

**Resource Management act 1991**  
**SELWYN DISTRICT PLAN**  
**Privately Requested Plan Change**

**CHANGES TO THE PLAN IN RELATION TO LAND AT WEST MELTON TO THE WEST OF WEEDONS ROSS ROAD AND NORTH OF SH 73. THIS CHANGE IS TO ENABLE INTEGRATED DEVELOPMENT OF UNDEVELOPED LAND CURRENTLY ZONED 'LIVING 1 DEFERRED', 'LIVING 2 DEFERRED' AND 'LIVING 1' TO THE WEST OF LAIRDS PLACE.**

**Explanation**

The purpose of this privately requested plan change is as stated above to enable the subdivision and development of that land which is currently zoned for urban purposes, but on a 'deferred' basis. In the Selwyn District Plan the timing of the removal of this 'deferred status' and the subsequent nature and scale of development is dependant upon the provision of reticulated water supply and sewage disposal facilities together with the production of a comprehensive outline development plan for the whole of this area. This privately requested Plan Change provides such details.

In particular the proposed change sets out a comprehensive plan and design guidelines for the overall area of land concerned and provides for a range of residential lot sizes while:

- Ensuring that the quality of existing amenity and the environment enjoyed by existing residents in the current Living 1 zone to the east and those in the Rural zoned land to the west is not degraded or compromised;
- Ensuring that vehicular and pedestrian/cycle access to the surrounding road network has due regard to the issues of safety and amenity;
- Ensuring the provision of an integrated network of publicly accessible reserve areas are provided and maintained so as to enable the benefits of these to be enjoyed by the whole of the West Melton community;
- Ensuring appropriate provision is made for reticulated water supply and sewage treatment to serve this area, together with on site provision for the treatment and disposal of surface water drainage from the within this area.
- Ensuring consistency with the goals and objectives of the "Selwyn District Council Walking and Cycling Strategy" and "Greater Christchurch Travel Demand Management Strategy".

- Ensuring consistency with the principles of the Selwyn District Council *"Design Guide for Residential Subdivision in the Urban Living Zone"*.
- Ensuring consistency with the community outcomes sought under the *"Long Term Council Community Plan"*.

The requested changes to the Selwyn District Plan are attached, together with a consideration of the alternative methods considered and the benefits and costs of the changes proposed as required by s32 of the Act.

**SELWYN DISTRICT COUNCIL**  
**RESOURCE MANAGEMENT ACT 1991**

**Selwyn District Plan**  
**Privately Requested Plan Change**

**Proposed West Melton Living WM (West Melton) Zone**

**Section 32 Assessment**

**1.0 Consistency with existing District Plan Objectives and Policies**

- 1.1 The Proposed West Melton Living WM Zone is intended to replace the existing 'Living 1 Deferred' and 'Living 2 Deferred' zonings for that area of land to the west of Weedons Ross Road, north of SH 73 and south of Halkett Road. The proposed rules for this zone represent a new approach to the integrated comprehensive management of 'green-field' areas within existing urban limits. In all other respects these rules are assessed as being consistent with the objectives, policies and environmental outcomes for West Melton currently contained in the Selwyn District Plan.

**SELWYN DISTRICT PLAN - GROWTH OF TOWNSHIPS – Consistency with existing Objectives and Policies.**

**PART B Section 4.1 – Residential Density**

- 1.2 The resource management issues for that part of West Melton dealt with by the requested Plan Change are those intended to enable the sustainable management and development of the land concerned so as to:
- Provide within the existing urban limits of the township for a range of section sizes to suit the future needs of this community; and
  - To maintain the spacious character and amenity values of the existing township.
- 1.3 In line with the District Plan's Strategy for addressing the above issues, the requested Plan Change promotes a range of section

sizes having an average lot size of no greater density than those of the existing Living 1 zone in West Melton. The requested Plan Change is therefore entirely consistent with both **Objectives B4.1.1 & B4.1.2** of this section of the Plan and also with **Policy B4.1.4** which although currently referring to 'Living X zones' is intended to allow a choice (range) of residential density in townships, provided that the overall (average net) density is not greater than that currently provided for by the Living 1 zoning in any particular case. It is therefore assessed that the requested West Melton Living WM Zone remains consistent with those intended outcomes.

- 1.4 The preferred growth option for West Melton in the District Plan currently anticipates substantial growth taking place in the area the subject of the requested Plan Change. Specific Policies dealing with that intended growth provide for the primary focus of such development to be located to the north of SH 73 (**Policy B4.3.89**) and for it to promote a consolidated pattern of future urban growth (**Policy B4.3.90**).
- 1.5 While substantial growth and higher residential densities are anticipated in the District Plan in the area to the north of SH 73, this is to be subject to two general constraints. These are that neither Westview Crescent nor Laird Place are to be used as collector roads for any significant new development (**Policy B4.3.91**), and residential areas are to be promoted that maintain the lower residential density of the existing village, where possible (**Policy B4.3.92**). Policy 5 requires that any community reticulated sewerage treatment and disposal system at West Melton be designed so it can be connected to the public system as and when available (**Policy B4.3.93**).
- 1.6 A series of six further General Policy references are also given following **Policy B4.3.93**. It is assessed that the requested Plan Change can also be seen to be entirely consistent with all of the above objective and policy statements.
- 1.7 Appropriate residential densities for each of the communities within the Selwyn District is dealt with by District Plan subdivision rules. These currently provide that for areas zoned Living 1 / Living 1 Deferred, the average allotment size in West Melton is to be between 800m<sup>2</sup> and 1,000m<sup>2</sup>. For Living 2 / Deferred Living 2 the average allotment size is to be 5,000m<sup>2</sup>. The requested Living WM zoning of the land concerned will yield an average allotment size of approximately 1480m<sup>2</sup> over the whole of the area covered by the Outline Development Plan proposed in the requested Change. The resultant average density proposed by the requested Living WM zoning is therefore assessed to be consistent with Objectives 1 & 2 referred to earlier.

- 2.0 **Consistency with Proposed Change 1 to the Regional Policy Statement.**
- 2.1 As publicly notified in July 2007 proposed **Policy 6** sets out the scale of intended growth within the Selwyn District between 2007 and 2041. This growth is to occur within defined 'urban limits' as shown in proposed RPS Change 1. For West Melton a growth of 570 households is shown in that document as being envisaged for the township, although it is not clear as to what assumptions that particular figure was based on.
- 2.2 If the land concerned was to be restricted to the densities currently reflected in the 'Living 1' and 'Living 1/ 2 Deferred' zones then approximately 190 new households would eventuate. It is considered that those densities would not be consistent with the specific growth policies for this community referred to in RPS Change 1 as notified.
- 2.3 RPS Change 1 also includes specific objectives in relation to the Development Form and Design of future 'greenfield' development within urban limits (**Policy 7**); Outline Development Plans and Changes of Zoning in District Plans (**Policy 8**); and Residential Density (**Policy 11**) to be achieved in Greenfield development areas within Selwyn District. In the case of the latter requirement RPS Change 1 seeks a minimum net density of 10 households per hectare in such developments. Densities of between 0.5ha and 1.0ha (those of 'Living 2 Deferred') are defined as 'Rural Residential' development by RPS Change 1. **Policy 13** of that change requires such development to be located outside the 'Urban Limits' as shown for West Melton. The densities currently reflected in the 'Living 2 Deferred' zoning are inconsistent with those proposed regional policy outcomes.
- 2.4 Submissions and further submissions both in support of and opposition to the specific proposals for future growth at West Melton were made to the Canterbury Regional Council and these were heard in July/August of this year. As the planning documents stood at the date of this privately requested Plan change (9<sup>th</sup> June 2008), it is therefore assessed to be entirely consistent with both relevant District and Regional Objectives, Policies and intended environmental outcomes. The requested Plan change provides for a new zoning and rules so as to give better effect to those intended outcomes.
- 2.5 The recommendations of the Commissioners' on RPS Change 1 were recently released on 1 December 2009. These recommendations have made numerous alterations to the

provision of the RPS Change 1 including Policies 7, 8, 11 and 13 mentioned above.

- 2.6 Firstly, the urban limit originally proposed for West Melton has not been altered, therefore, the intended growth pattern reflected within this Plan Change remains entirely consistent with the RPS in this regard. The housing numbers and density proposed for the West Melton area has remained unchanged with a total of 570 additional dwellings anticipated within existing zoned land inside the urban limit. This housing growth also remains within the Phase One period, which has now been increased to include 2007-2020 as opposed to 2007-2016.
- 2.7 Policies 7,8,11 and 13 mentioned earlier have undergone minor text changes but in the context of West Melton, have not altered the ability of this Plan Change to remain entirely consistent with the outcomes sought under RPS Change 1.

### 3.0 Consistency with other relevant documents

#### ***Selwyn District Council Walking and Cycling Strategy***

- 3.1 The proposed Plan Change has indicated the key strategic routes whilst allowing provision for additional detailed connection routes to be provided at subdivision design stage. The particular goals of relevance seek the following
- Goal 1: Improved Safety for Pedestrians and Cyclists
  - Goal 2: More People Choosing to Walk and Cycle more often
  - Goal 3: Convenient and Safe community environments and transport systems that encourage and support walking and cycling.
  - Goal 4: A transport system that is more sustainable in the long term.
- 3.2 The ODP proposed allows provision for key cycle lanes/routes with future provision available for the concept of shared spaces. Provision of large recreation areas and connection routes for pedestrians and cyclists will enable integration with the minor road network.
- 3.3 Connections into existing development are proposed to the east and south to achieve convenient connection links, particularly for pedestrians and cyclists e.g. to Laird Place and via open space/reserve areas.

- 3.4 The ODP also provides a strategic context to enable core transport routes to be established whilst allowing for future greater design detail to further achieve this goal in subsequent subdivision stages.

### ***Greater Christchurch Travel Demand Management Strategy***

- 3.5 This document provides strategic goals for the Greater Christchurch Region. The proposed subdivision, being a small development in the context of this strategy, is considered to be consistent with the intent of this strategy. The key goals that the proposed development will be consistent with are:

- *A reduction in the number of trips made by private car;*
- *An increase in the proportion of trips made using sustainable travel options;*
- *A reduction in the distance travelled for regular and local trips;*
- *A change in the time of travel.*

- 3.6 The ODP provides strategic connection links which will form the core of the travel routes throughout the site. Provision is also available for detailed road and connectivity design to further improve the ability for alternative modes of transport to undertake trips e.g. pedestrian and cycle connection links to adjoining land and through open space/reserves. In addition, the strong connection links will help to reduce trips times and distance in accordance with the above listed goals.

### ***Selwyn District Council "Subdivision Guidelines"***

- 3.7 The recently adopted "Design Guide for Residential Subdivision in the Urban Living Zone" (Subdivision Guidelines) provides guidance on important principles in subdivision to achieve a quality design outcome. These principles involve both strategic and detail matters including the general context of what makes a good subdivision as follows:

- *A special place,*
- *A strong sense of community,*
- *Attractive,*
- *Sustainable,*
- *Housing and facilities that people want,*
- *Convenient and accessible,*
- *Provides for walking and cycling and public transport,*
- *Free from crime.*

- 3.8 It is considered that the proposed Plan Change provides sufficient detail to demonstrate that the above features can be achieved whilst allowing provision for future details to further enhance the ability to achieve the principles throughout the Subdivision Guidelines.

### **Long Term Council Community Plan**

- 3.9 The four key community outcomes that are listed under the Transport and Townships Section are listed as follows:
- *Air, land and water and general environment to be kept in a healthy condition*
  - *A safe place in which to live, work and play,*
  - *Effective and accessible transport system,*
  - *A Prosperous Community.*
- 3.10 The proposed Plan Change can address the community outcomes by providing non-polluting options that contribute to the reductions of exhaust emissions. This is achieved by providing good cycle and pedestrian connection links and an efficient road network to reduce travel distances and times. The ability for the site to be future proofed to allow for potential bus routes has been enabled should Council consider this necessary with some level of certainty.
- 3.11 All roading and transport facilities provided will be in accordance with the industry standards and best practice to maximise health and safety and minimise hazards. In addition, the transport network proposed will be robust yet flexible to cater for vehicles, pedestrians and cyclists in an integrated manner to ultimately allow for the efficient movement of people, goods and services.

## **4.0 Alternatives considered**

### **4.1 Do Nothing**

The land concerned is substantially subject to Deferred Living 1 Living 2 zoning (other than a small undeveloped area of Living 1 zoned land to the west of Laird Place). The "Preferred Growth Option" in the District Plan (1.4 above) makes it clear that the nature and scale of any development north west of SH 73 and west of Weedons Ross Road is deferred "...subject to further investigations (particularly in regard to road access and servicing) and the incorporation of an outline development plan for this area in the District Plan". Any such development is also to be serviced by a reticulated sewerage system.

- 4.2 The requested change in zoning of the land concerned to 'Living WM' directly addresses all of the above concerns. The District Plan's intended outcomes for West Melton can only be achieved by a formal change in the zoning however. Taking no action is not assessed to be consistent with the intentions of Part II of the Act to achieve the sustainable management of the natural and physical resources of the West Melton community in relation to its foreseeable future needs, or the environmental outcomes currently stated in the District Plan.

### **Application for resource consent**

- 4.3 Although it is legally possible for resource consent to be sought for the development of the land concerned in a manner different from the current 'Living 2 Deferred' provisions (average lot sizes of 5,000m<sup>2</sup>), even if such consent was granted and while such consent could more directly reflect the environmental outcomes currently specified by the Plan, for the reasons outlined above the current 'deferred' provisions (objectives, policies rules and Living 2 Deferred zoning) would remain unaltered in the District Plan – representing an inconsistency in administrative terms. The effects of this request on the District Plan are therefore assessed to be the most advantageous when compared with other available administrative options open to the Council in relation to the foreseeable development needs of this community.

### **A Plan change**

- 4.4 In order to 'uplift' the current deferred zoning provisions in the District Plan, a formal change to that document is signalled by the 'Preferred Growth Option' "note" for West Melton (**Page B4-072**) in Part B, Section 4 Growth of Townships, West Melton. Correspondence with the District Council to date has indicated that the Council is itself unlikely to promote such action at this time however, albeit that a plan change is assessed to be the most appropriate planning method to achieve the future outcomes for the sustainable management of this land resource signalled by the District Plan. Such a Change is therefore privately requested pursuant to section 73(2) of the Act.
- 4.5 The requested zoning reflects a comprehensive and integrated approach to the future management and development of the land and importantly the infrastructure concerned. Individual assessments have been made of the following aspects;

- Transport Infrastructure including the provision of a secondary road layout option should the preferred option with a direct link onto State Highway 73 be discarded,
- Water supply (Resource consent application lodged with ECan and publicly notified),
- Storm-water discharge (Resource consent application lodged with ECan),
- Development Form and Design (Urban Design Comparison – Existing and Proposed zoning),

Documentation in relation to all of the above aspects is appended to this s32 Assessment. All relevant infrastructure development costs are to be borne by the developer. It is therefore assessed that a proposed change to the District Plan would be the most efficient and effective way of achieving the objectives and environmental outcomes for this community.

