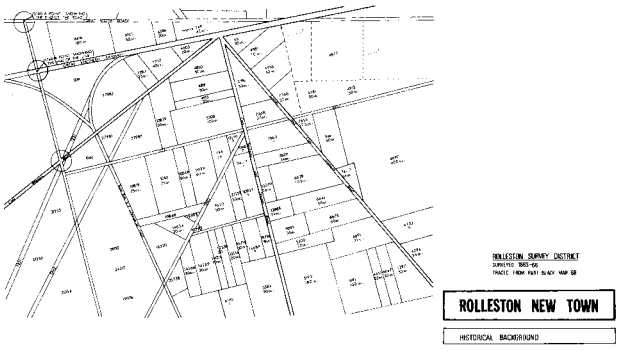


Figure 3.2: Land Holdings Rolleston 1863-1866

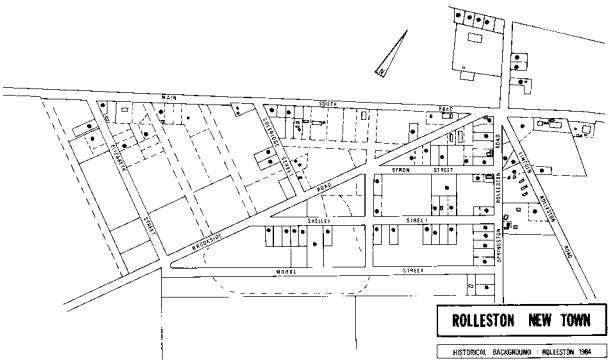


Figure 3.3: Map of Rolleston 1964

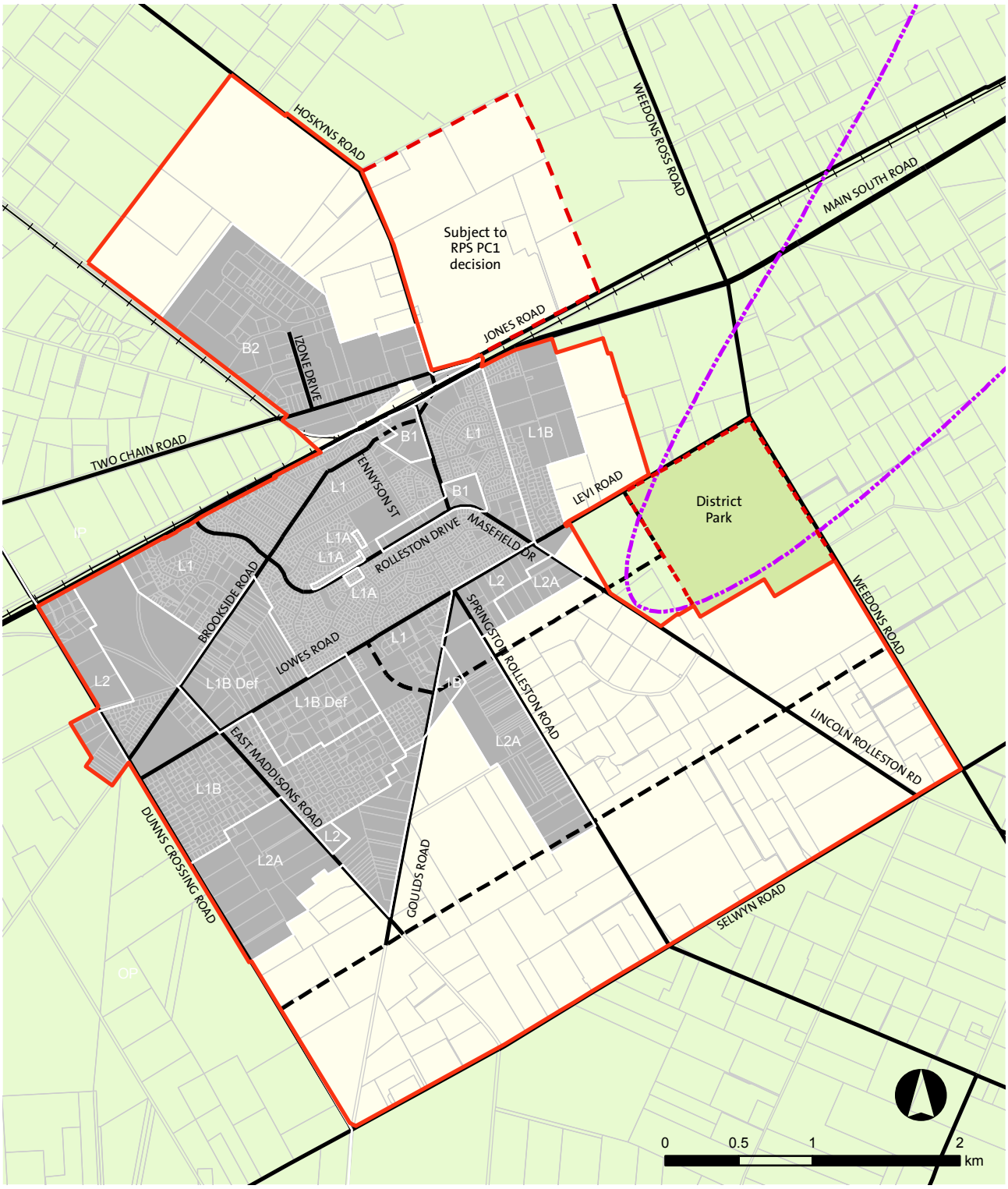


Figure 3.4: Existing Zoned Lands

- Study area
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Noise Contour
- Existing Zoned Land
- Proposed Greenfield Development Areas
- District Park
- Rural land

Zoning References:

L1:	Living 1
L1A:	Living 1A
L1B:	Living 1B
L1B Def:	Living 1B Deferred
L2:	Living 2
L2A:	Living 2A
B1:	Business 1
B2:	Business2

3.5.4 SOILS AND GEOLOGY

Rolleston is located on the Canterbury Plains which are formed of recent glacial outwash deposits (glacial and interglacial gravel sequences) of the Waimakariri River. The topology of the land inside the urban limit is generally flat, although there is an approximate height difference from the edge of Izone to Selwyn Road of approximately 30 metres. The fall direction is from north west to south east and follows the gentle undulation contours of the alluvial (glacial) outwash channels. The most common soil types in the town are Eyre shallow silt loam, Templeton fine sandy loam and Eyre sandy loam which are well or moderately well drained[1]. The Templeton soils that lie to the east of the town (including the area for the proposed 100 ha District Park), are moderately well drained and versatility class 2 as shown on figure 3.5. Versatility class 2 soils are valued for their high productivity potential and are highly versatile[3].

The soil type is a reflection of the towns location on the Plains, where soils are generally shallow and under laid with free draining gravels[2]. The soils in Rolleston have a medium to low moisture holding capacity (rate at which water can be applied without it running off to waste) which has tended to increase irrigation requirements and effect planting viability. This condition needs to be carefully responded to. At the strategic level, low impact urban design measures should be adopted wherever possible. Careful landscape design in species selection and overall design arrangements is important. Correct site preparation, plant selection, construction management practices and future maintenance and management regimes of landscape areas will also further enable successful planting outcomes.

1 Land Care Research, Canterbury Plains and Downs Soil Database.

2 Ministry of Agriculture and Forestry – Canterbury an overview – http://www.maf.govt.nz/forestry/publications/canterburyrs/rscanterbury01.htm

3 Christchurch City State of the Environment Monitoring Programme, Distribution of Horticultural Versatile Soils in Rural Zones, 2001 - 2008.

