WAINUIOMATA NORTH DEVELOPMENT FRAMEWORK

Prepared for Hutt City Council to inform a future Structure Plan and Plan Change process

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HUTT CITY
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EXECUTIVE SUMMARY

A priority for Hutt City Council is facilitating an increase in housing supply to meet the predicted needs of population growth, particularly affordable housing both in established areas of the City as well as greenfield development in suitable areas at the urban edge. Wainuiomata North is one such priority greenfield location, identified in the Council's Urban Growth Strategy 2012-2032.

The growth strategy, the National Policy Statement on Urban Development Capacity and recent market-driven housing demand in Wainuiomata have resulted in the need for the Council to initiate the production of a development framework for Wainuiomata North. The framework sets out a pathway to realise opportunities for the comprehensive and integrated development of Wainuiomata North, to increase the supply of housing (including affordable housing), and to make efficient use of land and infrastructure.

The proposed Wainuiomata North Development Framework was identified during an inquiry-by-design workshop process with cross-Council representatives, key stakeholders and consultants. Taking Council's existing policy direction and vision for Wainuiomata North as a starting point, the workshop focused on:

- identifying the two most feasible development options and a supporting concept master plan for the land.
- understanding the urban form, socio-economic and sustainability implications of development.
- identifying opportunities to add value, leverage investment benefits, improve social and economic outcomes and add to the success of Wainuiomata and the City generally.
- discussing staging considerations and delivery mechanisms so Council can consider risk and uncertainties and put in place an enabling planning framework.

The main outcome of this project is to give clear direction to the form future development could take in Wainuiomata North underpinned by best practice urban design principles. This will be best achieved by pursuing a mixed-density development option. That would enable a wider range of housing and varying levels of density, providing more choice and a quality living environment.

It is anticipated that the Council will subsequently prepare a structure plan to guide its decision making on rezoning and infrastructure investment followed by a Resource Management Act plan change process.

FRONT COVER IMAGE: Wainuiomata North study area (HCC, 2017)
ABOVE: Wainuiomata North area, Wainuiomata, Lower Hutt (HCC, 2017)

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1 INTRODUCTION

1.1 ABOUT THE PROJECT

The National Policy Statement on Urban Development Capacity requires local authorities to provide zoned and serviced land to accommodate housing growth over 3, 10 and 30-year horizons. Hutt City Council's (HCC) Urban Growth Strategy 2012-2032 (UGS) aspires to 6,000 more dwellings and 10,000 more residents in the City by 2032. To meet these population targets and requirements, Council is actively pursuing options for residential intensification in established areas of the City as well as greenfield development in suitable areas at the urban edge. The NPS also requires Councils to more generally promote choice, the efficient use of urban land, and the benefits of urban development.

In this context, it is recognised that growth will continue in greenfield fringe areas of the City, and an area of Rural Residential, Hill Residential and General Residential zoned land within Wainuiomata - Wainuiomata North presents an opportunity to support Council's growth imperatives. It is anticipated that Council will in time undertake a structure plan to guide its decision making on rezoning and infrastructure investment followed by a Resource Management Act plan change process. The main outcome of this development framework project is to give clear direction to the form future development could take through the preparation and evaluation of development options and a concept masterplan underpinned by best practice urban design principles.

1.2 PROJECT AREA

The Wainuiomata North study area covers an area of approximately 136 hectares (ha) as shown by the black line in the locality plan map (Figure 1). The area is located north of Wellington Road and Wise Street and is centred around Upper Fitzherbert Road. The area currently consists of 50 lots which range in size from 0.06ha to 9.8ha[1] and are owned by 36 landholders. The area is predominately a rural area and is surrounded by significant hills and associated bushland. The area is also known as the Upper Fitzherbert Area in the Council's UGS. The area comprises the northern end of a long linear valley enclosed by the hills.

[1] For the smallest and largest lot sizes calculation, only the area of the property found within the study area boundary are included, as some properties are only partly contained by the study area.

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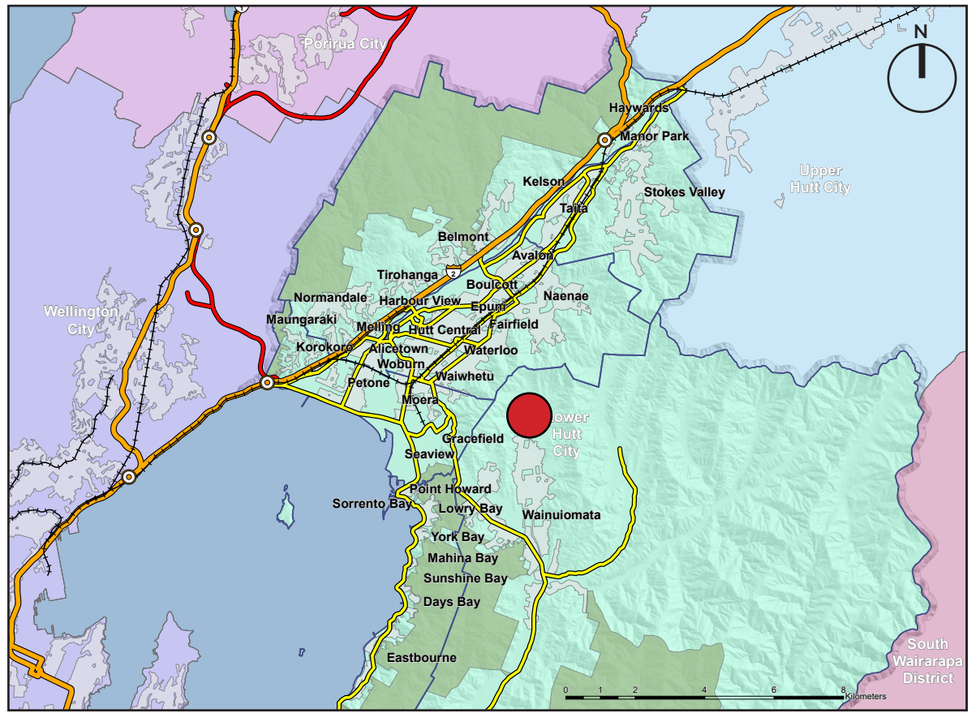

Figure 1: Wainuiomata North location plan (location marked by a red dot)

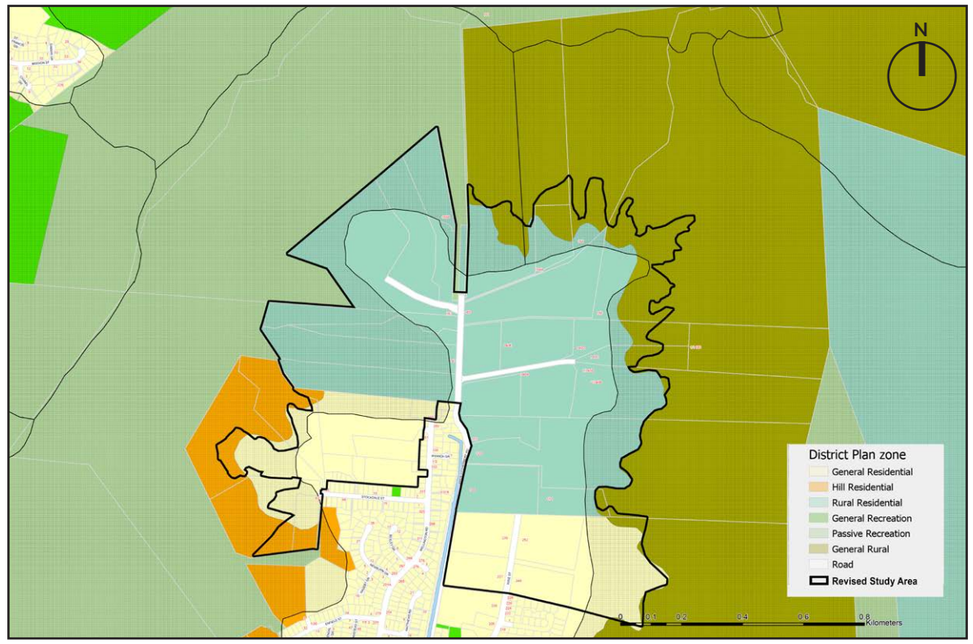

Figure 2: Wainuiomata North zoning under the Hutt City Operative District Plan
Source: HCC, 2017.

Current zoning

The study area is predominantly zoned Rural Residential with some southern areas zoned General Residential and Hill Residential under the Hutt City Council Operative District Plan (Figure 2). The land surrounding the study area to the east, west and north are zoned Rural and Passive Recreation and is subject to a Significant Natural Resource (SNR) overlay.

Project history

Background planning documents

Wainuiomata North land has long been identified for urban development. Dating back to 1976 under the Hutt County Council Approved District Scheme Review No. 2 prepared under the Town & Country Planning Act 1953, Wainuiomata North land was earmarked for residential purposes along with a proposed hospital, primary school, secondary school, a discrete area of commercial activity, and a future road connection north towards Naenae (Figure 3). This District Scheme was operative until the Proposed District Plan was notified in December 1995 which rezoned the majority of the land to Rural Residential.

Following this, the UGS published by Council in March 2014 identified the Wainuiomata North area as greenfield land suitable for moderate to large scale residential development. The Council's original intention was to enable all the land in the Upper Fitzherbert area to be available for development – around 60 hectares of land with potential for around 1,500 new dwellings (UGS, page 30). However, a number of the existing lifestyle land owners objected to completely opening up the area and Council resolved to make only 27 hectares of land available for development.

The UGS envisages the area as:

> "*a mixed community offering a range of housing and densities; from retirement housing and affordable housing for first home buyers through to premium housing with large sections, nestled in and around the beautiful bush and wilderness surrounds. A small number of sites will also be set aside to accommodate local shops and services.*" (UGS, page 30).

Since identification as a growth area in the UGS, a number of specialist independent studies have been subsequently undertaken to assess the potential of the area. This body of work has informed this development framework.

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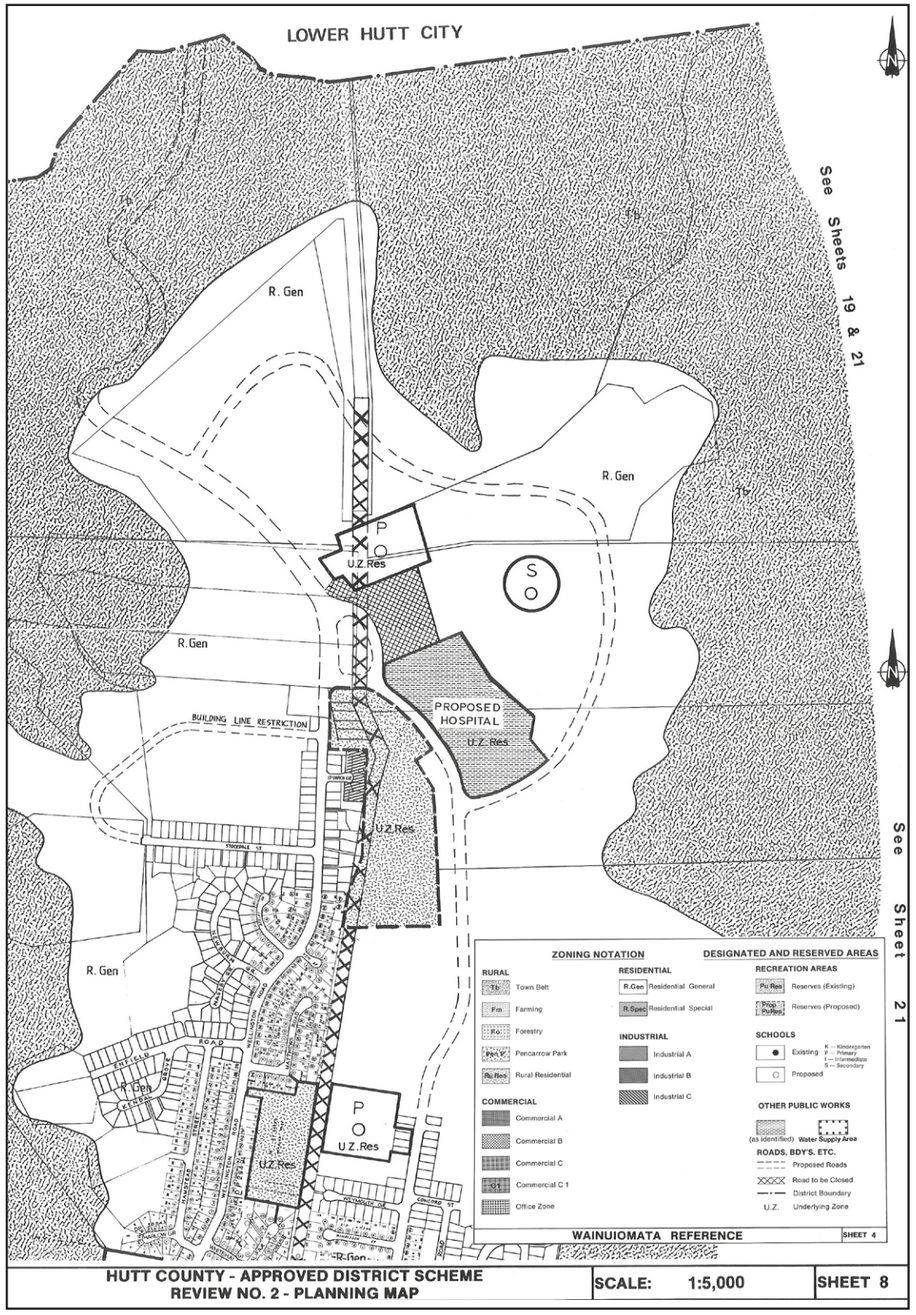

Figure 3: Wainuiomata North zoning under the Hutt County Council Approved District Scheme Review No. 2

Source: HCC, 1976.

1.3 PROJECT METHODOLOGY

The Wainuiomata North Development Framework is the culmination of a three-day technical workshop held in Lower Hutt during 21-23 November 2017. Facilitated by Ian Munro (project lead), the workshop consultant team included Steve Thorne (master planner), Mike Cullen (centre specialist) and Nicola Tagiston (urban design and planning). The workshop was attended by both internal and external stakeholders including representatives from Hutt City Council, Greater Wellington Regional Council, Ministry of Education, Wellington Water and Iwi. Refer to Appendix 2 for a full list of workshop attendees.

Workshop participants numbered around 15 participants per day from various technical disciplines including transport planning, urban design, strategy and planning, resource consenting, community services, parks and gardens, and three waters management.

A summary diagram of the key stages and milestones is included as Figure 4.

1. Site, context and market analysis – understanding the environment
Identification of the key characteristics of the land, key opportunities and constraints presented by the wider context, and determining the spatial extent and form of the future development area. This included analysis of relevant data, preferences, priorities and approved / proposed subdivisions within the wider area.

2. Development options – high level land use concepts for the precinct
Indicative layout of major roads, nodes, residential opportunity and potential development yields. This included confirmation of key parameters of the options and identification of a preferred option.

3. Concept Masterplan – detailed development concept for the area
Testing a comprehensive and detailed development concept illustrating one preferred option for how the area could be developed.

4. Structure plan principles – staging and regulatory considerations
Analysis of development logic, staging and regulatory framework considerations for a future structure plan process.

Figure 4: Spatial design stages and milestones

The workshop process
Workshop Day 1 – 21 November

Outcome: A shared appreciation of the constraints and likely directions of the project.

- project briefings from key technical departments and stakeholders on pertinent local, city-wide and regional issues and considerations. These presentations are included as Appendix 3.
- site visit to Wainuiomata North precinct study area and key points of reference in Wainuiomata and adjoining suburbs including stops at the Wainuiomata town centre, Norfolk Street shops, Arakura Park, local schools and newly constructed/ approved residential developments.

Workshop Day 2 – 22 November

Outcome: Working though assumptions and preferences to identify key structuring elements, land use options and a preliminary concept master plan.

- validate the Wainuiomata North precinct study area boundary.
- evaluate demand for retail and the role of existing centres and possible establishment of a new centre as a consequence of population growth in Wainuiomata
- evaluate demand for a new Primary School and the capacity of existing schools in Wainuiomata.
- high level evaluation of growth and strategic access options on Wainuiomata and its socio-economic performance.
- preparation of provisional land use options and development yields.

Workshop Day 3 – 23 November

Outcome: Finalisation of the concept master plan and summation of the workshop process, options, inputs and next steps for the project.

- assessment of the relative costs and benefits of the two development options in the growth area against agreed principles to confirm a preferred option.
- finalise concept master plan.
- commence identification of best practice principles and planning mechanisms needed to deliver the vision.
- presentation to Council senior managers and Councillors.

Benefits of a workshop process
The Council supported a workshop-based design-led process that cycled between strategic and detailed considerations. This process allowed the project team to make local decisions informed with an understanding of likely strategic outcomes and vice versa.

The local and technical knowledge of workshop participants enabled a significant amount of information to be canvassed over a relatively short period of three days. The workshop encouraged a high degree of active participation amongst local and regional authority representatives and consultants. This meant a wide range of issues and development complexities were able to be explored, with the preferred development option achieving broad support and ownership amongst participants.

The concurrent preparation of a concept masterplan during the workshop substantiated and further articulated the preferred development option, and demonstrated how many of the built form qualities sought by the Council could be accommodated.

WORKSHOP IN ACTION

1.4 PROJECT TIMELINE

Phase One: August 2017 - February 2018
Inquiry-by-design workshop
Feedback on draft development options and concept masterplan
Proposed development framework submitted to Council for consideration
Final development framework

Phase Two: early – late 2018
Structure Plan
Statutory plan change

Phase One of the project focusses on the production of a development framework. The development framework process started in August 2017 and concludes in early 2018. The previous studies that have been undertaken in the area were analysed including the Wainuiomata Development Plan (2015) and the GHD Report for Urban Strategic Development – Wainuiomata Area (2014).

New and updated information gathered as part of stage one includes:

- Regional Policy Statement for the Wellington Region 2013, GWRC
- Hutt City Water Infrastructure Constraints Mapping - 3 Waters capacity/ constraints analysis (May 2016), Wellington Water
- Hutt City Water Infrastructure Constraints Mapping Update (Nov 2016), Wellington Water
- Empowering Tamariki for the Future 2017, HCC
- Leisure and Wellbeing Strategy 2012-2032, HCC
- Long Term Integrated Community Facilities Plan 2015, HCC.

A summary of the opportunities and constraints identified by these technical reports is provided in Section 4. Key elements of these reports in addition to the Council's planning framework and general best practice urban design literature were put together to form the draft framework based on a synthesis of the technical information.

The proposed development framework is submitted to Council for consideration. It is anticipated Council will choose to prepare a plan change (and structure plan) in accordance with the first schedule of the Resource Management Act 1991 (RMA) in early 2018 as project Phase Two.

2 LOCAL CONTEXT

2.1 SITE DESCRIPTION

The Wainuiomata North area is approximately 136ha in total (Figure 1) with the core developable area of approximately 84.5ha. Within Wainuiomata North are established rural residential areas with Rural Residential, Hill Residential or General Residential zoning under the HCC Operative District Plan. Residential properties are dispersed about existing road access ways. Upper Fitzherbert Road acts as the central spine through the Wainuiomata North area, with two forks providing access to several rural properties to the east and west.

This area currently accommodates a range of semi-rural land uses including hobby-farms and rural lifestyle properties. Residential colonisation is becoming more common across the landscape and pastoral or lifestyle block activities in the south of the precinct are gradually being phased out by small-lot residential subdivisions in the General Residential zoned land. A number of permanent and intermittent streams dissect land within the precinct and drain into Black Creek.

The precinct is contained to the north, east and west by a ring of hills and lowland forest. The Hutt City Operative District Plan acknowledges the importance of this regenerating native forest by scheduling two Significant Natural Resources (SNR). SNR 58 Wainuiomata West Bush is located to the west, and SNR 34 Mowlem Bush to the east. Two other areas of reserve are located near to the study area and both are protected under the Reserves Act 1977 - the Haywards Scenic Reserve in the Eastern Hills and the Fitzherbert Covenant to the west. Although the core part area of the area is relatively flat, it sits in a unique amphitheatre of hills covered in grass, scrub, pine forest and regenerating bush of the Eastern Hills which provide high scenic amenity values.

While the core General Rural area remained the focus of the investigation, the workshop identified the need to expand the study area in peripheral locations (Figure 5). Two areas of zoned but undeveloped General Residential and Hill Residential land bordering the core area to the south totaling 37.7ha was included. To the northeast some hill areas above the 120m contour line but not identified as a potential Significant Natural Resource were also included.

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The study area was expanded because these new areas in the south, while currently zoned for urban use, are undeveloped. In the interests of promoting the most integrated-possible outcome across Wainuiomata North the land was added to the project, particularly form the point of view of understanding future stormwater and road network / block structure opportunities that might exist. A consequence of this inclusion was that later in the project, care had to be taken not to double-count development capacity that might be enabled as a result of new urban zoning being provided in the future.