## **5.0 Consultation undertaken**

5.1 All of the owners of the land concerned with the requested re-zoning to Living WM are supportive of this request. Consultation has been undertaken with the West Melton community as follows:

- 14<sup>th</sup> August 2007 – three day workshop with Community Leaders, Landowners and Consultants in attendance. Representatives from Environment Canterbury (ECan), Transit New Zealand and Selwyn District Council were invited;
- 14<sup>th</sup> August 2007 – Public Meeting held at West Melton Community Hall. Notification of meeting in Community News;
- 31<sup>st</sup> October 2007 – Public Meeting held at West Melton Community Hall. Notification of meeting in Community News;
- February 2008 – Meeting with West Melton Residents Association;
- March 2008 – Meeting with Selwyn Central Community Board;
- March 2008 – Supply of Draft Development Framework to ECan;
- Ongoing – Discussions with West Melton Primary School.
- November 2009 – Dialogue and feedback exchanged with Selwyn District Council's Asset Transport Manager.
- December 2009 – Consideration of West Melton in the Commissioner's recommendations on RPS Change 1.

## **6.0 Actual or potential effects**

- 6.1 It is assessed that the actual and/or potential effects and environmental outcomes of the proposed zone change from "Living 1 Deferred and Living 2 Deferred" to 'West Melton Living WM' will be those foreseen for this township by the current objectives and policies of the Selwyn District Plan and Proposed Change 1 to the Regional Policy Statement as these documents stand at the date of this application.
- 6.2 Technical appendices and related correspondence attached to this assessment indicate the extent to which in-depth studies have been carried out into the potential effects of issues associated with such matters as vehicular and pedestrian access, extent and location of open space / surface water detention reserves, water and sewerage infrastructure, urban density form and design have been undertaken.
- 6.3 It is considered that the level of amenity and environmental quality enjoyed by the current residents of West Melton will be maintained and enhanced by the integrated management rules for the development of the land concerned.

## **7.0 Benefits and Costs**

- 7.1 There are little or no obvious benefits of retaining the current 'deferred' zoning status for the bulk of the living zoned land to the west of Weedons Ross Road. Indeed for as long as that status continues to be retained it will be difficult if not impossible for either the Council or the local community to have any clear concept of the needs for future infrastructure provision and/or who would be likely to meet any costs associated with such provision and when.
- 7.2 It is clearly important for the existing community to have some certainty as to the retention of amenity and environmental qualities currently enjoyed in this township. However, although the area concerned has been identified for urban development for a number of years, its 'deferred' zoning simply prolongs uncertainty in relation to the issues of the form, design and location of traffic access to the surrounding road network, the location and extent of reserve areas, and pedestrian/cycle links to existing living zones.
- 7.3 The provision of reticulated water and sewerage together with the provision of a comprehensive development plan for the remaining undeveloped land within existing urban limits is also signalled in the existing District Plan as necessity. The short to medium term plans of the Council currently appear to focus development priorities on communities elsewhere in the Selwyn district and therefore it is

extremely unlikely that costs associated with such comprehensive planning and infrastructure provision for West Melton will be borne other than by private sector initiative, such as will be the case if this requested Plan Change proceeds.

- 7.4 For all of the above reasons it is assessed overall that there would be net benefits to the community both in terms of the infrastructure provision costs to be borne by the developer(s) of the land concerned, and certainty for the community as to how this land is to be developed and when related infrastructure provision will occur.

#### **APPENDICES:**

- 1. Transport Assessment;**
- 2. Consent Decision in respect to the West Melton Community Water Supply (CRC080102);**
- 3. Stormwater Discharge Consent Conditions;**
- 4. (a) Correspondence with Selwyn District Council for the purchase of existing Infrastructure for Public Sewer;**  
**(b) The alternative to 4(a) - Consent to Lay Sewer Pipe between West Melton & Rolleston (CRC090584);**
- 5. 'Alternative' Outline Development Plan and Layer Plans (Movement, Green & Blue Networks) that may form part of this Plan Change in the event that the roading network connection to SH73 does not receive approval from New Zealand Transport Agency;**
- 6. Consultation Records.**

Proposed Living WM (West Melton) Zone

Appendix 1 – Transport Assessment

**Residential Plan Change, Preston  
Downs, West Melton**

**Gillman Wheelans Limited**

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**Transportation Assessment Report**

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**Traffic Design Group**



December 2009

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**Residential Plan Change, Preston Downs,  
West Melton**

Gillman Wheelans Limited

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**Transportation Assessment Report  
Quality Assurance Statement**

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Prepared by:

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Principal Transportation Engineer



Reviewed by:

**Tony Penny**

Managing Director



Approved for Issue by:

**Tony Penny**

Managing Director



Status: Final

Date: 11 December 2009

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## 1. Introduction

Gillman Wheelans Limited proposes to rezone approximately 85ha of rural land on the western side of the West Melton township (between State Highway 73 and Halkett Road) into a residential area containing approximately 282 residential allotments. The development is known as 'Preston Downs'.

This Transportation Assessment assesses the transportation provisions of the Outline Development Plan, the potential traffic effects of the proposal and provides an assessment against relevant transportation policies and objectives within relevant planning documents such as the District Plan, Regional Policy Statement, Urban Development Strategy, and the Regional Land Transport Strategy.

This assessment also considers the implications of travel to and from the proposed development on the adjacent transport network, and demonstrates how any potential adverse effects can be mitigated or minimised. Whilst this Transportation Assessment includes major coverage of travel by private motor vehicle, it also recognises the importance of other forms of transport. Consequently consideration has also been given to public transport, walking and cycling.

## 2. Existing Transport

### 2.1 Site Location

Figure 1 shows that the Preston Downs site lies adjacent to the West Melton township approximately 14km to the west of the Christchurch urban boundary, and 22km from Christchurch City Centre. Rolleston township is approximately 10km to the south of the site. The site is bounded by Halkett Road to the north, Weedons Ross Road to the east and West Coast Road, which forms part of State Highway 73 (SH73), to the south. The site is presently located within the Living 1, Living 2 and Living 2 Deferred Zones under the District Plan. Until such a time as the deferred status of the Living 2 zone is uplifted, Rural Zone rules apply to those sections of the site.

The surrounding area is most notably dominated by the existing West Melton township to the southeast. The proposed development site and remainder of the surrounding area is rural use. Within the township West Melton Primary School and West Melton Kindergarten are located to the east of the development, on Weedons Ross Road. Other features in the township include a BP petrol station and shop, West Melton Community Centre, and the West Melton Tavern which are located in the vicinity of the intersection of West Coast Road and Weedons Ross Road.

### 2.2 Existing Road Network

Figure 1 also illustrates the road hierarchy in the vicinity of the site. The length of West Coast Road is a Strategic Road for the whole of the Selwyn District, as defined in the District Plan. In the vicinity of West Melton the road runs in a generally straight east to west alignment, with a typical two-lane carriageway divided by a centreline. The posted speed limit is 80km/h through the township.

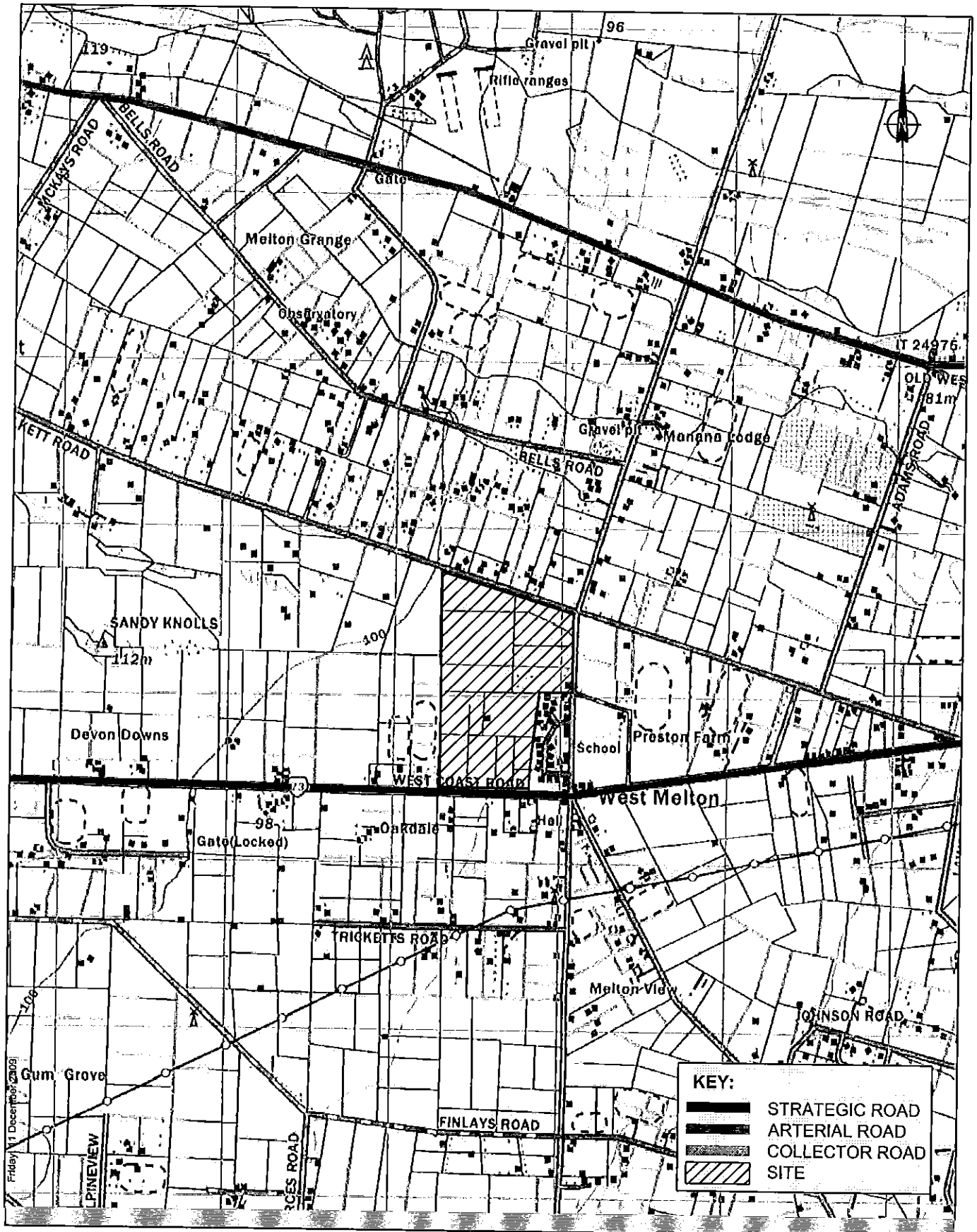
Within the township, West Coast Road forms a priority controlled cross-road intersection with Weedons Ross Road. Both Weedons Ross Road approaches are sign controlled. Vehicles on Weedons Ross Road are controlled with 'stop' markings and associated signage; the road runs north and southeast from the intersection.

#### 2.2.1 West Coast Road

Photographs 1 to 3 show various approaches to the West Coast Road / Weedons Ross Road intersection. As can be seen, right turn bays are provided on each West Coast Road approach to the Weedons Ross Road intersection.



Photograph 1: Intersection of West Coast Road/ Weedons Ross Road, looking east from West Coast Road



## West Melton Residential Plan Change

### Site Location & Road Hierarchy

Traffic Design Group

1

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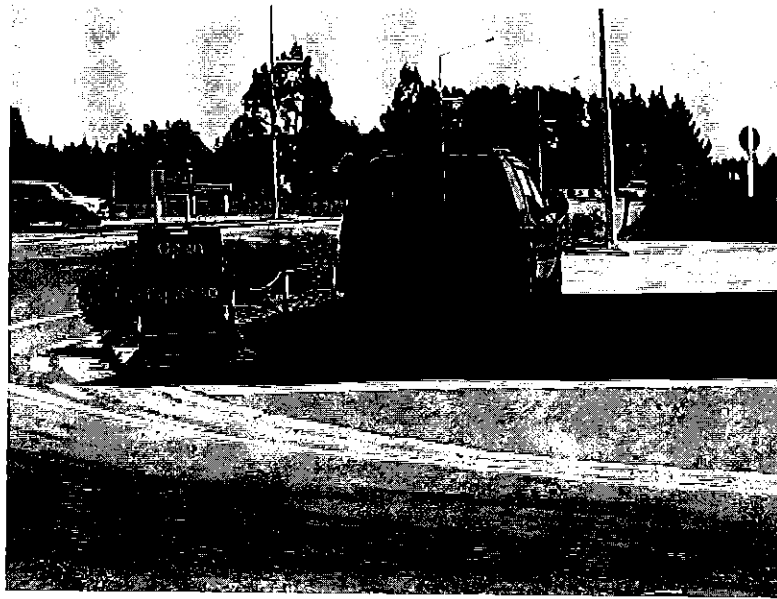


**Photograph 2: Intersection of West Coast Road/ Weedons Ross Road, looking west from West Coast Road**



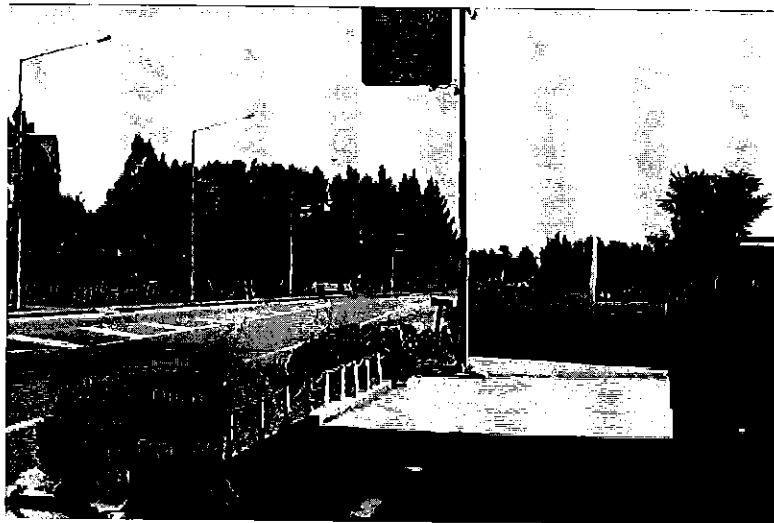
**Photograph 3: Intersection of West Coast Road / West Melton Road / Weedons Ross Road, looking south from Weedons Ross Road**

The location of the intersection on a bend in West Coast Road results in some limitations in the available sight distance from the Weedons Ross Road north approach, when looking to the west. This is because the road carriageway is very close to the boundary and the north side is on the inside of the bend. Photograph 4 shows the available sight distance looking to the west measured 5m from the edge line in accordance with the methods prescribed by the Austroads Guide to Road Design, "Part 4A: Unsignalised and Signalised Intersections." At 5m back from the edge line, there is some 190m of sight distance available when looking through the service station forecourt, however, if vehicles are parked at the front of the forecourt as in the photograph, the clear available sight distance is temporarily but substantially reduced to approximately 60m to the left of the parked car.



**Photograph 4: Intersection of West Coast Road / Weedons Ross Road, sight distance looking west (5m back)**

By adopting the minimum Austroads standard in which sight distance is measured 3m back from the edge line, the available sight distance is improved by a further 100m, to approximately 300m, as shown in Photograph 5.



**Photograph 5: Intersection of West Coast Road / Weedons Ross Road, sight distance looking west (3m back)**

In order to determine whether the available sight distance is satisfactory, a speed survey was undertaken of eastbound traffic which shows that the mean speed was 74km/h, and the 85th percentile speed was 82km/h. Adopting a design speed of 85km/h, the required safe intersection sight distance is some 185m. Therefore, the available sight distance satisfies these requirements, however, it relies on obtaining views across the forecourt when vehicles do not park at the front of the service station forecourt.

