Evidence D.

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Plan Change 026 to the Waimakariri District Plan requested by Westpark Rangiora Ltd

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EVIDENCE OF ANN FOSBERRY

27-28 JULY 2015

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1 INTRODUCTION

Qualifications and experience

1.1 My full name is Ann Fosberry. I am a Traffic and Road Safety consultant employed by Aurecon NZ Ltd and hold the position of Technical Director - Transport. I have the qualifications of BE (Civil) from the University of Auckland (1981), and am a graduate of the Traffic Management and Planning short course of the University of New South Wales. I am Member of the Institution of Professional Engineers (IPENZ) and a member of the Transportation Group of IPENZ.

1.2 I have 37 years engineering experience, 26 of which has been in transport, traffic engineering and road safety. My experience includes highway design, construction and maintenance, together with investigation and reporting, strategy studies, scheme assessment, safety management systems, safety audit, integrated transport assessment and safe systems for local authorities and the NZ Transport Agency.

1.3 I am familiar with the road network surrounding the Westpark Plan Change area and with the relevant transport provisions of the Waimakiriri District Plan and Engineering Code of Practice.

1.4 I have read the Code of Conduct for Expert Witness as contained in "Practice Note on Alternative Dispute Resolution, Expert Witnesses and Amendment to Practice Note on Case Management", and agree to comply with it. This evidence is within my area of expertise, except where I state that I am on relying on what I have been told by another person. I have not omitted to consider material facts that are known to me that might alter or detract from the opinions I express.

Scope of evidence

1.5 I have been retained by Westpark Rangiora Limited to provide evidence on the transport related aspects of the proposed Plan Change.

1.6 My evidence will respond to and clarify items raised within the evidence of Mr Brown (which has been made available to me), and submitters. These are:

a) Width of the Lehmans Road walkway/cycleway amenity buffer zone
b) Intersection spacing
c) Pedestrian connections
d) Connection to Brick Kiln Lane
e) Development traffic generation

1.7 Mr Brown and I are in agreement on a number of issues that he has raised in his review. A table of these items and agreement is provided in Appendix A.

2 BACKGROUND

2.1 The plan change relates to rezoning land at 198 Lehmans Road and 100 Oxford Road, Rangiora, for residential development. The land is located on the corner of Lehmans Road and Oxford Road, Rangiora.

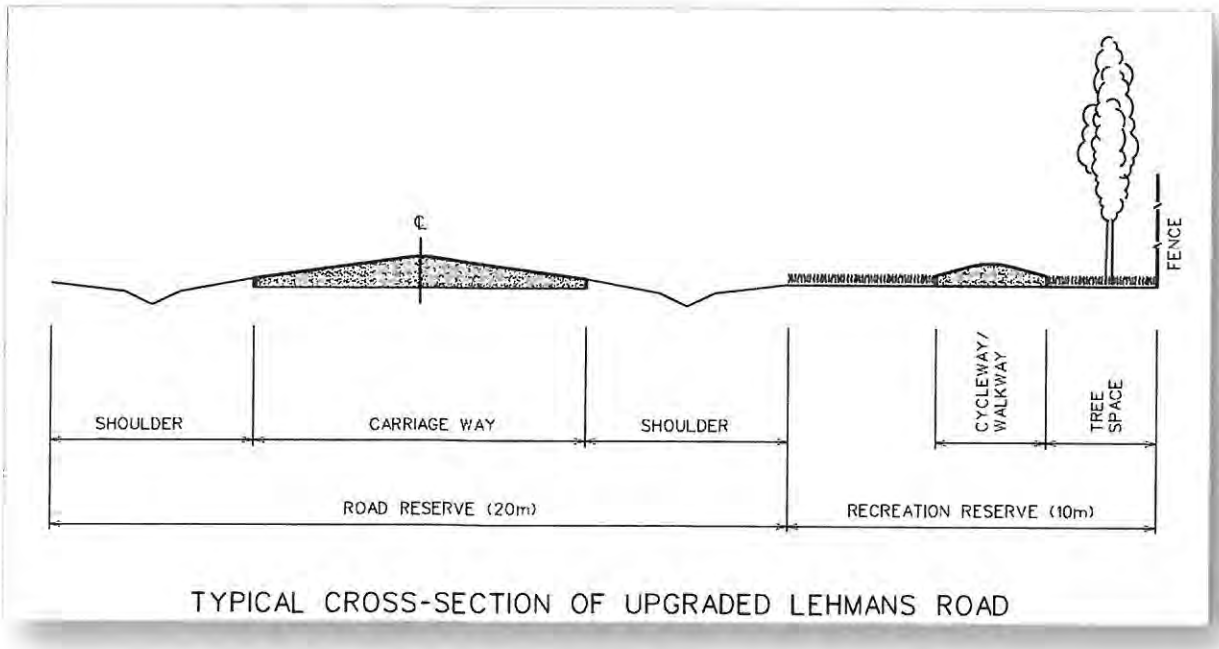
2.2 I will not repeat the description of the site or its surrounds as this has been covered in some detail in the plan change application itself, the s 42A Officer's report and evidence presented by others.

2.3 I prepared the Westpark – Lehmans Road Plan Change Integrated Transport Assessment, which was submitted with plan change application. This assessment has been reviewed on behalf of Waimakiriri District Council by Mr Brown, who generally agrees that the expected traffic associated with the development can be catered for within the site and on the adjacent network. At the same time, Mr. Brown refers to a number of outstanding matters which are considered below.

