

Request for Change to the Selwyn District Plan prepared for

YOURSECTION LIMITED

153 Lincoln Rolleston Road, Rolleston

December 2020



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153 Lincoln Rolleston Road, Rolleston

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Request to Change the Selwyn District Plan under Clause 21 of the First Schedule of the Resource Management Act 1991

TO: The Selwyn District Council

Yoursection Limited requests changes to the Selwyn District Plan as described below.

- 1. The location to which this request relates is:
 - The subject land is located generally on the south eastern side of the Rolleston township, adjacent to and south of the Falcons Landing residential development (ODP Area 11) and to the west of Lincoln Rolleston Road.
 - Total Area: 24.7 hectares (approximately).
 - Legal Descriptions: Lot 1 DP 50631 BLKS II IV Leeston SD and Lot 1 DP 357634. See
 Attachment 1.
 - An outline development plan proposed for the subject land is included as **Attachment** 2.
- 2. The Proposed Plan Change undertakes the following changes to the Selwyn District Plan (changes <u>underlined</u> or struck through):
 - 1. To amend the Selwyn District Plan Planning Maps, by rezoning the site to Living Z.
 - 2. To amend Township Volume, Appendix 38 ODP Rolleston by inserting the ODP attached in **Attachment 2** as ODP Area 14.
 - 3. To amend the following District Plan provisions:

Township Volume, B4 Growth of Townships

Policy B4.3.9

The phasing of any Living ZZone shown on the Planning Maps and Appendices occurs as follows:

• In Rolleston 4314 Living Z areas have been identified, and an Outline Development Plan for 4213 of these areas has been incorporated into the District Plan. The remaining Living Z ODP Area has been deferred. The deferment for this area shall be lifted once an operative Outline Development Plan for that area has been incorporated into the District Plan.

• ...

Policy B4.3.77

Ensure that development within each of the Outline Development Plan areas identified on the Planning Maps and Appendices within Rolleston addresses the specific matters relevant to each ODP Area number listed below:

. . .

Outline Development Plan Area 14

- Part provision of a CRETS Collector road/Primary road on an east-west alignment in the northern half of the ODP area;
- Provision of a secondary road network internal to the ODP area and providing connections to the south and north of the ODP area;
- Provision of a neighbourhood park centrally and adjacent the CRETS Collector road/Primary road;
- Provision for medium density development adjacent the reserve;
- Provision of pedestrian and cycle links within and through the ODP area to connect to adjoining urban areas;
- Provision of reticulated water supply and wastewater systems that have sufficient capacity for the ODP area;
- Provision of a comprehensive stormwater system that has sufficient capacity for the ODP area;
- Provision of a minimum net density of 12 households per hectare averaged over the ODP Area.
- 4. Any other consequential amendments including but not limited to renumbering of clauses.
- 3. An assessment is provided in **Attachment 3** in accordance with the requirements of the Resource Management Act 1991 and including Section 32 of the Act.

Mu KA

Kim Seaton, Principal Planner

DATED: 10 December 2020

(Signature of applicant or person authorised to sign on behalf)



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Attachment 1: Certificates of Title



RECORD OF TITLE UNDER LAND TRANSFER ACT 2017 FREEHOLD

Search Copy



Identifier CB30A/652

Land Registration District Canterbury

Date Issued 02 June 1987

Prior References CB27A/1008

Estate Fee Simple

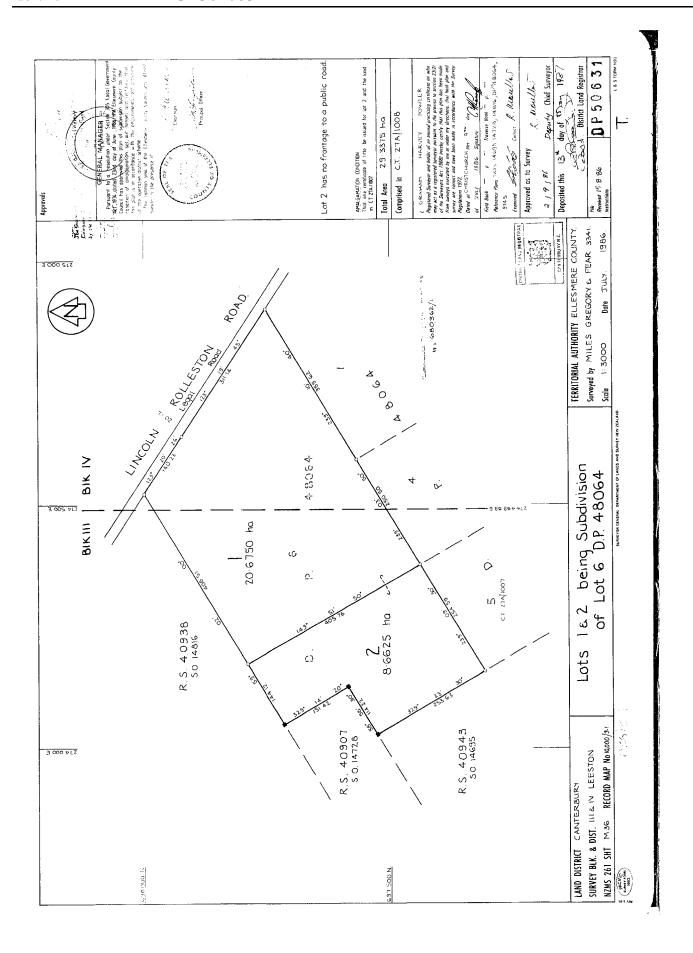
Area 20.6750 hectares more or less
Legal Description Lot 1 Deposited Plan 50631

Registered Owners

Barry Ernest Pullin and Patricia Mary Pullin

Interests

9570871.3 Mortgage to ANZ Bank New Zealand Limited - 4.4.2014 at 12:10 pm





RECORD OF TITLE UNDER LAND TRANSFER ACT 2017 FREEHOLD

Search Copy



Identifier 234365

Land Registration District Canterbury

Date Issued 06 December 2005

Prior References CB27A/1003

Estate Fee Simple

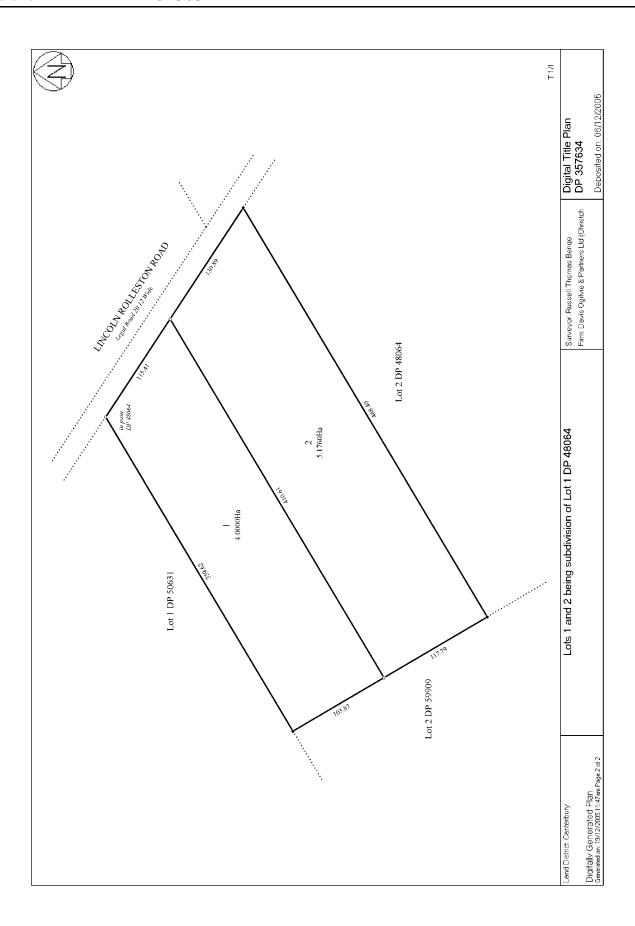
Area 4.0000 hectares more or less
Legal Description Lot 1 Deposited Plan 357634

Registered Owners

Ryan Lewis Nicolle and Melissa Jayne Perry

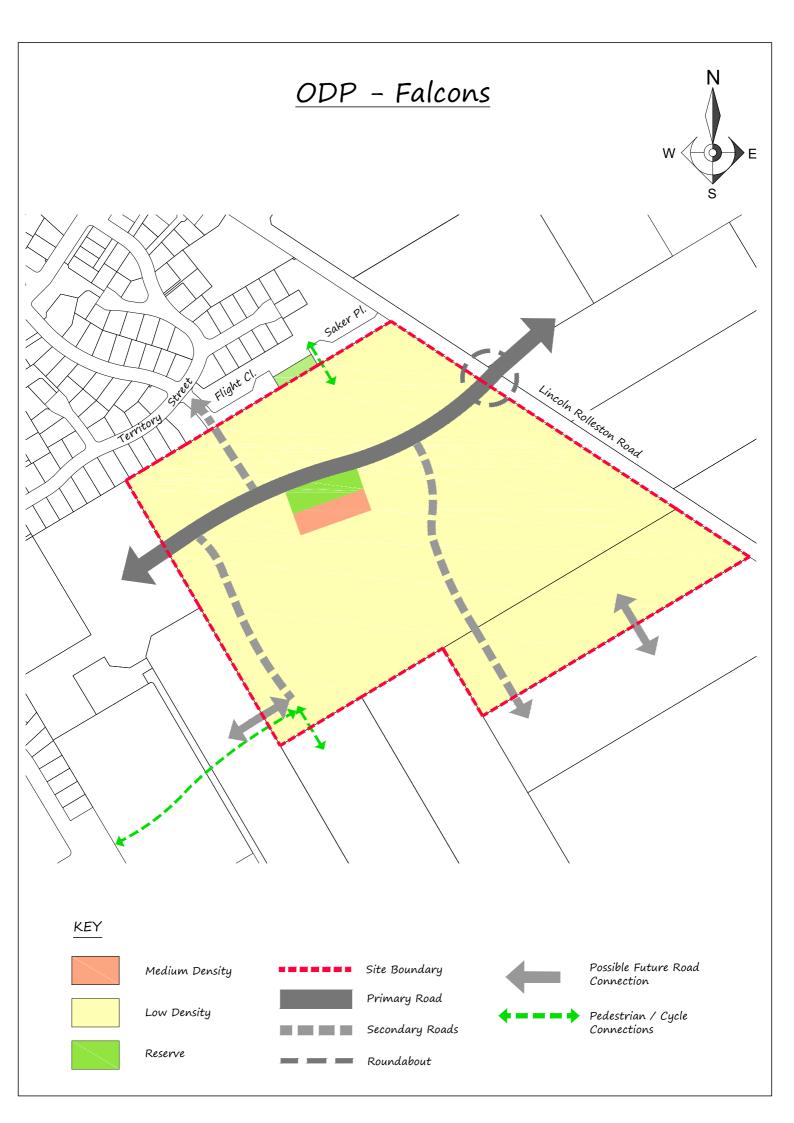
Interests

10129851.2 Mortgage to Westpac New Zealand Limited - 23.7.2015 at 10:16 am





Attachment 2: Proposed Outline Development Plan



OUTLINE DEVELOPMENT PLAN AREA 14

INTRODUCTION

This Outline Development Plan (ODP) is for Development Area 14. Area 14 comprises 24ha and is bound by Lincoln Rolleston Road to the east, and ODP Area 11 to the north.

The ODP embodies a development framework and utilises design concepts that are in accordance with:

- The Land Use Recovery Plan (LURP)
- Policy B4.3.7 and B4.3.77 of the District Plan
- The Rolleston Structure Plan
- The Greater Christchurch Urban Development Strategy (UDS)
- The Ministry for the Environment's Urban Design Protocol
- 2007 Christchurch, Rolleston and Environs Transportation Study (CRETS)
- 2009 Subdivision Design Guide

DENSITY

The ODP area shall achieve a minimum of 12 household lots per hectare. ODP Area 14 supports a variety of allotment sizes within the Living Z framework to achieve this minimum density requirement. Should this area be developed in stages, confirmation at the time of subdivision of each stage, and an assessment as to how the minimum density of 12hh/ha for the overall ODP can be achieved, will be required.

ODP Area 14 predominantly provides for low density sections, although some medium density housing options have been supported along the Primary Road adjoining a reserve. Minor changes to the boundaries of the medium density area will remain in general accordance with the ODP provided such changes meet the criteria below and the Medium Density lots created have a consent notice registered on the title stating that they are subject to the medium density provisions:

- Ability to access future public transport provisions, such as bus routes;
- Access to community and neighbourhood facilities;
- Proximity to Neighbourhood Parks and/or green spaces;
- North-west orientation, where possible, for outdoor areas and access off southern and southeastern boundaries is preferred;
- Distribution within blocks to achieve a mix of section sizes and housing typologies; and
- To meet the minimum 12hh/ha density requirement and development yield.

Existing dwellings and buildings will have to be taken into account when investigating subdivision layout and design.

MOVEMENT NETWORK

For the purposes of this ODP, it is anticipated that the built standard for a Primary Road will be the equivalent to the District Plan standards for a Collector Road or Local-Major Road standards, and a "Secondary Road" will be the equivalent to the District Plan standards for a Local-Major or Local-Intermediate Road.

The ODP provides for an integrated transport network incorporating:

- A primary road following an east-west alignment to form part of the Collector Road route specified in the 2007 Christchurch, Rolleston and Environs Transportation Study (CRETS);
- An internal secondary network with provision for connections to adjoining land;
- Pedestrian and cycle connections to adjoining land to encourage viable alternative modes of transport to private motor vehicles.

Roading connections have been designed to achieve permeability, whilst minimising the number of new intersections and maintaining appropriate intersection spacing. The proposed roading hierarchy will deliver an accessible and coherent neighbourhood that provides safe and efficient access to the new development.

The completion of the Primary Road/Collector Road, identified as part of the CRETS (2007 Christchurch, Rolleston and Environs Transportation Study) is proposed in the northern portion of the ODP area and further supports the integration of the site with the wider transport network. The Collector Road spans across several neighbourhoods and ODP areas on the southern boundary of the township. It is significant in supporting an east-west network function and it is part of an expanded ring road system for Rolleston.

Although the CRETS Collector Road is envisaged to cater for a large proportion of vehicle movements going through ODP Area 14, it is not a high-speed corridor and is intended foremost to provide direct access to adjoining sites. To this end, it is envisaged that the CRETS Collector Road will interact with the adjacent neighbourhoods, rather than creating severance between them. Its streetscape and speed environment is expected to be similar to that of Lowes Road, which serves an important transport function for the northern portion of Rolleston.

The transport network for ODP Area 14 shall integrate into the pedestrian and cycle network established in adjoining neighbourhoods and the wider township. Secondary Roads will provide footpaths and cycle routes, including designated cycle lanes where appropriate. Adequate space must be provided within the tertiary road network for cyclists and to facilitate safe and convenient pedestrian movements.

The remaining roading layout must be able to respond to the possibility that this area may be developed progressively over time. Road alignments must be arranged in such a way that long term interconnectivity is achieved once the block is fully developed. An integrated network of tertiary roads must facilitate the internal distribution of traffic, and if necessary, provide additional property access. Any tertiary roads are to adopt a narrow carriageway width to encourage slow speeds and to achieve a residential streetscape.

GREEN NETWORK

The ODP reflects and adds to the green network anticipated in the Rolleston Structure Plan. A single central reserve/neighbourhood park is proposed centrally within the ODP area, adjacent the Primary Road. Medium Density Housing is to be located adjacent the reserve to promote a high level of amenity for that housing, and compensate for any reduced private open space available to individual allotments.

BLUE NETWORK

Stormwater - underlying soils are relatively free-draining and infiltration to ground is generally the most appropriate means of stormwater disposal. There are a range of options available for the collection, treatment and disposal of stormwater. Detailed stormwater solutions are to be determined by the developer in collaboration with Council at subdivision stage and in accordance with Environment Canterbury requirements. Systems will be designed to integrate into both the transport and reserve networks where practicable.

Sewer – A gravity sewer connection will be required which will feed a new pump station situated in the vicinity of the south eastern section of the site. The exact location will be determined as part of the detailed development design. The effluent form this new pump station will then be pumped through to the Southern Rolleston Pump Station so it can be treated.

Water - The water reticulation will be an extension of the existing Rolleston water supply on Lincoln Rolleston Road and Raptor Street.		



Attachment 3: Section 32 Evaluation



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Appendix B Geotechnical Assessment

Appendix C Preliminary Site Investigation (PSI) Report

Appendix D Integrated Transport Assessment

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Introduction

- 1. Yoursection Limited requests a change to the Selwyn District Plan to rezone approximately 24.7 hectares of Rural Inner Plains zoned land, to Living Z, at Rolleston.
- 2. This document forms the Section 32 evaluation of the Plan Change, consisting of an evaluation of the contents of the Proposed Plan Change, and incorporates material from the following documents:
 - Appendix A Infrastructure Assessment
 - Appendix B Geotechnical Assessment
 - Appendix C Preliminary Site Investigation (PSI) Report
 - Appendix D Integrated Transport Assessment
 - Appendix E Landscape and Urban Design Assessment
- The subject land is presently zoned Rural Inner Plains. The site immediately adjoins the
 existing Falcons Landing residential development (ODP Area 11) to the north which is
 zoned Living Z.
- 4. The density of development and Outline Development Plan (ODP) layout proposed via this Plan Change application is compatible with that of the adjoining Living Z zoned land to the north.
- 5. This Plan Change specifically accounts for the National Policy Statement on Urban Development 2020 (NPS-UD) which recognises the national significance of: having wellfunctioning urban environments; and providing sufficient development capacity to meet the different needs of people and communities.
- 6. The Ministry for the Environment (MfE) note that the NPS-UD is needed because: 'Some urban areas in New Zealand are growing quickly. To support productive and well-functioning cities, it is important that there are adequate opportunities for land to be developed to meet community business and housing needs'. MfE further note: 'The NPS-UD 2020 requires councils to plan well for growth and ensure a well-functioning urban environment for all people, communities and future generations. This includes... ensuring that plans make room for growth both 'up' and 'out', and that rules are not unnecessarily constraining growth'.
- 7. This Plan Change strongly supports and is consistent with the NPS-UD, as is explained further in the assessment that follows.

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¹ https://www.mfe.govt.nz/about-national-policy-statement-urban-development



Statutory Requirements of the Act

- 8. This Plan Change request is made under the Resource Management Act 1991. This section sets out the relevant framework of the Act under which the request is made, with the subsequent sections then providing the relevant assessment of each part of the framework.
- 9. Section 73(2) of the RMA provides that: 'Any person may request a territorial authority to change a district plan, and the plan may be changed in the manner set out in Part 2 or 5 of Schedule 1'.
- 10. Part 5 of Schedule 1 is not relevant to this particular Plan Change application as it relates to the use of the 'streamlined planning process', which is not proposed in this instance.
- 11. Part 2 of Schedule 1 relevantly relates to requests for changes to plans of local authorities. Clause 21(1) restates that any person may request a change to a district plan. Clause 22 of Part 2 of Schedule 1 states:
 - (1) A request made under clause 21 shall be made to the appropriate local authority in writing and shall explain the purpose of, and reasons for, the proposed plan or change to a policy statement or plan and contain an evaluation report prepared in accordance with section 32 for the proposed plan or change.
 - (2) Where environmental effects are anticipated, the request shall describe those effects, taking into account clauses 6 and 7 of Schedule 4, in such detail as corresponds with the scale and significance of the actual or potential environmental effects anticipated from the implementation of the change, policy statement, or plan.
- 12. The **purpose** of this Plan Change is to provide for an extension of the adjoining existing urban residential area of Rolleston in a manner that adds significantly to development capacity through provision of critical roading infrastructure, and provides for increased competition and choice in residential land markets whilst managing adverse effects of the change in land use on the surrounding area.
- 13. Provision for a variety of densities (including medium density and lower density development) within the Plan Change area is considered appropriate to provide choice, help address declining housing affordability, and enable persons and the community to provide for their health and wellbeing, while avoiding, remedying or mitigating potential adverse effects. While the proposal will result in a change to an urban form from the rural-residential form that exists currently, the proposal is considered to be an efficient use of the physical land resource.
- 14. The **reasons** for the Plan Change are:
 - a. To enable provision of additional housing capacity within Rolleston township and adjoining an existing Living Z zone;
 - b. To enable progression of an anticipated CRETS Collector road within the Plan Change area.



- c. The location of the site is considered appropriate for an expansion of this type of development accounting for: efficiencies gained by the expansion of the existing Rolleston residential area and associated infrastructure; and the site's adjacency to existing urban residential activity and the associated high level of accessibility and connectivity to the surrounding area.
- d. The proposed Plan Change is consistent with the Government's recently released National Policy Statement on Urban Development 2020 and its predecessor, the National Policy Statement on Urban Development Capacity 2016. In particular, it will enable 'people and communities to provide for their ... economic (and social) ... well being'; and promote 'the efficient use and development of natural and physical resources'.
- 15. The evaluation report undertaken in accordance with section 32 of the RMA is set out in the 'Evaluation of the Proposal' and 'Evaluation of the preferred option for provisions' of this report, and an assessment of the environmental effects anticipated by the implementation of the changes is set out later in this report.
- 16. Consideration needs to be given to whether the Plan Change accords with and will assist the Council in carrying out its functions under section 31 of the RMA to, among other things, achieve integrated management of the effects of the use, development, or protection of land and associated resources. This includes the control of the actual and potential effects of land use or development on the environment in accordance with the provisions of Part 2 while recognising and providing for section 6 matters, having particular regard to section 7 matters and taking into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).
- 17. Sections 74 and 75 of the RMA also set out legal obligations when changing a district plan. As required by these sections, the Plan Change must specifically be in accordance with, give effect to, not be inconsistent with, take into account, or have regard to the specified documents / provisions. Consideration of these documents is set out later this report.

The Site and Surrounding Environment

- 18. The subject land is located generally on the south eastern side of the existing Rolleston township, to the west of Lincoln Rolleston Road, at 151 and 153 Lincoln Rolleston Road.
- 19. The subject land has an area of approximately 24.7 hectares and is comprised of two allotments.
- 20. The Certificates of Title of affected land are included in **Attachment 1** of the Plan Change Application. The site's location is indicated on the aerial photograph in **Figure 1** below, and in the ODP contained in **Attachment 2** of the Plan Change Application.
- 21. The site has frontage and access to/from Lincoln Rolleston Road to the east. Lincoln Rolleston Road is an arterial road.
- 22. To the north of the site is the existing Rolleston township, including recently constructed and progressively developing residential subdivision Falcons Landing within ODP Area 11 in the Selwyn District Plan.



- 23. To the south and east is Rural Zone land used predominantly for rural and rural-residential activity. West of the site is ODP Area 13 and west of there are ODP areas 5 and 6.
- 24. The site itself features land used for cropping and pastoral grazing, with one cluster of existing buildings including a dwelling, on each of the two allotments. 153 Lincoln Rolleston Road includes, within the aforementioned building cluster, buildings utilised for an automotive engineering business.
- 25. The attributes of the site and locality are further described in the technical reports appended to this assessment, including:
 - a. Infrastructure/servicing, and ground and surface water characteristics (Appendix A);
 - b. Geotechnical and land characteristics (Appendix B);
 - c. Transport (Appendix C);
 - d. Landscape and urban design attributes (Appendix D).
- 26. The reader is referred to these appended reports for these further details of the site and surrounds.



Figure 1: Aerial photograph indicating subject land (Source: Canterbury Maps)



The Plan Change

Description of the Proposal

- 27. It is proposed to rezone approximately 24.7 hectares of Rural Inner Plains land for primarily residential purposes, with an Outline Development Plan (ODP) guiding the form and layout of future development.
- 28. The Plan Change and ODP provide for the land to be rezoned Living Z in its entirety, with provision for an area of medium density development within the ODP. Aside from a change to the planning map, insertion of the ODP into the Plan, and amendments to provisions to reflect the change in zoning, no other substantive changes, additions or deletions are proposed to the current content of the District Plan. In particular, no changes to objectives or policies are proposed beyond that necessary to acknowledge the introduction of a new ODP area into Rolleston.
- 29. The Living Z zone is proposed for the majority of the Plan Change site and this is a natural extension of the existing and developing residential areas to the north and west. This zone will provide for variable lot sizes, including Low Density (average allotment size of 600m² and a minimum individual allotment size of 500m2), Medium Density Small-lot (maximum average of 500m², with minimum of 400m²), and Medium Density Comprehensive (maximum average of 350m², with no minimum site size).
- 30. The ODP area is designed to achieve an overall minimum net density of 12 households per hectare, noting that the Living Z zoning provides for the provision of higher density (15hh/Ha) residential areas adjacent to key open spaces and green corridors. Based on these densities and the developable areas on the Plan Change site², the proposed Plan Change is envisaged to provide for the establishment of approximately 280 new households.

Outline Development Plan

- 31. **Attachment 2** to the Plan Change entails an overall ODP, as described below.
- 32. The ODP embodies a development framework and utilises design concepts that are in accordance with:
 - a. The Land Use Recovery Plan (LURP)
 - b. The Canterbury Regional Policy Statement
 - c. The Greater Christchurch Urban Development Strategy (UDS)
 - d. The New Zealand Urban Design Protocol
 - e. The Rolleston Structure Plan

² The developable area of the Plan Change land accounts for the definition of 'net density' in the Canterbury Regional Policy Statement which specifies land that is to be included and excluded for the purposes of determining net density.



- f. The Selwyn District Council's 2009 Subdivision Design Guide
- g. 2007 Christchurch, Rolleston and Environs Transportation Study (CRETS).

Urban Design Attributes

- 33. The urban design attributes of the Plan Change are described in detail in the urban design assessment by DCM Urban Design in **Appendix E.**
- 34. That assessment relevantly notes that the aim of the Plan Change is:

'to create diversity and variety of housing typology without compromising lifestyle. The provision of smaller residential lot sizes are recognised as an important method to reduce sale prices and meet the demands of a greater proportion of the community, particularly first home buyers seeking a warm, energy efficient home that meets modern lifestyle needs. The density provides for a mix of dwelling types and lot sizes to cater to a wide range of the residential market. It allows for people of different ages and incomes to mix and create a diverse community, as well as for people to move within the development as their needs change'.

- 35. The urban design assessment also provides a summary of the key features of the ODP underpinning the Plan Change, noting this will:
 - a. Provide a diversity of house size and lot size to provide choice;
 - b. Locate higher density towards the centre of the development;
 - c. Create a street hierarchy providing different modal allocation;
 - d. Continue a well-connected network which combines with the green network and existing facilities connecting to key destinations (school, parks, childcare, town centre);
 - e. Prioritise walking and cycling with a mix of on-road, separate, and off-road facilities to promote active transport modes;
 - f. Create streets with a high level of amenity;
 - g. Provide a quantity of greenspace and facilities appropriate for the future population; and
 - h. Encourage the use of low impact design techniques including grass swales and soakage pits.

Transport Attributes

36. The proposal does not entail any changes to the transport provisions of the District Plan, which will apply at the time any physical subdivision or development of the land is proposed.



37. The transport assessment in **Appendix D** otherwise describes the relevant transport attributes of the proposal, which are embodied in the ODP.

Servicing

38. The development will be fully reticulated with sewer, water, stormwater, electricity and telecommunications, as set out in the Infrastructure Report attached in **Appendix A**.

Proposed Amendments to the District Plan

- 39. The following amendments to the Selwyn District Plan are proposed:
 - 1. To amend the Selwyn District Plan Planning Maps, by rezoning the site to Living Z.
 - 2. To amend Township Volume, Appendix 38 Outline Development Plan-Rolleston by inserting the ODP attached in **Attachment 2** as ODP Area 14.
 - To amend policies B4.3.9 and B4.3.77 to reflect the insertion of an additional ODP into Appendix 38. The Plan Change request provides details of the specific amendments proposed.
 - 4. Any other consequential amendments, including but not limited to renumbering of clauses.

Consultation

- 40. The applicant's consultants have discussed the application with Selwyn Council staff through the development of this proposal, primarily to ensure that the development can be adequately serviced. Council staff have also been consulted in regards the NPS-UD and development capacity at Rolleston.
- 41. Wider consultation, including consultation with local Rūnanga via Mahaanui Kurataiao Limited (MKT) in particular, has not been undertaken, noting the very compressed timeframes for preparing this Plan Change proposal. However, the applicant has had regard to the outcomes of consultation with Rūnanga and others for other recent residential zoning proposals elsewhere in Selwyn District.



Assessment of Environmental Effects of the Proposed Plan Change

- 42. This assessment is being undertaken in respect of Clause 22(2) of Schedule 1 of the Act that requires the following be undertaken:
 - (2) Where environmental effects are anticipated, the request shall describe those effects, taking into account clauses 6 and 7 of Schedule 4, in such detail as corresponds with the scale and significance of the actual or potential environmental effects anticipated from the implementation of the change, policy statement, or plan. 7.2 Clause 6 outlines the information required in an assessment of environmental effects. In comparison Clause 7 specifies the range of matters that must be addressed by an assessment of environmental effects.
- 43. The range of actual or potential environmental effects arising from the Plan Change request are seen as being limited to the following matters:
 - a. Infrastructure;
 - b. Geotechnical and Natural Hazards;
 - c. Contaminated Land:
 - d. Transport;
 - e. Landscape and Visual Effects;
 - f. Amenity Values;
 - g. Urban Design and Urban Form;
 - h. Ecological Effects;
 - Reverse Sensitivity;
 - j. Sites of Significance to Iwi;
 - k. Economic Effects:
 - I. Versatile Soils.

Infrastructure

- 44. The potential impacts of additional residential density on infrastructure, with specific regard to the capacity of existing reticulated sewer and water systems to service the proposed zone and stormwater management, is assessed in the Infrastructure Report attached in **Appendix A**, prepared by Site Solutions.
- 45. In summary, the Site Solutions report concludes:
 - The ground conditions are similar to the surrounding developed area, namely topsoil covering gravels.



- Roading and reserve layout can take into account the need to convey secondary flow paths.
- Stormwater will be to ground.
- Sewerage has options for both short term and long-term conveyance of sewage to the Southern Rolleston Pump Station.
- Water reticulation has good connections to the existing reticulation network.
- Power and telecommunication connections are available to the existing network.

There are no constraints to the need to supply infrastructure to the report area that would impede the development of residential allotments to the density of the residential zone.

46. The conclusions in the Infrastructure Report are accepted and adopted, and on that basis it is considered that any adverse effects associated with infrastructure establishment and servicing for the proposal can be adequately avoided or mitigated.

Geotechnical and Natural Hazards

47. A Geotechnical Assessment of the proposed Plan Change has been undertaken by Miyamoto and is contained in **Appendix B**. The assessment states:

The risk of damaging effects from liquefaction at the site is low with the seismic performance expected to be equivalent to MBIE Technical Category (TC) 1 as per the MBIE Guidance (2012).

Preliminarily, NZS3604 foundations are considered geotechnically feasible for NZS3604 compliant structures, subject to building-specific geotechnical investigations to assess the available bearing capacity.

At the time of our site visit, there was no evidence of erosion or erosional features on site.

Given the proximity of the site to any source, rockfall (falling debris) is not considered a risk to the site and given the site is generally flat with only a minor gradual change in elevation across the site, slope instability (slippage) is not considered to be a risk.

On the basis of our geotechnical assessment herein, we do not consider subsidence (under either static or seismic loading) to be a significant hazard for normal construction (i.e. NZS3604 compliant buildings).

- 48. On the basis of the advice contained in the Miyamoto report, it is considered that potential adverse geotechnical and natural hazard risks can be adequately avoided or mitigated.
- 49. In regard flood hazard specifically, the Miyamoto report notes that the site is not identified as being within a Flood Zone. This is assumed to be in reference to the Operative District



Plan. The Selwyn Flooding Map (Source: Canterbury Maps) indicates parts of the site are potentially subject to flood hazard from a 200-year ARI rainfall event. The potential flood hazard risk is considered to be typical of the Canterbury Plains, overland flow generated by continuous heavy rain or thunderstorms that the land cannot absorb becomes concentrated in shallow channels that cross the plains. The flood modelling indicates channels crossing or originating within the subject sites and continuing over the boundary of the site. The predicted floodwater depth is generally less than 0.5m, with one very small pocket of flood depth to potentially 1.0m on the southern boundary of the site.

50. The Infrastructure report in Appendix A addresses flood hazard within the site, stating that

The development of the site and, in particular the road corridors, will formalise the flow paths as shown in the Plains Flood Management overlay that cross the site. This will effectively divert flows to within road corridors and around housing areas. The probable north-south road links as indicated in Figure 8.2 of the Rolleston Structure Plan will provide continuity of the overland flows from the Falcons Landing development to the north, through to the undeveloped land to the south. As the land generally falls to the south, the formation of secondary flow paths is not considered to be difficult... It is not considered that the Plains Flood Management overlay indicates any impediment to the development of the land that is unable to mitigated with a road and reserve layout to ensure the continuity of flow paths, and limit areas of flooding to placed outside of residential development.

51. Based on this assessment, flood hazard effects associated with the proposal can be adequately avoided or mitigated.

Contaminated Land

- 52. A Preliminary Site Investigation (PSI) has been undertaken by Malloch Environmental Ltd and is attached as **Appendix C**. The report concludes that 151 Lincoln Rolleston Road is considered highly unlikely to pose a risk to human health and no further investigation is currently required. In regard 153 Lincoln Rolleston Road, the report concludes that while the majority of land area associated with 153 Lincoln Rolleston Road has largely been used for stock grazing purposes, there is evidence of potential HAIL activities occurring within the site, notably in the vicinity of an automotive engineering business on the site.
- 53. Due to the likely presence of HAIL activities on the site, as indicated in the Preliminary Site Investigation, the NESCS regulations are considered to apply to the site. At the time subdivision of the site is undertaken, a detailed site investigation will be required for parts of 153 Lincoln Rolleston Road. The PSI states in summary:

It is expected that even if contamination is present, the logistical and financial costs to remediate any contamination would not be so onerous to preclude eventual residential development and use. The site does not have any significant risks that could not be worked through during the subsequent subdivision and development stages, and as such the site is considered suitable for the proposed plan change.



54. Malloch Environmental Ltd's advice is accepted and on that basis it is considered that potential adverse effects in respect of contaminated land can be adequately avoided, remedied or mitigated.

Transport

- 55. Transport effects on the safety and efficiency of the road network may arise from the proposed rezoning. An Integrated Transport Assessment has been prepared for the proposal by Stantec, attached in **Appendix D**.
- 56. That assessment considers the proposed transport connections provided by the proposed ODP, and transportation related impacts of the increase in the number of allotments that can be developed with the proposed Plan Change.
- 57. With respect to accessibility the assessment notes the 820 bus route runs closest to the site, currently along Springston Rolleston Road. It provides options to interchange to the Yellow buses into Christchurch City. The report also notes that future bus services are indicated for the CRETS Collector Road, which traverses in part through the Plan Change area, stating:

The Primary network is shown in the Rolleston Structure Plan as including an orbital bus route servicing Rolleston. It is considered that there is no reason why such a service could not be accommodated given the Collector Road nature of the road. No specific notation is considered necessary, although discussion could be included in supporting text. Again, the completion of the Collector Road allows the potential bus service to be provided, which would otherwise not be practicable if reliance was made on existing local subdivision roads.

Overall, the primary connection provides an important transport link which will be of benefit to the wider transport network and community.

58. In respect of future connections and including pedestrian and cycle connections, the report states:

The specific pedestrian / cycle connections shown align with the existing opportunities to connect to Acland Park and Falcons Landing. The connection in the southwest of the site recognises that there is likely to be a need for a north-south link on adjacent property between the collector road and the future-east-west collector road further south (an extension of Lady Isaac Drive). Connections can be reviewed based on adjacent zoning and land development expectations at the time of subdivision.

Overall, it is considered the ODP provides a well-connected network for vehicles, cyclists and pedestrians, that supports improved connection of the wider arterial network with existing subdivisions in the short term, and opportunities for future connectivity with Future Development areas.

59. Accounting for the above, the proposal will support a well-functioning urban environment and the aspiration in policy 1 of the NPS-UD that urban environments will:



- c. 'have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport';
- e. 'support reductions in greenhouse gas emissions'; and
- f. 'are resilient to the likely current and future effects of climate change's.

60. The report concludes:

With the level of development planned and provisions assessed, the submission to rezone the land to Living Z/Residential can be supported from a transportation perspective. The submission proposes an extension of the Rolleston urban area to the southwest of Lincoln Rolleston Road, providing for residential housing. This would result in the area being able to potentially accommodate approximately 280 more residential lots.

The additional residential lots could generate extra traffic volumes of approximately 250 vehicle movements per hour. Across the wider traffic network, including on Lincoln Rolleston Road, traffic modelling demonstrates that the additional traffic volumes would be accommodated without altering the form of already planned and anticipated network improvements.

An ODP is proposed that will enable integration with the Falcons Landing subdivision and existing urban area. Importantly, the extension of Talon Drive to Lincoln Rolleston Road has been included to support improved connectivity in the area. This road should be considered to be a Collector Road for the purpose of design and assessment against District Plan Rules.

Long term traffic modelling indicates the potential for higher north south traffic volumes through the site, although this is partly due to a coarse representation of the road network. The ODP allows for secondary roads, which based on the planned urban growth boundary will be adequate for the life of the District Plan.

The new intersection on Lincoln Rolleston Road is proposed in a location to enable safe connection to the transport network, and future extension to the east (if land is rezoned in the future). To allow for the long-term expansion of residential areas to the east of Lincoln Rolleston Road, it is considered appropriate to provision for the land requirements of a future a single lane roundabout.

There is good access to the existing cycle network on Lincoln Rolleston Road, and via the developing local road network. Pedestrian and cycle connectivity are provisioned for within the ODP where dedicated links to surrounding land need to be considered.

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³ Resilience to climate change is achieved through increased network redundancy (e.g. alternative routes and mode choice) and intensifying land use in a location away from locations exposed to climate change induced hazards (e.g. coastal / low lying areas). See: https://motu.nz/assets/Documents/our-work/environment/climate-change-impacts/Transport-Dialogue-Report.pdf



Whilst the site is currently not well serviced by public transport, there is no reason that the site could not form part of an orbital route as anticipated by the Rolleston Structure Plan. The site is also well located if future routes follow the arterial Lincoln Rolleston Road. In the interim, access is available to nearby Park n Ride locations in Rolleston for travel to Christchurch.

With the level of development planned and provisions assessed, the submission to rezone the land to Living $Z\ldots$ can be supported from a transportation perspective.

61. The findings of the Integrated Transport Assessment are accepted and adopted, and on that basis it is considered that the potential adverse traffic effects of the proposal can be adequately avoided or mitigated and positive transportation outcomes will be achieved in respect of accessibility, reduced greenhouse gas emissions and resilience to climate change.

Landscape / Visual Effects and Amenity Values

- 62. The Resource Management Act defines amenity values as '...those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes'.
- 63. The current character and amenity of the site and surrounds can be characterised as rural within the Plan Change site itself. The site is not identified as an outstanding landscape in any statutory planning document, nor is it considered to contain any features or landforms of significant landscape value (in respect of Section 6(b) of the Resource Management Act).
- 64. A Landscape and Visual Effects assessment of the proposed Plan Change has been undertaken by DCM Urban Ltd, and is attached in **Appendix E**. That assessment considered the existing landscape character of the environment, and the potential visual/visual amenity impacts of the proposed rezoning. The visual assessment was undertaken from multiple reference points around the site.
- 65. The visual assessment provides the following summary in respect of effects on visual amenity:

The proposal would result in an overall change in character from open and rural to one that is more dense and suburban in nature. The receiving environment is to maintain aspects of openness through the management of fencing along Lincoln Rolleston Road and the improvement of connectivity and accessibility throughout the wider site. The management of bulk and location of the development will also help create a sense of openness through the centralisation of denser development. The highest likely effects after mitigation will be experienced by those residential properties closest to the proposal along Lincoln Rolleston Road. Though there is a change in the overall character of the receiving environment, a low magnitude of change is anticipated from these residential properties as the proposal will become an extension of existing development. Motorists have a temporary view of the development and are anticipated to expect change in land from rural to suburban as they travel to/from Rolleston township.



Overall, the scale and bulk and location of the proposal would allow it to appear as a natural extension of existing development within Rolleston, with a low to very low magnitude of change anticipated.

66. The assessment then refers to mitigation measures that are incorporated within the Plan Change (primarily through the ODP and the adoption / location of different zones) to either avoid, remedy or mitigate any potential effects on landscape character, landscape values and/or visual amenity. In summary, the visual assessment concludes:

In terms of the National Policy Statement: Urban Development, Policy 8, the proposed Plan Change will add significant residential capacity with a proposed density ranging between 12 and 15 hh/Ha. This is higher than the recommended density in the Township objectives and policies for the Living Z zone, but is considered appropriate to meet the outcomes desired by the NPS:UD (2020). and consistent with RESZ-O3 objective:

A wide range of housing typologies and densities are provided for to ensure choice for the community and to cater for population growth and changing demographics.

Any amenity effects on existing and future residents can be successfully mitigated through the proposed mitigation measures. The proposed ODP provides a high level of connectivity and is consistent with the context and character of the receiving environment.

In terms of landscape character and values of the area, subject to the mitigation measures proposed, the proposal will result in an acceptable magnitude of change on the existing rural landscape character and values. Medium density areas will be 'internalised' within the development with lower density development providing a buffer with adjoining rural areas. The site will change from one rural and open in character to one which is more suburban in nature, with the change partially mitigated through fencing controls and landscape planting.

In terms of visual amenity, the rural properties will experience a change in the openness of views across the space, noting that many of the adjoining properties are surrounded by well-established shelter belt and boundary plantings restricting views out. Adjoining suburban residential properties, current and future, overlooking the Plan Change area will have a mix of open, partial, and screened views of future development.

- 67. The findings of that assessment are accepted and adopted, and on that basis it is considered that the potential adverse visual and landscape effects of the proposal can be adequately avoided or mitigated.
- 68. Effects on broader amenity values are similarly considered to be less than minor, with the character and amenity values of what is currently zoned for rural activity becoming urban-residential in nature, consistent with the wider Rolleston township.



Urban Design & Urban Form

- 69. A consideration of the National Policy Statement Urban Development (addressed below) is whether the Plan Change will provide for a well-functioning urban environment. This includes consideration of the urban form and in particular whether the direction of growth provided for by this Plan Change application will create an appropriate urban form and density for the Rolleston township.
- 70. The urban design assessment by DCM Urban Design in **Appendix E** addresses this and paragraph 35 above has outlined the key urban design and urban form outcomes that the proposed ODP will achieve.
- 71. The urban design assessment otherwise assesses the proposal against the New Zealand Urban Design Protocol design qualities, as follows:
 - a. Context the proposed Plan Change is linked to the existing suburban development of Falcons Landing and Acland Park, being of a similar scale, layout and built typology. In terms of context the proposal is appropriate to its setting. Overall, the receiving environment has a rural, semi-open character on the outskirts of residential suburban development. The existing environment has various structures including dwellings, auxiliary structures, power lines and exotic vegetation clustered throughout the landscape typical of rural landscapes.
 - b. Character The character of the proposal is likely to be similar to the adjoining residential developments with a density of 12hh/ha and a mix of single and double storey residential dwellings. A small area of medium density residential is proposed towards the centre of the development, adjacent to a proposed neighbourhood green space. A hierarchy of street types is proposed through the Plan Change area with character, in terms of fencing and landscape treatment likely to be controls imposed through covenants
 - c. Choice The ODP area is designed to achieve a minimum net density of 12hh/ha with higher density residential units located within Medium density (15hh/ha) areas adjacent to key open spaces and green corridors. The aim is to create diversity and variety of housing typology without compromising lifestyle. The provision of smaller residential lot sizes are recognised as an important method to reduce sale prices and meet the demands of a greater proportion of the community, particularly first home buyers seeking a warm, energy efficient home that meets modern lifestyle needs. The density provides for a mix of dwelling types and lot sizes to cater to a wide range of the residential market. It allows for people of different ages and incomes to mix and create a diverse community, as well as for people to move within the development as their needs change.
 - d. Connections Walkability and connectivity are key principles of the ODP with a hierarchy of street types and connections provided throughout the area. The aim of the movement network is to provide a range of modal options for residents, to reduce car-dependency for short local trips while recognising private vehicle use is necessary for longer trips. The ODP encourages connectivity using primary and secondary routes running through the area from west to east, with a primary



connection linking Ed Hillary Drive (CRETS road in Acland Park) to Lincoln Rolleston Road. Both primary and secondary routes will provide pedestrian and cycle facilities on both sides of the road, street trees and parking.

Smaller tertiary streets (not shown) or local/neighbourhood streets will ideally run north-south to create a highly connected and permeable neighbourhood. These roads are not shown to allow future design flexibility at the final subdivision stage. The design of the local streets will encourage slow vehicle movements combined with pedestrian and cycle facilities, either separate or shared depending on the design of the street. The layout of the blocks will have a predominantly north-south orientation where possible to maximise solar gain into rear yards (outdoor living spaces) of all properties. Supporting the road network, off road pedestrian and cycle paths will connect through to existing networks where they exist.

72. In terms of the criteria in Policy 1 of the NPS-UD for 'well-functioning urban environments', and accounting for the assessment by DCM Urban Design, the proposed Plan Change will:

a. Enable:

- i. a variety of homes, through the Living Z zoning that provides for diversity in the type, price, and location, of different households;
- ii. Māori to express their cultural traditions and norms, to the extent this is relevant for the site.
- b. Provide good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport. This will be achieved through the provision of good connectivity within the development, linkages to surrounding residential zones and the Rolleston township generally, and good accessibility to the strategic road network that connects to Greater Christchurch.
- c. Support the competitive operation of land and development markets, accounting for the increased choice and diversity in housing that the proposal will deliver.
- d. Support reductions in greenhouse gas emissions, through a movement network that promotes walkability and connectivity in order to reduce car dependency for short local trips and readily provides for servicing by existing public transport.
- e. Be resilient to the likely current and future effects of climate change accounting for its distance from coastal and low lying areas susceptible to sea-level rise and storm surges, the flooding assessment discussed above which accounts for the land's resilience to heavy rainfall events/frequency, and the potential for building and landscape design to address increased mean temperatures or amplification of heat extremes.
- 73. Accounting for the assessment above, the proposed Plan Change is considered to provide an appropriate standard of urban design and urban form and deliver a well-functioning urban environment as sought by the NPS-UD.



Ecological Effects

74. The site has no existing waterbodies or any notable areas of indigenous vegetation. Ecological values on the site are therefore considered to be minimal currently. The potential adverse ecological effects of the proposal are therefore considered to be negligible.

Reverse Sensitivity

75. There are no intensive farming operations or other notable incompatible or potentially incompatible activities in the vicinity of the Plan Change site and accordingly, the potential adverse reverse sensitivity effects from the Plan Change proposal are considered to be negligible.

Sites of Significance to Iwi

- 76. Based on feedback from Rūnanga on other similar rezoning proposals, it is anticipated that the proposed on-site land-based stormwater management proposed and adoption of Accidental Discovery Protocol at the time of site development will assist in mitigating against the potential adverse effects of land use, development and earthworks on cultural values generally. Further, the provision of locally sourced indigenous vegetation within the Plan Change site as it develops is a matter that will be addressed at the time of subdivision and development and support cultural values associated with the site. It is expected that any subdivision consent for development of the zone can and will incorporate conditions of consent addressing these requirements.
- 77. The site contains no natural surface waterbodies or springs or identified/listed Wāhi Tapu, Tāonga or other sites of significance to lwi.

Economic Effects

- 78. The potential economic benefits and costs associated with rural to residential zoning in the Rolleston area have been specified in other recent plan change proposals⁴ and include:
 - a. Additional employment, income and expenditure generated by the proposal, including increased economies of scale, increased competition, reduced unemployment and underemployment, and increased quality of central government provided services.
 - b. Increased competition and choice in residential housing markets, in a manner that is strongly and directly consistent with the NPS-UD.
 - c. Utility costs, which will not arise in a manner that requires cross-subsidisation by other ratepayers, residents or businesses within the Selwyn District.
 - d. Transport costs, which may arise relative to residential development in closer proximity to centres of employment, commercial activity, etc. However, such transport costs are internalised to future residents, or externalised in respect of potential road accidents, congestion, greenhouse gas emissions, etc. which are

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⁴ E.g. Plan Change 73.



likely to be similar to alternative residential development sites within the Selwyn District.

79. On that basis, the economic effects of the proposed Plan Change are considered to be acceptable.

Versatile Soils

- 80. The proposed Plan Change will result in land that is currently zoned Rural Inner Plains converting to an urban residential zoning and land use. Under the land use capability classifications, the land includes LUC classes 2 and 3 soils (see **Figure 2**). LUC classes 1 and 2 are commonly considered to be versatile soils. The site therefore contains some versatile soils (class 2), in the eastern portion of the site.
- 81. Within previous decades, the site has been used for grazing and possibly some cropping, together with the aforementioned limited residential and business use. To the applicant's knowledge, the soil has not been used for intensive production. Residential development will inevitably involve increased building and hard surface coverage; however there is some potential to retain the use of the soils through productive use of the land for tree growth, grassed areas and land drainage (swales, soakholes etc.) as well as for use with individual properties. It is also noted that the Rolleston Structure Plan includes the site within the potential long-term growth plan for Rolleston, and the land is within the Projected Infrastructure Boundary defined on Map A of the Canterbury Regional Policy Statement. The site is therefore clearly anticipated to be developed for urban purposes in the foreseeable future and as such the potential loss of Class 2 soils within the site is considered to be reasonably anticipated.

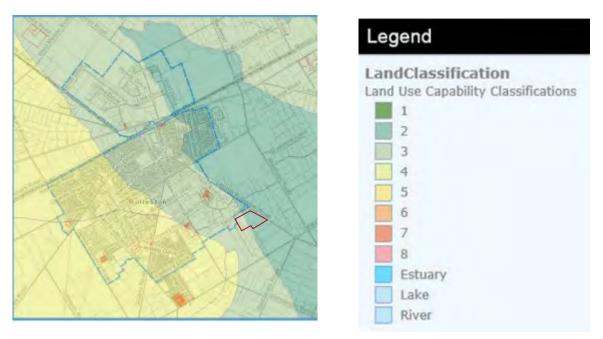


Figure 2: Versatile Soils Map (Source: Selwyn District Council)



Summary of Effects

82. In summary and for the reasons set out above, it is concluded that the potential adverse effects of the proposed Plan Change can be adequately avoided or mitigated.



Statutory Requirements of Section 32 of the Act

- 83. Before a proposed Plan Change is publicly notified an evaluation must be carried out by the person making the request. The evaluation, carried out under Section 32 of the Resource Management Act, must examine:
 - (a) the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of the Act; and
 - (b) whether, the provisions in the proposal are the most appropriate way to achieve the objectives by:
 - (i) identifying other reasonably practicable options for achieving the objectives; and
 - (ii) assessing the efficiency and effectiveness of the provisions in achieving the objectives; and
 - (iii) summarising the reasons for deciding on the provisions; and
 - (c) contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.
- 84. In assessing the efficiency and effectiveness of the provisions, the evaluation must also:
 - Identify and assess the benefits and costs of effects, including opportunities for economic growth and employment;
 - If practicable, quantify these benefits and costs;
 - Assess the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the provisions.
- 85. Section 32(6) clarifies that where no actual objectives are stated in the proposal, the objective is the purpose of the proposal.
- 86. A Ministry for the Environment guide to Section 32⁵ notes that Section 32 case law has interpreted 'most appropriate' to mean "suitable, but not necessarily superior". "Effectiveness" is noted in the guide as assessing the contribution new provisions make towards achieving the objective, and how successful they are likely to be in solving the problem they were designed to address. "Efficiency" is noted as measuring whether the provisions will be likely to achieve the objectives at the lowest total cost to all members of society, or achieves the highest net benefit to all of society. The assessment of efficiency under the RMA involves the inclusion of a broad range of costs and benefits, many intangible and non-monetary.

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⁵ MfE, A Guide to Section 32 of the Resource Management Act 1991 (2017), Wellington.



Objectives and Policies of the Selwyn District Plan

- 87. Section 32(1)(a) requires examination of the extent to which the objectives of the proposal are the most appropriate way to achieve the purpose of the Act.
- 88. The proposal does not involve any new, or the alteration of any existing, objectives of the Selwyn District Plan. The existing objectives are assumed to be the most appropriate for achieving the purpose of the Resource Management Act, having previously been assessed as such.
- 89. In regard to the more general objective of the proposal, being the purpose of the proposal, the objective is to provide for an extension of the adjoining existing urban residential area of Rolleston in a manner that provides for part of a significant CRETS Collector Road and provides for increased competition and choice in residential land markets.
- 90. Provision for a variety of densities (including medium density and lower density development) within the Plan Change area is considered appropriate to provide choice, help address declining housing affordability, and enable persons and the community to provide for their health and wellbeing, while avoiding, remedying or mitigating potential adverse effects. The proposal is considered to be an efficient use of the physical land resource.
- 91. Section 32(1)(b) requires examination of whether the proposed Plan Change provisions are the most appropriate way of achieving the District Plan objectives. There are several objectives and policies specific to the form and development of the Rolleston township itself. There are also objectives and policies addressing urban form and residential amenity generally. These are addressed in **Table 1** below.

