Attachment B

Roading and Traffic Evidence

In the Matter of:	The Resource Management Act 1991
and	
In the Matter of:	**Plan Change 10 to the Selwyn District Council District Plan**
Application By:	**Selwyn District Council**

Statement of Evidence of Tony Penny

Traffic Design Group Ltd
Telephone: +64-3-379 2404
Facsimile: +64-3-379 3406
E-Mail: tony.penny@tdg.co.nz
PO Box 13 835, Armagh
CHRISTCHURCH 8141

Statement of Evidence of Tony Penny, BSc BE FIPENZ CPEng IntPE(NZ)

Introduction

1. My full name is Anthony Thomas Penny. I am a Fellow of the Institute of Professional Engineers of New Zealand Civil Engineer and I hold a Bachelor Degree in Mathematics and a Bachelor Degree in Civil Engineering from the University of Canterbury. My background of experience includes over 30 years in traffic engineering and transportation planning with the Christchurch City Council, the Department of Transport in the United Kingdom, the MVA Consultancy in Hong Kong and Traffic Design Group Limited. I have worked for over 20 years practising as a traffic engineering specialist on projects throughout New Zealand and I am a Director of Traffic Design Group and manager of the firm's Christchurch office. Our firm has been engaged by local authorities and private concerns in many centres to advise on the full range of transportation issues covering safety, management and planning matters of many kinds.

2. While this is a Council Hearing, I agree to comply with the Code of Conduct for Expert Witnesses in the current (2006) Environment Court Practice Note in giving evidence to this hearing and have done so in preparing this written brief. The evidence I am giving is within my area of expertise, except where I state I am relying on the opinion or evidence of other witnesses. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed. I understand it is my duty to assist the hearing impartially on relevant matters within my area of expertise and that I am not an advocate for the party which has engaged me.

Summary

3. In my statement, I first provide a review of the key transportation issues that were raised in the transportation assessment report supporting the Plan Change application. I then review the transportation issues identified in the submissions received on the notified Plan Change. As part of my review, I have identified potential means of mitigation to address the transportation related concerns of the submitters.

4. I have concluded that the Plan Change application can be supported from a transportation perspective (subject to the mitigation measures suggested later in my statement).

Transportation Assessment Report

5. Selwyn District Council (SDC) is proposing a Plan Change to the Selwyn District Plan (District Plan) to enable business development on approximately 49ha of rural land (SR1) to the north-west of the existing IZONE business park, and to the east of Railway Road in Rolleston as indicated in Figure 1. The Plan Change proposal will result in this land being rezoned from Rural to Business 2A (B2A), being a modification of the existing B2 Zone in the District Plan. The proposed Plan Change will effectively facilitate the expansion of the existing IZONE business park.

6. I supervised the preparation of the Transportation Assessment Report (TAR) that addressed the potential transportation effects of the development that would be enabled by proposed Plan Change 10 and of the connections to the existing roading network. My assessment of traffic effects was based on a transportation network that includes the upgrades proposed as part of Plan Change 5 to the District Plan. In particular, the future road network associated with Plan Change 5 will include an upgrade of Hoskyns Road between Jones Road and the proposed new IZONE access which also includes an off-road pedestrian and cycle path. With the development potential associated with Plan Change 10 which is described in the TAR, I identified the need for the existing priority-controlled intersection of Hoskyns Road / Jones Road to be converted to a roundabout.

7. In my opinion, the proposed connections for the expanded IZONE area will enable traffic to be distributed effectively onto the wider road network. There is also potential to transport freight to / from the site using the Midland Railway which is adjacent to the IZONE site which would reduce the effects on the road network.

8. The internal road layout caters for the industrial / business nature of IZONE through the provision of wide carriageways and an efficient grid network layout. This in turn ensures that IZONE will be able to accommodate bus services in the future. Consideration has also been given to the needs of pedestrians and cyclists through the provision of extensive footpaths and road widths with sufficient space to accommodate cyclists. I consider that these provisions are adequate to promote travel by more sustainable modes in the future.