3 WIDTH OF THE LEHMANS ROAD WALKWAY/CYCLEWAY AMENITY BUFFER ZONE

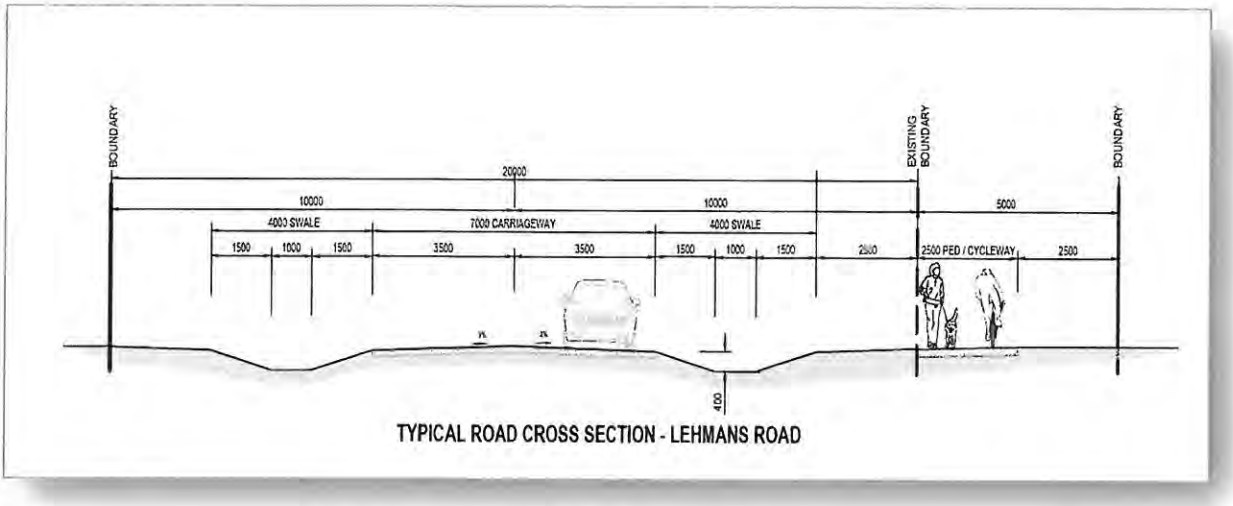
3.1 On Lehmans Road, the West Rangiora Structure Plan (WRSP) identifies a '10m wide green strip for walkway / cycle and amenity buffer zone'. The 10m strip is outside of the current 20m road reserve and would be provided by the developer. Refer Figure 1.

Figure 1 – Typical Lehmans Road cross section from WRSP



3.2 The Westpark proposed ODP provides for a pedestrian and cycle way access route along the Lehmans Road boundary of the site. The width of the proposed recreation reserve is 5m as opposed to the 10m indicated in the WRSP. Refer Figure 2.

Figure 2 – Typical Lehmans Road cross section proposed for Westpark Rangiora Ltd development



3.3 In Mr. Brown's review of the Transport Assessment, he is of the view that a 5m reserve is likely to be too narrow to safely cater for mixed equestrian, waking and cycling, but states that "a 5m wide minimum recreation reserve is recommended for pedestrian and cycle use only."

3.4 He considers 5m to be a minimum width that does not allow for landscaping, utilities or consideration of Crime Prevention Through Environmental Design (CPTED).

3.5 The proposed cross section of the upgraded Lehmans Road identifies a 20m road reserve, with a significant shoulder anticipated to occupy a swale (4m wide) and grass verge (2.5m) adjacent to which is the recreation reserve. With a 5m recreation reserve, this provides 11.5 m between boundary and carriageway. Figure 2 refers:

3.6 While the recreation reserve along Lehmans Road will only be 5m in width, the additional width provided within Lehmans Road will ensure that for all intents and purposes, a 10m buffer zone along the eastern side of Lehmans Road is provided.

3.7 The WRSP discusses urban buffering and amenity/pedestrian/cycleway corridors. It does not refer to provision for equestrians.

3.8 I accept that there may be some equestrian recreational use with locals using Lehmans Road to access the river, although I note that Mr. Read has concluded in his evidence that.... "*the P026 margins of Lehmans Road appears to be a less than ideal location for a "designated safe route" for*

horse riding. From casual observation, it also appears that most riding is focussed on the Rangiora Racecourse to Ashley River section of Lehmans Road."

3.9 The above statement would indicate to me that demand for a 10m shared pedestrian/ cycle and equestrian path for that stretch of Lehmans Road fronting the Plan Change site is likely to be low and therefore it is unnecessary to make provision for equestrian use.

3.10 I have also looked at the Council's Walking and Cycling Strategy and Implementation Plan 2011, which also considers issues riders experience in finding safe areas to ride in the District, and highlights opportunities for future improvements to these facilities. The Strategy does have as a key goal the provision of safe and convenient movement of walkers, cyclists and horse riders within and around the District's rural areas, smaller settlements and Residential 4 Zones. There does not appear to me to be any particular emphasis in the Strategy on providing paths suitable for equestrian and other uses within an urban context.

3.11 From personal experience living in a rural area where owners exercise their horses on the road, I have observed the reaction of horses to vehicles traffic, dogs and rubbish bags. I would caution providing for mixed use horse, walking and cycling within the same pathway and alongside what is to become a vehicle bypass.

3.12 Adequate width is provided for utility services. These can be laid within the berm area between the swale drain and the pedestrian /cycle walkway.

3.13 As an experienced safety auditor I often raise safety issues related to plantings and vegetation within berms that can restrict visibility or potentially hide undesirable persons or activities. In my opinion, planting/landscaping can be designed to avoid these issues.

4 INTERSECTION SPACING

4.1 In his review, Mr. Brown has noted that the Transport Assessment has not assessed intersection spacing. The intersection spacing of the two new intersections on Oxford and Lehmans Road, and the new four way intersection on Elm Drive are discussed below.

4.2 The Waimakiriri District Plan table 30.7 contains minimum distance between intersections for various speed limits.

T – Intersection on Oxford Road

4.3 On Oxford Road, the new T intersection will be located approximately 150m from Lehmans Road. As discussed within the Transport Assessment, as the urban development extends to the west so the urban speed limit of 50km/h should also be extended.

