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

GW WILFIELD LTD

Weedons Ross Road, West Melton

November 2018

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prepared for

GW WILFIELD LTD

Weedons Ross Road, West Melton

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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 West Coast Road/State Highway 73, bounded by Weedons Ross Road to the west. A location plan/outline development plan is attached in Appendix 1.
 - Total Area: 73.5ha
 - 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 deleting the existing ODP and replacing it with the two ODPs attached in **Attachment 2**.
3. To amend Township Volume, Appendix 20A ODP West Melton headings as follows:

Outline Development Plan & Layer Plan – Living WM North (West Melton North) Zone

Appendix 20A – Living WM North Zone – Outline Development Plan

Appendix 20A – Living WM North Zone – Movement Network Plan

Appendix 20A – Living WM North Zone – Green Blue Network Plan

Appendix 20A – Living WM North Zone – Outline Development Plan

Appendix 20A – Living WM North Zone – Movement Network Plan

Appendix 20A – Living WM North Zone – Green Blue Network Plan

4. To amend A4.5 Townships and Zone, Table A4.4 Description of Township Zones, as follows:

Zone	Description
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<u>Living WM</u>	<u>A living zone specific to West Melton township. Provides for a range of residential densities. The Living WM North Zone, located north of State Highway 73, provides for medium and low density residential areas. The Living WM South Zone, located south of State Highway 73, provides for a predominantly lower building density than other parts of West Melton.</u>
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5. To amend Section B4 Growth of Townships, Residential Density – Anticipated Environmental Results, as follows:

- Living 2 and WM South Zones are low density residential areas

...

- Integrated development, in the Living WM North Zone, achieving high quality urban design whilst also allowing residential growth to occur to meet target household numbers.

6. To amend Part B Section B4 Growth of Townships Policy B4.3.98 as follows:

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.

Explanation and Reasons

West Melton has developed with community facilities on both the northern and southern sides of State Highway 73. Residential development has taken place north of the highway centred on Westview Crescent, and to a lower density south of State Highway 73 east of Weedons Ross Road. ~~The primary focus for future growth of the township is to be provided for north of the State Highway. Limited n~~ 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. A pedestrian/cycle link has ~~will also be been provided under~~ across the highway to provide an alternative connection between the two areas. This pattern of growth is consistent with maintaining a consolidated form for the future growth of the township, and with Policy B2.1.18 and Town Form Policy B4.3.6.

7. To amend Part B Section B4 Growth of Townships Policy B4.3.101 as follows:

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 North zone.

Explanation and Reasons



West Melton village is an area with larger section sizes than those found in most townships in Selwyn District, particularly those close to Christchurch. Policy B4.3.101 recognises the character of the existing village and the support for larger section sizes in the Township survey results for West Melton (November 1998). A wide variety of lot sizes in response to market demand, have been provided for, but recognising the potential for West Melton to provide a lower density alternative living environment near Christchurch. However, the efficient and effective development of the Living WM North zone must be provided for to achieve the anticipated residential growth for this zone.

8. To amend Part C Living Zone Rules – Buildings, Rule 4.17 as follows:

Permitted Activities – Fences Adjoining Reserves

4.17.2 Any fencing erected parallel to or generally parallel to and within 5m of any Council reserve in the Living WM South Zone, shall be limited to a single post and rail fence with a maximum height of 1.2m and be at least 50% open.

[and consequential renumbering]

9. To amend Part C Living Zone Rules – Buildings, Rule 4.6.2.1 as follows:

The erection of any dwellings in the Living WM Zone shall comply with the building densities and locations shown on the Outline Development Plan and associated Layer Plans (Appendix 20 and 20A) for this zone.

10. To amend Part C Living Zone Rules – Buildings, Table C4.1 Site Coverage Allowances as follows:

Zone		Coverage
Living WM <u>North</u>	Including garage	40%
	Excluding garage	40% minus 36m ²
	Emergency Services only	50%
Living WM <u>South</u>	Site size <1200m ²	<u>30%</u>
	Site size 1200m ² -1800m ²	<u>25%</u>



	<u>Site size >1800m²</u>	<u>Lesser of 20% or 500m²</u>
	<u>Emergency services only</u>	<u>50%</u>

11. To amend Part C Living Zone Rules – Buildings, Rule 4.6.5 as follows:

Except as provided in Rule 4.6.6, the erection on any allotment of any building (other than an accessory building) which does not comply with Rule 4.6.1, 4.6.2.1 or Rule 4.6.3 shall be a discretionary activity in Living 1 zones and the Living WM North Zone.

12. To amend Part C Living Zone Rules – Buildings, Rule 4.6.6 as follows:

The erection on an allotment of any building (other than an accessory building) which does not comply with Rule 4.6.1 shall be a non-complying activity in the Living Z, 1A, 1A2, 1A3, 1A4 and Living 1A6 Deferred zones at Prebbleton and all Living Z, 2, 2A, WM South and Living 3 zones.

13. To amend Part C Living Zone Rules – Buildings, Rule 4.9.20 as follows:

Any dwelling within the area shown in Appendix 20 (Living 1B and Living 2 WM South zones) or Appendix 20A (Living WM North Zone) shall be set back at least 40 metres from State Highway73.

14. To delete Part C Living Zone Rules – Buildings, Rule 4.9.21 as follows:

~~Any dwelling in the Living 2A Zone at West Melton shall have:~~

~~4.9.21.1 A setback from any internal boundary of not less than 6 metres.~~

~~4.9.21.2 A setback from any road boundary of not less than 10 metres.~~

15. To amend Part C Living Zone Rules – Subdivision, Table C12.1 Allotment Sizes as follows:

West Melton	Living 2	5,000m ²
	Living 2A	Maximum number of allotments is 10, and a minimum allotment size of 1 ha.



	Living WM <u>North</u> Medium Density	Minimum lot area of 500m ² and maximum lot area of 3000m ² (Appendix 20A)
	<u>Living WM South</u> (except Low Density)	Minimum lot area of 1100m ² and maximum lot area of 3000m ² (Appendix 20)
	Living WM <u>North and South</u> Low Density	Minimum lot area of 3000m ² and maximum lot area of 5000m ² (Appendix 20A, Appendix 20).
	So that a total of 292 allotments must be achieved across the whole Living WM <u>North</u> Zone	

15. To amend Part C Living Zone Rules – Subdivision, Rule 12.1.3.54 as follows:

Any subdivision of land within the area shown in Appendix 20 (Living 1, Living 1B, ~~Living 2, Living 2A~~ Living WM South or Rural Zones) or Appendix 20A (Living WM North Zone) at West Melton complies with the layout and contents of the Outline Development Plan shown in Appendix 20 and Appendix 20A respectively; and

16. To amend Part C Living Zone Rules – Subdivision, Rule 12.1.3.55 as follows:

Any subdivision of land within the area shown in Appendix 20 and 20A shall:

(a) provide a bund for mitigation of traffic noise along the frontage of State Highway 73 to a height of not less than 2 m and a width of not less than 8.5 m, which shall be landscaped by retention of existing hedges or new planting of sufficient height to visually screen dwellings from the highway;

~~(b) if it is within the area shown in Appendix 20, provide a pedestrian/cycle underpass beneath State Highway 73 between the Living 1 and Living 2 Zones, prior to titles being issued for more than 30 dwellings in the Living 2 Zone.~~

~~(be)~~ if it is within the area shown in Appendix 20A, be subject to an Accidental Discovery Protocol where in the event of any discovery of suspected cultural/archaeological remains (e.g. concentrations of shell, charcoal or charcoal-stained soil, fire-fractured stone, bottles, pieces of glass or ceramics, bones etc) during the undertaking of earthworks and/or the installation of



services, the following protocol shall be followed by the consent holder, or his/her representative:

- Cease all earthworks immediately; and
- Contact the local Rūnanga being Te Taumutu Rūnanga; and
- Contact the Regional Archaeologist at the Christchurch office of the New Zealand Historic Places Trust (03 365 2897); and
- Do not commence earthworks until approval in writing has been given by the Regional Archaeologist of the New Zealand Historic Places Trust, as required under the Historic Places Act 1993.

17. To delete Part C Living Zone Rules – Subdivision, Rule 12.1.3.56 as follows:

~~In the Living 2A Zone at West Melton, the maximum number of allotments is 40.~~

18. To amend Part C Living Zone Rules – Subdivision, Rule 12.1.3.57 as follows:

No subdivision of land in the Living WM North Zone shall take place until:

- (a) A reticulated community potable water supply is available which is capable of serving the entire lots within the subdivision; and
- (b) A reticulated community sewage effluent treatment and disposal system is available which is capable of serving the entire lots within the subdivision; and
- (c) An Outline Development Plan has been incorporated into the District Plan for the development of all land zoned Living WM west of Weedons Ross Road.
- (d) An archaeological assessment has been undertaken by a suitably qualified expert and the results reported to the Council, the Regional Archaeologist at the New Zealand Historic Places Trust, and the iwi organisations Te Ngai Tuahuriri and Te Taumutu Rūnanga. In carrying out the assessment, the expert is to consult with the iwi organisations

19. 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: 31 October 2018

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



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Attachment 1: Legal Descriptions

WILFIELD - LOT AREAS

Lot No.	Net Area	DP Number	CT Reference
3	1,746	494094	722208
4	1,831	511808	786339
9	5,059	494094	722214
11	1,715	494094	722216
12	1,497	494094	722217
13	1,638	494094	722218
14	1,800	494094	722219
15	1,506	494094	722220
16	1,502	494094	722221
17	1,512	494094	722222
18	1,551	494094	722223
19	2,042	494094	722224
20	1,975	494094	722225
21	1,856	494094	722226
22	2,006	494094	722227
23	2,177	494094	722228
24	1,481	494094	722229
25	1,477	494094	722230
26	1,612	494094	722231
27	1,672	494094	722232
28	1,509	494094	722233
29	2,452	494094	722234
30	2,041	494094	722235
31	1,659	494094	722236
32	1,630	494094	722237
33	1,070	494094	722238
34	1,079	494094	722239
35	1,149	494094	722240
36	1,266	494094	722241
37	1,256	494094	722242
38	1,361	494094	722243
39	1,238	494094	722244
40	1,276	494094	722245
41	1,602	494094	722246
42	1,540	494094	722247
43	1,254	494094	722248
44	1,002	494094	722249
45	1,001	494094	722250
46	951	494094	722251
47	950	494094	722252
48	1,103	494094	722253
49	2,209	494094	722254
50	1,424	494094	722255
51	1,405	494094	722256
52	1,523	494094	722257
53	1,101	494094	722258
54	1,008	494094	722259
55	4,271	494094	722260
56	4,176	494094	722261
57	3,254	494094	722262
58	2,185	494094	722263
59	1,853	494094	722264
60	1,657	494094	722265
61	1,673	494094	722266
67	1,483	494094	722272
68	1,523	494094	722273

Lot No.	Net Area	DP Number	CT Reference
69	1,614	494094	722274
70	1,535	494094	722275
71	1,451	494094	722276
72	1,522	494094	722277
73	1,403	494094	722278
74	1,361	494094	722279
75	1,723	501187	748151
76	1,926	501187	748152
77	1,900	501187	748153
78	2,015	501187	748154
79	1,713	501187	748155
80	1,898	501187	748156
81	1,653	501187	748157
82	906	501187	748158
83	914	501187	748159
84	1,267	501187	748160
85	1,524	501187	748161
86	1,740	501187	748162
87	2,000	501187	748163
88	1,717	501187	748164
89	1,707	501187	748165
90	1,762	501187	748166
91	1,621	501187	748167
92	1,309	501187	748168
93	2,244	501187	748169
94	1,348	501187	748170
95	1,347	501187	748171
96	1,347	501187	748172
97	1,351	501187	748173
98	1,901	501187	748174
99	1,721	501187	748175
100	2,393	501187	748176
101	2,371	501187	748177
102	1,800	501187	748178
103	1,553	501187	748179
104	1,635	501187	748180
105	1,920	501187	748181
106	2,025	501187	748182
107	2,064	501187	748183
108	1,858	501187	748184
109	1,601	501187	748185
110	1,403	501187	748186
111	1,521	501187	748187
112	2,209	501187	748188
113	2,059	501187	748189
114	2,051	501187	748190
115	2,068	501187	748191
116	1,520	501187	748192
117	1,498	501187	748193
120	6,539	501187	748196
121	2,742	501187	748197
124	2,250	501187	748200
125	2,032	501187	748201
126	5,612	501187	748202
127	6,005	501187	748203
129	5,436	501187	748205
137	3,091	504116	757782
138	2,345	504116	757783

Lot No.	Net Area	DP Number	CT Reference	
139	2,587	504116	757784	
140	2,619	504116	757785	
167	5,006	504116	768073	
170	5,021	506674	768076	
172	5,047	506674	768078	
173	5,004	506674	768079	
174	5,729	506674	768080	
175	5,523	506674	768081	
176	2,100	506674	768082	
187	4,201	506674	768093	
188	3,852	506674	768094	
193	4,500	506674	768099	
194	4,613	506674	768100	
197	3,610	506674	768103	
198	928	517315	808047	
199	762	517315	808048	
200	785	517315	808049	
201	777	517315	808050	
202	815	517315	808051	
203	1,079	517315	808052	
204	715	517315	808053	
205	661	517315	808054	
206	737	517315	808055	
207	654	517315	808056	
208	649	517315	808057	
209	762	517315	808058	
210	675	517315	808059	
211	686	517315	808060	
212	870	517315	808061	
213	1,188	517315	808062	
220	1,100	525228	839856	
221	900	525228	839857	
222	1,170	525228	839858	
223	2,469	530229	861560	Stage 8
224	4,080	530229	861561	Stage 8
225	3,200	530229	861562	Stage 8
226	4,057	530229	861563	Stage 8
230	1,950	530229	861564	Stage 8
231	2,948	530229	861565	Stage 8
232	2,767	530229	861566	Stage 8
233	2,124	530229	861567	Stage 8
235	3,875	530229	861568	Stage 8
236	3,878	530229	861569	Stage 8
239	3,665	530229	861570	Stage 8
240	2,598	530229	861571	Stage 8
241	2,499	530229	861572	Stage 8
242	2,499	530229	861573	Stage 8
246	2,670	530229	861574	Stage 8
247	2,614	530229	861575	Stage 8
248	2,657	530229	861576	Stage 8
249	1,834	530229	861577	Stage 8
250	2,385	530229	861578	Stage 8
251	2,881	530229	861579	Stage 8
252	1,745	530229	861580	Stage 8
253	1,615	530229	861581	Stage 8
254	2,044	530229	861582	Stage 8
255	2,450	530229	861583	Stage 8
256	2,300	530229	861584	Stage 8

Lot No.	Net Area	DP Number	CT Reference	
257	2,354	530229	861585	Stage 8
260	2,500	530229	861586	Stage 8
261	2,402	530229	861587	Stage 8
262	1,801	530229	861588	Stage 8
263	2,075	530229	861589	Stage 8
270/271	75,950	525228	839859	

706	90,663	508829	775319	L2A
707	149,788	508829	775320	L2a/Rural
709		530229	861593	

Roading

301	43,608
302	22,826
303	21,813
217	516
218	923
258	554
721	2,295
724	3,878
725	809

Utility

400	207	494094	722282
401		530229	861590
402		530229	861591
402	108	501187	748210
403	40	504116	757795
501	6	501187	748211
502	5	494094	722283
503	5	494094	722284
504	5	494094	722285

Reserves

1	562	511808	786338
251	6,489	494094	722280
252	9,699	501187	748209
253	263	504116	757793
254	279	504116	757794
255	4,071	494094	722281
259	198	508829	775318
404	1,547	506674	772154



Attachment 2: Proposed Outline Development Plan

APPENDIX 20

OUTLINE DEVELOPMENT PLAN - WEST MELTON



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

Introduction

This Outline Development Plan (ODP) area comprises 73.5 ha and is bound State Highway 73 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
- 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 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 east and south.

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 follows the existing circular alignment of Silver Peaks Drive, connecting to Kingsdowne Drive. The primary route also provides for an extension to Ridgeland Way;
- A secondary route that is anticipated to loop through the adjoining Rural Zone;

- Shared pedestrian and cycle connections throughout the ODP area, and including existing connections to the north and west 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 centrally within the ODP area. Remaining reserves provide open space and facilitate attractive pedestrian connections.

An east-west orientated reserve follows the alignment of an existing high voltage transmission line corridor and will serve the dual purpose of providing open space whilst also ensuring that buildings and other structures on private land are set back safe distances from the transmission lines and supporting structures. The high voltage transmission line corridor reserve will have a minimum width of 12m from any tower foot and 12m from the centre line of the transmission line (e.g. a total width of 24m adjoining the transmission line, with additional width adjoining a tower).

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 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*.

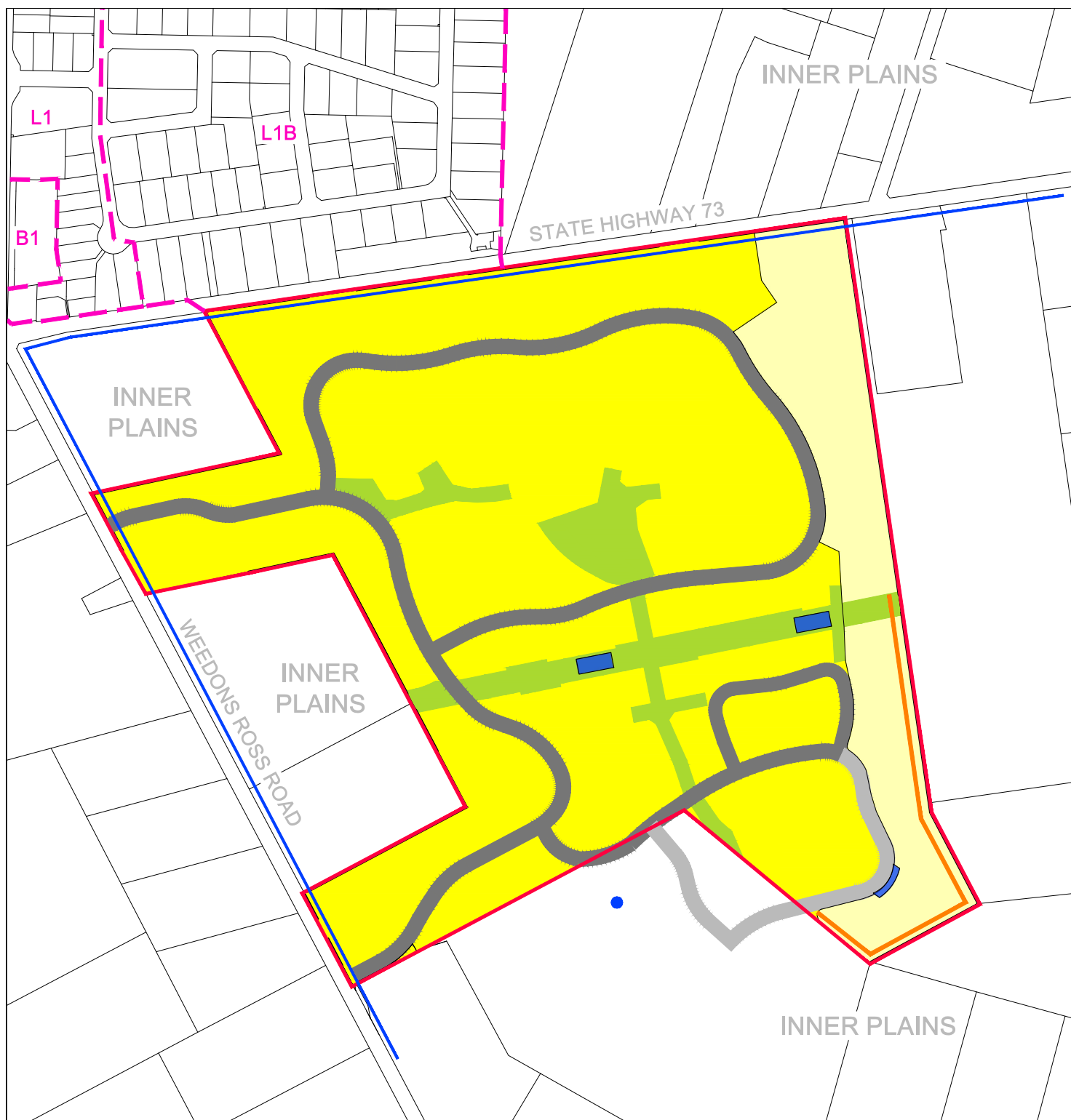
Blue Network

Water race - An existing water race is located on the western edge of the ODP area, adjoining Weedons Ross Road, and the northern edge of the ODP adjoining State Highway 73. 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. A new wastewater storage facility may be required, to provide emergency storage and to act as a buffer for additional flows entering the system from the ODP area. The storage facility may be located underground, adjacent the Rossington Drive Pump Station and within land owned by Selwyn District Council.

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.



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.

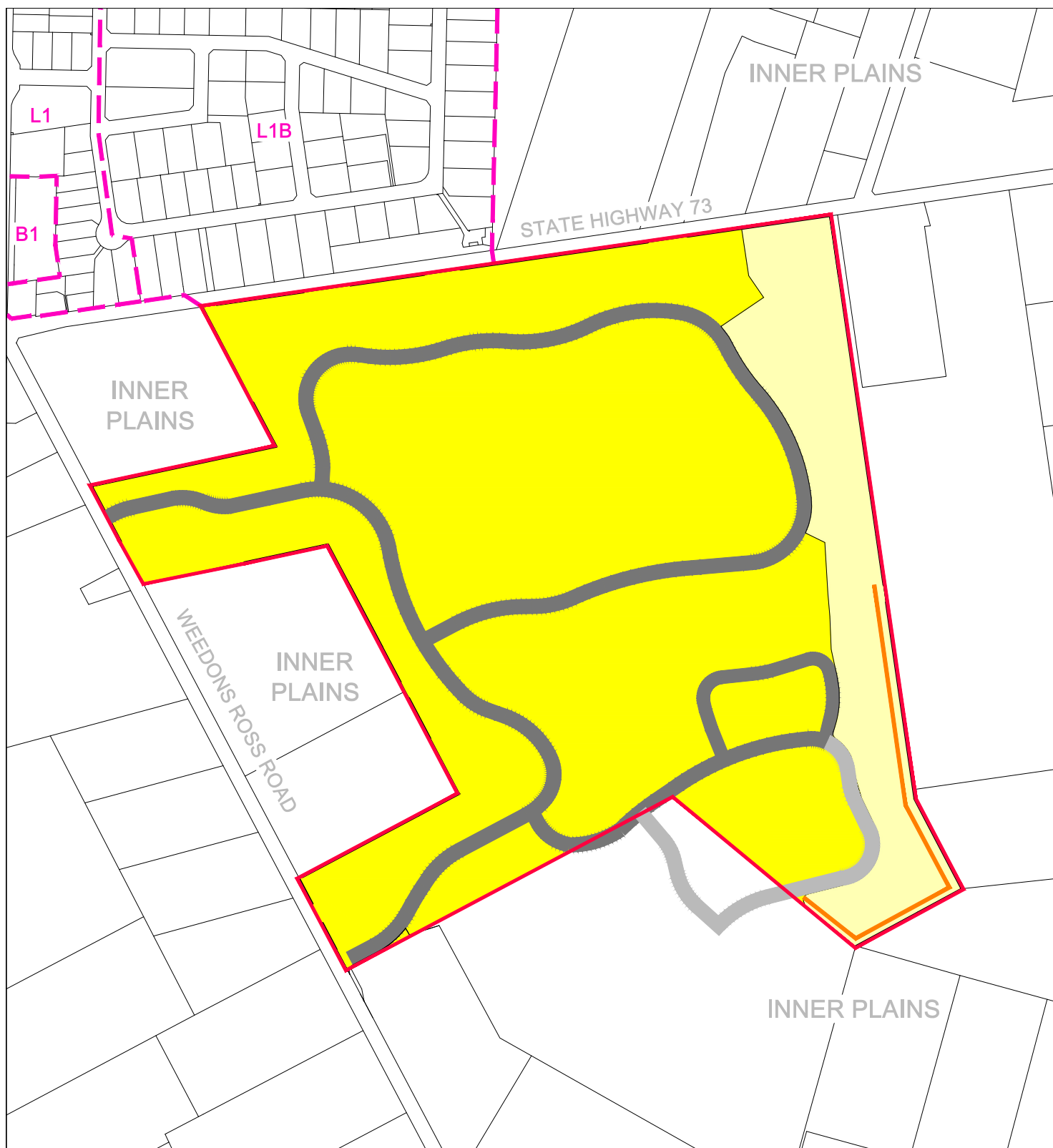
Interface treatment includes having larger residential sections as perimeter blocks where sections immediately adjoin a boundary with Inner Plains.

Outline Development Plan OVERALL Plan








Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

 ODP boundary	 Primary Route	 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.

