

# Peer Review of Traffic Impact Assessment Application for a Change to the Selwyn District Plan

Broadfield Estates Limited Edward Street Lincoln

Selwyn District Council

15 September 2009

# Application for a Change to the Selwyn District Plan

Plan Change 4 - Broadfield Estates

Prepared for

**Selwyn District Council**

Prepared by

**AECOM New Zealand Limited**

Level 6, 76 Cashel Street, Christchurch 8011, New Zealand

P O Box 710, Christchurch MC, Christchurch 8140, New Zealand

T +64 3 363 8500 F +64 3 363 8501 [www.aecom.com](http://www.aecom.com)

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## Quality Information

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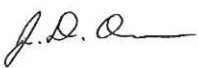
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Prepared by Jeff Owen

Reviewed by Brendan Bisley

### Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
	15/09/2009	Final	Jeff Owen	

## Table of Contents

Executive Summary	i
1.0 Introduction	1
2.0 The Proposal	1
3.0 Traffic Effects	1
3.1 Road Geometry and Intersections	1
3.2 Cycling and Pedestrian	2
3.3 Road Network	2
3.4 Public Transport	3
4.0 Traffic Generation	3
5.0 District Plan Requirements	4
6.0 Submissions	4
7.0 Conclusion	4
Appendix A Outline Development Plan (Liffey Springs)	A-1

## Executive Summary

- The proposed plan change will allow a subdivision of approximately 294 residential sections or lots to the east of the Lincoln Township immediately east of Lincolnale. The subdivision layout will provide roading links to existing adjacent subdivisions and allows for linkages to future developments.
- The subdivision will be developed in accordance with the existing Selwyn District Plan rules. According the proposal will comply with the Plan's requirements regarding roading layout, parking, access and movement of vehicles.
- The main access to the site will be from a tee intersection onto Edward Street and will fully comply in terms of location, sight and design distances once the speed limit change point from 50 to 70 kph is moved east along Edward Street.
- The anticipated maximum traffic generation by the development onto Edward Street is up to 2940 vehicle trips per day. Edward Street is an 'Arterial Road' in the Selwyn District Plan and has spare capacity to carry the expected increase in traffic volumes.
- The proposal allows for future public transport services with consideration being given to roading environments particularly widths and road classification.
- The proposed future Rail Trail extension from East Belt east along Edward Street and beyond is well catered for at and through the proposed subdivision. A crossing point is proposed immediately west of the sites intersection onto Edward Street. The Rail Trail is proposed to follow the LII River south along the esplanade reserve within the subdivision.
- The subdivision layout provides good pedestrian/cycling links to the existing Lincolnale subdivision to the east and the future development to the west of the site.
- Submitters views how been considered in the proposal through this Peer Review. The plan shown in appendix A includes an indicative link road through to Ellesmere Road and the proposed future esplanade link road following the LI creek.
- The proposed subdivision will be assessed under the relevant rules of the Selwyn District Plan at the time of subdivision consent. The application however embraces the subdivision and transport related rules of the District Plan.
- Overall the Traffic Impact Assessment report prepared by ViaStrada Ltd and Infrastructure Report prepared by Davie Lovell – Smith for a plan change submitted by Broadfield Estates Ltd are thorough and address relevant transport related issues.
- I generally concur with the conclusions reached by ViaStrada Ltd in the Traffic Impact Assessment report and comments made by Davie Lovell – Smith in the Infrastructure Report.

## 1.0 Introduction

The Selwyn District Council has engaged AECOM NZ Ltd to Peer Review the Traffic Impact Assessment prepared by ViaStrada Ltd and Infrastructure Report prepared by Davie Lovell – Smith for a plan change submitted by Broadfield Estates Ltd. The Traffic Impact Assessment (TIA) and Infrastructure Report relates to an application to change the Selwyn District Plan (PC4) to facilitate the development of a residential subdivision.

