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Planning. Traffic. Development.

**Request for Change to the Selwyn District Plan
prepared for**

GW WILFIELD LTD

Weedons Ross Road, West Melton

October 2020

Request for Change to the Selwyn District Plan
prepared for

GW WILFIELD LTD

Weedons Ross Road, West Melton

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Reviewed by	Andrew Fitzgerald, Senior Planner

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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

GW Wilfield Ltd requests changes to the Selwyn District Plan as described below.

1. The location to which this request relates is:
 - On the south side of Kingsdowne Drive, bounded by Weedons Ross Road to the west. A location plan/outline development plan is attached in Appendix 1.
 - Total Area: 33.4ha
 - Legal Descriptions: See **Attachment 1**.
2. The Proposed Plan Change undertakes the following in the Township Volume (changes underlined or ~~struck through~~):
 1. To amend the Selwyn District Plan Planning Maps, by rezoning the site to Living (WM South) Zone.
 2. To amend Township Volume, Appendix 20 ODP West Melton by adding the ODP attached in **Attachment 2**.
 3. 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.

Kim Seaton, Senior Planner

DATED: 9 October 2020

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

Address for service:

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Christchurch 8140

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E: kim@novogroup.co.nz

Address for Council fees:

GW Wilfield Ltd
PO Box 36511
Christchurch 8146

Attention: Hamish Wheelans

T: 03 3776303

E: hamish@gwlimited.nz

Attachment 1: Certificates of Title



RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Limited as to Parcels
Search Copy



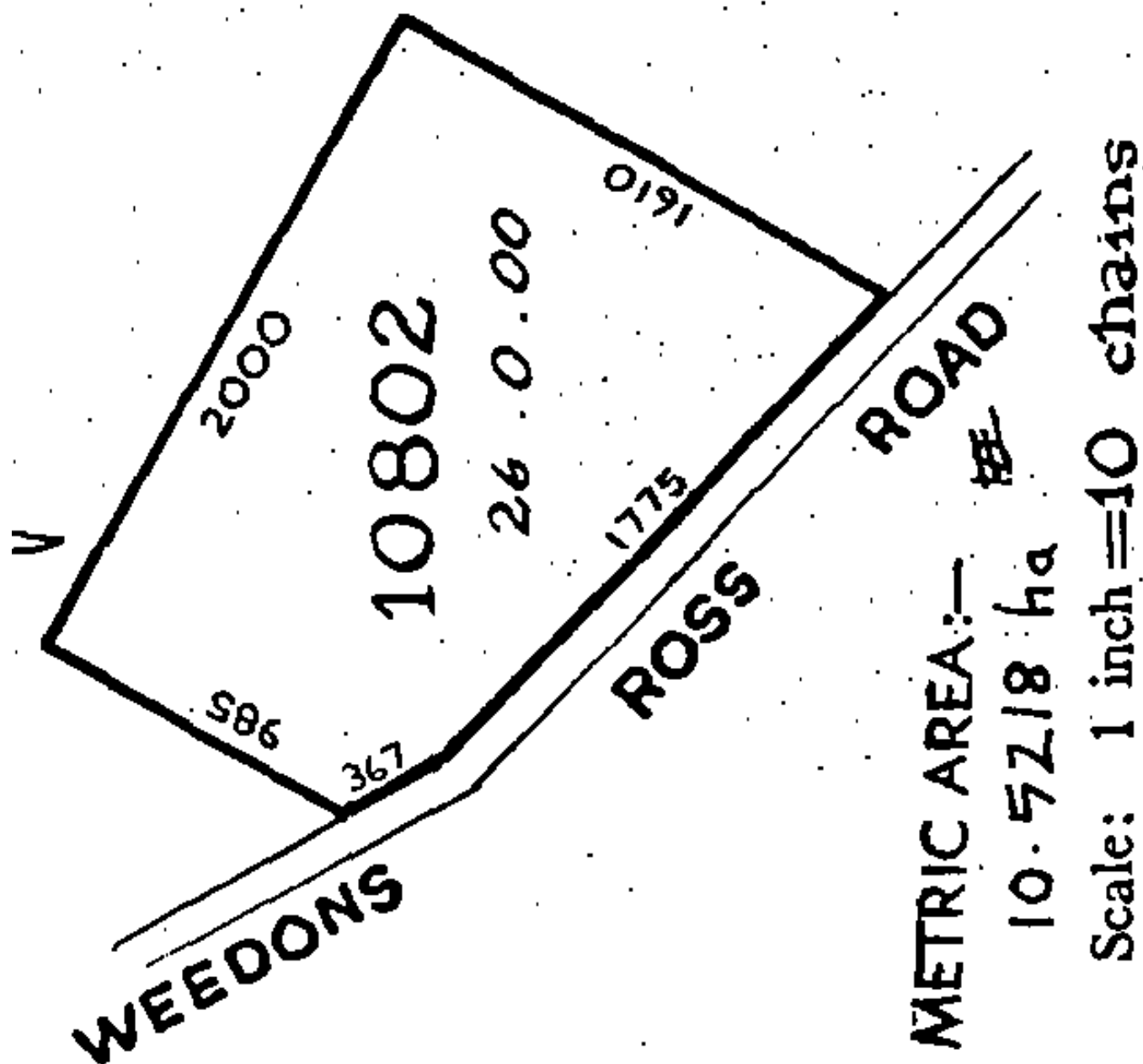

R.W. Muir
Registrar-General
of Land

Identifier **CB10A/296**
Land Registration District **Canterbury**
Date Issued 19 August 1970

Prior References
CB396/187

Estate Fee Simple
Area 10.5218 hectares more or less
Legal Description Rural Section 10802
Registered Owners
John David Owens, Sandra Essie Marie Owens and Ferne Johnstone Bradley

Interests
Land Covenant in Easement Instrument 6196682.1 - 28.10.2004 at 9:00 am
Land Covenant in Easement Instrument 10150117.4 - 21.8.2015 at 1:33 pm
Land Covenant in Easement Instrument 10150117.5 - 21.8.2015 at 1:33 pm





RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
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Registrar-General
of Land

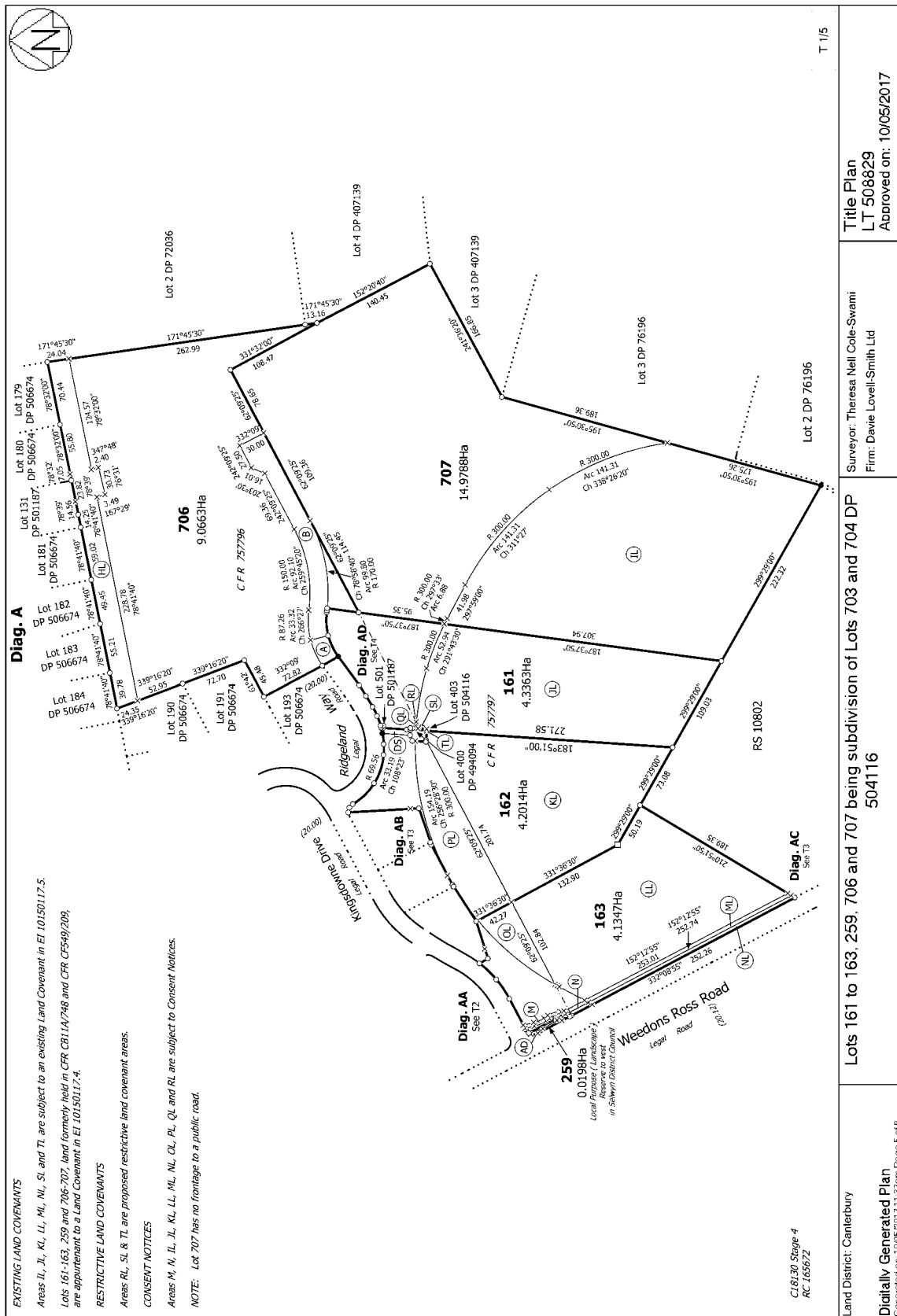
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Land Registration District **Canterbury**
Date Issued 02 May 2017

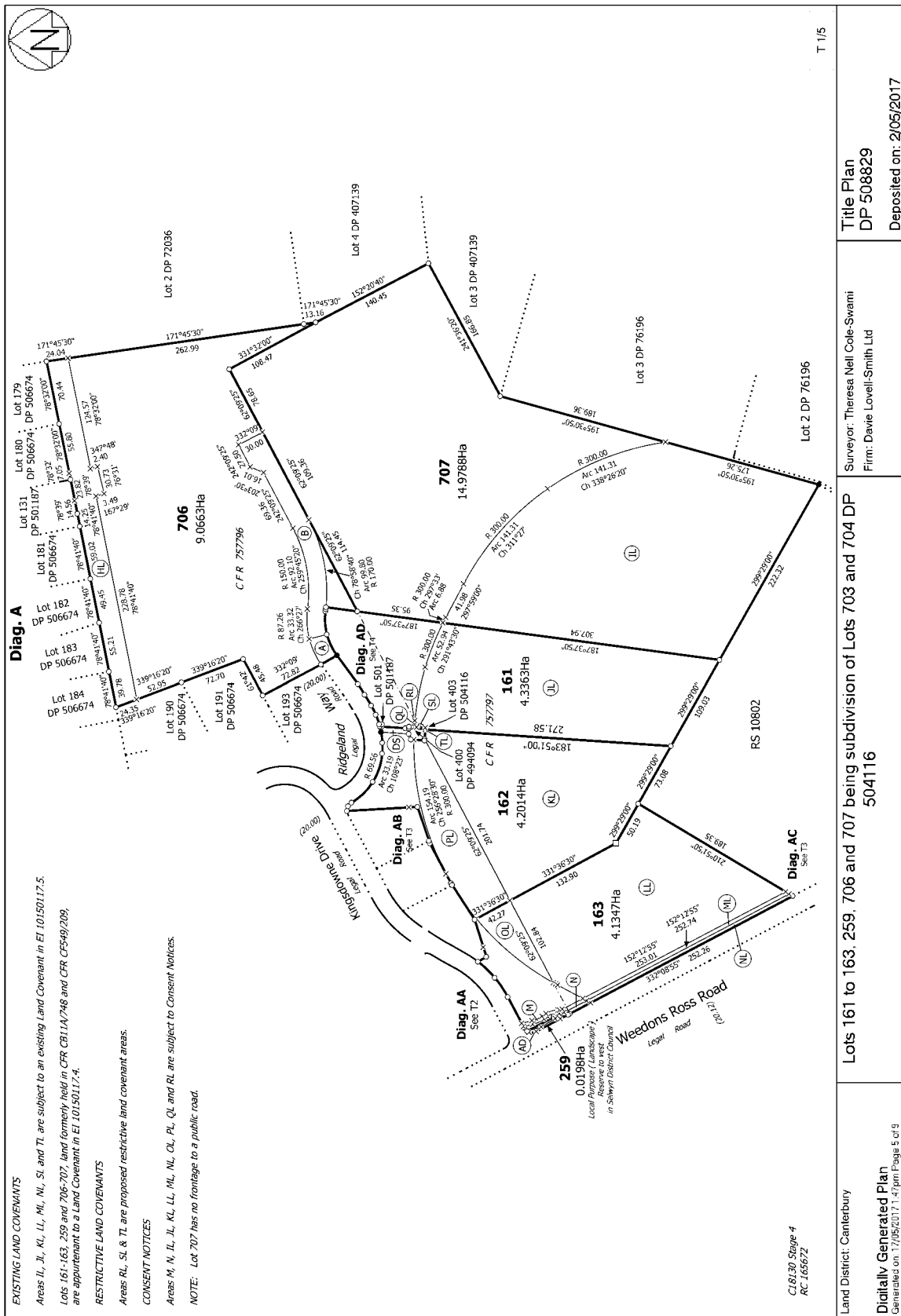
Prior References
757797

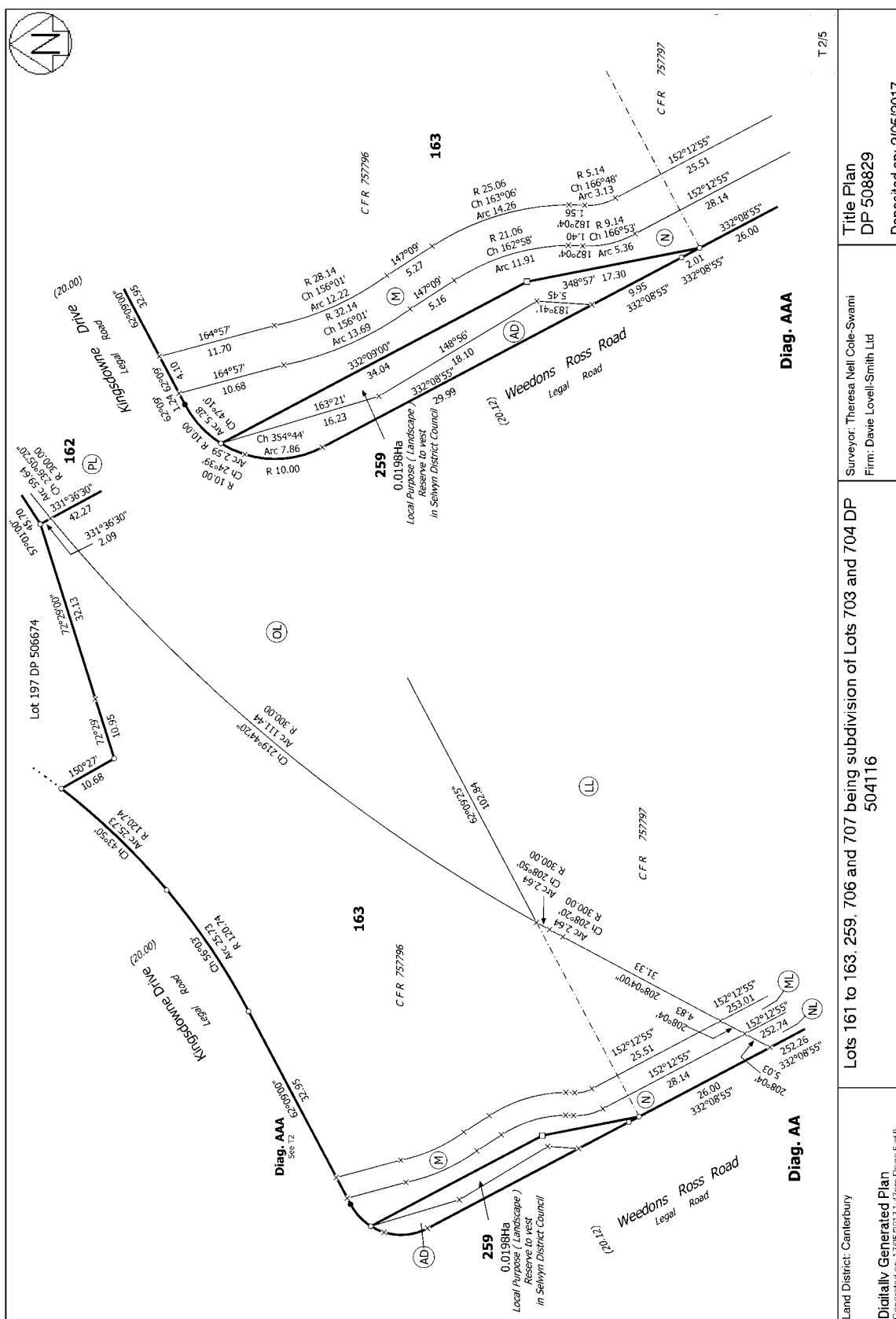
Estate Fee Simple
Area 14.9788 hectares more or less
Legal Description Lot 707 Deposited Plan 508829
Registered Owners
GW Wilfield Limited

Interests

Subject to Section 206 Land Act 1924
Land Covenant in Easement Instrument 10150117.4 - 21.8.2015 at 1:33 pm
Land Covenant in Easement Instrument 10150117.5 - 21.8.2015 at 1:33 pm
10309261.4 Mortgage to Kiwibank Limited - 22.1.2016 at 3:36 pm
10596830.10 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 25.11.2016 at 3:10 pm
10596830.11 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 25.11.2016 at 3:10 pm
Appurtenant hereto is a right of way created by Easement Instrument 10718118.3 - 2.5.2017 at 2:07 pm
The easements created by Easement Instrument 10718118.3 are subject to Section 243 (a) Resource Management Act 1991





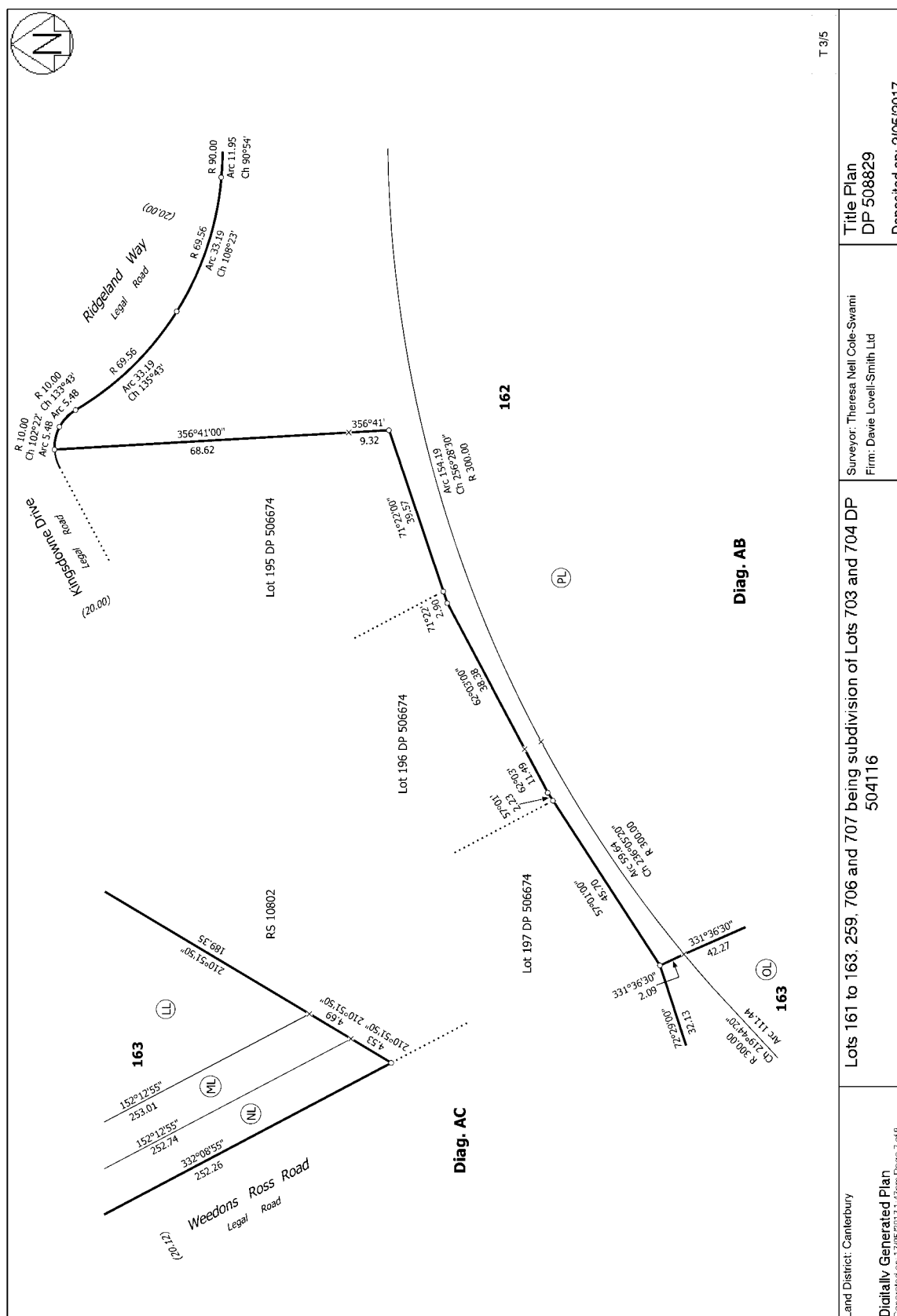


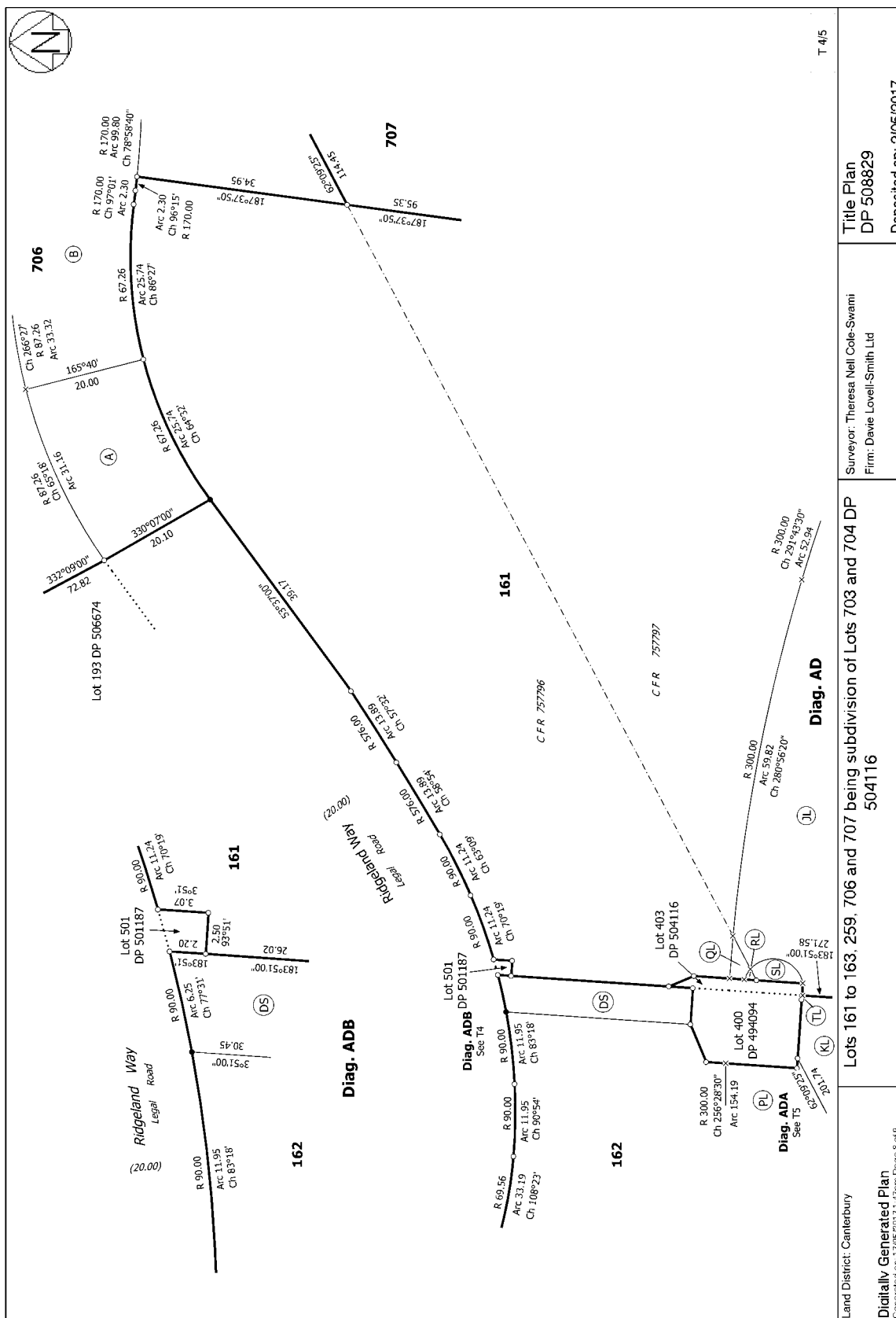
Surveyor: Theresa Nell Cole-Swami
Firm: Davie Lovell-Smith Ltd

Lots 161 to 163, 259, 706 and 707 being subdivision of Lots 703 and 704 DP 504116

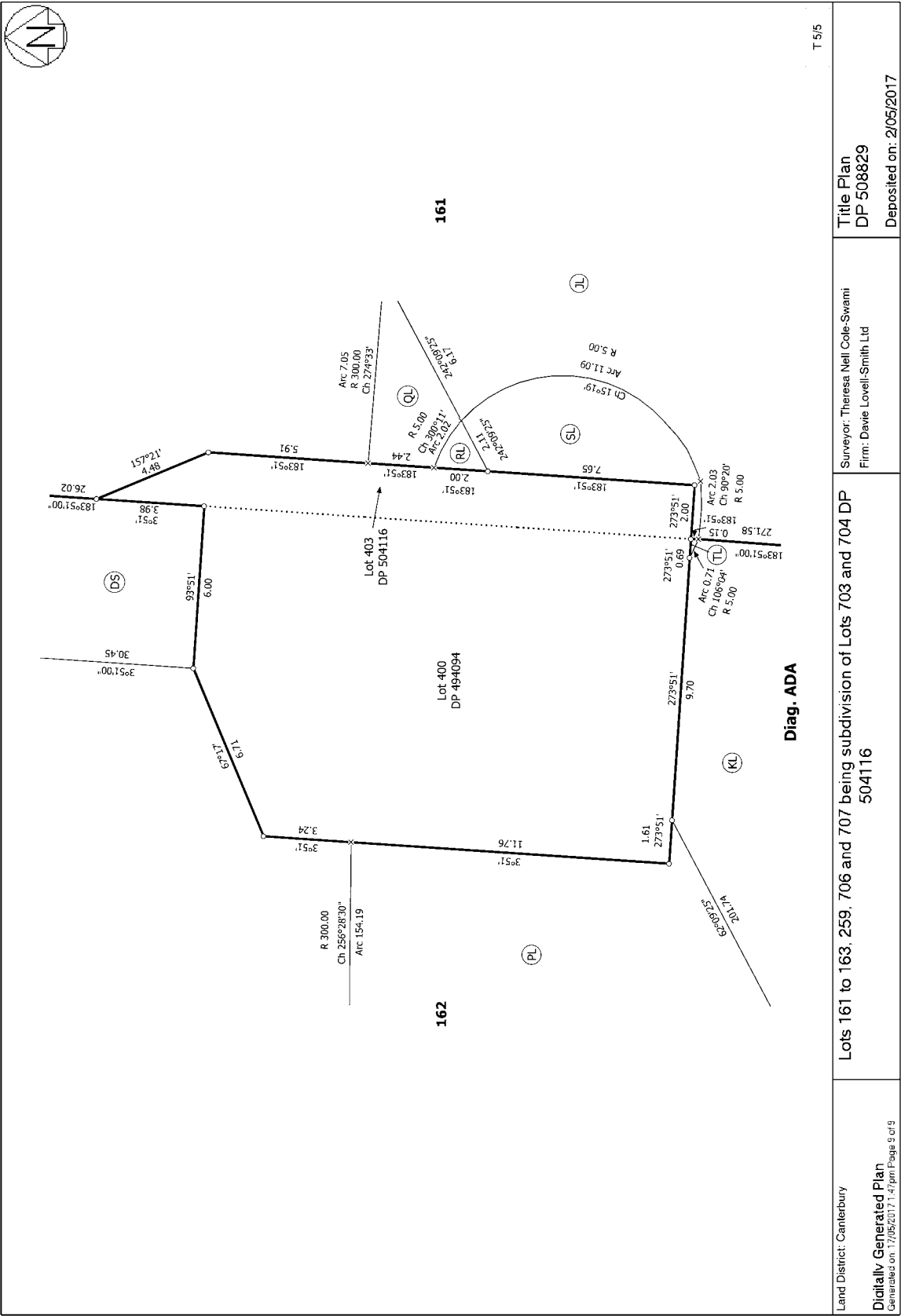
Land District: Canterbury
Digitally Generated Plan
Generated on: 17/05/2017 11:47 pm Page 6 of 9

Title Plan
DP 508829
Deposited on: 2/05/2017





Land District: Canterbury	Surveyor: Theresa Nell Cole-Swami Firm: Davie Lovell-Smith Ltd	Title Plan DP 508829
Digitally Generated Plan Generated on: 17/05/2017 1:47pm Page 8 of 9	Lots 161 to 163, 259, 706 and 707 being subdivision of Lots 703 and 704 DP 504116	
		Deposited on: 2/05/2017





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of Land

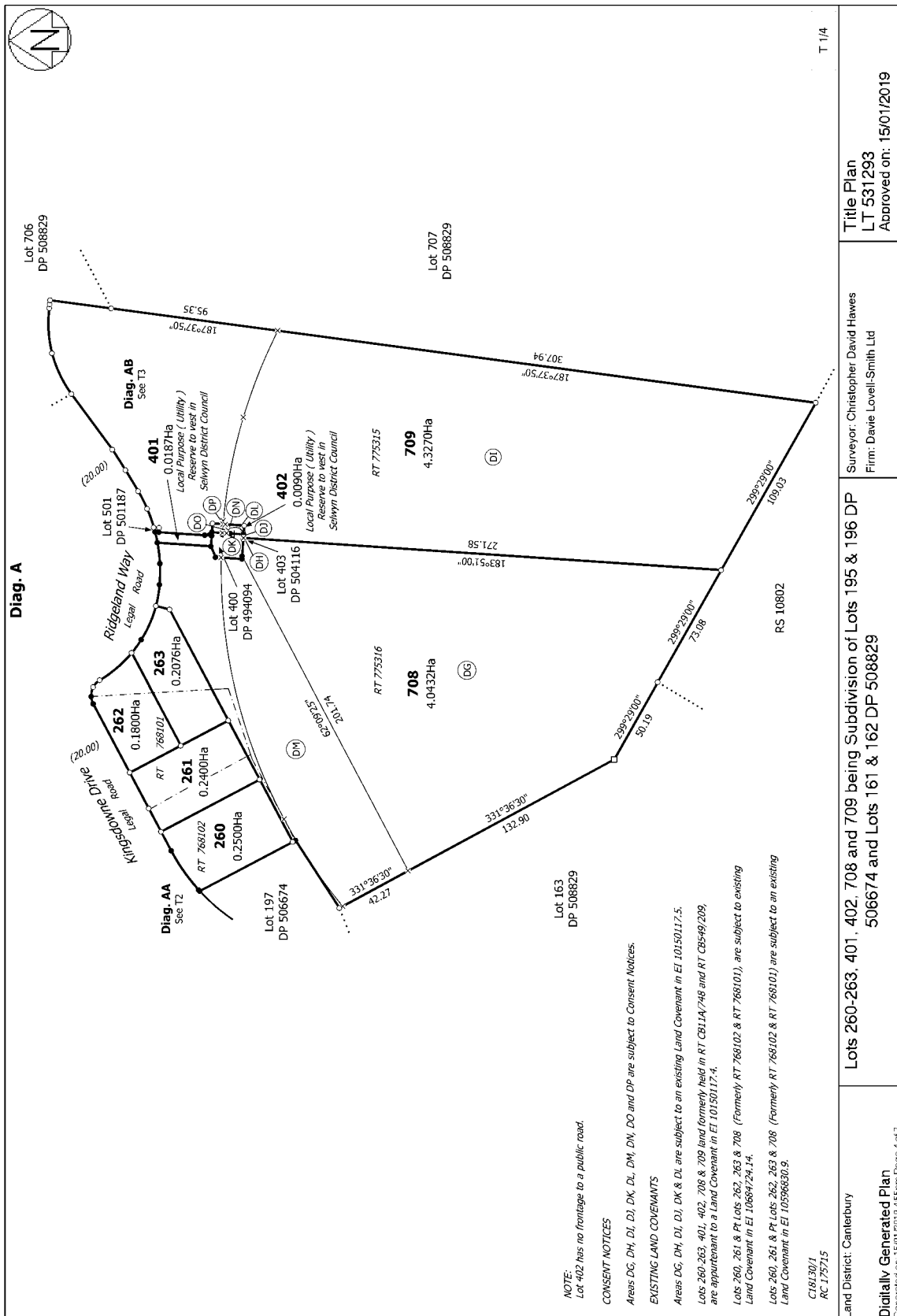
Identifier **866597**
Land Registration District **Canterbury**
Date Issued 21 December 2018

Prior References
775315

Estate Fee Simple
Area 4.3270 hectares more or less
Legal Description Lot 709 Deposited Plan 531293
Registered Owners
GW Wilfield Limited