Table 1: Assessment of relevant plan provisions against the objectives of the District Plan

District Plan provisions

Comment / Assessment

Township Volume - Chapter B4 Growth Townships

Objective B4.1.1

A range of living environments is provided for in townships, while maintaining the overall 'spacious' character of Living zones, except within Medium Density areas identified in an Outline Development Plan where a high quality, medium density of development is anticipated.

Objective B4.1.2

New residential areas are pleasant places to live and add to the character and amenity values of townships.

Policy B4.1.10

Ensure there is adequate open space in townships to mitigate adverse effects of buildings on the aesthetic and amenity values and "spacious" character.

The proposal will ensure that Rolleston continues to provide for a range of living environments generally. The subject land itself will also provide for arrange of living environments, including high quality, medium density development. The resultant development is anticipated to provide for a pleasant place to live and will contribute to the character and amenity of Rolleston.

Open space is provided within the Plan Change site, including a neighbourhood park.



Objective B4.3.1

The expansion of townships does not adversely affect:

- Natural or physical resources;
- Other activities:
- Amenity values of the township or the rural area; or
- Sites with special ecological, cultural, heritage or landscape values.

Objective B4.3.3

For townships within the Greater Christchurch area, new residential or business development is to be provided within existing zoned land or priority areas identified in the Regional Policy Statement and such development is to occur in general accordance with an operative Outline Development Plan.

Objective B4.3.4

New areas for residential or business development support the timely, efficient and integrated provision of infrastructure, including appropriate transport and movement networks through a coordinated and phased development approach.

Objective B4.3.5

Ensure that sufficient land is made available in the District Plan to accommodate additional households in the Selwyn District portion of the Greater Christchurch area between 2013 and 2028 through both Greenfield growth areas and consolidation within existing townships.

Policy B4.3.1

Ensure new residential, rural residential or business development either:

- Complies with the Plan policies for the Rural Zone; or
- The land is rezoned to an appropriate Living Zone that provides for rural-residential activities (as defined within the Regional Policy Statement) in accordance with an Outline Development Plan incorporated into the District Plan; or
- The land is rezoned to an appropriate Living or Business zone and, where within the Greater Christchurch area, is contained within existing zoned land and greenfield priority areas identified in the Regional Policy Statement and developed in accordance with an Outline Development Plan incorporated into the District Plan.

Policy B4.3.3

Avoid zoning patterns that leave land zoned Rural surrounded on three or more boundaries with land zoned Living or Business.

Policy B4.3.6

Encourage townships to expand in a compact shape where practical.

The Plan Change will not adversely affect any notable natural or physical resources. There are no other activities that the expansion will adversely affect, and amenity values will generally be maintained, albeit the values of the site itself will change from a rural to an urban-residential amenity. The site has no notable special values.

The proposal will not be consistent with Objective B4.3.3 and Policy B4.3.1 in so far as the development will not be within a priority area, however an ODP is proposed.

In regard to infrastructure, the proposal will place additional demand on services such as water and sewer. New and extended services will be required to service the proposal site and this can be undertaken through a combination of developer contribution and existing planned Council upgrades.

The proposal will not leave Rural zoned land surrounded by urban zoning.

The township shape will remain compact.



Policy B4.3.71

Avoid rezoning land for new residential or business development (other than Business 2 and 2A Zoning), west of SH1 and the South Island Main Trunk Line (SIMTL).

Policy B4.3.72

Avoid rezoning land for new residential development in areas shown under the Airport Flightpath Noise Contours for 50 dBA Ldn or greater, on Planning Map 013.

Policy B4.3.75

Encourage integration between rezoning land for new residential development at Rolleston and associated provisions for utilities, community facilities and areas for business development.

The proposal does not entail rezoning of land for residential development west of SH1 or the SIMTL, or under airport noise contours.

As set out in the Infrastructure Report (Appendix A), Integrated Traffic Assessment (Appendix D) and Landscape and Urban Design Assessment (Appendix E), the proposal will achieve the integration sought by policy B4.3.75.

Township Volume: Chapter B2 Physical Resources

Objective B2.1.1

An integrated approach to land use and transport planning to ensure the safe and efficient operation of the District's roads, pathways, railway lines and airfields is not compromised by adverse effects from activities on surrounding land or by residential growth.

Objective B2.1.2

An integrated approach to land use and transport planning to manage and minimise adverse effects of transport networks on adjoining land uses, and to avoid "reverse sensitivity" effects on the operation of transport networks.

Objective B2.1.3

Future road networks and transport corridors are designed, located and protected, to promote transport choice and provide for: a range of sustainable transport modes; and alternatives to road movement of freight such as rail.

Objective B2.1.4

Adverse effects of land transport networks on natural or physical resources or amenity values, are avoided, remedied or mitigated, including adverse effects on the environment from construction, operation and maintenance. Objective B2.1.5

Policy B2.1.2

Manage effects of activities on the safe and efficient operation of the District's existing and planned road network, considering the classification and function of each road in the hierarchy.

Policy B2.1.3

Recognise and protect the primary function of roads classified as State Highways and Arterial Roads in Part E, Appendix 7, to ensure the safe and efficient flow of 'through' traffic en route to its destination.

Policy B2.1.4(a)

Ensure all sites, allotments or properties have legal access to a legal road which is formed to the standard necessary to meet the needs of the activity considering:

- the number and type of vehicle movements generated by the activity:
- the road classification and function: and
- any pedestrian, cycle, public transport or other stock access required by the activity.

The Transport Assessment contained in Appendix D has confirmed that traffic generated from the proposal can be safely accommodated within the road network. Any new roads within the subdivision will be designed in accordance with the current standards of the District Plan.

In regard Policy 2.1.15, the proposed Outline Development Plan for the subject site includes requirement for new pedestrian links within the subject to area, to ensure adequate connectivity for a range of transport modes.

In regard the arterial function of Lincoln Rolleston Road, the proposal recognises and protects the function of this road and provides for its efficient flow.

In regards increasing transport demand, as discussed above the proposal provides good accessibility for alternative transport modes, including public transport.

In regards utilities and as stated in the Infrastructure Report contained in Appendix A, sewer and water servicing demands from the proposal can be met.



Policy B2.1.12

Address the impact of new residential or business activities on both the local roads around the site and the District's road network, particularly Arterial Road links with Christchurch City.

Policy B2.1.13

Minimise the effects of increasing transport demand associated with areas identified for urban growth by promoting efficient and consolidated land use patterns that will reduce the demand for transport.

Policy B2.1.15

Require pedestrian and cycle links in new and redeveloped residential or business areas, where such links are likely to provide a safe, attractive and accessible alternative route for pedestrians and cyclists, to surrounding residential areas, business or community facilities.

Policy B2.1.23

Where a township is already largely developed on both sides of a State Highway or railway line:

 Discourage new residential or business development from extending the township further along the State Highway or railway line if there are alternative, suitable sites; or, if not,
 Restrict new residential or business areas to extending further along one side of the State Highway or railway line only.

Objective B2.2.2

Efficient use of utilities is promoted.

Objective B2.2.3

The provision of utilities where any adverse effects on the receiving environment and on people's health, safety and wellbeing is managed having regard to the scale, appearance, location and operational requirements of the facilities.

Policy B2.2.2

Ensure activities have access to the utilities they require at the boundary prior to any new allotment being sold; or prior to any new activity taking place on an existing allotment.

Policy B2.2.3

Encourage the "market" to determine the efficient use of utilities.

Township Volume: Chapter B3 Health and Safety Values

Objective B3.1.1

Ensure activities do not lead to or intensify the effects of natural hazards.

Objective B3.1.2

Ensure potential loss of life or damage to property from natural hazards is mitigated.

Objective B3.1.3

Ensure methods to mitigate natural hazards do not create or exacerbate adverse effects on other people or the environment.

Flood hazard effects can be appropriately managed and mitigated as described above and there are no other notable natural hazards within the Plan Change area. Geotechnical investigations have indicated that the land predominantly has a technical category of TC1.

Objective B3.4.4 states:

Growth of existing townships has a compact urban form and provides a variety of living environments and housing choices for residents, including medium density housing typologies located within areas identified in an Outline Development Plan.

The proposal will maintain a compact town form. The proposal will provide for a variety of living environments and housing choices.

The Plan Change area will have a good level of connectivity to the remainder of the township, with



Objective B3.4.5

Urban growth within and adjoining townships will provide a high level of connectivity both within the development and with adjoining land areas (where these have been or are likely to be developed for urban activities or public reserves) and will provide suitable access to a variety of forms of transport.

Policy B3.4.1

To provide zones in townships based on the existing quality of the environment, character and amenity values, except within Outline Development Plan areas in the Greater Christchurch area where provision is made for high quality medium density housing.

Policy B3.4.3

To provide Living zones which:

- are pleasant places to live in and provide for the health and safety of people and their communities;
- are less busy and more spacious than residential areas in metropolitan centres;
- have safe and easy access for residents to associated services and facilities:
- provide for a variety of living environments and housing choices for residents, including medium density areas identified in Outline Development Plans;
- ensure medium density residential areas identified in Outline Development Plans are located within close proximity to open spaces and/or community facilities and
- ensure that new medium density residential developments identified in Outline Development Plans are designed in accordance with the following design principles:
 - access and connections to surrounding residential areas and community facilities and neighbourhood centres are provided for through a range of transport modes;
 - block proportions are small, easily navigable and convenient to encourage cycle and pedestrian
 - streets are aligned to take advantage of views and landscape elements;
 - section proportions are designed to allow for private open space and sunlight admission;
 - a subdivision layout that minimises the number of rear lots:
 - layout and design of dwellings encourage high levels of interface with roads, reserves and other dwellings;
 - a diversity of living environments and housing types are provided to reflect different lifestyle choices and needs of the community;
 - a balance between built form and open spaces complements the existing character and amenity of the surrounding environment and;
 - any existing natural, cultural, historical and other unique features of the area are incorporated where possible to provide a sense of place, identity and community.

provision for pedestrian and cycle links as well as vehicle access and potential servicing by public transport.

The proposal will provide for a character and amenity that is consistent with the remainder of the Rolleston Township and the existing subdivisions on the immediate north and west.

The proposed Living zone will meet the outcomes sought by Policy B3.4.3.

As noted in the assessment of effects above, there are no existing activities in the vicinity of the site with which the proposed zoning might be incompatible.



Policy B3.4.39

Avoid rezoning land for new residential development adjoining or near to existing activities which are likely to be incompatible with residential activities, unless any potential 'reverse sensitivity' effects will be avoided, remedied or mitigated.

Township Volume: Chapter B1 Natural Resources

Objective B1.1.2

New residential or business activities do not create shortages of land or soil resources for other activities in the future.

Policy B1.1.8

Avoid rezoning land which contains versatile soils for new residential or business development if:

- the land is appropriate for other activities; and
- there are other areas adjoining the township which are appropriate for new residential or business development which do not contain versatile soils.

Objective B1.2.2

Activities on land and the surface of water in Selwyn District:

- Do not adversely affect ground or surface water resources;
- Do not adversely affect waahi tapu or waahi taonga;
- Maintain or enhance the ecological and habitat values of waterbodies and their margins;
- Maintain or enhance the water quality and ecological values of sites of mahinga kai (food gathering); and
- Promote public access along rivers and streams, where appropriate.

Policy B1.2.1

Ensure all activities in townships have appropriate systems for water supply, and effluent and stormwater treatment and disposal to avoid adverse effects on the quality of ground water or surface waterbodies.

Policy B1.2.2

Ensure land rezoned to a Living or Business zone can be serviced with a water supply and effluent and stormwater disposal without adversely affecting groundwater or surface waterbodies.

Policy B1.2.5

Require any sewage treatment and disposal to be reticulated in the townships of Castle Hill, Doyleston, Lake Coleridge Village, Leeston, Lincoln, Prebbleton, Rolleston, Southbridge, Springston, Tai Tapu and West Melton. The Plan Change area does include an area of versatile soils⁶ but is identified as being located within the Projected Infrastructure Boundary of the CRPS and within the projected growth boundary of the Rolleston Structure Plan. The site is therefore already identified as an appropriate area for new residential development, in spite of the presence of some versatile soils.

The subject land does not feature, and therefore will not adversely affect, any water resources, sites of sensitive cultural value, ecological values or access to rivers or streams.

The site will be able to be adequately serviced, noting that subdivision will not be able to occur until such time as adequate infrastructure provision is confirmed to Council satisfaction.

92. Overall, it is considered that the proposed Plan Change is generally consistent with the objectives and policies of the Selwyn District Plan, particularly those seeking to provide pleasant living environments with high amenity. The proposal is not consistent with Objective B4.3.3 and Policy 4.3.1 which seek to ensure that new development is contained within the Regional Policy Statement priority areas, however the National Policy Statement on Urban Development resolves that policy tension, as discussed below. The proposal also has some tension with Policy B1.1.8 in regard versatile soils, however the site has already been identified as appropriate for future residential growth in other planning documents. Overall, it is considered that the resultant character, amenity and

⁶ Selwyn District Council Baseline Assessment – Versatile Soils (DW015), Dec 2018.



environmental effects of the proposal are consistent with those sought in the District Plan for Rolleston. Given this, it is considered that the proposal is an appropriate means of achieving the outcomes sought by the objectives and policies of the District Plan.



Assessment of Efficiency and Effectiveness of the Plan Change

- 93. In assessing the benefits and costs of the Plan Change, three options have been considered:
 - Leave the area zoned Rural Inner Plains
 - Rezone the entire site as proposed
 - Apply for resource consent(s) for subdivision and development under the current zoning to otherwise achieve an extension to the existing Rolleston residential environment.
 - Apply for multiple plan changes in other locations around Rolleston to otherwise achieve an equivalent extension to the existing Rolleston residential environment.
- 94. Tables 2-5 which follow provide an assessment of these options.

Table 2: Benefits and Costs of Option 1 – Leave the area zoned Rural Inner Plains

Benefit	s/Advantages	Costs/E	Disadvantages
•	Maintains the existing character and amenity of the area.	•	Does not meet market demand for residential sites in Rolleston.
•	No time or costs arising from a plan change process.	•	Will not allow for the development of the
•	No additional demands on infrastructure.		CRETS Collector Road where it is identified in strategic planning documents as needing to cross the site.
•	Versatile soils remain available for agricultural use.		

Table 3: Benefits and Costs of Option 2 – Rezone the site (the proposal)

Benefit	s/Advantages	Costs/[Disadvantages
•	Increasing the availability of allotments within Rolleston township.	•	Change in character and amenity of the site from rural to urban.
•	Economic benefit to Council from larger rating base through additional properties being added upon	•	Increase in traffic generated in and around Rolleston township.
•	subdivision. Economic benefit to the landowner from development of the property.	•	Additional infrastructure capacity required, to be provided at developer's cost.
•	Provision of high quality residential amenity for future residents.	•	Loss of productive rural land, including some versatile soil.
•	Additional supply of housing will assist in avoiding price rises resulting from otherwise suppressed housing supply.		
•	Would allow for the development of the CRETS Collector Road where it is identified in strategic planning documents as needing to cross the site.		



Table 4: Benefits and Costs of Option 3 – Apply for resource consents

Benefits/Advantages Costs/Disadvantages Council has the ability to more fully assess the Existing and future purchasers would proposal, in light of more detailed information need to obtain consent if they were to required as part of a subdivision consent application. alter uses beyond what is permitted in the District Plan or already consented. Council has the ability to place stricter controls on the development through consent conditions than Restricted timeframe in which land has may be possible through a plan change. to be developed and houses built, leading to potential economic costs for If granted, would allow for a greater number of landowner/developer. allotments, with associated efficiency of land Less flexibility in being able to develop development. the land. Would allow for the development of the CRETS Collector Road where it is identified in strategic High difficulty of obtaining resource for planning documents as needing to cross the site, non-complying status subdivisions. provided resource consent was obtained for the site Change in character and amenity of the development as a whole (i.e. encompassing the full site from rural to urban. route of the Collector Road). Increase in traffic generated in and around Rolleston township. Additional infrastructure capacity required, to be provided at developer's cost. Loss of productive rural land, including some versatile soil. Unwanted precedent in terms of allowing large scale residential activity in the rural zone through consent only.

Table 5: Benefits and Costs of Option 4 - Apply for multiple/ discrete plan changes in alternative locations

Benefits	s/Advantages	Costs/	Disadvantages
•	As for Option 2 (see Table 3)	•	As for Option 2 (see Table 3)
•	Distribution of growth to other locations.	•	Reduced economies of scale (for smaller scale or discrete plan changes)
		•	Fragmented / ad hoc development (for multiple/smaller scale proposals yielding an equivalent supply of housing).

- 95. The above assessment indicates that the costs of options 3 and 4 outweigh the benefits. Numerically the benefits of option 1 outweigh the costs, however the lost opportunity to provide for additional residential housing capacity and the lost opportunity to provide for the CRETS Collector Road within the site carries considerable weight.
- 96. Option 2, the proposal, has benefits that outweigh the costs.

Effectiveness

97. Beyond the rezoning of the subject land and two policy changes to reflect the introduction of a new Rolleston ODP, no new provisions are proposed by the Plan Change. Rather, it is intended that existing Living Z provisions apply to the subject land. New provisions are otherwise restricted to the introduction of an Outline Development Plan for the Plan Change area.



98. Option 2 is considered to be the most effective means of achieving the objective of the proposal, being to provide for an extension of the adjoining existing urban residential area of Rolleston in a manner that provides for part of a significant CRETS Collector Road and provides for increased competition and choice in residential land markets..

Efficiency

- 99. In considering efficiency, it is necessary to refer again to the cost/benefits of the three options outlined in the tables above.
- 100. These assessments indicate that for Options 3 and 4, the benefits are greater as compared to the alternative option of obtaining resource consents, which had costs or disadvantages outweighing benefits.
- 101. Option 1 is not an inefficient (and highly ineffective) means of achieving residential zoning across the site and provision for the CRETS Collector Road, though it would continue to achieve the objectives of the District Plan.
- 102. Taking into account the costs and benefits, Option 2, rezoning the Plan Change area, is considered to be the most efficient means of achieving the objectives of the proposal. The proposed provisions, encapsulating minimal changes to the District Plan, is also considered to be the most efficient means of achieving the objective of the Plan Change proposal.

Risks of Acting or Not Acting

103. Given the relatively recent rezoning and subdivision consenting of land in Rolleston including the adjoining Falcons Landing development (ODP Area 11), the relevant issues associated with the rezoning and development of land in this general and specific location are well understood. Accounting for the background information to and assessments for those developments, and the technical assessments accompanying this Plan Change application, there is minimal uncertain or missing information in relation to this proposal. It is therefore considered that there are no notable risks of acting or not acting.

Overall Assessment

- 104. Based on the above assessment, it is concluded that the Proposed Plan Change is the more appropriate method for achieving the objective of the proposal than the alternatives also considered above.
- 105. It is concluded that the economic, social and environmental benefits of the Proposed Plan Change outweigh the potential costs. On this basis, the proposed rezoning is considered to be an appropriate, efficient and effective means of achieving the purpose of the Resource Management Act.



Statutory Framework

Sections 74 & 75 of the RMA

- 106. Section 74 of the RMA prescribes that the District Council must prepare and change a district plan in accordance with its functions under s31 and the provisions of Part 2.
- 107. The District Council must also have regard to an evaluation report prepared in accordance with s32.
- 108. Section 74(2) requires the District Council to also have regard to proposed regional plans, management plans, the Historic Places Register, regulations or the Plans of adjoining territorial authorities to the extent that these may be relevant.
- 109. It is noted that the proposal does not involve any cross territorial issues, any matters of historical reference (on the Historic Places Register) or matters addressed by management plans or strategies prepared under other Acts. With respect to Regional Plans, these are identified and addressed further below.
- 110. Section 74(2A) also requires the Council to take into account relevant planning documents recognised by an iwi authority, to the extent that its content has a bearing on resource management issues.

Section 31 – Functions of Council

- 111. Any plan change must assist the Council to carry out its functions so as to achieve the purpose of the Act. The functions of a territorial authority are set out in s31 of the Act and include:
 - establishing, implementing and reviewing objectives, policies, and methods to achieve integrated management of the effects of the use and development of land; and
 - controlling actual or potential effects of the use and development of land.
- 112. The requested Plan Change accords with these stated functions. The proposal provides for the use and development of land for residential activities as an extension of the existing residential zone to the north, with only such amendments as are necessary to recognise the site and the proposed ODPs. The proposed ODPs provide the methods for Council to manage potential effects of this activity and demonstrates an integrated management approach.

Section 75 - Contents of District Plans

- 113. Section 75 requires a District Plan to state objectives for the District, policies to implement the objectives and rules to then implement the policies.
- 114. The proposal does not introduce any new, or alter any existing, objectives. Two policies are amended only so far as to reflect the introduction of a new Rolleston ODP.



- 115. Section 75 requires a District Plan to not be inconsistent with Regional Plans. These are identified and discussed in paragraphs further below.
- 116. Section 75(3)(a), (b) and (c) also requires a District Plan to give effect to any National Policy Statement, the New Zealand Coastal Policy Statement and the Regional Policy Statement. These are discussed as follows:

National Policy Statements (NPS) and New Zealand Coastal Policy Statement

- 117. The Selwyn District Plan is required under Section 74(1)(ea) of the Resource Management Act to prepare or change its district plan in accordance with National Policy Statements (NPS), and the New Zealand Coastal Policy Statement.
- 118. The New Zealand Coastal Policy Statement is not relevant to the site, given the large distance between the site and the coastal environment.
- 119. With regard to the NPS for Renewable Electricity Generation 2011, the proposal does not involve nor is it located in the proximity of a renewable electricity generation activity. Similarly, the Plan Change site is not located in close proximity to any main electricity transmission lines nor is there a substation within the site, meaning the NPS for Electricity Transmission 2008 is not relevant. Stormwater and waste water discharges will be dealt with at a future consenting stage, however no practices or effects are anticipated that would be inconsistent with the NPS for Freshwater Management 2020.
- 120. Noting the above, the National Policy Statement for Urban Development 2020 (NPS-UD) which took effect on 20 August 2020 is of principal relevance to this Plan Change.
- 121. The objectives and policies of that NPS:
 - seek a well-functioning urban environment (Objective 1), as defined by Policy 1;
 - recognise that urban environments, including their amenity values, develop and change over time (Objective 4);
 - state that local authority decisions on urban development area integrated with infrastructure planning and funding decisions and strategic over the medium term and long term and responsive, particularly in relation to proposal that would supply significant development capacity (Objective 6).
 - state that planning decisions must contribute to well-functioning urban environments (Policy 1). Policy 1 defines a well-functioning urban environment as an urban environment that, among other matters less relevant to this application, provides for good accessibility for all people between housing, jobs, community services, natural spaces, and open space.
 - state that local authorities, at all times, provide at least sufficient development capacity to meet expected demand for housing and for business land over the short term, medium term and long term (Policy 2).



- state that when making planning decisions that affect urban environments, decision-makers have particular regard to matters including: that the planned urban built form in those RMA planning documents that have given effect to this NPS may involve significant changes in an area, including detracting from amenity values appreciated by some people but improve amenity values appreciated by other people, communities and future generations (Policy 6);
- state in relation to car parking, territorial authorities do not set minimum car parking rate requirements, other than for accessible car parks (Policy 11).
- 122. With regard to the term urban environment, the NPS-UD defines an 'urban environment' as being an area of land that is or is intended to be predominantly urban in character; and is or is intended to be part of a housing and labour market of at least 10,000 people. The Rolleston population is greater than 10,000 people currently, with the 2019 census indicating a population of approximately 21,910. In any event, discussions with Selwyn District Council planners⁷ have however indicated that Rolleston is considered to be part of the Greater Christchurch urban area, and therefore part of the "urban environment". In support of that, Mr Rhodes has confirmed that under the National Policy Statement for Urban Development Capacity (now superseded by NPS-UD) and in the development of the Capacity Assessments and the Future Development Strategy (Our Space), the Greater Christchurch Partnership took the view that the Greater Christchurch area would be the 'urban environment' as a whole to ensure the work and the responses the NPS-UDC were co-ordinated. Given that urban environment is defined in the NPS-UD as meaning any area of land (regardless of size, and irrespective of local authority or statistical boundaries), the continuing definition of urban environment as encompassing all of Greater Christchurch is considered to be appropriate.
- 123. The proposed Plan Change is generally consistent with the objectives and policies of the NPS-UD, noting that the proposal will retain a compact urban shape and well-functioning urban environment, with an extension of an existing zone into an area. The site is able to be serviced adequately and will allow for both land use and transport efficiencies.
- 124. Policy 8 of the NPS-UD is particularly notable for the proposed Plan Change. That policy states:

Local authority decisions affecting urban environments are responsive to plan changes that would add significantly to development capacity and contribute to well-functioning urban environments, even if the development capacity is:

- (a) unanticipated by RMA planning documents; or
- (b) out-of-sequence with planned land release.
- 125. The proposed development is largely unanticipated by the Selwyn District Plan, though it is located within the Projected Infrastructure Boundary of Map A in the CRPS. The proposed Plan Change is however considered to add significantly to development capacity. As stated above, it will contribute to a well-functioning urban environment.
- 126. In regards to development capacity, the contribution will be significant, most notably due to the provision for developing a section of the CRETS Collector Road, the route of which is projected to run through the Plan Change site. The Integrated Transport Assessment in

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⁷ By email, Ben Rhodes, 6 August 2020.



Appendix D states the CRETS Collector road is a key strategy relied on for the development of the Rolleston Transport network. The ITA further notes that Talon Drive to the west of the site is a Collector road that is planned for implementation up to the eastern boundary of the Plan Change site. Talon Drive generally forms the CRETS Collector road which connects from Dunns Crossing Road and is intended to extend through to Lincoln Rolleston Road. Provision of the proposed Plan Change section of the CRETS road will improve outcomes for local roads in the network that would otherwise be required to accommodate the through traffic from subdivisions west of the site wanting to connect to Lincoln Rolleston Road. Conversely, if the Plan Change were not to progress, the CRETS Collector road connection to Lincoln Rolleston Road would be prevented or at least considerably delayed from completion, to the detriment of the Rolleston transport network.

- 127. Further, the current supply of *land* for residential growth at Rolleston is understood to be largely developed already. Therefore, even the proposal to provide for an additional 280 households is considered to add significantly to residential development capacity for Rolleston township.
- 128. Accounting for the above, **Table 6** below provides an assessment of the proposal against the relevant objectives and policies in the NPS-UD.

Table 6: Assessment of the proposal against the provisions of the NPS-UD 2020

there is high demand for housing or for business land in

the area, relative to other areas within the urban

environment.

Table 6: Assessment of the proposal against the provisions of the NPS-OD 2020				
NPS-UD Provision	Comment / Assessment			
Objective 1: New Zealand has well-functioning urban environments that enable all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future.	The proposed Plan Change supports this objective, through delivery of a well-functioning urban environment (within the context of the subject land, and within the wider Rolleston and Greater Christchurch context)- as is set out in respect of policy 1 below. The enablement of around 280 households and provision for continued development of the CRETS Collector Road will 'enable' people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, through enhanced housing supply and choice and provision of a key transport route connection.			
Objective 2: Planning decisions improve housing affordability by supporting competitive land and development markets.	The proposed Plan Change will help address constraints in the residential land supply markets, increase supply and competition, and help address housing affordability within the Selwyn District and Greater Christchurch in a manner consistent with Objective 2.			
Objective 3: Regional policy statements and district plans enable more people to live in, and more businesses and community services to be located in, areas of an urban environment in which one or more of the following apply:	This objective supports enablement of residential growth in this location, noting the subject land is a. near an area with many employment opportunities (the established and developing			
 a. the area is in or near a centre zone or other area with many employment opportunities 	Rolleston town and industrial centres, rural Canterbury, and Christchurch city).			
 the area is well-serviced by existing or planned public transport 	b. not well-serviced by existing public transport or planned public transport presently (noting this is contingent on a residential population that can			
c there is high demand for housing or for husiness land in	contingent on a residential population that call			

sustain it), but proposes road networks and

services to route through the sites.

connections that would enable existing/nearby bus



c. there is high demand for housing in the area, relative to other areas within the urban environment.

Objective 4: New Zealand's urban environments, including their amenity values, develop and change over time in response to the diverse and changing needs of people, communities, and future generations. The proposed change from rural to urban residential is in response to the diverse and changing needs of people, communities, and future generations (for the proposed form/density of housing in this location) in a manner consistent with this objective.

Objective 6: Local authority decisions on urban development that affect urban environments are:

- integrated with infrastructure planning and funding decisions; and
- b. strategic over the medium term and long term; and
- responsive, particularly in relation to proposals that would supply significant development capacity.

The infrastructure assessment and ITA have demonstrated that the proposal can be effectively integrated with infrastructure planning, funding and delivery. The site is within the CRPS Projected Infrastructure Boundary and identified as a future area for development in the Rolleston Structure Plan

The proposal will supply significant development capacity, primarily through the provision of the CRETS collector road connection but also including additional housing capacity, and on that basis this objective seeks 'responsive' decision making. This creates some tension with the requirement to be strategic over a medium and long term in so far as documents such as the Rolleston Structure Plan indicate the land is to be developed in the long term not immediately, however given the attributes of the site, the absence of any significant effects or risks, the adjacency to the existing urban area, and the strength of demand for new housing in the Greater Christchurch area currently, it is considered that enablement of this proposal would not be inconsistent with this aspect of the objective.

Objective 8: New Zealand's urban environments:

- a. support reductions in greenhouse gas emissions; and
- are resilient to the current and future effects of climate change.

The proposed provision for alternative transport modes, connectivity and accessibility, and the potential for servicing by public transport supports reductions in greenhouse gas emissions.

As noted earlier, resilience to climate change is achieved through: the site's distance from coastal and low lying areas susceptible to sea-level rise and storm surges; the land's resilience to heavy rainfall events/frequency, and the potential for building and landscape design to address increased mean temperatures or amplification of heat extremes.

Policy 1: Planning decisions contribute to well-functioning urban environments, which are urban environments that, as a minimum:

- a. have or enable a variety of homes that:
 - (i) meet the needs, in terms of type, price, and location, of different households; and
 - (ii) enable Māori to express their cultural traditions and norms; and
- have or enable a variety of sites that are suitable for different business sectors in terms of location and site size: and
- have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; and

The proposal will contribute to well-functioning urban environments at a localised, township, and regional scale, noting it will, as a minimum:

- a. Have and enable a variety of homes that meet the needs, in terms of type, price, and location, of different households. This is achieved through the Living Z provisions which provide for this variety and the choice afforded through the supply of up to 280 households. The proposal will enable Māori to express their cultural traditions and norms, to the extent relevant to the site context.
- b. Provide access to suitably located and sized business sectors in the wider Rolleston township, accessible by various transport modes; and the wider offerings of Christchurch city are accessible where required.



- support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets: and
- e. support reductions in greenhouse gas emissions; and
- f. are resilient to the likely current and future effects of climate change.
- c. Provide good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport noting the preceding point and the findings in the transport assessment
- d. Support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets by offering additional residential housing choice.
- e. Support reductions in greenhouse gas emissions, through provision for alternative transport modes, connectivity and accessibility, and the potential for servicing by public transport supports.
- f. Achieve resilience to the likely current and future effects of climate change, as described above, through: the site's distance from coastal and low lying areas susceptible to sea-level rise and storm surges; the land's resilience to heavy rainfall events/frequency, and the potential for building and landscape design to address increased mean temperatures or amplification of heat extremes.

Policy 2: Tier 1, 2, and 3 local authorities, at all times, provide at least sufficient development capacity to meet expected demand for housing and for business land over the short term, medium term, and long term.

In order to be sufficient to meet expected demand for housing, development capacity must be: 'planenabled (see clause 3.4(1)); and infrastructure-ready (see clause 3.4(3)); and feasible and reasonably expected to be realised (see clause 3.26); and meet the expected demand plus the appropriate competitiveness margin (see clause 3.22)'. Moreover, Policy 2 requires sufficient development capacity is provided 'at all times' to 'at least' meet expected demand over the short term, medium term, and long term.

The proposed enablement of up to 280 households that can be readily serviced with infrastructure, and provision for a key transport network connection, would be consistent with this policy.

Policy 6: When making planning decisions that affect urban environments, decision-makers have particular regard to the following matters:

- a. the planned urban built form anticipated by those RMA planning documents that have given effect to this National Policy Statement
- b. that the planned urban built form in those RMA planning documents may involve significant changes to an area, and those changes:
 - (i) may detract from amenity values appreciated by some people but improve amenity values appreciated by other people, communities, and future generations, including by providing increased and varied housing densities and types; and
 - (ii) are not, of themselves, an adverse effect
- the benefits of urban development that are consistent with well-functioning urban environments (as described in Policy 1)
- any relevant contribution that will be made to meeting the requirements of this National Policy Statement to provide or realise development capacity

- a. No RMA planning documents have yet given effect to this National Policy Statement in a way that can guide urban built form. However, it is relevant to note that the CRPS and Rolleston Structure Plan contemplated residential development of the land in the future, at the time those documents were developed.
- b. The assessments in Appendix E conclude that the proposal will not result in any significant effects on amenity values. However, to the extent that the appreciation of the status quo by some may be diminished by the proposal, this policy recognises the potential for change and that this is not necessarily an adverse effect.
- c. The proposal will deliver the benefits of urban development that are consistent with wellfunctioning urban environments (as described above in respect of Policy 1)
- d. The proposal will contribute significantly to meeting the requirements of this National Policy Statement 'to provide or realise development capacity'.



e. the likely current and future effects of climate change.

e. As set out above for other NPS-UD objectives and policies, the proposal accounts for the likely current and future effects of climate change.

Policy 8: Local authority decisions affecting urban environments are responsive to plan changes that would add significantly to development capacity and contribute to well-functioning urban environments, even if the development capacity is:

- a. unanticipated by RMA planning documents; or
- b. out-of-sequence with planned land release.

As set out above (and irrespective of the absence of criteria yet within the CRPS), the Plan Change will clearly add significantly to development capacity. And, as set out above, it will contribute to well-functioning urban environments. Accordingly, the policy supports the proposal, notwithstanding it being: unanticipated by RMA planning documents; or out-of-sequence with planned land release.

129. For the reasons expressed earlier in this assessment and in **Table 6** above, the proposal is considered to 'contribute to well-functioning urban environments' and achieve consistency with the relevant provisions of the NPS-UD.

Canterbury Regional Policy Statement

- 130. The Selwyn District Plan is required under Section 73(4) of the Resource Management Act to give effect to the Canterbury Regional Policy Statement 2013 (RPS). Section 74(2) of the Act also requires territorial authorities to have regard to any proposed regional policy statement when preparing or changing a district plan.
- 131. The relevant objectives and policies of the CRPS are primarily encompassed by Chapters 5 and 6 of the CRPS, relating to land-use and infrastructure and the recovery and rebuilding of Greater Christchurch. Chapter 15 addresses soils and is relevant in so far as part of the site contains LUC Class 2 soils. Chapter 17 addresses contaminated land, seeking to identify areas of contaminated land and protect people and the environment from the adverse effects of contaminated land. As discussed in the assessment of effects above, the site is understood to contain some contaminated land, which will require identification and remediation as part of the future development of the site, consistent with protecting both human health and the environment, in accordance with the objectives and policies of this chapter.
- 132. Turning to Chapter 5 (and noting that only those objectives and policies applying to the Entire Region are relevant to this application), Objective 5.2.1 addresses the location, design and function of development. It seeks that development be:
 - a. consolidated in and around existing urban areas as the primary focus;
 - b. that the overall quality of the natural environment is maintained and, where appropriate, enhanced;
 - c. that economic development is encouraged in appropriate locations;
 - d. adverse effects on significant infrastructure are avoided; and
 - e. conflicts between incompatible activities are avoided.
- 133. The site does not sit within an existing urban area, though it sits on the fringe of urban Rolleston. The proposal is considered to generally maintain the quality of the environment



in so far as the land is currently zoned for rural-residential development and its proposed change to urban residential land use will be consistent with activity to the immediate north and west. The proposal will not result in any significant displacement of rural activity, noting the site is utilised for grazing currently and is anticipated by the Rolleston Structure Plan and CRPS to be developed for urban purposes at some future point. The proposal will not affect significant regional infrastructure but will provide for an important Rolleston Transport network route. Access to the site is able to be safely accommodated as set out in the ITA in **Appendix D.** There are no activities nearby with which the proposed zoning might be incompatible. The proposal is considered to be not contrary to this objective.

- 134. In respect of Policy 5.3.7 Strategic land transport network and roads and as addressed in the ITA in Appendix D, the proposed development will not impact upon the ability of any State Highway or arterial road to fulfil its current or future strategic transport requirements. The proposal will support the policy in so far as providing for a section of the CRETS Collector Road to be constructed.
- 135. With regard to Chapter 6, Objective 6.2.1 Recovery framework, the objective seeks to enable recovery, rebuilding and development within Greater Christchurch through a land use and infrastructure framework that achieves various things, notably including "avoids urban development outside of existing urban areas or greenfield priority areas for development, unless expressly provided for in the CRPS". Clause 7 of that objective includes maintaining the character and amenity of rural areas and settlements, clause 9 seeks to integrate strategic and other infrastructure and services with land use development. Clause 10 seeks to achieve development that does not adversely affect the efficient operation, use, development, appropriate upgrade and future planning of strategic infrastructure and freight hubs.
- 136. Objective 6.2.2 Urban form and settlement pattern seeks to achieve consideration and intensification of urban areas and avoids unplanned expansion of urban areas.
- 137. Policy 6.3.1 Development within the Greater Christchurch area seeks to give effect to the urban form identified in Map A. That form indicates that the site sits just outside the Urban Area, but within the Projected Infrastructure Boundary. Clause 4 of that policy seeks to ensure new urban activities only occur within existing urban areas or identified greenfield priority areas as shown on Map A, unless they are otherwise expressly provided for in the CRPS.
- 138. Policy 6.3.5 Integration of land use and infrastructure seeks that land use development be integrated with infrastructure, including by only providing for new development that does not affect the operation, use, development, upgrading and safety of strategic infrastructure.
- 139. The strong messaging from this body of objectives and policies is that urban development is to occur inside the urban area within Greater Christchurch. The proposal then is inconsistent with those objectives and policies seeking to avoid urban development outside the urban area. However, as noted above, NPS-UD Policy 8 provides for inconsistency with this requirement.
- 140. In considering the particulars of these provisions above, it is otherwise noted that:



- a. With regard Objective 6.2.1, the proposal will protect the environmental qualities set out in that objective and provide for a reasonably consolidated and integrated urban form that is able to be fully serviced and integrates, via the proposed ODP, with the adjoining residential zones.
- b. The site is not located in a sensitive landscape, nor will any sensitive indigenous vegetation be affected. Water quality can be maintained at the time of detailed design through engineering solutions and regional plan/discharge consent requirements, noting that there are no natural waterbodies located within the Plan Change area.
- c. The landscape and visual assessment attached in **Appendix E** confirms that any associated effects will be avoided or mitigated.
- d. With regard to transport objectives and policies in Chapter 6, the Plan Change site is well located relative to the roading network, with provision for pedestrian and cycle connections to the wider township. Although the Plan Change will provide for an extension of the township to the southeast, the site will not result in long travel distances, noting that the town centre and its associated commercial activities and amenities are relatively close the Plan Change site. The attached Transport Assessment has confirmed the suitability of the adjoining road network for the vehicle movements anticipated and an integrated transport assessment has been undertaken in support of the proposal. As stated above, the proposal will provide for development of a section of the CRETS Collector Road within the Plan Change area, an important strategic connection for the Rolleston transport network.
- 141. With regard to Chapter 15, the objectives and policies seek to maintain soil quality and productive capacity, and to avoid, remedy or mitigate soil degradation. As discussed above, the site does include an area of versatile soils, but is identified as being located within the Projected Infrastructure Boundary of the CRPS and within the projected growth boundary of the Rolleston Structure Plan. The site is therefore already identified as an appropriate area for new residential development, in spite of the presence of some versatile soils. Productive capacity will nevertheless be lost through the development of the site for urban uses, and to that extent the proposal is inconsistent with the provisions of this chapter.
- 142. Overall, the development is considered to be inconsistent with those provisions of the Regional Policy Statement that require new residential zones to be located within identified greenfield priority areas, and to some extent inconsistent with provisions requiring soil productive capacity to be maintained, but otherwise generally consistent with the Regional Policy Statement.



Mahaanui – Iwi Management Plan 2013

143. The Mahaanui Iwi Management Plan (IMP) sets out Ngāi Tahu's objectives, issues and policies for natural resource and environmental management within the area bounded by the Hurunui River in the north and the Ashburton River in the south. Under Section 74(2A) of the Resource Management Act, a territorial authority must take into account any such plan to the extent that it has a bearing on the resource management issues of the district. The IMP is primarily a tool for the Rūnanga in the area it covers; the plan also provides guidance to territorial authorities and others. The IMP sets out the broad issues as well as the specifics for particular areas. These matters are considered below, as they are relevant to this proposed Plan Change. It is noted that the IMP does not identify any specific cultural values associated with the subject land that might be adversely impacted by its development.

Ranginui

144. The relevant matters identified in IMP are discharges to air and the protection of night time darkness. The proposed Plan Change does not contain controls on these matters. The main discharge to air that could occur through this proposal is the establishment of log burners or similar within individual houses, as well as discharges of dust to air during the development of the site. Such discharges are controlled by Environment Canterbury through the Regional Air Plan. Controls over night time lighting are not proposed, and therefore some light pollution in a manner that conflicts with the aspirations of the IMP may eventuate. However, given the Plan Change site adjoins an established urban area (with associated light pollution), such effects are not considered to be significant.

Wai Māori

145. Freshwater is of considerable cultural significance to Rūnanga. The main matters of concern relate to water quality and quantity and mixing waters from different waterbodies. With the reticulation of effluent disposal from new dwellings the potential from adverse impacts on groundwater quality are limited. The site will also be connected to a Council water supply, which is more efficient way to service the development than through a separate well or wells. Stormwater generated by the new roads will be treated and disposed of through swales or proprietary treatment devices and soakage pits, ensuring that no untreated stormwater will reach groundwater or surface water bodies. Further, roof stormwater (generally considered clean) will be disposed of straight to ground where ground conditions allow for this (as referred to in **Appendix A**). In respect of surface water bodies on the site, there are no natural water bodies or water races within the site. All of these aspects of the development combine to ensure that there will be minimum adverse impact on the freshwater quality or quantity within this locality.

Papatūānuku

146. The use of land and how it is developed is of importance to Rūnanga. This section identifies matters such as the urban planning, the subdivision and development of land, stormwater, waste management, and discharges to land. The potential effects of the proposal on the environment have been discussed in the assessment of effects above. That assessment concludes that there will minimal adverse impacts on the quality of the natural environment



as no waste or contamination will be discharged in a manner that will compromise the mauri of surface or groundwater.

Tāne Mahuta

147. This section addresses the significance of indigenous biodiversity and mahinga kai to Rūnanga. The application site is not located in a known mahinga kai area. The subject land has been used for farming purposes for many years. There are no notable indigenous plantings within the site. The proposed Plan Change does not have specific planting requirements, however indigenous planting within greenspaces, stormwater management areas, and road reserves will be confirmed at the time of subdivision and development. It is also anticipated that over time, as the area is developed for residential use, that further plantings, both exotic and native, will occur.

Ngā tūtohu whenua

148. There are no known wāhi tapu, wāhi taonga or mahinga kai sites within the application site or close by.

Te Waihora

149. The application site sits within the catchment of Te Waihora. The main matters of concern within this area relate to the management of water and waterways within the Te Waihora catchment, and the subsequent impact that can have on the water quality of Te Waihora and its environment. The proposal does not involve an activity that could adversely impact on the lake and its environmental and cultural values.

Summary

150. It is considered that overall, the proposal will not have an adverse impact on the cultural values of iwi as set out within IMP.



Part II of the Resource Management Act 1991

- 151. The purpose of the Resource Management Act is set out in Section 5 of the Act, being the sustainable management of natural and physical resources. This purpose is subject to Sections 6, 7 and 8 of the Act which set out that matters that are to be taken into consideration in achieving the purpose.
- 152. Section 6 identifies the matters of national importance that must be recognised and provided for when exercising a function under the Act. None of the listed matters in section are relevant to this site. As discussed above, in relation to section 6 and section 8 matters there are no known wāhi tapu, wāhi taonga or mahinga kai sites or items of historic heritage within the application site or close by.
- 153. In terms of section 7, the matter of most relevance to the residential zoning and further development of this site is maintenance and enhancement of the quality of the environment. The quality of environment and amenity values are anticipated to be high, with existing District Plan rules prescribing density standards and associated built form controls to ensure a suitable standard of development and amenity. As noted earlier, this proposal effectively shifts the existing urban/rural interface from the south side of ODP Area 11, to the southern edge of proposed Plan Change area. Accordingly, whilst the environment and amenity values of this interface (and the site itself) will change, these qualities will be maintained when considered in a wider context.
- 154. An overall assessment of the proposal to rezone the land for Living Z purposes is considered to achieve the purpose of the Resource Management Act. The proposal provides for the social well-being of residents of Selwyn District and the Greater Christchurch area by providing an efficient residential development form to increase residential housing capacity at Rolleston.



Appendix A

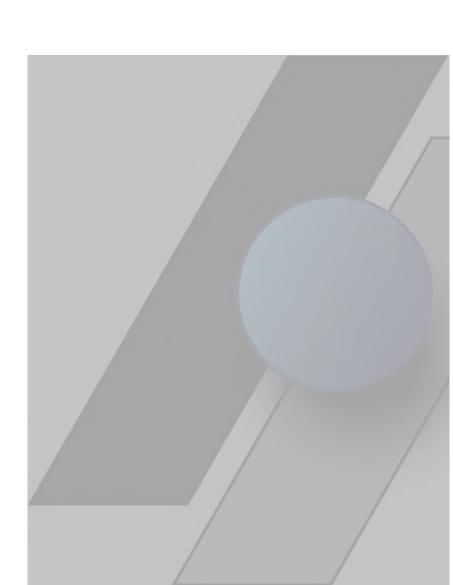
Infrastructure Assessment

Lot 1 DP 50631 and Lot 1 DP 357634 Plan Change Servicing Report

153 Lincoln - Rolleston Road

for

Yoursection Ltd





Contents

(Principal designer)

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Pre	is report has been: repared by:	John Rannadi. 2 December 2020
(De	Designer)	John Bannock, 2 December 2020
Ар	pproved by:	



1. Scope

As part of a wider submission for the rezoning a portion of land at 153 Lincoln Rolleston Road which is a portion of the Urban Limit for Rolleston, this report reviews the matters associated with the servicing of the area identified below and referred to as 'report area'.

This report covers the availability of existing infrastructure elements and the probable extension of the infrastructure to allow for residential development for the 'report area'. It is intended to accompany the zone change application.

This report describes the infrastructure elements for the development proposal, namely

- Earthworks
- Roading
- Stormwater
- Overland Flows
- Wastewater
- Water Supply
- Power and Telecommunication

2. Land Description

2.1. Contextual Location

The 'report area' is within the areas identified as being within the Metropolitan Urban Limit for Rolleston within the Rolleston Structure Plan. The report area comprises of two titles which are identified as Lot 1, DP 50631 and Lot 1, DP 357634.

The report site is adjacent or within the near vacinity of a number of recently completed or under construction residential developments. There are still areas of the identified Metropolitan Urban Limit that remain to be developed.

2.2. Location and Description of Site

The site is located at 153 Lincoln Rolleston Road and is south of the Falcons Landing residential development and to the east of the Farringdon and Acland residential developments. The site is a logical extension of the Falcons Landing residential development to the north and will allow the completion of the west – east connections that have been commenced within the Farringdon and Acland developments.

The report site is currently held in two titles, the larger (Lot 1 DP 50631) has an area of 20.675 Ha and the smaller (Lot 1 DP 357634) having an area of 4 Ha. Aside from the two residential houses the land is used for grazing, pasture crops and associated rural sheds and use. There are a number of hedge rows and shelter belt trees along the paddock fencelines.

The land coverage is generally pasture of good quality for grazing. There are portions of a irrigation waterrace that lie on western and southern boundaries of the overall report area. The irrigation race supplies agricultural water to a number of properties within the area north of Selwyn Road, however, only a few properties actually make use of the water for irrigation.



Figure 1: Contextual Location of Site

2.3. Underlying Ground Conditions

A geotechnical investigation of the site has been carried out by Miyamoto (dated 25 November 2020) and covered the report area site.

A summary subsurface profile is

0 – 400mm Topsoil 400mm – 1100mm Sandy SILT

1100mm - depth Gravels (sandy fine – course)

The general underlying ground conditions within the report area land is considered to be similar to that experienced within the Falcons Landing development to the north. Borelog records of wells to the north, south, west and east of the site indicates that the wider area has a similar profile.

Experience within the development of the Falcons Landing development suggests that there are isolated pockets of weak silts. However these are easily mitigated within the normal construction of roads.

The borelogs indicated that the ground water level is approximately 10m – 13m below the ground level



3. Engineering Design Considerations

Engineering design and construction will be carried out in accordance with the Selwyn District Council's development standards and in terms of any consents issued by the Selwyn District Council or Environment Canterbury.

Details of any design will be provided to the Council for approval prior to any construction works. The details will be particular to the development layout and will generally follow the following format (based on the development of neighbouring sites).

3.1. Earthworks

The design of the site will be such that the need to import additional material will be minimised as far as possible (cuts will balance fills). The cuts will be primarily out of roads and high points of the site with the filling being the low areas and for site contouring.

The underlying ground conditions means that suitable fill material is readily available on site.

It is not considered that there are any significant impediments within the site relating to earthworks that would impact on the ability to form a residential subdivision.

3.2. Roading

Road formation will be to general intention of the overall development plan for the area. This will entail the creation of a Primary Road that runs south-west to north-east through a number of developments. Liaison between the Council and other landowners will be required to ensure that the formation of the road linkage is of a reasonably consistent format.

Roads will be formed to Selwyn District Council construction requirements to meet the required traffic loading and planning requirements. The layout of internal roads will incorporate the need for secondary flow paths along with connectivity links.

It is not considered that there are any significant impediments within the site that will impact on the ability to meet the overall intentions of the Rolleston Structure Plan.

3.3. Stormwater

3.3.1. Principal Disposal

Stormwater runoff within the greater Rolleston area is to ground via the free draining gravels. The underlying ground conditions under the report area are similar to developments within the surrounding area, meaning that the stormwater disposal will be similar to the adjacent developments.

Individual residential houses' rooves will discharge to ground within the site. Hardstand areas and roads will be collected within kerb and channel and sumps to soak-pits located within the road reserve.



It is anticipated that a consent for disposal to ground will have to be gained from Environmental Canterbury for the purpose of discharging to ground.

It is not considered that there are any significant impediments within the site that will impact on the ability to meet the Council's intention to dispose to ground.

3.3.2. Secondary Flow Paths

Secondary flows paths within the developed residential areas are via developed road corridors. The general 'fall' of the land is from the north-west to the south-east. The development will likely incorporate a number of road and reserve corridors between the Falcons Landing development and the undeveloped land to the south. This will maintain the secondary flow paths from the Falcons Landing development.

3.3.3. Flood Levels

The site has areas that have been identified as being affected by the Plains Flood Management Overlay of the proposed District Plan where there are flow paths that have been identified as potentially being impacted by flood waters under a 1:200 ARI event.

The development of the site and, in particular the road corridors, will formalise the flow paths as shown in the Plains Flood Management overlay that cross the site. This will effectively divert flows to within road corridors and around housing areas. The probable north-south road links as indicated in Figure 8.2 of the Rolleston Structure Plan will provide continuity of the overland flows from the Falcons Landing development to the north, through to the undeveloped land to the south. As the land generally falls to the south, the formation of secondary flow paths is not considered to be difficult.

Reserves also provide a means of ensuring that secondary flow paths are continuous across a number of development sites. The location of the roads and reserves will be partially determined by the need to ensure continuity of the flow paths.

As part of the urbanisation of the wider area, the secondary flow paths (and potential locations of flooding) are more defined and constrained. The urbanisation of Lincoln-Rolleston Road will provide an additional flow break with the use of kerb and channel and berms forming a shallow barrier to the north-south flow pattern.

It is not considered that the Plains Flood Management overlay indicates any impediment to the development of the land that is unable to mitigated with a road and reserve layout to ensure the continuity of flow paths, and limit areas of flooding to placed outside of residential development.