THE UPPER FITZHERBERT ROAD SPINE THROUGH WAINUIOMATA NORTH

EXISTING HOBBY FARMS AND LIFESTYLE ACTIVITIES IN WAINUIOMATA NORTH

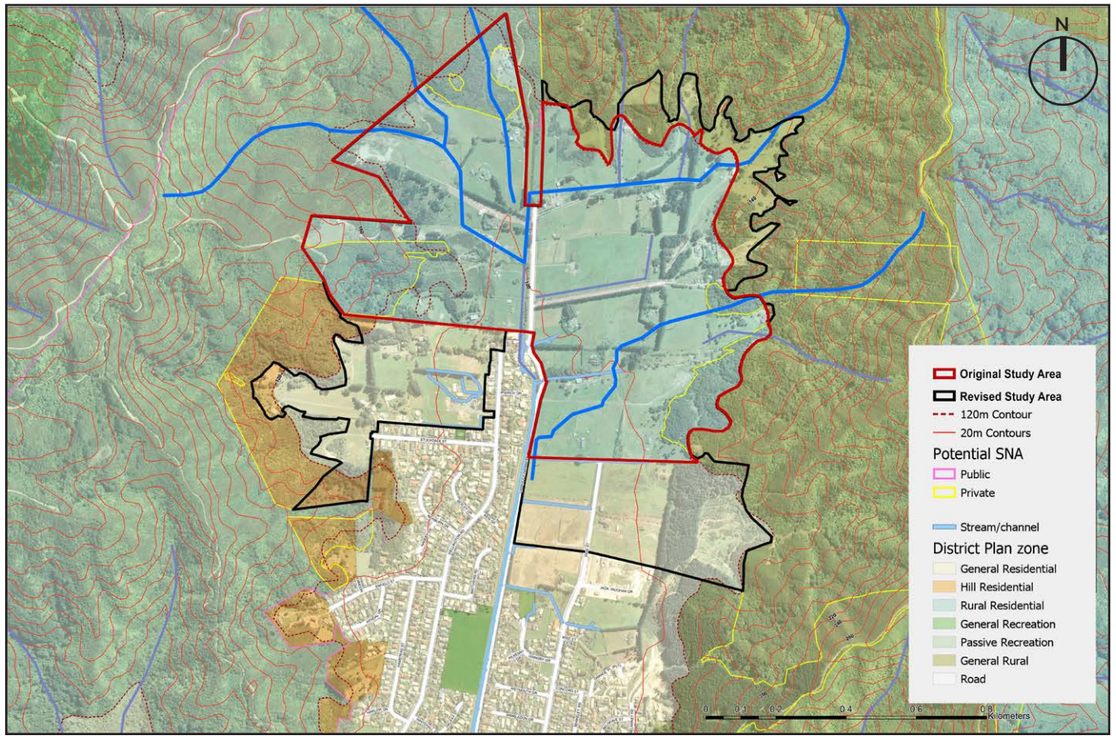

Figure 5: Original and expanded Wainuiomata North study area

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2.2 SURROUNDING LAND USE

The Wainuiomata North area is situated within a wider suburban residential context, with the surrounding residential area to the south characterised by low density housing including a mix of detached single and double-storey houses. Established residential areas have a General Residential zoning under the HCC Operative District Plan.

To the northeast across a section of the area is the alignment of a high voltage transmission line corridor as part of the National Grid Corridor network owned and operated by Transpower New Zealand. To the east, north and west above the area is the bush-clad Eastern Hills of Lower Hutt accessible by a number of tracks. These are steep and for the most part would not be readily developable even if reserve and SNR classifications did not exist.

In close proximity to the area, 1.7km to the south, is the Norfolk Street shopping area. This is a small neighbourhood centre with approximately six shops zoned Suburban Commercial under the HCC Operative District Plan. The centre serves the convenience retail and service needs of current residents and includes a superette. The precinct is approximately 3.5km north of Wainuiomata town centre and 12km southeast of Hutt City Centre which meet residents' higher-order shopping needs.

Arakura Primary School is located to the southwest of the area, and the nearest Primary School and Kindergarten in the wider area. Arakura Primary is a Decile 2 contributing school (Years 1-6) with a roll of approximately 170-200 pupils. Wainuiomata High School is the nearest co-eduational secondary school to the area located in Wainuiomata.

2.3 LAND FORM AND FEATURES

The central core of the study area is relatively flat with areas of undulating pastoral landform elevated approximately 100 metres above sea level, rising towards the surrounding hill ridges with moderate to steep slopes. The majority of the vegetation in the lowland floor of the area has been cleared and replaced with exotic pasture, buildings and roads. With the exception of some fringe areas and land above the 120m contour line, very little native vegetation remains in the area. In contrast, the area is strongly defined by the surrounding hills to the east, north and west which form a large greenbelt encircling it. The majority of the hills are bush-clad and have high natural character and recreation value.

The Upper Fitzherbert area forms part of the northernmost section of the Black Creek catchment (Figure 6) which eventually drains into the Wainuiomata River. The area is a drained farmland crisscrossed by a number of natural and very modified / artificial drainage corridors which drain into Black Creek downstream. Most of these corridors appear to have been modified by historical farming activities and degraded by drains, a lack of riparian cover and stock access. Black Creek traverses much of the length of Wainuiomata in a north-south direction with the northern section of the Creek a modified deep-cut open drain located adjacent to Upper Fitzherbert Road.

SECTIONS OF THE MODIFIED DEEP-CUT OPEN DRAIN ADJACENT TO UPPER FITZHERBERT ROAD

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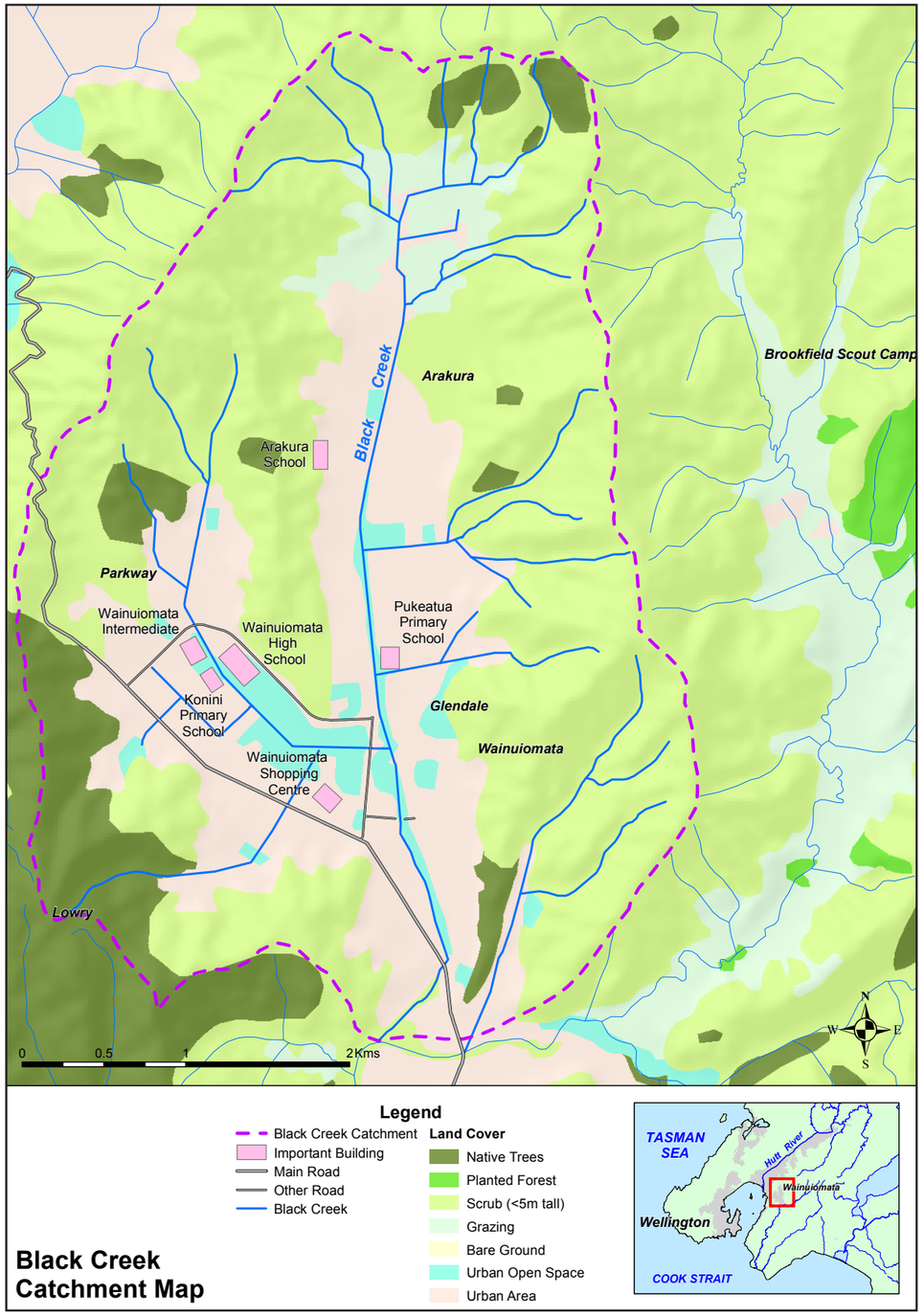

Figure 6: Black Creek catchment map
Source: GWRC, 2017.

3 URBAN DEVELOPMENT INFLUENCES

This section summarises the relevant urban development influences likely to significantly affect urban development outcomes, including technical opportunities and constraints identified by Council and other stakeholders involved at the workshop. More detailed technical reporting of constraints would be undertaken at the time of the future structure plan and resource management plan change to further confirm their characteristics.

3.1 NATURAL CHARACTER, LANDSCAPE AND VISUAL

In terms of natural character, the bush-clad hills have a high level of natural character, landscape and visual amenity values. In contrast, rural-residential development across the central core of the area contributes relatively little to what are low landscape values and sensitivity. Most of the area is classed by Greater Wellington Regional Council as an 'acutely threatened environment' as less than 10% of indigenous vegetation cover remains. The urban-zoned area to the south is also undergoing significant change with new areas of housing at Wise Street, Stockdale Street, Trelawney Road and small-lot subdivisions on Upper Fitzherbert Road occurring.

While there will inevitably be a level of adverse effects on landscape and visual amenity values from the loss of the remaining rural landscape as land uses change, this has been anticipated by the Council's growth planning strategy for the area. Development in Wainuiomata North nonetheless presents opportunities to maintain or improve some landscape amenity outcomes, enhance habitat values and improve the ecological value of Black Creek and key tributaries through the area. Riparian improvements of the tributaries and potential stormwater management devices including swales, wetlands or detention ponds could also contribute to habitat. Although not able to be quantified in this project, the conversion of farmland to urban use has elsewhere provided some opportunities for a reduction in fertiliser and nitrification use, with associated benefits.

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3.2 OPEN SPACE AND RECREATION

In the northernmost part of the area, the Upper Fitzherbert Track is accessed by a 250m north-south paper road that extends over farmland between 166 and 167 Upper Fitzherbert Road. This is a walking and mountain biking track that joins the ECNZ Track (managed by Transpower New Zealand) across the surrounding hills. HCC is also in the process of acquiring land along the eastern ridgeline adjoining the study area. It aims to expand the Wainuiomata network of walking and mountain biking tracks and connect to the ECNZ Track and the Wainuiomata Scenic Reserve (managed by Department of Conservation) to the south.

Also of note are the stream tributaries of Black Creek which run through rural properties within the area. It is likely that at least some of these tributaries could be used for recreational purposes into the future as an amenity feature in Wainuiomata North (especially if well-integrated into a subdivision pattern and subject to riparian corridor improvements). The open grassy area on the eastern bank of the Black Creek drainage corridor is currently accessible to bikers, walkers, and runners and forms part of the informal network of open space in the surrounding area. The Council is considering the future closure of the section of Upper Fitzherbert Road north of Norfolk Street (due to long-term erosion and stormwater concerns, and that the road is poorly integrated with adjacent residential dwellings), and this could be enhanced for recreational purposes into the future.

There are no existing recreation reserves within the area, with the closest formal open space Arakura Park – a 2.7ha open space - located 1.2km south of the study area. Frederick Wise Park, Bryan Heath Park and Wainuiomata Pool are major recreational assets in the wider Wainuiomata area.

Overall, with additional housing anticipated within the Wainuiomata North area, open space networks and park assets will be required to support the informal recreational needs of the population. It is important the area has access to a quality open space network for running around, community gathering and casual recreation. Development in Wainuiomata North presents opportunities to provide open spaces that could also fulfill an educational, conservation or stormwater management function depending on their location and attributes.

It is likely that urban zoning of the study area would result in a need for at least one flat recreation reserve of approximately 4,000m2 area. This would preferably be in a central and well-accessible part of the area, and placed so as to be visually prominent and easy to find ("legible").

3.3 STORMWATER AND MANAGEMENT OF FRESHWATER

The Wainuiomata North area is largely undeveloped and any stormwater generated within local catchments is currently discharged via artificial channels or permanent and intermittent watercourses then finally into the upper section of the open Black Creek drain adjacent to Upper Fitzherbert Road. A large volume of water is generated in the upper catchment and there has been historical flooding and inundation issues within, and associated with, the area (GHD, 2014). Issues have been reported at the northern end of Wise Street as well as instances of localised flooding on properties and floodwaters flowing across the northern end of Upper Fitzherbert Road. The catchment also contributes to Black Creek, where downstream flood modelling indicates significant flooding on properties in a 1 in 100 year flood event (Wellington Water). Black Creek also ultimately discharges in the Wainuiomata River which has had significant flooding in the past.

Development in the upstream catchment in Wainuiomata North will inevitably increase areas of impervious surfaces such as roads, driveways, car parks and roofs. This may result in a net increase in runoff that could further reduce the effectiveness of the existing drainage network, increasing the flood risk. Development should be designed to not add to flood risk further downstream, and into the future, stormwater flows will need to be carefully detained, and potentially also cleaned, to improve the resilience of the area to flooding. Wainuiomata North presents opportunities to be hydraulically neutral so new development does not increase the runoff from the precinct above pre-development levels. Stormwater management approaches can assist in the protection and enhancement of the natural stream environment, and could include environmental, ecological and amenity aspects to provide greater connection to the community.

However, it is noted that the stormwater catchment, at approximately 356ha total, is predominantly comprised of the bush-clad hills, and these will continue to generate stormwater down and across the study area into Black Creek (Figure 7). This may require a comprehensive approach to detention at the base of the hills, possibly including a number of ponds.

3.4 WATER AND WASTEWATER SERVICING

The area is currently unserviced by water and wastewater infrastructure and does not have good accessibility to the underlying infrastructure needed to support development. The intensification area proposed will exacerbate the capacity issues identified across water and wastewater networks.

Wastewater servicing
The wastewater network downstream of the precinct is serviced by undersized wastewater pipes that currently operate at capacity and discharge wastewater into Black Creek during storms. It is reported that this happens approximately 12-15 times per year.

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To allow development in Wainuiomata North, new wastewater infrastructure such as reticulation pipework and onsite storage will be needed to cope with wastewater flow generated in the area before being conveyed into the wider network. However, notwithstanding the need to establish a new trunk network into the area, there are no significant obstacles in the path of this delivery other than standard local authority funding / planning / delivery processes.

Water supply
The Wainuiomata North area is within the Konini Reservoir fed Wellington Road (Arakura) Water Supply Zone. To provide sufficient water supply for the projected population growth within Wainuiomata North, new reticulation pipework will be needed, and sections of the existing supply mains will need to be upgraded.

Due to the moderate topography and contours in the fringe areas of the precinct, the maximum water supply point is recommended below the 120m contour in order for development to have adequate water supply and water pressure through the piped system. Development above this may need to supply its own water such as by a small reservoir or on-site tanks, or use a (possibly private) pump to connect with the public main. However, notwithstanding the need to establish a new trunk network into the area, there are no significant obstacles in the path of this delivery other than standard local authority funding / planning / delivery processes.

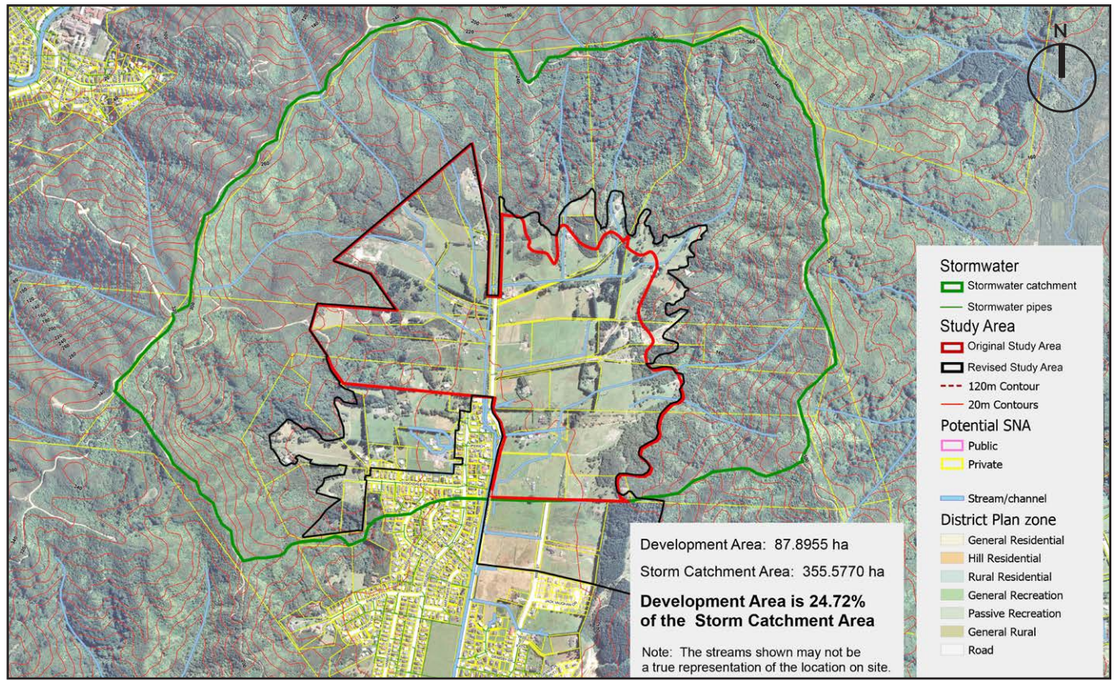

Figure 7: Wainuiomata North stormwater catchment area map
Source: HCC, 2017.

3.5 CULTURAL VALUES

The Council currently recognises two iwi authorities that represent Te Atiawa – the Wellington Tenths Trust and Taranaki Whānui ki Te Upoko o Te Ika within the Port Nicholson Block. Both have a spiritual and cultural connection to the Wainuiomata North area and its surrounds. They are mana whenua of the area and as such, have kaitiaki and other obligations and responsibilities to the land and its cultural and natural resources.

The importance of involving tangata whenua as Council's partner in the future development of a structure plan and any subsequent plan change process is established within the Operative District Plan. In particular, the protection and enhancement of hau (air), whenua (land), wai (water), biodiversity, wāhi tapu and taonga throughout Wainuiomata North is recognised.

Of note, near to the Wainuiomata North area, the former Wainuiomata College and Wainuiomata Intermediate site on Moohan Street (both land and buildings) were transferred to the ownership of the Trust in 2009 as part of cultural redress within the Deed of Settlement. The Trust has a 10-15-year horizon for development on the Moohan Street site in the form of papakāinga housing and ancillary services, and is currently in the process of preparing development plans. The Pukeatua Kohanga Reo and Wainuiomata Marae are two key focal points for local whānau, hapu and iwi within Wainuiomata generally.

3.6 COMMUNITY FACILITIES

No community facilities exist in the Wainuiomata North area, however a number of facilities are located in neighbouring suburbs of Wainuiomata (Figure 8). For a suburb of what is overall a modest size (approximately 18,000 people[2]), Wainuiomata is relatively well serviced. The key community facilities in Wainuiomata are:

- seven Primary/Intermediate schools and one Secondary school
- multiple early childhood centres, Kohunga Reo, playcenters and toy library
- Wainuiomata Community Centre
- Wainuiomata Library
- Wainuiomata Marae
- Wainuiomata Pool
- 22 churches (wainuiomata.co.nz)
- Medical services
- Wainuiomata Little Theatre
- Recreation, service, youth, senior citizens and sports clubs. A number of sports clubs have now joined the Wainuiomata Sportsville partnership.

[2] Estimated Resident Population area unit and Wainuiomata at 30 June 2017, Statistics New Zealand.

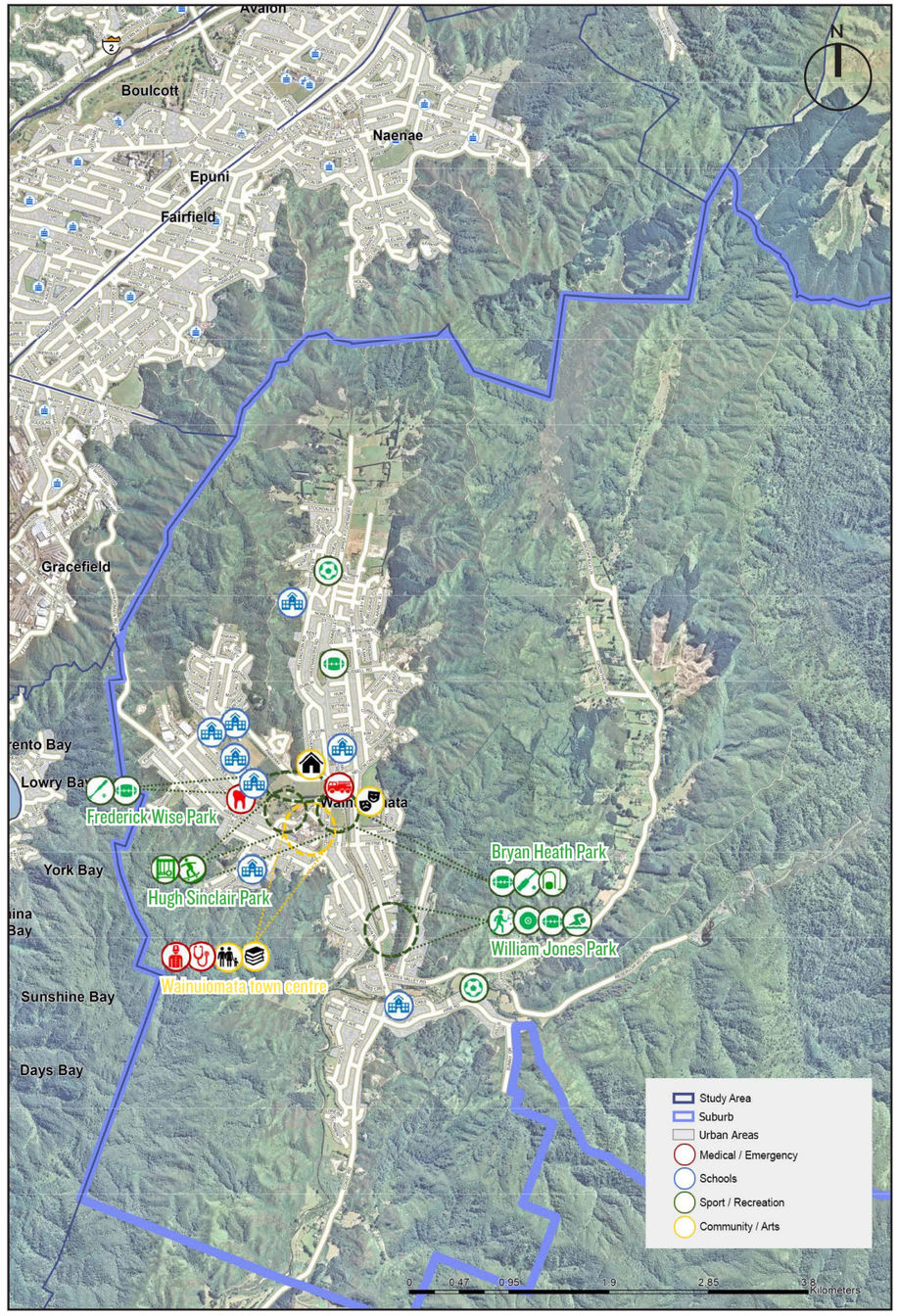

Figure 8: Location of key community facilities in Wainuiomata
Source: N Tagiston, 2018.

