APPENDIX 48.25

PART C

2 RURAL RULES – TREE PLANTING AND REMOVAL OF HERITAGE TREES

Notes

1. Any earthworks associated with tree planting or harvesting must comply with Rule 1 – Earthworks.
2. Plantations on the Plains must comply with Rule 9.13 – Vehicle Movements.
3. Removal of indigenous vegetation must comply with Rule 9.21 – Clearance of Indigenous Vegetation and Indigenous Plant Species.
4. The burning of vegetation is managed through regional rules. Therefore, Environment Canterbury should be contacted.
5. PERMITTED ACTIVITIES do not require a resource consent. OTHER ACTIVITIES do require a resource consent.

2.1 SHELTERBELTS AND AMENITY PLANTING

Permitted Activities – Shelterbelts & Amenity Planting

2.1.1 The planting of any trees for amenity planting, shelterbelts or visual screening shall be a permitted activity if all of the following conditions are met:

2.1.1.1 In the areas shown on the Planning Maps as the High Country, the following tree species are not planted:

- Lodgepole pine *(Pinus contorta)*
- Scots pine *(Pinus sylvestris)*
- Corsican pine *(Pinus nigra)*
- Douglas fir *(Pseudotsuga menziessi)*
- Mountain pine *(Pinus mugo/unaciata)*

2.1.1.2 In the area shown on the Planning Maps as the High Country, the tree(s) are not located within any area also shown on the Planning Maps as an Area of Outstanding Landscape or a Forestry Exclusion Area.

2.1.1.3 In the area shown on the Planning Maps as the High Country, any shelterbelt planted on land adjoining SH 73 or the Midland Railway is either:

(a) A maximum of two rows in width and planted perpendicular to the road boundary; or

(b) Set back a minimum distance of 300m from the road boundary;

2.1.1.4 The tree(s) are planted at least:

(a) 20m from the edge of any waterbody listed in Appendix 17; and

(b) 10m from the edge of any other waterbody (excluding aquifers).

Note: *For the purposes of Rule 2.1.1.4, the edge of any lake or wetland is measured from:*

The edge of the space of water which the lake or wetland covers at its annual highest level without exceeding its margin; or

If the lake level is controlled by artificial means, the space of land which the waters of the lake or wetland cover at its maximum permitted operating level.

The edge of any other waterbody is measured from the edge of the bed of the river. The bed is defined in section 2 of the Act as- "the space of land which the waters of the river cover at its fullest flow, without overtopping its banks."

2.1.1.5 No tree shades:

(a) Any part of the carriageway of any road between 1000 and 1400 hours (inclusive) on the shortest day of any calendar year; and

(b) Any property under different ownership between 1000 and 1400 hours (inclusive) on the shortest day of any calendar year;

2.1.1.6 No tree is planted so that on maturity it encroaches within the line of sight for any railway crossing or road intersection, as shown in Appendix 11;

2.1.1.7 Any tree is planted and maintained so that it does not encroach within the height restrictions for West Melton Airfield or Hororata Domain, as shown in Appendix 19;

2.1.1.8 In any area listed in Appendix 5 and shown on the Planning Map as a Silent File Area, any disturbance of soil or earth by the tree planting(s) is limited to disturbance of soil over areas and to depths where that soil has been previously disturbed by cultivation, planting (trees, pasture or crops), building or earthworks;

2.1.1.9 In any area listed in Appendix 5 and shown on the Planning Maps as a Wāhi Taonga Site or a Wāhi Taonga Management Area, the tree planting(s) do not involve the disturbance, damage to, removal or destruction of any object, artefact or other symbol of pre-European settlement, occupation or use of that site;

2.1.1.10 In the area shown on the Planning Maps as the Port Hills, the tree(s) are not located within the Summit Road Protection Area as defined in Appendix 24.[PC6]

Restricted Discretionary Activities – Shelterbelts & Amenity Planting

2.1.2 Planting any tree species which does not comply with Rule 2.1.1.1 shall be a restricted discretionary activity.

2.1.3 Under Rule 2.1.2, the Council shall restrict its discretion to consideration of:

2.1.3.1 The potential for wilding spread from the species planted on that site;

2.1.3.2 The effectiveness of any proposed wilding management plan;

2.1.3.3 The design and siting of any amenity plantings, shelterbelts or visual screening in the High Country (outside the area of Outstanding Landscape) to:

(a) Reflect and complement the landform patterns and shapes of the landscape; and

(b) Maintain a landscape where plantations are carefully negotiated with existing land uses, so as to avoid a continuously forested landscape; and

(c) Maintain panoramic views of the Upper Waimakariri Basin from SH 73, where these views exist by ensuring plantations are setback from the road, Midland Railway Line and plantation blocks are spaced to maintain views between them.

2.1.3.4 Whether the area contains any "Significant Ecological sites" worthy of protection under the criteria listed in Appendix 12, and if so,

(a) Whether the plantation may affect the site; and

(b) How the site may be protected.

2.1.3.5 Any potential adverse effects of planting the area on any rainfed wetland or tarn and how those effects may be mitigated.

2.1.3.6 Approval of a fire management plan.

2.1.3.7 Any positive effects which may offset any adverse effects.

2.1.3.8 Any monitoring or review conditions.

Note: *In using its discretion under Rule 2.1.3., the Council will consider the recommendations in N.J. Ledgard & E.R. Langer (1999) "Wilding Prevention - Guidelines for Minimising the Risk of Unwanted Wilding Spread from New Plantings of Introduced Conifers", where appropriate.*

2.1.4 Planting any tree in a position which does not comply with Rule 2.1.1.4 shall be a restricted discretionary activity.

2.1.5 Under Rule 2.1.4 the Council shall restrict its discretion to consideration of the effects of the proposed planting as to shading.

2.1.6 Any tree planting which does not comply with Rule 2.1.1.5 shall be a restricted discretionary activity.

2.1.7 Under Rule 2.1.6 the Council shall restrict its discretion to consideration of:

2.1.7.1 The effects of the proposed shelterbelt on restricting views of the Upper Waimakariri Basin from SH 73 or the Midland Railway including (but not limited to);

(a) Whether expansive views either side of the shelterbelt would remain;

(b) Whether the shelterbelt will screen the view of any lake, Silent File area, Wāhi Taonga Site, Wāhi Taonga Management Area, Mahinga Kai Site, or any area of Outstanding Landscape.

2.1.7.2 The length of the shelterbelt;

2.1.7.3 The need to provide effective stock or crop shelter; and

2.1.7.4 Any positive effects which may offset any adverse effects.

2.1.8 Any activity which does not comply with Rule 2.1.1.8 or 2.1.1.9 shall be a restricted discretionary activity.

2.1.9 Under Rule 2.1.8 the Council shall restrict its discretion to all of the following matters:

2.1.9.1 Any inappropriate disturbance or other potential adverse effects on any site of significance within a Silent File area, as advised by local runanga;

2.1.9.2 Any damage to, destruction or removal of, any object, remnant or artefact contained within a Wāhi Taonga Site or Wāhi Taonga Management Area, as advised by local runanga;

2.1.9.3 Any potential costs to the landholder of not being able to undertake the proposed activity on that site;

2.1.9.4 Any alternative options available to undertake the activity in another form or on another site and the costs and practicality of these options;

2.1.9.5 Any positive effects which may offset any adverse effects; and

2.1.9.6 Any monitoring or review conditions.

Discretionary Activities – Shelterbelts & Amenity Planting

2.1.10 Any shelterbelt or amenity planting that does not comply with Rule 2.1.1.2 shall be a discretionary activity if any one of the following standards and terms is met:

2.1.10.1 The shelterbelt or amenity planting is planted for landscape enhancement or beautification, using indigenous species which are found in that area;

2.1.10.2 The shelterbelt or amenity planting is planted for soil conservation purposes;

2.1.10.3 The shelterbelt or amenity planting is planted to manage the spread of wilding trees or exotic plant pests and the applicant has demonstrated that there is no practical alternative management option for that site;

2.1.10.4 The planting is a shelterbelt and is located within a Forestry Exclusion Area; or

2.1.10.5 The planting is amenity planting and is located within an area of Outstanding Landscape in the High Country.

2.1.11 Any activity which does not comply with Rule 2.1.1.3 shall be a discretionary activity.

Non-Complying Activities – Shelterbelts & Amenity Planting

2.1.12 Any activity which does not comply with Rule 2.1.1.6, 2.1.1.7, 2.1.1.10 or 2.1.10 shall be a non-complying activity.[PC6]

2.2 PLANTATIONS

Permitted Activities — Plantations

2.2.1 The planting or harvesting of any plantation shall be a permitted activity if all of the following conditions are met:

2.2.1.1 The plantation is not located in the areas shown on the Planning Maps as the Port Hills, Malvern Hills or the High Country;

2.2.1.2 In any area listed in Appendix 5 and shown on the Planning Maps as a Silent File Area, any disturbance of soil or earth by the plantation is limited to the disturbance of soil over areas and to depths where that soil has been previously disturbed by cultivation, planting (trees, pasture or crops), building or earthworks;

2.2.1.3 In any area listed in Appendix 5 and shown on the Planning Maps as a Wāhi Taonga Site or a Wāhi Taonga Management Area, the plantation does not involve the disturbance, damage to, removal or destruction of any object, artefact or other symbol of pre-European settlement, occupation or use of that site;

2.2.1.4 Any tree is planted at least:

(a) 20m from the edge of any waterbody listed in Appendix 17; and

(b) 10m from the edge of any other waterbody (excluding aquifers)]

Provided that Rules 2.2.1.4(a) and 2.2.1.4(b) do not apply to any trees planted for the purpose of bank stabilisation or prevention of soil erosion.

2.2.1.5 No tree shades:

(a) Any part of the carriageway of any road between 1000 and 1400 hours (inclusive) on the shortest day of any calendar year; and

(b) Any property under different ownership between 1000 and 1400 hours (inclusive) on the shortest day of any calendar year.

2.2.1.6 No tree of the plantation is planted so that on maturity it encroaches within the line of sight for any railway crossing or road intersection, as shown in Appendix 11; and

2.2.1.7 Any plantation is planted and maintained so that it does not encroach within the height restrictions for West Melton Airfield or Hororata Domain, as shown in Appendix 19.

Restricted Discretionary Activities — Plantations

2.2.2 The planting or harvesting of plantations in areas shown on the Planning Maps as the Port Hills, Malvern Hills or High Country shall be a restricted discretionary activity if all of the following standards and terms are met:

2.2.2.1 The plantation is not located within any area shown on the Planning Maps as an Area of Outstanding Landscape, excluding the Port Hills[PC6], or a Forestry Exclusion Area in the High Country; and

2.2.2.2 In the area shown on the Planning Maps as the High Country, trees planted do not include any of the following species:

- Lodgepole pine *(Pinus contorta)*
- Scots pine *(Pinus sylvestris)*
- Corsican pine *(Pinus nigra)*
- Douglas fir *(Pseudotsuga menziessi)*
- Mountain pine *(Pinus mugo/unaciata)*

2.2.3 Under Rule 2.2.2 the Council shall restrict its discretion to consideration of:

2.2.3.1 The design and siting of any plantation on the Port Hills to:

(a) Maintain the uninterrupted skyline of the summit of the Port Hills as viewed from the Summit Road or any road on the Plains;

(b) Avoid screening views of existing landforms and natural features, including[PC6] Gibraltar Rock and Cooper's Knob from the Summit Road or any road on the Plains;

(c) Avoid screening views from the Summit Road;

(d) Reflect and complement the landform patterns and shapes of the landscape and the avoidance of artificial or unnatural lines;[PC6]

(e) Maintain diversity in the vegetation cover on the Port Hills, by encouraging plantations to be interspersed with other land uses, where practical;

(f) Avoid, remedy or mitigate the potential for scarring of the landscape from earthworks and harvesting activities;

(g) Avoid or mitigate any potential effects on indigenous vegetation and waterways;

(h) Provide for the re-vegetation of any earthworks;

(i) Avoid, remedy or mitigate the scale and extent of the proposed plantation where there are effects on amenity values, including any cumulative effects taking into consideration existing or consented plantations on an adjoining site;

(j) To avoid, remedy or mitigate the visibility of any tracks or roads required for the management or harvesting of the plantation, having regard to existing contours.[PC6]

2.2.3.2 The design and siting of any plantation on the Malvern Hills to:

(a) Maintain the distinctiveness of the skyline and ridges of the Malvern Hills;

(b) Avoid screening the rocky outcrops at Glenroy or the volcanic ridge from Mt Misery to Windwhistle, as viewed from any road; and

(c) Reflect and complement the landform patterns and shapes of the landscape;

2.2.3.3 The design and siting of any plantation in the High Country (outside the area of Outstanding Landscape) to:

(a) Reflect and complement the landform patterns and shapes of the landscape;

(b) Maintain a landscape where plantations are carefully integrated with existing land uses, so as to avoid any semblance of continuous afforestation; and

(c) Maintain panoramic views of the Upper Waimakariri Basin from SH 73, where these views exist, by ensuring plantations are setback from the road and plantation blocks are spaced to maintain views between them.

2.2.3.4 Whether the area contains any "Significant Ecological sites" worthy of protection under the criteria listed in Appendix 12; and if so,

(a) Whether the plantation may affect the site; and

(b) How the site may be protected;

2.2.3.5 Any potential adverse effects of planting the area on any rain fed wetland or tarn on the site and how those effects may be mitigated;

2.2.3.6 Any measures to mitigate potential soil erosion from earthworks associated with access tracks or harvesting;

2.2.3.7 Any effects of the proposed mode and route of transport, and any improvements required to the road network to allow access into and out of the site for planting or harvesting trees.

2.2.3.8 The timing and conditions for replanting or rehabilitating the site and surrounding area once the plantation is harvested, and any staging of the site rehabilitation for harvesting a large plantation;

2.2.3.9 Approval of a fire management plan;

2.2.3.10 Any positive effects which may offset any adverse effects; and

2.2.3.11 Any monitoring or review conditions.

2.2.4 Any plantation which does not comply with Rule 2.2.2.2 shall be a restricted discretionary activity.

2.2.5 Under Rule 2.2.4, the Council shall restrict its discretion to consideration of:

2.2.5.1 All of the matters listed in 2.2.3.1 to 2.2.3.11;

2.2.5.2 The potential for wilding spread from the particular species planted; and

2.2.5.3 The effectiveness of any proposed wilding management plan.

Note: *Under Rule 2.2.4 the Council retains its discretion to identify affected parties or require notification of the resource consent application, pursuant to sections 93, 94, 94A, 94B, 94C and 94D of the Act. In using its discretion the Council shall consider the recommendations in N.J. Ledgard and E.R. Langer (1999) "Wilding Prevention – Guidelines for Minimising the Risk of Unwanted Wilding Spread from New Plantings of Introduced conifers", where appropriate.*

2.2.6 Any activity which does not comply with Rules 2.2.1.2 or 2.2.1.3 shall be a restricted discretionary activity.

2.2.7 Under Rule 2.2.6, the Council shall restrict its discretion to the consideration of:

2.2.7.1 Any inappropriate disturbance or other potential adverse effects on any site of significance within a Silent File area, as advised by local runanga;

2.2.7.2 Any damage to, destruction or removal of, any object, remnant or artefact contained within a Wāhi Taonga Site or Wāhi Taonga Management Area, as advised by local runanga;

2.2.7.3 Any potential costs to the landholder of not being able to undertake the proposed activity on that site;

2.2.7.4 Any alternative options available to undertake the activity in another form or on another site and the costs and practicality of these options;

2.2.7.5 Any positive effects which may offset any adverse effects; and

2.2.7.6 Any monitoring or review conditions.

2.2.8 Any plantation which does not comply with Rule 2.2.1.5 shall be a restricted discretionary activity.

2.2.9 Under Rule 2.2.8 the Council shall restricts its discretion to consideration of effects of the proposed planting as to shading.

Discretionary Activities — Plantations

2.2.10 Any plantation which does not comply with Rule 2.2.2.1 shall be a discretionary activity if any one of the following standards and terms is met:

2.2.10.1 The plantation is planted for landscape enhancement or beautification, using indigenous species which are found in that area, and will not be harvested;

2.2.10.2 The plantation is planted for soil conservation purposes and will not be harvested; or

2.2.10.3 The plantation is planted to manage the spread of wilding trees or exotic plant pests and the applicant has demonstrated that there is no practical alternative management option for that site.

2.2.11 Any plantation which does not comply with Rule 2.2.1.4 shall be a discretionary activity.

Non-Complying Activities — Plantations

2.2.12 Any plantation which does not comply with Rule 2.2.1.6 shall be a non-complying activity.

2.2.13 Any plantation which does not comply with Rule 2.2.1.7 shall be a non-complying activity.

2.2.14 Any plantation located within an area of Outstanding Landscape, excluding the Port Hills[PC6], or a Forestry Exclusion Area in the High Country which does not comply with Rule 2.2.10 shall be a non-complying activity.

2.2.15 Any plantation located within the Summit Road Protection Areas defined in Appendix 24 shall be a Non-Complying Activity.[PC6]

PART C

3 LIVING ZONE RULES — HERITAGE

3.1 HERITAGE STRUCTURES, TREES AND SITES

Permitted Activities — Heritage Structures, Trees and Sites

3.1.1 The following activities shall be permitted activities:

Maintenance of Heritage Structures and Sites

3.1.1.1 The maintenance of any building, structure or site listed in Appendix 3 for the purposes of this rule maintenance means:

(a) Replacement of any materials which do not form part of the original heritage features of the building, structure, or site;

(b) The replacement of any materials which form part of the original heritage values of the building, structure, or site, provided that these materials are of the same or similar appearance and character as the original materials;

(c) Any repainting of existing painted surfaces;

(d) Any cleaning or washing of external heritage features provided this does not involve the use of abrasive materials or techniques, such as sandblasting.

