

# Appendix 32: Context Urban Design Limited - Greenfield Residential Subdivision - Urban Design Issues and Recommendations Report

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## PART 1. Outline development plan issues and recommendations

### 1.1. Lack of flexibility and usefulness over time

The more recent Outline Development Plans inserted into the Christchurch City Plan (CCP) have tended to be formulated by preparing a detailed Masterplan and then taking the framework of it to create the Outline Development Plan (ODP).

The Masterplan shows us one way in which the site could be developed. It demonstrates that the required residential density can be achieved. The Masterplan is likely to undergo many changes as the development proceeds. Reasons for change could include lack of demand or provision for certain housing sizes or forms; unforeseen ground conditions; wrongly located or sized stormwater retention/detention ponds; unsatisfactory siting of non-residential uses; minor adjustments in section sizes and shapes which can have a knock-on effect on the wider layout; different requirements of new developers/landowners; new land uses or activities emerging within or around the site. In addition, both the developers and the Council may well find better ways of doing things as the details of the development are considered.

If the ODP is drawn tightly around the Masterplan and the ODP is then embodied in the CCP the opportunity to make changes as development proceeds is severely curtailed. There is limited ability to respond to the market or specific wishes of existing property owners. In practice what happens as the development progresses is that changes are made and the integrity of the ODP is likely to be undermined, such that its ability to provide a framework for development is greatly diminished.

Recent Christchurch greenfield housing developments at Northwood, Aidanfield and Yaldhurst (Delamain) all differ considerably from their original ODP's which were drawn around their Masterplans. Outline Development Plans need to provide a framework and not a straitjacket.

A more responsive approach would be for only those aspects of a development site that are fixed, such as development constraints (ground conditions), existing trees, watercourses, landforms, views and access points to be drawn on the map. The location, size and configuration of new key components and structuring elements such as local shops, community facilities, schools, the route of walkways, cycleways and bus routes through the site and the distribution of different residential densities, could then be provided as criteria or diagrams, in order to remain useful throughout the entire development of the site. The criteria will depend on the particular circumstances of the site but examples of criteria are:

- a site for local shops will be required in a central position, within 15 minutes walk of all residents.
- Provision should be made for a bus route to run between points x and y.
- Only one access from SH1 will be permitted, this to be at least 400 metres from the eastern site boundary
- A new park of at least 2 hectares will be required within 50 metres of the existing school
- Higher density housing to front onto the new park

The requirements will need to be met by the scheme plan at the time of subdivision. Applicants will need to demonstrate how the overall requirements can still be met. The masterplan for the site will undergo many revisions as development progresses. Changes to some of the rules and assessment matters would be needed to ensure that they did not need to refer to a map base.

## 1.2. Relation to context

A fundamental requirement of successful place making is to take as much design inspiration from the existing site features and context as possible. This is supported by the first of the seven principles of the Urban Design Protocol, namely 'Context', which advises that, among other things, quality urban design:

- Recognizes and builds on landscape context and character
- Examines each project in relation to its setting and ensures that each development fits in with and enhances its surroundings

The first step in preparing an ODP should be to gain a thorough understanding of the site and its context. Existing on-site features, such as vegetation, landform, watercourses and properties as well as off-site aspects such as views, community facilities, walking, cycling and road connections all need to shape the ODP, alongside technical matters such as geotechnical conditions. Embracing existing features can provide a connection with the past, add interest and help to define a character for a new community.

The need to carry out widespread earthworks to remediate the ground would seem to mean that existing site features will be difficult to retain in some parts of the city. Existing trees and hedgerows are often not compatible with residential uses e.g. causing shading or have a tendency to drop limbs or debris. Furthermore the need to achieve a higher density of development means that there is often insufficient space to accommodate trees. An understanding of what is now possible in terms of retention of vegetation and landform is important.

## 1.3. Creating a place - character, community focus/focal points, facilities, pre-schools

The existing Living G zones are tending towards a similarity in design of a 'New Urbanist' nature. Development will inevitably be representative of its era, and this in itself helps to distinguish different parts of the city from each other. However, effort needs to be made to develop a particular character for each new community.

Some Masterplans such as those for Halswell West and Highfield tend towards text book concepts of new settlement forms, with a centrally located neighbourhood centre providing local shopping and community facilities. Unfortunately, while it is desirable for all residents to have a local centre within walking distance, just allowing for it on a plan does not mean that it will be viable. The concern therefore is that a community is focused around a node which may not eventuate or may struggle to survive. Neither the Northwood or Aidanfield developments, which are Christchurch's forerunners to Living G developments (albeit of a lower density) have managed to attract commercial developments to locate in the business zones within the development. Commercial developments will only stand a chance if they can draw customers from a wider catchment area. Prestons and Yaldhurst ODP's have been developed on this basis. Ngai Tahu's large development at Lincoln also has its commercial centre right out front, on the main road and close to Lincoln University. Where such a position of advantage is not possible other means of providing structure to a settlement must be employed.

Currently within ODP areas the only commercial facilities that have eventuated are pre-schools. Full advantage must be taken of these to provide a focus. Otherwise community or communal facilities, such as the country club facilities at Northwood, the tennis courts that are a feature of Gillman Wheelans subdivisions or public facilities such as a library, swimming pool or primary school must be used.