Interests

Subject to Section 59 Land Act 1948 (affects part formerly Lot 703 DP 504116)
Subject to Section 206 Land Act 1924 (affects part formerly Lot 704 DP 504116)
Land Covenant in Easement Instrument 10150117.4 - 21.8.2015 at 1:33 pm
Land Covenant in Easement Instrument 10150117.5 - 21.8.2015 at 1:33 pm (affects part formerly Lot 704 DP 504116)
10309261.4 Mortgage to Kiwibank Limited - 22.1.2016 at 3:36 pm
Appurtenant hereto is a right to convey water and sewage created by Easement Instrument 10718118.3 - 2.5.2017 at 2:07 pm
The easements created by Easement Instrument 10718118.3 are subject to Section 243 (a) Resource Management Act 1991
Land Covenant in Easement Instrument 10718118.4 - 2.5.2017 at 2:07 pm
Fencing Covenant subject to Section 6(2) Fencing Act 1978 in Deed 11296885.10 - 21.12.2018 at 2:53 pm
11296885.11 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 21.12.2018 at 2:53 pm
11296885.12 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 21.12.2018 at 2:53 pm
11296885.13 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 21.12.2018 at 2:53 pm





**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
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R.W. Muir
Registrar-General
of Land

Identifier **866596**
Land Registration District **Canterbury**
Date Issued 21 December 2018

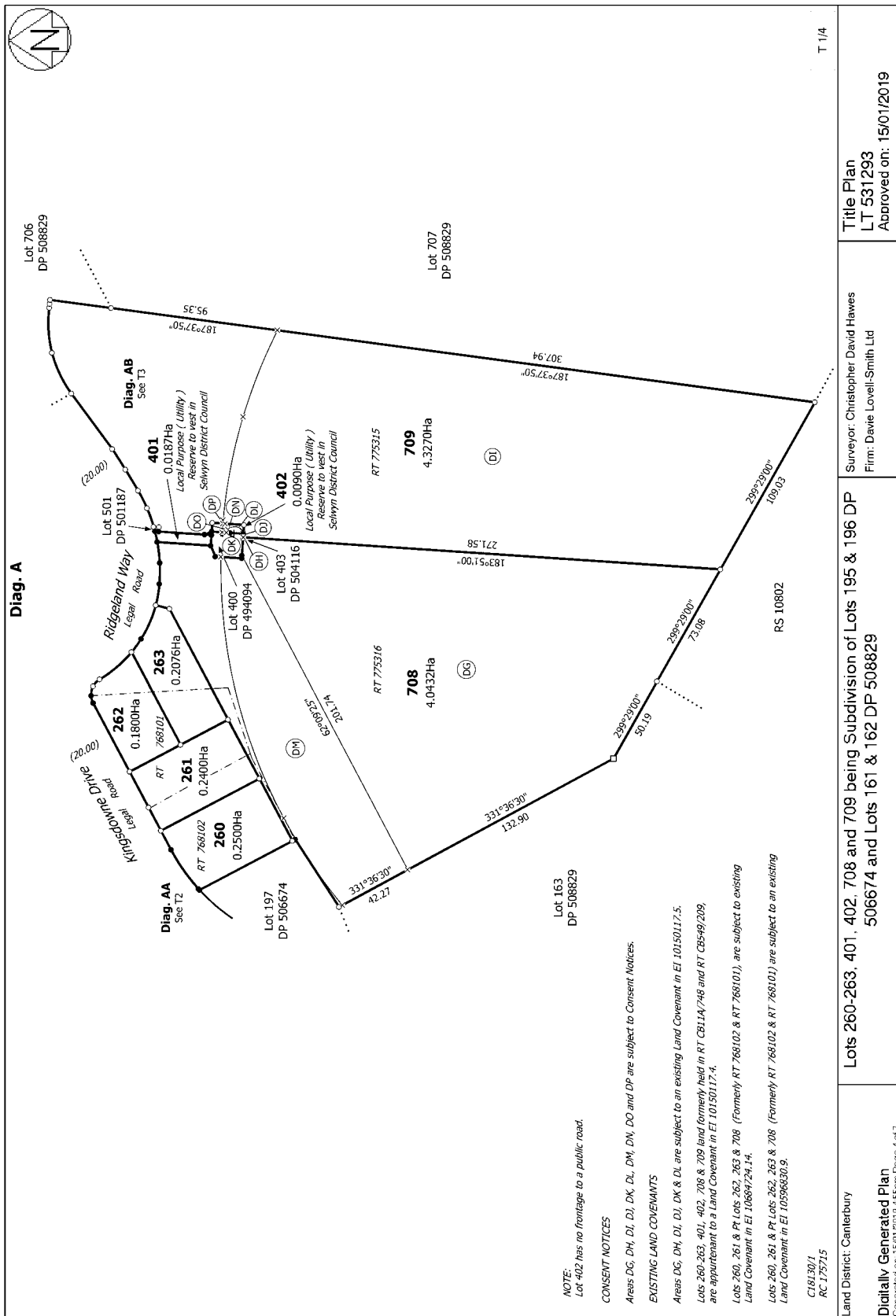
Prior References

768101 768102 775316

Estate Fee Simple
Area 4.0432 hectares more or less
Legal Description Lot 708 Deposited Plan 531293
Registered Owners
GW Wilfield Limited

Interests

Subject to Section 59 Land Act 1948 (affects part formerly Lots 146 and 703 DP 504116)
Subject to Section 206 Land Act 1924 (affects part formerly Lot 704 DP 504116)
Land Covenant in Easement Instrument 10150117.4 - 21.8.2015 at 1:33 pm
Land Covenant in Easement Instrument 10150117.5 - 21.8.2015 at 1:33 pm (affects part formerly Lot 704 DP 504116)
10309261.4 Mortgage to Kiwibank Limited - 22.1.2016 at 3:36 pm
Land Covenant in Easement Instrument 10596830.9 - 25.11.2016 at 3:10 pm (affects part formerly Lots 195 and 196 DP 506674)
Land Covenant in Easement Instrument 10684724.14 - 8.3.2017 at 5:03 pm (affects part formerly Lots 195 and 196 DP 506674)
Land Covenant in Easement Instrument 10718118.4 - 2.5.2017 at 2:07 pm (affects part formerly Lot 162 DP 508829)
Fencing Covenant subject to Section 6(2) Fencing Act 1978 in Deed 11296885.10 - 21.12.2018 at 2:53 pm
11296885.11 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 21.12.2018 at 2:53 pm
11296885.12 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 21.12.2018 at 2:53 pm
11296885.13 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 21.12.2018 at 2:53 pm





RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy




R.W. Muir
Registrar-General
of Land

Identifier **775317**
Land Registration District **Canterbury**
Date Issued 02 May 2017

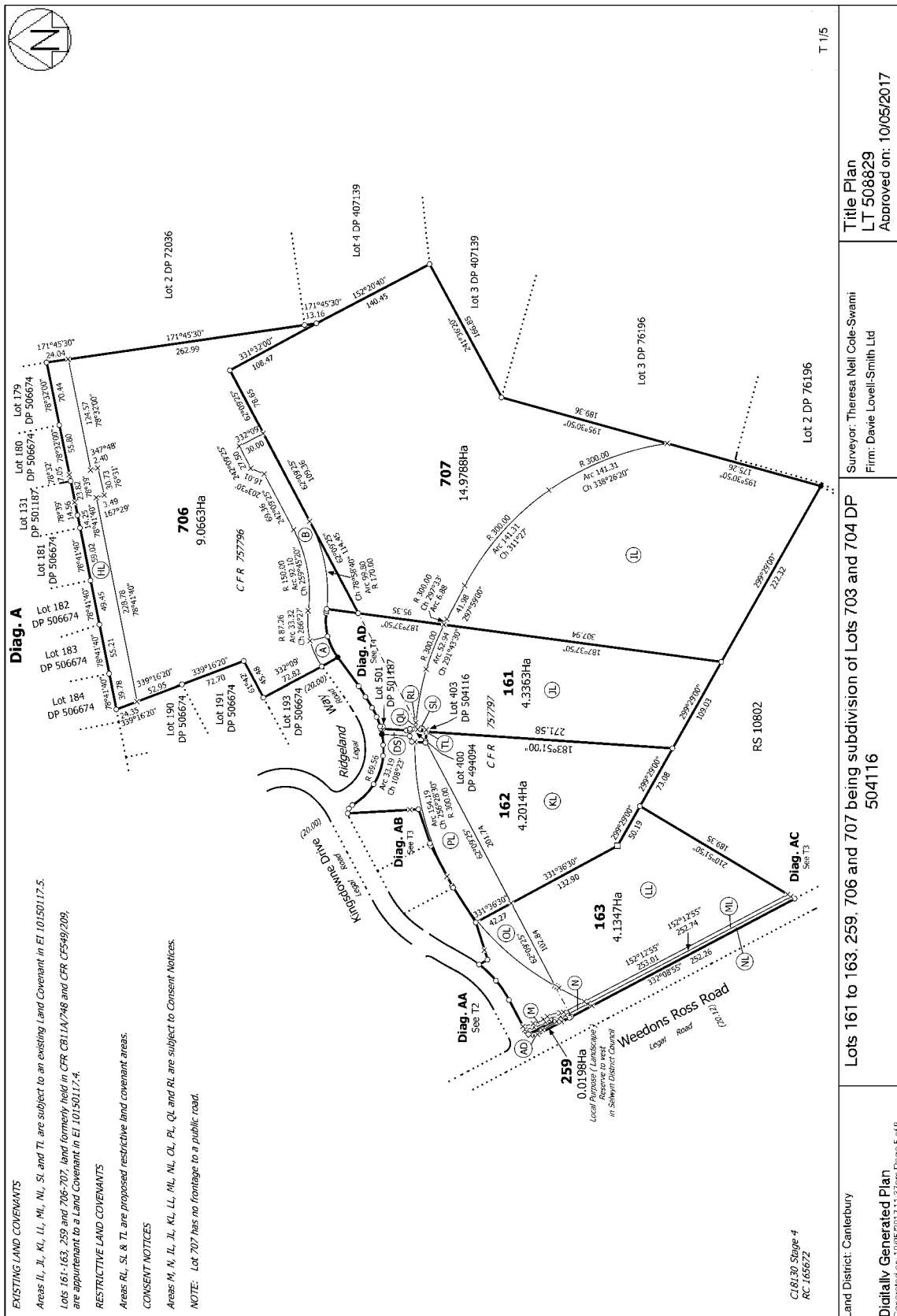
Prior References

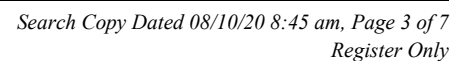
757796 757797

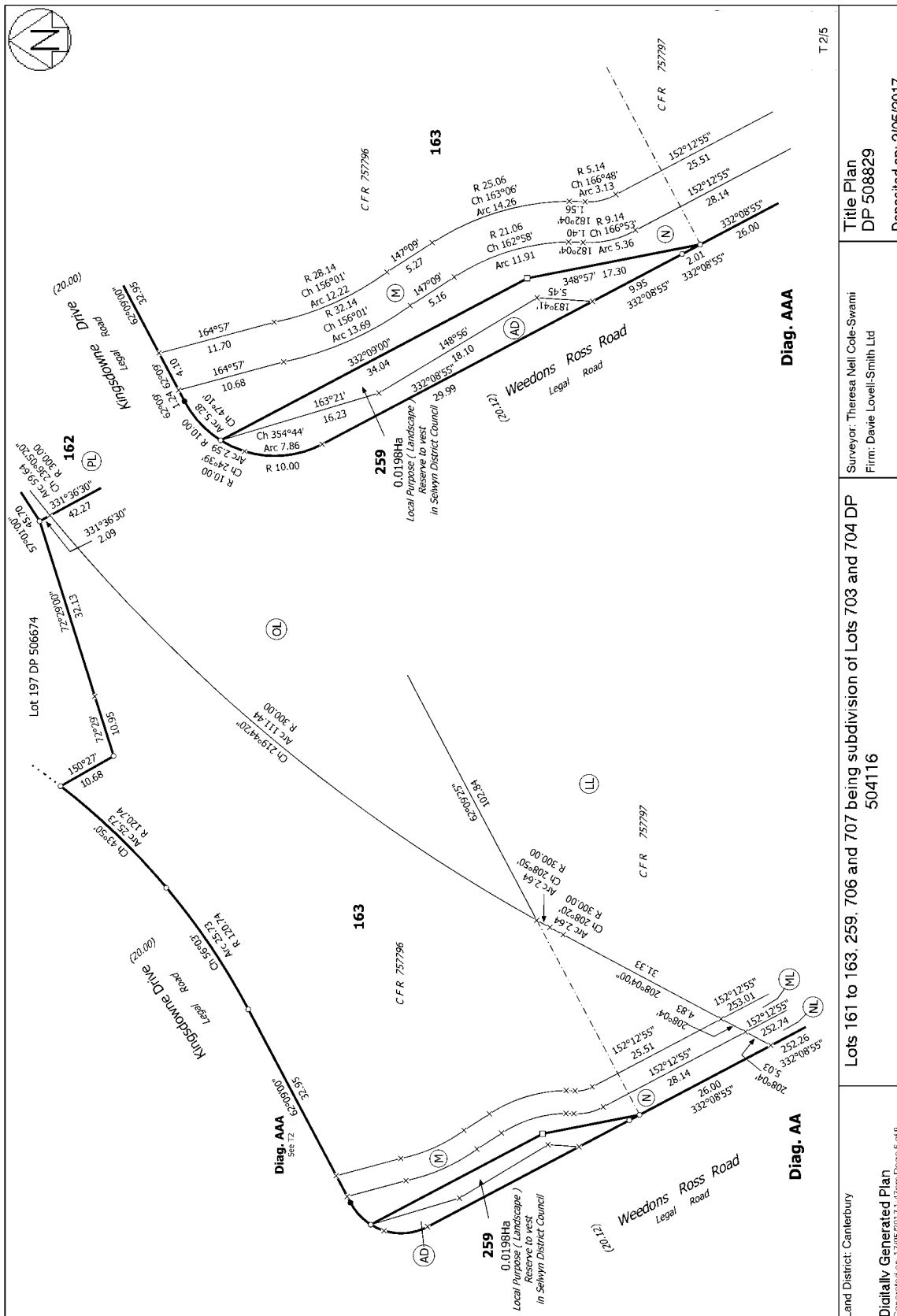
Estate Fee Simple
Area 4.1347 hectares more or less
Legal Description Lot 163 Deposited Plan 508829
Registered Owners
Margaret Ann Gray, Peter John Gray and B K Trustees (2015) Limited

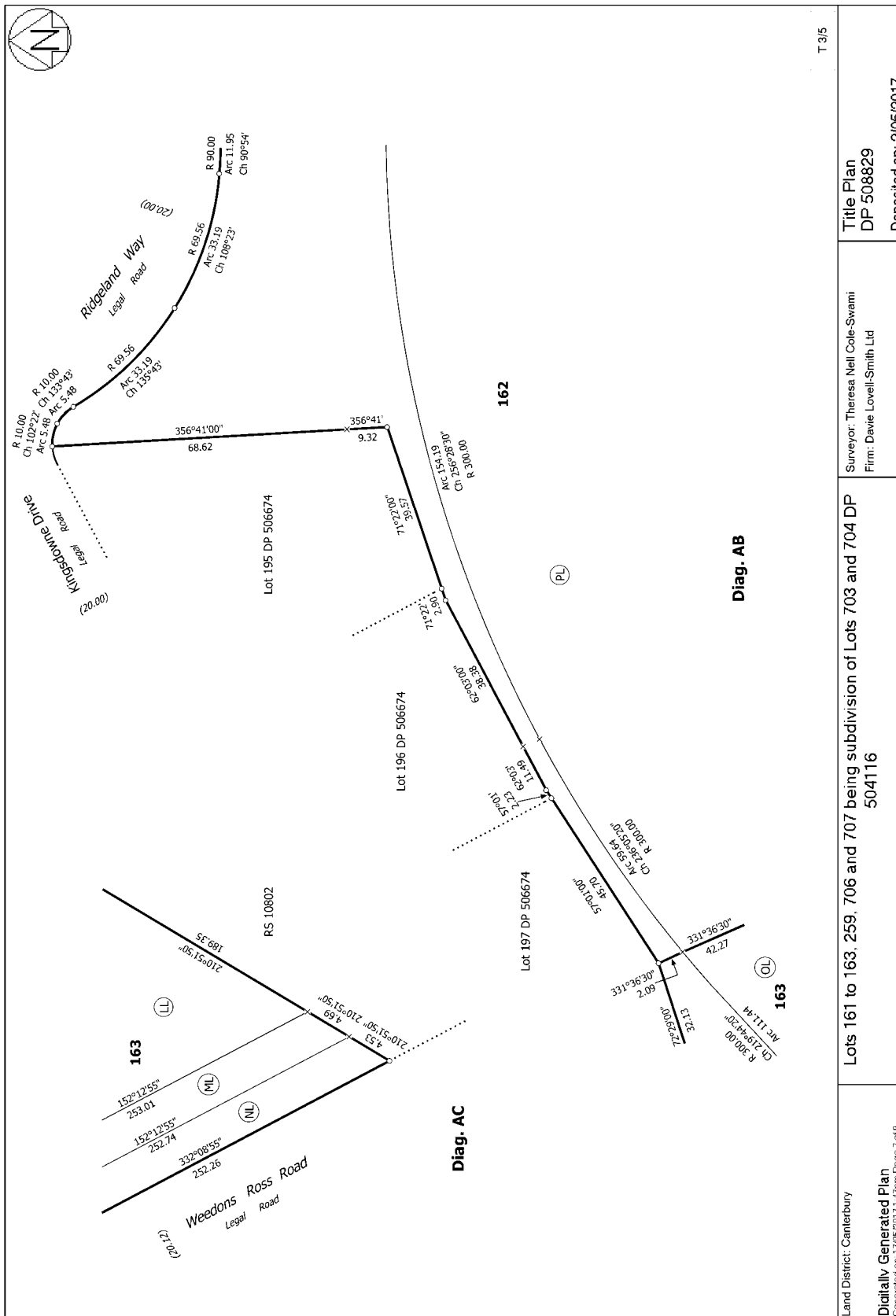
Interests

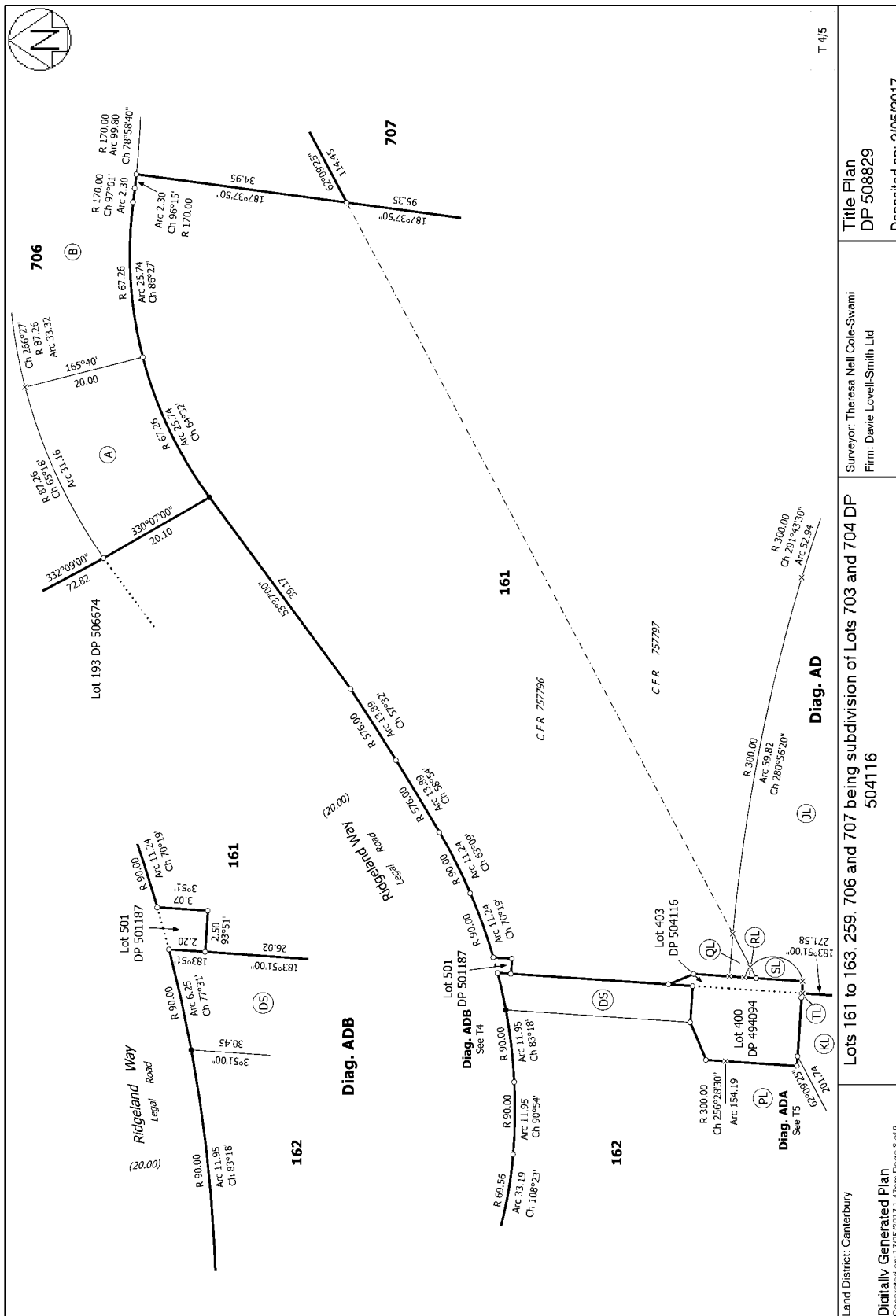
Subject to Section 59 Land Act 1948 (affects part formerly Lot 703 DP 504116)
Subject to Section 206 Land Act 1924 (affects part formerly Lot 704 DP 504116)
Land Covenant in Easement Instrument 10150117.4 - 21.8.2015 at 1:33 pm
Land Covenant in Easement Instrument 10150117.5 - 21.8.2015 at 1:33 pm (affects part formerly Lot 704 DP 504116)
10596830.10 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 25.11.2016 at 3:10 pm
10596830.11 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 25.11.2016 at 3:10 pm
Land Covenant in Easement Instrument 10718118.4 - 2.5.2017 at 2:07 pm
10718118.5 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 2.5.2017 at 2:07 pm
10718118.6 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 2.5.2017 at 2:07 pm
Fencing Covenant in Transfer 10934730.2 - 7.11.2017 at 12:16 pm

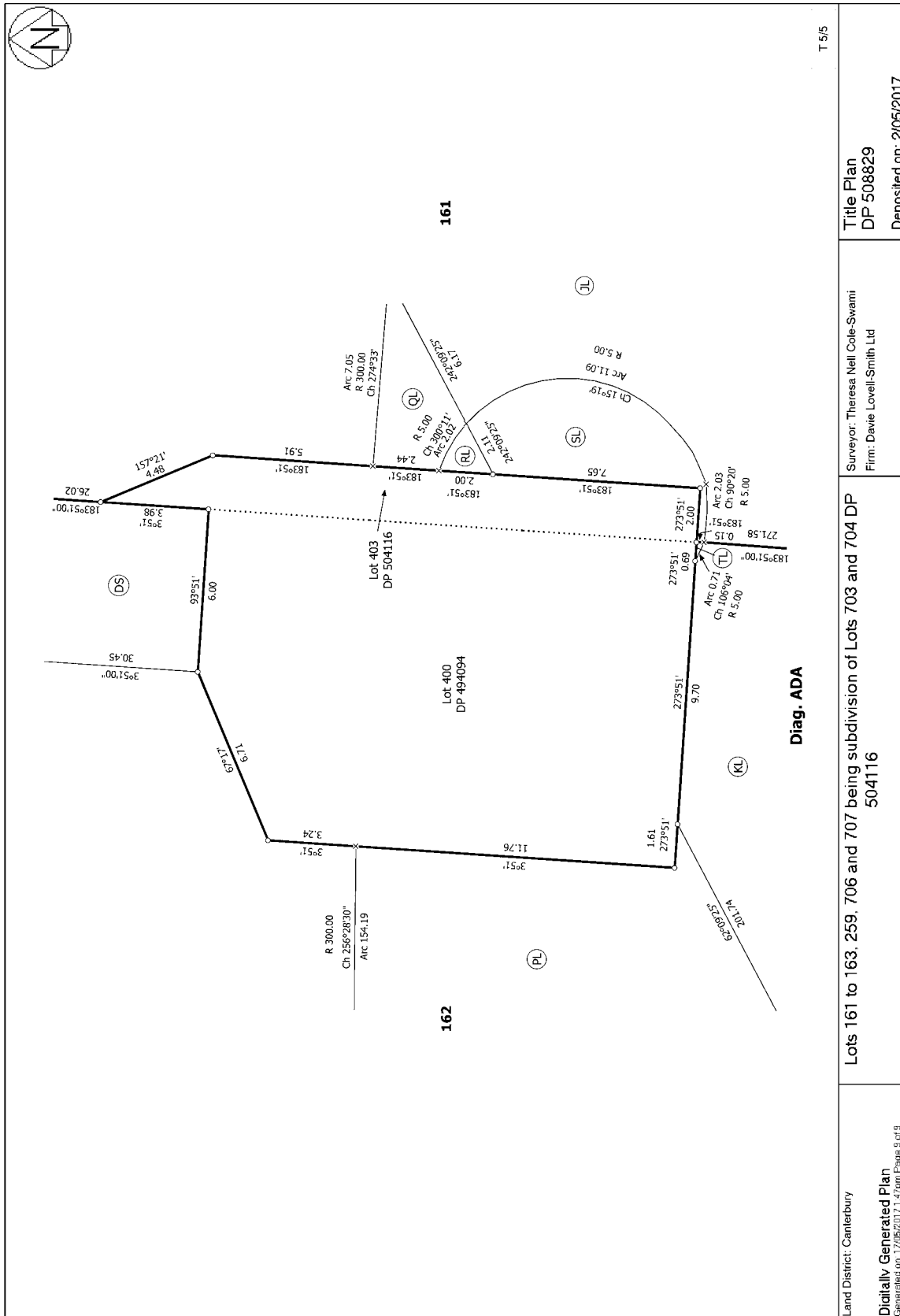






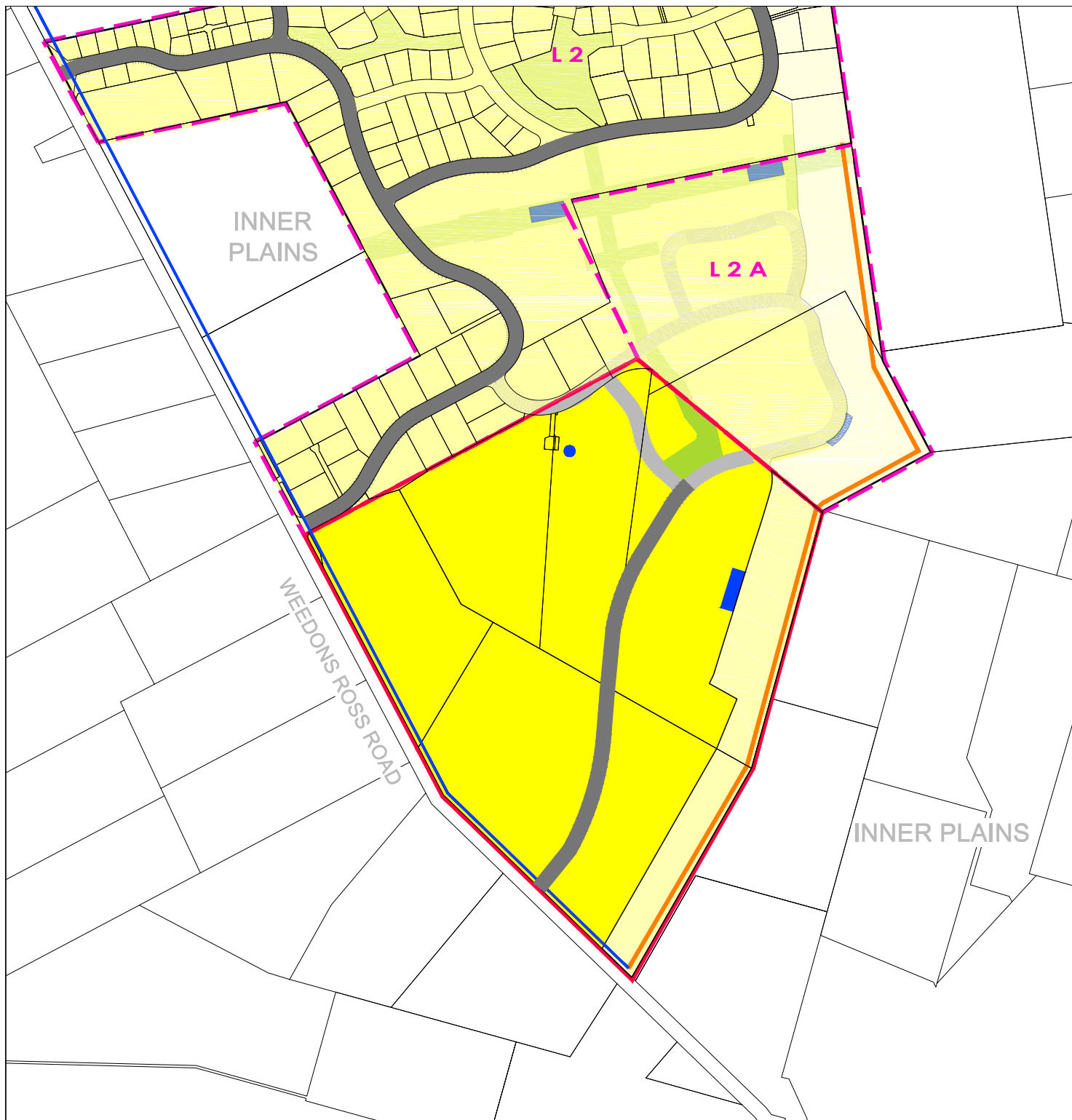








Attachment 2: Proposed Outline Development Plan



Legend

ODP boundary	Primary Route	Low Density	Neighbourhood Park
Parcel	Secondary Route	Medium Density	Interface Treatment
Indicative location for water bore	Existing water race	Soakage Areas	

Note:

All sections adjacent to Inner Plains zoned land will have a notice on their LIM referring to any potential reverse sensitivity issues between Residential and Rural landuses.

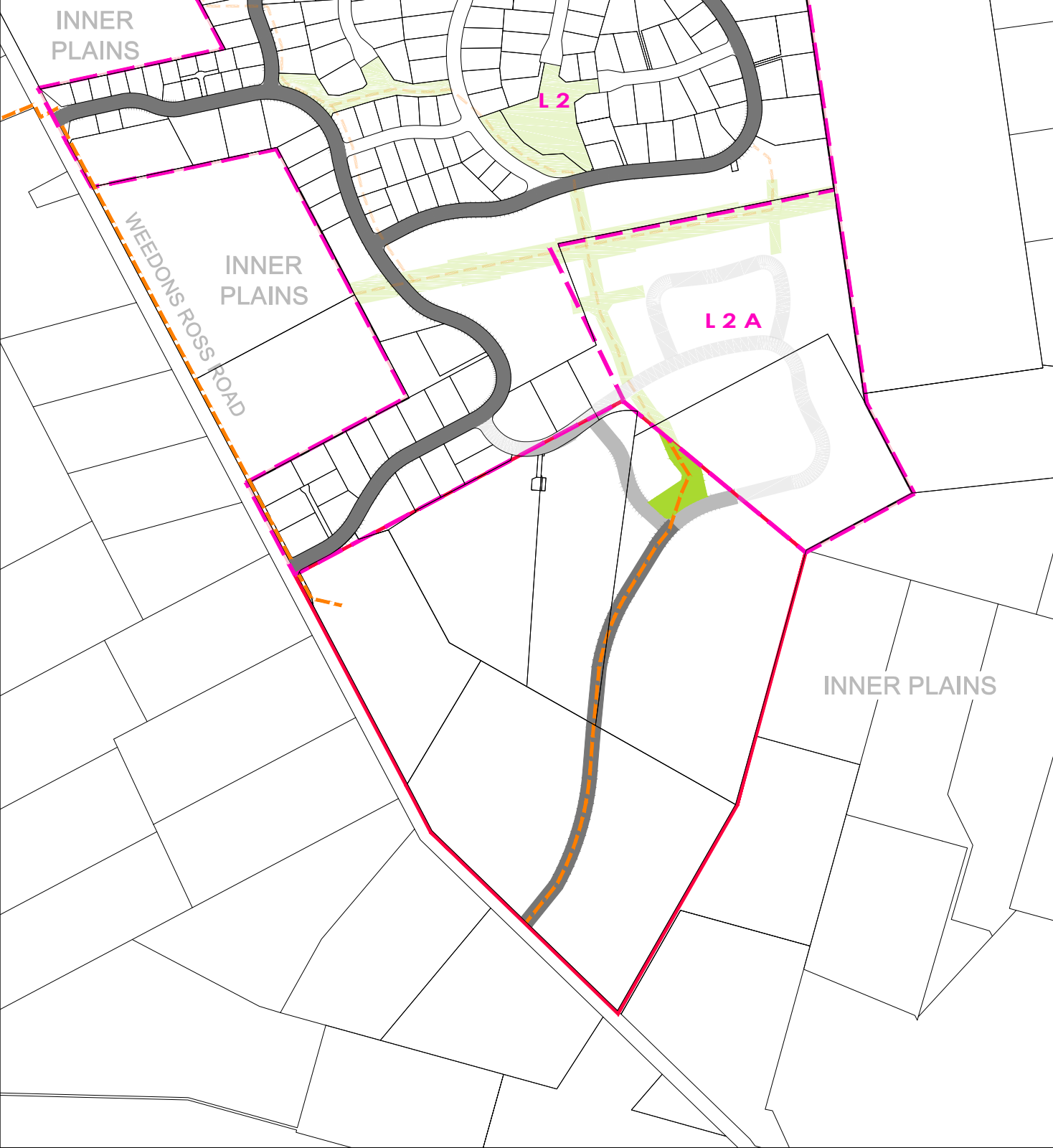
Interface treatment includes having larger residential sections as perimeter blocks where sections immediately adjoin a boundary with Inner Plains.