Maintenance of Heritage Trees

3.1.1.2 Any disturbance of any tree listed in Appendix 4 shall be a permitted activity if the following conditions are met:

(a) The activity is seasonal pruning of the tree(s), or removal or treatment of any diseased portion of such a tree(s); or

(b) Any earthworks are not within 5 metres of the drip line of the tree(s). Refer also to Rule 2.

Restricted Discretionary Activities — Heritage Structures, Trees and Sites

3.1.2 Any activity which does not comply with Rule 3.1.1 shall be a restricted discretionary activity.

3.1.3 Under Rule 3.1.2 the Council shall restrict its discretion to consideration of:

Heritage Values

3.1.3.1 The heritage value(s) of the listed item including the extent to which it may already have been modified by previous additions or alterations.

3.1.3.2 Any adverse effects of the proposed activity on the heritage values of the listed item.

2.3 HERITAGE TREES

Permitted Activities — Heritage Trees

2.3.1 The removal of any part of any heritage tree listed in Appendix 4 shall be a permitted activity if one of the following conditions is met:

2.3.1.1 The activity is annual pruning; or

2.3.1.2 The activity is removal of a dead, diseased or damaged tree or part of a tree that is dead, diseased or damaged.

Restricted Discretionary Activities — Heritage Trees

2.3.2 The removal any heritage tree which does not comply with Rule 2.3.1 shall be a restricted discretionary activity.

2.3.3 Under Rule 2.3.2, the Council shall restrict its discretion to consideration of:

2.3.3.1 The reason why the tree has heritage value, the uniqueness of those values and whether those values can be retained if the tree is replaced;

2.3.3.2 The condition of the tree;

2.3.3.3 Whether the tree poses any danger to people or property or is causing shading of a dwelling or road;

2.3.3.4 Any alternative options to removing the tree and the cost and practicality of any alternatives; and

2.3.3.5 Any positive effects which may offset any adverse effects.

2.4 MAHINGA KAI

Permitted Activities — Mahinga Kai

2.4.1 In any area listed in Appendix 5 and shown on the Planning Maps as a Mahinga Kai Site, any damage to, or removal of, indigenous vegetation shall be a permitted activity, provided that it is limited to that undertaken by tāngata whenua for mahinga kai purposes.

Restricted Discretionary Activities — Mahinga Kai

2.4.2 Any activity which does not comply with Rule 2.4.1 shall be a restricted discretionary activity.

2.4.3 Under Rule 2.4.2, the Council shall restrict its discretion to consideration of:

2.4.3.1 Any adverse effects of the proposed activity on any Mahinga Kai Site, as advised by local runanga.

15 BUSINESS ZONE RULES — HERITAGE

15.1 HERITAGE TREES

Permitted Activities — Heritage Trees

15.1.1 Any disturbance of any tree listed in Appendix 4 shall be a permitted activity if the following conditions are met:

15.1.1.1 The activity is seasonal pruning of the tree(s), or removal or treatment of any diseased portion of such a tree(s); or

15.1.1.2 Any earthworks are not within 5 metres of the drip line of the tree(s). Refer also to Rule 14.

Restricted Discretionary Activities — Heritage Trees

15.1.2 Any activity which does not comply with Rule 15.1.1 shall be a restricted discretionary activity.

15.1.3 Under Rule 15.1.2 the Council shall restrict its discretion to consideration of:

15.1.3.1 Any adverse effects of the proposed activity on the heritage values of the listed tree.

15.1.3.2 For removal of a tree: the condition of the tree, including whether it poses a danger to people or property, or whether its condition is such that it is unable to be maintained.

15.1.3.3 The costs to the applicant of not allowing the proposed activity.

15.2 HERITAGE BUILDINGS, STRUCTURES OR SITES

Permitted Activities — Heritage Buildings, Structures or Sites

15.2.1 The maintenance of any building, structure or site which is listed in Appendix 3 shall be a permitted activity. For the purposes of this rule the term "maintenance" means:

15.2.1.1 The replacement of any materials which do not form part of the original heritage features of the building, structure, or site;

15.2.1.2 The replacement of any materials which form part of the original heritage values of the buildings, structure, or site, provided that these materials are of the same or similar appearance and character as the original material;

15.2.1.3 Any repainting of existing painted surfaces;

Reasons for Rules

Heritage Trees

The trees listed in Appendix 4 have been assessed as having important heritage or cultural values to Selwyn District. Rule 15.1 provides an opportunity to ensure that changes to those items maintain or enhance their heritage values whenever practical.

Costs to the owners of these sites, where they are required to go through a resource consent process, are mitigated. The consent authority has a commitment to lessen the cost to the owners of heritage items by not charging for the processing of resource consent applications for heritage items. The consent authority will also consider the costs incurred by the owners, including the "opportunity costs" if the activity is not allowed to proceed. (See Part B, Section 3.3 for a full explanation of heritage "issues" and protection).

Heritage Buildings, Structures or Sites

The buildings, structures and sites listed in Appendix 3 have been assessed as having important heritage or cultural values to Selwyn District. Rule 15.2 provides an opportunity to ensure that changes to those items maintain or enhance their heritage values whenever practical. A higher level of protection is given to buildings and structures classified as "Category I" under the HPT listing in Appendix 3.

The Plan's policies recognise that an essential part of maintaining the heritage values of buildings, is encouraging their ongoing economic use and thus maintenance. This often means buildings being modified to suit a new use. The emphasis is on ensuring modifications maintain or enhance the heritage values of the building, where feasible and practical, rather than disallowing changes. Maintenance work is defined in the rule so that it can be undertaken without the need for a resource consent, but is limited to a scale which ensures heritage values are not compromised.

Costs to the owners of these sites, where they are required to go through a resource consent process, are mitigated by the consent authority's commitment not to charge for processing these resource consents, and to consider costs incurred by the owners, including "opportunity costs" if the activity is not allowed to proceed. (See Part B, Section 3.3 for a full explanation of heritage "issues" and protection).

APPENDIX 48.26

PART E

APPENDIX 14

SCHEDULE OF REGIONALLY SIGNIFICANT PLANTS ON THE CANTERBURY PLAINS

Species	Common name	Plant type	Information Source
Aciphylla subflabellata	Speargrass	Dicot herb	Plains survey
Austrofestuca littoralis	Sand tussock	Grass	Johnson 1992
Carmichaelia australis	Native broom	Shrub	Heenan 1996
Carmichaelia monroi	Native broom	Shrub	Heenan 1995
Chionochloa rubra	Red tussock	Grass	Plains survey
Dacrycarpus dacrydioides	Kahikatea	Tree	Plains survey
Dacrydium cupressinum	Rimu	Tree	Plains survey
Daucus glochidiatus		Dicot herb	Heenan1
Desmoschoenus spiralis	Pingao	Sedge	Johnson 1992
Discaria toumatou	Matagouri	Shrub	Plains survey
Eleocharis neozelandica*	Sand spike sedge	Rush	Dopson et al. 1999
Kunzea ericoides	Kanuka	Tree	Plains survey
Melicytus alpinus	Porcupine shrub	Shrub	Plains survey
Olearia adenocarpa		Shrub	Heenan & Molloy 2004
Prumnopitys taxifolia	Matai	Tree	Plains survey
Pseudopanax ferox	Fierce lancewood	Tree	Shanks et al. 1990
Ranunculus ternatifolius		Dicot herb	Heenan pers. comm.
Sophora microphylla	Kowhai	Tree	Plains survey
Sophora prostrata	Prostrate kowhai	Shrub	Plains survey

PART E

APPENDIX 13

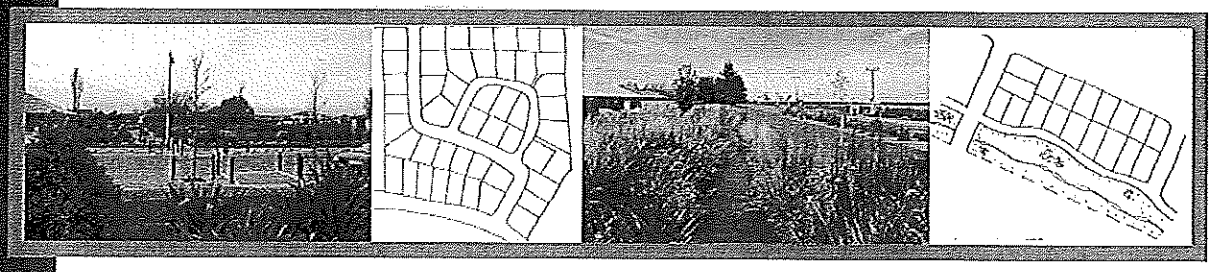
SCHEDULE OF THREATENED AND UNCOMMON PLANTS

Schedule of Threatened and Uncommon Plants (based on de Lange et al. 1999, N.Z.J. Bot. 37(4): 603-629)

Beech forest	Alepis flavida
Beech forest	Peraxilla colensoi
Beech forest	P.tetrapetala
Beech forest and sub-alpine shrublands	Pittosporum patulum
Bluffs	Ischnocarpus novae-zelandiae
Bluffs Port Hills	Myosotis australis var. lytteltonensis
Bluffs Port Hills	Anogramma leptophylla
Foot hills forest	Melicytus flexuosus
Foot hills forests	Coprosma obconica sens. Str.
Foot hills forests	C.pedicellata
Foot hills bluffs	C.torulosa
Grey (small leaved) shrubland – Montane	Helichrysum dimorphum
Grey (small leaved) shrubland – Montane	Hebe cupressoides
Grey (small leaved) shrubland – Montane	Coprosma intertexta
Grey (small leaved) shrubland – Montane/Port Hills	Olearia fimbriata
Grey (small leaved) shrubland – Montane	Carmichaelia crassicaule
Grey (small leaved) shrubland – Montane	C.kirkii
Grey (small leaved) shrubland – Montane	Coprosma wallii
Lake and tarn margins	*C,juncea
Limestone bluffs	Carex inopinata
Limestone bluffs	Australopyrum calcis subsp. Optatum
Limestone bluffs	Myosotis colensoi
Lowland forest	Heostylus mciranthus
Lowland forest	Teucridium parvilfolium
Lowland forest	Tupeia Antarctica

APPENDIX 48.27

SUBDIVISION DESIGN GUIDE



Design Guide for residential subdivision in the urban living zones

September 2009

Urban Design Context

Selwyn DISTRICT COUNCIL

SELWYN DISTRICT COUNCIL

DESIGN GUIDE FOR RESIDENTIAL SUBDIVISION

in the urban living zones

Contents

1. Introduction

The purpose of this guide is to explain to developers, designers and landowners what the Selwyn District Council is seeking for its new subdivisions in and around the townships of the district. It is an aid to interpreting the provisions (objectives, policies, rules and assessment matters) of the Selwyn District Plan. For detailed engineering requirements reference should be made to the Engineering Code of Practice.

A book symbol is used throughout the guide to indicate where reference should be made to other documents.

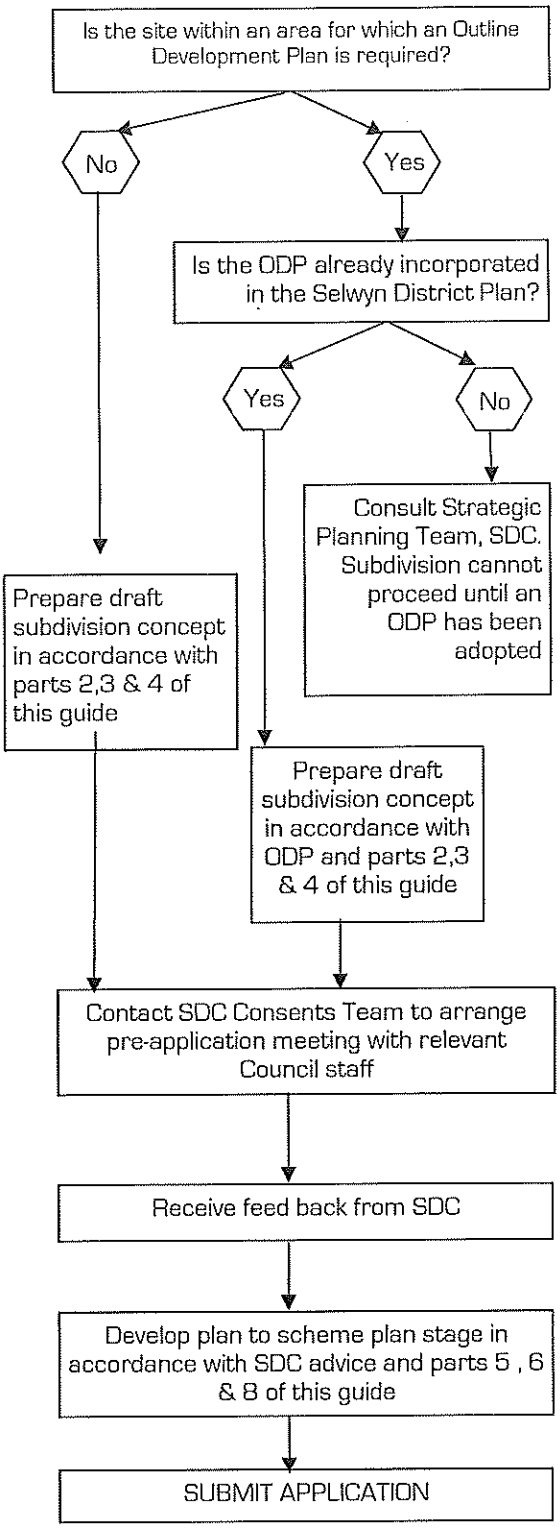
Flexibility in the application of standards and rules will be allowed at the Council's discretion, where the result is a design more suited to its context or other public benefit is gained.

The guide is set out in accordance with the steps that the subdivision design process should follow. The first step is to be clear what the qualities of the end product need to be. Secondly a thorough understanding of the site and its context needs to be gained. This will guide the design of the layout. Once a preliminary concept has been developed it should be discussed with Council staff at a pre-application meeting. This enables the applicant to gain an understanding of the Council's position on any given aspect of the proposed development and ensures that Council officers from different disciplines give consistent advice. Applicants and/or their agents should attend a pre-application meeting prior to submitting a resource consent application for any subdivision creating 20 allotments or more. The proposal can then be developed to scheme plan stage, following the guidance in sections 5 – 8.

A case study site is used to illustrate the development of a subdivision proposal.

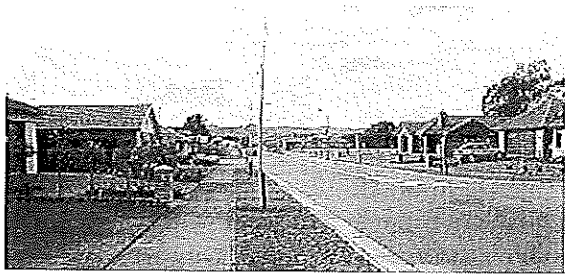
Proposed Change No. 1 to The Environment Canterbury Regional Policy Statement requires an Outline Development Plan to be prepared for some greenfield development areas within the Selwyn District. The Outline Development Plan needs to be incorporated in the District Plan prior to seeking subdivision approval.

Pre-application subdivision process



2. What is a good subdivision?

A good subdivision is one that satisfies engineering and sustainability requirements, is profitable for the developer and has a good balance of the following qualities.



An ideal subdivision:

2.1. Is a special place
The subdivision has its own identity, yet fits in with the character of the township and the existing landscape and natural habitats. Existing site features such as mature trees and water bodies are incorporated, views are taken advantage of, any locally specific art or cultural references are incorporated or used as design cues.

2.2. Has a strong sense of community
People know their neighbours and are proud to live in this place. There are opportunities for people to meet and socialise. The subdivision becomes part of the wider local community.

2.3. Is attractive
The subdivision is not monotonous and dominated by the road surface. Instead there is variety in road and footpath patterns, types and amount of planting, section and building sizes and orientation, architectural styles and materials. The view along the street is of gardens, the fronts of houses and open spaces, not high fences and garages.

2.4. Is sustainable
The subdivision has a low impact on the environment and is resource efficient, both during construction and in the ongoing operation of its assets. High maintenance features are avoided. The street pattern is such that it remains functional over time as development intensifies or uses change. The subdivision makes use of the opportunities the site presents for water conservation and good solar access. Stormwater is re-used for garden or reserve watering or treated and disposed of on site and contributes to amenity or ecology..

2.5. Provides housing and facilities that people want
Section and house sizes and values are varied and meet the market demand. Community facilities are provided, within the vicinity or are able to be easily reached on foot, by bicycle or public transport. Residents have access to a network of varied open spaces, providing opportunities for passive and active recreation.

2.6. Is convenient and accessible
It is easy to get from the subdivision to community infrastructure like schools, libraries, shops, parks and sports and medical facilities and the wider road network. Everyone, including the young, disabled and elderly, is able to move around the local environment with ease, in safety and comfort.

2.7. Provides for walking and cycling and public transport
Opportunities for walking and cycling within the subdivision are seen as important as catering for motorised vehicles. Connections along user desire lines are formed to existing or potential routes beyond the site boundaries. Public transport is readily accessible within or near the subdivision.

2.8. Is free from crime
The subdivision feels safe and residents are able to watch out for each other. There are clear sightlines along pedestrian and cyclist routes. Parks, bus stops and community facilities are located so that they can be easily seen from surrounding houses and streets. There is clear ownership of land and a high standard of maintenance.

3. Contextual Analysis

In order to design a subdivision that has the qualities outlined above a comprehensive analysis of the site and its surroundings is necessary, prior to designing the layout. This will allow the development to take advantage of the natural and historical features of the site and relate well to its context.