4.4 Changes to speed limits are undertaken by Council via their speed limit bylaw and is not something that Westpark Rangiora Ltd has control over. In his evidence, Mr. Brown agrees that it is reasonable to assume that the speed limit will be reduced to 50km/h and that the new intersection with Oxford Road will be an urban intersection and within the 50km/h zone.

4.5 For a speed limit of 50km/h, the separation distance from table 30.7 is 125m. Therefore the separation distance requirement will be met.

Intersection on Lehmans Road

4.6 On Lehmans Road the new T intersection will be located approximately 560m north of Oxford Road and in the order of 220m south of the new Lehmans Road bypass intersection (not currently in existence, but programmed for construction in 2021-2022). In his evidence, Mr. Brown states that Council have confirmed that the speed limit on Lehmans Road is likely to be 70 or 80km/h.

4.7 For a speed limit of 80km/h the separation distance from table 30.7 is 550m. Separation distance to Oxford Road is met but not to the new bypass intersection.

4.8 Although the separation distance to the new bypass intersection is not met, a road in this location is indicated on the West Rangiora Structure Plan and so noncompliance with the separation distance in Table 30.7 was already anticipated.

4.9 As the intersections will be well separated, in my view it is more important that safe intersection sight distance (SISD) is achieved to make sure a driver of a vehicle on the major road can observe a vehicle on a minor road approach, moving into a collision situation (e.g. in the worst case, stalling across the traffic lanes) and to decelerate to a stop before reaching the collision point.

4.10 For an 80km/h speed SISD (from Austroads Guide to Road Design Part 4A) is 181m. The available sight distance is in the order of 220m and exceeds the Austroads guide.

Internal Elm Drive Intersection

4.11 On Elm Drive a new four way intersection is proposed east of Lehmans Road where the new north south internal local road intersects. On the ODP it is shown approximately 100m east of Lehmans Road. For a speed limit of 50km/h the separation distance from table 30.7 is 125m.

4.12 Again considering SISD for a 50km/h speed, the Austroads guide provides an SISD of 97m.

4.13 I concur with Mr. Brown's assessment in that the reduced spacing is unlikely to result in any operational or safety issues, but that it would be desirable. An increase in the spacing may be able to be achieved once the lot layout and configuration is determined at subdivision stage.

5 PEDESTRIAN CONNECTIONS

5.1 In paragraph 23 of his evidence Mr Brown supports the pedestrian linkages provided and also recommends an internal pedestrian link between the eastern most north-south cul de sac to Elm Drive and east to Brick Kiln Lane.

5.2 The ODP has been revised (copy attached as Appendix B) together with the pedestrian links. An east-west link is shown to Brick Kiln Lane. There is a path alongside the western edge of the access road and first cul de sac on the left which connects Oxford Road to Lehmans Road. The north west link from the cul de sac to Lehmans Road has been shifted north to connect to the new by-pass route as part of the stormwater management.

5.3 I also note that there is a short north-south pedestrian link north of the Westpark development from the western most cul de sac head that in the future will connect to the future development to the east of Westpark.

5.4 There is however no pedestrian link from the northern end of the double headed cul de sac to Elm Drive. This is because the length of the link is approximately 80m and it would need considerable width to provide a safe environment where users can clearly see to the other end and beyond and not feel constricted. Given its length, it would be dark and uninviting at night and in poor weather conditions.

5.5 I consider that it will be more environmentally safe for pedestrians to use the local road network, rather than create a long link that isn't used and may become a detractor to the development.

6 CONNECTION TO BRICK KILN LANE

6.1 In his review of the Transport Assessment, Mr. Brown has recommended that an east west connection be provided between Westpark and Brick Kiln Lane to ensure future connectivity for all modes of transport and linking to PO18.

6.2 He suggests that the link to Brick Kiln Lane could initially be for pedestrians and cyclists. This is accepted and as discussed above a link has been provided in the revised ODP.

6.3 In terms of the existing and proposed road connections, there is already east west provision on Oxford Road and it is proposed as part of this Plan Change, to establish a connection between Elm Drive and Lehmans Road This connection was identified in the WSRP as being important for west/east connectivity.

6.4 The Elm Drive connection between Lehmans Road and PO18 will be consistent with the District Plan (Section 30.1.1.9) and will be addressed at subdivision stage. Table 30.1 specifies footpath and cycle ways for collector roads.

6.5 A suitable connection for pedestrian and cyclists will also be provided on the northern side of Oxford Road at subdivision stage to the PO18 subdivision boundary.

6.6 Oxford Road and Elm Drive are parallel roads approximately 500m apart. Although an east west link from Westpark to PO18 would provide increased permeability, the consented subdivision for the Rymans development to the east makes this connection difficult to achieve. Land to vest for road within the Ryman development is approximately 475 m north of the Oxford Road boundary, which does not align to connect with the Westpark ODP.

6.7 In my view therefore, the link to Brick Kiln Lane is not essential and will be difficult to achieve. I note that developments to the east such as Oakwood, do not have east west links and query whether the lack of such a link is resulting in any operational or safety issues, or impacts on connectivity.

7 DEVELOPMENT TRAFFIC GENERATION

7.1 Mr. Brown's review of the Transport Assessment, discusses development traffic generation and he considers that not all potential traffic generation has been included in the assessment.

7.2 I have considered his comments and the Westpark traffic generation has been reassessed. The trips generated from the Farmland site have been added and the SIDRA intersection modelling updated for the new T intersection on Oxford Road.

7.3 Modelling of the intersection has been undertaken by Sahan Lalpe (Aurecon) from data supplied by me.

7.4 Reassessment of the Westpark generation has considered the potential maximum lot yield. I have relied upon an assessment of maximum lot yield prepared by Malcolm Hanrahan of Aurecon. A copy of his assessment is attached as Appendix C.