Pegasus New Town, north of Woodend promised a wide range of facilities. The general store in the centre of the development struggles to survive and is subsidised by the developer. The original developers have gone into liquidation and the new owners (the Todd family) have said that they will be concentrating on the build out of the residential properties. This leaves the shopping centre, hotel, leisure facilities, road connection to Woodend Domain etc. unlikely to proceed. Consideration of economic viability to counter idealism is essential if future residents are not to be disappointed.

Providing for a range of socio-economic and age groups helps to establish a balanced community. Variety in allotment size allows for a range of house sizes, although small allotments do not seem to be equating with cheaper houses. ODP's need to allow for other forms of development such as retirement villages, co-housing (housing developed on a communal basis, often with some shared space and facilities and usually incorporating sustainable development principles) or groups of apartments. Generally it will not be possible or appropriate to identify particular locations for such multiple unit development, but the ODP needs to have the flexibility to enable them. Criteria about their location may also be needed.

#### 1.4 Staging of Development

In order to aid the formation of a sense of community and to assist in the provision of community facilities, such as a bus service and neighbourhood shops it will be important that development proceeds in a spreading rather than a sporadic fashion. Provision of infrastructure may determine how a development proceeds to some extent, but the ODP should give direction. Where the land is in multiple ownership it will be more problematic.

#### 1.5. Distribution of density

The Living G ODP's set out precisely where different densities of development should be located. This is a very inflexible approach and is likely to lead to problems as the development proceeds. Any deviation from the ODP will have knock-on effects. What happens if, for example, there is no market for the Density A size sections but that the density can still be achieved through a combination of more Density B size sections and some much higher density apartments or retirement units? It may be that some larger allotments may be appropriate in the Residential Density A areas, for example on corners. Conversely smaller allotments dispersed among larger ones could enable design variety and allow for a mix of residents. Section size provisions do make some allowance for this, but the scope for variation is limited. The challenge is to find a workable means of ensuring that the required density is achieved without being overly prescriptive. One method might be to require the developer to demonstrate that the overall density can still be met as each stage of the development is submitted for subdivision consent.

A blanket requirement to achieve 15 houses per hectare on all residential growth areas will not only lead to a homogeneity of development but also is not practical in some locations, particularly in the R18 (Hendersons Basin) ODP area. There appears to be limited take up to date of Density A sites in the Living G zones.

#### 1.6. Dimensions and orientation of density A areas

The masterplans which informed the Living G zones (apart from Yaldhurst) included higher density development in the form of long narrow allotments, i.e. only suitable for terraced housing. This form is carried through into the ODP's both through the precise identification of the density A areas (size and shape) and the spacing of the road network. Often the Density A units are on the east or south side of a road. The houses are likely to be two storey and therefore in this orientation their private gardens could be in shade for unacceptable periods. In some cases 'left over' shapes have been identified as Living A. It can be very difficult to produce a good and efficient design solution when the site parameters have been arbitrarily established. Both Proposed Plan Change 72 (Highsted) and Proposed Plan Change 80 (south of Masham) have Density A areas identified on the Masterplan/ODP for which it will be difficult to develop a good urban design solution (is it too late to do anything about it?).

#### 1.7. Road layout

There has been a move towards a more connected and permeable layout in the Northwood, Aidanfield and Living G zones which is generally a welcome aspect. However, the grid nature of a permeable layout is not without its issues.

Grid layouts are urban in nature and are not necessarily appropriate for the urban fringe locations of the urban growth areas.

Small street blocks have the following disadvantages: a larger proportion of the land area needs to be devoted to roads at the expense of private gardens (when there is a minimum density requirement); pedestrians must frequently cross roads; junction spacings are below recommended standards; there is likely to be a high number of crossroads, which are potential points of vehicle/vehicle and pedestrian/vehicle conflict; they can generate a very monotonous subdivision layout and they burden the Council with a large amount of public road and footpath space, which must be maintained.

The road network does not need to be as permeable as the walking and cycling network. In fact if the route is more direct on foot or by bicycle this could well encourage more walking and cycling. The idea of 'walkable blocks' could be more helpful than merely seeking maximum permeability. A walkable block is defined as one which can be walked or cycled around entirely on publicly accessible land, this may be along a road, on a walkway/cycleway or through a public open space. A walkable block size (i.e. perimeter distance) of 800m permits an average 10 minute walk around the block and combined with other walkable blocks will provide a settlement form conducive to walking and cycling. East Belfast Living G Zone has a walkable block rule (19.3.5) but at 250 metres the maximum block size is far too small, as it will limit the layout options to a regular grid of small blocks e.g. a block 85m x 40m containing 12 sections back to back each 14m x 20m (280m<sup>2</sup>).

Loop roads and cul-de-sacs provide pleasant quiet and safe living environments where children can play in the street and allow for variation in layouts.

#### 1.8. Roading detail

The Living G ODP's show the road pattern down to a detailed level. The establishment of an internal road pattern at this preliminary stage acts as a constraint on design at the subdivision stage. There is little scope for realignment or resizing of allotments to avoid poor design solutions when the road pattern is already determined by the ODP.