Colour coding of the analysis categories is used to illustrate the aspects of relevance on the case study site., shown on pages 5 and 6

Matters to be considered:

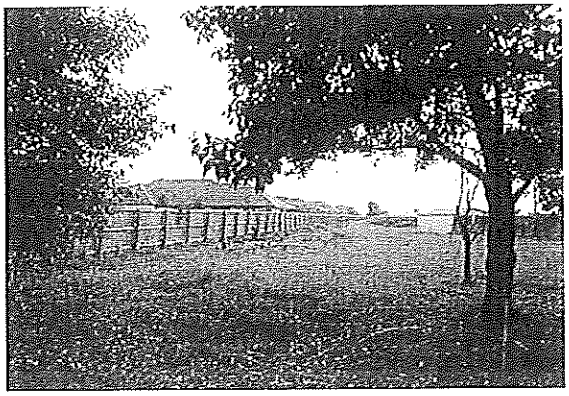
3.1. Existing site features

The physical and visual aspects of the site.

- trees, shelterbelts and other vegetation
- site contours
- changes of level
- unstable ground
- site orientation
- prevailing winds
- water courses, (including water races)
- springs
- land which cannot be built on
- transmission lines
- areas which have been filled or are contaminated
- land liable to flood
- existing buildings and structures which have to be retained or removed
- nature and condition of site boundaries
- any natural, cultural or archaeological features to be preserved or respected (early consultation with Tangata Whenua and the New Zealand Historic Places Trust is advised)

3.2. District Plan site requirements

- any District Plan requirements such as setbacks from watercourses, shelter-belts and transmission lines
- road widening lines
- limited access roads
- buffers between uses
- landscaping
- any requirements included in an approved Outline Development Plan



Existing vegetation

Mature trees

Where mature trees exist on a site their suitability for retention should be investigated. Farm trees are often not compatible with new residential areas due to their size, tendency to drop branches or debris, or inability to survive when their growing conditions are altered. If they can be retained they should be located in public spaces and not private gardens.

Shelter belts

As well as providing shelter from prevailing winds for new residents, shelterbelts can maintain a rural character and be a feature of a new subdivision, However they can cause unwanted shading and need to be maintained. Selected segments of shelter belts might be retained where they can be maintained easily, are on the southern boundary of a site and adjacent to rural land or within or on the rural boundary of a reserve. They may be incorporated in the road reserve, where they will not cause problems such as root invasion or icing of footpaths and roads.

Native vegetation

Biodiversity is an important component of good subdivision design. Existing vegetation should be inspected by a botanist and remnant native vegetation (which is extremely scarce) identified so that the subdivision can be designed to safeguard that which is worthy of protection.

3.3. Surrounding activities

- adjoining land use zoning
- existing pattern of roads
- location of schools, parks, libraries and other community facilities, shops, places of employment, bus stops
- open outlooks, near and distant views
- the relationship of surrounding development to the site
- incompatible activities such as sources of noise, dirt, smell, and unsightliness

3.4. Movement patterns

- the surrounding road network and opportunities for its improvement
- existing and potential access points
- existing and desired pedestrian and cycling routes
- existing and potential bus routes
- roads to which direct access may be limited.

Transportation advice
The Council's Asset Management staff can provide advice on the road classification and standards, existing traffic movements, intended connections and any upgrading plans or requirements.

3.5. Open space and landscaping

- the need for playing fields, expansion of adjacent reserves or creation of new reserves
- areas where particular attention to landscaping may be required, particularly alongside major roads or adjacent to non-residential uses

Soil structure
It is important to avoid disturbance to soil structure, such as topsoil being washed away or compacted during construction. If the topsoil and litter layer remain intact this provides more fertile soil for landscaping and garden plantings and reduces the requirement for fertilizer and watering.

Local knowledge
It is advisable to consult Council staff, neighbours, community and interest groups to ensure that all issues have been identified and there are no surprises further down the track.

3.6. Stormwater management

- flow paths, stormwater catchments, site conditions
- the need for on-site stormwater management, such as detention and retention ponds
- any off-site areas that could be used for stormwater management
- collection and re-use of stormwater

3.7. Infrastructure

- existing or required sewer reticulation,
- access to and availability of a clean and secure water supply, with infrastructure supporting a logical network.
- availability and provision of underground power, telecommunication services and reticulated gas systems,
- service easements, pumping stations, electrical substations, etc.

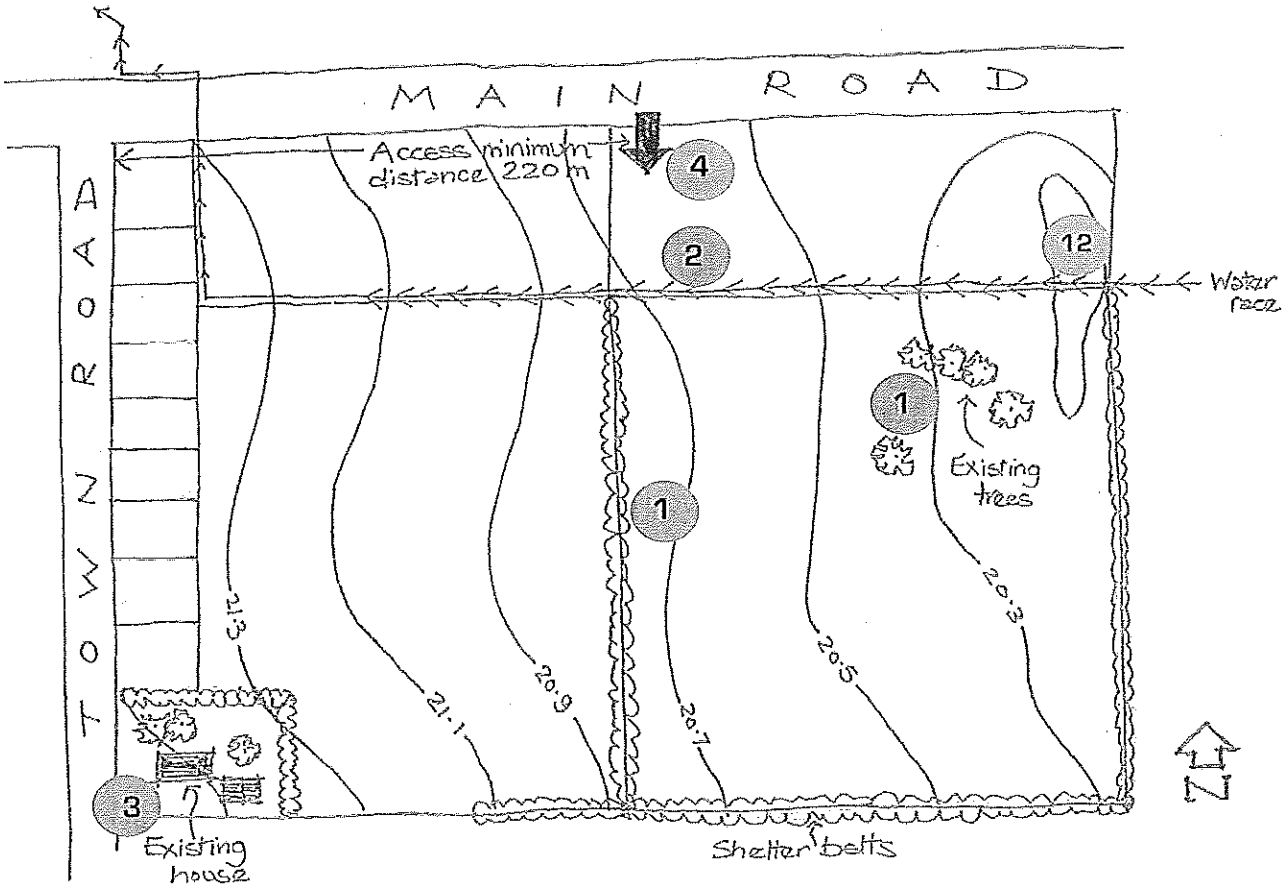
3.8. Staging

- the likely sequence and pace of development (this may be determined by infrastructure provision, housing market, planning strategies, ownership constraints)

Reserves advice
Developers should consult with the Council's Asset Management Department to establish whether there is a need for any reserves within the development site or whether the reserve contribution will be taken entirely as cash. In some situations Council will wish to use reserve contributions to put towards larger off-site parks or sports fields. Conversely Council may wish to purchase land within the subdivision to create a larger park than could be achieved by reserve contributions from the subdivision alone. Council will consider the recreational value of stormwater reserves on a case by case basis when calculating reserves contributions.

CASE STUDY - Site analysis

Note: This page to be read in conjunction with page 6



Design criteria derived from contextual analysis:

1 Try to retain existing trees and parts of shelter belt
2 Retain water race in some form—may need relocating
3 Incorporate existing house

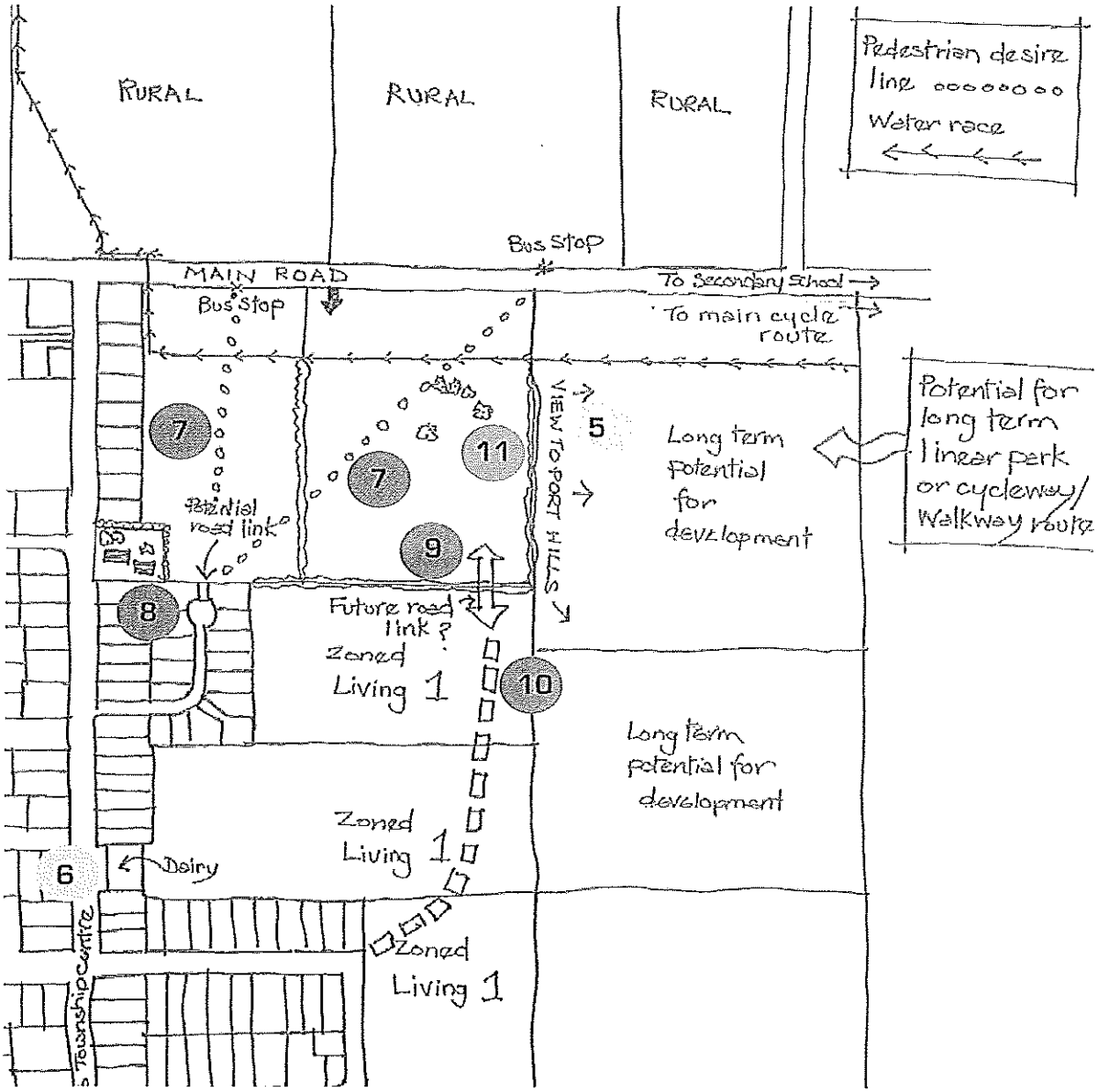
4 Junction with Main Road to be at least 220m from Town Road

5 Provide view to Port Hills from within subdivision
6 Enable easy access for new residents to dairy and township centre

7 Provide pedestrian/cyclist link from main road through site, to give access to bus stops and short cut for cyclists to school and rail trail
8 Provide road link to existing cul-de-sac head in south west corner
9 Provide road to southern boundary to enable connection to L1 land to south
10 Allow for potential long term road connections to land to the east

CASE STUDY - Wider area analysis

Note: This page to be read in conjunction with page 5



11 Local reserve required on site (advice from SDC)
Locate reserve to enable future extension to the east

12 Stormwater detention pond near eastern boundary, due to topography and amenity benefits
Use of stormwater run-off for irrigation of via underground storage

4 Layout considerations

The site and context analysis provides the basis for designing the subdivision layout.

In addition the design will need to satisfy a number of best practice criteria. All of these design parameters must be considered simultaneously. A best practice approach might include the development of different options that can be assessed against each other.

4.1. The character of the subdivision

Maximum advantage needs to be taken of natural features of the site. However, development land in the plains area of the Selwyn District can be flat, featureless and rectilinear in shape and imbuing the subdivision with a sense of place and a point of difference is a challenge. Off-site views and new reserves and tree planting can be utilised as design features. Creative use can be made of stormwater management components and water races. Deliberately varying typically straight road alignments and rectangular section shapes away from the obvious straight line geometry could be a possibility. Changes in street design, such as the use of narrower carriageways is another option. Variety in section sizes can be utilised to create a focus for the subdivision. Where there is a need for a community facility such as a school or a library within the subdivision or local shops are viable, they can form the nucleus of the new neighbourhood.

4.2. Type, location and size of open spaces

Open spaces within the subdivision should contribute to a network of varied open spaces in the wider neighbourhood. Some areas may be designed to be left in a more natural state. Such 'ecological parks' increase the range of habitats and visual interest, whilst requiring lower levels of maintenance.

Linear parks can be developed around watercourses and footpath and cycleway links, providing they are wide enough to function as a recreation reserve, otherwise they will be viewed as part of the transport network. They can form ecological corridors if they are of sufficient width (at least 50m) or connect key features.

Assessment criteria for reserves

Council has adopted* a set of criteria by which they determine the suitability of land to be acquired by the Council as reserve :

- Size, location and accessibility
- Frontage to a roading network
- Soils, gradient and topography,
- Landscape features and quality
- Potential for linkages and walkways
- Margins of waterways
- Proximity to other desirable features
- Potential for views into or from the site
- Eco-systems and biodiversity
- Significant mature vegetation
- Existing shelterbelts
- Historic and cultural significance
- Safety for users
- Potential for enhancement
- Any other criteria relevant to the particular development

*Development Contributions Policy, Selwyn Community Plan (LTCCP) 2009-2019, Volume 2, p40

Smaller local reserves provide amenity spaces and can include linkages. They may contain childrens play areas and other recreational facilities such as tennis courts, petanque etc.

Open spaces may be located so that they can be shared with schools

Locating reserves

The Council expects reserves in logical locations which contribute to the township recreation needs. If the location of the reserve is fixed (due to existing trees or the need to extend an existing or proposed reserve for example) the layout will need to be designed to respond to it. Otherwise the best location for the reserve will need careful consideration at the outset.

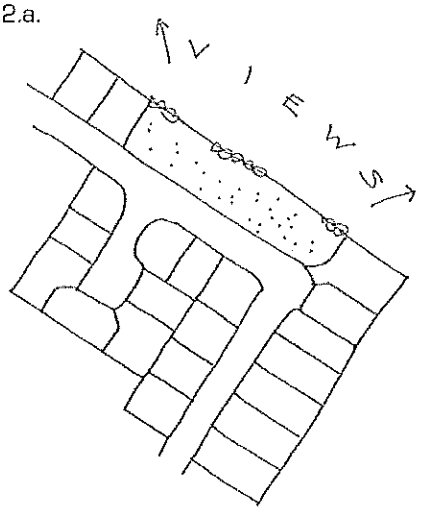
It is not acceptable to nominate a group of sections as the reserve after the layout has been designed. Nor will the Council accept land which clearly benefits only a limited number of users and the prime function of which is to add saleability to the development.

A local neighbourhood park should be at least 2000m² in size, easily accessible on foot for all residents of the subdivision and should be linked to the wider area as part of a network of accessible public spaces throughout the township. As a general rule residents should have access to a children's playground within a 400m radius of their home. A district sports field should be a minimum of 4 hectares or, if it is to accommodate club buildings, 8 hectares.

Places the reserve might go:

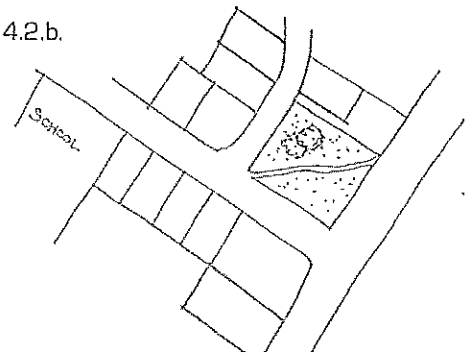
☐ At the rural boundary - so all residents can enjoy the rural outlook

4.2.a.



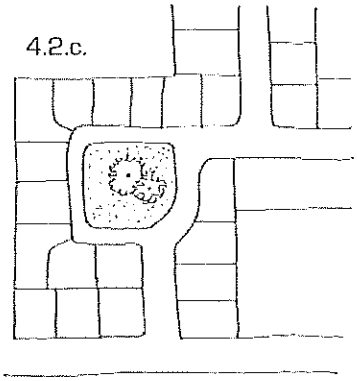
☐ At the entrance to the subdivision -

4.2.b.



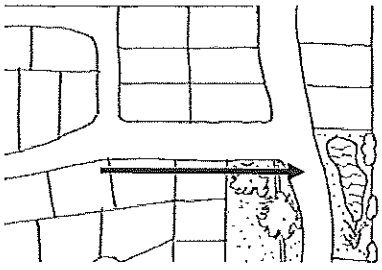
☐ In the centre of the subdivision - to create a focal point

4.2.c.