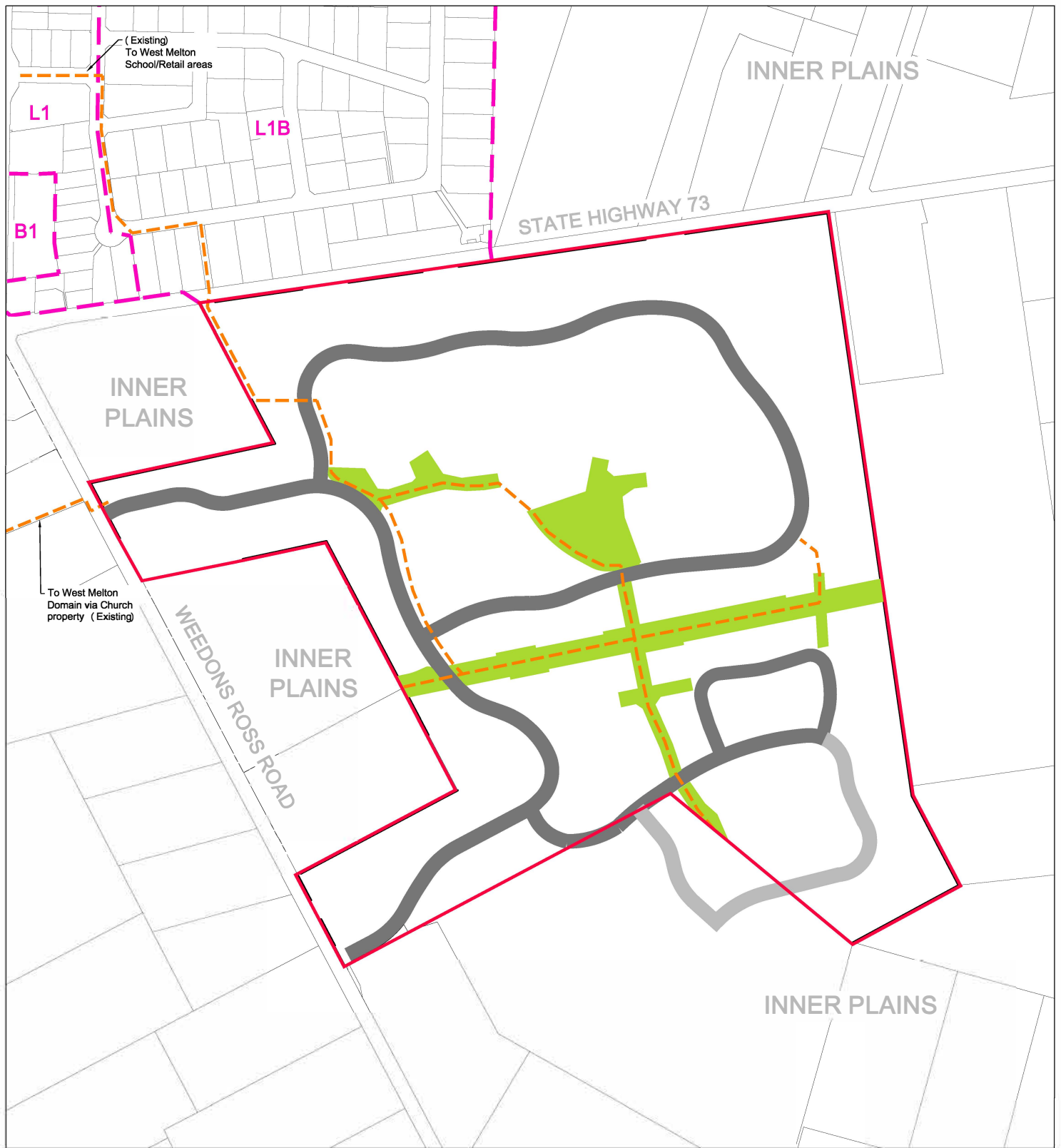
Interface treatment includes having larger residential sections as perimeter blocks where sections immediately adjoin a boundary with Inner Plains.

Outline Development Plan LANDUSE Plan

Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

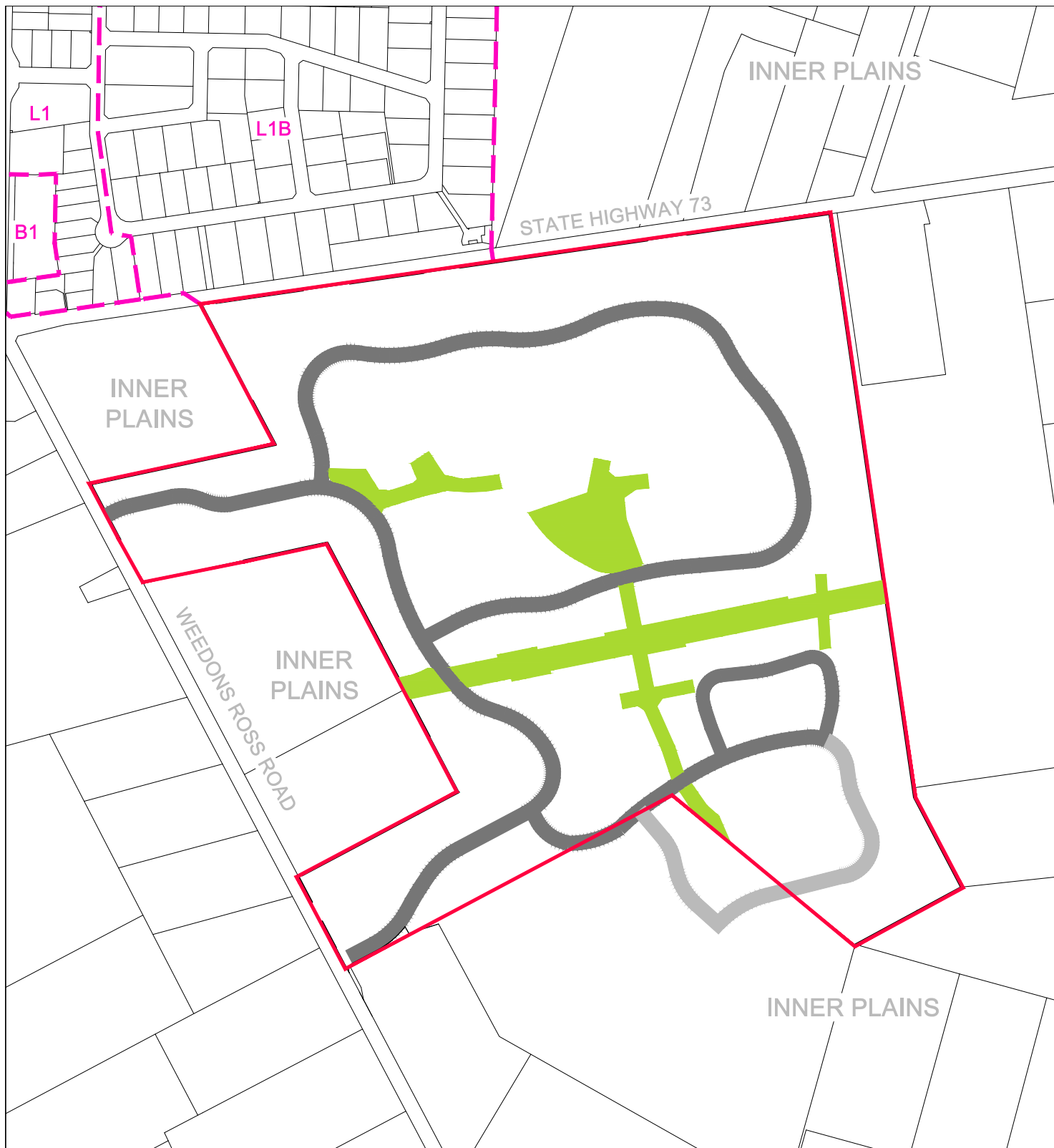
- | | | |
|--|---|---|
| ODP boundary | Primary Route | Neighbourhood Park |
| Parcel | Secondary Route | Shared pedestrian/cycle lane |

Outline Development Plan TRANSPORT Plan

Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend



ODP boundary



Primary Route



Neighbourhood Park



Parcel



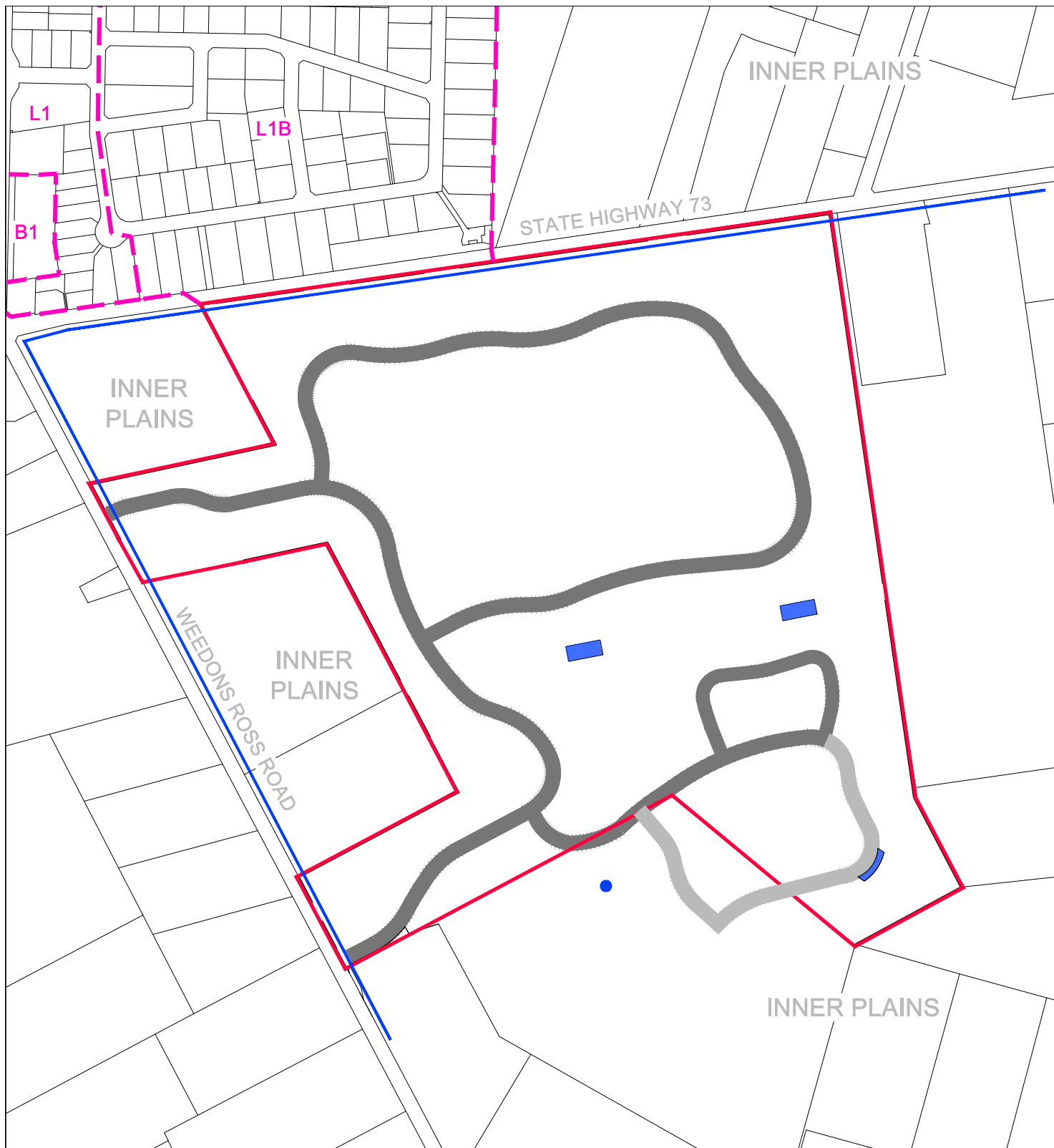
Secondary Route

Outline Development Plan GREEN NETWORK Plan








Living West Melton
(Living WM) South Zone



Scale: 1:7500@A4



Legend

- | | | | |
|--|---|--|---|
|  ODP boundary |  Primary Route |  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



Attachment 3: Section 32 Evaluation



Table of Contents

Introduction	1
The Site and Surrounding Environment	1
The Plan Change	3
Description of the Proposal	3
Proposed Amendments to the District Plan	3
Servicing.....	8
Consultation.....	9
Assessment of Environmental Effects of the Proposed Plan Change	9
Statutory Requirements of Section 32 of the Act	14
Objectives and Policies of the Selwyn District Plan	15
Assessment of Benefits and Costs of the Plan Change	20
Effectiveness	23
Efficiency	23
Risks of Acting or Not Acting.....	24
Overall Assessment	24
National Policy Statement on Urban Development Capacity	24
Canterbury Regional Policy Statement	26
Mahaanui – Iwi Management Plan 2013.....	26
Part II of the Resource Management Act 1991	28

List of Figures and Tables

Figure 1: Aerial photograph of site (Source: Canterbury Maps)	2
Table 1: Assessment of relevant plan provisions against the objectives of the District Plan	15

Appendices

Appendix A Current Extent of Subdivision
Appendix B Infrastructure Report
Appendix C Integrated Traffic Assessment
Appendix D Landscape and Visual Impact Assessment
Appendix E Market Commentary



Introduction

1. GW Wilfield requests a change to the Selwyn District Plan to rezone approximately 73.5 hectares of Living 2 and 2A 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:
 - Current extent of subdivision within the site (Appendix A)
 - Infrastructure report (Appendix B)
 - Integrated Transport Assessment (Appendix C)
 - Landscape and Visual Impact Assessment (Appendix D)
 - Market Commentary (Appendix E).
3. The site, which encompasses the residential development commonly known as Wilfield, has been the subject of multiple subdivision and land use consents since 2014. Those resource consents have collectively provided for a residential form that is denser than originally envisaged for the Living 2 Zone, but which remains of a lower density than is typically found in the Selwyn Living 1 zones.
4. The greater density has to a large extent been the result of market demand for residential sections that are predominantly smaller than 2,000m², and for a range of section sizes below that size. Consistent with the demand for smaller section sizes, the applicant has found demand for the large section sizes required in the Living 2A Zone to be very low.
5. This plan change application therefore seeks to provide for a greater density of development in the Wilfield Living 2A Zone than is currently permitted, and to provide for a residential density in the Wilfield Living 2 Zone that reflects the urban environment that now exists in that location. It should be noted that the Plan Change application does not generally seek to increase the existing density of residential development in the current Living 2 Zone, except that part of the Zone that adjoins a proposed reserve associated with the high voltage transmission line corridor and is currently undeveloped.
6. The application site sits wholly within the existing urban boundaries of West Melton.

The Site and Surrounding Environment

7. The site is located at Weedons Ross Road and West Coast Road/SH73, on the south side of the current West Melton township. The full list of legal descriptions of affected land is included in Attachment 1 of the Plan Change Application. However, it can generally be described as the land bound by State Highway 73, Weedons Ross Road, and the adjoining Rural Zones to the south and east. Its location is indicated on the aerial photograph in Figure 1 below, and in the Outline Development Plan contained in Attachment 2 of the Plan Change Application.



8. The site is accessed from Weedons Ross Road in two locations, via Kingsdowne Drive. To the north of the site, across State Highway 73, is the existing West Melton township. To the east is Rural Zone land used predominantly for grazing or similar rural activity. To the south/southwest is land that is owned by the applicant and zoned Rural Inner Plains. Similarly, there are two pockets of land between the application site and Weedons Ross Road, that are zoned Rural Inner Plains.

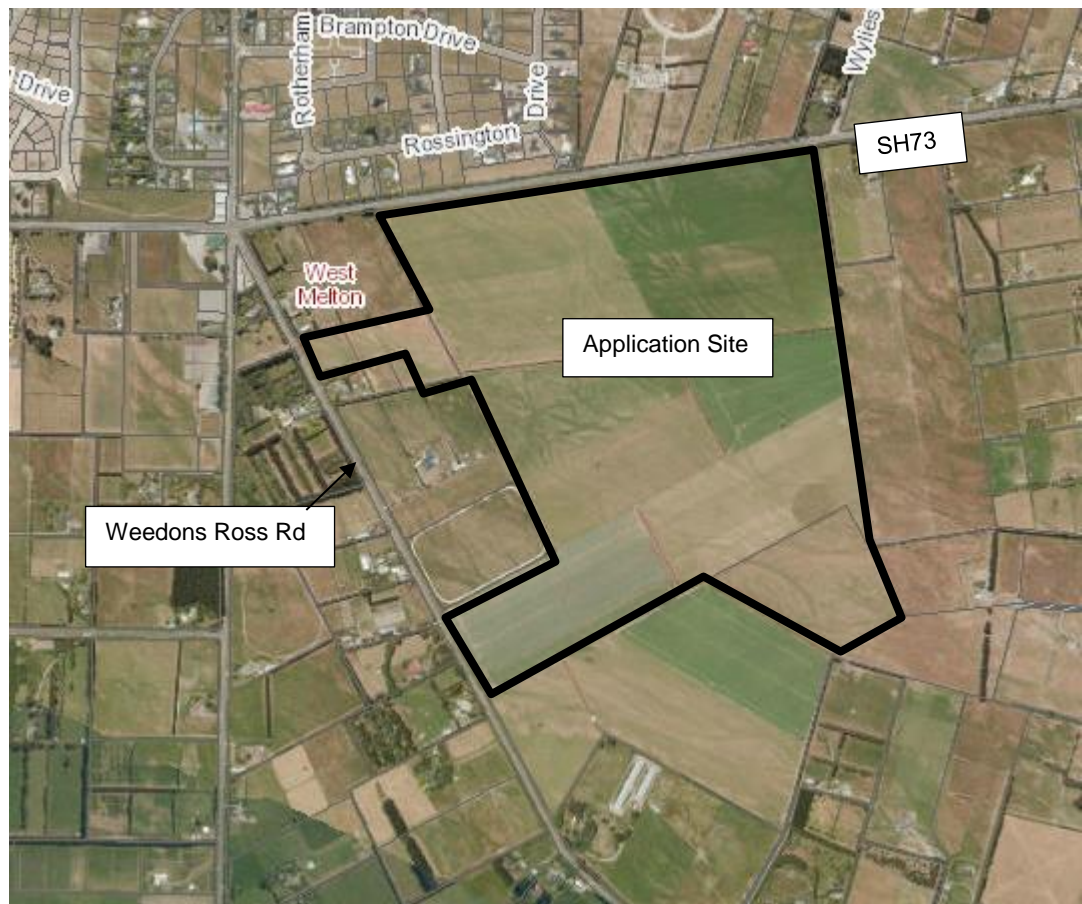


Figure 1: Aerial photograph of site (Source: Canterbury Maps)

9. The site itself has been subdivided to date to provide for 191 residential sites. The current extent of consented subdivision within the site is illustrated on the subdivision plan contained in Appendix A¹. Approximately 80 of those residential sites have house plans approved by the developer, as at October 2018.

¹ Note the subdivision plan contained in Appendix A also includes two residential allotments located in the adjoining Rural Inner Plains Zone.



The Plan Change

Description of the Proposal

- 10. It is proposed to rezone approximately 73.5 hectares of Living 2 and Living 2A Zone land to Living West Melton (WM South) Zone. The existing Living WM Zone will be renamed Living (WM North) Zone, but will otherwise be unaffected by the proposal.
- 11. The rezoning will provide for an increased density of development in the Living 2A Zone area. It will also reflect the existing density of development within the Wilfield Living 2 Zone area, which is greater than anticipated by the District Plan.
- 12. 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

- 13. 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 Appendix 20 ODP West Melton by deleting the existing ODP and replacing it with the two ODPs attached in **Attachment 2**.
 - 3. To amend Appendix 20A ODP West Melton headings as follows:

Outline Development Plan & Layer Plan – Living WM **North** (West Melton **North**) Zone

Appendix 20A – Living WM **North** Zone – Outline Development Plan

Appendix 20A – Living WM **North** Zone – Movement Network Plan

Appendix 20A – Living WM **North** Zone – Green Blue Network Plan

Appendix 20A – Living WM **North** Zone – Outline Development Plan

Appendix 20A – Living WM **North** Zone – Movement Network Plan

Appendix 20A – Living WM **North** Zone – Green Blue Network Plan
 - 4. To amend A4.5 Townships and Zone, Table A4.4 Description of Township Zones, as follows:

Zone	Description
------	-------------



<u>Living WM</u>	<u>A living zone specific to West Melton township. Provides for a range of residential densities. The Living WM North Zone, located north of State Highway 73, provides for medium and low density residential areas. The Living WM South Zone, located south of State Highway 73, provides for a predominantly lower building density than other parts of West Melton.</u>
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5. To amend Part B Section B4 Growth of Townships, Residential Density – Anticipated Environmental Results, as follows:

- Living 2 and WM South Zones are low density residential areas

...

- Integrated development, in the Living WM North Zone, achieving high quality urban design whilst also allowing residential growth to occur to meet target household numbers.

6. To amend Part B Section B4 Growth of Townships Policy B4.3.98 as follows:

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.

Explanation and Reasons

West Melton has developed with community facilities on both the northern and southern sides of State Highway 73. Residential development has taken place north of the highway centred on Westview Crescent, and to a lower density south of State Highway 73 east of Weedons Ross Road. The primary focus for future growth of the township is to be provided for north of the State Highway. Limited n 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. A pedestrian/cycle link has will also be been provided under across the highway to provide an alternative connection between the two areas. This pattern of growth is consistent with maintaining a consolidated form for the future growth of the township, and with Policy B2.1.18 and Town Form Policy B4.3.6.

7. To amend Part B Section B4 Growth of Townships Policy B4.3.101 as follows:

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 North zone.

Explanation and Reasons



West Melton village is an area with larger section sizes than those found in most townships in Selwyn District, particularly those close to Christchurch. Policy B4.3.101 recognises the character of the existing village and the support for larger section sizes in the Township survey results for West Melton (November 1998). A wide variety of lot sizes in response to market demand, have been provided for, but recognising the potential for West Melton to provide a lower density alternative living environment near Christchurch. However, the efficient and effective development of the Living WM **North** zone must be provided for to achieve the anticipated residential growth for this zone.

8. To amend Part C Living Zone Rules – Buildings, Rule 4.17 as follows:

Permitted Activities – Fences Adjoining Reserves

4.17.2 Any fencing erected parallel to or generally parallel to and within 5m of any Council reserve in the Living WM South Zone, shall be limited to a single post and rail fence with a maximum height of 1.2m and be at least 50% open.

[and consequential renumbering]

9. To amend Part C Living Zone Rules – Buildings, Rule 4.6.2.1 as follows:

The erection of any dwellings in the Living WM Zone shall comply with the building densities and locations shown on the Outline Development Plan and associated Layer Plans (Appendix **20 and 20A**) for this zone.

10. To amend Part C Living Zone Rules – Buildings, Table C4.1 Site Coverage Allowances as follows:

Zone		Coverage
Living WM North	Including garage	40%
	Excluding garage	40% minus 36m ²
	Emergency Services only	50%
Living WM South	Site size <1200m²	30%
	Site size 1200m²-1800m²	25%



	<u>Site size >1800m²</u>	<u>Lesser of 20% or 500m²</u>
	<u>Emergency services only</u>	<u>50%</u>

11. To amend Part C Living Zone Rules – Buildings, Rule 4.6.5 as follows:

Except as provided in Rule 4.6.6, the erection on any allotment of any building (other than an accessory building) which does not comply with Rule 4.6.1, 4.6.2.1 or Rule 4.6.3 shall be a discretionary activity in Living 1 zones and the Living WM **North** Zone.

12. To amend Part C Living Zone Rules – Buildings, Rule 4.6.6 as follows:

The erection on an allotment of any building (other than an accessory building) which does not comply with Rule 4.6.1 shall be a non-complying activity in the Living Z, 1A, 1A2, 1A3, 1A4 and Living 1A6 Deferred zones at Prebbleton and all Living Z, 2, 2A, **WM South** and Living 3 zones.

13. To amend Part C Living Zone Rules – Buildings, Rule 4.9.20 as follows:

Any dwelling within the area shown in Appendix 20 (Living 1B and Living 2 **WM South** zones) or Appendix 20A (Living WM **North** Zone) shall be set back at least 40 metres from State Highway 73.

14. To delete Part C Living Zone Rules – Buildings, Rule 4.9.21 as follows:

~~Any dwelling in the Living 2A Zone at West Melton shall have:~~

~~4.9.21.1 A setback from any internal boundary of not less than 6 metres.~~

~~4.9.21.2 A setback from any road boundary of not less than 10 metres.~~

15. To amend Part C Living Zone Rules – Subdivision, Table C12.1 Allotment Sizes as follows:

West Melton	Living 2	5,000m²
	Living 2A	Maximum number of allotments is 10, and a minimum allotment size of 1 ha.



	Living WM <u>North</u> Medium Density	Minimum lot area of 500m ² and maximum lot area of 3000m ² (Appendix 20A)
	<u>Living WM South (except Low Density)</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>).
	So that a total of 292 allotments must be achieved across the whole Living WM <u>North</u> Zone	

14. To amend Part C Living Zone Rules – Subdivision, Rule 12.1.3.54 as follows:

Any subdivision of land within the area shown in Appendix 20 (Living 1, Living 1B, **Living 2, Living 2A Living WM South** or Rural Zones) or Appendix 20A (Living WM **North** Zone) at West Melton complies with the layout and contents of the Outline Development Plan shown in Appendix 20 and Appendix 20A respectively; and

15. To amend Part C Living Zone Rules – Subdivision, Rule 12.1.3.55 as follows:

Any subdivision of land within the area shown in Appendix 20 and 20A shall:

(a) provide a bund for mitigation of traffic noise along the frontage of State Highway 73 to a height of not less than 2 m and a width of not less than 8.5 m, which shall be landscaped by retention of existing hedges or new planting of sufficient height to visually screen dwellings from the highway;

~~(b) if it is within the area shown in Appendix 20, provide a pedestrian/cycle underpass beneath State Highway 73 between the Living 1 and Living 2 Zones, prior to titles being issued for more than 30 dwellings in the Living 2 Zone.~~

~~(be)~~ if it is within the area shown in Appendix 20A, be subject to an Accidental Discovery Protocol where in the event of any discovery of suspected cultural/archaeological remains (e.g. concentrations of shell, charcoal or charcoal-stained soil, fire-fractured stone, bottles, pieces of glass or ceramics, bones etc) during the undertaking of earthworks and/or the installation of



services, the following protocol shall be followed by the consent holder, or his/her representative:

- Cease all earthworks immediately; and
- Contact the local Rūnanga being Te Taumutu Rūnanga; and
- Contact the Regional Archaeologist at the Christchurch office of the New Zealand Historic Places Trust (03 365 2897); and
- Do not commence earthworks until approval in writing has been given by the Regional Archaeologist of the New Zealand Historic Places Trust, as required under the Historic Places Act 1993.