Outline Development Plan OVERALL Plan







Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

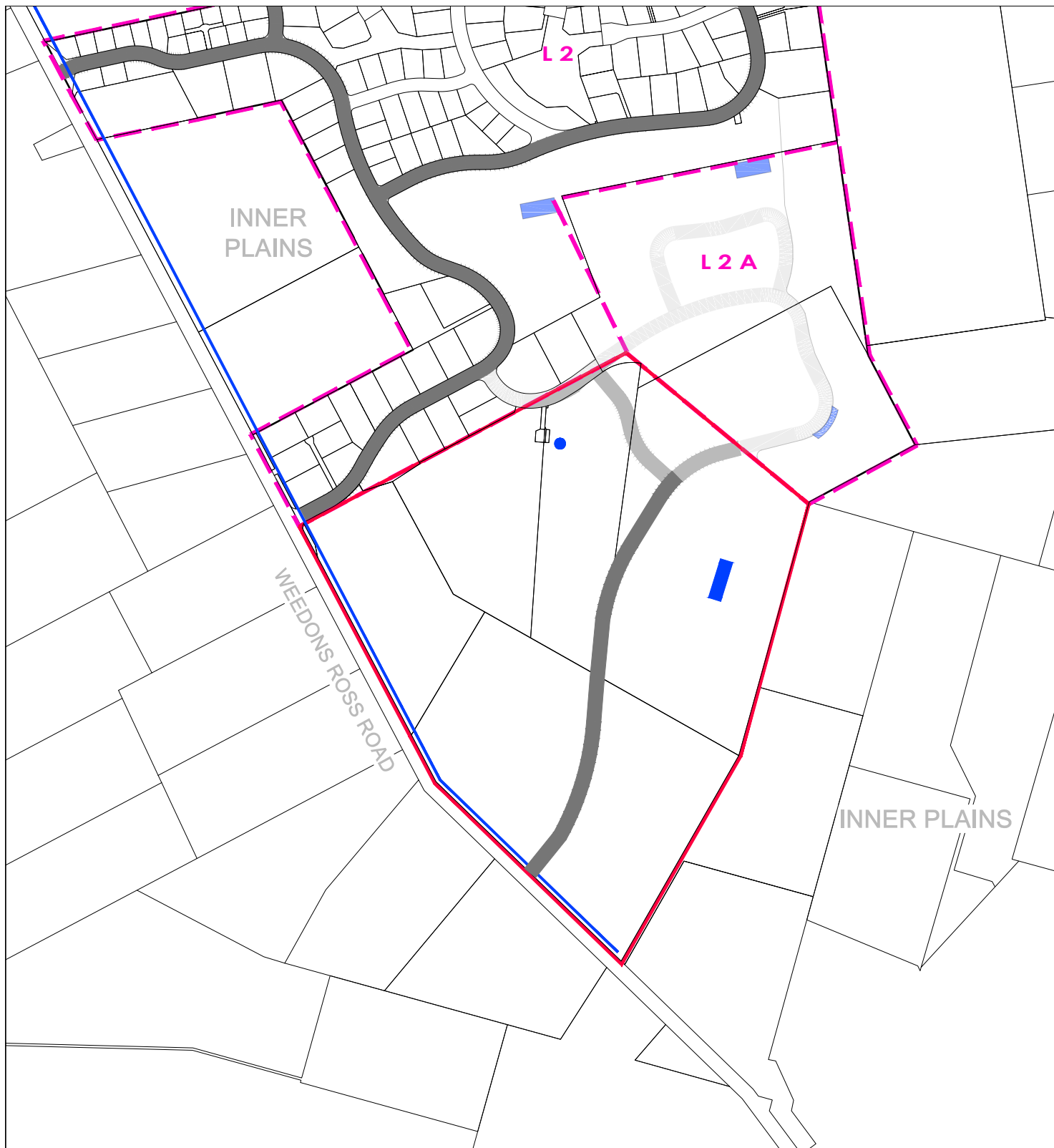
- | | | |
|--|---|--|
|  ODP boundary |  Primary Route |  Neighbourhood Park |
|  Parcel |  Secondary Route |  Shared pedestrian/cycle lane |

Outline Development Plan
TRANSPORT Plan








Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

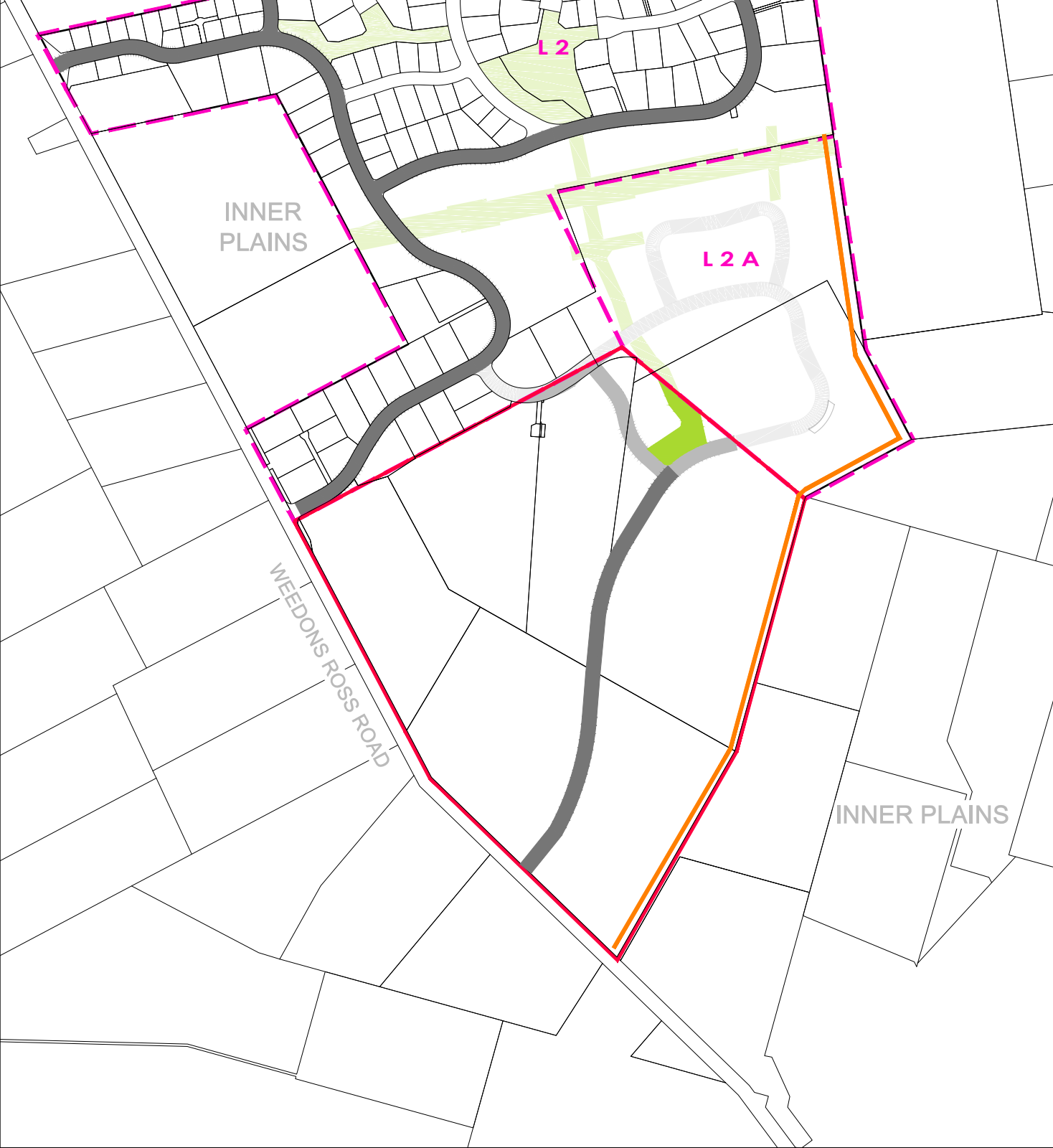
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|--|---|--|---|
|  ODP boundary |  Primary Route |  Indicative location for water bore |  Soakage Areas |
|  Parcel |  Secondary Route |  Existing water race | |

Outline Development Plan BLUE NETWORK Plan






Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

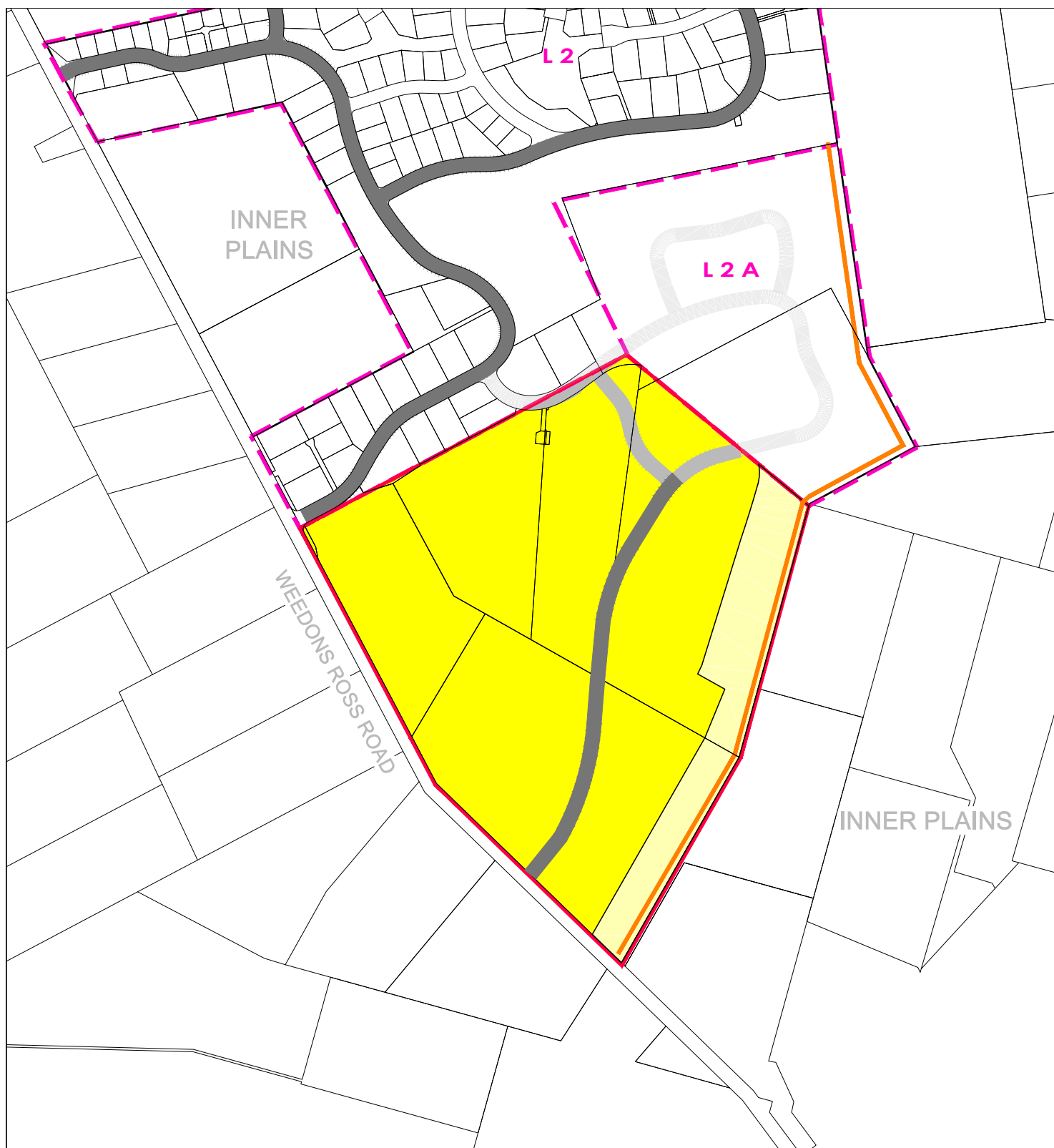
- | | | |
|--|---|--|
|  ODP boundary |  Primary Route |  Neighbourhood Park |
|  Parcel |  Secondary Route | |

Outline Development Plan
GREEN NETWORK Plan








Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

 ODP boundary	 Primary Route	 Low Density	 Interface Treatment
 Parcel	 Secondary Route	 Medium Density	

Note:

All sections adjacent to Inner Plains zoned land will have a notice on their LIM referring to any potential reverse sensitivity issues between Residential and Rural landuses.

Interface treatment includes having larger residential sections as perimeter blocks where sections immediately adjoin a boundary with Inner Plains.

Outline Development Plan LANDUSE Plan

Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4

OUTLINE DEVELOPMENT PLAN – LIVING WEST MELTON (LIVING WM) SOUTH ZONE

Introduction

This Outline Development Plan (ODP) area comprises 33.4 ha and is bound Kingsdowne Drive to the north and Weedons Ross Road to the west.

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

- The Land Use Recovery Plan (LURP)
- Canterbury Regional Policy Statement
- The Greater Christchurch Urban Development Strategy (UDS)
- The Ministry for the Environment's Urban Design Protocol
- The National Policy Statement on Urban Development (NPS-UD)
- 2009 Subdivision Design Guide

A single Overall ODP is accompanied by four more specific plans that reference the Density (Land Use), Movement Network, Green and Blue Networks.

Land Use Plan

The majority of the ODP area will provide for sites with a minimum lot area of 1,100m² and a maximum lot area of 3,000m². A low density area is located on the south eastern periphery of the ODP, with a minimum lot area of 3,000m² and a maximum area of 5,000m². The low density area will provide a buffer between the higher density residential areas located centrally within the ODP area, and the adjoining rural areas to the south east.

An interface treatment will be required along the south eastern boundary of the ODP area. The interface treatment will comprise a single row of trees planted on the boundary with the Rural Zone, with centres no further apart than 3m, and maintained at a height of not less than 2m. Suitable species include fast growing species such as Cupressus leylandii 'ferndown' or similar. The interface treatment is intended to achieve a substantial screen without creating adverse shading conditions for future residents.

Movement Network

For the purposes of this ODP, it is anticipated that the built standard for a "Primary Route" will be the equivalent to the District Plan standards for a Local-Major Road, and a "Secondary Route" 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 route that provides a north-south orientated extension to the roading network within the existing Living WM (South) Zone to the north;
- Secondary routes connecting the proposed primary route to existing Living WM (South) Zone roading network;

- Shared pedestrian and cycle connections through the ODP area, connecting to existing routes to the north of the ODP area, to enhance safe walking and cycling opportunities to other parts of West Melton township.

The remaining internal roading layout must provide for long term interconnectivity once full development is achieved. An integrated network of tertiary roads must facilitate the internal distribution of traffic, and if necessary, provide additional property access.

Green Network

One neighbourhood park is required towards the northern extent of the ODP area, to provide open space and facilitate attractive pedestrian connections. The park will connect to reserves required under the ODP of the adjoining Living WM (South) ODP indicated in Selwyn District Plan Township Volume Appendix 20.

Opportunities to integrate stormwater collection, treatment and disposal into the open space reserves also exist, where appropriate.

The proposed reserve network provides an opportunity to continue or create an ecological corridor. Plant selection in new reserves should include native tree and shrub plantings, such as *Olearia adenocarpa*, *Sophora prostrata*, *Muehlenbeckia ephedroides*, *Carex comans*, *Poa cita* and *Aciphylla subflabellata*.

Blue Network

Water race - An existing water race is located on the western edge of the ODP area, adjoining Weedons Ross Road. Any subdivision and road design will account for the presence of the water race, ensuring its ongoing function is not compromised.

Stormwater - the underlying soils are relatively free-draining and support the discharge of stormwater to ground. Stormwater will be discharged to ground directly via a system of soakpits and swales. Detailed stormwater solutions will be determined by the developer in collaboration with Council at the subdivision stage and in accordance with Environment Canterbury requirements.

Sewer – All new sites are intended to be serviced by Low Pressure Sewer, with a network of pipes transferring wastewater to the existing Council Pump Station on Silver Peaks Drive.

Water – The water reticulation will be an extension of existing reticulation within the ODP area. Upgrades of existing pipes may be required to ensure adequate water supply. The requirement for upgrades will be determined at the subdivision stage.



Attachment 3: Section 32 Evaluation



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Appendix A Infrastructure Report
Appendix B Runanaga Consultation
Appendix C Landscape and Visual Effects Assessment
Appendix D Integrated Traffic Assessment



Introduction

1. GW Wilfield Ltd requests a change to the Selwyn District Plan to rezone approximately 33.4 hectares of Rural Zone, to Living WM South Zone, at West Melton.
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:
 - Infrastructure report (Appendix A)
 - Runanga consultation (Appendix B)
 - Landscape and Visual Impact Assessment (Appendix C)
 - Integrated Transport Assessment (Appendix D).
3. The site immediately adjoins an existing residential area that is currently zoned Living 2 and Living 2A, but which is subject to Plan Change 59, which seeks to amend the zoning to Living WM (South) Zone. The density of development and Outline Development Plan (ODP) layout proposed via this plan change application is consistent with that proposed under Plan Change 59. It is acknowledged that this Plan Change application is dependent on the adoption of Plan Change 59, more or less in its currently proposed format. If Plan Change 59 does not become an operative part of the Selwyn District Plan, this Plan Change application will no longer be an efficient or effective use of the land in question.

The Site and Surrounding Environment

4. The site is located at Weedons Ross Road, south of Kingsdowne Drive, on the south side of the current West Melton township. 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.
5. The site is accessed from Weedons Ross Road directly, and via Kingsdowne Drive. To the north of the site is the existing residential area referred to as Wilfield and, across State Highway 73, is the existing West Melton township. To the east and west is Rural Zone land used predominantly for grazing or similar rural activity.



Figure 1: Aerial photograph of site (Source: Canterbury Maps)

6. The site itself contains a former chicken farm that is no longer in operation, with an existing dwelling located adjacent the former chicken farm buildings. The site is in the process of being subdivided to provide for two allotments of 1739m² and 1636m² in area and one balance allotment of approximately 17.6ha (RC185376/377). Two allotments of 4 ha+ area are located adjoining Weedons Ross Road. A small utility allotment exists at the northern edge of the site adjoining Ridgeland Way, which contains a municipal water supply well. A dwelling is established at 91 Kingsdowne Drive.

The Plan Change

Description of the Proposal

7. It is proposed to rezone approximately 33.4 hectares of Rural Inner Plains Zone land to Living West Melton (WM South) Zone. The existing Living WM Zone is proposed to be renamed Living (WM North) Zone under Plan Change 59 and will be unaffected by the current proposal.
8. The rezoning will provide for an urban density of development, consistent with that sought under Plan Change 59.



9. The majority of the Plan Change will provide for sites with a minimum lot area of 1,100m² and a maximum lot area of 3,000m²; and a low density area located on the eastern periphery of the Zone, with a minimum lot area of 3,000m² and a maximum area of 5,000m².

Proposed Amendments to the District Plan

10. 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 (WM South) Zone.
 2. To amend Township Volume, Appendix 20 ODP West Melton by adding the ODP attached in **Attachment 2**.
 3. Any other consequential amendments including but not limited to renumbering of clauses.

Servicing

14. The development will be fully reticulated with sewer, water, stormwater, electricity and telecommunications, as set out in the Infrastructure Report attached in Appendix A.
15. In summary, the site will be serviced as follows:
 - Sufficient sewer capacity is available within the local sewer network to the site to accommodate anticipated demand, though an additional connection will need to be made to the Silver Peaks Drive pump station. Pump station upgrades are identified as necessary at Silver Peaks Drive and Rossington Drive, which would be addressed at the time of further subdivision. The sewer connection from West Melton to the Pines Treatment Plant in Rolleston is identified as being at capacity. Extension of an existing Rising Sewer is identified as a viable solution for future subdivisions, to address the issue;
 - Stormwater will be discharged to ground directly via a system of soakpits and swales, as is currently the case in the Wilfield subdivision;
 - West Melton's current water supply is identified as being at capacity, an issue that the District Council has been working to address. The Infrastructure Report identifies required upgrades, that would further investigated at subdivision stage and the costs of required upgrades borne by developers;
 - Electricity and telecommunications will be reticulated via underground cables to new residential sites.

Consultation

16. The applicant's consultants have discussed the application with Selwyn Council staff through the development of this proposal, to ensure all issues were appropriately addressed and that the development can be adequately serviced. This includes



consultation with Mr Ben Rhodes and Mr Robert Love (planning), and Mr Murray England (infrastructure).

17. Consultation with local runanga was undertaken via Mahaanui Kurataiao Limited for Plan Change 59. As the current Plan Change site is an immediate extension of the Plan Change 59 land and contains no sensitive features such as natural waterways, indigenous vegetation of value or areas of identified cultural value, the runanga responses received for Plan Change 59 are considered to be equally helpful for this Plan Change application. Those responses are contained in Appendix B.

Assessment of Environmental Effects of the Proposed Plan Change

18. This assessment is being undertaken in respect of Clause 22(2) of Schedule 1 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.

19. The range of actual or potential environmental effects arising from the plan change request as seen as being limited to the following:

Landscape and Visual Effects

20. A Landscape and Visual Effects assessment of the proposed Plan Change has been undertaken by DCM Urban Ltd, and is attached in Appendix C. 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.
21. Section 6 of the Landscape and Visual Effects assessment recommends a range of mitigation measures to mitigate against potential adverse visual effects. The recommended mitigation measures and the applicant's response to those recommendations are:

Recommendation	Response
Open style fencing adjacent to reserves.	Township Volume, Part C, Rule 4.17 is amended via Plan Change 59 to require open style fencing adjoining reserves. Hedging is otherwise permitted.



Pedestrian link created through the development	A requirement of the proposed ODP.
Lower density lots on the eastern edge of the Plan Change area.	A requirement of the proposed ODP.

22. With the implementation of the recommended mitigation measures, the Landscape and Visual Assessment concludes that the residual adverse effects on Landscape Character, Landscape Values and Amenity resulting from the proposal will be less than minor, at most. 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.

Transport

23. 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.
24. That assessment considers the proposed transport connections provided by the proposed Outline Development Plan, and transportation related impacts of the increase in the number of allotments that can be developed with the proposed Plan Change.
25. The assessment concludes that the proposal could result in an additional 131 residential lots, that could generate extra traffic volumes of approximately 790 vehicle movements per day and 80 per peak hour. The assessment further concludes:

Across the wider traffic network, including on Weedons Ross Road south of the site and on SH73 east and west of West Melton, the additional traffic volumes would be accommodated noting there are widening improvements proposed to the arterial route along Weedons Ross Road, and signalisation of its intersection with SH73 in West Melton.

An ODP is proposed that will enable integration with the Wilfield subdivision and existing urban area. The new intersection on Weedons Ross Road is proposed in a location to enable safe connection to the transport network, and an extension of the pedestrian/cycle network is proposed along Weedons Ross Road.

Whilst the site is currently not well serviced by public transport, that is the case for West Melton which only has a peak period service available. The site is well located if future connections are made between West Melton and the Rolleston Hub, or for access to park and ride services at Rolleston.

With the level of development planned and provisions assessed, the Plan Change can be supported from a transportation perspective.

26. 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.



Infrastructure

27. 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, is assessed in the Infrastructure Report attached in Appendix A, prepared by Davie, Lovell-Smith Ltd.
28. As noted above, West Melton is subject to capacity constraints in respect of sewer and water supply. The Infrastructure Report has identified solutions to those capacity constraints, in consultation with the Selwyn District Council. Stormwater treatment and disposal and electricity and telephone services are able to be provided to and within the site. Based on the conclusions reached in the Infrastructure Report, it is considered that any potential adverse effects arising from the servicing of the site can be adequately avoided or mitigated.

Reverse Sensitivity

29. Historically, an intensive chicken farm was located within the Plan Change site. That farming operation has now been discontinued.
30. No other activities in the vicinity of the Plan Change site are likely to give rise to notable reverse sensitivity effects. Further, a lower density of residential development will be maintained along the periphery of the Plan Change area, where the Plan Change adjoins rural-zoned land that is owned by parties other than the applicant. The lower density will assist in minimising the potential for reverse sensitivity effects to arise.
31. Potential adverse reverse sensitivity effects from the Plan Change proposal are therefore considered to be negligible.

Natural Hazards and Contaminated Land

32. The Plan Change site is not subject to any notable natural hazards. The site is not noted on the District Plan Planning Maps as being subject to flood hazard. Previous geotechnical investigations for subdivisions within much of the site have confirmed the absence of any natural hazards that would preclude residential development.
33. Comprehensive Preliminary and Detailed Site Investigations have been undertaken in conjunction with subdivisions undertaken within the site to date, excluding the land contained within Rural Section 10802 Blk XI Rolleston SD (the chicken farm block). Small areas of identified historical contamination have been remediated and it is understood that no further investigations or resource consents will be required under the NES for Assessing and Managing Contaminants in Soil to Protect Human Health on this land.
34. The site of the former chicken farm is identified as HAIL site on the Environment Canterbury Listed Land Use Register, relating to persistent pesticide bulk storage or use (not investigated). No other notable sources of contamination are known to exist on the site. It is anticipated that a detailed site investigation will be required in respect of Rural Section 10802 Blk XI Rolleston SD, at such time as subdivision and development of the site occurs. At that time, appropriate land remediation measures can be identified. It is noted that the existing residential buildings on site are to be retained. The nature of contamination known or anticipated on the chicken farm site is such that it will be able to be dealt with at future



subdivision stage and is not of any significance that warrants further investigation in support of the Plan Change.

Amenity Values

35. 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*'. 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). The site does not contain any rivers, wetlands or other natural waterbodies of relevance in terms of Section 6(a) of the Resource Management Act.
36. The Landscape and Visual Assessment contained in Appendix C further analyses the visual and landscape character of the site, in Section 3.1 of that document. The site has no unusual or notable spiritual or cultural values, nor has it any particular recreational value. The site aesthetic is that of a substantially undeveloped rural area.
37. The proposed rezoning will change the character and amenity of that part of the Plan Change area from rural to residential. The Landscape and Visual Effects Assessment has assessed the visual amenity effects of the proposal as generally less than minor. Effects on broader amenity values are similarly considered to be less than minor, with the character and amenity values becoming residential in nature, consistent with the wider West Melton township. That assessment is predicated on the adoption of the mitigation measures recommended in the Landscape and Visual Effects Assessment. As set out above, those measures have been adopted and form part of this Plan Change application.

Sites of Significance to Iwi

38. The site contains no natural surface waterbodies and no known waahi tapu, taonga or other sites of significance to Iwi. It is expected that any subdivision consent for development of the zone will incorporate a condition of consent addressing accidental discovery protocol.
39. Feedback from runanga was provided in regard the Plan Change 59 area, which is considered to be similarly helpful for the proposed Plan Change, given the subject site has the same or very similar characteristics as the Plan Change 59 site and is immediately adjoining.
40. Runanga feedback confirmed support for an on-site land-based stormwater disposal system, acknowledges that an Accidental Discovery Protocol is a suitable mechanism to mitigate against the potential adverse effects of earthworks on wahi tapu and wahi taonga values, and includes a series of recommendations. Those recommendations are anticipated to be equally applicable to the current application site, and include planting with appropriate indigenous vegetation, and locally sourced indigenous vegetation. Those provisions are considered to be appropriately addressed at the time of subdivision and development. The report also recommends that the new zone be subject to the existing rule requiring land use consent holders to follow an Accidental Discovery Protocol during earthworks, and that is to be the case for the proposed Plan Change.



Urban Form

41. 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 West Melton township.

42. The issue is addressed in the Landscape and Visual Assessment Report contained in Appendix C. That report states:

The Plan change area is considered a natural extension of the Wilfields development in West Melton, being of an anticipated density for residential dwellings on the edge of the existing settlement. While the proposed density is relatively low, I consider it appropriate for its setting on the edge of the township. I consider that the Plan Change area is a[n] in-sequence development adding to development capacity in West Melton, but at an appropriate level...

43. The Report goes on to note the location of several township amenities on the southern side of State Highway 73, including the Community and Recreation building, the Domain and the Tavern. The possible future direction of growth is identified as being southwards. The Report concludes that although the proposed Plan Change is approximately 1km from the town centre (and a lesser distance to the Domain), it is considered within an acceptable radius from an urban form perspective.

Statutory Requirements of Section 32 of the Act

44. 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.

45. 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.
46. Section 32(6) clarifies that where no actual objectives are stated in the proposal, the objective is the purpose of the proposal.
47. A Ministry for the Environment guide to Section 32¹ 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.

Objectives and Policies of the Selwyn District Plan

48. 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.
49. 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.
50. In regard to the more general objective of the proposal, being the purpose of the proposal, the objective is to provide for a new Living West Melton Zone as an extension of the adjoining existing residential zone. Provision for an increase in density within the Plan Change area, whilst maintaining a requirement for low density residential development on the rural-urban interface, is considered appropriate to 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 form that exists currently, the proposal is considered to be an efficient use of the physical land resource.
51. 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 West Melton township itself. There are also objectives and policies addressing urban form and residential amenity generally. These are addressed in Table 1 below.

¹ MfE, A Guide to Section 32 of the Resource Management Act 1991 (2017), Wellington.



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	
<p>Objective B4.1.1</p> <p><i>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.</i></p> <p>Objective B4.1.2</p> <p><i>New residential areas are pleasant places to live and add to the character and amenity values of townships.</i></p> <p>Policy B4.1.10</p> <p><i>Ensure there is adequate open space in townships to mitigate adverse effects of buildings on the aesthetic and amenity values and "spacious" character.</i></p>	<p>The proposal will ensure that West Melton continues to provide for a range of living environments. The subject area will be a pleasant place to live and will contribute to the character and amenity of West Melton.</p> <p>The density of the development will remain lower than found in Living 1 Zones, with comparatively low site coverage limits to ensure a spacious character and amenity values are maintained. One neighbourhood reserve is proposed within the ODP area.</p>
<p>Objective B4.3.1</p> <p><i>The expansion of townships does not adversely affect:</i></p> <ul style="list-style-type: none"> - 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. <p>Objective B4.3.3</p> <p><i>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.</i></p> <p>Objective B4.3.4</p> <p><i>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.</i></p> <p>Objective B4.3.5</p> <p><i>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.</i></p> <p>Policy B4.3.1</p> <p><i>Ensure new residential, rural residential or business development either:</i></p> <ul style="list-style-type: none"> - 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 	<p>The Plan Change will not adversely affect any notable natural or physical resources, beyond the removal of some land from primary production. 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 amenity. The site has no notable special values.</p> <p>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.</p> <p>In regard to infrastructure, the proposal will place additional demand on services such as water and sewer. Upgrades will be required to service the proposal site and this can be undertaken through a combination of developer contribution and existing planned Council upgrades.</p> <p>The proposal will not leave Rural zoned land surrounded by urban zoning.</p> <p>The township shape will remain reasonably compact, albeit the proposal will expand the township further to the south rather than consolidating development closer to the town centre.</p>



- 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.

Policy B4.3.98

Provide a primary focus for new residential or business development north of State Highway 73 and south of Halkett Road, and to allow only a limited extent of new low density residential development south of State Highway 73.

Policy B4.3.99

Promote a consolidated pattern of future urban growth in West Melton.

Policy B4.3.101

Promote new residential areas in West Melton that maintain the lower residential density of the existing village, where practical, whilst providing for the efficient and effective development of the Living WM zone.

The extent of development south of State Highway 73 will continue to be limited by the density provisions of the District Plan, and will remain low density. The explanation to Policy B4.3.98 indicates that the restriction is necessary to maintain the safety and efficiency of the highway. The Transport Assessment contained in Appendix C confirms that the proposal is supportable from a traffic perspective and will not compromise the safety and efficiency of State Highway 73.

As noted above, the proposal will maintain a reasonably consolidated growth pattern, albeit the township will develop in a more southerly direction than is currently the case.

The proposal will maintain the lower density of the existing village.

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.

The Transport Assessment contained in Appendix C 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.

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.

In regard Policy 2.1.15, the proposed amendment to the 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.

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.

In regard the State Highway, the proposal will not extend the township any further along the State Highway.

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.

In regards utilities and as stated in the Infrastructure Report contained in Appendix B, while the township is subject to some sewer and water supply constraints currently, they are able to be resolved.

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.*

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.

Policy B2.2.5

Avoid potential 'reverse sensitivity' effects of activities on the efficient development, use and maintenance 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.

There are no notable natural hazards within the Plan Change area. Geotechnical investigations for the previously approved subdivisions within the site have indicated that the land is primarily firm and dry, with 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.

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;*

The proposal will maintain a relatively compact town form albeit the town will extend further to the south than is currently the case. 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 provision for pedestrian and cycle links as well as vehicle access.

The proposal will provide for a character and amenity that is consistent with the remainder of the West Melton Township and the existing developing areas of the Wilfield subdivision.

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

There are no existing activities with which the development is anticipated to be incompatible, noting that the chicken farm located on the Plan Change site is no longer in operation.



- *block proportions are small, easily navigable and convenient to encourage cycle and pedestrian movement;*
- *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.*

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.

The Plan Change area is understood to encompass some areas of versatile soils towards the south of the site². The proposal is not understood to create a shortage of land or soil resources and the area of versatile soils to be removed from productive use is not large relative to the wider availability of versatile soils in the District.

The development of the site 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.

² Selwyn District Council Baseline Assessment – Versatile Soils (DW015), undated.



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.

52. 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. Overall, it is considered that the resultant character, amenity and environmental effects of the proposal are consistent with those sought in the District Plan for West Melton. 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

53. In assessing the firstly the benefits and costs of the Plan Change, three options have been considered:
- Leave the area zoned Rural
 - Rezone the entire site to Living WM South Zone
 - Apply for resource consent for subdivision and development under the current zoning.
54. The following is an assessment of these options. It should be noted that option 2 is premised on Plan Change 59 being adopted in more or less its current form, into the Selwyn District Plan. If Plan Change 59 is rejected, additional costs would be added to Option 2, notably including costs associated with a disjointed urban form, that would make Option 2 both inefficient and ineffective, with costs outweighing the benefits of the proposal.

Benefits and Costs of Option 1 – Leave the area zoned Rural

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none">• Maintains the existing character and amenity of the area.	<ul style="list-style-type: none">• Does not meet market demand for residential sites in West Melton.



<ul style="list-style-type: none"> • No time or costs arising from a plan change process. • No additional demands on infrastructure. • No effects on versatile soil resources. 	
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Benefits and Costs of Option 2 – Rezone the site to Living WM South (the proposal)

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Increasing the availability of allotments within West Melton township. • Economic benefit to Council from larger rating base through additional properties being added upon subdivision. • Economic benefit to the landowner from development of the property. • Provision of high quality residential amenity for future residents. • Additional supply of housing will assist in avoiding price rises resulting from otherwise suppressed housing supply. 	<ul style="list-style-type: none"> • Change in character and amenity of the site from rural to urban. • Increase in traffic generated in and around West Melton township. • Additional infrastructure capacity required, to be provided at developer's cost. • Loss of low productivity rural land.