9. I have predicted that the full development of the expanded IZONE could result in increased traffic volumes on the surrounding roads approaching 6,100vpd. This increase will be gradual with full development occurring over a 7-12 year period depending on demand for sites. In my opinion, the existing network and short term upgrades can accommodate this level of demand. In the longer term, I consider that the

road network improvement projects identified within CRETS such as the Christchurch Southern Motorway will ensure that future growth in general traffic demands can also be accommodated.

10. The detailed analysis of the road network, which is included within the TAR, demonstrated that the future road network surrounding IZONE will have sufficient capacity to accommodate the traffic generated by the extended IZONE with an acceptable level of service.

11. In terms of road safety, I consider that the comprehensive well-designed business park road network is likely to have a better level of performance than equivalent alternative facilities in smaller development schemes elsewhere in the District. In addition, with efficient access to the external road network via high standard connections, I consider that the proposed site layout will optimise road safety effects.

12. From this thorough investigation of all the traffic and transportation issues associated with the IZONE expansion proposal, I concluded that the transportation needs of the proposed Plan Change will not have any significant long-term adverse effects on the transportation system.

Transportation Related Submissions

13. I have the following comments on the transportation related concerns raised by the submitters which include the railway siding, site access from Railway Road, heavy vehicle movements and Jones Road.

Railway Siding

14. Many of the submissions[1] are opposed to the construction of the railway siding. The primary sidings are located to the north the railway line and are outside of the IZONE boundary. However, I have noted that a new section of railway crosses Railway Road and enters the existing IZONE. This railway siding could provide potential for inter-modal freight exchange within the IZONE site which would reduce the total number of external heavy vehicle movements to / from the site.

15. Although the railway connection into the existing IZONE site is not shown on the Outline Development Plan, in my opinion, the provision of railway access within IZONE is consistent with the policy of the Canterbury Regional Land Transport Strategy and also

[1] Chaney, Cuff, Forrester, Grant,Harris, Newman, Schicker, Woollard

the physical methods for implementing the policy identified within the Canterbury Regional Land Transport Freight Action Plan for the following reasons.

16. The Canterbury Regional Land Transport Freight Action Plan (FAP) describes a zone of significant freight activity as "*one that typically generates more than 100 heavy goods vehicles equivalent movements per day*." The existing developments within the IZONE site already generate this level of heavy vehicle movement every day and will increase with further expansion of IZONE under Plan Change 5. Therefore, IZONE meets the description of a zone of significant freight activity.

17. The FAP recommends that sites of significant freight activity "*preferably be close to the strategic freight network*" and "*The planning and design of these zones should allow for efficient access at all times.*" The FAP also identifies two physical methods for achieving Policy 5.1 of the Canterbury RLTS; "*Provide for effective movement of freight in ways that are efficient, safe and sustainable ensuring the guiding principles for freight are applied.*" The methods are:

> *5.1.8: Develop road and rail networks suited to the needs of freight vehicles that relieve roads and residential streets of unnecessary truck traffic.*
>
> *5.19: Provide facilities for inter-modal freight exchange.*

18. I note that these methods have been adopted by Selwyn District Council within the Selwyn Community Plan which states "*the Council is actively involved in facilitating rail freight services to be introduced into its IZONE Southern Business Hub*". With IZONE being located adjacent to the railway, the inclusion of a railway connection will enable inter-modal freight exchange. Therefore, I consider the future design to be consistent with these implementation methods.

Railway Road Access

19. As part of the proposed plan change, the outline development plan includes a new access from Railway Road into the expanded IZONE site. The traffic volumes on Railway Road between West Melton Road and Jones Road are currently low (<150 vehicles per day) and in my opinion, the provision of this access will only marginally increase the traffic volumes on Railway Road because the proposed upgrades to Hoskyns Road will make this a more attractive route for trips to / from the north and west.