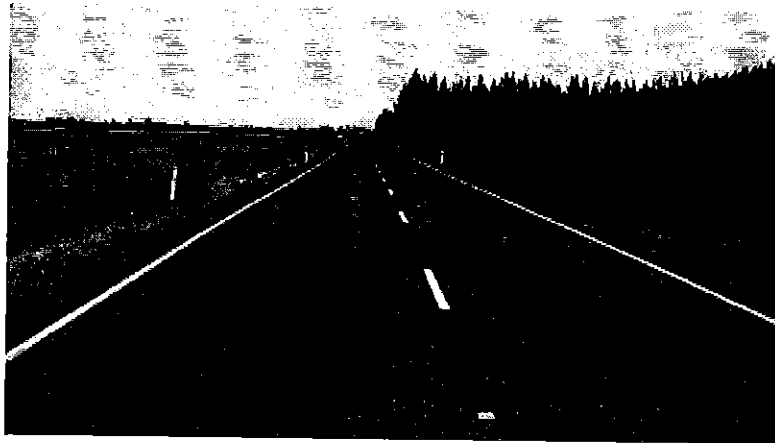
When looking to the east from the north approach, 250m of sight distance is available, satisfying the Austroads requirements.

West Melton Road intersects with Weedons Ross Road just south of the intersection with West Coast Road, with Give Way signage and markings, running south as shown in Photograph 6.



Photograph 6: Intersection of Weedons Ross Road / West Melton Road, looking north from West Melton Road

The rural sections of West Coast Road typically consist of two 3.6m wide lanes with 0.75m wide shoulders, as shown in Photograph 7.



Photograph 7: West Coast Road (SH73) west of Chattertons Road, looking west

### 2.2.2 Weedons Ross Road

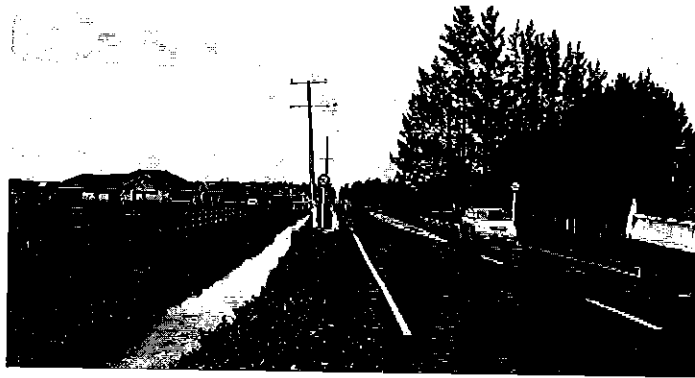
Weedons Ross Road is defined as a Local Road in the District Plan. Within West Melton the road has a straight horizontal alignment with power poles and an open drainage ditch to the east of the carriageway. The posted speed limit is 50km/h on the northern side of the intersection with West Coast Road for approximately 600m to the end of the existing urban area, at which point it changes to an open road restriction. School warning signs are in place in each direction on the approach to the primary school.

As shown in Photograph 8, the road has two 3m wide traffic lanes in the vicinity of the existing subdivision. On the western side of the carriageway there is extended seal width of some 2m which provides for on-street parking, a 1.5m wide footpath, and a grass verge of 2m width. The eastern side of the carriageway has recently been widened for the Gainsborough subdivision, also providing a 2m wide shoulder and mountable kerb and channel.



Photograph 8: Weedons Ross Road north of Westview Crescent, looking south

North of the existing urban area the carriageway generally has the same width of 6m, with grass verges to the east and west of at least 2m in width. A painted median threshold treatment has been provided at the northern end, south of which the Gainsborough subdivision has direct access from its lots. This is shown in Photograph 9.



Photograph 9: Weedons Ross Road north of existing urban area, looking south

Weedons Ross Road also provides a connection between SH73 and SH1 to the south. Over this rural section, the road is formed with a 5.8m to 6.0m sealed carriageway.

### 2.2.3 Halkett Road

Halkett Road lies to the north of the proposed development, with a generally straight alignment running approximately northwest to southeast. It is defined as a Local Road in the District Plan and currently has an open road speed restriction. The carriageway has a width of 6m with a marked centreline; this reduces to 5.8m to the west of Weedons Ross Road. The carriageway is flanked on both sides by a grass verge generally between 6m and 7m wide, with power poles to the south of the carriageway. A typical section of Halkett Road is shown in Photograph 10.



Photograph 10: Halkett Road adjacent to site, looking northwest

At its eastern end Halkett Road forms a five-arm intersection with West Coast Road, Curraghs Road and Lawford Road. The Halkett Road approach is stop controlled and is at an acute angle to the West Coast Road, as shown in Photograph 11.



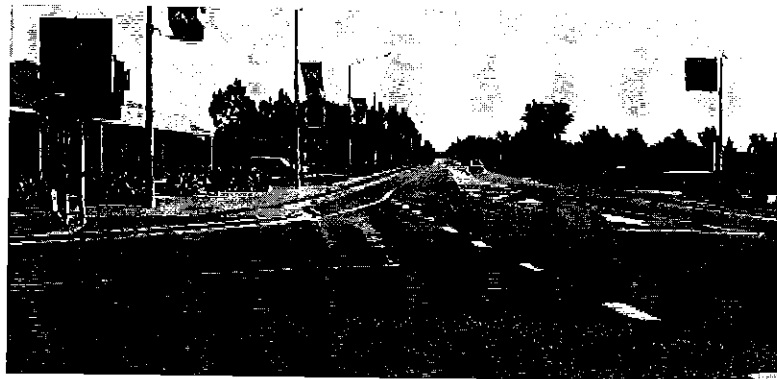
Photograph 11: West Coast Road / Halkett Road Intersection, looking northwest

#### 2.2.4 Westview Crescent and Laird Place

The proposed development adjoins Laird Place, which provides a potential alternative connection to Weedons Ross Road via Westview Crescent. Laird Place is a cul-de-sac with a 6m wide carriageway, and Westview Crescent provides an 8m carriageway. The intersection of Laird Place and Westview Crescent, as well as the two intersections of Weedons Ross Road with Westview Crescent are uncontrolled.

### 2.3 Parking

Along the length of West Coast Road there is generally no parking on the carriageway, except adjacent to the West Melton Tavern. The parking arrangements on West Coast Road are shown in Photograph 12.



Photograph 12: Parking on West Coast Road, south side of western Intersection approach, looking west

Weedons Ross Road allows for on-street parking on both sides of the road north of the intersection with West Coast Road, for the length adjacent to the existing residential area to the end of the kerb and channel. The exception to this is short sections of no-stopping restrictions on the east side of the road on the northern approach to the kindergarten, and on the west side of the road outside the entrance to the school, as shown in Photograph 13.



Photograph 13: Parking on Weedons Ross Road by West Melton Primary School and Kindergarten, looking south

On Weedons Ross Road south of the intersection with West Coast Road, parking is also allowed on both sides of the road.

## 2.4 Public Transport

There are no public bus services to West Melton, but there are a number of school buses which service the West Melton Primary School located on Weedons Ross Road.

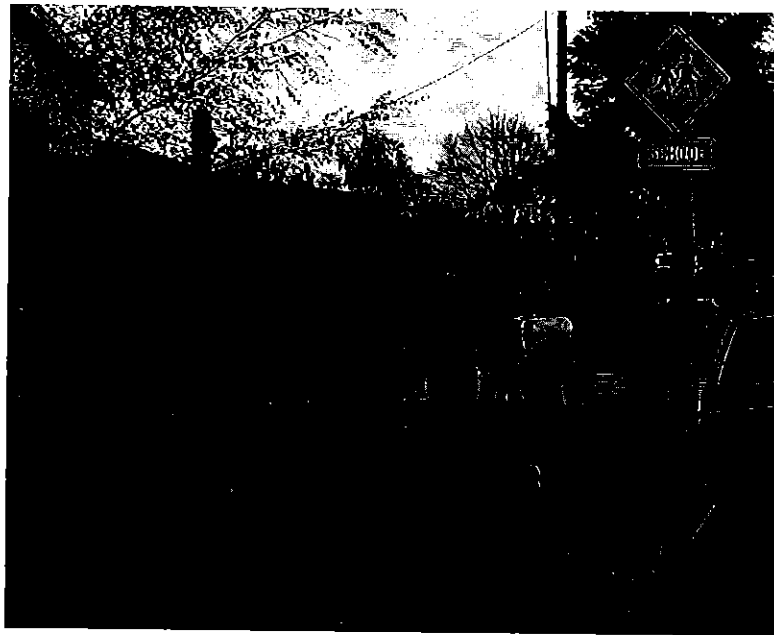
## 2.5 Footpath and Cycle Routes

On West Coast Road only some sections of footpath are available for pedestrians. These include on the north side of the eastern approach to the intersection with Weedons Ross Road, and on the south side from the West Melton Tavern (as shown in Photograph 14), to the Community Hall.



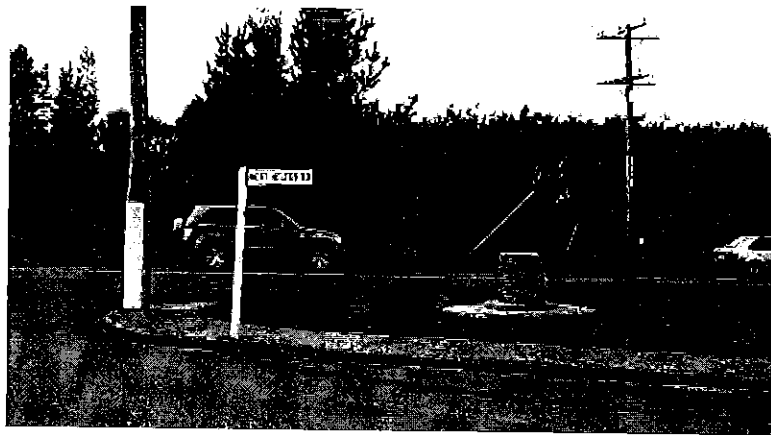
**Photograph 14: Footpath on West Coast road adjacent to the West Melton Tavern, looking east**

As shown in Photograph 15, there is a footpath of 1.5m in width on Weedons Ross Road from the intersection of West Coast Road on the western side of the carriageway, running north for approximately 720m to the northern end of where the Gainsborough subdivision provides direct lot access to Weedons Ross Road.



**Photograph 15: Footpath on West Coast road adjacent to the West Melton Tavern, looking east**

In addition to this there is a footpath on the western side of Weedons Ross Road south of the intersection with West Melton Road, and on both sides of West Melton Road.



Photograph 16: Footpath on West Melton Road, looking southeast

There is no formalised pedestrian crossing across West Coast Road (State Highway 73), and no pedestrian facilities on Halkett Road.

There are no specific provisions for cyclists in the vicinity of the site.

### 3. Current Travel Patterns

#### 3.1 Daily Traffic Patterns

The pattern of daily traffic volumes in the vicinity of the development has been assembled using the most recent data available from the Selwyn District Council (2006/2007) and NZTA (2008). Figure 2 illustrates the latest daily traffic counts expressed in vehicles per day (vpd) in the vicinity of the development site.

The traffic volumes are dominated by the West Coast Road state highway traffic, primarily associated with access to Christchurch City. All roads in the area are operating well within their traffic carrying capacity.

#### 3.2 Hourly Patterns

Figure 3 shows the pattern of hourly traffic volumes on West Coast Road in the vicinity of the development, recorded by NZ Transport Agency (NZTA) over the course of a seven-day period in September 2009.

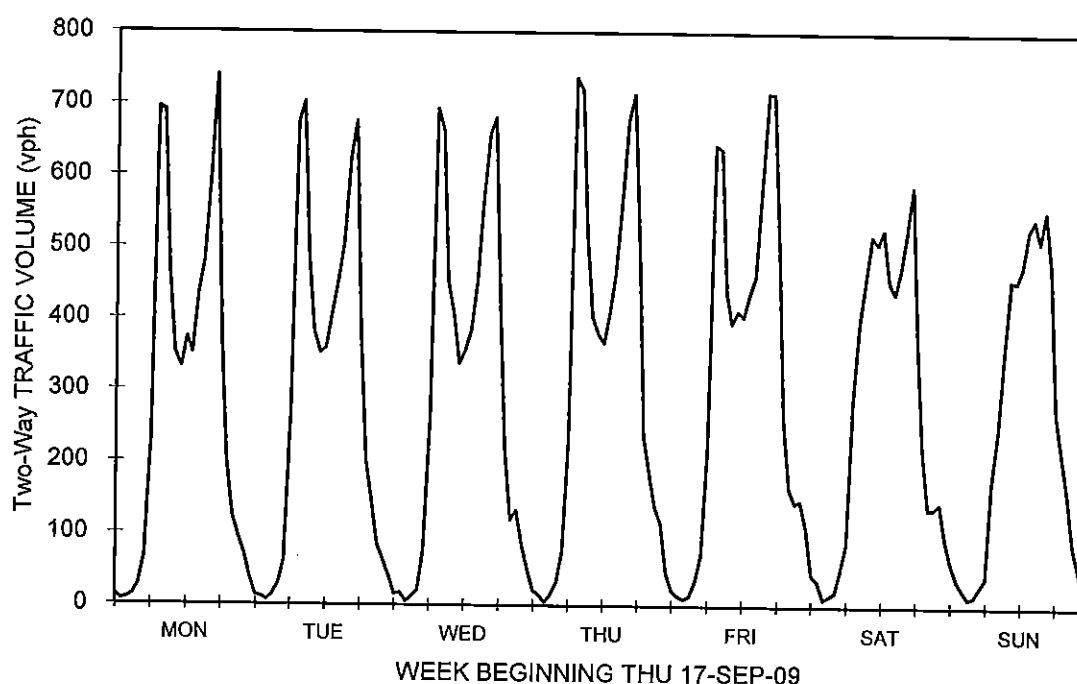


Figure 3: Daily Traffic Patterns on SH73 East of Dawsons Road

The main characteristics of the two-way hourly traffic patterns can be summarised as follows:

- the weekday morning and evening two-way peak hour flows reach volumes of some 700vph in the peak hours of 7am – 8am and 5pm – 6pm
- the two-way weekday traffic volumes drop gradually to around 350vph during the early afternoon midway between the peak periods

- eastbound flow peaks on weekday mornings are around 510 vehicles per hour (vph) from 7am to 8am. Volumes in this direction drop to remain at some 200vph for the rest of the day.
- westbound weekday flow peaks with some 490vph in the evening between 5pm and 6pm. Volumes of around 200vph are present during the day increasing towards the peak hour.
- weekend flows typically comprise volumes of some 400 to 600vph two-way between 10am and 6pm on Saturday and Sunday
- traffic volume peaks occur between 5pm and 6pm on Saturday and 4pm to 5pm on Sunday with 590vph and 550vph respectively