Figure 2: Plains Flood Management overlay with location of site indicated

3.4. Sewer

3.4.1. Existing Sewer Reticulation

Effluent for most of the Rolleston township is currently collected through the reticulated sewer pipework and ends up at the Southern Rolleston Pumping Station located at the intersection of Springston Rolleston Road and Selwyn Road. From there, it is pumped to the Pines activated sludge plant on Burnham School Road where it is treated.

Future sewage will need to be reticulated to the same terminus. The recent residential developments within the neighbouring area use a combination of gravity and pump stations to achieve this.

Two pump stations were constructed as part of the Falcons Landing development. No. 1 Pump Station was constructed for the Falcons Landing development and is located north of the proposed development. That pump station was designed to cater for 1294 lots and pump the effluent from those lots to the sewer trunk main on Springston Rolleston Road which discharges to the Southern Rolleston pump station. The sizing of the Falcons Landing No 1 Pump Station was based on the known contributing allotments with an allowance of 10 households / hectare for the undeveloped land.



At least 219 of those 1294 lots that the pump station was designed to service have not yet been developed. This is, in part, due to the lack of intensification of individual titles within the sewer catchment area.

A smaller pump station was constructed to cater for the Branthwaite development that is located next to 56 Branthwaite Drive. This pump station was designed to cater for the equivalent of a further 384 lots at standard usage. The plan was that the Brathwaite pump station would be decommissioned, and sewage would gravity feed to Falcons Landing No. 1 pump station. We understand that the Branthwaite pump station is still in use.

Based on the above, the Falcons Landing No. 1 Pump Station has sufficient capacity for an additional 603 lots (using the original yield of 10 households / hectare.

Using the revised sewer servicing rate of 12 households / hectare we note that Falcons Landing No 1 Pump Station has sufficient capacity for an additional **567 lots**, as calculated below

Branthwaite Development	<i>384</i>	Actual Lot Number
Undeveloped land	183	Revised assessment based on 12 hh/ha
	567	

3.4.2. Proposed Sewage Servicing

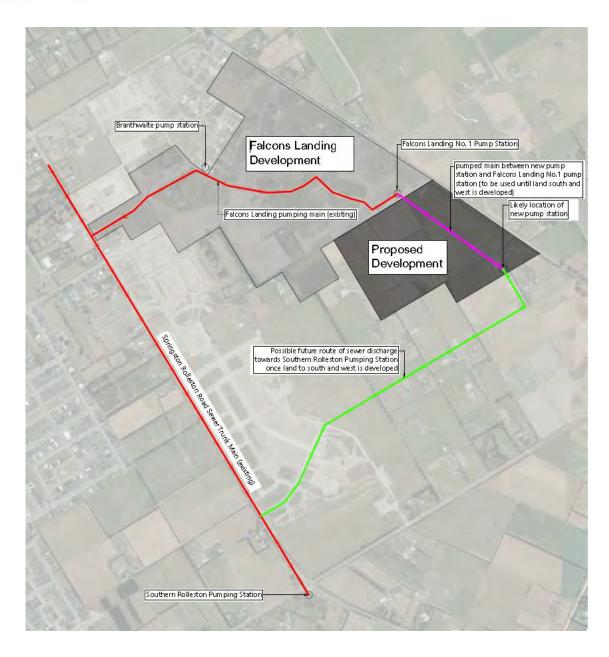
It is considered that the new development will be serviced by gravity sewer reticulation which will feed a new pump station situated in the vicinity of the south eastern section of the site (the lowest area). The exact location will be determined as a part of the overall development design. The effluent from this new pump station will then be pumped through to the Southern Rolleston Pumping Station so it can be treated. There are several options that are available to achieve this.

Effluent could be pumped from the new pump station to the Falcons Landing No. 1 pump station located between Flight Close and Saker Close until such time as the land to the south and west are developed. The development potential for the report area is likely to be less than the current spare capacity of the Falcons Landing No 1 pump station.

If it is not possible to utilise spare capacity within Falcons Landing No 1 pump station, then sufficient storage can be provided within the proposed pump station to cater for the report area.

When the land to the south and east are developed, effluent discharge from the site can be rerouted to the Southern Rolleston pump station either solely by gravity or it can be pumped from the new pump station to a more appropriate discharge location where it can be gravity fed to its intended destination.

It is not considered that there are any long-term impediments to the sewerage for the report area. For the short to medium term there are options associated with the wider development timeframes and Council preferences. Options for the short and medium term are multiple and are able to be designed to ensure effective servicing of the report area.





3.5. Water

3.5.1. Existing Water Reticulation

Water supply for Rolleston is sourced from deep groundwater wells. A series of trunk water mains feeds smaller water mains which connect households to the on-demand supply. Council have been upgrading water supply and reticulation to meet the ongoing development of Rolleston including the recently completed Helpet upgrade.

Within the near vicinity there is;

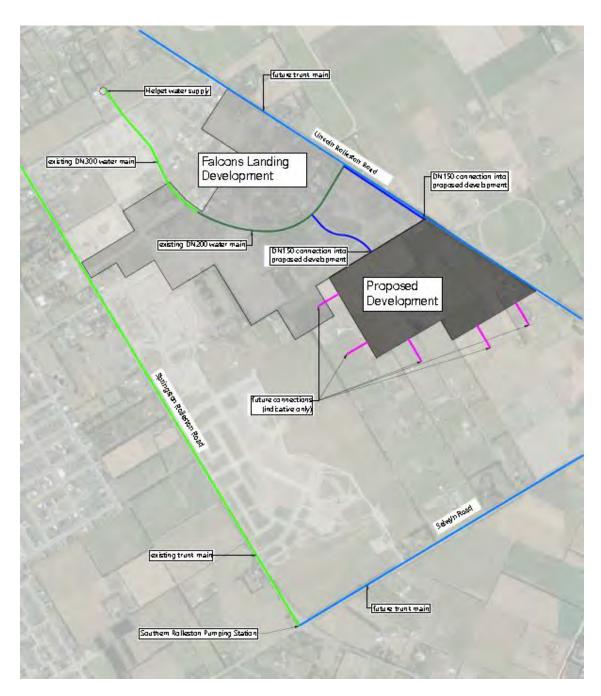
- A 450mm diameter truck main in Springston Rolleston Road.
- A 300mm diameter main in Branthwaite Drive connecting the Helpet water supply to residential lots to the south.
- A 150mm diameter water main was installed along Lincoln Rolleston Road as part of the Falcons Landing Development. This water main extends to the northern boundary of the report area.
- A 150mm diameter water main was also installed along Raptor Street to the boundary of the new development.

We understand that Council have a long-term plan to install a 400-diameter trunk main along Lincoln Rolleston Road down to the Branthwaite Drive intersection and continue that trunk main down to Selwyn Road with a 375-diameter pipe. We also understand that a 250-diameter main will be installed along Selwyn Road to link the existing trunk main on Springston Rolleston Road to the proposed trunk main on Lincoln Rolleston Road.

3.5.2. Proposed Water Network

The report area can be serviced water from the existing water reticulation on Lincoln Rolleston Road and Raptor Street. The exact details of water reticulation will come out in detailed design of the new development. Additional connections can be made to the water main that is extended along Lincoln-Rolleston Road. Additional connections will be made to land to the east and south when this is developed.

It is not considered that there are any restrictions to the development of the water supply that would impede the development of the report area for residential development. The development of the surrounding area will provide ample opportunities to provide ring mains and alternative connections.



3.6. Services (Power and Telecommunications)

The power and telecommunication services will be extensions to the existing network. There are main trunk services within Lincoln Rolleston and Springston Rolleston Roads. The servicing of each development will likely occur off these trunk supplies.

The report land is immediately adjacent to Lincoln Rolleston Road and it is not dependant upon the development of other properties to gain access to this main supply.

It is not considered that there are any impediments to the provision of power or telecommunication servicing that would impact on the ability to develop a residential development.



4. Summary

We consider the ability to provide sufficient infrastructure to the report area we note

- The site lies within the Metropolitan Urban Limit as detailed in the Rolleston Structure Plan
- The site is a natural progression of the residential development of Falcons Landing to the north
- The ground conditions are similar to the surrounding developed area, namely topsoil covering gravels
- The site has several good connections to the north into the Falcons Landing development, along Lincoln Rolleston Road and developments expanding from the west
- The site includes principal roading and infrastructure connections, including those that have already been installed within other developments. The completion of these infrastructural elements will complete the intention of the Rolleston Structural Plan
- The quantum of earthworks is intended to be balanced within the development area
- Roading and other infrastructure can be constructed to the Selwyn District Council's standards
- Roading and reserve layout can take into account the need to convey secondary flow paths
- Stormwater will be to ground
- Sewerage has options for both short term and long-term conveyance of sewage to the Southern Rolleston Pump Station
- Water reticulation has good connections to the existing reticulation network
- Power and telecommunication connections are available to the existing network.

5. Comment

There are no constraints to the need to supply infrastructure to the report area that would impede the development of residential allotments to the density of the residential zone.



Appendix B

Geotechnical Assessment



Geotechnical Report for Proposed Plan Change

Falcons Subdivision Proposed Extension

Issue Date: 25 November 2020

Miyamoto Ref: **200357-RP-002[A]**

Prepared for: Yoursection Ltd

Report Tracking

Revision	Status	Date	Prepared by	Reviewed by
А	FINAL	25 November 2020	C. Gibbens	C. McDermott

Authorisation

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Appendices

A. Ground Investigation Data

1. Introduction

Miyamoto International NZ Limited (MINZ) has been engaged by Yoursection Limited to undertake a geotechnical investigation, evaluation and land suitability assessment as part of the proposed land reclassification and plan change required for the proposed extension of the Falcons residential subdivision (encompassing 151 and 153 Lincoln Rolleston Road).

Our assessment comprised the following scope of works:

- Research of available information; including historic reports, the New Zealand Geotechnical Database (NZGD), Selwyn District Council (SDC) and Environment Canterbury (ECan);
- Site walkover inspection of the land;
- Shallow field investigation comprising:
 - Machine excavated trial pits (TP);
 - Dynamic cone penetrometer (DCP) testing.
- Geotechnical Assessment including high-level assessment of the site with regard to the Resource Management Act (RMA) Section 106.

This report presents the findings of our investigation and assessment which were carried out considering the Ministry of Business, Innovation & Employment (MBIE) Guidance documents "Planning and engineering guidance for potentially liquefaction-prone land" - Version 1, dated September 2017, "Repairing and rebuilding houses affected by the Canterbury earthquakes" - Version 3, dated December 2012, and "Earthquake geotechnical engineering practice - Modules 2 & 3".

It is noted that this report is limited to geotechnical assessment. Advice related to other development requirements (such as roading infrastructure, pavements, services, stormwater management and contaminated land) should be sought from appropriately qualified personnel.

2. Site Description

The site (approximately 25 hectares in area) is located in a rural setting in Rolleston, Selwyn, south of the existing Falcons / Branthwaite residential subdivision, and encompasses the following land parcels (as shown in Figure 1):

- Lot 1 DP 357634;
- Lot 1 DP 50631 BLKS III IV Leeston SD.

The site is predominantly flat with a global elevation difference of 2.0 m to 3.0 m (increasing to the north-west). The land is predominantly grass covered farmland with residential dwellings, workshops and sheep farming buildings currently occupying two relatively small areas of the proposed development area.



Figure 1: Site Location / Layout Plan

3. Data Sources

The following sources of third-party information were considered and are referenced in this report:

- GNS Science Geological Maps;
- New Zealand Geotechnical Database (NZGD);
- Environment Canterbury (ECan);
- Aurecon (2017). Falcons Landing Geotechnical Subdivision Report;
- Selwyn District Council (SDC);
- Canterbury Maps.

4. Geotechnical Assessment

Geological Setting

The geological map of the area (GNS 1:250,000 QMap) indicates that the site geology is described as 'modern (Quaternary) river floodplain/low-level degradation terraces of unweathered, variably sorted gravel/sand/silt/clay'.

Field Investigations

Miyamoto undertook a site-specific ground investigation on 17 November 2020, comprising:

- 27No. machine excavated trial pits (referenced TP001 to TP027);
- 27No. Dynamic Cone Penetrometer (DCP) tests associated with the above exploratory holes.

In addition to our site-specific investigation we have also utilised available geotechnical information from the surrounding subdivisions and a number of ECan well bores as part of our assessment.

The test locations are shown in Figure 2, the general details of the ground investigations are summarised in Table 1, and the engineering and well bore logs are presented in Appendix A.



Figure 2: Ground Investigation Location Plan

Table 1: Summary of Ground Investigations

Test Ref.	Source	Source Ref.	Test Type	Depth (mbgl)
TP001 to TP027	MINZ	200357	TP / DCP	0.7 to 1.8
Various	Aurecon	254246	TP	1.6 to 1.7
Various	NZGD / Landtech	LTCL18051	TP / DCP	2.1 to 2.6
HA-DCP_128990	NZGD / Davis Ogilvie	39353	HA / DCP	1.2 to 1.7
HA-DCP_27798	NZGD / LDE	10774	TP / DCP	0.8 to 3.0
ECan Well Bores	ECan	Various	Rotary / Percussion / Cable Tool	37.0 to 48.0

Ground Conditions

The ground profile interpreted from the on-site shallow ground investigation, correlated with the available existing data, generally comprises a layer of topsoil (0.2 m to 0.4 m in thickness), overlying low plasticity, firm to stiff Sandy SILT to between 0.4 m and 1.1 mbgl, below which dense to very dense Sandy fine to coarse GRAVEL is present to depth. It is

noted that the upper 0.1 m to 0.2 of the gravel layer is more of a gravelly Sand and a relatively thin layer (0.2 m to 0.4 m) of sand was encountered at isolated locations.

Groundwater

Standing groundwater was not encountered during our site-specific investigation and the soils encountered were dry. Long-term groundwater level monitoring information available from ECan well bores from the surrounding area indicate the groundwater table to average around 10 to 13 mbgl with seasonal fluctuations reaching a shallowest level of ~6 mbgl.

Liquefaction Assessment

The site is located within an area of 'low geotechnical risk' as defined by Selwyn District Council (McCahon, 2013). The site is also located within an area identified as 'Liquefaction damage is unlikely' (2012), and a 'Zone of low liquefaction potential' (2006) as presented on the Canterbury Maps Viewer.

Based on our assessment (including the site-specific ground conditions and groundwater regime) we concur that the risk of damaging effects from liquefaction at the site is low with the seismic performance expected to be equivalent to MBIE Technical Category (TC) 1 as per the MBIE Guidance (2012).

NZS1170.5 Site Sub-soil Class

Based on our geotechnical assessment, geological maps and other available information, NZS1170.5 Site Sub-soil Class D (deep or soft soil site) is considered appropriate for the site.

Flood Hazard

The site is not currently located within one of the Flood Zones identified by Selwyn District Council, however, restrictions around building floor levels must be checked at building consent stage.

5. Development Considerations

At this stage in the project, the future development plans are not defined. However, considering likely residential subdivision similar to that in the local area, the following preliminary guidance is provided:

- Earthworks should be undertaken in general accordance with the requirements of NZS 4431:1989. All unsuitable materials should be stripped from the work areas and stockpiled clear of the operations or removed from site;
- Preliminarily, NZS3604 foundations are considered geotechnically feasible for NZS3604 compliant structures, subject to building-specific geotechnical investigations to assess the available bearing capacity.

It is noted that this report is limited to geotechnical assessment. Advice related to other development requirements (such as roading infrastructure, pavements, services,

stormwater management and contaminated land) should be sought from appropriately qualified personal.

6. Assessment Against RMA Section 106

As per the requirements of Section 106 of the Resource Management Act (RMA) (2017), we have undertaken a high-level assessment of the significant geotechnical hazards that may affect the site. These hazards include, but are not limited to:

- Erosion;
- Falling debris;
- Slippage;
- Subsidence
- Inundation.

At the time of our site visit, there was no evidence of erosion or erosional features on site. The shallow soils could be vulnerable to erosion if the topsoil layer is removed and left unprotected for prolonged periods of time. This can be easily mitigated with appropriate design measures during construction.

Given the proximity of the site to any source, rockfall (falling debris) is not considered a risk to the site and given the site is generally flat with only a minor gradual change in elevation across the site, slope instability (slippage) is not considered to be a risk.

On the basis of our geotechnical assessment herein, we do not consider subsidence (under either static or seismic loading) to be a significant hazard for normal construction (i.e. NZS3604 compliant buildings).

The site is not currently located within one of the Flood Zones identified by Selwyn District Council, however, restrictions around building floor levels must be checked at building consent stage.

Based on our assessment, we consider that the geotechnical hazards may be mitigated to an acceptable standard, provided that the geotechnical recommendations given in this report are followed, and the appropriate engineering measures implemented, we consider that the development is unlikely to be affected nor worsen, accelerate or result in material damage.

7. Limitations

This report is subject to the following limitations:

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 at the date of this report.
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If you have any queries or you require any further clarification on any aspects of this report, please do not hesitate to contact Miyamoto International (NZ) Ltd.

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Appendices

A. Ground Investigation Data

MINZ site-specific investigation logs

ECan well bore logs

Aurecon 2017 investigation logs (nearby only)

LandTech 2018 investigation logs (nearby only)

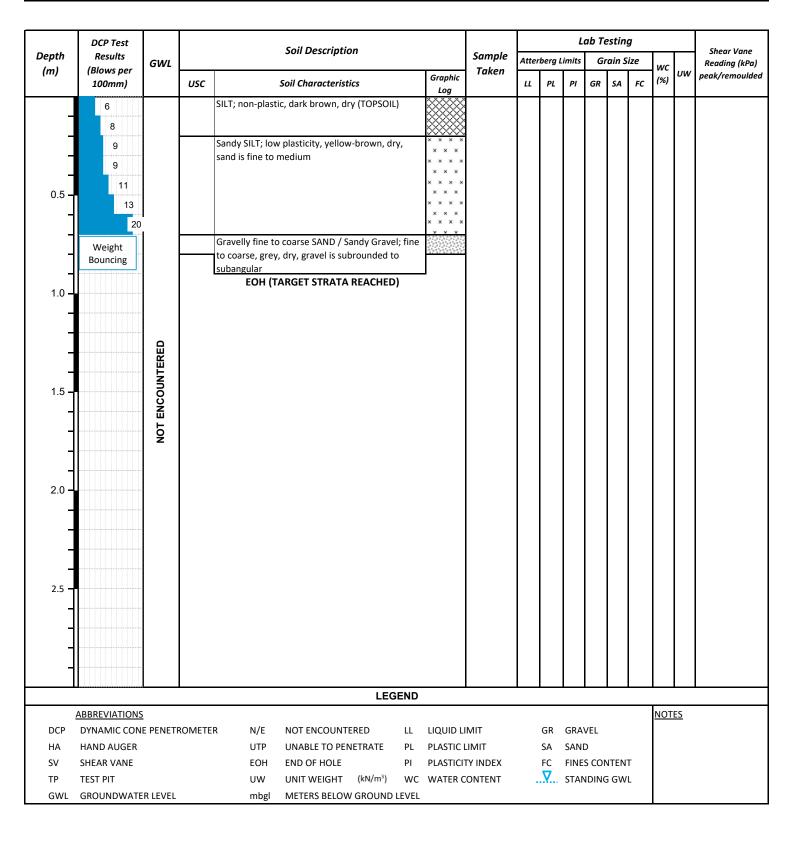
Davis Ogilvie 2019 investigation logs (nearby only)



200357 Yoursection Ltd 17 November 2020

SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	151 & 153 Lincoln Rolleston Road, Rolleston			
LOGGED BY:	CG	TOTAL TESTING DEPTH:	0.8 mbgl	HOLE DIAMETER: 50 m	ım
PROCESSED BY:	CG	TESTING METHOD:	TP + DCP	SHEAR VANE NUMBER:	-
LOCATION:	REFER TO SITE PLAN	GROUNDWATER LEVEL:	N/E	This report may only be reproduced in full	

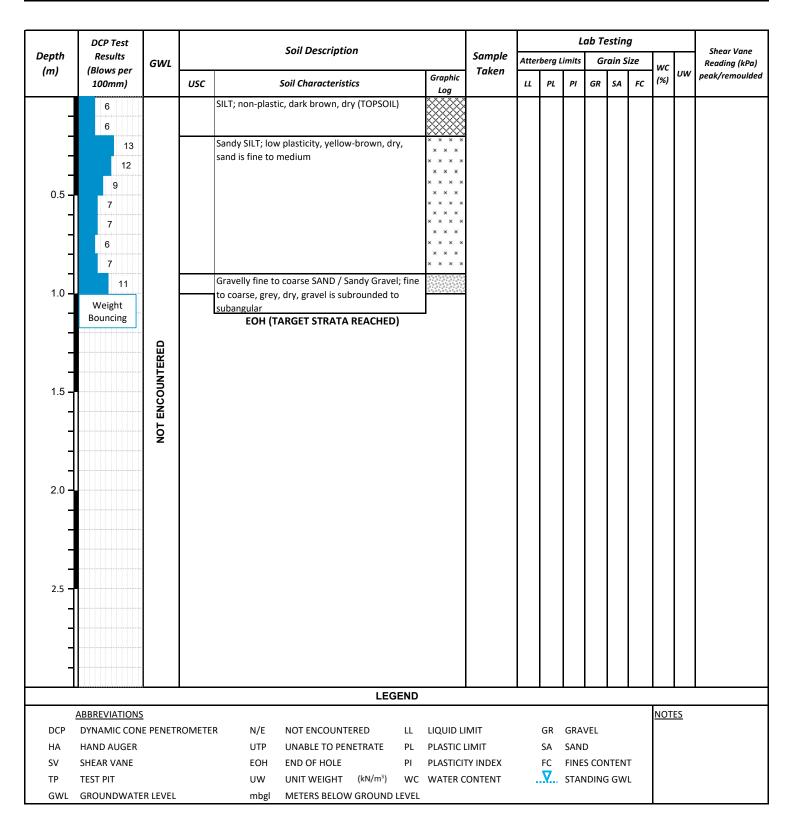




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	151 & 153 Lincoln Rolleston Road, Rolleston			
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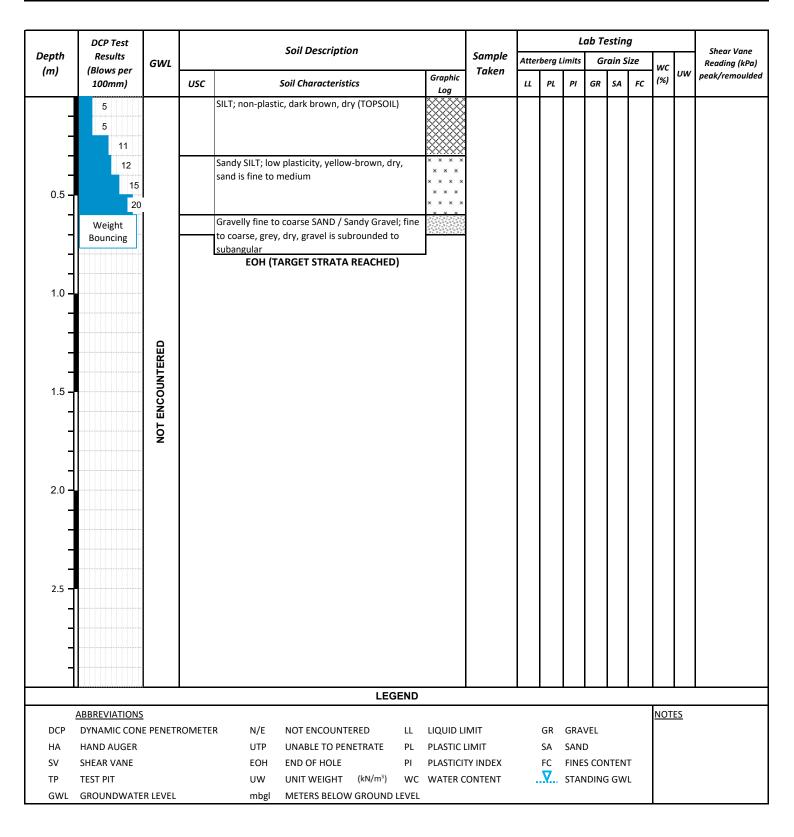




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	51 & 153 Lincoln Rolleston Road, Rolleston				
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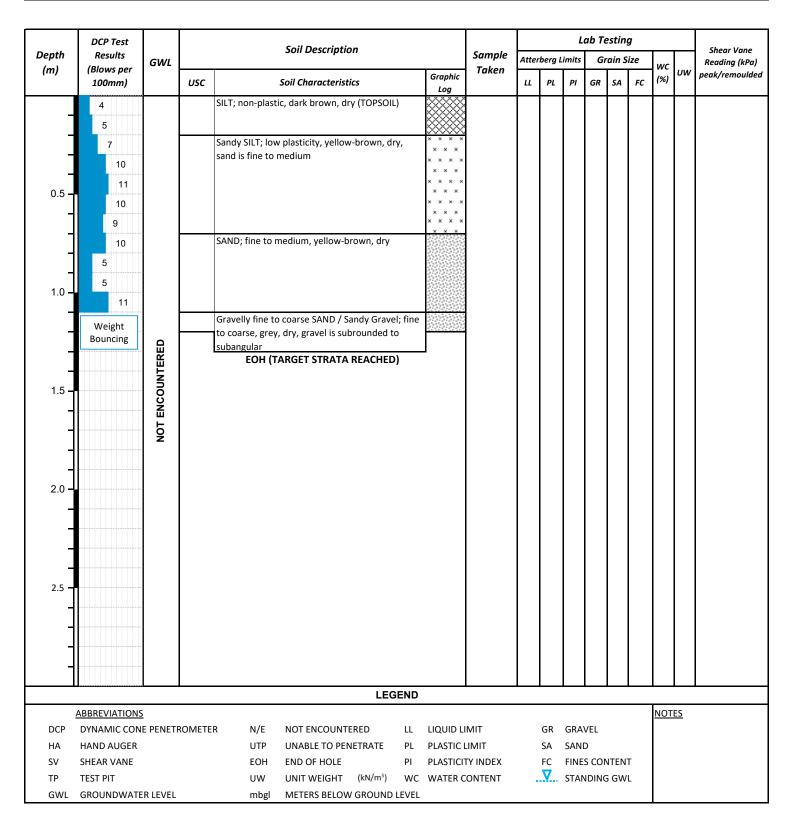




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SHALLOW GROUND INVESTIGATION LOG

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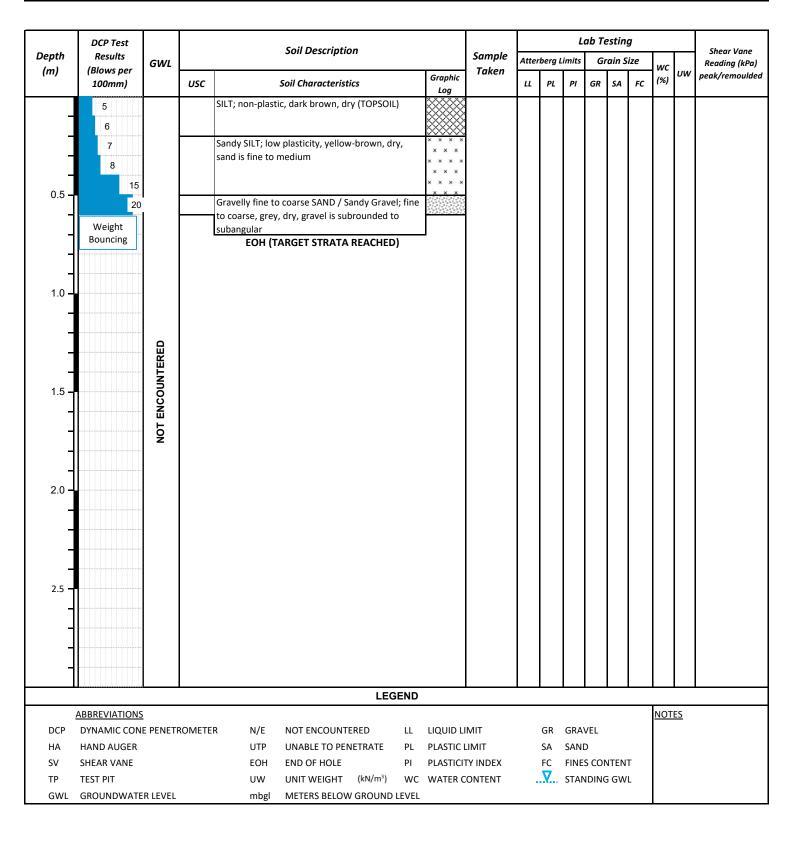




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	151 & 153 Lincoln Rolleston Road, Rolleston			
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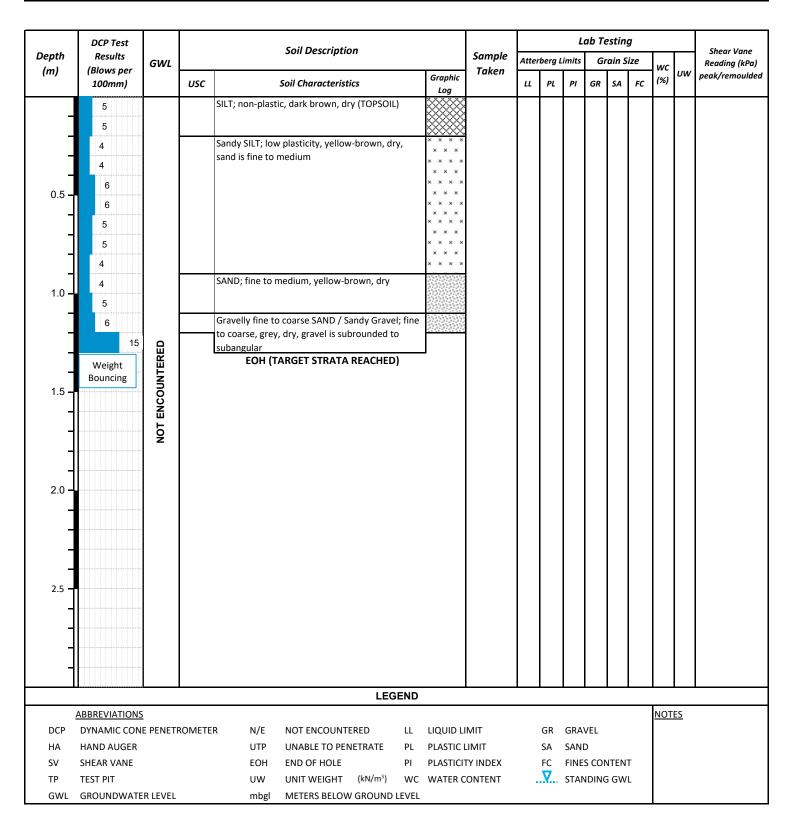




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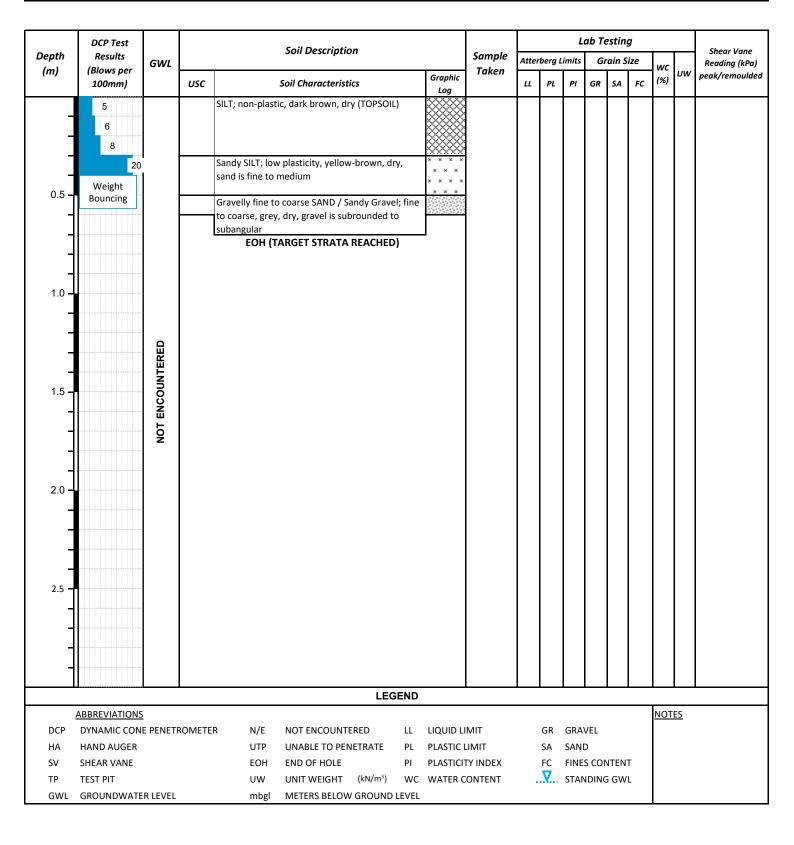




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	151 & 153 Lincoln Rolleston Road, Rolleston				
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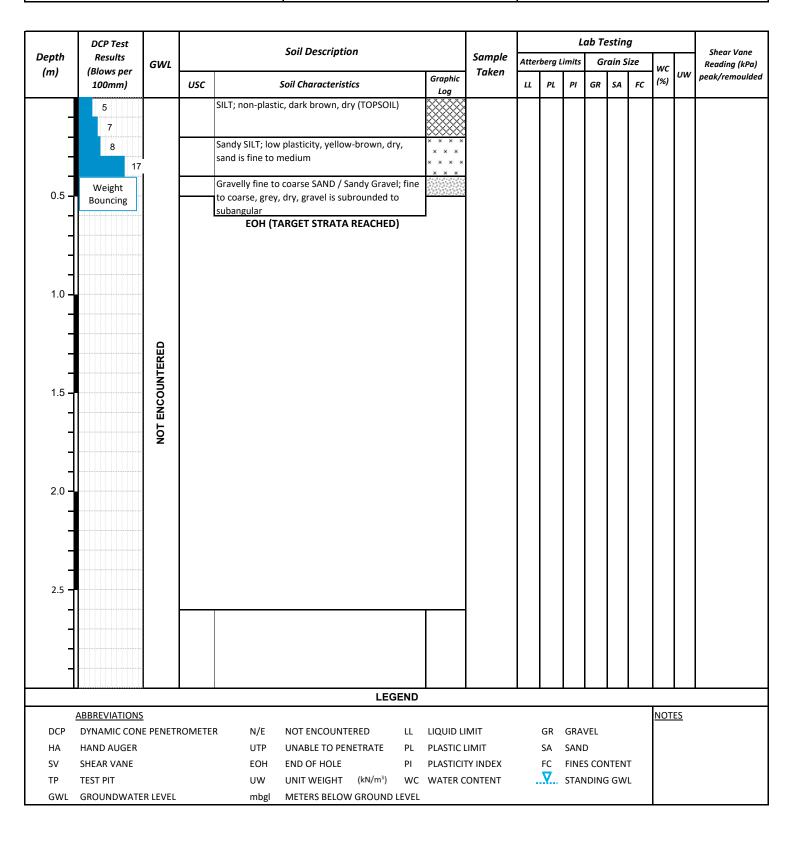




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SHALLOW GROUND INVESTIGATION LOG

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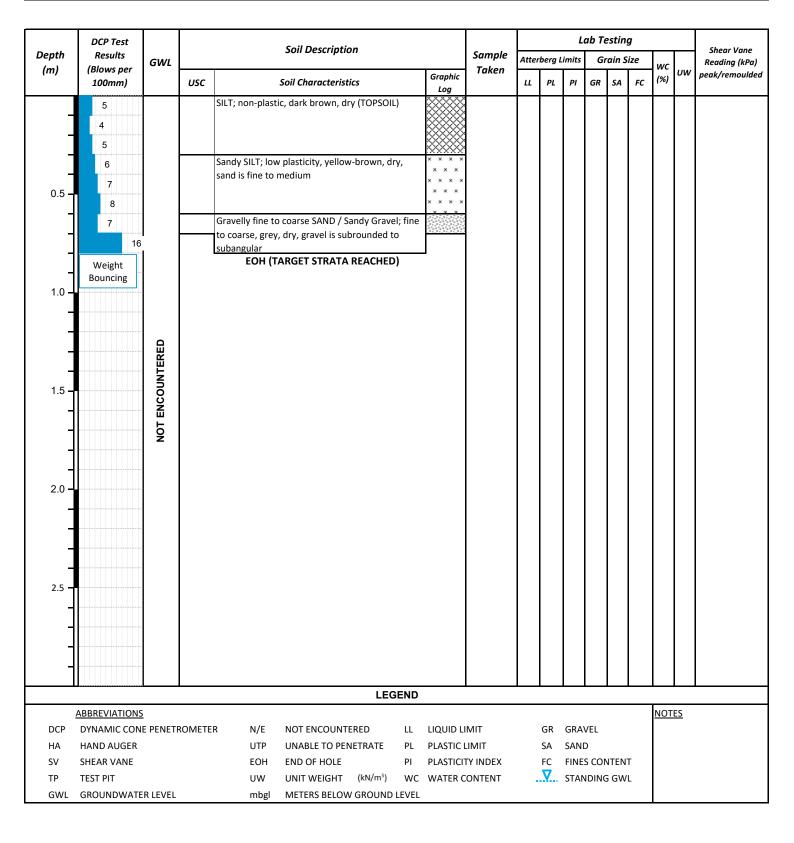




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SHALLOW GROUND INVESTIGATION LOG

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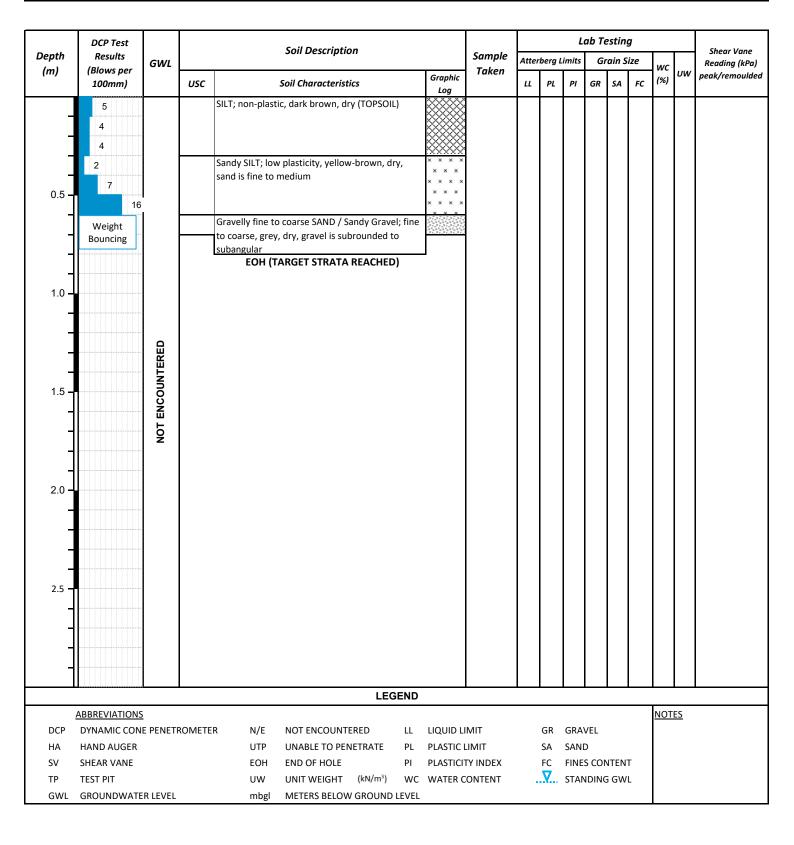




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	51 & 153 Lincoln Rolleston Road, Rolleston				
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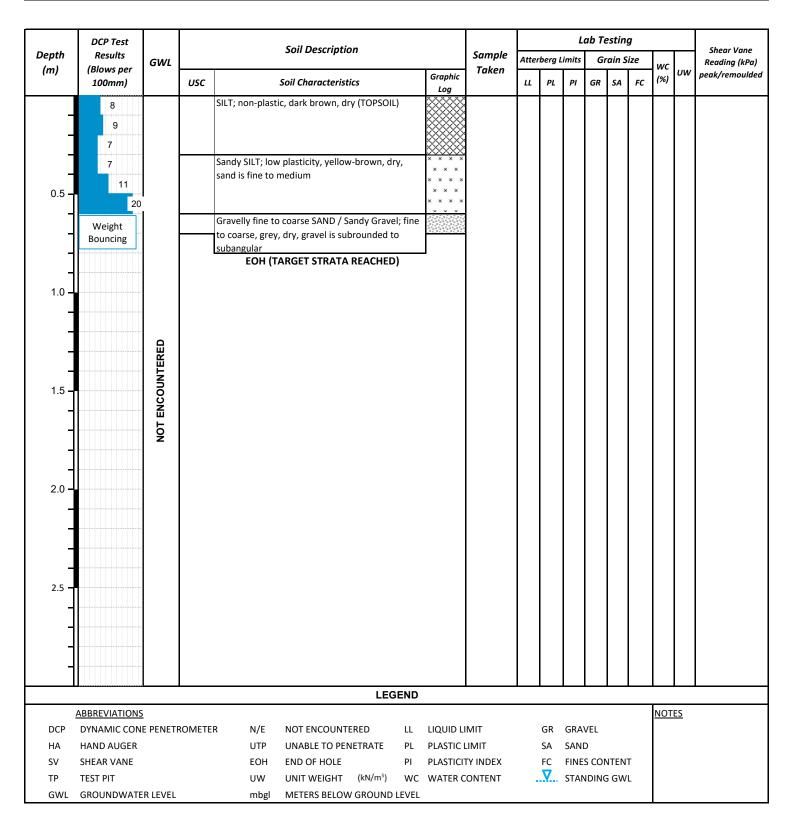




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	51 & 153 Lincoln Rolleston Road, Rolleston				
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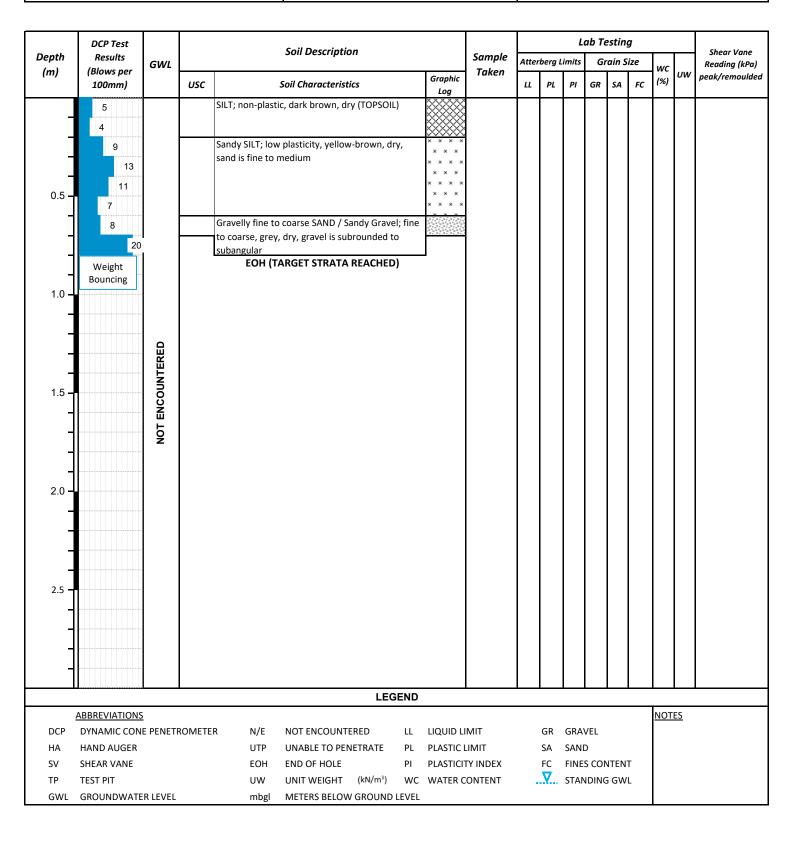




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SHALLOW GROUND INVESTIGATION LOG

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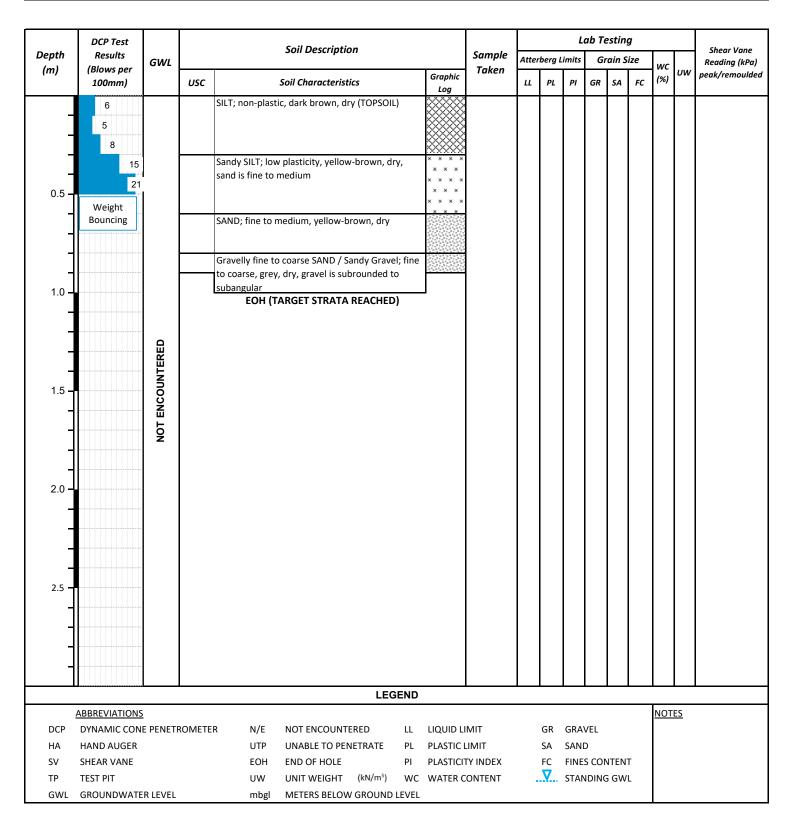




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	51 & 153 Lincoln Rolleston Road, Rolleston				
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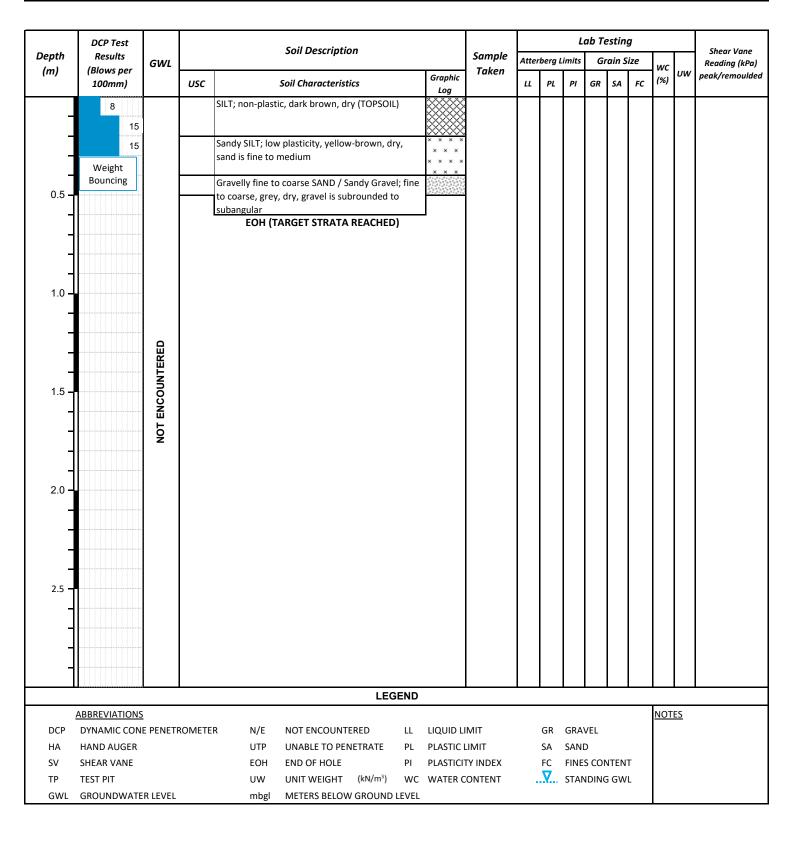




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	51 & 153 Lincoln Rolleston Road, Rolleston				
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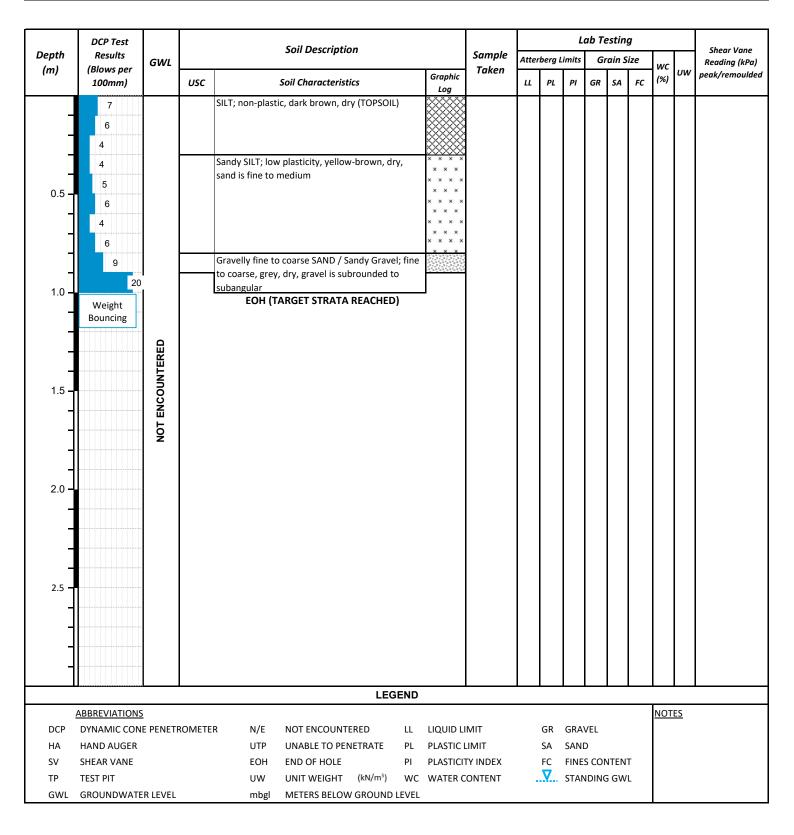




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	51 & 153 Lincoln Rolleston Road, Rolleston				
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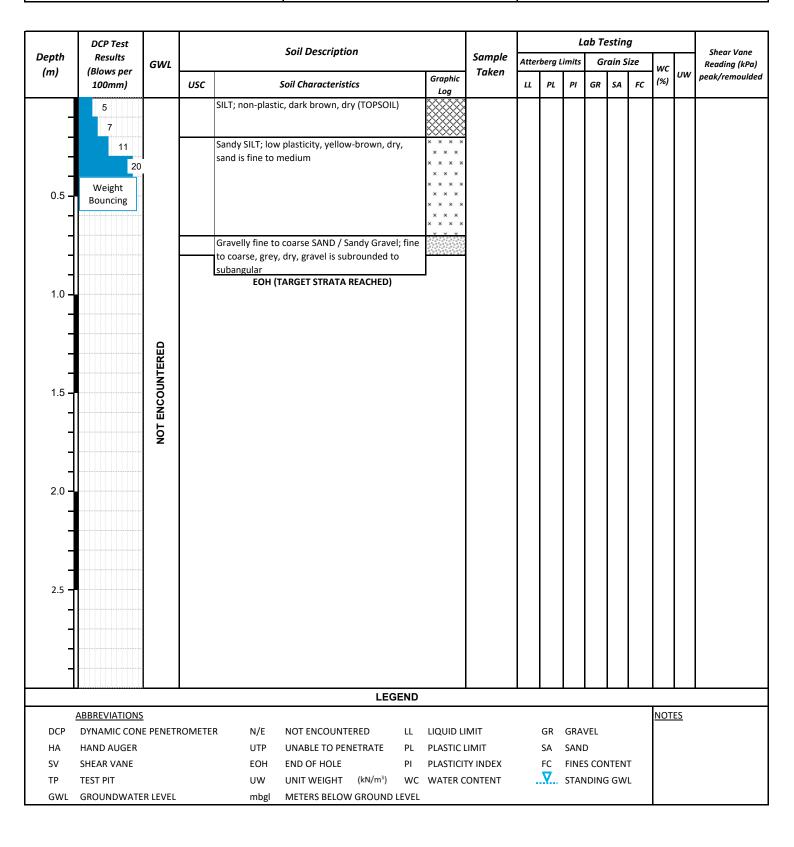