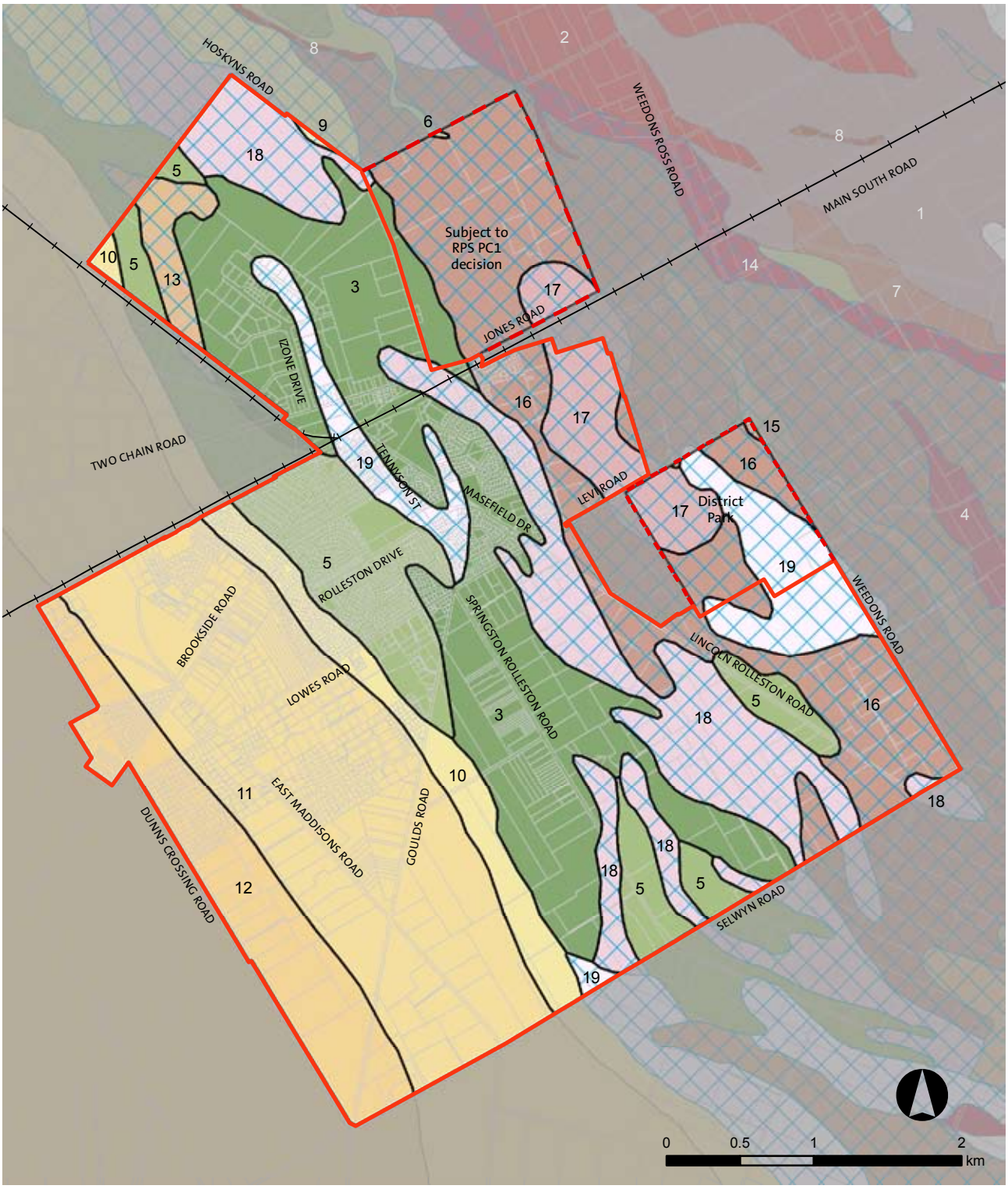


Figure 3.5: Soils

- Study area
- Railway
- Versatility Class 2

Soils - Urban Limit

- 3, Eyre shallow sandy loam
- 5, Eyre shallow silt loam
- 6, Eyre stony sandy loam and shallow sandy loam
- 9, Hatfield deep sandy loam
- 10, Lismore shallow silt loam
- 11, Lismore stony and shallow silt loam
- 12, Lismore stony silt loam
- 13, Templeton deep and moderately deep silt loam on sandy loam
- 15, Templeton deep silt loam
- 16, Templeton deep silt loam and silt loam on sand
- 17, Templeton deep silt loam on sand
- 18, Templeton moderately deep fine sandy loam
- 19, Templeton moderately deep silt loam

Soils - Rural

- 1, Eyre shallow and stony sandy loam
- 2, Eyre shallow and stony silt loam
- 4, Eyre shallow sandy loam + Templeton moderately deep fine sandy loam
- 7, Eyre stony silt loam
- 8, Halkett deep sand
- 14, Templeton deep sandy loam on sand

3.5.5 KEY ISSUES, CONSTRAINTS AND OPPORTUNITIES

An analysis of the key issues, constraints and opportunities within Rolleston has been summarised in Table 3.1. The Structure Plan aims to tackle these issues considering the constraints identified. A series of opportunities for Rolleston have been highlighted during the development of this Structure Plan, these have been carried forward and incorporated into the Structure Plan wherever possible.

Table 3.1: Key Issues, Constraints and Opportunities for Rolleston

Item		Key Issues and Constraints	Opportunities
Planning and Urban Design	Urban framework	No overall cohesion or pattern of urban development within the township	Provide a well planned, high quality urban environment in Rolleston that caters for the current and future populations of the town. Large areas of greenfield site with single land owners provide opportunities for comprehensive developments
		Urban growth constrained by MUL and low density household provision	Large greenfield development area of 886 ha (gross) identified for residential development. Provide a range of housing densities within greenfield and existing areas. Utilise areas within the existing residential zones to increase housing densities
		No distinct interface between urban and rural areas of the town	Provide distinctive urban character to the town. Manage the urban rural interface with green buffers providing links and recreation opportunities
		Urban areas are a linear system of imported food, water and energy, and exported waste	Aim to be more self sufficient, by utilising public spaces throughout the town and the district park to treat stormwater, water reuse, assimilate waste (compost), provide ecosystem function and restoration, recreational opportunities, food production, energy generation and amenity
	Segregated residential developments	Individual developments within Rolleston are unlinked	Enhance connectivity within Rolleston providing good walking, cycling and vehicle access routes to key facilities within the town
Town Centre	Viability, accessibility and functionality	Current town centre does not provide for expected future population	Ability to use vacant blocks of land owned by Council or private developers to expand and enhance the town centre
		Segregated nature of the town centre	To visually and physically integrate the town centre with residential developments using urban design techniques and good linkages. Use anchors such as large stores to draw pedestrians through the town
		Vehicle-centric nature of the town centre	To create good walking and cycling routes and pedestrian priority areas