Benefits and Costs of Option 3 – Apply for resource consents to achieve increased density

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Council has the ability to more fully assess the proposal, in light of more detailed information required as part of a subdivision consent application. • Council has the ability to place stricter controls on the development 	<ul style="list-style-type: none"> • Existing and future purchasers would need to obtain consent if they were to alter uses beyond what is permitted in the District Plan or already consented.



<p>through consent conditions than may be possible through a plan change.</p> <ul style="list-style-type: none"> • If granted, would allow for a greater number of allotments, with associated efficiency of land development. 	<ul style="list-style-type: none"> • Restricted timeframe in which land has to be developed and houses built, leading to potential economic costs for landowner/developer. • Less flexibility in being able to develop the land. • Possibly higher costs to develop land through the placing of tighter controls on the development by way of strict conditions on a consent. • High difficulty of obtaining resource for non-complying status subdivisions. • Change in character and amenity of the site from rural to urban. • Increase in traffic generated in and around West Melton township. • Additional infrastructure capacity required, to be provided at developer's cost. • Loss of low productivity rural land.
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55. The above assessment indicates that the costs of option 3 outweighs the benefits. Numerically the benefits of option 1 outweigh the costs, however the lost opportunity to provide for additional residential housing capacity carries considerable weight. Option 2, the proposal, has benefits that outweigh the costs.

Effectiveness

56. Beyond the rezoning of the subject land, no new provisions are proposed by the Plan Change. Rather, it is intended that existing Living WM Zone provisions apply to the new zone, inclusive of amendments proposed under Plan Change 59. New provisions are restricted to the introduction of an amended Outline Development Plan for the site in generally the same format as the existing Outline Development Plan for the Plan Change area.
57. Option 2 is considered to be the most effective means of achieving the objective of the proposal, being to provide for a residential zoning of the site.



Efficiency

58. In considering efficiency, it is necessary to refer again to the cost/benefits of the three options outlined in the tables above. These assessments indicated that for Options 1 and 2, the benefits are greater as compared to the alternative option of obtaining resource consents, which had costs or disadvantages outweighing benefits. While Option 1 has benefits outweighing the costs, it is an inefficient (and highly ineffective) means of achieving residential zoning across the site, though it would continue to achieve the objectives of the District Plan. 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, while maintaining a lower density of development than the Living 1 Zone, is also considered to be the most efficient means of achieving the objective of the Plan Change proposal.

Risks of Acting or Not Acting

59. Given the multiple subdivision resource consents for the immediately adjoining site, and the subdivision consent previously granted within the subject site to date, and the associated soil contamination, geotechnical and infrastructure reports that have been prepared for those resource consents, together with the reports 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

60. 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.
61. 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

62. 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.
63. The District Council must also have regard to an evaluation report prepared in accordance with s32.
64. 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.



65. It is noted that the proposal does not involve any cross territorial issues, any matters of historical reference or matters addressed by management plans or strategies prepared under other Acts. With respect to Regional Plans, these are identified and addressed further below.
66. 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

67. 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.
68. 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, the proposed ODP. The proposed ODP provides the methods for Council to manage potential effects of this activity and demonstrates an integrated management approach.

Section 75 – Contents of District Plans

69. Section 75 requires a District Plan to state objectives for the District, policies to implement the objectives and rules to then implement the policies.
70. The proposal does not introduce any new, or alter any existing, objectives or policies.
71. Section 75 requires a District Plan to not be inconsistent with Regional Plans. These are identified and discussed in paragraphs further below.
72. 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

73. 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.



74. The New Zealand Coastal Policy Statement is not relevant to the site, given the large distance between the site and the coastal environment.
75. 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.
76. Noting the above, the National Policy Statement for Urban Development 2020 (NPS-ND) which took effect on 20 August 2020 is of principal relevance to this plan change.
77. 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).
78. 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 West Melton population is in itself considerably less than 10,000 people currently.



Discussions with Selwyn District Council planners³ have however indicated that West Melton 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.

79. The proposed Plan Change is generally consistent with the objectives and policies of the NPS-UD, noting that the proposal will retain a relatively 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.
80. 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.*

81. The proposed development is largely unanticipated by the Selwyn District Plan and RPS. 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. In regard development capacity, the contribution will be significant for the following reasons:
- i. West Melton township currently contains 763 titled allotments. The applicant estimates that based on “permitted” infill development, a further 13 residential allotments could be created, providing a total of 776 residential allotments. The proposed Plan Change area is anticipated to have capacity for an additional 131 allotments, based on the density provided by the rule amendments proposed under Plan Change 59. This represents a 17% growth in residential capacity within West Melton, and a significant improvement on the current growth capacity within the township.
 - ii. If Plan Change 59 and this Plan Change application are considered together as a single Living West Melton South Zone, the increased residential dwelling capacity within West Melton is 26%.
 - iii. The potential growth of capacity within West Melton is therefore considered to be significant, and particularly in the context of the existing market constraints for new sections/dwellings.

³ By email, Ben Rhodes, 6 August 2020.



Canterbury Regional Policy Statement

82. 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.
83. The most relevant objectives and policies of the RPS are those contained in Chapter 6, which were inserted by the Land Use Recovery Plan. Chapter 6 contains the objectives and policies that guide the Recovery and Rebuilding of Greater Christchurch.
84. In 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 and Plan Change 59, with the adjoining residential zone. However, the Plan Change is not located within an identified priority area for urban development within Greater Christchurch. As noted above, NPS-UD Policy 8 provides for inconsistency with this requirement.
85. 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. The proposal will have some effect on rural character and amenity, though the landscape and visual assessment attached in Appendix C confirms that effect will be minimised.
86. With regard to transport objectives and policies, 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 south, the site will not result in long travel distances to the township, noting that facilities such as the town's domain 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.
87. 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, but otherwise generally consistent with the Regional Policy Statement.

Mahaanui – Iwi Management Plan 2013

88. 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

89. 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. All of the Plan Change area is subject to existing District Plan controls over night time lighting, to protect the West Melton Observatory. Those controls will assist in minimising light pollution.

Wai Māori

90. 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. The land to be rezoned does not contain any waterways, with the exception of sections of artificial water races on the Weedons Ross Road frontage. 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 and basins, ensuring that no untreated stormwater will reach groundwater. Further, roof stormwater (generally considered clean) will be disposed of straight to ground. 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

91. 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

92. 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, including intensive chicken farming. There are no notable indigenous plantings within the site. The proposed Plan Change does not have specific planting requirements, other than the establishment of a screening row of trees adjacent the south eastern boundary with the Rural zone. It is anticipated that over time, as the area is developed for residential use, that further plantings, both exotic and native, will occur.



Ngā tūtohu whenua

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

Te Waihora

94. The application site sits with 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

95. 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

96. 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.
97. 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 6 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 within the application site or close by.
98. 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 requirement by the rules of the District Plan for a spacious, open setting for residential development at a lower density than areas north of the State Highway, low density adjacent the rural boundary and a rural vernacular of fencing adjoining reserves.
99. An overall assessment of the proposal to rezone the land for Living WM South Zone 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 West Melton.



Appendix A

Infrastructure Report

GW WILFIELD LTD
Wilfield – West Melton

Infrastructure Report

**South Zone Plan Change
20232-R0**

September 2020



DAVIE LOVELL·SMITH

PLANNING SURVEYING ENGINEERING



Shaping the future since 1880

Revision History

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R0	AJEH	Initial Report	18/9/20

Document Control

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Prepared By	Andy Hall		18/9/20
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Approved By	Andy Hall		18/9/20

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Appendices:

Appendix A – Proposed Development Layout Plan and Engineering Concepts

Appendix B – Sewer Calculations

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Appendix E – Typical Cross Sections of Roads

1.0 INTRODUCTION

The proposed Plan Change site is located on the southern urban fringe of West Melton on the south side of the current Wilfield residential land development and east of Weedons Ross Road. This proposal is for a Plan Change to create 130 new residential and rural residential house sites. 73 of these lots will be within the Wilfield development and the remaining 57 lots are attributed to the adjacent land against Weedons Ross Rd.

Davie Lovell-Smith (DLS) have held several meetings with Strategic Planners and Infrastructure Engineers at Selwyn District Council (SDC), primarily Murray England with specific regards to servicing the proposal for water supply and sewer. It is the applicant's intention to construct infrastructure that will meet the demands of this project and also compliment the long-term requirements of West Melton. The proposed infrastructure will be integrated into the existing networks and all efforts will be made to ensure that the installations are complimentary to the current assets.

The applicant recognises the strategic approach towards the servicing of West Melton for additional water supply and further reticulation of wastewater back to Rolleston. It is hoped that this proposal provides some impetus to achieving those strategic goals. The applicant accepts that a partnering arrangement with Council will be required to deliver upgraded sewer and water supplies for the proposed plan change and potential other development in West Melton.

All proposed infrastructure will be designed and constructed in compliance with SDC Standards unless otherwise agreed. All infrastructure works will be designed in detail following subdivision consent and referred back to Council Engineers for approval prior to any construction being undertaken on site.

All sites will be serviced for sewage, water supply, telecommunications and power. Stormwater will be discharged to ground on-site. All sites will be earthworked to ensure drainage to the street or natural flow paths. All building platforms will be elevated above secondary flow paths and the 1 in 50 year critical storm event. There is no gas reticulation proposed for this development.

The over-riding feature of the proposal will be the retention of existing stormwater flow across the site. Existing drainage features will be retained and the development will be moulded around them. We understand that the applicant has met with the Council Drainage Engineers and they have agreed that sites do not need to drain to the roads but can instead drain onto neighbouring sites consistent with the natural contour of the land and the pre-development flow paths on the site. The proposed sites are easily large enough to allow this to occur and still provide suitable building platforms. The exception to this will be the control of a secondary flow path that will be maintained through the site.

2.0 SEWER

It is intended that all new sites in the proposed plan change will be serviced by Local Pressure Sewer. A network of pipes will transfer wastewater to the existing Council Pump Station on Silver Peaks Drive.

The sewer demand for the proposal has been calculated using SDC Code of Practice. Please refer to the calculation below for the peak domestic demands.

If we include the current approved sites in Wilfield, plus the sites in the plan change application, then there will eventually be a total of 389 lots connecting to the existing Silver Peaks pump station.

Average sewer flow

$$\text{ASF} = 389 \text{ lots} \times 220 \text{ l/person/day} \times 2.7 \text{ people/lot}$$

$$\text{ASF} = 231 \text{ m}^3/\text{day}$$

$$\text{ASF} = 2.67 \text{ l/s}$$

Peak wet weather flow

$$\text{P/A ratio} = 2.5$$

$$\text{SPF} = 2$$

Part 6: Wastewater drainage SDC Code of Practice

Part 6: Wastewater drainage SDC Code of Practice

$$\text{MF} = \text{P/A ratio} \times \text{SPF} \times \text{ASF}$$

$$\text{MF} = 2 \times 2.5 \times 2.67$$

$$\text{MF} = 13.37 \text{ l/s}$$

Overall peak flow

The Rising Sewer main from the Pump Station at Silver Peaks Drive to the main sewer Pump Station at Rossington Drive is a 160mm PE. Internal diameter is 136mm. The capacity of that pipe is sufficient to deal with the additional flows produced from the proposed plan change but the pumps at Silver Peaks and Rossington Dr will need to be upgraded.

The Wilfield Rising Sewer calculation below shows a friction unit headloss of 1m per 79m and a velocity of 0.92m/s.

Pipe Hydraulics Using Colebrook-White equation in simplified usage mode						
(water at 15 degrees Celsius (kinematic viscosity $1.141 \times 10^{-6} \text{ m}^2/\text{s}$))						
Project :	Wilfield Rising Sewer			JOB NO:	20232	
	Pipe diameter	136	mm	D =	0.136	m
	Gradient - 1 in	79		S =	0.01266	
	Pipe Roughness - ks	1.5	mm	ks =	0.0015	m
	<u>Results for Full Bore Conditions:</u>					
		Velocities	0.923	m/s		
		Discharge	13.40	litres/sec		
		Discharge	0.0134	m ³ /sec		

A number of sites will be able to connect to the existing infrastructure located in existing roads. There is an existing 63mm OD common rising sewer located in Ridgeland Way. This pipe has limited capacity and can accommodate up to approximately 30 sites.

There is a 75mm OD common rising sewer at the intersection of Ridgeland Way and Kingsdowne Dr. This pipe also has limited capacity.

An additional connection will need to be made to the Silver Peaks DR pump station via a proposed reserve link into the development area as shown on the attached plan in Appendix A. It is estimated that this pipe will be a 90mm(OD) PE subject to modelling. The proposed new rising main will connect into the receiving manhole immediately adjacent to the pump station. A short length of existing berm will need to be trenched to install the new pipe. There will not be any trenching required in any existing road pavements.

All new sites will be provided with a 40mm OD lateral and boundary connection box in accordance with Council Standards.

All public sewer pipes over private land or reserves will be covered by appropriate easements in favour of SDC. The pump station is located on its own utility lot and is vested in SDC.

West Melton – Rolleston Sewer

The sewer connection from West Melton back to the Pines Treatment Plant is currently at capacity. The restriction in capacity is created by the gravity sewer running from the corner of Wards and Walkers Road, back into Rolleston.

An investigation and review of how this capacity can be increased has been undertaken in consultation with Council. Connection to the sewer in Hopkins Road overloads the system across Rolleston and is not currently feasible. The only feasible alternative is to extend the existing rising sewer all the way to the Pines Treatment Plant. This equates to 5.75km of new rising main.

This option has the added advantage of freeing up capacity in the existing gravity system in Walkers Road for other land development in its vicinity or the expansion of facilities such as the prison.

Please refer to the attached sewer calculations in Appendix B.

The existing pipe is PN10. This pressure rating will become a factor in the capacity of the pipe. It is assumed that the permitted normal pressure allowable in this pipe would be 70% of the rating. This reduction in pressure allows for the effects of surge. Therefore the permitted pressure will be 70m of head.

As can be seen in the calculation in Appendix B, the 70m maximum pressure restricts the number of sites to 1276 lots in West Melton. If this number of lots were to be adopted then it would easily accommodate the proposed number of sites in the Plan Change.

Calculations into the pump sizing have been carried out and there are Flygt N-Pumps available for this flow and head.

Council may also like to address the emergency storage of wastewater. It has been detailed in the calculation that 8 hrs of storage amounts to 253m³.

There are 829 existing sewer connections in West Melton leaving 447 expansion sites that can contribute to the cost of this sewer upgrade. The upgrade cost may amount to the following:

5750m of 225dia rising sewer at \$200/m	\$1,150,000.00
Pump Upgrades	\$50,000.00
Drilling under Rail	\$20,000.00
Storage facility	\$300,000.00

Sundry	\$20,000.00
Contingency	\$100,000.00
Design and Approvals	\$50,000.00
TOTAL	\$1,690,000.00
\$/Lot (447 lots)	\$3,780.76+gst

Some consideration should also be given to the capacity that would be made available in the gravity sewer on Walkers Rd. It would be assumed that any new connections into this sewer would pay contributions and that those contributions would be directed to the costs above.

3.0 WATER SUPPLY

The proposed Plan Change amounts to 130 lots, 73 additional Wilfield lots plus 57 future lots. If we use Chart 1 from the Councils Code of Practice we can determine that the peak water supply flow per site will be approximately 0.12l/s. For the additional 130 lots this amounts to an additional demand of 15.6l/s.

However, there are a number of sites that will have restricted connections. A restricted connection has a peak flow demand of 0.03472 l/s/site. A standard connection has a peak demand of 0.12 l/s/site. We expect there to be approximately 20 restricted sites in the zone and 110 sites with full connections. With the restricted supply sites, the demand for the Plan Change area reduces to **13.89l/s**.

Please refer to the attached calculations and plans in Appendix C for the determination of existing and proposed water demands.

If we use the sewer calculations as the limitation to the future size of West Melton, then the total maximum number of lots able to be serviced is **1276**. Using the Councils Code of Practice we can determine a peak flow of **145.79/s** for this future overall demand. This is a combination of full connections and restricted connections.

It is recognised that the current West Melton Water supply is at its limits. Council have been investigating alternative water supplies including:

1. Connection to the Edendale water supply
2. Connection to a bore on Johnson Road
3. Redevelopment of the Wilfield bore
4. Installation of a reservoir

As part of the previous development of the site, Bore M35/6201 in Wilfield was converted from a farm irrigation well to a Council Asset supplying potable water to West Melton. This well has again been redeveloped and made a lot deeper to produce significant additional flows.

Along with the redevelopment of this bore, the Council will also apply for an enlarged permitted take. New abstraction flows are yet to be confirmed but may in itself provide for the additional 13.89l/s required for the Plan Change area (130 sites) and potentially the additional 28.67l/s required for the balance future expansion(246 sites).

The bore delivers raw water to Rossington Rd for treatment and then the treated water is piped back to Wilfield. Both pipes under the highway are 160mmPE (136mm ID). Otherwise, the pipes are 150mm uPVC.

If, potentially, the upgraded Wilfield Bore can produce 35l/s, then a new raw water delivery pipe will be required as the unit headloss in the existing 150mm dia pipe will be too great.

The water demand for Wilfield alone, including for the Plan Change is almost 35l/s. The pipe from the Rossington Road treatment and pumping plant, back under the highway to Wilfield, is 136mm ID. This return connection pipe may also need to be upsized. Once the pipe reaches Silver Peaks Dr in Wilfield, it branches off into 150mm dia pipes so large scale upgrading is probably not required.

Connection to the Plan Change area will need to be by the existing watermain on Ridgeland Way and also connecting back to Silver Peaks Dr as shown on the concept plan. Both points of connection are 150mm uPVC.

Full modelling of the water supply at subdivision consent stage will confirm the extent of the upgrade works.

Council have progressed with a pipe connection to the Edendale bore. This is expected to produce an additional 20l/s for the West Melton Community.

The bores in and around West Melton are considered unreliable. In a dry year we could expect bore yields to significantly reduce. To protect against a potential water shortage, it's expected that the existing small plastic tank farm will be replaced with a large and safe reservoir such as a steel sectional tank. Perhaps 1000m³. If the reservoir is implemented then the connection to the Johnson Rd bore may not be required. This will require further investigation.

Potentially the connection to Johnson Road may not be required if the reservoir is implemented.

The costs for the reservoir and various upgrades would be shared amongst the total future development lots totalling 447 new sites. 150 of these would be from the proposed plan change and that would cover a substantial part of the cost.

Edendale Connection	\$1,000,000.00
Reservoir and pump	\$600,000.00
Wilfield redevelopment	\$200,000.00
Wilfield raw water pipe upgrade	\$400,000.00
Sundry	\$100,000.00
Contingency	\$200,000.00
Design Costs	\$150,000.00
TOTAL	\$2,650,000.00
\$ per lot (447 lots)	\$5,928.41+gst

Cost associated with treated water upgrades within Wilfield and the connection pipes under the Highway will be the responsibility of the applicant.

The water supply will be designed in accordance with SDC specifications and SNZ PAS 4509:2008 New Zealand Fire Service Fire Fighting Water Supplies Code of Practice. The fire fighting water supply classification will be FW2.

All sites will be serviced by meters connected to a minimum 50mm ID submain, laid along the frontage of all new streets. Rear sites will be installed with 25mm pipes up the driveways and connected to water meters at the street boundaries.

All watermain construction will be completed to Council standards. All watermain pipes will be uPVC, with submains and lot connections in PE.

4.0 STORMWATER

As discussed previously, the development will be designed around the retention of existing stormwater flow patterns across the site. Existing drainage features will be retained and the development will be moulded around them. The applicant has met with SDC Drainage Engineers and they have agreed that future sites do not need to drain to the roads but can instead drain onto neighbouring sites consistent with the natural contour of the land.

Please refer to Appendix D for a plan derived from the Selwyn District Flooding Hazards Web Site. This depicts a significant flow channel through the site. The 1 in 200 year event reaches a depth of 0.96m. This channel is also shown on the LIDAR Data in Appendix D. This channel will be diverted into the road network and the flow maintained as part of the proposal.

Primary stormwater from the site will be discharged to ground. The soakholes on the individual sites will be constructed as part of the Building consent process but the drainage and soakholes associated with the roads will be constructed as part of the subdivision and will be vested in SDC.

Consent or a certificate of compliance for stormwater discharge to ground from the development site will be obtained from Environment Canterbury (ECAN). All consenting from ECAN will be verified by SDC as being suitable for transfer to their ownership if required.

It is expected that all stormwater will be able to be permitted to discharge to ground without treatment with the exception of stormwater discharge during construction. Stormwater discharge during construction will comply with the Environment Canterbury (ECAN) Erosion and Sediment Control Guidelines. Erosion and Sediment Control Management Plans will be compiled for both ECAN and SDC approval.

Road alignments have been directed along the edge of natural drainage swales. The roads will discharge directly to these natural flow patterns. Soakholes will be constructed in the base of the swales. Although not required by ECAN, this methodology will provide a level of stormwater treatment consistent with Low Impact Design.

This sustainable and environmentally sympathetic approach will also give the development a more interesting natural aspect rather than the usual earthworked and uniform contour associated with modern subdivision.

The natural sloping of the land is from northwest to south east. Runoff will be collected and discharged to ground. Secondary flow paths will be within reserves, roads, and lots. Please refer to the attached plan in Appendix D for Secondary Flow Paths.

5.0 POWER / TELECOMMUNICATIONS / STREET LIGHTS

Power and telecommunications will be provided to all sites to utility company and industry standards. All cables will be placed underground and all kiosks will be constructed on separate individual lots. The kiosk sites will be forwarded to Council for approval following the power design.

Street lights will be provided to the roading and reserves to SDC standards. The applicant will also provide a street light style to SDC for approval.

Full appraisals will proceed once Subdivision Consent has been obtained.

6.0 ROADING

The proposed subdivisions will be serviced with a road connection from the existing Wilfield Development. This will involve the extension of Ridgeland Way in its existing formation, through to Weedons Ross Road to create an additional transport connection into the overall development. Additional minor roads will be added as part of the detailed Urban Design.

Please refer to Appendix E for the typical cross sections of the proposed roads. Reference should also be made to the Stantec Traffic Report in the application.

No upgrades are intended for any existing intersections or roads.

The new extension of Ridgeland Way will be 18m wide with an 8m carriageway. No specific provision will be made for cyclists. Footpaths will be on one side only. Street lighting will be to SDC standards. Kerb and channel to council standards will be adopted but detailed design may create areas where a rural shoulder is used or perhaps a flush kerb only where stormwater can flow directly to roadside swales. All carriageways will be constructed to SDC standards and will be sealed with asphalt. Some cobbling may be included to indicate a change in road hierarchy and to add visual amenity.

We note that crossings to individual lots are required however the applicant would like to obtain the right to bond for this portion of the construction in order not to restrict the layout and dwelling position on the created lots.

7.0 EARTHWORKS AND CLEARING

As discussed previously, the ethos of the development relies on the maintenance of natural land form, and therefore will result in only minor earthworks. The earthworks will generally be restricted to the construction of road subgrades and adjustments to the existing overland drainage network.

Existing levels across the majority of sites will be maintained. Specific depths of excavation and fill are not known at this stage as detailed design has not been undertaken. It is estimated at this stage that the total volume of works will be between 50,000 and 100,000m³.

All topsoil will be retained and replaced on the land immediately following bulk earthworks to a depth of up to 400mm. All disturbed topsoil will be re-sown with Council specification grass seed mixes. A balance of cut and fill will be maintained on site and removal of material from site will be minimised.

Sediment discharge from the development site will be controlled as per Council requirements. The basis of the sediment control will be the ECAN Guidelines and the discharge during construction will be dealt with in association with the overall discharge consent or certificate of compliance.

All dust created on the site will be controlled by water cart or other such approved methods.

All bulk filling will be compacted in accordance with NZS 4431:1989. All fill testing will be carried out by an independent laboratory.

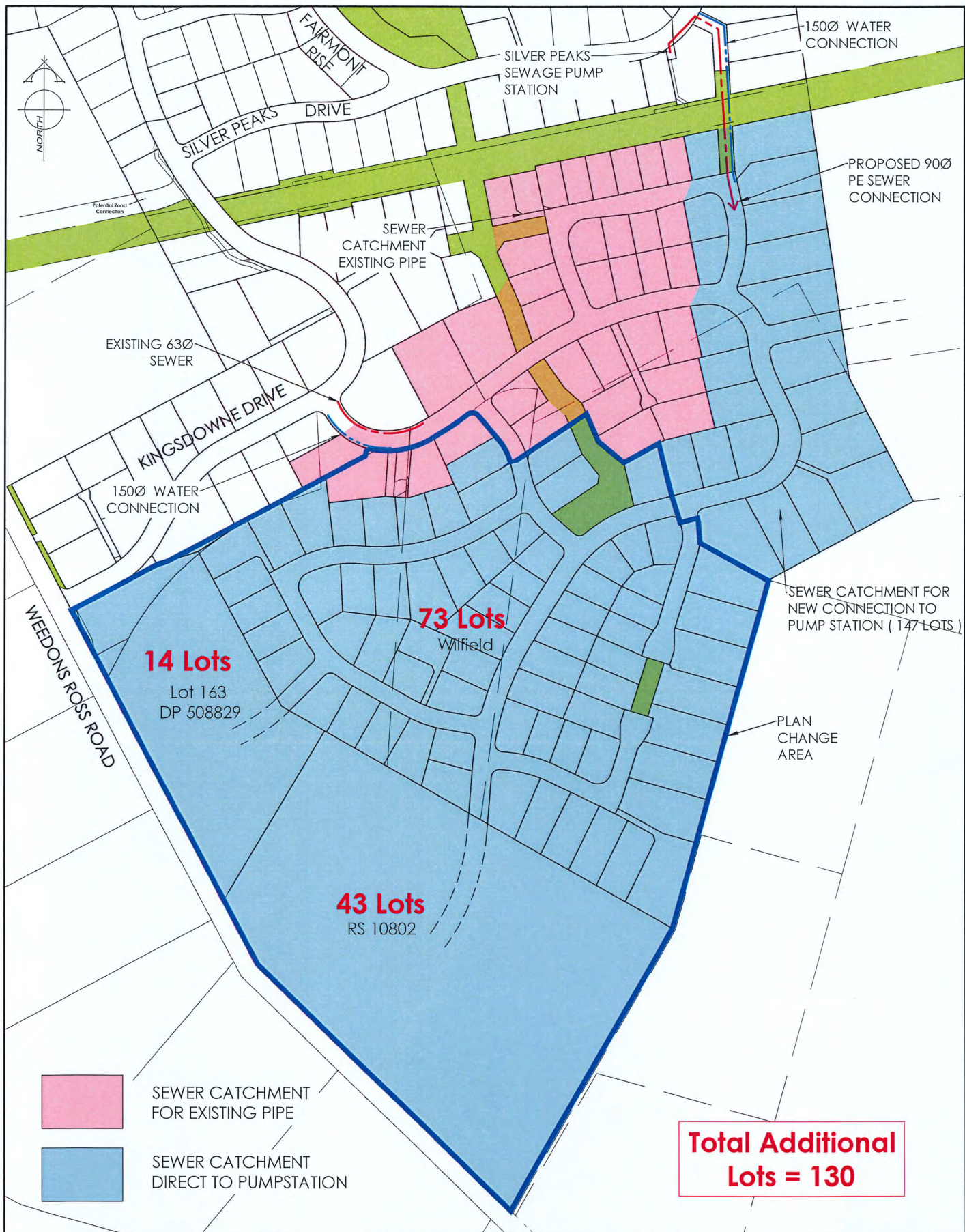
A geotechnical appraisal of the development has been previously presented. This appraisal found the development site as not being susceptible to earthquake and liquefaction damage, and has determined that the land can be considered to be equivalent to the Ministry of Business, Innovation, and Employment (MBIE) Technical Category 1 (TC1). Based on this assessment no land remediation is required, however the site may still not be considered good ground in terms of NZS 3604. Further testing may be required for future building consent applications for foundations.

Andy Hall
Chartered Professional Engineer
Davie Lovell-Smith Ltd

Sept 2020

APPENDIX A

Appendix A – Proposed Development Layout Plan and Engineering Concepts



APPENDIX B

Appendix B – Sewer Calculations

West Melton Sewer Demands

20232

ajeh

Assumption: West Melton to Connect existing Rising Sewer through to Pines Treatment Plant

Existing homes in West Melton	597 lots
Undeveloped sites	202 lots
Future densification of existing sites	50 lots
Previous Plan Change	71 lots
South Zone of Wilfield	130
Existing Commercial (equivalent)	73 plan change lots plus 57 future lots
	30 lots

ADDITIONAL FUTURE CONNECTIONS 196 Iterative number based on allowable pressure in pipe to Rolleston

TOTAL CONNECTIONS 1276 Limit West Melton to this number of sewer connections
Total Conns contributing to upgrade 447 (150+50+176+71)

MF = ASF x 2.5 x 2
ASF = 220 litres x sites x 2.7 people = 757944 litres/day
Average Flow over the day = 757.94 m³/day
MF = 8.77 l/s
43.86 l/s

West Melton Rising Main internal dia 225 mm

CALCULATION OF HEAD LOSSES USING COLEBROOK WHITE

West Melton to Pines Sewer Rising Main

Required duty flow 43.86 l/s

System details

Pipe Section	No pipes	Length m	Int Dia mm	Roughness ks, mm	Friction Loss, m	No. of Fittings						velocity m/s	Fittings loss,m	Total loss,m	Cumulative loss,m	Head, mAOD		
						Bends,R/D=1			Tees L/b	NRV	BFV						Other Exit	
						90deg 0.75	45deg 0.3	22.5deg 0.15										
1	1	8000	225	0.6	57.682	8	1	1	6	2	1	2	1.10	1.033	58.715	58.715		
2	1	5750	225	0.6	41.459	0	0	0	0	0	0	0	1.10	0.000	41.459	100.173		
TOTAL FRICTION LOSS, m						TOTAL FITTINGS LOSS,m						1.033	100.173					
													TOTAL SYSTEM LOSSES, m			100.173		

Power requirements: $\frac{q \times h}{102} \times \frac{dp}{dm} \times \frac{1}{\eta} = \text{kW}$

dp = pump efficiency (60% - 80%) 0.6-0.8
dm = motor efficiency (90% - 94%) 0.9-0.94
q = flow (l/s)
H = head (m)

Pump Level at West Melton
Outlet Level at Pines Treatment Plant
Static headloss

Total Headloss

Storage required based on 8hrs of ASF =

80 kW

0.6
0.9
43.86 l/s
100.17 m

100.80 m
70.70 m
-30.10 m

70.07 m

Max pressure to be 0.7 of PN10 = 70m

252648 l
252.648 m³

Non return valve
butter fly valve

APPENDIX C

Appendix C – Water Supply Calculations and Plans

West Melton Water Demands

20232

ajeh

Assumption: Water demands required to meet the number of sewer connections

Existing homes in West Melton	597
Undeveloped sites	202
Future densification of existing sites	50
Previous plan change lots	71
South Zone of Wilfield	130
Commercial (equivalent)	30
ADDITIONAL FUTURE CONNECTIONS	196 Based on sewer capacity
TOTAL CONNECTIONS	1276 Limit West Melton to this number due to capacity in sewer
Existing Connections	829 (597+202+30)
Connections contributing to upgrades	447 (50+71+130+196)

Water Demands

Refer to Chart 1 Part 7 of CoP

Peak flow rate per unrestricted connection = 0.12 l/s/site

Peak flow rate per restricted connection = 0.03472 l/s/site

Potential Maximum Flows:

Wilfield - reconsented	35 l/s
Jacklin	12 l/s
Royston	9 l/s
Elizabeth	9 l/s
Edendale	20 l/s
Johnson	10 l/s
4hr of Reservoir (1M litres)	69 l/s
TOTAL	164 l/s

Clearly the reliance on the reservoir is very high. The refilling of the reservoir following periods of high demand will require all wells to continue to produce at peak levels.