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	51 & 153 Lincoln Rolleston Road, Rolleston				
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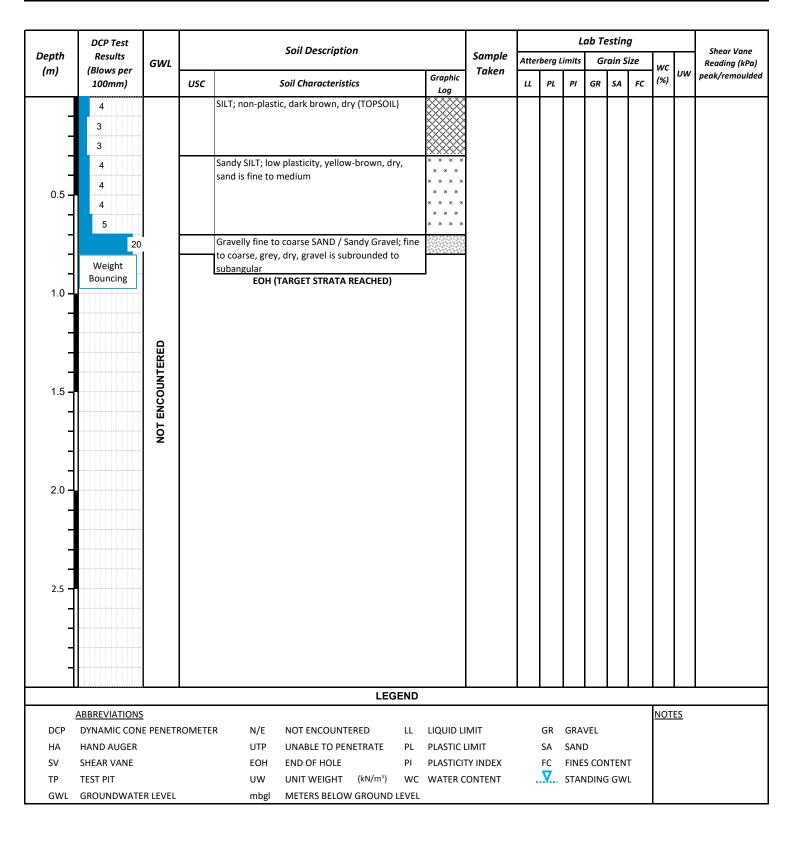




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SHALLOW GROUND INVESTIGATION LOG

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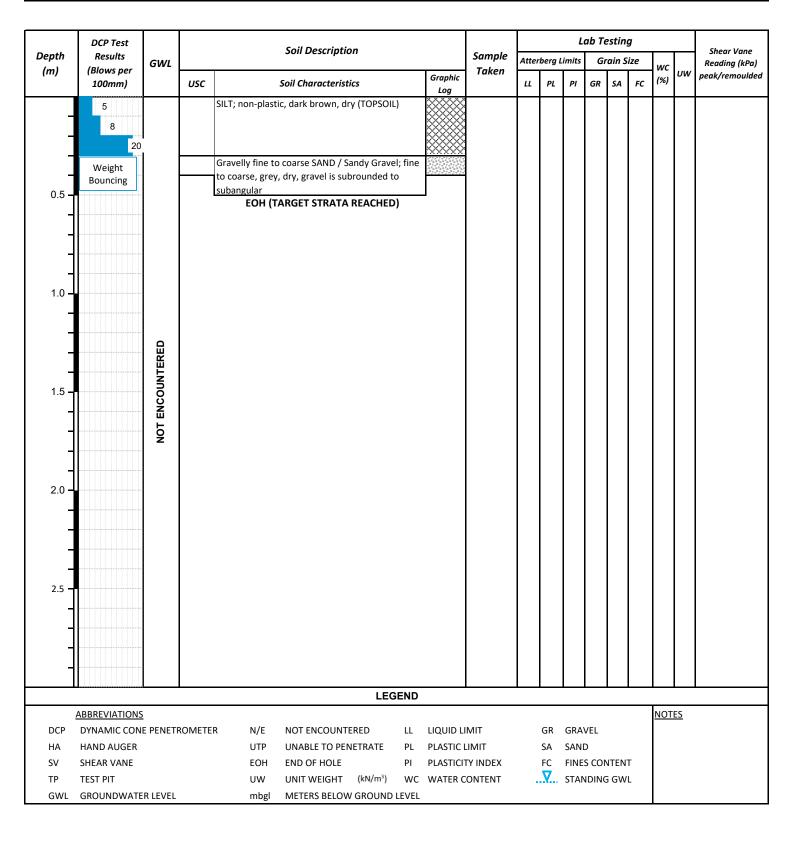




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SHALLOW GROUND INVESTIGATION LOG

PROJECT:	151 & 153 Lincoln	51 & 153 Lincoln Rolleston Road, Rolleston				
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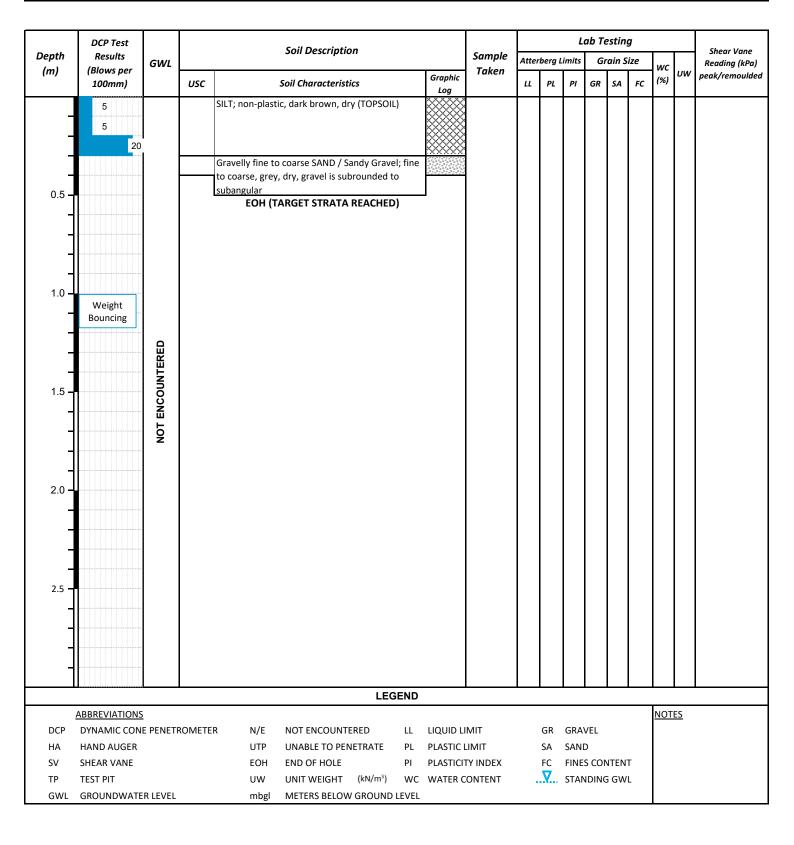




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SHALLOW GROUND INVESTIGATION LOG

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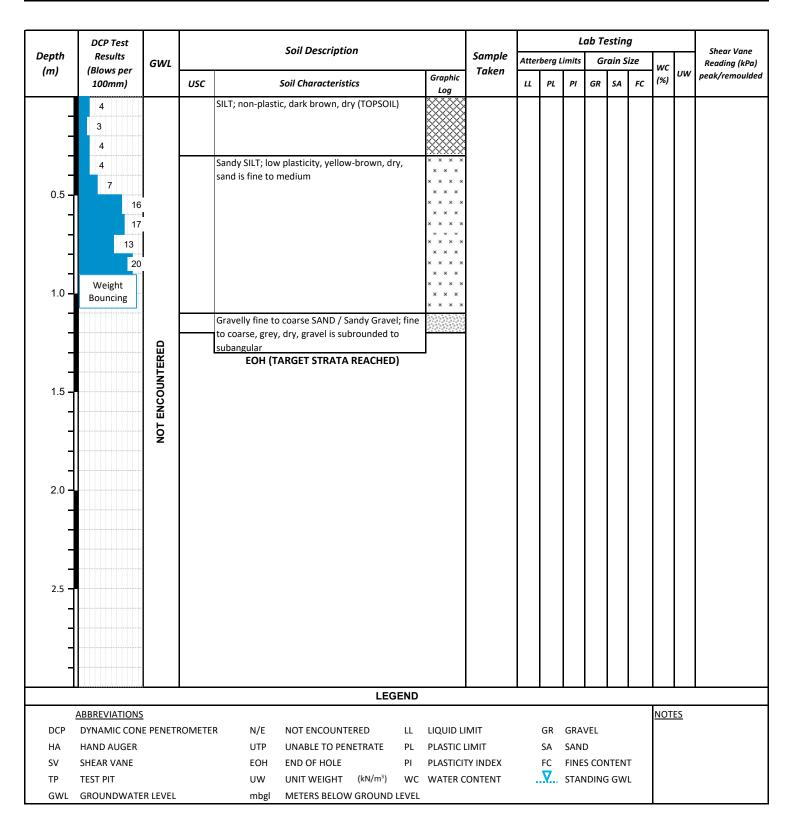




200357 Yoursection Ltd 17 November 2020

SHALLOW GROUND INVESTIGATION LOG

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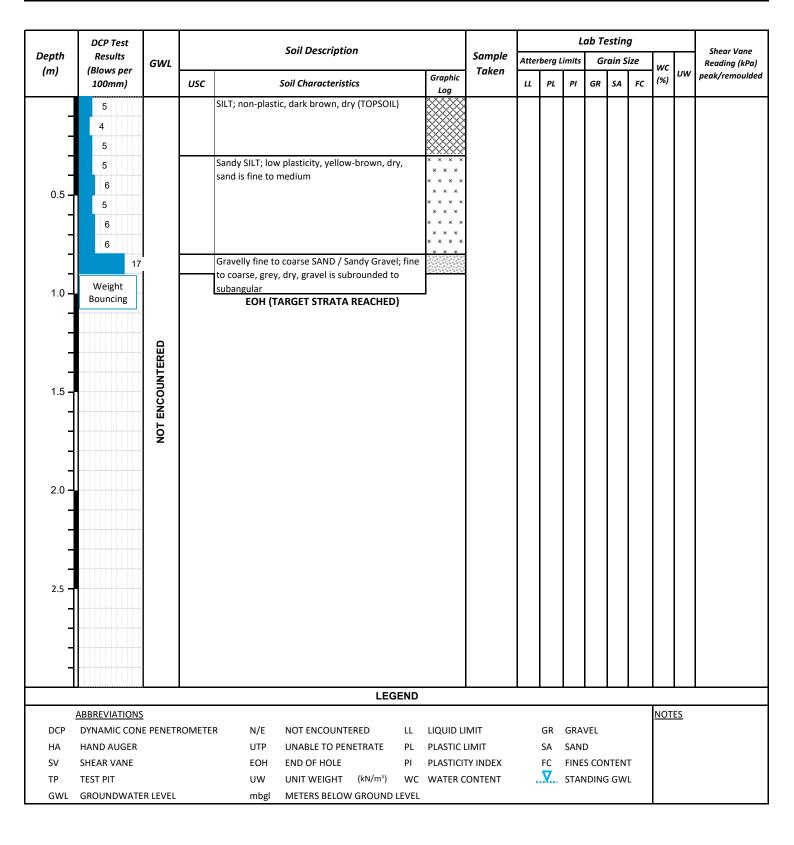




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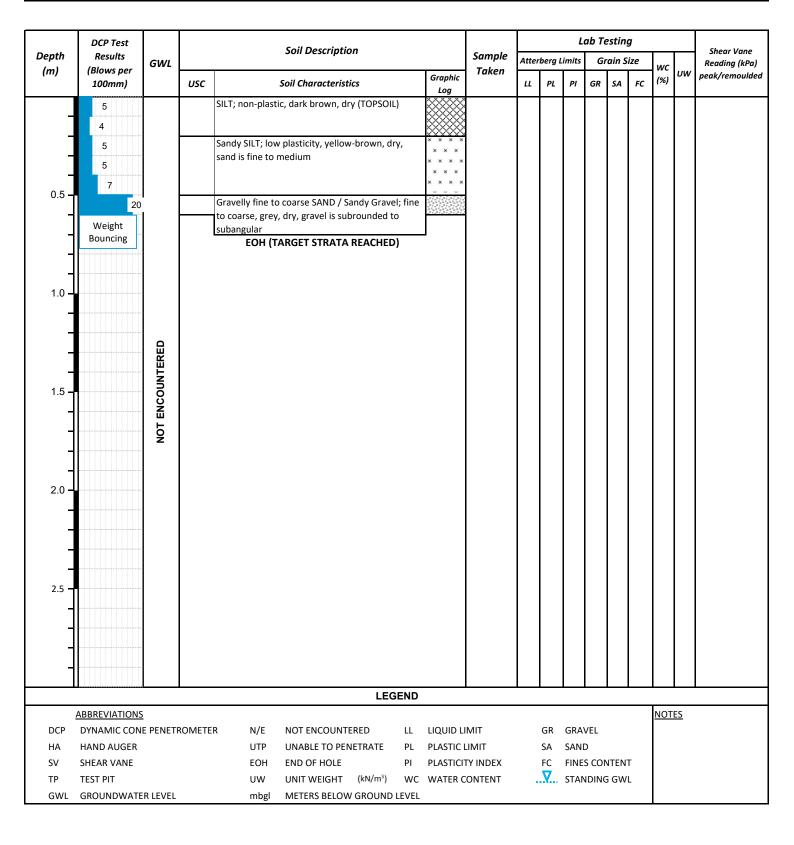




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SHALLOW GROUND INVESTIGATION LOG

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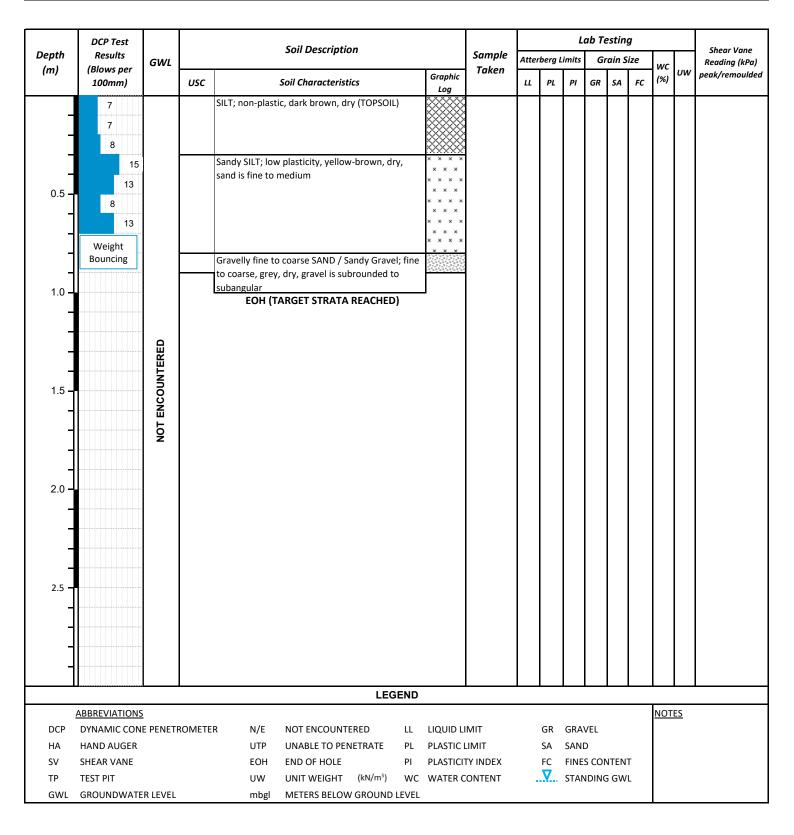




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SHALLOW GROUND INVESTIGATION LOG

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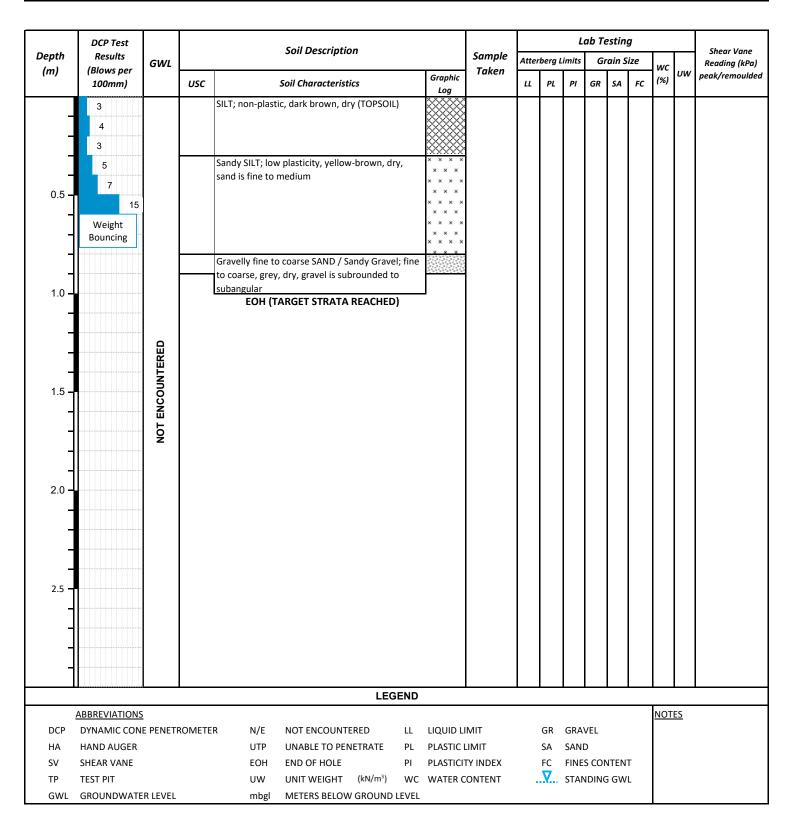




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SHALLOW GROUND INVESTIGATION LOG

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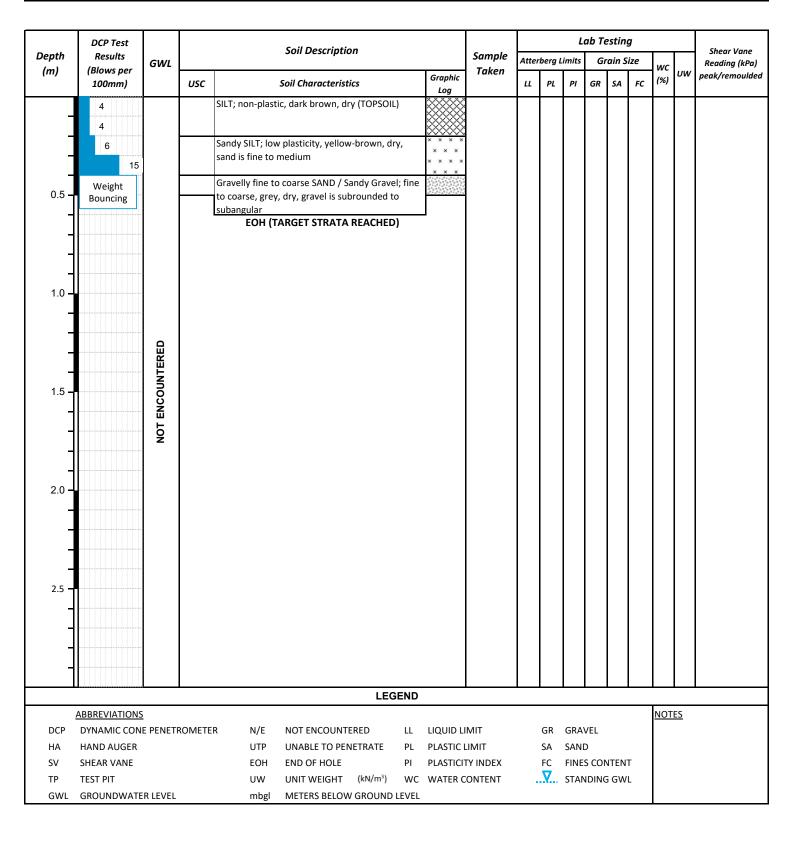




200357 Yoursection Ltd 17 November 2020

SHALLOW GROUND INVESTIGATION LOG

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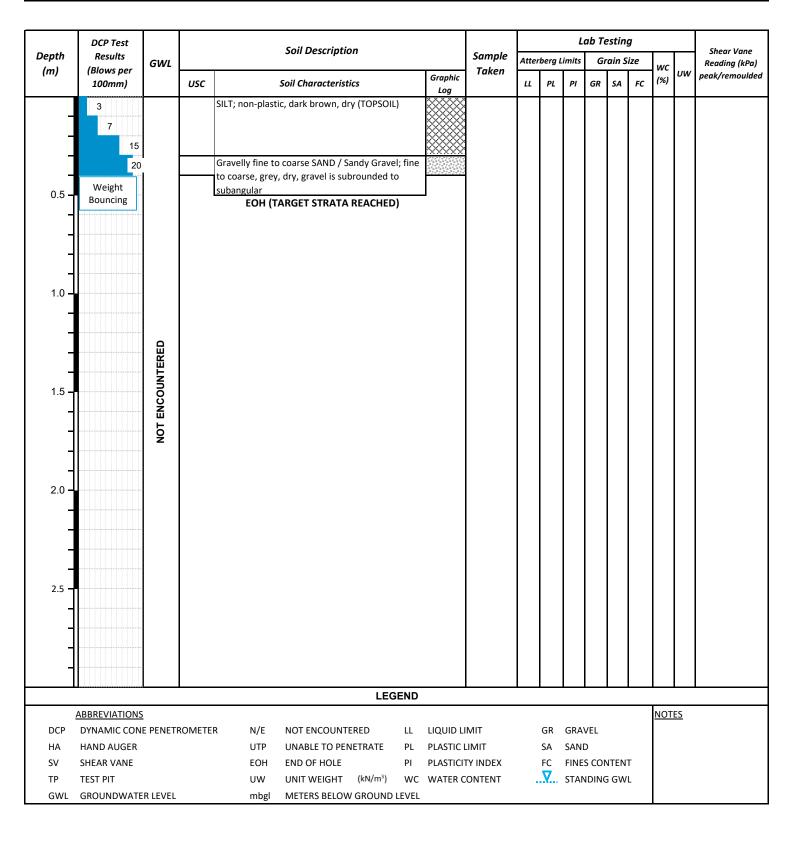




200357 Yoursection Ltd 17 November 2020

SHALLOW GROUND INVESTIGATION LOG

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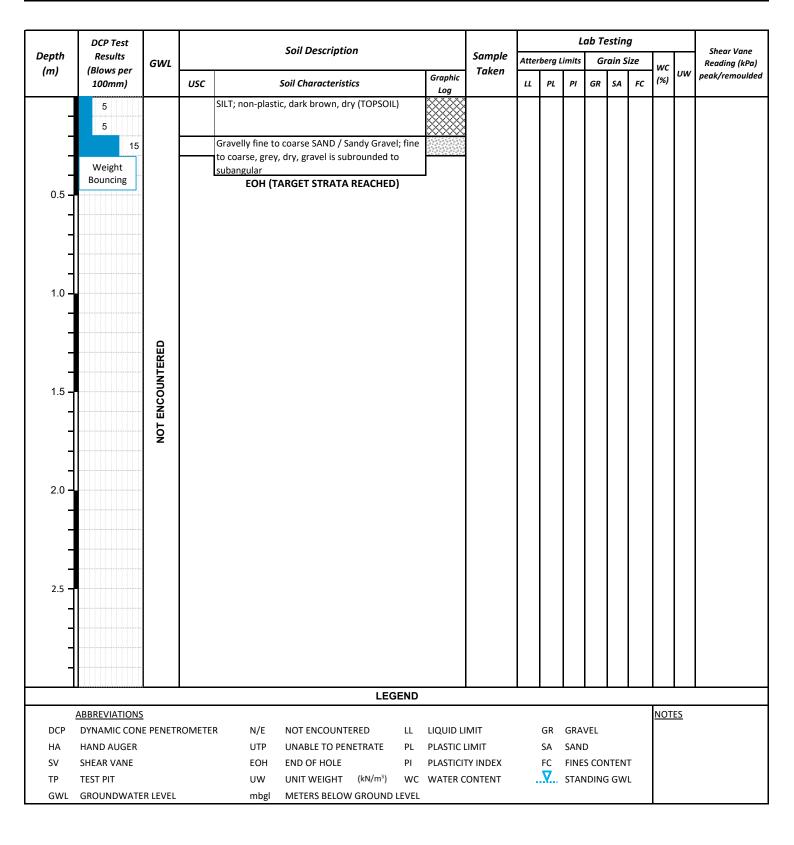




200357 Yoursection Ltd 17 November 2020

SHALLOW GROUND INVESTIGATION LOG

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LOCATION:	REFER TO SITE PLAN	GROUNDWATER LEVEL:	N/E	This report may only be reproduced in full		



Borelog for well M36/3868

Grid Reference (NZTM): 1552494 mE, 5171203 mN

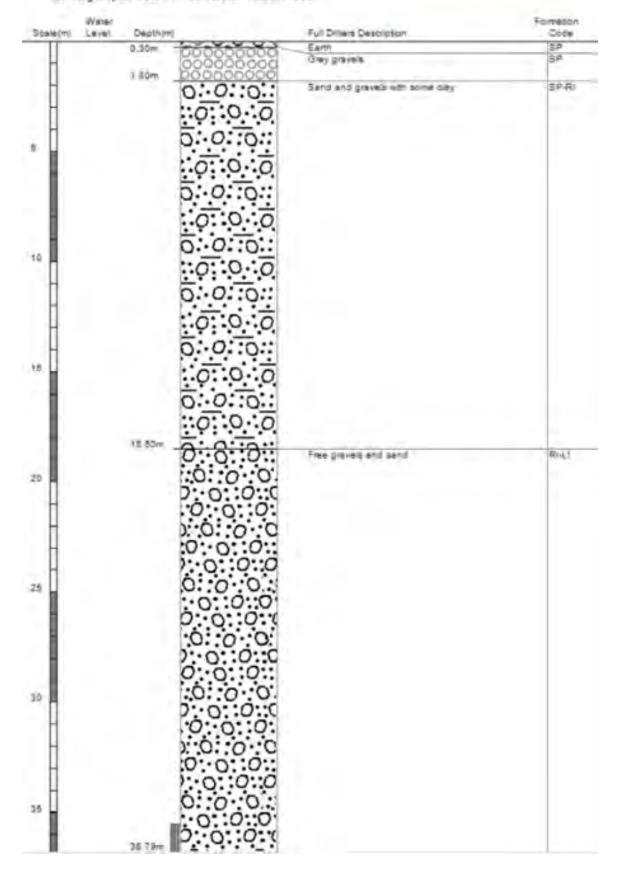
Location Accuracy: 10 - 50m

Ground Level Attitude: 38.4 m +MSD Accuracy: < 2.5 m

Driller: McMillan Drilling Ltd Drill Method: Rotary/Percussion

Borelog Depth: 36.8 m Drill Date: 18-Jan-1988





Borelog for well M36/7975

Grid Reference (NZTM): 1552317 mE, 5171001 mN

Location Accuracy: 50 - 300m

Ground Level Attitude: 37.7 m +MSD Accuracy: < 2.5 m

Driller: Dynes Road Drilling Drill Method: Cable Tool

Borelog Depth: 37.5 m Drill Date: 05-Sep-2005



Stale(m)	Level.	Depth (m)		Full Drivers Description	Formator Code
II		0.70	0.0000000	traver topself	
				small-mad gravel some ait	
10			0=0=0=0		
Ħ		12.00m		areal rounced gravel	
		18.00m			
0			00000000 00000000 00000000 00000000 0000	small-mad suprounded gra-	
5		25 00m	000000000	solic yellow sit water sealing	_
-		25.00m	000000000		
		28.00m	000000000	smell-med rounded gravel - some stained	
		26.50m	000000000	some sand with gravel amail rounded stained gravel	
		30.00m	000000000		
		20.501	000000000 000000000 000000000 00000000	loose rounded med grevel	
Н		34.00m	2000000000	NAME AND ADDRESS OF THE PARTY O	
15		38.00m	000000000	34m hit a tree 0.2m thisk	
-		36.50m	000000000	orange gravel	
H		37.50m	000000000	plack stained grevel	

Borelog for well M36/4966

Grid Reference (NZTM): 1552787 mE, 5171550 mN

Location Accuracy: 50 - 300m Ground Level Altitude: 38.6 m +MSD Accuracy: < 2.5 m

Driller: McMillan Drilling Ltd. Drill Method: Rotary/Percussion.

Borelog Depth: 48.0 m Drill Date: 16-Aug-1995



	Wer Depthire		Full Onliers Description	Formation Code
H	0.30m	0::0::0::0	Earth Sandy graves some pay	\$P7 39.49
	9.50m	0::0::0::0 0::0::0::0 0::0::0::0		
		000000	Свубоила дамяя:	By
		000000		
5		000000		
	27 20m	000000	Sandy graves stained	BRLI
		.0.0.0.0 .0.0.0.0 .0.0.0		
	35.00m	000000	Steined gravers and play	(6.1
	42.29m	0:0:0:0:	Sandy gravets	(LL)
5	48,00m	00=000 000000 0=0000 000000	Staned graves, some clay	Li

Borelog for well BX23/0533

Grid Reference (NZTM): 1552674 mE, 5171682 mN

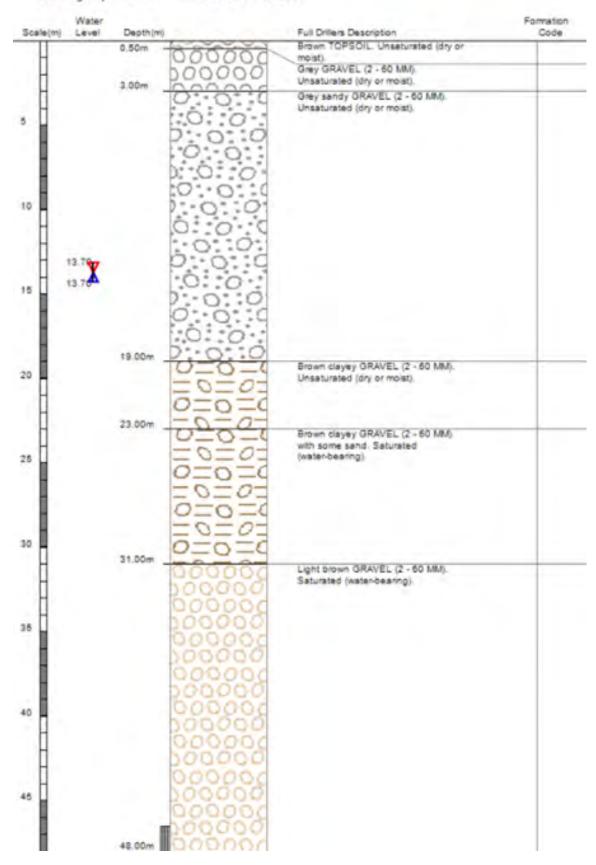
Location Accuracy: 10 - 50m

Ground Level Altitude: m +MSD Accuracy:

Driller: East Coast Drilling Drill Method: Air Rotary

Borelog Depth: 48.0 m Drill Date: 20-Nov-2015







TP7 TEST PIT NO.

PROJECT NO.

254246

PROJECT Branthwaite Drive LOGGED CHECKED CO-ORDINATES (NZTM) TP **METHOD** T. MITCHELL A. HILLS E 1552186 MACHINE & NO. Wheeled Excavator N 5171475 DATE DATE CONTRACTOR Maugers GROUND LEVEL +37.00 22/11/2016 2/12/2016

		STRATA	SAM	PLE	S & TESTS
Depth (m)	Legend	Description	Depth	No	Remarks/Tests
	- 121 1/2 . 12	SILT with minor sand and trace of rootlets; dark brown. Moist, low plasticity; sand, fine.			
	1 11	(TOPSOIL)			
	776 7				
0.50	1/2 × 1/2	SILT; light brown with orange-grey mottles. Moist, low plasticity.	-		
	× ×	OLET, light brown with orange-grey motiles. Moist, low plasticity.			
	- × ^ ×				
	-× ×				
	-\x' × 3	1.20 - 1.40 Becomes with minor sand.			
1.40	$\xrightarrow{\times}$				
	000	Fine to coarse GRAVEL with minor sand, silt and cobbles; brownish grey. Moist, subrounded to rounded; sand, fine to medium.			
1.70					
	-	End of Trial pit/trench at 1.70m, on 22/11/2016 Termination Reason: Target depth acheived.			
	_	rommanon readon. Target dopur denorved.			
	4				
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	+				
]				
	-				
	1				

GENERAL REMARKS

SHORING/SUPPORT: None STABILITY: Generally Stable

Groundwater not encountered.

Coordinates found using handheld GPS, likely accurate to +/- 5 m.

Ground level found using handheld GPS, likely accurate to +/- 10 m.

All dimensions in metres

CLIENT GW Rolleston Ltd.

Pocket Penetrometer Test Insitu Vane Shear Test

▼ Water Level

Report ID: AGS4 TEST PIT RECORD (NO SKETCH NO MAP) || Project: BRANTHWAITE DRIVE LOGS.GPJ || Library: AGS 4_0.GLB || Date: 5 December 2016



TP10 TEST PIT NO.

PROJECT NO.

254246

PROJECT Branthwaite Drive LOGGED CHECKED CO-ORDINATES (NZTM) TP **METHOD** E 1552053 T. MITCHELL A. HILLS MACHINE & NO. Wheeled Excavator N 5171529 DATE DATE CONTRACTOR Maugers GROUND LEVEL +43.00 22/11/2016 2/12/2016

		STRATA	SAM	PLE	S & TESTS
Depth (m)	Legend	Description	Depth	No	Remarks/Tests
	- 'Z' 1'X' . 'Z'	SILT with minor sand and some rootlets; dark brown. Moist, low plasticity; sand, fine. (TOPSOIL)			
0.25	-x x	SILT with minor sand; light brown. Moist, low plasticity; sand, fine.	-		
	-x × x	ole i mai illinoi cana, ilgin siomi. mole, oli paddoty, cana, illio.			
]× × }				
0.70	× ×	Fine to coarse GRAVEL with some sand; greyish brown. Moist, subrounded to rounded;			
	000	sand, fine to coarse.			
	100				
	000				
	100				
1.60	-00				
	-	End of Trial pit/trench at 1.60m, on 22/11/2016 Termination Reason: Target depth acheived.			
]	· .			
	-				
	+				
	1				
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	-				
	_				
	-				
]				
	_				
	-				
	_				
	-				
	1				
	-				
GENEF SHORIN STABIL Groundw]				
	_				
	-				
GENEF	RAL R	EMARKS			
		PPORT: None Generally Stable			
		t encountered.			
Coordina	tes fou	nd using handheld GPS, likely accurate to +/- 5 m.			
Ground I	evei fol	and using handheld GPS, likely accurate to +/- 10 m.			
1					
All dimer		CLIENT GW Rolleston Ltd. Pocket Penetrometer Test Insitu Vane Shear Test	▼ Water Leve	el	



TP23 TEST PIT NO.

PROJECT NO.

254246

PROJECT Branthwaite Drive LOGGED CHECKED CO-ORDINATES (NZTM) TP **METHOD** T. MITCHELL A. HILLS E 1552359 MACHINE & NO. Wheeled Excavator N 5171660 DATE DATE CONTRACTOR Maugers GROUND LEVEL +43.00 23/11/2016 5/12/2016

F			SAM	PLE	S & TESTS	
r	Depth (m)	Legend	STRATA Description	Depth	No	Remarks/Tests
	···/	- 1/ · 7/ · 1/	SILT with minor sand and rootlets; dark brown. Moist, low plasticity; sand, fine.			
L	0.25		(TOPSOIL)			
		×	Silty fine SAND with trace of rootlets; brown. Dry.			
F	0.50	-000	Fine to coarse GRAVEL with some sand, minor cobbles, trace of rootlets and occasional			
		1000	boulders; brown. Dry, subrounded to rounded; sand, fine to coarse.			
		-000				
		-000	1.00 Becomes with no rootlets; greyish brown.			
		100				
	1.60	000				
		-	End of Trial pit/trench at 1.60m, on 23/11/2016 Termination Reason: Target depth acheived.			
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or 2016		-				
cempe						
e: 5 De		-				
l Dat						
0.6		-				
AGS 4		_				
brary:		_				
Z = =		-				
565.6		-				
NE L		-				
IE DR		1				
NO MAP) Project: BRANTHWAITE DRIVE LOGS.GPJ Library: AGS 4_0.GLB Date: 5 December 2016						
3RAN I						
oject: t		1				
ر ج ب		+				
O MAF]				

GENERAL REMARKS

SHORING/SUPPORT: None STABILITY: Generally Stable

Groundwater not encountered.

Coordinates found using handheld GPS, likely accurate to +/- 5 m.

Ground level found using handheld GPS, likely accurate to +/- 10 m.

All dimensions in metres

CLIENT GW Rolleston Ltd.

Pocket Penetrometer Test Insitu Vane Shear Test

▼ Water Level

Report ID: AGS4 TEST PIT RECORD (NO SKETCH NO MAP) | Project: BRANTHWAITE DRIVE LOGS.GPJ || Library: AGS 4_0.GLB || Date: 5 December 2016



TP24 TEST PIT NO.

PROJECT NO.

254246

PROJECT Branthwaite Drive LOGGED CHECKED CO-ORDINATES (NZTM) TP **METHOD** T. MITCHELL A. HILLS E 1552208 MACHINE & NO. Wheeled Excavator N 5171608 DATE DATE CONTRACTOR Maugers GROUND LEVEL +44.00 23/11/2016 5/12/2016

	STRATA	SAM	PLE	S & TESTS
Depth (m)	Description	Depth	No	Remarks/Tests
0.20	SILT with minor sand and tree roots (up to 10 mm); dark brown. Moist, low plasticity; sand, fine. (TOPSOIL)			
× ×	SILT with minor sand; brown. Moist, low plasticity; sand, fine.			
× ×				
_x × >				
0.80 -× ×				
	Fine to coarse GRAVEL with some sand, minor cobbles and trace of rootlets; light brown. Moist, subrounded to rounded; sand, medium.			
-000				
-000	1.20 Becomes with no rootlets.			
100				
170				
1.70	End of Trial pit/trench at 1.70m, on 23/11/2016			
-	Termination Reason: Target depth acheived.			
7				
_				
1				
_				
-				
-				
-				
-				
_				
]				
_				
-				
GENERAL R	EMARKS			
SHORING/SU	PPORT: None			
STABILITY: (Senerally Stable			
Groundwater no Coordinates fou Ground level fou	encountered. nd using handheld GPS, likely accurate to +/- 5 m. nd using handheld GPS, likely accurate to +/- 10 m.			
	CLIENT GW Rolleston Ltd.	▼ Water Lev		



TP25 TEST PIT NO.

PROJECT NO.

254246

PROJECT Branthwaite Drive								
METHOD TP	CO-ORDINATES (NZTM)	LOGGED	CHECKED					
MACHINE & NO. Wheeled Excavator	E 1552490 N 5171658	T. MITCHELL	A. HILLS					
CONTRACTOR Maugers	GROUND LEVEL +44.00 m RL	DATE 23/11/2016	DATE 5/12/2016					

		STRATA	SAM	PLE	S & TESTS
Depth (m)	Legend	Description	Depth	No	Remarks/Tests
	7/1/2	SILT with minor sand and rootlets; dark brown. Moist, low plasticity; sand, fine.			
	1/ 1/1/	(TOPSOIL)			
0.35	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Oli T. What are and have Milet have been fire			
	× >	SILT with some sand; brown. Moist, low plasticity; sand, fine.			
0.70	- × ×				
0.70	000	Fine to coarse GRAVEL with some sand and trace of rootlets; brownish grey. Moist,			
	00	subrounded to rounded; sand, fine to medium.			
	_1°0 =1	0.70 - 0.80 Sand becomes medium to coarse, light brown.			
	-000				
	100	1.30 Becomes with no rootlets.			
1.60	00				
]	End of Trial pit/trench at 1.60m, on 23/11/2016			
	-	Termination Reason: Target depth acheived.			
]				
	-				
	<u></u>				
]				
	-				
	-				
]				
-	-				
	-				
	1				
	-				
	+				
]				
	4				
	+				
]				
	-				
	+				
]				
	+ 1				
	+				
]				
GENER	RAL R	EMARKS			
		JPPORT: None			
STABIL	111: (Generally Stable			
		t encountered.			
Coordina	tes fou	nd using handheld GPS, likely accurate to +/- 5 m.			
Grouna le	evei föl	und using handheld GPS, likely accurate to +/- 10 m.			
All dimer	nsione i	CLIENT GW Rolleston Ltd. CLIENT GW Rolleston Ltd. PP Pocket Penetrometer Test Insitu Vane Shear Test	▼ Water Leve	el	
		mited, , . Tel: Fax:			

		71	Client: Hank Developments Limited					Augerhole No	р. HA01
	T	0 0	Project: Proposed Subdivision Address: 7/572 Selwyn Road, Rolleston					Sheet No.	1 of 1
Drill	Type:		8 Ton Excavator Project No: LTCL1808	51			Logged By:		BE
Drille	ed By:	.at.	BE Coordinates: NZTM: 15			171418 mN	Shear Vane		N/A
	Starte Finish		6-Apr-18 Ground Conditions: Grassed, 6-Apr-18 Groundwater Level (m): Not Encou			r-18)	Calibration F Calibration D		N/A N/A
				T					
≥-		Ď.		Groundwater Level (m)	_		In-situ Fie	d Testing	
Stratigraphy	Depth (m)	Graphic Log	Soil description in accordance with Guideline for the Field Classification and Description of Soil and Rock for Engineering Purposes, NZ Geotechnical Society Inc	iter Le	Depth (m)	Shear Strength (kPa	i) [ynamic Cone	Penetrometer
Stra	Del	Grap	2005	mpwn	Det	Peak:	Depth (m)	Sount	Scala Blow Count / 100mm
				Gro		Remoulded: •	Dept	Blow Count	0 5 10 15 20
JIC			SILT, minor fine sand, minor organics, dark brown, medium dense, moist, no plastic [TOPSOIL]	n			-0.1	3	
TOPSOIL	_		padalo [10, 00 k]		-		-0.2	4	1
_	-	\triangle	SILT, minor fine sand, yellowish brown, dense, moist, non-plastic [RIVER		-	-	-0.3 -0.4	5 7	🛉
	0.5	× × × ×	DEPOSITS]		0.5	1	-0.5	8	1
		× × × ×					-0.6	10	
		x x x >					-0.7	12	
	_		Fine to coarse subrounded greywacke gravelly fine to coarse SAND, trace subrounded greywacke cobbles, greyish brown, tightly packed, moist		_		-0.8	25 +	
	-				-	1	-0.9 -1.0		
	1.0				1.0		-1.1		
	-				-	1	-1.2		
TS		Dar L	Fine to coarse subrounded greywacke GRAVEL, some to minor fine to coarse sand, greyish brown, tightly packed, moist]	-1.3		
POS			coalse saild, greyish brown, lightly packed, moist		l _	1	-1.4		
RIVER DEPOSITS	1.5	A-74	Fine to coarse subrounded greywacke gravelly fine to coarse SAND, trace	4	1.5	-	-1.5		
RIVE	-		subrounded greywacke cobbles, greyish brown, tightly packed, moist		-	1	-1.6 -1.7		
	_				_	1	-1.8		
	_				_	1	-1.9		
	2.0				2.0		-2.0		
	_				-	1	-2.1		
	_				_	1	-2.2 -2.3		
	-	2 4 V.			-	1	-2.4		
	2.5				2.5	1	-2.5		
		i pri ki			_		-2.6		
	_		End of Test Pit (2.6m)		-	1	-2.7		
	-				-	1	-2.8 -2.9		
	3.0				3.0	1	-3.0		
							-3.1		
						1	-3.2		
					-	1	-3.3		
	3.5				2 -	1	-3.4 -3.5		
	3.5				3.5		-3.6		
]	-3.7		
							-3.8		
					-	1	-3.9		
	4.0				4.0	1	-4.0 -4.1		
	-				-	1	-4.2		
]	-4.3		
					l _	1	-4.4		
	4.5				4.5	-	-4.5		
	-				-	1	-4.6 -4.7		
	-				-	1	-4.8		
					_]	-4.9		
	5.0			\bot	5.0		-5.0		
						In-situ field testing in accordance Scala Penetrometer Testing: NZ			² enetrometer
						Shear Vane Testing: Guideline			

			nelTook	Client: Hank Developments Limited						Augerhole No	o. HA02
		0 0	NSULTING	Project: Proposed Subdivision Address: 7/572 Selwyn Road, Rolleston						Sheet No.	1 of 1
D-:111:			O.T Francisco	District No.	1 701 40054				l I D		
	Type: ed By:		8 Ton Excavator BE	Project No: Coordinates:	LTCL18051 NZTM: 1552	207 r	nE, 51	171344 mN	Logged By: Shear Vane		E N
Date	Starte		6-Apr-18	Ground Conditions:	Grassed, Ne				Calibration		N
Date	Finish	ied:	6-Apr-18	Groundwater Level (m):	Not Encount	ered	(6-Apr	-18)	Calibration I	Date:	N
						(m)			In-situ Fie	eld Testing	
Stratigraphy	Depth (m)	Graphic Log		accordance with Guideline for the Field Classificat Rock for Engineering Purposes, NZ Geotechnical		Groundwater Level (m)	Depth (m)	Shear Strength (kPa)		Dynamic Cone	Penetrometer
Strati	Dept	Graph	bosonplion of doll and t	2005	Goolety Moi,	dwat	Dept	Peak:	Œ	nut	Scala Blow Count / 100mm
						Grour		Remoulded:	Depth (m)	Blow Count	
		\wedge	SILT minor fine sand	minor organics, dark brown, medium dense	moist non-	,		0	-0.1	3	0 5 10 15 20
TOPSOIL	_	$\times \times$	plastic [TOPSOIL]	organico, aarronom, modiam acros	, , , , , , , , , , , , , , , , , , , ,		_		-0.1	3	•
TOF	_	\times					_		-0.3	4	†
	-	× × × >		trace subrounded greywacke gravel, yellow	ish brown,		_		-0.4	7	*
	0.5	× × × >	dense, moist, non-plas	stic [RIVER DEPOSITS]			0.5		-0.5	10	
		< × × >					_		-0.6	11	
		× × × >							-0.7	12	7
		x x x >					_		-0.8	10	
		<					_		-0.9	19	
	1.0	: . ふ기	Fine to coarse sandy f	fine to coarse subrounded greywacke GRA\	/FI trace		1.0		-1.0	25 +	
SITS	-	204		greywacke cobbles, greyish brown, tightly pa			_		1.1		
RIVER DEPOSITS	-						-		1.3		
ER D	_	84 Ì					_		-1.4		
ΒN	1.5						1.5		-1.5		
	1.0	X					1.0		-1.6		
	-								-1.7		
									-1.8		
							_		-1.9		
	2.0	197					2.0		-2.0		
	_						_		-2.1		
	_			End of Test Pit (2.2m)			_		-2.2 -2.3		
	_						_		-2.4		
	2.5						2.5		-2.5		
	2.0								-2.6		
	-								-2.7		
									-2.8		
	_						_		-2.9		
	3.0						3.0		-3.0		
	-						_		-3.1		
	-						-		-3.2 -3.3		
	-						_		3.4		
	3.5						3.5		-3.5		
	5.5						5.5		-3.6		
]	-3.7		
									-3.8		
							_		-3.9		
	4.0						4.0		-4.0		
	-								-4.1 -4.2		
	-						-		-4.2 -4.3		
	-						-		4.4		
	4.5						4.5	1	4.5		
	-1.0						7.3		-4.6		
							_		-4.7		
							_		-4.8		
									-4.9		
	5.0						5.0		-5.0		
								In-situ field testing in accordance v Scala Penetrometer Testing: NZS			Penetrometer
		1	Ī				l	Shear Vane Testing: Guideline for			

1	t	-10	ndToch	Client: Hank Developments Limited						Augerhole No	ь. HA0	3
7	L	6 0	NSULTING	Project: Proposed Subdivision Address: 7/572 Selwyn Road, Rolleston						Sheet No.	1 of	1
ri ll Typ	ne.		8 Ton Excavator	Project No:	LTCL18051				Logged By:			
ri ll ed E			BE	Coordinates:	NZTM: 1552	231 ו	mE, 51	71302 mN	Shear Vane	No:		N
ate St			6-Apr-18	Ground Conditions:	Grassed, Ne			10)	Calibration F			N
ate Fir	nished	d:	6-Apr-18	Groundwater Level (m):	Not Encount	ered	(6-Apr	-18)	Calibration [Date:		N
						(m)			In-situ Fie	eld Testing		
Stratigraphy	E)	Graphic Log		accordance with Guideline for the Field Classifica Rock for Engineering Purposes, NZ Geotechnical		Groundwater Level (m)	Depth (m)	Shear Strength (kPa)	[ynamic Cone	Penetrometer	
Strat	d Ce	Grap		2005		ndwa	Dep	Peak:	. E	onut	Scala Blow C 100mm	
						Grou		Remoulded: •	Depth (m)	Blow Count	0 5 10 :	15 2
+	+	$\wedge \wedge$	SILT, minor fine sand,	minor organics, dark brown, medium dense	, moist, non-				-0.1	3		
5	+	\times	plastic [TOPSOIL]				_		-0.2	2	7	
2	+	\times					_		-0.3	4	•	
1	×			yellowish brown, dense, moist, non-plastic	[RIVER		_		-0.4	6	1	
0	.5 ×	,, ,,	DEPOS I TS]				0.5		-0.5	10		
	^	× × >							-0.6	12		
	×	× × >							-0.7	25 +		
	Ĭ.		-						-0.8			
	4			fine to coarse subrounded greywacke GRA greyish brown, tightly packed, moist	v∟L, trace				-0.9			
1	.0	J.Sa.					1.0		-1.0			-
	-						-		-1.1 -1.2			
	7						-		-1.3			
1	\dashv	Y. [74]					-		-1.4			
1	.5						1.5		-1.5			
Ė	(Y.							-1.6			
		XX4					_		-1.7			
	\exists								-1.8			
	_	16							-1.9			
2	.0						2.0		-2.0			
	-17	YX					_		-2.1			
	-	X					_		-2.2 -2.3			
-	-	% ∨ _1		End of Test Pit (2.3m)			_		-2.4			
2	2.5						2.5		-2.5			
۲							2.0		-2.6			
							_		-2.7			
	1								-2.8			
	_						_		-2.9			
3	.0						3.0		-3.0			
	4						_		-3.1			
	\dashv						-		-3.2 -3.3			
	\dashv						-		3.4			
3	.5						3.5		-3.5			
ľ							5.5		-3.6			
	コ								-3.7			
	╛								-3.8			
	4						_		-3.9			
4	.0						4.0		-4.0			
	\dashv						-		-4.1			
	\dashv						-		-4.2 -4.3			
	\dashv						-		-4.3 -4.4			
1,	.5						4.5		-4.5			
4							4.5		-4.6			
	7								-4.7			
]								-4.8			
	J								-4.9			
5	5.0						5.0		-5.0			
	Т					1	I	n-situ field testing in accordance v	with the following Star	ndards:		
	J							Scala Penetrometer Testing: NZS			lonatrometer	