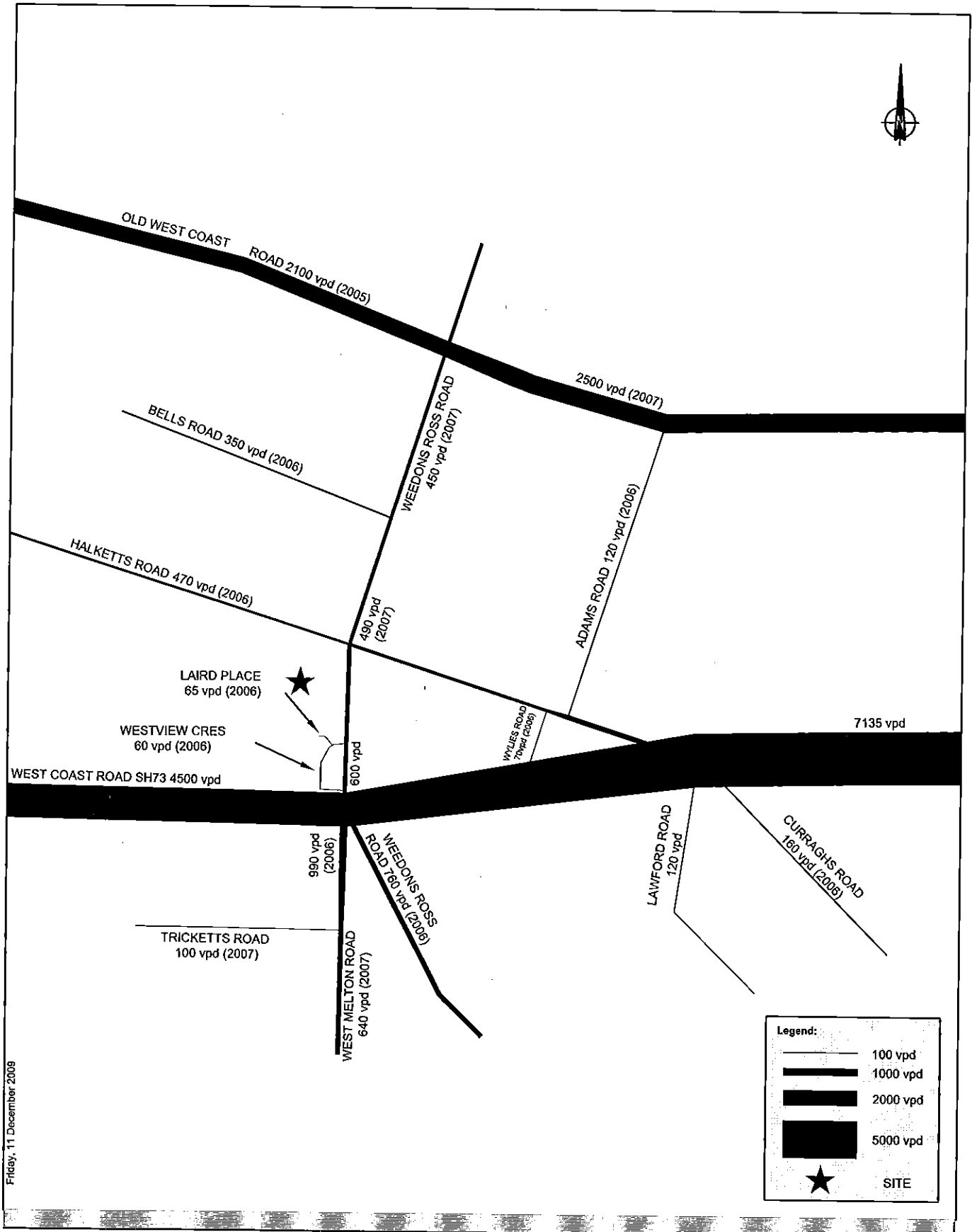
Such patterns of traffic movements demonstrate a strong commuter peak and also reflect the importance of West Coast Road as both a commercial route and a recreational route. Even at peak traffic volumes, SH73 operates well within its practical traffic carrying capacity.

### 3.3 Intersection Turning Movements

Traffic Design Group undertook turning movement surveys at West Coast Road / West Melton Road and SH73 / Halkett Road on the 12<sup>th</sup> February 2008 during the morning and evening peak periods, 7am-9am, and 3pm-6pm. These are summarised in **Figure 4**.

At West Coast Road / Weedons Ross Road, the turning movements show moderate side road volumes undertaking crossing movements and movements to and from the west, with volumes up to 43 vph being recorded on individual movements.

At SH73 / Halkett Road turning movements to or from the west are very low, with movements to or from the east being dominant. The largest turning movements are associated with the left turn from Halkett Road into SH73 in the morning, and the right turn into Halkett Road from SH73 in the evening. The next largest movement observed was associated with the right turn from Lawford Road in the morning, and the opposite left turn in from the east in the evening.

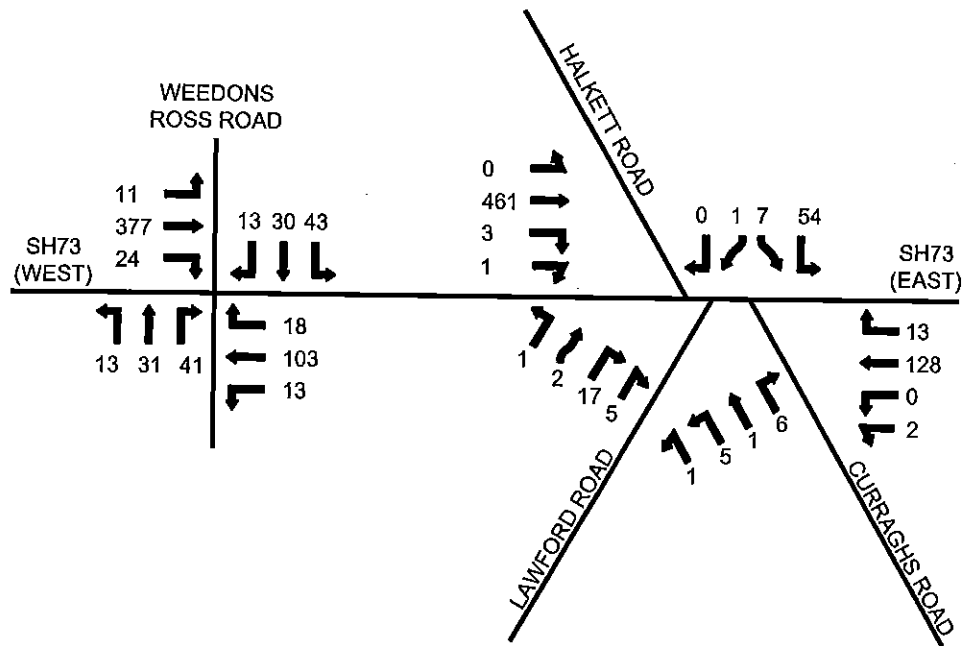


West Melton Residential Plan Change  
Daily Traffic Volumes

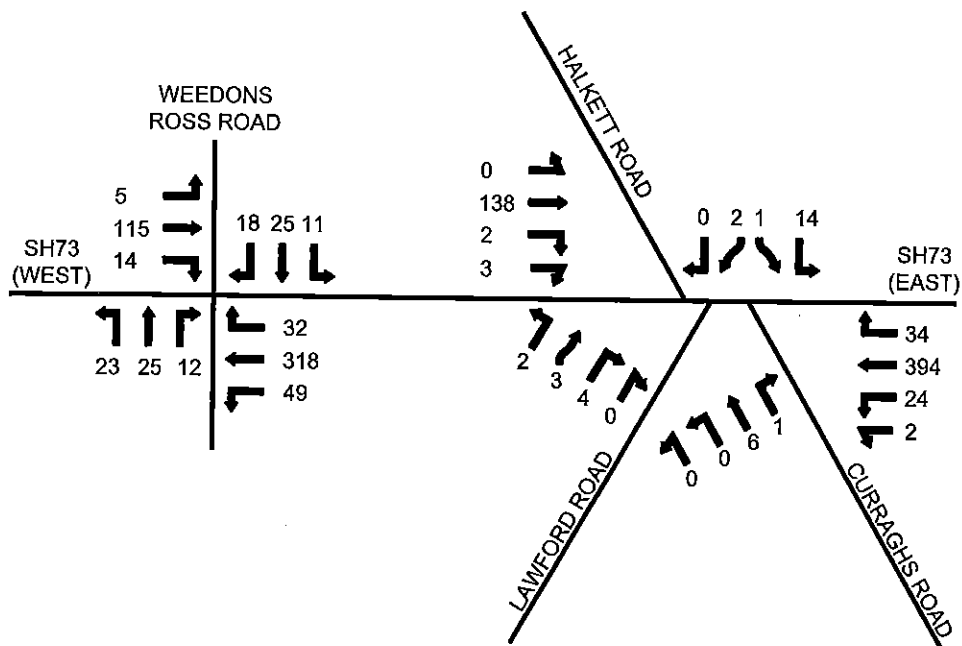
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SCALE: NTS



**AM PEAK HOUR (7:30 - 8:30)**



**PM PEAK HOUR (5:00 - 6:00)**

**Key:**  
XX Vehicles per Hour

Friday, 11 December 2009

## 4. Road Safety

The NZTA Crash Analysis System (CAS) has been used to identify all reported crashes in the vicinity of the development site. The study covered both injury and non-injury crashes for the most recent, full five year period between 2004 and 2008 inclusive and the partial record available for 2009. The area investigated is bounded by the following routes: Calders Road, Sandy Knolls Road, Finlays Road, Weedons Ross Road, SH73, Halkett Road, Adams Road and Old West Coast Road.

A total of 48 crashes occurred during the search period and a summary of the crashes is given in Tables 1 and 2.

Intersection	CRASH TYPE			
	Serious	Minor	Non-injury	Total
SH73 / Halkett Road	0	1	2	3
SH73 / Weedons Ross Road	1	3	2	6
SH73 / Sandy Knolls Road	0	1	1	2
Halkett Road/Adams Road	0	1	0	1
Weedons Ross Road / Johnson Road	0	1	0	1
Weedons Ross Road / Westview Crescent	0	0	1	1
Weedons Ross Road / Bells Road	0	1	0	1
Old West Coast Road / Range Road	0	0	1	1
<b>Total</b>	<b>1</b>	<b>8</b>	<b>7</b>	<b>16</b>

Table 1: Intersection Crashes in Vicinity of Site

Midblock	CRASH TYPE			
	Serious	Minor	Non-injury	Total
SH73	0	3	11	14
Halkett Road	0	0	3	3
Weedons Ross Road	0	1	1	2
West Melton Road	0	1	1	2
Adams Road	1	0	0	1
Old West Coast Road	3	2	5	10
<b>Total</b>	<b>4</b>	<b>7</b>	<b>21</b>	<b>32</b>

Table 2: Midblock Crashes in Vicinity of Site

Of the 32 midblock crashes, 21 were loss-of-control crashes. A variety of circumstances contributed to the loss of control crashes with repeated factors being wet or icy road conditions, fatigue, alcohol, and bends in the road.

The crashes at intersections show a pattern of drivers failing to give way when required at a stop or give way sign, with 11 of the 16 accidents being caused by this behaviour.

The West Coast Road / Weedons Ross Road intersection was the only intersection to have multiple injury accidents. This site is also the highest ranked site in relation to the social cost of crashes for the period 2004 – 2008 in the Selwyn District Council, being ranked at number 5. Two of the crashes involved vehicles westbound hitting vehicles crossing from the north, one crash involved a vehicle eastbound hitting a car crossing from the south, and the other crash involved the driver of a vehicle losing control whilst turning (the result of fatigue). With adequate sight distance available, there are no significant engineering deficiencies attributable to these crashes and they instead appear to be primarily the result of driver error.

Overall, this accident record does not suggest that there are any significant underlying safety deficiencies on the roads in the vicinity of the development area.

## 5. Future Changes to Transport Network

### 5.1 CRETS

A recently completed study has investigated the need for additional transport infrastructure to the west of Christchurch, based on expectations of future landuse over the next 25 years. This study, named the Christchurch, Rolleston and Environs Transportation Study (CRETS) included West Melton, together with other townships to the west of Christchurch. It also focused on the southwest of Christchurch and the Christchurch International Airport.

Within the strategy developed in the study, there are no specific roading upgrades in the vicinity of West Melton that will lead to a change in travel patterns. However, the study expects growth on the roads which may partly be the result of changes to other corridors. The West Coast Road retains its status as a National Arterial, and it is proposed to define Weedons Ross Road between Old West Coast Road and State Highway 1 as a District Arterial. A District Arterial is defined as a road used by traffic to get to and around parts of the district. In this case it is intended to make a connection between other arterials.

Section 13 of the CRETS Final Report provides a summary for the Russley to Aylesbury Corridor. It identifies that NZTA are considering within their standard practice planning process the installation of three sets of passing lanes between Christchurch and West Melton, and the installation of right turning bays at selected intersections. The study recommends that the above works proposed as part of earlier studies is carried out, and no other works are suggested. It also identifies that the intersections along the route are not predicted to have capacity issues, and the expected traffic volumes of the route do not justify any works to manage the traffic volumes.

As part of the State Highway 1 corridor between Hornby and Rolleston, a four-lane median divided upgrade of the existing highway is proposed along part of its length, with a grade separated interchange at Weedons Ross Road. This interchange will enhance access to Rolleston and south western parts of Christchurch from the West Melton area.

The landuse adopted for the CRETS modelling work was based on Statistics NZ medium term growth forecasts for 2021. However, the study also included sensitivity tests that replicated the landuse expected in 2026 based on adoption of the Urban Development Strategy. The UDS landuse provides for a substantially greater rate of growth in households and employment than the base landuse projections used for CRETS. Whilst the UDS Sensitivity modelling shows that the CRETS projects proposed would need to be brought forward compared with the CRETS modelling, there is no comment on the need for additional improvements along the West Coast Road corridor.

### 5.2 Canterbury Transport Regional Implementation Plan (2008-2038)

Environment Canterbury produced the Canterbury Transport Regional Implementation Plan (TRIP) which outlines and prioritises the transport provisions for the Canterbury Region over the next 30 years. It is intended to provide a coordinated approach to delivery of the Regional Land Transport Strategy. TRIP outlines packages of projects for each area within the region, and identifies the type and timing of transport projects. Of relevance to West Melton is Package 7, which addresses the Selwyn South/West Approach to Christchurch. Within Package 7 there are no major transport projects signalled for the vicinity of West Melton.

### 5.3 National Land Transport Programme

The National Land Transport Programme 2009-2012 sets the programme of investment in land transport within New Zealand. It allows for the provisions of the Canterbury Regional Land Transport Programme 2009-2012 and prioritises these on a national basis. Within the vicinity of West Melton, there are no major projects specifically identified for funding within the programme.

### 5.4 West Melton

Within West Melton, the currently zoned living zones have an outline development plan showing expected transport networks on the northeastern and southeastern quadrants of the township. The Gainsborough subdivision in the northeastern quadrant is being developed, and provides access to Weedons Ross Road opposite the school, and two connections to Halkett Road.

As part of the staged subdivision, the SH73 / Halkett Road five arm intersection will be upgraded to provide staggered approaches with increased entry angles from the side road approaches. Seal widening and/or a right turn bay on SH73 will provide space for through traffic to pass right turning traffic that will be slowing to make the turn. Subdivision conditions placed on the Gainsborough subdivision require localised widening is provided at the new Halkett Road intersections, which have already been undertaken at the western intersection.

A grade separated pedestrian/cycle connection is proposed across SH73 to the southeastern quadrant. The Outline Development Plan provides two access points to Weedons Ross Road from this quadrant, which is yet to be developed.

The BP service station on the corner of State Highway 73 and Weedons Ross Road has recently obtained a resource consent for an upgrade, and is expected to be implemented in the short term. The plans for the service station show that the new service station forecourt will be situated further back from the road and a number of parking spaces will be provided immediately in front of the new building, therefore it is unlikely that vehicles will park within the sight lines as they occasionally do currently.