7.5 The maximum lot yield assessed is 171 lots, not the potential 250 assessed by Mr. Brown. This has been rounded up to 175 and the additional traffic distributed proportionally, as per the original Transport Assessment.

7.6 The additional flows from the Farmland site in PO18 together with the additional traffic from the increased yield have been added to the SIDRA future intersection model for the new T intersection on Oxford Road.

7.7 The SIDRA future model for the intersection of Lehmans and Oxford Road has not been updated as the effect of the increased yield resulted in an insignificant increase in movements at this intersection.

7.8 The assessed maximum lot yield resulted in an approximate 20% increase from the data presented in the original Transport Assessment.

7.9 The SIDRA movement summary sheets are provided in Appendix D and are highlighted to show the difference between those presented in the Transport Assessment and the updated model.

7.10 In short, the modelling shows that there are no changes to the levels of service likely to be experienced, with levels of service A and B resulting from the updated modelling. A minor increase in queuing is indicated which is still no more than 1 vehicle.

7.11 The proposed intersection of Oxford Street and the new road will operate at a high level of service.

8 CONCLUSIONS

8.1 The width of the Lehmans Road walkway/cycleway amenity buffer zone is acceptable at 5m rather than 10m.

8.2 Intersection spacing, although not compliant in all cases, will not result in any operational or safety issues. The intersection spacing's on Lehmans Road were anticipated as they are shown in the WRSP. The intersection spacing on Elm Drive between Lehmans Road and the north south ODP spine road can be increased at subdivision stage.

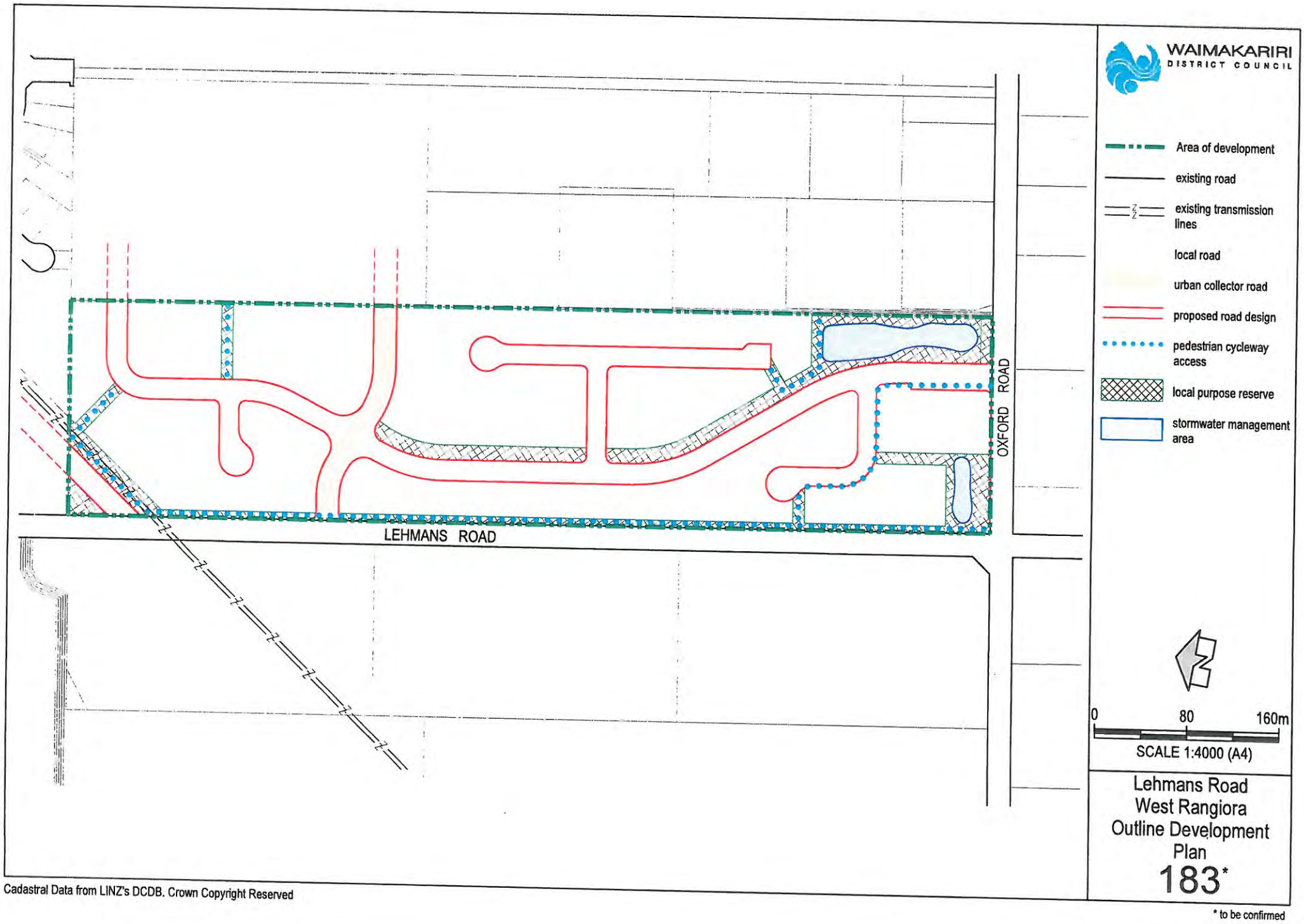
8.3 Pedestrian connections have been provided to enable comprehensive interconnectivity that provides for a safe network. This includes provision for a link west east to Brick Kiln lane. A pedestrian link south from Elm Drive to the eastern cul de sac head is not recommended due to the length and potential safety issues for a link of this length.

8.4 A road connection to Brick Kiln Lane is not considered feasible given that the location of the consented connection point within the Ryman development is much further north than anticipated.

8.5 Development traffic generation has been revised and the new T intersection on Oxford Road remodelled. The increase in traffic volume from an increased lot yield of 175 lots results in no change to the levels of service previously modelled.