16. To delete Part C Living Zone Rules – Subdivision, Rule 12.1.3.56 as follows:

~~In the Living 2A Zone at West Melton, the maximum number of allotments is 10.~~

17. To amend Part C Living Zone Rules – Subdivision, Rule 12.1.3.57 as follows:

No subdivision of land in the Living WM North Zone shall take place until:

- (a) A reticulated community potable water supply is available which is capable of serving the entire lots within the subdivision; and
- (b) A reticulated community sewage effluent treatment and disposal system is available which is capable of serving the entire lots within the subdivision; and
- (c) An Outline Development Plan has been incorporated into the District Plan for the development of all land zoned Living WM west of Weedons Ross Road.
- (d) An archaeological assessment has been undertaken by a suitably qualified expert and the results reported to the Council, the Regional Archaeologist at the New Zealand Historic Places Trust, and the iwi organisations Te Ngai Tuahuriri and Te Taumutu Rūnanga. In carrying out the assessment, the expert is to consult with the iwi organisations

18. 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 B.
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. 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 (policy planner) and Mr Murray England (infrastructure).
17. Consultation with local runanga has been initiated via Mahaanui Kurataiao Limited. Responses from the runanga will be forwarded to the District Council in due course.

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, and is attached in Appendix D. That assessment considered the existing landscape character of the environment, and the potential visual/visual amenity



impacts of the proposed increase in residential density. 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 not higher than 1.2m in height, or hedging, adjacent to the pylon corridor.	Township Volume, Part C, Rule 4.17.2 is amended to require open style fencing adjoining reserves, which includes the pylon corridor. Hedging is otherwise permitted.
Open style fencing adjacent to reserves.	This has been a requirement of covenants registered over the Titles of new allotment adjoining reserves in the Plan Change area to date. Township Volume, Part C, Rule 4.17.2 is amended to require open style fencing adjoining reserves. Hedging is otherwise permitted.
Screen planting along the eastern boundary of the Plan Change area	A requirement of the proposed ODP.
Pedestrian link created across the pylon corridor	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 increase in dwelling density. An Integrated Transport Assessment has been prepared for the proposal by Stantec, attached in Appendix C.
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 72 residential lots, that could generate extra traffic volumes of approximately 432 vehicle movements per day and 43 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 have a negligible effect.

Nearer the site, the SH73 / Weedons Ross Road intersection is already operating with some long delays and its performance is forecast to deteriorate further as State Highway traffic volumes continue to grow. It is likely that the intersection will need to be altered in the future but at this stage the intersection has an acceptable safety record and NZTA have not expressed publicly any plans for an upgrade. Regardless, the increase in traffic volumes using the intersection as a result of the proposed Plan Change would be small. In practice, drivers will vary their times of travel to avoid the worst delays at the intersection and the new CSM2 may provide an attractive alternative for travel to southern parts of Christchurch.

Within the Wilfield subdivision, the existing roading infrastructure will continue to be appropriate if the Plan Change is approved. The Kingsdowne Drive intersections on Weedons Ross Road, the Kingsdowne Drive carriageway, the Kingsdown Drive / Ridgeland Way intersection and the Ridgeland Way carriageway are all built to appropriate standards to be able to accommodate the additional traffic that could be generated by the proposed increase in residential density.

The existing Wilfield subdivision has good connectivity for pedestrians and cyclists internally and externally to the West Melton township via Weedons Ross Road and SH73, and across SH73 to Gainsborough. As the undeveloped south-eastern part of the site (currently Living 2A) is to be serviced by a single road, some additional off-road pedestrian connectivity through reserves is included in the ODP.

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 B, 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. An intensive chicken farm is located to the south of the site, being approximately 300m to the nearest boundary of the Plan Change site. The chicken farm is understood to no longer be in operation. In any case, the Plan Change site is sufficiently distant from the chicken farm sheds, that any new residential dwelling within the Plan Change area could achieve a minimum 300m setback distance from the chicken farm².
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 the site have confirmed the absence of any natural hazards that would preclude residential development.
33. Similarly, comprehensive Preliminary and Detailed Site Investigations have been undertaken in conjunction with subdivisions undertaken within the site to date. Small areas of identified historical contamination have been remediated and no further investigations or resource consents will be required under the NES for Assessing and Managing Contaminants in Soil to Protect Human Health.
34. Based on previous site investigations, it can be concluded that the site is not subject to any notable risk from natural hazards or contamination.

² Rural Volume, Section 3.13 Buildings and Building Position, Rule 3.13.1.5, for example, permits residential dwellings and other sensitive activities where they are setback a minimum distance of 300m from any existing lawfully established intensive farming activity.



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 residential or urbanising within the Plan Change site itself, with a rural character and amenity to the south and east of the Plan Change area. 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 D 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, other than the public reserves that have been created within the Plan Change area to date for the benefit of local residents. The developing residential aesthetic is that of a relatively low density and pleasant residential environment.
37. The proposed increase in residential density within the current Living 2A Zone will change the character and amenity of that part of the Plan Change area to a denser residential form than currently anticipated. 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 remaining residential in nature, consistent with the wider West Melton township. The amenity values of the northern part of the Plan Change area, being that part north of the high voltage transmission line corridor that is already developed for residential purposes, will be largely unaffected by the proposed Plan Change. To a large extent this is because the proposed Plan Change provides for a density of development that is already found in that area, and provides for an extent of site coverage that is similarly already established in that area by way of resource consent.

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. Consultation is being undertaken with Iwi in respect of this plan change.

Positive Effects

39. Positive effects resulting from the rezoning of the site and the implementation of proposed residential density amendments include:
- Enabling a more efficient utilisation of the undeveloped subject land, and in the Living 2A Zone land in particular;
 - Enabling subdivision design to better respond to market demand for smaller allotment sizes than currently permitted in the Plan Change area, while maintaining a low density of development at the rural-urban interface.



Statutory Requirements of Section 32 of the Act

40. 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.
41. 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.
42. Section 32(6) clarifies that where no actual objectives are stated in the proposal, the objective is the purpose of the proposal.
43. A Ministry for the Environment guide to Section 32³ 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.

³ MfE, A Guide to Section 32 of the Resource Management Act 1991 (2017), Wellington.



Objectives and Policies of the Selwyn District Plan

44. 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.
45. 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.
46. In regard to the more general objective of the proposal, being the purpose of the proposal, the objective is to provide for a denser built environment form in the undeveloped parts of the Living 2 and Living 2a Zones at West Melton, and to provide for District Plan provisions that better reflect the existing built environment in the West Melton Living 2 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 in the urban form from what is currently anticipated, the proposal is considered to be an efficient use of the physical land resource, providing for a compact and sustainable form of township growth.
47. 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. Objectives and policies pertaining to soil and land are not considered relevant to this proposal, given the site's existing residential zoning.

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><i>Objective B4.1.1</i></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><i>Objective B4.1.2</i></p> <p><i>New residential areas are pleasant places to live and add to the character and amenity values of townships.</i></p> <p><i>Policy B4.1.10</i></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, albeit the number of large (3000m²+) low density allotments will be reduced from what is currently anticipated by the District Plan. The subject area will continue to be a pleasant place to live and will contribute to the character and amenity of West Melton in much the same way as the current residential development within the subject site does.</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.</p>
<i>Objective B4.3.1</i>	The proposal will provide for a higher density of residential development within the existing urban



The expansion of townships does not adversely affect:

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

Objective B4.3.3

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

Objective B4.3.4

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

Objective B4.3.5

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

Policy B4.3.3

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

Policy B4.3.4

Encourage new residential or business development to occur on vacant land in existing Living or Business zones, if that land is available and appropriate for the proposed activity.

Policy B4.3.6

Encourage townships to expand in a compact shape where practical.

boundary of West Melton. This will maintain the town's current compact shape, providing additional housing without the need for expansion.

Development will continue to occur in accordance with an Outline Development Plan, with an amended Outline Development Plan proposed for the subject area.

In regard to infrastructure, the site is an existing residential zone, however 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.

The proposal will contribute towards Council's ability to ensure household targets are met, through consolidation of the existing township and provision of additional dwellings (increased density).

No new urban boundaries will be created, ensuring the zoning pattern for West Melton remains the same as at current.

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.

As noted above, the proposal will maintain the existing pattern of development in West Melton, i.e. the urban boundaries of the township will be unchanged.

The proposal will maintain the lower density of the existing village. Policy B4.3.101 will be amended to make clear the efficient and effective development provision is focused on the existing Living WM Zone, to the north of State Highway 73, consistent with the current intention of the policy.



Township Volume: Chapter B2 Physical Resources

Objective B2.1.1

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

Objective B2.1.2

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

Objective B2.1.3

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

Objective B2.1.4

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

Objective B2.1.5

Policy B2.1.2

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

Policy B2.1.3

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

Policy B2.1.4(a)

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

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

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:

The existing access points from the subject site to the wider road network will be unchanged from what they are currently. 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.

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. Amendments to Rule 12.1.3.55 are proposed, to reflect that the pedestrian route across State Highway 73 is already consented as a route across, rather than a route under, the State Highway.

In regard the State Highway, the proposal will not extend the township any further along the State Highway. Existing rules protecting the State Highway network from reverse sensitivity effects are to be retained and applied over the proposed Living WM South Zone.

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.



- 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.

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 B3.1.2

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.

Objective B3.4.4 states:

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

The proposal will maintain the current compact town form and will provide for a variety of living environments and housing choices, including a greater degree of variation in allotment size than is currently permitted by the Living 2/Living 2A Zones.

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.

The Plan Change area will continue to have a good level of connectivity to the remainder of the township, to the same extent as is the case with the existing residential zoning.

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.

The proposal will provide for a character and amenity that is consistent with the remainder of the West Melton Township and that part of the Plan Change area that has been developed to date.

Policy B3.4.3

To provide Living zones which:

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

No new residential land is to be created as a result of the proposal, rather existing residential land is to be rezoned to enable a denser form of development. The development is sufficiently distant from an existing (former) intensive chicken



- *are pleasant places to live in and provide for the health and safety of people and their communities;*
 - *are less busy and more spacious than residential areas in metropolitan centres;*
 - *have safe and easy access for residents to associated services and facilities;*
 - *provide for a variety of living environments and housing choices for residents, including medium density areas identified in Outline Development Plans;*
 - *ensure medium density residential areas identified in Outline Development Plans are located within close proximity to open spaces and/or community facilities and*
 - *ensure that new medium density residential developments identified in Outline Development Plans are designed in accordance with the following design principles:*
 - *access and connections to surrounding residential areas and community facilities and neighbourhood centres are provided for through a range of transport modes;*
 - *block proportions are small, easily navigable and convenient to encourage cycle and pedestrian 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.*
- farm that reverse sensitivity effects are not anticipated.

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

The Plan Change area is accommodated entirely within two existing Living zones. As such there will be no greater effect on land or soil resources, or on surface water, than is currently anticipated by the District Plan.



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.

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.

Objective B1.2.2

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

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

Policy B1.2.1

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

Policy B1.2.2

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

Policy B1.2.5

Require any sewage treatment and disposal to be reticulated in the townships of Castle Hill, Doyleston, Lake Coleridge Village, Leeston, Lincoln, Prebbleton, Rolleston, Southbridge, Springston, Tai Tapu and West Melton.

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48. Overall, it is considered that the proposed Plan Change is consistent with the objectives and policies of Selwyn District Plan for residential development. As such, 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 residential environments. 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 Benefits and Costs of the Plan Change

49. In assessing the benefits and costs of the Plan Change, four options have been considered:
- Leave the area zoned Living 2 and Living 2A
 - Rezone the Living 2A land only, to Living 2
 - Rezone the entire site to Living WM South Zone
 - Apply for resource consent for subdivision and development under the current zoning.
50. The following is an assessment of these options. For all options, the opportunities for economic growth and employment are considered to be generally neutral, with the possible



exception of Options 2 and 3, where more opportunities for services such as gardening and cleaning may arise from the increased density in household units.

Benefits and Costs of Option 1 – Leave the area zoned Living 2/Living 2A

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Maintains the existing character and amenity of the area. • Retains the existing range of allotment size options, several well in excess of 3,000m² in area. • No time or costs arising from a plan change process. • No additional demands on infrastructure 	<ul style="list-style-type: none"> • An inefficient use of the urban land resource, particularly in view of the very low market demand for large low density residential allotments (see Appendix E). Difficulty of selling large size allotments. • Does not meet market demand for sites <2,500m² in area in West Melton (see Appendix E).

Benefits and Costs of Option 2 – Rezone the Living 2A land only, to Living 2

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Maintains the existing character and amenity of the Living 2 area. • Allows for an increase in allotments in the <2,500m² size range, to meet market demand, to the Living 2A area. • Allows for more efficient use of the Living 2A area. • 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. 	<ul style="list-style-type: none"> • Change in character and amenity of the Living 2A area to a denser type of residential environment. • Increase in traffic generated in and around West Melton township. • The built development form of the Living 2 Zone remains inconsistent with the zoning provisions, with a heavy reliance on resource consents to enable smaller allotment sizes and related site coverage. • Additional infrastructure capacity required, to be provided at developer's cost.

Benefits and Costs of Option 3 – Rezone the entire site to Living WM South (the proposal)



Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Maintains a consolidated urban form whilst increasing the availability of allotments within West Melton township. • Removes requirement to provide large low density allotments, for which there is very low market demand. • Provides for more efficient use of existing residential zone land. • Zoning and District Plan provisions for the Living 2 Zone portion of the Plan Change area will more accurately reflect the existing built environment. • 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. 	<ul style="list-style-type: none"> • Increase in traffic generated in and around West Melton township. • Change in character and amenity to a denser type of residential environment in the remaining undeveloped areas of the Plan Change area. • Additional infrastructure capacity required, to be provided at developer's cost.

Benefits and Costs of Option 4 – 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 through consent conditions than may be possible through a plan change. 	<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. • Restricted timeframe in which land has to be developed and houses built, leading to potential economic costs for landowner/developer.



<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"> • 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 further non-complying status subdivisions.
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51. The above assessment indicates that the costs of option 4 outweighs the benefits. Options 2 and 3 both similarly have benefits that outweigh costs. Option 1 numerically has more benefits than costs, however the costs of an inefficient development form (very low density) for which there is very little market demand and therefore a high risk of urban land remaining undeveloped, are considered to outweigh the listed benefits. Either of options 2 or 3 are the most appropriate.

Effectiveness

52. Beyond the rezoning of the subject land and clarification of the Living WM North and South Zones, few new provisions are proposed by the Plan Change. Rather, it is intended that existing Living WM Zone provisions apply to the new zone, as far as possible without amendment. 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, minor changes to rules to ensure that they will apply to the new site, and rule amendments to ensure that mitigation measures recommended in the Landscape and Visual Assessment report are implemented, e.g. fencing types against reserves. A requirement to provide for a pedestrian underpass across State Highway 73 is removed as an alternative pedestrian link across the State Highway has already been approved and constructed.
53. Two notable rule changes arising from the rezoning, are clarification of new minimum site sizes and related site coverage provisions. The site coverage and minimum lot size rule format are consistent with that of the other residential zones in the District, and are considered to be the most effective means of providing for an increased density in the proposed zone with practical site coverage limitations that allow for anticipated residential development, while also ensuring a generally spacious environment is maintained.

Efficiency

54. In considering efficiency, it is necessary to refer again to the cost/benefits of the four options outlined in the tables above. These assessments indicated that for Options 2 or 3, the benefits are greater as compared to the two alternative options, each of which had costs or disadvantages outweighing benefits. While Option 1 had similar numbers of benefits and costs, the environmental and social costs of an inefficient development form (very low density) for which there is little market demand, are considered to outweigh the listed



benefits. Taking into account the costs and benefits, Options 2 or 3, rezoning the Plan Change area in part or whole, are considered to be the most efficient means of achieving the objectives of the proposal and the District Plan. The proposed provisions, encapsulating minimal changes to the District Plan objectives, policies and rules, while maintaining a lower density of development than the Living 1 Zone, are also considered to be the most efficient means of achieving the objective of the Plan Change proposal.

Risks of Acting or Not Acting

55. Given the multiple subdivision resource consents that have been 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

56. Based on the above assessment, it is concluded that the Proposed Plan Change is the more appropriate method for achieving the objectives and policies of the District Plan and the objective of the proposal than the alternatives also considered above. Option 2, being to rezone only the Living 2A Zone to Living WM South, would be similarly appropriate to achieve the objectives and policies of the District Plan. However, given:

- the Living 2 Zone portion of the Plan Change area is already developed or consented to a density in excess of what the District Plan permits;
- there is no additional economic cost to including the Living 2 Zone land in this Plan Change application;
- the proposed Living WM South Zone provisions will better reflect the environment that is established within the Living 2 Zone; and
- the proposed density and site coverage rules have been drafted to ensure that little additional subdivision will be permitted within the existing developed parts of the Living 2 Zone area, to protect the amenity of existing residents in the area;

the inclusion of the Living 2 Zone in the Plan Change is considered to be appropriate.

57. 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.

National Policy Statement on Urban Development Capacity

58. 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), including the NPS on Urban Development Capacity.



59. Objectives of the NPS on Urban Development Capacity include:
- effective and efficient urban environments that enable people and communities and future generations to provide for their social, economic, cultural and environmental wellbeing (OA1);
 - Urban environments that have sufficient opportunities for the development of housing and business land to meet demand, and which provide choices that will meet the needs of people and communities and future generations for a range of dwelling types and locations, working environments and places to locate businesses (OA2);
 - Urban environments that, over time, develop and change in response to the changing needs of people and communities and future generations (OA3);
 - Local authorities adapt and respond to evidence about urban development, market activity and the social, economic, cultural and environmental wellbeing of people and communities and future generations, in a timely way (OC3);
 - Coordinated and aligned planning decisions within and across local authority boundaries (OD2);
60. As discussed above, provision for a denser form of residential development than is currently permitted in the District Plan is considered to be a more efficient use of the subject land, and a more effective means of achieving the range of allotment sizes predominantly demanded by the market (see Appendix E). In this respect, the provision for smaller allotments in the Plan Change area meets OA1, OA2 and OC3. Notably, OC3 indicates that local authorities adapt and respond to evidence of urban development and market activity and the wellbeing of people and communities. The statement by Mr Wheelans contained in Appendix E, illustrates clear evidence that the market strongly prefers smaller allotments than the current Living 2 and Living 2A Zone provisions allow. The evidence provided by Mr Wheelans also supports the changes that have been occurring within the West Melton urban environment over time, as the community has evolved from a small village, to a larger township, albeit with an emphasis still on maintaining a predominantly low density community that distinguishes itself from the larger Selwyn communities such as Rolleston, or from Christchurch City.
61. In regard Objective OD2, the Plan Change seeks to rezone to an existing zone (Living WM) that is already found within West Melton. In large part this is driven by the draft National Planning Standards, which seek to minimise and simplify zoning patterns within districts, and the Council's own expressed preference to not create an entirely new zone type in advance of the District Plan Review⁴.
62. Overall, the proposal is considered to be in accordance with the NPS on Urban Development Capacity.

⁴ Pers.comm. Ben Rhodes, Selwyn District Council.



Canterbury Regional Policy Statement

63. 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.
64. 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.
65. With reference to urban areas generally, the operative Canterbury Regional Policy Statement generally seeks to ensure that urban growth occurs in such a manner as to achieve consolidation and avoid unnecessary sprawl. The Plan Change area sits within the urban limits of Greater Christchurch, as indicated in the Regional Policy Statement. The proposed development is wholly contained within an existing township of West Melton. It is not contained within an area identified as Residential Greenfield Priority in Chapter 6 of the RPS. The RPS specifically references West Melton in Objective 6.2.2 Urban Form and Settlement, stating that the objective seeks to encourage sustainable and self-sufficient growth and consolidation of the existing settlement of West Melton. The Plan Change will achieve this objective.
66. Policy 6.3.1 Development within the Greater Christchurch area seeks, among other matters, to ensure new urban activities only occur within existing urban areas or identified greenfield priority areas. The Plan Change will occur within an existing urban area.
67. Policy 6.3.3 Development in accordance with outline development plans, applies only to greenfield priority areas and rural residential development and is not applicable to the application site.
68. Overall, the development is considered to be consistent with the Regional Policy Statement.

Mahaanui – Iwi Management Plan 2013

69. 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



70. 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

71. 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 short sections of artificial water races. With the reticulation of effluent disposal from new dwellings the potential from adverse impacts on groundwater quality are limited. The site will also be connect 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

72. 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

73. 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 is either already developed for residential use (in the northern half of the site) or has been used for farming purposes for many years. There are no notable indigenous plantings within the site. The proposed Plan Change does not have specific planting requirements, 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

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



Te Waihora

75. 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

76. 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

77. 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.
78. 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.
79. In terms of section 7, the matter of most the relevance to the residential zoning and further development of this site is maintenance and enhancement of the quality of the environment. The site is an existing residentially zoned area, having previously been identified as suitable for residential development. 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.
80. 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 a more efficient development form than currently permitted within the site.



Appendix A

Current Extent of Subdivision



Appendix B

Infrastructure Report



Appendix B

Infrastructure Report

GW WILFIELD LTD
Wilfield – West Melton

Infrastructure Report

**Phase 2 Plan Change
18130-R1**

October 2018



DAVIE LOVELL•SMITH

PLANNING SURVEYING ENGINEERING



Shaping the future since 1880

Revision History

Rev Number:	Prepared By:	Description:	Date:
R1	AJEH	Reduce lots to PC Area	24/10/18

Document Control

Action:	Name:	Signed:	Date:
Prepared By	Andy Hall		24/10/18
Reviewed By	Sam Godwin		24/10/18
Approved By	Andy Hall		24/10/18

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Contents:

1.0 INTRODUCTION	3
2.0 SEWER	4
3.0 WATER SUPPLY	7
4.0 STORMWATER	9
5.0 POWER / TELECOMMUNICATIONS / STREET LIGHTS	10
6.0 ROADING	10
7.0 EARTHWORKS AND CLEARING	11

Appendices:

Appendix A – Proposed Development Layout Plan and Engineering Concepts

Appendix B – Sewer Calculations

Appendix C – Water Supply Calculations and Plans

Appendix D – Stormwater Secondary Flow Paths

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 West Coast Road (SH 73) and east of Weedons Ross Road. This proposal is a Plan Change to create 71 new residential and rural residential house sites.

The plans also show a future plan change area with an additional 72 lots that are outside of this current application but provide some insight into strategic future infrastructure requirements.

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 in 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.

2.0 SEWER

It is intended that all new sites in the proposed plan change will be serviced by Low 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, the sites in the plan change application and the potential future development, then there will eventually be a total of 332 lots connecting to the existing Silver Peaks pump station.

Average sewer flow

$$\text{ASF} = 332 \text{ lots} \times 220 \text{ l/person/day} \times 2.7 \text{ people/lot}$$

$$\text{ASF} = 197 \text{ m}^3/\text{day}$$

$$\text{ASF} = 2.28 \text{ l/s}$$

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

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

$$\text{MF} = 2 \times 2.5 \times 2.28$$

$$\text{MF} = 11.41 \text{ l/s}$$

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 100m and a velocity of 0.82m/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:	18130	
	Pipe diameter	136	mm	D =	0.136	m
	Gradient - 1 in	100		S =	0.01	
	Pipe Roughness - ks	1.5	mm	ks =	0.0015	m
		Results for Full Bore Conditions:				
		Velocities	0.819	m/s		
		Discharge	11.90	litres/sec		
		Discharge	0.0119	m ³ /sec		

A number of sites will be able to connect to the existing infrastructure located in existing roads. There is an existing 75mm OD common rising sewer located in Ridgeland Way. This pipe has significant capacity and can accommodate a large portion of the proposed development.

An additional connection will need to be made to the pump station via a proposed reserve link into the development area. As shown on the attached plan in Appendix A.

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 will be located on its own utility lot to be 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 has 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 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, 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 71 additional lots plus 72 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 71 lots this amounts to an additional demand of 8.52l/s. For all 143 sites, this amounts to a demand of 17.16l/s. However, there are a number of sites that will have restricted connections and this will bring the demands down to 7.07l/s for the 71 Plan Change Lots and 14.77l/s for the full 143 lots.

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 **147.41/s** for this future overall demand.

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 been again 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 7.07l/s required for the Plan Change area and potentially the 14.77l/s required for the overall future expansion.

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

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 150mm dia pipe would approximately 1m per 20m and a velocity around 2m/s.

The water demand for Wilfield alone, including for the Plan Change is almost 35l/s. The pipe from Rossington Road, under the highway, to Wilfield, is also 150mm ID. This connection pipe may need to be upsized. Once the pipe reaches the road network in Wilfield it branches off into more 150mm dia pipes. 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.

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

Council is also progressing with the proposed pipe connection to the Edendale bore. This is hoped to produce an additional 20l/s for the West Melton Community.

An unfortunate reality for West Melton is the unreliability of the bores. In a dry year we could expect bore yields to significantly reduce. The expected method of mitigation would be to replace the existing small plastic tank farm with a large and safe reservoir such as a steel sectional tank. Perhaps 1000m³. 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. 143 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 or 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.

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 and the creation of a new road between Lots 275 and 277.

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.