## 6. The Proposed Development

### 6.1 Existing Site Use

The Plan Change site is currently a green field site, being used for rural purposes. It is zoned as a mixture of Living 1, Living 2 and Living 2 Deferred Zone under the District Plan. Under these provisions, a total yield of approximately 225 households is achievable.

### 6.2 Proposed Outline Development Plan

Gillman Wheelans Ltd and the adjoining landowner, "Bisphan and Clark," propose a rezoning of the 85ha site to a new Comprehensive Development Zone within the District Plan. The zoning would enable approximately 240 households to be developed within the Gillman Wheelans Ltd portion of the site ("Preston Downs", and a further 42 households within the Bisphan and Clark portion (referred to as the "Wilson" north block). The sites will also include large open spaces and new local roads.

A master planning exercise has been undertaken for the site, which has resulted in the proposed Outline Development Plan, which is shown in **Figure 5**. As can be seen, the Outline Development Plan shows a range of densities for development within the site, with low density sites generally around the edges, and medium density development within the central part of the development. A large public open space / reserve is proposed to extend generally east-west across the site, and there will also be public open space / reserve areas along the Weedons Ross Road frontage and providing an extension to Laird Place. The development will be supported by a range of local roads that provide a well connected internal network that also integrates well with Weedons Ross Road, Halkett Road and SH73.

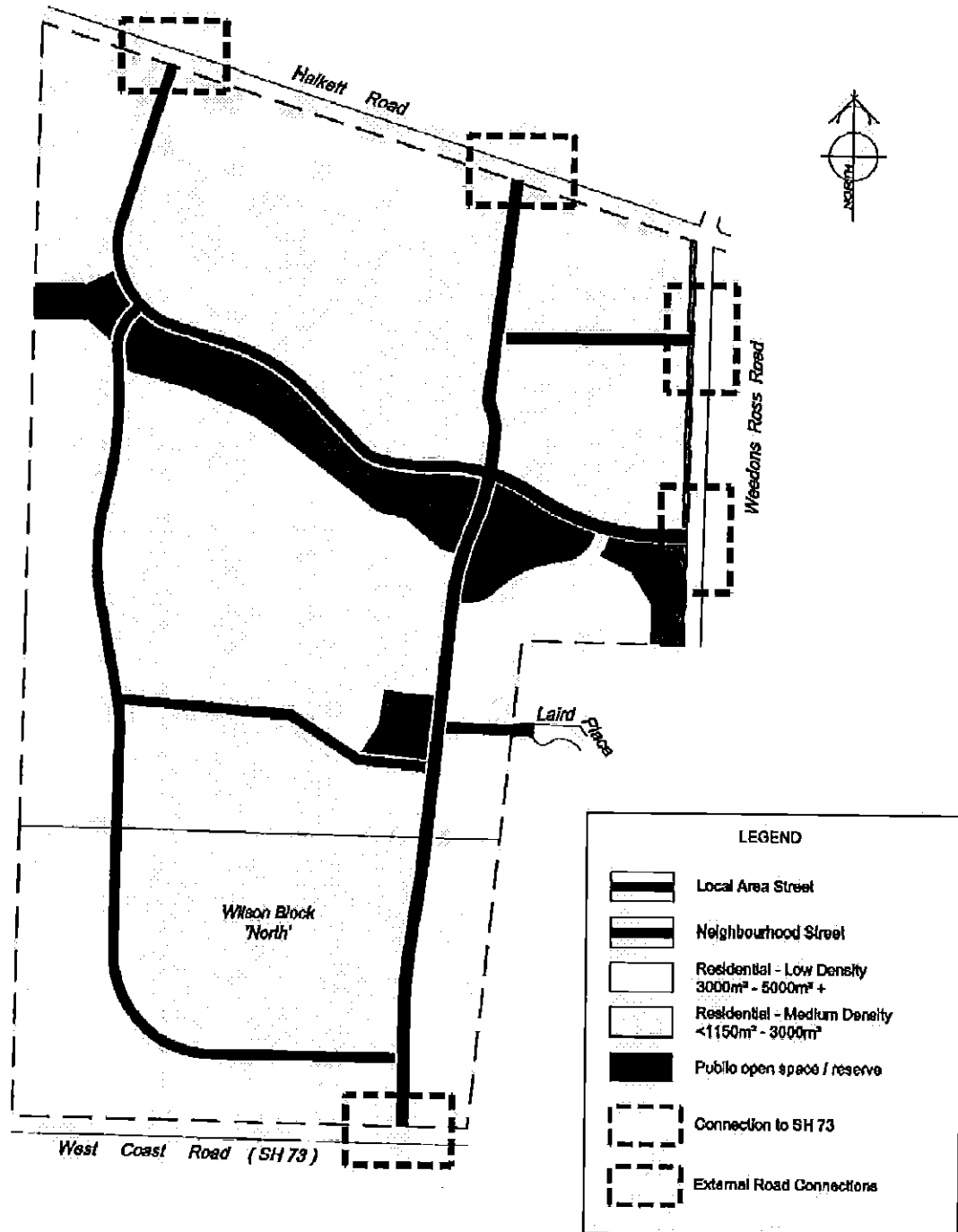
The SH73 connection will be facilitated through an existing agreement between the two landowners, ensuring that the link can be progressed subject to formal approval from NZTA. In initial discussions with NZTA, they have indicated that they are not opposed to the concept of a new intersection.

**Figure 6** provides further detail of the transportation elements of the proposal within a Movement Network layer plan that supports the Outline Development Plan. The layer plan includes additional detail regarding the provision of an on-street cycle link from the open space reserve to SH73, and off-street pedestrian / cycle paths through the open space reserve connecting to Gainsborough and Laird Place.

As part of the preparation of the Outline Development Plan, a concept plan for the indicative subdivision of the site was prepared. Whilst the concept plan does not form part of the Plan Change, it demonstrates that the provisions of the Outline Development Plan can be appropriately implemented at the subdivision stage, and also ensures that there is a clear understanding of how the site integrates with the surrounding transport networks. The concept plan is shown in **Figure 7**.

A key feature of the Plan is to provide a walking/cycling connection to Laird Place, which will assist with local movement patterns to the school and the existing community. During the preparation of the concept, it was identified that there is limited benefit in providing for full vehicular connection to Laird Place (particularly with the SH73 link proposed), and given the constraints associated with the limited carriageway and road reserve width this vehicular connection is not proposed.

*Appendix 33 - West Melton Living CD ( Comprehensive Development ) Zone -  
Outline Development Plan*



**Outline Development Plan**

Friday, 11 December 2009

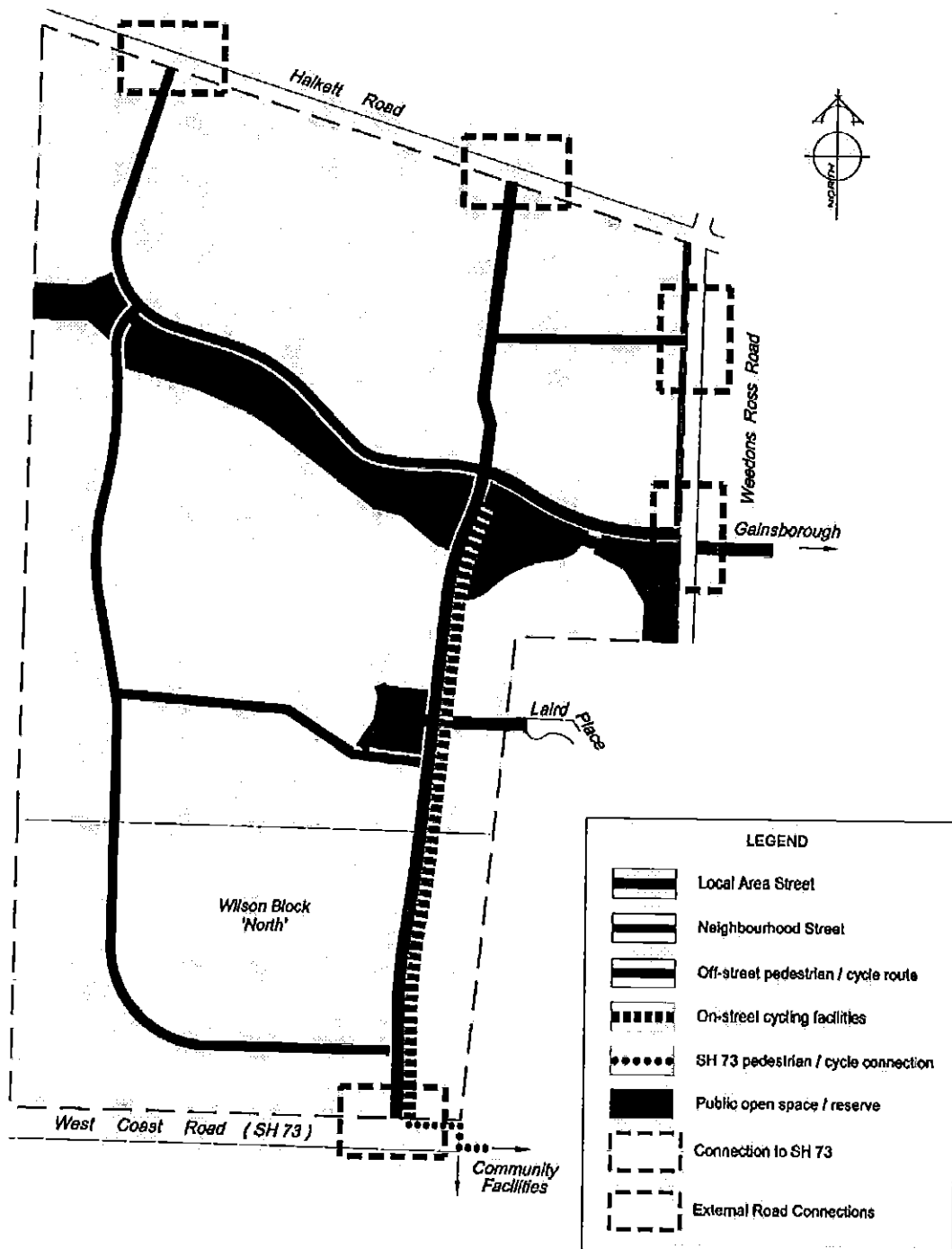
West Melton Residential Plan Change  
Outline Development Plan

Traffic Design Group

**5**

SCALE: NTS

*West Melton Living CD ( Comprehensive Development ) Zone -  
Movement Network Plan*



*Note:  
Other local roads to be determined as part of subdivision.*

**Movement Network ( Layer Plan )**

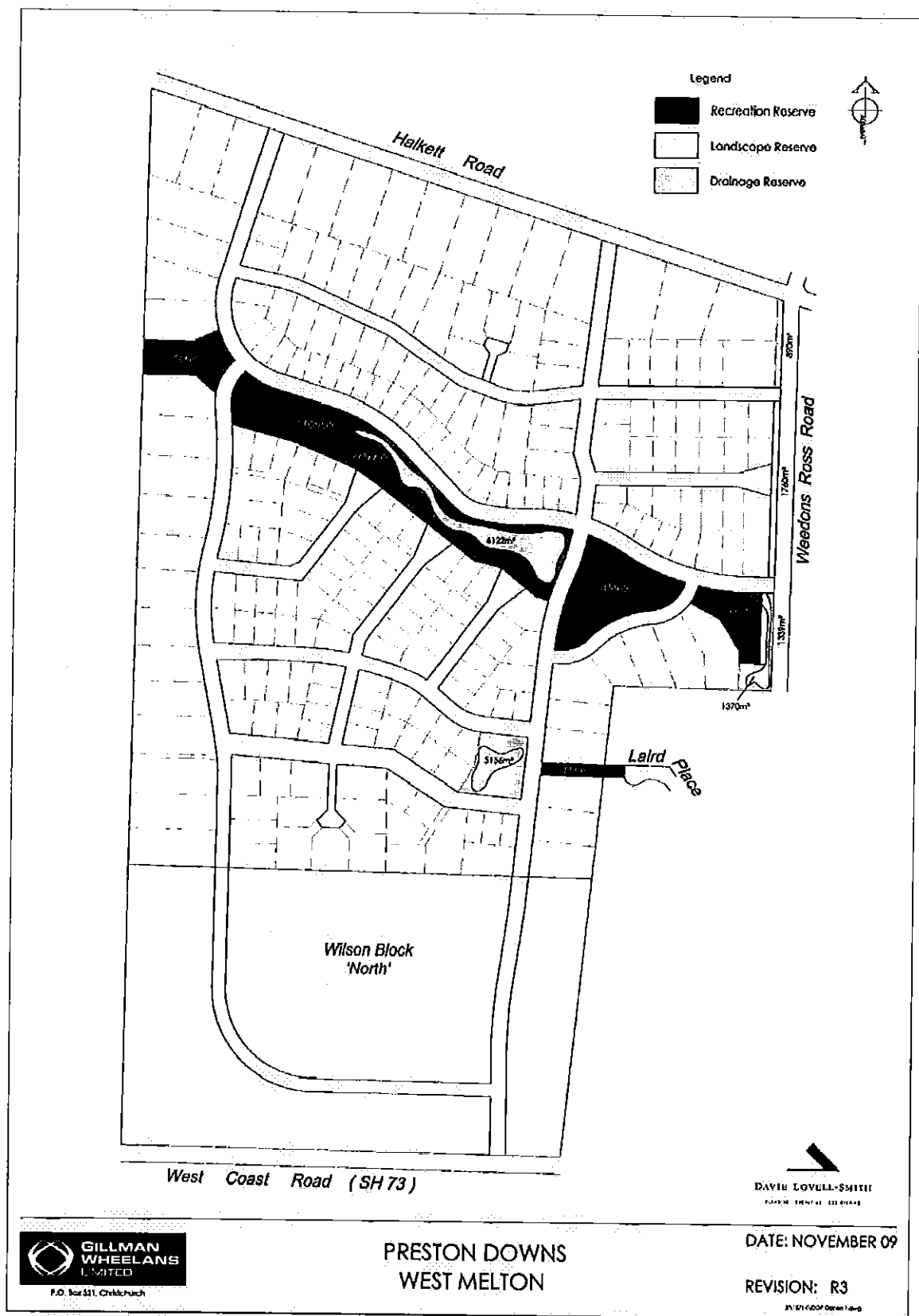
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West Melton Residential Plan Change  
Movement Network

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**6**

SCALE: NTS



Friday, 11 December 2009

West Melton Residential Plan Change  
Concept Plan

Traffic Design Group

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SCALE: NTS

No future development to the west of the site has been signalled by the Regional Policy Statement Proposed Change 1 decision which has set urban limits through to 2041. In this regard, a strong link for the transport network to the western boundary of the site is not considered necessary. However, the SDC Design Guide (Section 4.5) suggests that the "road layout needs to ... make allowance for longer term growth". This allowance has been made by providing a gap in the residential properties along the boundary where the open space / reserve is provided. If in the long term development did occur to the west, then there is the possibility of providing a road and/or pedestrian/cycle link through the reserve. As stated above, growth to the west is unlikely to occur, and the connection is therefore not explicitly shown on the Outline Development Plan.

As can be seen in the concept plan, there is intended to be a further lower level of local roading that is not shown in the ODP and that will provide for a well connected site, and a minimal number of rear sections. The details of the lower order road network will be addressed when applications are made for subdivision consents.