Appendix A – Table of agreed items between Mr Brown and Ms Fosberry

REFERENCE PARAGRAPH NO. IN MR BROWN'S EVIDENCE	ISSUE	COMMENT
21, 70	No information was provided for the east-west collector road (Elm Drive extension) or local road reserve width. Generally a subdivision matter and will need to comply with road design attributes at that time. It is acknowledged as a collector road on the ODP	The Elm Drive connection between Lehmans Road and PO18 will be consistent with the District Plan (Section 30.1.1.9) and will be addressed at subdivision stage
34, 66	Land requirements for the proposed Lehmans Road bypass require confirmation to ensure sufficient area is provided to permit implementation of a compliant collector road	Agree that the bypass has not yet been designed. Work can be undertaken at subdivision stage to ensure that the allocated land is sufficient to accommodate the bypass curve design
37	Speed limits are analysed and processed through the speed limit bylaw process by the Council, which occurs outside this application process	Agreed that this is the case
42, 70	Street lighting of the new T Intersection on Oxford Road will create inconsistent lighting levels along Oxford Road, with the extent of urban street lighting currently being at Acacia Avenue. This creates a safety issue for vehicle drivers, and will require extension of the street lighting. This can be addressed at the time of subdivision application	Agreed
43	The proposed Lehmans Road / Elm Drive intersection should be replaced with Standard Drawing 261A, and the pavement area constructed consistent with a Type C junction Standard Drawing 263A.	Agreed


WAIMAKARIRI
DISTRICT COUNCIL
Area of development
existing road
existing transmission lines
local road
urban collector road
proposed road design
pedestrian cycleway access
local purpose reserve
stormwater management area
OXFORD ROAD
LEHMANS ROAD
0
80
160m
SCALE 1:4000 (A4)
Lehmans Road
West Rangiora
Outline Development Plan
183*
* to be confirmed
Cadastral Data from LINZ's DCDB. Crown Copyright Reserved

APPENDIX 2

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Memorandum

To	**Ann Fosberry**	From	**Malcolm Hanrahan**
Copy	**Daniel Thorne**	Reference	**240845**
Date	**18 June 2015**	Pages (including this page)	**1**
Subject	**Westpark – Development Potential**		

Hi Ann

I have undertaken an assessment of the potential maximum lot yield of the Westpark development.

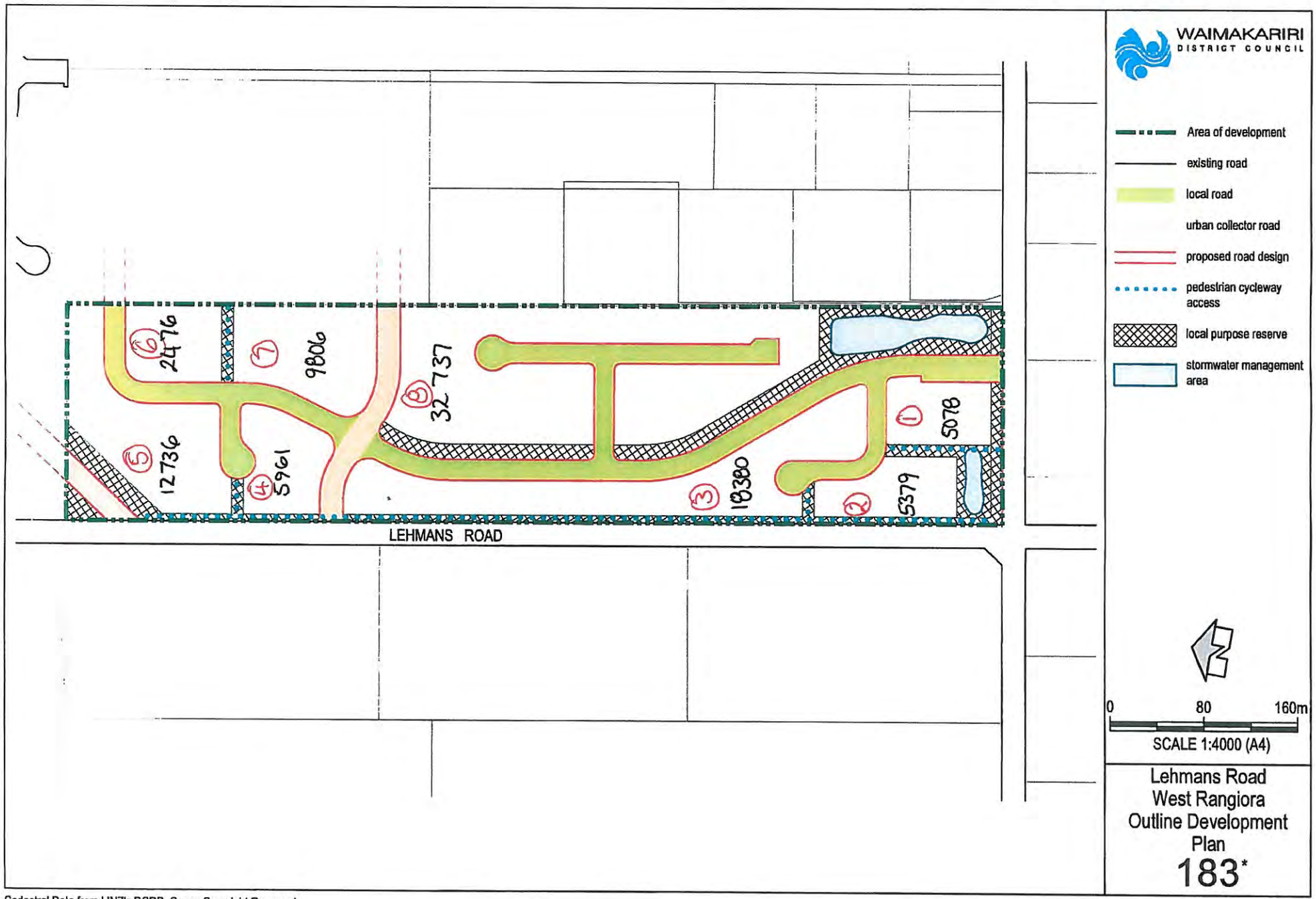
It should be noted the Comprehensive Residential Development rules in the Waimakariri District are subject to a proposed Council lead Plan Change. As such we have removed the identified comprehensive development sites from the proposed ODP. Comprehensive development will be addressed as individual applications within the Residential 2 Zone, in a similar manner they will across all the Residential 2 Zones in the District.