The peer review report has been undertaken on the Traffic Impact Assessment for a Change to the Selwyn District Plan (Broadfield Estates Limited, Edward Street, Lincoln) report dated 7 August 2008 prepared by ViaStrada Ltd. Also the Infrastructure Report for a Proposed Plan Change, Liffey Springs dated June 2008 prepared by Davie Lovell – Smith.

ViaStrada Ltd has prepared a comprehensive report outlining the potential traffic effects associated with the proposed designation. The report describes the existing environment including road classification, road geometry and intersections, and traffic volumes. Meeting the Selwyn District Plans requirements is also addressed.

The Davie Lovell – Smith Infrastructure report addresses and comments on the transport related issues of the proposal but generally relies on the TIA prepared by ViaStrada Ltd.

## 2.0 The Proposal

The application seeks a plan change to the Selwyn District Plan to facilitate the development of a residential subdivision. The site is at 86A Edwards Street located on the eastern extremities of the Lincoln Township. The site is approximately 28ha in size. To satisfy the provisions of the Structure Plan for Lincoln the proposed Plan Change calls for a minimum of 10.5 households/lots per hectare. It is therefore proposed to develop approximately 294 residential sections along with roading infrastructure and reserves.

The proposal also provides pedestrian and cycle connectivity to the Lincoln Township. Pedestrian links will be continued from the adjacent Lincolndale subdivision to the west. The Rail Trail is proposed to traverse the esplanade reserve within the subdivision along the Liffey River.

The proposal is fully described in the TIA and Infrastructure Report.

## 3.0 Traffic Effects

### 3.1 Road Geometry and Intersections

The access to the proposal will form a new intersection at Edwards Street. This will be located approximately 180 metres east of the existing intersection at the Lincolndale Subdivision. This will be formed to the Selwyn District Councils requirements and will in all intents and purposes replicate the intersection that is into Lincolndale.

As identified in the TIA the existing 50 kph speed limit change point to 70 kph will be required to be moved east on Edwards Street. This will require the necessary amendments to the Councils speed limit definitions.

The internal roading layout, intersection treatments and construction details will be approved at subdivision consent stage however the application shows an indicative roading pattern. The indicative roading pattern is consistent with the Selwyn District Plan. The Main Spine Road will be a 'boulevard' style road with 6 metre carriageways either side of a central swale. The internal link roads will be 9

metres wide (kerb to kerb) this allowing sufficient width for traffic movement and parking. Other roads will have a width of 8.5 metres with parking bays at various locations.

### **3.2 Cycling and Pedestrian**

The proposal includes comprehensive cycling facilities including the provision of the proposed Rail Trail to run along the LII River esplanade reserve. The Rail Trail currently runs along Birches Road predominately on a sealed off-road path, onto East Belt and terminates at Edward Street. The future extension will run eastward on-road, along Edward Street then into the Main Spine Road of the subdivision.

The TIA prepared by ViaStrada Ltd includes the provision for a cycle crossing point near the application site to access the proposed trail along the esplanade reserve. The Rail Trail is proposed to travel east along Edward Street on road in a marked cycle lane to the application site. It is suggested that a cycle crossing point be constructed on Edward Street approximately 100 metres west of the application site intersection. This could be kerb build outs/extensions location on each side of Edward Street with a 12 metre central island. The Rail Trail would then use a shared path arrangement within the landscaping area immediately west of the intersection (on the south side of Edward Street) to access the Spine Road. Due to the boulevard style of this road the trail would continue south along the western side of the boulevard, contra flow to traffic but also on a shared path. A crossing point then would be established opposite the proposed recreation reserve some 150 metres south of Edward Street. This would serve and provide access to and from the esplanade/recreation reserve along the LII River.

The application as prepared by Davie Lovell – Smith identifies a pedestrian link from the neighbouring Lincolndale subdivision giving access from Perthshire Crescent. It is suggested that a second crossing point (across the Spine Road) be established to connect this pedestrian access to the esplanade reserve running along the LII River.