Initial By: BE Coordinates: NZTM: 1552136 mE, 5171389 mN Shear Vane No: N Iate Started: 6-Apr-18 Ground Conditions: Grassed, Near level Calibration Factor: N	ı		71	Client: Hank Developments Limited						Augerhole N	o. HA04
Miles Process Proces		L	0 0							Sheet No.	1 of 1
Miles Process Proces	Dri ll T	ype:		8 Ton Excavator Project No: LTCL180	51				Logged By:		E
A	Dri ll ed	By:		BE Coordinates: NZTM: 15	52136		1713	89 mN	Shear Vane		N
Sol discontinue occurrence with Quantities for the First Observations and John State Control of the Control of							or-18)				N N
St. minor fine and, minor organics, dush brown, modum dinose, moist, non-plastic,		1			_	1	1				
St. minor fine and, minor organics, dush brown, modum dinose, moist, non-plastic,					(m)				In-situ Fie	eld Testing	
St. minor fine and, minor organics, dush brown, modum dinose, moist, non-plastic,	raphy	(E)	c Log		r Leve	Œ	_	Shear Strength (kPa)	I [Ovnamic Cone	e Penetrometer
St. minor fine and, minor organics, dush brown, modum dinose, moist, non-plastic,	stratig	Depth	àraphi	Description of Soil and Hock for Engineering Purposes, NZ Geotechnical Society Inc. 2005	dwate	Depth					Scala Blow Count /
St. minor fine and, minor organics, dush brown, modum dinose, moist, non-plastic,	0,		0		Groun				epth (× Co	
Select (10PSOL)	+		$\wedge \wedge$	SILT, minor fine sand, minor organics, dark brown, medium dense, moist, n		-	0				0 5 10 15 20
Substitute Sub	-SOIL	-	$\times \times$			-	$\ \ $				•
Column C	Ď		$\times \times$			_	11		-0.3	3	1 2
Section Sect									-0.4	8	
Pine to course sandy line to course subrounded greywacks CRAVE. I and compared to miner subrounded greywacks cotocles, greyish trown, lightly packed, motst 1,0 1,0 1,0 1,0 1,0 1,1 1,2 1,3 1,4 1,5 1,	L	0.5	× × × >	52. 661.61		0.5	4				
10 minor subrounded greywasks cobblets, greyish brown, lightly pasked, most		_	* * * * *	Fine to coarse sandy fine to coarse subrounded arevwacke GRAVFI trace	\dashv	-	$\ \ $				
10		-	797			-	11			20 T	
End of Test Pit (2.2m) End of		T	494			1 -	11				
### 1.5		1.0				1.0]		-1.0		
1.5 1.6 1.6 1.7 1.8 1.9	SITS		W.			-	41				
1.5 1.6 1.6 1.7 1.8 1.9	EPO	-				-	$\ \ $				
1.5 1.6 1.6 1.7 1.8 1.9	ER D	-	T VX			-	11				
20	₩ 2	1.5	75/4			1.5	11				
20	Ī		24) Y						-1.6		
End of Test Pit (2.2m) 2.5 2.5 2.5 2.6 2.7 2.8 2.9 3.0 3.1 3.1 3.2 3.3 3.4 4.4 4.5 4.6 4.7 4.8 4.8 4.9 4.9 4.9 4.9 4.9 4.9						_					
End of Test Pit (2,2m) End of Test Pit (2,2m) 2.5 End of Test Pit (2,2m) 2.5 2.5 2.6 2.7 2.8 2.9 3.0 3.0 3.0 3.1 3.2 3.5 3.5 3.5 3.6 3.7 3.8 3.9 4.0 4.0 4.1 4.2 4.3 4.4 4.5 4.5 4.6 4.7 4.8 4.8 4.9 5.0 Statistical testing is contained with mark florid-line. Statistical testing is contained with marked florid-mark of the original testing is contained and marked florid-marked florid-ma		4				-	41				
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3.6 3.6 3.6 3.7 3.8 3.9 4.0 4.0 4.1 4.2 4.3 4.4 4.5 4.5 4.6 4.7 4.8 4.9 5.0 In-all Medit Setting in accordance with the 15 fewing Standards. Scalar Penertrometer Teeting NZS 4402 1988. Test 6.52. Dynamic Cone Penertrometer		_				_	$\ \ $				
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5.0 5.0 Solution accordance with the following Standards. Solution Presting In Secondance with the following Standards. Solution Presting INZS 4402:1988, Test 6.5.2. Dynamic Cone Penetrometer	ļ	т.Ј				+.3	1				
5.0 5.0 In-altu field testing in accordance with the following Standards. Scala Penetrometer Testing: NZS 4402:1988, Test 6.5.2. Dynamic Cone Penetrometer									-4. 7		
5.0 In-altu field testing in accordance with the following Standards: Scala Penetrometer Testing: NZS 4402:1988, Test 6.5.2. Dynamic Cone Penetrometer						-	41				
In-altu field testing in accordance with the following Standards: Sodia Penetrometer Testing: NZS 4402:1988, Test 0.52. Dynamic Cone Penetrometer		-				-	$\ \ $				
	+	5.0			+	5.0		tu field testing in accordance with		ndards	

		71.	ndTook	Client: Hank Developments Limited						Augerhole N	lo. HA07	
	1	0.0	NSULTING	Project: Proposed Subdivision Address: 7/572 Selwyn Road, Rolleston						Sheet No.	1 of 1	
Orill T	vne:	-3//	8 Ton Excavator	Project No:	LTCL18051				Logged By:			В
Orilled	d By:		BE	Coordinates:	NZTM: 1552			71345 mN	Shear Vane			N/
	Starte Finish		6-Apr-18 6-Apr-18	Ground Conditions: Groundwater Level (m):	Grassed, Ne Not Encount			-18)	Calibration I			N/
			1	2.22.2.2.2.2. 20.2. ()			(
						(E)			In-situ Fie	eld Testing		
aphy	(m)	. Log		accordance with Guideline for the Field Classifica		Groundwater Level (m)	(m)	0, 0, 4,45	1 .	Ounamia Can	e Penetrometer	
Stratigraphy	Depth (m)	Graphic Log	Description of Soil and F	Rock for Engineering Purposes, NZ Geotechnica 2005	I Society Inc.,	water	Depth (m)	Shear Strength (kPa)		-	Scala Blow Cou	unt /
あ		Ö				puno.		Peak: Remoulded:	Depth (m)	Blow Count	100mm	
						Ū		0	De	Blow	0 5 10 15	20
TOPSOIL		$\langle \rangle \langle \rangle$	SILT, minor fine sand, plastic [TOPSOIL]	, minor organics, dark brown, medium dense	e, moist, non-		_		-0.1	3	•	
OPS	_	$\langle \rangle \langle \rangle$					_		-0.2	3		
4	_	× × × >	SILT minor fine sand	, yellowish brown, dense, moist, non-plastic	IRIVER		_		-0.3 -0.4	4 6	 	
	0.5	× × × >	DEPOSITS]	, ,,,,,	£ =		0.5		-0.4	8	\	
ŀ	0.5	× × × × ×					0.5		-0.6	11		
		84.		fine to coarse subrounded greywacke grave moist [RIVER DEPOSITS]	el, greyish		_		-0.7	25 +		_
		ľά	brown, ugnuy packed,	MOST [VIVEN DEPOSITS]					-0.8			
	_	X 7/4	troop to minute to	nded groupokohhl			_		-0.9			
ŀ	1.0	2404	u ace to minor subroui	nded greywacke cobbles			1.0		-1.0			
	_	26					-		-1.1 -1.2			
٦	_						_		-1.3			
RIVER DEPOSITS	_						_		-1.4			
UE I	1.5	X					1.5		-1.5			
۲ ۱۱ ۲		20							-1.6			
Ē		D. Ga					_		-1.7			
	_						_		-1.8			
	_						_		-1.9			
ŀ	2.0						2.0		-2.0 -2.1			
	_						_		-2.2			
	-						_		-2.3			
									-2.4			
	2.5						2.5		-2.5			
		J-7/2/2		Find of Took Bit (2 Con)			_		-2.6			
	_			End of Test Pit (2.6m)			_		-2.7			
	_	ł					_		-2.8 -2.9			
	3.0						3.0		-3.0			
ı	0.0						0.0		-3.1			
]							-3.2			
									-3.3			
	_						_		-3.4			
ŀ	3.5						3.5		-3.5			
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ſ									-4.1			
	_						_		-4.2			
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ŀ	4.5						4.5		-4.5 -4.6			
	-						-		-4.7			
	-						-		-4.8			
							_		-4.9			
	5.0						5.0		-5.0			
I								In-situ field testing in accordance was Scala Penetrometer Testing: NZS			Penetrometer	
		I						Shear Vane Testing: Guideline for				

		710	Client: Hank Developments Limited Project: Proposed Subdivision					Augerhole No	D. HA05	
	L	0.0	Project: Proposed Subdivision Address: 7/572 Selwyn Road, Rolleston					Sheet No.	1 of 1	
Drill	Type:		8 Ton Excavator Project No: LTCL1805	1			Logged By:			BE
	ed By: Starte		BE Coordinates: NZTM: 158 6-Apr-18 Ground Conditions: Grassed, N			171307 mN	Shear Vane Calibration F			N/A
	Finish		6-Apr-18 Groundwater Level (m): Not Encou			r-18)	Calibration [N/A
				ê						
ξí	_	6o		Groundwater Level (m)	=		In-situ Fie	eld Testing		
Stratigraphy	Depth (m)	Graphic Log	Soil description in accordance with Guideline for the Field Classification and Description of Soil and Rock for Engineering Purposes, NZ Geotechnical Society Inc.	, ater Le	Depth (m)	Shear Strength (kPa) [•	Penetrometer Scala Blow Cou	ınt /
Stra	å	Gra	2005	wpunc	۵	Peak:	Depth (m)	Blow Count	100mm	
				Gre		Remoulded: •	Dep	Blow	0 5 10 15	20
SOIL	_	\Diamond	SILT, minor fine sand, minor organics, dark brown, loose, moist, non-plastic [TOPSOIL]		_		-0.1	2	•	
TOPSOIL	_	$\Diamond \Diamond \Diamond$			-	-	-0.2 -0.3	2	•	
	-		SILT, minor fine sand, yellowish brown, medium dense, moist, non-plastic	1	-	-	-0.4	4	†	
	0.5	× × × >	[RIVER DEPOSITS]		0.5		-0.5	5		
	_	< × × >					-0.6	8		
	_	× × × >			l <u>-</u>		-0.7	8		
	_	~ ~ ~ ·	Fine to coarse sandy fine to coarse subrounded greywacke GRAVEL, trace	1	l –	-	-0.8 -0.9	8 7	+	
1	1.0	197	subrounded greywacke cobbles, greyish brown, tightly packed, moist		1.0	1	-1.0	8	†	
SITS		Y. G.					-1.1		•	
EPO					_		-1.2			
RIVER DEPOSITS	_				l <u>-</u>		-1.3			
듄	-	201			l	-	-1.4 -1.5			
	1.5				1.5		-1.6			
					_	1	-1.7			
		200					-1.8			
	_				l <u> </u>		-1.9			
	2.0				2.0		-2.0 -2.1			
	-	7 4 V	End of Test Pit (2.1m)	1	-	-	-2.1			
					_	1	-2.3			
							-2.4			
	2.5				2.5		-2.5			
	_				<u> </u>		-2.6 -2.7			
	_				l –	-	-2.7			
	_				<u> </u>	1	-2.9			
	3.0				3.0	1	-3.0			
	_				l _		-3.1			
1	-				-	-	-3.2 -3.3			
1					-	-	-3.3			
	3.5				3.5	1	-3.5			
							-3.6			
							-3.7			
					_	4	-3.8			
						1	-3.9 -4.0			
	4.0				4.0		-4.1			\dashv
					-		-4.2			
							-4.3			
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	4.5				4.5		-4.5 -4.6			
					-	1	-4.0			
					-	1	-4.8			
	▮╗				<u>-</u>]	-4.9			
	5.0				5.0		-5.0			
						In-situ field testing in accordance Scala Penetrometer Testing: NZ			Penetrometer	
						Shear Vane Testing: Guideline f				

		710	Client: Hank Developments Limited Project: Proposed Subdivision					Augerhole N	lo. HA06	
1	L	CO	Project: Proposed Subdivision Address: 7/572 Selwyn Road, Rolleston					Sheet No.	1 of 1	
rill T	vpe:		8 Ton Excavator Project No: LTCL18051				Logged By:			В
rilled	By:		BE Coordinates: NZTM: 155			71252 mN	Shear Vane			N/
	Starte Finish		6-Apr-18 Ground Conditions: Grassed, N 6-Apr-18 Groundwater Level (m): Not Encour			-18)	Calibration I Calibration I			N/A
1	I			1						
				(E)			In-situ Fie	eld Testing		
aphy	Œ.	Graphic Log	Soil description in accordance with Guideline for the Field Classification and	Groundwater Level (m)	Œ.	Shear Strength (kPa)		Ovnamic Con	e Penetrometer	
Stratigraphy	Depth (m)	sraphi	Description of Soil and Rock for Engineering Purposes, NZ Geotechnical Society Inc., 2005	dwate	Depth (m)				Scala Blow Cou 100mm	unt /
0)		0		Groun		Peak: Remoulded:	Depth (m)	Blow Count		
4		\wedge	SILT, minor fine sand, minor organics dark brown, loose, moist, non-plastic	Ü		0			0 5 10 15	20
TOPSOIL	-	\times	[TOPSOIL]		-		-0.1 -0.2	2	•	
현	-	\times			<u> </u>		-0.3	3		
	7		SILT, minor to some fine sand, yellowish brown, medium dense, moist, non-		l –		-0.4	4	1	
L	0.5	× × × >	plastic [RIVER DEPOSITS]		0.5		-0.5	5	\	
	4	< × × > ×			_		-0.6	5		
	4	× × × >			-		-0.7	25 +		
	\dashv	× × × >			-		-0.8 -0.9			
	1.0	A41	Fine to coarse sandy fine to coarse subrounded greywacke GRAVEL, trace	1	1.0] [-1.0			
		/YX	subrounded greywacke cobbles, greyish brown, tightly packed, moist		1.0		-1.1			
3		X 7.4] [-1.2			
		240			_		-1.3			
NIVEN DEPOSITS	4	D.S.			_		-1.4			
` -	1.5	201			1.5		-1.5			
	-				l –		-1.6 -1.7			
	=				-		-1.8			
					_		-1.9			
L	2.0				2.0		-2.0			
		24			l _		-2.1			
	4	14/4	End of Test Pit (2.2m)	4	_		-2.2			
	-		End of restric(2.2m)		l –		-2.3 -2.4			
	2.5				2.5		-2.5			
F	20				2.0		-2.6			
							-2.7			
							-2.8			
	4				_		-2.9			
F	3.0				3.0		-3.0 -3.1			
	-				-		-3.2			
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L	3.5				3.5		-3.5			
	4				-		-3.6			
	\dashv				-		-3.7 -3.8			
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	4.0				4.0		-4.0			
Ī							-4.1			
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	4				_		-4.3			
	\exists				l <u>-</u>		-4.4 -4.5			
ŀ	4.5				4.5		-4.5 -4.6			
	\dashv				-		-4.7			
	目				-		-4.8			
	J				<u>-</u>		-4.9			
1	5.0				5.0		-5.0			
I						In-situ field testing in accordance Scala Penetrometer Testing: NZS			Penetrometer	
1				1	L	Shear Vane Testing: Guideline fo				

Davis Ogilvie & Partners Limited Level 1, 24 Moorhouse Avenue, Addington, Christchurch 8140 Office 0800 999 333 Email hello@do.nz

SHALLOW INVESTIGATION RESULTS

Job Nº /39353

Test Nº /DCP 1 + HA DCP 2

Dynamic Cone Penetrometer Test performed in accordance with NZS 4402 Test 6.5.2 (Procedure 1 and 2)

Project: 19 Raptor Street, Falcons Landing, Rolleston (Lot 298 DP 532807) Date: 28/08/19 Client: Compass Homes Time: 10:00 a.m. Test Location: Refer to attached Geotechnical Site Plan (DWG G01A) Excavation Method: DCP+HA

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Checked By: HC

Produced with Core-GS by Geroc

Davis Ogilvie & Partners Limited Level 1, 24 Moorhouse Avenue, Addington, Christchurch 8140 Office 0800 999 333 Email hello@do.nz

SHALLOW INVESTIGATION RESULTS

Job № /39353

Test Nº /DCP 3 + HA DCP 4

Project:19 Raptor Street, Falcons Landing, Rolleston (Lot 298 DP 532807)Date:28/08/19Client:Compass HomesTime:10:00 a.m.Test Location:Refer to attached Geotechnical Site Plan (DWG G01A)Excavation Method:DCP+HA

D E P T H (m)	STRATA DESCRIPTION					D.	01410 / / 00	$\overline{}$
P T H	STRATA DESCRIPTION					BL	OWS / 100 mm	D
H	OTRATA DECORNI TION	nscs	ja	Log	Water Table	DCP 3	DCP 4	E P T
(m)	Augus at DCD 2	ñ	2	5 –	≥ 10	i i	1 2 3 4 5 6 7 8 9	H
	Auger at DCP 3 SILT; dark brown. Moist, moderately organic with trace rootlets		1			1 2 3 4 5 6 7 8 9	7//////	(m)
-	(TOPSOIL). [0.50m]	TS	20 20 20 20 20 20 20 20 20 20 20 20 20 2	3 : <u></u> TS S : <u></u> TS S : <u></u> TS	water Not Encountere			_
0.5	SILT with some fine sand; yellowish brown with minor orange		20 <u>-</u>			////	//////	0.5
1.0-	mottling. Stiff, moist. [0.90m]	ML					28	- - - -1.0
1 †	SILT with trace fine sand, yellowish orangey brown. Hard,	ML	Ħ				15	-
1.5	moist, low plasticity. [0.10m] Fine and medium SAND with some silt; greyish brown. Dense,	SM		Ш				-1.5
	wet. [0.10m] SILT with trace fine sand; mottled orange and grey. Hard,	MLS			<u>-</u>		16	-
	moist, low plasticity. [0.10m] Auger terminated at 1.70m - Refusal on gravel. /		Ш	Ш	4			-
	1.7m: Sandy fine and medium gravel recovered						30	_
2.0							 	2.0
								-
-								-
2.5								-2.5
								-
								-
								-
3.0								-3.0

Produced with Core-GS by Geroc

Logged By: H

Plotted By: GC

Checked By: HC

Dynamic Penetrometer Test and logs give an indication of the ground condition at the location of the tests only. While they are representative of typical conditions across the site, they do not identify variations in the ground away from the test locations. This log does not cover slope stability or suitability of the site for building.

Dynamic Cone Penetrometer Test performed in accordance with NZS 4402 Test 6.5.2 (Procedure 1 and 2)



Appendix C

Preliminary Site Investigation (PSI) Report

Soil Contamination Risk Preliminary Site Investigation Report

151 & 153 Lincoln Rolleston Road, Rolleston

December 2020





Malloch Environmental Ltd

19 Robertsons Road, Kirwee RD1, Christchurch 7671 021 132 0321 www.mallochenviro.co.nz

QUALITY CONTROL AND CERTIFICATION SHEET

Client: Yoursection Ltd

Date of issue: 10 December 2020

Report written by:

Hollie Griffith, Environmental Scientist, BEMP (4 years contaminated land experience)

Signed:

Report reviewed and certified as a Suitably Qualified and Experienced Practitioner by:

Nicola Peacock, Principal Environmental Engineer, NZCE, CEnvP

MR fearoch

(12 years contaminated land experience within 28 years environmental experience)

Signed:

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APPENDICES

- A Historical Certificates of Title
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1 Executive Summary

The subject of this investigation is two separate properties with the street address 151 & 153 Lincoln Rolleston Road, Rolleston, totalling more than 24ha, from herein referred to as 'the site'. The Client is applying for a plan change from Inner Plains to residential which will result in future subdivision, change of use of the land and associated soil disturbance activities. As such, an assessment under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Health) Regulations 2011 (NESCS) is required. It is also noted that Malloch Environmental Ltd is obligated to consider the requirements of Section 10 (4) of the Health and Safety at Work (Asbestos) Regulations 2016. This report details the work undertaken to assess the risks.

The investigations have determined that the site has a long-standing history associated with pastoral farming activities and was vacant of structures until subdivision and development of both 151 and 153 Lincoln Rolleston Road in the early 1990's.

Since development of the site for rural residential purposes, 151 Lincoln Rolleston Road has been used as a lifestyle property with some stock grazing on the balance of the property. There was no evidence of activities as per the Hazardous Activities and Industries List (HAIL) having occurred within 151 Lincoln Rolleston Road. As a result, this portion of the site is considered highly unlikely to pose a risk to human health and no further investigation is currently required.

The majority of the land area associated with 153 Lincoln Rolleston Road has also largely been used for stock grazing purposes since the subdivision of the site in the early 1990's, apart from an area of approximately 1.5ha used for residential and commercial purposes.

The commercial area is currently utilised for an automotive engineering business and a base for other business activities. This has resulted in a build-up of vehicles, dismantled vehicle parts, machinery and general waste. Two large pits were discovered at the site, alongside large stockpiles of fill material and varied topography across the entire yard area, indicating ongoing disposal to land. Several potential asbestos containing material (ACM) fragments were identified along the vehicle track and within the demolition rubble of a stockpile. It is unlikely the presence of asbestos is limited to the two areas identified. In conjunction with the above, there is the isolated risk posed by fuel storage in tanks and drums across the yard area. It was also noted that the L-shaped workshop only partially contained a concrete base.

There is also evidence, from the site inspection and aerial imagery, of soil disturbance activities occurring within the north western paddock. This has included introduction of fill material from other sites.

There is considered to be a potential risk to human health from the above activities that requires further investigation in the form of a Detailed Site Investigation (DSI) at subdivision stage. The recommendation for further investigation is restricted to 153 Lincoln Rolleston Road, specifically the risk area associated with the yard, and the area of introduced fill in the north western paddock, and is identified in **Figures 3 and 4** of **Section 11** of this document.

It is expected that even if contamination is present, the logistical and financial costs to remediate any contamination would not be so onerous to preclude eventual residential development and use. The site does not have any significant risks that could not be worked through during the subsequent subdivision and development stages, and as such the site is considered suitable for the proposed plan change.

In terms of planning status at the time of writing, this Preliminary Site Investigation has identified evidence of HAIL activities occurring within 153 Lincoln Rolleston Road. As such, the NESCS does apply to this property. No HAIL activities were identified at 151 Lincoln Rolleston Road therefore the NESCS is not applicable to that property.

2 Objectives of the Investigation

This report has been prepared in accordance with the Ministry for the Environment's "Contaminated Land Management Guidelines No 1: Reporting on Contaminated Sites in New Zealand". This report includes all requirements for a Stage 1 Preliminary Site Investigation report. This is one of the methods described in Section 6(3) of the NESCS to establish whether the regulations apply.

The objective of this report is to determine whether there is any risk of potential contamination that would warrant further investigation.

3 Scope of Work Undertaken

The scope of the work undertaken has included:

- Obtaining and review of Environment Canterbury (ECan) data from the Listed Land Use Register (LLUR);
- Search of Land Information New Zealand (LINZ) orchard database;
- Review of relevant historical aerial photographs;
- Review of relevant historical certificate of titles (CTs);
- Review of Selwyn District Council (SDC) property files;
- Site inspection;
- Preparation of report in accordance with MfE guidelines.

4 Site Identification

The site is located across two separate properties with the street address 151 & 153 Lincoln Rolleston Road, Rolleston. 151 Lincoln Rolleston Road is legally described as Lot 1 DP 357634 and is 4ha, while 153 Lincoln Rolleston Road is legally described as Lot 1 DP 50631 BLKS III IV Leeston SD and is 20.68ha. The location of the site is displayed in **Figure 1** below.

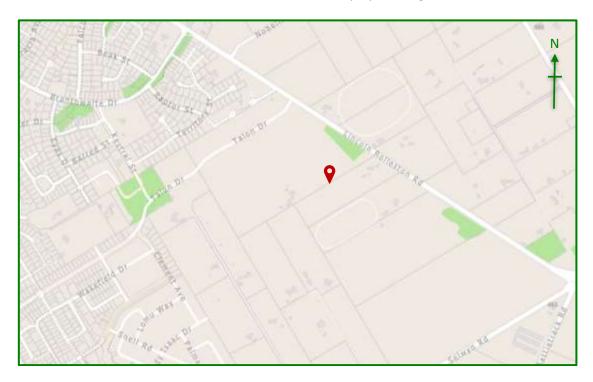




Figure 1 – Location Plan

5 Site Description and Surrounding Environment

The site is generally flat rural residential land located on the outskirts of the Rolleston Township. 151 Lincoln Rolleston Road contains a dwelling, garage, swimming pool and several outbuildings. The balance of the property is currently used for stock grazing purposes.

153 Lincoln Rolleston Road also contains a dwelling, garage and several outbuildings. The property contains a large yard area currently operated as an automotive engineering business and a base for other business activities. The balance of the property is currently used for stock grazing purposes.

The site is bound by newly subdivided residential properties to the west and north-west, while rural and rural residential land dominates the area to the south and east. The Rolleston township is located approximately 2km to the north-west of the site, while the Lincoln Township is located approximately 6km south-east of the site.

6 Geology and Hydrology

The ECan GIS database describes the soils as a combination of the Templeton deep/moderately deep silty loam, a typic immature pallic soil and the Eyre shallow loam, a weathered orthic recent soil. Wells in the area indicate that topsoils are underlain by layers of gravel and clay bound gravel, followed by sand and sandy gravel. Soil trace elements are 'Regional, Recent'.

The site lies over the unconfined/semi-confined gravel aquifer system. Groundwater levels recorded on nearby bore logs are between 10m and 14m deep. The direction of groundwater flow is generally in a south-easterly direction.

A water race runs along the southern boundary of 153 Lincoln Rolleston Road. A small pond is also located along the southern boundary of 153 Lincoln Rolleston Road.

7 Site History

7.1 Previous Site Ownership and Use

Historical Certificate of Titles (CTs) were reviewed with the following relevant ownership information outlined below.

All Lots

03 August 1897	George Trill, a Springston Farmer
27 May 1903	William McMuran, a Springston Farmer
27 March 1907	Ellen Page, a Christchurch Spinster
06 July 1909	Walter Wright, a Springston Farmer
01 July 1922	William Henry Peter Howdon, a Springston Farmer
19 June 1933	Duncan Gillanders, a Springston Farmer
22 November 1945	Thomas Reid, a Weedons Farmer

151 Lincoln Rolleston Road

26 March 1985	Ian Thomas Reid, a Weedons Farmer and John Walker Allan, a
	Dunsandel Farmer
	Roger Graeme Hubbard and Vivien Ann Hubbard
16 August 2010	Simon John Thorn, Megan Thorn and Michael James Singleton

25 July 2013 Ryan Lewis Nicole and Melissa Jayne Perry

153 Lincoln Rolleston Road

June 1987 John Walker Allan, a Dunsandel FarmerApril 2014 Barry Ernest Pullin and Patricia Mary Pullin

Note that some of the older information was of poor quality and difficult to follow, therefore the accuracy of the spelling of names and dates is not guaranteed. Copies of the historical CTs are included in **Appendix A**.

7.2 District Council Records

The property files were provided by Selwyn District Council and reviewed on 05 November 2020. The property files contained the following relevant information for both 151 & 153 Lincoln Rolleston Road.

151 Lincoln Rolleston Road

- Building Permit Application to erect a shell for a dwelling, dated 27 February 1986.
- Building Permit Application to erect a corrugated iron hay shed, dated 27 February 1987.
- Building Permit Application to erect a new double car garage, dated 26 September
 1990
- Code of Compliance Certificate for the extension to the existing dwelling, dated 18 December 1996.

153 Lincoln Rolleston Road

- Building Permit Application for a garage/workshop, dated 28 November 1986.
- Building Permit Application for a dwelling, dated 07 March 1987.

7.3 Regional Council Records

The site is not listed on the ECan Listed Land Use Register (LLUR) Statement. There are also no listed properties within a 100m radius of the site.

Three contaminated land investigation reports are available for two properties within a 100m radius of the site. The reports have been summarised by ECan in the LLUR Statement and do not identify any HAIL activities or risks that may impact the site.

See LLUR Statement in Appendix B.

The ECan GIS database has not identified any resource consents associated with the site. There are several resource consents within a 100m radius, largely associated with the adjacent subdivision development and surrounding rural residential activities.

The ECan GIS database has identified two active wells at the site, one on each individual property. M36/3914 is located at 151 Lincoln Rolleston Road and is for domestic water supply purposes. M36/3868 is located at 153 Lincoln Rolleston Road and is for domestic and stock water supply purposes. There are several other bores within a 100m radius of the site, these are also largely associated with irrigation and domestic/stock water supply.

7.4 LINZ Records

The LINZ Orchard layer does not show the site or any directly adjacent properties as having listed orchards.

7.5 Review of Historical Aerial Photographs

A total of nine aerial photographs have been sourced from the ECan GIS database. Copies of the aerial photographs used are included in **Appendix C**.

- The earliest aerial imagery available is from 1940-1944 and shows the site as pastoral farmland. The site is vacant of structures. The directly surrounding land is also rural and rural residential.
- The next available aerial imagery is from **1960-1964** and shows the site remaining as vacant pastoral farmland. There are no significant changes to the surrounding land.
- The **1970-1974** aerial imagery shows no significant changes at the site or directly surrounding area.
- The 1980-1984 aerial imagery shows no significant changes at the site. There is potentially some pastoral cropping occurring in one of the paddocks of 151 Lincoln Rolleston Road.
 There are no significant changes to the surrounding land.
- The 1990-1994 aerial imagery shows the site appears to have been subdivided as rural residential development has commenced on both 151 & 153 Lincoln Rolleston Road. Some vegetation has been planted at 153 Lincoln Rolleston Road. The dwelling and outbuildings located on the adjacent property to the north-west have been demolished, while a new residence has been constructed at 148 Lincoln Rolleston Road.
- In the 1995-1999 aerial imagery shows a dwelling and outbuildings present at both 151 & 153 Lincoln Rolleston Road. The balance of the site is being used for pastoral farming activities. There is an area of potential soil disturbance in the northern corner of 153 Lincoln Rolleston Road. A new dwelling has been constructed on the section of land to the north of the site. There are no further changes to the surrounding land.
- The 2004-2010 aerial imagery shows no significant changes at 151 Lincoln Rolleston Road.
 The area of potential soil disturbance noted previously at 153 Lincoln Rolleston Road is still
 present. There appears to be several vehicles stored in the yard area of 153 Lincoln
 Rolleston Road. There also appears to be a small forestry block present along the roadside
 of 153 Lincoln Rolleston Road. There are no significant changes to the surrounding land.
- The 2010-2015 aerial imagery shows no significant changes at 151 Lincoln Rolleston Road. The area of soil disturbance noted previously at 153 Lincoln Rolleston Road now has grass coverage however an additional, smaller area is now present to the south. Some soil clearance has occurred within the yard area at 153 Lincoln Rolleston Road. Between 20 and 30 vehicles are now present across the yard and along the treeline of the paddock to the north. The forestry block is still present at the site, while the balance of the site remains in pasture.
- The latest aerial imagery shows no significant changes at 151 Lincoln Rolleston Road. The
 forestry block is no longer present and there remain several vehicles in the yard area at
 153 Lincoln Rolleston Road. There also appears to be a large volume of timber, metal and
 other scrap material present.

8 Site Inspection

A site inspection was undertaken on 09 November 2020 to assess the likelihood of soil contamination being present on the site. A plan of the potential contamination areas within the

yard area as per the findings of the site inspection is included in **Appendix D**. A separate plan was not completed for 151 Lincoln Rolleston Road as there were no areas of concern identified.

151 Lincoln Rolleston Road

A large red brick dwelling is located at the end of a paved driveway at 151 Lincoln Rolleston Road. To the east of the dwelling is a concrete based car garage, swimming pool and entertainment area. A pump shed and water tank are present to the north of the garage. To the south of a swimming pool is a corrugated iron garden shed with a concrete base.





Photo 1 - Dwelling

Photo 2 - Garage



Photo 3 – Swimming pool and entertainment area

To the west of the swimming pool is a small-scale vegetable garden and domestic green house. A firewood storage shelter is also present in this location. Adjacent to the firewood storage shelter is a large storage shed with a concrete base and corrugated iron structure. The storage shed is used to store the quad bike, lawn mower and general farm machinery/equipment. To the rear of the storage shed is a timber loading ramp and holding pen.

The balance of site was being used for stock grazing. A burn pile was noted in the paddock to the rear of the dwelling and yard area. On closer inspection it was evident the burn pile was for green waste.

There was no evidence of chemical or fuel storage and no visual evidence of contamination identified while at 151 Lincoln Rolleston Road.





Photo 4 – Vege garden, greenhouse & firewood storage shed Photo 5 – Storage shed



Photo 6 - Loading ramp and holding pen

153 Lincoln Rolleston Road

A two-storey wooden dwelling, with attached garage and office area is located at the end of the gravel driveway of 153 Lincoln Rolleston Road. The residential area is surrounded by a patio and garden. A small-scale vegetable garden and domestic green house is present to the north of the residential area. Two small, corrugated iron garden sheds are also located here.





Photo 7 – Dwelling & attached garage

Photo 8 – Greenhouse and vegetable garden area

To the rear of the dwelling is the yard area used as part of the automotive engineering business that operates from the site. The L-shaped corrugated iron building is used as a workshop and has a concrete base beneath half of the structure. The remaining half is gravelled. The second building to the west of the L-shaped workshop appears to be a smoko room/office area however also contained tools and was being used for storage of machinery and vehicle parts. A third

structure to the north-west is used as a firewood shelter. Lastly, the structure adjacent to the vegetable garden was not accessible at the time of the site visit. From the outside it appeared to be used as an office area.





Photo 9 – L-shaped workshop

Photo 10 - Smoko room & office





Photo 11 – Firewood storage shelter

Photo 12 – Potential office area

The yard area contains upwards of 30 vehicles all in varying states of disrepair. There are also several stockpiles of dismantled car parts, metal, demolition rubble, tyres and fill material. The area surrounding the L-shaped workshop contains a dismantled excavator, several stockpiles of metal, several car batteries, concrete, timber and various other items. There are also eight piles in the ground, with concrete poured in the base. Adjacent to the piles is a vehicle track, potential asbestos containing materials (ACM) were identified on the surface of the track.





Photo 13 – Stockpiles of material adjacent to L-shaped workshop Photo 14 – Other items stored



Photo 15 – Potential ACM fragments in vehicle track

In the centre of the yard area is a large stockpile of fill material. To the south of the stockpile is an aboveground storage tank (AST). The AST was situated on soil and there was no evidence of leaks or spills on the surrounding ground.





Photo 16 – Stockpile of fill material

Photo 17 - AST

To the west of the stockpile of fill material are two large storage containers and several other vehicles and stockpiles of waste material.

The western portion of the yard area contained two large pits, one containing rubbish while the other remained empty. Adjacent to the largest rubbish pit were several stockpiles of waste including demolition rubble, fill material and metal. Potential ACM fragments were identified in the stockpile containing demolition rubble.

The ground level in this area was very uneven, indicating the ongoing disturbance of soils and potential presence of additional rubbish pits. There were several storage containers, tanks, corrugated iron and general waste being stored in this location.



Photo 20 - Demolition rubble

Photo 21 – Storage occurring in area



Photo 22 – Stockpiles of fill material

The balance of the site was being used for stock grazing. A loading ramp and holding pen were present along the western boundary of the paddock adjacent to the residential area. To the north of this paddock along the boundary of the neighbouring residential development area was a large stockpile of tyres, wood and evidence of soil disturbance activities. Within this north western paddock there are two areas of disturbed soil. The current owner advised that in these areas, topsoil was scraped back and gravel extracted. Fill material was introduced from another location and was described as clean, however to date there is no evidence to verify the nature of the fill material. In the paddock adjacent to the entrance of the site was a large burn pile, it appeared to have been used for green waste.





Photo 23 - Loading ramp and holding pen

Photo 24 - Burnpile

9 HAIL Uses and Possible Types of Contaminants Associated with Past Use

The Hazardous Activities and Industries List (HAIL) compiled by The Ministry for the Environment include the following categories (*in italics*) that could be associated with the historical uses of the site with a summary of the risk of these activities having been carried out on the site.

A - Chemical manufacture, application and bulk storage

10. Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds

For its known history, much of the site has been used for pastoral farming activities. The normal uses of fertilisers and pastoral weed controls associated with these uses are unlikely to have caused soil contamination that would pose a risk to human health. There is the potential that the storage of persistent pesticides occurred in and around the farm buildings at 153 Lincoln Rolleston Road. However, 153 Lincoln Rolleston Road only commenced use as a rural residential lifestyle property in the early 1990's and therefore generally outside the timeframe of concern for organochlorine pesticides (OCP's). The storage of persistent pesticides is considered a low risk at 151 Lincoln Rolleston Road given the solely pastoral and residential uses.

17. Storage tanks and drums for fuel, chemicals or liquid waste

One AST and several other tanks and drums were identified at 153 Lincoln Rolleston Road during the site inspection.

Contaminants of concern include heavy metals and petroleum hydrocarbons.

D – Metal extraction, refining and reprocessing, storage and use

5. Engineering workshops with metal fabrication

The yard area is used as an automotive engineering business and contains a workshop used in association with the business. Approximately half of the workshop does not contain a concrete base. Although not significant in size, given the direct contact with soil there is considered to be a potential risk associated with the engineering workshop.

Contaminants of concern are heavy metals. There may be a potential risk associated with benzene, toluene, ethylbenzene and xylene (BTEX) and solvents however undertaking a thorough inspection and discussions with the owner prior to sampling will allow for refinement of the analysis suite.

E – Mineral extraction, refining and reprocessing, storage and use

1. Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition

Several potential ACM fragments were identified within the yard area at 153 Lincoln Rolleston Road in two separate locations, namely the vehicle track and demolition rubble stockpile. Due to the land use activities undertaken at the site and the volume of material being stored, it is considered highly likely that further asbestos containing materials are present.

Contaminants of concern are asbestos.

G - Cemeteries and waste recycling, treatment and disposal

4. Scrap yards including automotive dismantling, wrecking or scrap metal yards

The aerial imagery from the early 2000's to the present day indicates there are several vehicles located within the yard area at 153 Lincoln Rolleston Road. This was confirmed during the site inspection where it was identified that an automotive engineering business was operating from the site. There were significant volumes of cars, farm vehicles, trucks and boats at the site, including stockpiles of dismantled vehicle parts and scrap metal.

Contaminants of concern include heavy metals, asbestos and petroleum hydrocarbons.

5. Waste disposal to land (excluding where biosolids have been used as soil conditioners)

Findings from the site inspection indicate that fill material is present in multiple locations within the yard area at 153 Lincoln Rolleston. Also identified during the site inspection was a large rubbish pit and an empty pit. It is considered likely, based on the topography of the yard area that waste disposal to land is a common occurrence. There is also evidence, from the site inspection and aerial imagery, of soil disturbance activities occurring within the north western paddock. This has included introduction of fill material from other sites.

Contaminants of concern associated with waste disposal to land are dependent on the waste disposed of but based on the items seen during the site inspection are likely to include heavy metals, asbestos and petroleum hydrocarbons.

10 Basis for Soil Guideline Values (SGV)

10.1 Activity Description

This report has been written for the following potential activities:

• The Client is applying for a plan change from Inner Plains to residential which will result in the future subdivision, change of use of the land and associated soil disturbance activities.

10.2 Zoning

The site is currently zoned Inner Plains in the Selwyn District Plan.

10.3 Soil Guideline Values

Human health soil contaminant standards for a group of 12 priority contaminants were derived under a set of five land-use scenarios and are legally binding under The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Health) Regulations 2011 (NESCS). These standards have been applied where applicable. The regulations describe these as Soil Contaminant Standards. For contaminants other than the 12 priority contaminants, the hierarchy as set out in the Ministry for the Environment Contaminated Land Management Guidelines No 2 has been followed. These are generally described as Soil Guideline Values. For simplicity, this report uses the terminology Soil Guideline Values (SGV) when referring to the appropriate soil contaminant standard or other derived value from the hierarchy. For soil, guideline values are predominantly risk based, in that they are typically derived using designated exposure scenarios that relate to different land uses. For each exposure scenario, selected pathways of exposure are used to derive guideline values. These pathways typically include soil ingestion, inhalation and dermal adsorption. The guideline values for the appropriate land use scenario relate to the most critical pathway.

The land-use scenario applicable for the site is 'residential 10% produce', and 'commercial/industrial/outdoor workers' as a proxy value to protect the health of construction workers.

11 Site Characterisation and Conclusion

The investigations have determined that the site has a long-standing history associated with pastoral farming activities and was vacant of structures until subdivision and development of both 151 and 153 Lincoln Rolleston Road in the early 1990's.

Since development of the site for rural residential purposes, 151 Lincoln Rolleston Road has been used as a lifestyle property with some stock grazing on the balance of the property. During the site inspection it was noted that all garden sheds, storage sheds and garages had concrete bases and were in a good condition. There is no evidence of HAIL activities or industries having occurred within 151 Lincoln Rolleston Road. As a result, this portion of the site is considered highly unlikely to pose a risk to human health and no further investigation is currently required.

The majority of the land area associated with 153 Lincoln Rolleston Road has also largely been used for stock grazing purposes since the subdivision of the site in the early 1990's, apart from a small forestry block present along the roadside from the early 2000's, which is no longer present, and an area of approximately 1.5ha used for residential and commercial purposes. The commercial area is currently utilised for an automotive engineering business and a base for other business activities. This has resulted in a build-up of vehicles, dismantled vehicle parts, machinery and general waste. Two large pits were discovered at the site, alongside large stockpiles of fill material and varied topography across the entire yard area, indicating ongoing disposal to land. Several potential ACM fragments were identified along the vehicle track and within the demolition rubble of a stockpile. It is unlikely the presence of asbestos is limited to the two areas identified.

In terms of structures at the site, the L-shaped building was being used as a workshop and only partially contained a concrete base. The remaining structures appeared to have concrete bases however these were not able to be accessed during the site visit.

There is also evidence, from the site inspection and aerial imagery, of soil disturbance activities occurring within the north western paddock. This has included introduction of fill material from other sites.

There is considered to be a potential risk to human health from the above activities that requires further investigation in the form of a Detailed Site Investigation (DSI). The recommendation for further investigation is restricted to 153 Lincoln Rolleston Road, specifically the risk area associated with the yard, and the area of introduced fill in the northwestern paddock.

Figure 3 and 4 below highlights the identified risk areas where a Detailed Site Investigation is recommended.



Figure 3 – Yard risk area at 153 Lincoln Rolleston Road



Figure 4 - Approximate areas of disturbed/introduced fill in northwestern paddock

12 Planning Status

In terms of the NESCS at the time of writing, Regulation 5(7) states that land is considered to be covered if an activity or industry described in the HAIL is being undertaken; has been undertaken; or is more likely than not to have been undertaken on it. Regulation 6 describes the methods for determining whether the land is as described in Regulation 7. Method 6(3) is to rely on a Preliminary Site Investigation.

The Preliminary Site Investigation has identified evidence of HAIL activities occurring on site, specifically 153 Lincoln Rolleston Road. As such, the NESCS does apply to this property.

No HAIL activities were identified at 151 Lincoln Rolleston Road therefore the NESCS is not applicable to that property.

13 Limitations

Malloch Environmental Limited has performed services for this project in accordance with current professional standards for environmental site assessments, and in terms of the client's financial and technical brief for the work. Any reliance on this report by other parties shall be at such party's own risk. It does not purport to completely describe all the site characteristics and properties. Where data is supplied by the client or any third party, it has been assumed that the information is correct, unless otherwise stated. Malloch Environmental Limited accepts no responsibility for errors or omissions in the information provided. Should further information become available regarding the conditions at the site, Malloch Environmental Limited reserves the right to review the report in the context of the additional information.

Opinions and judgments expressed in this report are based on an understanding and interpretation of regulatory standards at the time of writing and should not be construed as legal opinions. As regulatory standards are constantly changing, conclusions and recommendations considered to be acceptable at the time of writing, may in the future become

subject to different regulatory standards which cause them to become unacceptable. This may require further assessment and/or remediation of the site to be suitable for the existing or proposed land use activities. There is no investigation that is thorough enough to preclude the presence of materials at the site that presently or in the future may be considered hazardous.

No part of this report may be reproduced, distributed, publicly displayed, or made into a derivative work without the permission of Malloch Environmental Ltd, other than the distribution in its entirety for the purposes it is intended.

Appendix A – Historical Certificate of Titles

Land and Deeds 69

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References

Prior C/T 16B/955

Transfer No.

N/C. Order No. 537651/2



REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

one thousand nine hundred and eighty-five This Certificate dated the 26th day of March under the seal of the District Land Registrar of the Land Registration District of CANTERBURY

WITNESSETH that THE TRUSTEES EXECUTORS AND AGENCY COMPANY OF NEW ZEALAND LIMITED at Dunedin, IAN THOMAS REID of Weedons, Farmer and JOHN WALKER ALLAN of Dunsandel, Farmer are ---

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 29.3370

hectares or thereabouts being Lot 6 Deposited Plan 48064

Amalgamation Correspondence 6/9437//

PLAN No. 50631 LODGED 15/8/1986 AND DEPOSITED 13 5 1987

No.680362/1 Compliance Certificate pursuant to Section 306 (1)(f)(i) Local Government Act 1974 - 13.5.1987 at 11.07am

STRICT LAND REGISTRAF

Transmission 684423/1 to The Trustees Executors and Agency Company of New Zealand Limited and John Walker Allan, abovenamed, as survivors - 2.6.1987 at 11.30am

OCT 680362/2) Cancelled as to Lot 1) DP 50631 and CT 30A/652 13.5.1987 issued entered 2.6.1987

Transfer 684423/2 of Lot 2 DP 50631 to Maxwell Lyndon Bowden - 2.6.1987 at 11.30am

CT 30A/652 issued

CANCELLED

DUPLICATE DESTROYED

County. Ellesmere

Measurements are Metric M36/3·1,3·2.



CERTIFICATE OF TITLE No.

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Jeorge Frott to Holdy William & L. a.

Mortgage 28.157 produced 21 April 1891 at 2500th

Jeorge Frott to Holdy William & L. a.

Mortgage 28.157 produced 21 April 1897 at 2 4 aril 1897

al 2 45 produced 20 20 at 16 April 1897

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Milliam & L. a.

Mortgage 37606 produced 12 april 1897

al 2 45 produced 20 20 at 16 April 1897

Allenny Proore

Milliam & L. a.

Cancelled 71 (174/27.



RECORD OF TITLE UNDER LAND TRANSFER ACT 2017 FREEHOLD





Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier Land Registration District Date Issued 234365 Canterbury 06 December 2005

Prior References

CB27A/1003

Estate Fee Simple

Area 4.0000 hectares more or less **Legal Description** Lot 1 Deposited Plan 357634

Original Registered Owners

Roger Graeme Hubbard and Vivien Ann Hubbard

Interests

A230476.3 Mortgage to The National Bank of New Zealand Limited - 10.4.1996 at 12.27 pm

6965040.1 Variation of Mortgage A230476.3 - 27.7.2006 at 9:00 am

8557627.1 Discharge of Mortgage A230476.3 - 16.8.2010 at 9:40 am

8557627.2 Transfer to Simon John Thorn, Megan Thorn and Michael James Singleton - 16.8.2010 at 9:40 am

8557627.3 Mortgage to Westpac New Zealand Limited - 16.8.2010 at 9:40 am

9462746.1 Discharge of Mortgage 8557627.3 - 25.7.2013 at 12:26 pm

9462746.2 Transfer to Ryan Lewis Nicolle and Melissa Jayne Perry - 25.7.2013 at 12:26 pm

9462746.3 Mortgage to ASB Bank Limited - 25.7.2013 at 12:26 pm

10129851.1 Discharge of Mortgage 9462746.3 - 23.7.2015 at 10:16 am

10129851.2 Mortgage to Westpac New Zealand Limited - 23.7.2015 at 10:16 am

Transaction Id

Historical Search Copy Dated 5/11/20 3:32 pm, Page 1 of 1

REGISTER

References Prior C/T-207/200

Transfer No.

N/C: Order No. 77158/1



one thousand nine hundred and seventy six - April " This Certificate dated the 26th day of under the seal of the District Land Registrar of the Land Registration District of, CANTERBURY

WITNESSETH that IAN THOMAS REID of Opringston; Farmer

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing . 23.4717

hectares or thereabouts situated in Block IV of the Leeston Survey District, being Rural Section 4297



Assistant Land Registrar

Transfer 116057/1 to Ian Thomas, Reid of Springston, Farmer, John Walker Allan of Junsandel, Farmer and The Trustees Executors and Agency Company of New Zealand at Dunedin 11.2.1977 at 9.39 a.m.

Mortgage 116057/28 to Lan Reid - 11.2.1977 at 7.39 Thomas

Variation of Mortgage 116057 14.12.3877 at 9.33 am.

Variation of Mortgage 1 24.10.1978 at 10.36 am. 11605

Variation & Mortgage 116057/2 -

Roudt Se Rural Banking and Mortgage 359857/1 to 981 at 9.40a. Finance Corporation

OVER

4296

4297 23 4717ha.

22:6624ha

Measurements are Metric B.M. 68

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7

References Prior C/T 207/200

Transfer No. 77158/1 N/C. Order No.



REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

one thousand nine hundred and seventy, six - Aprilunder the seal of the District Land Registrar of the Land Registration District of CANTERBURY

WITNESSETH that IAN THOMAS REID of Springston, Farmer

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon. be the several admeasurements a little more or less, that is to say: All that parcel of land containing

nectures or thereabouts situated in Elocks IV and III of the Leeston

Survey District, being Rural Section 6691

Assistant Land Registrar

NEEDONS Poss 4702 25.8998ha

ROAD

Transfer 116057/1 to Ian Thomas Reid of Springston, Farmer, John Walker Allan of Dunsandel, Farmer and The Trustees Executors and Agency Company of New Zealand at Dunedin - 11.2.1977 at 9:39 a.m.

Mortgage 116057/2 Thomas Reid 9.39 a.m.

Variation of Mortgage 116057/2 14.12.1977 9.33 am

Variation of Mortgage 116057 - 24.10.1988 at 10.36 am.

4.2.1980

Variation of Mortgage 116057/2 at 9.53 am. O

ruell for A.L.R.

LINCOLN -ROLLESTON 6691 28.7326no. Measurements are Metric. B M 68

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C.T. 16B/955 Mortgage 359857/1 to al Banking and Finance Corporation M2.1981 at 9.40 a.m. for A.L.R. No. 359857/2 Memorandum of Priority making Mortgages respectively - 11.12.1981 at 9.40 a.m. for A.L.R. Variation of Mortgage 116057/2 5-1982 at 9.08a.m.

Mortgage 384123/2 to The Bank of New South Wales — 28-5-1982 at 9.09a.m.

for A.L.R.

Variation of Mortgage 359857/1 - 10.12.1982 at 9.28 a.m.

Variation of Mortgage 359857/1 15.9.1983 at 9.20 am.

for A.L.R.

.. LODGED 30/ 11/1984 AND DEPOSITED

No. 537651/1 Compliance Certificate pursuant to Section 306 (1) (f) (i) Local Government Act 1974 - 26.3.1985 at 11.21 a.m.

A.L.R.

OCT 537651/2) Cancelled and new C.T. 27A/1008 26.3.1985) issued for Lot 6 DP 48044.

A.L.R.

CANCELLED DUPLICATE DESTROYED

N/C. Order No. 77158/1

Transfer No.

16B

CANCELLED

REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 26th day of one thousand nine hundred and seventy, six opril. under the seal of the District Land Registrar of the Land Registration District of CANTEREURY

WITNESSETH that IAN THOMAS REID of Opringston, Farmer

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 12.1405

hectares or thereabouts situated in Block IV of the Leeston Survey being Rural Section 4647



Assistant Land Registrat

Transfer 116057/1 to Ian Thomas Reid of Springston, Farmer, John Walker Allan of Dunsandel, Farmer and The Trustees Executors and Agency Company of New Zealand at Dunedin - 11.2.1977 at 9.39 a.m.

Mortgage 116057/2 to Ten Thomas Reid - 11.2.1977 3 9/39 a.m. 11.2.1977 9 a.c

Variation of Mortgage 116057 14.12.1977 at 9.33 am

Variation of Mortgage 24.10.1978 at 10.36 am.

for A.L.R

AJOdd

Variation of Mortgage 116057/2 4.2.1980 at 9.53 am.

ROAD for A.L.R Mortgage 359857/18to Me Rural Banking and Finance Corporation 11.12.1981 at

for A.L.R.

Į, 0

Measurements are Metric 8 M. 68

488.03

4297

27:4717ha.

4296

22.6624ha

No. 359857/2 Memorandum of Priority making Mortgages 372577/1 and 116057/2 first and second mortgages respectively -11.12.1981 at 9.40 a.m.

Variation of Mortgage 116057/2 9.08a.m.

Mortgage 384123/2 to The S nk of New South Wales - 28-5-1982 at 3 98

for A.L.R.

Variation of Wortgage 359857/1 - 10.12.1982 at 9.28 a. 3

Variation of Mort€age 359857/1 15.9.1983 at 9.2

-CAVEAT 501870/1 BY JOHN DUGALD STEWART -(1.26 am.) 3.8.1984 at 11.26 am.

A.L.R.

for A.L.R.

LODGED 30 / 11 184 AND DEPOSITED

No. 537651/1 Compliance Certificate pursuant to Section 306 (1) (f) (i) Local Government Act 1974 - 26.3.1985 at 11.21 a.m.

Cancelled and new C.sT. issued 26:3.1985

for Lots on DP 48064 as follows: 1 (pt herein) - 27A/1003

> 2 (pt herein) 27A/1004

3 (pt herein) 27A/1003

CANCELLED

DUPLICATE DESTROYED

Q

References Prior C/T 207/200

N/C. Order No. 77158/

Transfer No.



REGISTER

CATE OF TITLE UNDER LAND TRANSFER ACT

one thousand nine hundred and seventy ApplÄ 🥳 under the seal of the District Land Registrar of the Land Registration District of CANTERBURY

WITNESSETH that TAN THOMAS RETD of opringston, Farmer

4296

·*4*-717ha.