The access lot will be constructed to SDC standards. 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.

Provision will be made for future road access to adjacent sites for the purpose of future development. The applicant reserves the right to place point strips across the end of these connections.

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.

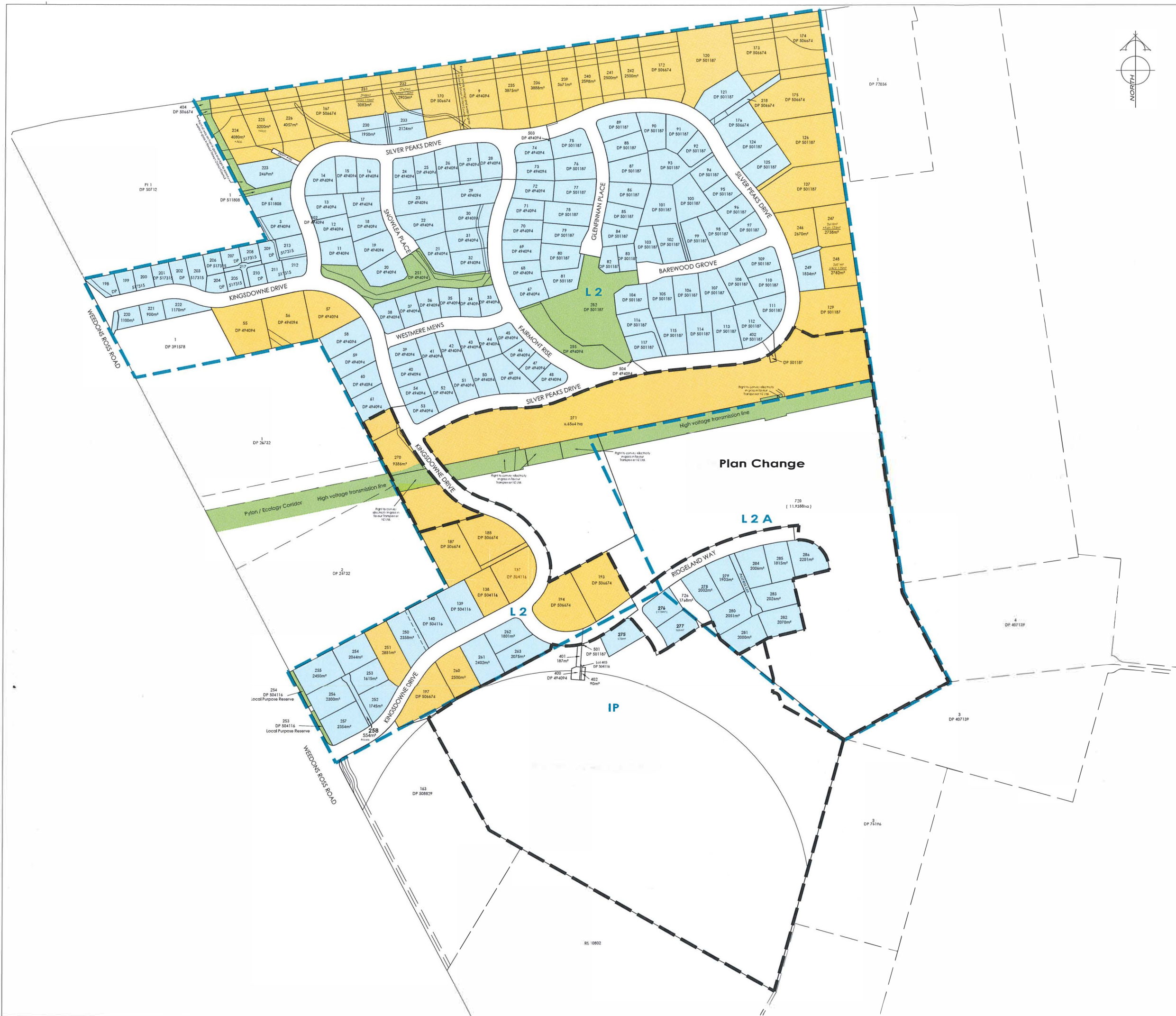
A geotechnical appraisal of the development has been previously presented. This appraisal found the development site as not being susceptible to earthquake and liquefaction damage, and has determined that the land can be considered to be equivalent to the Ministry of Business, Innovation, and Employment (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

Oct 2018

APPENDIX A

Appendix A – Proposed Development Layout Plan and Engineering Concepts



AMENDMENTS :		
AMENDMENT	DATE	DESCRIPTION

NOTES :

- 1) Areas and dimensions are approximate only and are subject to final survey and deposit of plans.
- 2) Service easements to be created as required.
- 3) This plan has been prepared for subdivision consent purposes only. No liability is accepted if the plan is used for any other purposes.

Legend

39 Lots	Reserve to vest
152 Lots	Restricted Water Supply
	Unrestricted Water Supply

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116 Wrights Road P O Box 679 Christchurch 8140, New Zealand
Telephone: 03 379-0793 Website: www.dls.co.nz E-mail: office@dls.co.nz

JOB TITLE: **GW Wilfield Ltd**

SHEET TITLE: **Wilfield Water Connections June 2018**

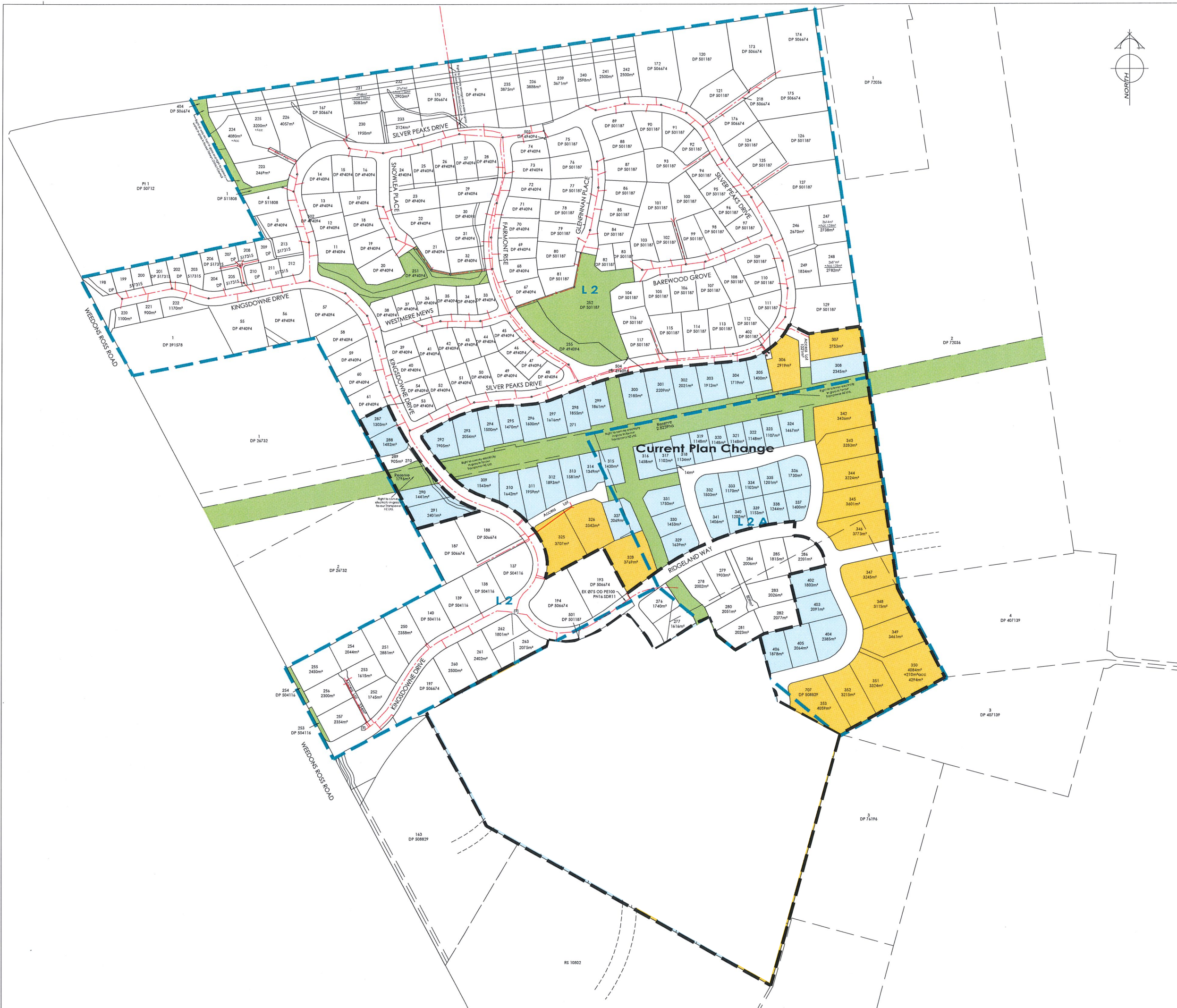
DRAWING STATUS: **For Information**

SCALE: 1:2500@A1 1:5000@A3 DATE: June 2018

CAD FILE: J:\18130_1\Subcon\18130_1_Water Connections June.dwg

DRAWING No: **C.18130/1** SHEET No: 1 OF 1

REVISION: **RO**



AMENDMENTS :		
AMENDMENT	DATE	DESCRIPTION

NOTES :

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Legend

Current

Proposed

17 Lots

11 Lots

54 Lots

61 Lots


Reserve to vest

Restricted Water Supply

Unrestricted Water Supply

Existing Sewer

Replaces 2 Restricted Water Supplies
200 Unrestricted Connections for Future Development



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JOB TITLE:

GW Wilfield Ltd

SHEET TITLE:

**Wilfield
Water Connections
August 2018**

DRAWING STATUS:

For Information

SCALE: 1:2500@A1
1:5000@A3

CAD FILE : J:\18130_1\Subcon\C18130_1_Water Connections August.dwg

DRAWING No : **C.18130/1**

DATE: August 2018

SHEET No: 1 OF 1

R0



AMENDMENTS:		
AMENDMENT	DATE	DESCRIPTION

NOTES:

- 1) Areas and dimensions are approximate only and are subject to final survey and deposit of plans.
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Legend

- Proposed Low Pressure Sewer Mains
- Proposed Watermain
- Existing Sewer
- Existing Water

DAVE LOVELL-SMITH
PLANNING SURVEYING ENGINEERING

116 Wrights Road P O Box 679 Christchurch 8140, New Zealand
Telephone: 03 379-0793 Website: www.dls.co.nz E-mail: office@dls.co.nz

JOB TITLE: **GW Wilfield Ltd**

SHEET TITLE: **Wilfield Proposed Services**

DRAWING STATUS: **For Information**

SCALE: 1:2000@A1 1:4000@A3 DATE: September 2018

CAD FILE: J:\18130_1\Subcon\C18130_1_Proposed Services.dwg

DRAWING No: **C.18130/1** SHEET No: 1 OF 1 REVISION: **R0**

APPENDIX B

Appendix B – Sewer Calculations

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

254 Iterative number based on allowable pressure in pipe to Rolleston

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

Average Flow over the day =
 MF =

West Melton Rising Main internal dia 225 mm

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	45deg	22.5deg									
						0.75	0.3	0.15									
1	1	8000	225	0.6	57.682	8	1	1	6	2	1	2	58.715	58.715			
2	1	5750	225	0.6	41.459	0	0	0	0	0	0	0	100.173	100.173			
TOTAL FRICTION LOSS, m					99.141	TOTAL FITTINGS LOSS,m					1.033	100.173					
										TOTAL SYSTEM LOSSES, m		100.173					

Power requirements: $q \times h$ kW =
102 x dp x dm

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

Non return valve
butter fly valve

0.6
0.9
43.86 l/s
100.17 m

100.80 m
70.70 m
-30.10 m

Max pressure to be 0.7 of PN10 = 70m

70.07 m

252648 l
252.648 m³

APPENDIX C

Appendix C – Water Supply Calculations and Plans

West Melton Water Demands

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
Proposed plan change lots	71
Next future Phase of Wilfield	72
Commercial (equivalent)	30
ADDITIONAL FUTURE CONNECTIONS	254 Based on sewer capacity
TOTAL CONNECTIONS	1276 Limit West Melton to this number due to capacity in sewer

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
Commercial (equivalent)	30	30
TOTAL CONNECTIONS	829	
Unrestricted Connections	790	
Restricted Connections	39	
Unrestricted flow at 0.12l/s/site	94.80 l/s	
Restricted Flow at 0.03472l/s/site	1.35 l/s	
TOTAL CURRENT DEMAND	96.15 l/s	
PROPOSED ADDITIONAL DEMAND FROM PLAN CHANGE		
Plan Change Lots	71	71
Unrestricted Connections	54	
Restricted Connections	17	
Unrestricted flow at 0.12l/s/site	6.48 l/s	

Restricted Flow at 0.03472l/s/site	0.59 l/s
TOTAL PROPOSED ADDITIONAL DEMAND	7.07 l/s

PROPOSED ADDITIONAL DEMAND IN WILFIELD	
Next Phase of Wilfield	72
Unrestricted Connections	61
Restricted Connections	11
Unrestricted flow at 0.12l/s/site	7.32 l/s
Restricted Flow at 0.03472l/s/site	0.38 l/s
TOTAL PROPOSED ADDITIONAL DEMAND	7.70 l/s

72

PROPOSED TOTAL DEMAND IN WILFIELD	
Next Phase of Wilfield	332
Unrestricted Connections	267
Restricted Connections	65
Unrestricted flow at 0.12l/s/site	32.04 l/s
Restricted Flow at 0.03472l/s/site	2.26 l/s
TOTAL PROPOSED ADDITIONAL DEMAND	34.30 l/s

PROPOSED ADDITIONAL DEMAND ELSEWHERE	
Future densification of existing sites	50
Future additional sites	254
Unrestricted Connections	304
Restricted Connections	0
Unrestricted flow at 0.12l/s/site	36.48 l/s
Restricted Flow at 0.03472l/s/site	0.00 l/s
TOTAL PROPOSED ADDITIONAL DEMAND	36.48 l/s

1276 lots

Total water demand for West Melton
including for the Plan Change

147.41 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	0 l/s

Johnson	0 l/s
4hr of Reservoir (1M litres)	69 l/s
TOTAL	134 l/s

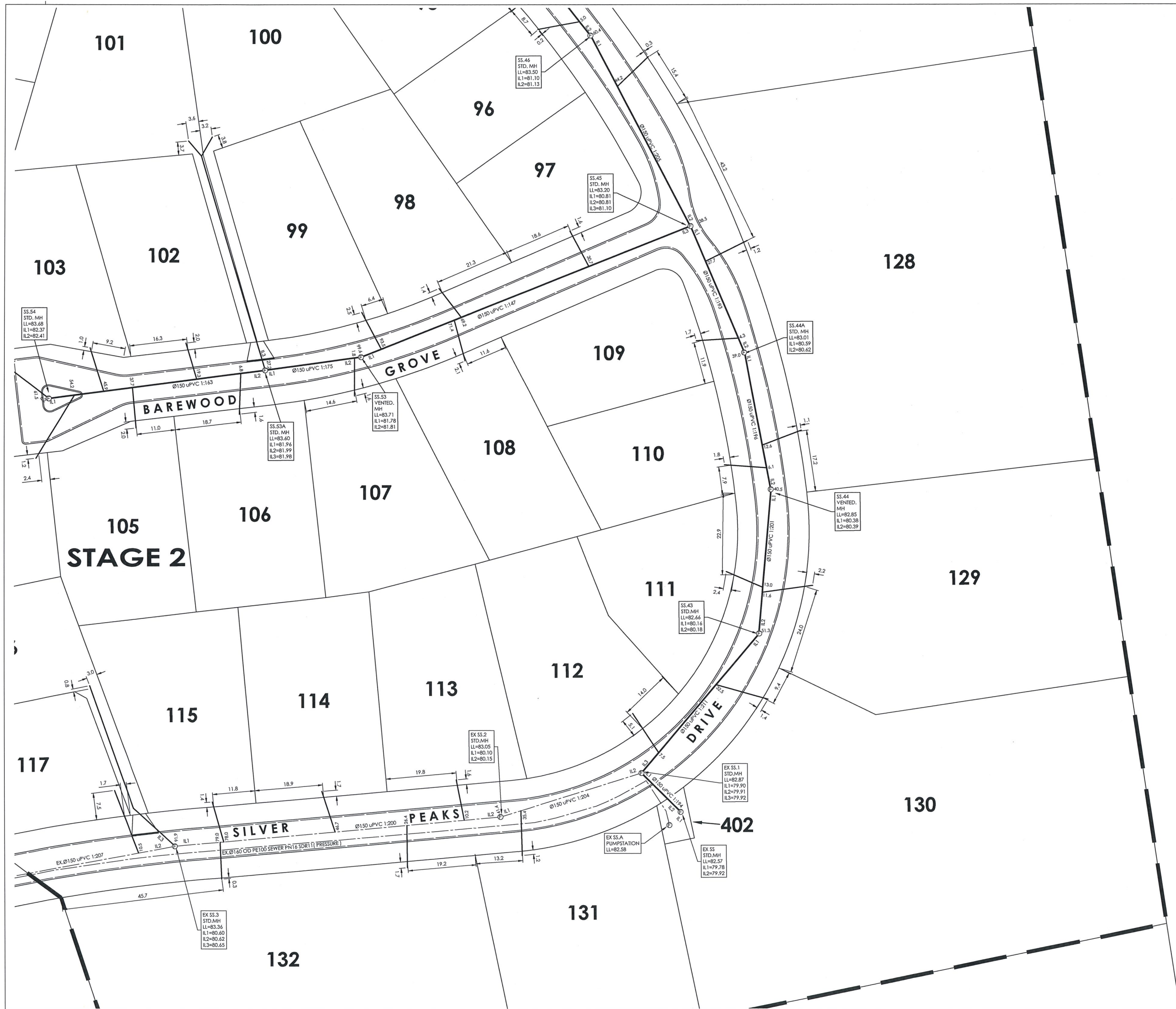
Total water demand for existing plus Plan Change
including for the Plan Change **103.22 l/s**

OPTION A: Current Available and Potential Flows:

Wilfield	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)	9 l/s
TOTAL	104 l/s

OPTION B: Current Available and Potential Flows:

Wilfield - re-consented	35 l/s
Jacklin	12 l/s
Royston	9 l/s
Elizabeth	9 l/s
Edendale	0 l/s
Johnson	0 l/s
4hr of Reservoir (1M litres)	39 l/s
TOTAL	104 l/s



AMENDMENTS:		
AMENDMENT	DATE	DESCRIPTION

SERVICES:

SANITARY SEWER (GRAVITY)

EX.SANITARY SEWER (PRESSURE)

EXISTING SEWER

KERB & CHANNEL

NOTES:

1) This plan has been prepared for sewer asbuilt purposes only. No liability is accepted if the plan is used for any other purpose.

2) Any measurements taken from information which is not dimensioned on the electronic copy are at the risk of the recipient.

3) All sewer laterals are 100mmØ uPVC unless otherwise specified.

4) All as built information has been provided by 43 Below and has not been verified.

Levels in terms of Lyttelton Vertical Datum 1937.

Origin of Levels: UG 32 (B882) RL=55.934
804 Jones Road Rolleston.

GILLMAN WHEELANS
Residential Subdivisions

JOB TITLE:

**GW Wilfield Ltd
Stage 2 Wilfield , West Melton**

SHEET TITLE:

Sewer Asbuilt

DRAWING STATUS

Asbuilt

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DATE: August 2016

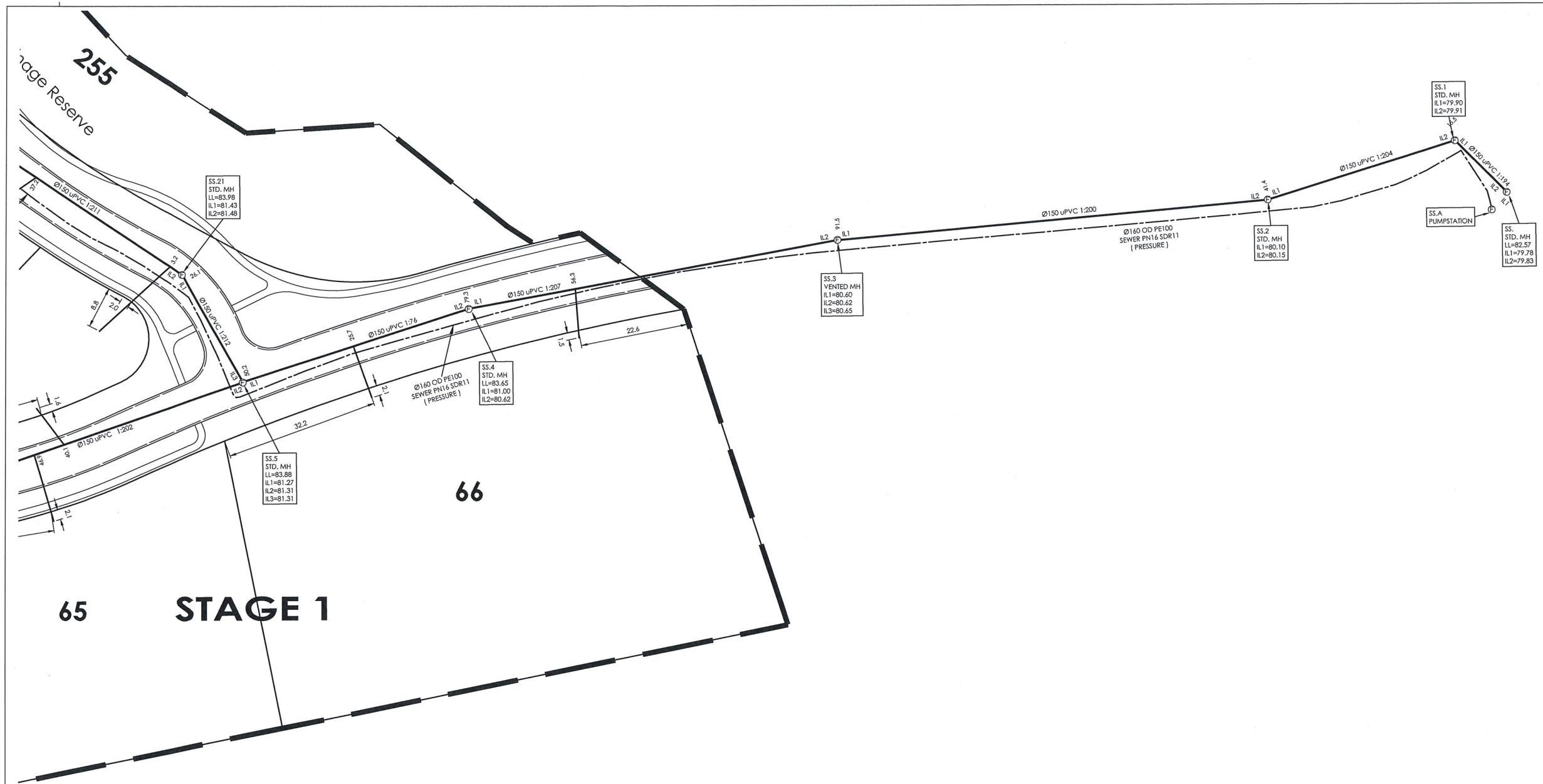
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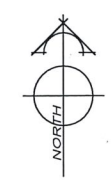
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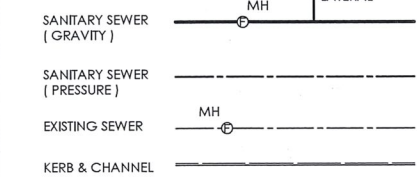
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AMENDMENTS :		
AMENDMENT	DATE	DESCRIPTION
R1	2.5.16	LEVELS IN TERMS OF LYTTTELTON DATUM 1937



SERVICES:



NOTES:

- 1) This plan has been prepared for sewer asbuilt purposes only. No liability is accepted if the plan is used for any other purpose.
- 2) Any measurements taken from information which is not dimensioned on the electronic copy are at the risk of the recipient.
- 3) All sewer laterals are 100mmØ uPVC unless otherwise specified.
- 4) All as built information has been provided by 43 Below and has not been verified.

Levels in terms of Lyttelton Vertical Datum 1937.

Origin of Levels: UG 32 (B882) RL=55.934
804 Jones Road Rolleston.