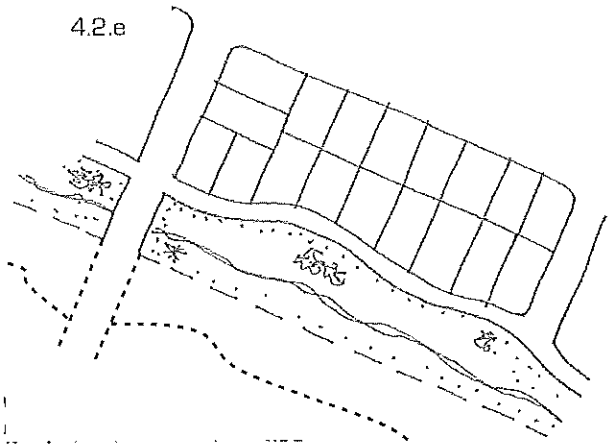
☐ To form a viewshaft from the road

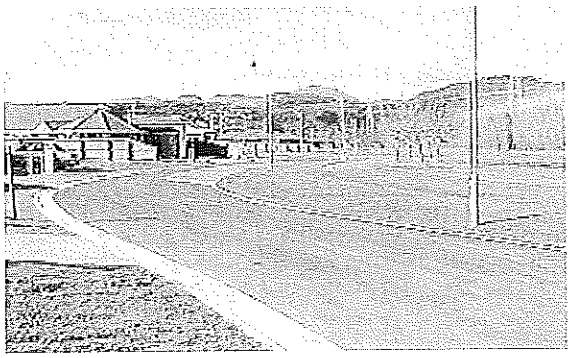
4.2.d.



☐ Adjacent to the site boundary - so that it can be extended by a future reserve on an adjacent subdivision (back to back reserve)

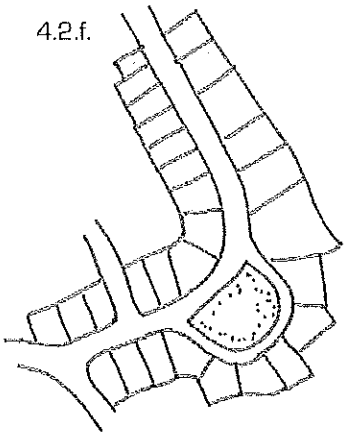
4.2.e





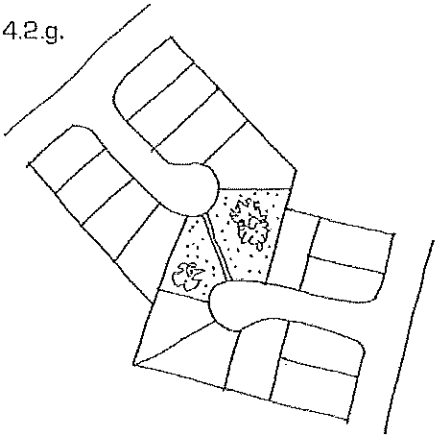
☐ In a strategic location that maximises the number of residents who pass by or through it as they come and go from their homes.

4.2.f.



☐ At the end of a cul-de-sac head - to provide a link to another cul-de-sac head or a footpath

4.2.g.

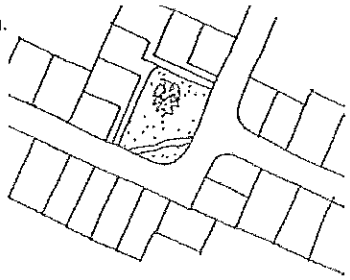


Fronting reserves

Houses should front onto reserves to form an attractive edge and enable casual surveillance. This will normally mean that the reserve has a long road frontage. Another alternative is to have a right of way serving the properties which front on to the reserve.

Right of way serving properties fronting the reserve

4.2.h.



Where a road frontage is impractical along the total length of the reserve boundaries, the quality of the interface should be secured either by ensuring that fences adjacent to private gardens are low or that screen planting is used to form a green edge.

Reserves can also serve a dual role by providing areas for the treatment and disposal of stormwater from a subdivision in heavy rainfall events.

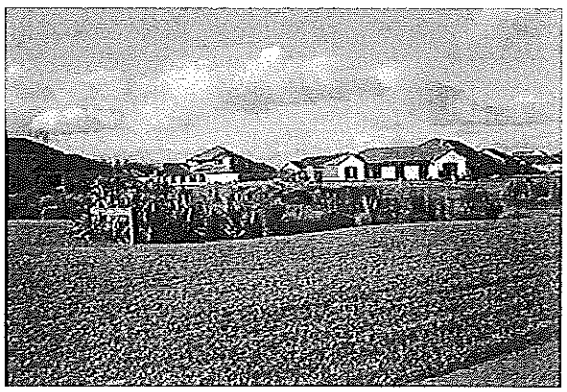
4.3. Stormwater management

Stormwater should be viewed as a resource and not just a by-product of development. It can provide for a variety of uses and add value to the subdivision.

Stormwater management (quality and quantity) and low impact design should be considered early in the site planning process as these will usually influence the design of the subdivision. The amount of land required needs to be calculated at the site analysis stage and the most suitable locations identified, having regard to land levels, soil conditions, hydrology, public safety and down-gradient landowners.

On-site management of stormwater could include the use of swales, raingardens, rainwater tanks, stormwater retention basins and ponds, wetlands and riparian planting. This provides opportunities for enhancing the amenity and distinctiveness of the subdivision and can have ecological benefits (such as providing habitat). It can also contribute to the open-space needs of the development.

A progressively staged and co-ordinated treatment approach, to serve a wider area, is preferable to a single treatment measure in isolation (see Ref: 18). This includes at-source central measures where practical.



The 5 Waters
Council has adopted a Five Waters strategy which includes 7 sustainability principles for the management of water. The five waters are stormwater, wastewater, land drainage, water races and the reticulated water supply. Increased pressure on the use of water and the benefits of sustainable disposal mean that the Council is placing increasing importance on the responsible use of water. Peak (summer) usage is especially high and mostly driven by outdoor irrigation.

The ideal time to ensure the opportunities presented by the site are capitalised upon is when planning the subdivision design. The opportunity should be taken to reduce water wastage through re-use by such means as :

- Holding stormwater collectively in retention ponds or tanks to be used for irrigation of public areas.
- Supplying collective water systems to public areas via a 'third pipe' (recycled water)
- Installing rainwater storage tanks on individual sections
- Considering the use of wastewater for irrigation. This can be easiest on individual lots where a simple greywater reuse system can be used without the need for treatment

A lifestyle analysis of any opportunities should be undertaken to identify which ones are of most benefit in the short and long terms.

Installation of systems on individual lots after subdivision can be ensured by the use of covenants. The appropriate solution will depend upon site specific factors such as soil conditions, access to water races and the amount and type of reserves on site. A consent from Environment Canterbury may be required.

4.4. Water races

Water races are a resource and an opportunity. Their prime role is to provide water for stock in rural areas. While intended to be quite utilitarian in nature they do form a distinctive and attractive element in the flat landscape of the Selwyn District.

If the site has a water race running through it, it should be retained and enhanced if it is practical to do so. This can help to increase the attractiveness of the subdivision and introduce an element of biodiversity as well.

However:

- the water race network, or portions of it, may not be retained in the long term and consideration should be given to how the space will function if the water race is removed.
- The quality of water in water races varies and the treatment of the race should take account of this.

Where a water race is to be incorporated in the subdivision it should be located in a prominent location, either along the fronts of properties with a footpath alongside it or through a reserve. It may be necessary to realign the water race in order to achieve this.

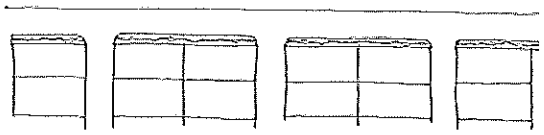
Water races should not be located between rear gardens as the level of maintenance can be variable, access is difficult, unauthorised ponds can be created that reduce its flow and any aesthetic benefit is restricted to just the adjacent landowners.

It can be difficult to accommodate swales and water races satisfactorily, because of the need for access across them to individual properties. For larger water races, bridges are preferred to culverts.

To limit the number of crossing points water races can be located:

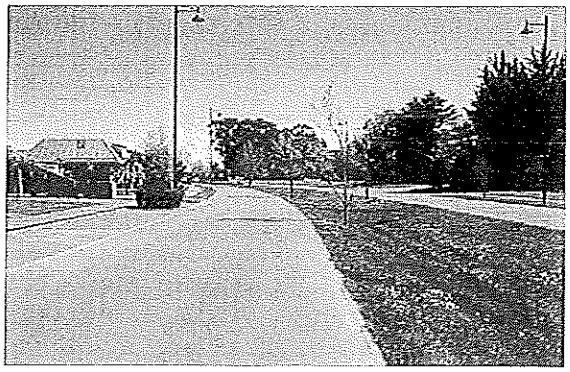
☐ At the ends of streets:

4.4.a.



☐ Adjacent to limited access roads:

☐ In the centre of the road



4.5. A connected transport network

A well connected network of roads increases accessibility for residents allows for safer and more efficient movement of traffic, enables more efficient infrastructure provision and is more adaptable to changes or intensification in land use over time.

The movement analysis carried out in the contextual analysis will inform the design of the road layout.

The road layout needs to: .

☐ Be simple and logical so that it is easy for people to work out where they are and where they are going

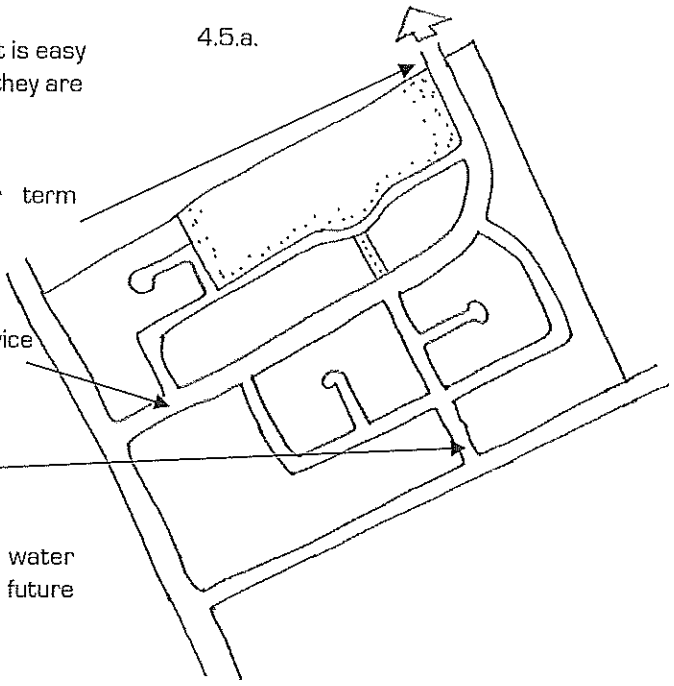
☐ Make allowance for longer term growth

☐ Make allowance for a bus service

☐ Connect to adjacent roads

☐ Support connectivity of water services between existing and future development

4.5.a.



Transport Planning approach

There has been a shift in thinking that transport only revolves around providing roads. There is a need to give people a range of choices that meet their needs in an effective, efficient and affordable manner. The best way to achieve this is to incorporate different transport options early into land use and subdivision planning and design processes, whether this enhances walking and cycling connections or ensures residents have, for example, access to a bus service within 5 minutes walk of their home. Research shows that the majority of car trips undertaken are those under 2km long, and involve single occupant vehicles in urban areas, which is viewed as inefficient and can add to congestion. Transport systems need to be designed so that they are safe, attractive to use, support healthy lifestyles and social interaction, while minimising impacts on the environment by improving air and water quality and reducing noise.

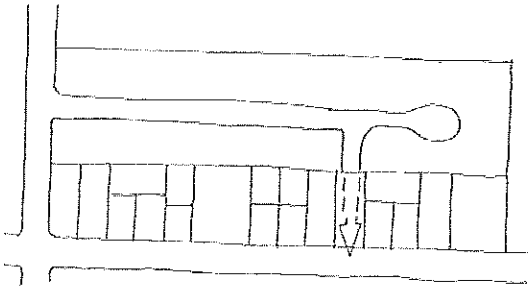
Council believes its townships are perfectly poised to take advantage of more sustainable transport planning practices as they continue to grow and develop. While the role of roads and streets is still very important in this process, they also need to be "fit for purpose" (see Engineering Code of Practice). They need to make a positive contribution towards the amenity of the township with attractive and pleasant streetscapes, which are not always dominated by cars.

Bus routes
Bus services need to follow a direct route through the subdivision, without the need to double back. The location of the through route should aim to be within a 400m walking distance from every house.

All larger subdivisions are required to be vetted by Environment Canterbury to ensure that appropriate provisions has been made for buses. A guide entitled 'Providing for passenger transport within your subdivision' is available on the Selwyn District Council website (www.selwyn.govt.nz)

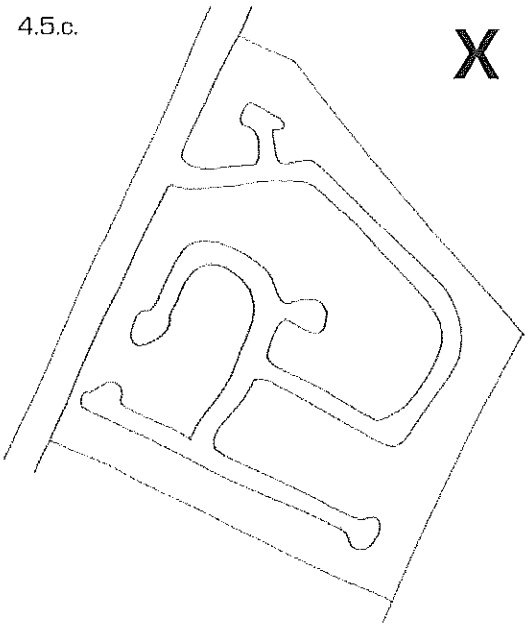
In some cases it may be necessary to acquire adjacent property to secure a connection.

4.5.b.



Where culs-de-sac are incorporated they should be limited in length and have access from a through road. Long meandering culs-de-sac and one cul-de-sac leading to another cul-de-sac do not meet the design criteria.

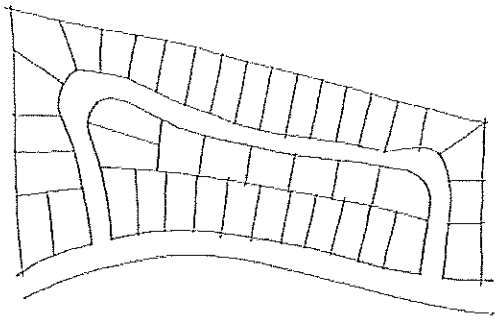
4.5.c.



An alternative to the use of culs-de-sac is to include streets in the form of a crescent. These provide connectivity but also can be a quiet secluded street environment.

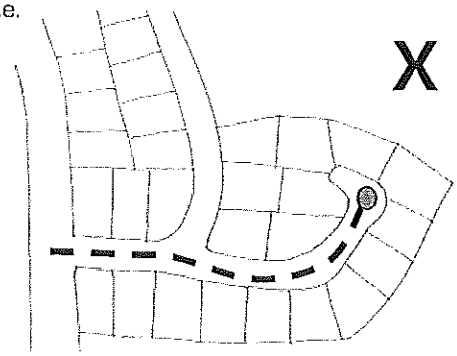
A crescent street form used instead of two culs-de-sac

4.5.d.



It should be clear which is the through route, so that visitors do not end up at a dead end

4.5.e.



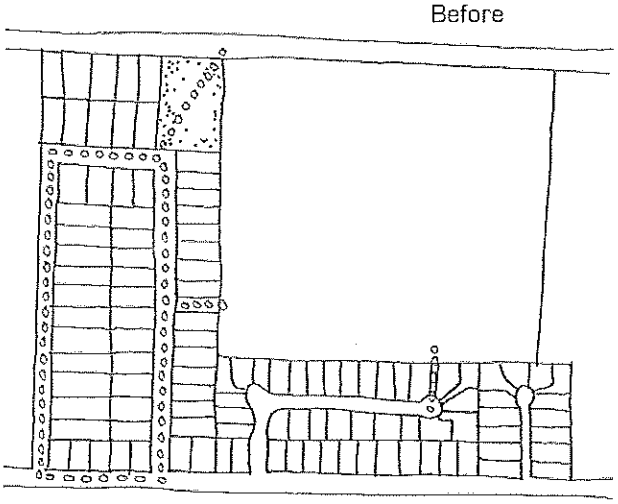
4.6. Network for pedestrian and cyclist movement

Pedestrians and cyclists will use the road network, but off-road connections can often provide shortcuts and a choice of routes. The analysis carried out in the contextual analysis will inform the design of pedestrian and cycle routes.

The subdivision layout should comprise walkable blocks with an average perimeter distance of no more than 800 metres.

4.6.a.

Before



Walkable residential blocks

A residential block is one or more residential sections. Its perimeter is defined as the shortest distance which it is possible to walk entirely around on publically accessible land.

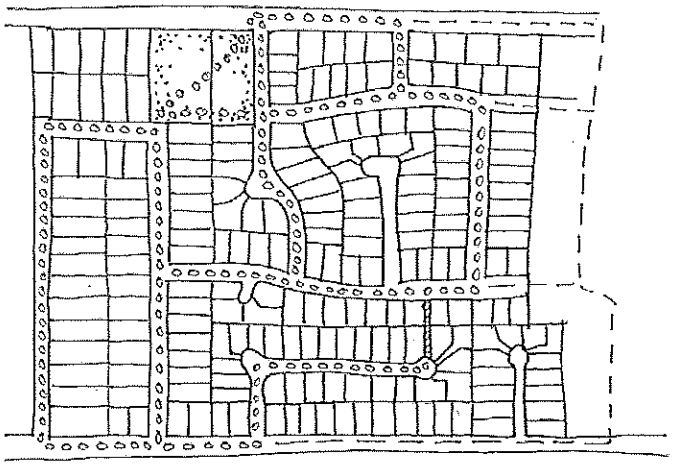
Before widespread car ownership, suburbs (including those in Christchurch, Lincoln, Prebbleton and Darfield) were laid out in blocks with a perimeter of around 600m-800m. More recently, block sizes have tended to increase and urban areas have become less walkable.