For the purpose of assessing the likely development potential, we have assumed the most likely maximum number of comprehensive sites to be developed will be 35. Arguably more than this could possibly be developed but more would likely change the nature of the overall development from that anticipated for the residential 2 Zone. As comprehensive developments will need Council consent, Council will maintain some control over an excessive number being created and on this basis 35 in number is not unreasonable.

The assessment of lots is as follows (see attached plan)

Parcel	Land Area m^2
1	5,078
2	5,379
3	18,380
4	5,961
5	12,736
6	2,476
7	9,806
8	32,737
Total Area	**92,553**
Less 10,500m^2 (35 comprehensive lots @300m2)	82,053
Divide by 600m^2 (Res 2 minimum area)	136 lots
Plus 35 lots	35 lots
Assessed Number of lots	171 lots

Regards



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* to be confirmed

With updated additional flows – AM

MOVEMENT SUMMARY

Site: 2014 AM Oxford new T-intersection

Oxford new T-intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Oxford Road East											
5	T	247	1.0	0.128	0.0	LOS A	0.0	0.0	0.00	0.00	70.0
6	R	27	5.0	0.030	12.0	LOS B	0.1	1.0	0.46	0.73	51.4
Approach		275	1.4	0.128	1.2	LOS B	0.1	1.0	0.05	0.07	67.6
North: New Road											
7	L	84	5.0	0.160	14.0	LOS B	0.7	5.3	0.53	0.81	49.2
9	R	13	5.0	0.160	14.0	LOS B	0.7	5.3	0.53	0.88	49.4
Approach		97	5.0	0.160	14.0	LOS B	0.7	5.3	0.53	0.82	49.3
West: Oxford Road West											
10	L	4	3.8	0.222	9.9	LOS A	0.0	0.0	0.00	1.23	53.9
11	T	420	6.2	0.226	0.0	LOS A	0.0	0.0	0.00	0.00	70.0
Approach		424	6.2	0.226	0.1	LOS A	0.0	0.0	0.00	0.01	69.8
All Vehicles		796	4.4	0.226	2.2	NA	0.7	5.3	0.08	0.13	65.8

From Original Transport Assessment - PM

MOVEMENT SUMMARY

Site: 2014 PM Oxford new T-intersection

Oxford new T-intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oxford Road East											
5	T	336	1.0	0.173	0.0	LOS A	0.0	0.0	0.00	0.00	70.0
6	R	23	5.0	0.021	10.9	LOS B	0.1	0.7	0.33	0.67	52.4
Approach		359	1.3	0.173	0.7	LOS B	0.1	0.7	0.02	0.04	68.5
North: New Road											
7	L	71	5.0	0.107	12.3	LOS B	0.5	3.6	0.39	0.70	51.1
9	R	11	5.0	0.106	12.3	LOS B	0.5	3.6	0.39	0.85	51.3
Approach		81	5.0	0.107	12.3	LOS B	0.5	3.6	0.39	0.72	51.1
West: Oxford Road West											
10	L	3	5.0	0.126	10.0	LOS A	0.0	0.0	0.00	1.23	53.9
11	T	239	3.4	0.127	0.0	LOS A	0.0	0.0	0.00	0.00	70.0
Approach		242	3.4	0.127	0.1	LOS A	0.0	0.0	0.00	0.02	69.7
All Vehicles		682	2.5	0.173	1.9	NA	0.5	3.6	0.06	0.11	66.3

LOS (Aver. Int. Delay): NA. The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.
Level of Service (Worst Movement): LOS B. LOS Method for individual vehicle movements: Delay (HCM).
Approach LOS values are based on the worst delay for any vehicle movement.

With updated additional flows – PM

MOVEMENT SUMMARY

Site: 2014 PM Oxford new T-intersection

Oxford new T-intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
East: Oxford Road East											
5	T	420	0.8	0.216	0.0	LOS A	0.0	0.0	0.00	0.00	70.0
6	R	94	5.0	0.093	11.5	LOS B	0.5	3.3	0.42	0.73	52.0
Approach		514	1.6	0.217	2.1	LOS B	0.5	3.3	0.08	0.13	65.9
North: New Road											
7	L	59	5.0	0.105	13.4	LOS B	0.5	3.4	0.47	0.74	49.8
9	R	7	5.0	0.105	13.5	LOS B	0.5	3.4	0.47	0.87	50.0
Approach		66	5.0	0.105	13.4	LOS B	0.5	3.4	0.47	0.76	49.8
West: Oxford Road West											
10	L	14	5.0	0.175	10.0	LOS A	0.0	0.0	0.00	1.21	53.9
11	T	322	2.5	0.176	0.0	LOS A	0.0	0.0	0.00	0.00	70.0
Approach		336	2.6	0.176	0.4	LOS A	0.0	0.0	0.00	0.05	69.2
All Vehicles		916	2.2	0.217	2.3	NA	0.5	3.4	0.08	0.15	65.5