JOB TITLE:

**GW Wilfield Ltd
Stage 1 Wilfield , West Melton**

SHEET TITLE:

Sewer Asbuilt

DRAWING STATUS

Asbuilt

SCALE: 1:500@A1
1:1000@A3

DATE: May 2016

CAD FILE: J:\18130\Asbuilts\Stage 1\18130_AB_NZTM_R1.dwg

DRAWING No:

SHEET No:

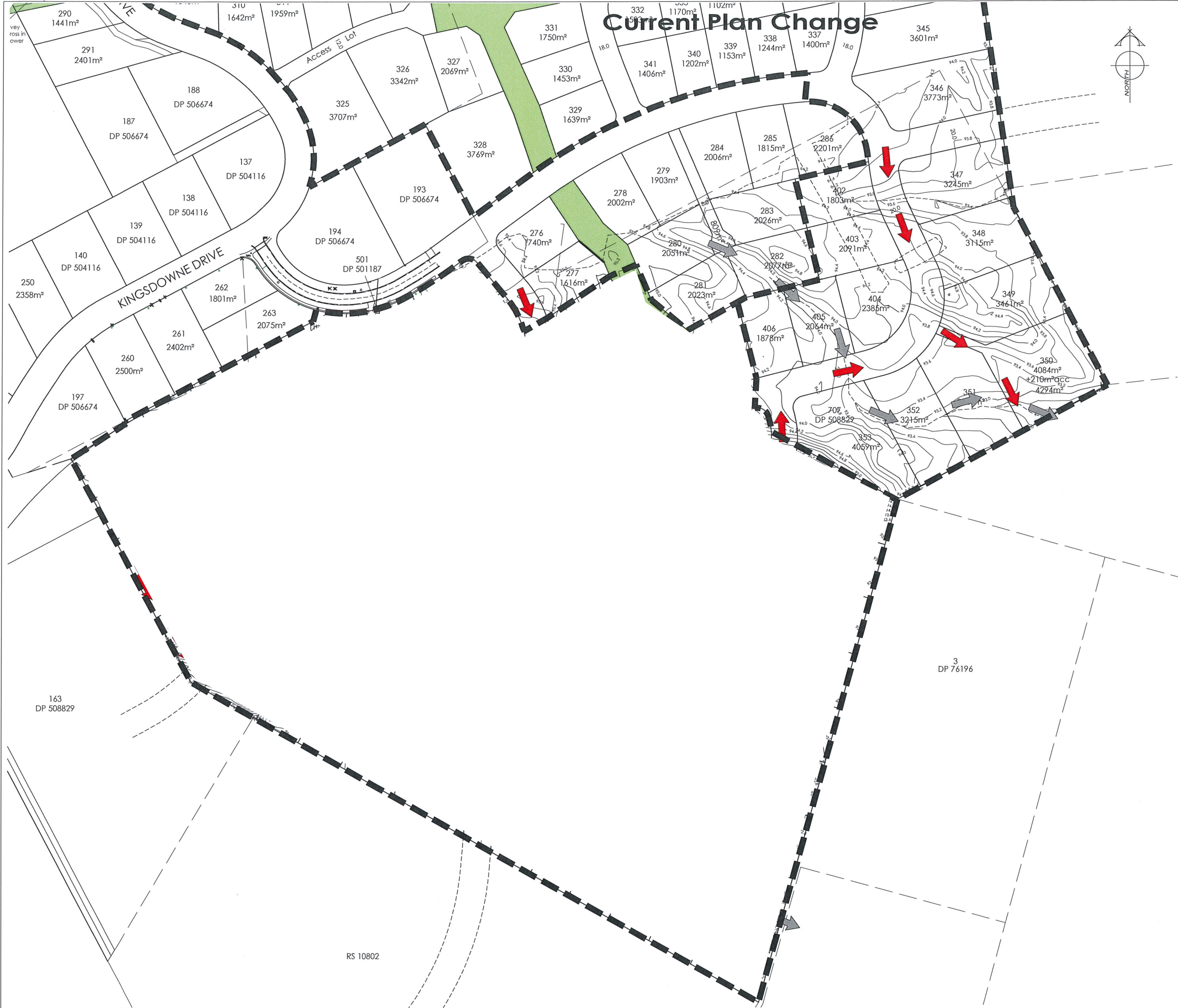
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R1

APPENDIX D

Appendix D – Stormwater Secondary Flow Paths



AMENDMENTS:

AMENDMENT	DATE	DESCRIPTION

NOTES:

LEGEND

PROPOSED FLOW PATHS

NATURAL FLOW PATHS

DAVIE LOVELL-SMITH
PLANNING SURVEYING ENGINEERING

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JOB TITLE:

GW Wilfield Ltd

SHEET TITLE:

**Wilfield
Secondary Flow Paths**

DRAWING STATUS

For Information

SCALE: 1:1250@A1
1:2500@A3

DATE: September 2018

CAD FILE: J:\18130_1\Eng\C18130_1_Secondary Flow Paths.dwg

DRAWING No: **C.18130/1**

SHEET No: 1 OF 1

REVISION: **R0**

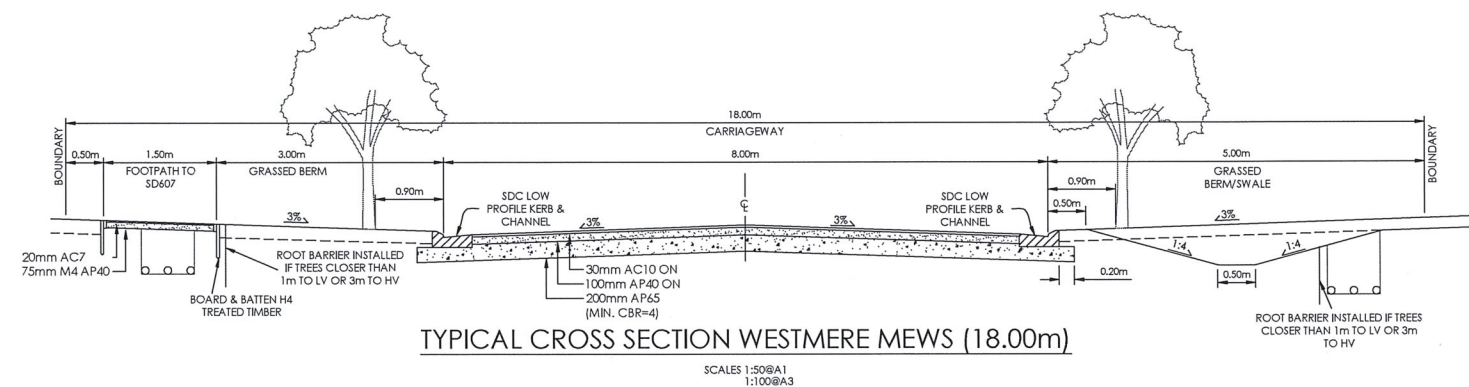
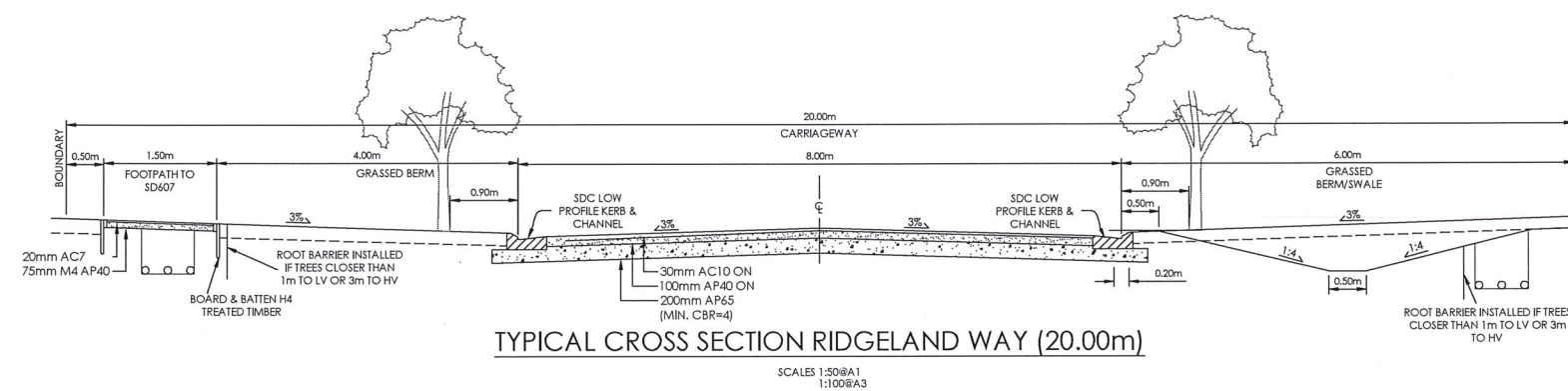
APPENDIX E

Appendix E – Typical Cross Sections of Roads



AMENDMENTS:		
AMENDMENT	DATE	DESCRIPTION

NOTES:



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JOB TITLE:
GW Wilfield Ltd

SHEET TITLE:
**Wilfield
Typical Road Cross Sections**

DRAWING STATUS:
For Information

SCALE: As Shown DATE: September 2018

CAD FILE: J:\18130_1\Subcon\C18130_1_Water Connections August.dwg REVISION:

DRAWING No: C.18130/1 SHEET No: 1 OF 1

R0



Appendix C

Integrated Traffic Assessment



GW Wilfield Ltd

Plan Change Living West Melton
(Living WM) South Zone

Integrated Transport Assessment

August 2018

GW Wilfield Ltd

Plan Change Living West Melton (Living WM) South Zone

Integrated Transport Assessment Quality Assurance Statement

Prepared by:

Andrew Leckie

Project Transportation Engineer



Reviewed by:

Andrew Metherell

Senior Associate



Approved for Issue by:

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Status: Final

Date: 14 August 2018



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Table of Contents

1.	Introduction	1
2.	Site Location.....	2
3.	Existing Transport Infrastructure	5
3.1	SH73	5
3.2	SH73 / Weedons Ross Road Intersection	6
3.3	Weedons Ross Road	7
3.4	Kingsdowne Drive	8
3.5	Ridgeland Way	9
3.6	Silver Peaks Drive.....	10
3.7	Off-Road Cycle / Pedestrian Provision.....	10
3.8	Bus Network	10
4.	Current Travel Patterns.....	11
4.1	Daily Traffic Patterns	11
4.2	Hourly Patterns.....	11
4.3	Intersection Traffic Volumes	12
4.4	SH73 / Weedons Ross Road Intersection Performance	14
5.	Road Safety	16
6.	Future Development.....	17
6.1	Christchurch Southern Motorway Stage 2	17
6.2	Weedons Ross Road Seal Widening	17
6.3	West Melton Corridor Management Plan	17
6.4	Future Cycling Network	18
7.	Proposed Plan Change	19
7.1	Overview	19
7.2	Subdivision Access	19
7.3	Internal Roding	19
7.4	Pedestrians / Cyclists	21
7.5	Public Transport.....	21
8.	Traffic Generation / Distribution	22
8.1	Traffic Generation.....	22
8.2	Traffic Distribution.....	22
9.	Traffic Effects	24
9.1	Local Subdivision Roads.....	24
9.2	SH73 / Weedons Ross Road Intersection	25
9.3	Wider Road Network	26

10.	Planning Requirements.....	27
10.1	Selwyn District Plan	27
10.2	Canterbury Regional Policy Statement.....	31
11.	Conclusion.....	32

1. Introduction

TDG now Stantec have been asked to prepare an Integrated Transport Assessment for a proposed residential Plan Change covering the Wilfield Subdivision, located in West Melton. The Wilfield Subdivision is in the south-eastern quadrant of the West Melton Township, with 180 residential lots consented. As of 31 May 2018, 55 houses were constructed and a further 33 houses were under construction within the subdivision.

GW Wilfield Ltd propose to request a Private Plan Change to the Selwyn District Plan to re-zone the existing extent of the subdivision to a new Living West Melton (Living WM) South Zone. The land is currently a mixture of Living 2 and Living 2A land. In addition, the portion of the District Plan Appendix 20 Outline Development Plan – West Melton covering the site will be replaced with a new Outline Development Plan for the Living West Melton (Living WM) South Zone.

Existing consented subdivision has occurred in a way that lot density is higher than originally envisaged by the Living 2 and Living 2A zone. This has left large balance lots where additional subdivision is not permitted. The Plan Change will allow the balance lots to be further subdivided in a way that is consistent with existing subdivision, as well as better reflecting existing subdivision density.

Based on concept subdivision plans, the Plan Change would allow approximately 252 residential lots in the new zone, up from the consented 180 residential dwellings. Of the 72-lot increase, approximately 31 are in the balance lots in the exiting Living 2 zone, and 41 are in the balance lot in the existing Living 2A zone. For the purpose of this report, these are two distinct areas, referenced as the additional development in the Living 2 and Living 2A zones respectively.

The additional development in the Living 2 area will readily connect to the existing road network, with only a low level of additional roading infrastructure required. The additional development in the Living 2A area will be accessed via an extension of Ridgeland Way (to Kingsdowne Drive), with additional pedestrian connections also available.

This Integrated Transport Assessment assesses the proposed transport connections provided by the ODP, and transportation related impacts of the increase in the number of lots that can be developed with the proposed Plan Change.

2. Site Location

Figure 1 shows the location of the Wilfield subdivision and the proposed Plan Change site within the context of the wider transport network. The subdivision is located to the south-east of the West Melton Township. It lies directly south of State Highway 73 (SH73), opposite Gainsborough subdivision and to the east of Weedons Ross Road.

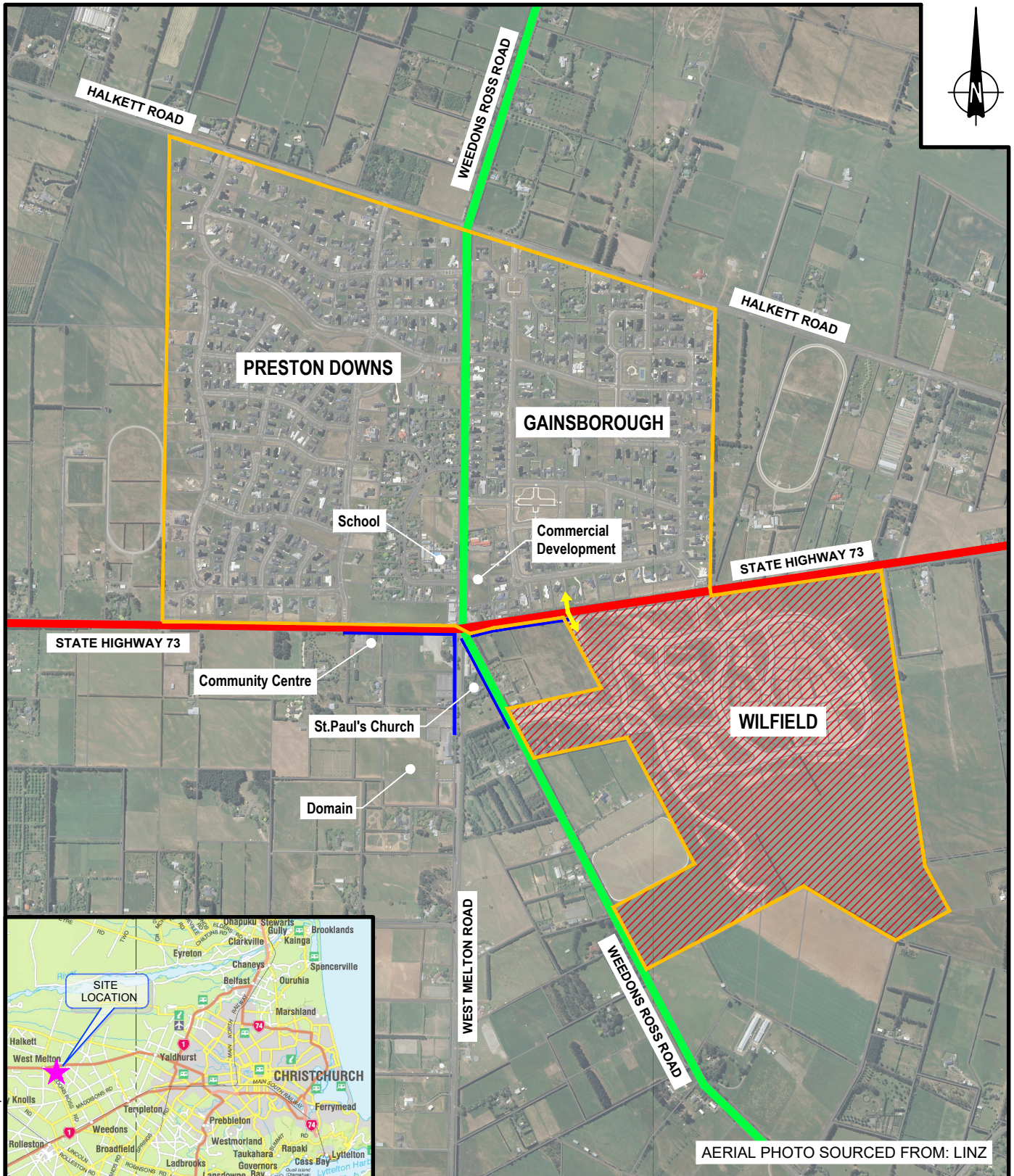
West Melton is approximately 14km west of the Christchurch urban boundary. SH73 is the main route between Christchurch and the West Coast via Arthur's Pass. It is classified as an arterial road in the Selwyn District Plan. Weedons Ross Road provides another important link within the Selwyn District, connecting West Melton to the Rolleston area which is approximately 10km to the south of the site. Weedons Ross Road is classified as an Arterial Road.

St Paul's Anglican Church and a small number of businesses are located on Weedons Ross Road south of West Melton Road. The West Melton Domain, Community Centre and Tavern are also on the southern side of SH73 and west of Weedons Ross Road.

West Melton School and the West Melton Shopping Centre are located on Weedons Ross Road to the north of SH73. Most of the other existing developed residential areas are located north of SH73, with Gainsborough to the east of Weedons Ross Road, and Preston Downs to the west.

Figure 2 shows the current West Melton subdivision, with the balance lots yet to be subdivided. It is understood there are some small parts of the subdivision which have subsequently been further subdivided or are subject to subdivision approval, however the plan shows the general subdivision layout and the locations of the balance lots.

Wednesday, 18 July 2018 12:17:44 p.m. 20mm @ A3



AERIAL PHOTO SOURCED FROM: LINZ

KEY

	Strategic Road		Pedestrian Linkage
	Arterial Road		Urban Boundary
	Existing Footpaths South of SH73		Site

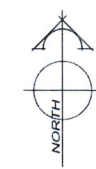
WILFIELD SUBDIVISION - PROPOSED PLAN CHANGE

SITE LOCATION & EXISTING TRANSPORT ENVIRONMENT



1

SCALE: 1:15,000 @ A4



AMENDMENTS:		
AMENDMENT	DATE	DESCRIPTION

NOTES:

- 1) Areas and dimensions are approximate only and are subject to final survey and deposit of plans.
- 2) Service easements to be created as required.
- 3) This plan has been prepared for subdivision consent purposes only. No liability is accepted if the plan is used for any other purposes.

2

Legend

----- Zone boundary

WILFIELD
WEST MELTON

JOB TITLE:

SHEET TITLE:

Overall Plan

DRAWING STATUS:

Proposed Subdivision

SCALE: 1:2000@A1
1:4000@A3

DATE: December 2017

CAD FILE: J:\18130_1\Subcon\CT18130_1_Application 01-08 Overall RD.dwg

DRAWING No: C.18130/1

SHEET No: 1 OF 1

REVISION: RO

3. Existing Transport Infrastructure

3.1 SH73

Along the Wilfield subdivision frontage, SH73 is formed as a two-lane rural road.

Photograph 1 shows SH73 along the subdivision frontage. The road has a generally straight east to west alignment, with one bend at the Weedons Ross Road intersection.



Photograph 1: Wilfield Subdivision SH73 Frontage- Looking West

There is a footpath on the southern side of SH73 (**Photograph 2**) which runs from the Weedons Ross Road intersection to a crossing point between Wilfield and Gainsborough. There is a pedestrian refuge island at the crossing point, which is shown in **Photograph 3**. This was put in place instead of the underpass referenced in the District Plan subdivision rules (rule 12.1.3.55 (b)).

The 70km/h speed limit restriction for West Melton starts outside the 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.



Photograph 2: SH73 Footpath along Wilfield Frontage



Photograph 3: SH73 Pedestrian Crossing between Wilfield and Gainsborough (from Gainsborough)

3.2 SH73 / Weedons Ross Road Intersection

The SH73 / Weedons Ross Road intersection is a priority-control cross-road intersection 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. **Photographs 4 and 5** show the intersection.



Photograph 4: SH73 / Weedons Ross Road Intersection, from SH73 Eastern Approach



Photograph 5: Southern Approach to Weedons Ross Road / SH73 Intersection, West Melton Road on the Left

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

3.3 Weedons Ross Road

Weedons Ross Road, south of SH73, has a flat and straight alignment. The width of the sealed carriageway varies from 6.0m-6.3m in the vicinity of the subdivision.

North of the northern Kingsdowne Drive intersection (**Photograph 6**), 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.

The northern Kingsdowne Drive 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 (**Photograph 7**).



Photograph 6: Weedons Ross Road, Northern Kingsdowne Drive Intersection on Left



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

3.4 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.



Photograph 8: Kingsdowne Drive / Weedons Ross Road Southern Intersection



Photograph 9: Kingsdowne Drive, Ridgeland Way on the Right

3.5 Ridgeland Way

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



Photograph 10: Ridgeland Way

3.6 Silver Peaks Drive

Silver Peaks Drive forms a secondary loop road within the subdivision connecting to Kingsdowne Drive at each end. It has been formed with a 9m wide carriageway.

3.7 Off-Road Cycle / Pedestrian Provision

Generally within the 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.

3.8 Bus Network

Red Bus has previously operated an express commuter bus service on weekdays from Darfield to Christchurch City in the morning, with a return in the evening. The service had a stop in West Melton at the tavern at 7:35am on the inbound service, and 6:10pm on the outbound service. To and from West Melton, the service took approximately 40 minutes to reach the city centre bus exchange. It is understood the service is currently not running due to insufficient demand and high running costs.

4. Current 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 1**. The SH73 volumes are annual average daily traffic (AADT) volumes for 2017. 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.

Count Location	Year	Daily Traffic Volumes
SH73 east of Dawsons Road	2017	11,200 vpd
SH73 east of Aylesbury Road	2017	7,200 vpd
Weedons Ross Road south of Newtons Road	2017	2,000 vpd
West Melton Road west of Weedons Ross Road	2014	1,300 vpd

Table 1: Daily Traffic Volumes on Surrounding Roads

The AADT at the SH73 count site west of West Melton has grown at approximately 4% per annum over the last 10 years.

4.2 Hourly Patterns

Figure 3 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.

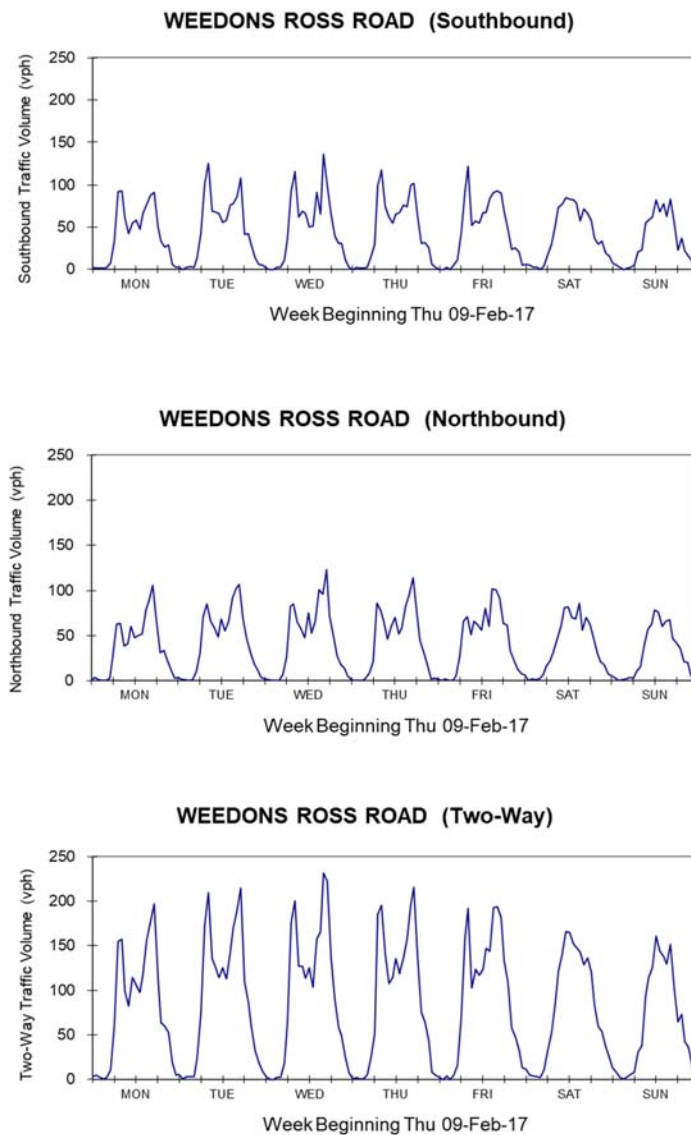


Figure 3: Pattern of Hourly Traffic Volumes – Weedons Ross Road

4.3 Intersection Traffic Volumes

TDG now 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 4 and 5** 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.