#### 1.9. Dimensions of commercial areas/neighbourhood centres

Neighbourhood centres may be indicated as a block on the ODP. Once the development of the block is considered in detail it can prove difficult to develop a good urban design solution for a number of reasons e.g.:

- The dimensions may be such that there is not sufficient space for an efficient car park layout
- The orientation of the block may mean that the shop fronts face south and is not a pleasant outdoor space for pedestrians or cafe tables
- The size and shape of the block may make it difficult to provide units of sizes and dimensions that are attractive to tenants or may create a need for an amount of active frontage that is not practical
- It may be difficult to achieve a good interface with adjacent residential properties

Also what will happen if there are no takers for the space allocated, are the dimensions suitable for development for residential use? Indicating a suitable location with a symbol (as in the SWAP) would avoid the need to pin down the dimensions.

#### 1.10. Addressing edges and interfaces

Lack of attention to interfaces at the ODP stage is a major concern. Sensitive interfaces between existing landscapes/townscapes and new development are important elements of place making.

##### Interface with existing roads

Lack of forethought and control at the ODP stage can result in properties backing onto roads with high fences and little space for landscaping. For example neither the Halswell West or the Awatea ODPs set out how the Halswell Junction Road frontage should be treated. As subdivision applications are proceeding a mish-mash of mostly unsatisfactory treatments are emerging. In cases where the adjacent road is a limited access road, individual accesses may be undesirable but solutions need to be established at the ODP stage. It may be that a landscape buffer should be established to create a green frontage, alternatively houses may face the road (particularly if they face south or east towards it) but be accessed via a slip road or access from the internal road network. The ODP needs to establish how the interface will be handled so that it is consistent along the whole frontage.

#### Interface with rural land

Where ODP areas have an interface with rural land a decision needs to be made about how it should interface, especially if the edge is visible across the landscape. It may be that the sections on the edge should be larger and have requirements about planting and fencing and a greater building set back from the rural edge, alternatively a harder edge may be appropriate with a roadway along the boundary and properties facing the rural land across it. The District Plan includes a rule for Milns Road regarding the interface with the rural land across the road, which has been reasonably successful.

#### Interface with open space

Again, a decision needs to be made at the ODP stage. Generally houses should front onto open space, but this may not always be possible or appropriate. Larger, more natural and informal spaces may have houses backing onto them - in which case planting and fencing conditions will be needed. Hendersons Basin is going to have a lot of interface with the wetlands/stormwater ponds, which needs to be carefully thought through and controlled.

#### Interface with existing residential areas

Where an ODP abuts the edge of an existing Living 1 residential area it should ensure that the new and the existing development is compatible. This may mean larger sections, restriction to single storey, larger building setbacks etc.

### 1.11. Multiple ownership and differing development aspirations

The ODP's are intended to co-ordinate development. This sounds reasonable in theory, but in practice it is extremely problematic when there are many landowners. Some landowners will be keen to develop, others will have no intention and could stymie the development of a much wider area. The ODP will need to be carefully drawn up so that owners can as much as possible work independently of each other. This may mean running the spine road along property boundaries, requiring roads to be built right to the edge of individual land holdings, allowing for temporary access off existing roads until an internal road network is established, locating large areas of open space where each land owner contributes or establishing some means of owners without open space on their land compensating those with open space etc.

In some areas large houses on lifestyle blocks exist which will need to remain. These will need to be identified at the outset and designed around. They may have established gardens which can become a feature of new development, for example by becoming a reserve. There may be a need to provide a buffer in the way of larger sections surrounding such properties and/or planting and fencing requirements. Highfield has a requirement (Rule 30.3.5) for boundary planting on a lot which is adjacent to a lot not in the applicants ownership.

### 1.12. Use of layers

A system of layers has been adopted for the Living G zones. Most of this information could be included on one ODP, especially if the amount of detail is reduced as recommended above. It is important to view all the



aspects together to see how they interrelate and separating them makes it more likely that the different disciplines will look at their 'own' layer only.

### 1.13. Regional Policy Statement requirements

The LURP proposes amendments to the Regional Policy Statement. Policies 6.3.2. Development Form and Urban Design and Policy 6.3.3. Development in Accordance with Outline Development Plans which reflect the provisions previously proposed as Policies 7 and 8 of Proposed Change 1 to the RPS.

Policy 6.3.2. provides sound urban design support which needs to be given effect to through the District Plan. However, it is weak on visual interest and amenity and scale and style, which have been omitted from the previous policy, the District Plan needs to address this too.

Policy 6.3.3. is very prescriptive and requires a relatively detailed land use plan. In order to provide the detail required it will be necessary to prepare a masterplan. A masterplan prepared by the Council or anyone not subsequently developing the site is doomed to failure. The problems raised by embodying a master plan in the District Plan are outlined in 1.1. above. The later ODP's for Living G zones follow the requirements of Policy 8, but have many shortcomings as outlined above. If the LURP is confirmed as proposed, it will be important for the District Plan to find a means to reconcile the words of this policy with an ODP that delivers good urban design outcomes.

The Methods for Policy 6.3.3. state that the Regional Council will establish a protocol and guidelines to assist all parties involved in the preparation of ODP's (it is my understanding that this has been in preparation for several years).