Figure 8 shows an alternative concept for the site that has no connection to SH73, which was considered during the preparation of the Outline Development Plan and movement network. Whilst this is a less desirable concept from a transportation perspective, formal full approval from NZTA of the SH73 connection has not yet been achieved, requiring the consideration of the alternative and consequently assessment of its traffic effects later in this report. Without the SH73 connection, the internal network form requires alteration to address the increased movement patterns toward Halkett Road and Weedons Ross Road rather than towards SH73. These changes primarily affect the transport network south of the east-west open space/reserve.

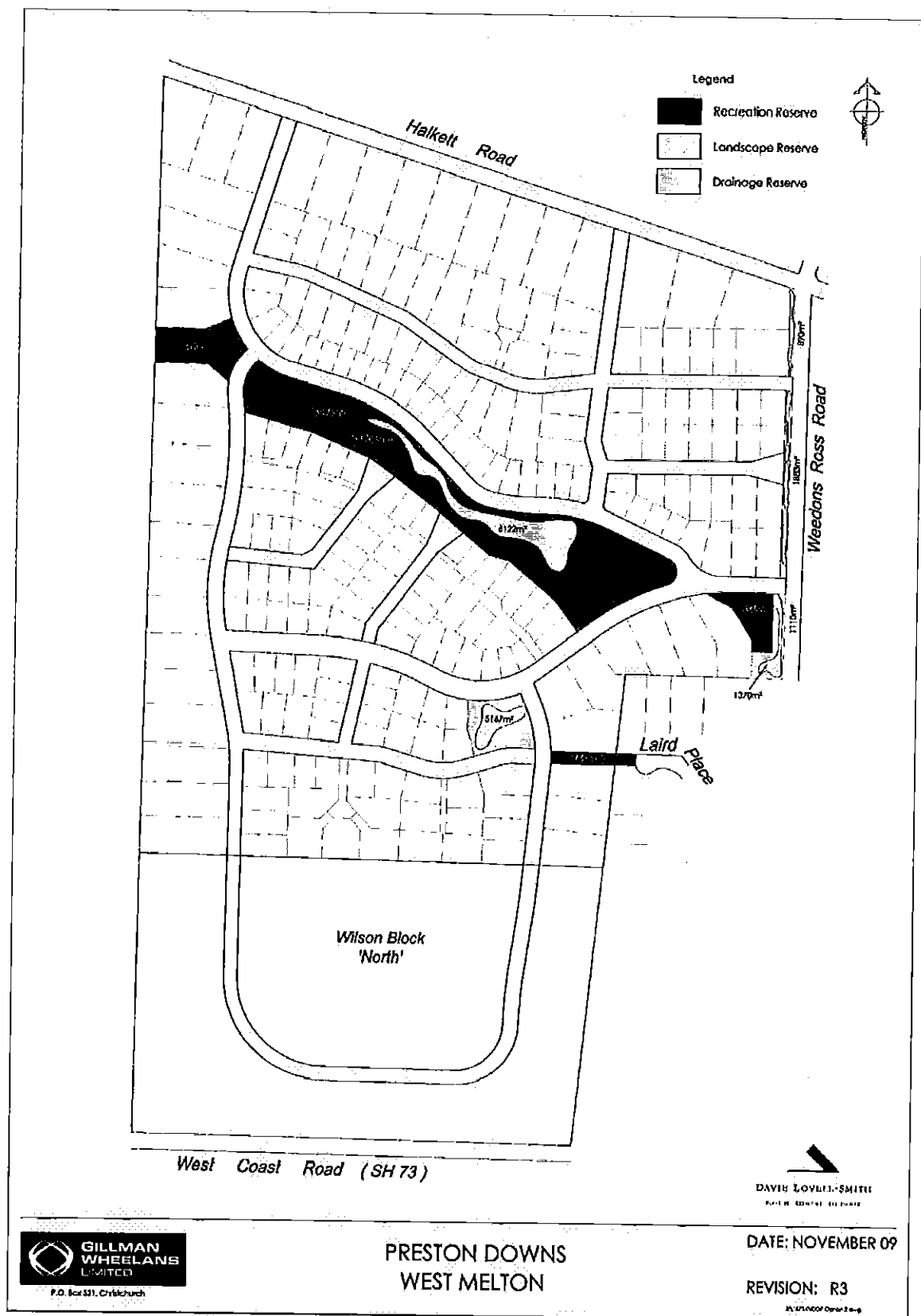
It is anticipated that staging of development of the Plan Change area would start with access from Weedons Ross Road, as the most natural possible extension of the existing urban area. This also provides flexibility by allowing details of the SH73 connection to be resolved with NZTA prior to significant development occurring south of the east-west open space / reserve. If development of the Wilson block was expected to occur over a longer timeframe, and the SH73 connection was not provided, then the roads linking from the plan change area would be terminated with a turn head as an interim treatment.

Further discussion of the detailed transport provisions within the site, and integration with the surrounding transport network is provided in the following sections of this report.

### 6.3 Proposed Road Hierarchy

As shown previously in Figure 5, the Outline Development Plan has provided a road hierarchy, and this has been prepared to be consistent with the recently produced "Selwyn District Council Design Guide for residential subdivision in the urban living zones" (SDC Design Guide). All of the roads are anticipated to have a local road function with traffic volumes on the busiest sections of road carrying approximately 1,000vpd, which are well within typical traffic volumes for local roads. In order to represent the varying local road functions within the site, the Outline Development Plan has adopted the terminology from the SDC Design Guide. This terminology is preferred over other more generic options such as "Primary" and "Secondary" roads they do not form part of standard traffic engineering terminology, so would provide a higher level of ambiguity at the subdivision stage. Therefore, the road classifications shown have the following descriptions in the Guide:

- Local Area Street – A street which provides connection between the smaller streets referred to and the more transport focused busy main collector and arterial roads. A speed environment of 50kph is anticipated.
- Neighbourhood Street – A street intended to cater for property access, but can accommodate a limited amount of through traffic. A speed environment of 3-40kph is anticipated.



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West Melton Residential Plan Change  
Alternative Concept Plan

Traffic Design Group

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SCALE: NTS

The classifications assigned to each of the roads shown on the Outline Development Plan are consistent with the road type descriptions above, and have been assigned on the basis of expected traffic distribution within and to/from the site which is discussed later in Section 8.2. The main linkage north-south between SH73 and Halkett Road, and east-west to Weedons Ross Road, provide efficient connection to the higher level transport focussed road network external to the Plan Change site with a catchment of lower level neighbourhood streets (and eventually other lower level roads). Each of the roads classified as a neighbourhood street have limited through traffic function, and primarily provide for property access.

Other roads that will be incorporated at the subdivision stage but are not shown in Figure 6, are described in the SDC Design Guide as follows:

- Right of Way – A private access that is essentially a shared driveway, used to provide access to lots, where it is not feasible to have direct access to a public road.
- Cul-de-sac – A no-exit street, to be no longer than 150m in length with a narrow carriageway possible in some situations.
- Residents Street – A shorter and narrower connecting street or lane that serves only the needs of the adjoining property owners and not “through traffic”. A speed environment of 20-30kph is anticipated.

The expected use of these streets can be seen from the concept plan shown earlier in Figure 7.

Cross-sectional details for the road network and pedestrian/cycle routes will be based on the guidance provided by the SDC Design Guide, and will be detailed to provide the movement functions indicated by the Movement Network layer plan. The low speed environment necessary for the local roads will be achieved through the use of narrower carriageways and smaller corner radii at intersections which reduce the overall road space, creating an environment where motor vehicle drivers instinctively will travel at slower speeds. The speed environments to be achieved provide the appropriate compromise between the movement function and efficiency for motor vehicles, and the environment relating to convenience and safety for pedestrians and cyclists. The full details of the road cross-sections will be resolved at the subdivision stage when issues such as the provision of parking bays and landscaping will also need to be addressed.

## 6.4 Internal Intersection Design

The transport network defined in the Movement Network layer plan shows that the defined elements of the road network all have internal intersection spacing of between approximately 150m and 450m. This provides good scope to incorporate the lower level of local roads at appropriate intersection spacing. A key feature of the concept plan shown earlier in Figure 7 is the provision of a lower level local road network with a high level of connectivity that ensures a high level of permeability for local walking and cycling trips. Where cul-de-sacs are indicated in the concept plan, these will either be very short and service a small number of households, or if they are longer they will open out to reserve areas at the closed end to ensure that the high level of walking and cycling permeability is retained.

A consequence of the design features of a well connected transport network is the need for low level road intersections to be at spacing of typically about 100m (and potentially as low as 50m) which is closer than those anticipated by the District Plan, which specifies 125m separation of intersections in the urban environment. However, these minor local road intersections will be in slow speed environments as a result of their classification in the road hierarchy which will ensure the intersecting roads have a predominantly property access function. This issue of intersection

spacing is envisaged by the SDC Design Guide (Section 5.4) and will be addressed at the subdivision stage when the precise layout of the road network will be determined.

Internal intersection form and design will be detailed at the time of subdivision. Based on the low projected traffic volumes detailed in the later Section 8.2 of this report, it is anticipated that all intersections of internal roads could be designed with standard sign or priority control, although alternative intersection designs such as local road roundabouts would be considered as part of the integrated network design.

## 6.5 External Transport Network Connections

### 6.5.1 Halkett Road

The proposed development will generate new intersections onto the road network. The intersections with Halkett Road are located as far to the east as practical to ensure that there is efficient movement between the Plan Change site and the predominant direction of travel to/from the east. Each of the Halkett Road intersections will be designed in accordance with standard requirements for rural intersections including localised widening on the approaches. Such widening would be in accordance with Diagram E10.B2 of the Rural Section of the Selwyn District Plan. Given the predominantly rural nature, sign controls would also desirably be installed. Based on analysis of traffic volumes it is not considered necessary to implement full turning bay provisions on these local road intersections.

The relatively close spacing of the proposed Halkett Road intersections, including the existing Weedons Ross Road and Gainsborough subdivision access intersections, on a 100km/h speed limit road will require a review of the speed limits in accordance with standard speed limit setting procedures. The Selwyn District Council Speed Limit Bylaw shows that there is an unimplemented 70km/h speed limit for Halkett Road over a 500m section east of Weedons Ross Road. A preliminary review of the speed limit setting rule indicates the level of development including some properties with direct access to Halkett Road could warrant continuation of the 70km/h speed limit along the section of Halkett Road on the Plan Change site frontage. If this is implemented a threshold treatment at the western end of development for Prestons Downs and Gainsborough respectively would be desirable to indicate the change in the roading environment.

The Local Area Street intersection with Halkett Road is separated by 250m from Weedons Ross Road and by 450m from the western Neighbourhood Street intersection. This is not inconsistent with the separation provided between Weedons Ross Road and the new links to the Gainsborough subdivision, which provide 150m and 350m separation. The proposed separation distances will reinforce the change in traffic environment from rural to residential.

With the inclusion of two new intersections on Halkett Road, it is likely that street lighting would be required at those intersections, which will need to be to Selwyn District Council standards.

### 6.5.2 Weedons Ross Road

The two new Weedons Ross Road access points will be designed in accordance with urban intersection standards and will include kerb and channel treatments. It is not considered essential that direct property access be provided onto Weedons Ross Road to maintain an urban environment, as there will be the intersections associated with access roads at regular intervals and landscaping is proposed along the side of the adjacent lots.

There is no need to remove the existing speed threshold along Weedons Ross Road; it could remain as a traffic calming device. However the speed limit would need to be considered in the context of the likely alterations to the Halkett Road speed limit (discussed in Section 6.5.1), and the unimplemented 70km/h speed limit included in the Selwyn District Council Speed Limit Bylaw for the northern section of Weedons Ross Road. An additional speed threshold may be appropriate in the vicinity of the Halkett Road intersection to reinforce the urban environment. The separation distances between individual lots and the road carriageway will ensure adequate side road approach visibility is achieved on the Weedons Ross Road intersections.

### 6.5.3 SH73 (West Coast Road)

The proposed new SH73 intersection 330m west of Weedons Ross Road is located where excellent visibility is available in each direction. The expected traffic volumes if this connection is put in place will warrant a right turn bay in accordance with NZTA's intersection design standards. The location of the intersection is within the existing 80kph speed limit signs (although minor relocation of the signs may be appropriate), and the provision of a high standard intersection could be expected to assist in further reducing the observed speeds through West Melton township.

## 6.6 Bus Provision

The regional public transport strategy includes a policy that 90% of residents within greater Christchurch are to be served by a public bus route within 400m (crow fly distance to the route). If a bus route were to travel through the development, this proposal could fit within this policy. West Melton at this stage is unlikely to support a dedicated bus route on its own, but if in the future further funding becomes available, the policies suggest a route could be provided. Whilst it is outside the scope of the development to plan in detail for a bus route given the uncertainties, the Local Access Streets through the subdivision have been designed such that they could accommodate buses if a bus route is provided, with a direct north-south route available.

Sufficient manoeuvre space will be available to accommodate the turning paths of public buses with the proposed design of connecting intersections at Halkett Road and SH73. The well connected layout of the roading network proposed within the subdivision also provides flexibility for route changes in response to staged development.

Further input from Environment Canterbury public transport planners would be sought as part of the subdivision stage of development.

## 6.7 Cyclists

The Movement Network Layer Plan shows off-street cycle paths through the main east-west reserve, and connecting to Laird Place. Cycle facilities within the road reserve will also be provided for crossing SH73 to link to the community facilities in this area. On-street cycle facilities can also be provided between SH73 and the east-west cycle path, providing for both local and regional cyclists.

The New Zealand Supplement to the Austroads Guide to Traffic Engineering Practice – Part 14: Bicycles contains guidance on the recommended cycling facilities that should be provided on new roads based upon daily traffic volumes and vehicle speed. The low traffic volumes being up to approximately 1,000vpd on any one road are well below standard thresholds for cycle facilities of 2,000 movements per day. Further, the low speed environment, typically 50km/h or less within

the development means that the roads within the site are suitable for mixed traffic and no specific cycling facilities are required to be created.

However, at the request of SDC engineers, provision has been made for on-street cycle facilities within the Movement Network layer plan on the north-south Local Access Road as it is understood that there is a desire to develop a regional route that is off the Weedons Ross Road alignment. The provision of cycle facilities will also promote this mode of transport for local travel, providing safe and efficient connections to the cycle paths within the site, and connections to other parts of the West Melton township. North of the east-west reserve, it is considered that the regional route function could readily be accommodated on the road with shared vehicle / cycle use, as indicated by the Austroads assessment above.

It is expected that the detail of the cycle network will be addressed at the time of subdivision, when the expectations relating to the regional cycle route are better known.

## 6.8 Pedestrians

Provisions will be made for pedestrians on formed roads by way of footpath(s) which will be provided in manner consistent with the provisions of the SDC Design Guide, with details provided at the time of subdivision. Additionally, off-street pedestrian connections are made along the east-west reserve connecting to Gainsborough on the eastern side of Weedons Ross Road, and to Laird Place. A sealed footpath will also be provided within the reserve along the western frontage of Weedons Ross Road to provide an extension of the existing facilities in this area.