A block size of 800m (being an average 10 minute walk) ensures there is connectivity and a choice of routes through an area.

Where the block size is larger than this, choice is limited and walking trips become elongated and less convenient. Larger blocks become obstructions to direct walking routes and encourage the use of cars for short trips.

4.6.b.

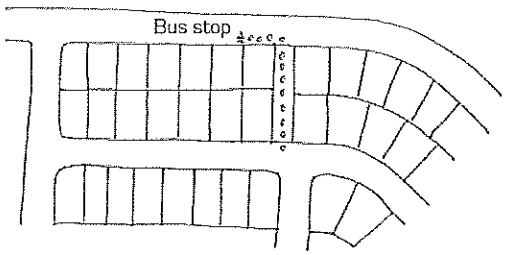
After



The layout should also be designed so that an 800m block size can be achieved in conjunction with adjacent land. Where this land is undeveloped, allowance needs to be made for connections so that logically shaped blocks and routes can be formed when the land is developed. Where the land has already been developed, blocks should be completed where possible, utilising existing roads and connections.

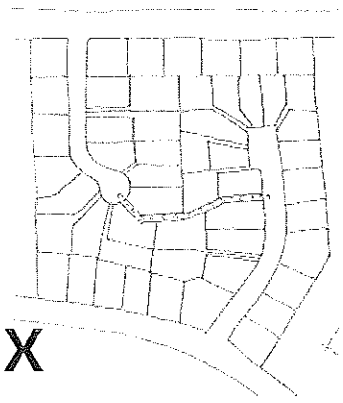
To further encourage walking and cycling care should be taken to:

4.6.c.

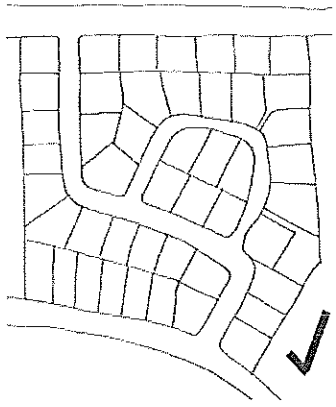


☐ Provide minimal deviation from desire lines

4.6.d.

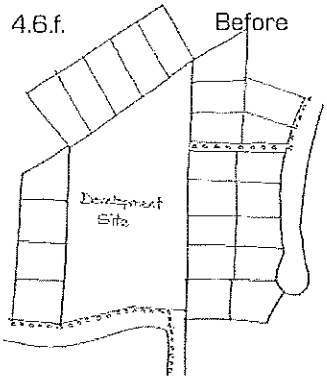


4.6.e.

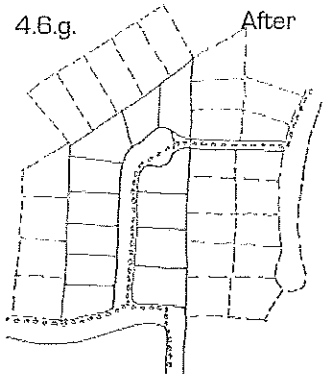


☐ Avoid the need for long and/or contorted pedestrian routes between houses:

4.6.f. Before

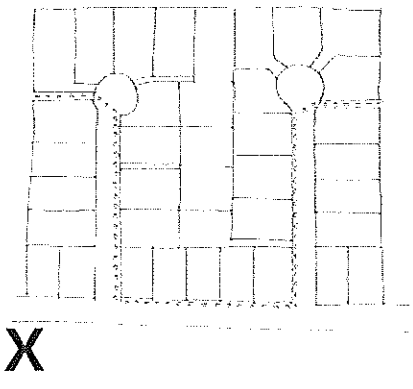


4.6.g. After

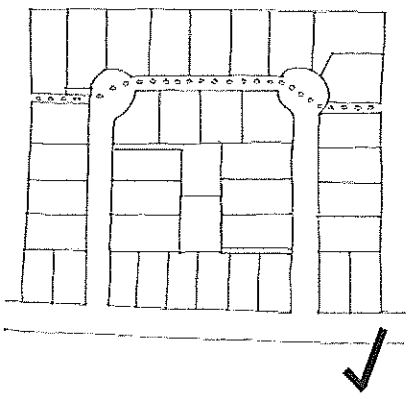


☐ Connect to adjacent pedestrian and cyclist links:

4.6.h.



4.6.i..



In some situations a link (Residents street, see p.21) can be used to connect two cul-de-sac heads to provide a more direct route along a path.

This method also has the advantage of reducing the number of rear lots.

4.7. Interface with State Highways and arterial roads:

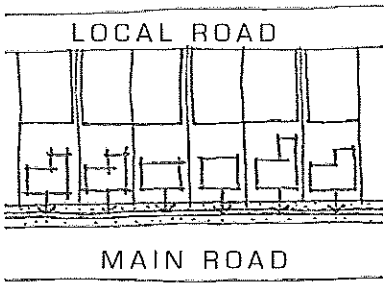
Council wishes to encourage a sense of community in its townships. Intervisibility between the fronts of houses and the adjacent street is an important aspect of being part of the community. Where a site has a frontage to a road where direct access is not possible, the layout will need to be designed to ensure that an appropriate interface occurs.

If the layout is designed so that the private gardens are adjacent to the road, the new owners will understandably want high solid fences for privacy and noise attenuation reasons. This results in an unsatisfactory outcome for the community. Instead, in most cases, the layout will need to be designed so that houses front onto the road (even though they are not accessible to it), so that the need for a high fence alongside the road is avoided.

This can be achieved by:

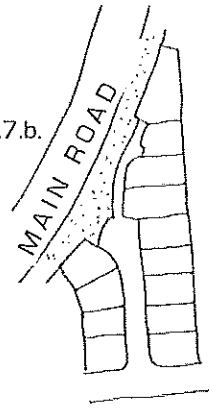
☐ Rear access lots when main road is on the south side:

4.7.a.

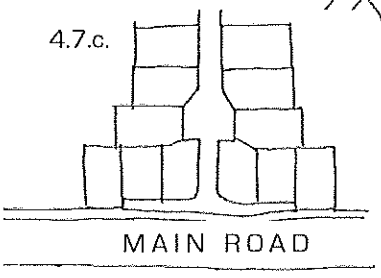


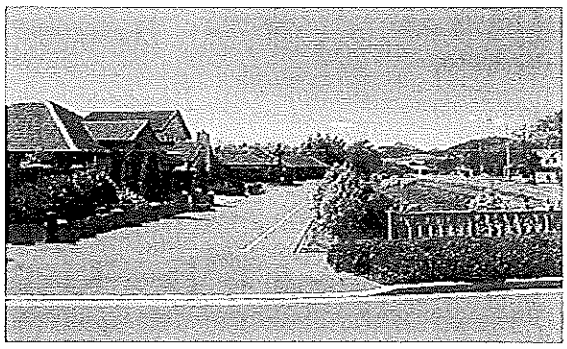
☐ Cul-de-sac heads coming from behind

4.7.b.



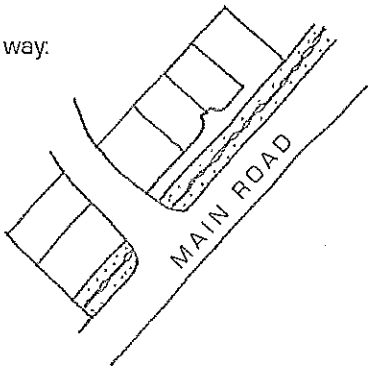
4.7.c.





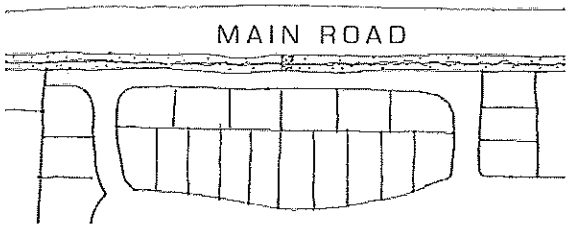
☐ A right of way:

4.7.d.



☐ Access from within the subdivision

4.7.e.

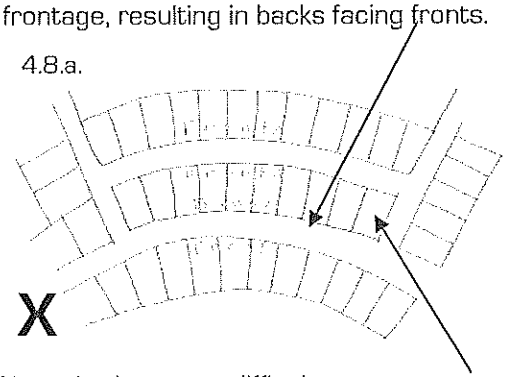


Where the development block is on the edge of a township, on the south side of the road, and/or there is no likelihood of residential development on the opposite side of the road, it may be acceptable to provide a 'green screen' to obscure a line of back fences from the road and maintain the illusion of a rural boundary. Where there are existing shelterbelts these could be retained and enhanced, otherwise extensive new planting will be necessary.

4.8. Interface between residential properties

Fronts of properties should face fronts of other properties, while backs should adjoin backs. This makes it possible to create attractive semi-public frontage with private space to the rear. In residential subdivisions some properties will face the sides of others, but care should be taken to avoid a road layout where properties have dual road frontage, resulting in backs facing fronts.

4.8.a.



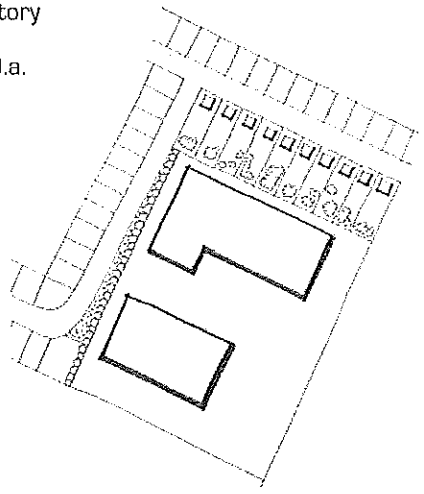
Also, it is very difficult to create a satisfactory interface with the street where corner sections have road frontage on three sides,.

4.9 Interface with uses which might affect residential amenity

A development site may adjoin a use which could potentially be a nuisance to new householders. Industrial , farming and forest activities can be unsightly, or emit noise, odours or dust. In order to avoid conflict between existing and new activities (reverse sensitivity) a buffer may be necessary. This may be in the form of longer adjacent sections, a perimeter road and screen planting or an intervening open space.

Compatible interfaces with an existing factory

4.9.a.

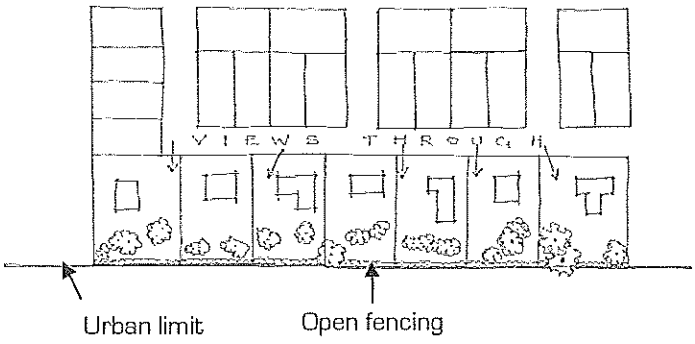


4.10. Rural/urban interface

Where development sites adjoin rural land careful consideration of the treatment of the edge of the subdivision is required. The edges of new subdivisions are often highly visible in the landscape.

Where the subdivision boundary is defined as the urban limit in the District Plan, a hard urban edge should be avoided. This may be achieved by a row of larger sections at the perimeter, with low fencing or hedging along their rear boundary. This format enables buildings to be set well back from the rural boundary and allows for more extensive garden planting so that the subdivision is less obtrusive in the rural landscape.

4.10.a



At the same time residents within the subdivision gain a sense of the rural land beyond, due to the larger garden areas which allow views through to the rural landscape.

Covenants may be necessary to manage fencing, so that the open aspect is retained.

4.11. Street orientation and section proportions

Streets should be aligned to take advantage of views and orientated so that houses have good solar gain.

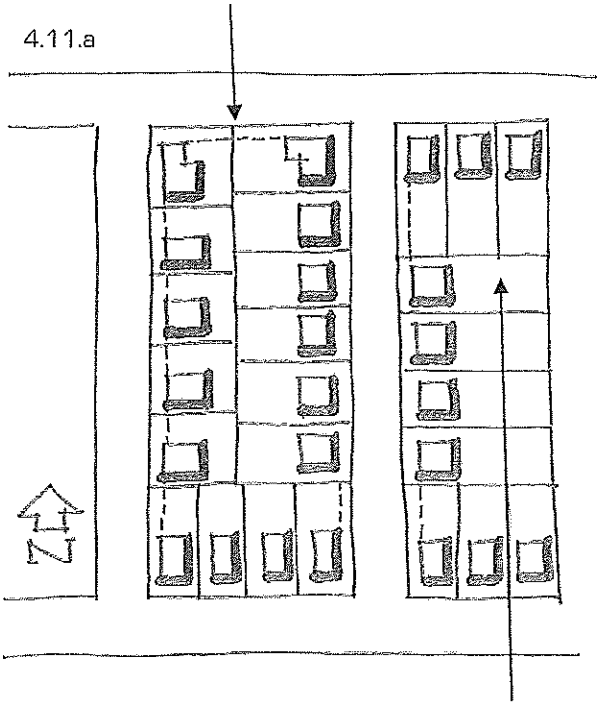
Views

Views may be afforded of off site features e.g. towards the Port Hills or the Southern Alps or landmarks such as church spires. Alternatively views may be terminated by buildings or trees, giving a sense of enclosure.

Solar orientation
Consideration will need to be given to the orientation and dimensions of sections to ensure the receipt of sunlight in private gardens and living rooms.

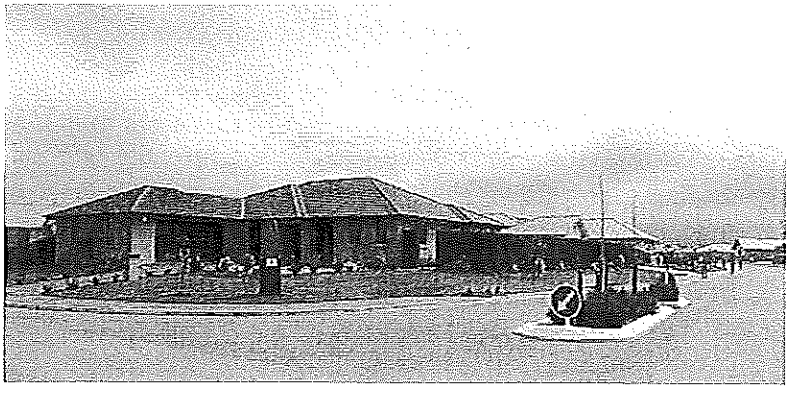
Creating wider sections on the south or east side of the street will allow gaps to be left between the houses so that afternoon sun can penetrate to the rear gardens.

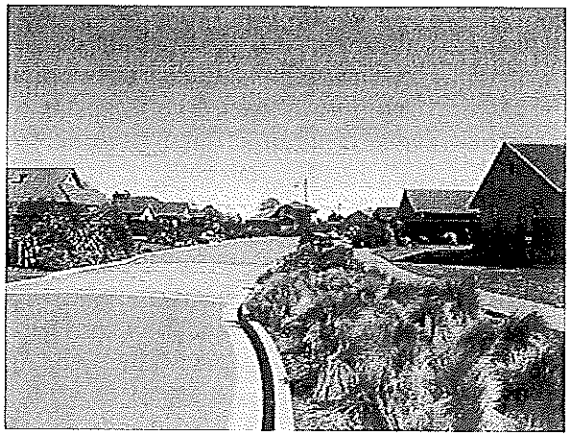
4.11.a



Alternatively south and east sections should be long enough to allow sun to reach over the house into the rear garden.

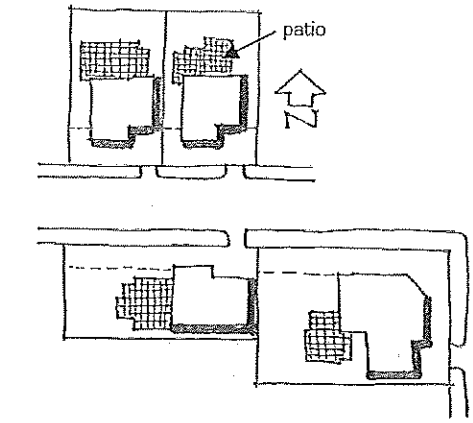
Corner sections
Corner sections can be difficult to develop. They may need to be larger to enable practical use and an attractive street frontage. Developers may wish to exercise more control over corner sections through the use of covenants or by developing them themselves.





House position
Even at this stage, consideration should be given to where the houses will be positioned on the section and where the private outdoor space (north and west side) and garage will be (south side). The layout should be designed to avoid the need for private garden space to be located between the front of the house and the street. It is intended that high solid fences are not erected in front of the house.

4.11.b.



