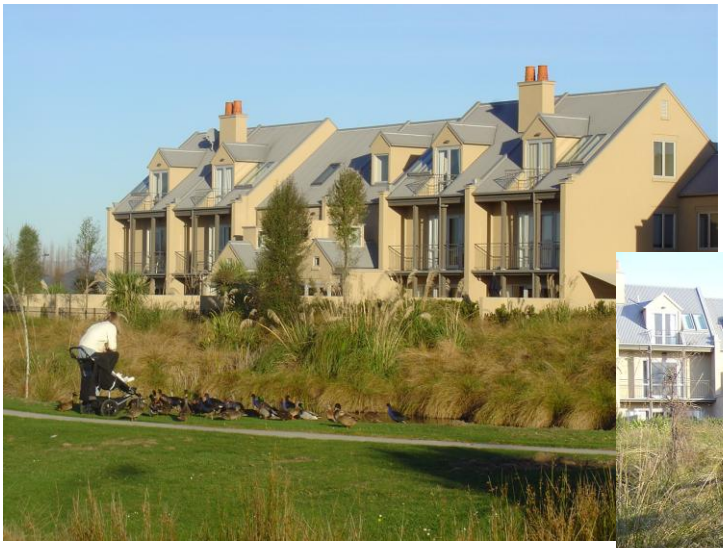
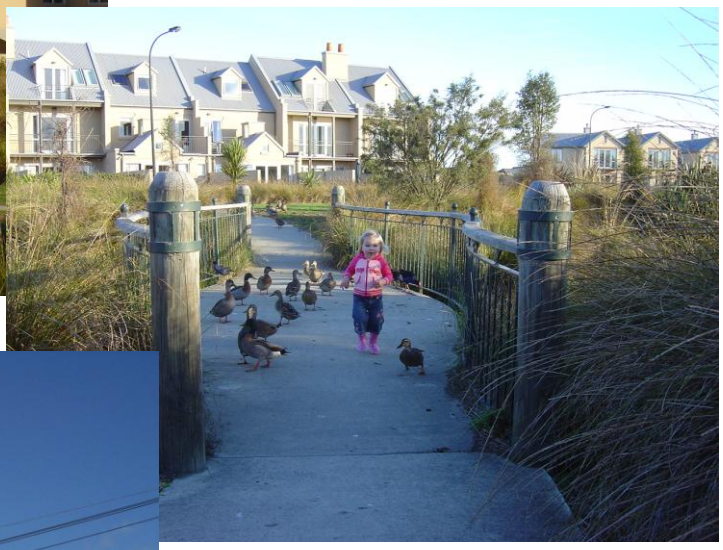
BELFAST AREA PLAN

Phase 1 Report: Population Projections and Land use Types

May 2008

DRAFT





Prepared by

Christchurch City Council

CONTRIBUTORS

Matt Bonis	Consultant Planner, Planit Associates
Matt Cummins	Project Manager, Capital Project Group
David Price	Principle Analyst, Monitoring and Research Team, Strategy and Planning

Reviewed and approved by:

Matt Bonis, Project Leader, Belfast Area Plan

DISCLAIMER

This Council does not guarantee the accuracy of the data or information contained in this Phase 1 Report. Whilst every endeavour has been made to compile data and information that is up to date and relevant, not all of it has been, or is capable of being verified. The Belfast Area Plan Phase 1 Report on Population Projections and Land use Types, and others for the Belfast area of Christchurch, should not be relied upon for the purposes of any proposed property transaction, including subdivision or land use approvals

TABLE OF CONTENTS

Table of Figures

EXECUTIVE SUMMARY

The aim of the 'Population Projection and Land Use Types' report is to provide:

- an overview of the likely implications of household growth within the Belfast Area;
- where such households could be located;
- and the location and type of employment opportunities that could be developed in the area to help sustain such populations.

It is noted that any final decisions on the location of land use within Belfast will the subject of further consultation and constraint identification.

This report will also outline the likely sequencing of household growth to achieve the proposed settlement pattern as outlined in the Urban Development Strategy ('**UDS**') and Action Plan for Greater Christchurch as adopted in May 2007, as well as **Policy 6** (Urban Form, Infrastructure and Sequencing within Identified Urban Limits) contained within Proposed Change No.1 to the Regional Policy Statement ('**RPS**').

Lastly, this report provides a general overview of the critical issues in relation to land use types that are anticipated within the Belfast Study Area as a result of the implementation of the UDS and the Area Plan.

The development of a Plan for the Belfast area provides a significant opportunity to develop and implement a long-term cohesive urban vision for the area, which would also protect and enhance the character, amenity and natural values which help to define the area. This can be achieved through providing a range of housing types and densities, business environments and identifying the key issues to help maintain the character of the existing area. Certainty can also be provided to both public and private groups in terms of the likely growth implications for the area, and the pressures that such growth could create for infrastructural and community services such as schools.

1. INTRODUCTION

The Belfast study area comprises approximately 1349 hectares of land encompassing the existing urban, rural and industrial Belfast area, and extending northwards to the margin of the Otukaikino tributaries and south to the southern boundary of the Styx River. It includes part of the Kaputone River and part of the upper and mid reaches of the Styx River (refer Figure ***1*** – Study Area).

Approximately 284 hectares of the area is zoned urban, 756 hectares rural, 172 hectares industrial, and 103 hectares is zoned open space. Over the last decade, the area has experienced significant urban growth. This has resulted in substantial change to the urban fabric of the Belfast Area, including the development of the Northwood Subdivision which has introduced a variety of residential densities to the area. There is also continuing pressure to convert adjoining rural land to support residential and industrial activities, and this is likely to be accompanied by pressure on community facilities and infrastructural services to accommodate new communities as a consequence of such growth. The Christchurch City Plan, Greater Christchurch Urban Development Strategy, and Proposed Change No.1 to the Regional Policy Statement have earmarked Belfast for future urban growth.

The following information and attached plans have been provided to promote discussion on a possible development scenario for Belfast, Christchurch. The information is based on the material incorporated within the Urban Development Strategy ('**UDS**') and Action Plan for Greater Christchurch, and should be read in the context of that document.

Information contained in this document is developed using data provided by Statistics New Zealand based on a set of agreed assumptions as adopted for the UDS. Therefore the framework of this report is within the context of that proposed settlement pattern, using a high growth scenario, sequencing stages, and some infill development as is contained within the UDS.

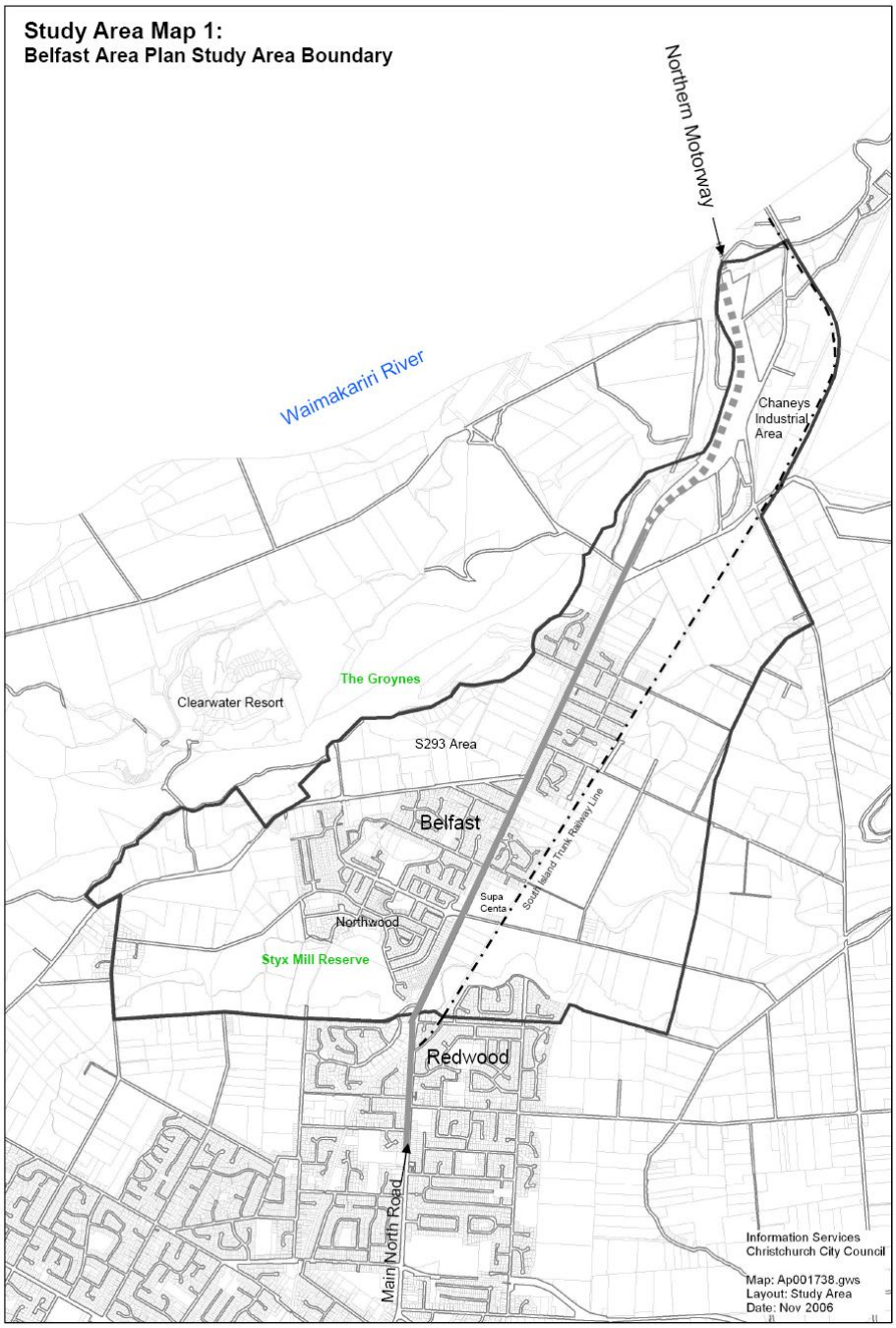
This Report considers land use scenarios, phasing of such development, the potential environmental effects of urban development (i.e. different land use impacts on amenity, ecology e.t.c), and the potential impact on infrastructure and the community. It also examines different types of land use, including setting out the range of residential densities and the critical issues that would need to be resolved in developing such areas within Belfast.

The purpose of this Report is therefore threefold:

- to outline the likely scenario for population growth within the Belfast Area and associated supply of business and commercial land;
- to provide an indicative evaluation of the staging and sequencing of such growth based on current knowledge of existing infrastructural constraints; and
- to outline at a broad level, some of the factors that the Christchurch City Council, the Community and local developers should consider in managing the physical elements of such urban development.

This Report has been prepared as one component part in the preparation of the Belfast Area Development Plan.

Figure 1 – Study Area



Source: Christchurch City Council

2. POPULATION GROWTH PROJECTIONS FOR CHRISTCHURCH

The UDS, as well as the Christchurch City Plan identifies Belfast as one of the key areas for accommodating residential growth, through a mixture of managed green field development, and also through a focus on increasing densities in selected existing Living zone areas. The importance of accommodating increased household growth within Belfast should therefore be seen in the context of projected household growth within the Metropolitan area of Christchurch itself (refer Figure 2).

In July 2007, Chapter 12A of the Regional Policy Statement ('**RPS**') was notified as Proposed Change No.1 ('**Change 1**'). The introduction for Change 1 identifies the purpose of Chapter 12A is to provide "*the sub-regional policy framework under the Resource Management Act 1991 to implement the Greater Christchurch Urban Development Strategy*"[1].

Figure 2 – Greater Christchurch Area and Local Authorities

Source: UDS, adopted 2007.