Measurements are Metric

B.M. 68

22.6624ha.

RATTLETRACK ROAD

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing

hectares of thereabouts situated in Block, TV of the Leeston Survey

being Rural Section 4651



Assistant Land Registrar

Transfer 116057/1 to Ian Thomas Reid of Springston, Farmer, John Walker Allan of Dunsandel, Farmer and The Trustees Executors and Agency Company of New Zealand at Dunedin 11.2.1977 at 9.39 a.m.

Mortgage 116057/2 11.2.1977 at

Variation of Mortgage 126057/2

4.12.19.7 at 9.33 am.

Variation of Mortgage 11 24.10.1978 at 10.36 am.

Variation of Mortgage 116057/2

for A.L.R.

Reid

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Mortgage 359857/1 to Mural Banking and Finance Corporatio 12.19**8**1 at 9.40 a.m. No. 359857/2 Memorandum of Priority making Mortgages 348874/1 and 116057/2 first and second mortgages respectively - 11.12.1981 at Variation of Mode gage 116057**/**2-9.08a.m. for A.L.R. Mortgage 384123/2 to The Cank of New South Wales — 28-5-1982 at 9.09g Variation of Mortgage 359857/1 - 10.12.1982 at 9.28 a.m. Variation of Mortgage 359857 15.9.1983 at 9.20 am. for A.L.R. CAVEAT 501870/1 BY JOHN DUGBLD STEWART -9.8.1984 at 11.26 am. 1000GED 30 1 11 /1984 AND DEPOSITED No. 537651/1 Compliance Certificate pursuant to Section 306 (1) (f) (i) Local Government Act 1974 - 26.3.1985 at 11.21 a.m. A.L.R. OCT 537651/2) Cancelled and new C.sT. issued 26.3.1985) for Lots on DP 48064 as follows: 1 (pt herein) -27A/1003 $g_{i,j}$ 2 (pt herein) 27A/1004 3 (pt herein) 27A/1005

CANCELLED

ALR.

DUPLICATE DESTROYED



COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952

Historical Search Copy



Identifier
Land Registration District
Date Issued

CB27A/1003 Canterbury 26 March 1985 Cancelled

Prior References

CB16B/950 CB16B/952 CB16B/953

Estate Fee Simple

Area 9.1760 hectares more or less **Legal Description** Lot 1 Deposited Plan 48064

Original Proprietors

Roger Graeme Hubbard and Vivien Ann Hubbard

Interests

A230476.3 Mortgage to The National Bank of New Zealand Limited - 10.4.1996 at 12.27 pm 6677231.1 Certificate pursuant to Section 224(c) Resource Management Act 1991 (affects DP 357634) - 6.12.2005 at 9:00 am

6677231.2 CTs issued - 6.12.2005 at 9:00 am

Legal DescriptionTitleLot 1 Deposited Plan 357634234365Lot 2 Deposited Plan 357634234366

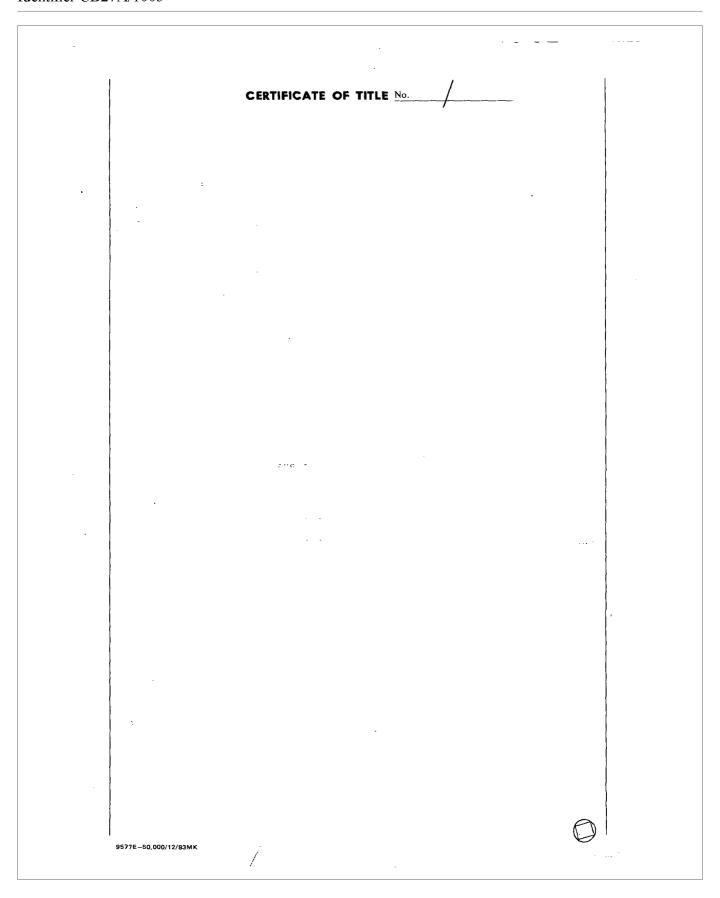
CANCELLED

Transaction Id
Client Reference 151-153 Lincoln Rolleston Rd

References Land and Deeds 69 Prior C/T 16B/950,952,953 REGISTER N/C. Order No. 537651/2 CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT This Certificate dated the 26th day of March one thousand nine hundred and eighty-five under the seal of the District Land Registrar of the Land Registration District of CANTERBURY WITNESSETH that THE TRUSTEES EXECUTORS AND AGENCY COMPANY OF NEW ZEALAND LIMITED AT Dunedin, IAN THOMAS REID of Weedons, Farmer and JOHN WALKER ALLAN of Dunsandel, Farmer are --ig seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 9.1760 hectares or thereabouts being Lot 1 Deposited Plan 48064 ---STRICT LAND REGISTRAR for Assistant CAVEAT 501870/1 by Wolf Dogald STEWART - 9.8.1984 25 24.26a.m Mortgage 596537/2 to Prusteebank Canterbury - 10 N198 at 11.13ar at 11.13am n Orchards Transfer 591976/2 to Junction Limited at Christchurch at 9.01a.m. Blavelle No.596537/3 Statutory Land Charge pursuant to Sections 14K, L and M of the Home Syndrship Savings Act 1974 2 10 4.1986 at 11.13am. for A.L.R.
Transfer 596537/1 to Roger Graeme
Hubbard of Christchurch, Labourer
and Vivien Ann Hubbard his wife (BMA Mini - 10.4.1986 at 11.13am. MAMuie for A.L.R. for A.L.R. County Mortgage A230476/3 to The National Bank of New Zealand Limited - 10.4.1996 at 12.27pm for A.L.R. 12.4190 ha

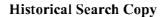
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Measurements are Metric M36/3-1,3-2.





RECORD OF TITLE UNDER LAND TRANSFER ACT 2017 FREEHOLD





Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier Land Registration District Date Issued CB30A/652 Canterbury 02 June 1987

Prior References

CB27A/1008

Estate Fee Simple

Area 20.6750 hectares more or less Legal Description Lot 1 Deposited Plan 50631

Original Registered Owners

Barry Ernest Pullin and Patricia Mary Pullin

Interests

691370.2 Mortgage to The Rural Banking and Finance Corporation of New Zealand - 9.7.1987 at 11.12 am and varied 12.4.1995 at 10.46 am

9570871.1 Discharge of Mortgage 691370.2 - 4.4.2014 at 12:10 pm

9570871.2 Transfer to Barry Ernest Pullin and Patricia Mary Pullin - 4.4.2014 at 12:10 pm

9570871.3 Mortgage to ANZ Bank New Zealand Limited - 4.4.2014 at 12:10 pm

Transaction Id

Historical Search Copy Dated 5/11/20 3:43 pm, Page 1 of 2

Client Reference 151-153 Lincoln Rolleston Rd

References Prior C/T 27A/1008

N/C. Order No. 680362/1-13.5.1987

Transfer No.

Land and Deeds 69

REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 2nd day of June one thousand nine hundred and eighty-seven under the seal of the District Land Registrar of the Land Registration District of CANTERBURY

WITNESSETH that THE TRUSTEES EXECUTORS AND AGENCY COMPANY OF NEW ZEALAND LIMITED at Dunedin and JOHN WALKER ALLAN of Dunsandel, Farmer are

ix seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bodd black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 20.6750

hectares or thereabouts being Lot 1 Deposited Plan 50631 -

DISTRICT LAND SEG. STRAR

Transfer 691370/1 to Barry Ernest Pullin and Patricia Mary Pullin, both of Christchurch, Shearing Contractor and School Teacher respectively - 9.7.1987 at 11.12am

> for A.L.R. /2 to The Rural

Mortgage 691370/2 to The Rural Banking and Finance Corporation of New Zealand - 9.7.1987 at 11.12am ASSISTANT LAND REGISTRAF

Mortgage 691370/3 Margaruette Pullin Hamish McKay - 27

for A.L.R.

Variation of Mortgage 691370/2 at 10.46am

10.46 am

ELLESMERE COUNTY

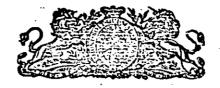
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Transaction Id: 62336389

Reference: Vol. 3 fulio 112 }
Reference: Scribstiturect }
Promoter No. 8074.



Register-book,

Vol. 17 Ly folio 27

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT.

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or indursed hereon; subject also to any existing right of New Zealand) in the land hereinafter described, as the	vations, restrictions, enoumbrances, liens, and interests as are notified by memorial underwr of the Crown to take and lay off roads under the provisions of any Act of the General Asset as same is delineated by the plan hereon, bordered action, be the several admeasurem of land containing actions.
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Vol. 174 , Polio 27_

Vol. 207, Jolio 200

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT.

A	
This Certificate, dated the Michigan colliday of May of May on thousand nine hundred and	Muse ander
the hand and seal of the District Land Registrar of the Land Registration District of Conditions	
of springsion Januar	

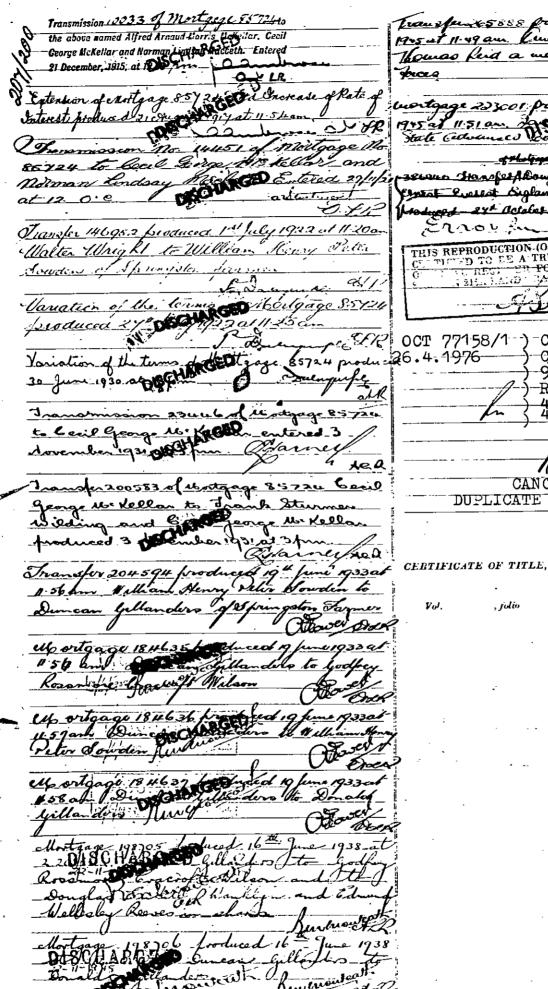
is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or indorsed hereon; subject also to any existing right of the Crown to take and lay off roads under the provisions of any Act of the General Assembly of New Zealand) in the land hereinafter described, as the same is delineated by the plan hereon, bordered a little more or loss, that is to say: All short percelor land containing Kozether Mire Privated and Mirily all actes a Mirecolority relies in 13lock 18 of the Leeston convey Destruction . be the several admessurements comprising hind actions 4296 4294 14626 4644. 4651 4907 and

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11.49 am Cincan Thomas Reid a me o Hanfel Alonglas Endell wantily Ada Colosso Colos Actalas. THIS REPRODUCTION (ON A REDUCED SCALE)

CONTROL OF THE PORTHE FOR THE FORTHER OF OCT 77158/1) - Cancelled and 4 modus 26.4.1976) C.T. 's 16B/94 C-T-'s 16B/949 955 issued for R.S.'s 4296, 4297, 4628, 46**4**7, 4651 4702 and 6691

> CANCELLED DUPLICATE DESTROYED

Appendix B – LLUR Statement

Property Statement from the Listed Land Use Register

Visit www.ecan.govt.nz/HAIL for more information about land uses.



Customer Services P. 03 353 9007 or 0800 324 636

PO Box 345 Christchurch 8140

P. 03 365 3828 F. 03 365 3194

E. ecinfo@ecan.govt.nz

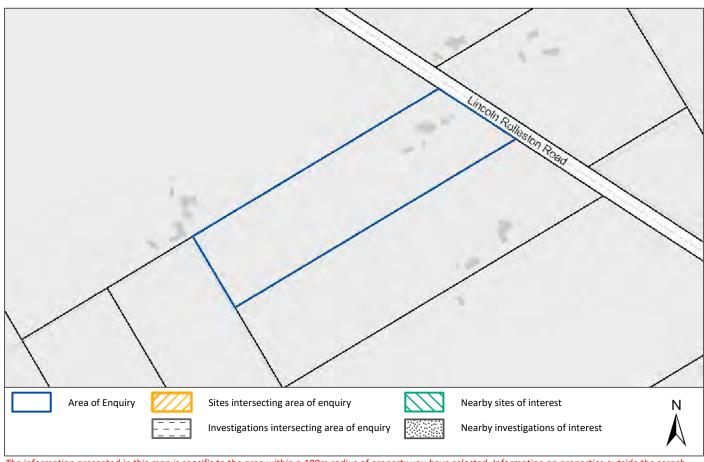
www.ecan.govt.nz

Date:

05 November 2020

Land Parcels: Lot 1 DP 357634

Valuation No(s): 2405514100



The information presented in this map is specific to the area within a 100m radius of property you have selected. Information on properties outside the serach radius may not be shown on this map, even if the property is visible.

Summary of sites:

There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register

There are no sites associated with the area of enquiry.

Information held about other investigations on the Listed Land Use Register

For further information from Environment Canterbury, contact Customer Services and refer to enquiry number ENQ267300.

Disclaimer:

The enclosed information is derived from Environment Canterbury's Listed Land Use Register and is made available to you under the Local Government Official Information and Meetings Act 1987 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).

The information contained in this report reflects the current records held by Environment Canterbury regarding the activities undertaken on the site, its possible contamination and based on that information, the categorisation of the site. Environment Canterbury has not verified the accuracy or completeness of this information. It is released only as a copy of Environment Canterbury's records and is not intended to provide a full, complete or totally accurate assessment of the site. It is provided on the basis that Environment Canterbury makes no warranty or representation regarding the reliability, accuracy or completeness of the information provided or the level of contamination (if any) at the relevant site or that the site is suitable or otherwise for any particular purpose. Environment Canterbury accepts no responsibility for any loss, cost, damage or expense any person may incur as a result of the use, reference to or reliance on the information contained in this report.

Any person receiving and using this information is bound by the provisions of the Privacy Act 1993.

Property Statement from the Listed Land Use Register

Visit www.ecan.govt.nz/HAIL for more information about land uses.



Customer Services P. 03 353 9007 or 0800 324 636

PO Box 345 Christchurch 8140

P. 03 365 3828 F. 03 365 3194

E. ecinfo@ecan.govt.nz

www.ecan.govt.nz

Date: 05 November 2020

Land Parcels: Lot 1 DP 50631 Valuation No(s): 2405514300



The information presented in this map is specific to the area within a 100m radius of property you have selected. Information on properties outside the serach radius may not be shown on this map, even if the property is visible.

Summary of sites:

There are no sites associated with the area of enquiry.

Information held about the sites on the Listed Land Use Register

There are no sites associated with the area of enquiry.

Information held about other investigations on the Listed Land Use Register

15 Oct 2016 INV 160048: Soil Contamination Risk, Stage 1 - Preliminary Site Investigation Report, Branthwaite Drive,

Rolleston (Preliminary Site Investigation)

Malloch Environmental Ltd

Summary of investigation(s):

Site history: The site appears to have been used for grazing from at least the 1940's through to around the 1980's. A farm homestead is visible on the southern side of what is now Branthwaite Drive. In the 1990's the site appears to have been subdivided for rural residential use, and new dwellings can be seen being constructed alongside the newly constructed Branthwaite Drive. The original homestead and associated sheds appear to have been demolished at this point. In the 2000 aerial imagery a hazelnut orchard has been established on a lot in the southwestern part of the site, which remains to the present day.

INV160048 - Soil Contamination Risk, Stage 1 - Preliminary Site Investigation Report, Branthwaite Drive, Rolleston - Revision 2 (Malloch Environmental, 2017)

Investigation objective: The investigation was undertaken in preparation for soil disturbance and subdivision of the land into 700 residential lots. The site was investigated and soil contaminants assessed against the requirements of the National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (MfE, 2011).

The majority of the site was not found to have been used for any HAIL activities. However the former homestead and farm sheds area was considered to have been potentially subject to fertiliser and chemical storage, and it was recommended that further investigation be undertaken in this area.

An interview was conducted with the owner of the hazelnut orchard (SN120675) in order to establish whether the trees had been sprayed with any persistent pesticides. The owner stated that the trees had only been sprayed with Roundup (glyphosate), Granstar (tribenuron-methyl) and Gestop (simazine). Glyphosate and tribenuron-methyl have half-lives of around three weeks in soil, and simazine has a half-life in soil of around 60 days. None of these chemicals are considered to be persistent in the soil. In addition, the owner only sprayed the trees annually, as hazelnut trees are not susceptible to disease or pests.

16 Apr 2018

INV 206671: Environmental Site Assessment, Preliminary Site Investigation for proposed subdivision, 7/572 Selwyn Road, Rolleston (Preliminary Site Investigation)

Unknown

Summary of investigation(s):

A Preliminary Site Investigation (PSI) was undertaken in April 2017, at 7/572 Selwyn Road, by Landtech Consulting Limited. The report was not authored by a Suitably Qualified and Experienced Practitioner (SQEP), and therefore the site cannot be considered investigated in accordance with the NES. No comment was made in the report about the potential scrap yard/wrecking area to the north of the dwelling, or on the composition of the former horse training track. The report has been categorised as "not investigated" on the LLUR, and it is recommended that the site is investigated by a recognised SQEP before subdivision of the land takes place.

2 Aug 2018

INV 213081: Detailed Site Investigation - 7/572 Selwyn Road, Rolleston (Detailed Site Investigation)
Pattle Delamore Partners Ltd

Summary of investigation(s):

Site history: The site was used for general pastoral purposes from the 1940s through to the 1990s. Around 1995, a horse training track was developed over the eastern part of the property, which was present at the property until it was subdivided and a dwelling was built in the south of the site around 2010. The most recently aerial imagery showed that an area in the north of the site had been used for vehicle storage, with the balance of the lot remaining in pasture.

Investigation objective: The investigation was undertaken in preparation for soil disturbance associated with the subdivision of the property. The site was investigated and soil contaminants assessed against the requirements of the National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (MfE, 2011).

The investigation noted that the horse training track, vehicle storage area, concrete pad, and paddocks were potential HAIL activities, and recommended that sampling be undertaken in these areas. Soil samples were collected from 23 locations across the site (SS1 - SS23), from the shallow surface between depths of 0.05 - 0.15 m bgl. All samples were analysed for heavy metals arsenic, cadmium, chromium, copper, lead, nickel and zinc. Samples SS16 - SS23, collected from the paddock areas, were analysed for organochlorine pesticides. Samples SS1 - SS6, and SS12 - SS15 collected from the vehicle storage area and concrete pad respectively, were analysed for total petroleum hydrocarbons (TPH) and polycyclic aromatic hydrocarbons (PAHs). Six samples collected from the horse training track (SS4, SS7 - SS11) were analysed for asbestos.

Results: Heavy metals concentrations were all at or below the expected regional background concentrations in all samples. Organochlorine pesticides were detected but at concentrations below the Canterbury ambient background concentrations. Hydrocarbons were detected in low concentrations around the vehicle storage area but at concentrations that complied with the MfE Tier 1 criteria for residential land use. TPHs and PAHs were detected in samples collected from around the vehicle storage area and concrete pad, but at concentrations that complied with soil contaminant standards for residential use. No asbestos was detected in any of the samples collected from the horse training track.

Conclusions: The investigation has been categorised as "below guideline values - residential". No HAIL activities or sites have been added to the LLUR due to the minor nature of the contamination.

Justification for proposed category: All contaminants analysed were below the soil contaminant standards for residential land use. The land was investigated appropriately and is suitable for the proposed subdivision.

For further information from Environment Canterbury, contact Customer Services and refer to enquiry number ENQ267301.

Disclaimer:

The enclosed information is derived from Environment Canterbury's Listed Land Use Register and is made available to you under the Local Government Official Information and Meetings Act 1987 and Environment Canterbury's Contaminated Land Information Management Strategy (ECan 2009).

The information contained in this report reflects the current records held by Environment Canterbury regarding the activities undertaken on the site, its possible contamination and based on that information, the categorisation of the site. Environment Canterbury has not verified the accuracy or completeness of this information. It is released only as a copy of Environment Canterbury's records and is not intended to provide a full, complete or totally accurate assessment of the site. It is provided on the basis that Environment Canterbury makes no warranty or representation regarding the reliability, accuracy or completeness of the information provided or the level of contamination (if any) at the relevant site or that the site is suitable or otherwise for any particular purpose. Environment Canterbury accepts no responsibility for any loss, cost, damage or expense any person may incur as a result of the use, reference to or reliance on the information contained in this report.

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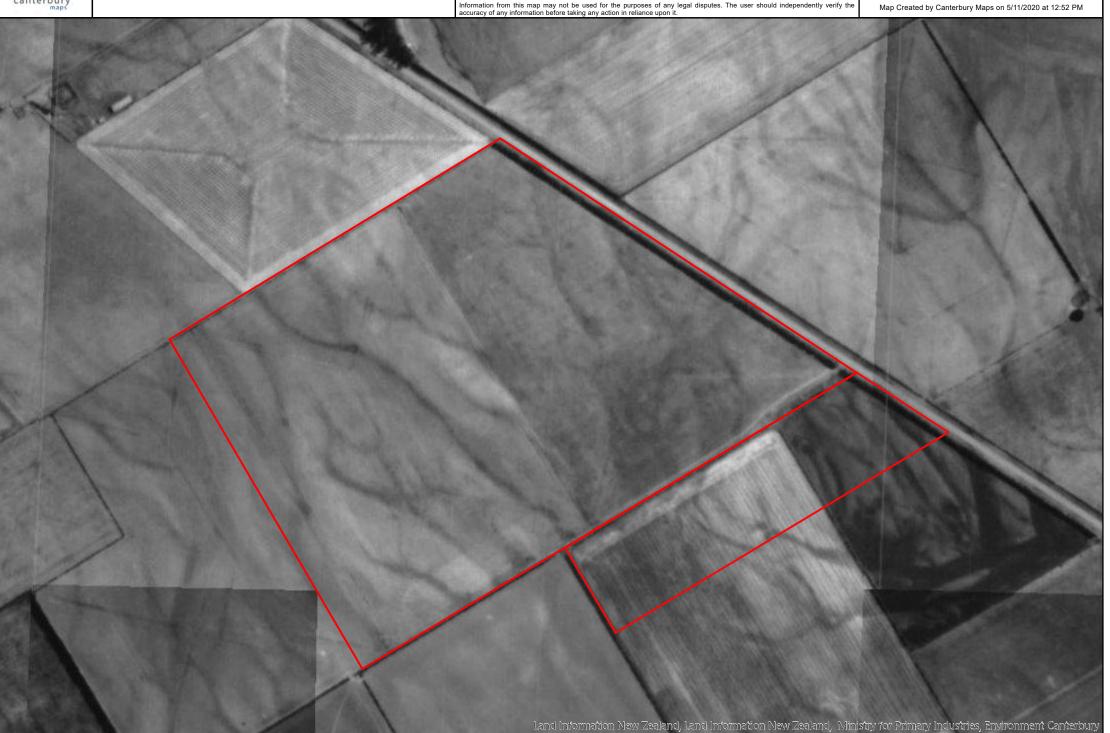




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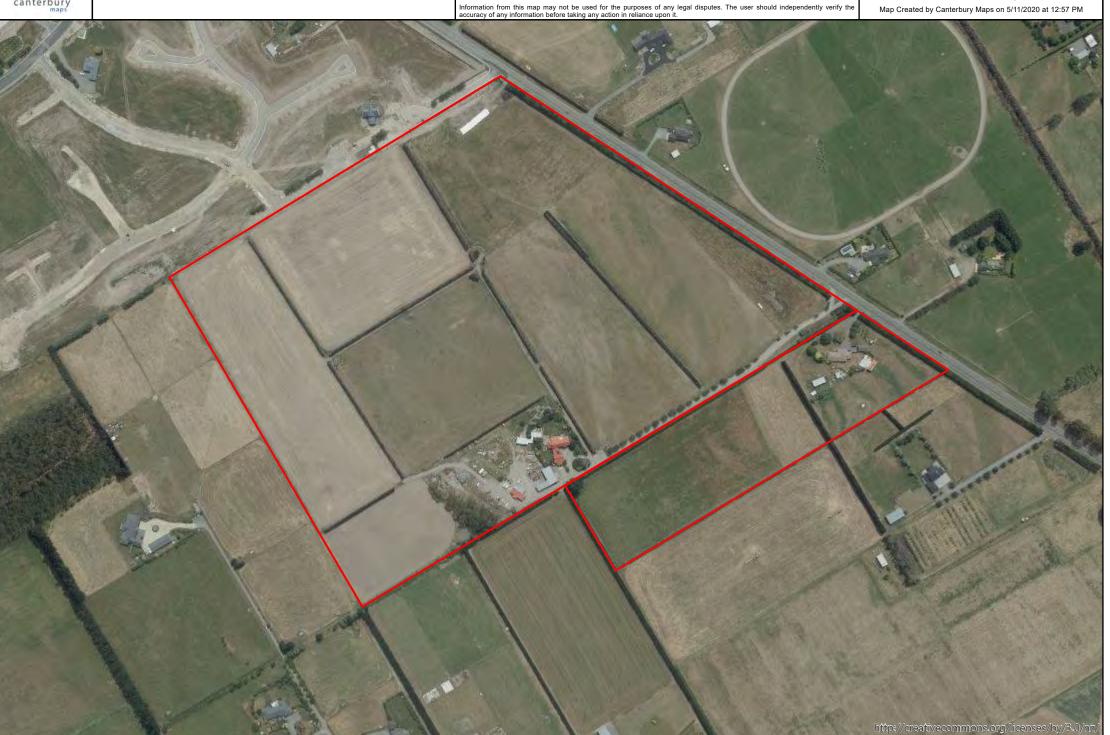


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Malloch Environmental Ltd

19 Robertsons Road, Kirwee RD1, Christchurch 7671 021 132 0321 www.mallochenviro.co.nz Site Inspection Plan 153 Lincoln Rolleston Road, Rolleston Scale: NTS

Date: 10 November 2020

Drawing No: 01512/1



Appendix D

Integrated Transport Assessment

Falcons Residential Urban Growth Submission

Integrated Transport Assessment

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We design with community in mind



Revision Schedule

Rev	Dete		Signature or Typed Name (documentation on file)			
No.	Date	Description	Prepared by	Checked by	Reviewed by	Approved by
Α	9/12/2020	Final Report	Andrew Metherell	Andrew Leckie	Stacey Lloyd	Selena Tsai

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1.0 INTRODUCTION

YourSection proposes to develop approximately 24 hectares of land in the southeast of Rolleston as a residential zone. A change is sought to the Operative Selwyn District Plan (OSDP) to rezone the land to Living Z. A submission is also being made in respect of the Proposed Selwyn District Plan (PSDP), to rezone the land from General Rural Zone (GRUZ) to General Residential Zone (GRZ).

As shown in Figure 1, the land highlighted in red is located immediately adjacent to land proposed to be zoned GRZ, and which is already being developed for residential purposes. It is bound by Lincoln Rolleston Road to the east and the existing Falcons Landing residential subdivision to the north. The site is east of Acland Park but does not directly adjoin that development. South of Falcons Landing, the immediate surroundings are currently rural in nature and use.



Figure 1: Site Location (Source: Proposed Selwyn District Plan)

The land is located within the "Projected Infrastructure Boundary" in the Canterbury Regional Policy Statement, and is also within the urban area planned in the Rolleston Structure Plan.

The zoning request is supported by an Outline Development Plan (ODP) and this report considers the integration of the proposed development with the surrounding transport network.

The rezoning will facilitate development of approximately 280 residential dwellings, and is supported by completion of the eastern end of the CRETS Collector Road between Lincoln Rolleston Road and Springston Rolleston Road through the site. Additional road and pedestrian/cycle connections are also proposed to provide integration with surrounding development.



Included in the report is a description of the existing transportation environment in the area surrounding the proposed subdivision. The report then describes the key transportation aspects of the zoning request, includes a summary of transportation modelling carried out by Stantec in assessing the appropriateness of the network to accommodate additional traffic, and addresses the various provisions included in the zoning request to ensure integration with the transport network.

2.0 EXISTING TRANSPORT ENVIRONMENT

2.1 SITE LOCATION

Figure 2 shows the general location of the site in the southeast part of Rolleston.

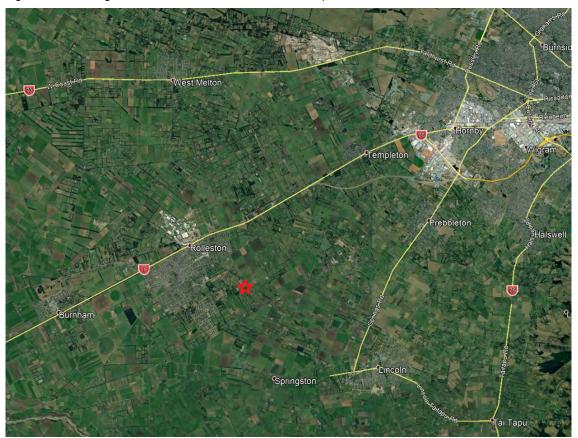


Figure 2: Location of Site subject to Submission

2.2 ROAD INFRASTRUCTURE

2.2.1 Lincoln Rolleston Road

Lincoln Rolleston Road is classified in the District Plan as an Arterial Road. The road is a single traffic lane in each direction. The posted speed limit for the road varies along its length. From the roundabout intersection with Levi Road to approximately 250m south, along Lincoln Rolleston Road, the road speed is signed 50km/h. From this point to adjacent to the site Lincoln Rolleston Road is signed 60km/h. It then becomes 80km/h.





Figure 3: Lincoln Rolleston Road adjacent to Site, looking North

There are currently three intersections with residential subdivisions along Lincoln Rolleston Road. The formation of these intersections includes short right turn bays, with kerb and channel on the developed side of the road.

Alongside the Falcons Landing subdivision Lincoln Rolleston Road has an on-street parking lane with kerb and channel. There is a 2.5m wide foot/cycleway which runs along the west side of Lincoln Rolleston Road. Where the road becomes a rural formation (adjacent to the site) this path reduces to approximately 1.8m wide.



Figure 4: Channelised right-turn on approach to Falcon Road

2.2.2 Selwyn Road

Selwyn Road in the vicinity of the site is classified in the District Plan as a Local road. East of Lincoln Rolleston Road, Selwyn Road forms a continuation of Lincoln Rolleston Road and is an Arterial Road, forming a convenient link to Christchurch. It operates with an 80km/h speed limit. Selwyn Road meets Lincoln Rolleston Road at a priority T-intersection, with the western approach of Selwyn Road giving way. There are currently no formal turn lane facilities.





Figure 5: Lincoln Rolleston Road / Selwyn Road Intersection from North-Eastern Selwyn Road Approach

2.3 SUBDIVISION ROADS

2.3.1 Ed Hillary Drive

Ed Hillary Drive forms the primary access road into Acland Park, and is the western end of a section of Collector Road that continues up to the site boundary. At its western end, it has 5.5m wide lanes and indented parking bays, separated by a 2m wide median. It then transitions to an 11m wide road east of Clement Avenue. It includes a 2.5m wide path on the southern side of the road, and a 1.5m wide footpath on the northern side.





Figure 6: Ed Hillary Drive

2.3.2 Raptor Street

Raptor Street connects to the northern edge of the site, and has a 9m wide road carriageway, representing its local road function.





Figure 7: Raptor Street

2.3.3 Flight Close and Saker Place

Saker Place and Flight Close are cul-de-sacs adjacent to the northern site boundary, and they are connected by a reserve. As can be seen, in the photo, the southern side has a fence against the site boundary.



Figure 8: Saker Place

2.4 PUBLIC TRANSPORT

Figure 5 shows the existing bus routes servicing the Rolleston area. The primary route servicing Rolleston is the Yellow route, on a frequency of approximately half hourly through to central Christchurch.

The 820 bus route which runs between Burnham and Lincoln via Rolleston, approximately hourly in each direction, runs closest to the site, currently along Springston Rolleston Road. It provides options to interchange



to the Yellow buses into Christchurch City. There is currently a pair of bus stops on Dynes Road just west of Springston Rolleston Road, more than 1km from the site.

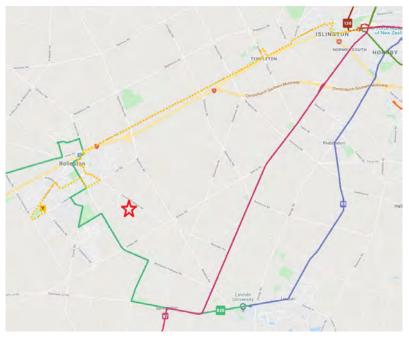


Figure 9: Existing bus routes

2.5 CYCLE NETWORK

Figure 10 shows the route of the Rolleston to Lincoln cycleway which runs along Lincoln Rolleston Road adjacent to the site.



Figure 10: Rolleston to Lincoln Cycleway



2.6 PEDESTRIAN NETWORK

Subdivision roads in the area are being developed with footpaths to Council standards. The cycleway along Lincoln Rolleston Road also provides for pedestrians.

3.0 EXISTING TRAFFIC PATTERNS

3.1 DAILY TRAFFIC VOLUMES

Table 1 shows average daily traffic volumes on Lincoln Rolleston Road and Selwyn Road which were recorded by Selwyn District Council in recent years.

Table 1: Daily Traffic Volumes

Location	Daily Traffic Volume	
Selwyn Road east of Lincoln Rolleston Road	10,000vpd	
Lincoln Rolleston Road north of Selwyn Road	6,000vpd	

3.2 HOURLY TRAFFIC PATTERNS

Figure 11 shows the hourly variations in traffic volumes along Lincoln Rolleston Road between Selwyn Road and Nobeline Drive, for a week in September 2019. On weekdays the peak traffic volumes occur between 8am-9am and 5pm-6pm, with inter-peak volumes roughly half that of the morning and evening peaks. On weekends the traffic volumes build up and are reasonably consistent between 10am-5pm, which is equivalent to the weekday inter peak period.



Figure 11: Hourly Variations in Traffic Volumes



3.3 INTERSECTION TURNING COUNTS

Intersection turning counts are not available for the nearby area from Selwyn District Council.

As part of previous studies (Dryden Trust Rolleston Special Housing Area Integrated Transport Assessment, August 2016) in the area traffic volumes at the Lincoln Rolleston Road / Selwyn Road intersection were counted. These counts were completed on 31 May 2016, and as such will not directly relate to the current traffic patterns but give an indication of turning patterns.

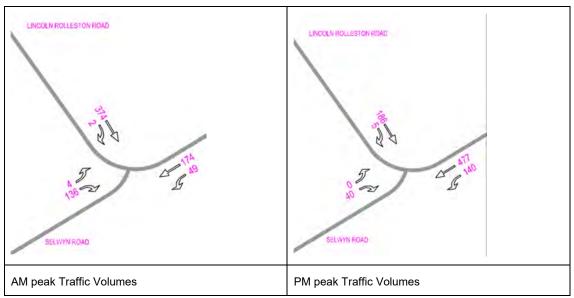


Figure 12: 2016 Intersection Turning Counts

Two-way volumes on Lincoln Rolleston Road north-west of the intersection of 554vph in the AM peak and 668vph in the PM peak were recorded. At these traffic volumes the intersection was able to operate efficiently . By way of comparison, the 2019 traffic count on Lincoln Rolleston Road indicated a traffic volume of approximately 600vph in the AM peak and 700vph in the PM peak.

The Selwyn Road traffic volume east of Lincoln Rolleston Road was approximately 733vph in the AM peak, and 843vph in the PM peak.

The turning volumes indicate a tidal movement towards Christchurch in the morning peak, and from Christchurch in the PM peak. The predominant movement is between Lincoln Rolleston Road and Selwyn Road (east), with a secondary movement between the two Selwyn Road approaches.



4.0 ROAD CRASH ANALYSIS

A review of crash records in the area has been carried out using Waka Kotahi NZTA's Crash Analysis System (CAS), covering Lincoln Rolleston Road from Levi Road to Selwyn Road inclusive.

Between June 2015 and June 2020, there have been 17 recorded crashes, of which one resulted in serious injuries and two resulted in minor injuries. Figure 13 shows the locations of the injury crashes, all of which involved two vehicles. The only injury crash between intersections involved a u-turning vehicle, and the intersection crashes involved turning vehicles failing to give way.

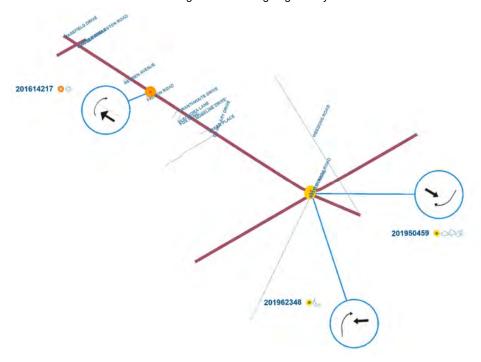


Figure 13: Injury Crash Locations and Movement Type

Figures 14 to 16 show all of the crashes, including non-injury. The prominent locations are around the Lincoln Rolleston Road / Selwyn Road, and slightly outside the core area Weedons Road / Selwyn Road intersections. The crashes were generally at the time that the speed limit was 100km/h, and this has since been reduced. Factors included weather and light conditions, intersection controls, tiredness and alcohol. Mid-block crashes involved a range of crash types including loss of control, hitting an animal, load hitting another vehicle, and hitting the rear end of a turning vehicle.

It is expected that as the road network develops and lower speed limits are put in place, the type of crashes is likely to change (less loss of control as urban infrastructure develops, and more intersection related crashes).





Figure 14: Crash Locations (North end of Lincoln Rolleston Road)

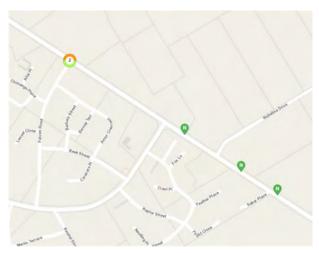


Figure 15: Crash Locations (Mid-section of Lincoln Rolleston Road)

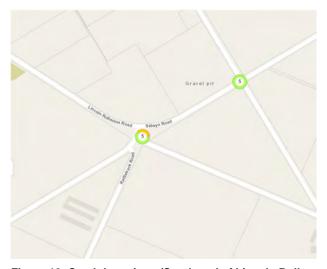


Figure 16: Crash Locations (South end of Lincoln Rolleston Road)



5.0 PLANNING CONTEXT

5.1 CHRISTCHURCH ROLLESTON AND ENVIRONS TRANSPORTATION STUDY (CRETS)

The Christchurch Rolleston and Environs Transportation Study (CRETS) was completed in 2007 and developed a transport strategy for the next 20 years. It has formed the basis of the transport network development in Rolleston since that time. An extract of the transport strategy road hierarchy and staging plan for Rolleston is provided below.

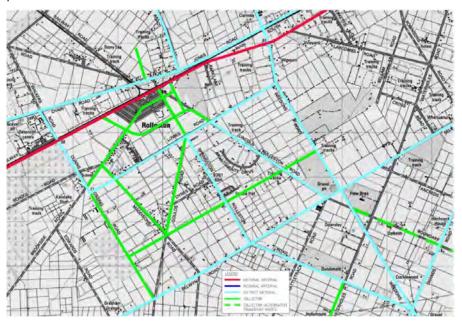


Figure 17: CRETS Transport Strategy Road Hierarchy for Rolleston



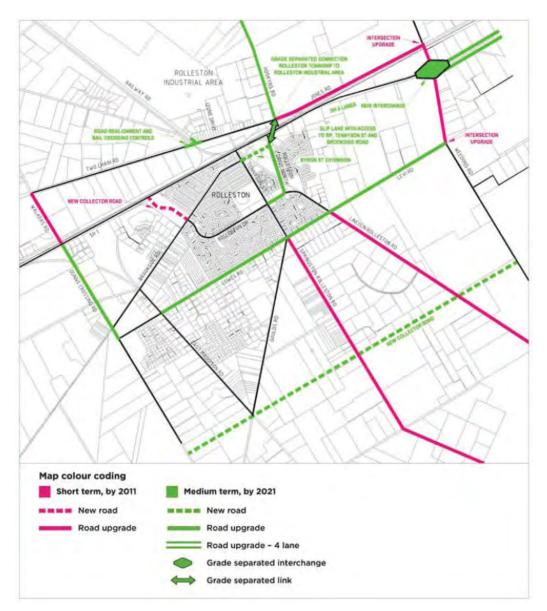


Figure 18: CRETS Staging Proposal for Rolleston

Part of the strategy included a new east-west Collector Road, which bisects the Falcons site subject to the zoning request. The Final CRETS report noted the following in relation to the Collector Road as part of the strategy:

"Construction of a new collector road on the Lincoln side of Rolleston between Dunns Crossing Road and Weedons Road as part of future subdivisional development. (Note this area is not currently zoned for residential development. Should this ever occur in the future then the new road could come about to serve such development on an alignment to provide the connections to the existing road network in general accordance with that shown)."

As described earlier, the road has largely been developed to the west, and Plan Change 64 to the District Plan proposes development that would facilitate further extension at its western end. Essentially, the Falcons site would be a "missing link" in terms of its progression to Lincoln Rolleston Road.



5.2 ROLLESTON STRUCTURE PLAN

The Rolleston Structure Plan has set out a potential plan for the long-term Rolleston area that encapsulates the Falcon land, and generally all land in the Future Infrastructure Boundary defined in the Canterbury Regional Policy Statement (CRPS). It provides some high-level insight into the potential for long term connections for the road network, public transport and cycling.

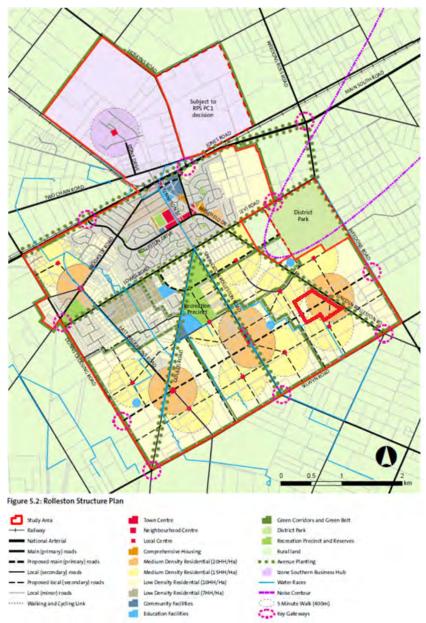


Figure 19: Rolleston Structure Plan (Site in Red)

As a reference for considering the long-term development of Rolleston, in the vicinity of the proposed development, the relevant transport diagrams included in Appendix A of this report indicate:

 That the site will not comprise Main (primary) movement network roads, but includes an east-west and generally north-south secondary road.



- Future bus services are indicated on Springston Rolleston Road, Selwyn Road and the CRETS Collector Road. A potential service could be located within the internal network of the site using an east-west road.
- Additional cycleways had been anticipated along Springston Rolleston Road and Selwyn Road.

It is important to note that the high-level transport planning provided for in the Rolleston Structure Plan requires on-going reconsideration as development of Rolleston progresses, also taking account of localised constraints. For this reason, it is considered a guidance document of a potential outcome upon full development of Rolleston.

5.3 REGIONAL POLICY STATEMENT

The Regional Policy Statement sets out the Projected Infrastructure Boundary and Greenfield Priority Areas for development. These areas were set following the Canterbury Earthquakes, and greenfield development is well advanced in most of the residential priority areas.

As shown in Figure 20, the site is located immediately adjacent to the Greenfield Priority Area-Residential, and well within the Projected Infrastructure Boundary.



Figure 20: CRPS Urban Development Map for Rolleston (Site in red)

5.4 OUR SPACE 2018-2048

The Greater Christchurch Partnership prepared "Our Space 2018-2048: Greater Christchurch Settlement Pattern Update" in July 2019. The site is located in a Future Development Area, immediately adjacent to a Greenfield Priority Area.



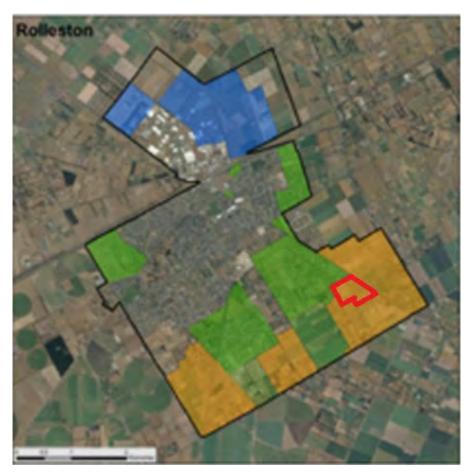


Figure 21: Extract from Our Space (Figure 15) (Site in Red)

5.5 ADJACENT SUBDIVISIONS

Immediately north of the site is the Falcons Landing Subdivision, and to the west (separated by other landholdings) is Acland Park. Both are well into development, and as such the opportunity for connections between the site and those developments can be considered.

Figure 22 broadly shows the site boundary in the context of the adjacent subdivisions and future connections allowed for at Falcons Landing and Acland Park. Road connections are shown in orange, and reserve connections in green.





Figure 22: Subdivisions and Connection

To the north, Raptor Street extends to the site boundary, providing a 9m wide road carriageway which connects through to Branthwaite Drive. Two cul-de-sacs adjoin the northern boundary, which are connected with a reserve link.

To the west, Talon Drive is a collector road that is planned for implementation up to the eastern boundary of the Falcon site. Talon Drive generally forms the "CRETS" collector road which connects from Dunns Crossing Road and is intended to extend through to Lincoln Rolleston Road.

A new primary school is planned in the northern corner of Acland Park on Ed Hillary Drive (the extension of Talon Drive). It is due to open in 2022.

5.6 OPERATIVE DISTRICT PLAN

Figure 23 shows the site location within the current zoning of the Selwyn Operative District Plan. It is zoned as Inner Plains, and the adjacent land is Living Z. The Acland Park residential subdivision to the west was established through the Special Housing Accord, and retains an Inner Plains zoning. Development areas are subject to Outline Development Plans, which have made allowance for the CRETS Collector Road where it is within the site.



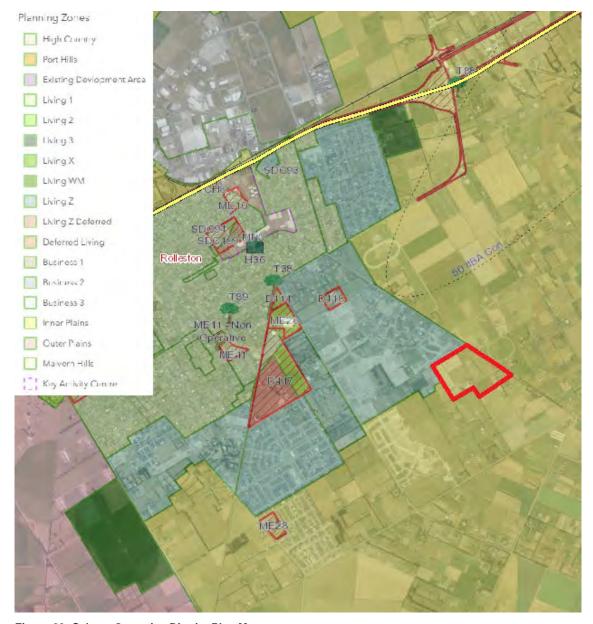


Figure 23: Selwyn Operative District Plan Map

It is noted that several Plan Changes have recently been received by Council, which if approved would extend the residential developments in the southwestern part of the town further to the south (Plan Changes 64 and 70). Plan Change 71 is located off the eastern side of Lincoln Rolleston Road just north of Nobeline Drive.

5.7 PROPOSED DISTRICT PLAN

As shown in Figure 24, the Proposed District Plan sets a proposed township boundary for Rolleston (as indicated by the dashed blue line) immediately north of the land subject to this submission. Unusually, areas that were subject to the Special Housing Area developments have not been included in the township boundary even though



development is well progressed. A Neighbourhood Centre Zone (NCZ) is shown in the Falcons Landing subdivision to the north of the site. If implemented, that would provide small-scale commercial and community activities that support the immediate residential neighbourhood.

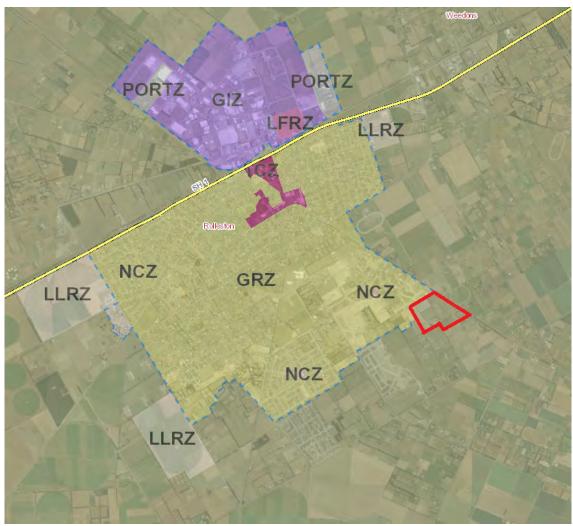


Figure 24: Proposed District Plan Zoning for Rolleston (Site in Red)

Greenfield "Development Areas" that have not yet been developed are subject to Outline Development Plans (ODP) to set the general pattern of development over an area. The Development Area ODP are supported by discussion (where relevant) of Context, Land Use, Access and Transport, Open Space, Recreation and Community Facilities, and Servicing. There are eight Development Areas subject to an ODP in Rolleston, none of which are in the immediate vicinity of the site.

5.8 LONG TERM PLAN

The Selwyn District Council Long Term Plan 2018-2028 includes plans for transport infrastructure improvements in Rolleston. Major projects are focused on access changes on SH1 following the completion of the Christchurch Southern Motorway. In the vicinity of the site there are no notable projects that would influence the site development characteristics. It is noted that as greenfield developments occur, most existing roads are brought up to an urban standard as part of the development, rather than through Council funding. Park n Ride development is provisioned beyond 2028.



6.0 PROPOSED DEVELOPMENT

6.1 OVERVIEW AND ODP

YourSection Limited seek the rezoning of approximately 24.7ha of land to GRZ. It is anticipated that the site will yield approximately 280 residential lots.

An ODP has been prepared for the site to align with the requirements of the CRPS and PSDP. The ODP includes key road and pedestrian/cycle linkages through the site, and at the boundaries. These have been carefully developed taking account of the planning context for the area described earlier. The ODP provides for a connected network of roads that will spread generated traffic efficiently through the site and beyond, and is shown in Figure 25.



Figure 25: Proposed Outline Development Plan



6.2 MOVEMENT NETWORK

6.2.1 Primary Connection

The ODP provides for a primary road generally east-west through the site, connecting Talon Drive to Lincoln Rolleston Road. It is expected that this would be of a Collector Road standard, as it forms the continuation of the collector road through Acland Park, and picks up on the alignment generally anticipated by the Rolleston Structure Plan. The completion of this link through to Lincoln Rolleston Road supports a major improvement to network connectivity in the area.

The connection at the western end is aligned for connection to the existing section of the road further west. The eastern connection with Lincoln Rolleston Road is at a position that bisects existing residential dwellings on the eastern side of Lincoln Rolleston Road. The Rolleston Structure Plan (and the CRETS network before that) anticipate future connectivity through to Weedons Road. As there will be an arterial (Lincoln Rolleston Road) intersection with a Collector Road, allowance for a future roundabout (which would be subject to assessment at the time of subdivision) has been made at that location. With the rezoning, the east-west collector road link can be completed which would otherwise not be possible. This supports an integrated transport network in the area where collector road traffic can avoid the need to use local roads. That in turn improves efficiency in movement for all transport modes.