20. However, with the construction of the railway siding, the Council has proposed the closure of the section of Railway Road between the new access and the Balance Agri-Nutrients site, some 250m north of Jones Road although this does not form part of Plan

Change 10. With the closure of this section of Railway Road, any motor vehicle movements will be moved into the IZONE site and away from the Armack Drive residential subdivision.

21. Therefore, while there are several submissions[2] opposing the new access into the site, if Railway Road is closed to the south of the new access, then in my opinion this will provide a benefit to the residents of the Arnack Drive subdivision by increasing the separation between the access roads and the residential activity which will reduce both noise and dust levels from Railway Road.

Heavy Vehicle Movements

22. Concerns have been raised about the increased traffic movements to the site, particularly by heavy vehicles. I commissioned a road side interview survey of vehicles entering IZONE during the morning peak period and departing during the evening peak period on 9 December 2009 to investigate the existing pattern of vehicle movements. I have tabulated the results of the survey in Appendix A of my statement.

23. The survey indicates that the majority of traffic approaches IZONE from the east and also departs to the east using State Highway 1. In the morning peak period, the only IZONE related traffic using Jones Road south of Izone Drive was light vehicles and these only comprised about 7% of the total inbound light vehicle volume (14 out of 192). In the evening peak period, 6% of the outbound traffic from IZONE used Jones Road south of Izone Drive with all of these being light vehicles.

24. In the morning peak period, 25% of the inbound vehicles were heavy vehicles. This is significantly higher than the reverse outbound movement in the evening peak period which included only 5% heavy vehicles.

25. Based on the results of the traffic simulation modelling work that was undertaken on my behalf during the preparation of the TAR for the Plan Change, I have concluded that the future distribution of vehicle movements to IZONE will generally be similar to the existing pattern of movements with about 60% of all movements being to / from Christchurch or areas further to the North. With the growth of the Rolleston township however, it is possible that there will be some re-distribution of the remaining vehicle trips with more trips between IZONE and Rolleston but in my opinion, this will mostly affect the distribution of light vehicle movements rather than heavy vehicles.

26. Under Plan Change 5, a new access to IZONE will be created on Hoskyns Road. Along with the proposed upgrade to Hoskyns Road, I consider that this will provide a more

efficient distribution of IZONE related traffic on the surrounding road network and will mitigate the effects of the predicted traffic growth on Jones Road. With the provision of railway freight access within the site, I consider it unlikely that there will be a significant increase in heavy vehicle volumes on Jones Road between Hoskyns Road and Izone Drive because it will be partially offset by a reduction arising from a re-distribution of trips to the Hoskyns Road access and also by a transfer to rail.

Jones Road

27. Concerns have been raised by submitters[3] in regard to Jones Road and its ability to accommodate the growth in traffic volumes that could be expected as a result of developing the Plan Change area. The details of my analysis of the future road network performance are included within the TAR. That analysis demonstrated that the future road network surrounding IZONE will have sufficient capacity to accommodate the traffic generated by the extended IZONE with an acceptable level of service.

28. The submitters have also raised concerns in regard to the quality of the road surface, poor road marking and the footpaths along Jones Road. In my opinion, the poor quality of the road markings, particularly the yellow "no parking" markings means that vehicles often park on Jones Road causing both an obstruction to cyclists and restricted visibility at driveways. Further, while there are footpaths along some sections of the road, these do not link in a coherent manner which does not contribute to the promotion of walking as a viable and safe travel mode to the IZONE site.

29. While this is an existing matter and is not directly related to this Plan Change, additional traffic associated with the Plan Change will use this section of Jones Road.

State Highway Access

30. In his submission, Mr Chaney states that the State Highway intersection needs improving but does not identify what he considers to be the problem with the intersection. As I stated earlier, my analysis of the future performance of the road network surrounding IZONE indicates that it will have sufficient capacity to accommodate the traffic generated by the extended IZONE with an acceptable level of service.