The population of Greater Christchurch will change significantly over the next 35 years. By 2026 the number of people living here is projected to grow to 501,000 reaching around 549,000 by 2041 if Greater Christchurch experiences continued high migration (see Figure 3). This growth is the result of natural increase in the existing population and migration into the Greater Christchurch area from other areas in New Zealand and from overseas. While the Strategy provides direction for land use to manage this increase in population, there is also expected to be a significant change in the demographic composition of the population.

[1] Environment Canterbury. Proposed Change 1 to the Regional Policy Statement. Section 12A.1 Introduction.

The average age is increasing and this means that housing, servicing and population distribution requirements will change. The three key demographic changes that will affect household composition are:

- By 2021 about 20% of people will be over 65 compared to 14% today. There will also be a significant increase in the number of people who are over 80;
- Traditional families (nuclear families of Mum, Dad and two kids) will increasingly be a smaller proportion of the population, with more people living alone or with one other. The persons per household ratio are forecast to continue to decline. In 2001, Statistics New Zealand used a ratio of 2.64. This ratio is anticipated to reduce to 2.30 by 2041; and lastly
- Population increase is expected to slow from 2021 to 2041, meaning that household growth largely needs to be anticipated and provided for between 2006 and 2021.

The changing demographic composition of households will raise issues for the type of household structure, where they will be located, and their relationship to social infrastructure and transport connections. Ultimately, the changing household composition will mean that there is an increase demand for housing, as fewer people will reside in each dwelling, which will likely put pressure for higher density developments to make an efficient use of green field areas and infill opportunities.

Statistics New Zealand projections, using the assumptions incorporated within the UDS estimate an increase of 75,000 households over the 35 years to 2041, two-thirds of which will occur over the first 20 years to 2026 and then tapering off between the period of 2026 to 2041 (refer Figure 3). The UDS also incorporates labour force projections to 2041 showing an overall increase of 47,500 employees.

Figure 3 - Greater Christchurch Area Population, Household and Labour Force Projections, 2006-2041

	2006	2026	2041	2006-2026 Increase	% Increase	2026-2041 Increase	% Increase
1. Population[2]	413,500	501,300	548,520	+87,800	+21%	+47,220	+9%
2. Households[3]	164,100	212,900	238,910	+48,800	+30%	+26,000	+12%
3. Labour Force[4]	**221,900**	**260,400**	**269,400**	**+ 38,500**		**+ 9,000**	**+ 3%**

Source: Statistics New Zealand & UDS2007 Table 1.

[2] The population projections are based on the estimated population at June 2006, (which has a 2001 census base) and assumes medium mortality, medium fertility and a constant rate of net migration after 2006 for each five year period of 8000 for Christchurch City and 3000 for Selwyn and 3500 for Waimakariri District Councils.

[3] Household projections use the Strategy population projections and assume medium household and family formation assumptions.

[4] Labour Force projections were produced by applying labour force participation rates to the Strategy population projections by 5 year age groups and sex. Labour force participation rates were based on the 2001 census. These rates were adjusted in line with the national labour force participation rates used in the national labour force projections 2001 (base) - 2051 update.

3. THE UDS METROPOLITAN SETTLEMENT PATTERN AND THE CITY PLAN AS APPLIED TO BELFAST

This section of the Report identifies the Greater Christchurch Settlement pattern, as contained in the UDS and as notified within Change 1 to the RPS (July 2007). It also identifies from these documents, as well as the Christchurch City Plan, the policy direction for urban growth as would be applied to Belfast.

3.1 UDS Context

The context for providing for household growth within the Belfast Area as contained in the UDS is based upon the following[5]:

- 71% of Greater Christchurch's growth to 2041 will be accommodated in Christchurch City, with the remaining 29% in Selwyn and Wamakairiri;
- Within Christchurch, between 2006 and 2026, 39% of all new housing is to be located in intensification areas within Christchurch. The balance is to be provided in new development areas with housing at increased densities of an average of 15 households per hectare.
- In Christchurch, between 2026 to 2041, the proportion of intensification to accommodate all growth is to be largely met within the Central City and activity centres with a targeted 72% of all household growth to be met in these areas.
- There are some 7,000 lots available for development within Christchurch City. These figures include 2,500 greenfield lots on the City's fringe, and some 4,500 zoned and undeveloped residential lots elsewhere within the City.
- Major Green field areas to the south west and the north provide adequate development capacity for at least 30 years, providing zoning and servicing can be achieved in a timely manner, and
- Sufficient business land is to be provided to support ongoing growth of the labour force and continuing development of the regional economy.

3.2 Key features of the UDS / Change 1 Settlement Pattern as applied to Belfast

There are a set of broad aims for the Metropolitan Settlement Pattern as set out in the UDS[6] that are similar to the results of the Belfast urban community consultation exercises undertaken in 2003/2004 as well the Rural consultation exercise undertaken in 2007. Figure 4 below illustrates the common themes that have emerged through both.

Figure 4 – Broad aims of Settlement Pattern / Belfast Community Aspirations

UDS – Broad Settlement Aims	Belfast Consultation – Community Aspirations[7][8]
Achieve high quality social outcomes for residents in both existing and new urban areas.	• Meeting the demands for retirement and aged care (Urban 2003/2004) • Community Spirit, Feel and Pride (Urban 2003/2004)
Provide opportunities to minimise journey-to-work trip lengths and maximise public passenger transport, walking and cycling potential.	• Improving paths, walkways and cycle-ways between recreational areas (Urban 2003/2004); • Improve public transport into and around Belfast (Urban 2003/2004)

[5] Source. UDS, 2007. Sections 5.3 – 5.4.
[6] Source, UDS, 2007, Section 5.5.
[7] Belfast Area Plan - Preliminary Urban Consultation Results from Seminar Belfast School and Mail Outs. 2003 / 2004.
[8] Belfast Area Plan - Preliminary Rural Consultation Results from Mail Out and interviews with Belfast Rural Landowners. 2007.
.

Reinforce identified existing activity centres for maximum local economic benefits and social cohesion.	• Develop a central community focal point (Urban 2003/2004).
Ensure that sustainable, safe and integrated transport networks all support growth areas.	• Ensure that all new development integrates well into Belfast – no more fragmentation (Urban 2003 / 2004) • Roading Improvements to reduce division of Belfast (Urban 2003/2004)
Maintain the character of settled areas, in particular rural qualities.	• Greenbelts (to emphasise and retain rural boundaries) (Urban 2003/2004); • Ensure that the separation from Christchurch City is apparent and maintained (Urban 2003 / 2004). • Maintaining the separate identity of Belfast (Rural 2007). • The maintenance of rural character. (Rural 2007 • The need to restrict or manage growth (Rural 2007).
Reinforce "live, work and play" design principles.	• (More) Parks and Reserves (Urban 2003 / 2004) • More reserves and parks like The Groynes. (Rural 2007) • Provision of further industrial and business opportunities (Rural 2007).
Allow needs of localities beyond the area to be most effectively served.	• Improve public transport into and around Belfast (Urban 2003 / 2004). • Improved roading access north and south(Urban 2003 / 2004).

The key features of the settlement pattern contained within the UDS as they relate to the northern quadrant of Metropolitan area are summarised below in Figure 5.

Figure 5 – UDS Settlement Pattern principles as applied to Belfast[9]

(i). **Strategic road connections** through Waimakiriri into Christchurch City are improved, including a Woodend by-pass and northern arterial into Christchurch;
(ii). Subject to agreed funding, anticipation of the construction of the northern arterial within 2013 – 2016;
(iii). Growth **avoiding sensitive environmental areas** (over the unconfined aquifer)
(iv). The operation of the **Christchurch International Airport** is not compromised by growth and the health and wellbeing of people is not compromised by aircraft noise;
(v). **Provision of employment** opportunities for new knowledge economy and business activities;
(vi). Promotion of **new city edge activity centres** in the north of Belfast which meets the needs of residents within the City and the northern and southern corridors.
(vii). **New areas of land zoned for business** development are provided to make the district more self sufficient in employment opportunities.
(viii). North Christchurch is provided with new **residential areas focused around Belfast**, which forms the northern gateway into the City and a community services focal point. There will also be limited opportunities for employment growth.

[9] UDS. 2007, Section 5.5.

3.3 Regional Council Policy

The control of any actual or potential effects of the use, development or protection of land and the control of the subdivision of land are the prerogative of the City Council in terms of its functions and responsibilities for the purposes of giving effect to the Resource Management Act 1991. The involvement of the Canterbury Regional Council (ECan) in those processes (including the preparation / modification of the City Plan) is primarily related to the issue that the City Plan is to give effect to any Regional Policy Statement.

Regional Policy Statement

Made operative on the 26 June 1998, the RPS contains a number of policy directives with regard to urban growth.

The definition of urbanisation as contained within the RPS states that:
"Urbanisation (or urban development) – includes the peripheral expansion of cities or towns, their intensification (infill and redevelopment), and the initiation of settlement at new locations or expansions of existing settlements where their population within a decade is likely to expand to that of a city or town" (Regional Policy Statement, page 307).

The policy framework within the RPS provides for the overall context of urbanisation to be an evaluation of both the positive and adverse effects of settlement development. It is noted that the first paragraph from the explanation of **Objective 1, Chapter 12** (Settlement and Built Environment) that patterns of development should encourage *"self containment"*, which would *"promote sustainable forms of development in urban areas"*. The explanation for Policy 1 of the above objective also refers to "consolidation" of urban areas. It can be seen from the second paragraph of the explanation of this Policy that the term 'consolidation' *"… does not exclude the extension of urban areas"*.

Another relevant consideration with reference to the Belfast study area would be Chapter 15 of the RPS, which relates to Transport issues. Whilst the terms consolidation and urbanisation are not used, there is reference within the explanation following **Policy 3** to the containment of urban areas. It can be seen from this explanation that the issue of "safe, efficient and cost effective" transport can be addressed by locational and layout considerations.

Proposed Change 1

The July 2007 notified Chapter 12A to the RPS introduced a detailed policy framework for managing urban growth within the Christchurch Metropolitan. **Objective 1** identifies that urban development within the Greater Christchurch area should be managed to achieve consolidation, with a key focus on achieving higher density development particularly in inner Christchurch and around Key Activity centres. **Objective 3** provides for urban growth limits to manage urban growth, with supporting **Policy 1** directing relevant territorial authorities to prevent urban activities locating outside the 'Urban Limits'. In relation to the existing urban areas of Belfast, **Policy 2** is relevant in that it seeks a higher level of consolidation for existing residential areas, whereas **Policy 3** seeks to ensure that sufficient Business Land is provided to encourage self-sufficiency of employment and business activities. **Policy 6** and its respective Table 2, identify for Belfast that the sequencing for greenfield residential development in the area should be as follows:

Figure 6 - RPS, Chapter 12A Development Sequencing for Greater Christchurch 2007 - 2041

	Map Notation for greenfield areas	2007-2016 Households	2017 – 2026 Households	2027-20411 Households	Total Available Households
Belfast s293	CN1	1140	160		**1300**
West Belfast	CN2		90	800	**890**
Upper Styx	CN3		1970	500	**2470**
East Belfast	CN4		1030	120	**1150**
Total		1140	3250	1420	**5810**

Source: Amended from Proposed Change 1, Policy 6 – Section from Table 2.

The Proposed Natural Resources Regional Plan (NRRP)

The Proposed NRRP (Chapters 4-8) was notified in July 2004. The five chapters notified were; Chapter 4: Water Quality, Chapter 5: Water Quantity, Chapter 6: Beds and margins of lakes and rivers, Chapter 7: Wetlands, and Chapter 8: Soil Conservation. Whilst all of these Chapters have relevance to the future growth and development of Belfast, the most relevant in terms of strategic urban growth is Chapter 4: Water Quality.

Chapter 4 of the NRRP outlines issues, objectives and policies that relate to water quality, as modified by Variation 6 as notified on 28 July 2007. Specifically of relevance, is Objective WQ2 – 'Water quality outcomes for groundwater and contaminated land'; principally that the Objective requires that water quality for semi confined, unconfined and other confined aquifers, as reported in 2004, is to be maintained in that state (**Objective 2(a)**). This Objective therefore seeks to ensure that urban growth is not accommodated on areas identified as being located on the unconfined aquifer.