The Primary network is shown in the Rolleston Structure Plan as including an orbital bus route servicing Rolleston. It is considered that there is no reason why such a service could not be accommodated given the Collector Road nature of the road. No specific notation is considered necessary, although discussion could be included in supporting text. Again, the completion of the Collector Road allows the potential bus service to be provided, which would otherwise not be practicable if reliance was made on existing local subdivision roads.

Overall, the primary connection provides an important transport link which will be of benefit to the wider transport network and community.

6.2.2 Secondary Connections

A secondary local road connection is provided between the primary road and Raptor Street, providing linkages to Falcons Landing. This will provide additional connectivity between the southern part of the existing Falcons Landing subdivision and Lincoln Rolleston Road.

A secondary local road connection is shown extending from the eastern part of the Collector Road through to the southern site boundary. As indicated by the Rolleston Structure Plan, this will provide linkage through to an additional east-west collector road.

Any additional connection to Lincoln Rolleston Road would be assessed through subdivision, although it is noted there is opportunity for a connection at the southern end. As this will be dependent on wider zoning and network considerations, it is not included in the ODP.

6.2.3 Future Connections

The other road connections and future connections indicated support development of a connected local road network with walkable blocks. The specific pedestrian / cycle connections shown align with the existing opportunities to connect to Acland Park and Falcons Landing. The connection in the southwest of the site recognises that there is likely to be a need for a north-south link on adjacent property between the collector road and the future-east-west collector road further south (an extension of Lady Isaac Drive). Connections can be reviewed based on adjacent zoning and land development expectations at the time of subdivision.

Overall, it is considered the ODP provides a well-connected network for vehicles, cyclists and pedestrians, that supports improved connection of the wider arterial network with existing subdivisions in the short term, and opportunities for future connectivity with Future Development areas.



6.3 SUBDIVISION ACCESS

The ODP illustrates the location of a connection to Lincoln Rolleston Road. The site access is located approximately 150m from Saker Place (measured centre-line to centre-line). Saker Place is in the vicinity of the existing transition of the Lincoln Rolleston Road speed limit from 60kmh north of the proposed access.

It is noted in the PSDP that where new roads are proposed on a site subject to an ODP the intersection spacing is to be designed for the proposed future speed limit within the ODP and on immediately adjoining roads. As the Lincoln Rolleston Road character will change from rural to an urban context due to the residential development it is anticipated that the future road operating speed for the road will change to 60km/h along the site boundary.

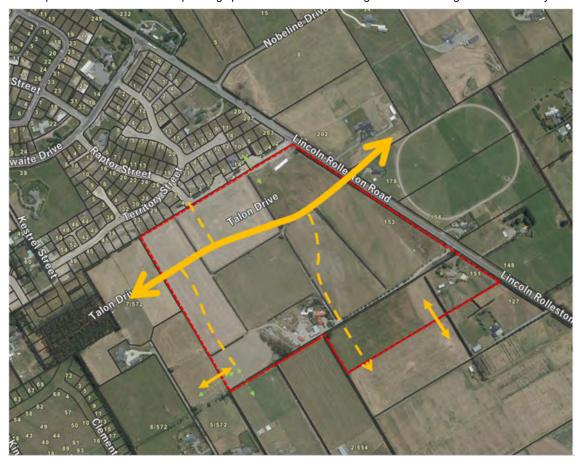


Figure 26: ODP in Context of Existing Development

The minimum distance between intersections as listed in Tran–Table 8 of the PSDP is 151m, based on the Lincoln Rolleston Road future speed limit of 60km/h. The proposed location of the principal site access onto Lincoln Rolleston Road as shown in the ODP can satisfy intersection separation criteria, although it is almost exactly the minimum separation from Saker Place. Given the very low use of Saker Place, it is considered the separation will be suitable for future development.

Existing vehicle access to 178 and 202 Lincoln Rolleston Road is separated by approximately 60m, and the intersection will need to be located between those accesses. In the longer term, as that land is rezoned for residential, it is anticipated that future access to those properties will be achievable via the collector road network. In the interim, the vehicle crossings are likely to be placed in a position where any further development on those properties would require resource consent due to limited separation from the new intersection.



If the vehicle accesses were the driver of the intersection location, then the intersection would most likely need to be opposite or just north of the 202 Lincoln Rolleston Road access to avoid any conflict with a potential right turn bay. This in turn increases conflict with the Saker Place intersection. Given the very low use of the accesses, it is considered the proposed access location can be supported, noting the likelihood of long-term extension of the Collector Road to the east.

6.4 ROAD CROSS-SECTIONS

The internal road formation will be considered in accordance with District Plan road cross-section rules. The east west link will be a continuation of an existing Collector Road, and as such should be considered in that context, as well against the tabulated dimensional requirements to be included for general subdivision requirements in the PSDP.



7.0 TRANSPORT MODELLING

7.1 OVERVIEW

The Selwyn District Council has developed a micro-simulation model of Rolleston, to plan a transport network that can accommodate the traffic expected from development in the long term.

The Selwyn District Council provided their latest transport model on 27 November 2020. It included 2018, 2028, and 2048 models. The 2048 model was intended to represent full development of Rolleston as intended by the spatial planning documents. Modelled periods are the AM peak, and PM peak periods, being the busiest time in the transport network.

The models have been broadly reviewed prior to use in this assessment. It is noted that full model development and validation reports were not provided, although it is understood the model has been utilised for transport planning in Rolleston for some time. It currently represents the most comprehensive modelling tool available for Rolleston.

It is noted that the future year models include representations of landuse intensification outside the planned township limit included in the District Plan. In that respect, any network performance measures are likely to be worse than will occur. Nevertheless, in a broad manner it will allow for cumulative effects associated with other zoning requests and Plan Changes that could occur.

A number of model modifications have been made in the 2028 model to better reflect the proposed development to be facilitated by the District Plan in the vicinity of the site. These include:

- Removing trips in the area between Acland Park, Selwyn Road, Lincoln Rolleston Road, and Falcons Landing in the 2028 scenario without the development. The existing level of development is a nominal generator of traffic.
- For the with development scenario, the pattern of trips has been factored to represent the forecast traffic generation of the fully developed site.
- Breaking the Collector Road link between Talon Drive and Lincoln Rolleston Road in 2028 without the development. This link would not be completed if the land is not zoned for urban development.
- The Collector Road link is then reinstated for the with development scenario.
- Allowing traffic turning left from Lincoln Rolleston Road into Selwyn Road to pass the right turning vehicles
 into Selwyn Road. The model coding created unrealistic behaviour and extensive queuing associated with a
 very small number of right turns, which could influence wider traffic patterns.

In the 2048 model, the primary change was to connect the Talon Drive and Lady Isaac Drive extension roads by a north south road, which passes through the site.

Overall, the changes are minor in the wider context of the model network and performance, but enable the change in traffic patterns as a result of the zoning to be better understood.

7.2 TRAFFIC GENERATION

In the outer suburban area of Rolleston, it is typical to anticipate a traffic generation per household of approximately 8 vehicle movements per day. Previous assessments in the area have applied a peak hour trip generation rate of 0.9 vehicle movements per household for the purpose of network performance assessment. For the 280 households, this would generate approximately 2,240vpd and 252vph.

7.3 TRAFFIC FORECASTS

7.3.1 2028 Traffic Forecasts

Each of the 2028 year models has been run, and statistics have been collected for a peak hour within each peak period. The 2028 PM peak forecasts are shown diagrammatically below, without, and with development.





Figure 27: 2028 PM Peak Traffic Volume Bandwidth Diagrams

The 2028 bandwidth plots show that the zoning request does not have a notable change to overall traffic patterns, with the nearby road corridors all operating at a moderate level of busyness compared to the roads at the northern end of Rolleston. A similar pattern is observed in the AM peak (diagrams not shown).

The more detailed 2028 model forecasts in the vicinity of the site are shown below.



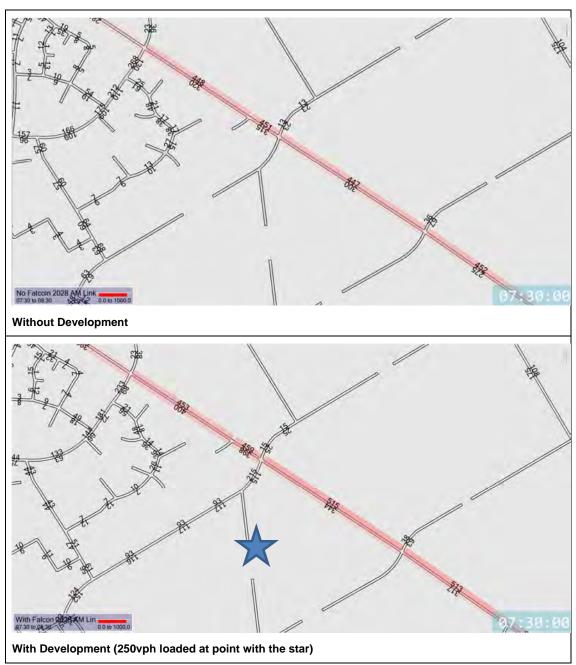


Figure 28: 2028 AM Peak Traffic Volumes (vph)



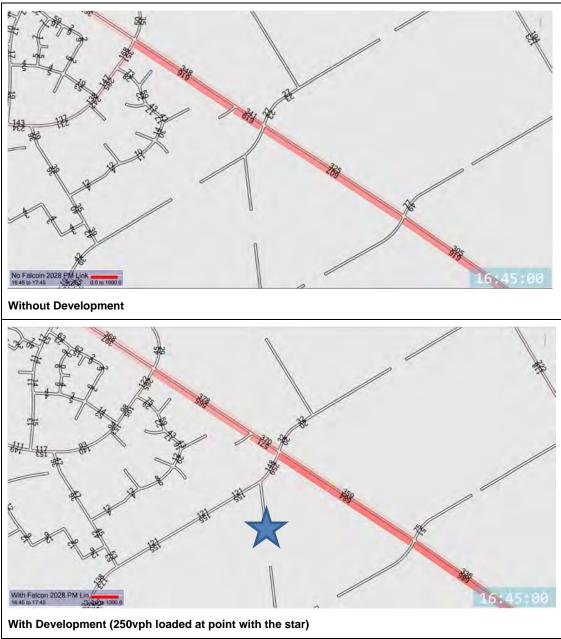


Figure 29: 2028 PM Peak Traffic Volumes (vph)

At 2028 with the development, the Talon Drive extension is indicated to carry approximately 200 to 400 vpd, equivalent to a daily traffic volume of approximately 2,400vpd at the western boundary, and up to approximately 3,300vpd at the eastern end. This is comparable to Branthwaite Drive traffic volumes.

Lincoln Rolleston Road near the site is forecast to be carrying up to 932vph south of the site, and with development this would increase slightly to approximately 1,043vph. On a daily basis, traffic volumes would be in the order of 8,600vpd.

Some of the changes are associated with the additional connectivity allowing drivers to take the most efficient route via suitable roads in the hierarchy. Some reductions in traffic through the existing Falcons Landing subdivision can be observed as traffic moves to the more direct Talon Drive extension. Investigation of the wider



area shows the network also has slightly less traffic on Selwyn Road west of Lincoln Rolleston Road with development, due to the introduction of the through route.

A select link analysis on the section of the Talon Drive extension immediately west of Lincoln Rolleston Road indicates that in 2028 approximately 143vph in the AM peak and 219vph in the PM peak (approximately 1,600vpd) use the new road link, and are not generated by the development. In that respect, those movements will result in reduced movement on other less efficient routes. This indicates that there will be network efficiency improvements with the new Collector Road link that will result from the development, and use of lesser roads would be minimised.

7.3.2 2048 Traffic Volumes

To understand the future traffic demands on this part of the transport network if Rolleston grows out to its urban boundary as intended by the spatial planning provisions, the 2048 models have been run to generate traffic forecasts. The PM peak wide area bandwidth volume plot indicates that the northern section of Lincoln Rolleston Road takes on a higher level of importance, and traffic is distributed across the supporting network in the southeast part of Rolleston.



Figure 30: 2048 PM Peak Traffic Forecast Bandwidth

The more detailed traffic forecast plots indicate that the north south link has the potential to carry higher traffic volumes as traffic from the developments further west find their way through the network. The volumes will depend on the positioning and wayfinding generated by the supporting road network. For example, a higher volume of traffic could use the east-west collector roads instead of making the strong movement between the east west collector roads.

It is also noted that the actual volume will also be spread over several road links at this point, whereas a coarse representation of the traffic network has been applied for this future sensitivity test. Nevertheless, it suggests that at least one north south road should be provided at a higher standard than a local road. It also indicates that there will be sufficiently high traffic movement across Lincoln Rolleston Road that a future roundabout would



need to be allowed for in the subdivision boundaries. The roundabout would service a much wider network purpose, and would only be warranted if long term development of Rolleston proceeds as broadly indicated by spatial plans.

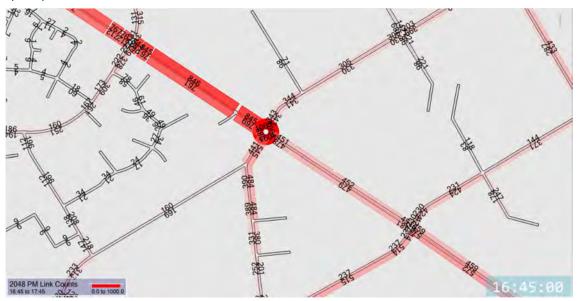


Figure 31: 2048 PM peak Traffic Forecasts in vicinity of site

7.4 INTERSECTION PERFORMANCE

The intersection performance has been assessed from the simulation model outputs. The movement by movement outputs are provided below. These indicate that the network will operate with good levels of service in 2028, and the development will ease delays at Branthwaite Drive by redistributing traffic.

The model includes a roundabout at the Weedons Road / Selwyn Road intersection (planned for approximately 2028) and this is shown to generate some delay on the eastern approach in the PM peak both without, and with development. The traffic volumes are very similar and generate different levels of delay indicating some variability in results. It is expected the form of intersection will be suitably designed to accommodate the desired level of performance. It is considered the change in traffic as a result of the site development would not notably change that design level.

In 2048, the Talon Drive / Lincoln Rolleston Road intersection has the potential to operate with slightly higher delays. A single lane roundabout has been modelled, and as noted the volumes could be more balanced between Talon Drive and the other east-west roads depending on overall lower order road network form.



			No	Falcons	2028	Wit	h Falcons	2028	Full De	Full Development 2048		
Intersection	Approach	Mvmt	Volume	LOS	Delay	Volume	LOS	Delay	Volume	Delay	LOS	
		L	2.6	24.8	C	4.6	24.5	C	8	2.0	Α	
	East*	Т	11.1	20.5	С	10.0	17.2	С	62	6.7	Α	
		R	22.8	25.5	C	23.8	27.4	D	61	3.5	Α	
		L	96.5	11.2	В	57.8	11.1	В	80	1.8	Α	
	South	Т	213.9	20.7	С	332.3	21.2	С	839	2.3	Α	
Branthwaite Dr / Lincoln Rolleston		R	3.1	11.0	В	3.6	12.1	В	27	4.8	Α	
Rd		L	19.8	24.6	С	16.5	29.0	D	53	3.1	Α	
	West	T	7.4	18.1	C	5.3	21.7	С	50	7.8	Α	
		R	182.1	30.4	D	157.8	34.0	D	170	5.8	Α	
		L	12.5	7.0	A	13.9	5.8	A	25	1.2	Α	
	North	T	226.9	17.8	C	258.8	17.6	C	448	2.3	A	
		R	20.4	11.6	В	20.8	9.5	A	17	8.0	A	
		L	10.4	2.3	A	8.0	2.4	A	93	12.4	В	
	North	T	434.9	11.5	В	409.6	12.6	В	454	14.8	В	
		R	0.0	-		33.3	3.2	A	123	14.9	В	
		L	6.0	19.1	В	2.6	20.3	В	20	25.2	С	
	East*	T	0.0	-	D	6.1	7.1	A	139	23.2	C	
	Lust	R	16.5	2.2	Α	16.3	6.9	A	155	25.5	C	
Talon Drive / Lincoln Rolleston Rd		L	0.0	-	A	75.0	0.0	A	62	24.8	C	
	South	T		0.0		266.3			519		C	
	300111		297.1				0.0			31.8		
		R	2.3	0.0		2.4	0.0		13	27.1	C	
	West	L	0.0			114.9	0.0		10	32.7	С	
		T	0.0	-		4.3	0.0		48	36.9	D	
		R	0.0	-		96.8	0.0		11	40.8	D	
	N	L	22.0	0.1		25.0	0.8	A	39	1.3	Α	
	North	T	424.6	7.6	Α	490.0	8.3	Α	441	2.3	Α	
		R	0.0	-		0.0	-		17	2.4	Α	
	East*	L	28.4	8.3	Α	23.5	10.7	В	16	2.8	Α	
		Т	0.0	-		0.0	-		132	4.9	Α	
Lady Isaac Dr (ext) / Lincoln		R	38.4	17.3	В	39.6	20.0	В	167	3.9	Α	
Rolleston Rd		L	0.0	-		0.0	-		70	1.9	Α	
	South	T	261.1	17.4	В	305.0	18.6	В	376	2.0	Α	
		R	13.8	4.2	Α	12.3	5.1	Α	8	3.6	Α	
	West*	L	0.0	-		0.0	-		50	2.7	Α	
		Т	0.0	-		0.0	-		130	5.7	Α	
		R	0.0	-		0.0	-		130	4.2	Α	
	North	Т	438.4	4.4	Α	505.4	4.6	Α	584	1.2	А	
	North	R	13.8	5.5	Α	7.6	3.7	Α	2	26.1	D	
Calumin Dd / Lineal - Delle - La - Delle	F	L	240.3	4.5	Α	213.6	4.1	Α	335	1.8	Α	
Selwyn Rd / Lincoln Rolleston Rd	East	Т	267.6	3.2	Α	309.5	3.0	Α	449	1.1	Α	
	6	L	5.9	1.3	Α	6.1	0.2		3	32.5	D	
	South	R	382.1	3.3	A	339.5	3.3	Α	386	30.8	D	
		L	8.1	12.8	В	9.0	14.2	В	57	34.9	C	
	North	T	53.8	11.1	В	54.1	11.8	В	69	36.2	D	
		R	55.8	8.7	A	57.6	11.1	В	0	5.8	A	
		L	0.0	-		0.0	-		0	-		
	East	T	279.9	2.6	Α	284.0	2.6	Α	507	6.4	Α	
	Lust	R	9.5	1.8	A	7.8	3.4	A	48	6.0	A	
Selwyn Rd / Weedons Rd												
	Court	L	171.3	3.0	A	181.4	3.0	A	276	9.2	A	
	South	T	77.1	3.2	Α	74.8	3.1	Α	76	8.9	Α	
		R	0.0	-		0.0	-		0	-		
		L	71.5	7.7	Α	77.9	7.8	Α	11	11.9	В	
	West	Т	630.1	8.2	Α	646.9	8.4	Α	783	12.5	В	
		R	120.8	7.7	Α	122.6	8.2	Α	183	12.2	В	

Table 2: AM Peak Intersection Performance



			No	Falcons	2028	Wit	h Falcons	2028	Full Development 2048		
Intersection	Approach	Mvmt	Volume	LOS	Delay	Volume	LOS	Delay	Volume	Delay	LOS
		L	3.0	25.9	D	2.8	1.8	Α	30	8.5	Α
	East*	Т	9.1	37.3	Е	7.8	21.8	С	220	12.6	В
		R	22.6	30.7	D	18.4	9.4	Α	56	4.8	A
		L	296.8	12.4	В	207.1	2.9	Α	140	2.1	Α
	South	T	308.6	22.6	С	348.5	5.1	Α	620	2.3	Α
Branthwaite Dr / Lincoln Rolleston		R	6.8	14.6	В	7.9	3.6	A	15	7.4	A
Rd		L	16.3	24.8	С	11.0	3.3	A	17	2.3	A
	West	T	9.6	19.6	C	7.5	12.5	В	60	9.1	A
		R	116.8	30.7	D	76.5	9.1	A	103	6.0	A
		L	33.0	14.4	В	29.5	7.0	A	46	1.6	A
	North	T	217.6	26.1	D	291.4	12.3	В	700	2.7	A
	1101111	R	44.4	27.4	D	49.3	21.0	С	31	6.2	A
		L	19.5	2.1	A	22.4	19.3	В	182	25.2	C
	North	T	319.6	12.2	В	264.4	23.1	С	432	27.5	C
	North			-	Б						
		R	0.0		Δ.	83.6	31.9	C	240	27.3	C
	Fost*	L	3.5	10.3	Α	2.0	3.1	A	15	33.1	С
	East*	T	0.0			4.1	28.2	С	234	44.5	D
Talon Drive / Lincoln Rolleston Rd		R	19.6	5.9	Α	14.0	16.4	В	102	47.3	D
		L	0.0	-		172.6	2.7	Α	45	56.3	E
	South	T	600.3	0.0		506.8	4.2	Α	472	59.0	E
		R	7.0	0.0		6.6	3.2	Α	8	50.0	D
	West	L	0.0	-		52.6	8.1	Α	4	18.3	В
		T	0.0	-		3.4	17.3	В	81	20.1	В
		R	0.0	-		91.8	9.2	Α	26	13.6	В
		L	37.3	0.7	Α	36.3	1.6	Α	78	1.7	Α
	North	T	288.4	8.2	Α	322.9	4.3	Α	343	2.4	Α
		R	0.0	-		0.0	-		64	3.7	Α
	East*	L	16.9	7.5	Α	13.0	3.7	Α	9	4.8	Α
		Т	0.0	-		0.0	-		310	7.1	Α
Lady Isaac Dr (ext) / Lincoln		R	32.0	19.9	В	38.5	13.4	В	110	4.6	Α
Rolleston Rd	South	L	0.0	-		0.0	-		166	1.7	Α
		Т	574.9	18.4	В	646.8	6.3	Α	397	1.9	Α
		R	40.0	5.4	Α	39.0	3.7	Α	13	3.4	Α
		L	0.0	-		0.0	-		18	3.0	Α
	West*	Т	0.0	-		0.0	-		145	6.6	Α
		R	0.0	-		0.0	-		113	4.9	Α
	North	Т	299.4	3.9	Α	334.0	1.8	Α	464	0.8	Α
	NOILII	R	6.0	80.2	F	1.8	72.5	F	1	296.2	F
Column Dd / Lincoln Dollocton Dd	Fost	L	486.0	4.6	Α	423.9	0.0		454	1.6	Α
Selwyn Rd / Lincoln Rolleston Rd	East	Т	602.8	4.1	Α	676.9	2.3	Α	571	1.5	Α
	South	L	10.4	2.2	Α	9.9	2.6	Α	4	24.6	С
	South	R	234.8	4.1	Α	203.3	3.5	Α	257	36.8	Е
		L	10.5	4.6	Α	12.0	4.2	Α	48	10.5	Α
	North	Т	78.6	5.4	Α	82.8	6.2	Α	93	11.1	В
		R	80.4	4.8	Α	110.5	7.2	Α	1	12.3	В
		L	0.0	-		0.0	-		2	132.9	F
	East	T	855.9	65.2	Е	854.8	117.5	F	775	144.9	F
		R	21.6	61.3	E	19.8	115.8	F	101	144.0	F
Selwyn Rd / Weedons Rd		L	153.3	40.9	D	158.4	50.2	D	254	153.1	F
	South	T	51.1	39.5	D	50.4	46.3	D	99	153.1	F
	Journ	R	0.0	-		0.0	40.3	- 0	0	-	
		L	60.9	5.4	Α	61.3	2.3	Α	16	5.4	Α
	Most	T									
	West		324.6	6.3	A	325.5	3.2	A	490	7.0	A
	volumes, bu	R	150.0	6.3	Α	151.4	3.1	Α	215	7.0	Α

Table 3: PM Peak Intersection Performance

In summary, it is considered that the proposed development will be accommodated efficiently on the road network. Some changes in traffic distribution onto the network occur as a result of completion of the east-west collector road, and this is considered a positive outcome for the transport network as it will minimise use of less efficient routes.



The east-west Collector Road will operate with modest traffic volumes, but if Rolleston grows to its fullest extent indicated by spatial plans it could potentially carry up to 1,000vph at its eastern extent if a significant north south link is added through the site. If additional land is zoned in Rolleston, refined assessment may be necessary in the area as the volume will be sensitive to network configuration and the modelled volumes will be a worst case.

8.0 PLANNING REQUIREMENTS

8.1 OPERATIVE DISTRICT PLAN PROVISIONS

8.1.1 Transport Network Objectives and Policies

Section B2.1 of the District Plan contains objectives and policies related to transport network issues. Relevant policies are listed below in italics and each policy is followed by discussion on the degree to which the proposed Plan Change achieves the policies.

Policy B2.1.2- Manage effects of activities on the safe and efficient operation of the District's existing and planned road network, considering the classification and function of each road in the hierarchy.

Policy B2.1.3- Recognise and protect the primary function of roads classified as State Highways and Arterial Roads to ensure the safe and efficient flow of 'through' traffic en route to its destination.

Policy B2.1.12- Address the impact of new residential or business activities on both the local roads around the site and the District's road network, particularly Arterial Road links with Christchurch City.

These three policies are closely related.

As discussed previously, additional traffic that could be generated by the proposed site would be accommodated on the wider road network, and is being planned for through the longer term transport planning forecasting and infrastructure plans of the Council. The ODP makes provision for a higher standard primary road east-west through the site that will complete a further section of the CRETS road, a key strategy relied on for development of the Rolleston Transport network. This will improve outcomes for local roads in the network that would otherwise be required to accommodate the through traffic from subdivisions west of the site wanting to connect to Lincoln Rolleston Road. The ODP also makes provision for potential future extension of that road further east, which will include provision of a fully controlled intersection (indicated as a roundabout) to assist safe and efficient movement of traffic and to manage effects on the arterial Lincoln Rolleston Road. Subdivision development will be subject to consideration of the road hierarchy in application of the transport rules, which will provide the usual additional protections of the arterial function of Lincoln Rolleston Road.

Policy B2.1.10- Ensure vehicle crossings, intersections, pathways, roadside signs and noticeboards are designed and positioned to ensure good visibility for all road users, and to allow safe passage, access and egress

Lincoln Rolleston Road in the location of the proposed intersection for the Falcons area is straight, and as such there are no expected impediments to sightlines. The intersection will be located between two residential accesses located on the opposite side of Lincoln Rolleston Road. In the short term, it is considered those accesses will continue to operate safely and efficiently. In the longer term, if or when the land east of Lincoln Rolleston Road develops, it would be expected the full extent of Lincoln Rolleston Road would be urbanised, and there would be opportunities to access a Collector Road extension.

Other details of subdivision design will also be considered at a later stage. It is considered safe pedestrian and road networks will be able to be provided in the proposed residential area.

Policy B2.1.11- Ensure roads are designed, constructed, maintained and



upgraded to an appropriate standard to carry the volume and types of traffic safely and efficiently

Traffic modelling indicates that the completion of the Collector Road link will remove the reliance of other parts of the road network. This will support this policy, as the existing local road network will support local traffic, rather than through traffic.

Policy B2.1.5- Ensure the development of new roads is:
-integrated with existing and future transport networks and landuses; and
-is designed and located to maximise permeability and accessibility; through
achieving a high level of connectivity within and through new developments to
encourage use of public and active transport; whilst having regard to the road
hierarchy.

Policy B2.1.13- Minimise the effects of increasing transport demand associated with areas identified for urban growth by promoting efficient and consolidated land use patterns that will reduce the demand for transport

Policy B2.1.14- Encourage people to walk or cycle within and between townships by providing a choice of routes for active transport modes and ensuring there is supporting infrastructure such as parking for cycles, at destinations.

Policy B2.1.15- Require pedestrian and cycle links in new and redeveloped residential or business areas, where such links are likely to provide a safe, attractive and accessible alternative route for pedestrians and cyclists, to surrounding residential areas, business or community facilities.

These four policies are primarily related to pedestrian and cyclist connectivity, and minimising the need for additional roading infrastructure.

The site land proposed to be developed for residential use has been identified for future development in all of the strategies for Rolleston, and as such the transport networks have been planned on that basis. The site is located adjacent the Lincoln Rolleston Road cycle route. Connections to existing pedestrian networks are ensured through the provision of the ODP connections. A school will be located in Acland Park within walking distance.

The completion of the Collector Road through to Lincoln Rolleston Road allows opportunity to establish the potential orbiter bus service indicated in the Rolleston Structure Plan. It also improves efficiency of cycle connections.

8.1.2 Growth of Townships Objectives and Policies

Section B4 of the District Plan contains objectives and policies related to the growth of townships. Of particular relevance to this application is the following objective:

Objective B4.3.4

New areas for residential or business development support the timely, efficient and integrated provision of infrastructure, including appropriate transport and movement networks through a coordinated and phased development approach.

It is clear from the transport modelling that the proposed development will support an efficient extension of the transport network, which includes completion of the CRETS Collector Road link through to Lincoln Rolleston Road. That in turn will support more efficient travel in the area, and provide opportunities for improved public transport (if an orbital route as intended by the Rolleston Structure Plan is provided), cycling and walking



connections. The modelling indicates that the planned infrastructure upgrades will remain appropriate for accommodating the land development.

8.2 PROPOSED DISTRICT PLAN PROVISIONS

The Proposed District Plan (as notified) includes a range of matters relevant to consideration of the rezoning of the land.

The key matter at this planning stage is to ensure that there is consistency between the zoning proposal, including the ODP, and the PSDP Objectives and Policies, and higher-level planning documents. The rules are matters to be considered through future subdivision and land development, and will likely be subject to some change through the PSDP process.

An analysis of the PSDP objectives and policies has been carried out.

The District Wide - Strategic Directions included:

SD-UFD-O1 Urban growth is located only in or around existing townships and in a compact and sustainable form....

SD-UFD-O3 Urban growth and development:

- is well-integrated with the efficient provision, including the timing and funding, of infrastructure; and
- 2. has the ability to manage or respond to the effects of climate change.

The site is located within an area where development has been anticipated, being adjacent to current subdivision and near to facilities such as a new primary school, the high school and recreational facilities.

The development will allow completion of important road network linkages which minimise overall network travel in the area. The change in traffic volumes and performance is of a sufficiently low scale that it would be unlikely to alter the timing of wider area transport network improvements that are either included in the Long Term Plan, or anticipated through long term transport modelling investigations.

As the site is located adjacent to an arterial road, and an indicative orbital bus route, there is good opportunity for the site to ultimately be serviced by public transport. In the meantime, opportunities for Park n Ride exist within Rolleston for travel to Christchurch.

The Transportation section includes objectives as follows:

TRAN-01

People and places are connected through safe, efficient, and convenient land transport corridors and land transport infrastructure which is well integrated with land use activities and subdivision development.

TRAN-02

Land transport corridors and land transport infrastructure are protected from incompatible land use activities and subdivision development.

TRAN-03

Land transport corridors and land transport infrastructure support the needs of people and freight, while ensuring adverse effects on the surrounding environment from their establishment and operation are managed.

As discussed earlier, the site development is able to integrate with existing development where future connections to the site have already been anticipated at the time of subdivision. The additional links improve



connectivity and integration of the local transport network. The use of an ODP, combined with Transport rules will protect the arterial Lincoln Rolleston Road from inappropriate access. The higher order roads in the ODP can support cycle and pedestrian access, as well as a potential orbiter bus route as indicated by the Rolleston Structure Plan.

The PSDP includes a road hierarchy, and the existing Ed Hillary Drive and Talon Drive do not have a classified road status. It is considered that the east-west Collector Road could be formalized through the District Plan given subdivision is well advanced, and residential development can occur over a short period of time when the relevant rules apply.

8.3 CANTERBURY REGIONAL POLICY STATEMENT

The Canterbury Regional Policy Statement objectives and policies in Chapter 5 Land-Use and Infrastructure and Chapter 6 Recovery and Rebuilding of Greater Christchurch have been reviewed.

The relevant Chapter 5 policies relate to urban growth being attached to existing urban areas, the safety and efficiency of the strategic and arterial road network being maintained, and connectivity for pedestrians and cyclists being provided. Chapter 6 focusses on new residential development occurring in the planned locations, transport effectiveness and integration of land use and infrastructure. The site is located within the projected infrastructure boundary for Rolleston as shown on Chapter 6 Map A.

Generally, the policies relating to transport are similar to those in the PSDP which have been discussed previously. The proposed zoning request area is adjacent to the existing Falcons Landing subdivision and there is good connectivity from the area through the existing subdivisions and to the remainder of Rolleston.

Whilst the additional development may generate additional demand for public transport which is currently not well provided for in this part of Rolleston, the additional demand could assist the viability of an orbital route in Rolleston, and increasing frequency of the other services. The physical requirements of a bus route can be considered through road design in accordance with the District Plan.

8.4 NATIONAL POLICY STATEMENT – URBAN DEVELOPMENT

The National Policy Statement Urban Development 2020 sets policy around urban development. New development capacity is considered against whether that development capacity is "infrastructure-ready". Based on the assessment provided, it is considered that there is adequate existing and planned infrastructure to support the wider transport needs of the proposed development. The ODP further requires connections to the existing transport network in locations that support safe and efficient integration of the site. It is also considered that the development is generally well connected along the transport corridors. Public transport services are currently limited, although opportunities exist to access future service improvements either locally, or at nearby park and ride locations.

9.0 CONCLUSION

With the level of development planned and provisions assessed, the submission to rezone the land to Living Z/Residential can be supported from a transportation perspective. The submission proposes an extension of the Rolleston urban area to the southwest of Lincoln Rolleston Road, providing for residential housing. This would result in the area being able to potentially accommodate approximately 280 more residential lots.

The additional residential lots could generate extra traffic volumes of approximately 250 vehicle movements per hour. Across the wider traffic network, including on Lincoln Rolleston Road, traffic modelling demonstrates that the additional traffic volumes would be accommodated without altering the form of already planned and anticipated network improvements.

An ODP is proposed that will enable integration with the Falcons Landing subdivision and existing urban area. Importantly, the extension of Talon Drive to Lincoln Rolleston Road has been included to support improved connectivity in the area. This road should be considered to be a Collector Road for the purpose of design and assessment against District Plan Rules.



Long term traffic modelling indicates the potential for higher north south traffic volumes through the site, although this is partly due to a coarse representation of the road network. The ODP allows for secondary roads, which based on the planned urban growth boundary will be adequate for the life of the District Plan.

The new intersection on Lincoln Rolleston Road is proposed in a location to enable safe connection to the transport network, and future extension to the east (if land is rezoned in the future). To allow for the long-term expansion of residential areas to the east of Lincoln Rolleston Road, it is considered appropriate to provision for the land requirements of a future a single lane roundabout.

There is good access to the existing cycle network on Lincoln Rolleston Road, and via the developing local road network. Pedestrian and cycle connectivity are provisioned for within the ODP where dedicated links to surrounding land need to be considered.

Whilst the site is currently not well serviced by public transport, there is no reason that the site could not form part of an orbital route as anticipated by the Rolleston Structure Plan. The site is also well located if future routes follow the arterial Lincoln Rolleston Road. In the interim, access is available to nearby Park n Ride locations in Rolleston for travel to Christchurch.

With the level of development planned and provisions assessed, the submission to rezone the land to Living Z (OSDP) / Residential General (PSDP) can be supported from a transportation perspective.



Appendices

We design with community in mind

Appendix A Rolleston Structure Plan Diagrams

Appendix A ROLLESTON STRUCTURE PLAN DIAGRAMS



Appendix A Rolleston Structure Plan Diagrams

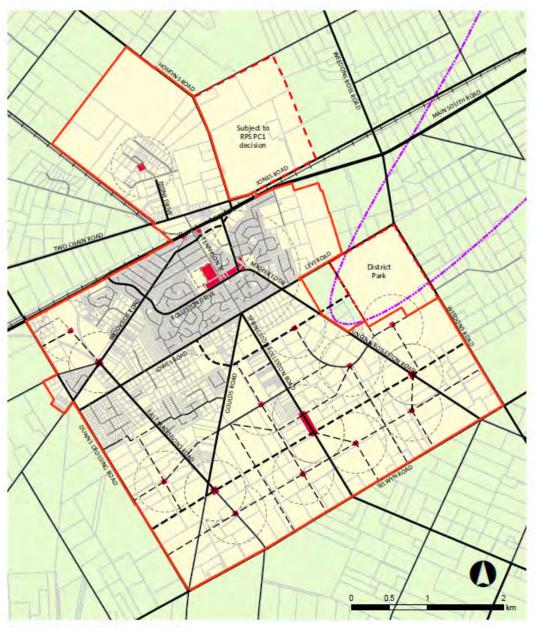
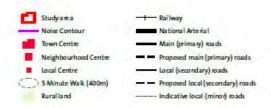


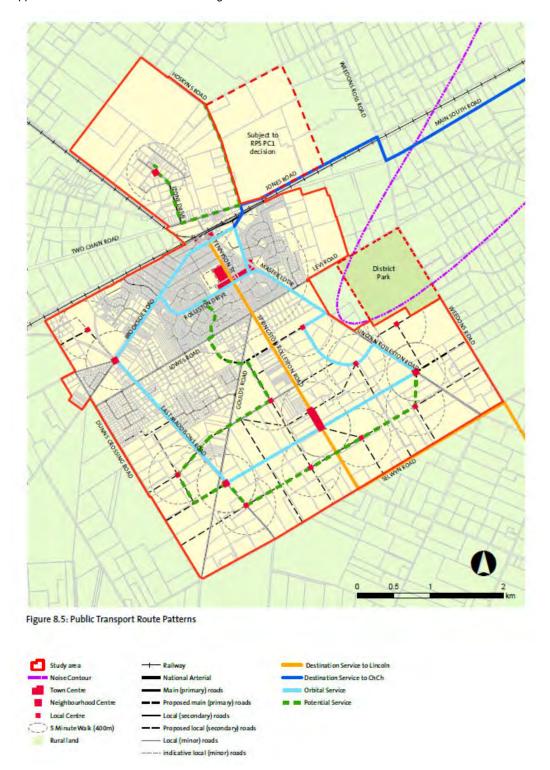
Figure 8.2: Main Roads - Primary Network





A.2

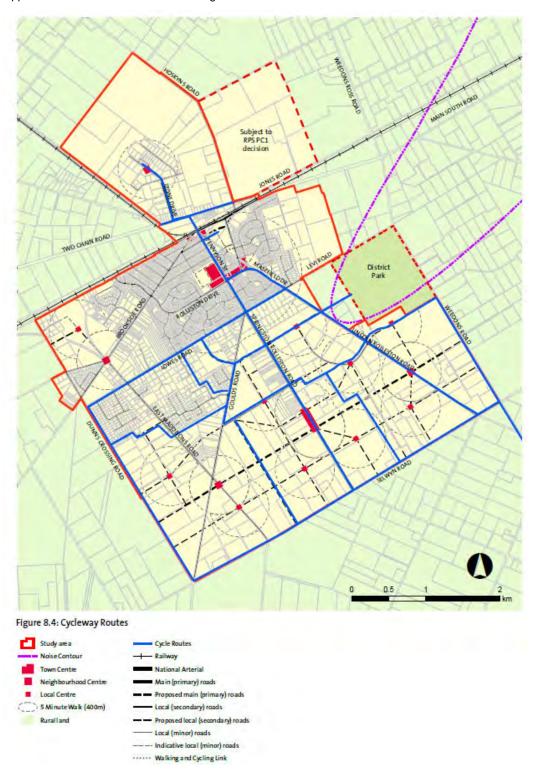
Appendix A Rolleston Structure Plan Diagrams





A.3

Appendix A Rolleston Structure Plan Diagrams





Appendix B Outline Development Plan

Appendix B OUTLINE DEVELOPMENT PLAN





C R E A T I N G C O M M U N I T I E S

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Appendix E

Landscape and Urban Design Assessment

FALCONS PLAN CHANGE, ROLLESTON

YOURSECTION LIMITED

Urban Design, Landscape and Visual Impact Assessment

Project No. 2020_117 | A



FALCONS EXTENSION PLAN CHANGE UDLVIA

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1. INTRODUCTION AND PROPOSAL

DCM Urban has been commissioned by Yoursection Limited to prepare an Urban Design, Landscape and Visual Impact Assessment to provide a greater area of residential development in Rolleston South West. The proposal seeks to create a new zone as an extension of existing settlement of Rolleston. The proposal, covering a total approximate area of 25ha, is currently zoned Inner Plains under the Selwyn District Plan. The proposal seeks to establish an Outline Development Plan (ODP) with living Z zones. The ODP is shown on page 3 of the attached figures highlighting indicative connections, underlying zones, and an indicative location for green space.

LANDUSE AND DENSITY – The Plan Change area seeks to achieve a yield of ~280-300 Residential lots, being a mix of General residential density (12hh/ha) and Medium Residential Density (15hh/ha).

MOVEMENT NETWORK – The Plan Change area is bordered by Lincoln Rolleston Road and Falcons Landing. One primary collector road is proposed running through the development from west to east, supported by a series of secondary Roads which connect to the existing local road network, including an extension to Raptor Street in Falcons Landing. The primary road is designed to connect Ed Hillary Drive (in Acland Park – CRETS) through to Lincoln Rolleston Road (subject to development occurring on 7/572 Selwyn Road).

GREEN NETWORK – A single open space/reserve is proposed in the Plan Change area, creating a green space with all future residents within a 300m radius of a reserve. The ODP connects with the existing Branthwaite Drive reserve and playground in Falcons Landing.

BLUE NETWORK – There are no existing waterways within the block.

The proposal has also been assessed against the Urban Design outcomes sought in the New Zealand Urban Design Protocol and the Subdivision Design Guide (2009) which is referenced in Part 2 – District Wide Matters / Subdivision.

2. METHODOLOGY

2.1 INTRODUCTION

The urban design, landscape and visual impact assessment considers the likely effects of the proposal in a holistic sense. There are several components to the assessment:

- 1. Identification of the receiving environment and a description of the existing urban and landscape character, including natural character;
- 2. An assessment of the ODP against Urban Design Principles from the New Zealand Urban Design Protocol, with particular regard to Context, Connectivity, Character and Choice.
- 3. The landscape assessment is an assessment of the proposal against the existing landscape values;
- 4. The visual impact assessment is primarily concerned with the effects of the proposal on visual amenity and people, evaluated against the character and quality of the existing visual catchment.

The methodology is based on the <u>Landscape Assessment and Sustainable Management 10.1, (NZILA Education Foundation)</u>, dated 2.11.2010 and Visual Assessment Best Practice Methodologies (<u>Lisa Rimmer</u>) dated 4.11.2007.



2.2 LANDSCAPE DESCRIPTION AND CHARACTERISATION

Landscape attributes fall into 3 broad categories: biophysical features, patterns and processes; sensory qualities; and spiritual, cultural and social associations, including both activities and meanings.

- Biophysical features, patterns and processes may be natural and/or cultural in origin and range from the
 geology and landform that shape a landscape to the physical artefacts such as roads that mark human
 settlement and livelihood.
- Sensory qualities are landscape phenomena as directly perceived and experienced by humans, such as the view of a scenic landscape, or the distinctive smell and sound of the foreshore.
- Associated meanings are spiritual, cultural or social associations with particular landscape elements,
 features, or areas, such as tupuna awa and waahi tapu, and the tikanga appropriate to them, or sites of
 historic events or heritage. Associative activities are patterns of social activity that occur in particular
 parts of a landscape, for example, popular walking routes or fishing spots. Associative meanings and
 activities engender a sense of attachment and belonging.

Describing the landscape character is a process of interpreting the composite and cumulative character of a landscape, i.e. how attributes come together to create a landscape that can be distinguished from other landscapes. International best practice in characterisation has two dimensions of classification: the identification of distinctive types of landscape based on their distinctive patterns of natural and cultural features, processes and influences; and their geographical delineation. The characterisation of a landscape is not to rank or rate a landscape, as all landscapes have character, but determine what landscape attributes combine to give an area its identity, and importantly to determine an area's sensitivity, resilience or capacity for change.

Table 1: Continuum of Natural Character

Natural	Near-natural	Semi-natural (including pastoral agriculture and exotic forests)		(arabl	Agricultural e and intensive cropping)	Near-cultural	Cultural
Very high- pristine	High	Moderate High	Mode	erate	Moderate-low	Low	Very Low-nil

2.3 URBAN DESIGN AND LANDSCAPE VALUES

2.3.1 Urban design values

Selwyn District Council is a signatory to the New Zealand Urban Design Protocol which provides:

a platform to make New Zealand towns and cities more successful through quality urban design. It is part of the Government's Sustainable Development Programme of Action and Urban Affairs portfolio. Urban design seeks to ensure that the design of buildings, places, spaces and networks that make up our towns and cities, work for all of us, both now and in the future. The Urban Design Protocol identifies seven essential design qualities that together create quality urban design:



- Context: seeing buildings, places and spaces as part of whole towns and cities
- Character: reflecting and enhancing the distinctive character, heritage and identity of our urban environment
- Choice: ensuring diversity and choice for people
- Connections: enhancing how different networks link together for people
- Creativity: encouraging innovative and imaginative solutions
- Custodianship: ensuring design is environmentally sustainable, safe and healthy
- Collaboration: communicating and sharing knowledge across sectors, profession and with communities. ¹

Of particular relevance to this plan change are Context, Character, Choice and Connection.

2.3.2 Landscape values

Following the descriptive phase of landscape assessment, an evaluative phase is undertaken whereby values or significance is ascribed to the landscape.

Where Planning Documents have identified Outstanding Natural Features or Landscapes, the objectives, policies, and rules contained within the plan are used as the basis for landscape significance or value, and it is these values which the proposal is assessed against. Where there is some uncertainty of the landscape value, such as when the District Plan has a broad description of an Outstanding Natural Landscape (ONL), but it is not site specific, or the site neighbours an ONL, it is often necessary to complete an assessment against the values of the District Plan for completeness sake. Most district plans have policies or objectives which are relevant to Landscape and Natural Character if proposed in a rural or sensitive environment.

An accepted approach, where the landscape value of the site is not identified in the District Plan under Section 6(b) of the RMA, is to use criteria identified in Wakatipu Environmental Society Inc. & Ors v QLDC [2000] NZRMA 59 (generally referred to as the Amended Pigeon Bay criteria). The assessment criteria have been grouped into 3 broad categories or 'landscape attributes' which are to be considered:

- 1. Biophysical elements, patterns and processes;
- 2. Associative meaning and values including spiritual, cultural or social associations; and
- 3. Sensory or perceptual qualities.

2.4 VISUAL ASSESSMENT METHODOLOGY

In response to section 7(c) of the RMA, an evaluation is undertaken to define and describe visual amenity values. As with aesthetic values, with which amenity values share considerable overlap, this evaluation was professionally based using current and accepted good practice. Amenity values are defined in the Act as "those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes." The visual assessment looks at the sensitivity of receptors to changes in their visual amenity through the analysis of selected representative

 $^{^{1}\} https://www.mfe.govt.nz/sites/default/files/urban-design-protocol-colour.pdf$



viewpoints and wider visibility analysis. It identifies the potential sources for visual effect resulting from the Proposal and describes the existing character of the area in terms of openness, prominence, compatibility of the project with the existing visual context, viewing distances and the potential for obstruction of views.²

The visual impact assessment involves the following procedures:

- Identification of key viewpoints: A selection of key viewpoints is identified and verified for selection during the site visit. The viewpoints are considered representative of the various viewing audiences within the receiving catchment, being taken from public locations where views of the proposal were possible, some of which would be very similar to views from nearby houses. The identification of the visual catchment is prepared as a desktop study in the first instance using Council GIS for aerials and contours. This information is then ground-truthed on site to determine the key viewpoints and potential audience. Depending on the complexity of the project a 'viewshed' may be prepared which highlights the 'Theoretical Zone of Visual Influence' (TZVI) from where a proposal will theoretically be visible from. It is theoretical as the mapping does not take into account existing structures or vegetation so is conservative in its results (given the scale and form of the proposal, the creation of a TZVI was not considered necessary).
- Assessment of the degree of sensitivity of receptors to changes in visual amenity resulting from the proposal: Factors affecting the sensitivity of receptors for evaluation of visual effects include the value and quality of existing views, the type of receiver, duration or frequency of view, distance from the proposal and the degree of visibility. For example, those who view the change from their homes may be considered highly sensitive. The attractiveness or otherwise of the outlook from their home will have a significant effect on their perception of the quality and acceptability of their home environment and their general quality of life. Those who view the change from their workplace may be considered to be only moderately sensitive as the attractiveness or otherwise of the outlook will have a less important, although still material, effect on their perception of their quality of life. The degree to which this applies also depends on factors such as whether the workplace is industrial, retail or commercial. Those who view the change whilst taking part in an outdoor leisure activity may display varying sensitivity depending on the type of leisure activity and a greater sensitivity to those commuting. For example, walkers or horse riders in open country on a long-distance trip may be considered to be highly sensitive to change while other walkers may not be so focused on the surrounding landscape. Those who view the change whilst travelling on a public thoroughfare will also display varying sensitivity depending on the speed and direction of travel and whether the view is continuous or occasionally glimpsed.
- Identification of potential mitigation measures: These may take the form of revisions/refinements to the engineering and architectural design to minimise potential effects, and/or the implementation of landscape design measures (e.g. screen tree planting, colour design of hard landscape features etc.) to alleviate adverse urban design or visual effects and generate potentially beneficial long-term effects.
- Prediction and identification of the effects during operation without mitigation and the residual effects after the implementation of the mitigation measures.

² Reference: NZILA Education Foundation - <u>Best Practice Guide – Landscape Assessment and Sustainable</u> <u>Management/ Best Practice Guide – Visual Simulations</u> (2.11.2010)



2.5 EFFECTS METHODOLOGY

Analysis of the existing landscape and visual environment is focused upon understanding the functioning of how an environment is likely to respond to external change (the proposal). The assessment assesses the resilience of the existing character, values or views and determines their capacity to absorb change. The proposal is assessed in its 'unmitigated' form and then in its mitigated form to determine the likely residual effects. The analysis identifies opportunities, risks, threats, costs and benefits arising from the potential change.

Assessing the magnitude of change (from the proposal) is based on the NZILA Best Practice Guide – Landscape Assessment and Sustainable Management (02.11.10) with a seven-point scale, being:

EXTREME / VERY HIGH / HIGH / MODERATE / LOW / VERY LOW / NEGLIGIBLE

In determining the extent of adverse effects, taking into account the sensitivity of the landscape or receptor combined with the Magnitude of Change proposed, the level of effects is along a continuum to ensure that each effect has been considered consistently and in turn cumulatively. This continuum may include the following effects (based on the descriptions provided on the Quality Planning website):

- Indiscernible Effects No effects at all or are too small to register.
- Less than Minor Adverse Effects Adverse effects that are discernible day-to-day effects, but too small to adversely affect other persons.
- Minor Adverse Effects Adverse effects that are noticeable but will not cause any significant adverse
 impacts.
- More than Minor Adverse Effects Adverse effects that are noticeable that may cause an adverse
 impact but could be potentially mitigated or remedied.
- Significant Adverse Effects that could be remedied or mitigated An effect that is noticeable and will
 have a serious adverse impact on the environment but could potentially be mitigated or remedied.
- Unacceptable Adverse Effects Extensive adverse effects that cannot be avoided, remedied or mitigated.

Identification of potential mitigation or offsetting measures: These may take the form of revisions/refinements to the engineering and architectural design to minimise potential effects, and/or the implementation of landscape design measures (e.g. screen tree planting, colour design of hard landscape features etc.) to alleviate adverse urban design or visual effects and/or generate potentially beneficial long-term effects. The following table assists with providing consistency between NZILA and RMA terms to determine where effects lie.

١	NZILA Rating	Extreme	Very	High	Moderate				Low	Very	Negligible
			High		Moderate- High	Mode	rate	Moderate-Low		Low	
	RMA Effects Equivalent	Unacceptable	Signific	cant	More than Minor		Minor		Less than Minor		Indiscernible

The NZILA rating of 'Moderate' has been divided into 3-levels as a 'Moderate' magnitude of change to always result in either 'More than Minor' or 'Minor' effects but maybe one or the other depending on site conditions, context, sensitivity or receiving character and its degree of change. Identification of potential mitigation or offsetting measures: These may take the form of revisions/refinements to the engineering and architectural design to minimise potential effects, and/or the implementation of landscape design measures (e.g. screen tree



planting, colour design of hard landscape features etc.) to alleviate adverse urban design or visual effects and/or generate potentially beneficial long-term effects.

Prediction and assessment identification of the residual adverse effects after the implementation of the mitigation measures. Residual effects are considered to be five years after the implementation of the proposed mitigation measures, allowing for planting to get established but not to a mature level.