An Integrated Community Hub (library and community centre) has been identified and budgeted for Wainuiomata by the Council for 2031/32 and 2032/33 (Long Term Plan). It is expected to be located near the town centre. This future project is relevant to the Wainuiomata North area, as it will serve existing and future local catchments, and potentially draw patronage from the wider area.

Promoting accessibility to community services, networks and amenities while ensuring that some groups, such as those with disabilities, the elderly, and families with young children are not disadvantaged is critical. Development in Wainuiomata North presents opportunities to provide for new community facilities to benefit the social health of future residents.

Education
In respect of the provision of schools and their capacity, existing public primary schools within Wainuiomata have a total spare capacity of approximately 300 student spaces. Arakura Primary (a decile 2 full primary school) closest to Wainuiomata North has only 37 spare student spaces. For Years 7 and 8, Wainuiomata Intermediate has approximately 150 spare spaces, and for Years 9-13 Wainuiomata High School has 300 spare spaces. Many young people travel out of Wainuiomata to attend state integrated single-sex schools in Hutt City and Wellington City.

With future residential development, an additional (new) primary school may be required within Wainuiomata North but this will depend on the population enabled and the Ministry of Education's operating preferences for existing schools. Any new public school would need to be located and delivered according to Ministry of Education preferences.

In terms of the existing primary school capacity of approximately 300 students, it is estimated that this would be consumed by approximately 1,000 new dwellings. Given that there is development potential for 1,000 dwellings just in terms of the existing pace of residential intensification within Wainuiomata generally and (refer to Table 1) excluding any development on the Wainuiomata North land, it may be that a new school within the study area becomes necessary.

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3.7 LAND TENURE

There are a number of different landowners in the Wainuiomata North precinct, from individual residential lot owners to larger hobby farm/lifestyle block operators. Some owners own multiple sites. Fragmented ownership and a large land area makes co-ordinated provision (and funding) of infrastructure a critical issue, and necessitates the need for future comprehensive agreements regarding the future provision of infrastructure. A structure planning approach to the management of subdivision is preferred by Council to demonstrate how the entire area can be urbanised in a comprehensive way.

A practical consequence of this for any development planning exercise is to ensure that there are multiple pathways through which development could occur. Allowing one landowner to control the others by, for example, deliberately not providing a key road on which all others rely, can create a number of planning and funding risks to the Council, and may result in a need to employ powers under the Resource Management or Public Works Acts.

PUKEATUA KOHANGA REO IN WAINUIOMATA

3.8 TRANSPORT

The existing transport environment in Wainuiomata North can be summarised as follows:

- with Upper Fitzherbert Road operating as a very long cul-de-sac, the area has limited vehicle connections to and from the wider Wainuiomata suburb. Access to Wainuiomata North is currently via Wellington Road, Upper Fitzherbert Road and Wise Street as the three-key north-south roads into the area. With the potential closure of Upper Fitzherbert Road from Norfolk Street north, Wellington Road and Wise Street would form the backbone of a future urban network within Wainuiomata North.
- some of the newer residential subdivisions and the existing residential area south of Ipswich Grove contain a poorly connected local road network with curvilinear, loop roads and a number of cul-de-sacs. This form of road design creates barriers to connectivity and movement choice through the area in both east-west and north-south directions. Generally, this pattern is no longer favoured across New Zealand's urban communities especially as pedestrian and cycle activity increases over time and people desire a greater quantity of convenient routes to move through their neighbourhoods.
- there is a lack of east-west connectivity in the lower Upper Fitzherbert area. Only Norfolk Street and Parkway provide genuine east-west multi-modal connections over Black Creek over a distance of 3km from Wainuiomata North.
- footpaths are generally provided on both sides of each local road within Wainuiomata. In the Wainuiomata North precinct area, footpaths will be provided on both sides of each road to connect to Wainuiomata as well as internally within Wainuiomata North.
- the area has access to regional cycling and walking tracks via the Upper Fitzherbert Track.
- a public bus route (Bus 160 Wainuiomata North – Lower Hutt) currently services the area from the northern conclusion of Wellington Road (Wainuiomata North – Ipswich Grove) just south of the precinct area to Queensgate in Lower Hutt. Buses run between 6.30am-11pm at 30 minutes frequency.
- six school bus routes (Bus 860, 867, 868, 870, 874 and 875 to various schools within Wainuiomata and Lower Hutt) stop at Wainuiomata North Ipswich Grove.
- the nearest train station is at Woburn Station in Lower Hutt, approximately 10km from Wainuiomata North. The Woburn station serves the Wairarapa Line, providing a good connection via train to all stops along this line.
- access to Wainuiomata from Lower Hutt is limited to a single access route via the Wainuiomata Road. Currently there is no viable alternative route from Wainuiomata to Lower Hutt and the greater Wellington region and this represents a demonstrable lack of transport resilience and efficiency.

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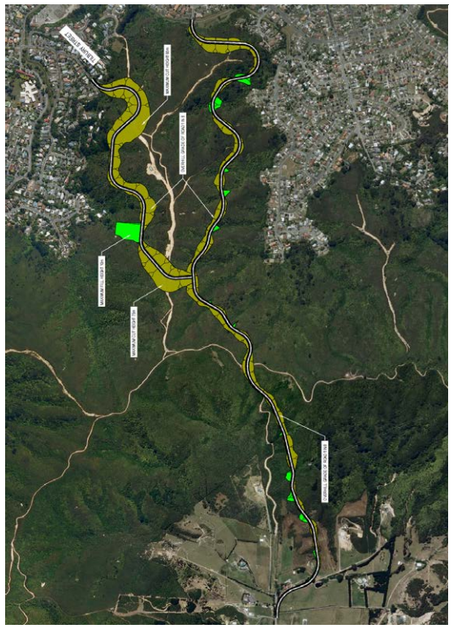
Development within the Wainuiomata North area will need to consider the provision of new roads, cycle, pedestrian and ecological networks that provides for all modes of transport and green infrastructure. Road typologies will need to consider the various movement and place functions of roads to enable an attractive and safe walking and cycling environment and efficient public transport.

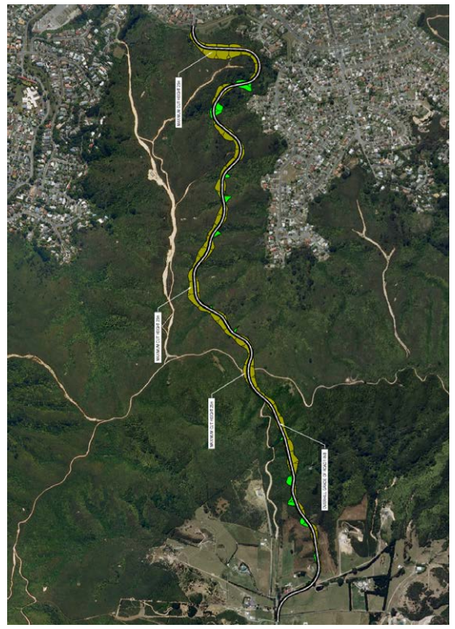
The development of Wainuiomata North will also contribute to the process of making public transport infrastructure more viable. Extending the bus network north internally through the area from Wellington Street to connect to Wise Street would be greatly beneficial for the area.

Strategic Access Road concept from Wainuiomata to Lower Hutt
The 1976 Hutt County Council Approved District Scheme plotted a future road from the Wainuiomata North area northwards over the hill towards the Lower Hutt suburb of Naenae. This connection was never progressed. Then, following the release of the UGS in December 2012, the Upper Fitzherbert growth node to Naenae strategic access road concept was further investigated as a way of adding resilience to the movement network and reducing travel times from the Wainuiomata North precinct. A number of connection options were developed and indicatively costed by Council (Figure 9).

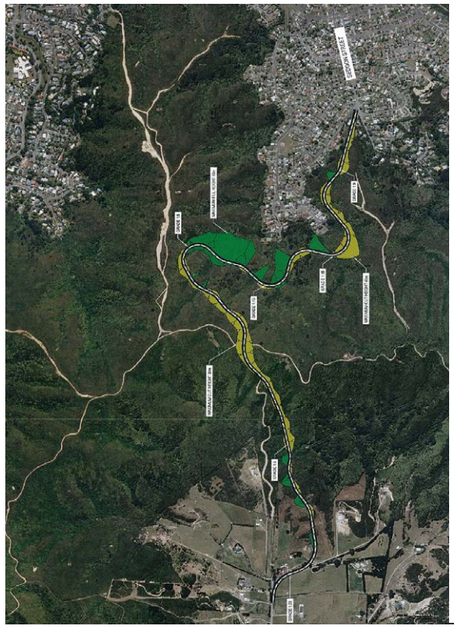
The development of Wainuiomata North is not dependent on the provision of a strategic access road over the hill. The movement network and land use zones within the area do however need to be sufficiently resilient to accommodate a logical local connection point if the link happened into the future. Given how dramatically a new link between adjacent neighbourhoods could affect the movement patterns of people through the study area, it is necessary to make sure that, as much as is practicable, a development framework solution is found that is readily workable in each of the "with link" and "without link" scenarios.



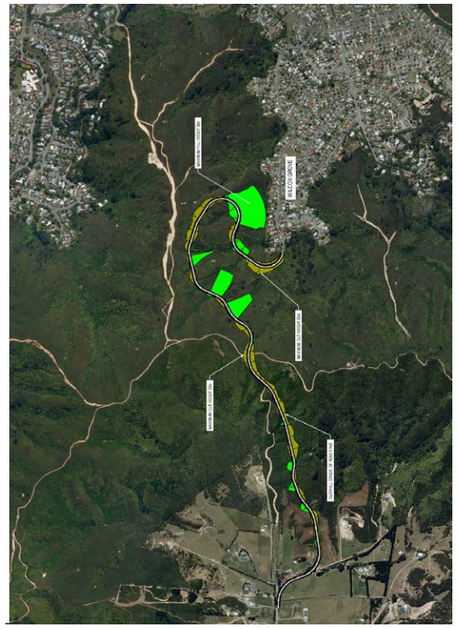
1. Tilbury Street to new link road



2. Upper Fitzherbert Road to Waddington Drive



3. Upper Fitzherbert Road to Seddon Street



4. Upper Fitzherbert Road to Wilcox Grove

Figure 9: Strategic Access Road connection options
Source: HCC, 2015.

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The workshop identified another possible strategic access road option connecting from Wainuiomata North westwards over the hill to Whites Line East (Figure 10). While this option has some challenging contours and negotiates the Hayward Eastern Hills Scenic Reserve, it has the benefit of connecting into one of the alignment options of the Cross-Valley Link (a proposed strategic east-west road linking Seaview with State Highway 2). It is also likely to create less disruption to suburban Naenae than the previous connection options.

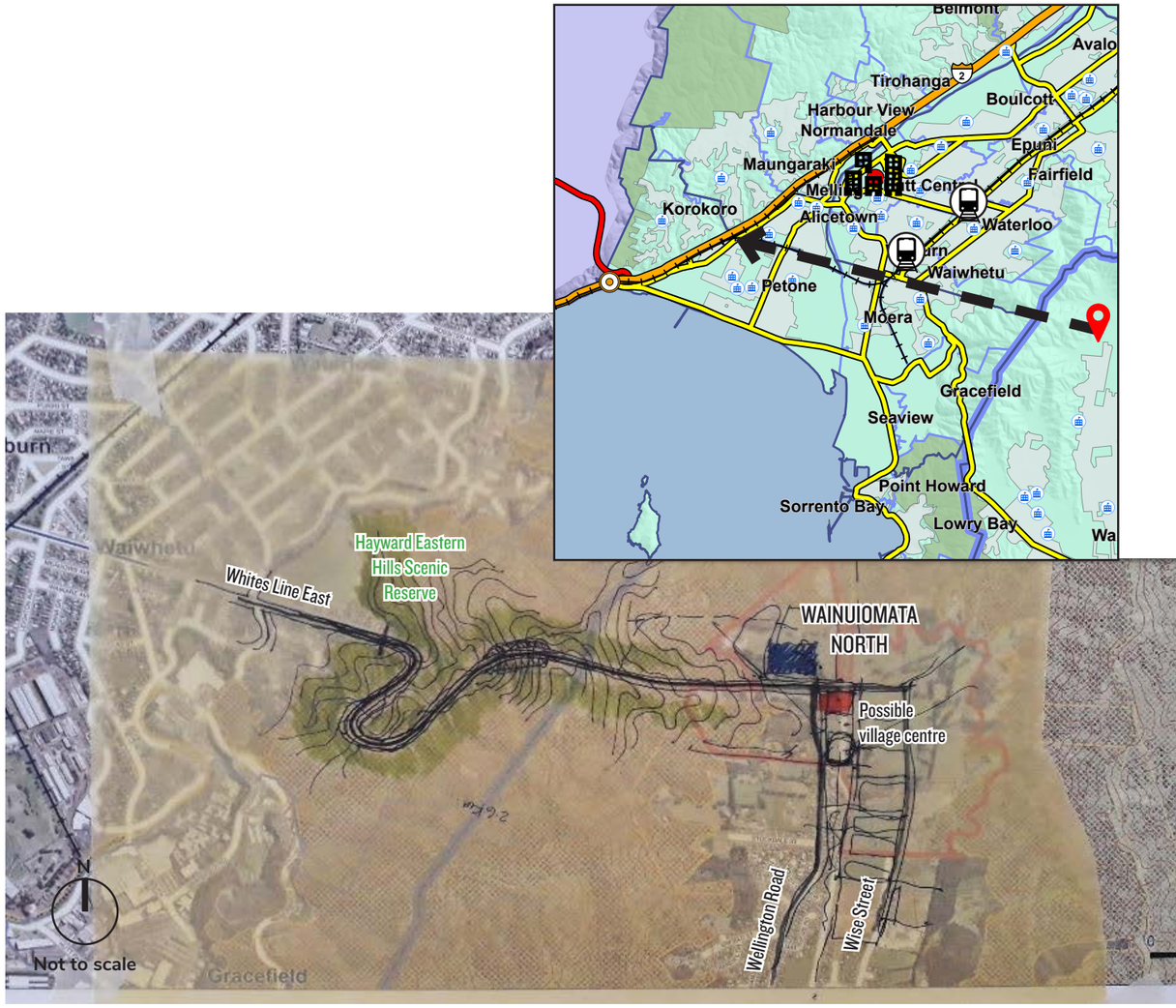

Figure 10: Whites Line East Strategic Access Road connection option
Source: DesignUrban Pty Ltd, 2017.

3.9 RESIDENTIAL DEMAND

As outlined in the UGS, the Council has a growth target of 6,000 new houses within Lower Hutt with 2/3rds of additional dwellings (4,000 dwellings) located in existing intensified urban areas, and 1/3rd (2,000 dwellings) of future development located on greenfield sites. Five years into the growth program and the City has experienced a net increase of 1,271 houses or met 21% of the target.

The Wainuiomata North area is one of the last large areas of greenfield land in the City. Recent residential development indicates the Wainuiomata area is in transition, with incremental low density residential development occurring in the study area and surrounds. Recent development is concentrated at the northern end of Wise Street just south of the precinct where 370-460 lots of compact detached housing is being planned or constructed. There have also been several recent consent approvals or developments at the pre-application stage for the subdivision of remaining undeveloped sites for residential development in Wainuiomata (Table 1).

Ref	Name	Status	Number of lots
1	Ex-Wainuiomata College site	Consent approved	30
		Pre-application stage	160
2	Parkway Rise (Stage 1 and 2)	Consent approved (March 2016)	69
3	Hugh Sinclair Park, Masonic Retirement Village	Consent approved	110 villas /apartments 60 care suites
4	Wise Street extension	Consent approved (January 2016)	31
		Pre-application stage	339
5	80a Wise Street	Consent approved (June 2016)	27
6	80 Parkway	Pre-application stage	71
7	64 Trelawney Road	Consent approved (May 2012)	39
8	80 Meremere Road	Stage 1 Consent approved (October 2017)	17
		Stage 2 Pre-application stage	20
		SUB TOTAL	**371 lots approved**
			620 lots pre-application
		TOTAL	**991 lots**

Table 1: Consent approvals and applications in Wainuiomata
Source: HCC, 2018.

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NEW HOUSING UNDER CONSTRUCTION ON WISE STREET

If these were developed simultaneously, there would be a very competitive land market for housing, a quick pace of development and pressure on school capacity in the area.

Overall the Hutt Valley is seeing the construction of a greater diversity of housing types including terraced housing, duplex and compact detached units. This has been aided by recent benchmark developments such as the Woburn Apartments by Masonic Villages Trust and the Amberley Gardens development in Silverstream. Local developers have indicated the Wainuiomata North precinct could be a successful area for compact forms of affordable housing for first home buyers and a retirement village.

In terms of the project, the clear consequence of the Council's UGS work, and the recent National Policy Statement on Urban Development Capacity, is that land in the district that can be developed for urban purposes needs to be appreciated as a scarce resource and planned to be used as efficiently as possible. In this respect, the project adopted an "as much as can be sustainably accommodated" approach to residential development in preference to a "design for a specific yield" one.

3.10 CENTRES-BASED DEMAND

Residential growth in the structure plan area will support an increase in the amount of retail and services spending by residents within centres in Wainuiomata and the wider district. Despite a large proportion of this spending likely to occur outside of Wainuiomata North in larger, higher-order centres such as Hutt City Centre and Wellington City, increased retail and services floor space will be required locally to cater for the demands of the increased local population.

On the basis of expected growth and spatial distance from the existing Norfolk Street shopping area, development in Wainuiomata North presents the potential to plan for a new small-scale village centre. Studies have indicated that a residential catchment in the order of 1,000 households is needed to support a viable village centre-scale hub of commercial shops and services[3].

If there is a demonstrable need for an additional centre in Wainuiomata North it should be located according to 'movement economy' principles so that it achieves social and economic objectives and increases its prospects of long term success. This means coordinating any future centre with the busiest streets - where the most people are moving to and through. The commercial viability of local businesses is often dependent on the exposure and access to passing random or spontaneous trade as well as just locals undertaking planned or deliberate trips to the shops. The movement economy principle recognises that a large proportion of convenience retailing is based on impulse or spontaneous exchange when a consumer had no set plans to visit a shop but, on passing it, is attracted in by way of signage, advertisements, or other prompts (this is the same fundamental principle used in shopping mall planning and allocating products within supermarket aisle layouts).

Opportunities to maximise trade benefits from drive-by customers occur when:

- traffic speeds are low, allowing vehicle occupants to safely look at signs, produce or other goods facing the street.
- it is easy for vehicles to pull into readily visible (often on-street) parking spaces.
- traffic is frequently held up and paused (e.g. to allow a vehicle to reverse into a parking bay), facilitating slower speeds and casual pedestrian crossing opportunity.
- there is convenient all-weather access from parking spaces to shop fronts.

The activities that are likely to establish in a village centre, should one prove supportable based on residential yield, are:

- some specialty fresh food retailers (butcher, fruit shop, fish shop, etc.).
- a small number of comparison retail stores with a convenience retail focus.
- cafes, restaurants and takeaway outlets.
- service-oriented businesses such as mechanics, hairdressers, real estate, medical practices and dry-cleaners.

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A vibrant hub of activity can also boost the establishment of a community heart which is a strong source of identity for a new community. This can differentiate a new greenfield neighbourhood from a generic residential expansion exercise.

There are obvious opportunities and synergies to be explored from the co-location of a potential village node, a possible new primary school, and new public recreation reserves within the study area. These facilities could be located close together, enjoy integration with a future bus route, and be coordinated with the road network so as to be accessible should a strategic northern link ever occur out of the study area and over the hill. Such co-location could give additional rise to complementary services such as an early childhood care centre, or a very small supermarket.

Of note, the Wainuiomata town centre has experienced a significant reduction in retail performance as a consequence of the closure of The Warehouse in the Wainuiomata Shopping Mall in early 2017. The centre is now going through a period of consolidation, and plans are in place for a large-scale supermarket and redevelopment of the Mall. While the transformation in itself is not necessary to support development in Wainuiomata North, its redevelopment will help to increase the destination appeal of Wainuiomata generally.

[3] Refer to "Casey Cardinia: Towards Melbourne 2030", Technical Workbook, 2004 where the relationship between catchments and facilities is well canvassed based on Australian, British, and American research.

THE NORFOLK STREET SHOPPING AREA

4 DEVELOPMENT OPPORTUNITIES AND CONSTRAINTS

4.1 SUMMARY OF KEY OPPORTUNITIES

Key opportunities for the Wainuiomata North area are summarised below under the broad headings of 'environment', 'access' and 'uses' and on Figure 11.