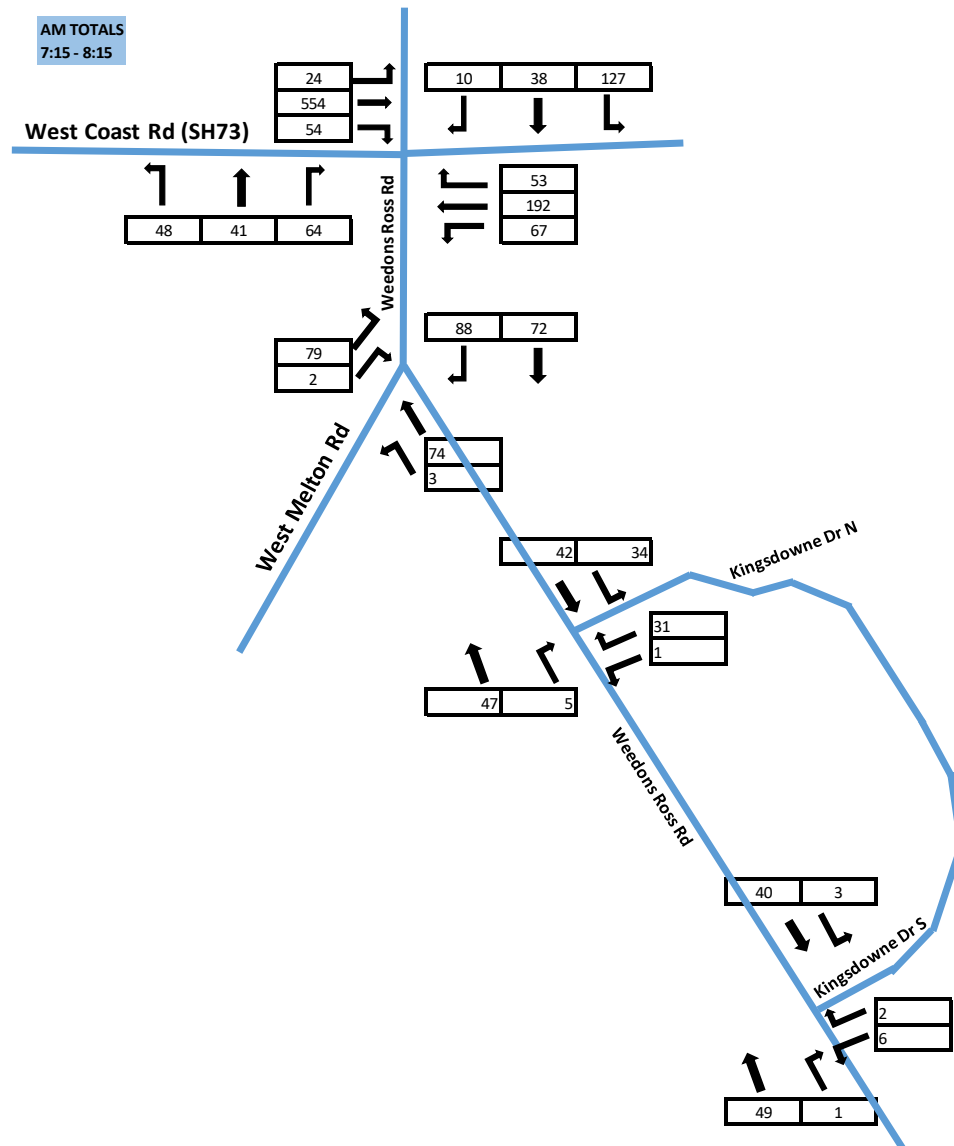


Figure 4: Existing AM Peak Hour (7:15am-8:15am) Turning Volumes (May 2018)

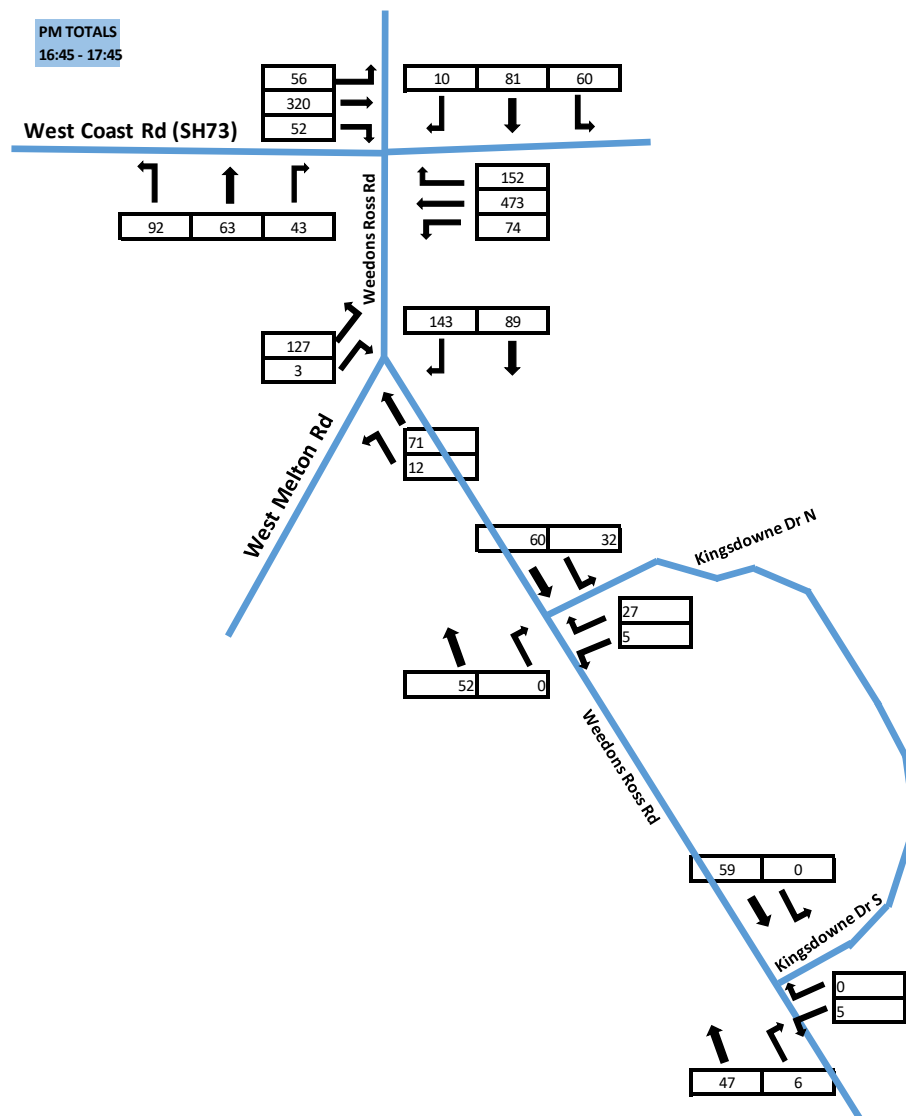


Figure 5: Existing PM Peak Hour (16:45pm-17:45pm) Turning Volumes (May 2018)

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 below.

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

Table 2: Average Weedons Ross Road Approach Peak Hour Stopline Delays at SH73 Intersection

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.

The following figures 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.

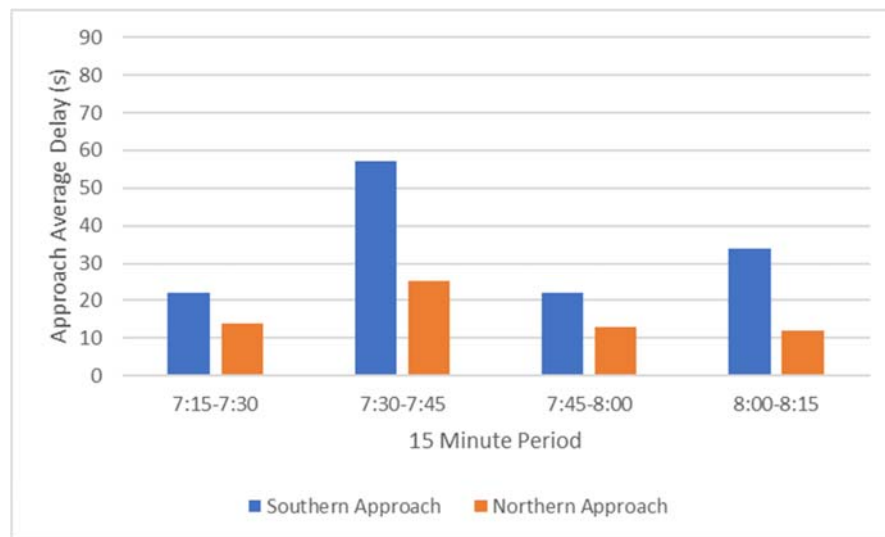


Figure 6: Morning Peak Hour Approach Average Delays by 15 Minute Period

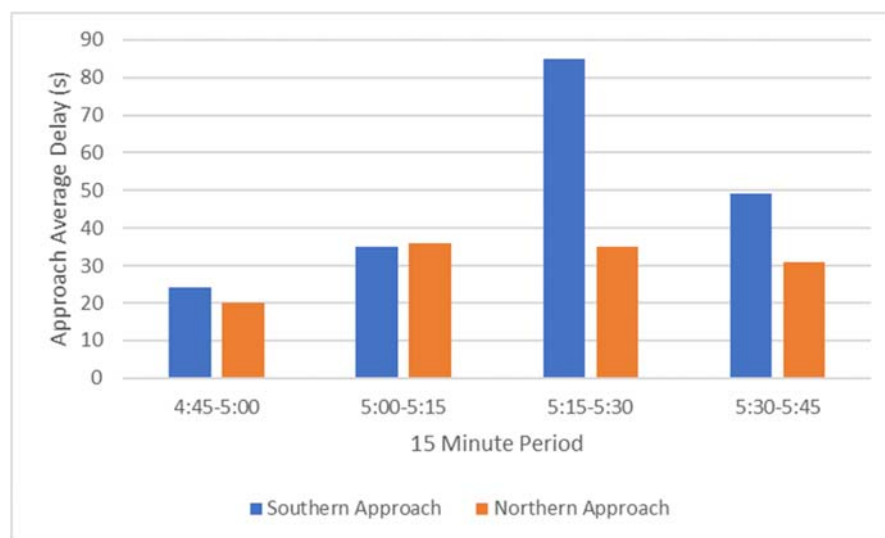


Figure 7: Evening Peak Hour Approach Average Delays by 15 Minute Period

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 a radius of 1.5km from the SH73 / Weedons Ross Road intersection. Crashes during the most recent full five-year period of 2013 – 2017 have been analysed. At the time of analysis (June 2018) there are no records of any crashes occurring in 2018.

A total of 21 crashes have been reported across the search area. One was fatal, one resulted in serious injury and three in minor injury.

The fatal crash occurred on Weedons Ross Road at a bend in the road about 400m south of the southern Wilfield subdivision access. The driver lost control and crashed into a tree late at night, with alcohol being a factor.

The serious injury crash occurred on Weedons Ross Road north of Halkett Road when a driver crashed into a fallen tree.

These two serious incidents were isolated incidents and do not present significant safety concerns with the traffic environment or road network layout.

Four non-injury crashes were reported at the SH73 / Weedons Ross Road intersection. Two involved drivers on Weedons Ross Road crossing SH73 failing to give-way to vehicles on SH73; one from the northern approach and one from the southern approach. One crash involved a vehicle turning right into Weedons Ross Road failing to give-way to an oncoming vehicle, and the other involved a large truck and trailer turning left colliding with a car that drove down the left side of it.

This complex intersection has been a safety concern for the community due to the delays. However the existing safety record of no injury crashes does not highlight the intersection as a current high risk intersection with serious safety issues. Recent lowering of speed limits may be assisting with minimising severity of crashes.

Four crashes, including one minor injury crash, were reported at the Weedons Ross Road / Halkett Road intersection. This intersection is more than 1km from the Wilfield subdivision.

The other crashes reported within the search radius were one-off occurrences spread across the search area. Generally, they were typical rural crash types and did not highlight any safety concerns with the surrounding road network.

No crashes have been reported at either of the Weedons Ross Road / Kingsdowne Drive intersections.

6. Future Development

6.1 Christchurch Southern Motorway Stage 2

The Christchurch Southern Motorway Stage 2 (CSM2) is currently under construction. The Southern end of the CSM2 alignment is shown below. The CSM2 will start at Rolleston and a full interchange will be provided at Weedons Ross Road. The CSM2 will be expected to improve travel times and travel time reliability from Rolleston into Christchurch. The CSM2 could provide a route option for travel from Wilfield to the southern part of Christchurch.



Figure 8: CSM2 Alignment- Southern End (NZTA Website)

6.2 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 proposed timeframe for completion is 2020/2021.

6.3 West Melton Corridor Management Plan

As part of the Wilfield subdivision planning, a Corridor Management Plan was developed in partnership with NZTA and Selwyn District Council for the section of SH73 through the West Melton township. The aim of the plan is to connect the different parts of West Melton for pedestrians and cyclists and to provide a consistent layout for SH73 within the West Melton limits.

The pedestrian crossing between Wilfield and Gainsborough has been installed and the 70km/h speed limit restriction has been extended further east, to allow for that, as outlined in the plan.

The plan includes a possible additional crossing point west of the Weedons Ross Road intersection to link the southern parts of West Melton with the township.

The Corridor Management Plan identified that NZTA and Selwyn District Council would investigate long term improvements at the SH73 / Weedons Ross Road intersection. NZTA currently have no publicly published plans for modifications to SH73 within West Melton. As part of previous consents a range of options for the intersection had been considered. It is considered traffic signals would best address the turning movement delays within the land constraints of the intersection. However, the use of signals in a rural township would require careful consideration as they are less in context. A roundabout is another option, but requires extensive land purchase requirements as a large 35m diameter roundabout island would most likely be required.

Similarly, it is understood Selwyn District Council have no plans for changes to the transport network within the southern part of West Melton.

6.4 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.

7. Proposed Plan Change

7.1 Overview

It is 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 new zoning will be supported by a replacement Outline Development Plan (ODP) covering the new zone area.

Figure 9 shows the proposed ODP for the Living WM South zone.

7.2 Subdivision Access

The two intersections at either end of Kingsdowne Drive are currently the only access points to the Wilfield Subdivision. Each is formed as a simple T-intersection with give-way sign control. No changes to the intersection forms are proposed for the Plan Change.

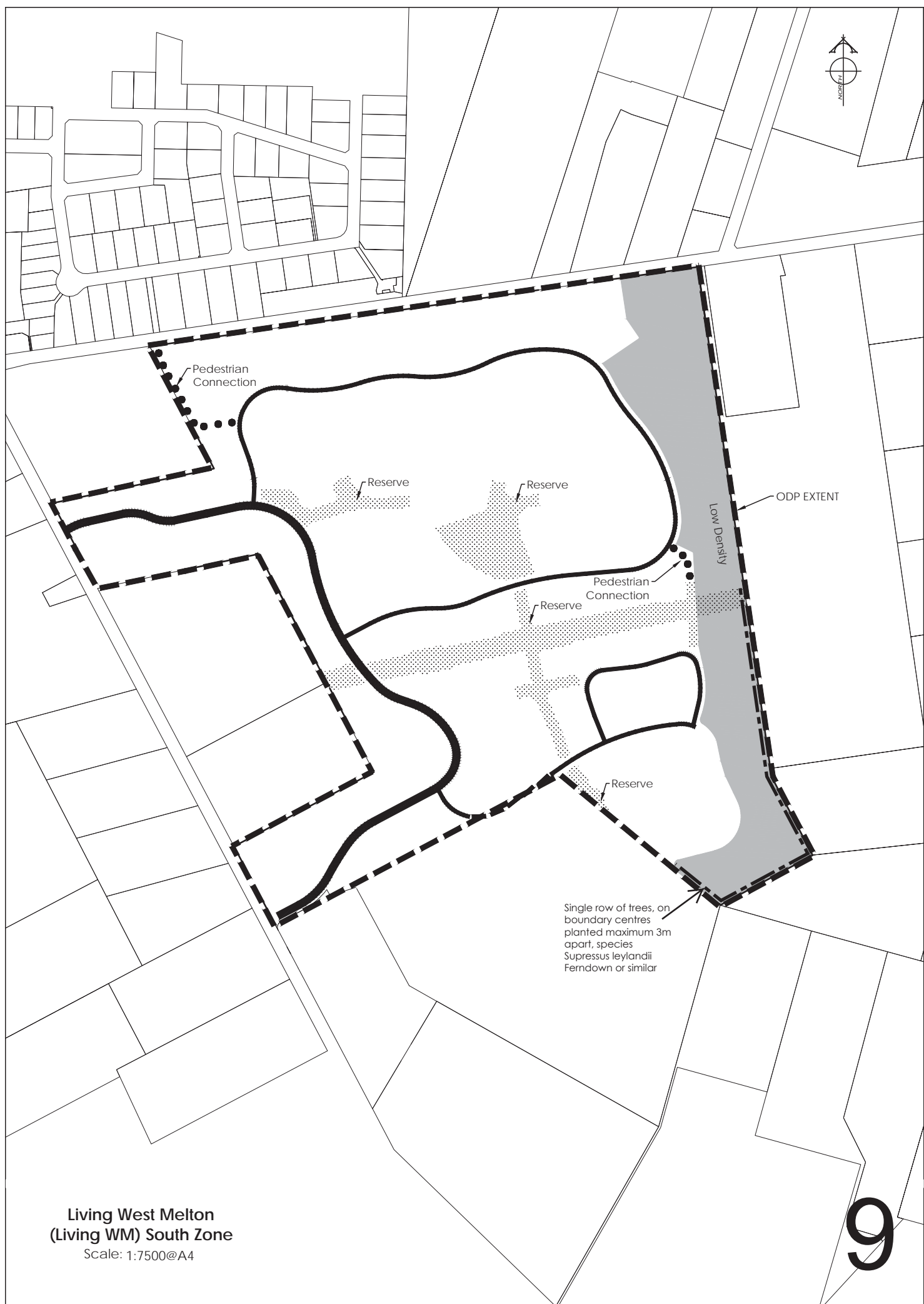
Future access to Wilfield subdivision could be provided through adjacent land, also accessed from Weedons Ross Road, but at this stage there are no development plans for any of the immediately adjacent properties.

7.3 Internal Roding

The ODP shows key structuring elements of the existing and future road network. For the existing formed road network, it highlights Kingsdowne Drive and Silver Peaks Drive as primary and secondary loop roads respectively. Through subdivision processes other local roads will connect to those roads.

All traffic entering the Wilfield subdivision uses Kingsdowne Drive which is a local road with a 9m wide carriageway and a 50km/h speed limit. Silver Peaks Drive then provides access into the northern part of the subdivision.

Ridgeland Way is also shown on the ODP, as it at least initially will be the only road into the south-eastern part of the Plan Change area, servicing the balance lot in the existing Living 2A zone. It is currently a short cul-de-sac with an 8m wide carriageway and a 50km/h speed limit. An extension of Ridgeland Way is shown, together with a loop road that will allow for connectivity for pedestrians to the adjacent reserve. It is anticipated that Ridgeland Way could be extended further south to access the southernmost lots. It will be appropriate for future subdivision processes to consider the need for future connectivity to adjacent blocks of land in case zoning patterns change in the future through the RPS, a District Plan review, or Plan Changes.



7.4 Pedestrians / Cyclists

The site includes a well-established and connected pedestrian and cycle network. Within Wilfield subdivision, there are footpaths, both next to all roads and within off-road corridors, providing access to all parts of the development. Externally, these footpaths connect to pedestrian infrastructure on Weedons Ross Road, the southern side of SH73 and across SH73 to Gainsborough.

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.

Provision has been made in the ODP for the existing Living 2A area, by showing the minor loop road with connections to existing reserves, and then through to Silver Peaks Drive.

7.5 Public Transport

It is unclear whether West Melton will have an ongoing bus service. It has recently been serviced by a commuter bus, but there had been low regular demand for the service.

Public transport uptake by residents of the yet to be developed areas in the Plan Change area would be low, due to the longer walking distance. If a bus service connected West Melton to Rolleston, there would be an option to utilise Kingsdowne Drive to minimise walk distances. As the road 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 as a park and ride option.

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 currently under construction 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.

Table 3 summarises the forecast traffic generation for the consented Wilfield subdivision and the potential extra lots in the Plan Change area.

Scenario	Number of Lots	Daily Traffic Generation	Peak Hour Traffic Generation
Consented Subdivision	180	1,080vpd	108vph
Extra Traffic Generation Associated with Rezoning	72	432vpd	43vph
Total	252	1,512vpd	151vph

Table 3: Site Traffic Generation Summary

The extra 72 lots that could be developed in the Plan Change area would represent an increase of 40% in the number of lots in the subdivision. The corresponding increase in subdivision traffic generation would equate to approximately 43 vehicle movements per hour (vph) during the peak hours.

8.2 Traffic Distribution

Currently 15%-20% of traffic generated by the Wilfield subdivision is 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 could increase to 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.

Direction	Consented Wilfield- 180 Lots	Proposed Plan Change- Extra 72 Lots
South- Weedons Ross Road	27vph	11vph
East- SH73	70vph	28vph
North- Weedons Ross Road	5vph	2vph
West- SH73	5vph	2vph

Table 4: Peak Hour Traffic Distribution of Consented Wilfield Traffic and Additional Traffic from Rezoning

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 10** 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 10: Selwyn District Plan Table E13.8 Road Standards

Based on the traffic generation that could potentially be served by the subdivision roads with the proposed Plan Change, it is considered that Kingsdowne Drive and Silver Peaks Drive would be 'Local-Major' roads, while other roads within the subdivision would be 'Local-Intermediate' or less.

The carriageway widths that have been constructed in the subdivision (9m Kingsdowne Drive, 9m Silver Peaks Drive, and 8m Ridgeland Way) are consistent with the relevant standards in the table.

An additional 41 houses in the existing Living 2A part of proposed Plan Change area could generate approximately 246vpd and 25vph during peak hours.

It is estimated that, in total, Ridgeland Way could carry up to 336vpd and 34vph during peak hours. These are very 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 confirms that the existing Ridgeland Way carriageway width will be wide enough for its lower level local road function and to accommodate future traffic volumes if the proposed Plan Change is approved.

The consented Wilfield subdivision could generate approximately 108vph. It has been assessed that about one quarter of those traffic movements could be made on the southern part of Kingsdowne Drive. The additional development will have a slight bias to use the southern Kingsdown Drive access, estimated at about 60% of the generated traffic.

The additional traffic that could be generated by the proposed Plan Change could result in a total traffic volume on the southern part of Kingsdowne Drive up to approximately 53vph, and on the northern part the volume could increase to approximately 98vph. However, this traffic volume would still be consistent with a 'Local-Major' road classification.

The relatively low traffic volumes forecast on Ridgeland Way and Kingsdowne Drive mean the forms of the internal intersection of those two roads and the Kingsdowne Drive intersections on Weedons Ross Road will continue to be appropriate and they will operate safely and efficiently.

9.2 SH73 / Weedons Ross Road Intersection

As reported earlier, the SH73 / Weedons Ross Road intersection is operating with high delays on Weedons Ross Road during peak times. When geometric delay is included with the stopline delay reported earlier, the southern approach to the intersection is operating with a level of service E during the morning peak hour and a LOS F during the evening peak hour. While this is largely related to the volume of through traffic on SH73, the side road volumes do generate a component of the delay through queuing.

A scenario with all 180 consented lots in the Wilfield subdivision developed has been modelled. To do this, an estimate of the current construction traffic was removed from the existing traffic counts and traffic generation for the 125 houses yet to be completed was added. As shown in **Table 5**, the performance of the southern Weedons Ross Road approach would deteriorate, with LOS F forecast during both peak periods. There would be minimal change to the performance of the northern approach compared to the existing situation.

APPROACH	AM PEAK			PM PEAK		
	Existing	With Wilfield	With Plan Change	Existing	With Wilfield	With Plan Change
South-Weedons Ross Road	41s, E	>60s, F	>60s, F	56s, F	>60s, F	>60s, F
North-Weedons Ross Road	20s, C	19s, C	19s, C	38s, E	40s, E	44s, E

Table 5: Existing and Forecast Weedons Ross Road Approach Delays at SH73 Intersection with Existing Through Traffic

Extra traffic volumes generated by the proposed Plan Change would be small, representing approximately an extra 2.3% of peak hour traffic movements at the intersection based on current volumes and a fully developed Wilfield subdivision as consented. Without the proposed Plan Change, the southern approach would already be operating at LOS F during peak hours and any extra traffic on this approach would potentially increase the average delays.

In practice, the 24 AM peak hour vehicle movements forecast from the proposed Plan Change area on the southern approach to the intersection represent one vehicle every two-three minutes. Drivers may choose to travel at a slightly different time to avoid the worst delays at the intersection. The option of travelling to the CSM2 via the Weedons Ross Road interchange may also be an attractive alternative for people travelling to the southern part of Christchurch. As shown in **Table 5**, the additional traffic that could be generated by the proposed Plan Change would have a minimal effect on the average delays on the northern

intersection approach during the peak hours, and as such would not noticeably bring forward the need for improvements.

Even without the proposed Plan Change, the intersection performance will continue to deteriorate as through traffic volumes on the State Highway continue to grow. The intersection has been modelled without the proposed Plan Change traffic generation and with through volumes on SH73 increased by 15%. Based on historical traffic growth rates on SH73, it is estimated this increase represents approximately 5 years' worth of traffic growth.

Approach	AM Peak	PM Peak
South- Weedons Ross Road	>60s, F	>60s, F
North- Weedons Ross Road	25s, D	>60s, F

Table 6: Forecast Weedons Ross Road Approach Delays at SH73 Intersection with Wilfield and 15% State Highway Traffic Growth

As shown in **Table 6**, a 15% increase in through traffic on SH73 would result in significant deterioration to the intersection performance. During the evening peak period, both Weedons Ross Road approaches would be operating with a LOS F.

It is concluded that the intersection performance is already deteriorating as through traffic volumes on SH73 increase. The proposed Plan Change will only result in a small increase in the actual number of vehicles using the intersection. At some point in the near future, the intersection will likely require upgrading. As mentioned previously, NZTA have not publicly identified any plans to make changes at the intersection, and the current intersection safety performance does not show any significant safety problems.

One option that was previously contemplated to alleviate delays was adding a direct access intersection to SH73 from Wilfield which could have significantly reduced the volume of traffic using the Weedons Ross Road intersection. As NZTA did not support an access directly into Wilfield from SH73, subdivision has been carried out with no direct intersection access provision.

The intersection was modelled with traffic signals to confirm that it can operate with acceptable levels of service if upgraded. With 15% growth in SH73 through traffic volumes and the full development of Wilfield, including the increased traffic generation from the proposed Plan Change, the intersection could operate during peak hours with an overall LOS B with a simple two-phase operation or LOS C/D if right turn phases are implemented.