The first intersection along the Spine Road to the south is some 550 metres from the Edward Street intersection with the cycle/pedestrian crossing point for the Rail Trail approximately 150 metres from Edward Street. The second crossing point (from Lincolndale) is a further 200 metres south. Due to the distance between intersections it is an ideal opportunity to provide a feature either flush or raised at each crossing point to alert motorists of possible crossing cyclists and pedestrians. Although that said each carriageway adjacent to the central swale is 6 metres wide and one-way, it is my opinion that it is more appropriate to provide a slightly raised textured treatment at each crossing point.

The Lincoln Structure Plan shows the Rail Trail running through the site with this application supporting this feature.

### **3.3 Road Network**

The TIA makes reference to both the Christchurch Rolleston and Environs Transport Study (CRETS) and the Lincoln Structure Plan. Both documents provide a clear view of the likely roading network needs of the area. The Structure Plan shows a roading linking between Southfield Drive to the west of the application site and Ellesmere Road to the east. This road joins through both neighbouring properties to the site. The proposal is compatible with the Structure Plan.

As mentioned above the application shows a road connecting through the adjacent site to the west known as the 'Zeestraten Block'. A plan showing an indicative roading pattern and the link road through to Southfield Drive has been received by the Selwyn District Council. This roading pattern is shown on the Outline Development Plan (Liffey Springs – Lincoln) included with the application.

To the east of the application site is a proposed stormwater management area (pending Council land purchase). This land is owned by N J Adams. The land to the south of the proposed stormwater management area is owned by B R & A S Moir, with the land to the north owned by P L Glasson.

Both property owners (Moir and Glasson) have submitted, opposing the application. The link road connecting through to Ellesmere Road is proposed to run through Mr Glasson's land.

The application shows a road crossing over the LII River onto Mr Glasson's land but no indicative roading pattern. As the road is shown in the Lincoln Structure Plan it is appropriate to show an indicative road through this land to Ellesmere Road. It is understood Selwyn District Council has been in discussions with Mr Glasson over the location of this road. The plan attached appendix A shows this link road from Ellesmere Road through to Southfield Drive.

### 3.4 Public Transport

At present there are no bus services running along the section of Edward Street at or near the application site. ECAN, the administrator of the public transport system has advised the applicant of the intention to provide future bus services to the area east of the Lincoln town centre. ECAN has confirmed that it may provide a service through the proposed link road from Lindendale to Ellesmere Rd and/or along the main spine road to Edward Street. With this in mind the applicant has allowed for this future service in their roading pattern. The link road is proposed to be a collector road and built to the required level of standard to accommodate larger vehicles. The main spine road or 'boulevard' with its 6 metre wide carriageways will be able to adequately cater for a bus service in the future even with kerb side parking occurring.

## 4.0 Traffic Generation

The Selwyn District Council has advised that currently Edward Street is carrying 4700 vpd west of the proposed application site access and 3800 vpd east of the site. The proposal is expected to contain 294 residential lots or sites. It is known that each residential property will generate between 6 and 10 vehicle trips per day. It follows that the subdivision proposal will generate between 1760 and 2940 vehicle trips per day.

Vehicle trips per day for a residential property are known to vary between 6 and 10 trips per day. These figures give a large variance of what a potential fully developed subdivision could generate. The vehicle trips per day figures are required to be applied to different situations. 10 vehicle trips per day per household generally are used to calculate trip generation for large towns and cities i.e. Christchurch. The lesser figure of 6 trips per day per household is used for small townships i.e. in this instance Lincoln. The rationale behind this is large cities have many facilities relatively close to the household unit where as smaller town have less infrastructure requiring property owners to travel greater distances to carry out their day to day activities. Many activities are undertaken in the same trip therefore trips per day are less than in large Cities.

The proposal relies on access to the subdivision via the proposed intersection onto Edward Street. It is noted that other accesses are proposed in the future by other developments these being the link road from the LII River to Ellesmere Road and through the Zeestraten Block to Southfield Drive. For the purposes of this application it is assumed all vehicle trips will use the Edward Street intersection and each household will generate 10 vehicle trips per day (the absolute maximum).