31. In the longer term, the construction of the Christchurch Southern Motorway and the associated intersection upgrades, such as the interchange at Weedons Ross Road and

[2] Chaney, Schicker
[3] Chaney, Harris, Robinson, Woollard

a grade-separated road connection with Rolleston will ensure that the road network operates with an acceptable level of performance.

Mitigation Measures

32. I have identified two potential mitigation measures to meet the concerns of the submitters regarding transportation issues.

33. With regard to the proposed new access from Railway Road, I suggest that Railway Road be sealed from the access to a point about 50m north-west of the site boundary and 10m to the south-east of the access. This will provide benefits by reducing vehicle noise, maintenance costs and also dust levels on the approach to the access.

34. It is my understanding that a range of upgrades to Jones Road were proposed as part of the initial phase of IZONE development. To ameliorate the concerns of the submitters regarding Jones Road, I recommend that these upgrades should be completed and should include a continuous section of footpath from Hoskyns Road to Izone Drive.

Conclusions

35. Concerns have been raised in the submissions to the Plan Change in regard to the railway siding although this is outside of the Plan Change area, access from Railway Road, increases in heavy vehicle movements and the capacity of Jones Road to accommodate the predicted traffic growth.

36. I have reviewed these concerns and identified some potential mitigation measures to address them. These include sealing a section of Railway Road, construction of a footpath and improved road markings on Jones Road.

37. Accordingly, I have concluded that there are no transportation-related reasons for not approving the Plan Change application.

Tony Penny
Traffic Design Group
March 2010

Appendix A: Road Side Interview Results

Morning Peak

38. The following tables show the arrival distribution of vehicles at Izone Drive for the morning peak period on 9 December 2009.

From	ROUTE					*Light Vehicle TOTAL*	*% of Total*
	SH1 - Hoskyns Rd	Jones Rd (nth)	Maddisons Rd	Jones Rd (sth)	Hoskyns Rd (west)		
Christchurch / North	69	33	10	0	1	*113*	*59%*
South	11	0	0	5	1	*17*	*9%*
Southeast	3	0	0	0	0	*3*	*2%*
West	1	3	2	8	14	*28*	*14%*
Rolleston	30	0	0	1	0	*31*	*16%*
TOTAL	**114**	**36**	**12**	**14**	**16**	*192*	*100%*

Table 1: Roadside Interview Survey Results – AM (7 – 9am) Light Vehicle Trips

From	ROUTE					*Heavy Vehicle TOTAL*	*% of Total*
	SH1 - Hoskyns Rd	Jones Rd (nth)	Maddisons Rd	Jones Rd (sth)	Hoskyns Rd (west)		
Christchurch / North	50	4	0	0	1	*55*	*89%*
South	4	0	0	0	0	*4*	*6%*
Southeast	0	0	0	0	0	*0*	*0%*
West	0	0	0	0	2	*2*	*3%*
Rolleston	1	0	0	0	0	*1*	*2%*
TOTAL	**55**	**4**	**0**	**0**	**3**	*62*	*100%*

Table 2: Roadside Interview Survey Results – AM (7 – 9am) Heavy Vehicle Trips (including construction trucks)

Entering IZONE (AM)	Non-Construction Traffic		Construction Traffic		TOTAL TRAFFIC	
	Light	Heavy	Light	Heavy	Light	Heavy
From Southeast and Rolleston	30 (19%)	1 (3%)	4 (12%)	0 (0%)	34 (18%)	1 (1%)
From South	15 (10%)	4 (9%)	2 (6%)	0 (0%)	17 (9%)	4 (6%)
From Christchurch/North	86 (55%)	34 (84%)	27 (74%)	21 (100%)	113 (59%)	56 (90%)
From West	25 (16%)	2 (4%)	3 (7%)	0 (0%)	28 (14%)	2 (3%)
	136	41	36	21	192	63

Table 3: Observed Traffic Distributions for IZONE - AM (7 – 9am)

Evening Peak

39. The following tables show the departure distribution of vehicles from Izone Drive during the evening peak period on 9 December 2009.