Environment

- the majority of the land is relatively vacant, flat, free of environmental constraint and readily developable (1).
- sloping land is generally located on the periphery of the precinct (2) and provides an opportunity to consider landscape-based lower density housing to ensure intensities do not undermine the landscape or other qualities of the land.
- development of the land offers the chance to remediate historically degraded watercourses (3) and Black Creek (4) and create a high quality green network.
- use of (future) decommissioned Upper Fitzherbert Road and the Black Creek margins is an opportunity to create a series of parks with stormwater function connected by regional pathways (5).

Access

- the area has convenient access to regional walking and cycling connections (6).
- the basis of a logical movement structure for the area is already in place by way of Wellington Road (7) and Wise Street (8). Development of a north-south loop road connecting the two through Wainuiomata North (9) would help establish an efficient internal movement network.
- this loop could form the basis of a logical and accessible passenger transport (bus) route that could link to a village centre.

Uses

- the need for an additional primary school (10) generated by additional houses, if a sufficient quantity can be provided, could be harnessed.
- development of the land may start to 'switch on' interest and investment in the existing shops at Norfolk Street (11) or support a fully autonomous local centre in the precinct itself (12) that does not take customers away from existing centres.

Figure 11: Summary of key opportunities in Wainuiomata North.

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4.2 SUMMARY OF KEY CONSTRAINTS

Key constraints for the Wainuiomata North area are summarised below and on Figure 12.

Environment

- peripheral land in the precinct (1) is recognised for its high amenity rural and natural setting, and some areas are identified as potential Significant Natural Resources. This may constrain development options and impact on the urban structure (block and street network) and densities that can be achieved. An effective balance between development and landscape values needs to be found.
- the area is affected by a number of waterbodies (2) and a high volume of water in the upper catchment (3). Flood prone areas need to be confirmed and designed with care.
- increasing the population will present on-going infrastructural challenges that need to be managed at the same pace as growth.
- three waters infrastructure networks are constrained, and development will increase impervious surfaces and run-off creating a large negative impact on the infrastructure network (4).

Uses

- if a new centre was deemed unviable in the precinct, anchoring new growth to the existing local centre at Norfolk Street (5) may undermine intensification of the precinct and not successfully meet the needs of future residents. The Norfolk Street shops currently have low levels of public realm vibrancy as evidenced by the overall poor quality of the current retail offer and modest built form quality. The separation distance of this centre from Wainuiomata North will require car-based trips and be unsupportive of a highly accessible, walkable environment.

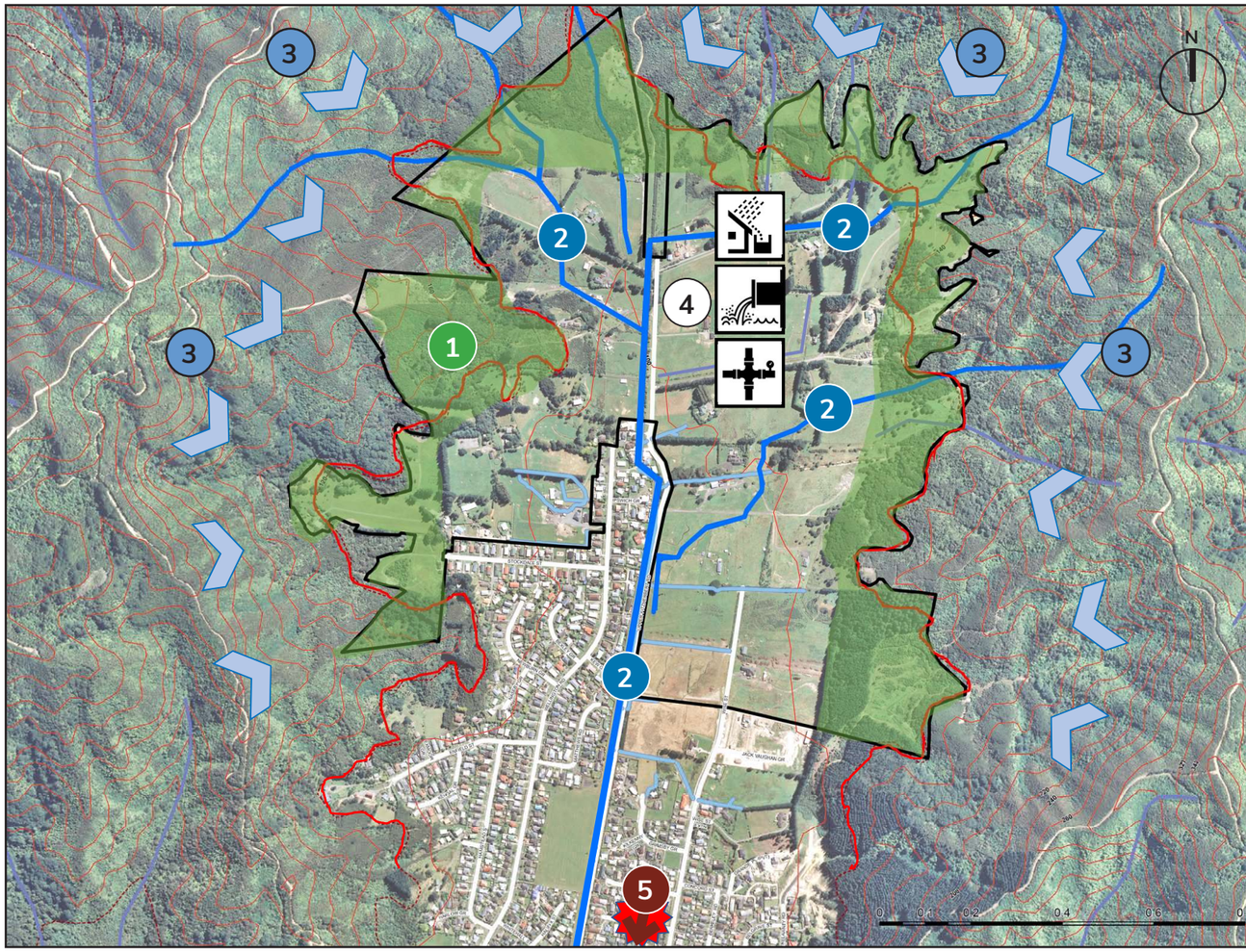

Figure 12: Summary of key constraints in Wainuiomata North.

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5 DEVELOPMENT FRAMEWORK

5.1 A DEVELOPMENT FRAMEWORK FOR WAINUIOMATA NORTH

There are a number of considerations relevant to the development of the Wainuiomata North area, from the strategic to the very local. They form a framework that has shaped the design process and against which the two development options have been tested.

The framework is not a fixed or scored system of ticks or crosses. It is an informed debate taking into account the benefits, limitations, compromises and hard choices that all large-scale development proposals are based on. This reflects that despite being a greenfield area, Wainuiomata North is not a blank palette. Existing title boundaries, roads and infrastructure deficiencies, independent landowner preferences, development realities and costs, market expectations, and the Council's preferences for how new development should be undertaken all exert forces that substantially narrow idealistic design options.

Key considerations relevant to the urban development outcomes proposed are the:

- UGS's strategic framework for urban growth and development
- practical purpose of the National Policy Statement on Urban Development Capacity
- priorities outlined in the Wainuiomata Development Plan
- priorities outlined in the HCC Operative District Plan and Proposed District Plan Change 43 in respective of land use zones
- best-practice urban design preferences.

UGS strategic framework

The UGS sets out the long-term approach (2012 - 2032) to managing growth and change. The UGS establishes a strategic goal for "capacity and demand for great living" in Hutt City. It states the following:

> *"Hutt City Council intends to lead the way in driving new greenfield development. While the city's remaining greenfield capacity is modest, it can still potentially meet around half of the city's housing growth over the next 20 years."* (UGS, page 30).

To ensure enough homes are built to meet population growth and that homes stay affordable, under the UGS Council committed to minimum targets for new homes and:

- expanding the range of intensification opportunities available and the supply of greenfield land available for development.
- maintaining incentives to undertake intensive developments in Hutt City.
- partnering with developers to provide key infrastructure for greenfield developments and limiting up-front cost recovery through development contributions to 50%.

The UGS identifies the location of future greenfield development for the long term (Figure 13) but does not include a timing or sequencing explaining how future greenfield land areas and intensification opportunities in existing urban environments would be released.

The policies in the UGS include the following issues relevant to Wainuiomata North:

- linking density to amenities, notably centres, community facilities, open spaces and recreational opportunities, and transport networks
- ensuring that core infrastructure is in place or can be provided for new development
- promoting the efficient use of existing assets, services and land.

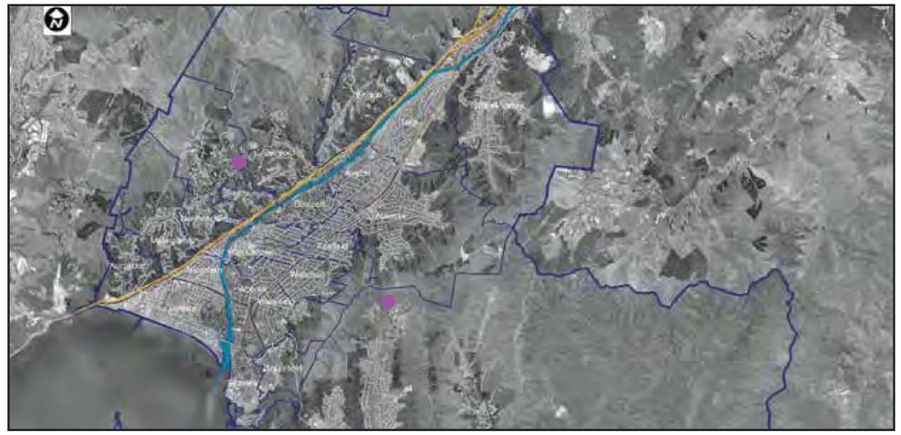

Figure 13: Future greenfield residential areas identified in the UGS.
Source: HCC, UGS, page 30.

National Policy Statement on Urban Development Capacity
The National Policy Statement (NPS) on Urban Development Capacity directs local authorities to provide sufficient development capacity in their resource management plans for housing and business growth to meet demand, as a key to improving housing affordability in New Zealand. The policies provide direction on how decision makers can provide for change and development, and responsive planning approaches that facilitate urban development.

Alongside this document which provides certainty about the feasible development capacity for housing and business demand in a key greenfield area, Council most recently is giving effect to the NPS on Urban Development Capacity through the preparation of Proposed Plan Change 43 to the District Plan which provides for greater housing capacity at medium densities.

The short, medium and long-term land development capacity framework found in the National Policy Statement is aligned with the Council's Long Term Plan, Urban Growth Strategy, Environmental Sustainability Strategy, Economic Development Plan and Infrastructure Strategy. Ensuring that Wainuiomata North development capacity is serviced with development infrastructure or ensuring funding is in place will need to be considered carefully by the future Resource Management Act plan change process.

Wainuiomata Development Plan
The Wainuiomata Development Plan (2015) is a community-led strategic plan for the growth and development of Wainuiomata to 2035. Following a comprehensive community engagement process, the plan embodies a strong sense of community pride and spirit that residents in Wainuiomata connect with.

The Plan establishes a positive and proactive vision for the community – preserving the enviable lifestyle residents have in Wainuiomata, a vibrant town centre, a strong recreational and tourism destination and a connected neighbourhood.

The community vision found within the Development Plan is:

> *"Wainuiomata. The breath of life.*
> *Ha. Returning over the hill, feeling at home in your sanctuary.*
> *Ha. Driving out over the hill, feeling invigorated and fulfilled with nature.*
> *Wainuiomata's heart beats to our pioneering spirit and neighbourly resilience, woven together by the valley and nature we treasure. Investing yourself here was a smart choice. You're well connected, there's money in the bank, and there's a big backyard to discover your next outdoor adventure. Breathe easy Wainuiomata."* (Wainuiomata Development Plan, page 5)

The five key aims found within the Development Plan (Figure 14) are:
- a fun gateway
- a connected neighbourhood
- a vibrant town centre
- a top destination
- a proud Wainuiomata identity.

Of the above aims, the one of most relevance to the Wainuiomata North Development Framework, is for Wainuiomata to be 'a connected neighbourhood'. This fits with the project's aim to set in train a framework to enable an integrated and sustainable urban development that supports a choice of quality living environments. Under the Development Plan, 'a connected neighbourhood' includes the following specific priorities:
- a smart and healthy place to live with retirement living and new housing options which are walkable to amenities
- well-connected and easy to get around, utilising river reserves as walking and cycling trails between recreational destinations, schools, hilltop trails and other amenities
- increasing landscaping in streets for a 'leafy green' feel.

Figure 14: The Wainuiomata Development Plan vision roadmap.
Source: HCC, 2015.

District Plan and Proposed Plan Change 43
The Council's District Plan provides the regulatory framework for managing Hutt City's residential development and subdivision of land. It is critical in ensuring that there is a sufficient supply of appropriately zoned land for residential development for greenfield, infill and intensive housing.

The Development Framework will support housing in a variety of forms including low to medium density housing that provide for a wide range of sizes and types. It will also support the comprehensive residential development of large sites. The future plan change may be based on a number of development zones in the existing District Plan and Proposed Plan Change 43 (PC43) (notified 7 November 2017). This includes the General Residential activity area and more intensive housing in and around any future village centre such as the proposed Medium Density Residential and Suburban Mixed Use activity areas (PC43).

A Medium Density Design Guide has also been proposed under PC43. This design guideline could be used to assure a successful design outcome for large-scale residential development in Wainuiomata North that provides for adequate amenity values, quality and aesthetics of construction, and quality of life for residents.

Best-practice urban design
Based on domestic literature on urban design (such as the Ministry for the Environment's New Zealand Urban Design Protocol (2005), the Ministry for the Environment's People+Places+Spaces (2002), or the Ministry of Justice's National Guidelines for Crime Prevention Through Environmental Design (2005)), a number of urban design priorities based on established urban design principles underpin the Wainuiomata North Development Framework. These allow a spatially robust, defendable 'bottom-line' against which the potential of any development option can be explored.

Five urban design priorities (Figure 15) were identified as being relevant to Wainuiomata North. An explanation of why they are important and what benefits they might bring to Wainuiomata North area are summarised below:

- promoting a mixed density, walkable neighbourhood that minimises cul-de-sacs:
  - a range of housing densities are provided through a well-connected street network offering safe, direct and convenient routes for pedestrians will encourage more socialising and healthy activity in Wainuiomata North.
  - the size and length of urban blocks are limited to increase the choice of movement routes through the area, and allow increases in residential density close to any village core or node (ven if just a 'village green' rather than a commercial village).
  - reducing unnecessary vehicle travel has environmental benefits and contributes to a people-focussed, rather than car-focussed way of life.
  - cul-de-sacs and dead ends are avoided unless there is no practical alternative.
  - to balance the potential nuisance of passing traffic, streets are designed to encourage cautious driver behaviour and slow vehicle speeds

- maximising local and strategic connectivity:
  - development is integrated and connected with its surrounding environment to help with ease of access, economy of movement and social interaction.
  - a network of streets and pedestrian/cycle links throughout Wainuiomata North connect employment areas and residential catchments, recreational, community and other important amenities.
  - road axes are laid out to be direct and convenient, and help users navigate through the area.
  - although there is uncertainty regarding which strategic access road route, if any, may connect to Wainuiomata North, it is important that the urban structure provides for a logical connection point with a view to improving the resilience of Wainuiomata North. By ensuring that a long-term access road can direct traffic directly past any village node, such a node could in turn capitalise on the movement economy generated by this traffic which in turn will support its continued commercial viability.

- aspiring to be a new development benchmark based on 21st century neighbourhood design expectations:
  - it is important that the development does not become one large, repetitive cluster of "sameness". Streets and neighbourhoods throughout Wainuiomata North should be experientially distinct from the rest of Wainuiomata and feature many types and variations of housing. This includes higher density housing than has occurred in many older post-war suburbs of Wainuiomata, and a greater expectation for a high standard of design and distinctiveness. As the rest of Wainuiomata regenerates it might influence a new pattern of development.
  - development in Wainuiomata North adheres to established principles of urban design. This includes an urban structure that provides unambiguous public and private spaces, whereby the orientation of roads and blocks ensure lots orientate for sunlight and provide a public 'front' to the road, and also a private 'back' for resident amenity and seclusion.
  - streets and public spaces in Wainuiomata North feel people-friendly and are well-overlooked by houses and activities, which turn brings safety benefits, encourages more socialising between neighbours, and healthy activity.
  - livability and design quality for new residents is paramount.

- integrating with green and blue networks:
  - walkways and streets support the key recreational routes around and near to Wainuiomata North to encourage healthy active lifestyles. This includes connections to tracks in the hills and alongside the Black Creek corridor.
  - a network of 'urban' and 'green' open spaces give different experiences and recreational opportunities. These are well integrated with logical movement patterns and regularly intersect with the road network to allow a richer variety of route choices for pedestrians and cyclists.
  - public open spaces are integrated into obvious, prominent and well-fronted parts of the neighbourhood and are a source of local identity and amenity.
  - development has particular regard to the unique landform and catchment dynamics of the area. Sub-catchment based infrastructure planning looks for low impact solutions to stormwater management (treatment and discharge) and opportunities that enhance the visual amenity value or provide for walking and cycling linkages.

- improving the self-sufficiency of the community:
  - walkways and streets support the key recreational routes around and near to Wainuiomata North to encourage healthy active lifestyles. This includes connections to tracks in the hills and alongside the Black Creek corridor.
  - the intensification being delivered promotes housing choice through the provision of a diverse mix of housing types and compatible activities including employment uses and community facilities. This will enable the built environment of Wainuiomata North to better adapt over time, respond efficiently to social needs such as housing affordability, and provide for a range of market demands and changes in lifestyle. Intensification brings with it positive flow-on impacts for the local employment and social outcomes in Wainuiomata generally.
  - establishing a village centre enables residents to meet their everyday shopping needs locally for daily food items and personal services reduces the need for people to travel outside of the immediate neighbourhood. The level of activity and amenity in the node acts as a lever to facilitate higher density living in and around it and a public transport supportive outcome.
  - community facilities including a local primary school are an important focal point of social life in a new community. A key part of achieving this will be to locate any new school in Wainuiomata North prominently and in a logical, easy to find place connected to a bus route, near to the village centre and open space amenities. With good management and maintenance arrangements, school facilities and playing fields can enjoy a cooperative relationship with Council reserve assets.

It is noted that through the subsequent plan change process, other urban design priorities may be identified and/or expanded upon.

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1. promoting a mixed density, walkable neighbourhood that minimises cul-de-sacs
2. maximising local and strategic connectivity
3. aspiring to be a new development benchmark based on 21st century neighbourhood design expectations
4. integrating with green and blue networks
5. improving the self-sufficiency of the community

Figure 15: Five urban design priorities for Wainuiomata North

6 DEVELOPMENT OPTIONS

6.1 TWO PROPOSED DEVELOPMENT OPTIONS

Drawing on the urban development influences identified in Section 3, two different development options for Wainuiomata North have been identified and tested. Option 1 provides for incremental, status-quo type development, while Option 2 provides for a more pro-actively mixed-density development across the area.

Option 1 – incremental development (Figure 16)
Option 1 provides for an incremental spread of residential development northwards from the existing zoned General Residential area. This option facilitates some choice for house buyers and generates a modest variety of housing types and densities of development. It largely lets the market decide how and where growth is located. The look and feel of neighbourhoods within Wainuiomata North would remain largely similar to existing urban areas in Wainuiomata currently, as section sizes would be comparable and achieve the same lower-density product mix. Limited opportunities for terraced, townhouse or mixed-use housing choices exist. The option seeks to try to soften or hide modest levels of development recessively into the landscape to maintain a semi-rural visual character around the fringes. The key overall difference between this option and the existing suburban residential neighbourhoods immediately south is that a higher standard of street connectivity would be required, assumed to be established through District Plan mechanisms at the land subdivision stage.

Option 2 – mixed-density development (Figure 17)
An unmistakably 'urban' neighbourhood, Option 2 looks to maximise the efficiencies and opportunities of mixed-density development as a design imperative. This option introduces greater variety of residential densities and future dwelling types including medium density on smaller site sizes where infrastructure and good design supports it. Option 2 establishes a harder urban edge to Wainuiomata North and capitalises on the landscape amenity and high development premium of hillside areas. Part of the drive for higher total density is to support any potential that may exist for a new public primary school, a local village centre, and the case to justify a strategic road link across the hill.