Appendix D – SIDRA Summary Results – Oxford Road new T intersection

From Original Transport Assessment – AM

MOVEMENT SUMMARY

Site: 2014 AM Oxford new T-intersection

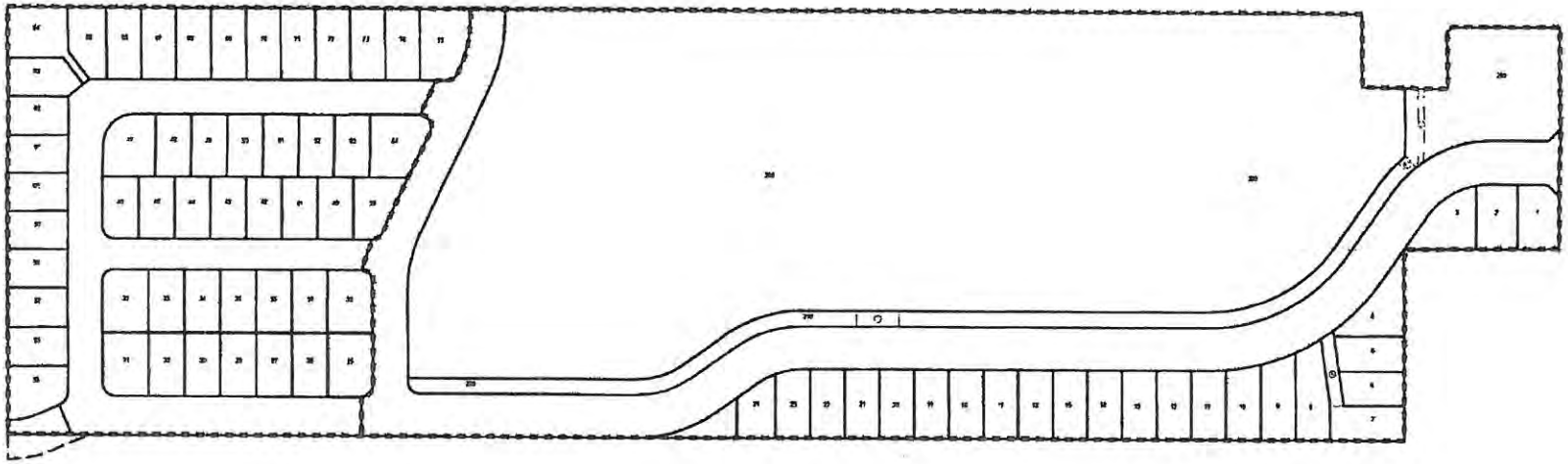
Oxford new T-intersection
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Oxford Road East											
5	T	186	1 3	0 096	0 0	LOS A	0 0	0.0	0.00	0 00	70 0
6	R	23	5 0	0.024	11 5	LOS B	0 1	0.8	0.41	0.70	52 0
Approach		209	1 7	0.096	1 3	LOS B	0 1	0.8	0 05	0 08	67 5
North: New Road											
7	L	71	5 0	0.117	12 9	LOS B	0 5	3.9	0.47	0.76	50 4
9	R	11	5 0	0.117	12 9	LOS B	0 5	3.9	0.47	0 87	50 6
Approach		81	5 0	0.117	12 9	LOS B	0 5	3.9	0.47	0.77	50 4
West: Oxford Road West											
10	L	3	5 0	0 186	10 0	LOS A	0 0	0.0	0.00	1 24	53 9
11	T	347	7 5	0.189	0 0	LOS A	0 0	0.0	0.00	0.00	70 0
Approach		351	7 5	0.189	0 1	LOS A	0 0	0.0	0.00	0 01	69 8
All Vehicles		641	5 3	0.189	2 1	NA	0.5	3.9	0.07	0.13	65 9

LOS (Aver. Int. Delay): NA. The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.
Level of Service (Worst Movement): LOS B. LOS Method for individual vehicle movements: Delay (HCM).
Approach LOS values are based on the worst delay for any vehicle movement.

WAIMAKARIRI DISTRICT COUNCIL
APPROVED APPLICATION
RC145670/RC145671
P.M.Wam 11/6/15
AUTHORISED OFFICER



SCHEDULE OF AREAS

DESCRIPTION	STAGE 1 (m²)	STAGE 2 (m²)	TOTAL
RESIDENTIAL LOTS 1 - 75	16424	33804	50228
ROAD TO VEST: LOTS 100 - 103	19173	11813	30986
LOCAL PURPOSE (UTILITY) RESERVE TO VEST: LOT 200	8816		8816
BALANCE LOT: LOT 300	72738		72738
TOTAL	113151	45617	162324

AREAS & DIMENSIONS ARE SUBJECT TO FINAL SURVEY

MEMORANDUM OF EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY & SERVICES	A	LOT 7	LOT 8 & 9
RIGHT OF WAY & SERVICES	B	LOT 300	LOT 300
RIGHT OF WAY & SERVICES	C	LOT 200	LOT 300
RIGHT TO DRAIN SEWER	D	LOT 200	LOT 1 DP 476951

SCALEBAR (M)
0 25.0 50.0 125.0

REVISION DETAILS	NAME	DATE
1. SUBDIVISION SCHEME AMENDED	MRM	21/11/14
2 DRAWING NUMBER REVISED, DRAWING ROTATED & AREA CORRECTED	MRM	16/02/14
3. EASEMENT REMOVED & LOT 24 AMENDED	MRM	06/05/15