### PART 2. General Living G zone issues

There are currently seven operative Living G zones, plus one (Highfield) which is subject to appeal. They each have a separate section in Chapter 14 rules as follows:

18. Yaldhurst
19. East Belfast
20. Awatea
22. Wigram
24. Prestons
28. Halswell West
29. North West Belfast
30. Highfield

Some of the issues arising with the Living G zoning are due to the Outline Development Plans. This may be because the ODP has pinned down too much detail in some respects (e.g. location and dimensions of different densities) or conversely that it does not provide sufficient control (e.g. lack of requirement for dealing with interfaces).

Individual Living G zones have their own sets of policies. They occur in the Subdivision and the Living Sections of Volume 2. The policies that have been introduced deal with urban design matters. Some of them are more like rules or assessment matters and may need to be repositioned in the District Plan. They may be better attached to their Outline Development Plan. East Belfast has its own clause 11.8. Objective and Policies for Living G (East Belfast) which is very detailed and contains a lot of sound urban design criteria, which would be appropriate attached to the ODP and could be used as a model.

The rules and assessment matters contained in the District Plan are complex and repetitive. Each Living G zone has developed its own variation of the rules (see Table 1) first established for Yaldhurst, although the Halswell West provisions have been used as the model for the later Living G zones. The provisions are similar for each Living G Zone, with some variations, e.g. variation in section sizes in each density band and variation

as to whether the rule for a particular matter is a development, community or critical standard. There are also some site specific provisions e.g. relating to access from specific roads. There may be some need for variation in the rules for different areas but largely one set of provisions should suffice. Many of the new provisions that have been introduced in the Living G zones are applicable to other zones and conversely many of the Living G provisions are already included for other Living zones so a merging of the provision would seem to be appropriate.

The North West Belfast provisions state Clause 29 Note: All other subdivision rules in Part 14 of Volume 3 of the City Plan apply to the Living G (North West Belfast) zone except where they conflict with the following rules. This doesn't seem to be stated explicitly for other Living G Zones but presume it also applies. Most of the Living G zones have a neighbourhood centre or two indicated on the ODP. For these B1 subdivision rules are to be followed, except for Prestons which is B2.

There are shortcomings and omissions in the existing rules and assessment matters which could be rectified through this review of the District Plan but perhaps a more fundamental review is necessary. Selwyn District Council have reviewed their Subdivision and Living Zone provisions over the past few years culminating in changes to their District Plan being adopted last year. They have introduced a Living Z Zone, which is roughly the equivalent of the Living G Zone. They of course are only required to accommodate 10 houses per hectare on their greenfield sites, however, examination of their provisions is recommended. The City Council's Proposed Plan Change 61 needs to be considered, it currently appears in the District Plan (highlighted in grey) to confuse matters, even though the Plan Change has not progressed. The Infrastructure Design Standard also needs to be taken into account.

TABLE 1: List of rules applicable in each Living G Zone								
Living G Zone and Chapter 14 clause no.	18. Yaldhurst	19. East Belfast	20. Awatea	22. Wigram	24. Prestons	28. Halswell West	29. NW Belfast	30. Highfield
Subject								
Application of rules		19.1						
Deferment		19.2						
Development, Community & Critical Standards Special Area A			20.1					
Development Standards	18.1.	19.3	20.2	22.1	24.1	28.1	29.1	
Commercial activity area	18.1.1.		20.2.1	22.1.1	24.1.1	28.1.1	29.1.1	30.2.1
Residential site density	18.1.2.	19.3.1	20.2.2	22.1.2	24.1.2	28.1.2	29.1.2	
Density range consent notices	18.1.3	19.3.2		22.1.3	24.1.3		29.1.3	
Allotment sizes within buffer area		19.3.3						
Residential site limit	18.1.4.							
Stormwater drainage swales and water basins		19.3.4						
Creation of public open space					24.1.4			
Sites fronting Wigram Road				22.1.4				
Halswell Junction Rd roundabouts						28.1.3		
Development of land adjacent to Devondale Drive							29.1.4	

Road and access - residential and other activities	18.1.5.							
Walkable blocks		19.3.5						
Bypass corridor concept							29.1.5	
Community Standards	18.2.		20.3		24.2	28.2	29.2	30.3
Conformity with ODP Density A & associated land use development			20.3.1			28.2.1	29.2.2	
Conformity with Outline Development Plan	18.2.1.		20.3.2		24.2.1	28.2.2	29.2.1	30.3.1
Special interface area			20.3.3					
Staged development residential & other activities					24.2.2			
Linear park road frontage					24.2.3			
Intersection spacing - collector roads						28.2.3		
Roading design within & adjoining the Living G (Highfield) zone								30.3.2
Network effects- transportation								30.3.3
Boundary planting								30.3.5
Creation of stormwater drainage swales							29.2.3	
Site contamination							29.2.4	
Critical Standards	18.3.	19.4	20.4	22.2	24.3	28.3	29.3	30.4
Allotment sizes residential (dimensions)	18.3.1.	19.4.2	20.4.1	22.2.2	24.3.1	28.3.1	29.3.1	30.4.1
Allotment size and site density								30.4.2
Residential site numbers	18.3.2.							
Conformity with Outline Development Plan		19.4.1	20.4.2	22.2.1				
Residential allotment sizes (not met = non-complying)			20.4.3			28.3.2		
Residential site density							29.3.3	
Neighbourhood Reserves		19.4.3					29.3.9	
Open Space				22.2.5			29.3.10	
Staged development		19.4.4			24.3.4			
Sites fronting Wigram Rd & Awatea Rd			20.4.4					
Access to Mairehau Road					24.3.5			
Sites fronting Quaifes Rd & HJ Rd						28.3.3		
Sites fronting Johns Road							29.3.4	
Development of Area 4							29.3.5	
Site Access							29.3.6	
Control of stormwater			20.4.5	22.2.3	24.3.2	28.3.3	29.3.7	