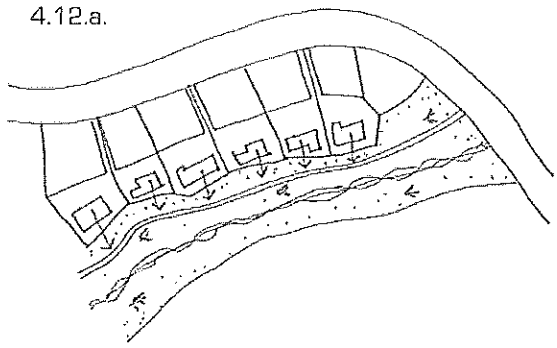
4.12. Rear lots and Rights of Way

Rear lots and groups of sections accessed from a right of way should not be employed purely to minimise the amount of road provided by the developer. Serving each back lot by a private right of way is inefficient and creates a greater area of land devoted to vehicle access. Multiple accesses from rear lots onto the road can disrupt traffic and pedestrian flows along the footpath as well as look unattractive. The private right of way can cause friction between neighbours over their use and maintenance responsibilities (private right of ways are not maintained by Council) and houses on rear lots lack a visual connection with the street.

Rear lots and rights of way should therefore only be included where there is no alternative way of developing an awkward corner of the site, or where they are a good design solution, such as some situations alongside reserves, waterway or limited access roads.

Rear lots used to create a good interface with a linear reserve.

4.12.a.



It is intended that the District Plan will limit the number of properties without frontage to an adopted road to a maximum of 20% of the lots in any one greenfield subdivision.

This allowance is primarily for lots located on shared access ways (serving at least 4 properties). Such developments are expected to have a street-like amenity, comparable to an adopted road, having an open appearance without front fencing.

Rear lots and groups of less than four properties accessed via a right of way will be restricted to a maximum of half of the 20% allowance.

4.13. Incorporating existing properties and awkward shaped boundaries

Where an existing house is to remain the layout will need to be designed to incorporate it in a sensitive manner. It may be possible to take advantage of existing garden planting so that it provides a sense of maturity and a point of interest for the new subdivision.

Awkward shapes should be absorbed into the layout to avoid left over spaces or difficult road geometry.

4.14. Section sizes

A variety of section sizes should be incorporated within any one subdivision. This provides greater choice for purchasers and can help to facilitate a more balanced community.

The Selwyn District Plan requires minimum average section sizes, as opposed to minimum section sizes. This allows for variation in size without diminishing the overall section yield. Smaller sections may be grouped together or dispersed throughout the subdivision.

Smaller sections may be located close to township centres, community facilities, open spaces or bus routes. Larger sections may be located on the rural edge or adjacent to existing residential development that had previously enjoyed a rural boundary.

In larger subdivisions variety in section sizes may be used to structure the layout to give a sense of place, with for example, an increase in section sizes as one moves away from a focal point.

5 : Street design

5.1. The balance of movement, access and place

Residential roads and streets perform a number of functions:

- they must provide for the movement of vehicles and people
- they must provide access to houses, businesses and community facilities.
- they provide an opportunity to enhance the streetscape and create a pleasant place for people

The Council wishes to encourage quality in public space and to allow for street design which is appropriate to its context.

A traditional engineering based approach to road design often prioritises the requirements of drivers above all the other functions of the street, which are fitted in around standardised road widths. However, in residential areas, vehicular traffic flow is not always high enough to justify it determining the overall street environment. The needs of other road users and the creation of a sense of place can be just as important as providing for traffic flow in certain situations.

The Council's general approach is that for lightly trafficked and shorter streets, some flexibility in the design of roads is appropriate, especially where this allows other objectives to be realized such as connectivity or high quality. Council will consider these as a positive effect in the consideration of subdivision applications.

The Council's Engineering Code of Practice details appropriate road widths for new subdivisions, based on traffic flow and the intended function of the roads. The design of new subdivisions should consider the width of carriageway that is appropriate to the movement function required and how this fits into the adjoining network of roads. At the same time, it should consider the elements needed in the street to create settings that are attractive and functional, with high amenity and a strong sense of place.

The aim of this guide is to provide for some flexibility and variety in subdivision design.

It is often preferable to use the minimum carriageway width, as over-engineering the roading requirement can take space from the place functions and possibly make the subdivision a less desirable place. This is not to say that a wide carriageway will not be permitted, but a decision should be made after considering whether a wider road is justified on amenity grounds, rather than purely for traffic reasons.

Only high movement roads, such as arterial and collector roads, have high enough traffic flows that movement becomes more important than other functions.

Functions of streets

The functions of streets include the following:

Movement	Place
Road (Path for cars and motorised vehicles)	Social Space
Public Transport function	Amenity Space
Cycle route	Stormwater disposal
Pedestrian route	Parking
Servicing and emergency vehicles eg refuse trucks, fire appliances"	Street lighting
	Distinctiveness

Social Space refers to places for people to be and can include seating areas, informal stopping areas with space for people to linger and space for children to play.

Amenity Space refers primarily to visual amenity and can include landscaping, street-trees, water races and other features, as well as buildings and the interface with private space.

Distinctiveness refers to whatever makes the street different from elsewhere. It can include road alignments, public art, distinctive stormwater management or the retention of historic trees.

5.2. Road and street types and hierarchy

The design of the road and street layout should reflect a hierarchy of roads and streets within the subdivision, while also being consistent with those either adjoining or planned for in the future. Sensible planning will contribute to a sense of place and will make the roads and streets easier and safer for drivers and pedestrians to navigate.

Road widths should be consistent with the position of the road within the hierarchy. Widths may decrease away from main roads as the amount of traffic decreases and they can be designed for slower vehicle speeds. At intersections, it should be clear which is the main road and which is a minor road.

The following describes the type of streets and roads that can be developed, from those designed only for property access, to those needed to move vehicles efficiently around a township.

1. 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.

Typically it can only service up to 6 lots at a time and may need to include passing bays and turning areas.

2. Cul-de-sac. A no-exit street, to be no longer than 150 metres in length with a narrow carriageway possible in some situations.

The limited use of these is acceptable but there is a general requirement for well connected streets.

3. Residents Street. A shorter and narrower connecting street or lane that serves only the needs of the adjoining property owners and not "through" traffic.

It can utilise shared spaces for vehicles and pedestrians and provide a higher degree of street amenity with planting and street furniture.

Residents streets can have a narrower carriageway width of around 5m if they meet the following criteria:

- It takes no more than 150 metres along the street in either direction to reach an adjoining road (i.e. they can be up to 300 metres long if they adjoin other roads at both ends - that are not the same type of street or a cul de sac)
- They provide access to a maximum of 10 housing lots per 150 metres along the street (i.e. a maximum of 20 lots)
- They have a slow design speed in the range of 20-30 kph
- They are designed for the safe passage of pedestrians and cyclists

These are an exception to the normal roading standards.

4. Neighbourhood Street. A street intended to cater for property access, but can accommodate a limited amount of through traffic. It has a carriageway width of around 7m and connects to the wider urban roads that subdivisions have historically provided. Design speed can be 30-40 kph and the layout can utilise parking bays to give the impression of a narrower street.

A neighbourhood street will have a pleasant streetscape that provides more opportunity to introduce plantings and street furniture as an enjoyable public space.

Discuss with Council staff
Developers contemplating the use of the above types of streets will need to discuss the following with the Council at an early stage:

- road reserve width
- carriageway layout
- parking requirements .
- paving materials
- lighting
- refuse truck and other large vehicle access eg delivery trucks, furniture removal, emergency vehicle access etc

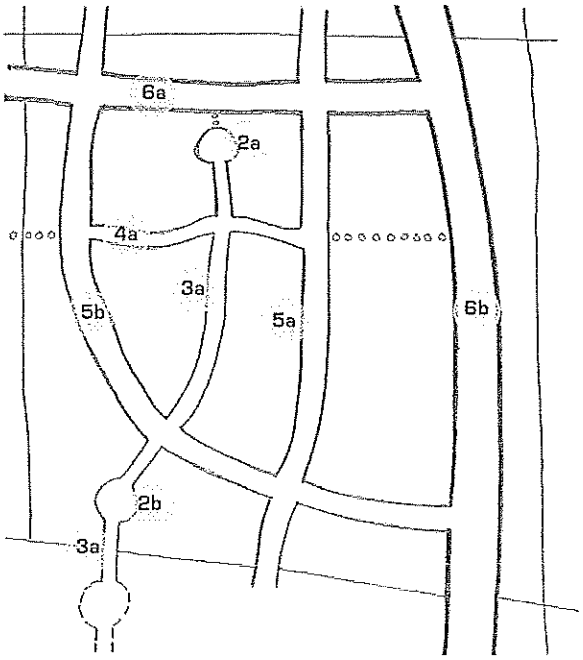
A component of any agreement by Council to utilise a street layout that might result in access restrictions, will be Council advising of this in the official Land Information Memorandum (LIM) issued to prospective and new property owners

5. Local Area Street. A street which provides the connection between the smaller streets referred to above and the more transport focused busy main collector and arterial roads. It should be designed to the more typical urban roading width of 8-9 metres and a 50kph design speed and will need to adhere to more stringent engineering standards. Like its busier collector and arterial road counterparts, it is likely to form part of a wider network of roads that could extend beyond the immediate development area.

6 Collector Road and Arterial Road. A road that can range in width from 9 -14 metres. Depending on the situation, a collector or arterial road is likely to have parking and cycling lanes and even some form of access control to improve safety and to ensure that traffic is moved as efficiently as possible. In urban areas it is likely to be used as a bus route and require bus stops to be positioned appropriately.

Collector and arterial roads comprise the principle main roads in a township, and connect to the roads and routes between townships and the districts wider network of higher speed rural roads.

Example of a road hierarchy

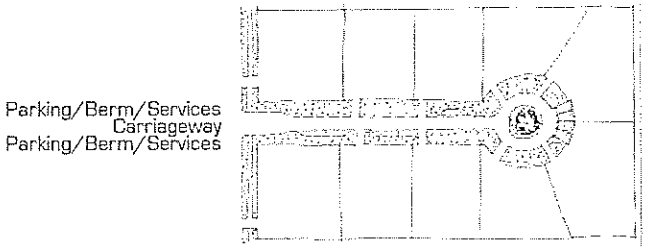


2a	Short cul-de-sac with walking and cycling connection to main road
2b	Short cul-de-sac with linkage to adjoining subdivision via 3a
3.a.	Residents street up to 300m long
4a.	Neighbourhood street with sinuous alignment and speed control
5a.	Local area street with street trees and parking bays
5b.	Local area street with stormwater swale along one side
6a..	Collector road providing connections to local streets
6b.	Arterial road with central islands, bus route and controlled access

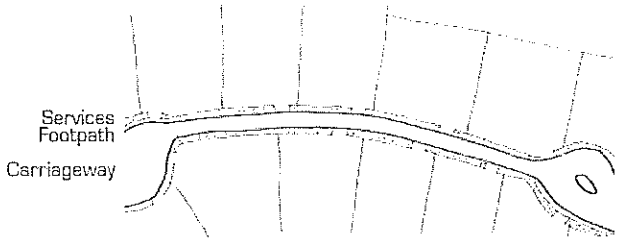
Continuation of existing roads
Where an existing road is to be continued through a subdivision, the design of the street should reflect the existing design elements (such as road width and planting types). Variations are acceptable, but should be designed to enhance the street character rather than simply to fit in with the desired theme of the subdivision.

EXAMPLES OF ROAD TYPOLOGIES AND USE OF THE ROAD RESERVE CORRIDOR

Cul-de-sac less than 150 metres in length with narrow carriageway.—possible in some situations

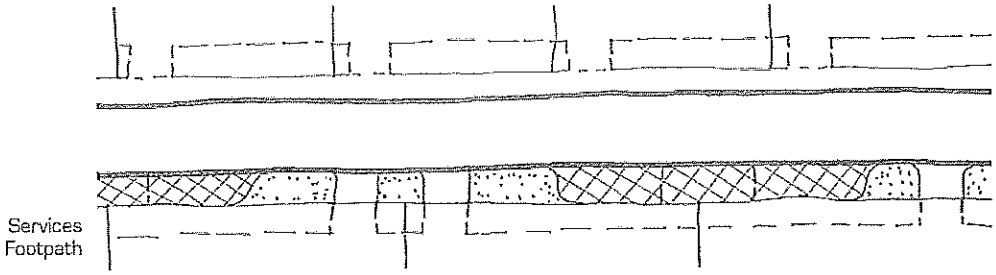


Residents Street—an exception to the normal roading pattern

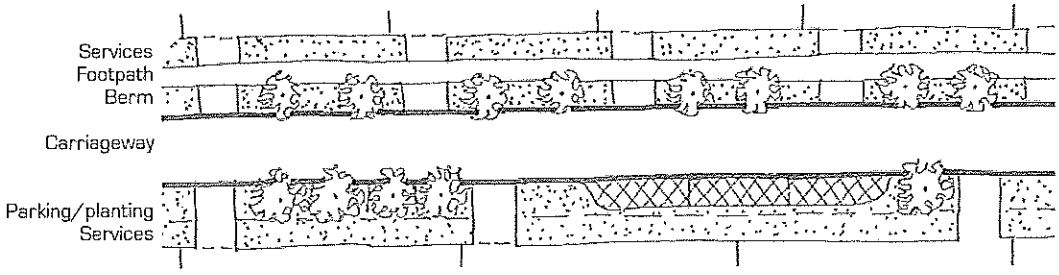


Neighbourhood and Local Area Streets

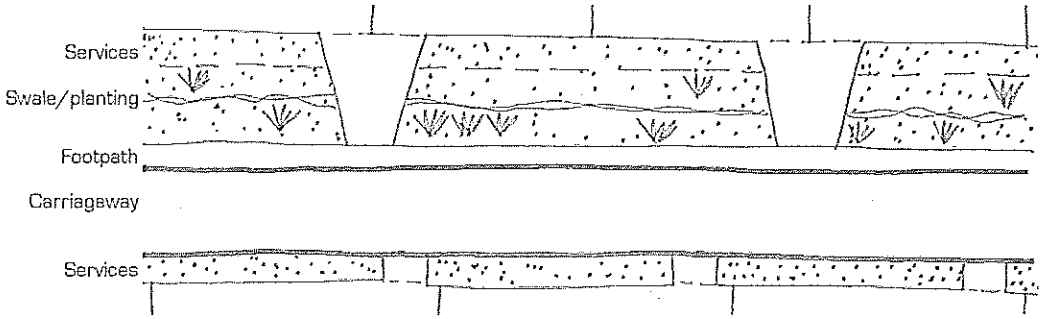
A street or larger cul-de-sac, minimal width, with services within private property boundary possible in some situations if easements are put in place allowing access



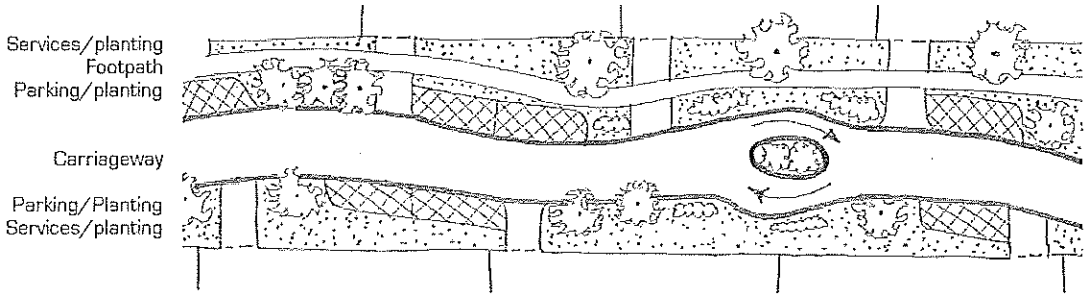
Use of street trees parking bays and separated footpath



Street that incorporates a stormwater swale on one side with parking on carriageway

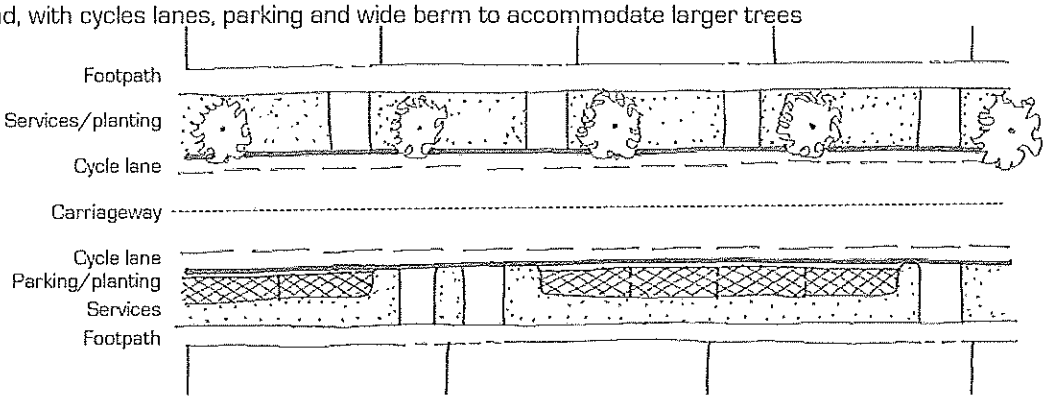


A more sinuous alignment with parking bays and speed control device

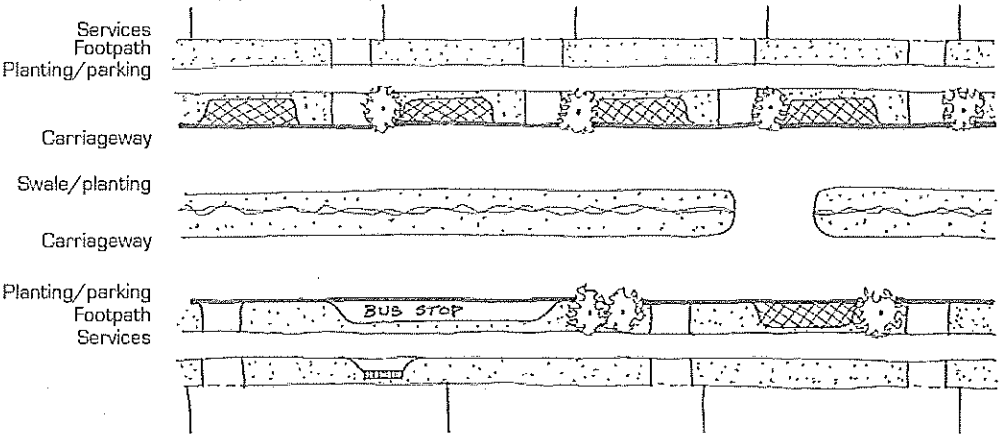


Collector and Arterial Roads

Busier road, with cycles lanes, parking and wide berm to accommodate larger trees



Busier road, with central swale/planting strip, bus route



5.3. Pedestrians and cyclists

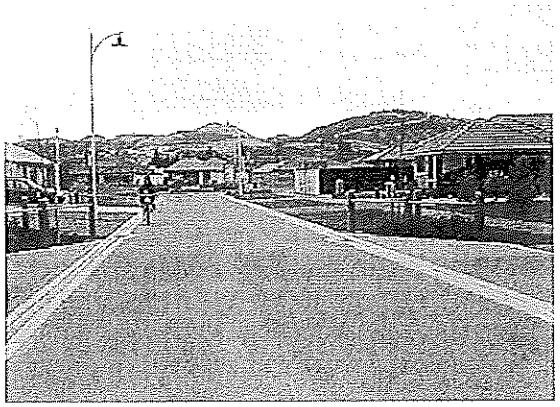
The road network in a new subdivision also needs to be designed around the needs of pedestrians and cyclists. They can experience greater inconvenience than car users if their desire lines are not catered for and may be deterred from walking and cycling. The liberal use of culs-de-sac has the potential to increase walking and cycling distances.