3.4 The Christchurch City Plan as applied to Belfast

The following is a very general discussion of the overall relevant policy framework in the consideration of the peripheral expansion of development within the Belfast Study Area. Also incorporated is a general discussion with reference to the direction of the policy framework for urban amenity.

The 'Vision for Christchurch' (page 1/1, Volume 2) illustrates the overall direction, or sum of outcomes identified by the resource management objectives within the City Plan. This statement includes:

- "A fair city – that encourages a diversity of lifestyles, housing opportunities and community support."
- "A consultative City – that involves all appropriate, affected and interested people and groups in the process of decision making".
- "A productive City – that provides for a wide range of business and employment opportunities and promotes the efficient use of the City's services and infrastructure."
- "An accessible City – that provides good and efficient transport links between all parts of the City accessible to residents, visitors and businesses alike."
- A sustainable City – that recognises the limits of the natural environment, takes account of the needs of future generations and encourages sustainable living."

Objective 3.1 provides the subsequent basis for **Policies 3.1.3** and **3.1.4** that are directed towards the promotion of a compact urban form and efficiencies in transportation. These policies are supported by the zoning pattern in the City Plan, and in particular through enabling increased densities of development toward the City Centre and around community local focal points in the suburbs.

Figure 7 - Aerial Photo of Belfast from the north.
Policy 6.3.1 of the City Plan seeks that focuses on ensuring that peripheral urban growth is not physically detached from existing urban boundaries

Chapter 4 of the City Plan, 'Urban Form' contains the policy framework that provides the governance of the existing urban form and its future growth and expansion. **Policy 4.1.3** under the umbrella **Objective 4.1** acknowledges that the outer suburbs of the City cater for a low-density lifestyle in predominantly detached and lower rise buildings than is the case in the inner urban area. This includes peripheral growth, the larger areas of which might also enable medium density development to occur. Such development does not affect any "existing character" and provides greater variety and housing choice in establishing the identity of new suburban nodes.

Objective 6.1 'Urban Growth' and subsequent **Policies 6.1.1**, and **6.1.2** are aimed at directing growth with the primary focus being that of a consolidated urban form, and the promotion of more intensive use of land resources within existing urban areas. **Objective 6.3** deals with peripheral urban growth, as does is subservient policies; of these the most relevant are: **Policy 6.3.1** that focuses on ensuring that peripheral urban growth is not physically detached from existing urban boundaries; **Policy 6.3.9** which refers to the promotion of a range of incremental expansions to the urban area over a number of peripheral locations, rather than just in any one area; and **Policy 6.3.10** which relates to the preference for peripheral development that is largely contained by a well defined barrier to further outward expansion for urban development.

Policy 6.3.16 is central to this study and its outcomes. As contained under the overall umbrella of **Objective 6.3** the policy provides for the investigation and assessment of future long-term growth options for the City's urban development. The explanation for the policy refers to areas zoned for urban growth on the periphery of the City, including major growth at Belfast-Styx. The explanation notes that it is the effects of urban growth rather than the predetermination of housing choice that will be the focus of these investigations.

Section 9 of Volume 2 deals with Community facilities and identity. **Policy 9.1.4** aims *"to co-ordinate urban growth with the provision of local community facilities".* In the explanation following it is pointed out that *"…there are however, community facilities established close to the urban periphery which can be better utilised if further urban development were to take place within their catchments."* Whilst the Belfast area is not identified on page 6/2 of Volume 2 of the City Plan as a Community focal point, it is believed that community facilities within the area would be likely to gain support from additional development in this area. Such facilities likely to gain support include:

- Englefield and Sheldon Park;
- Belfast Primary School;
- Belfast local shopping area (Corner of Main Road North and Richill Street);
- Major employment areas:
    - Belfast Supa Centa;
    - Northwood New World Shops;

- PPCS Freezing Works and industrial areas to the north east; and
- Christchurch International Airport.

Objectives and Policies for Living zones are covered in Section 11 of Volume 2. **Objective 11.1** deals with diverse living environments. The accompanying reasons for this objective explain that it is to be achieved *"…through providing for different densities and types of housing in defined locations throughout the City…".* The explanation continues of page 11/4 to indicate that fringe suburban areas will accommodate some new urban growth, at a density similar to that of the existing outer suburban area. The intention is further reinforced by **Policy 11.1.2** *"To maintain the general character of the suburban living environment",* and by **Policy 11.1.4** which comments on the provision of varying levels of built density within living environments with reference to the existing character of these areas, the capacity of infrastructure and the strategic objectives of urban consolidation.

Objective 11.6 refers to the conservation and enhancement of living areas. The explanation for the policy recognises the need to seek a balance between conservation, enhancement and residential development. The Council's programme of environmental planning and design to improve living areas throughout the City is identified, along with specific reference to Neighbourhood Improvement Plans.

In essence the policy framework of the City Plan has 'consolidation' as the central tenant with relation to urban growth of the City (not to be confused with rationing urban expansion). **Objectives 6.1** and **6.2** provide the framework for the regulation of urban growth, not the supply. Peripheral urban development is to implement **Objectives 6.1** and **6.2**, and accord to the general criteria within the policies that are contained under **Objective 6.3**, with regard to the particular attributes/merits that each area of expansion would contain. It is noted that the above summary represents the findings of the Environment Court with regard to ***Suburban Estates et al* vs. *Christchurch City Council* C217/2001**.

3.5 Interpretation and application to Belfast

The interpretation and application of these settlement principles, the City Plan and in conjunction with consultation summaries to date, provide for the following principles for urban growth at Belfast:

- *Higher Density Development*
  Significant new development areas should contain at least some high density areas, with an average density of 15 households per hectare.

Figure 8 - Living 3 zone densities at Northwood, Belfast
Moderate to high density developments can have high levels of visual amenity.

- *Community facilities, employment opportunities*
  Significant new development areas should contain or be close to shops, schools, recreational areas, public transport and employment opportunities. This is to provide convenience for residents and reduce car trips and traffic congestion. New business activities should also be created to provide opportunities to minimise journey-to-work trips lengths and create local employment opportunities. This is likely to result in a mixture of industrial activity to the north east, and the opportunity for 'new economy' business activities within any substantial commercial centre, and where benign, within higher density residential areas.

- *Comprehensive development*
  Development areas should be large enough for a range of facilities such as shopping, recreation and community facilities as well as a range of housing densities. Where there are multiple landowners then these will need to co-operate to ensure comprehensive development. Regulatory mechanisms such as outline development plans and cost share schemes should be required to ensure comprehensive development takes place.

- *Permanent Rural / Urban buffer*
  The settlement objectives and the consultation responses favour retention of a clear urban / rural boundary, and keeping Belfast Village as a separate identity from Christchurch itself. The achievement of such a principle would require utilising permanent features, preferably natural, to establish a permanent boundary to the urban area. A 'green gap' of open space should also be maintained and enhanced where possible between Belfast and Christchurch, built around the existing Styx River corridor and its margins.

- *Walkways and cycleways, reduced car trips, public transport*
  New development areas should incorporate and encourage walking and cycling, reduce car dependence and be compatible with extending the public transport network. Proximity to employment opportunities will be an important factor. Open space networks should where possible be linked into a wider reserve network to provide improved pedestrian and cyclist linkages across the Belfast Area to improve accessibility between the component parts of Belfast and provide a viable alternative means to private motor vehicle of accessing large open spaces such as the Groynes and Sheldon Park within the area.

- *New Urbanism*
  Many of the principles referred to above are contained within a concept defined as "New Urbanism". A useful definition of this concept was contained in recent Environment Court evidence by Ms Wendy Morris, a planning consultant from Melbourne *(C169/2002 - Yaldhurst / Masham evidence, appellants Environment Canterbury)*. Ms Morris described the concept as:
  "New Urbanism aims to produce walkable, mixed use communities. At the sub-regional scale, New Urbanism structures urban development into "town centres" with "walkable" neighbourhoods clustering around them to form catchments of people ranging ideally from 15 000 to 30 000 population… Walkable neighbourhoods generally cover about 50ha, an area of about 400m radius, which equates in walking time to about 5 minutes, regarded globally as a feasible distance for walking. Such town and neighbourhood catchments, when structured with interconnecting streets, compatibly mixed uses, and adequate average densities, can support considerable local employment needs locally to reduce off-site travel demands, while being very supportive of public transport."

4. RESIDENT AND HOUSEHOLD DEMOGRAPHICS

This section of the Report briefly sets out the existing resident and household demographics for Belfast, chiefly to provide an implication of the present residential development demand in Belfast.

The population of Christchurch City increased to 348,435 between 1996 and 2006, an increase of some 10%. Belfast grew in size over the same period from 3867 to 7641, an increase of some 100% as shown in Figure 9. This was mainly due to the new Northwood subdivision, which due to its development between 2001 and 2006 accounts for a significant proportion of Belfast's residential growth during this period as shown in Figure 10 which illustrates building consents (by year) for residential developments within Belfast. The total number of households in residential occupation in Belfast as of June 2006 was 2,844, with an average household occupation of 2.7 persons per household (Source Statistics New Zealand Census 1991 – 2006).

On this basis, Belfast had an annual average population growth of 4.2% for the period 1991-1996, less then 1% between 1996 and 2001, and up to 14.5% (average) between 2001 and 2006. The City as a whole had an annual growth rate of around 2.48% for the period between 1991 and 1996, around 0.47% for the period 1996-2001, and of 1.5% (average) for each of the last five years (2001-2006). On this basis it would appear that the demand and take-up of residential development within Belfast is quite high, a trend which is likely to continue should substantial and well marketed and developed residential subdivisions be made available in the area.