Deferred (Density C) Local purpose reserve (stormwater)							29.3.11	
Realignment of Horners Drain								30.4.3
Provision of public transport			20.4.6	22.2.4	24.3.3	28.3.5	29.3.8	
Sanitary sewer & potable water supply			20.4.7			28.3.6		
Sanitary sewer				22.2.6			29.3.2	
Carrs Road kart club			20.4.8					
Site contamination			20.4.9			28.3.7		
Heritage & archaeological matters					24.3.6			
Information to be supplied with subdivision consent	18.4.	19.4.5	20.4.10	22.3	24.4	28.4	29.3.12	30.5

Flat Bush and Addison Park in Auckland (formerly Manakau City Council) and Stonefields (Auckland City Isthmus Section) are large greenfield developments. The way in which they have been developed and controlled provides valuable insights.

Pegasus New Town (Waimakariri District Council) is a local model that is worthwhile examining. The Living G zone needs to deal with both site layout matters and building design matters.

### PART 3. Site layout issues

Despite the words contained in the policies, bad subdivisions layouts, in terms of urban design, are still coming forward and the ability to improve them is limited. Some of these issues apply generally to all subdivisions and others are confined to Living G. Changes to the District Plan rules are needed to resolve these issues. Some matters will need to be addressed through a design guide.

#### 3.1. Design rationale/Character/Context

There is no requirement to provide a site context analysis or a rationale for the development. In some cases the ODP may have established a framework but there needs to be a means of ensuring that good place making occurs with focal points, views, legibility, variety, amenity etc.

#### 3.2. Type, location and size of open spaces and pedestrian/cyclist links

Larger open spaces may be established by the ODP. Open spaces need to be located where they form part of a wider network and have maximum usability and visibility. They need to be of an appropriate shape and size. Means to avoid spaces which only benefit a limited number of users, run between or behind houses or will have poor casual surveillance are needed. They should not just be used to compensate for the small section size of Density A units.

Pedestrian/cyclist links should follow desire lines. They need to be wide enough, but not too wide (in order not to waste space), short and straight and not to be a maintenance burden for Council. Generally it is better to design the layout so that the need for pedestrian/cyclist links is minimised.

#### 3.3. Capitalising on design benefits of stormwater management features

Retention basins, swales, wetlands and watercourses need to be harnessed as positive features and interface appropriately with residential sections.

#### 3.4. Street layout and design

There is a need to ensure a logical and legible street pattern which provides a balance between movement, access and place. Walkable blocks as well as good linkages to off-site destinations need to be a requirement. Some of the detailed issues which arise are the liberal use of rights-of way, too many properties accessed off a cul-de-sac head, poor junction spacing, use of a rear access lane without a frontage road.

### Comment

Has Council developed an agreed street hierarchy? Does the District Plan need to establish acceptable street widths and distribution of space across the corridor or should this be in the Infrastructure Design Standard? For Highfield road cross sections are to be included in the subdivision rules (30.3.2).

### 3.5. Section orientation and proportions

Section shapes and sizes need to vary according to their orientation, e.g small narrow sections are better located on the north side of a road. Layouts should be designed to avoid the need for private garden space to be located between the front of the house and the street. Sections should not have road frontage on three sides or excessively long road frontages. Stretches of road where all the sections are sideways on should be avoided. Generally houses should face each other across a road while backs should adjoin backs. Sections need to be wide enough to accommodate a garage which occupies less than half the frontage, unless they have a rear access lane. Larger blocks allocated for higher density housing (i.e. without being subdivided into allotments as part of the subdivision application) need to be of an appropriate size and shape.

Table 2 below shows that the required minimum allotment width and depth is consistent across the Living G zones for the Density A allotments at 6 metres x 8 metres. Density B allotments are mainly required to be at least 10 metres x 10 metres and Density C mainly at least 15 metres x 18 metres.

### Comment

The consistency of dimensions is a little surprising given the variation in allotment size and it is not known how much thought went into the determination of these sizes. A lot 6m wide would need to be at least 25m deep to meet even the smallest allotment size of 150m<sup>2</sup>. It would not be possible to develop a 6m wide section on its own. A minimum section width of 10 metres would allow say combined width of 3m setback from side boundaries, 3m garage and 4m house frontage. For a 200m<sup>2</sup> section this would make the depth 20m, which would be an acceptable minimum. A minimum lot width for a house with double garage needs to be 15m.

While the width is the most important factor, it may be necessary to also have a minimum depth requirement, otherwise the width might only reach the minimum for a small part of the site. Perhaps the section width needs to correlate with the section size rather than the density band.