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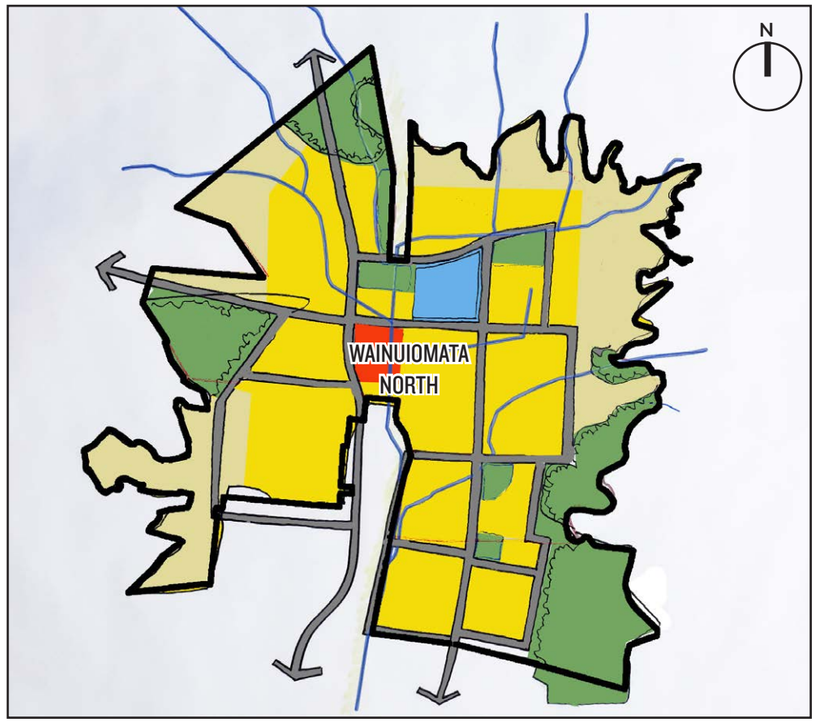

Figure 16: Option 1 - incremental development

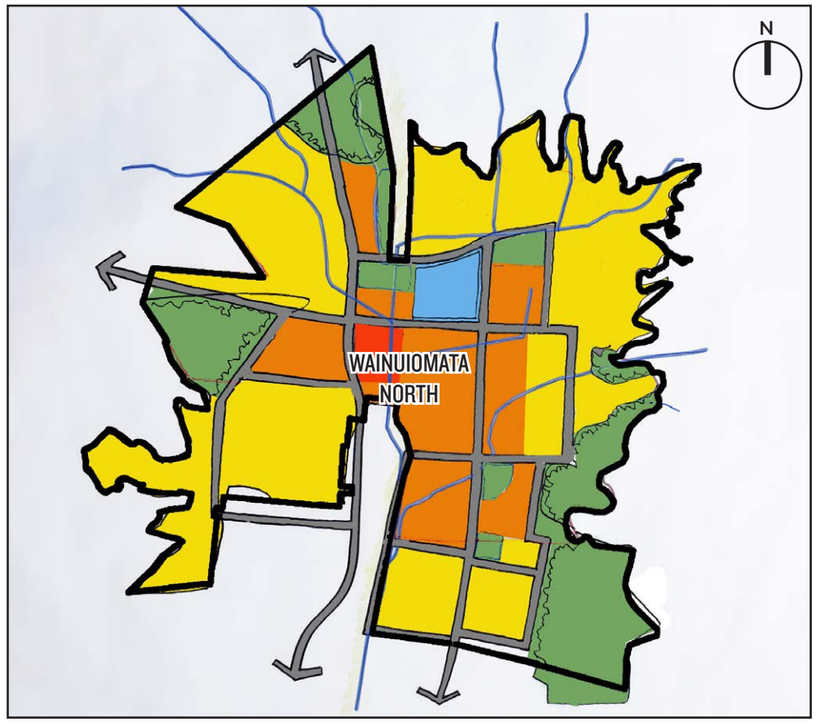

Figure 17: Option 2 - mixed-density development

6.2 COMMON DEVELOPMENT AND DESIGN ELEMENTS

Given the commonality of key constraints and opportunities, the development options have many development and design elements in common:

ENVIRONMENT

Landscape, infrastructure and cultural-related features and opportunities include:

Landscape and stormwater management

- green edge: the SNR boundary creates a natural growth boundary which defines new residential areas and supports a contained settlement.
- protection and enhancement of watercourses: protection and remediation of stream tributaries with riparian improvements, associated walking/cycle pathways and potential stormwater management functions such as swales, wetlands or detention ponds.
- water sensitive design: promotion of area-wide water sensitive design from site-specific features to the distribution of stormwater detention infrastructure in the public realm.
- It is noted that Option 2 would offer the best potential to cluster density so as to activate and 'front' the edges of new green infrastructure and stream corridors, although a workable solution would be possible under Option 1. Conversely, Option 1 may result in less impervious surface and storm-water load needing management (although the substantial component of the storm water catchment is the bush-clad hills ad this would generate the same volumes of storm water in either Option).

Water and wastewater servicing

- new trunk network: the establishment of an efficient wastewater and water trunk network through the area on a staged basis.

Cultural values

- sustainable management of taonga: recognition of mana whenua culture, traditions, tikanga, place names, wāhi tapu and taonga and the importance of hau (air), whenua (land), wai (water), and biodiversity. Incorporating these elements into a future structure plan and plan change process in collaboration with Te Atiawa – the Wellington Tenths Trust and Taranaki Whānui ki Te Upoko o Te Ika.

Open space and recreation

- Black Creek green corridor: a north-south linear park fulfilling recreational and stormwater management functions connecting with decommissioned Upper Fitzherbert Road east of the Black Creek drain.
- community reserve: provision of at least one flat neighbourhood reserve (to Council requirements) of approximately 4,000m2 area in a central and well-accessible part of the area, within a 400-500m walkable catchment of the majority of houses.

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- Upper Fitzherbert Track linkage: the provision of off-road cycle and walkways through the area connecting to the Upper Fitzherbert hill track in the north.

ACCESS

Transport related features and opportunities include:

Transport

- connectivity to Wainuiomata: maintaining north-south connectivity within Wainuiomata North and connecting to the wider transport network via an extension of Wellington Road and Wise Street to form a loop road. This also forms the basis of an extended bus route through the area.
- strategic access road connection point: provision of a workable 'with link' local connection point near the Wellington Street extension close to the village core to leverage the greatest benefits of through-traffic.
- interconnected network of roads: a grid-like transport network of north-south and east-west roads supports route choice, provides for good wayfinding and resilience, and enables the efficient location of utility services.
- It is noted that Option 2, being higher-density, could help justify a higher quality of passenger transport services than Option 1 if greater passenger numbers were generated.

USES

Land use related features and opportunities include:

Residential demand

- low to medium density: most land in Wainuiomata North identified for housing to provide for the housing needs of a growing community and to provide a variety of housing types that encourage an increased residential density.
- higher density residential: higher density residential (in the form of medium density housing or suburban mixed-use activity) is concentrated around the village core in close proximity to proposed local amenity spaces and where future passenger transport network stops are being proposed.
- residential street and block networks: the generally north-south urban block structure maximises solar access and facilitates a permeable pedestrian and vehicular movement network.
- Hill residential: within Wainuiomata North there are areas and sites which are expected to remain as larger lot rural-residential development such as on the north and southwestern edge. Due to a combination of movement network practicalities and landscape sensitivities, any higher intensity residential development from logically occurring here is likely ruled out. On balance low scale, lower density residential outcomes are realistic and could also act as a buffer to the SNR interface.

Community facilities

- Primary School: projected residential growth in either Option appears to justify one new Primary School of approximately 2 - 3ha in area. If one occurred, the new school should be positioned to provide convenient walkable access to new residential catchments, future bus routes and amenity spaces. It should also be designed to enable the potential cooperative use of a new public recreation reserve. The securing of future educational land is subject to Ministry of Education collaboration and approval.
- Based on the project outcomes in each of an Option 1 or an Option 2 scenario, further work investigating a potential new (future) primary school should be commenced.

Centre-based demand

- a new village centre: provision of a neighbourhood centre of approximately 2ha in a central and accessible location within a 400-500m walkable catchment of the majority of houses. This approach concentrates the retail and social energy within a focused walkable area at the confluence of the Wellington Road to Wise Street loop to deliver long term centre viability. While it is likely that an Option 2 scenario would provide more customers and greater commercial viability for such a node, the Option 1 scenario alone (even without any strategic link to Naenae) will justify a small node of shops.
- support for existing centres: new residential growth supports retail spend in the network of local centres and the higher order Wainuiomata town centre.

6.3 CALCULATING PROJECTED GROWTH

The projected growth is a calculation of the amount of residential development that is expected to take place in Wainuiomata North under both development options. The projected growth calculations take into consideration the following factors:

- the future desired character and built form for areas within Wainuiomata North: this ranges from low density / general residential (1 to 2-storey detached housing), medium density (up to 3-storey semi-detached and attached housing), and hillside residential (larger lot lifestyle housing).
- assumptions: a series of assumptions related to the density of different development types and standard expectations to extrapolate the ‘net’ developable land area for residential use. In general:
  - taking the ‘gross’ developable area and excluding 40% as a crude place holder for roads and open spaces in low to medium density residential area
  - taking the ‘gross’ developable area and excluding 25% as a crude placeholder for various inefficiencies in the hill residential area, and other matters such as title boundaries, privatelyowned watercourse protection and the like.

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  - setting aside 2ha for a future Primary School and 2ha for employment land (village centre)
  - setting aside 2ha to accommodate up to five stormwater detention ponds, which are indicatively envisioned to ring the outer edge of the development area to help intercept and manage the flow and volume of runoff down the bush-clad hills.

The study area has been divided into a number of sub-areas for ease of calculation (Figure 18).

The calculation provides a broad estimate of projected growth. Depending on the final requirement for open spaces (including for ecological and drainage purposes), this could substantially vary the growth potential.

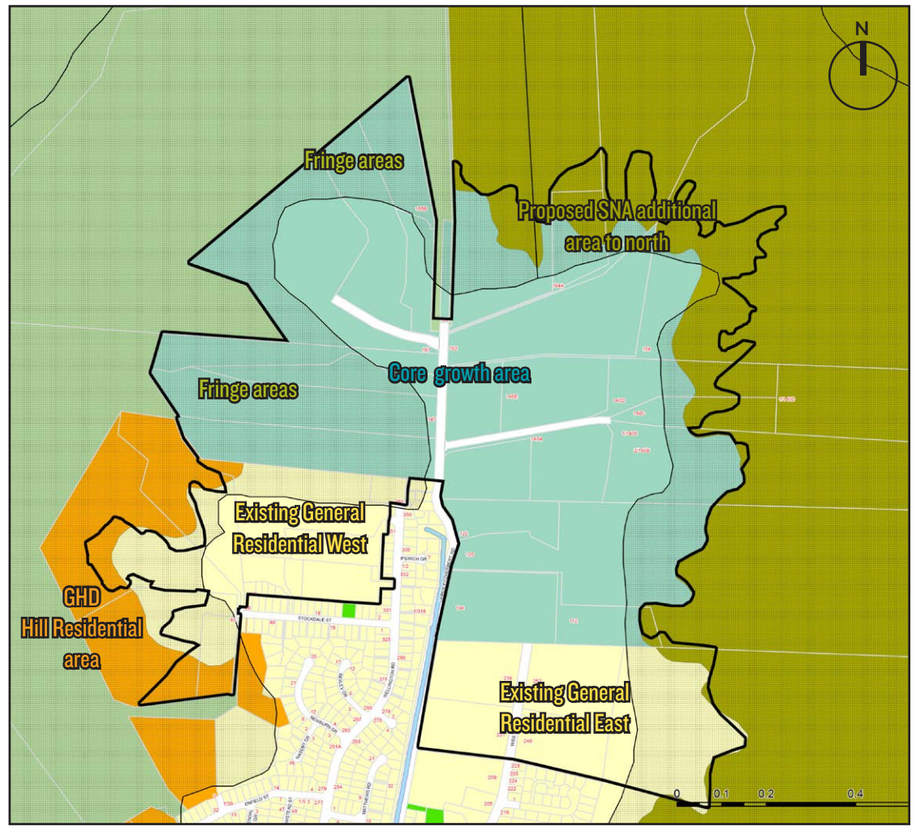

Figure 18: Sub-areas of Wainuiomata North

Projected growth under Option 1
Application of the proposed land uses and typologies in Option 1 will result in a total capacity of 1,296 new units (including 125 households from the existing Hill Residential zone) within the Wainuiomata North study area (Table 2).

Projected growth under Option 2
Application of the proposed land uses and typologies in Option 2 will result in a total capacity of 1,841 new units (including 125 households from the existing Hill Residential zone) within the Wainuiomata North study area (Table 3).

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OPTION 1 – INCREMENTAL DEVELOPMENT DWELLING ESTIMATE					
Location	**Density**	**Gross area (Ha)**	**Discount**	**Net area (Ha)**	**Number of units**
Existing General Residential West	General residential average 500m2	18.3	60% net	11	220
Existing General Residential East	General residential average 500m2	19.4	60% net	11.5	230
Core growth area	General residential average 500m2	59.2	60% net	35.5	700
Proposed SNA additional area to north	Hill Residential average 1,500m2	10.3	75% net	7.7	51
Buffer allowance on fringe areas	Hill Residential average 1,500m2	15	75% net	11.25	75
GHD Hill Residential area	Hill Residential average 1,000m2	-	-	-	125
Proposed centre	Primary School	2	100%	2	-35
	Neighbourhood Centre	2	100%	2	-35
Across area	Stormwater detention ponds (5x @400m2)	2	100%	2	-35
				TOTAL	**1,296 units**

Table 2: Option 1 (incremental development) dwelling estimate

OPTION 2 – MIXED-DENSITY DEVELOPMENT DWELLING ESTIMATE					
Location	**Density**	**Gross area (Ha)**	**Discount**	**Net area (Ha)**	**Number of units**
Existing General Residential West	General residential average 400m2	18.3	60% net	11	275
Existing General Residential East	General residential average 400m2	19.4	60% net	11.5	287
Core growth area	General residential average 400m2	54.2	60% net	32.5	812
	Medium density 300m2	20	60% net	12	396
Proposed SNA additional area to north	Hill Residential average 1,500m2	10.3	75% net	7.7	51
GHD Hill Residential area	Hill Residential average 1,000m2	-	-	-	125
Proposed centre	Primary School	2	100%	2	-35
	Neighbourhood Centre	2	100%	2	-35
Across area	Stormwater detention ponds (5x @400m2)	2	100%	2	-35
				TOTAL	**1,841 units**

Table 3: Option 2 (mixed density development) dwelling estimate

6.4 CALCULATING PRIMARY SCHOOL CATCHMENT DEMAND

As established in Section 3.6 existing public primary schools within Wainuiomata have a total spare capacity of approximately 300 student spaces. The population driven demand for primary school spaces (ages 5 to 12 years) has been calculated for both development options as follows:

- Option 1 – Incremental development = up to 411 primary students
- Option 2 – Mixed-density development = up to 584 primary students

With approximately 1,000 new households consented or are at pre-application stage in Wainuiomata (refer to Section 3.9), this growth alone would fill the existing 250-300 spare primary school spaces in Wainuiomata. Given both development options considerably exceed the spare capacity available, the development framework looks to locate a new Primary School in the growth area rather than increasing capacity in Arakura Primary (which may be required in any event in addition to a new school).

6.5 CALCULATING CARBON AND ENVIRONMENTAL FOOTPRINTS

Given the limited passenger transport options to the area, and reliance on one access road (Wainuiomata Hill Road) in and out of the suburb, lifestyles for new residents of Wainuiomata North would be predominantly car-based, creating higher carbon and environmental footprints. A broad calculation of vehicle kilometres travelled (VKT) supports a case for a strategic access road connection, preferably to Whites Line East, to reduce driving distances into and out of the area. For example, a development of 1,841 units in Wainuiomata North (Option 2) that enabled 3.5km shorter trips to SH2 compared to the existing Wainuiomata Road could equate to:

- 11km less driving per day per unit (assuming 3 return trips per household unit[4])
- 19,331km less driving per day for the development as a whole
- up to 5,122,583km less driving per year for the development (assumes 265 days of trip-making per unit per year to exclude weekends and holiday periods)
- up to 102,451,660km less driving over a 20-year period, the minimum timeframe taken into account in settlement growth planning
- that 102,451,660km could equate to some $57,697,920 saving by users on vehicle operating costs (VOC) (at $0.80 VOC per km using AA's running costs for a medium sized petrol vehicle), and up to 23,564 less tonnes of CO2 equivalent emissions (using NZTA's Economic Evaluation Manual).

[4] VKT calculations are based on generation rates by household, not just home-based trips. This includes service trips allocated to households such as mail delivery, rubbish collection, deliveries, home help, charities etc). Generally traffic models estimate at least 10 trips per day per household. Some of these trips are local (such as to the shops or for work, but some are regional).

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None of the above include any other economic benefits that could be accrued by such a link, for example, the economic value of saved travel time, or the strategic / transformational benefit to Wainuiomata by being perceived within the region as becoming better-connected and more accessible.

In addition, a portion of the existing catchment north of Norfolk Street (calculated at 2308 dwelling units) could use and benefit from this strategic access road connection resulting in:

- 4,036,154km less driving per year (assumes 265 days of trip-making per unit per year to exclude weekends).

Overall the total savings for Wainuiomata as a whole (Option 2 plus the portion of existing catchment) could equate to:

- up to 9,158,736km less driving per year and up to 183,174,720km less driving over a 20-year period for the whole of Wainuiomata
- that 183,174,720km could equate to some $82 million saving by users on vehicle operating costs (VOC), and up to 45,500 less tonnes of CO2 equivalent emissions.

In practice, these effects are not always accounted for in cost-benefit analysis for new roads or growth planning exercises. However, these inefficiencies will inevitably create socially discriminatory costs that can only appeal to and be met by a limited proportion of the population. This can undermine sustainability objectives for an affordable and diverse community.

As a general note, the estimated carbon saving and VKT calculations are uncertain and rely on a number of assumptions. These can't be more precisely calculated until a specific project design is agreed upon.

7 EVALUATION OF DEVELOPMENT OPTIONS

This section provides an urban design evaluation of the two development options.

7.1 EVALUATION CRITERIA

Seven urban design evaluation criteria

Seven key urban design evaluation criteria were developed at the workshop to assess the two development options:

1. responding to Wainuiomata North's key opportunities and constraints (Section 4)
2. making the best use of scarce greenfield land
3. improving the resilience of Wainuiomata
4. leveraging off urban sustainability benefits
5. maximising access to passenger transport
6. finding transformational opportunities for Wainuiomata
7. enhancing liveability and quality for new residents

The inter-relationship of urban design priorities and evaluation criteria
As established in Section 5.1, a 'principle-led' approach underpinned by best practice urban design has been used to drive the development of five urban design priorities for the Wainuiomata North Development Framework. As can be seen in Figure 19, although evaluation criteria were formulated at the workshop prior to the production of the Development Framework, the urban design principles are inherently 'built into' the evaluation criteria. If a project satisfies the evaluation criteria then by consequence it also satisfies the urban design priorities of the project. Given the interrelated and holistic nature of urban design, many evaluation criteria also satisfy multiple urban design priorities. The urban design priorities and evaluation criteria have also been cross-referenced against the five key aims found in the Wainuiomata Development Plan to ensure the evaluation of options includes the locally relevant long-term priorities for the suburb of Wainuiomata as established by the community.

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Wainuiomata North Urban Design Priorities	Wainuiomata Development Plan	Related Evaluation Criteria
Promoting a mixed density, walkable neighbourhood that minimises cul-de-sacs	A connected neighbourhood	2. Making the best use of scarce greenfield land 6. Finding transformational opportunities for Wainuiomata 7. Enhancing liveability and quality for new residents
Maximising local and strategic connectivity	A connected neighbourhood A fun gateway	1. Responding to Wainuiomata North's key opportunities and constraints 5. Maximising access to passenger transport 6. Finding transformational opportunities for Wainuiomata
Aspiring to be a new development benchmark based on 21st century neighbourhood design expectations	A connected neighbourhood A proud Wainuiomata identity	2. Making the best use of scarce greenfield land 6. Finding transformational opportunities for Wainuiomata 7. Enhancing liveability and quality for new residents
Integrating with green and blue networks	A top destination A connected neighbourhood	1. Responding to Wainuiomata North's key opportunities and constraints 4. Leveraging off urban sustainability benefits
Improving the self-sufficiency of the community	A vibrant town centre A connected neighbourhood	1. Responding to Wainuiomata North's key opportunities and constraints 4. Leveraging off urban sustainability benefits 7. Enhancing liveability and quality for new residents

Figure 19: The inter-relationship of Development Framework urban design priorities, Wainuiomata Development Plan aims and options evaluation criteria

7.2 OPTION EVALUATION

A rating matrix comparing Options 1 and 2 under the urban design evaluation criteria is provided in Table 4 below. Given the commonality of many design elements across both development options, the assessment is a case of 'the degree to which' an option satisfies opposed to an 'achieves/not achieve' or 'positive/negative' assessment. General positive effects that apply to both Options are represented in Section 6.2. The evaluation was therefore a combination of quantitative and qualitative assessment.

Table 4: Options evaluation under project evaluation criteria

Ref	Principle	Option 1	Option 2	Comments
1	Responding to Wainuiomata North's key opportunities and constraints	Moderately satisfies	Moderately satisfies	• Both equally able to deal with water network constraints, and able to work with features of landscape and ecological value/sensitivity. • Both address SNR green edge – Option 1 has a tapering edge whereas Option 2 has a firmer/more assertive edge. • Less flexibility around servicing for Option 2 but has the advantage that it is more likely to support any future strategic access connection, new Primary School and establish a new sense of development direction in Wainuiomata.
2	Making the best use of scarce greenfield land	Does not satisfactorily address	Moderately satisfies	• Land is not a limitless resource and Option 2 has the ability to generate more yield on the least amount of land. It offers a good choice of housing types and section sizes compared with Option 1. Option 1 reflects historical patterns of land development and largely continues the status quo. • The magnitude of development offered by Option 2 provides the best opportunity to get a connected network spreading south. • More population can retain and grow schools and centres, provide infrastructure resilience and a strengthened sense of community.
3	Improving the resilience of Wainuiomata	Moderately satisfies	Strongly satisfies	• An objective of the development framework is to protect a long-term strategic access road connection point. Both options equally support the alignment of any future road to either north (to Naenae) or east (to Waiwhetu), and provide for a logical access tie-in close to the village node so traffic is channelled onto local roads which in turn supports the establishment of the planned future centre. • Although the route alignment is beyond the scope of the Development Framework, Option 2 would better support the case for the provision of a new strategic access road. Greater population will create more demand for the road and better support its economic feasibility.
				• Although beyond the scope of this Development Framework, the effects for future (and existing) residents should a strategic road progress would be positive in that the road would result in increased intra-city connectivity and growth in employment activities. Lowered traffic volumes on the existing Wainuiomata Road may also lead to improvements in its safety and increase its appeal to local traffic and tourist movements (as a multi-modal route) through less road-traffic noise and intensity.
4	Leveraging off urban sustainability benefits	Does not satisfactorily address	Moderately satisfies	• Both options • Option 2 has greater sustainability gains locally as greater population supports growing businesses and the viability of shops (i.e. through more customers) and active transportation / a bus route (i.e. through more people living closer to public transport and green spaces). • Under Option 2, residents would be able to choose from townhouses and terraced houses around a village centre, smaller sections or larger sections in rural-fringe settings. The wider variety of choice would help keep house prices affordable and lead to more prosperous, equitable households.
5	Maximising access to passenger transport	Slightly satisfies	Moderately satisfies	• Both options support a Wellington Road to Wise Street loop road and associated bus route. • Improving bus services (extending the route or increasing the frequency of services) will be more difficult in low density areas (Option 1). Mobility-related risks of social exclusion will therefore be better addressed by Option 2. • A compact urban development (Option 2) which spatially concentrates a higher intensity of development within a walking catchment of the village centre and along public transport routes means a greater proportion of local residents will be able to access to passenger transport services. Active transport modes and passenger transport will become more attractive and economically viable which in turn potentially reduces private car dependency and atmospheric pollution and results in positive health outcomes.