Figure 9 – Residential Population Growth for Belfast

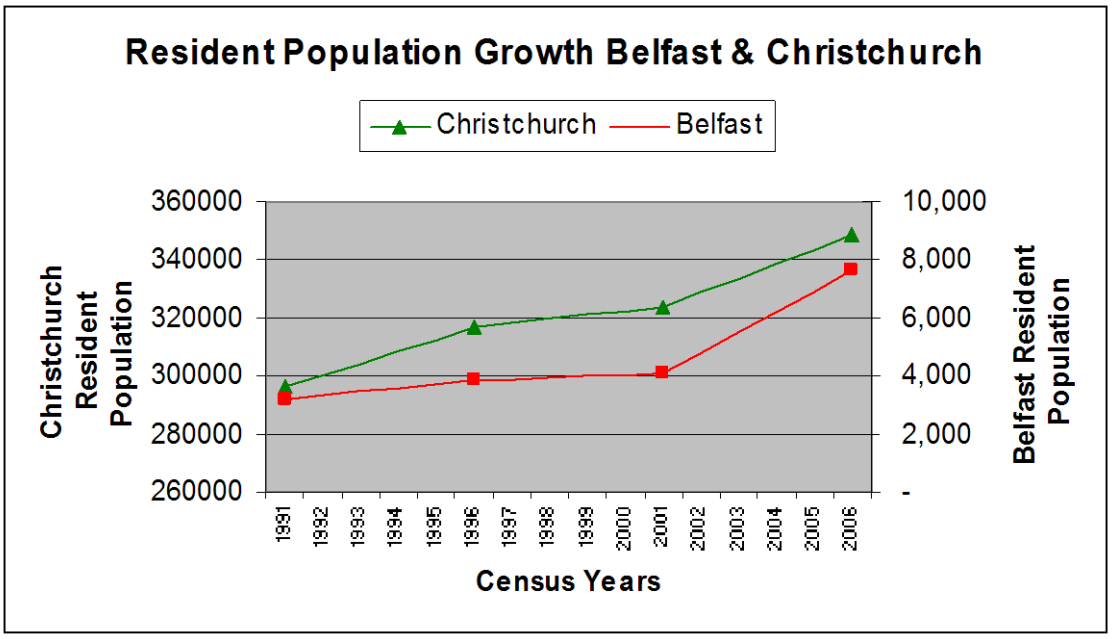
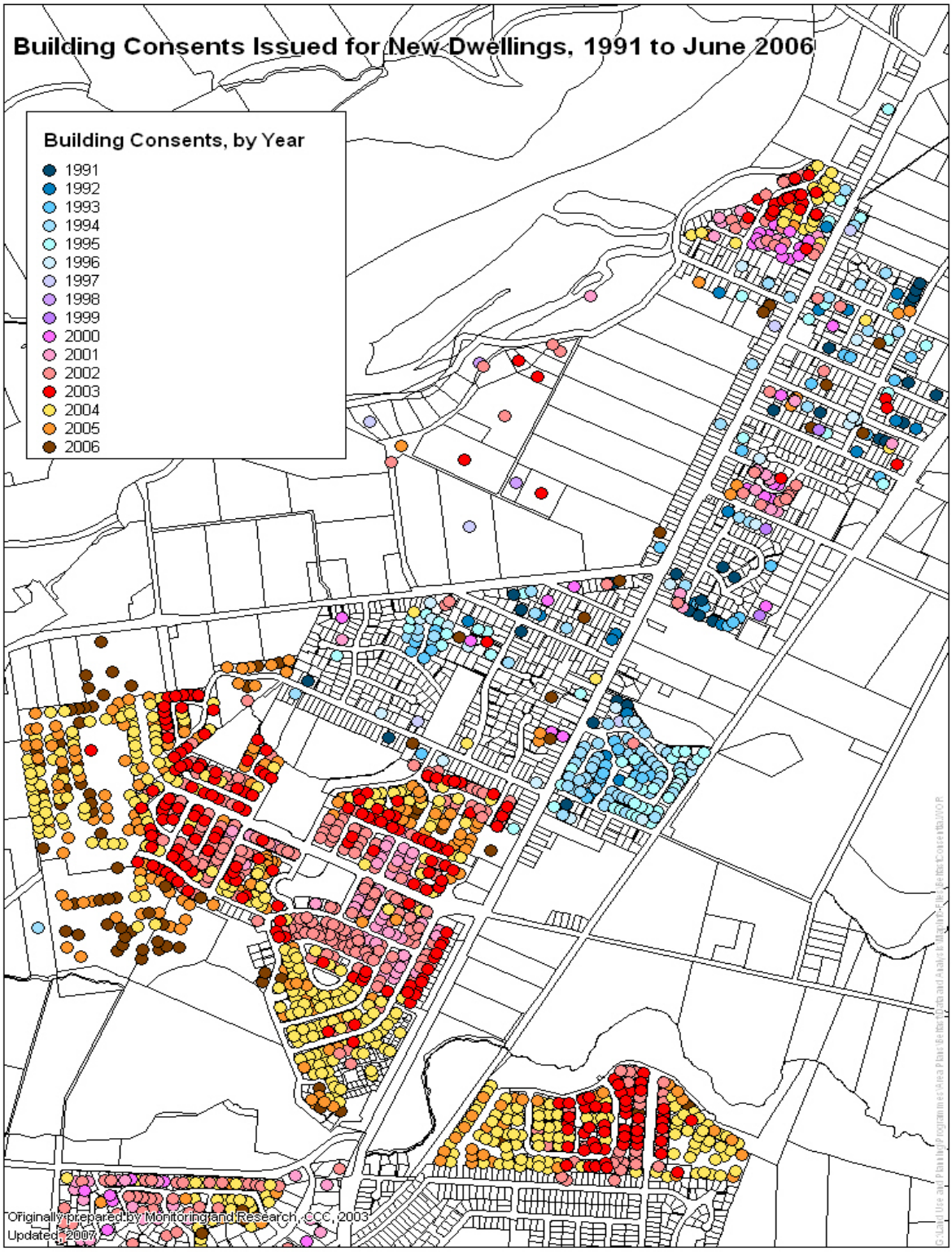


Figure 10 – Building Consents Issued for New Dwellings, June 1991 to June 2006



Source: Christchurch City Council, Building Consent data.

5. LAND-USE OPTIONS FOR AREAS WITHIN BELFAST

The Belfast study area comprises of land which is located on the flat, and has the significant township of Belfast within it, surrounded by rural uses (Figure 1). There are some significant industrial developments within the area, primarily PPCS Freezing works, as well as a commercial node at the Supa Centa.

The UDS has ascribed to the Belfast study area a generic land use pattern to accommodate the types of development as outlined in Section 3.1 of this report. These are spatially identified in Figure 11, but largely consist of:

- Future **residential** development to the south east, central west and south west of Belfast;
- Future **industrial** development to be concentrated in the area to the north east of Belfast, extending into the Chaneys block;
- The provision of **open space** areas to the north and south of Belfast, to provide a green 'gap' between Christchurch and the settlement, extension to the existing Otukaikino reserve, and the provision of substantial esplanade reserves along the Styx River and the Kaputone Stream;
- Future small scale expansion of **business / commercial** development centred on the existing Supa Centa at Radcliffe Road.

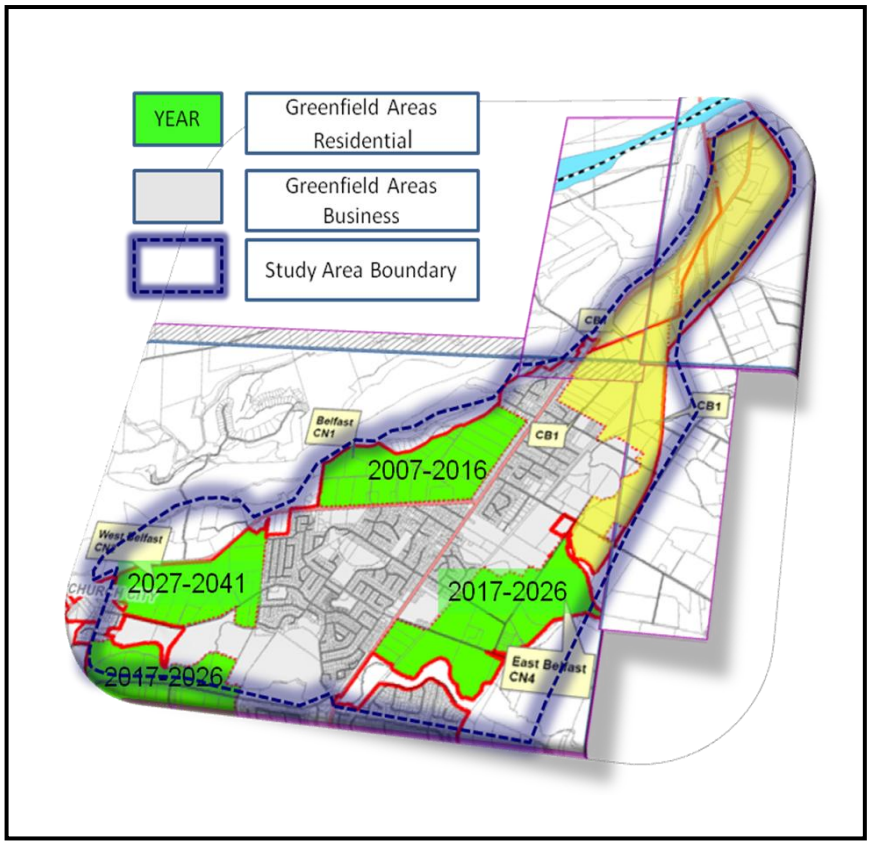
5.1 Spatial Land Use Patterns

Figure 11 provides a cohesive for Belfast as it relates to the greenfield residential and business areas as identified in Proposed Change 1 to the RPS, the resultant land use pattern is referred to as 'Option 1'.

The Christchurch International Airport has submitted on Proposed Change 1 requiring that the application of an amended 50dBA Ldn contour, and the subsequent restriction on 'noise sensitive activities' which includes residential activity within that 50dBA Ldn contour. The imposition of this amended noise contour would result in the reduction of residential yield to the south east of Belfast, this has been identified in Figure 12, and referred to as 'Option 2'.

Figure 13 relates to the spatial sub areas identified in the spatial map for Belfast (Figure 11). These sub-areas have been created for both a practical reason (i.e. given the scale of the study area), but also as a preliminary staging exercise (i.e. pre-empting how rezoning proposals may be defined). The sub-area boundaries either follow those boundaries for the various Zones under the City Plan, or follow major tributaries and/or collector and arterial roads. They do not necessarily relate to cohesive ownership. Figure 13 also sets out the spatial extent associated with each of the Options (Option 1 and 2) as are identified above.

Figure 11 – UDS Land uses as applied to Belfast 'Option 1'



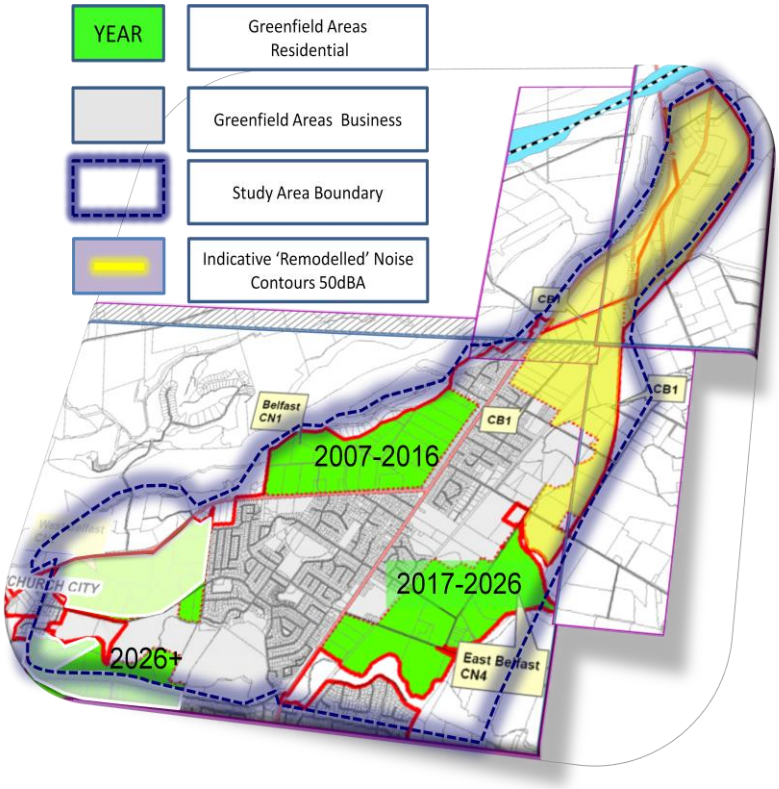
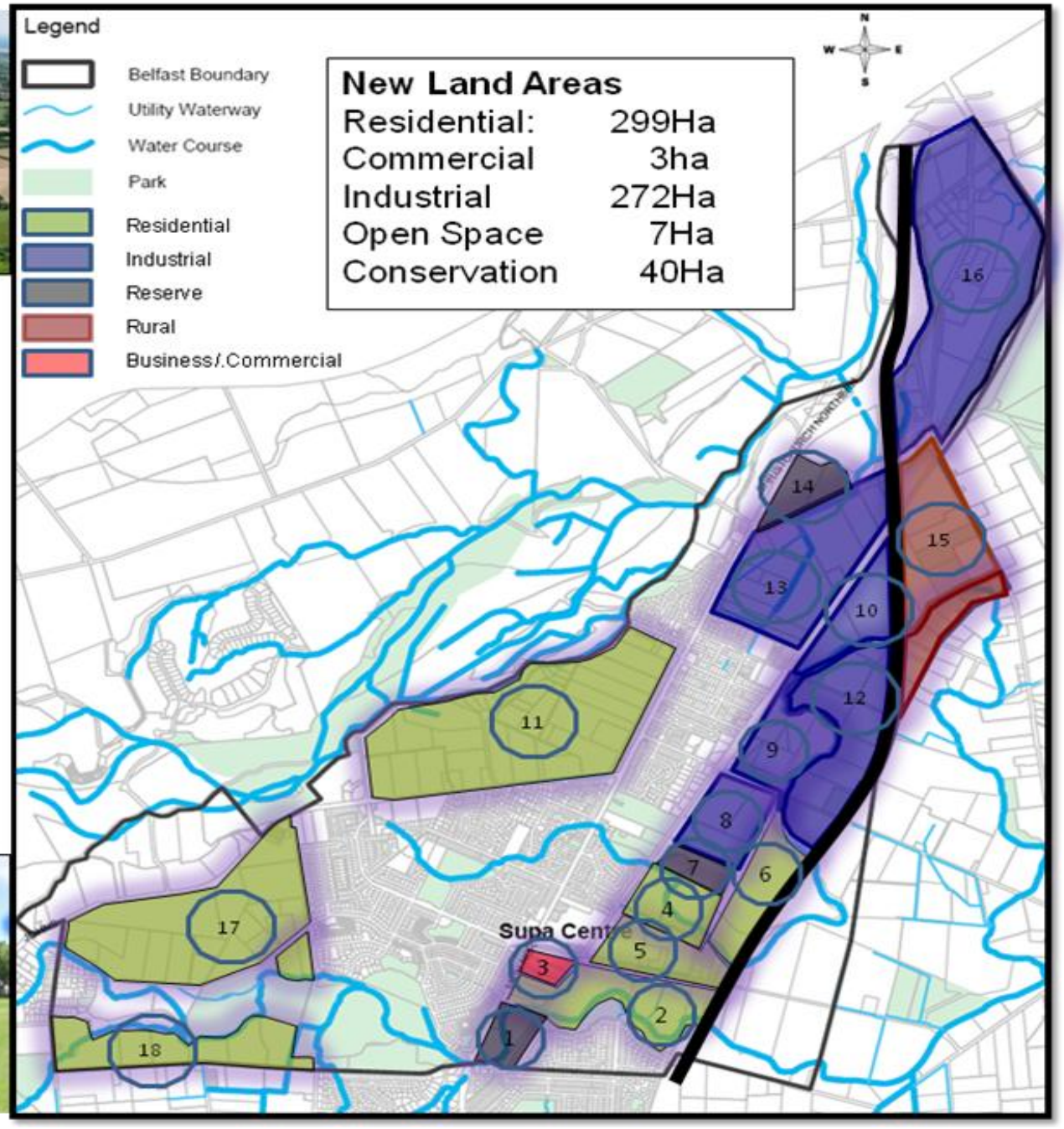