	18. Yaldhurst	19. East Belfast	20. Awatea	22. Wigram	24. Prestons	28. West Halswell	29. NW Belfast	30. Highfield
Density A	6m x 8m	6m x 8m	6m x 8m	6m x 8m	6m x 8m	6m x 8m	6m x 8m	6m x 8m
Density B	6m x 8m	10m x 10m	10m x 10m	10m x 10m	10m x 10m	10m x 10m	10m x 10m	10m x 10m
Density C	10m x 10m	15m x 18m	16m x 16m	15m x 18m	10m x 10m	16m x 16m	15m x 18m	16m x 16m
Density D	15m x 18m				15m x 18m			16m x 16m

Note: Living 2,3,4 = 13m x 16m Living 1= 16m x 18m

### 3.6. Poor interface with the road

This may be caused by lots backing onto the road (often the case where a subdivision interfaces with an existing busy road) or because the lot orientation means that private outdoor space is located adjacent to the road.

### 3.7. Use of back sections

In some cases back sections will be appropriate, for example to provide a good interface with a limited access road or in awkward shaped corners, but their widespread use should be avoided.

### 3.8. Section size

The Living G zones have adopted bands of density i.e. A, B, C and sometimes D. Each density band has a minimum site size, some also have an average size and/or a maximum size. These vary between the different Living G zones (see Table 3).

The density bands are difficult to work with and start to dictate the lot size and therefore the site layout. Anomalies exist such as: In some cases (e.g. Prestons) the minimum size of Density C is larger than the maximum size of Density B so that some size sections are not catered for; even if the minimum and maximum lot sizes are adhered to and the 15 hh's/ha is achieved, the average section size in a band is not met. This may mean that the average is out of kilter with the minimum and maximum lot sizes but are averages, minimum and maximum all needed. What purpose do they serve?

#### Comment

While there is some rationale for different site sizes in different areas due to particular conditions or situation, having such variable parameters for each zone is confusing and probably unnecessary. Careful thought needs to be given to both the need to stipulate lot sizes so precisely and to what the sizes should be. Does there need to be a range and/or minimum and maximum. Do these rules actually deliver 15 hhs/ha?. How easy/helpful are they for applicants to work with?.

My thoughts are along the lines of 200m<sup>2</sup> minimum lot size for two storey house and a 300m<sup>2</sup> minimum lot size for single storey houses and corner sites. For comprehensive development smaller lot sizes would be possible where subdivision occurs at the same time or after land use consent. If Council is concerned that there will be too many small allotments then this might be controlled by a minimum average or a maximum number of households per hectare.

	18. Yaldhurst	19. East Belfast	20. Awatea	22. Wigram	24. Prestons	28. Halswell West	29. NW Belfast	30. Highfield
Density A								
Average lot size range m <sup>2</sup>	275 - 325	220 - 325	280 - 325			200 - 250	220 - 325	200 - 300
Minimum lot size m <sup>2</sup>	250	200	200	200	200	150	200	150
Maximum lot size m <sup>2</sup>			350	250	250	300		

Density B								
Average lot size range m <sup>2</sup>	450 - 500	350 - 450	650 - 750			275 - 325	600 - 650	300 - 450
Minimum lot size m <sup>2</sup>	330	330	450	250	450	200	550	275
Maximum lot size m <sup>2</sup>			800	450	500	450		
Density C								
Average lot size range m <sup>2</sup>	600 - 650	550 - 700	800 - 850			525 - 575	2000 - 5000	450 - 750
Minimum lot size m <sup>2</sup>	550	450	750	450	600	450	2000	400
Maximum lot size m <sup>2</sup>			900	750	650	800		
Density D								
Average lot size range m <sup>2</sup>								
Minimum lot size m <sup>2</sup>	800				800			800
Maximum lot size m <sup>2</sup>					1000			

Note: Living 1: Minimum 450m<sup>2</sup>, minimum average 550m<sup>2</sup>  
 Living 2,3 & 4: Minimum 330m<sup>2</sup>, Minimum average 350m<sup>2</sup>

### 3.9. Local facilities

Where the ODP has indicated a need for local facilities they will need to be allowed for in the subdivision plan. If at the time of subdivision there is no potential investor then the same issue arises as with the comprehensive housing. One approach may be to nominate a group of sections for local shops, medical centre, pre-school etc., such that they can revert to residential use if there is no take-up with a certain period. The Delamain subdivision has a community footprint which was part of the ODP. The land is set aside but hasn't been developed yet.

## Part 4. Building design issues

### 4.1. Open space (site coverage)

The Living G zones include site coverage rather than plot ratio controls, which is appropriate and encourages two storey development. The permitted site coverage varies between density bands and between Living G zones. Smaller allotments have greater site coverage, up to 80% (Wigram). This allows a sizeable house to be built on a smaller allotment, rather than small allotments providing small (i.e. more affordable) houses. Even the smallest Density A site of 150m<sup>2</sup> with a footprint occupying 50% of the site could have a floor area (including garage) of 150m<sup>2</sup>. As the site coverage is expressed as a percentage, it is difficult to understand why smaller allotments should have a greater percentage site coverage.

Maximum permitted site coverage for smaller allotments (say those below 450m<sup>2</sup>) could be 40%. consistent with the Living 2 zones. This is also consistent with the Living 3 zone plot ratio of 0.8. (i.e. 2 storey house occupying 40% of the site). For larger allotments the site coverage could be 35%, as for the Living 1 zone.