Assumption: Water demands required to meet the Wilfield Plan Change Only

CURRENT DEMAND		Total Lots
Existing homes in West Melton	597	597
Undeveloped sites	202	202
Previous Plan Change	71	71
Commercial (equivalent)	30	30
TOTAL CONNECTIONS	900	
Unrestricted Connections	844	
Restricted Connections	56	
Unrestricted flow at 0.12l/s/site	101.28 l/s	
Restricted Flow at 0.03472l/s/site	1.94 l/s	
TOTAL CURRENT DEMAND	103.22 l/s	
PROPOSED ADDITIONAL DEMAND FROM STH ZONE PLAN CHANGE		
Wilfield	73	73
Other Land	57	57

Unrestricted Connections	110
Restricted Connections (estimated)	20
Unrestricted flow at 0.12l/s/site	13.20 l/s
Restricted Flow at 0.03472l/s/site	0.69 l/s
TOTAL PROPOSED ADDITIONAL DEMAND	13.89 l/s

PROPOSED TOTAL DEMAND IN WILFIELD	
Extg zoned sites in Wilfield	260
Wilfield portion of South Zone	73
Unrestricted Connections	267
Restricted Connections	66
Unrestricted flow at 0.12l/s/site	32.04 l/s
Restricted Flow at 0.03472l/s/site	2.29 l/s
TOTAL PROPOSED DEMAND	34.33 l/s

PROPOSED ADDITIONAL DEMAND ELSEWHERE	
Future densification of existing sites	50
Future additional sites	196
Unrestricted Connections	236
Restricted Connections	10
Unrestricted flow at 0.12l/s/site	28.32 l/s
Restricted Flow at 0.03472l/s/site	0.35 l/s
TOTAL PROPOSED ADDITIONAL DEMAND	28.67 l/s

1276 lots

Total water demand for West Melton
including for the Plan Change

145.79 l/s

OPTION A: Current Available and Potential Flows:

Wilfield	26 l/s
Jacklin	12 l/s
Royston	9 l/s
Elizabeth	9 l/s
Edendale	20 l/s
Johnson	0 l/s
4hr of Reservoir (1M litres)	69 l/s
TOTAL	145 l/s

OPTION B: Current Available and Potential Flows:

Wilfield - reconsented	35 l/s
Jacklin	12 l/s
Royston	9 l/s
Elizabeth	9 l/s
Edendale	20 l/s
Johnson	0 l/s
4hr of Reservoir (1M litres)	69 l/s
TOTAL	154 l/s

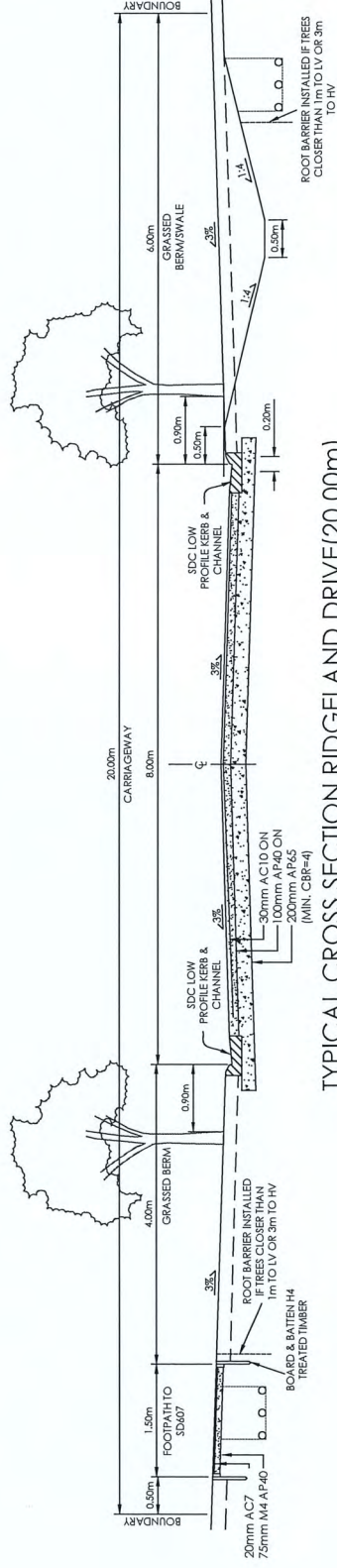
APPENDIX D

Appendix D – Stormwater Secondary Flow Paths



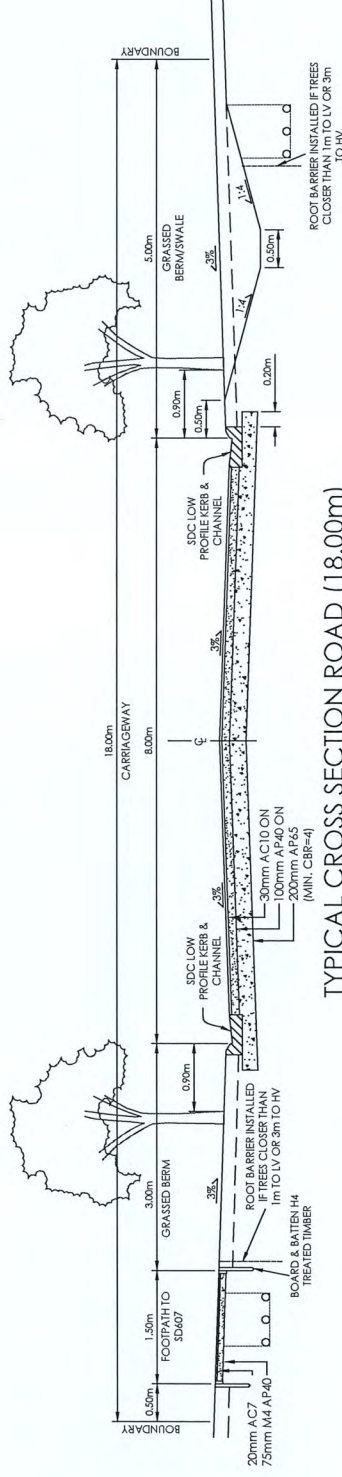
APPENDIX E

Appendix E – Typical Cross Sections of Roads



TYPICAL CROSS SECTION RIDGELAND DRIVE (20.00m)

SCALE 1:100@A4



TYPICAL CROSS SECTION ROAD (18.00m)

SCALE 1:100@A4



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West Melton South Zone Roading Cross Sections

Scale: 1:100@A4
Date: September 2020
Drawing No: E20232
J:\2023\ E20232 VM South Zone Eng Concept.dwg



Appendix B

Runanaga Consultation



Appendix C

Landscape and Visual Effects Assessment



WILFIELD PLAN CHANGE – PROVISION OF SMALLER LOTS

GW WILFIELD LTD

Landscape and Visual Impact Assessment

Project No. 2020_079 | C

WILFIELD PLAN CHANGE

Project no: 2020_079
Document title: Landscape and Visual Impact Assessment Report

Revision: C
Date: 9 OCTOBER 2020
Client name: GW WILFIELD LTD

Author: David Compton-Moen
File name: \\GOOSE\Storage\4_DCM - Projects\2020_079 Wheelans Wilfields Plan Change\3_Working Files\5_Word\2020_079_Wilfield Plan Change_LVIA_1.docx

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B	7/10/2020	LVIA REPORT	DCM		
C	9/10/2020	Update Urban Form	DCM		

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1. INTRODUCTION AND PROPOSAL

DCM Urban has been commissioned by GW Wilfield to prepare a Landscape and Visual Impact Assessment for a proposed Plan Change to provide a greater area of residential development at Wilfield, West Melton. The proposal seeks to create a new zone as an extension of the WM South Zone. The proposal, covering an area of 32.7ha, is located within the Inner Plains zone respectively of the Selwyn District, and is an extension of the existing residential area.

The immediate adjoining area is typified by large lot residential and rural-residential developments with a high level of stewardship. The Living 2 zone currently allows for subdivision with an average lot size of 5,000m². The Living 2A zone allows for a maximum of 10 lots with a minimum lot size of 1Ha.

The proposal seeks to rezone the Plan Change area from Inners Plains to Living West Melton South with the following amendments (changes underlined) to *Table C12.1 Allotment Sizes* in the Living Subdivision chapter of the Selwyn District Plan:

Living WM North	Minimum lot area of 500m ² and maximum lot area of 3000m ² (Appendix 20A)
<u>Living WM South</u>	<u>Minimum lot area of 1100m² and maximum lot area of 3000m² (Appendix 20)</u>
Living WM <u>North and South</u> Low Density	Minimum lot area of 3000m ² and maximum lot area of 5000m ² (Appendix 20A, <u>Appendix 20</u>)

It is also proposed to change the Site Coverage rules to allow for a higher percentage of building coverage. The following changes to *Table C4.12 Site Coverage* for the Living WM South zone:

LOT SIZE	SITE COVERAGE
<1200m ²	30%
1200-1800m ²	25%
1800m ² +	lesser of 20% or 500m ² minus 36m ²

Refer to Page 6 of the attached Figures for the proposed Outline Development Plan.

2. METHODOLOGY

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

1. Identification of the receiving environment and a description of the existing landscape character, including natural character;
2. The landscape assessment is an assessment of the proposal against the existing landscape values
3. 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.

2.2 LANDSCAPE VALUES

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

Where the District Plan has 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)² 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.

2.3 VISUAL ASSESSMENT METHODOLOGY

In response to section 7(c) of the RMA³, 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 rather than community-based. 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 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.

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

² Section 6 (b): The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development;

³ 7(c) The maintenance and enhancement of amenity values.

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 to be 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 are 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 depends on 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. For example, walkers in open country on a long-distance tramp are 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 residual effects after the implementation of the mitigation measures.

2.4 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.

The assessment is based on the NZILA Best Practice Guide – Landscape Assessment and Sustainable Management (02.11.10) with a seven-point scale and the Quality Planning Websites, being:

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

In determining the extent of adverse effects, 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:

- **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.

2.5 PHOTOGRAPHY METHODOLOGY

All photos are taken using a Fuji Finepix 5600 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.

Reference: NZILA Education Foundation - [Best Practice Guide – Landscape Assessment and Sustainable Management/ Best Practice Guide – Visual Simulations](#) (2.11.10)

3. LANDSCAPE CHARACTER

3.1 LANDSCAPE DESCRIPTION AND CHARACTERISATION

West Melton has grown over recent years to become a substantial township, flanking both sides of West Coast Road. The majority of the township is on the northern side of West Coast Road with Preston Downs and Gainsborough residential developments extending through to Halkett Road. The developments are typically low density residential and are supported by a small commercial area, pub, and petrol station. Houses are generally modern single storey dwellings with footprints ranging from 180m² to 260m², are well landscaped and exhibit a high level of stewardship. The town is surrounded by open farm paddocks, being 4ha or larger with well-established shelter belts of exotic tree species delineating cadastral boundaries. Well-established vegetation also usually surrounds farm dwellings to provide shelter, but the character of the wider area would be considered open with a small level of compartmentisation.

The Wilfield development (the Outline Development Plan area) is on the southern side of West Coast Road with access from Weedons Ross Road. The ODP area is undeveloped and located to the south of existing Wilfield development, within the Inner Plains zone in the District Plan.

The southern section of Wilfield, being the identified ODP area, is substantially undeveloped. On the northern boundary of the identified ODP area, within the zoned Living 2 and 2A, there are several houses and roading infrastructure present. There is little vegetation of note within the area. There is one pine shelter belt, estimated to be 7m in height, located along the eastern boundary of the site. On the western boundary, along Weedons Ross Road, is a small cluster of exotic trees. The rest of the site is devoid of any vegetation of substance. The site is flat with an open rural-residential character.

There are no Associative meaning or values including spiritual, cultural, or social associations known to be associated to the site.

There are no sensory or perceptual qualities which are unique to the character area.

3.2 EFFECTS ON LANDSCAPE CHARACTER

In terms of the existing landscape character of the receiving environment, the proposal is considered to have Minor effects on the existing landscape character, with the Plan Change area viewed as a natural extension of the Wilfield development. The proposed low density residential development promoted in the plan change will only have a Moderate magnitude of change on the Inner Plains rural character. While the increase in dwellings may seem large, the proposed lots sizes are appropriate for the West Melton area and the proposed development is similar in terms of bulk and location to the existing West Melton residential developments. Furthermore, this scale of development does not disturb the open, flat topography of the surrounding area. From an urban design perspective, I consider the changes will promote a more efficient use of the land without compromising the character of urban West Melton, appearing as a natural extension of the township. Furthermore, the developer is promoting the placement of larger lots (minimum of 3,000m²) along the eastern boundary, adjoining rural paddocks, to provide a buffer between higher density areas and existing farm land.

There is minor loss of significant vegetation or changes to topographical features resulting from the proposal. The greatest changes will be the potential loss of open character with more dwellings/buildings, road infrastructure and installation of solid boundary fences. The developer is proposing the use of post and rail fencing along the boundary of the development and reserves to allow for the character of the development to remain more open and more rural-like. Over time landscape plantings on boundaries will compartmentalise the landscape into smaller units with an enclosed character but 'soft' edges. This is a key characteristic of the surrounding landscape context and will assist with the development assimilating into the receiving environment.

There are no effects on Natural Character elements from the proposal.

4. LANDSCAPE VALUES

NATIONAL POLICY STATION – 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:

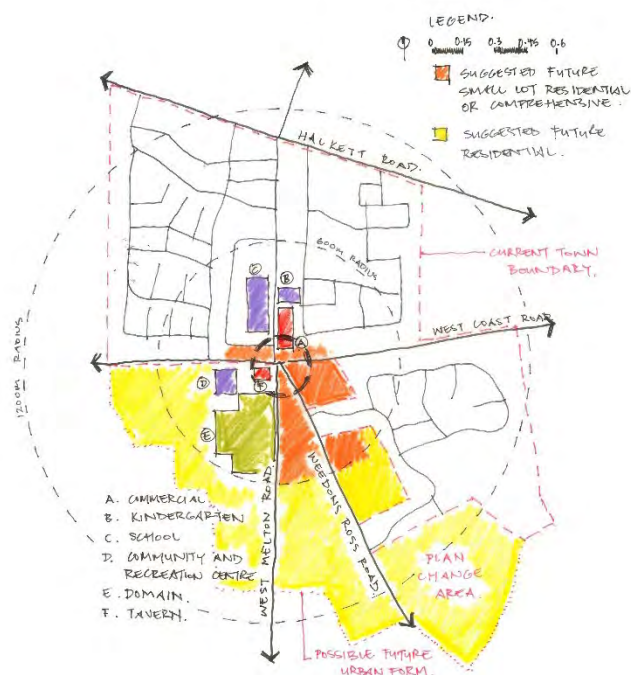
- a. unanticipated by RMA planning documents; or*
- b. out-of-sequence with planned land release.*

The Plan change area is considered a natural extension of the Wilfields development in West Melton, being of an anticipated density for residential dwellings on the edge of the existing settlement. While the proposed density is relatively low, I consider it appropriate for its setting on the edge of the township. I consider that the Plan Change area is a in-sequence development adding to development capacity in West Melton, but at an appropriate level.

As a point of comparison, I would expect the land on the corner of West Coast Road (SH73) and Weedons Ross Road (708 Weedons Ross Road) to be suitable for more intensive development, potentially with the development of Small Lot Residential or Comprehensive residential (Medium density). This site is within 400m of the main commercial area, the Community and Recreation Centre, West Melton Tavern and West Melton Domain. This site, being approximately 5.5Ha in area, would allow for potentially 150 homes adding significantly to local development capacity.

The illustration below shows how, from an urban form perspective, West Melton could develop in the future. At present the township is weighted on the northern side of West Coast Road but with several township amenities on the southern side including the Community and Recreation building, the Domain, and the Tavern it is possible future urban development will be located to the south. West Melton currently does not have any medium density development, typically being low-density residential and large-lot residential development. With pressure to provide additional housing, it maybe likely that lots closer to the town centre intensify, with lower density residential provided to the south. The proposed Plan Change, although approximately 1km (12minute walk) from the town centre (West Coast Road), is considered within an acceptable radius from an urban form perspective.

A conceptual sketch showing the proposed Plan Change in relationship to existing town amenities and potential future urban growth.



SELWYN DISTRICT PLAN

The proposed ODP Plan Change covers existing Inner Plains Rurally zoned land. The Selwyn District Plan has identified Outstanding Natural Landscapes and Features. The ODP is not located within a Landscape of value. There are some Objectives and Policies which are considered relevant to this Plan Change from a Landscape perspective:

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 formation, kerbs, power supply, entry treatment, fencing (MM2, MM3), landscaping, lighting and the like will ensure the retention of open, spacious rural character. The Plan Change has also provided a buffer of low density lots along the edge of the development to soften the transition into rural land. An overall 'spacious' character is likely to be maintained even with the increased density.

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 green corridors and pedestrian connections through the development to retain a high level of public amenity and connectivity. With the use of open style fencing onto public spaces, the development will retain a relatively spacious character.

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 removal of some existing trees or bush is negligible, with no natural features of significance on the site adversely effected. The neighbourhood park is one aspect in a larger green network which links through to Wilfield Reserve. The green network has been landscaped to a high level of amenity, with an open character due to the use of open style fencing along its boundaries. This allows a high level of natural surveillance over the public space also.

5. VISUAL ASSESSMENT

5.1 EXISTING VISUAL CONTEXT

The visual context of the receiving environment is considered

The visual context of the receiving environment is considered to be a 400m buffer around the ODP Boundary. Dwellings to the north of the site currently look south across onto the site with views from Silver Peaks Drive and Ridgeland Way. Views from public areas to the south and to the east of the proposal are screened due to existing vegetation and shelterbelts on private properties. For this reason, viewpoints from these locations have not been selected.

The series of key viewpoints were selected to show a representative sample of the likely visual effects which could result from the proposal. 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 as well as the availability of alternative views.

1. View south east from 623 Weedons Ross Road
2. View south from 1 Ridgeland Way
3. View east from 585 Weedons Ross Rad
4. View north from 557 Weedons Ross Road

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. The following table outlines the potential visual effects each Visually Sensitive Receptor might receive and how the effects may potentially be mitigated. 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. Mitigation measures are outlined in Section 6.

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	Sensitivity of VSR	Magnitude of Change	Effects (before mitigation)	Description of Effects	Mitigation Measures	Residual Effects (after mitigation)
1. View south east from 623 Weedons Ross Road	Residents at 623 and 611 Weedons Ross Road and 91 Kingsdowne Road	50m	Open	Views from this location are currently open and look directly to the Plan Change area. Views are visible across the site in all directions, with established trees and shelter belts visible in the background. Existing development in Wilfield is visible to the north, with open views maintained through post and rail fencing.	High	Moderate	More than minor	The properties will have open views of the new dwellings, associated landscaping, and boundary fences of the Plan Change area. With existing Wilfield development visible to the left of this view, the greatest effects would be the loss of open character shown beyond this. By limiting close board fences, an open character can be maintained /created to reduce adverse effects to Minor.	MM1	Minor
2. View south from 1 Ridgeland Way	Existing and future residents of Ridgeland Way	50m	Open	Open views are currently available from existing properties along Ridgeland Way. Views of the ODP area are visible across undeveloped residential lots and from developed residential housing. The current outlook is rural in character and the character has been maintained with the use of post and rail fencing on public land.	High	Low	Minor	With the proposed changes, there will be an increase in the number of dwellings visible from this viewpoint. Under the permitted baseline, once dwellings are constructed, the character of the existing views will change to a residential character (from rural). Changes will be less than minor after existing development is complete, as the ODP area will be an extension.	MM1	Less than Minor
3. View east from 585 Weedons Ross Road	Residents at 585 and 581 Weedons Ross Road	50m	Open/Partial	Open and partial views are currently available looking across the Inner Plains Zone towards existing Wilfield development. Currently, some views of the ODP area are screened by a cluster of mature exotic trees. The view has a rural character with open fields, while some dwellings and shelter belts are visible in the far background.	High	Moderate	More than minor	The visibility and increase in number of dwellings will alter the character of the area for the surrounding residents, changing from an open rural area to one more urban in character. An open character can be somewhat maintained through limiting the use of close board fences alongside the inclusion of landscaping and post and rail fencing.	MM1	Minor
4. View north from 557 Weedons Ross Road	Residents at 557 Weedons Ross Road	50m	Open	Views from this location are currently open and are framed to the right by an existing shelter belt. The current view is rural in character. Established mature trees and shelter belts are visible in the background. Structures are visible in the background, primarily large farm storage sheds.	High	Moderate	More than Minor	The residents will be able to see an increase in residential dwellings. Views will become more urban in character and open character will be reduced. Development controls on fencing will assist in retaining some open character, reducing the effects of development on the residents.	MM1	Minor

5.2 SUMMARY OF EFFECTS ON AMENITY

The likely effects on amenity are described above in the Assessment of Effects table. The highest effects, without mitigation, will be experienced by the residential properties of 623-557 Weedons Ross Road. Open and full views of the site are available. The open style fencing will assist in retaining a degree of openness, noting that residents could as of right plant boundary hedges (majority of which already exist), which would fully screen the development from within their property. It is proposed to mitigate potential effects on amenity by establishing a shelter belt along the south east boundary (MM3), as well placing lower density development on the south east edge of the zone (MM5).

The adverse effects on openness for residents along Ridgeland Way can be successfully mitigated using post and rail fences and avoiding the installation of close board fencing where possible. The proposed development will be similar to the existing residential development in which the residents live. With the successful implementation of mitigation measures, the effects on these residents is seen to be less than minor.

6. MITIGATION MEASURES

The following mitigation measures are suggested to either avoid, remedy or mitigate any potential effects on Landscape Character, Landscape Values and/or Visual Amenity. Some measures are typically incorporated into residential developments to ensure an open character with a high level of amenity is achieved:

MM1 OPEN STYLE FENCING ADJACENT TO RESERVES AND BOUNDARIES

Close board timber fences can have an adverse effect on the amenity of residential developments and the sense of space, particularly as lot sizes decrease and the distance between fences is less. Solid fences can also have a negative effect on the character and safety of public reserves by limiting the potential for passive surveillance from adjoining properties. The use of post and rail fencing has been successful in earlier stages of Wilfield and it is anticipated this will continue into this stage.

MM2 SCREEN PLANTING ALONG THE SOUTH EAST BOUNDARY

To mitigate potential effects on adjoining rural properties to the east from being able to see more houses, it is suggested a single row of trees is planted along the boundary. Fast growing species such as *Cupressus leylandii* 'ferndown' or similar are suggested to will achieve a substantial screen without creating adverse shading conditions for future residents. Trees are to be planted at centres no further apart than 3m with a temporary irrigation (dripline) system installed for the first two years of establishment.

MM3 PEDESTRIAN LINK

A pedestrian link is created through the development to provide direct access into the neighborhood park and existing green corridor through Wilfield. This

improves the connectivity of Wilfield, connecting the existing and future development.

MM4

LOW DENSITY BUFFER

Using lower density lots on the eastern edge of the development adjacent to existing rural land with assist with reducing 'urban-like' effects onto the open character of the adjoining properties.

7. CONCLUSIONS

Overall, it is considered that the residual adverse effects on Landscape Character, Landscape Values and Amenity resulting from the proposal will be Minor, at most, for the following reasons:

- In terms of landscape character, the change in character is considered to be one of landuse intensity with the area already exhibiting a rural-residential character. The degree of openness will be less with residential dwellings establishing. Many rural-residential areas with allotment sizes up to 2ha in area can have an enclosed character resulting from residents 'compartmentalising' the landscape into smaller units with significant hedgerows. The difference is considered Minor in terms of Landscape Character. The plan change area will be viewed as an extension of Wilfield residential development and not as a standalone settlement.
- The proposal is not considered to have any effects on Natural Character.
- In terms of Landscape Values, the proposal is zoned as Inner Plains, the Landscape Value is to be maintained with the inclusion of low-density housing where the development adjoins rural land. The effects on Landscape Values are considered Minor and the proposal is considered consistent with the National Policy Statement for Urban Development.
- In terms of visual amenity, the most affected parties are the residents between 557 and 623 Weedons Ross Road, with residual Minor effects following the implementation of the proposed mitigation measures. The effects on the residents of Ridgeland Way are considered Minor due to the increased density of the development surrounding them, reducing to Less than Minor with the implementation of the proposed mitigation measures. Adverse effects on openness can be successfully mitigated using post and rail fences and avoiding the installation of close board fencing on reserve boundaries.

David Compton-Moen



APPENDIX ONE - LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

WILFIELD PLAN CHANGE, WEST MELTON
FOR GW WILFIELD LTD.

07 October 2020
Project no. 2020_079
REVISION B



CONTENTS

WILFIELD PLAN CHANGE

Project no: 2020_079
Document title: Landscape and Visual Impact Assessment

Revision: B
Date: 07 October 2020
Client name: GW WILFIELD LTD

Author: David Compton-Moen | Sophie Beaumont

File name: \\GOOSE\Storage\4_DCM - Projects\2020_079 Wheelans Wilfields Plan Change\3_Working Files\3_InDesign\2020_079_Wheelans Wilfields Plan Change_LVIA_1.indd

DOCUMENT HISTORY AND STATUS

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A	28/09/2020	Draft LVIA Report	SB	DCM	
B	07/10/2020	LVIA Report	SB	DCM	

CONTEXT - LANDUSE AND LANDCOVER	3
CONTEXT - EXISTING TOPOGRAPHY	4
CONTEXT - DISTRICT PLANNING MAP	5
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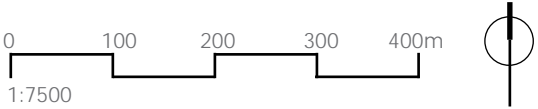
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Christchurch 8013

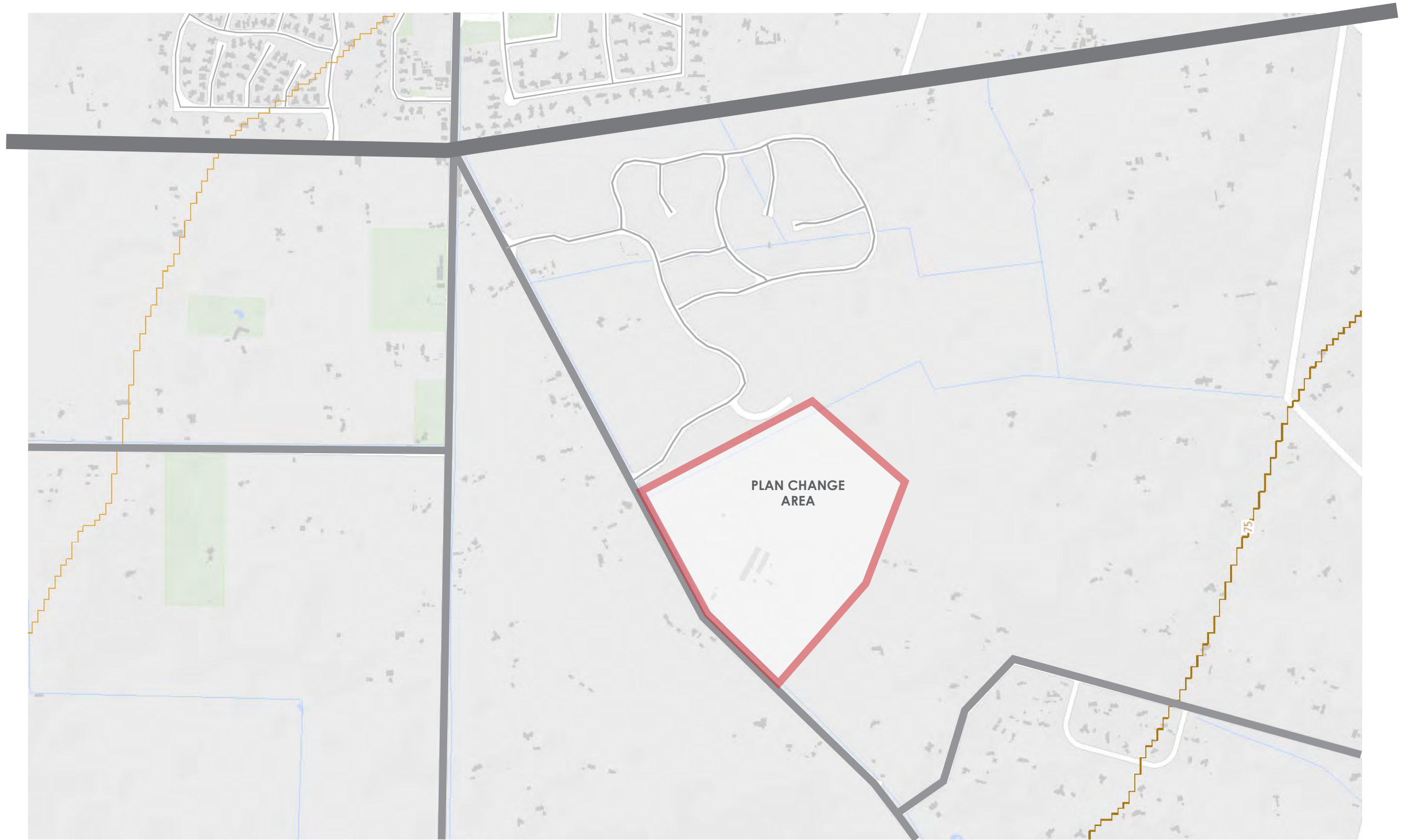
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A. AERIAL PHOTO SHOWING THE PLAN CHANGE AREA

Map / image source: Canterbury Maps





A. AERIAL PHOTO SHOWING THE PLAN CHANGE AREA

Map / image source: Canterbury Maps

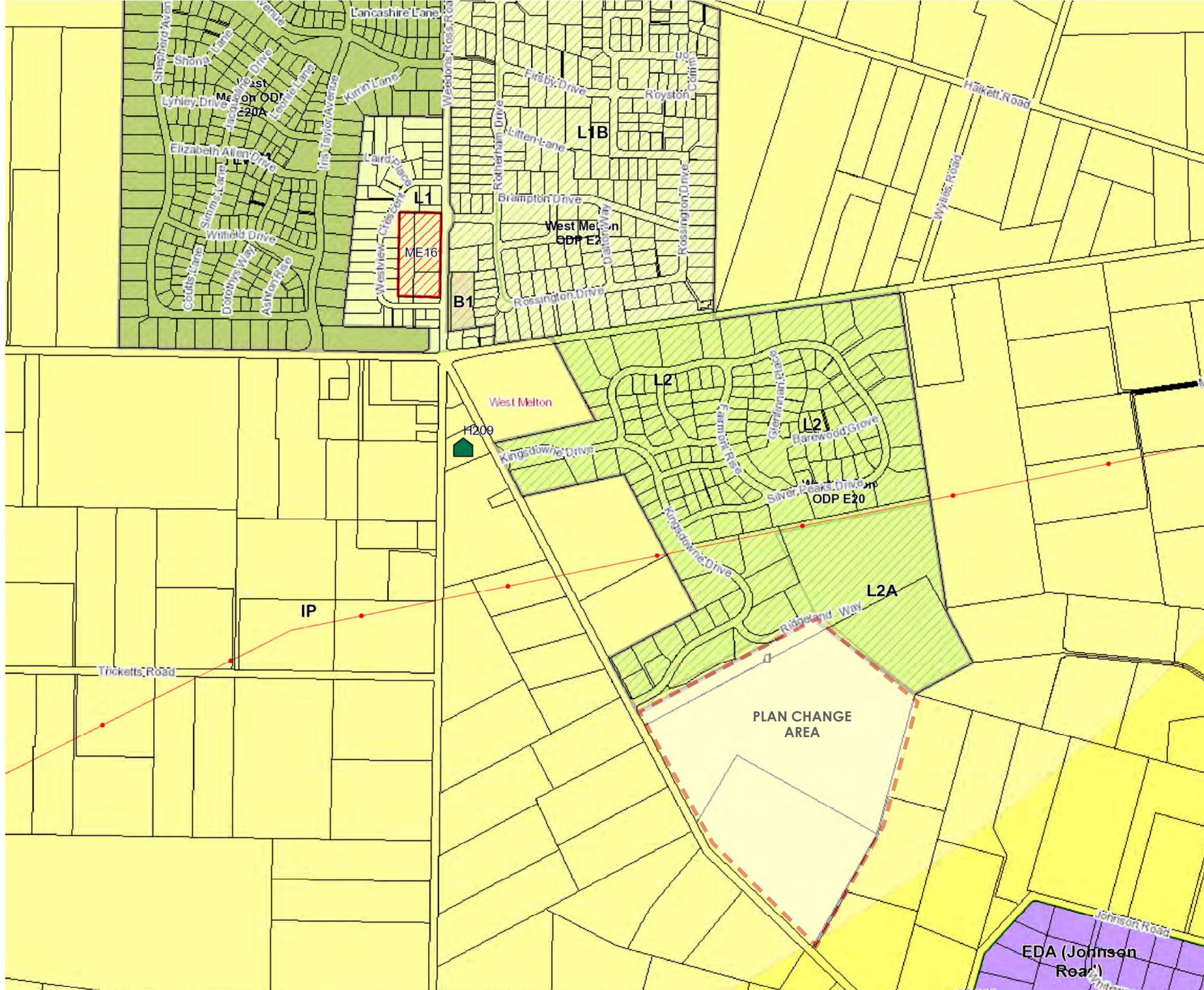
LANDSCAPE VISUAL IMPACT ASSESSMENT

CONTEXT - EXISTING TOPOGRAPHY

PLAN CHANGE - WILFIELD, WEST MELTON

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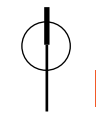


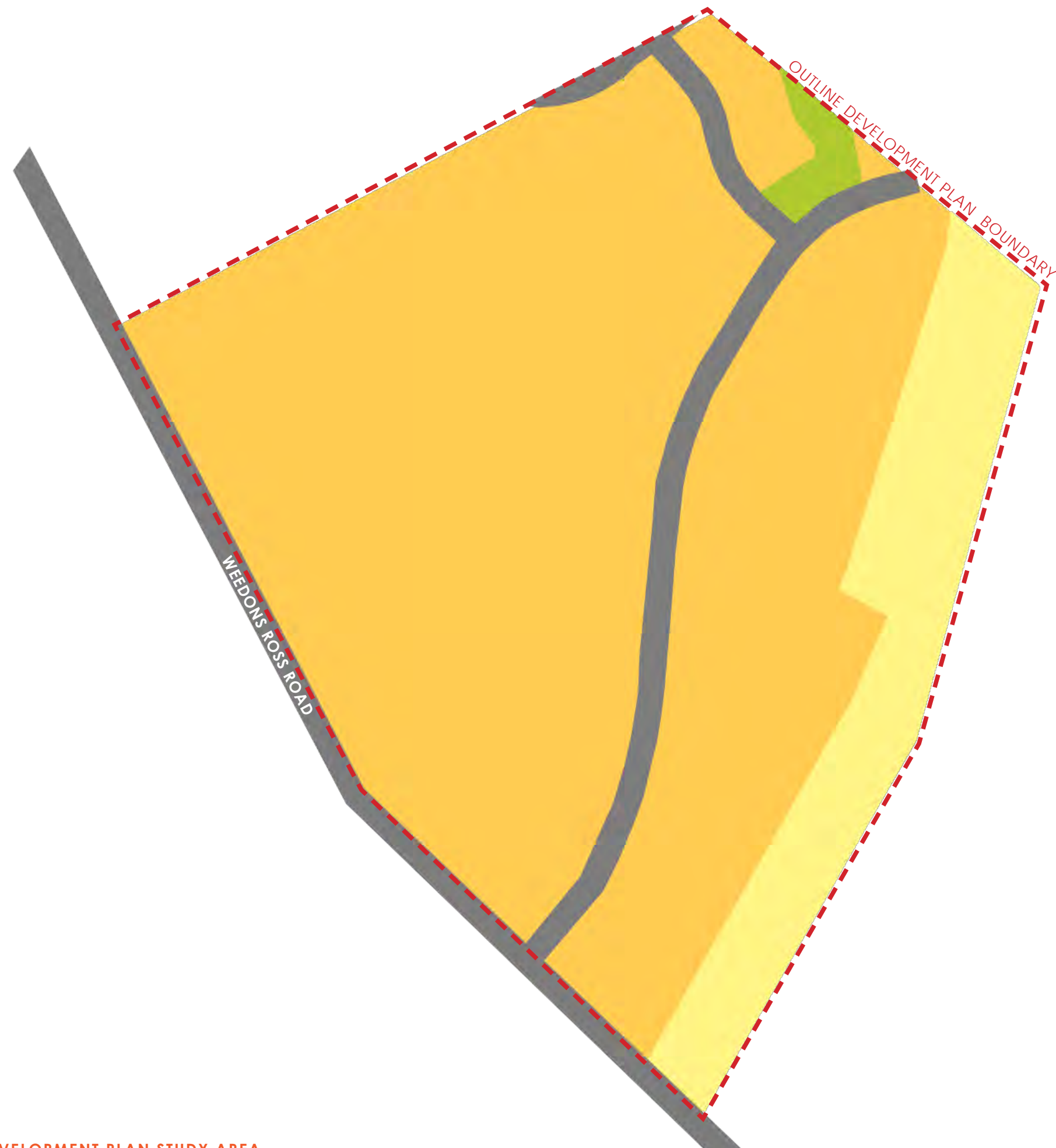
LEGEND

- Population center and locality labels
- Hydrographic feature labels
- Parks, forests, and reserves labels
- Road labels
- Regional Boundaries
- Territorial Authority Boundaries
- Land Parcels
- State highways outside Canterbury
- Heritage Building
- Protected Tree
- Scheduled Sites
- Statutory Acknowledgement Sites
- Wāhi Taonga Management Sites
- Power Transmission Lines
- Fault Lines
- Coastal Hazard
- Railway
- Contours Above Sea Level
 - 160m
 - 60m
 - 2.74m
- Silent File Areas
- Archaeological Site
- Wāhi Taonga Management
- Designations
 - Non Operative
 - Operative
 - NZTA Widening Designation
 - CSM2 / MSRFL Designation
 - Forestry Exclusions Areas
 - Visual Amenity Landscape Zones
 - Outstanding Landscapes
 - Outstanding Natural Features
 - ChCh Int'l Airport Noise Contours
 - West Melton Observatory Zone
- Ecan Defined Flood Zones
 - Lake Ellesmere Flood Area
 - Lower Plains Flood Area
 - Waimakariri Flood Plain
- Priority Areas
 - Business
 - Residential
 - Others
- ODP Areas
 - Lincoln ODP Area 1
 - Lincoln ODP Area 2
 - Lincoln ODP Area 3
 - Lincoln ODP Area 4
 - Lincoln ODP Area 5
 - Lincoln ODP Area 6
 - Lincoln ODP Area 7
 - Lincoln ODP Area 8
 - Prebbleton ODP Area 1
 - Prebbleton ODP Area 2
 - Prebbleton ODP Area 3
 - Prebbleton ODP Area 4
 - Rolleston ODP Area 1
 - Rolleston ODP Area 10
 - Rolleston ODP Area 11
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 - Rolleston ODP Area 13
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 - Waterbody Generalization
- Planning Zones
 - High Country
 - Port Hills
 - Existing Development Area
 - Living 1
 - Living 2
 - Living 3
 - Living X
 - Living WM
 - Living Z
 - Living Z Deferred
 - Deferred Living
 - Business 1
 - Business 2
 - Business 3
 - Inner Plains
 - Outer Plains
 - Malvern Hills
 - Key Activity Centre