Key	Does not satisfactorily address	Neutral	Slightly satisfies	Moderately satisfies	Strongly satisfies

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Table 4: Options evaluation under project evaluation criteria (continued)

6	Finding transformational opportunities for Wainuiomata	Does not satisfactorily address	Strongly satisfies	• This relates to retail planning imperatives and maximising consumer access and expenditure in existing local centres of Wainuiomata. Option 2 has greater transformational potential as more local population will result in more retail expenditure flow-back in the wider community. The proposed Wainuiomata North village centre is estimated to capture $20 million of retail spend, but $30 million will flow south to Wainuiomata town centre creating jobs and growing businesses. • Rezoning large areas of land under both options will help keep land cost low and housing prices affordable and competitive. Smaller section sizes and the mix of product types and price points offered by Option 2 will help with housing affordability - an important part of an inclusive social agenda. • Under both options an influx of residents could establish a new community identity and create a positive community character. However, the principles of good design embodied in Option 2 including making more efficient use of the available land, will better enable the step-change in quality required to break the homogeneity of land use density and outdated settlement design that has characterised housing development in Wainuiomata to date. • With more people the range and quality of community facilities in Wainuiomata improves. Option 2 offers the greatest population gain.
7	Enhancing liveability and quality for new residents	Moderately satisfies	Moderately satisfies	• Option 1's outward spread of low density of housing under a 'market predict and provide' approach will be less able to encourage a well-laid out settlement pattern with well-designed streets and quality open space when compared to the urban consolidation and suburban intensification approach of Option 2. Given liveability is associated with how walkable a place is to local amenities and services, convenience to shopping and schools and perceived opportunities to form social networks, Option 1 is likely to result in less liveability and neighbourhood satisfaction for residents. • How a neighbourhood is planned, designed and configured to produce a quality public realm that people feel safe and comfortable in is another aspect of liveability. Research finds that streets and open spaces that are overlooked by buildings so there are 'eyes on the street' and a mix of uses will best meet address safety and inclusiveness. Option 2 will best provide for building diversity and a stimulating public realm in residential areas.

Key	Does not satisfactorily address	Neutral	Slightly satisfies	Moderately satisfies	Strongly satisfies

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7.3 OPTION 2 (PREFERRED) SUMMARY OF BENEFITS

Option 2 'mixed-density development' consistently scores better across the evaluation criteria but particularly against three key criteria:

2. making the best use of scarce greenfield land
4. leveraging off urban sustainability benefits
6. finding transformational opportunities for Wainuiomata

Changing the relative balance towards a more compact settlement design with a mix of densities was widely supported through the assessment process. Option 2 will best meet Council's strategic aspirations to redefine Wainuiomata. This option is most likely to facilitate a change in the diversity of product on offer to the local market and consequent social sustainability outcomes such as improved housing affordability and the ability of residents to age in place.

Evaluation of Option 1 'incremental development' finds the continuation of the status quo, reflecting historical patterns of development that focus on less varied markets and housing types. This option is less supportive of sustainable lifestyle opportunities and transformational change in Wainuiomata, and is less likely to promote affordable housing. Option 2 on the other hand, could better unlock the potential of the land and promulgates the principles of best practice urban design that relate to successful residential environments. This includes connections between people and places, movement and urban form, nature and built environment and processes for ensuring successful places are delivered and maintained[5]. The option has the best prospect of delivering on creating a quality housing layout and design at subdivision stage, and higher quality of life for future residents of Wainuiomata North.

Key benefits of a compact settlement approach
In general, the key benefits of a compact settlement approach include:

- agglomeration, convenience, and proximity between activities, in high quality settings, will ensure that multiplier benefits and opportunities for one activity to stimulate others will occur. This strategy will ensure that every possible activity that could enjoy viability can occur, even to the point of an additional local corner store or specialty, niche retailer.
- opportunities for people to meet their daily needs without the energy intensive and increasingly expensive reliance on automobiles will be maximised. This will also have an equity benefit for the elderly and young who are less able to use vehicles in meeting their daily needs.

[5] http://www.urbandesigncompendium.co.uk/importanceofdesign, accessed 24th January 2018.

- New Zealand has an internationally high ecological footprint, based in a large part on energy use and transport patterns. With energy (including transport) emitting 40% of New Zealand's greenhouse gases, mainly in the form of CO2, and 43% of these CO2 emissions coming from domestic surface transport, emissions from transport are significant . Changing the way people connect their daily need activities together will have one of the single biggest positive impacts on environmental sustainability within Lower Hutt. There will also be affordability benefits from enabling people to minimise their car use.
- the greatest possible amount of high amenity landscapes and productive soils will be retained for present and future generations.
- the greatest opportunity for affordability for individuals and the community will eventuate.
- while Development Contributions under the Local Government Act 2002 allow the Council to require the capital costs of growth-related infrastructure to be recovered from those causing that growth (developers and new residents), on-going maintenance costs - always greater in the long term than up front capital costs - still fall on the general community to meet. Long term maintenance cost and debt burdens on infrastructure and services will be minimised for the community when connections per km of service are maximised, and the overall length of service kms are minimised.

The approach proposed is based on a significant body of substantiated local and international research into sustainable urban settlements. This has emphasised the need to ensure that towns are efficient, effective, equitable, and ecological in enabling wellbeing for people and communities.

7.4 LAND USE TYPOLOGIES AND OUTCOMES

Indicative residential typologies
Indicative residential typologies under a mixed-density option are shown on Figure 20.

Indicative mixed use or retail typologies
Indicative mixed use or retail typologies in the future village centre under a mixed-density option are shown on Figure 21.

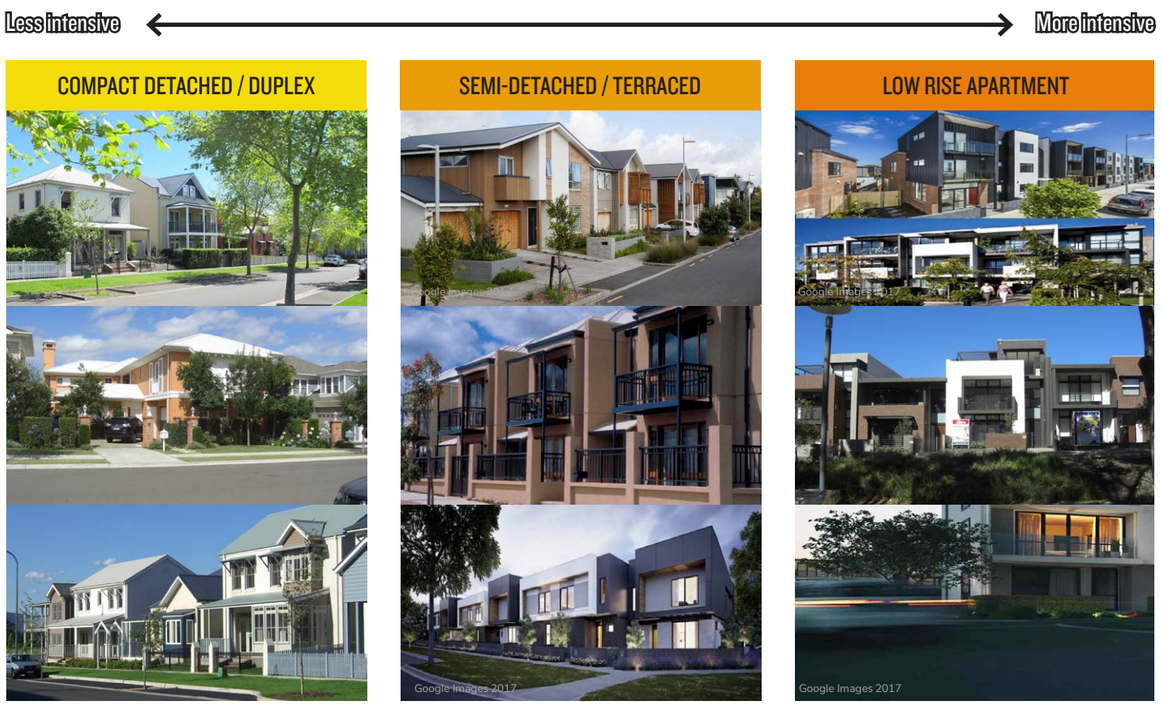

Figure 20: Indicative residential typologies under a mixed-density option

Figure 21: Indicative mixed use or retail typologies under a mixed-density option

8 THE WAINUIOMATA NORTH CONCEPT MASTER PLAN

8.1 THE WAINUIOMATA NORTH CONCEPT MASTER PLAN

Following the identification of the preferred development option for the Wainuiomata North area, a concept master plan has been developed to substantiate and further develop the vision for the land use, open space and movement network. The master plan work was initiated at the workshop by Melbourne-based urban designer Steve Thorne of DesignUrban Pty Ltd alongside members of the consultant design team, in consultation with Council and external stakeholders.

While the Wainuiomata North Concept Master Plan (Figure 22) presents an indicative concept only, its value is that it shows how aspirational outcomes could be physically accommodated and be credible as planning solutions. The master plan is therefore a means to corroborate many of the spatial assumptions being applied in the higher-level framework options and evaluation. The Concept Master Plan demonstrates how the key land use and transport outcomes identified in the preferred mixed-density option (Option 2) could be delivered spatially. The master plan also demonstrates how best-practice principles of urban design, including the retention of local character-defining elements such as key waterways and natural features can be retained so as to contribute amenity to the new development area. A number of possible structure plan details have been tested and shown to be workable such as the general minimisation of cul-de-sacs in favour of a well-connected street network.

The use of a master plan is a valuable means of balancing both a strategic consideration of appropriate use, activity and residential densities, and the achievement of a desirable urban form including block sizes and road widths. While a master plan is a non-statutory instrument, Council could consider including it as a supporting future concept plan within a Structure Plan so people can see the big picture vision for the area.

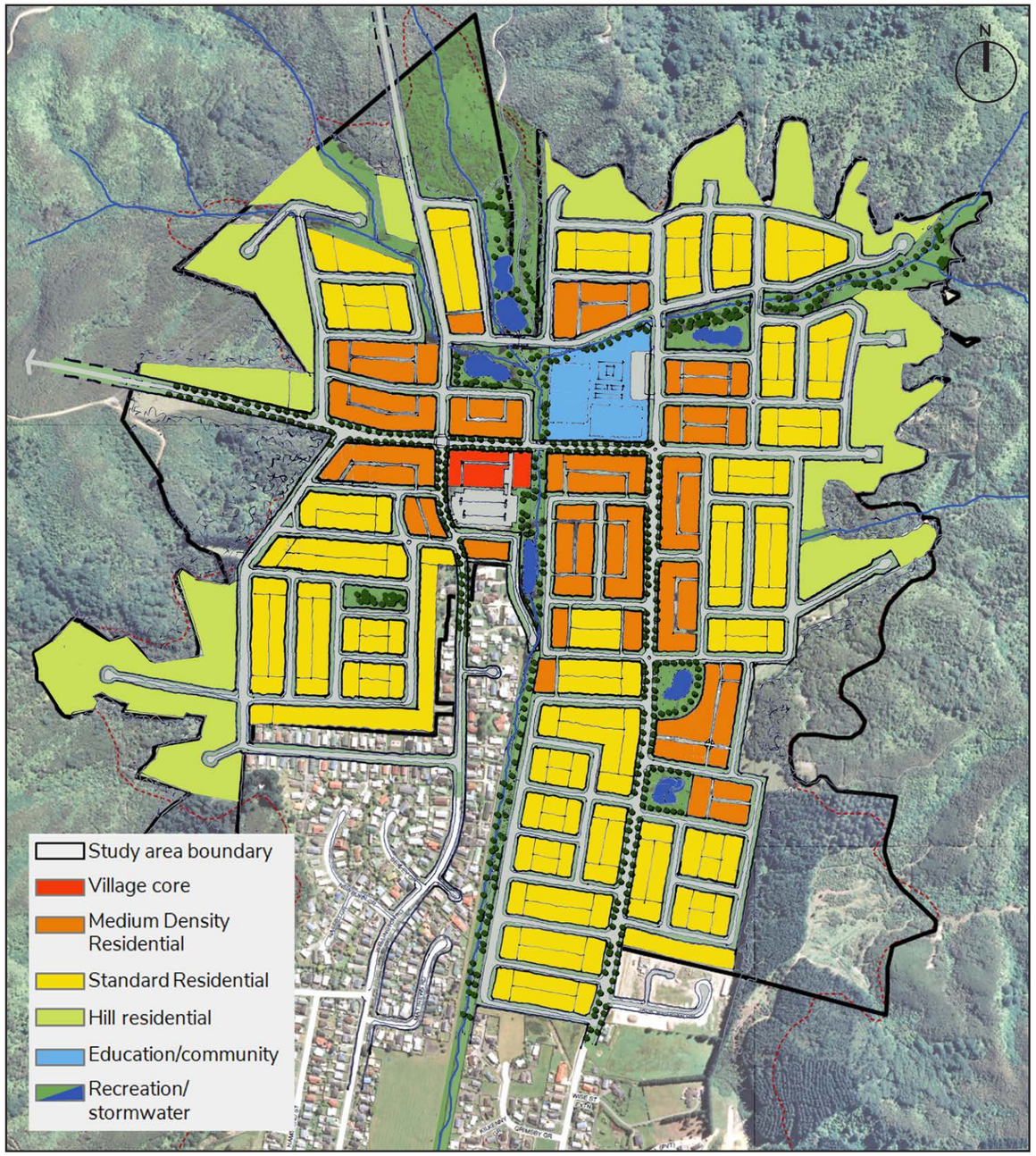

Figure 22: Wainuiomata North Concept Master Plan.
Source: DesignUrban Pty Ltd, 2017.

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8.2 SUMMARY OF MASTER PLAN PRIORITIES

The key elements of the concept master plan for Wainuiomata North are described under the five urban design priority headings (identified in Section 5.1) described in more detail below.

Promoting a mixed density, walkable neighbourhood that minimises cul-de-sacs

- a network of east-west and north-south streets create easily navigable, walkable development blocks (Figure 23). The size and length of urban blocks are limited with the majority of blocks measuring approximately 50-80 metres to increase the choice of movement routes through Wainuiomata North, allow for increases in residential density, and to support for a mix of housing types from terraced housing to more conventional detached units. As a general rule, higher order roads are fronted by higher density housing (see areas of darker orange) (Figure 24) because of their connections to amenity features and the proposed passenger transport route. This reinforces their role as main routes through Wainuiomata North.
- rural-residential development potential is protected on hillside areas to the north, east and west recognising flooding and water supply constraints, remote distances from services and the high visual landscape amenity value of the adjoining SNR.

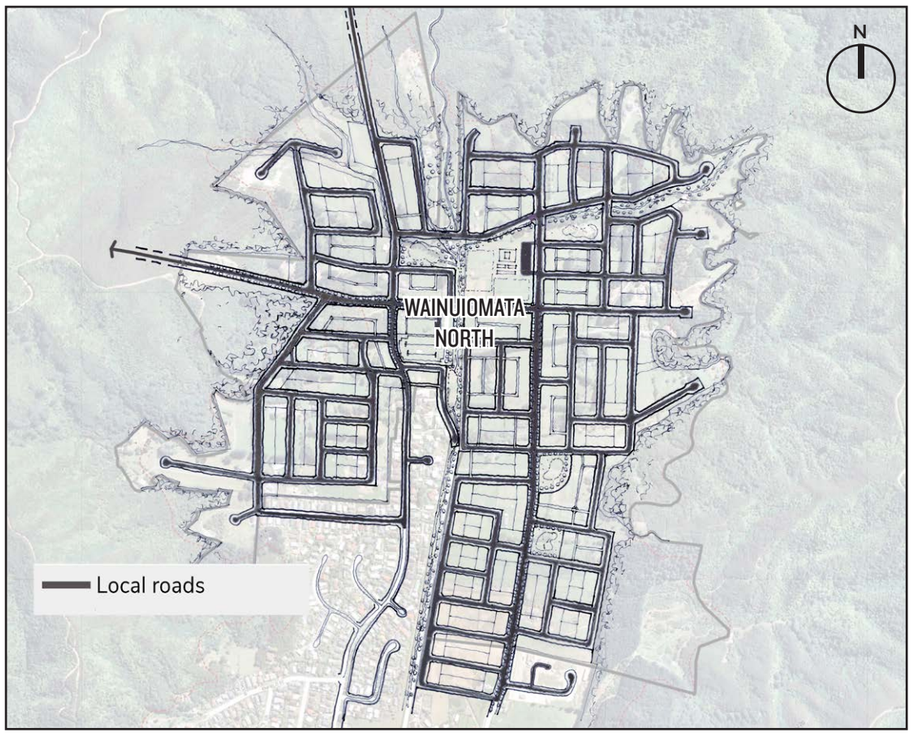

Figure 23: the local street network within the concept master plan

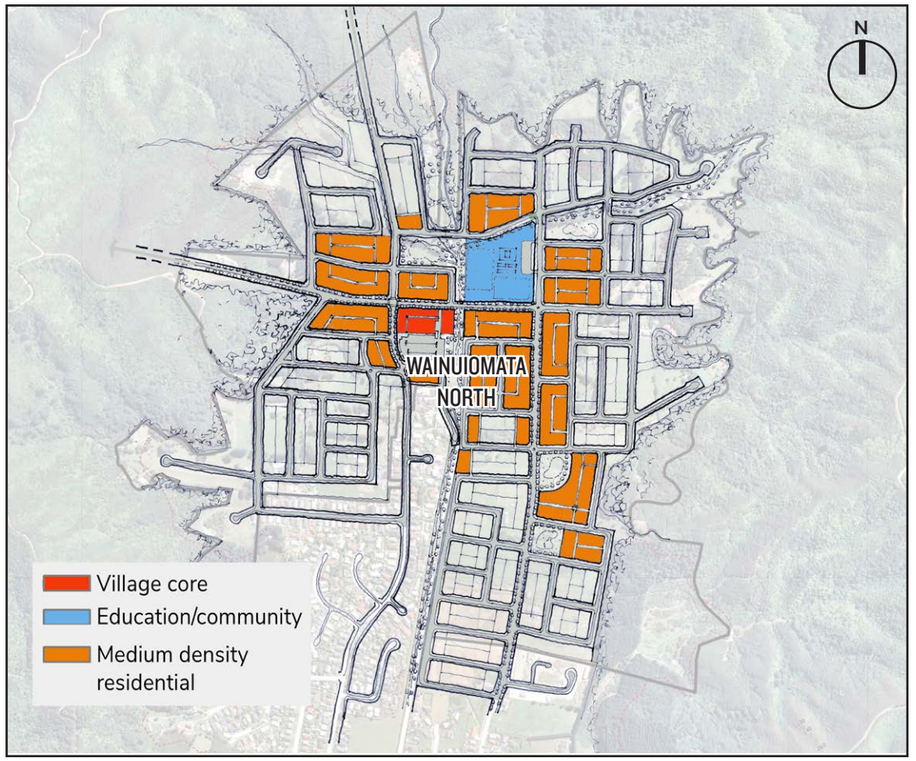

Figure 24: distribution of higher density housing within the concept master plan

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Maximising local and strategic connectivity

- the network still relies on a road hierarchy, with two higher order roads connecting to form a transport 'super-loop' (Figure 25, map reference 1) through the area based around extensions to existing Wellington Road and Wise Street, and future strategic access road connection points either to the north (2) or west (3). These roads are supported by a finer grain of east-west and north-south local roads that provide for pedestrian movement through neighbourhoods, as well as rear lanes. This loop is the principal structuring element and bus route serving the neighbourhood.
- a future-proofed strategic access road connection is provided to both the north and the east taking traffic past the village centre and into the higher order super-loop which has adequate capacity.
- streets are pedestrian friendly and accommodate 1.8m to 3.0m (shared with cyclists) footpaths along both sides. A no-access frontage condition can be included along sections of important roads such as Wellington Road and Wise Street, with access to future lots shown from side streets or rear lanes (Figure 26). This creates good conditions for cycling and walking on these higher order roads as vehicle crossings (driveways etc.) are avoided.