#### 4.2. Height

The Living G zones allow for higher density development to be built to 3 storeys (11 metres). Incorporating three storey houses in such a way that they will not cause unacceptable loss of amenity and privacy to adjoining properties or be incongruous in their suburban setting is a difficult design challenge. It is recommended that provision should not be made for three storey buildings on standalone allotments, instead they should only be developed as part of a comprehensive package.

#### 4.3. Sunlight and outlook for neighbours

The Living G zones have adopted recession planes for the control of shading. It is questionable whether they are workable or appropriate for the Density A or Density B situations. In particular where terrace houses step back and forth non-compliances with the recession planes will occur. Two storey houses could be problematic on the narrower lots. For example a two storey house on a Density A or B allotment, would need to be setback around 4m from its southern boundary to fall within the recession plane. This could cause difficulties where lots aligned east-west are less than 12m wide. A simple solution would be for conventional allotments to comply with the recession plane Diagram A and there be no recession plane requirement for Density A allotments except where they adjoin conventional allotments. The degree to which houses on Density A allotments shade each other would be controlled both by the designers of the houses and by assessment matters. However, the whole issue of recession plane requirements for higher density housing really needs reviewing, including testing of various house types and orientations.

#### 4.4. Setback from road boundary

The Living G Zones permit smaller minimum setbacks than currently exist in the suburban living zones, a lesser setback will provide a closer connection with the street, help in achieving higher densities while still permitting a reasonable sized private garden space to the rear and help to diminish the impact of garage doors. However, the higher density setbacks are often only two metres which causes issues. The house is very close to the street and houses could potentially face each other across a lane (perhaps as little as 10m between opposing frontages) and there is little room for landscaping. 3m would be more appropriate. Also if densities are not so rigidly defined there could be instances where neighbouring sections have different setback requirements. Perhaps there should be a blanket minimum setback of 3 metres. Some Living G zones have a maximum setback, this could be problematic and is probably an unnecessary control.

Also need to control setbacks from rights of way.

#### 4.5. Garages

The Living G rules have introduced controls over the setback of garage doors facing the street, but there is still an issue with them where the garage is at right angles to the street.

Garage doors should not dominate the street scene, but requiring the garage door to be setback further than the front of the house can be problematic, especially where an integral garage is provided. Requiring that the garage to be no further forward than the front of the house might be more workable.

Controlling the amount of frontage occupied by the garage is helping to reduce the impact of garage doors in the street scene, but where there is a double garage which occupies half of the frontage on a smaller single storey house, it still can be dominating.

#### 4.6. Fences

The rules generally require fences on the boundaries with roads or within the minimum setback to be a maximum height of 1 metre, unless 50% transparent. Open frontages are so much more attractive than those with fences of various heights. Master planned communities elsewhere tend to have consistent frontages (probably via covenants or body corporate rules). The need for higher fences for privacy is often due to poor subdivision layout. Ideally fences on street boundaries should be no more than 1metre (I would prefer 800mm) with no exception for a higher more transparent one. Corner properties are problematic with the

need to screen the side of the rear garden. If the fence is behind the setback this will lessen its impact on the street scene, but corner sites need to be large enough to allow for this. At Longhurst (Halswell West) there are already a number of non-compliances with the fencing rule occurring (have they got consent or is it an enforcement issue?).

Also need to control fences alongside rights-of-way.

#### 4.7. Service and storage areas

A rule is included which requires each outdoor service, rubbish, and recycling space not to be located between the road boundary and any habitable room. It would have an adverse effect on amenity if the storage area were located between the property and the road boundary, regardless of whether it is in front of a habitable room or not.

Generally there seems to be a bit of conflict in the rules between the need for screening of parking and outdoor storage areas and the desire to reduce the impact of fences.

#### 4.8. Ground floor habitable rooms

The rules for Density A areas require each residential building to have a habitable room located at the ground floor. Having a habitable room orientated towards the street is important for connecting residents to the outside world and to provide casual surveillance. It seeks to avoid the situation, common in Living 3 Zones, where the ground level is occupied by a garage and the living space is pushed up to first and second floor level causing overlooking issues. This rule should apply to all residential properties not just Density A.

The rule also requires each of the habitable rooms located at ground level to have a minimum floor area of 12m<sup>2</sup>, a minimum internal dimension of 3m and be internally accessible to the rest of the unit. The minimum floor area could be unnecessarily restrictive on a small allotment.

#### 4.9. Separation from neighbours

There needs to be a back to back and side to side distance control between windows at first floor (and above) level to insure adequate privacy. A setback from internal boundaries of 4m is required in some of the Living G zones. This would allow windows facing each other to be only 8m apart. This would not provide an acceptable level of privacy. This rule applies in the Living 3 and 4 zones, however in these zones development is usually of an infill nature where more acceptable privacy distances would be difficult to achieve. The recommended back to back distance is generally taken to be 20 metres in urban design circles, but as a 10m setback from the rear boundary may make it difficult to achieve the 15 dwellings per hectare density standard. Recommend that any balcony or window at first floor level (unless above eye level) or above shall not be located within 8m of any internal boundary, except where there is intervening space between residential units, e.g a rear access lane, this distance may be reduced providing the distance between balconies and windows at first floor level and above is a minimum of 16m. This provision will also help to ensure sunlight penetration in rear gardens of terraced units in the absence of recession plane controls.