9.3 Wider Road Network

During peak hours, the proposed Plan Change could result in approximately an extra 28vph on SH73 east of West Melton and less traffic on SH73, to the west, and Weedons Ross Road north and south of the subdivision. The extra traffic volumes generated by the proposed Plan Change would be very low compared to both existing and future through volumes on SH73 and Weedons Ross Road. Therefore, the proposed Plan Change would have negligible effects on the wider transport network.

10. Planning Requirements

10.1 Selwyn District Plan

10.1.1 Outline Development Plan

The Outline Development Plan (ODP) for West Melton from Appendix 20 of the Selwyn District Plan is shown below. It shows a dashed outline around the Wilfield and Gainsborough subdivisions, representing the urban limits of the eastern part of West Melton. The proposed Plan Change area is within those limits, covering the portion of the ODP south of SH73.

The proposed Plan Change proposes a replacement ODP, noting that the key existing roads have been broadly based off the existing ODP. As such, the provisions of the existing West Melton ODP do not need to be considered further.



Figure 11: West Melton ODP

10.1.2 Subdivision Rules

Rules 12.1.3.54 to 12.1.3.57 relate to development of the site, with particular reference to the ODP. The key transport elements of the existing ODP have been developed, including

the main and secondary loop roads, and the pedestrian connection across SH73. The replacement ODP will allow the south-eastern corner to be developed with reference to the proposed road and pedestrian connectivity achievable following existing subdivision.

The rule 12.1.3.56 is specifically for the Living 2A Zone portion of the site. It states the maximum number of allotments in the zone is 10. The proposed Plan Change would allow for that to be exceeded through the rezoning of the land. Approximately 51 lots could be developed in the 16-hectare area under such a zoning. The current minimum allotment size of 1ha would also be reduced under a new zoning. From a transport perspective, the primary matter for consideration is the ability of the supporting road network to accommodate additional traffic.

10.1.3 Roading Rules

Any new roads in the Plan Change area will be able to comply with the relevant Roding 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 existing section of Ridgeland Way is constructed to an appropriate standard for a 'Local- Intermediate' road and any new roads in the Plan Change area will be able to comply with the standards.

The extension of Ridgeland Way will extend the cul-de-sac well beyond the permitted 150m. That would also be the case with the current zoning. To mitigate that, pedestrian accessways will need to be provided to and across the pylon / ecology corridor, connecting to Silver Peaks Drive, generally at the western and eastern ends of the existing Living 2A area. That is provided for with the detail of the roading network in the replacement ODP. In the future, connections could potentially be made to the west if additional land is developed.

10.1.4 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 generated by an extra 72 lots would have a negligible effect on the wider road network, including on Weedons Ross Road south of the site and on the State Highway east and west of West Melton.

Nearer the site, the SH73 / Weedons Ross Road intersection is already operating with relatively high delays during peak periods. The performance of the intersection will continue to deteriorate as State Highway traffic volumes increase and it would be desirable for the road controlling authority to modify the layout to address the increasing arterial/ State Highway traffic volumes.

The actual increase in the number of vehicle movements at the intersection from the proposed Plan Change would be small, minimising the cumulative impact of the higher density development. The impact of general traffic growth on SH73 is more significant to the performance of the intersection. In practice, drivers in the local area will tend to spread time of travel at peaks to miss the highest delays at the intersection and the CSM2 could be an attractive travel option to southern parts of Christchurch. Also, the intersection is operating without any significant safety problems currently, despite the delays experienced by drivers.

Within Wilfield subdivision, the existing roads that would provide access to the undeveloped portions of the zone are constructed to an appropriate standard.

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. As outlined, 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 existing intersections on Weedons Ross Road and Kingsdowne Drive are of appropriate standards to accommodate extra traffic generation associated with the proposed Plan Change. Any intersections within the Plan Change area would be able to be designed during the subdivision planning to ensure that desirable visibility is achieved.

The residential lots would 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 Plan Change 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 Plan Change 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.

*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. Around the edge of the subdivision, there are connections to West Melton along Weedons Ross Road and SH73, and across SH73 to Gainsborough.

There will be opportunities for off-road connections, from the undeveloped south-eastern part of the Plan Change area, through reserves, to the northern part of Wilfield.

10.1.5 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 increase in permitted development density is to the 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. As outlined earlier,

the SH73 / Weedons Ross Road intersection is already operating with relatively high delays during peak periods and its performance will continue to deteriorate with State Highway traffic growth. The actual increase in the number of vehicles using the intersection if the proposed Plan Change is approved will be small, compared with existing volumes.

The proposed Plan Change is not considered contrary to B4.3.99 in that the proposed Plan Change area is already zoned for residential development and is within the existing Wilfield subdivision boundaries. The Wilfield subdivision is connected to the remainder of West Melton for pedestrians through footpath connections along Weedons Ross Road, along SH73 and across SH73 to Gainsborough. A number of community facilities, including the domain, are located on the southern side of SH73 and will be easily accessible for Wilfield residents.

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.

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 comprises the consented Wilfield subdivision, in the existing West Melton urban boundary, and is largely able to utilise existing transport infrastructure. There is good connectivity from the area through the existing Wilfield subdivision and to the remainder of West Melton.

11. Conclusion

The proposed Plan Change would see the existing Living 2 and Living 2A zones in the Wilfield subdivision rezoned to Living West Melton (Living WM) South. This would result in the area being able to potentially accommodate approximately 72 more residential lots.

72 additional residential lots could generate extra traffic volumes of approximately 432 vehicle movements per day and 43 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 have a negligible effect.

Nearer the site, the SH73 / Weedons Ross Road intersection is already operating with some long delays and its performance is forecast to deteriorate further as State Highway traffic volumes continue to grow. It is likely that the intersection will need to be altered in the future but at this stage the intersection has an acceptable safety record and NZTA have not expressed publicly any plans for an upgrade. Regardless, the increase in traffic volumes using the intersection as a result of the proposed Plan Change would be small. In practice, drivers will vary their times of travel to avoid the worst delays at the intersection and the new CSM2 may provide an attractive alternative for travel to southern parts of Christchurch.

Within the Wilfield subdivision, the existing roading infrastructure will continue to be appropriate if the Plan Change is approved. The Kingsdowne Drive intersections on Weedons Ross Road, the Kingsdowne Drive carriageway, the Kingsdown Drive / Ridgeland Way intersection and the Ridgeland Way carriageway are all built to appropriate standards to be able to accommodate the additional traffic that could be generated by the proposed increase in residential density.

The existing Wilfield subdivision has good connectivity for pedestrians and cyclists internally and externally to the West Melton township via Weedons Ross Road and SH73, and across SH73 to Gainsborough. As the undeveloped south-eastern part of the site (currently Living 2A) is to be serviced by a single road, some additional off-road pedestrian connectivity through reserves is included in the ODP.

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

TDG now Stantec



Appendix D

Landscape and Visual Impact Assessment

WILFIELD PLAN CHANGE – PROVISION OF SMALLER LOTS

GW WILFIELD LTD

Landscape and Visual Impact Assessment

Project No. 2018_005 | 5

WILFIELD PLAN CHANGE

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DOCUMENT HISTORY AND STATUS

REVISION	DATE	DESCRIPTION	BY	REVIEW	APPROVED
-	22/8/2018	DRAFT LVIA FOR COMMENT	DCM	KS (Novo)	HW (GW Wilfield)
1	30/8/2018	DRAFT LVIA FOR COMMENT	DCM	KS (Novo)	HW (GW Wilfield)
2	3/9/2018	DRAFT FINAL LVIA	DCM	KS (Novo)	HW (GW Wilfield)
3	3/9/2018	Final LVIA	DCM	KS (Novo)	HW (GW Wilfield)
4	5/11/2018	Amendment to terminology	DCM	KS (Novo)	HW (GW Wilfield)
5	13/11/2018	Adjustment to lot numbers	DCM	KS (Novo)	HW (GW Wilfield)

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1. INTRODUCTION AND PROPOSAL

DCM Urban has been commissioned by GW Wilfield Ltd to prepare a Landscape and Visual Impact Assessment for a proposed Plan Change to provide a greater range of section sizes within the current Living 2A Zone, and to better reflect the current urban form of the Living 2 Zone, at Wilfield West Melton. The Change is proposed in part in response to market indications that there is very little demand for sections the size that are currently required in the Living 2A Zone. The increase in section sizes is consistent with the NZ Urban Design Protocol principle to provide 'Choice'. The proposal seeks to create a new zone being Living WM South Zone, with a mix of density provisions. The proposal, covering an area of 59.1ha and 14.3736ha, is located in the Living 2 and 2A zones respectively of the Selwyn District. 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 Living 2 and 2A zones 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>)

In the Living 2 zone, the changes would only affect the larger existing properties along the southern boundary where the current lots could be subdivided down to 1100m² – these existing sites have not been developed. The larger sites along the northern boundary, adjacent to SH73, are heavily restricted in terms of dwelling placement due to noise setback requirements. The eastern boundary would remain largely unchanged with Low Density lots permitted (minimum lot area of 3,000m²). The largest changes would be in the Living 2A zone where the proposal would effectively allow for the creation of up to 41 x 2,000m² (average size) new lots assuming approximately 25% of the area is utilised for roading and reserves within the Living 2A zone (14.373ha). The current design proposal has 72 lots (in both the Living 2 and 2A areas) varying in size from 1,102m² to 4,059m² along with associated road and reserve infrastructure.

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

The current Living 2A zone allows for 10% site coverage and a maximum of 10% hard surfacing. The proposal would not apply limits on hard surfacing. The figure below shows the proposed Replacement E20 ODP West Melton.

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.

2.1 LANDSCAPE DESCRIPTION AND CHARACTERISATION

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


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

Describing the Landscape character is a process of interpreting the composite and cumulative character of a landscape, i.e. how attributes come together to create a landscape that can be distinguished from other landscapes. International best practice in characterisation has two dimensions of classification: the identification of distinctive types of landscape based on their distinctive patterns of natural and cultural features, processes and influences; and their geographical delineation. The characterisation of a landscape is not to rank or rate a landscape, as all landscapes have character,

but determine what landscape attributes combine to give an area its identity, and importantly to determine an area's sensitivity, resilience or capacity for change.

Natural character is a sub-category of Landscape Character. Under Section 6(a)¹ of the RMA natural character relates to the Coastal Environment, wetlands, lakes and rivers and their margins from inappropriate development.

Table 1: Continuum of Natural Character



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

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.

¹ Section 6 (a): The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development

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

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 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

³ 7(c)

The maintenance and enhancement of amenity values.

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 ODP area) is on the southern side of West Coast Road with access from Weedons Ross Road. The ODP Plan change area can be separated into two distinctive units.

The northern section, zoned Living 2 in the District Plan, is characterised by large lot residential developments with large, mostly single storey modern residential dwellings and sections yet to be developed. Topography in the area is flat with the only notable land form being the grassed bund immediately adjacent to the State Highway. Boundary treatments are either open style post and rail fences or close board timber fences up to 1.8m in height. There is little vegetation of note within the area with the exception of landscaping within individual sites, within the reserve and street trees. The plantings are of a high quality but are yet to be of a scale which visually dominates the built form of new dwellings. There are substantial trees and shelter belts within the immediate area but not within the northern section of the ODP area. The sections running along the southern edge of this section are yet to be developed. Running between the northern and southern sections of Wilfield is a transmission line with substantial metal pylons estimated to be 30m in height.

The southern section, being the Living 2A zone, is undeveloped. There are several houses and some road infrastructure to the south of Silver Peaks Drive, but these are zoned Living 2 zone and is largely still to be developed. The section is open apart from an existing pine shelter belt which runs along the western boundary, estimated to be 8m in height. The rest of the site is devoid of any vegetation of substance. The site is flat with an open 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 established under the permitted baseline. The permitted baseline is residential, albeit at a very low density, and while some of the sites are yet to be developed, the proposed densities promoted in the plan change will only have a Moderate magnitude of change on the residential character that is expected. The number of dwellings will increase potentially up to 41 dwellings in the Living 2A zone, from 10 dwellings, and 31 dwellings in the Living 2 zone but the proposed lot sizes will be consistent with other urban areas of West Melton. While the increase in dwellings may seem large, the proposed lots sizes are not drastically larger or smaller than those existing in wider 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 no loss of significant vegetation or changes to topographical features resulting from the proposal. The greatest changes are from the increased number of dwellings which will be built in the area and the potential loss of open character with less space between dwellings 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. 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

The proposed ODP Plan Change covers two existing residentially zoned areas, being Living 2 and Living 2A, adjoining 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 eastern 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.*

There are no existing trees, bush or natural features on the site adversely effected. Wilfield Reserve 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 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 over Silver Peaks Drive and Ridgeland Way, with the electricity transmission corridor, conductors and pylons in the background. Views from public areas to the south of the proposal, including Johnsons Road, are screened due to existing vegetation and shelterbelts running adjacent to the roadway and on private properties. For this reason, no viewpoints were selected to the south.

The series of key viewpoints were selected to show a representative sample of the likely visual effects which could result from the proposal (refer to Appendix 1 for the relevant photo). 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 from Silver Peaks Road;
2. View south from the intersection of Barewood Grove and Silver Peaks Drive;
3. View south from the top of the playground at Wilfield Reserve, corner of Silver Peaks Drive and Fairmont Rise;
4. View east from outside 7 Ridgeland Way;

5. View west from outside 1015 West Coast 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 from Silver Peaks Road	Future Residents at 121- 155 (odd numbers only)	30-50m	Open	Open views are currently available to the south of Silver Peaks Road to the Living 2A area. The southern boundary of the properties are fenced with a post and rail fence, with open views possible of the existing pylons and lines. Views are possible through the site through to existing, well established shelter belts on property boundaries to the south.	High	Low	Minor	The properties will have open views of the new dwellings, associated landscaping and boundary fences of both the Living 2 and 2A areas. The effects are similar to the permitted baseline, but the potential density of dwellings is higher which could result in Minor adverse effects if not mitigated. The greatest effects would be from the loss of open character, which is mitigated to a degree by the proposed pylon/ecological corridor which will ensure a certain level of amenity is maintained, albeit given the presence of the pylons which have a negative effect on amenity. By limiting close board fences, an open character can be maintained/created to reduce adverse effects to Less than Minor.	MM1, MM2	Less than Minor
2. View south from the intersection of Barewood Grove and Silver Peaks Drive	Residents at 76 Silver Peaks Road	270m	Open / Partial	Open and partial views are currently available of both the properties bordering the eastern edge of the development and across to the Living 2A zone. The views are across existing undeveloped residential properties and the proposed pylon/ecological corridor. The current outlook is rural in character	High	Very Low	Less than 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). The magnitude of change is considered to be very low when compared to the permitted baseline. Development controls on fencing (MM1, MM2) will assist in retaining an open character.	MM1	Indiscernible
3. View south from the top of the playground at Wilfield Reserve, corner of Silver Peaks Drive and Fairmont Rise	Users of the playground	180m	Open	Open views are currently available across Silver Peaks Drive to the pylon/ecological corridor and further south. No houses have been developed yet on the southern side of the road with the exception of the dwelling at 7 Ridgeland Way which is visible in the middle ground. Otherwise, the view has a rural character with open fields, the occasional dwelling and shelter belt plantings defining property boundaries.	Medium	Low	Less than Minor	With increased density, more dwellings will be visible from the playground. The view will be become more urban in character compared to the existing view but the difference, when compared to the permitted baseline, is considered to be Indiscernible. Once developed, under either situation the view will be suburban.	MM1	Indiscernible
4. View east from Ridgeland Way	Residents at 7 Ridgeland Way	60m	Open	Open views are currently available of the current Living 2A zone. The views are across existing undeveloped residential properties with the proposed pylon/ecological corridor to the north of the house. The current outlook is rural in character, but earthworks are visible along with existing residential development in Wilfield.	High	Moderate	More than Minor	The residents will be able to see more residential dwellings with the increase in dwellings in the living 2A zone the most apparent. The changes in the Living 2 zone will be less apparent with the increase being negligible. The existing open character to the north will be retained but views to the east will become more restricted as sections are developed and fencing is installed. Development controls on fencing (MM1, MM2) will assist in retaining an open character reducing residual adverse effects to Less than Minor.	MM1, MM2	Minor

	Residents at 6/197 Lawford Road	0m, 150m to dwelling	Partial	Open views are available from this property of the ODP area, with a shared boundary. Views from the dwelling are restricted however by shelter belt plantings close to the house.	High	Moderate	More than Minor	The property will have open views of the additional houses, with the character becoming more urban than the current permitted baseline where the average lot size would have been above 1 ha. The proposed low density lot sizes (MM5) along this boundary are still relatively large, being in excess of 3,000m ² which will limit the number of dwellings visible, and limit adverse effects on this property's amenity. Proposed planting (MM3) along the shared boundary will further reduce adverse effects, appearing as a typical rural shelter belt. For all intents and purposes the shelter belt will appear as a normal rural boundary treatment.	MM3, MM5	Less than Minor
5. View west from outside 1015 West Coast Road	Residents at 1015 West Coast Road	0m	Screened	Views of the site are screened by an existing shelter belt of pine trees running along the boundary. The pines are estimated to be over 10m in height.	High	Very Low	Less than Minor	Although the property is immediately adjacent to the ODP area, views into the site are limited reducing any potential effects on amenity. By restricting the density on the eastern side of the ODP to 3,000m ² lots, there will be an indiscernible level of effects with almost all lots along this boundary already at their minimum subdividable size.	MM5	Indiscernible

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 at 6/197 Lawford Road and 7 Ridgeland Way. Open and full views of the site are available (although they are partially screened from the Lawford Road dwelling) and will share a boundary with several proposed lots, more than it would have compared with the current planning permitted baseline. It is proposed to mitigate potential effects on amenity by establishing a shelter belt along the eastern boundary (MM3) for the Lawford Road property as well placing a lower density of development on the eastern edge of the zone (MM5), resulting in Less than Minor residual adverse effects. It is anticipated that once the shelter belt is established (~5 years) that residential development will be screened entirely from this property. For all intents and purposes, it will appear as a typical rural shelter belt using species common to the immediate area. For 7 Ridgeland Way the adopted of open style fencing will assist in retaining a degree of openness, noting that residents could as of right plant boundary hedges, with residual visual effects remaining Minor.

To the north of the site, the properties on the northern side of Silver Peaks Drive will have open and full views across the existing plans pylon / ecological corridor where more residential dwellings will be visible than would have compared to the current planning rules. However, the degree of change above the permitted baseline is considered to be Minor, reducing to Less than Minor with the implementation of MM1 and MM2 to retain a degree of openness. The corridor is approximately 30m wide and provides a substantial buffer between the properties and the development, mitigating any potential visual effects from the increase in density. Adverse effects on openness can be successfully mitigated using post and rail fences and avoiding the installation of close board fencing on reserve boundaries. The proposed development will be similar to the existing residential development in which the residents live.

The effects on the residents at 7 Ridgeway Lane will be More than Minor due to the increased density of the development to the east of their property, reducing to Minor with the implementation of the proposed mitigation measures. All other Visually sensitive receivers are considered to have Less than Minor effects or less.

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 THE PYLON / ECOLOGICAL CORRIDOR

For new residential properties backing on the pylon/ecological corridor, fencing should be of an open character (post and rail, post and wire or similar) and not be higher than 1.2m in height. Hedge planting is an acceptable alternative.

MM2	<p>OPEN STYLE FENCING ADJACENT TO RESERVES</p> <p>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.</p>
MM3	<p>SCREEN PLANTING ALONG THE EASTERN BOUNDARY</p> <p>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 <i>Cupressus leylandii</i> '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.</p>
MM4	<p>PEDESTRIAN LINK FROM SILVER PEAKS</p> <p>A pedestrian link is created on the eastern end of the development to provide access into the pylon / ecological corridor as well as reducing walking distances between future dwelling, improving connectivity through Wilfield.</p>
MM5	<p>LOW DENSITY BUFFER</p> <p>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.</p>

7. CONCLUSIONS

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

- In terms of landscape character, compared to a permitted baseline of 10 dwellings, the change in character is considered to be one of scale or density as opposed to landuse. The degree of openness will be less with the higher density but changes in 'openness' is more the result of boundary plantings or shelter belts than additional houses. 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. For this proposal, the increased density will result in more houses and the likelihood of smaller scale tree plantings than the current permitted baseline (10 lots) would, but both development options would result in a 'loss of open character'. The difference is considered Minor in terms of Landscape Character. The plan change area will be views as an extension of Wilfield

residential development and not as a standalone settlement with any effects on Landscape Character considered to be Minor.

- The proposal is not considered to have any effects on Natural Character.
- In terms of Landscape Values, the proposal is zoned for residential purposes, albeit at a lower density. The effects on Landscape Values are considered Less than Minor.
- In terms of visual amenity, the most affected parties are the residents at 7 Ridgeland Way, who will experience More than Minor adverse effects prior to mitigation, reducing to Minor with the implementation of mitigation measures MM1 and MM2. The effects on the residents at 6/197 Lawford Way will be Minor due to the increased density of the development to the west of their property, reducing to Less than Minor with the implementation of the proposed mitigation measures MM3 and MM5. The existing residential sections (houses yet to be constructed) on the northern side of the pylon/ecological corridor will experience Minor adverse effects, reducing to Less than Minor effects. The corridor is approximately 30m wide and provides a substantial buffer between the properties and the development, mitigating any potential visual effects from the increase in density. Adverse effects on openness can be successfully mitigated using post and rail fences and avoiding the installation of close board fencing on reserve boundaries. All other Visually sensitive receivers are considered to have Less than Minor effects or less.

David Compton-Moen



APPENDIX ONE - LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

WILFIELD PLAN CHANGE, WEST MELTON

FOR GW WILFIELD LTD

13 NOVEMBER 2018 - 2018_005

REVISION 5 (STATUS - FINAL)

CONTENTS

WILFIELD PLAN CHANGE

Project no: 2018_05
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Revision: 5
Date: 13 November 2018
Client name: GW WILFIELD LTD

Author: David Compton-Moen

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- Projects\2018_005 - Gillman Wheelans -West Melton LVIA\3_Working Files\1_InDesign\ 2018_005 - GW_
PlanChange_Wilfield_LVIA

DOCUMENT HISTORY AND STATUS

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-	24/08/2018	Draft LVIA Report	DCM		
1	30/08/2018	Draft LVIA Report - update figures	DCM		
2	03/9/2018	Draft Final LVIA Report	DCM	KS	
3	03/9/2018	Final LVIA Report	DCM	KS (Novo)	HW (Wilfield)
4	05/11/2018	Minor amendment to terminology	DCM	KS	HW
5	13/11/2018	Adjustment to lot numbers	DCM	KS	HW

CONTEXT - LANDUSE AND LANDCOVER	3
CONTEXT - EXISTING TOPOGRAPHY	4
CONTEXT - DISTRICT PLAN ZONING MAP	5
PROPOSAL OUTLINE DEVELOPMENT PLAN	6
SITE CHARACTER PHOTO AND VIEWPOINT LOCATIONS	7
SITE CHARACTER PHOTOS	8
KEY VIEWPOINT LOCATIONS	9
MITIGATION MEASURES	14