CLIENT: RYMAN HEALTHCARE

RYMAN RANGIORA DEVELOPMENT

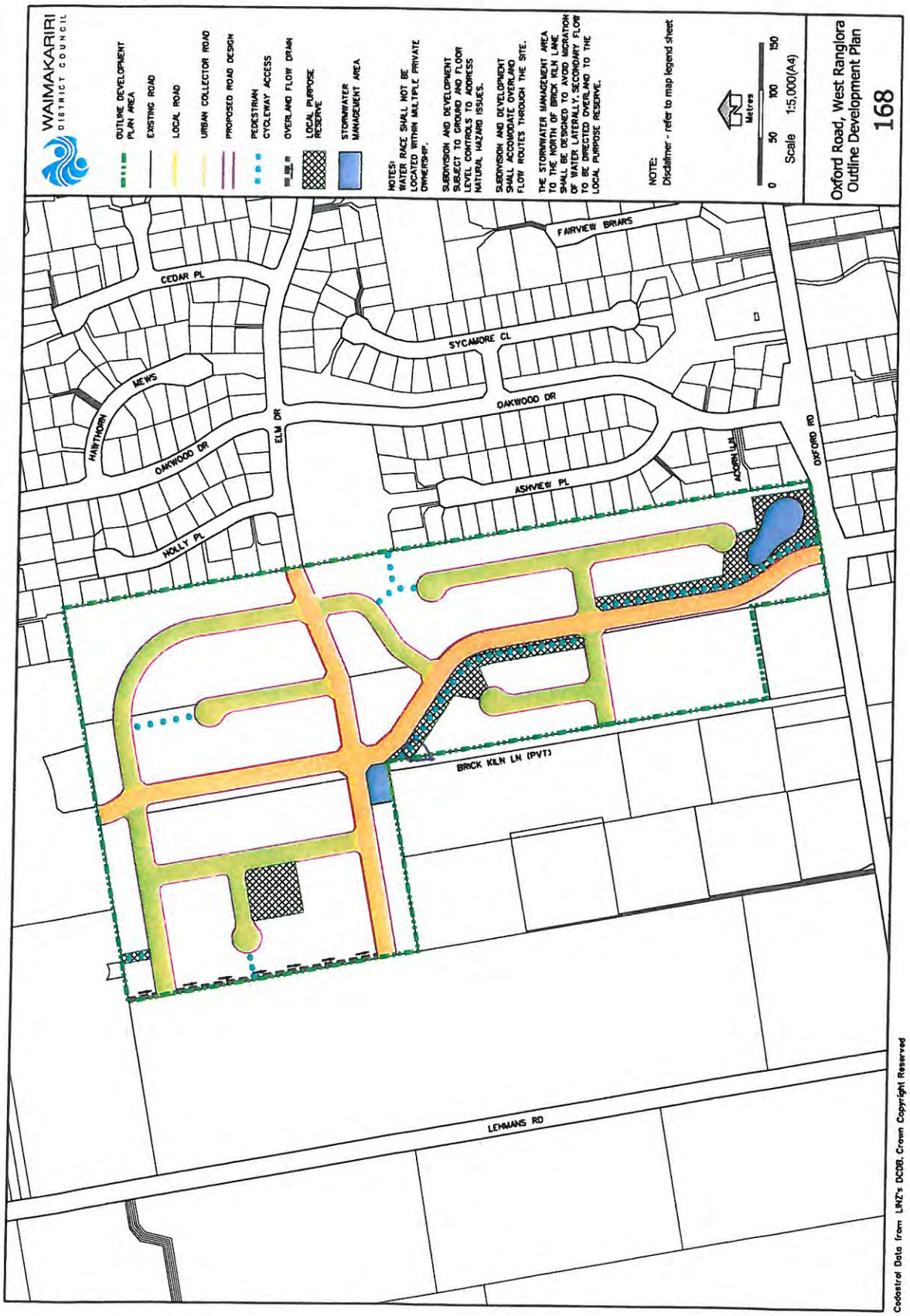
SCHEME PLAN
LOTS 1-75, 100-102, 200 & 300 BEING A SUBDIVISION OF
PART RS 968 & LOT 2 DP 476951
WAIMAKARIRI DISTRICT COUNCIL

WOODS Engineers Surveyors Planners

DESIGNED: MRM	ISSUED FOR INFORMATION
CHECKED:	DRAWN: RGC
APPROVED:	SURVEYED:
JOB NUMBER: 61099	SCALE: 1:1250 @ A1, 1:2500 @ A3
ISSUED: 24/10/2014	
DWG. NO. 034-RCT_401_C0_001	REV 3

I: 61099 - 52-74 Oxford, Rangiora\Project Data\Acad Drawings\Scheme Plans\01-001-61099-GE.dwg, 6/05/2015 11:14:00 a.m.

ODP 168


WAIMAKARIRI DISTRICT COUNCIL
OUTLINE DEVELOPMENT PLAN AREA
EXISTING ROAD
LOCAL ROAD
URBAN COLLECTOR ROAD
PROPOSED ROAD DESIGN
PEDESTRIAN CYCLEWAY ACCESS
OVERLAND FLOW DRAIN
LOCAL PURPOSE RESERVE
STORMWATER MANAGEMENT AREA
NOTES:
WATER RACE SHALL NOT BE LOCATED WITHIN MULTIPLE PRIVATE OWNERSHIP.
SUBDIVISION AND DEVELOPMENT SUBJECT TO GROUND AND FLOOR LEVEL CONTROLS TO ADDRESS NATURAL HAZARD ISSUES.
SUBDIVISION AND DEVELOPMENT SHALL ACCOMODATE OVERLAND FLOW ROUTES THROUGH THE SITE.
THE STORMWATER MANAGEMENT AREA TO THE NORTH OF BRICK KILN LANE SHALL BE DESIGNED TO AVOID MIGRATION OF WATER LATERALLY. SECONDARY FLOW TO BE DIRECTED OVERLAND TO THE LOCAL PURPOSE RESERVE.
NOTE:
Disclaimer - refer to map legend sheet
Metres
0 50 100 150
Scale 1:5,000(A4)
Oxford Road, West Rangiora
Outline Development Plan
168
FAIRVIEW BRIARS
CEDAR PL
SYCAMORE CL
MEWS
HAWTHORN
OAKWOOD DR
ELM DR
OAKWOOD DR
ASHVIEW PL
ACORN LN
OXFORD RD
HOLLY PL
BRICK KILN LN (PVT)
LEHMANS RD
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