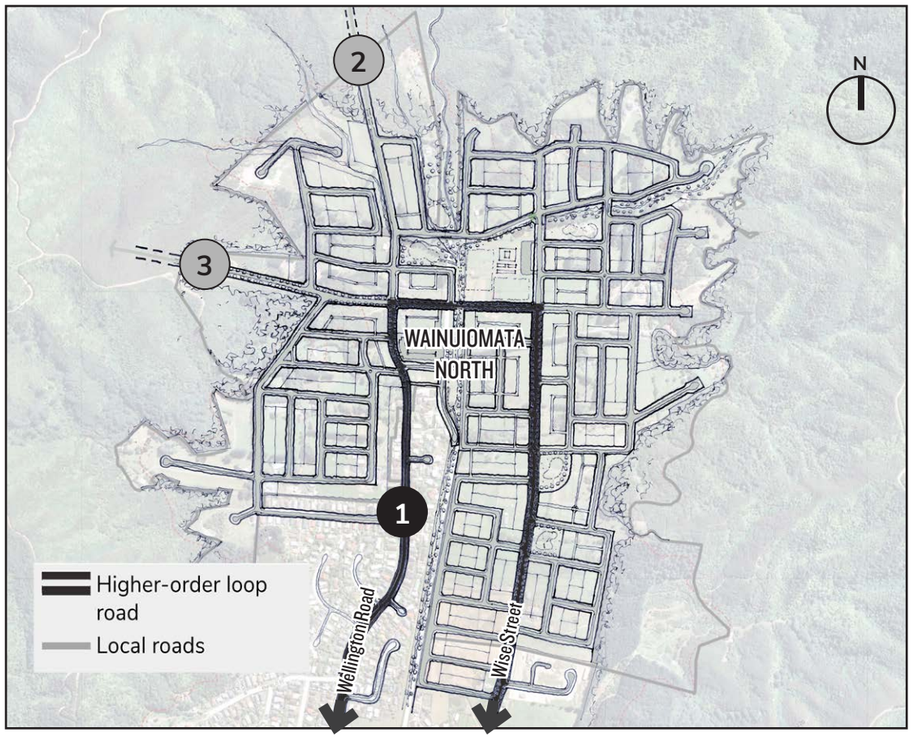

Figure 25: Transport 'super-loop' extending Wellington Road and Wise Street

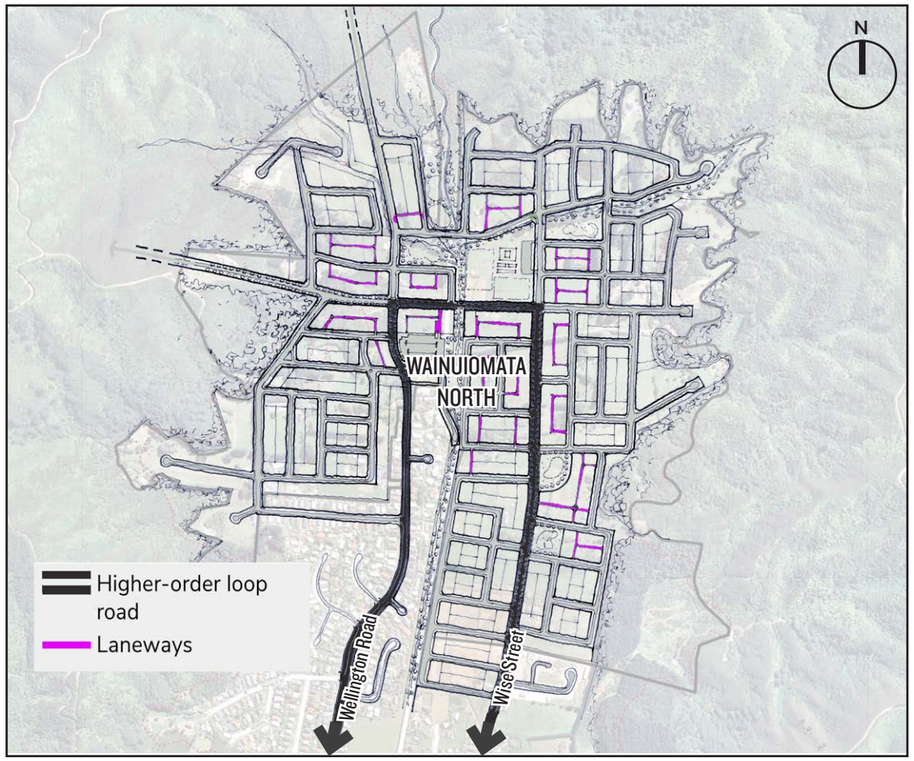

Figure 26: Introduction of rear laneways on important streets within the concept master plan

- streets are cycle friendly (Figure 27, map references 1-3) and create a comprehensive network, including:
  - on-road cycle lanes on at least one side of key streets (e.g. Wellington Road and Wise Street) (1)
  - off-road cycleways associated with the green network (2)
  - low speed environment with traffic calming in the village centre (3)
  - low speed road design on all local roads (30km/hr maximum)
  - avoiding vehicle crossings over shared use paths on key streets.
- walkways and streets support key recreational routes (Figure 28) to expose more people to the open space network and open it up as public estate. This includes 'park-edge' roads (1) adjoining and running parallel to future open space / drainage corridors, and connections to wider walking and cycling trails northwards towards the ECNZ Track (2), Wainuiomata Scenic Reserve, and southwards along Black Creek (3).

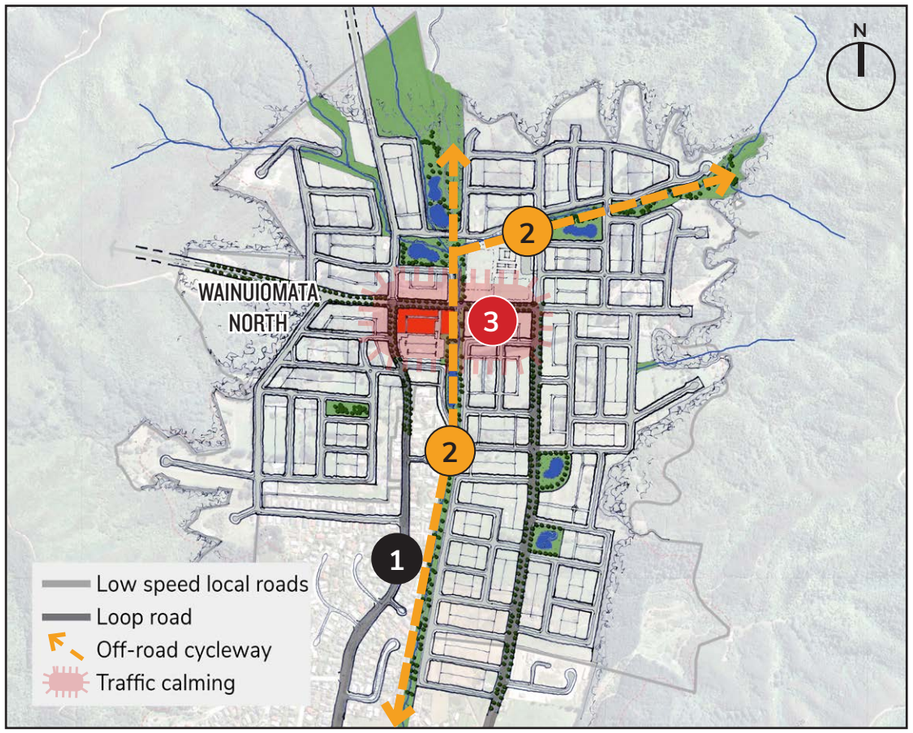

Figure 27: Cycle friendly streets within the concept master plan

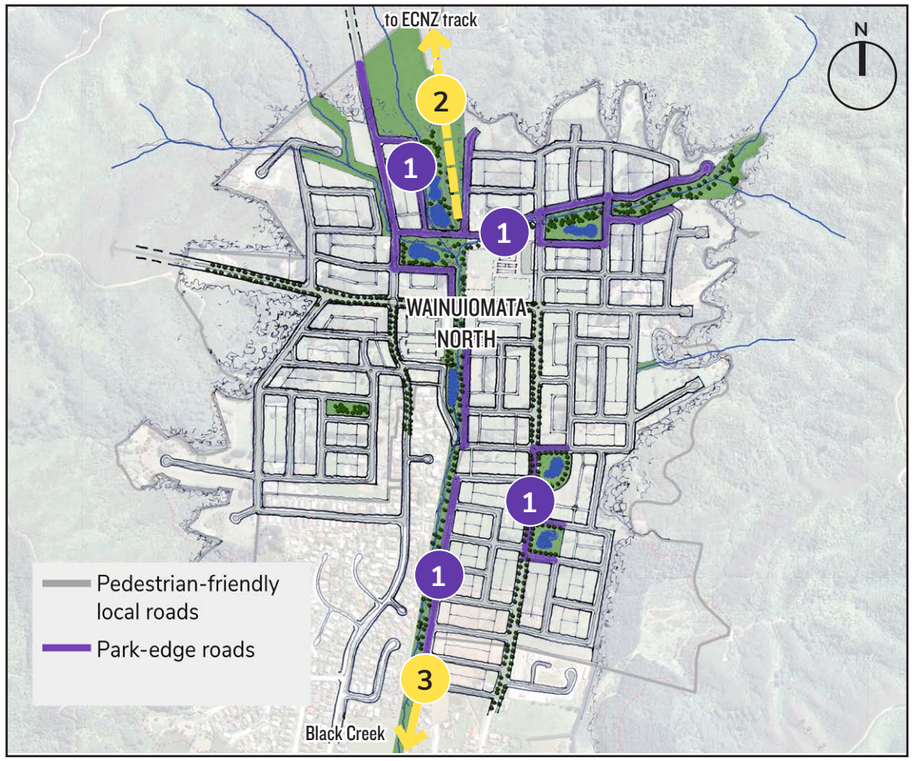

Figure 28: Recreational amenity connections in the movement network within the concept master plan

Aspiring to be a new development benchmark based on 21st century neighbourhood design expectations

- urban block sizes can support fee simple sections ranging from 250-400m2 or comprehensive development on larger lots in the range of 1,500m2. Compact forms of housing such as semi-attached or attached units on smaller sections are distributed in areas with good accessibility to local amenity spaces and higher order transport routes. The majority of medium density housing is within a walkable catchment of the village centre (refer to Figure 29) and served by passenger transport.
- the orientation of roads and blocks ensure coherent public 'fronts' and private 'backs'. Roads are mostly aligned in north-south direction, and lots aligned east-west, so that future dwellings orient for solar access, on-site privacy, and vehicle access from streets.

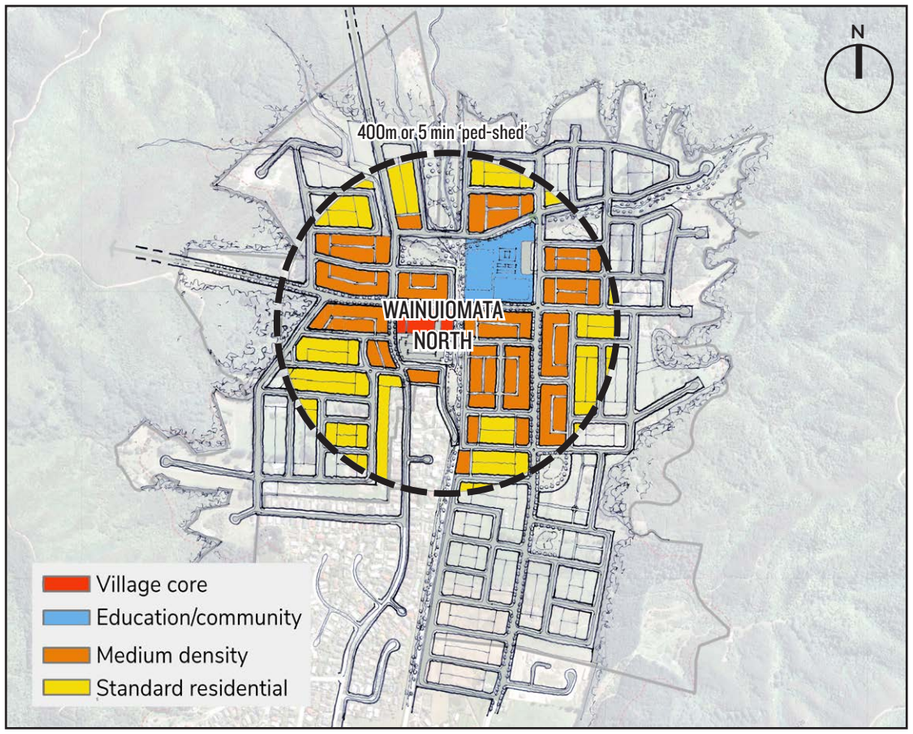

Figure 29: The walkable catchment (400m) of the village centre

Integrating with green and blue networks (Figure 30, map references 1-5)

- centralised stormwater treatment ponds and wetland system: stormwater is captured and treated in a series of seven lowland depressions in parks (1) located within existing drainage catchments. These pond/wetland systems are designed to detain, treat and attenuate stormwater runoff to minimise potential flooding damage associated with bigger runoff events. Stormwater runoff can also be captured through the provision of swales on key roads.
- a continuous landscaped corridor runs north-south and east-west through the area (see green lines) connects key stream tributaries (2). This corridor links future esplanade reserves/strips, riparian margins and community recreational reserves to form a sequence of high amenity open spaces. The corridor links wider walking and cycling networks including hill trails.
- piped network capacity: as development occurs, new reticulated network servicing individual subdivisions will be interconnected to provide a higher level of network redundancy. Sections of existing supply mains require capacity upgrades, and modelling identifies the scale and timing of this work so appropriate development contributions can be assessed.

- landscaped street network: provision of street trees and landscaping along key roads (3) and the decommissioned Upper Fitzherbert Road (4) to soften and break up long vistas and provide a 'leafy green' feel (Wainuiomata Development Plan, page 6).
- new recreation reserve: a large neighbourhood reserve 1,000 to 2,000m2 of new open space (5) suitable for running around, community gathering, and casual recreation is located in a central prominent location overlooked by public streets and land uses (houses or other buildings) for easy casual surveillance. It has the potential to combine with playing fields associated with a future primary school and/or stormwater management area into a larger reserve space exists (approximately 4,000m2).

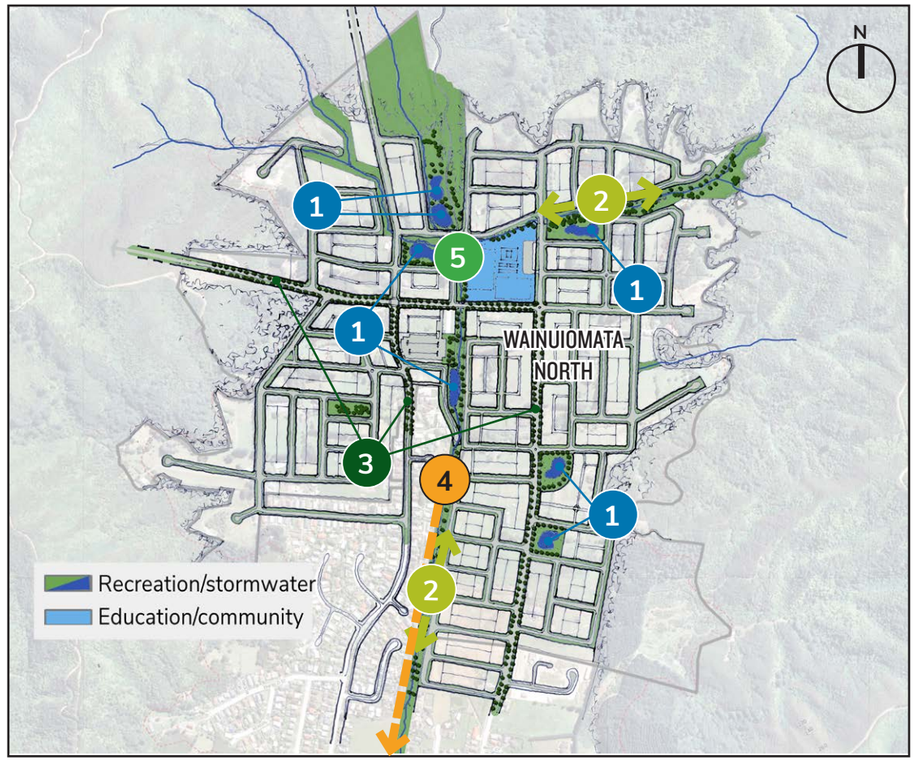

Figure 30: Green and blue networks within the concept master plan

Improving the self-sufficiency of the community

- a 2ha village centre designed to maximise the employment and economic multiplier benefits of the movement economy, future bus route and strategic access road, and higher density residential land. The village centre is connected to a number of major elements including a village green and primary school, and also has the potential for an early childhood centre. Together, this forms the heart of the neighbourhood (Figure 31) which acts as a cumulative destination for the neighbourhood and provides a sense of place and amenity values. Refer to Table 5 which recommends the retail mix and estimated gross floor area for the village centre.
- a 2ha primary school ideally located towards the centre of Wainuiomata North, where access to residents, the proximity of the village centre, and the ability to bring green amenity or co-locate with reserve assets can leverage the greatest benefits.

Figure 31: Sketch of the village centre and nearby primary school.
Source: DesignUrban Pty Ltd, 2017.

Retail tenant	Number	Gross floor area (GFA) in square metres (m2)	Total GFA
Small-scale supermarket e.g. IGA or Fresh Choice	1	1200-1500	1200-1500
Chemist	1	100	100
Wine / bottle shop	1	100	100
Hair / health / beauty	2	80	160
Bakery / deli / takeaway	2	75	150
Cafe	2	80	160
Restaurant	2	150	300
Office / service-related business	2	125	250
Real estate	2	100	200
TOTAL			**2,920m2 GFA**

Table 5: Retail mix and estimated GFA for the Wainuiomata North village centre
Source: Urbacity Pty Ltd, 2017.

The main street length will be determined by the following key aspects:

- the movement network: it sits as part of wider Wainuiomata and not at the end of a cul-de-sac.
- its design qualities: such as spatial intimacy, domestic-scaled architecture and micro-climatically efficient spaces. Building should feature articulated windows and doors, awnings (not canopies), proper roofs and be able to be recognised as individual uses (while remaining fully scaled and working cohesively).
- size of catchment: a dedicated residential catchment.
- quality tenants: the service tenants (especially food and beverage) must be exceptional in order to raise the profile of the retail offer of Wainuiomata.

Detailed design could include small shops sleeving the length of the supermarket (approximately 75m in length), the entrance 'turning the corner' and located on the main street with a small internal courtyard fronted by a café.

OVERALL

The concept master plan illustrates how a realistic development outcome for the new neighbourhood (Option 2) could be achieved in Wainuiomata North. The concept should form the basis of future planning work by the Council and could become part of the guiding vision for the area.

9 IMPLEMENTATION

9.1 STAGING CONSIDERATIONS

In considering how to stage the release of land for urban development, the workshop disregarded a general release of land for urban development with no staging option. Under this option development timing would be dependent upon economics of development, land owner intentions, and could occur in any location within the Wainuiomata North growth boundary. A general release option has a large risk that the future settlement will develop into a fragmented pattern of land uses, impact on the infrastructure rationale and may lead to the ineffective use of the land resource available. In contrast, a staged pattern of release offers opportunities to co-ordinate, in an integrated way, the outcomes noted in Section 7.1 of the Development Framework. As a purely greenfield area, development staging will in particular need to be carefully aligned so that initial development creates the settings needed to progress the next, enabling development to efficiently grow outwards.

Given there are known infrastructure deficits and challenges for Wainuiomata North, development needs to be carefully aligned with realistic and achievable infrastructure provision and infrastructure capacity. This includes infrastructure provision on a timely, logical and cost-effective basis, which does not preclude a strategic access road connection across to Naenae or White Lines East. Since the strategic access road over the Eastern Hills is currently not planned or funded, and is clearly a longer-term proposition, this will also necessitate a staged approach. In terms of commercial deliverability, a commercial node and new primary school are also likely to commence later in the development sequence, once several hundred dwellings have been built (creating customers for shops and pupils for the school). Safeguarding the opportunity for these by coordinating the land release with when market circumstances are more likely to support them is a logical and desirable planning strategy.

The future structure plan for Wainuiomata North may provide for any number of staged land releases, but in general, it is recommended that the residential development staging strategy progresses from the south to the north with a bias toward the eastern side of Upper Fitzherbert Road (Figure 32).

This possible staging approach has been identified on the basis of a number of factors including:

- the ability of existing General Residential zoned land to be developed as of right at present (subject to servicing requirements)
- the logical growth and improvement of the external northern edge of Wainuiomata North land
- the relative ease/availability of trunk infrastructure
- acceptance that development of the village centre, a primary school and a strategic access road are longer-term propositions that should not be foreclosed or precluded by unnecessarily hasty development pressure coming to bear by way of ‘live’ land use zoning.

As a general consideration, different land ownerships should be available in each stage so that there is competition in the land market and the avoidance of land banking. It is acknowledged that some landowners may aspire to have their land developed for urban purposes, and others may not.

The challenge for Council in developing Wainuiomata North land is to carefully manage the supply of land to ensure adequate housing choice, but also the consolidation of growth in new residential areas prior to the development of a village centre so that it does not become a stand-alone, isolated, single-use retail area. However, it is also recommended that at all times the presentation of zones and development vision for the area be retained as a whole. This may necessitate the use of a ‘future’ or ‘deferred’ zone allowing the entirety of the area and a single coherent development vision to be used in all planning exercises.

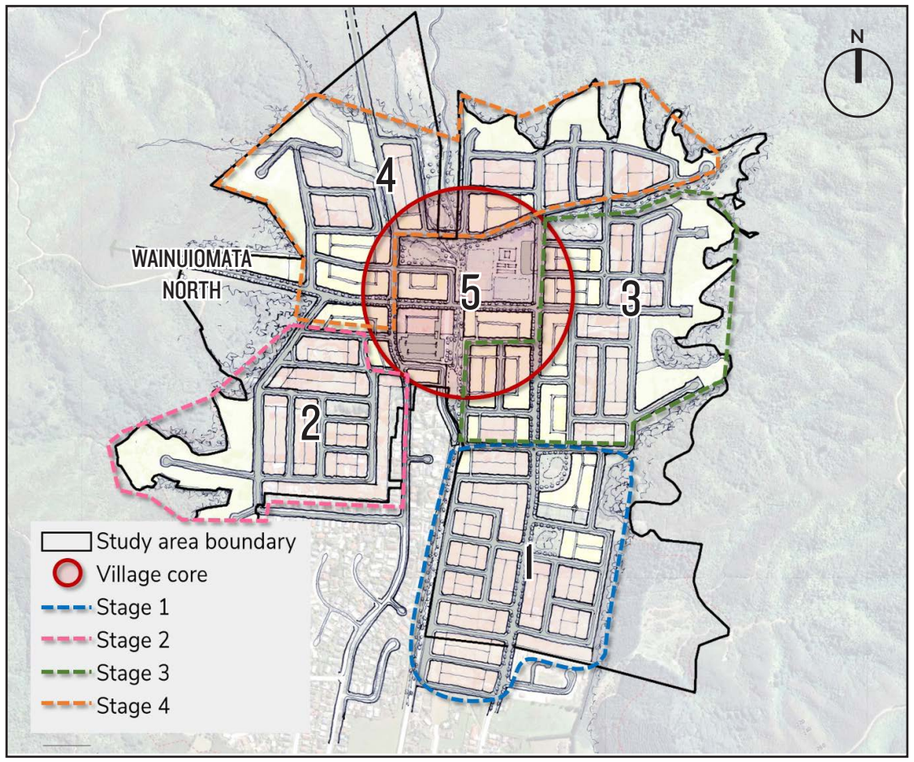

Figure 32: Possible staging strategy from south to north.