A. DISTRICT PLAN MAP SHOWING PROPOSED SIGN LOCATION

Map / image source: Selwyn District Council





LEGEND



LOW DENSITY



MEDIUM DENSITY



RESERVE

A. PLAN SHOWING THE OUTLINE DEVELOPMENT PLAN STUDY AREA

LANDSCAPE VISUAL IMPACT ASSESSMENT

PROPOSAL OUTLINE DEVELOPMENT PLAN

PLAN CHANGE - WILFIELD, WEST MELTON



LEGEND
VIEWPOINT LOCATIONS

- 1 VP1 - VIEW South East from 623 Weedons Ross Road
- 2 VP2 - VIEW South from 7 Ridgeland Way
- 3 VP3 - VIEW East from 585 Weedons Ross Road
- 4 VP4 - VIEW North from 557 Weedons Ross Road





EXISTING RESIDENTIAL DEVELOPMENT in Wilfield. Houses are typically single storey, 3-4 bedroom with double garages on lots ranging in size from 900m² to 5,000m²



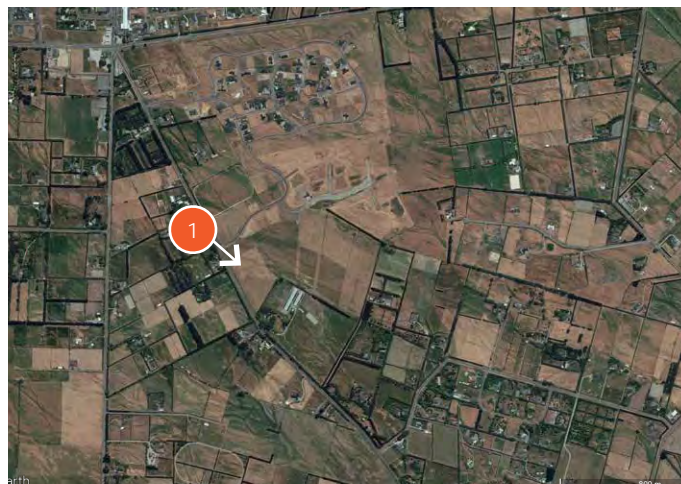
EXISTING OPEN STYLE FENCING in Winfield along the boundary where development adjoins open rural space or shares a boundary with Weedons Ross Road



PROVISION OF OPEN SPACE in Wilfield is high with a network of open spaces providing pedestrian connections through the development. Wilfield Reserve is within 600m of the Plan Change area neighbourhood park and will be easily accessible to future residents



THE OPEN CHARACTER of the Inner Plains zone where the existing southern boundary of Wilfield adjoins the Plan Change area. Existing development is defined by open style post and rail fencing



VIEWPOINT LOCATION



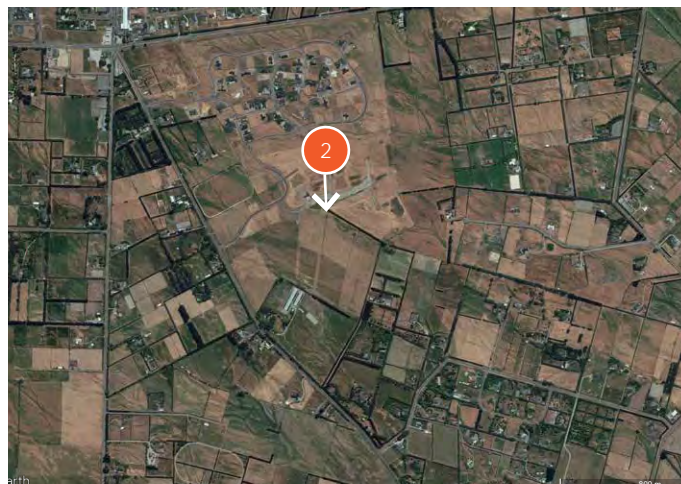
A. EXISTING VIEW

LANDSCAPE VISUAL IMPACT ASSESSMENT

1 VP1 - VIEW SOUTH EAST FROM 623 WEEDONS ROSS ROAD

PLAN CHANGE - WILFIELD, WEST MELTON

Date: 26th September 2020 at 7:15am
Height of 1.7 metres
43°31'56.82"S 172°22'33.41"E



VIEWPOINT LOCATION



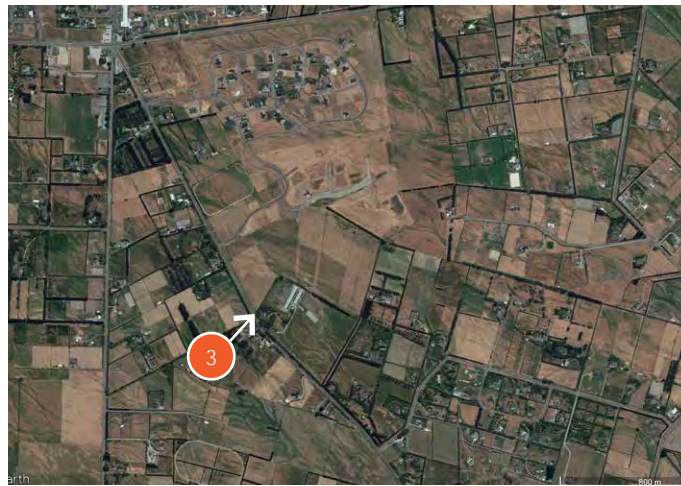
A. EXISTING VIEW

LANDSCAPE VISUAL IMPACT ASSESSMENT

2 VP2 - VIEW SOUTH FROM 1 RIDGELAND WAY

PLAN CHANGE - WILFIELD, WEST MELTON

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Height of 1.7 metres
43°31'50.05"S 172°22'46.36"E



VIEWPOINT LOCATION



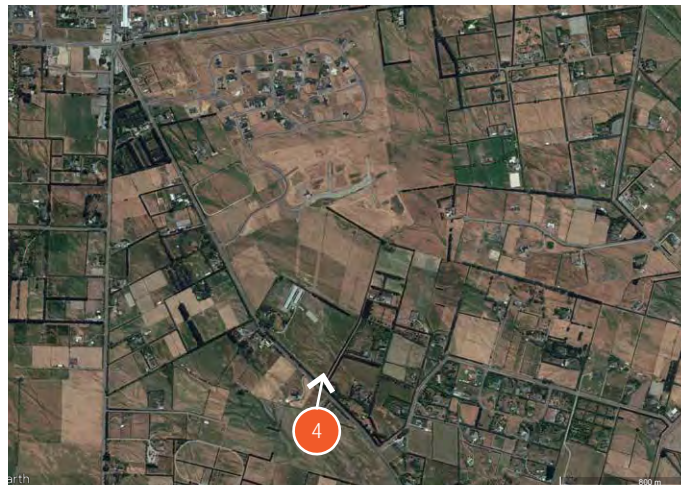
A. EXISTING VIEW

LANDSCAPE VISUAL IMPACT ASSESSMENT

3 VP3 - VIEW EAST FROM 585 WEEDONS ROSS ROAD

PLAN CHANGE - WILFIELD, WEST MELTON

Date: 26th September 2020 at 7:17am
Height of 1.7 metres
43°32'04.60"S 172°22'38.90"E



VIEWPOINT LOCATION



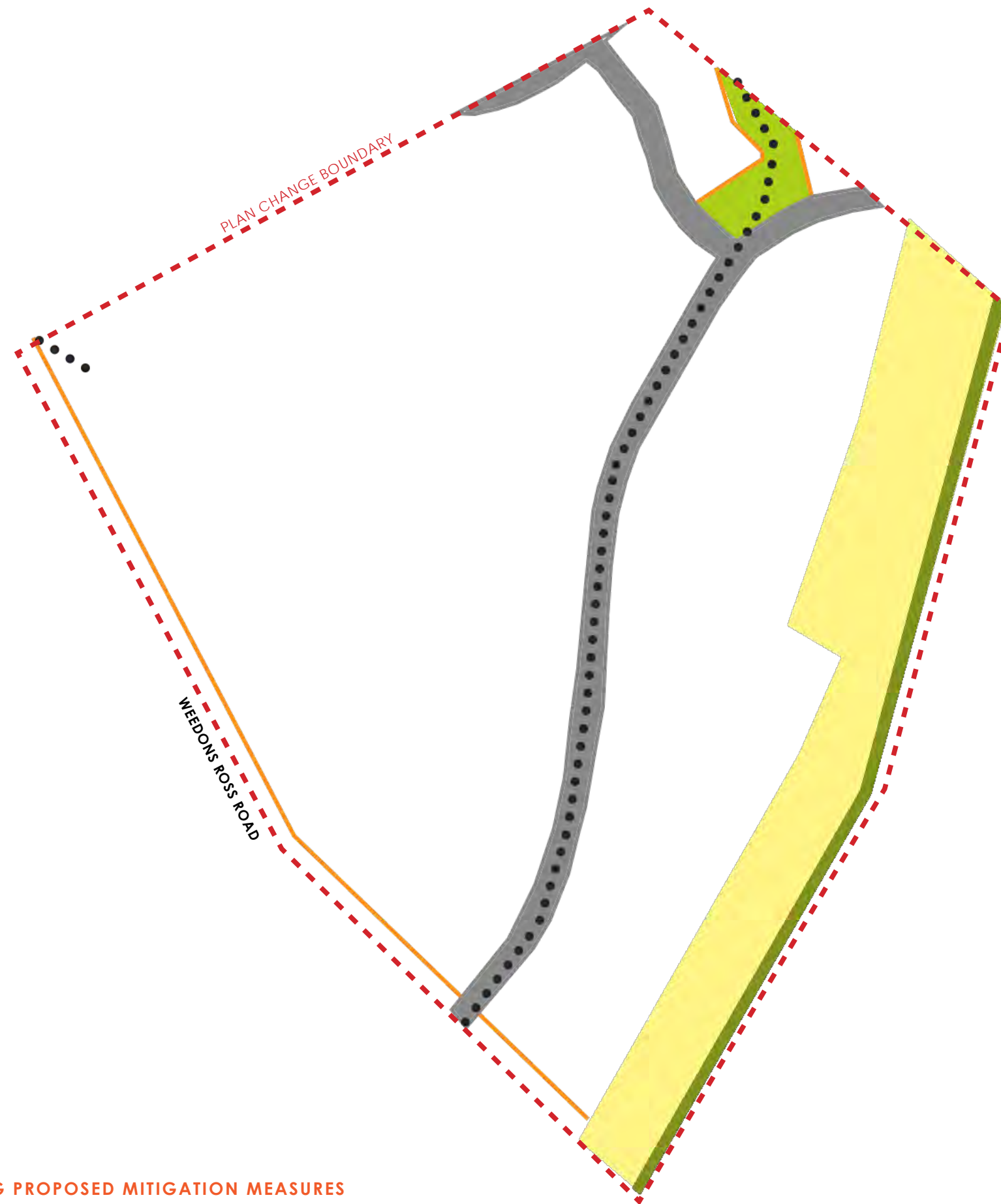
A. EXISTING VIEW

LANDSCAPE VISUAL IMPACT ASSESSMENT

4 VP4 - VIEW NORTH FROM 557 WEEDONS ROSS ROAD

PLAN CHANGE - WILFIELD, WEST MELTON

Date: 26th September 2020 at 7:20am
Height of 1.7 metres
43°32'14.86"S 172°22'51.69"E



LEGEND

MM1

OPEN STYLE FENCING ADJACENT TO RESERVES AND BOUNDARIES

Close board timber fences can have an adverse effect on the amenity of residential developments and the sense of space, particularly as lot sizes decrease and the distance between fences is less. Solid fences can also have a negative effect on the character and safety of public reserves by limiting the potential for passive surveillance from adjoining properties. The use of post and rail fencing has been successful in earlier stages of Wilfield and it is anticipated this will continue into this stage.

MM2

SCREEN PLANTING ALONG THE SOUTH EAST BOUNDARY

To mitigate potential effects on adjoining rural properties to the east from being able to see more houses, it is suggested a single row of trees is planted along the boundary. Fast growing species such as *Cupressus leylandii* 'ferndown' or similar are suggested which will achieve a substantial screen without creating adverse shading conditions for future residents.

MM3

PEDESTRIAN LINK

A pedestrian link is created through the development to provide direct access into the neighborhood park and existing green corridor through Wilfield. This improves the connectivity of Wilfield, connecting the existing and future development.

MM4

LOW DENSITY BUFFER

Using lower density lots on the south east edge of the development adjacent to existing rural land with assist with reducing 'urban-like' effects onto the open character of the adjoining properties.

A. PLAN SHOWING PROPOSED MITIGATION MEASURES

LANDSCAPE VISUAL IMPACT ASSESSMENT

MITIGATION MEASURES

PLAN CHANGE - WILFIELD, WEST MELTON





Appendix D

Integrated Traffic Assessment



LIVING WM SOUTH ZONE PROPOSED PLAN CHANGE- INTEGRATED TRANSPORT ASSESSMENT

PREPARED FOR GW WILFIELD LTD

9 October 2020

This document has been prepared for the benefit of GW Wilfield Ltd. No liability is accepted by this company or any employee or sub-consultant of this company with respect to its use by any other person.

This disclaimer shall apply notwithstanding that the report may be made available to Selwyn District Council and New Zealand Transport Agency and other persons for an application for permission or approval to fulfil a legal requirement.

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APPENDICES

Appendix A Outline Development Plan

1. Introduction

GW Wilfield Ltd proposes a Private Plan Change (PPC) to the Selwyn District Plan to re-zone approximately 33.4ha of Inner Plains zoned land to the south of West Melton to Living West Melton (Living WM) South.

The land is to the south of the existing Wilfield subdivision, which is subject to an ongoing PPC (Plan Change 59) to re-zone it from a combination of Living 2 and Living 2A zones to a new Living WM South zone.

A development masterplan indicates that the proposed rezoning of land could result in approximately 131 additional residential lots in West Melton.

The proposed PPC area is currently zoned Inner Plains which generally provides for rural activity. The rezoning proposal which will enable residential development would generate additional traffic volumes and transport activity including walking and cycling, resulting in a need for consideration of whether different transport infrastructure is required to accommodate that activity.

This Integrated Transport Assessment (ITA) assesses the integration of the proposed rezoned land with the transport network. It considers the ability of the transport network to accommodate the additional traffic that could be generated if the proposed PPC area is re-zoned. It also assesses the proposed Outline Development Plan, with key considerations being connectivity to adjacent development for vehicles and active travel modes and vehicle access locations on Weedons Ross Road.

2. Site Location

The land subject to the proposed PPC is on the southern edge of West Melton and on the eastern side of Weedons Ross Road, as indicated in **Figure 1**. It is approximately 15km from the western edge of Christchurch via State Highway 73 (SH73) and 8km from Rolleston via Weedons Ross Road and the Christchurch Southern Motorway Stage 2 (CSM2) interchange.

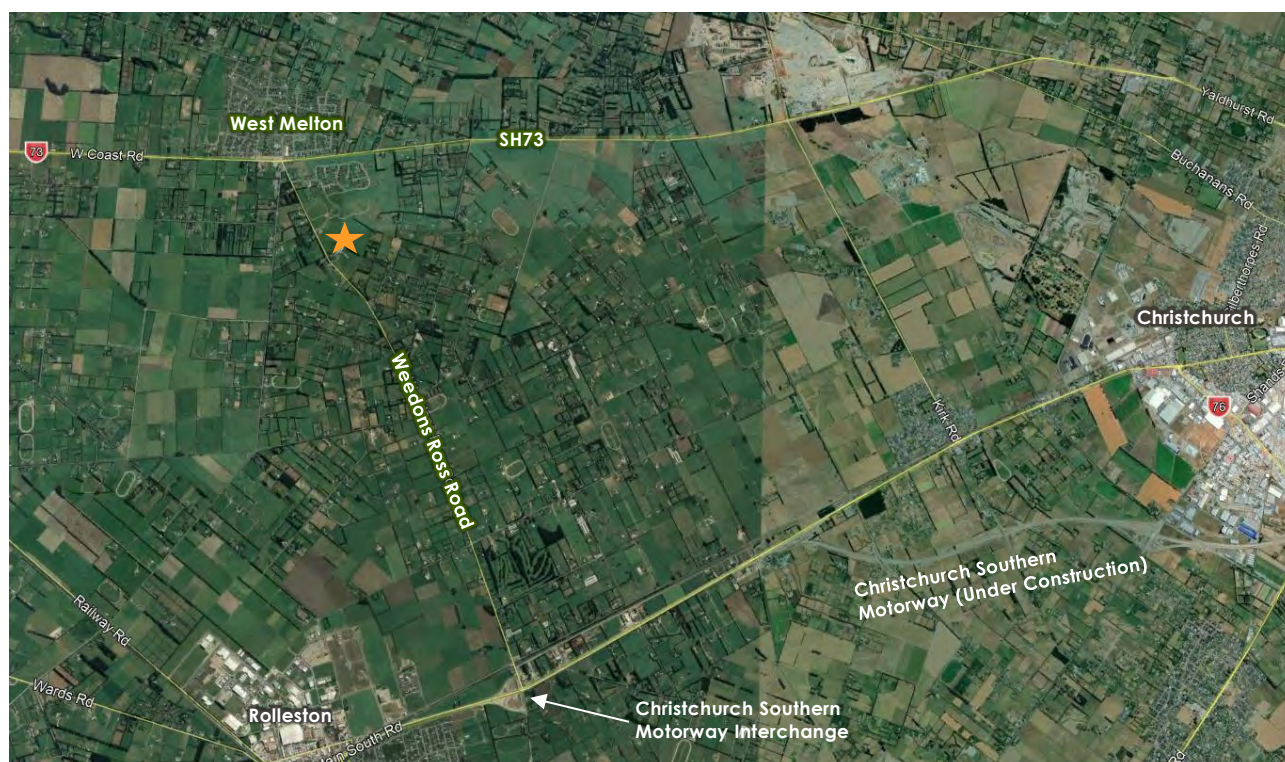


Figure 1: Site Location in Wider Context (Aerial Image Source- Google Earth)

Figure 2 outlines the area subject to the proposed PPC in the context of the Selwyn District Plan zoning. As stated, the PPC area is zoned Inner Plains which is a rural zoning. The adjacent Wilfield subdivision land is zoned L2 and L2A. The entirety of the Wilfield subdivision is subject to an ongoing PPC request to re-zone it to a new Living WM South zone. All other residentially zoned land in West Melton is on the northern side of SH73.



Figure 2: Existing District Plan Zoning

Figure 3 shows the location of the proposed PPC area relative to the West Melton village and key activities. A number of community facilities are on the southern side of SH73 including the West Melton Domain and Bowling Club, the West Melton Tavern, St Paul's Church and the West Melton Community Centre.

West Melton Primary School and the West Melton Village shopping centre are located on Weedons Ross Road north of SH73.



Figure 3: Site Location in West Melton (Aerial Image Source- Canterbury Maps)

Figure 4 shows the latest Wilfield subdivision plan. Kingsdowne Drive provides all access to the subdivision, with two intersections on Weedons Ross Road. Silver Peaks Drive is another main loop road providing property access to the north-eastern part of the subdivision. Ridgeland Way provides access to the south-eastern part of the subdivision.



Figure 4: Consented Wilfield Subdivision Layout

3. Existing Transport Infrastructure

3.1 Weedons Ross Road

Weedons Ross Road is classified as an arterial road in the Selwyn District Plan, given its important role of connecting SH73 to SH1 and the CSM2 interchange at Rolleston.

It has a rural formation along the site frontage (Photographs 1-4), with a 6.0-6.2m seal width and wide grass berms. There is a curve in the road alignment midway along the site frontage (visible in Photographs 1 and 4).

The road has an open road speed limit along much of the site frontage which reduces to 60km/h approximately 150m north of the road curve and 250m south of the southern Kingsdown Drive intersection. The 60km/h speed limit continues into West Melton. Having driven the site frontage, it is considered that the proximity to the open road speed change point, the curve in the road and the narrow carriageway mean that southbound vehicle speeds along the frontage would typically be approximately 80km/h.

Weedons Ross Road has an open road speed limit for approximately 2km south of the site, to the Newtons Road intersection. Within that section of road, the carriageway width is approximately 6m, there are several curves in the road and there is access to Melton Estate winery, a contractor's yard and other properties. South of Newtons Road, the carriageway is wider and straight in alignment, but the speed limit is reduced to 80km/h, presumably due to the presence of the Newtons Road and Maddisons Road

crossroad intersections as well as the Weedons golf course, domain and school. It is considered that an 80km/h speed limit over the short distance from the site frontage to Newtons Road would be consistent with the remainder of Weedons Ross Road and appropriate given the narrow carriageway and winding road alignment.



Photograph 1: Weedons Ross Road, South of Curve, Looking North



Photograph 2: Weedons Ross Road, South of Curve, Looking South



Photograph 3: Weedons Ross Road, North of Curve, Looking North



Photograph 4: Weedons Ross Road, North of Curve, Looking South

The two Kingsdowne Drive intersections have been formed as simple T-intersections with localised widening on the subdivision side of the road only. Photograph 5 shows the southern Kingsdowne Drive intersection.



Photograph 5: Southern Weedons Ross Road / Kingsdowne Drive Intersection

Between the two Kingsdowne Drive intersections (Photograph 6), the rural road formation is retained. There is no footpath along this section of Weedons Ross Road.



Photograph 6: Weedons Ross Road Between to Kingsdowne Drive Intersections, Looking North

The Kingsdowne Drive (North) footpath connects to Weedons Ross Road and there is a kerb cutdown crossing point for pedestrians to cross to the footpath on the western side of the road, as shown in Photograph 7.



Photograph 7: Footpath Connection to Wilfield Subdivision North of Kingsdowne Drive Intersection

North of the northern Kingsdowne Drive intersection, there is a gravel shoulder and a sealed footpath with kerb and channel on the western side of the road along the church frontage. Further north (i.e. close to the West Melton Road intersection) the seal is widened to provide for car parking outside the businesses.

3.2 Kingsdowne Drive

Kingsdowne Drive is a loop road which provides the only two points of access to the Wilfield subdivision currently. At the northern and southern ends of the subdivision, Kingsdowne Drive meets Weedons Ross Road at priority-control T-intersections. Within the subdivision, Kingsdowne Drive has a 9m wide carriageway and one footpath, as shown in Photograph 8.



Photograph 8: Kingsdowne Drive Looking West, Ridgeland Way on Left

3.3 Ridgeland Way

Ridgeland Way, shown in Photograph 9, is currently formed as a short cul-de-sac with an 8m wide carriageway and one footpath. As shown in Photograph 8, it meets Kingsdowne Drive at a standard local road T-intersection.



Photograph 9: Ridgeland Way, Looking Towards Kingsdowne Drive

3.4 SH73

Along the Wilfield subdivision frontage, SH73 is formed as a two-lane rural road. Photograph 10 shows SH73 along the subdivision frontage. The road has a generally straight east to west alignment, with one curve at the Weedons Ross Road intersection.



Photograph 10: Wilfield Subdivision on SH73 Frontage - Looking West

There is a footpath on the southern side of SH73 which runs from the Weedons Ross Road intersection to a crossing point between Wilfield and Gainsborough. Photograph 11 shows a pedestrian refuge island which has been installed at the crossing point. This was put in place instead of the underpass referenced in the District Plan subdivision rules (rule 12.1.3.55 (b)).



Photograph 11: SH73 Footpath and Pedestrian Crossing Point

The 70km/h speed limit restriction for West Melton starts outside the Wilfield subdivision, approximately 500m east of the Weedons Ross Road intersection and in advance of the pedestrian crossing point. As part of corridor improvements, the speed limit was relocated from its previous position closer to the Weedons Ross Road intersection.

3.5 SH73 / Weedons Ross Road Intersection

Weedons Ross Road meets SH73 at a priority-control crossroad intersection (Photographs 12 and 13) with STOP signs on Weedons Ross Road. There are right turn bays marked on both SH73 approaches. Both Weedons Ross Road approaches only have sufficient width for one lane of queuing traffic, although there is space for two vehicles at the stop line.



Photograph 12: SH73 / Weedons Ross Road Intersection, from SH73 Eastern Approach



Photograph 13: Southern Approach to Weedons Ross Road / SH73 Intersection, West Melton Road on Left

West Melton Road meets the western side of Weedons Ross Road only approximately 15m south of the SH73 intersection.

3.6 Off-Road Cycle / Pedestrian Provision

Generally, within the existing Wilfield subdivision, pedestrians are provided with footpaths within the road corridors and cyclists are expected to share the subdivision roads with traffic.

There are several off-road connections, primarily intended for pedestrians, but which can also be used by cyclists. These include a link from the north-western corner of the subdivision to the crossing point on SH73, linking to the Gainsborough subdivision across the road.

3.7 Bus Network

Metro operates an express commuter bus service on weekdays from Darfield to Christchurch City in the morning, with a return in the evening. The service has stops in Kirwee and West Melton. As shown in **Figure 5**, the service stops at West Melton School and Preston Downs subdivision on Weedons Ross Road and on Halkett Road outside the Gainsborough subdivision. The service stops in West Melton at 7:30am on the inbound service, and 5:30pm on the outbound service. The service takes approximately 45 minutes in each direction between West Melton and the city centre bus exchange.



Figure 5: 86 Darfield – City Bus Route through West Melton

Rolleston High School is serviced by a West Melton bus route. As indicated by **Figure 6**, currently it does not pass the site, although such services respond to demand.

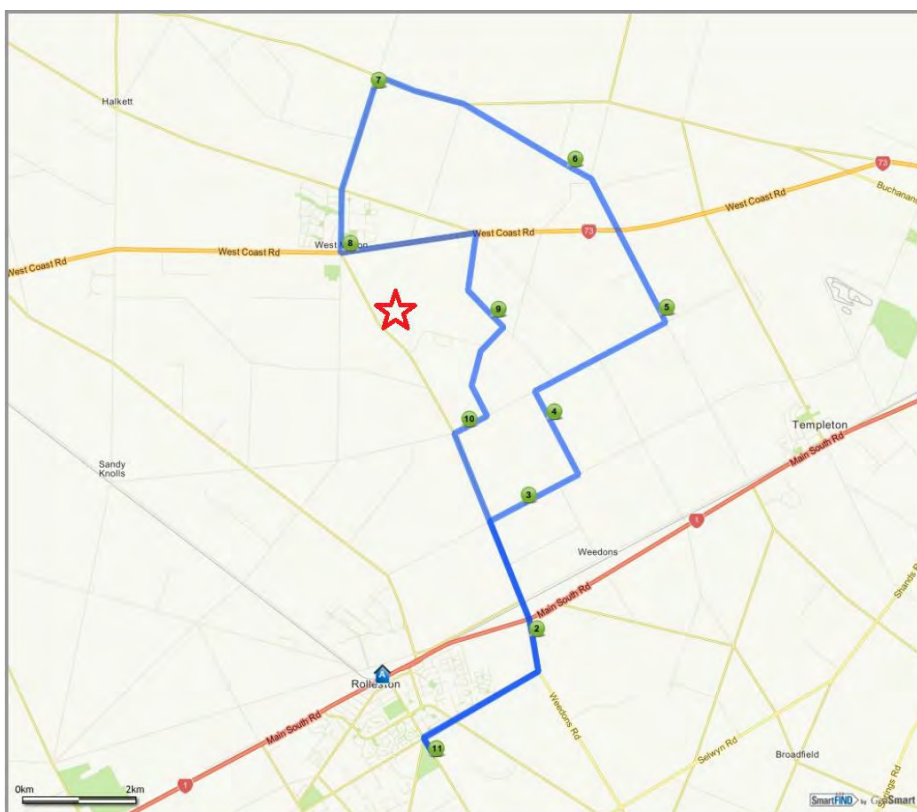


Figure 6: Rolleston High School Bus Route

4. Existing Travel Patterns

4.1 Daily Traffic Patterns

Daily traffic volumes for SH73, in the vicinity of West Melton, Weedons Ross Road and West Melton Road have been sourced from NZTA and the Selwyn District Council (SDC) and are shown in **Table 4-1**. The SH73 volumes are annual average daily traffic (AADT) volumes for 2019. The count location east of Dawsons Road is approximately 5km east of West Melton, while the count location east of Aylesbury Road is approximately 7km west of West Melton.

Table 4-1: Daily Traffic Volumes on Surrounding Roads

Count Location	Year	Daily Traffic Volumes
SH73 east of Dawsons Road	2019	13,300 vpd
SH73 east of Aylesbury Road	2019	7,200 vpd
Weedons Ross Road south of West Melton	2018	1,200 vpd
West Melton Road west of Weedons Ross Road	2019	1,500 vpd

The AADT at the SH73 count site west of West Melton has grown at approximately 3.3% per annum over the last 10 years.

4.2 Hourly Patterns

Figure 7 shows the pattern of hourly traffic volumes on Weedons Ross Road, south of SH73 (between Newtons Road and Maddisons Road), recorded by the Selwyn District Council over the course of a seven-day period in February 2017. The main characteristics of the two-way hourly traffic patterns can be summarised as follows:

- The weekday morning and evening two-way peak hour traffic volumes are approximately 180 vehicles per hour (vph) between 7:00am – 8:00am (of which 110vph is southbound), and 5:00pm – 6:00pm (of which approximately 150vph is northbound);
- The two-way weekday traffic volumes drop gradually to approximately 100vph around midday;
- The weekend traffic volumes are typically about 150vph between 11:00am – 5:00pm.

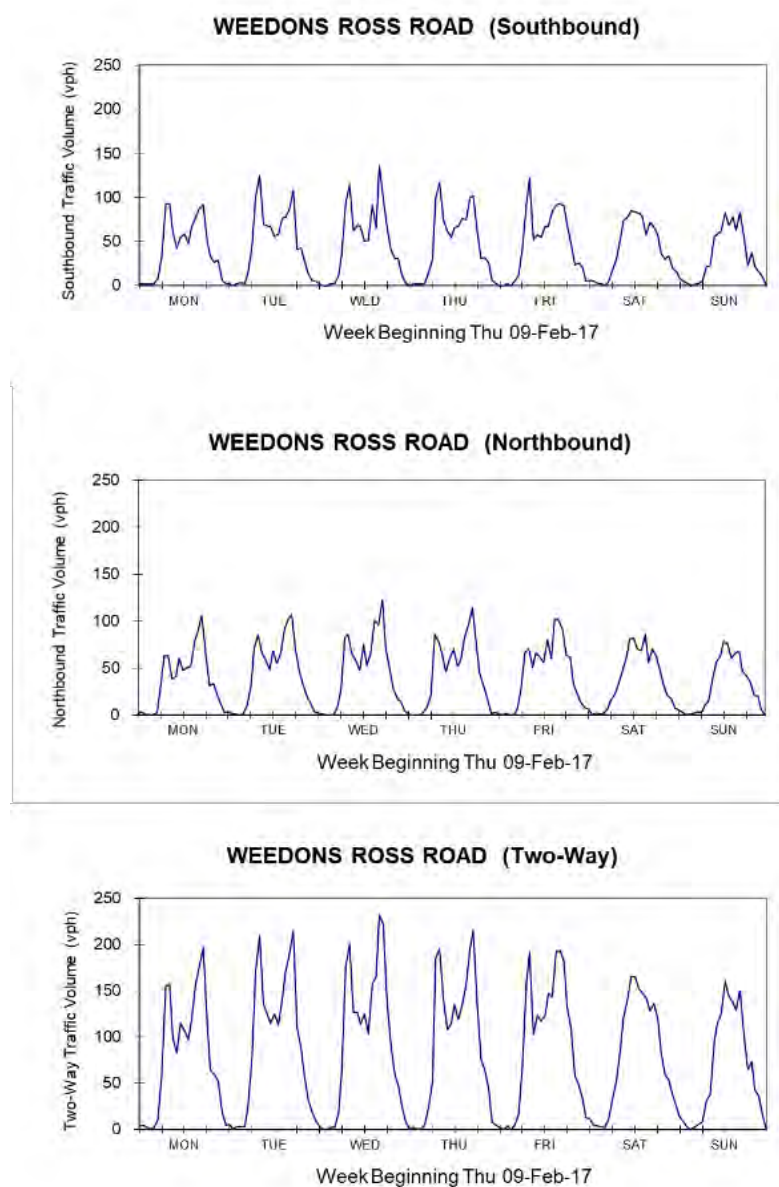


Figure 7: Weedons Ross Road Traffic Volumes- February 2017

4.3 Intersection Traffic Volumes

Stantec undertook turning movement surveys at four key intersections on Wednesday 20 May 2018. The intersections surveyed were:

- SH73 / Weedons Ross Road;
- Weedons Ross Road / West Melton Road;
- Weedons Ross Road / Kingsdowne Drive North; and
- Weedons Ross Road / Kingsdowne Drive South.