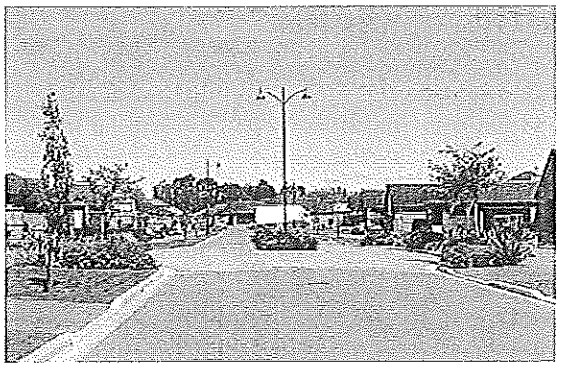
In most circumstances cyclists can be safely accommodated on the carriageway, but on busier arterial and collector roads a wider combined off-carriageway pathway for pedestrians and cyclists could be used instead of cycle lanes.

The prolific use of road narrowings, speed humps and other traffic calming measures can be difficult for cyclists to negotiate. Similarly the use of rough or uneven surfacings like heavy set cobblestones can make walking and cycling hazardous.

Designs should not disadvantage the needs of disabled or physically impaired people. Appropriately placed and designed crossing points allow pedestrians and mobility scooters to continue along preferred routes without unnecessary deviations in order to cross roads.

Feature entranceways to subdivisions (for instance those in the middle of roads) should not obstruct pedestrian desire lines, or the visibility of traffic, due to the vegetation planted in them.



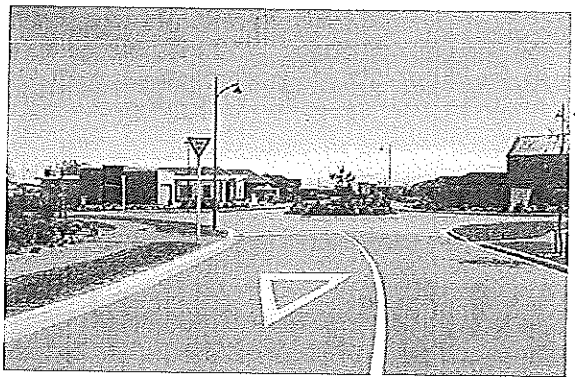


Traffic calming device which does not endanger cyclists and pedestrians

5.4. Intersection spacing and design

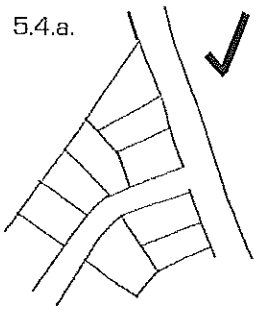
The District Plan details the minimum distance required between intersections and property entranceways. However, this may not always be possible to achieve. Where a lesser spacing between intersections is advantageous from a design perspective it should be discussed with the Council.

Where intersections cannot be offset the required distance, it may be appropriate to form a crossroads or roundabout. A roundabout can also be utilised as an entrance feature and a speed control device. They need to be designed to allow the passage of larger vehicles like refuse trucks. However, larger roundabouts are less conducive to the needs of pedestrians and cyclists.

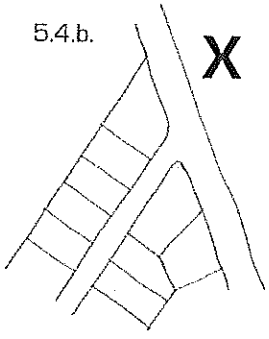


For traffic safety, a road should join another road as near as possible to a right angle and not an oblique one.

5.4.a.

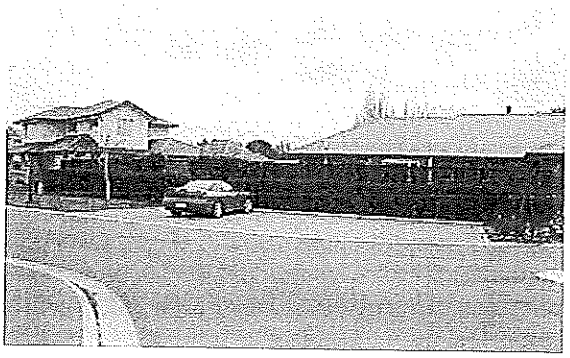


5.4.b.



5.5. Parking

Allowance should be made for on-street parking, this could be provided on the carriageway, but equally in parking bays or within the centre of a turning head. Typically one on-street space should be provided for each property.



Some matters to consider with on-street parking:

- that it does not detract from the street scene
- that it is convenient for users
- that it does not impede the emptying of refuse handcarts
- that it is easy to clean by street cleaning machines
- that it is located so that vehicles are not vulnerable to break-in or damage
- that it does not cause problems for other road users or pedestrians

Parking bays should be separated by berm areas from any adjoining footpaths and cycleways to avoid collisions when opening the car door.

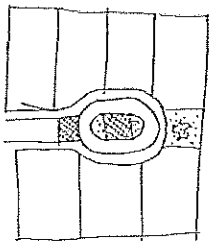
It is usually preferable for parking space to be visually separated from the carriageway, for instance by the use of different surfacing. such as concrete pavers. They should be flush with the road. Parking bays can be screened through the use of landscaped areas between them. This also help to slow traffic and contribute colour and amenity to the street scene.

5.6. Cul-de-sac heads

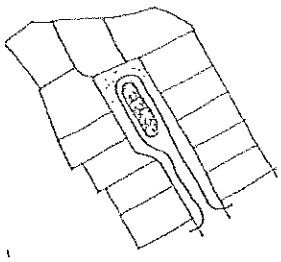
Cul de sac heads should be designed as an attractive focal point and should not be merely a large expanse of asphalt for turning vehicles. The road area should be kept to the minimum required for vehicle manoeuvring.

Design features might include paved parking spaces, trees, planting, artworks, rain gardens, decorative street lights and plinths.

5.6a.



5.6.b.



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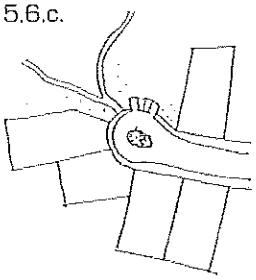
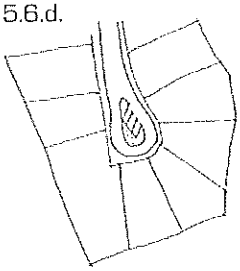


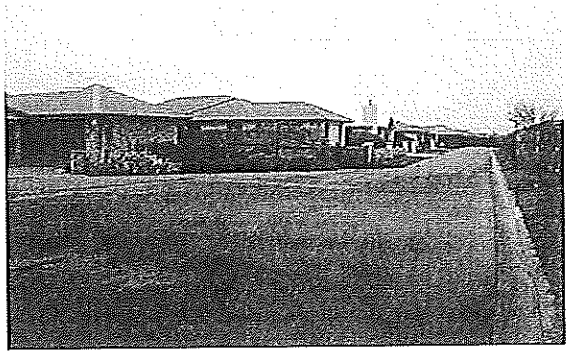
5.6.d.



5.7. Rights of way

Where they are necessary, rights of way can be used to create a more private, secluded environment and, because they minimise the amount of hard surface, can look very attractive, if carefully managed. Many District Plan rules that apply to road frontage, (for example garage setbacks and fence heights) also apply to frontage with private accessways.

The use of shared turning space in a right of way allows more semi-public space to be provided between sections, creating a sense of openness. Furthermore, it reduces the need for on-site turning which takes up space on the section and requires large areas of hard surfacing.



5.8. Property access

A multitude of poorly positioned driveways to individual properties can disrupt traffic flows, and impair the visual and physical continuity of the street scene. The effect can be minimised by narrowing down driveways or pairing them. This can allow longer stretches of berm and less obtrusive driveways.

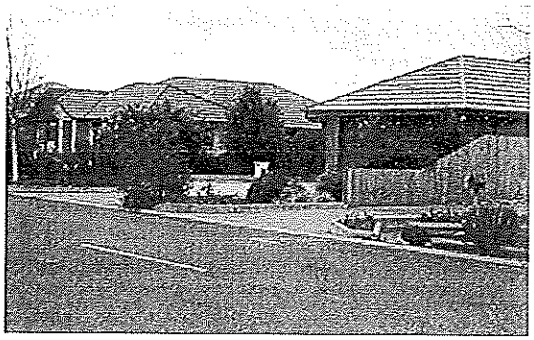
Vehicles exiting from driveways can be hazardous to passing pedestrians and cyclists, particularly young children, if visibility is poor. This can be avoided by keeping any fencing or planting below driver's eye level.

The location of driveways needs to take into account the position of street trees, light poles, parking bays etc. House designers sometime overlook these aspects when working from subdivision plans.

5.9. Services

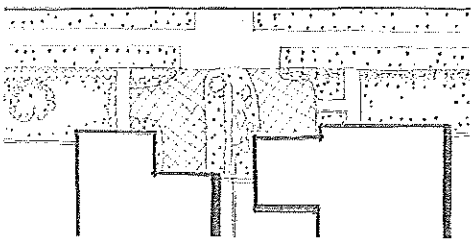
The street layout will need to be designed to take account of the need for services and for access to those services. These can usually be accommodated within a 1 - 2m wide corridor, which is preferably positioned under the berm, but may be under the footpath or the adjacent private property frontage, if easements are provided to enable servicing access. This corridor should be clear of trees or other obstructions. Therefore where street trees are intended, space should be allowed for them outside the service corridor, with sufficient clearance so that services are not damaged by roots as the trees grow.

Code of practice



Paired property accesses

5.8.a.



5.10. Rubbish collection

Subdivisional roads shall be designed to allow for the safe passage and operation of the Council's large waste collection trucks and shall provide sufficient kerbside space for rubbish, recycling and organic waste collection wheelie bins.

Code of practice

Dead-end roads and cul-de-sac heads shall be designed to allow waste trucks to turn without reversing, and shall take account of the effects of parked cars and central islands.

Waste trucks will not travel on private access roads and rights of way so the effects of bin placement on adjoining public roads needs to be considered.

6. Stormwater management

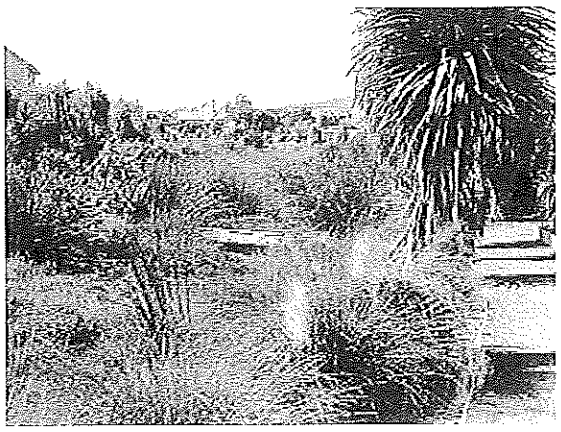
6.1. Stormwater quantity

Reducing stormwater run-off is desirable for environmental and ecological reasons as well as reducing the need for, and in particular demand on, potable water infrastructure.

Stormwater quantities can be reduced by minimising the area of hard-surfacing (impervious surface) within the development. Roads can be designed with narrowed carriageways and more permeable paving in parking areas, e.g. cobblestones (see section 5 for examples of road types). The width of driveways can be reduced to the minimum needed for parking and turning.

6.2. Stormwater as an asset

Treatment of stormwater runoff can be provided in such a way as to achieve both ecological and public amenity benefits e.g. wetland swales within utility reserves which are integrated with adjoining pedestrian walkways.



Planted swale

Low Impact Urban Design and Development

Low Impact Urban Design and Development (LIUDD) is a practice that includes measures to manage stormwater onsite, to mimic as close as is practical the natural flow that existed before the land was developed and incorporates and protects natural site features.

LIUDD has the advantages of:

- Allowing groundwater recharge through infiltration
- Treatment of pollutants in the water before it flows into the receiving environment
- Slowing the release of stormwater in peak rainfall to reduce floodrisk
- Maintaining ecological value

6.3. Design of stormwater management facilities

Stormwater management facilities, such as stormwater basins, will usually be accommodated on separate stormwater reserves. For reasons of safety, amenity, easier mowing and maintenance, they should have a gentle side slope.

Attention should also be paid to the depth of facilities. They should not be so deep that they undermine the usability of the land for other purposes, become a hazard or have continually lying water (unless a wet pond or wetland is required by geological conditions)

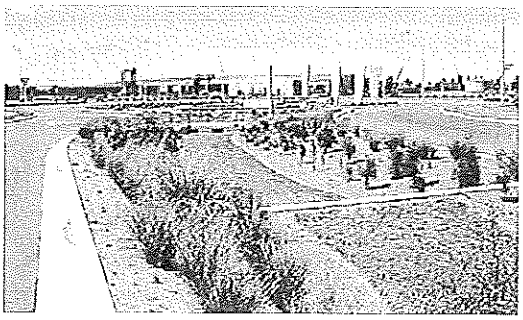
Underground storage can be employed for re-use in irrigation.

6.4. Use of road reserve for stormwater management

The limited use of road reserve for stormwater management by shallow facilities such as grass swales, or centre median islands, may be acceptable, but fundamentally the capacity of road reserve land to accommodate this function is limited.

The design must be well integrated into the street design. It must be safe for vehicles, cyclists and pedestrians and make a positive contribution to street amenity. Deep areas or drains close to the edge of the road or footpaths create a hazard, are difficult to maintain and collect litter.

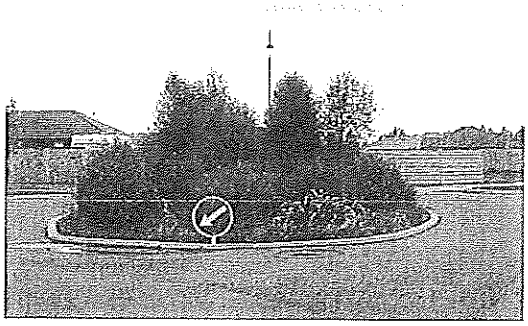
Roadside swales should be wide enough to provide sufficient capacity without appearing to have been squeezed into the berm. They should have a gentle side slope gradient. They should not require bridges or culverts to be constructed to access sections. If this cannot be achieved then alternative options should be followed.



Central swale

Swales are usually grassed but Council will consider allowing alternative types of planting where water quality objectives can be met and the maintenance requirements are considered to be no greater than traditional grassed solutions.

The use of a shallow central median island that enables adjoining single slope carriageways to drain into it is a generally acceptable approach, as is the use of turning head centres.



Rain garden

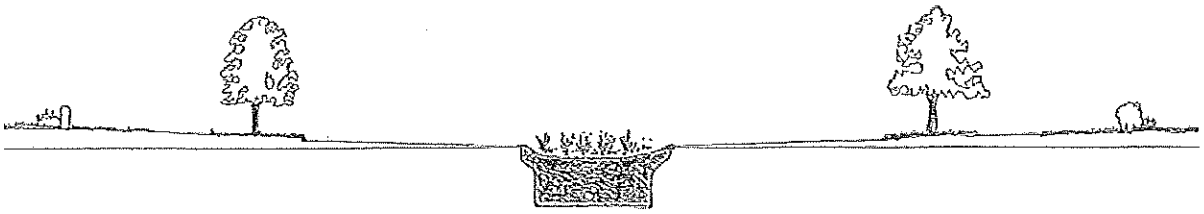
Cut outs in kerbs can also be used in some situations, e.g. car parks, to allow stormwater run-off from hardstand areas to drain directly into rain gardens and swales, avoiding the use of sumps and pipes.

The use of hard engineering solutions (such as open concrete tanks) is not appropriate in the road reserve.