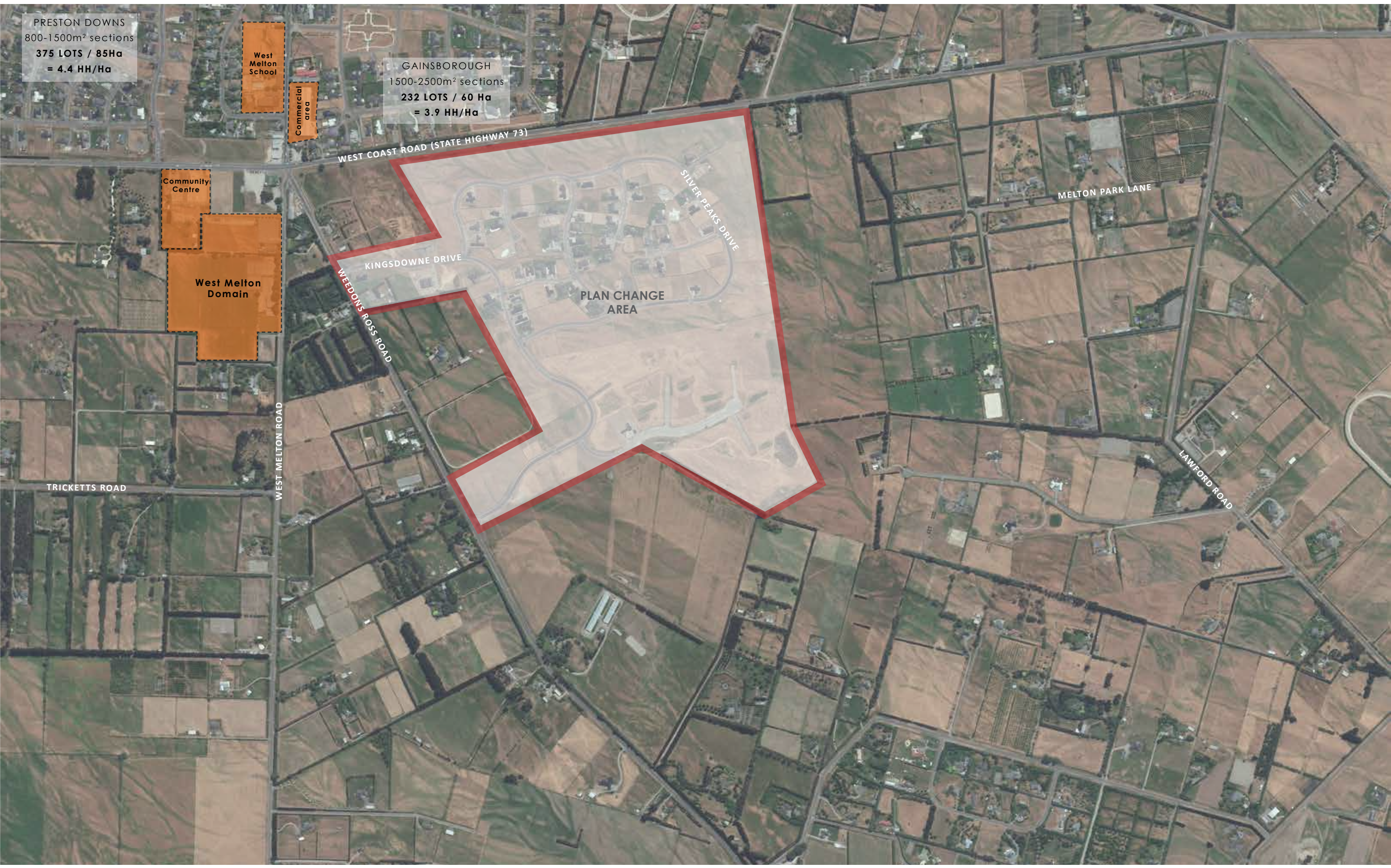
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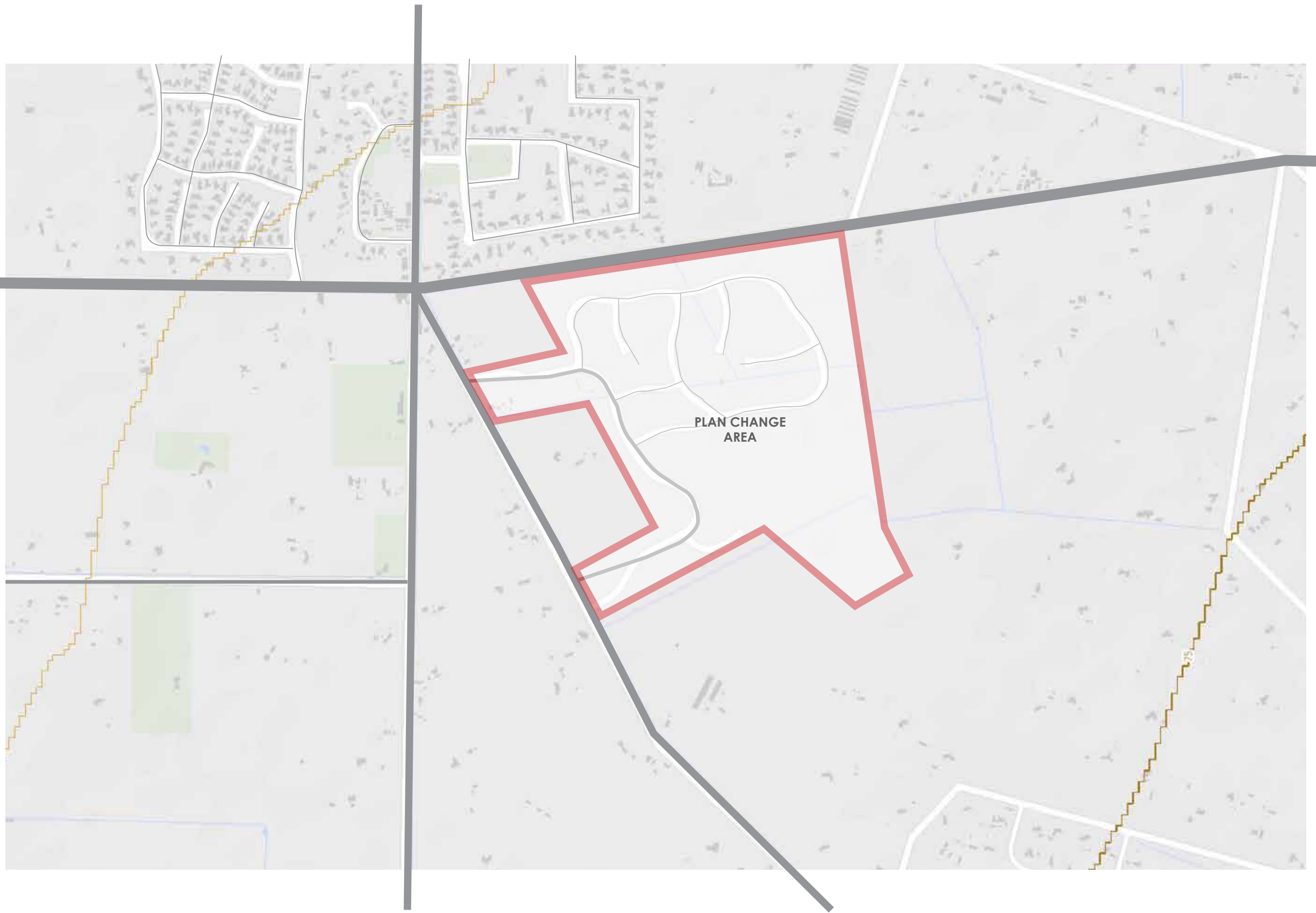
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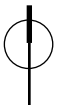


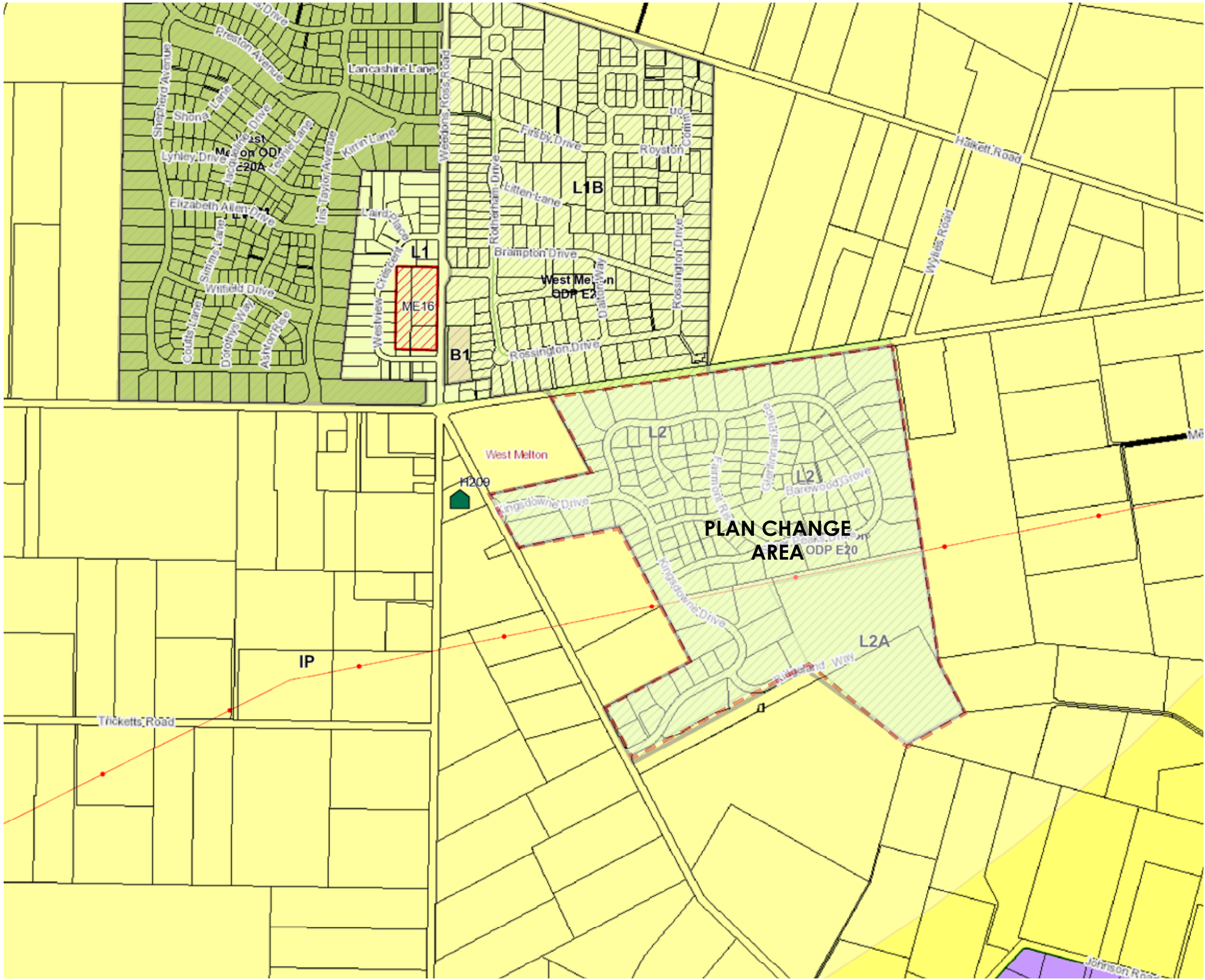


AERIAL MAP (1:10000@A3 APPROXIMATELY - TAKEN FROM CANTERBURY MAPS)

2018_005 - LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES
 CONTEXT - EXISTING TOPOGRAPHY 1:10000

0M 500M 1000M





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

ODP Areas

Others
- 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

Rolleston ODP Area 12

Rolleston ODP Area 13

Rolleston ODP Area 3

Rolleston ODP Area 4

Rolleston ODP Area 5

Rolleston ODP Area 6

Rolleston ODP Area 7

Rolleston ODP Area 8

Rolleston ODP Area 9

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 | PLAN SHOWING THE ODP STUDY AREA
NTS



2018_005 - LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES
CONTEXT - SITE CHARACTER PHOTOS AND VIEWPOINT LOCATIONS





A 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



B OPEN STYLE FENCING is used adjoining recreation reserves. It creates a more open character than close board timber fences and allows for passive surveillance over public spaces (CPTED) from adjoining houses.



C THE ROAD CHARACTER in Wilfield is typically of a high amenity which encourages low vehicle speeds



D PROVISION OF OPEN SPACE in Wilfield is high with a network of open spaces providing pedestrian connections through the development. Wilfield Reserve is within 100m of the Plan Change area and will be easily accessible to future residents



E THE OPEN CHARACTER of the southern boundary of Wilfield is maintained by the use of post and rail type fencing (as opposed to close board timber fencing). A griselinia hedge is visible in the foreground.



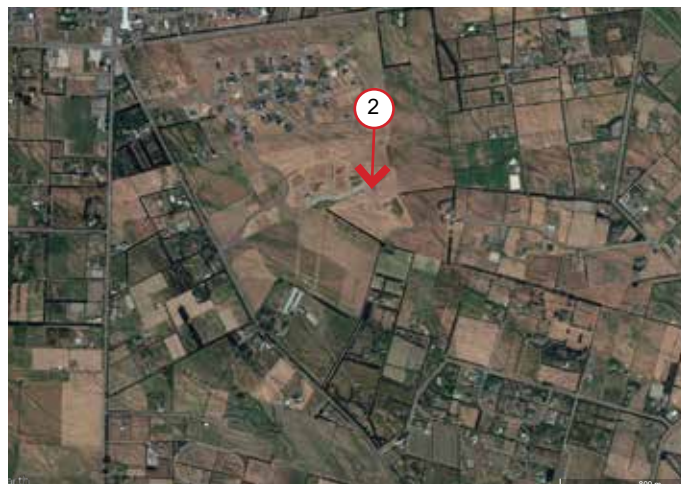
F ENTRANCE TO WILFIELD is characterised by the water race and rock lined pond. Open style fencing is used on the boundary with the entrance having a high level of amenity. There are no waterways in the Plan Change area.



A | PHOTO LOCATION



B | EXISTING VIEW



A | PHOTO LOCATION

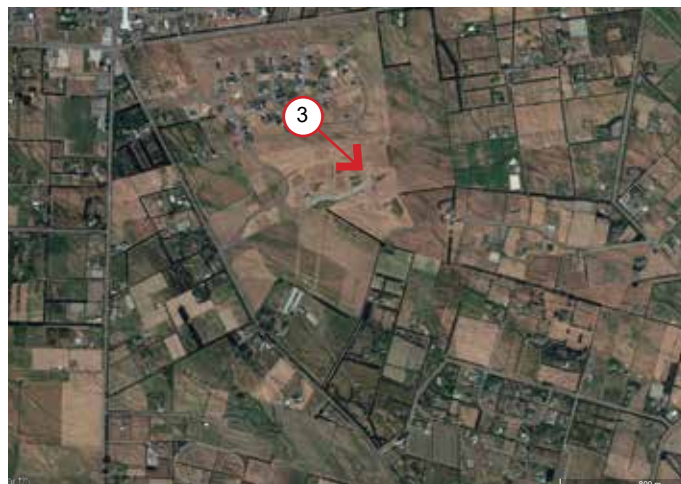


B | EXISTING VIEW

2018_005 - LANDSCAPE AND VISUAL IMPACT ASSESSMENT FIGURES

② **VIEW SOUTH** FROM THE INTERSECTION OF BAREWOOD GROVE AND SILVER PEAKS DRIVE

Date of Photo: 1:36 PM JANUARY 24 2018
 Eye Height: 1.7Metres
 Camera: FUJI FINEPIX 5600
 Focal Length (35mm Equivalent): 38mm



A | PHOTO LOCATION



B | EXISTING VIEW



A | PHOTO LOCATION



B | EXISTING VIEW



A | PHOTO LOCATION



B | EXISTING VIEW



LEGEND

MM1

OPEN STYLE FENCING ADJACENT TO THE PYLON / ECOLOGICAL CORRIDOR

For new residential properties backing on the pylon/ ecological corridor, fencing should be of an open character (post and rail, post and wire, pool fencing or similar) and not be higher than 1.2m in height. Hedge planting is acceptable.

MM2

OPEN STYLE FENCING ADJACENT TO RESERVES

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.

MM3

SCREEN PLANTING ALONG THE EASTERN 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

MM4

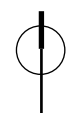
PEDESTRIAN LINK FROM SILVER PEAKS

A pedestrian link is created on the eastern end of the development to provide access into the pylon / ecological corridor as well as reducing walking distances between future dwelling, improving connectivity through Wilfield.

MM5

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.



A | PLAN SHOWING PROPOSED MITIGATION MEASURES
1:5000 @ A3



Appendix E

Market Commentary



17-Sep-18

Kim Seaton
Novo Group
P O Box 365
Christchurch 8140

Dear Kim

Re: Wilfield Plan Change 2018

You have asked that I provide commentary on the supply and demand for properties in the West Melton area and how this has evolved since the commencement of Preston Downs in 2010. That descriptive follows.

1.0 Introduction

Gillman Wheelans (GW) have been involved in the Selwyn and West Melton land supply market since 2007, with the purchase of undeveloped Preston Farm in West Melton. Following this purchase GW proceeded with a Plan Change, amending the rules from 3 underlying zones of 800m² (Living 1 Def), 1,000m² (Living 1) and 5,000m² (Living 2) averages to two new zones Living WM (Low Density) and Living WM (Medium Density).

The new Living WM (medium density) zone permitted properties to be subdivided down to 500m² and up to 3000m². Further detail on section sizes, demand, yields etc. follows below.

In 2012 we purchased land in Rolleston for the development of Levi Park. The zoning of that land was Living Z, which permits lots down to 550m² with an average of 650m². Further details follow below.

In 2014, a further land purchase was made in West Melton, south of SH73 (the Wilson block and later named Wilfield). This land also had three distinct zones, Living 2, Living 2A and Inner Plains. Whilst Living 2 has some flexibility, the Living 2A zone is rather rigid in that it requires a minimum area of 1Ha with no more than 10 lots to be created.

Our knowledge of demand and expectations of buyers through Preston Downs and Levi Park told us that these zones would not be ideal for the buyer profile.

2.0 Preston Downs

Preston Downs construction commenced in 2010, around the same time as the Christchurch earthquake sequence started in Selwyn, September 2010. 362 lots were created progressively as construction permitted.

Demand started slowly, however following the February 2011 earthquakes demand increased exponentially. Primarily buyers were wanting to purchase sites consistent with those they were living on in Christchurch City, being generally 700-900m², however at the same time, they accepted larger lots as there was little in price differential between a 900m² lot than a 1500m² lot.

General statistics of Preston Downs as follows:

Overall Area	90ha
Number of Lots	362
Average Lot Size	1,700m ²
Lots less than 1,500m ²	250 or 70%
Average Lot size less than 1,500m ²	1,070m ²
Average price of lots less than 1,500m ²	\$199,000
Average rate per m ²	\$186/m ²
Lots between 3,000m ² and 5,000m ²	68 or 19%
Average Lot size greater than 3,000m ²	3,826m ²
Average price of lots greater than 3,000m ²	\$260,000
Average rate per m ²	\$68/m ²

Please note, 70% of the sites created were less than 1,500m².

Preston Downs development was expected to take 10 years to sell. It was predominantly sold in 3.25 years, or 9 sales per month. Lots greater than 3,000m² in area sold at a mere 2.5 sales per month.

The interesting statistic in the above is the significant reduction in the marginal value of the properties when they reach a certain size, for instance the retail value of a 1,070m² site was \$186/m². As shown in figure 1 below, when this site increased in size to 3,000m² or greater, the average value per metre is 1/3 of the smaller lot, being \$68/m². What this says is that buyers will not pay substantially more for the additional land. By doubling the area being purchased, the price increased only 30%.

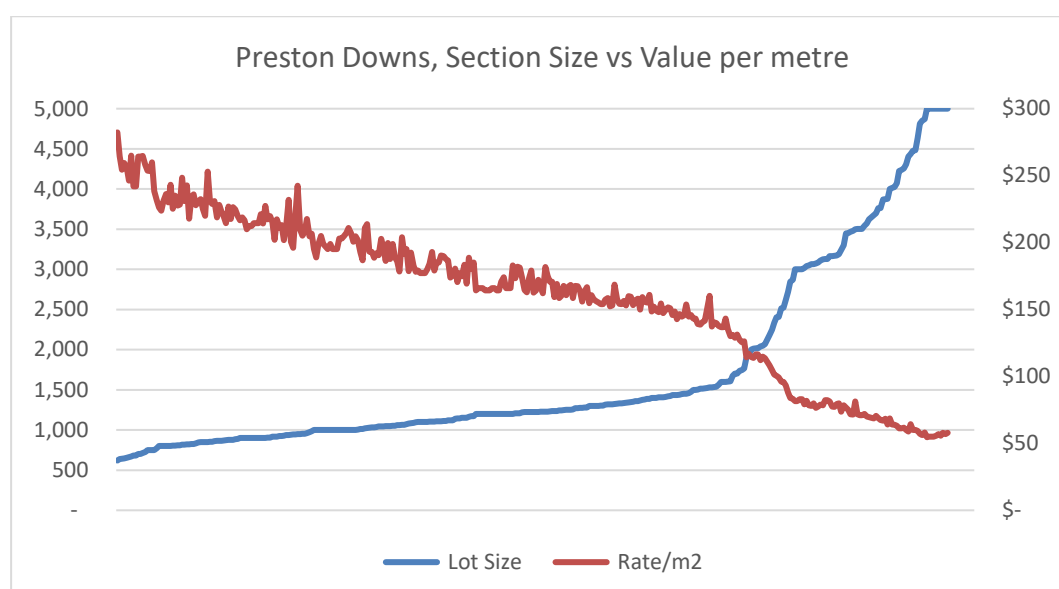


Figure 1. As the lots increase in size (left hand scale), the sale price per metre decreases significantly, right-hand side.

From an economic perspective the additional land is of little value to the end value to the owner.

3.0 Levi Park

Levi Park is located to the north of Rolleston, with two land purchases totaling 25Ha.

Being zoned Living Z there was some flexibility to create standard residential at 10 households per hectare. Levi Park took 21 months to sell out, being 10 sales per month, like Preston Downs.

General statistics of Levi Park as follows:

Overall Area	25ha
Number of Lots	223
Average Lot Size	764m ²
Average Price	\$177,000
Average rate per m ²	\$231/m ²

An interesting statistic here is that while West Melton is viewed by some as offering a level of exclusivity as it is generally higher priced than Rolleston, the rate per square metre paid in Rolleston is higher than that in West Melton, again this is related to the value of the additional land being purchased in West Melton dropping off significantly once a desirable lot threshold is reached, at around 1,500m².

4.0 Wilfield

Wilfield Zoning is Living 2, Living 2A and Inner Plains which has caused some level of difficulty in providing a comprehensive range in section sizes to suit the market. Living 2 has enabled some variety however the minimum average is the limiting factor, being that it requires the average lot be greater than 5,000m².

Living 2A requires a minimum area of 1Ha or 10,000m². As noted above, there is a very clear reduction in the marginal value of the bigger sites in Wilfield. No sales were achieved in the parcels greater than 1Ha.

The average section size in Wilfield, either developed or consented and yet to be developed with titles is 3115m².

General statistics of Wilfield as follows:

Overall Area	92ha
Number of Lots	189
Average Lot Size (excl Inner Plains)	3115m ²
Lots less than 2,000m ²	111 or 60%
Average Lot size less than 2,000m ²	1,409m ²
Average price of lots less than 2,000m ²	\$256,500
Average rate per m ²	\$182/m ²
Lots less than 2,000m ² sold (09/18)	99 lots or 89%
Lots greater than 2,500m ²	38 or 20%
Average Lot size greater than 2,500m ²	3957m ²
Average price of lots less than 2,500m ²	\$304,000
Average rate per m ²	\$77/m ²
Lots sold greater than	18 or 47%

Again, like Preston Downs, it is quite noticeable that once the desirable section size has been reached, the marginal increase in value drops considerably, with value per metre dropping from \$182/m² for a lot less than 2,000m² in area to \$77/m² for a lot greater in area than 2,500m².

Whilst a purchaser may gain additional land for little further outlay, cost to improve and maintain the land increases considerably, including initial fencing, landscape, irrigation, lawn care and garden care plus also the cost of driveways and services from the road reserve.

With respect to sales, clearly the demand for larger lots drops off with 47% of those lots greater than 2,500m² released being sold compared to 60% of those less than 2,000m². If we look at sales of lots less than 1,500m² in area, this sales rate lifts to 95%.

Figure 2 shows the sales to date in Wilfield. The left-hand scale relates to section size. The horizontal axis are the number of sales. Once the threshold of 2,500m² is reached, the sales activity decreases significantly.

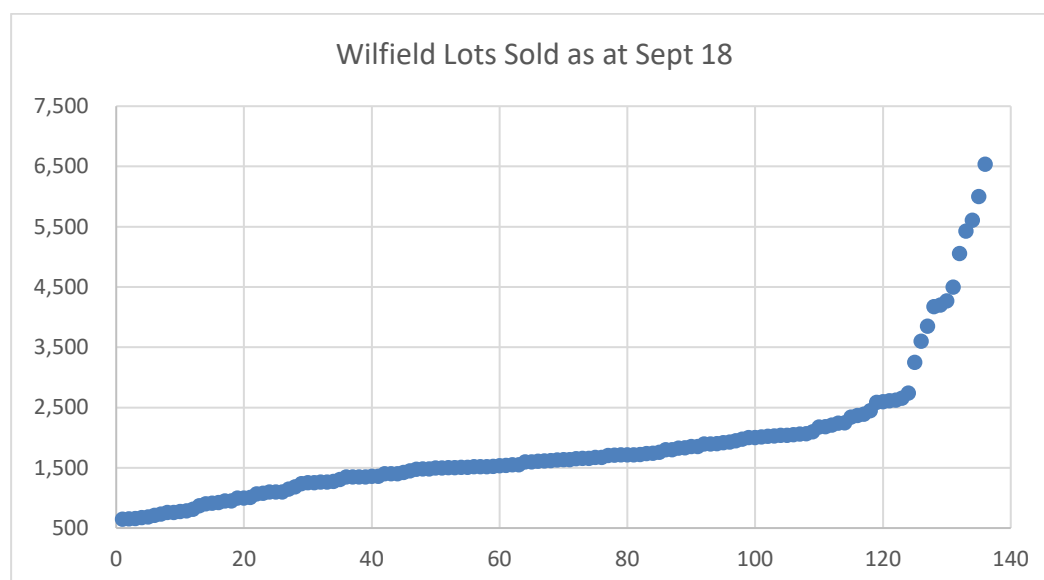


Figure 2. Wilfield sales to date.

5.0 Summary

There has been a progressive acceptance of smaller properties in the greater Christchurch area, particularly in areas such as Leeston, Darfield and West Melton. Whilst this was occurring naturally the Christchurch earthquake sequence sped this up and enabled communities to evolve from what were predominantly low-density environments to a new mixed density style, ensuring the blend of living styles can be accommodated in townships scattered around the district.

West Melton was intended to be a low-density township, and this was reflected in its District Plan in 2006, however time has moved on. These Decisions heralded potentially decades of supply. 12 years on the and supply has all but been exhausted

The 'old community' has evolved, residents aged, and lifestyles changed. The rules around supply of services must move on as well.

The larger lots in Preston Downs Low Density zone (3,000-5,000m²) I believe sold at the time as alternative smaller stock was limited and insurance payouts were in buyers' hands. With that period

now reaching an end, buyers are affording greater consideration to land cost, build costs, servicing costs, and landscape costs.

With the alterations to the Highway network linking West Melton to Rolleston and Christchurch, the dynamics of this township will change and continue to change. District Plans need to change with that to keep in sync.

The requirement to provide lots of a minimum of 1Ha (Living 2A) is outdated, not based on demand and very poor utilization of land for urban uses.

We are seeking a change in the Living 2 and Living 2A zones to enable effective and efficient design and development, financially feasible sites that owners can maintain, and a range of living styles that overtime will cater for a wider age range.

Yours faithfully

A handwritten signature in blue ink, consisting of a stylized 'H' followed by a long horizontal stroke.

Hamish Wheelans
GW Wilfield Ltd.