The traffic surveys were conducted during the morning and evening peak periods of 7:00am to 9:00am and 2:45pm to 6:00pm respectively. The evening traffic survey included the end of the school day which generates a short duration peak from 2:45pm to 3:15pm. The peak hours in each period occurred from 7:15am to 8:15am and 4:45pm to 5:45pm. **Figures 8** and **9** summarise the surveyed peak hour traffic volumes in each period.

Traffic volumes on SH73 eastbound are relatively high in the morning peak period as drivers are headed to Christchurch for work and vice versa in the evening.

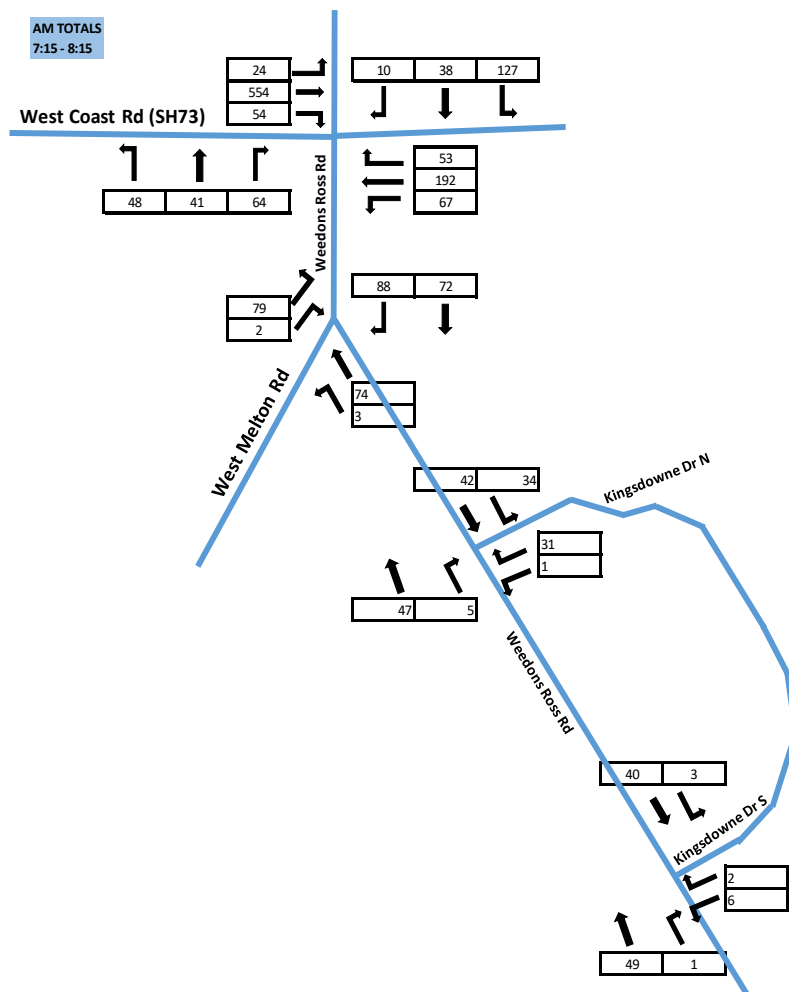


Figure 8: Existing AM Peak Hour (7:15am-8:15am) Turning Volumes (May 2018)

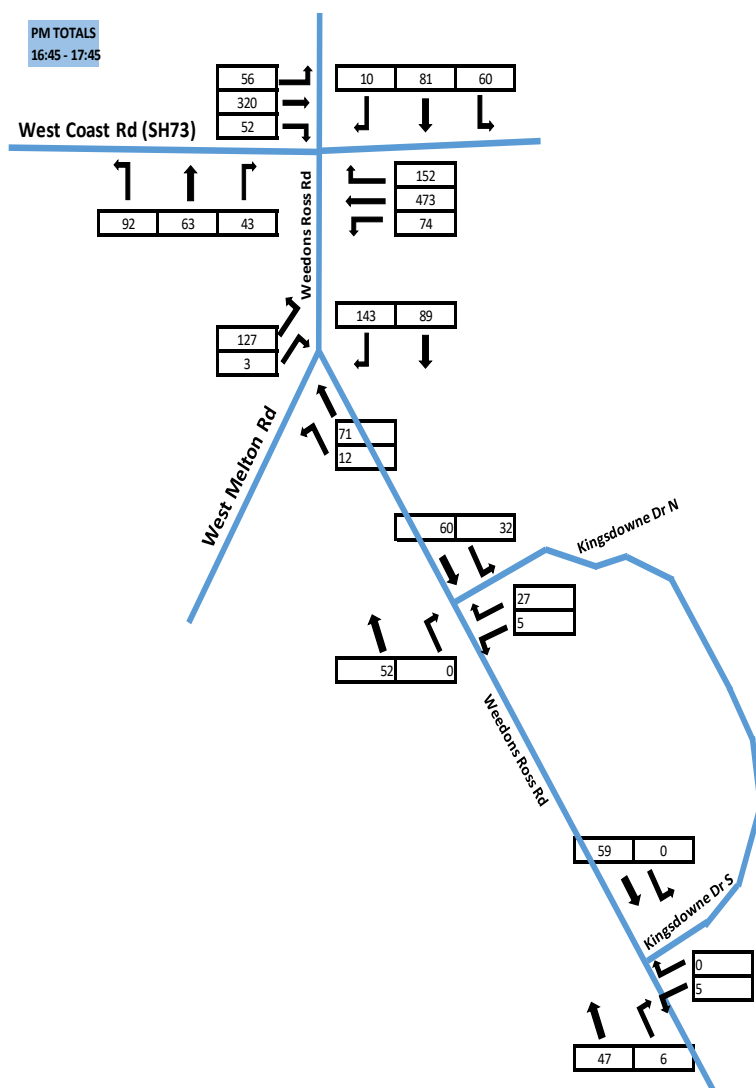


Figure 9: Existing PM Peak Hour (16:45pm-17:45pm) Turning Volumes (May 2018)

4.4 SH73 / Weedons Ross Road Intersection Performance

From the turning movement survey video footage, a delay survey was carried out for the SH73 / Weedons Ross Road intersection. Average stopline delays (includes queuing time) for the two Weedons Ross Road approaches were calculated and are reported in Table 4-2.

Table 4-2: Average Weedons Ross Road Approach Peak Hour Stop line Delays at SH73 Intersection

Approach	AM Peak Average Delay	PM Peak Average Delay
Weedons Ross Road South	32s	49s
Weedons Ross Road North	17s	30s

The intersection is currently operating with quite high delay during peak times. The delays on the southern approach to the intersection are higher than those on the northern approach due to the higher right turn volumes and represent levels of service D-E for drivers.

During the morning peak period, up to six vehicles were observed queued on the southern Weedons Ross Road approach to the intersection, with up to four vehicles queued on West Melton Road. From observations, the queues do clear and there are times where there is little or no queuing. There is interaction between the queue on Weedons Ross Road and the queue on West Melton Road given the proximity of the two intersections.

Figures 10 and 11 below show the average delays on the two Weedons Ross Road intersection approaches by 15-minute periods. The average delays clearly peak during some 15-minute periods and are much lower during others. This fits with observations that queues do clear and there are periods with minimal queuing.

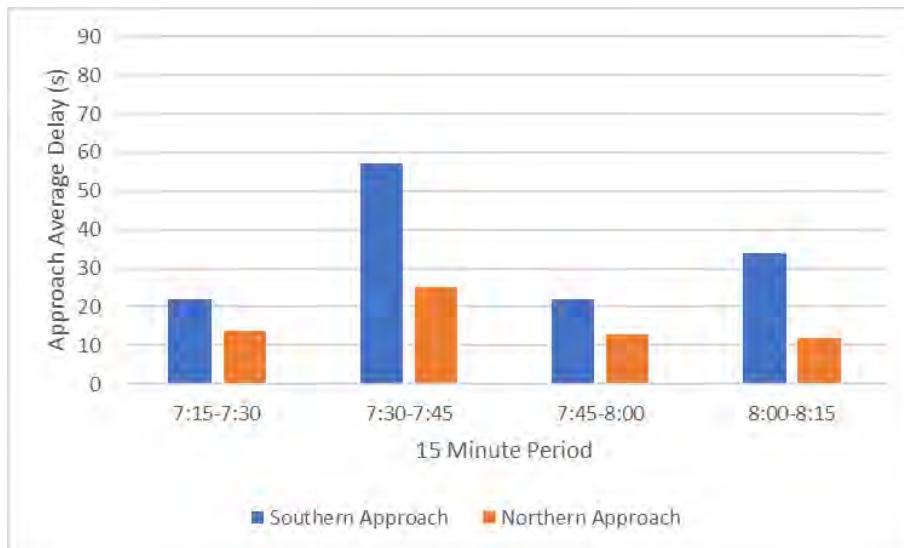


Figure 10: Morning Peak Hour Approach Average Delays by 15 Minute Period

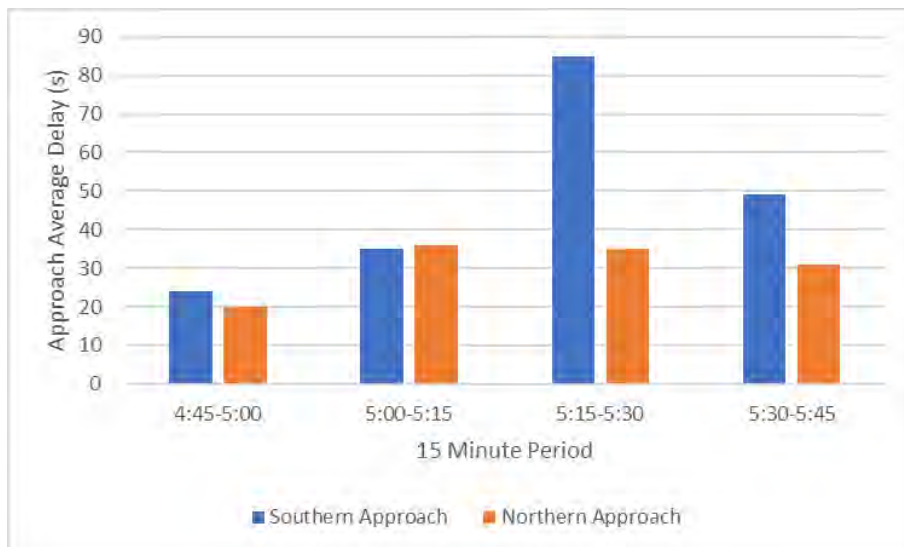


Figure 11: Evening Peak Hour Approach Average Delays by 15 Minute Period

5. Road Safety

A review of the reported road crashes surrounding the area of the proposed Plan Change has been carried out using NZTA's Crash Analysis System. The review covered the SH73 / Weedons Ross Road intersection, SH73 250m to the west and 1.2km to the east, Weedons Ross Road 250m to the north and approximately 3.7km to the south to the Newtons Road intersection, and West Melton Road for 250m from the Weedons Ross Road intersection. It also covered the existing Wilfield subdivision. Crashes reported during the most recent full five-year period of 2015 – 2019 have been analysed as well as any crashes reported in 2020.

As at September 2020 and as indicated in **Figure 12**, a total of 11 crashes have been reported across the search area since the start of 2015.

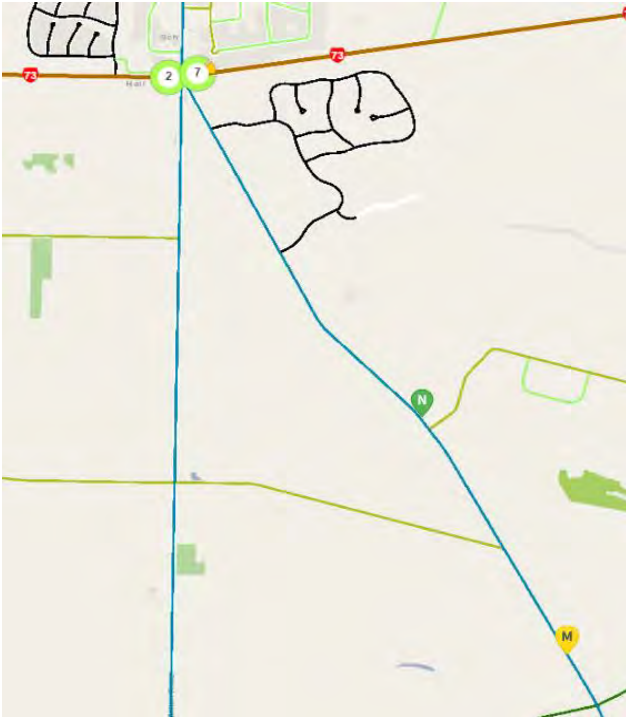


Figure 12: Reported Crashes in Vicinity of Proposed PPC Area

Most of the crashes (eight including one minor injury crash) occurred in West Melton. Five of those occurred at the SH73 / Weedons Ross Road intersection (two in 2020) and most involved vehicles coming out of the side road being hit. Other crashes within the village occurred at commercial driveways.

The remaining three crashes were loss-of-control crashes which are typical rural crash types. Two of those were isolated incidents which occurred on Weedons Ross Road south of the site.

No crashes have been reported within the Wilfield subdivision, at the Kingsdowne Drive intersections on Weedons Ross Road or at property accesses on the rural section of Weedons Ross Road.

6. Future Development

6.1 Christchurch Southern Motorway

The CSM2 is currently under construction and nearing completion. It is opening to traffic in stages, with priority on opening the citybound lanes. These sections of work are expected to be completed in October/November 2020, with the finishing works on the CSM2 currently programmed for completion in early 2021. The southern end of the CSM2 alignment is shown below. The CSM2 will be expected to improve travel times and travel time reliability from Rolleston to Christchurch. The CSM2 could provide a route option for travel from Wilfield to the southern side of Christchurch.



Figure 13: CSM2 Alignment- Southern End (NZTA Website)

6.2 SH73 Speed Limit

NZTA has announced that from 12 October 2020, SH73 through West Melton will have a reduced 60km/h speed limit, as indicated in **Figure 14**.

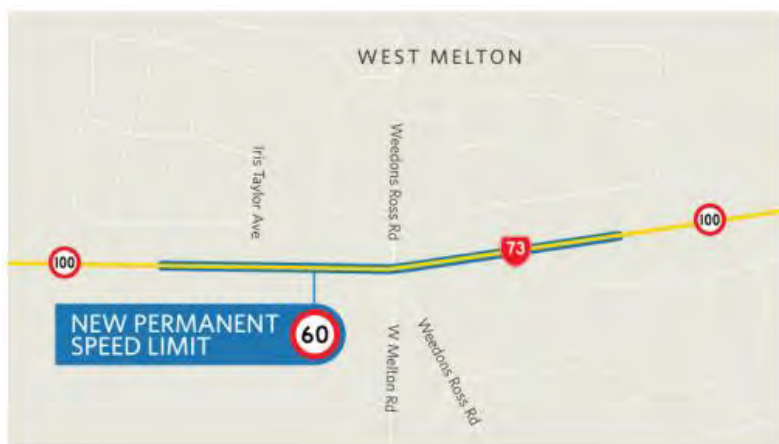


Figure 14: Extent of 60km/h Speed Limit in West Melton (NZTA Website)

6.3 Weedons Ross Road Seal Widening

The Selwyn District Council has proposed to improve seal widths and address ongoing maintenance issues, such as edge breaks, along Weedons Ross Road (along the 5.3km from Maddisons Road to near West Melton). The project was previously scheduled for completion in 2020/2021. The project is now likely to be funded as a subsidised low-cost low risk project, likely due for completion no earlier than 2021/2022.

6.4 SH73 / Weedons Ross Road Intersection Upgrade

Traffic signals are proposed to be installed at the SH73 / Weedons Ross Road intersection as part of the NZ Upgrade Programme. According to the NZTA website, the 'Canterbury Package' of the programme, which includes the West Melton intersection project, has a scheduled construction period of late 2022 to 2024/25.

No details on the possible traffic signalised intersection design is available at this time.

The traffic signals will benefit the community by improving access to the highway from Weedons Ross Road and providing a safe location for pedestrians to cross the highway.

6.5 Future Cycling Network

The Selwyn District Council Walking and Cycling Strategy Action Plan identifies a potential district cycle route on West Melton Road linking West Melton to Rolleston. The route is at this stage planned for 2026/27.

6.6 Public Transport Network

The Canterbury Regional Public Transport Plan 2018-28 provides a transport network with retention of a high frequency route between Rolleston and the CBD via Hornby and Riccarton. There is no indication of additional services being provided to or through West Melton. Long term, rapid transit is considered for linkage between Christchurch and Rolleston.

If additional public transport servicing West Melton is considered to respond to demand, it would likely focus on connections to hubs where park n ride opportunities exist.

A wider business case "PT Futures" is currently being developed to refine the business case for investment in public transport.

6.7 Plan Change 59

Private Plan Change 59 proposed to re-zone the Wilfield subdivision from a mixture of Living 2 and Living 2A to a new Living West Melton (Living WM) South Zone. This will allow balance lots to be subdivided to a similar density as existing residential subdivision. This would potentially increase the lot yield of the area from a maximum of 180 lots to approximately 252 lots, an increase of approximately 72 lots. The PC59 zoning will be supported by a replacement Outline Development Plan (ODP) covering the PC59 area. No new road connections to Weedons Ross Road are included.

7. Proposed Plan Change

7.1 Overview

It is proposed to re-zone approximately 33.4ha of rural land to the south of West Melton for residential use. A concept development plan indicates that approximately 131 residential lots could be developed in the area.

Figure 15 shows an amended Outline Development Plan (ODP) for the Living WM South zone incorporating the proposed re-zoning. A full version of the ODP is contained in **Appendix A** of this report.

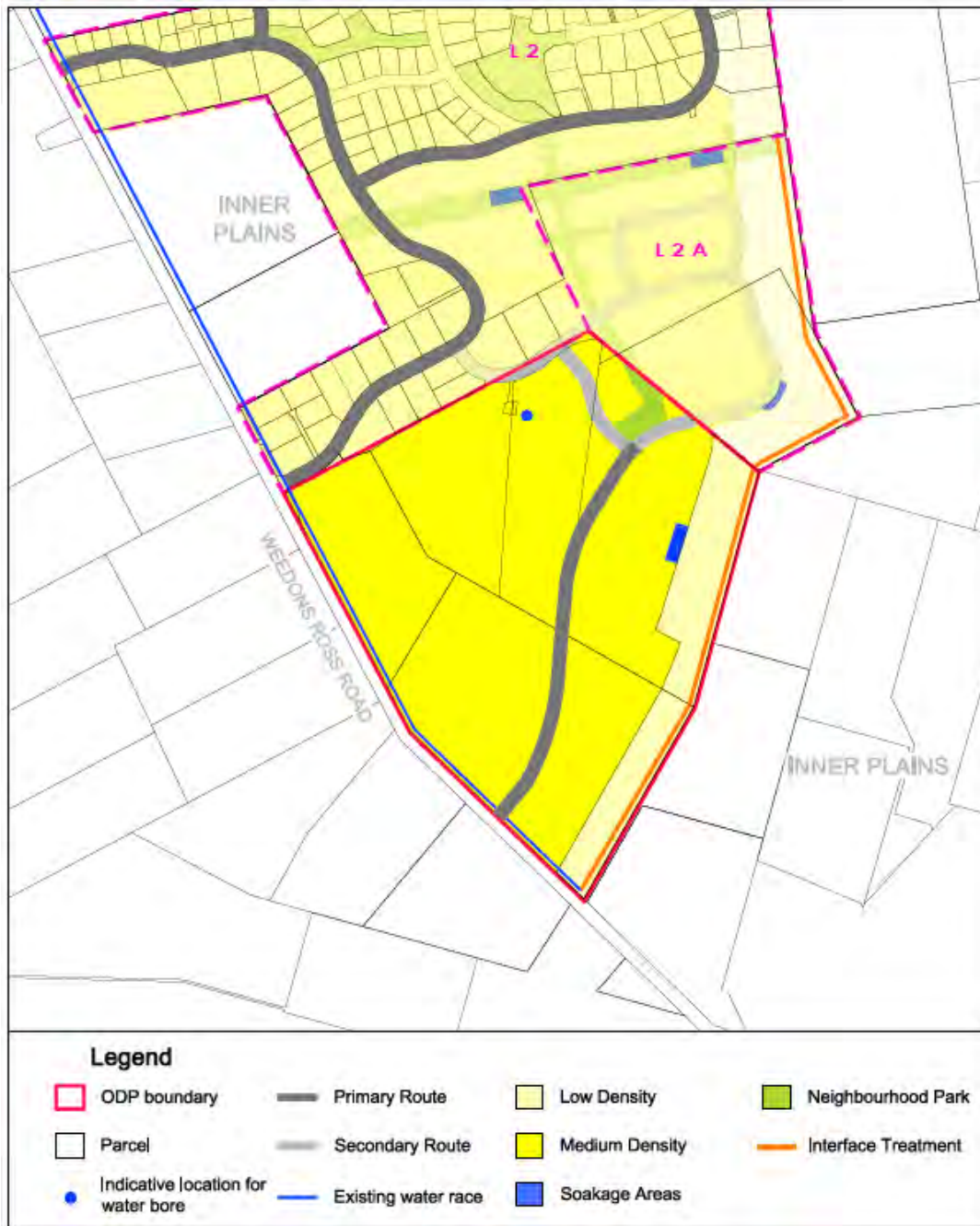


Figure 15: Proposed Outline Development Plan for Proposed Living WM South Zone

7.2 Vehicle Access to Weedons Ross Road

Primary vehicle access to the PPC area is proposed from Weedons Ross Road. As shown on the proposed ODP, the access location is proposed towards the southern end of the Weedons Ross Road frontage. It is proposed midway between the 557 and 581 Weedons Ross Road driveways, to allow flexibility for localised intersection provision and to minimise impacts on those driveways.

This location is far enough from the curve in the road to the north-west that a sightline of approximately 210m will be available in that direction (Photograph 12), exceeding the Austroads Safe Intersection Sight Distance requirement of 181m for an 80km/h design speed. As outlined earlier, it is considered that southbound vehicle speeds would typically be approximately 80km/h and the available sightline will be acceptable. Furthermore, it is considered that an 80km/h speed limit would be appropriate along the site frontage once it is developed and it may be warranted along the remainder of the road to Newtons Road regardless.



Photograph 14: Sightline to North from Proposed Intersection Location

Good visibility will be available in the other direction, with a clear sightline of in excess of 400m available.

The formation of the intersection, including whether widening and/or auxiliary turning lanes would be warranted, would be determined at the subdivision design stage. The design will depend on the speed environment, including whether the speed limit change is extended further out to include the intersection in the urban area.

Secondary access to the PPC area will be via a connection to Ridgeland Way. It is intended as a means of integration with the existing subdivision. Other locations for a secondary connection, i.e. directly to Kingsdowne Drive, are not available due to existing residential lot ownership.

Ridgeland Way will also continue into the PPC area, providing a more direct route to/from the south for people living in the south-eastern part (currently L2A) of the existing Wilfield subdivision.

7.3 Internal Roading

The ODP shows key structuring elements of the future road network. It shows the main road through the PPC area as a primary route as far as the internal intersection with the short link road to Ridgeland Way. Other roads including the continuation of Ridgeland Way are indicated as secondary roads. The exact alignments of these roads and other minor local roads would be designed through the subdivision design stage. Roads within Wilfield are provided with either 9m or 8m carriageway widths depending on their status and 20m wide corridors and a consistent approach for the proposed PPC area is expected given the low density of residential development proposed.

7.4 Pedestrians / Cyclists

Footpaths will be able to be provided along all roads within the PPC area as they are throughout the wider Wilfield subdivision.

Off-road shared pedestrian / cycle paths are proposed within the reserve linking to Wilfield and out to Weedons Ross Road just south of the southern Kingsdowne Drive intersection. An off-road path is proposed from that point along the Wilfield side of Weedons Ross Road, connecting to the existing infrastructure to the north of the northern Kingsdowne Drive intersection. These off-road paths are indicated in the ODP Transport Plan (**Figure 16**).

Cyclists will be able to use the off-road links through Wilfield and would be expected to share subdivision roads with traffic, which is typical for local roads in residential subdivisions.

It is considered existing subdivision standards can suitably address future road design requirements, and specific cross-sections to cover the PPC area are not necessary.



Figure 16: ODP Transport Plan

7.5 Public Transport

Public transport uptake by residents of the proposed PPC area would likely be low, due to the long walking distance to the village centre. If a bus service connected West Melton to Rolleston, there would be an option to utilise Kingsdowne Drive to minimise walk distances. As most of the Wilfield subdivision is already constructed, and there is uncertainty with the future provision of services when Wilfield is fully developed, specific public transport infrastructure is not included in the Plan Change provisions. However, the well-connected pedestrian network does facilitate walking access if a route is provided.

As such, if a service is provided, the zone provides a basic level of public transport accessibility for more mobile residents and visitors, or for residents to use a park and ride option. It is noted that the distance from the site to the Christchurch CBD via the Rolleston CSM2 interchange and CSM2 is similar to the use of SH73, and as such park and ride at Rolleston would be a possible option for commuting to the Christchurch CBD.

As noted earlier, West Melton is serviced by a school bus route to Rolleston. It could be expected that as demand from Wilfield and the PPC area, a stop along Weedons Ross Road is likely to be feasible to reduce student walk distances.

8. Traffic Generation / Distribution

8.1 Traffic Generation

A daily traffic generation rate of six vehicle movements per day (vpd) per household has been used and accepted previously in West Melton. This is lower than the 9-10vpd per household rate used in cities due to the rural location of West Melton and the likelihood of residents making linked trips e.g. visiting the supermarket and the petrol station on their way home from work in Christchurch.

It is noted that the intersection traffic counts carried out recently could not reliably be used for calculating traffic generation of the existing households due to the large proportion of houses under construction at the time and the associated unknown construction traffic generation.

It is expected that 10% of the daily traffic movements generated by the development will occur within the morning and evening peak hours.

The following table summarises the forecast traffic generation for the consented Wilfield subdivision and the potential extra lots in the Plan Change area.

Table 8-1: Site Traffic Generation Summary

Scenario	Number of Lots	Daily Traffic Generation	Peak Hour Traffic Generation
Consented Subdivision Plus Plan Change 59	252	1,510vpd	150vph
Extra Traffic Generation Associated with Proposed Re-Zoning	131	790vpd	80vph
Total	383	2,300vpd	230vph

The extra 131 lots that could be developed in the Plan Change area would represent an increase of 52% in the number of lots in the wider subdivision south of SH73. The corresponding increase in subdivision traffic generation would equate to approximately 80 vehicle movements per hour (vph) during the peak hours.

8.2 Traffic Distribution

Previously 15%-20% of traffic generated by the Wilfield subdivision was recorded to be entering from and exiting to the south along Weedons Ross Road. With the ongoing increase in employment opportunities in Rolleston and the easy access to the CSM2 via the Weedons Ross Road interchange, it is considered the proportion of traffic to/from the south will increase to at least 25%.

Based on previous analysis for West Melton using Census journey to work data, it is estimated that 10% of journeys could be to / from West Melton or the rural areas surrounding West Melton, and the remainder would be to the east towards Christchurch.

The following table contains the estimated distribution of both the traffic generated by the consented Wilfield subdivision and the additional traffic that could be generated if the proposed Plan Change is approved.

Table 8-2: Peak Hour Traffic Distribution of Wilfield Traffic (Consented Plus PC59) and Additional Traffic from Proposed Rezoning

Direction	Consented Wilfield Plus Plan Change 59	Proposed Plan Change
South- Weedons Ross Road	38vph	20vph
East- SH73	98vph	51vph
North- Weedons Ross Road	7vph	4vph
West- SH73	7vph	4vph

Based on standard residential traffic distribution, it has been assessed that 75% of traffic could be exiting the subdivision in the morning peak hour and 65% could be entering the subdivision during the evening peak hour.

9. Traffic Effects

9.1 Local Subdivision Roads

The Selwyn District Plan has guidance on new road standards, based on their position in the road hierarchy. **Figure 17** is the relevant table from the District Plan.

Type of Road	Legal Width (m)		Carriageway Width (m)		Traffic lanes	Parking lanes	Specific provision for cycles (on road or off road)	Pedestrian Provision
	Min	Max	Min	Max	Min. No. of	Min No. Of		Minimum
Local - Major	16	20	8.5	9	2	1	Optional	One side
Local - Intermediate	13	15	7	8	2	1	NA	One side

Figure 17: Selwyn District Plan Table E13.8 Road Standards

Based on the traffic generation that could potentially be served by the ODP roads within the proposed PPC area, it is considered that the primary road into the area, which could carry 100vph, would be a 'Local-Major' road as far as the intersection with the short link road to Ridgeland Way. Other roads would have a 'Local-Intermediate' status or less.

The carriageway widths that have been constructed in the Wilfield subdivision (9m Kingsdowne Drive, 9m Silver Peaks Drive, and 8m Ridgeland Way) are consistent with the relevant standards in the table and the new roads in the proposed PPC area will be able to be built to the corresponding standards.

For PC59, it was estimated that, in total, Ridgeland Way could carry up to 336vpd and 34vph during peak hours. These were considered low traffic volumes consistent with the 'Local-Intermediate' road classification. NZS4404 Land Development and Subdivision Infrastructure outlines that a suburban local road serving up to 100 households could be as narrow as 5.7m with kerbside car parking permitted within that. This confirmed that the existing Ridgeland Way carriageway width would be wide enough for its lower level local road function and to accommodate future traffic volumes if PC59 was approved.

It is considered that very few residents living in the proposed PPC area would use Ridgeland Way to travel to/from West Melton and SH73. Also, the continuation of Ridgeland Way into the PPC area would provide an alternative route to/from that part of the subdivision. As a result, the traffic volumes on Ridgeland Way (south of Kingsdowne Drive), and therefore Kingsdowne Drive, would not be expected to noticeably increase as a result of the proposed PPC.

9.2 SH73 / Weedons Ross Road Intersection

There is no need to assess the effect of additional traffic generation on the performance of the existing SH73 / Weedons Ross Road intersection given the imminent plans to upgrade it to a traffic signalised intersection. The performance of the future signalised intersection and the effect of the additional traffic that could be generated by the proposed PPC area have been modelled using SIDRA Intersection 8.

The planned layout of the signalised intersection is not known but it has been modelled with combined left turn / through lanes and separate right turn lanes on all approaches. Right turn phases have been allowed for on both the main road and side road phases.

Morning and evening peak hours have been modelled without and with the proposed PPC area developed. This analysis has made use of previously modelled traffic volumes for the PC59 application, with the 'with PC59' scenario being treated as the base for this assessment. Those modelled traffic volumes included through volumes on SH73 15% higher than those recorded at the time to allow for background traffic growth.

The following two figures show the forecast performance of the signalised intersection during the morning and evening peak hours without the proposed PPC.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Dep. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: weedons ross s												
1	L2	51	6.0	0.528	43.9	LOS D	3.8	28.2	0.99	0.77	0.99	31.6
2	T1	44	12.0	0.528	39.3	LOS D	3.8	28.2	0.99	0.77	0.99	31.8
3	R2	122	8.0	0.794	49.4	LOS D	5.3	39.8	1.00	0.94	1.33	29.5
Approach		217	8.3	0.794	46.1	LOS D	5.3	39.8	1.00	0.86	1.19	30.4
East: sh73 e												
4	L2	78	9.0	0.398	21.2	LOS C	8.3	64.0	0.73	0.68	0.73	39.8
5	T1	233	13.0	0.398	16.6	LOS B	8.3	64.0	0.73	0.66	0.73	40.2
6	R2	56	9.0	0.426	45.9	LOS D	2.3	17.0	0.99	0.75	0.99	30.4
Approach		366	11.5	0.426	22.0	LOS C	8.3	64.0	0.77	0.67	0.77	38.3
North: weedons ross n												
7	L2	134	3.0	0.911	56.5	LOS E	8.0	57.6	1.00	1.11	1.63	28.2
8	T1	34	3.0	0.911	51.9	LOS D	8.0	57.6	1.00	1.11	1.63	28.4
9	R2	11	20.0	0.074	42.8	LOS D	0.4	3.3	0.94	0.67	0.94	31.1
Approach		178	4.0	0.911	54.8	LOS D	8.0	57.6	1.00	1.08	1.59	28.4
West: sh73 w												
10	L2	25	13.0	0.867	35.1	LOS D	29.0	209.0	0.95	1.00	1.14	34.9
11	T1	671	3.0	0.867	30.4	LOS C	29.0	209.0	0.95	1.00	1.14	35.2
12	R2	47	2.0	0.345	45.3	LOS D	1.9	13.5	0.99	0.74	0.99	30.6
Approach		743	3.3	0.867	31.5	LOS C	29.0	209.0	0.96	0.99	1.13	34.9
All Vehicles		1504	6.1	0.911	34.1	LOS C	29.0	209.0	0.92	0.90	1.11	34.0

Figure 18: Morning Peak Hour Intersection Performance Without Proposed PPC

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Dep. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: weedons ross s												
1	L2	89	0.0	0.905	61.1	LOS E	8.0	56.1	1.00	1.08	1.57	27.5
2	T1	62	2.0	0.905	56.6	LOS E	8.0	56.1	1.00	1.08	1.57	27.6
3	R2	69	7.0	0.589	52.6	LOS D	3.2	24.0	1.00	0.79	1.08	28.8
Approach		221	2.8	0.905	57.2	LOS E	8.0	56.1	1.00	0.99	1.42	27.9
East: sh73 e												
4	L2	125	7.0	0.886	38.1	LOS D	32.1	233.4	0.90	0.97	1.11	33.7
5	T1	573	4.0	0.886	33.5	LOS C	32.1	233.4	0.90	0.97	1.11	34.0
6	R2	160	3.0	0.880	58.3	LOS E	8.2	58.8	1.00	1.01	1.48	27.6
Approach		858	4.3	0.886	38.8	LOS D	32.1	233.4	0.92	0.98	1.18	32.6
North: weedons ross n												
7	L2	63	7.0	0.885	59.1	LOS E	7.5	54.2	1.00	1.05	1.51	28.0
8	T1	83	1.0	0.885	54.5	LOS D	7.5	54.2	1.00	1.05	1.51	28.2
9	R2	11	0.0	0.085	49.3	LOS D	0.5	3.2	0.96	0.67	0.96	29.6
Approach		157	3.3	0.885	56.0	LOS E	7.5	54.2	1.00	1.02	1.47	28.2
West: sh73 w												
10	L2	59	2.0	0.505	21.9	LOS C	13.5	100.0	0.74	0.67	0.74	39.8
11	T1	387	8.0	0.505	17.4	LOS B	13.5	100.0	0.74	0.67	0.74	40.1
12	R2	55	2.0	0.299	47.1	LOS D	2.3	16.7	0.97	0.74	0.97	30.1
Approach		501	6.6	0.505	21.2	LOS C	13.5	100.0	0.76	0.68	0.76	38.7
All Vehicles		1737	4.7	0.905	37.6	LOS D	32.1	233.4	0.89	0.90	1.11	32.9

Figure 19: Evening Peak Hour Intersection Performance Without Proposed PPC

Allowing for right turn phases on both the main road and the side road result in long cycle times and delays on all approaches. Overall, the intersection is forecast to operate with average delays of 34-38s and with levels of service C/D during the two peak hours.