Pedestrian movements will be provided for within the road reserve along the SH73 frontage of the Plan Change site to the east of the proposed SH73 intersection, with a sealed footpath required. A pedestrian refuge facility with kerb extensions will then be provided to provide efficient crossing on the walking desire line to the community hall and other community facilities, via the existing footpath on the southern side of SH73. The introduction of the subdivision fronting SH73 550m west of the indicative crossing location, and the provision of an intersection approximately 80m-120m to the west will assist in reducing through traffic speeds. The traffic volumes of approximately 5,000vpd (including Plan Change traffic) is well within the range where suitable gaps in the traffic stream, and hence a good level of service, can be provided for crossing the road with a pedestrian refuge and kerb extensions. The detailed location and design will be subject to approval from NZTA at the time of subdivision.

An underpass had been identified as a potential option for the SH73 crossing by Council engineers. However, the limited width available within the road reserve on the south side of the road would not enable the provision of a high quality underpass. Underpasses typically also have a low level of utilisation due to personal safety and social concerns. Similarly, a footbridge is not supported because pedestrians would not use it. Experience shows that pedestrians will use any means to cross at-grade even if physical restrictions such as fences or landscaping are provided.

Consideration of footpath provision and design along the Halkett Road frontage will be made at the time of subdivision, in consultation with Council engineers. Provision will be dependent on the detailed lot layout that is produced for the frontage.

## 6.9 Travel Demand Management

While it is recognised that the development of the site will lead to an increase in car trips to and from the area, the increase is not considered sufficient to justify the development of a specific travel plan. The inclusion of pedestrian pathways and footpaths provides good pedestrian access

to existing shops, the school, and other amenities in the area. Similarly specific provisions are made for cycle facilities off-street, and if required some on-street cycle facilities will be provided enabling good access to local services. The layout of the site is designed to accommodate potential bus routes in the future, if demand and funding warrant their provision. As the township develops there will be greater opportunity to apply travel demand management measures that may form part of regional initiatives.

## 7. Regional and District Planning Provisions

### 7.1 Urban Development Strategy

The Urban Development Strategy (UDS) for the Greater Christchurch Area identifies specific areas for residential development between 2007 and 2041. The associated increase in traffic volumes will require that parts of the road network be upgraded. The Regional Land Transport Strategy Greater (RLTS) and Christchurch Transportation Implementation Plan (GCTIP) have been developed to manage changes to the transport network. The GCTIP identifies two categories of transport corridor, regional and district. While regional corridors are focused on long distance or strategic travel, district corridors relate primarily to movements within the Greater Christchurch area. District corridors should provide users with good mode choice along the corridors but would not necessarily provide capacity for vehicles at all times.

Nine potential packages of road network improvements have been described as part of the GCTIP. Packages 2 and 3 provide for strategic state highway upgrades to Yaldhurst Road in the longer term.

### 7.2 Regional Policy Statement

Proposed Change 1 to the Regional Policy Statement (RPS), Chapter 12A, addresses the development of the Greater Christchurch area for the years 2007-2041 with specific emphasis on the period to 2026. Chapter 12A sets out the sub-regional land use distribution for Greater Christchurch and identifies specific areas for urban development. The selection of these areas has taken into account the need to ensure that the transport network remains effective and efficient.

The land covered by Preston Downs development is included within the areas of urban development, and this has been confirmed by the commission for the proposed change hearing. Within Policy 6, a total of 570 additional households are anticipated within the West Melton urban limits from 2007 to 2041. Analysis undertaken by Gillman Wheelans Ltd shows that the achievable development within the Preston Downs site was 282 households, when the 570 households are allocated around the undeveloped areas within the proposed urban limit. This excludes the Gainsborough Development, which was already consented at the time that the Proposed Change was notified.

The RPS sets out several objectives to meet the strategic vision for 2041 described in the Urban Development Strategy for Greater Christchurch for enhanced lifestyles, enhanced environments, prosperous economies and managed growth. Objective 1 addresses urban consolidation within the Greater Christchurch area and aims to achieve sustainable and self-sufficient growth in areas such as West Melton. Objective 7 considers the integration of transport infrastructure and land use with goals of reducing network congestion and dependency on private motor vehicles. Objective 8 aims to protect the strategic roading infrastructure by managing patterns of urban development.

Policies 9 and 10 of the RPS are directly relevant to transport and are replicated below.

*Policy 9: Transport Effectiveness, (a) Development of Greenfield development areas, intensification areas and key activity centres shall avoid overloading the existing transport network infrastructure, particularly strategic roads, and avoid detracting from the primary through traffic function of state highways and arterial roads; (b) The Canterbury Regional Council, territorial authorities and transport infrastructure providers shall ensure that the land transport networks within*

*Greater Christchurch provide for the safe, sustainable integrated movement of goods and people both within the sub-region and to and from locations outside the sub-region.*

*Policy 10: Strategic Transport Infrastructure and Reverse Sensitivity, Ensure urban activities do not adversely effect the operations and thus viability of strategic transport infrastructure, including: (a) Christchurch International Airport, (b) Port of Lyttelton, (c) Strategic land transport network, (d) Rangiora airfield.*

As identified within this Transportation Assessment, it is considered that the proposed Preston Downs Plan Change is consistent with these policies.

### 7.3 Canterbury Regional Land Transport Strategy

The Canterbury Regional Land Transport Strategy (RLTS) 2008-2018 describes a series of key result areas for achieving the vision of "the best possible quality of life".

The RLTS takes into account the priorities, needs and aspirations contained in the New Zealand Land Transport Strategy and the Land Transport Management Act as well other national policy documents specifically addressing vehicle emissions, road safety, walking and cycling and climate change.

The RLTS states that quality of life is supported by a land transport system that:

- provides equitable access for all sectors of the community
- supports a thriving economy
- promotes a social environment that is safe and supportive
- is consistent with a health, pleasant and pollution-free environment
- is safe to use
- involves community participation in land transport decision-making
- is part of an integrated planning framework
- is innovative and responsive to change

The RLTS identifies five key result areas that represent a balanced approach to achieving this vision. These areas are:

- alternative modes
- roads: safety, environment and infrastructure
- demand management
- land use
- freight

The proposed subdivision is consistent with the RLTS in the following ways:

- in terms of private transport the site location offers excellent access to the strategic road network via Halkett Road and Weedons Ross Road. This is consistent with the RLTS policy to locate major traffic attractors with areas of high accessibility.
- a high standard, pedestrian and cycle environment will be provided within the site and between the site and the surrounding transportation network. This promotes the use of these alternative modes between the site and the other surrounding activities within West Melton.

## 7.4 Selwyn District Council Walking and Cycling Strategy

The proposed Plan Change has indicated the walking and cycling routes within the site, and integration with the surrounding network. This will enable additional detailed route connections to be provided at subdivision design stage. The network of streets identified in the Outline Development Plan provides a high level of permeability through the street network offering good opportunities for local walking and cycling. Provision is also made for on-street facilities to be consistent with the potential provision of a regional cycle route through the site. Severance to some of the community facilities caused by SH73 will be minimised through the provision of specific crossing facilities on SH73 near the pedestrian crossing desire line. The off-street provisions provide both functional recreational / local travel routes in an environment conducive to use of walking and cycling as a mode. In this regard, it is considered that the Outline Development Plan is consistent with the Goals and Objectives of the Walking and Cycling Strategy.

## 7.5 Greater Christchurch Travel Demand Management Strategy

The proposed expansion of West Melton is likely to assist implementation of the indicative strategy through increasing the feasibility of a bus route linking West Melton (and potentially Darfield) to Christchurch. It is also noted that with the proposed pedestrian and cycle facilities, there will be increased use of these sustainable modes for short distance travel within the proposed Plan Change area and for local access to schools, community facilities and commercial facilities.

The Local Area Streets through the subdivision have been designed such that they could accommodate buses if a bus route is provided.

## 7.6 Long Term Council Community Plan

From a transportation perspective, it is considered that there is not any conflict between the proposed Plan Change and the Council's community outcomes as they relate to West Melton in the Long Term Community Plan (LTCCP). Major transportation projects within the LTCCP are well beyond the vicinity of West Melton, and as such the development is not sensitive to any changes in government subsidies that may occur in the implementation of the LTCCP.

## 7.7 District Plan Policies

Within the Township Volume of the Selwyn District Plan, there are transport related development policies for West Melton relevant to the proposed Preston Downs development.

Policy B4.3.89 identifies that the primary focus for growth should be north of SH73, and south of Halkett Road to "minimise effects on safety and efficiency of the highway". The development is consistent with this policy.

Policy B4.3.91 seeks to avoid using Laird Place or Westview Crescent as collector roads to access any significant new residential or business areas in West Melton. The preference is to provide a new collector road off Weedons Ross Road, rather than attempt to upgrade these roads. Collector roads are not proposed and there are no vehicular links proposed to Laird Place or Westview Crescent.

## 7.8 District Plan Rules

The Selwyn District Plan includes transport related requirements within Appendix 13 of the Township Volume relevant to the Preston Downs Plan Change. Table 2 below outlines the key transport rules and comments on their appropriateness for the Preston Downs area. A full compliance assessment will be required at the time of resource consent / plan change application.

DISTRICT PLAN RULE	APPROPRIATENESS	RECOMMENDATION
<b>Parking</b>		
Rules 13.1.1- 13.1.7 Number of Parking Spaces , and design	The standard residential parking requirements and dimensions for layout and access are considered appropriate for the Preston Downs site	Adopt existing rules
Rule 13.1.8 Maximum Gradients for Access	The site is essentially flat, and as such the existing rule will be complied with	Adopt existing rule
Rule 13.1.9 – 13.1.12 On-site Manoeuvring	There is no reason not to adopt this existing rule	Adopt existing rule
<b>Access</b>		
Rule 13.2.1 Provide Vehicular Access	This rule provides a minimum requirement for access by vehicles and is considered appropriate	Adopt existing rule
Rule 13.2.2 Distance of vehicular crossing from intersections	This rule maintains safety at intersections and is considered appropriate	Adopt existing rule
Rule 13.2.3 Minimum Sight Distance	This rule is a standard traffic engineering requirement	Adopt existing rule
Rule 13.2.4 Vehicle Crossing Design	There is no apparent reason not to adopt the existing rule	Adopt existing rule
<b>Roading standards</b>		
Rule 13.3.1 Road Standards	This rule is particularly relevant as it will affect the development of the Preston Downs site.  The current development plan shows a movement network with varying roading standards that are expected to result in different provisions to the Local Road provisions in the District Plan. Instead, reliance will be placed on ensuring consistency with the more recently developed SDC Design Guide which specifically provides for the type of development proposed.	Rely on SDC Design Guide for development of roading standards in accordance with the specific movement functions of each road.
Rule 13.3.2 Road intersection spacing	The concept plan shows intersections spaced at distances closer than 125m in a 50km/h speed limit, and 800m in a 100km/h speed limit (Halkett Road) (reduced to 220m in a 70km/h environment). As discussed earlier in Section 6.4 and 6.5 of this report, the nature of the well planned and connected road network is likely to result in some non-compliances. In this regard greater emphasis needs to be placed on the discretionary provisions of the SDC Design Guide.	Higher level road locations to be shown in Outline Development Plan.

Table 3: District Plan Rule Appropriateness

Overall, the transport parking and access standards are considered appropriate, although specific review of the rules on roading standards and intersection spacing is required and will likely result in non-compliance at the time of subdivision consent. Given the Council has adopted the SDC Design Guide, sufficient justification for non-complying dimensions can be provided at the time of subdivision.

A further matter of consideration is whether the development will give rise to a need to amend the road hierarchy. Based on providing consistency with the wider existing and proposed (from CRETs) road hierarchies, all local roads in the Preston Downs site are expected to be defined as local roads. However, the Outline Development Plan includes movement networks that provide additional definition of the local roading standards to be applied to the expected level of local road function.

## 8. Trip Generation and Distribution

### 8.1 Expected Trip Generation

The trip generation characteristics of various residential land uses around the greater Christchurch area have been surveyed by Traffic Design Group and other parties over recent years. Based on the survey results it is considered that the residential lots within the proposed development will generate external daily traffic movements of approximately six movements per household per day (vpd/hh). While standard residential trip generation rates within a main urban centre such as Christchurch are typically of the order of 10vpd/hh, the distance of West Melton from Christchurch means it would typically generate fewer daily movements and higher proportions of linked trips. Trips made from West Melton for employment, shopping, educational and recreational purposes will be more frequently accumulated within a single vehicle to and from the household. Within an inner city urban area the equivalent individual trip purposes would generate separate vehicle trips each based at the household, leading to the higher overall household trip generation rates.

It is expected that a significant proportion of the future residents within the subject site would be employed and make shopping trips within the greater Christchurch area and as such will attempt to combine these purposes where possible. While the growing attraction of the Rolleston area for both employment and shopping is recognised, the potential for trips between West Melton and Christchurch will remain dominant.

The daily trip generating potential of the proposed 282 lot development is hence based on external movements of 6vpd/hh and is expected to result in some 1,692 vehicle movements per day.

### 8.2 Expected Trip Distribution

#### 8.2.1 Wide Area Trip Patterns

An analysis of available data from the 2006 Census journey to work data shows that some 80% of vehicle work trips associated with West Melton travel to/from the east; 10% of journeys were to/from the south (such as Lincoln and Rolleston), and the remainder was within West Melton or the rural areas surrounding West Melton. However, over time the provision of greater employment opportunities in Rolleston is likely to result in a change in this distribution to provide more trips to the south, with a resultant reduction in trips to the east. Traffic volume plots for CRETSS show an increase in the use of Weedons Ross Road into the future, with it carrying in the order of 2,500vpd. Whilst some of this traffic will be associated with trips to/from the west of West Melton, a portion will be from West Melton itself (including allowances for development on the Preston Downs site).

Having regard to the existing patterns, and potential future changes, it is expected that some 20% of all trips will be to/from the south (Rolleston and Lincoln), with 70% to the east towards Christchurch, and the remainder within West Melton and the surrounding local area.

#### 8.2.2 Trip Distribution with Direct SH73 Connection (ODP Scenario)

The Outline Development Plan layout included in Figure 5, was based on the provision of a direct connection to SH73, located some 330m east of the Weedons Ross Road intersection. This is

within the existing 80km/h speed zone, and is located on a straight section of highway with good visibility.

For travel to the east and south there are alternate routes for connection to SH73 with the distributions being determined on the basis of both time and distance considerations. Within the development there is a watershed where drivers will choose to connect to SH73 via either Weedons Ross Road, or via the alternate route of Halkett Road. Following analysis of travel times and distances the Weedons Ross Road watershed has been determined to be approximately at the east west open space / reserve.

Similarly, travel to the south will be split between the new SH73 access and Weedons Ross Road access. Again, the watershed to the south is located in the general vicinity of the reserve, although a portion of the northwestern corner of the site will also utilise the direct SH73 connection.

Having considered this general distribution and the connections to the surrounding local and strategic road network, the expected traffic distribution has been determined. **Figure 9** summarises the distribution analysis and shows that approximately 1,000vpd would use the new SH73 connection. Of the 1,000vpd using the new intersection, some 240vpd will undertake a staggered turn movement through the new intersection and the Weedons Ross Road (south) intersection. These are movements that would otherwise be crossing at SH73 / Weedons Ross Road if the SH73 link was not provided. Approximately 500vpd are expected to utilise Halkett Road to access SH73 via the SH73 / Halkett Road intersection. A relatively small number of drivers will utilise Weedons Ross Road south of the Plan Change connections to travel east via SH73, with an increase of less than 100vpd anticipated.