Figure 12 – UDS Land uses as applied to Belfast 'Option 2'

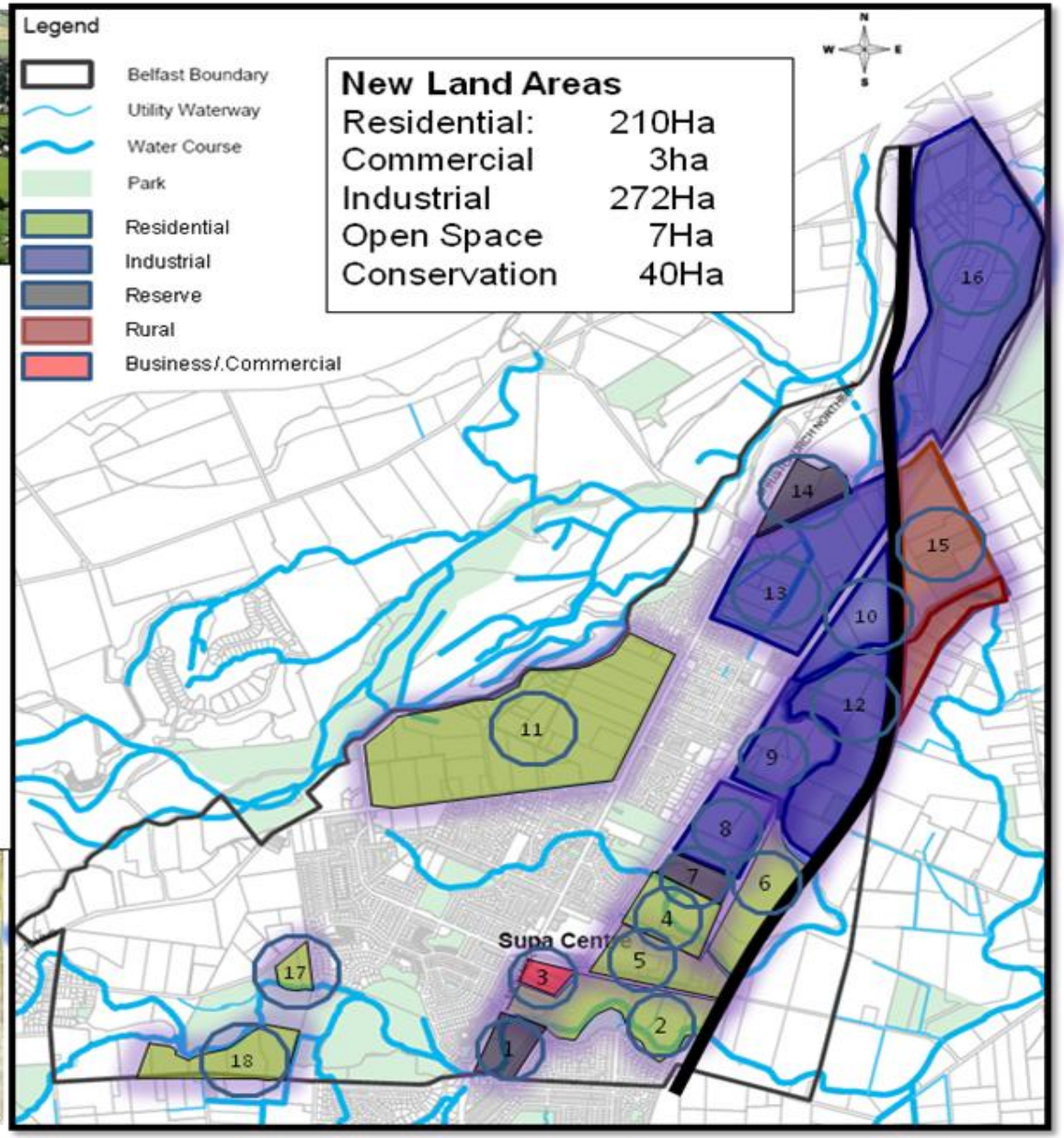
BAP Land use (Option 1)

#1 Extension Styx Reserve 8Ha
#2 Styx North 20Ha
#3 Supa Centa Expansion 3 Ha
#4 PPCS South 15Ha
#5 Radcliffe North 19Ha
#6 PPCS Residential 25Ha
#7 Extension Sheldon Park 7Ha
#8 PPCS Industrial 19Ha
#9 PPCS North 22Ha
#10 Factory Noth 19Ha
#11 Applefields / Devondale 107Ha
#12 Belfast North
#13 Main North Industrial
#14 Extension Otukaikino Reserve 12Ha
#15 Otukaikino 52Ha
#16 Chaneys 106Ha
#17 Hussey North 75.5Ha
#18 Hussey South 32Ha



BAP Land use (Option 2)

#1 Extension Styx Reserve 8Ha
#2 Styx North 20Ha
#3 Supa Centa Expansion 3 Ha
#4 PPCS South 15Ha
#5 Radcliffe North 19Ha
#6 PPCS Residential 25Ha
#7 Extension Sheldon Park 7Ha
#8 PPCS Industrial 19Ha
#9 PPCS North 22Ha
#10 Factory Noth 19Ha
#11 Applefields / Devondale 107Ha
#12 Belfast North
#13 Main North Industrial
#14 Extension Otukaikino Reserve 12Ha
#15 Otukaikino 52Ha
#16 Chaneys 106Ha
#17 Hussey North 4.4Ha
#18 Hussey South 14 Ha



5.2 Land Use Sub Areas and Household Density Analysis

Figure 13 – Belfast Development Sub Areas – Area and potential zoning

Sub-Area Name	Sub area	Option 1 Land Area (hectares)	Option 2 Land Area (hectares)	Potential land use
Extension Styx Reserve	#1	8	8	Open space (Conservation 1)
Supa Centa extension	#2	2	2	Commercial (Business 2)
Styx North	#3	30.8	30.8	Living G
PPCS South	#4	15	15	Living G
Radcliffe North	#5	19.4	19.4	Living G
PPCS Residential	#6	25	25	Living G
Extension Sheldon Park	#7	7	7	Open Space (Open Space 2)
PPCS industrial (static)	#8	19	19	Industrial (Business 5)
PPCS North	#9	22	22	Industrial (Business 4/5)
Factory North	#10	19	19	Industrial (Business 4)
Applefields / Devondale	#11	101.4	101.4	Living G
Belfast North	#12	53	53	Industrial (Business 4)
Main North Industrial	#13	53	53	Industrial (Business 4)
Extension Otukaikino Reserve	#14	12	12	Open Space (Conservation 1)
Otukaikino	#15	52	52	Rural (Rural 3)
Chaneys (dry to serviced)	#16	106	106	Industrial
Hussey North	#17	75.5	4.4	• Living (Living G) – **Option 1**. • Living (Living G) / Rural **Option 2**
Hussey South	#18	32	14	• Living (Living G) – **Option 1**. • Rural **Option 2**
Total Residential		**299**	**210**	
Total Commercial		**2 – 3**	**2 – 3**	
Total Industrial		**272**	**272**	
Total Open Space		**7**	**7**	
Total Conservation		**30.8***	**30.8***	
Total		**610Ha**	**531Ha**	

** Total conservation includes 10.8Ha of additional esplanade reserve along the Styx River.*

Figure 14 sets out basic land-use options for each sub-area, and gives an indication of what the potential household (people) and building carrying capacity each option may have. The capacity figures are structured around the 15 Household / Ha figure provided for in the UDS[10] and as set out in Proposed Plan Change 1 to the RPS '**Policy 11**: Residential Density', but also incorporate the following assumptions:

[10] UDS. 2007. Table 4, page 44. Target density for Greenfield areas.

1. A figure of 15 households per hectare is based on a higher intensity of residential development as provided for by the UDS. A lower household per hectare might be applied, should it be determined that larger areas are required for surface water management purposes.

2. For Sub area #11 'Applefields – Devondale', the Environment Court through Decision C41/2008 have provided a total number of households within this 93 hectare block to 1300.

3. For Sub-area #17 'Hussey North', as it relates to 140 and 150 Hussey Road, Change No.10 to the Christchurch City Plan has amended the zoning from Rural 3 to Living 1, with a resultant low density household yield presumed to be some 10 households / hectare.

4. That 2.6 persons are attributed to each household. It is noted that the persons per household ratio used for this exercise is higher than the 2.4 assumed by Statistics NZ for 2021. A 2.6 household size has been adopted on the basis that typically the demand for Greenfield subdivision will come from families, which have on average, a higher persons per household ratio. However, in recognition of the projected decrease in household size, a 2.4 persons per household ratio has also been provided as a comparison.

5. That 10% of all land area will be required for stormwater detention and treatment facilities, and therefore will be excluded from gross land area. Gross land area includes residential development, as well as associated roading and open space.

6. That future residential development, with the exception of 600 dwellings for the Applefields / Devondale block (refer Decision C41/2008) will be deferred as a result of any delays in the construction and operation of either the Western or Northern bypass. It has also been assumed that once either of the Bypasses are operating (a selected date has been 2013 - 2016[11]) then development can continue.

7. That business and industrial development includes activities which might establish under the Business 4 Zone provisions. Therefore, for the purpose of this exercise, it should be assumed that the business/industrial areas will provide for light to heavy industrial activities. Between 50-80% of each allotment will be covered by buildings and impervious surfaces (adopting the Business 4 Zone standards for plot ratio / landscaping).