I agree with the rationale and principles used in the TIA prepared by ViaStrada Ltd. I however disagree with their assessment of expected traffic volumes on Edward Street. The TIA states that the expected traffic volume will increase on Edward Street from 4700 vpd to around 5880 vpd west of the site access and from 3800 vpd to around 4400 vpd to the east of the site. This is based on the subdivision containing 200 households/lots where as the subdivision will contain approximately 294 lots. Therefore the expected traffic volumes as estimated in the TIA are light with expected volumes of around 6640 vpd west of the site access and around 4800 vpd to the east of the site. The worst case scenario would see all traffic, up to 2940 vpd travelling either west or east from the site. In this case the traffic volumes could increase to 7640 vpd or 6740 vpd respectively on Edward Street.

Edward Street is classified as an 'Arterial Road' in the Selwyn District Plan and has a function to provide through traffic movements. The expected traffic volumes as discussed above are within the context of the volumes that arterial roads can cater for. That said Edward Street has spare capacity to carry the expected traffic volumes.

## 5.0 District Plan Requirements

The proposed subdivision will be assessed under the relevant rules of the Selwyn District Plan at the time of subdivision consent. The application however embraces the subdivision and transport related rules of the District Plan. As earlier discussed in this report the proposal provides separate off road cycle and pedestrian links to the neighbouring subdivision to the west. Consideration has been given to the adjacent land to the east by indicatively showing a link road through to Ellesmere Road.

The proposed intersection onto Edward Street is well positioned with good visibility in both directions. Safety and efficiency is achieved by the development being set back from the Edward Street boundary. The internal roading layout will be consistent with other developments within Lincoln. The wide 'Boulevard' style main road into the subdivision will provide a good residential environment with provision for stormwater runoff treatment in the central swale.

## 6.0 Submissions

Submissions have been received from three individuals relating to the Proposed Plan Change 4. Two of the submissions relate to transport issues.

The submitters believe the application rezoning of the land to Living 1 (Deferred) does not give enough certainty that adequate provision will be made for the proper position to adjoining properties of connecting roads, cycleways, walkways, reserves and all services.

To address these concerns the plan (appendix A) shows an indicative link road and extended pedestrian/cycle linkages within and from the subdivision. The submission is general rather than specific to the submitters concerns. Not knowing these exact concerns it is difficult to address these concerns at this stage however it is noted the submitters wish to be heard in support of their submissions.

## 7.0 Conclusion

The proposed plan change will allow a subdivision of approximately 294 residential sections or lots to the east of the Lincoln Township immediately east of Lindendale. The subdivision layout will provide roading links to existing adjacent subdivisions and allows for linkages to future developments. This includes provision for cyclists and pedestrians. The proposal also allows for future public transport services with consideration being given to roading environments particularly widths and road classification.

The subdivision will be developed in accordance with the existing Selwyn District Plan rules. According the proposal will comply with the Plan's requirements regarding roading layout, parking, access and movement of vehicles. The proposed subdivision will be assessed under the relevant rules of the Selwyn District Plan at the time of subdivision consent.

With the recommended speed limit change point relocation the access to and from the site will fully comply in terms of location, sight and design distances.

The proposed future Rail Trail extension from East Belt east along Edward Street and beyond is well catered for at and through the proposed subdivision. A crossing point is proposed immediately west of

the sites intersection onto Edward Street. The Rail Trail is proposed to follow the LII River south along the esplanade reserve within the subdivision.

Overall the Traffic Impact Assessment report and Infrastructure Report for a plan change submitted by Broadfield Estates Ltd are thorough and address relevant transport related issues.

I concur with the conclusions reached by ViaStrada Ltd in the Traffic Impact Assessment report and comments made by Davie Lovell – Smith in the Infrastructure report that it is unlikely that the subdivision will have any significant effect on safety or efficiency of Edward Street. Also there is not expected to be significant traffic related effects on rural or residential amenity in the area.

## Appendix A Outline Development Plan (Liffey Springs)

# Outline Development Plan (Liffey Springs - Lincoln)