#### 4.10. Interface between higher density & lower density housing

Uncomfortable juxtaposition between higher density and lower density housing can occur. In some cases two storey houses may cause undue overlooking and diminishing of outlook, particularly if developed as a terrace. Depending on the way in which density is to be controlled there may be a need for special provisions to control boundaries between different densities.

## 5. Higher density housing issues

### 5.1. The need for 15 households per hectare

For reasons of efficiency, sustainability and affordability a higher density of residential development in greenfield areas is required than has traditionally occurred. Traditionally greenfield subdivisions such as Northwood, have been developed at around 10 houses per hectare. Achieving a 50% increase in households in a given area brings design and market issues.

The urban growth areas are at, or towards, the city outskirts and adjacent to rural land or lower density residential development. Increasing the density at the outskirts is contrary to expectations and therefore there is a need to accommodate the urban form in a compatible way. What sort of model should we be aiming for? urban village, linear, suburban, some very high density and the rest more traditional?

In order to achieve the increased density a different product from the standard single storey standalone house built as a one-off is required. Unfortunately there is a reluctance among house buyers and builders to move away from this model. Reasons for this include the inability of small builders to build several houses speculatively, a concern about attached houses being noisy, concerns about privacy and shading, homeowners being used to plenty of space around them and for parking their cars, examples of visually unattractive higher density housing abounding in the city. Higher density developments often have shared parts of buildings and sites which need to be managed by body corporates, which is unappealing to many. The earthquakes have caused further aversion to higher density attached and multi-level models because of problems allocating responsibility for damage (particularly where there are shared walls between properties) and because of a perceived problem with higher buildings.

Some developers (e.g. Gillman Wheelans, R.D. Hughes, Suburban Estates) are favouring the Selwyn and Waimakariri Districts because of the lower density requirement (10 hh's per hectare). As there doesn't appear to be much take up of Density A lots in the Living G zones to date, consultation is needed with the larger developers such as those mentioned above and Ngai Tahu, H Developments, Enterprise Homes etc. as well as housebuilders such as Mike Greer, Stonewood Homes, Horncastle Homes to get a clear understanding of their issues and ideas.

The challenge is for the District Plan to facilitate development that achieves the density, meets the market and is attractive and appropriate to its context.

Section size is used to control density, but this is not necessarily the best approach. An exercise was undertaken during the progressing of the Highfield Living G zone which indicated that even if the ODP zoning into different density areas and the section sizes were adhered to a density of less than 15 hhs per hectare could occur (around 13 per hectare) if the higher end of the section sizes was adopted.

### 5.2. Level of detail needed at subdivision stage - residual lot approach

There appears to be an understandable reluctance, on the part of developers, to go to the extent of preparing detailed plans for higher density and comprehensive housing in Living G Zones, since it can delay the subdivision consent process, add substantial upfront costs. Also, the developer doing the land subdivision is usually not the same as the developer building the houses. Comprehensive housing demands a different approach than that of conventional subdivision. Successful comprehensive development will start with the design and layout of the buildings so that they relate well to each other and to public space. They need to be arranged to achieve good standards of outlook, privacy and receipt of sunlight and daylight. Subdivision of the land will follow in accordance with the pattern of building layout. Resulting allotments are likely to vary in shape and size (and may well be irregularly shaped), alternatively there may be no need for subdivision, as in the case of a retirement village or apartments for example. If higher densities are to be achieved, the District Plan provisions need to encourage comprehensive development, rather than make it difficult. For

any areas that are proposed for comprehensive development the Council needs to be satisfied that the site is of an appropriate shape and size to accommodate development that will meet the District Plan provisions for higher density housing but comprehensive building and allotment design information is not necessary. Instead the subdivider should be required to provide a concept plan that details the housing layout (i.e. building footprints), and intended number of storeys, access and parking arrangements and any on-site open space.

### 5.3. Small lot subdivision or comprehensive housing.

There is a distinction to be made between small lot subdivision and comprehensive housing. Small lot subdivision follows the conventional process of preparing a subdivision first and then subsequent purchasers designing and building houses to suit allotments. Comprehensive housing enables buildings to be designed and arranged so that they suit the site context and relate well to each other. The highest densities can only be satisfactorily achieved by following the second method.

The density A sections of Living G zones have tended to be envisaged as blocks of small lots (terraces). These need to be developed as a group. But small lots around 300m<sup>2</sup> can be developed individually or in pairs with small houses. Section shapes will need to be squarer rather than long and narrow. The ability to achieve higher density through generally smaller lots across the board should be available to developers and would likely be more acceptable to the market. The proposed Oakvale subdivision at Glovers Road, Halswell (prepared as a non-complying subdivision ahead of an ODP) is an example of a more informal approach to achieving 15 hh's/ha.

Successful local comprehensive developments such as Tonbridge Mews (designed by the late Peter Beaven) and some of the City Council social housing complexes prove that there is a model other than long lines of terraces.

Selwyn District Council's Medium Density Design Guide and District Plan provisions deal with small lot subdivision and comprehensive developments.

### 5.4. Repetitive and monotonous housing forms

With higher density development there is a real danger that housing forms will be repetitive and monotonous. One house type can be repeated for a long stretch along the street. Some Density A areas are of a shape that can only be developed for long lines of terraces. Some way of avoiding excessive repetition is needed.