From	ROUTE					*Light Vehicle TOTAL*	*% of Total*
	SH1 - Hoskyns Rd	Jones Rd (nth)	Maddisons Rd	Jones Rd (sth)	Hoskyns Rd (west)		
Christchurch / North	56	27	18	0	0	*101*	*57%*
South	11	0	0	6	0	*17*	*10%*
Southeast	6	0	0	1	0	*7*	*4%*
West	3	1	3	2	8	*17*	*10%*
Rolleston	29	0	0	2	3	*34*	*19%*
TOTAL	**104**	**28**	**21**	**11**	**11**	*176*	*100%*

Table 4: Roadside Interview Survey Results – PM (4 – 6pm) Light Vehicles

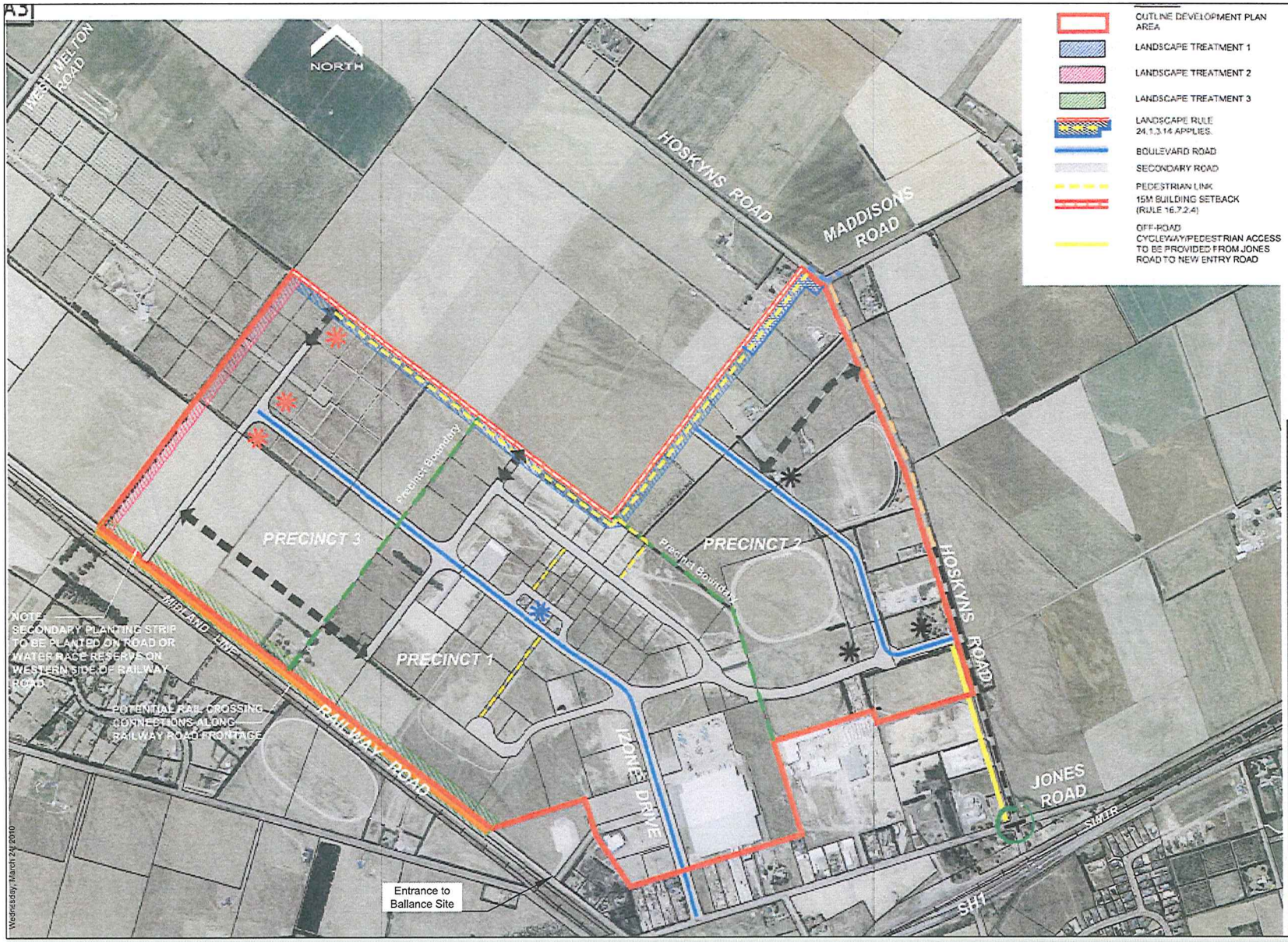
From	ROUTE					*Heavy Vehicle TOTAL*	*% of Total*
	SH1 - Hoskyns Rd	Jones Rd (nth)	Maddisons Rd	Jones Rd (sth)	Hoskyns Rd (west)		
Christchurch / North	3	0	2	0	0	*5*	*56%*
South	3	0	0	0	0	*3*	*33%*
Southeast	0	0	0	0	0	*0*	*0%*
West	0	0	0	0	0	*0*	*0%*
Rolleston	1	0	0	0	0	*1*	*11%*
TOTAL	**7**	**0**	**2**	**0**	**0**	*9*	*100%*