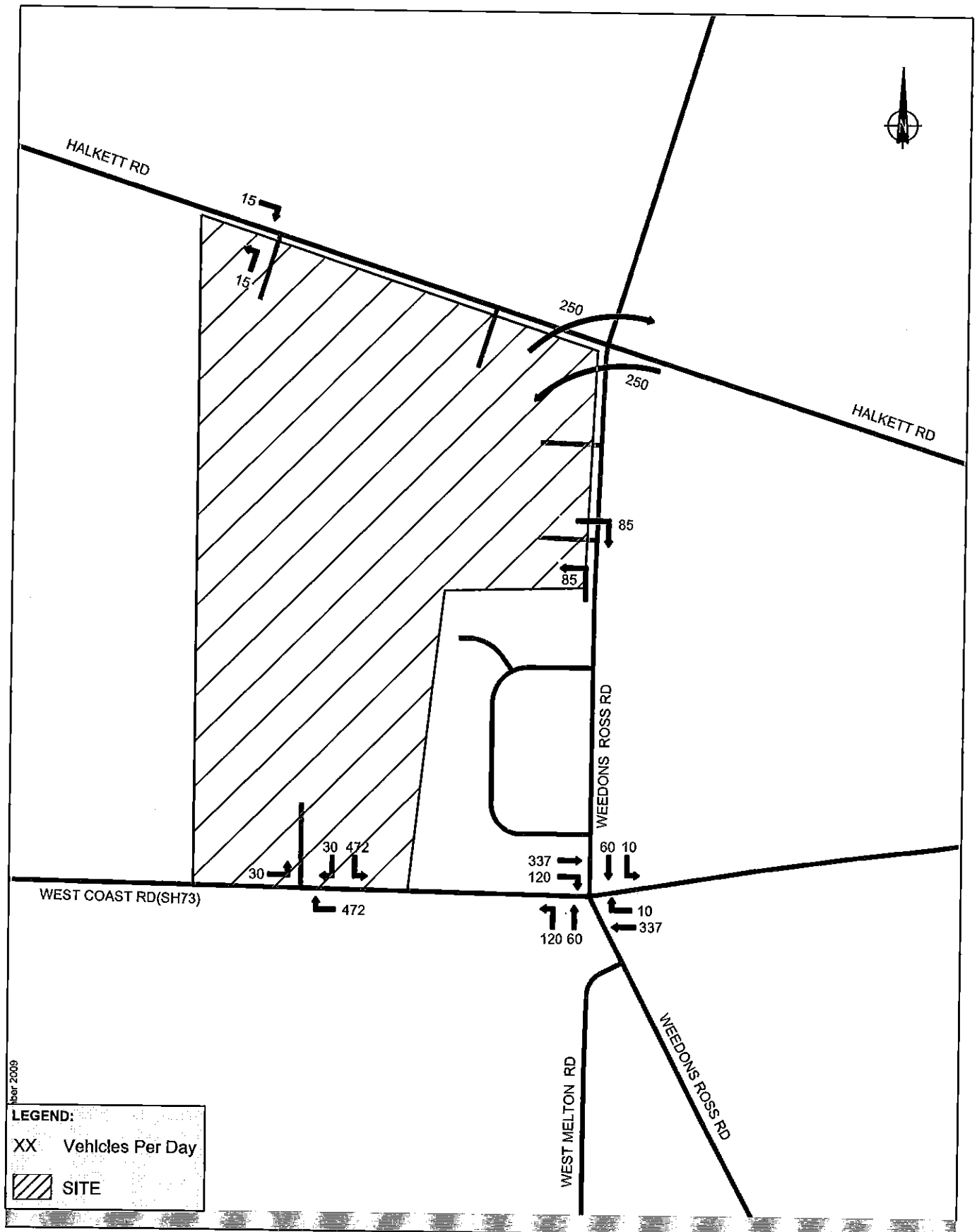
### 8.2.3 Trip Distribution with No SH73 Connection (Alternative Scenario)

**Figure 10** shows the daily traffic distribution without a connection to SH73. The shortest and quickest route to the east is via Halkett Road for all traffic. In practice, a nominal proportion of traffic will utilise the SH73 route via the Weedons Ross Road intersection in West Melton, but because under this scenario the volume will be small, it will not be critical for the purpose of analysis. There will be an additional 1,070vpd on Halkett Road (that continue on SH73), an additional 600vpd through the existing urban section along Weedons Ross Road, of which approximately 340vpd travel south of SH73 towards Rolleston. The key additional traffic volume will be to the right turn into Halkett Road from SH73, with up to 75vph additional vehicles predicted to make the movement. The other key intersection, SH73 / Weedons Ross Road, will have in the order of 40vph additional crossing movements (two-way).

The direct SH73 connection will clearly provide reduced traffic volumes on other sections of the local road network, and reduce the additional side road traffic loadings at the existing SH73 intersections at Weedons Ross Road and Halkett Road.

## 8.3 Summary


A summary of the traffic forecasts on the surrounding road network with each network option are provided in the following table:



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**LEGEND:**

XX Vehicles Per Day

 SITE

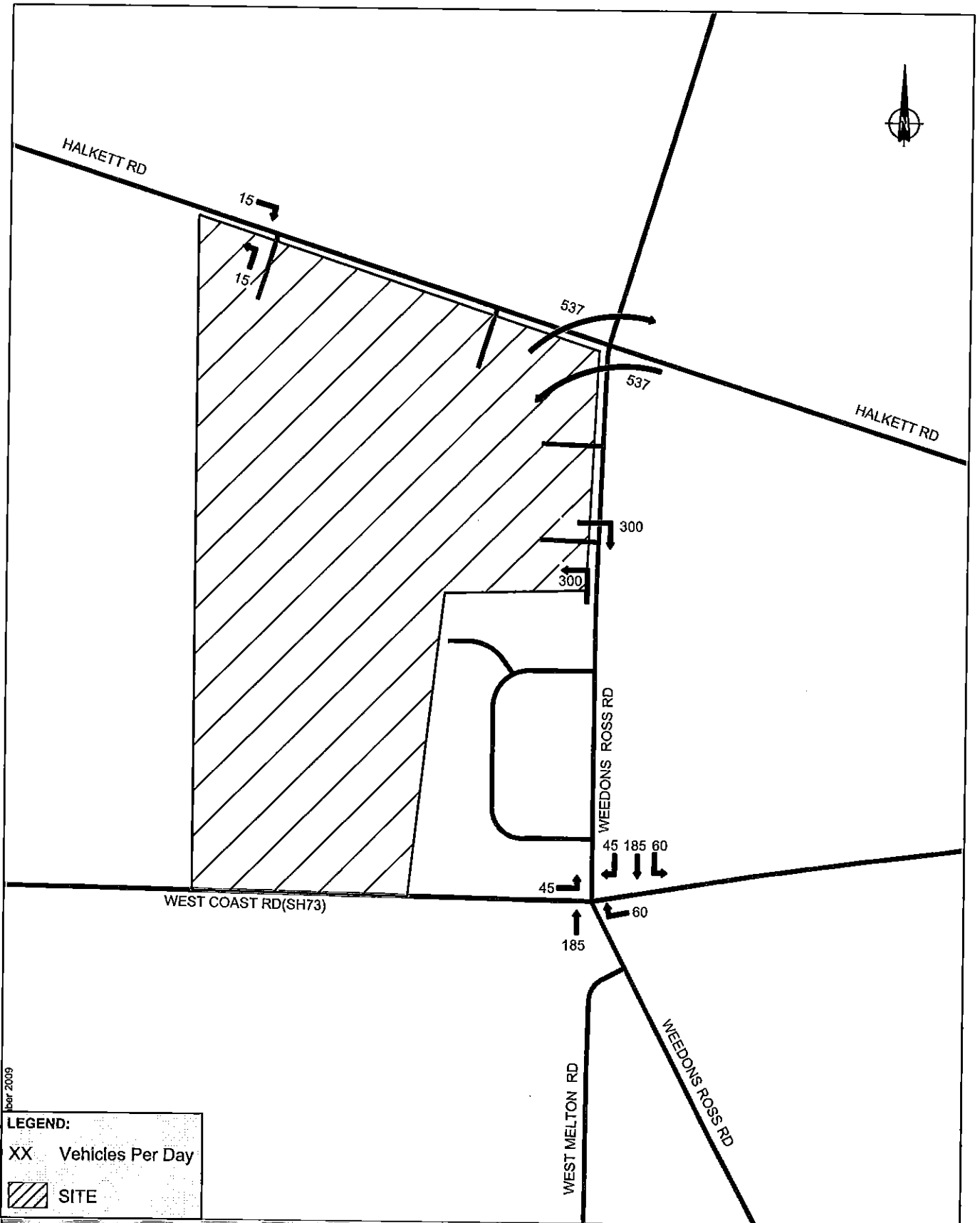
## West Melton Residential Plan Change

### Daily Traffic Distribution (SH73 Connection)

## Traffic Design Group

9

SCALE: NTS



West Melton Residential Plan Change  
Daily Traffic Distribution (No SH73 Connection)

Traffic Design Group

10

SCALE: NTS

LOCATION	PREFERRED SCENARIO (With SH73 Connection)	ALTERNATIVE SCENARIO (No SH73 Connection)
Weedons Ross Road north of SH73	170	540
Weedons Ross Road south of SH73	360	360
Halkett Road east of Weedons Ross Road	500	1,080
Laird Place / Waterview Crescent	0	0
SH73 west of Weedons Ross Road	940	90
SH73 west of Halkett Road	700	120
SH73 east of Halkett Road	1,200	1,200

**Table 4: Traffic Distributions**

As can be seen, the scenario without the direct SH73 connection results in greater traffic volumes crossing / joining SH73 at the Weedons Ross Road intersection, and utilising Halkett Road. This has contributed to the preference to adopt the scenario with the SH73 connection as part of the ODP.

## 9. Effects on the External Transport Network

### 9.1 Halkett Road

As discussed in the previous section, Halkett Road is expected to accommodate in the order of 520-1,100vpd of additional traffic associated with the Plan Change development, dependent on whether the SH73 connection is provided. Existing volumes are approximately 500vpd, and the Gainsborough subdivision is likely to add approximately 600vpd. Therefore, the total volume on the section of Halkett Road east of Weedons Ross Road could be between 1,620vpd and 2,200vpd.

As described earlier, Halkett Road has a 6.0m wide sealed carriageway with a straight alignment. The 3m lane widths are appropriate for the existing and expected traffic volumes without the development. Standard engineering guidelines suggest that carriageway widths would normally be increased to 7m for volumes greater than 1,000vpd, based on AUSTROADS Rural Road Design and NZS 4404:2004 Land Development and Subdivision Engineering requirements. However, over such a short section of road the carriageway width is sufficient to provide a safe and efficient level of service for road users, particularly as most traffic is light vehicles. The Austroads standards are based on the expectation of long roads where passing is a regular occurrence. In this case the normal provisions for passing on a rural road are not necessary over a 2.5km stretch of rural road.

The Selwyn District Plan Rural Rule A10.1.2 identifies that new local defined roads should have road carriageway widths of between 6.2m and 6.5m, slightly greater than the existing 6.0m. There is no practical benefit in undertaking seal widening to this level in the short term, and would only be considered as part of a major reseal of the road. Therefore, it is considered no carriageway upgrades are required to form part of the Plan Change rules, although in the longer term subdivision development contributions from the plan change area could be put towards widening as part of the road resealing. Such provisions would be considered at the time of subdivision when the effects of the Gainsborough development will be more evident.

The intersection of SH73 and Halkett Road will be upgraded as part of the Gainsborough subdivision, and includes provision for either seal widening or a dedicated right turn bay to allow through traffic to pass right turning traffic. This requirement is based on the projected traffic volumes satisfying warrants for a right turn facility. With the Preston Downs and Wilson land developments, the total future right turn volume could be 120-160vph in the PM peak period. Such a volume of total right turning traffic will be accommodated by the upgrades proposed for the Gainsborough development, and the intersection will continue to operate well within its practical traffic carrying capacity. However, the additional traffic undertaking turning movements at the intersection could be reduced through the provision of a direct connection to SH73.

### 9.2 Laird Place

A pedestrian / cycle connection is proposed to connect to Laird Place providing good access to the school and existing community. The existing development on Laird Place indicates that it would currently carry approximately 50vpd, so the minor increase in pedestrian and cycle movements will be readily accommodated.

The resultant transport effects would therefore be expected to be less than those already anticipated with the undeveloped Living 1 zoning for which a vehicle connection could have been anticipated.

### 9.3 West Melton Intersection

The potential effect of Preston Downs on the amount of turning traffic at the SH73 / Weedons Ross Road intersection is partly dependent on the connections that will be made to the external road network. The increase in individual crossing movements is not expected to be more than approximately 10vph with the provision of the SH73 connection to the west as anticipated by the Outline Development Plan. If that connection was not provided, the increase to the crossing movement could increase by up to 25vph. Such an increase will not affect the existing capacity of the intersection.

With the proposed definition of Weedons Ross Road as a District Arterial in CRETS, an increase in crossing movements would have been considered. However, there are no recommendations for improvements to the intersection. It is expected that if improvements were undertaken by NZTA at some time in the future, they would concentrate on tidying up access to the service station which does not meet current standard traffic engineering practice, and potentially realigning the highway further away from the northern boundary.

With the proposed provision of a pedestrian refuge to the east of the new SH73 connection, it is not expected that there will be any significant additional pedestrian crossing demand in the immediate vicinity of the intersection.

### 9.4 SH73

SH73 currently carries approximately 6,500vpd which is well within its traffic carrying capacity. It has a high geometric standard and the long term increase of 1,220vpd associated with the Plan Change will be able to be readily accommodated. As discussed earlier, passing lanes may be implemented in the future to accommodate general traffic growth. The CRETS study did not recommend any improvements outside of NZTA's standard planning processes, and it is considered that the additional traffic will not result in the need for contributions to upgrades of the network.

## 10. Conclusions

This report has assessed the potential transportation impacts of the proposed Plan Change for residential development. The development provides for up to approximately 282 lots adjoining the northwestern side of the existing township.

The traffic generation associated with the development can be readily accommodated on the wider transport network with negligible effects. The Outline Development Plan provides an appropriate framework to manage the distribution of traffic onto the wider network. Of particular note is the network layout enables efficient connection to SH73 and Halkett Road, which will in turn enable the majority of traffic movements to be accommodated at the new SH73 intersection and the SH73/Halkett Road intersection, rather than the SH73/Weedons Ross Road intersection.

The provision of an additional connection from the site onto SH73 provides efficiency in the overall movements on the network associated with the development, and minimises additional traffic on Halkett Road and Weedons Ross Road. The new SH73 intersection would warrant a right turn bay based on the projected development within Plan Change site.

Each of the proposed access points are located where there is substantial sight distance available. However, the new intersections will warrant a review of the adjacent speed limits and on the higher speed roads will require suitable localised widening treatments.

Whilst a public transport service between Christchurch and West Melton is unlikely to be introduced in the near future, the Preston Downs development will make the possibility of such a route more feasible. Options exist with the design of the subdivision to accommodate a route through the plan change area with the provision of a direct north-south route and appropriate design of key intersections.

The Preston Downs development will encourage local walking trips through the provision of extensive pedestrian facilities both adjacent to roads, and within green areas. The pedestrian paths will include connections to existing footpaths within West Melton. The potential also exists for specific cycling facilities.

Having considered the potential transport effects and the design of appropriate access points, it is concluded that the development enabled by the proposed plan change can be accommodated with transport related effects that are no more than minor, and in a manner consistent with strategic and local transportation related planning objectives and policies.

Traffic Design Group Ltd  
11 December 2009