Item		Key Issues and Constraints	Opportunities
		Long distance between town centre and new developments at the southern urban limit	To provide good public transport, walking and cycling routes to the town centre
Land-Use	Residential	Lack of mixed density housing to cater for a range of demographic groups particularly single occupants and the elderly	Plan for provision of a range of housing densities
		Conventional housing typologies with conventional water and energy demands	Include design guidelines that address energy efficiency, water efficiency, and sustainable materials, for neighbourhoods and for buildings
	Community Facilities	Inadequate school places (primary and high schools) for a growing population	Include development of adequate primary and high schools for Rolleston that are well located and co-located with other community facilities
		Limited medical facilities	To provide integrated medical care facilities that meet the needs of the community
		Need for more structured recreation opportunities	To provide recreational facilities that appeal to the residents of Rolleston and surrounding communities
		Need for expanded community facilities to cater for existing demand and growth	Review the provision of the current community centre and library and plan for expansion where required
		Lack of cemetery in Rolleston; nearest cemetery is located near Springston and has high water table issues	Plan for cemetery provision within Rolleston with ample capacity to cater for residents in and surrounding Rolleston
	Airport Noise Contour	Presence of the 50 dBA airport noise contour to the east of Rolleston	Identify other opportunities for land under the contour such as a regional/district park
	Open Space	Lack of hierarchy and strong linkages in the open space network	Provide enhanced green network with streetscapes, open spaces, reserves, a green buffer around Rolleston, pedestrian and cycling routes and landscape planted areas
		Low biodiversity or native ecosystem values due to urban developments and intensive agriculture	Aim to improve native biodiversity by providing opportunities in green spaces and water race corridors
Movement	Vehicular	High use of private vehicles for access to areas outside and within the town particularly related to commuting	To enhance the walking and cycling network and provide good public transport links. To investigate other sustainable transport options, particularly low carbon alternatives
		High speed rural roads and interface with urban areas	To maintain the rural character of Rolleston's rural roads whilst managing community safety and traffic speeds
		Over-reliance of cul-de-sacs design, poor linkages	To further reinforce the principles of good urban design established as part of SDC's subdivision standards

Item		Key Issues and Constraints	Opportunities
	Cycling & Walking	Increasing use of roundabouts which are not cycle and pedestrian friendly	To consider the most appropriate traffic control mechanisms for all road users
		Lack of defined movement networks for pedestrians and cyclists	To provide an integrated network of walking and cycling routes connecting main nodes within the town
	Izone	Segregation of Izone from the rest of the town by the State Highway	To improve linkages between Izone and the town providing good access
	Legibility	Current entrance experience into the Township is not clearly defined	To provide legible and attractive entranceways and through routes into and around the town
Infrastructure	Water Supply	Rolleston is in the Red (over-allocated) groundwater zone Climate change scientists predict a drier climate in Canterbury over the next century	To incorporate water demand management and water reuse initiatives into future planning To incorporate low water demand landscaping, public green space and ecological restoration
	Water Courses	A lack of natural surface water courses limits opportunities for ecological restoration and creation of water based recreation facilities/amenity values	To utilise water races for ecological corridors and amenity
	Wastewater	Increasing demand for sustainable wastewater treatment for Eastern Selwyn District	To integrate expansion plans for the wastewater network and treatment into strategic planning for the town
	Stormwater	Stormwater disposed of to ground without opportunities for reuse	To incorporate the use of sustainable stormwater treatment, reuse and disposal methods into planning for the future of Rolleston
	Water Races	Operational water races flowing through the town with periodically poor water quality	Opportunity to maximise amenity value of water races whilst maintaining operational status
	Soil	Free draining soil types can lead to high levels of irrigation , and limit landscaping opportunities	To include sustainable stormwater initiatives into the future planning for Rolleston To include landscaping and ecological restoration that is suited to the soil and climatic conditions
	Energy	Energy is imported into the town. Energy generation contributes to greenhouse gas emissions	Aim for a low carbon town, focussing on energy efficiency and energy generation