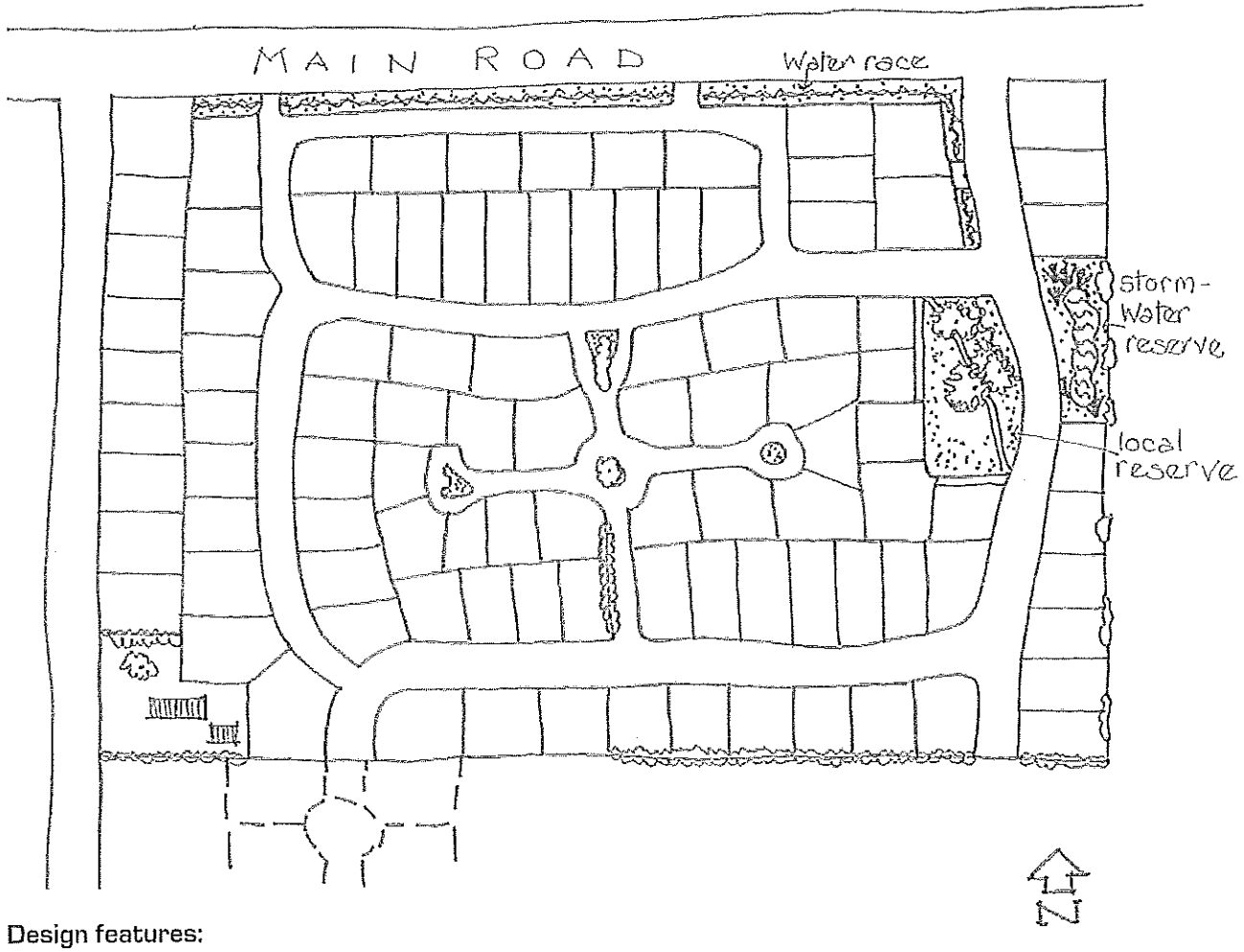
References 16, 17 and 18, Appendix 1, may be used as a guide.

Cross section of road type 4B with median retention basin

6.4.a.



CASE STUDY SITE - in accordance with design guide advice ✓



Design features:

Some existing trees retained (3.1)
Water race becomes an amenity feature (4.4)
Existing house accommodated well (4.13)

Good interface with main road (4.7)
View to Port Hills from reserve and road (4.11)

Connected road network (4.5)
Short culs-de-sac only (4.5)
Road connections to adjacent land (4.5)
Provision made for long term extension of road to south ([4.5)
Pedestrian/cyclist network within site and connecting to off site activities (4.6)
Walkable blocks (less than 800m) (4.6)

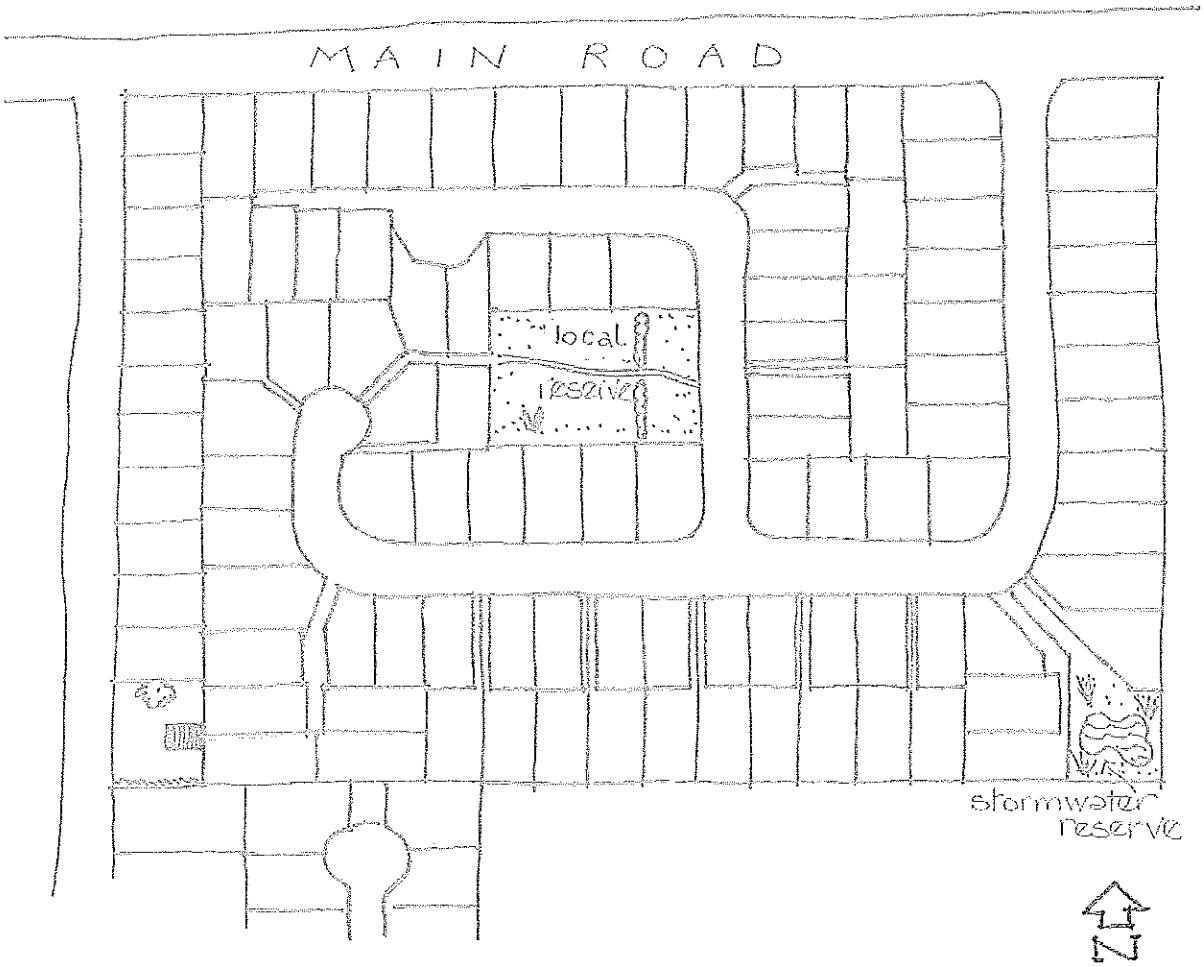
Reserve in high profile location (4.2)
Provision made for long term extension of reserve to east (4.2)

Stormwater management used to create amenity and water reserve (4.3)
Good connectivity of water services (4.5)

Section dimensions vary to suit orientation (4.11)
No rear lots (4.12)
Limited use of R.O.W—only to provide good interface with reserve (4.12)
Variety of section sizes (4.14)

CASE STUDY SITE - unacceptable

X



Design problems:

Only small section of shelter belt retained other existing trees removed
Water race not incorporated
Existing house very close to new properties

Poor interface with main road—likely to result in a high fence
No views out from within subdivision

Pedestrian access from cul-de-sac head bounded by backs of properties and has no clear view through
No provision made for long term extension of road to south
No pedestrian/cyclist or vehicle connection from the site to surrounding area
Only one small walkable block

Reserve in central position but lacks profile and properties back onto it.
No provision made for long term extension of reserve to east

No advantage taken of stormwater management requirements
Dead end water services may cause long term maintenance problems

Little variation in section sizes
Large number of rear lots and properties accessed from rights of way.
Section dimensions do not vary to suit orientation

7: Detailed Elements

7.1. Character and identity

Detailed elements of the subdivision can create a special character and a specific identity. The choice of elements should follow a consistent theme appropriate to the context of the subdivision. Opportunities to celebrate the natural and cultural history of the land and its environs should be seized.

7.2. Paving, street furniture and hard landscaping

Code of practice

Paving, street furniture and landscaping need to be viewed as positive contributions and not only functional items. These elements must:

- be robust
- be easy to maintain
- stand the test of time
- have a sense of order and continuity
- contribute to the identity of a neighbourhood
- not cause clutter or obstruction.

Elaborate entrance features are not encouraged and will not be accepted by the Council if they are assessed as an ongoing maintenance liability, or they detract from the integration of the subdivision into the wider township.

7.3. Road edges

Roads without kerbs are more rural in character. Generally streets and roads should have kerb and channel in residential zones. There are some exceptions, such as smaller townships where there is good drainage and where a more rural character is sought to be retained, for example, Coalgate.

7.4. Footpaths and walkways

Consideration should be given to the way in which pedestrians and physically impaired and disabled people can move around the subdivision, on foot, in wheelchairs or on mobility scooters. It is important that features such as pedestrian cutdowns, footpath alignments that follow pedestrian desire lines at intersections, central pedestrian refuges and lighting can be incorporated where they are needed.

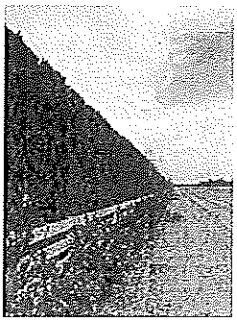
7.5. Fencing

High solid fences around the front gardens of properties are unattractive and give an unwelcoming appearance to the subdivision. They limit the intervisibility between private and public space and are associated with higher rates of crime. The front yard should be viewed as a semi-public space rather than a private one.

Where fences are constructed along side property boundaries they should stop or step down when they reach the front yard setback.

High front fences on corner sections are highly visible and should be avoided. It is intended that only one frontage of a corner section will be permitted to have a fence greater than 1m in height. This must be setback at least as far as the front of the house.

Along rural boundaries 'farm style' fencing will form a more rural interface than a close boarded fence. Another alternative is to plant a hedge. Or a combination of fence and planting can be used.



Fence and hedge established prior to removal of shelter belt

7.6. Street trees

Code of practice

Street trees add greenery, unity and quality to the street scene and can be used to provide a sense of identity for the subdivision. Other benefits include reduced traffic speeds when combined with a supporting road design, more pleasant walking environments, absorption of pollutants, reduction in storm water run-off and adding value to adjacent homes.

Street trees need to:

- be located appropriately in relation to properties (i.e. not causing undue shading, icing, or obstructing driveways);
- not impede vehicular or pedestrian movement;
- be selected to suit the growing conditions;
- be easily maintained and replaced
- not cause nuisance (e.g. dropping sticky substances, fruit or excessive leaves)
- avoid damaging footpaths or subsurface utilities
- not impair street lighting
- not be planted directly in carriageways or service corridors

Early planting can lead to street trees being damaged during construction or requests from section purchasers to remove street trees because they do not allow them to position their driveways where they wish to. Developers could leave street tree planting until the end of the construction period.

Another alternative is to plant trees on private property frontages instead of in the street. This approach could be used to create a more informal character to the subdivision.

7.7. Roadside planting

Code of practice

Plants should be suitable for their location and growing conditions, not cause a nuisance and encourage biodiversity

Developers should be mindful of the future maintenance of any planting they carry out. Neither the Council nor homeowners wish to be burdened with landscaping which requires watering and more than minimal upkeep. Residents are more likely to mow grass than tend planting beds.

Irrigation

Irrigation needs to be considered for street trees, planting and reserves.

In dryer and windier situations, for example Rolleston, newly planted street trees need to be supported by an efficient trickle irrigation system from the outset to enable them to become established and to grow. Usually as they mature their reliance on these systems reduce to the point they are no longer needed.

7.8. Street names and signs

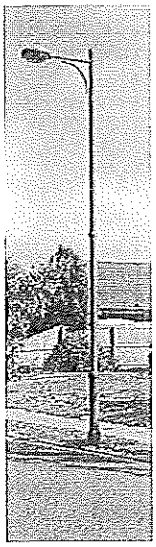
Themed street names can be selected to give the subdivision a sense of identity. Names of local significance will be welcomed. Street name frames and posts can also be customised to suit the character of the subdivision and matched with lamp posts and other street furniture .

7.9. Lighting

Streetlights should be chosen to reflect the character of the subdivision.

Code of practice

Ornate streetlamps are incongruent in the Selwyn townships and can be energy inefficient, difficult to maintain and rattle in high winds. High efficiency lights of a more simple and classic design, utilising dark green or black painted metal poles are more appropriate.



8: Other matters

8.1. Covenants

Subdividers may wish to introduce extra controls over the development of sections. Building style, materials, positioning of garages, fences and planting all contribute to the character of a subdivision and covenants could be introduced to ensure that the original ideals are upheld.

Aspects covenants might cover:

- Location of two storey houses
- Treatment of front yard - fencing, planting
- Style and location of garages
- Management of lots and common areas to conserve biodiversity, energy and water

If covenants are used to control the size of a house on a lot, they should be appropriate to the size of the lot. In recent times the use of large size house covenants has led to restricted housing choice.

8.2. Higher density subdivisions

The Council wishes to provide for a variety of lot sizes to suit different lifestyle choices. This includes smaller sized traditional lots as well as the comprehensive development of medium density housing. The design of higher density housing is the subject of a separate guide.

8.3. Gated subdivisions

Gated subdivisions provide a particular lifestyle choice, which some people are attracted to, generally for reasons of security and exclusivity. However, gated subdivisions do raise some issues for Council. Research shows that residents of gated subdivisions are not necessarily any less vulnerable to crime. Problems can arise when maintenance costs increase as the development ages. There may be reluctance on the part of gated subdivision residents to support amenities for others in the larger community, as well as paying for their own private facilities, leading to them seeking a reduction in their rates.

Gated subdivisions, particularly larger and more urban ones, can have an adverse impact on the wider community. They prevent through pedestrian and road access and are not able to be served by public transport, which can affect the overall viability of a route. They may have public open space which is not accessible to non-residents. Furthermore gated subdivisions can create social divisions within a community.

Developers contemplating a gated subdivision are asked to balance any benefits of enclosing a subdivision against potential longer term issues for the residents and costs to the wider community.

Subdivision Design Checklist

Good practice design criteria:

	✓
• Design the subdivision to be a place that is convenient and accessible for all, is attractive, feels safe, is easy to navigate and has its own character and identity	
• Foster a sense of community through a choice of housing, provision of facilities and opportunities for casual social interaction	
• Facilitate walking, cycling, and public transport	
• Identify and maximise the potential of any natural or man made site features such as trees, watercourses or changes in level	
• Ensure that the new development relates well to its context and takes advantage of views	
• Make maximum use of required reserve provision to enhance the quality of the subdivision and contribute to a wider network of open spaces.	
• Protect natural habitats, encourage biodiversity and respect and interpret the natural and cultural heritage of the land	
• Take advantage of stormwater management requirements to add value to the subdivision	
• Design road network to be simple and logical	
• Make good vehicular and pedestrian connections to surrounding areas	
• Restrict the use of cul-de-sacs and where used keep short	
• Avoid the need for long and/or contorted pedestrian routes between houses	
• Pay attention to interfaces – with the road, with reserves, with adjacent houses, with rural land and non-residential uses	
• Avoid the need for high fences along road frontages and reserves	
• Design lot dimensions and orientation to maximise access to sunlight	
• Ensure section shapes and sizes can accommodate houses without compromising public amenity or private outdoor space	
• Avoid rear lots	
• Incorporate existing properties sensitively	
• Absorb awkward shaped boundaries into the layout	
• Avoid the need for features which are costly or difficult to maintain	
• Build-in adaptability	
• Allow for refuse collection, large vehicles and emergency vehicles	
• Consider location of services and road enhancements when designing the road reserve	

Appendix 1 Reference Documents

1. Selwyn District Council, Selwyn District Plan www.selwyn.govt.nz
2. Selwyn District Council, Selwyn District Council Policy Manual , January 2005
3. Selwyn District Council, Selwyn Community Plan (LTCCP), 2006-2016
4. Selwyn District Council, Towards a high standard of urban design in new subdivisions , Issues and Options Report, December 2005
5. Selwyn District Council, Engineering Code of Practice
6. Selwyn District Council, Open space strategy
7. Selwyn District Council, Walking and cycling strategy
8. Selwyn District Council, A guide to the management of water races in the Selwyn District.
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10. Standards New Zealand, Subdivision for people and the environment, SNZ HB 44:2001
11. Ministry for the Environment, People, Places + Spaces, A design guide for urban New Zealand, www.mfe.govt.nz/urban
12. Ministry for the Environment, Urban Design Case Studies, www.mfe.govt.nz/urban
13. Greater Christchurch Urban Development Strategy, www.greaterchristchurch.org.nz
14. Environment Canterbury, Providing for passenger transport within your subdivision www.ecan.govt.nz
15. Department for Transport and Department for Communities and Local Government, Manual for Streets, www.communities.gov.uk
16. Christchurch City Council (CCC) 2003. (Parts A & B) Waterways, Wetlands and Drainage Guide (WWDG).
17. Auckland Regional Council (ARC) 2000. Low Impact Design Manual for the Auckland Region. Technical Publication No.124 (TP124).
18. Auckland Regional Council (ARC), 2003. Stormwater Management Devices Design Guideline Manual. Technical Publication No.10 (TP10).