8. It is expected that 2 – 3 Ha of commercial development will be constructed adjacent to the existing Supa Centa with a zoning of B2. It is also noted that approximately 1.8Ha of Business 1 type commercial activity is likely to be established in conjunction with the Applefields / Devondale s293 development.

9. That land zoned rural can be subdivided to 4ha minimum area allotments, and each allotment accommodates 2.6 persons per household. 5% of each allotment is expected to be covered by buildings and impervious surfaces (adopting the Rural 2 zone standards for site coverage).

[11] UDS. 2007. Page 38. Key features of Settlement Pattern.

Figure 14 - Alternative Land-use Scenarios for Sub-Areas for both Option 1 and Option 2

Sub-Area Name	RPS Change No.1 Growth Pocket	Sub-Area Land Area	Land Use Scenario	Area removed for stormwater (10%)	Area for Res (ha)	Area for Rural (ha)	Area for Bus/Ind (ha)	Area for Green-space (ha)	No. of households accom. @ 15hh/ha unless stated.	No. of people accom @		Max site coverage area – Res (ha)	Min site coverage area – Bus/Ind (ha)	Max site coverage area Bus/Ind (ha)
										2.6 per/hh	2.4 per/hh			
Extension Styx River		1						8						
Supa Centa Expansion		2	Extension of the Supa Centa and development as a B2 District Centre		N/A		2						1	1.8
Styx North	CN4	30.8	Residential land to be developed North of the Styx River. Significant esplanade reserve (in excess of 40m) will be required along the Styx.	3.0	27.8				*417*	*1084*	*1000*	0.4	N/A	N/A
PPCS South	CN4	15	Residential development. Will be dependent on change of use / zoning from the existing PPCS development. Is likely to be delayed at least until 2010. Issue of contamination will need to be dealt with prior to development.	1.5	13.5				*203*	*528*	*487*	0.4		
Radcliffe North	CN4	19.4	Residential development. Will be dependent on change of use / zoning from the existing PPCS development. Is likely to be delayed at least until 2010.	1.94	17.46				*262*	*681*	*269*	0.4	N/A	N/A
PPCS Residential	CN4	25	Residential development. Will be dependent on change of use / zoning from the existing PPCS development. Is likely to be delayed at least until 2010.	2.5	22.5				*338*	*879*	*811*	0.4	N/A	N/A
Extension Sheldon Park		7	Open space will require access issues across the rail line to be worked through.					7						
PPCS Industrial	CB1	19	Existing industrial. Likely to remain under existing use until 2010. Will then require connection to Council services.				19						9.5	17.1
PPCS North	CB1	22	Existing industrial, with some green field area and close proximity to the Kaputone creek.				22						11	17.6
Factory North	CB1	19	Greenfield industrial, will require some buffer treatment with the Kaputone.				19						9.5	17.1
Applefields / Devondale	CN2	12.1	Area to the north of the Section 293 land which is predominantly developed with a very low density Rural Residential character.	1.2	10.9				*Density 8 HH/Ha = 87*	*226*	*209*	0.2	0.9	1.62
	CN2	93	1.8km would be utilised for commercial activity. The remaining 91.2 hectares would be used for mixed density residential, and also provide for access, roading, landscaping, swales, parks and detention.	9.1	82.1		1.8		*Density as per C41/2008 = 1,300*	*3,380*	*3,120*	0.4	0.9	1.62

Sub-Area Name	RPS Change No.1 Growth Pocket	Sub-Area Land Area	Land Use Scenario	Area removed for stormwater (10%)	Area for Res (ha)	Area for Rural (ha)	Area for Bus/Ind (ha)	Area for Green-space (ha)	No. of households accom. @ 15hh/ha unless stated.	No. of people accom @		Max site coverage area – Res/Rural (ha)	Min site coverage area – Bus/Ind (ha)	Max site coverage area Bus/Ind (ha)
										2.6 per/hh	2.4 per/hh			
Belfast North	CB1	53	Rural 3 with some greenfield / rural land. Used / owned by PPCS. Likely to remain under existing use until 2010. Will then require connection to Council services.				53						26.5	47.7
Main North Industrial	CB1	53	Low lying and will require some detention / hydrological issues to be resolved.										26.5	47.7
Extension Otukaikino Reserve	N/A	12						12						
Otukaikino	N/A	52	To remain Rural.			52								
Chaneys	CB1	103	Developed for dry industry. June 2003 Industrial report indicates that 60Ha are vacant. Connection to services should provide for intensification of existing uses and development of vacant land.											
Hussey North (Option 1)	CN3	75.5	Requires Cranford Street four laning and consolidation of Belfast. Also dependent on substantial esplanade reserve to be created for the Styx River	7.5	67.9				*1,019*	*2,649*	*2,445*	0.4		
Hussey North (Option 2)	CN3	4.4	Imposition of indicative 50 dBA Ldn noise contours would result in the retention of the Rural 3 zoning that currently relates to this area. Plan Change 10 has resulted in the remaining 4.4 Ha to be rezoned as Living 1 with a density of approximately 10 households / Ha. Unconfined aquifer limits other industrial options.	N/A	4.4Ha				*@ 10hh/ha 44*	*114*	*106*	0.4		
Hussey South (Option 1)	CN3 (Part)	32	Component part of CG3 which also include the Upper Styx / Harewood Growth pocket. Requires Cranford Street four laning and consolidation of Belfast. Also dependent on substantial esplanade reserve to be created for the Styx River	3.2	28.8				*432*	*1123*	*1037*	0.4		
Hussey South (Option 2)	CN3 (Part)	14	Imposition of indicative 50 dBA Ldn noise contours would result in the retention of the Rural 3 zoning that currently relates to this area. 14 ha can be developed outside of 50 dBA Ldn noise contours in conjunction with upper Styx area.	1.4	12.6				*189*	*491*	*453*	0.4		

6. LAND USE AND TOPOLOGIES

6.1 Residential (Living Zones)

Relates to:
Areas of the Belfast Area Plan where generally low density development is anticipated with an average density across areas of 15 Households / Ha. These will mainly be stand alone detached dwellings, with smaller sites and more compact duplex and terraced housing at appropriate locations where these relate to neighbour centres, areas of open space, and the main movement network.

Key Outcomes

- A permeable urban block structure that facilitates non-vehicular travel, with close set intersection spacings, and ensuring that the maximum length of cul de sacs is approximately 100m.
- Higher residential densities around activity centres, areas of high amenity and adjacent to the main movement network.
- Residential dwellings that contribute to a high level of visual amenity and function (including safety) for all travel modes. An emphasis on dwelling facades addressing the street is anticipated.
- Provide for a variety of street widths and cross section to suit the respective activities adjoining the street. For local lanes and residential access this may mean a narrower lane of some 8m – 10m than the more traditional 20m currently provided.
- Integrate residential development to the water way and open space linkages existing and to be developed in the area.

Critical Issues

- Density – Density to be provided is generally in the spectrum of a lower density range as identified in the 'building types' diagram in Figure 15.
- To achieve these densities similar provisions to those contained for the Living G zone[12] may well need to be applied. Such provisions would generally therefore be based around the following bulk and location standards:

Density	Site Density	Open Space provision	Height
Highest Density	Average site size 275m^2 to 325m^2. Minimum net site size 250m^2.	50% (without garage less 18m^2)	10m
High Density	Average site size 450m^2 to 500m^2. Minimum net site size 330m^2.	50% (without garage less 18m^2)	10m
Medium Density	Average site size 600m^2 to 650m^2. Minimum net site size 550m^2.	40% (without garage less 18m^2)	8m
Low Density	Minimum net site size 800m^2.	35% (without garage less 18m^2)	8m

- Unit Frontages with living rooms fronting onto the public street, front doors visible from the street, garages less than half the frontage width and setback behind the dwellings front façade.
- All dwellings should be within easy walking distance (no greater than 400m) of a local high quality neighbourhood park.

[12] Refer C105/2006. Canterbury Regional Council, Applefields Ltd vs Christchurch City Council.

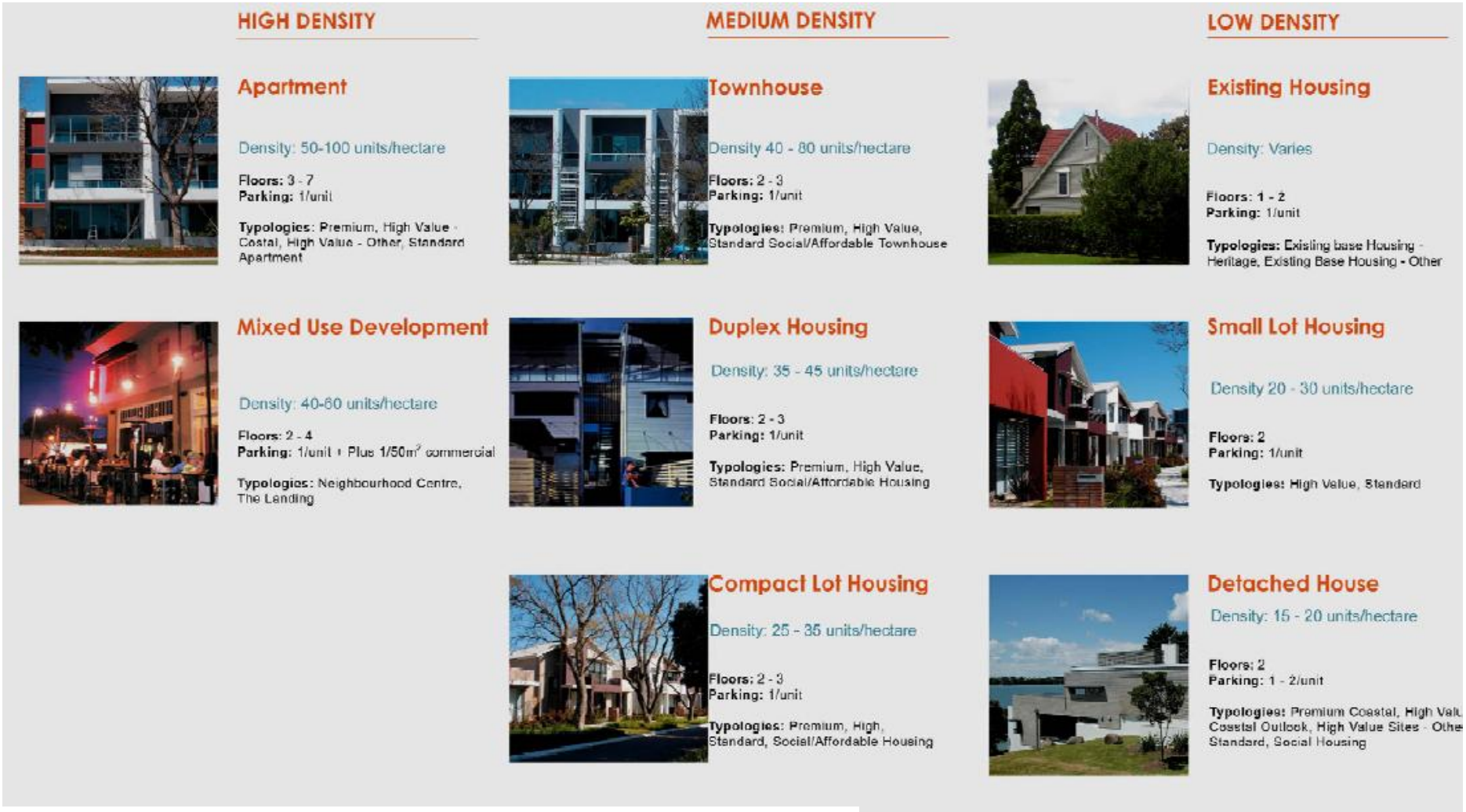
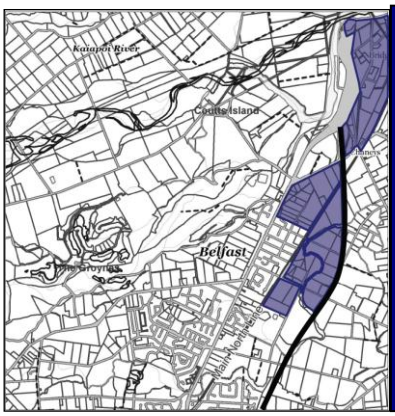


Figure 15 – Housing Choice Types
Source: Reproduced, 2007 NZPI Urban Design Seminar

6.2 Industrial (Business 4 / 5 Zones)



Relates to:
Areas of the Belfast Area Plan where employment uses are anticipated. These will have lower levels of on site amenity, being focused on production activities. These will include larger scale warehouses, manufacturing, storage / distribution and some higher amenity business parks. Ongoing use and development of the existing freezing works site, as well as servicing more efficient development at the Chaney's block (north Belfast) are significant issues.