Table 5: Roadside Interview Survey Results – PM (4 – 6pm) Heavy Vehicles

Entering IZONE (AM)	Non-Construction Traffic		Construction Traffic		TOTAL TRAFFIC	
	Light	Heavy	Light	Heavy	Light	Heavy
From Southeast and Rolleston	40 (26%)	1 (12%)	1 (5%)	0 (0%)	41 (23%)	1 (11%)
From South	15 (10%)	2 (25%)	2 (8%)	1 (100%)	17 (10%)	3 (33%)
From Christchurch/North	82 (55%)	5 (63%)	19 (72%)	0 (0%)	101 (57%)	5 (56%)
From West	13 (9%)	0 (0%)	4 (15%)	0 (0%)	17 (10%)	0 (0%)
	150	8	26	1	176	9

Table 6: Observed Traffic Distributions for IZONE – PM (4 – 6pm)

A3



Rev.	Date	Revision Details	By
E	26.8.9	MINOR ADMENDMENTS	RS
D	26.6.9	OUTLINE DEV AREA ADJUSTED	RS
C	15.6.9	MINOR AMENDMENTS	RS
B	22.5.9	AMENDMENTS FROM H & G	RS
A	05.09	ISSUE	RS

aurecon

Aurecon New Zealand Limited
Level 4, Tarrens House
185 Hereford Street (PO Box 1061)
Christchurch New Zealand

Telephone: +64 3 366 0821
Facsimile: +64 3 379 6955
Email: christchurch@ap.aurecongroup.com

Project:

IZONE
SOUTHERN BUSINESS HUB

Drawing Title:

OUTLINE DEVELOPMENT PLAN BUSINESS 2A ZONE

PROPERTY DATA
The property data has been sourced from Land Information New Zealand (LINZ) and is current as at January 2009.

AERIAL PHOTO
The aerial photography was flown in January 2008 at a negative scale of approximately 1:27,500 & supplied courtesy of Selwyn District Council.

REVISION	DATE	DESCRIPTION

Rolleston Business Zone Expansion

Proposed Outlined Development Plan

DRAWN: DKN
DATE: 15-09-2009
SCALE: 1:10,000 @ A3
DWG NO:7030-6-C1A

Traffic Design Group

1

Wednesday, March 24, 2010

G:\7000-7999\7000-7099\7030-6 IZone 2009\ACAD\evidence\7030-6-C1A.dwg