2.6 PHOTOGRAPHY METHODOLOGY

All photos are taken using a SONY A6000 digital camera with a focal length of 50mm. No zoom was used. In the case of stitched photos used as the viewpoint images, a series of 4 portrait photos were taken from the same position to create a panorama. The photos were stitched together automatically in Adobe Photoshop to create the panorama presented in the figures.

2.7 STATUTORY DOCUMENTS

Relevant statutory documents in terms of Landscape Values and Visual Amenity are referred to below are the Resource Management Act 1991, and the Selwyn District Plan.

2.7.1 Resource Management Act 1991

Section 6 of the RMA identifies matters of national importance:

"In achieving the purpose of this Act, all persons exercising functions and powers under it, it relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

- s.6 (a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development;
- s.6 (b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development;
- s.6 (c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna."

 Other matters are included under Section 7:

"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to-

(c) The maintenance and enhancement of amenity values."

2.7.2 Selwyn Proposed District Plan

Under the Selwyn District Plan, the site is zoned Inner Plains.



The Selwyn District Plan recognises Outstanding Natural Feature and Landscapes (ONL) and Visual Amenity Landscapes (VAL – described in NFL-SCHED2) but the proposal is not located in either an ONL or VAL. There are several policies in the Rural Objectives and Policies of the Selwyn Proposed District Plan which relate to Landscape Values and amenity which have been addressed in 3.3 below.

3. ASSESSMENT OF EFFECTS

3.1 EXISTING SITE CHARACTER

The receiving environment of the Lower Canterbury Plains is characterised by large open paddocks, with boundaries often delineated by well-established shelter belts of exotic species and rural dwellings surrounded by large trees. The relatively flat landforms flow from the base of the Southern Alps to the Port Hills in an assortment of agricultural fields, criss-crossed with roadways and shelterbelts. The existing site is bound by Lincoln Rolleston Road to the north east and by existing residential development to the north (Falcons Landing) and west (Acland Park). To the north of the proposal lies the southern edge of the existing Rolleston Township, where expansion of typical suburban character increases the number of dwellings, hard surfaces, and infrastructure present in the landscape. The proposal is located on relatively flat topography, on a site which is typical of a rural property within the Canterbury Plains and includes shelterbelt plantings and structures associated with rural activities. Overall, the topographical attributes of the receiving environment are low with no defining features.

The existing land type of the Lower Canterbury Plains was acknowledged by Boffa Miskell in the Canterbury Regional Landscape Study Review (2010) as forming part of the L2 – Lower Plains Land Type. A landscape formed from low angle coalescing outwash fans and associated low terraces of the major rivers that slice through the plains, comprising Pleistocene glacial outwash gravels and minor inland dune belts.

Vegetation types in the receiving environment are predominantly exotic species. Vegetation is used predominantly for shelter belts running along the paddock boundaries and includes species such as Pinus radiata, Cupressus macrocarpa and Eucalyptus varying in height between 7 – 15m. The shelter belts are orientated to block the prevailing winds and are primarily located to delineate property boundaries, around existing dwellings and adjacent to parts of the roads. The majority of the site is open grass fields, which is disrupted occasionally by clusters of vegetation and residential dwellings.

Indigenous vegetation has been identified in the Canterbury Regional Landscape Study as being reduced to small, isolated, and scattered remnants because of the large-scale land use changes seen throughout the plains. This has resulted in 0.5% of the plains supporting native vegetation. This is seen in the existing vegetation patterns found on site, comprising largely of exotic species, which have been used for their ability to fulfil a role as fast growing shelterbelts. This is typical of the rural setting surrounding the site. Overall, the vegetation cover in the area has a low sensitivity to change, given the high level of fast growing introduced exotic species.

In terms of sensory qualities, the flat open geometric fields are back dropped by the Southern Alps to the west and the Port Hills to the east. Expansive views are often possible, though are intermittently screened by large shelter belts and buildings at various locations. The infrastructure and shelter belts, though disrupting the continual views, have become integral to the rural aesthetic and identity. The natural characteristic of the environment is considered to be modified, with a rural character as opposed to a natural character. The land surrounding the proposed site mirrors the overall character of the region.

In terms of built form, dwellings and farm structures are common throughout the wider area. The scale, character, form, and materiality of these structures vary throughout the receiving environment. There are a



number of existing dwellings along Lincoln Rolleston Road, as well as a number of proposed dwellings in the neighbouring subdivisions of Falcons Landing, Faringdon and Acland Park. The closest rural residential property is approximately 50m from the proposed site boundary. Some of these rural residential dwellings are supported by additional infrastructure such as sheds and storage buildings and are typically separated by large open fields and exotic vegetation.

Overall, the receiving environment has a residential rural / suburban fringe character being in immediate proximity to existing residential development.

3.2 EFFECTS ON LANDSCAPE CHARACTER

Landscape character is the combination and composition of biophysical elements such as topography, vegetation, built form and sensory qualities perceived by humans. Landscape character is also spiritual, cultural, and social associations.

The character of the receiving environment is open, rural and is used principally for agricultural purposes. The proposed development modifies the character of the landscape from a more open and agricultural to a more suburban character where infrastructure and amenities are concentrated. Aspects of rural character will be maintained through the mitigation of fencing and landscape planting. A sense of open character is promoted through the proposed bulk and location as it is not greater than current residential development and vegetation, such as shelterbelts. To retain open character where possible, higher density development is to be concentrated towards the centre of the site, with lower density dwellings towards the boundary to provide a buffer between the existing rural and suburban land types. The character of existing housing is typically single storey detached dwellings, which the proposal intends to continue.

The natural landscape character is highly modified, having been cleared for agricultural land use. This is reflective in the lower quality vegetation present in the area. Existing amenity of the natural landscape is to be enhanced where possible through the planting and use of green space. Shared pedestrian/cyclist connections to adjoining developments and access to areas which are not currently accessible enhances the amenity of the site.

Overall, the character and land use of the area will shift from open and agriculturally focused to a more concentrated, high amenity development. Through mitigation measures, open character and significant landscape components will be retained and enhanced, where possible.

3.3 EFFECTS ON URBAN DESIGN AND LANDSCAPE VALUES

NATIONAL POLICY STATEMENT - URBAN DEVELOPMENT

Policy 8: Local authority decisions affecting urban environments are responsive to plan changes that would add significantly to development capacity and contribute to well-functioning urban environments, even if the development capacity is:

- a. unanticipated by RMA planning documents; or
- b. out-of-sequence with planned land release.

The proposed plan change area is considered to naturally extend existing residential development at Falcons Landing, Acland Park and Faringdon to the south of Rolleston Township. At the edge of existing residential settlement, the continuation of residential dwellings at a similar density is likely to be seen as an anticipated natural extension when compared to broader context. While the proposed density is relatively higher than the



existing land use, the proposed plan change retains similar levels of density when compared to surrounding development. It is considered appropriate for its setting on the edge of the township when considering the significant addition to development capacity that contributes to well-functioning urban environments. It is considered that the Plan Change area is an in-sequence development adding to development capacity of Rolleston, while retaining a similar level to existing surrounding development. In this aspect, Selwyn Road appears to be the natural edge to urban development in this direction.

URBAN DESIGN VALUES (NEW ZEALAND URBAN DESIGN PROTOCOL - NON STATUTORY)

While non-statutory, the New Zealand Urban Design Protocol provides guidance to create high quality urban environments based on the 'seven c's'. The following is an assessment of the proposal against these design qualities:

CONTEXT

Quality urban design sees buildings, places and spaces not as isolated elements but as part of the whole town or city. For example, a building is connected to its street, the street to its neighbourhood, the neighbourhood to its city, and the city to its region. Urban design has a strong spatial dimension and optimises relationships between buildings, places, spaces, activities and networks. It also recognises that towns and cities are part of a constantly evolving relationship between people, land, culture and the wider environment.

In terms of context, the proposed plan change is linked to the existing suburban development of Falcons Landing and Acland Park, being of a similar scale, layout and built typology. In terms of context the proposal is appropriate to its setting. Overall, the receiving environment has a rural, semi-open character on the outskirts of residential suburban development. The existing environment has various structures including dwellings, auxiliary structures, power lines and exotic vegetation clustered throughout the landscape typical of rural landscapes.

CHARACTER

Quality urban design reflects and enhances the distinctive character and culture of our urban environment, and recognises that character is dynamic and evolving, not static. It ensures new buildings and spaces are unique, are appropriate to their location and compliment their historic identity, adding value to our towns and cities by increasing tourism, investment and community pride.

The character of the proposal is likely to be similar to the adjoining residential developments with a density of 12HH/ha and a mix of single and double storey residential dwellings. A small area of medium density residential is proposed towards the centre of the development, adjacent to a proposed neighbourhood green space. A hierarchy of street types is proposed through the plan change area with character, in terms of fencing and landscape treatment likely to be controls imposed through covenants

CHOICE

Quality urban design fosters diversity and offers people choice in the urban form of our towns and cities, and choice in densities, building types, transport options, and activities. Flexible and adaptable design provides for unforeseen uses, and creates resilient and robust towns and cities.

The ODP area is designed to achieve a minimum net density of 12 households per hectare with higher density residential units located within Medium density (15hh/Ha) areas adjacent to key open spaces and green corridors. The aim is to create diversity and variety of housing typology without compromising lifestyle. The provision of smaller residential lot sizes are recognised as an important method to reduce sale prices and meet the demands of a greater proportion of the community, particularly first home buyers seeking a warm, energy efficient home that meets modern lifestyle needs. The density provides for a mix of dwelling types and lot sizes



to cater to a wide range of the residential market. It allows for people of different ages and incomes to mix and create a diverse community, as well as for people to move within the development as their needs change.

CONNECTIONS

Good connections enhance choice, support social cohesion, make places lively and safe, and facilitate contact among people.

Quality urban design recognises how all networks - streets, railways, walking and cycling routes, services, infrastructure, and communication networks - connect and support healthy neighbourhoods, towns and cities. Places with good connections between activities and with careful placement of facilities benefit from reduced travel times and lower environmental impacts.

Where physical layouts and activity patterns are easily understood, residents and visitors can navigate around the city easily

Walkability and connectivity are key principles of the ODP with a hierarchy of street types and connections provided throughout the area. The aim of the movement network is to provide a range of modal options for residents, to reduce car-dependency for short local trips while recognising private vehicle use is necessary for longer trips. The ODP encourages connectivity using primary and secondary routes running through the area from west to east, with a primary connection linking Ed Hillary Drive (CRETS road in Acland Park) to Lincoln Rolleston Road. Both primary and secondary routes will provide pedestrian and cycle facilities on both sides of the road, street trees and parking.

Smaller tertiary streets (not shown) or local/neighbourhood streets will ideally run north-south to create a highly connected and permeable neighbourhood. These roads are not shown to allow future design flexibility at the final subdivision stage. The design of the local streets will encourage slow vehicle movements combined with pedestrian and cycle facilities, either separate or shared depending on the design of the street. The layout of the blocks will have a predominantly north-south orientation where possible to maximise solar gain into rear yards (outdoor living spaces) of all properties. Supporting the road network, off road pedestrian and cycle paths will connect through to existing networks where they exist.

SELWYN DISTRICT PLAN - TOWNSHIP VOLUME

The district plan has zoned the land Inner Plains. The Selwyn District Plan has identified Outstanding Natural Landscapes and Features. The ODP is not located within a Landscape of value. The Objectives and Policies which are considered relevant to this Plan Change from a Landscape perspective follow:

Objective B4.1.1

A range of living environments is provided for in townships, while maintaining the overall 'spacious' character of Living zones, except within Medium Density areas identified in an Outline Development Plan where a high quality, medium density of development is anticipated.

The proposed plan change has given careful consideration and application of design treatment to such matters as road hierarchy, diversity of density, spatial layout, connections to existing and future development and retaining a sense of open and spacious rural character. The Plan Change has located higher density development to the centre of the site to soften the transition between rural and suburban development. An overall 'spacious' character is likely to be maintained even with the increased density through a mix of housing types and sizes.

Policy B4.1.10



Ensure there is adequate open space in townships to mitigate adverse effects of buildings on the aesthetic and amenity values and "spacious" character.

The Plan Change includes open green space and pedestrian connections through the development to retain a high level of public amenity and connectivity. The use of lower density residential towards the perimeter of the site helps retain the spacious character by mitigating potential adverse effects of higher density development located toward the centre.

Policy B4.1.11

Encourage new residential areas to be designed to maintain or enhance the aesthetic values of the township, including (but not limited to):

- Retaining existing trees, bush, or other natural features on sites; and
- Landscaping public places.

The proposed plan change aims to enhance the quality and quantity of vegetation through the site. Including a recreation reserve becomes one aspect of a larger green network which links through the exiting development of Falcons Landing, Acland Park and Faringdon. The green network is to be landscaped to a high level of amenity, ensuring an open character is maintained. This also allows a high level of natural surveillance over the public space.

Policy B4.2.4

Encourage the retention of natural, cultural, historic, and other features within a subdivision and for allotment boundaries to follow natural or physical features, where it maintains the amenity of an area.

There are no natural, cultural, or historic features of note. Utilising reserve spaces and a wider green network helps provide sufficient space for allotment boundaries around these areas for restoration and recreation. By responding to the natural features of the landscape, the proposed plan change can maintain and enhance the amenity of the area.

Policy B4.2.10

Ensure that new residential blocks are small in scale, easily navigable and convenient to public transport services and community infrastructure such as schools, shops, sports fields and medical facilities, particularly for pedestrians and cyclists.

The proposed plan change, though not displaying local roading, promotes the ability for residential blocks to have a north – south aspect and varying between 800 – 1200m. This provides block lengths that are small in scale to allow for walkability and easy navigation without overly relying on roading. The use of green networks throughout the site also encourage a high degree of connectivity and permeability within and in/out of the proposal. Off-road shared paths further encourage alternative modes of transport such as cycling and walking through the wider landscape.

Policy B4.2.12

Ensure that subdivision designs encourage strong, positive connections between allotments and the street and other features, whilst avoiding rear allotments where practical.

Possible future connections to surrounding developments are included in the proposed plan change, helping to foster positive connections to existing development. Higher density units open onto high amenity spaces building on the positive relationships associated with these land uses.

Policy B4.3.2



In areas outside the Greater Christchurch area, require any land rezoned for new residential or business development to adjoin, along at least one boundary, an existing Living or Business zone in a township, except that low density living environments need not adjoin a boundary provided they are located in a manner that achieves a compact township shape.

The north west edge of the proposed plan change adjoins to existing Living Z zones in Rolleston.

Policy B4.3.3

Avoid zoning patterns that leave land zoned Rural surrounded on three or more boundaries with land zoned Living or Business.

The proposed plan change adjoins existing Living and Business Zones to the north west. The proposal does not leave rural zoned land with three or more boundaries against living or business zones.

3.4 EFFECTS ON VISUAL AMENITY

The visual context of the receiving environment is considered to be a 2km offset from the edge of the proposed development. This distance has been used due to the receiving environment's flat topography, resulting in views from further away either not being possible or being indiscernible at distance. A series of key viewpoints were selected to show a representative sample of the likely visual effects which could result from the proposal (refer to Appendix 1 for the relevant photos). Viewpoints are generally located on public land, and where possible located as close as possible to existing or proposed residential dwellings. In assessing the potential effect of a proposal, the quality and openness of the view is considered These were as follows:

- 1) View south from 8 Nobeline Drive
- 2) View west from 178 Lincoln Rolleston Road
- 3) View west from 153 Lincoln Rolleston Road
- 4) View south east from 1 Flight Close
- 5) View north east from 5 Clement Drive

In assessing the potential effects on visually sensitive receptors, the key viewpoints outlined above have been used as a reference point where it is considered that the effects are likely to be similar to the viewpoint and for a group of viewers. The viewpoint is a representative view, as close as possible to the view likely to be experienced from a private residence or property but obtained from a public location.

The following table outlines the potential visual effects each Visually Sensitive Receptor might receive. The effects take into account the likely sensitivity of the receptor (based on type), combined with the likely magnitude of effects (a combination of distance from the proposal and degree of change) to determine what the likely residual effects from the proposal will be.



Table 2: Assessment of Effects on Visually Sensitive Receptors

Viewpoint	Visually Sensitive Receptors (VSR)	Distance from Proposal (m)	Type of View (open, partial, screened)	Description of existing view (from public location)	Sensitivity of VSR	Magnitude of Change	Description of Effects
1. View south from 8 Nobeline Drive	Residents at 8 Nobeline Drive	50m	Partial	Views from this point are screened looking across Lincoln Rolleston Road towards the proposal site. The right of the view is dominated by residential development and closed board timber fencing delineating boundaries. Exotic shelterbelts are visible running adjacent to Lincoln Rolleston Road and throughout the distant view. Infrastructure such as power lines and street lighting breaks into the skyline above development and vegetation.	Low	Low	The proposed plan change area is openly visible. There will be a change in landscape from one that is of typical rural character to s more dense, suburban development. Though there will be loss in the existing 'open' character the development will appear as a natural extension of
	Vehicle users along Lincoln Rolleston Road					existing development which will absorb the scale of change. The management of fencing along Lincoln Rolleston Road will retain a sense of openness.	
View west from 178 Lincoln Rolleston Road	Residents at 178 and 202 Lincoln Rolleston Road	<50m	Partial	The existing view from this location is screened by mature shelterbelts running adjacent to Lincoln Rolleston Road on either side. Existing development is visible in the distance with closed board timber fencing delineating property boundaries. Power line and lighting infrastructure breaks into the skyline above vegetation and development.	High	Low	The proposal is openly visible from this view. While the development of dwellings reduces the rural character of the receiving landscape, the development will appear as a natural extension of existing residential development in the distance. The existing infrastructure such as dwellings, lighting and power lines will help absorb the level of change proposed. The
	Vehicle users along Lincoln Rolleston Road				Low		character of this view would change from one rural in nature to one that is more suburban. Development will form the skyline.
3. View west from 153 Lincoln Rolleston Road	Residents at 148, 151 and 156 Lincoln Rolleston Road	<50m	Partial	This viewpoint has partial views of the proposal site. The left side of the view is dominated by mature vegetation running adjacent to a residential driveway. Open grass paddocks delineated by post and wire fencing and shelterbelts can be seen to the right of the driveway. In the foreground a small stone fence is visible with exotic shelterbelts extending along Lincoln Rolleston Road. Power line infrastructure breaks into the skyline above vegetation and runs adjacent to the residential driveway and along Lincoln Rolleston Road.	High	Low	The proposed plan change area is openly visible. Fencing along the boundaries of Lincoln Rolleston Road will be managed to promote a more open character. The character of this view would change from a more open and rural landscape to a more dense, suburban development. Existing power line infrastructure will help absorb the level of change. The development will appear as a natural extension of the existing development to the right of this view.
	Vehicle users along Lincoln Rolleston Road				Low		appear as a natural extension of the existing development to the right of this view.
4. View south east from 1 Flight Close	Residents at 1, 3, 4, 5 and 7 Flight Close	<50m	Screened	Views from this point are screened by closed board timber fencing at the boundary of existing development. Juvenile native vegetation and street trees are present along the fence line and to the left of the view. The view is dominated by the outskirts of existing development including open style timber fencing, vegetation and roading infrastructure. Mature exotic vegetation and shelterbelts are visible in the background, breaking into the skyline above the fence.	High	Very Low	The proposal is not openly visible from this view. The roofline of the proposed development may form the skyline above the fence line, though will appear as a natural extension of the existing development. The character of this view will not change and will remain suburban in nature.
	Vehicle users along Flight Close				Low		
5. View north east from 5 Clement Drive	Residents at 1, 3, 6 and 9 Clement Drive	250m Scree	Screened	This viewpoint looks towards the proposed site over residential development. Views are screened by a closed board timber fence at the boundary of existing development. Residential development is highly visible from this location and breaks into the skyline of the view. Mature exotic vegetation is visible in the distance.	High	Negligible	The proposed plan change area is not visible from this view beyond existing residential development. The character of the view will not change and will remain suburban in nature.
	Vehicle users along Clement Drive				Low		

3.5 SUMMARY OF EFFECTS ON VISUAL AMENITY

The likely visual effects are described above in the Assessment of Effects table.

The proposal would result in an overall change in character from open and rural to one that is more dense and suburban in nature. The receiving environment is to maintain aspects of openness through the management of fencing along Lincoln Rolleston Road and the improvement of connectivity and accessibility throughout the wider site. The management of bulk and location of the development will also help create a sense of openness through the centralisation of denser development. The highest likely effects after mitigation will be experienced by those residential properties closest to the proposal along Lincoln Rolleston Road. Though there is a change in the overall character of the receiving environment, a low magnitude of change is anticipated from these residential properties as the proposal will become an extension of existing development. Motorists have a temporary view of the development and are anticipated to expect change in land from rural to suburban as they travel to/from Rolleston township.

Overall, the scale and bulk and location of the proposal would allow it to appear as a natural extension of existing development within Rolleston, with a low to very low magnitude of change anticipated.

4. MITIGATION MEASURES

The following mitigation measures are suggested to either avoid, remedy or mitigate any potential effects on Urban Design, Landscape Character, Landscape Values and/or Visual Amenity from the proposed Plan Change:

MM1	Provide a diversity of house size and lot size to provide choice, with higher density development located close to high amenity and business areas. • This is provided for through the proposed location of both General and Medium				
MM2	Locate higher density towards the centre of the development, buffered by lower density development along the edges of the plan change This is provided for through the placement of any medium density centrally, close to proposed open space.				
MM3	Create streets which have a high level of amenity, provide for different modal allocation, and allow for an efficient use of land by having a street hierarchy with different road reserve widths depending on their classification. Encourage the use of low impact design techniques including grass swales and detention basins • These considerations would be addressed through the detailed design and consenting of any subdivision proposal(s) within the plan change area.				
MM4	Create a well-connected walking and cycling network which combines with the green / blue network and existing facilities connecting to key destinations (school, childcare, town centre), prioritising walking and cycling with a mix of on-road, separate, and off-road facilities to promote active transport modes				

	Key connections are identified on the ODP and may be supplemented through additional connections provided for at the time of subdivision consent.				
MM5	Provide a quantity of greenspace and facilities appropriate for the future population with green links extending through the plan change area and connecting with adjoining residential and rural areas. • This is provided for on the ODP.				
MM6	Solid fencing should preferably be restricted to rear and side yards to retain an open character along streets and existing roads (in particular Lincoln-Rolleston Road) or at a minimum front boundary fencing will have restrictions. Side fencing should not extend forward of the front wall closest to the street of a house or would need to be limited in height. • This is a matter that would be incorporated into developer covenants that				
	manage and implement specific design outcomes sought within the plan change area.				

5. CONCLUSIONS

In terms of the National Policy Statement: Urban Development, Policy 8, the proposed Plan Change will add significant residential capacity with a proposed density ranging between 12 and 15 hh/Ha. This is higher than the recommended density in the Operative District Plan Township objectives and policies for the Living Z zone, but is considered appropriate to meet the outcomes desired by the NPS:UD (2020) and consistent with RESZ-O3 objective:

A wide range of housing typologies and densities are provided for to ensure choice for the community and to cater for population growth and changing demographics.

Any amenity effects on existing and future residents can be successfully mitigated through the proposed mitigation measures. The proposed ODP provides a high level of connectivity and is consistent with the context and character of the receiving environment.

In terms of landscape character and values of the area, subject to the mitigation proposed, the proposal will result in an acceptable magnitude of change on the existing rural landscape character and values. Medium density areas will be 'internalised' within the development with lower density development providing a buffer with adjoining rural areas. The site will change from one rural and open in character to one which is more suburban in nature, with the change partially mitigated through fencing controls and landscape planting.

In terms of visual amenity, the rural properties will experience a change in the openness of views across the space, noting that many of the adjoining properties are surrounded by well-established shelter belt and boundary plantings restricting views out. Adjoining suburban residential properties, current and future, overlooking the Plan Change area will have a mix of open, partial, and screened views of future development.



APPENDIX ONE - URBAN DESIGN, LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

FALCONS LANDING EXTENSION PLAN CHANGE FOR YOURSECTION LIMITED

PROJECT No. 2020_117 08 DECEMBER 2020 REVISION A



FALCONS LANDING EXTENSION, ROLLESTON PLAN CHANGE

Project no: 2020_117

Document title: URBAN DESIGN, LANDSCAPE AND VISUAL IMPACT ASSESSMENT

Revision: A

Date: 08 December 2020
Client name: YourSection Limited

Author: David Compton-Moen

File name: 2020_117 Gillman Wheelans Falcons Landing_LVIA (plan change)

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Α	08/12/2020	UDLVIA Figures	SB	DCM	



DCM URBAN DESIGN LIMITED

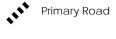
Level 3, 329 Durham Street North Christchurch 8013

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LEGEND Plan Change Boundary Living Z General Residential Density (Minimum 12 Households/Ha) Medium Residential Density (Minimum 15 Households/Ha)

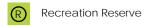


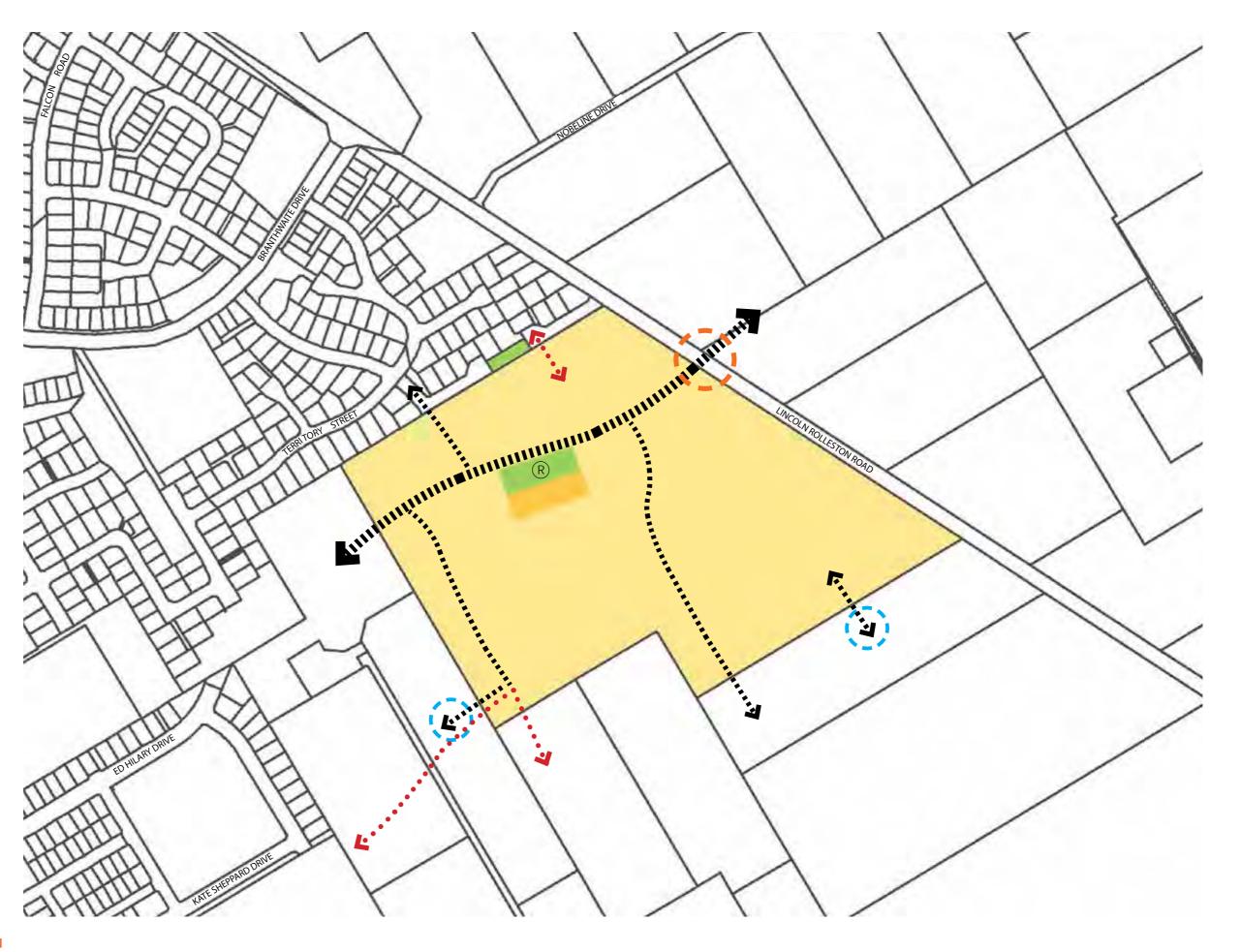


Secondary Road

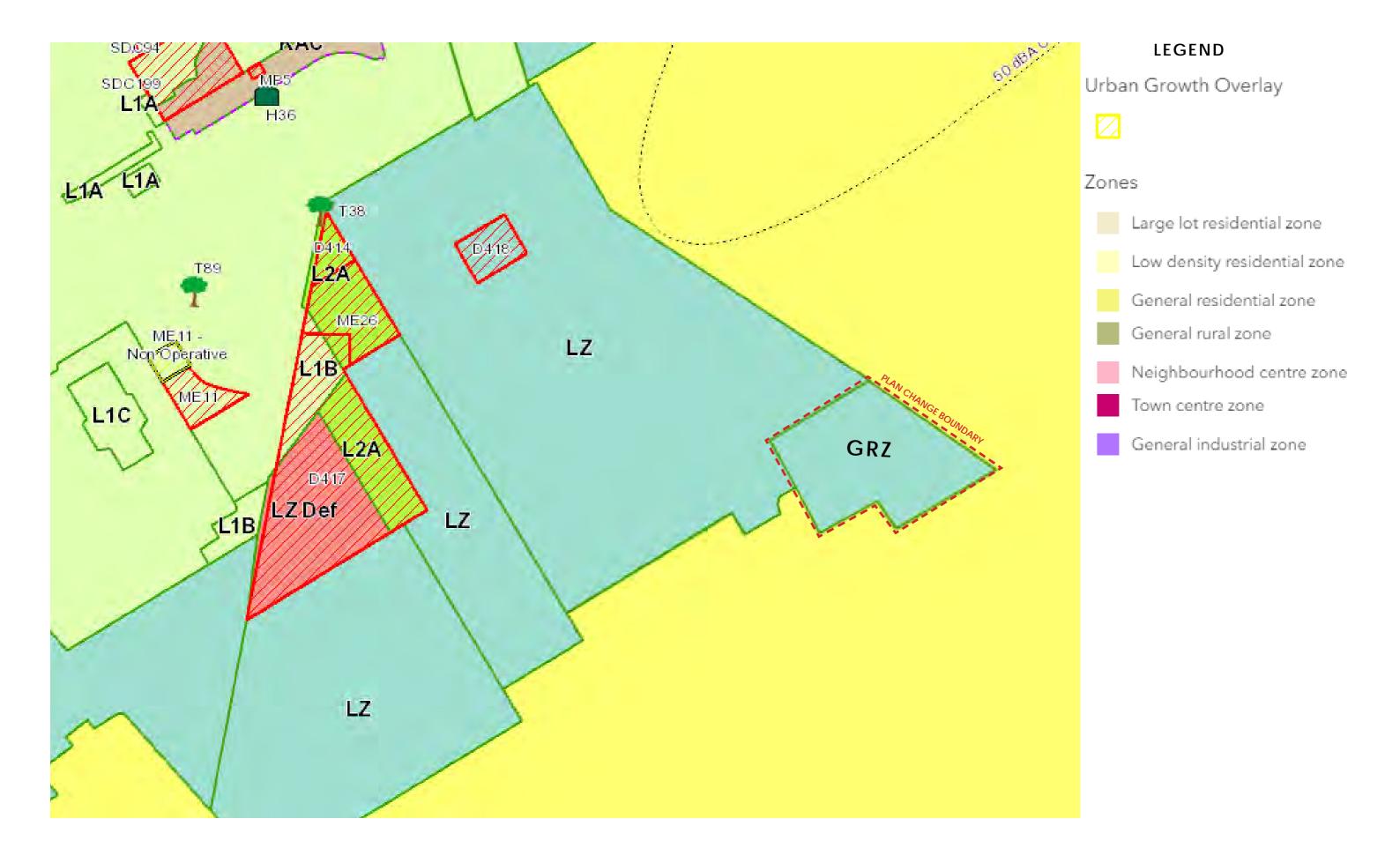


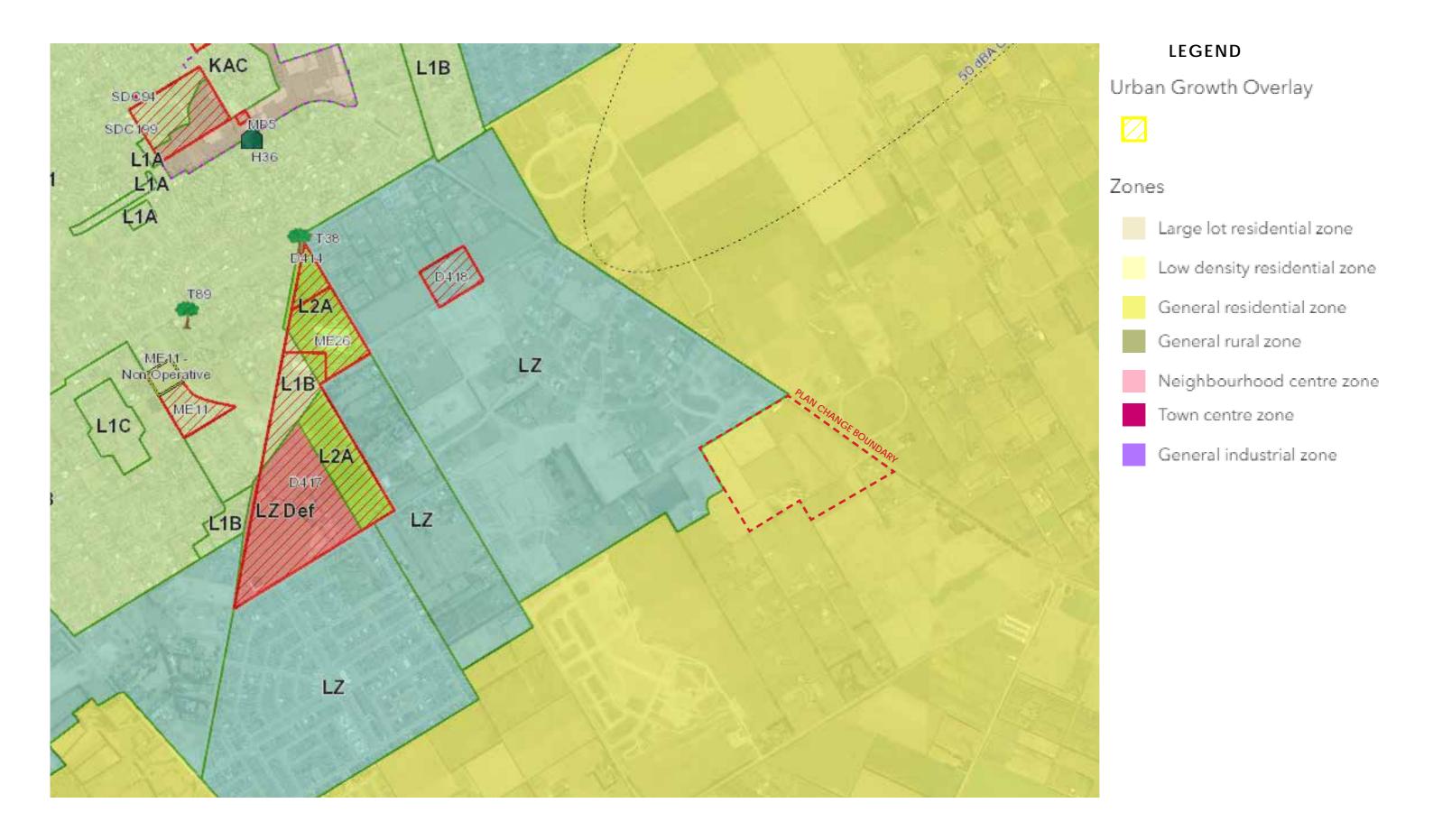




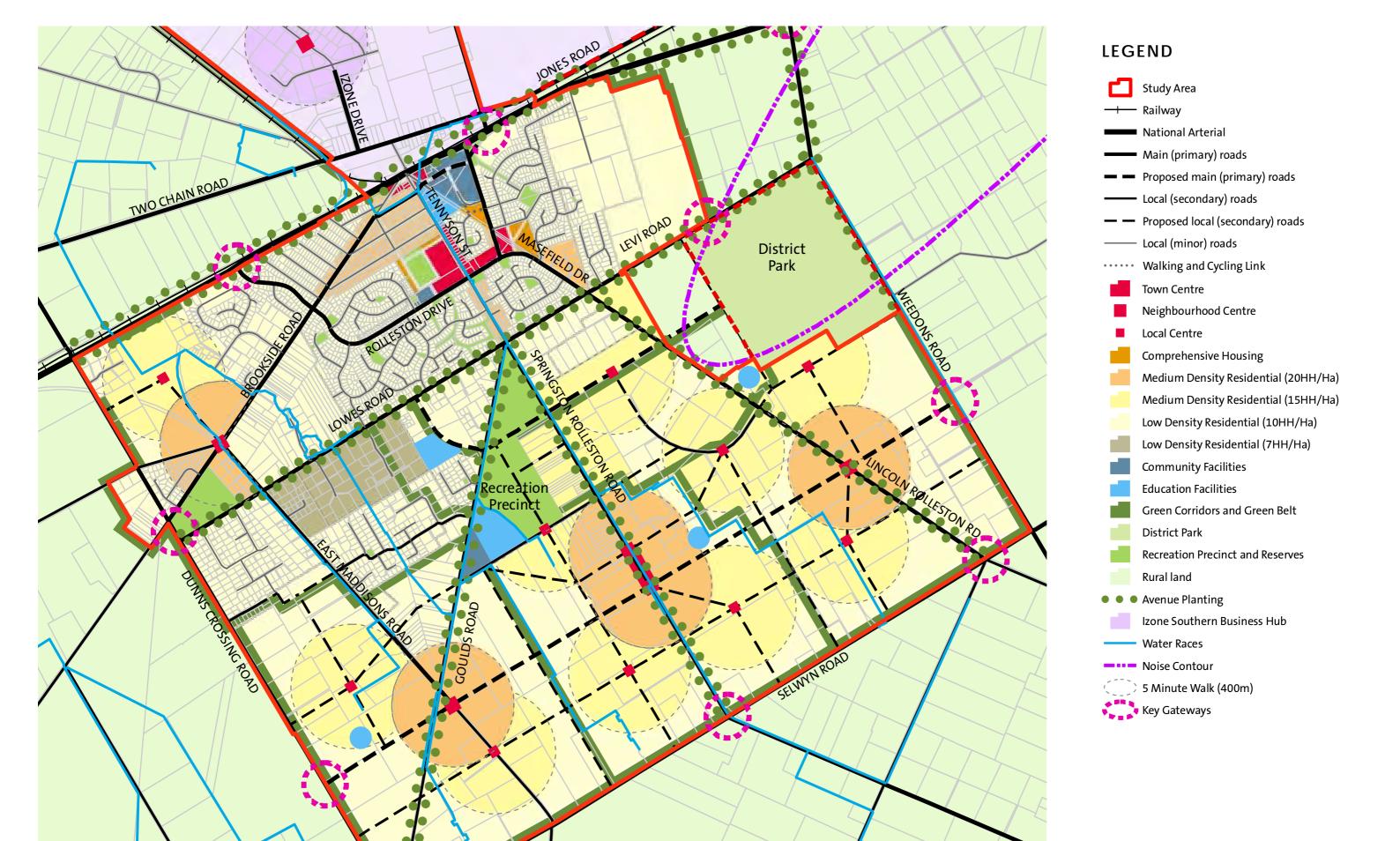


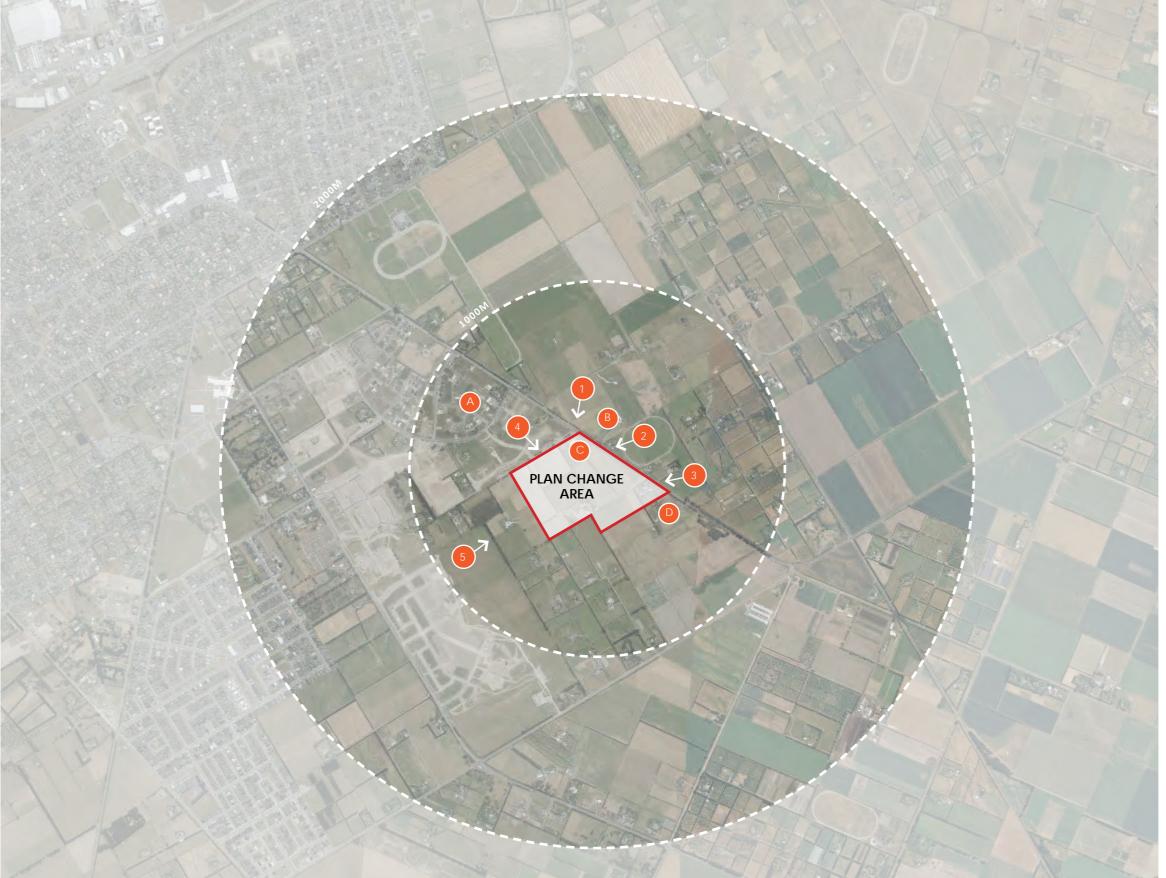
A. OUTLINE DEVELOPMENT PLAN





Map / image source: Selwyn District Council





A. LOCATION MAP FOR CHARACTER PHOTOS AND KEY VIEWPOINTS

URBAN DESIGN, LANDSCAPE AND VISUAL IMPACT ASSESSMENT CONTEXT - CHARACTER PHOTOS AND VIEWPOINT LOCATIONS FALCONS LANDING EXTENSION PLAN CHANGE

LEGEND

CHARACTER PHOTOS

- A Residential Development
- B Rural Residential Housing
- **©** Existing Vegetation
- Surrounding Land Use

VIEWPOINT LOCATIONS

- 1 View south from 8 Nobeline Drive
- 2 View west from 178 Lincoln Rolleston Road
- 3 View west from 153 Lincoln Rolleston Road
- 4 View south east from 1 Flight Close
- 5 View north east from 5 Clement Avenue



Residential Development - Existing housing is predominantly single storey, 3-4 bedrooms with double garage on lots typically ranging from 650m² to 800m². There are a variety of materials, colours and forms present throughout the development.



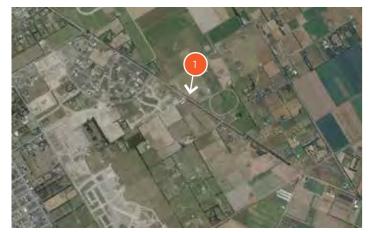
Existing Vegetation - Within the Plan Change area vegetation is primarily exotic and is tpically sporadic in bulk and location. Species such as Pine, Macrocarpa and Eucalyptus are common through the area, used for shleterbelts and privacy.



Rural Residential - Properties are typically screened by mature vegetation and are setback from the roadside. Housing changes between single and double storey and has a vareity of colours and styles present. Vegetation around the dwellings is predominantly exotic and is sporadically clustered.

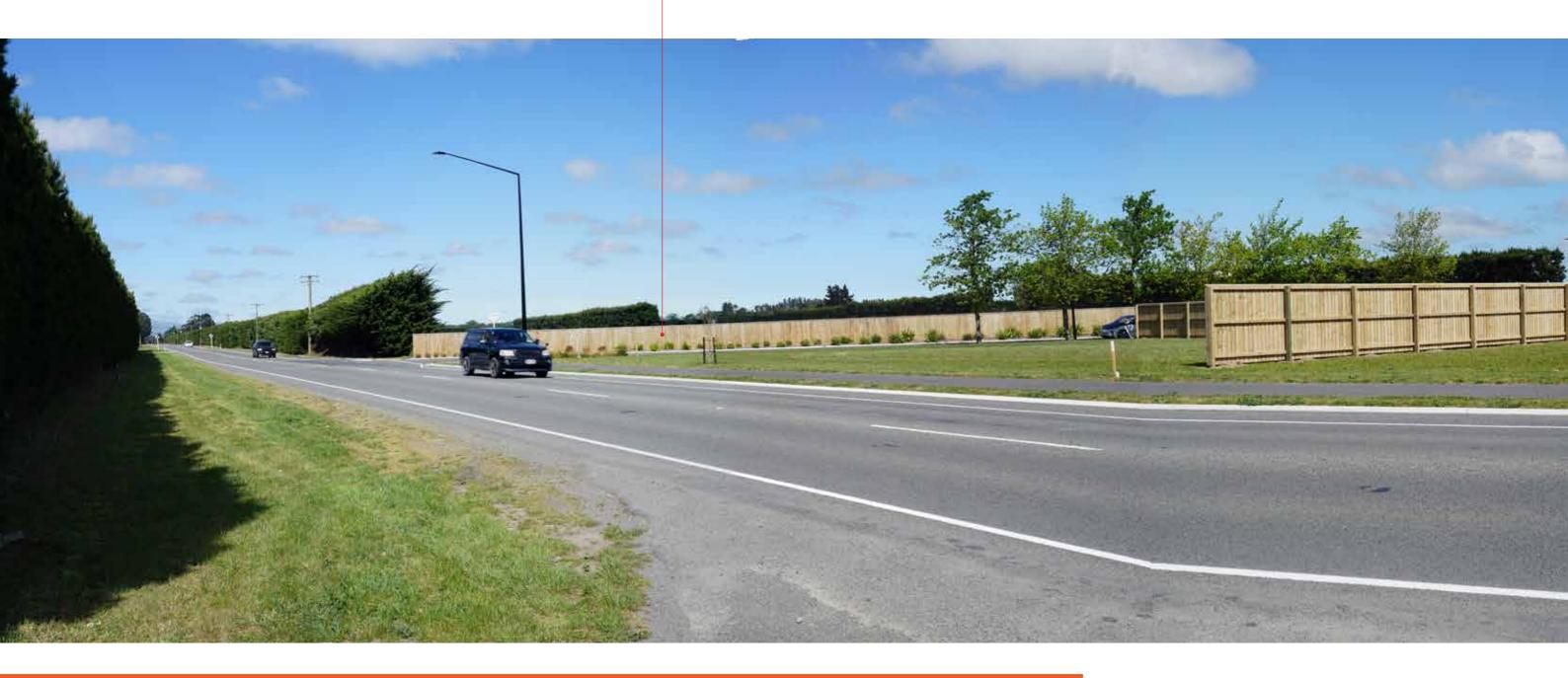


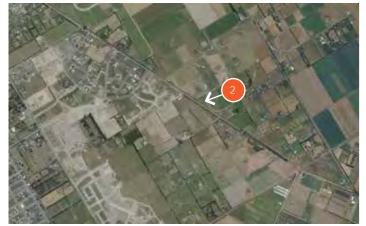
Land Use - Majority of the existing land within and surrounding the Plan Change area (excluding residential development) is occupied for rural activity. Infrastrucutre such as irrigation, sheds and auxiliary structures are common through the landscape and an aspect typical in rural character.



A. IMAGE LOCATION

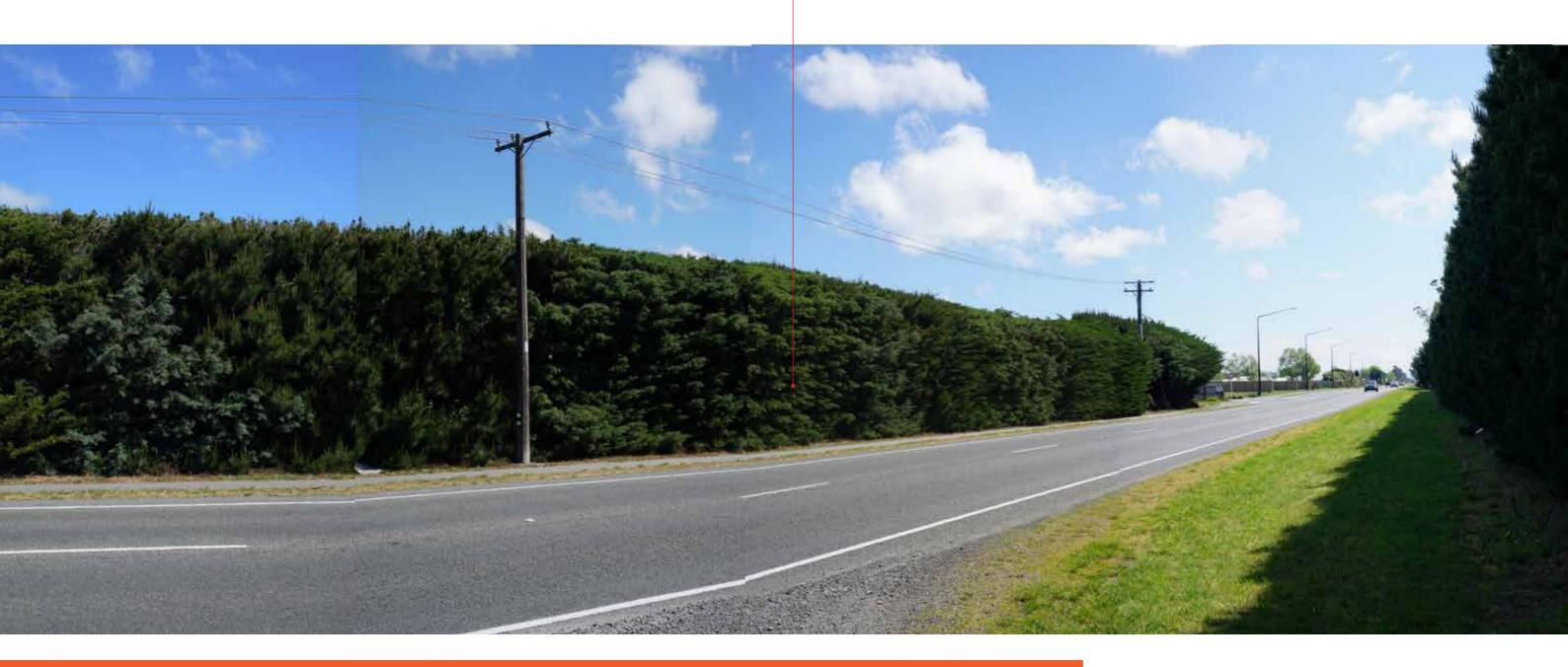
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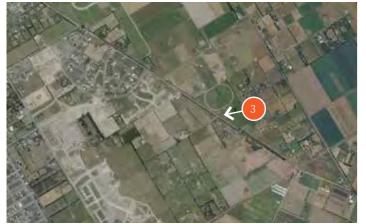




A. IMAGE LOCATION

- APPROXIMATE PROPOSAL LOCATION

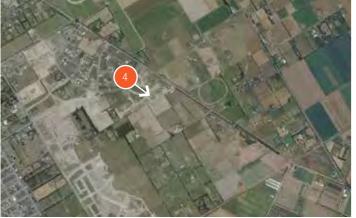




A. IMAGE LOCATION

- APPROXIMATE PROPOSAL LOCATION





A. IMAGE LOCATION

APPROXIMATE PROPOSAL LOCATION





A. IMAGE LOCATION

APPROXIMATE PROPOSAL LOCATION