Key Outcomes

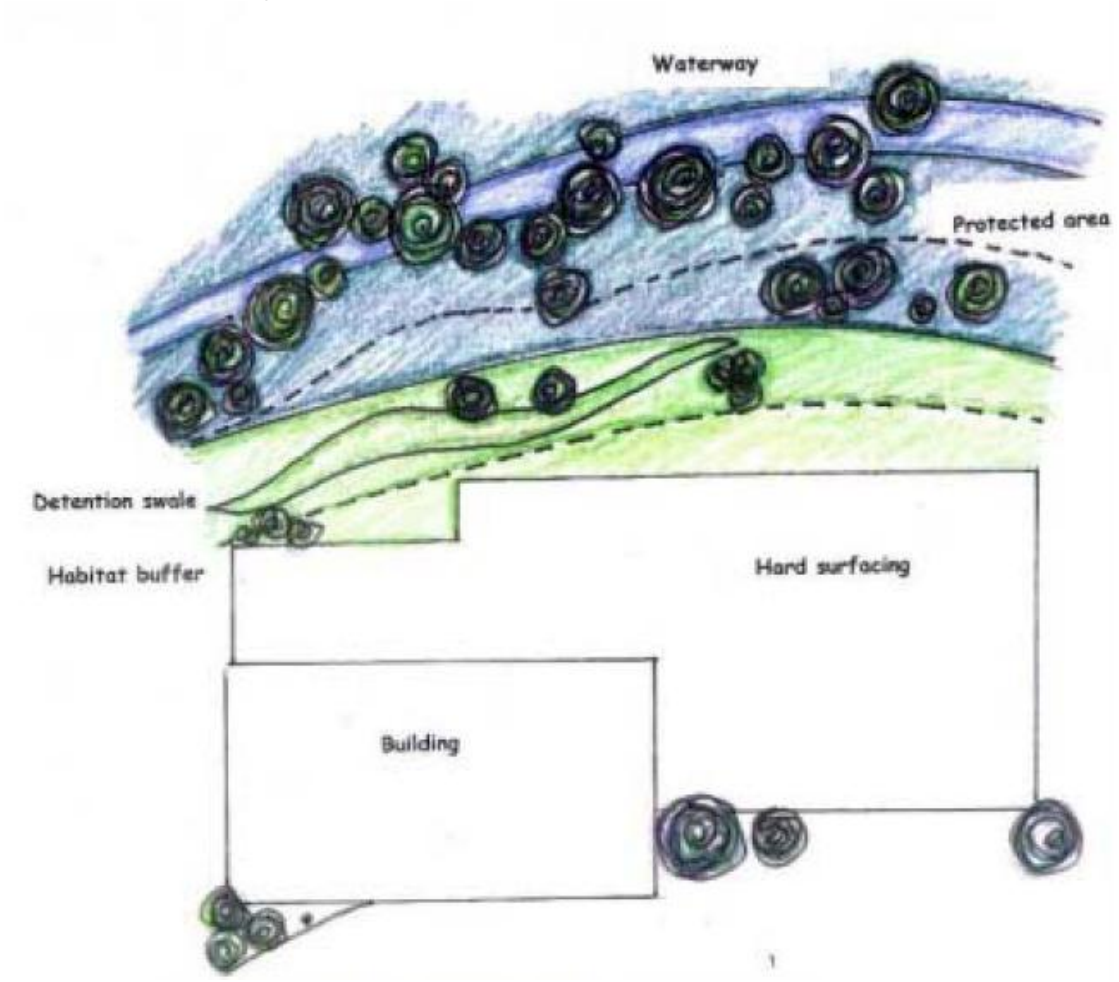
- The provision of employment choice within Belfast.
- Coordinated development that presents the best possible interface to streets and public spaces.
- Large planted and raised landscape buffers between development and the State Highway network.
- Adjoining open space networks to assist in buffering industrial activities from more sensitive land uses.
- Sufficient riparian buffering to ensure a highly maintained water quality and ecological environment for adjacent waterways.
- The enablement of essentially lighter industrial activities (such as warehousing, storage and distribution) for new industrial locations, recognising that some heavier industrial activities may need to be accommodated / retrofitted into the historical industrial areas of Belfast.
- A focus on landscaping and façade modulation to ensure the visual presence of industrial activities promotes a moderate level of on site amenity.

Critical Issues

- On site Amenity treatment:
    - Office areas / entrances should be located to the front of the site.
    - Ranges of materials, colours and finishes should be used to enliven large, blank facades, where there is a continuous building façade facing the street of more than 40m.
    - The majority of car parking and all storage areas should be located at the rear of sites.
    - Landscaping should be used to break up car parking areas, delineate pedestrian areas, and break up large blank facades where these face the street.

- Off-site Amenity treatment.
    - Considerable raised and landscaped areas should be provided for those sites that have frontage, or direct line of site, to the State Highway network.
    - Considerable landscaped buffer treatment should be provided to ensure highly maintained water quality and ecological environment for adjacent waterways (refer Figure 16).

Figure 16 - Waterway Buffers for Industrial Land use activities



1 *A broad protected area lines both sides of the river. Includes tributaries, wetlands and associated springs. Enhance these areas for ecological values. This area may be an esplanade reserve in public ownership, esplanade strip or setback, or under a long-term protection agreement such as a conservation covenant. May be important issues in regard to previous industrial land uses for example the examination of fill areas.*

2 *Buffer Area – Strip provides a buffer for the riparian area and may also provide an area for the mitigation of effects from the neighbouring land uses activities. For example, any surface and stormwater run off which is not required to be treated through trade waste, can be retained and undergo appropriate first flush treatment in a detention swale.*

3 *Hard surface should be designed to minimise the amount of run off directly to waterways. Areas between the industrial area and natural habitat are fenced, where possible with transparent fencing (chained bollards etc..) to allow the area to be seen from the industrial activity.*

Source: Reproduced – J Keller, 2004. Natural Values – Belfast Area Plan

6.3 Reserve (Open Space / Conservation Zones)

Relates to:
Areas of the Belfast Area Plan where significant vegetation, iwi values, landforms, waterways and margins, and active and passive recreational open space exist. Their retention and integration into the Area Plan will be a key method of: providing character and a sense of amenity to residents and users; maintaining and enhancing natural values and mitigating urban development impacts (such as first flush treatment areas); and providing locations to maximise residential development.

Key Outcomes

- Green gap between Belfast and Christchurch City.
- High amenity and linked reserve network within Belfast.
- Publicly accessible open space within no greater than 400m walking distance of all new development.
- Retention and enhancement of existing overland (secondary) flood path alignments.
- Retention and enhancement of some of Belfast's natural history. This includes consideration of cultural values, as well as the areas traditional industrial and horticultural (i.e. planted windbreaks) setting.
- Integrated stormwater management swales into all arterial and collector streets with street trees and detention areas.
- Substantial esplanade reserve adjacent to all waterways, but in particular the Styx River.
- Street frontage along at least one side of all rivers and wetlands, alongside a minimum half of the frontage of other open spaces.
- Higher residential densities adjacent to significant areas of open space or adjacent to all rivers and wetlands.

Critical Issues

- Provision of a public open space facility within 200m (for a linkage) to 400m (for a reserve) walking distance of all new developments.
- Provision of substantial esplanade reserves of a minimum of 40m in width adjacent to the Styx River, noting that such a reserve may well exceed 50m in some locations in order to accommodate stormwater facilities or ecological values.
- The ability to utilise a reserve network to provide alternative transport options (such as cycling and walking) in linking existing strategic reserves, such as the Groynes, Clearwater and the Styx Conservation area.
- Provision of formal reserves to accommodate the growing populations demand for sports fields.
- Provision of soft and hard landscaped neighbourhood parks to provide essential local amenity.
- Provision of an increased conservation estate, specially relating to the Styx River Corridor and the existing Otukaikino Reserve.

6.1 Commercial / Business (Business 2 Zones)

Relates to:
The Area of the Belfast Area Plan where significant commercial developments are anticipated. This area will predominantly consist of 1 – 2 level retail, commercial and leisure activities, centred around the existing Supa Centa commercial infrastructure.

The issues raised may well also be relevant to the provision and maintenance of the existing convenience (Business 1) zoned areas of Belfast.

Key Outcomes

- Fine grain street based retailing, with a strong convenience – leisure offer in comparison to the predominantly large format retail presence currently in Belfast.
- Activities that 'spill out' onto the street where footpath widths allow.
- Customer and staff parking located on site, provided at the rear of uses, so that such utilitarian activities do not have a strong presence to the road frontage.
- Maximised connections with the existing Supa Centa, and developing residential areas, including any residential development to the immediate south of the site.
- A network of internal streets and open spaces to encourage internal walking and gathering spaces.
- Stormwater swales, water detention and landscape planting in and around the car parking areas to provide green fingers linking to an enlarged Styx River corridor.
- Landscaping and screening to mitigate any bulky buildings where visible from public streets.

Critical Issues

- Retail vitality – Ensuring that the vitality of the centre by enabling a maximum diversity of choice and quality, within a well designed urban centre that conveys a high sense of ownership and amenity to the people of Belfast. Mixed uses which lead to plenty of activity at different types of the day would also help to create a safer environment.
- Linkages – Developing strong pedestrian / cyclist linkages need to be provided to connect to Northwood, the existing Supa Centa, the Styx Corridor and residential development to the east of the adjoining railway corridor.
- Diversity of Business – Encouraging not only retail and leisure activities to be accommodated, but also office and 'new economy' uses to provide employment opportunities for the likely growing proportion of those employed in commercial and professional services in the area.
- External amenity
    - Buildings will need to address the street by having main entrances, doors and windows that overlook adjacent streets, and avoid blank walls and high fences;
    - There should be a variety of building height and style, and buildings at a human scale;
    - No buildings should be visible from the low lying land adjacent to the Styx River corridor;
    - Buildings should set back at least 20m from the remainder of the frontage, with the first 10m planted[13];

[13] J Reeves. 2007. Context Urban Design.

- Buildings should be preferably screened by landscaping, with the addition of a road side planted swale fronting Main North Road to enhance amenity.

7. LANDUSE AND PHASING

From these various land-uses identified, a picture of a possible land-use scenario can be built. Using this scenario, it is possible to gauge the level of population growth this area may accommodate, and how many years of growth this land-use scenario would accommodate. The conclusions are that under this scenario are:

1. The additional number of households that will be accommodated if Belfast (or part of) is to be developed to at a rate of 15 houses / Ha (on average), is 3,972, or 10,000 people based on a ratio of 2.6 persons per household, or 8,700 people based on a ratio 2.4 persons per household for **Option 1**. It should be noted that the yield times for the staging of development is heavily dependent on infrastructural roading issues, with all residential development being dependent on the development of the Northern and Western Arterials.

   With regard to **Option 2** the total new dwelling yield is 2840. In terms of total number of persons, this equates to 7161 at 2.6 persons per household and 6022 at 2.4 persons per household respectively.