The following two figures summarise the forecast performance of the intersection with the proposed PPC area developed.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Seg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Weedons Ross S												
1	L2	54	6.0	0.507	47.4	LOS D	4.4	33.2	0.99	0.77	0.99	30.7
2	T1	47	12.0	0.507	42.7	LOS D	4.4	33.2	0.99	0.77	0.99	30.9
3	R2	163	8.0	0.836	54.6	LOS D	8.0	60.1	1.00	0.96	1.35	28.3
Approach		264	8.3	0.836	51.0	LOS D	8.0	60.1	0.99	0.89	1.21	29.2
East: SH73 E												
4	L2	91	9.0	0.408	22.9	LOS C	9.6	74.2	0.72	0.67	0.72	39.0
5	T1	233	13.0	0.408	18.2	LOS B	9.6	74.2	0.72	0.67	0.72	39.4
6	R2	56	9.0	0.480	51.9	LOS D	2.6	19.3	1.00	0.75	1.00	28.9
Approach		379	11.5	0.480	24.3	LOS C	9.6	74.2	0.76	0.68	0.76	37.3
North: Weedons Ross N												
7	L2	134	3.0	0.825	53.7	LOS D	8.2	58.8	1.00	0.98	1.32	28.9
8	T1	35	3.0	0.825	49.2	LOS D	8.2	58.8	1.00	0.98	1.32	29.0
9	R2	11	20.0	0.058	44.6	LOS D	0.4	3.5	0.92	0.67	0.92	30.7
Approach		179	4.0	0.825	52.3	LOS D	8.2	58.8	1.00	0.96	1.29	29.0
West: SH73 W												
10	L2	25	13.0	0.857	35.8	LOS D	31.0	223.3	0.94	0.96	1.09	34.7
11	T1	671	3.0	0.857	31.1	LOS C	31.0	223.3	0.94	0.96	1.09	35.0
12	R2	48	2.0	0.397	51.3	LOS D	2.2	15.6	0.99	0.74	0.99	29.1
Approach		744	3.3	0.857	32.6	LOS C	31.0	223.3	0.95	0.95	1.08	34.5
All Vehicles		1566	6.2	0.857	35.9	LOS D	31.0	223.3	0.92	0.87	1.05	33.4

Figure 20: Morning Peak Hour Intersection Performance With Proposed PPC

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Seg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: weedons ross s												
1	L2	91	0.0	0.906	66.5	LOS E	8.9	62.6	1.00	1.07	1.53	26.4
2	T1	83	2.0	0.906	62.0	LOS E	8.9	62.6	1.00	1.07	1.53	26.5
3	R2	88	7.0	0.833	63.3	LOS E	4.9	36.2	1.00	0.95	1.42	26.5
Approach		242	3.1	0.906	64.2	LOS E	8.9	62.6	1.00	1.03	1.49	26.5
East: sh73 e												
4	L2	160	7.0	0.879	36.7	LOS D	35.0	254.5	0.87	0.92	1.03	34.1
5	T1	573	4.0	0.879	32.1	LOS C	35.0	254.5	0.87	0.92	1.03	34.4
6	R2	160	3.0	0.880	63.4	LOS E	9.0	64.6	1.00	1.00	1.44	26.5
Approach		893	4.4	0.880	38.5	LOS D	35.0	254.5	0.89	0.93	1.10	32.6
North: weedons ross n												
7	L2	63	7.0	0.892	65.0	LOS E	8.5	61.3	1.00	1.05	1.49	26.8
8	T1	86	1.0	0.892	60.4	LOS E	8.5	61.3	1.00	1.05	1.49	27.0
9	R2	11	0.0	0.094	55.0	LOS E	0.5	3.6	0.97	0.67	0.97	28.3
Approach		160	3.3	0.892	61.8	LOS E	8.5	61.3	1.00	1.03	1.45	27.0
West: sh73 w												
10	L2	59	2.0	0.473	21.5	LOS C	14.0	103.7	0.69	0.63	0.69	40.0
11	T1	387	8.0	0.473	16.9	LOS B	14.0	103.7	0.69	0.63	0.69	40.3
12	R2	58	2.0	0.316	51.7	LOS D	2.7	19.5	0.97	0.75	0.97	29.0
Approach		504	6.6	0.473	21.4	LOS C	14.0	103.7	0.72	0.65	0.72	38.6
All Vehicles		1799	4.7	0.906	39.2	LOS D	35.0	254.5	0.87	0.87	1.08	32.4

Figure 21: Evening Peak Hour Intersection Performance With Proposed PPC

For most movements, the level of service remains unchanged and the increases in delays resulting from the extra traffic from the proposed PPC area would be negligible. Overall, the average delay across the intersection is forecast to increase by 1-2s. In practice, the additional approximately 60vph (two-way) from the proposed PPC area that could use the SH73 intersection during peak hours equate to an extra one vehicle per minute or 1-2 per signal phase. This level of traffic increase would not have a noticeable impact on the performance of the intersection which is expected to be built with plenty of capacity to allow for future traffic growth.

9.3 Wider Road Network

It is considered that more than 25% of the proposed PPC area traffic generation could be to/from the south along Weedons Ross Road given the proximity to Rolleston and the accessibility to the CSM2 via the Weedons Ross Road interchange. However, it has conservatively been assessed that the proposed PPC area could generate an additional 51vph (two-way) on SH73 east of West Melton. This represents

approximately an extra one vehicle movement, either westbound or eastbound, per minute during peak times. It is considered that this level of increase in traffic would not be noticeable on the state highway.

The proposed PPC area could generate an additional 20-30vph to the south. Weedons Ross Road carries relatively low traffic volumes for an arterial road connecting to a full motorway interchange and it is considered that the low volumes of additional traffic that could be generated on the road by the proposed PPC will readily be able to be accommodated recognising improvements to the road are scheduled in the Selwyn District Council Long Term Plan.

10. Planning Requirements

10.1 Selwyn District Plan

10.1.1 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 PPC would be accommodated on the wider road network, recognising improvements are planned for a signalised intersection of SH73 / Weedons Ross Road and to Weedons Ross Road with linkage to the CSM2. Changes in traffic on SH73 east and west of West Melton will be comparatively small.

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 access required by the activity*

Roads within the proposed Plan Change area will be able to comply with all District Plan design requirements and be built to the appropriate local road standards. The existing Ridgeland Way and Kingsdowne Drive cross-sections will continue to be appropriate for their standing in the local road hierarchy.

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

The proposed intersection on Weedons Ross Road for the PPC area will allow a suitable sightline for an 80km/h design speed, anticipating that the speed limit would be lowered below 100km/h to south of the proposed PPC area. The intersection will be able to be designed to the appropriate standard with localised road upgrades as necessary and to be determined at the time of subdivision design. Any intersections within the Plan Change area would be able to be designed during subdivision planning to ensure that desirable visibility is achieved.

The proposed PPC is not expected to noticeably increase traffic volumes on Ridgeland Way and Kingsdowne Drive and therefore the existing intersections on Weedons Ross Road and Kingsdowne Drive will continue to be of appropriate standards.

The residential lots will be of large enough sizes that individual vehicle crossings will be able to be positioned to ensure good visibility is available.

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 PPC 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

New roads within the PPC area will be able to be designed, constructed and maintained to an appropriate standard for a residential development. These details will be confirmed during subdivision design. The extension of Ridgeland Way would likely be designed to a consistent standard with the existing section of Ridgeland Way, which is appropriate for a 'Local-Intermediate' road. The main road in the PPC area would be expected to be consistent with the Kingsdowne Drive standard (9m carriageway in a 20m reserve).

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.

There is already good permeability for pedestrians and cyclists throughout the Wilfield subdivision, with footpaths alongside all roads and off-road connections for pedestrians and cyclists providing more direct alternative routes. The proposed PPC area will tie into the off-road links and additional connectivity is proposed along Weedons Ross Road to the existing pedestrian infrastructure to the north. This continues on to the village where the traffic signals will provide a safe and convenient crossing location for pedestrians, along with the existing crossing from Wilfield across to Gainsborough.

10.1.2 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 are the following two policies relating to West Melton:

Policy B4.3.98: Provide a primary focus for new residential or business development north of SH73 and south of Halkett Road, and to allow only a limited extent of new low density residential development south of SH73.

Policy B4.3.99: Promote a consolidated pattern of future urban growth in West Melton

The proposed Plan Change is contrary to B4.3.98 in that the proposed PPC area is south of SH73. The explanation for this policy states new residential growth will be enabled south of the highway but will be limited in extent and density to minimise effects on the safety and efficiency of the highway. It is

considered that this policy will not be as relevant once the SH73 / Weedons Ross Road intersection is signalised. The signalisation will provide safe and reliable access to the highway for traffic to/from the south and it will also provide a safe and reliable crossing for pedestrians. It is worth noting that a number of community facilities, as outlined earlier, are located on the southern side of SH73 and will be easily accessible for residents.

The proposed Plan Change is not considered contrary to B4.3.99 in that the proposed Plan Change area is immediately adjacent to the existing Wilfield subdivision. It will be well connected to the Wilfield subdivision, particularly for pedestrians and cyclists with a network of off-road paths already existing in Wilfield and proposed in the PPC area. The Wilfield subdivision is also connected to the remainder of West Melton for pedestrians through footpath connections along Weedons Ross Road, along SH73 and across SH73 to Gainsborough.

10.1.3 Rooding Rules

Any new roads in the Plan Change area will be able to comply with the relevant Rooding rules in section 5.1 Road and Engineering Standards. This includes compliance with the new road standards in Appendix E13.3.1. As outlined earlier, the main road through the PPC area would be a 'Local-Major' road and the other roads in the area would be 'Local- Intermediate' roads. The existing section of Ridgeland Way is constructed to an appropriate standard for a 'Local- Intermediate' road and the proposed PPC is not expected to noticeably increase the traffic volumes on it.

10.2 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 outside the projected infrastructure boundary for West Melton as shown on Chapter 6 Map A.

Generally, the policies relating to transport are similar to those in the Selwyn District Plan which have been discussed previously. The proposed Plan Change area is adjacent to the existing Wilfield subdivision and there is good connectivity from the area through the existing Wilfield subdivision and to the remainder of West Melton.

Whilst the additional development may generate additional demand for public transport which is not well provided for in West Melton, by being located adjacent to the existing township the additional demand (most likely in combination with additional growth in Darfield) could assist the viability of increasing frequency of the service.

10.3 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 PPC development. The ODP further requires connections to the existing transport network in locations that support safe and efficient integration of the site, and proposes additional pedestrian infrastructure along Weedons Ross Road. It is also considered that the development is generally well connected along the transport corridors. Whilst existing public transport services are limited, opportunities exist to access future service improvements either locally, or at nearby park and ride locations.

11. Conclusion

The Proposed Plan Change proposes an extension of the West Melton urban area to the south along Weedons Ross Road to provide for low density residential housing. This would result in the area being able to potentially accommodate approximately 131 more residential lots.

The additional residential lots could generate extra traffic volumes of approximately 790 vehicle movements per day and 80 vehicle movements per peak hour. Across the wider traffic network, including

on Weedons Ross Road south of the site and on SH73 east and west of West Melton, the additional traffic volumes would be accommodated noting there are widening improvements proposed to the arterial route along Weedons Ross Road, and signalisation of its intersection with SH73 in West Melton.

An ODP is proposed that will enable integration with the Wilfield subdivision and existing urban area. The new intersection on Weedons Ross Road is proposed in a location to enable safe connection to the transport network, and an extension of the pedestrian/cycle network is proposed along Weedons Ross Road.

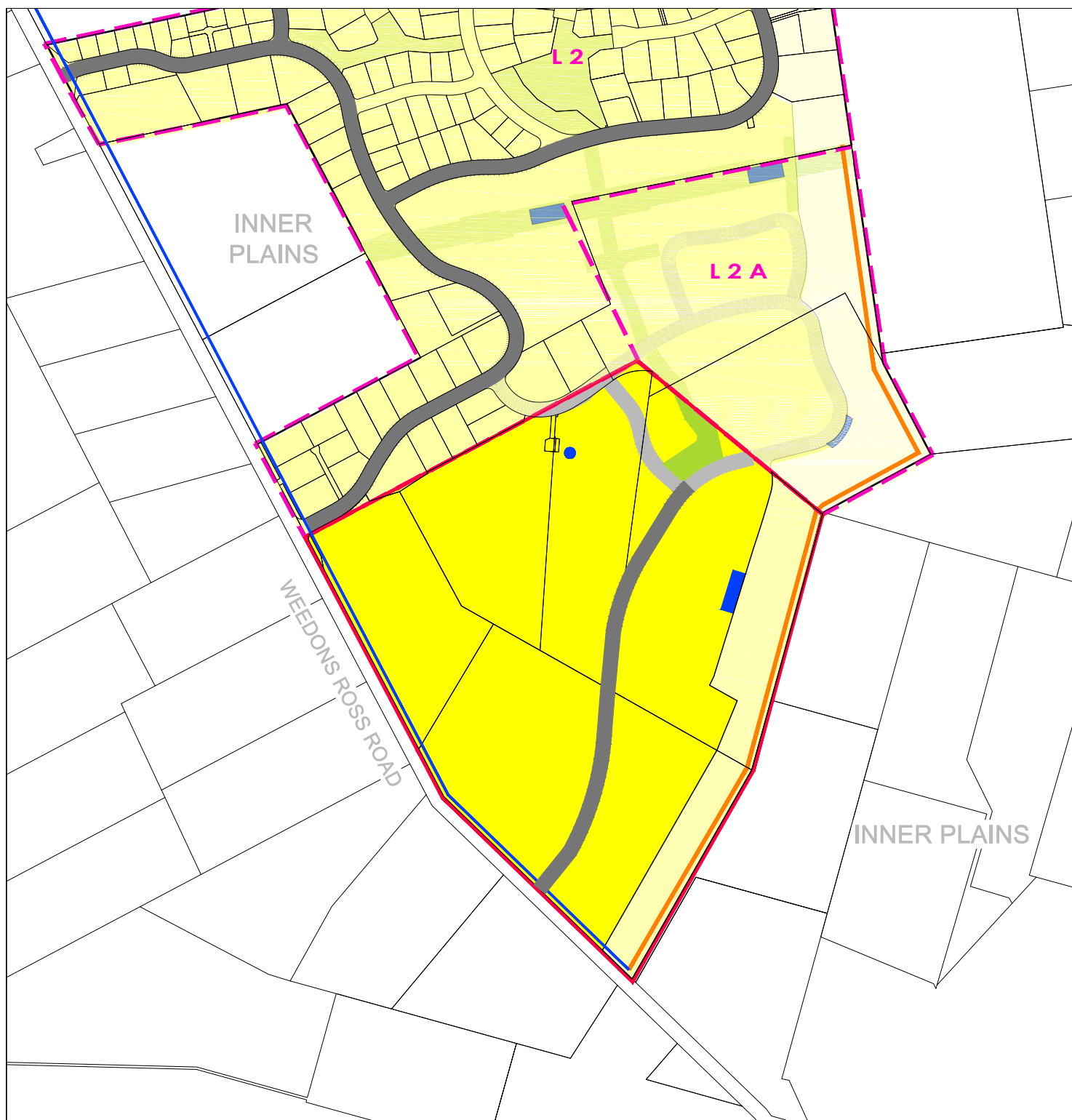
Whilst the site is currently not well serviced by public transport, that is the case for West Melton which only has a peak period service available. The site is well located if future connections are made between West Melton and the Rolleston Hub, or for access to park and ride services at Rolleston.

With the level of development planned and provisions assessed, the Plan Change can be supported from a transportation perspective.

Appendices



Appendix A Outline Development Plan



Legend

ODP boundary	Primary Route	Low Density	Neighbourhood Park
Parcel	Secondary Route	Medium Density	Interface Treatment
Indicative location for water bore	Existing water race	Soakage Areas	

Note:

All sections adjacent to Inner Plains zoned land will have a notice on their LIM referring to any potential reverse sensitivity issues between Residential and Rural landuses.

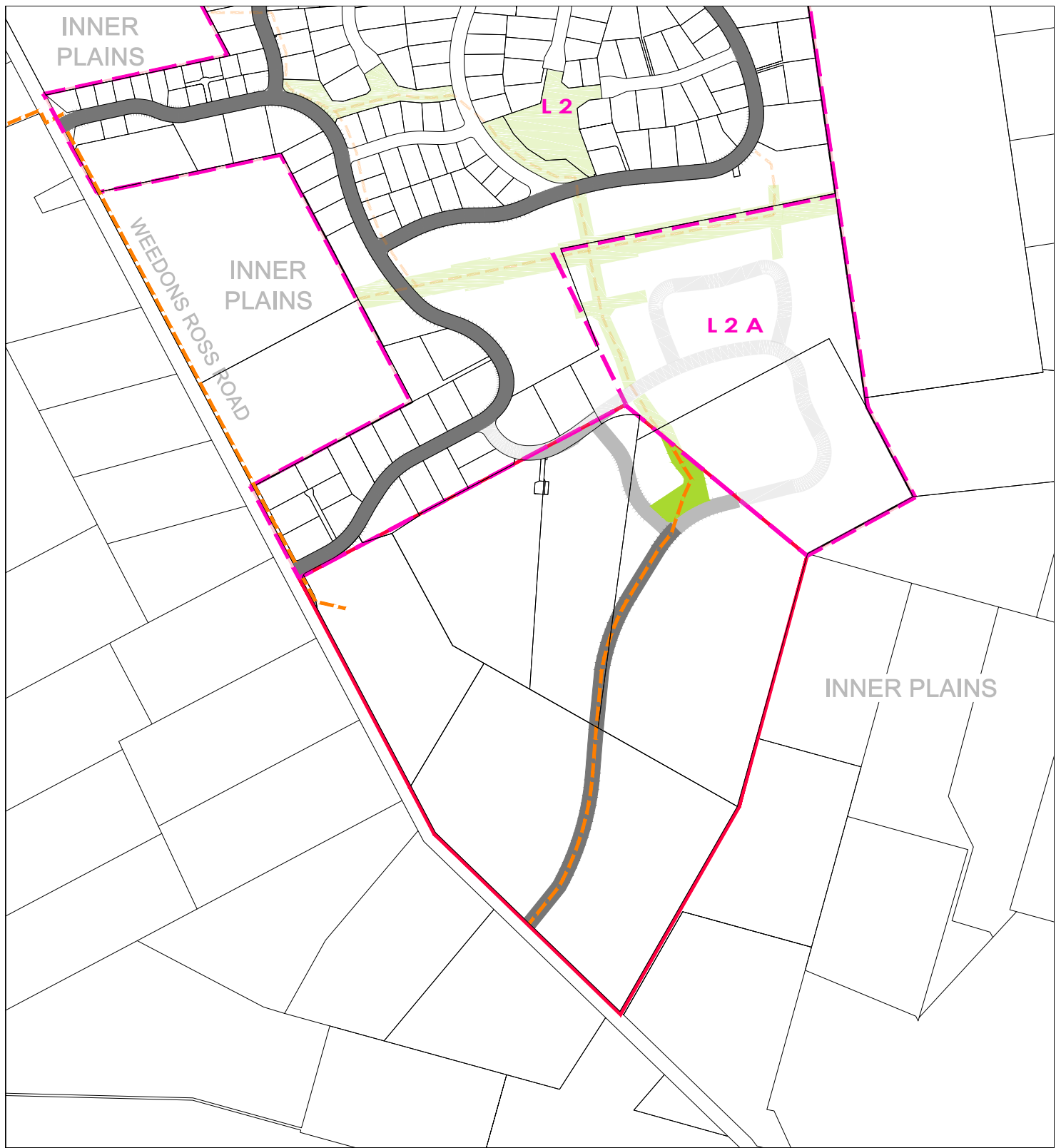
Interface treatment includes having larger residential sections as perimeter blocks where sections immediately adjoin a boundary with Inner Plains.

Outline Development Plan OVERALL Plan







Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

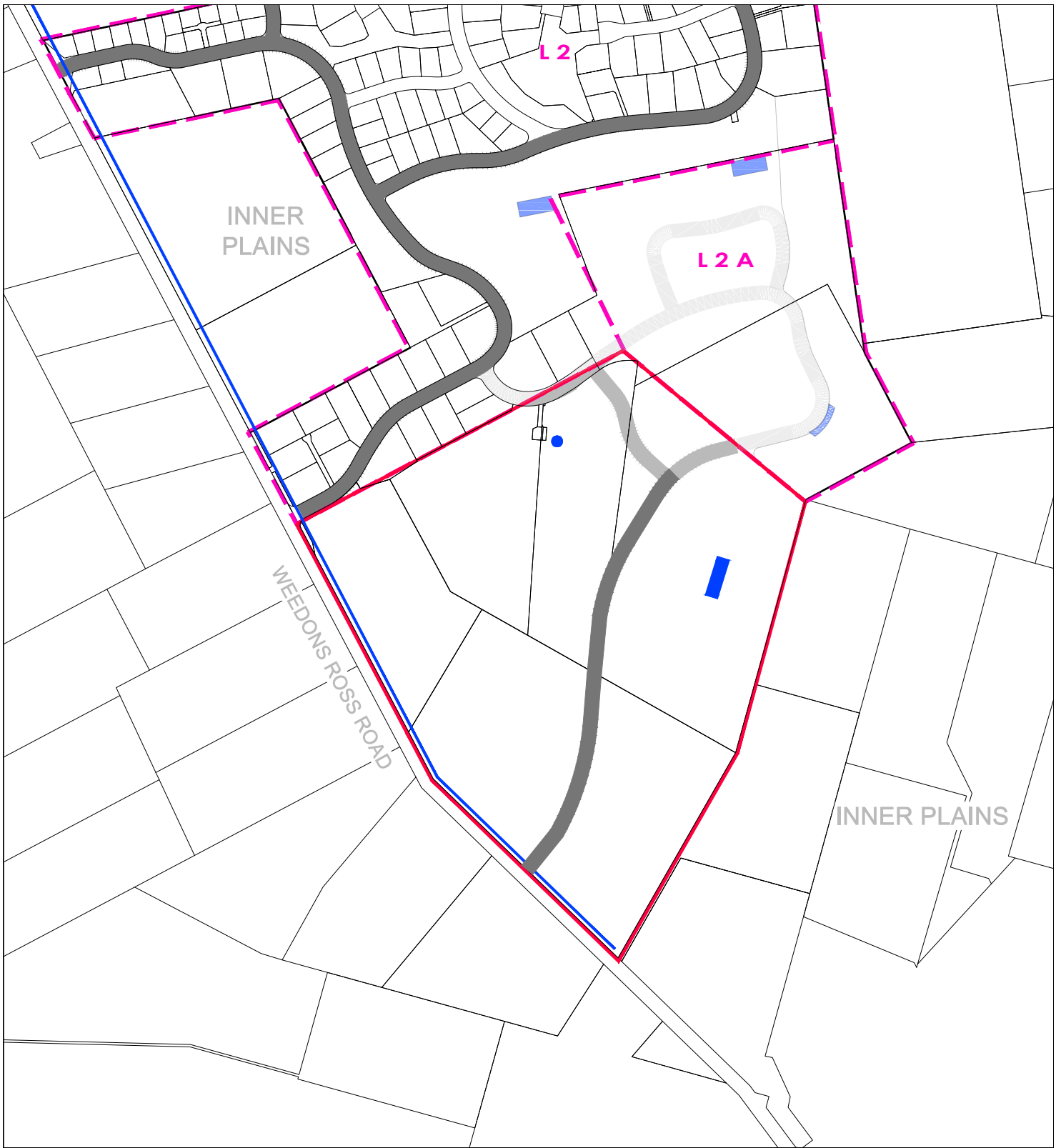
- | | | |
|--|---|--|
|  ODP boundary |  Primary Route |  Neighbourhood Park |
|  Parcel |  Secondary Route |  Shared pedestrian/cycle lane |

Outline Development Plan TRANSPORT Plan








Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

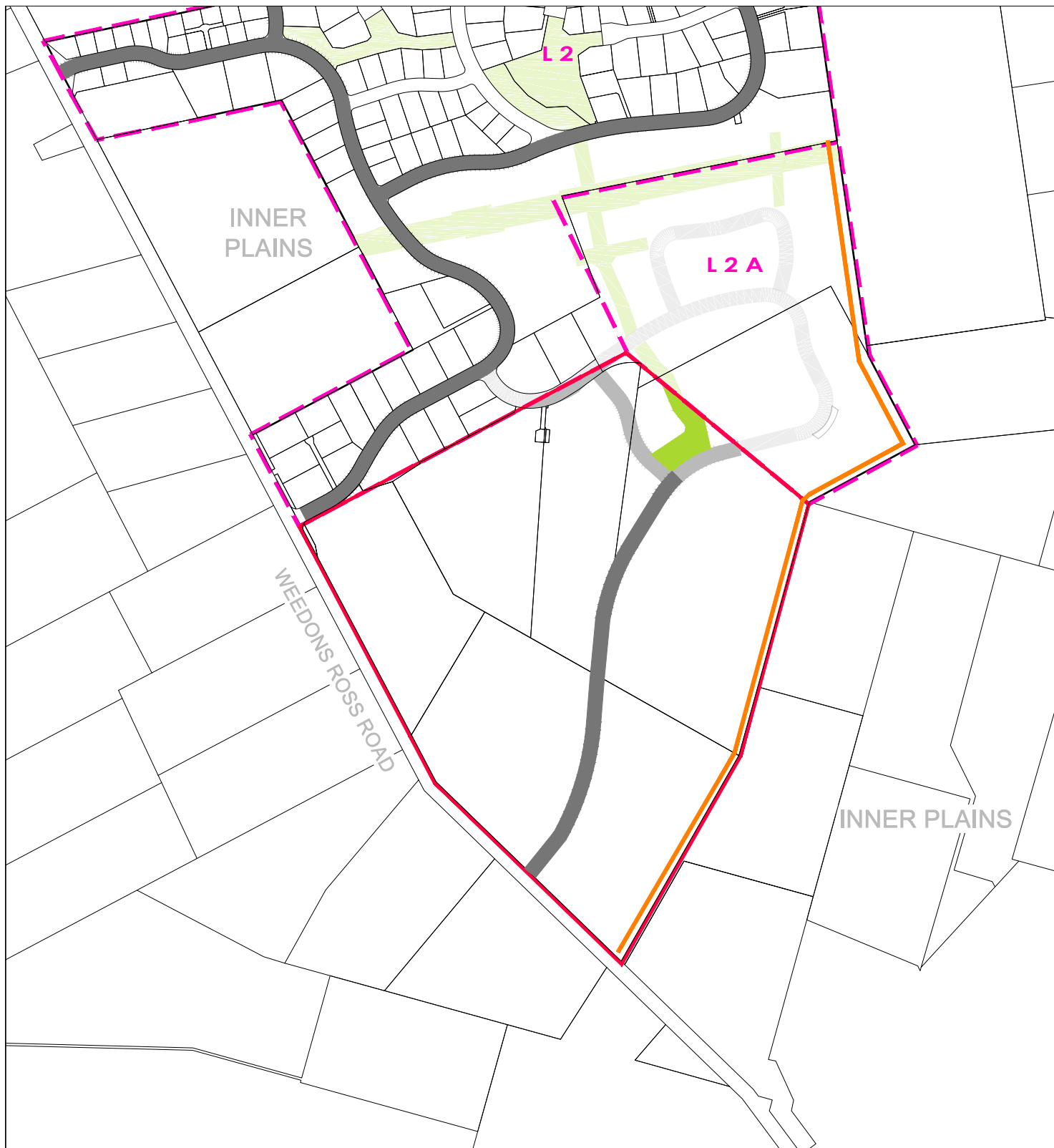
- | | | | |
|--|---|--|---|
|  ODP boundary |  Primary Route |  Indicative location for water bore |  Soakage Areas |
|  Parcel |  Secondary Route |  Existing water race | |

Outline Development Plan
BLUE NETWORK Plan






Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

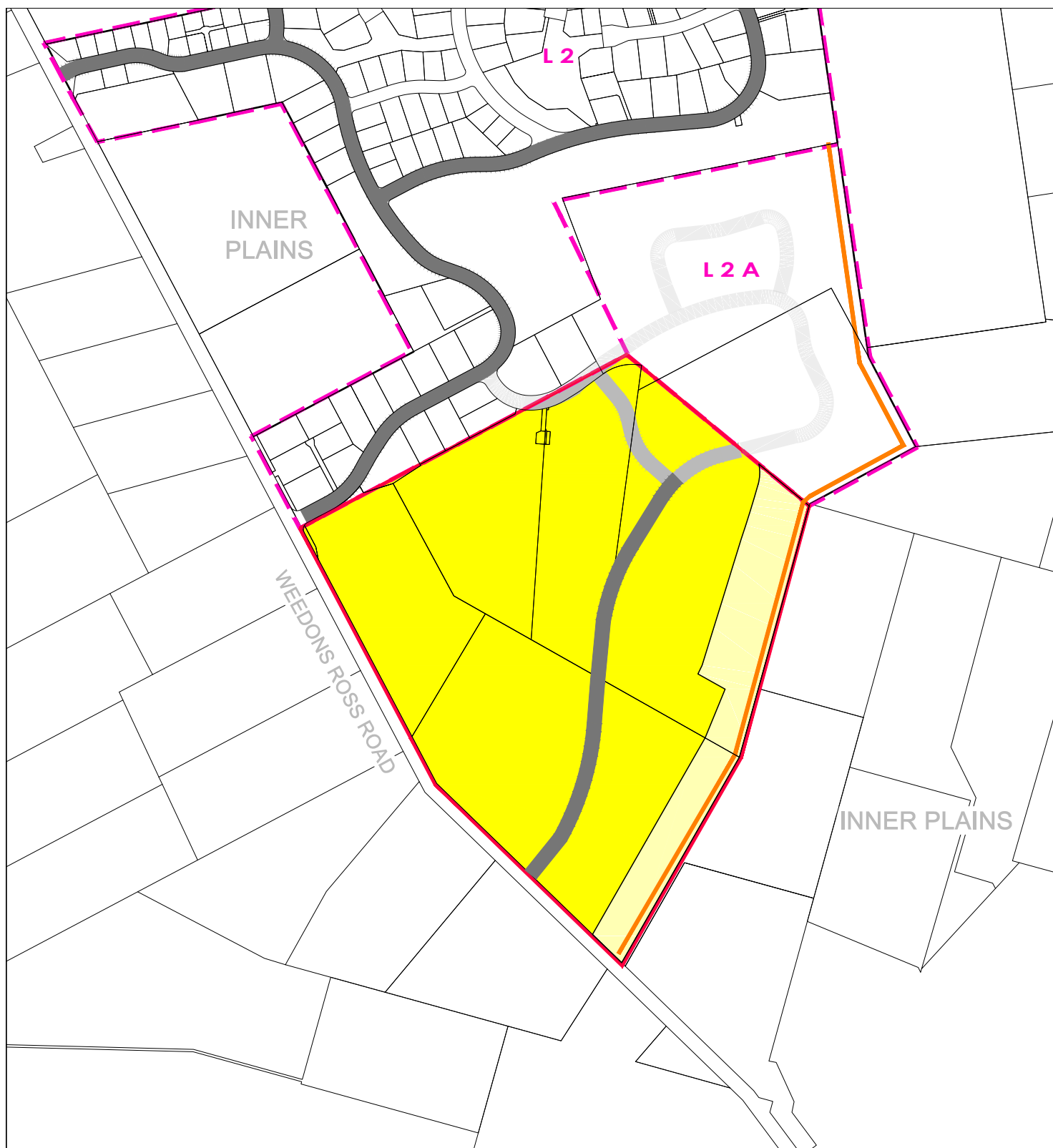
- | | | |
|--|---|--|
|  ODP boundary |  Primary Route |  Neighbourhood Park |
|  Parcel |  Secondary Route | |

Outline Development Plan GREEN NETWORK Plan








Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

 ODP boundary	 Primary Route	 Low Density	 Interface Treatment
 Parcel	 Secondary Route	 Medium Density	

Note:

All sections adjacent to Inner Plains zoned land will have a notice on their LIM referring to any potential reverse sensitivity issues between Residential and Rural landuses.

Interface treatment includes having larger residential sections as perimeter blocks where sections immediately adjoin a boundary with Inner Plains.

Outline Development Plan LANDUSE Plan

Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4

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