   The predicted household growth for the Christchurch UDS area is 48,800 households between 2006 to 2026, and a population increase of 87,800 (refer Figure 3). The Christchurch proportions of this growth are 33100 households[14], and approximately 77785 residents[15]. Under **Option 1**, the Belfast area can cater for 12.8% of the total population growth in Christchurch during 2007 to 2026 (at a 2.6 person / household ratio), or more explicitly 9.1% of the greenfield households predicted during this period. However, much of this potential will not become available the later part of this planning period.

   Under **Option 2**, Belfast's ability to absorb the total demand to 2026 within Christchurch decreases to 9.4% of the population (at a 2.6 person / household ratio), and 7.7% of the households.

2. Approximately 272ha of land will be developed for business and industrial purposes, although it acknowledged that as much as 106Ha (Chaneys/ PPCS) is already developed. An average of 22.34ha of vacant industrial land City wide is developed each year[16], although it is acknowledged that historical rates in the north are lower. These rates of take up will be overly high as it contains the inclusion of retail development within Industrial areas with the more liberal Business 4 provisions up until August 2004. On this basis, this scenario would provide for over 12.17 years of industrial growth in Christchurch. It is expected that much of this demand will be delayed until the servicing is provided to the Chaney's block in late 2008, and the potential redevelopment of the PPCS Factory post 2010. Substantial take up is not expected to occur until one of either the bypass options are developed in 2012.

Phasing assumptions

A. Traffic congestion is such that only 600 dwellings (refer Environment Court Decision C41/2008) of residential development can occur until either of bypasses are operating. It is expected that this will occur by 2010. Traffic modelling may also reveal the ability to provide for minor residential development within the Styx North area between 2010 and 2016.

[14] UDS. 2007. Table 2 – Stragegy Household Growth Projections, 2006 – 2041.
[15] At a household formation size of 2.35 persons / household.
[16] P Cook. 2006. Table 2. Statement of Evidence. Retail Variation – Industrial Land Evaluation.

B. The first development will be at the Applefields / Devondale block, and the 600 dwellings allocated will be taken up in this development starting at the corner of Johns Road / Main North and phased towards Rosebank. The residual developments will be deferred until the construction of either bypass.
C. The Hussey North block will not be developed until the Cranford Street four laning has occurred, and development has concentrated around Belfast.
D. There is a time delay of 3 years between the when an area is zoned for development and its uptake. It is expected that uptake rates will be at 33.3% per annum (based roughly around Northwood).

Figure 17 – Growth curve for sequencing of residential development areas in Belfast

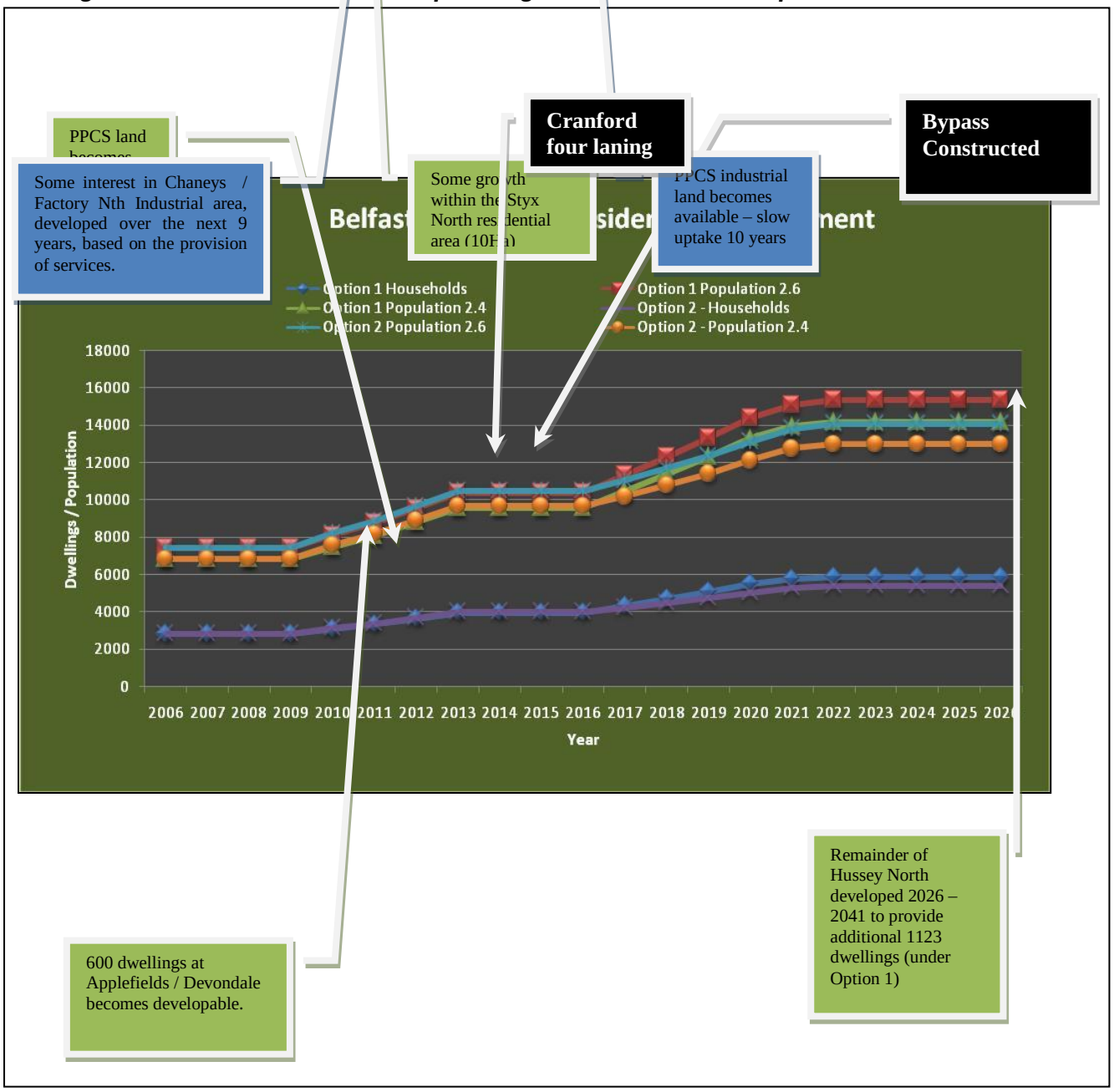


Figure 18 – Possible sequencing of residential development areas in Belfast: Option 1

Year	Households (Option 1)	Population 2.6 / dwelling	Population 2.4 / dwelling	Infrastructure / Comments
2006	2853	7641	7641	
2007	2853	7641	7641	
2008	2853	7641	7641	
2009	2853	7641	7641	600 dwellings to be released at Applefields 44 dwellings to be made available at Hussey Road
2010	3119	8109	7641	Approximately 350 dwellings released at Styx North / Radcliffe North
2011	3369	8759	8086	PPCS Factory ceases operation.
2012	3669	9539	8806	
2013	3989	10371	9574	
2014	3989	10371	9574	Northern Bypass construction commences
2015	3989	10371	9574	
2016	3989	10371	9574	Northern Bypass operating
2017	4361	11339	10466	
2018	4741	12327	11378	PPCS Land able to be developed
2019	5121	13315	12290	
2020	5543	14412	13303	
2021	5807	15098	13937	
2022	5907	15358	14177	
2023	5907	15358	14177	
2024	5907	15358	14177	
2025	5907	15358	14177	
2026	5907	15358	14177	
2041	6911	17969	16586	Hussey South Developed

Figure 19 – Possible sequencing of residential development areas in Belfast: Option 2

Year	Households (Option 2)	Population 2.6 / dwelling	Population 2.4 / dwelling	Infrastructure / Comments
2006	2844	7641	7641	
2007	2853	7641	7641	
2008	2853	7641	7641	
2009	2853	7641	7641	600 dwellings to be released at Applefields 44 dwellings to be made available at Hussey Road
2010	3163	8224	7591	Approximately 350 dwellings released at Styx North / Radcliffe North
2011	3413	8874	8191	PPCS Factory ceases operation.
2012	3713	9654	8911	
2013	4033	10486	9679	
2014	4033	10486	9679	Northern Bypass construction commences
2015	4033	10486	9679	
2016	4033	10486	9679	Northern Bypass operating
2017	4253	11058	10207	
2018	4503	11708	10807	PPCS Land able to be developed
2019	4753	12358	11407	
2020	5053	13138	12127	
2021	5317	13824	12761	
2022	5417	14084	13001	
2023	5417	14084	13001	
2024	5417	14084	13001	
2025	5417	14084	13001	
2026	5417	14084	13001	
2041	5693	14802	13663	Hussey South Developed

8. CONCLUSIONS

The purpose of this document is to provide a preliminary land use scenario for the future development of the wider Belfast Area. **It is not an outline development plan, nor the Belfast Area Plan. It should also be noted that potential development yields may likely be reduced due to the implementation of the Greenprint, particularly adjacent to the Styx River Corridor.**

This document is set out in relation to the general City Plan urban growth development objectives as analysed by the Environment Court *(Suburban Estates et al vs. Christchurch City Council C217/2001)*, and taking into account the growth pocket projections as outlined in the Urban Development Strategy for Metropolitan Christchurch as have been provided a statutory context through Proposed Change No.1 to the Regional Policy Statement.

The scenario outlined in this document, acknowledging that there may be others, demonstrates that it is possible to achieve the environmental outcome anticipated for the area in terms of the City Plan, UDS and relevant Regional Council statutory objectives (such as protection of the Aquifer). Furthermore, it embodies a number of qualities set out in the New Zealand Urban Design Protocol[17].

The main components of this scenario are:

- A range of housing types and densities, to ensure a range of housing choice whilst achieving an overall density of 15 households / Hectare.
- High density housing to be provided in close proximity to green space, an substantial esplanade reserve adjacent to the Styx River or the enlarged commercial centre;
- Provision for a neighbourhood shopping centre to serve existing and new residents;
- The provision for employment opportunities by enabling the expansion of light industrial activities to the north and north east.
- A development pattern which is capable of being developed in a sequential fashion and provides certainty for the forward planning of infrastructure, including the State Highway network.

Further analysis in the preparation of the Area Plan will evaluate this scenario, including obtaining responses on its application from the wider Belfast community. Such analysis will also examine how this scenario can be integrated into:

- the wider Greenprint (open space network);
- Transport network (including walking and cycling);
- Blue network (stormwater facilitates and detention areas); and
- methods, including regulation for achieving an urban environment with a high degree of amenity and functionality.

[17] Ministry for the Environment. 2005. Urban Design Protocol.

BIBLIOGRAPHY (References)

1. **People + Places + Spaces: A Design Guide for Urban New Zealand**, Ministry for the Environment, 2002;

2. **Greater Christchurch Urban Development Strategy,** Combined Christchurch Councils and Transit NZ, 2007.

3. **Suburban Estates et al vs. Christchurch City Council C217/2001.**

4. **Statement of Evidence.** (before the Christchurch City Council in relation to Variation 86 Hearings), produced by Peter Cook, 2006, Register Valuer – Simes Ltd;

5. **Statistics New Zealand,** Census Data. 2006.

6. **Christchurch City Plan,** Christchurch City Council, Operative November 2005.

7. **Belfast Area Plan (Consultation)** - Preliminary Urban Consultation Results from Seminar Belfast School and Mail Outs. 2003 / 2004.

8. **Belfast Area Plan (Consultation)** - Preliminary Rural Consultation Results from Mail Out and interviews with Belfast Rural Landowners. 2007

9. **Belfast Area Plan – Natural Values Phase I Report,** J Keller, Draft 2004.

10. **Housing Choice Types,** Reproduced from Slide May 2007 NZPI Urban Design Seminar, C/- Viv Heslop and Boffa Miskell.