9.2 STRUCTURE PLANNING / RMA PLAN CHANGE CONSIDERATIONS

This section summarises key issues or outcomes that a future Council-led structure plan and/or subsequent plan-change process could include or consider. It also provides a summary of relevant non-RMA recommendations or issues that could be considered before or concurrently with any future Council-led plan-change process.

Because of the largely contained and generally flat nature of Wainuiomata North, the master plan concept has been relatively well-resolved. It is recommended that Council initiates any structure planning process with validation of the concept master plan. For example, it could confirm:

- that the mix of densities proposed will satisfy the market
- flood storage needs and required mitigation measures
- ecological and riparian areas required;
- infrastructure upgrades, costs and timeframes available to sequence development
- what development options exist above RL120m (whether on-site water or a form of pump-based public supply is feasible)
- which landowners may be development-ready and which may not be
- whether there are any detailed or specific engineering matters that may require localised changes in the likely block structure or yield.

Through these studies, Council will gain a greater understanding of the yield or total sum of land that could be rezoned and obtain certainty around engineering solutions. It is recommended that on the basis of the above, a revised master plan be prepared and used to illustrate the vision for Wainuiomata North, including in terms of community consultation and as an assessment matter that could be considered at the time of subdivision or resource consent assessments. This would help ensure that small-scale incremental developments could be kept coordinated with the vision.

The structure plan and/or plan change also needs to deal with elements of uncertainty – i.e. how to start things early without precluding longer term outcomes from also occurring if future circumstances allow. For example, the majority of road networks will only be provided at time of subdivision, so policies should talk about a coherent vision for the movement network. Trying to prescribe the alignment of every road doesn't work but finding key links that guarantee minimum connectivity and developers then 'filling in' the gaps is recommended. Key roads could be identified on the structure planning map (Figure 33), with subdivision matters detailing how the remainder of the road network should be resolved.

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Figure 33: Identification of key roads (shown in grey)

It is important that sufficient flexibility is maintained in any structure plan, so it can respond to social, economic and environmental changes. Council should monitor land take up and review the structure plan on a five-yearly basis to identify any amendments required to maintain a suitable future land supply. These reviews should be appropriately timed to ensure that they can feed into future reviews of the District Plan.

Framing expectations around urban structure

There is a critical need for any structure plan or plan change to articulate the fundamental urban structure and design expectations related to the future development of Wainuiomata North so that land uses can develop in a way that is consistent with the sustainable outcomes sought by the Development Framework. Indicatively, the urban structure and design outcomes to be specified or focused on could include:

- connected street networks
- minimising cul-de-sacs and pedestrian-only linkages
- emphasis on shared mode streets rather than car-dominated streets
- emphasis on delivering integrated streets that create active frontages and promote safety and activity for pedestrians

- integrated, prominent reserves and other amenities which are well fronted by other activities
- higher density based around landform and distance to public amenities such as passenger transport routes, shops and open spaces
- residential blocks promoting walkability and permeability
- minimising rear lots
- configuring lots, blocks and activities to minimise nuisance between users and activities and maintain high standards of amenity
- providing for clear spatial ownership boundaries i.e. what is public and what is private
- emphasising housing variety and affordability
- setting out guidance on when different housing typologies may be more appropriate. Indicatively for example:
    - double-width garage are less appropriate when individual lot frontage width falls below 13m.
    - detached dwellings are less appropriate than duplex or terraced houses when the individual lot frontage width falls below 9m.
    - when lot frontage width falls below approximately 7m it becomes difficult to avoid garage or vehicle-dominated street frontages and associated manoeuvring space. At these frontage widths, alternative access such as by way of rear lane is desirable.
    - blocks intended for rear-lane servicing should be approximately 8m deeper than a block of front-accessed lots (unless 'bookend' rear lanes at each block end are proposed).
    - lots intended for rear-lane servicing should often be narrower and deeper than front-accessed lots (minimum of 25-26m depth for front-accessed lots vs. 27-28m minimum depth for rear-accessed lots).
    - proposed lots that do not meet the above (or similar) guidance should be subject to integrated land use and subdivision design, where a smaller lot outcome may be demonstrated as appropriate based on a specific built form proposal for that lot.
    - the Medium Density Design Guide proposed under PC43 offers good guidance from which to draw from.
- promoting successful on-site solar orientation, privacy, and activation of public streets by managing north-facing lots less than 15m (lots less than 15m may not be able to accommodate all of required vehicle access / garaging, a living room must face the street, and the width of an outdoor space that could sit next to a house / garage and be screened for privacy from the street).

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By clearly articulating the outcomes and conditions sought and establishing a clear, understandable vision for development, the Council will be able to 'set the agenda' for mixed-density development and high-quality outcomes where developers are able to clearly understand what is being asked of them and make sound investment decisions in response. The outcome-based policy framework should also identify why each outcome is important. For example, under the movement-related urban structure outcomes, this is to:

- create character-defining streetscapes that organise the neighbourhood
- create a well-connected and logical street network that provides safe, direct and convenient routes for people
- reduce unnecessary vehicle travel through Wainuiomata North
- create permeability through the area and establish pedestrian and cycle priority and safety ahead of driving.

These matters could form the basis of Wainuiomata North-specific Plan policies.

Future plan change considerations

Taking the outcome-based policy framework of the Wainuiomata North structure plan into a plan change may result in the need to review and revise the present resource management approach of some policies which apply across the whole of Wainuiomata or the City. For example, the workshop identified some inconsistency of lighting standards within the City. Given the performance benefits of quality lighting in creating safe and active spaces in a community, Council may wish to reconsider its urban road light standards generally.

Or for example, the plan change could include examples of appropriate street cross sections and an associated rule package. If deemed applicable, these may also apply District-wide and be introduced through a whole-of-city District Plan Change, or alternatively via a separate Engineering Code of Practice.

There was strong consensus at the workshop not to progress with discrete areas of rezoning, as this runs the risk of fragmenting the vision. Instead, a future plan change could look to rezone the whole area but add prerequisites for future stages, which only switch on with particular milestones or development performance.

For example:

> *"...development in stage 2 is a non-complying activity until such time as 80% of stage 1 is consented."*

Or for instance, to ensure stormwater is comprehensively addressed for the entire area where there is a necessary infrastructure upgrade:

> *"Until the stormwater solution required by Rule xx is met, any subdivision activity is a non-complying activity."*

While such an approach could be criticised for "zoning but then not enabling", it is considered a very appropriate way of balancing a comprehensive and integrated land use solution that will not be deliverable in one discrete timeframe. If written clearly, and supported by policies that clearly differentiate when outcomes should be "enabled" (such as housing diversity and choice), "required" (such as a connected street network) or "avoided" (such as outcomes that compromised the vision), it would also be unlikely to be misunderstood by users.

Looking to the village centre, planning mechanisms which preserve centre options such as a deferred or future zone may be appropriate. Council could also look to use the road controlling powers of the LTMA to prevent access. It may prove most appropriate to leave the north-western quadrant of Wainuiomata North zones for rural-residential use so that development will not proliferate in a way that could undermine future road locations, park locations, or the village node itself.

In terms of development control rules, the following topics are commonly included in urban design-based frameworks and are supported:

- relaxation of height in relation to boundary controls, at least in the front half of sites, so as to enable more-urban streetscapes and the efficient use of narrow gardens as the principal outdoor living space (less applicable on north-facing lots).
- requirements relating to site frontages, including landscaping, fence heights, and the visibility of front doors from streets.
- provision for urban trees between 4m-8m in (mature) height, either as street trees - which may require wider roads - or to be accommodated on certain lots.
- minimum-width side yard setbacks (1m), with restrictions on upper-level windows closer than 5m to the side or rear boundary.
- being permissive of housing density to promote housing diversity and choice. If an intensity control is required, such as to equitably collect development contributions under the LGA or provide certainty in infrastructure capacity, a habitable-room (lounges and bedrooms) control could be used. Indicatively, if a rule provided for one habitable room per 50m2, then on a 500m2 site 1 x 9 bedroom unit (+ lounge) could eventuate or 2 x 4 bedroom units, or 2 x 2-bedroom units and 1 x 3 bedroom unit could eventuate etc.
- building coverage could be ignored and more efficiently replaced with a stormwater / run off requirement (which could be met by complying with site coverage requirements or by utilising other means such as storage tanks) and a building length control to manage building dominance effects.

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Key plan change guidance

In summary, the key recommendations for a future plan change are:

1. use simple and direct policies and objectives, including provisions that enable what is sought as well as seek to limit what is not sought (when policy frameworks only achieve one of these two 'sides', Plans are less effective in practice).
2. include plans and a vision for the whole Wainuiomata North area, even if not all of the area is proposed to be subject to re-zoning at one time.
3. specify subdivision rules that require logical and connected block structures.
4. specify land use rules that focus on the quality of public space interfaces and, otherwise, maximizing choice and diversity.
5. any village node should be subject to its own planning requirements, including its own master-plan concept for a main street-based precinct that will enhance a sense of place and destination within the new neighbourhood.

Demonstration project / design leadership

A range of tools are also available to demonstrate Council's commitment to design quality and sustainable urban outcomes such as a demonstration project for five to seven lots to show that higher density and different products bring benefits. This could allow the Council to set the tone for future development, and it could do this alone or with a development partner.

As a half-way-house and given that resource consents are attached to land rather than a person, the Council could design and apply for a resource consent on a prominent Wainuiomata North site as a means of incentivising the landowner to implement that consent effectively given to them free of charge. This is a cheaper and less capital-intensive means for the Council to show design leadership, however there is no guarantee that such a consent would be implemented by the relevant landowner (and it could simply facilitate the site's sale).

Strategic Access Road

It is recommended that any structure plan or plan change include indicative strategic access road links north to Naenae or west to White Lines East on any planning maps. This is because future-proofing for the eventuality has played a large part on the concept master plan and placement of a future village / primary school / recreation reserve. The timing of such a link may also have a direct bearing on when development of commercial activities in particular may become viable. If the number of houses within the area has not grown to a size sufficient to make shops viable, the additional passing traffic of cars using the link may make up the shortfall and entice development earlier than otherwise would be the case.

To this end, planning for the future node and potential future link should be linked to one another.

9.3 NEXT STEPS

The Council will use the development framework to undertake further due diligence of the planning and development issues facing Wainuiomata North. This may result in further specific consultation with local landowners or other stakeholders including NZTA, Wellington Water, Wellington Regional Council, Iwi, or developers.

Indicative time frame: early-mid 2018
Either after or as a part of that further validation, the Council will initiate a structure plan process. This is the first-step towards re-zoning the land for urban development. The Structure Plan will identify specific built form and development outcomes for Wainuiomata North, and take this initial development framework further in terms of preferred infrastructure needs, outcomes and sequences, future planning requirements, and staging. It is recommended that the structure plan contain an updated concept master plan for the area. The outputs of the structure plan will inform the Council's long term (10 year) and annual planning processes in terms of aligning necessary capital expenditure for growth, and including how this may relate to future development contributions and rates that will apply in Wainuiomata North.

Indicative time frame: mid 2018 – mid 2019
After the structure plan process, the Council will initiate a statutory District Plan change under the Resource Management Act. This will be focused towards re-zoning the land for urban purposes and will be predominantly for residential activity that can be included in the term 'medium density'. This will include planning objectives and policies, and the development rules that will apply.

Indicative time frame: late 2018 / early 2019 – end 2019
Once operative, people wishing to undertake development in Wainuiomata North will be subject to the applicable rules and necessary infrastructure upgrades, with resource consents required for most subdivision and then generally large-scale land use developments.

Indicative time frame: 2020+
As above.

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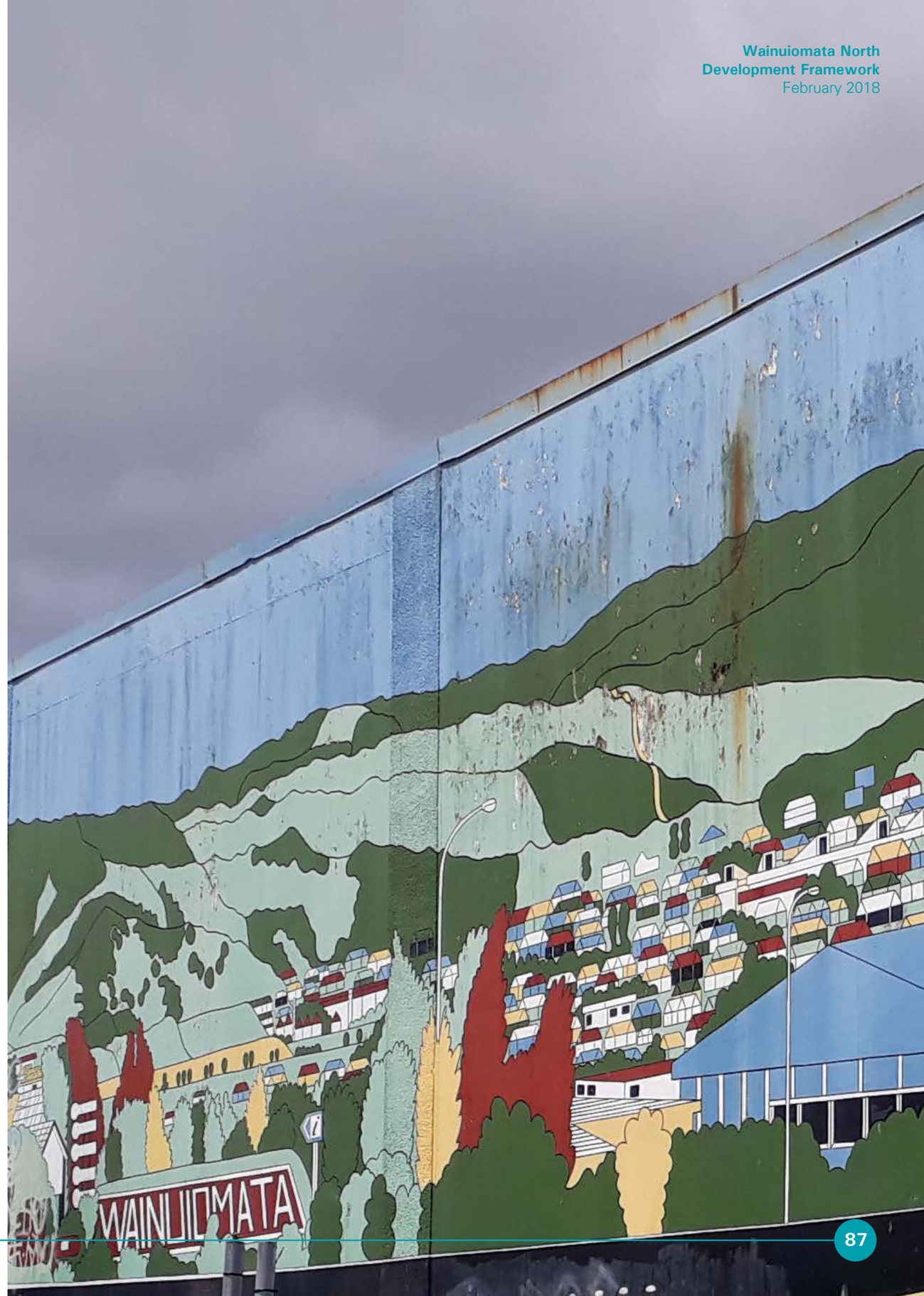

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Wainuiomata North
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APPENDIX I

Glossary and abbreviation of terms

SHORT TITLE	DESCRIPTION
Council	The Hutt City Council.
Cross Valley Link	A proposed strategic east-west road linking Seaview with State Highway 2 (SH2) under investigation by Council and Central Government.
Greenfield land	Rural or open land that is being developed for urban purposes for the first time.
Gross floor area	The sum of the gross areas of all the floors of a building or buildings measured from the exterior faces of exterior walls or from the centre-lines of walls separating two buildings.
Kohanga Reo	Premises (language nest) where preschool children are taught and cared for in accordance with Tikanga Maori (Maori customs).
Kaitiaki	Guardian.
Long-term Plan	A 10-year plan prepared under the Local Government Act 2002 containing programmes for the Council's priorities, activities and operating and capital expenditure.
Mana whenua	Māori with ancestral rights to resources and responsibilities as kaitiaki over their tribal lands, waterways and other taonga. Mana whenua are represented by iwi authorities.
Mauri	Life force.
National Grid Corridor	The 110kV National Grid (as defined in the National Policy Statement on Electricity Transmission) transmission line including the facilities and structures used for, or associated with, the overhead transmission of electricity located to the northwest of Wainuiomata North, and the area located within 32m of the line measured either side of the centreline of the transmission line.
Norfolk Road shops	The shopping strip between Upper Fitzherbert Road and Honey Street fronting to Norfolk Street in Wainuiomata.
Operative District Plan	The Council's regulatory land use planning document prepared under the Resource Management Act 1991. It provides guidance and rules on how land can be developed.
Residential Activity	The use of land and buildings for any domestic/living purposes by people living in the building, but does not include home occupations or non-residential activities.
Retail Activity	Any activity which involves display, sale or hire of goods direct to the public; and includes restaurants, cafes and takeaway food premises, off-licences, auction rooms, hair dressers, laundries and dry cleaners; but excludes service stations, commercial garages, car sales yards, video parlours and licensed premises.
RMA	Resource Management Act 1991.
Rural Residential zone	A zone used to identify rural land for urban development in the future. This zone will remain in place until a plan change re-zones the land to the appropriate urban zone (e.g. residential or business). Rural activities are able to continue on this land until the urban zone becomes effective.
SNR	Significant Natural Resource. Any significant natural resource which is considered to be significant to the City for botanical, geological or zoological reasons and which is listed in Chapter 14E - Appendix Significant Natural, Cultural and Archaeological Resources.
SH2	State Highway 2.
Taonga	A treasured item (tangible or intangible).
Taranaki Whānui ki Te Upoko o Te Ika	Taranaki Whānui are the mana whenua or traditional guardians of the Wellington Harbour and associated lands including the Port Nicholson area. The Port Nicholson Block Settlement Trust was established in August 2008 to receive and manage the Treaty settlement package for Taranaki Whānui ki Te Upoko o Te Ika.
Te Atiawa – Wellington Tenths Trust	Established to administer Māori reserve lands, largely in urban Wellington. The Reserve has a set of beneficial owners descended from Te Atiawa, Ngāti Tupaia, Taranaki and Ngāti Tama tūpuna who were resident around Te Whanganui a Tara (Wellington Harbour) in 1840. The Wellington Tenths Trust administers what was left of the original reserve of over 4000 acres, on behalf of its beneficial owners.
Wāhi tapu	A place sacred to Maori in the traditional, spiritual, religious, ritual or mythological sense
Wainuiomata North	The 136ha area of land which forms the study area for the Development Framework. The area is located north of Wellington Road and Wise Street and is centred around Upper Fitzherbert Road.
WSD	Water Sensitive Urban Design is an approach which integrates the urban water cycle, including stormwater, groundwater and wastewater management and water supply, into urban design to minimise environmental degradation and improve aesthetic and recreational appeal.

APPENDIX 2

Workshop participants

CONSULTANT TEAM
COUNCIL TEAM

NAME	ORGANISATION	ROLE OR DEPARTMENT
Ian Munro	Ian Munro	Project Manager (Consultant)
Mike Cullen	Urbacity Pty Ltd	Retail and Town Centre specialist
Steve Thorne	DesignUrban Pty Ltd	Urban Designer / Masterplanner
Nicola Tagiston	Nicola Tagiston	Urban Designer / Planner
Andrew Cumming	HCC	Divisional Manager District Plan / Project Manager (Council)
Gary Craig	HCC	City and Community Development Manager
Paki Maaka	HCC	Urban Design Manager
Wendy Moore	HCC	Divisional Manager Strategy and Planning
Hamed Shafiee	HCC	Economist / Senior Policy Advisor Strategy and Planning
John Gloag	HCC	Divisional Transport Manager
Damon Simmons	HCC	Traffic Assets Manager
Ryan Rose	HCC	Manager Land Development
James Lamb	HCC	Visitor Market Development Manager
Parvati Rotherham	HCC	Development Liaison Manager City Growth
Phil Murphy	HCC	Infrastructure
Steve Mann	HCC	Infrastructure
Bruce Hodgins	HCC	Divisional Manager Parks & Gardens
Kelly Crandle	HCC	Reserves Planner
Mel Laban	HCC	Community Projects and Relationships Manager
Mike Mercer	HCC	Divisional Manager Community Hubs
Hayley Goodin	HCC	Healthy Families Manager
Corinna Tessendorf	HCC	Senior Environmental Policy Analyst
Joe Jeffries	HCC	Environmental Policy Analyst
Nathan Geard	HCC	Environmental Policy Analyst
Jon Hoyle	HCC	Communications and Marketing Advisor
Tim Johnstone	HCC	Team Leader Resource Consents
Peter McDonald	HCC	Resource Consents Planner

Wainuiomata North
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EXTERNAL STAKEHOLDERS
COUNCIL SENIOR LEADERSHIP TEAM
ELECTED MEMBERS

NAME	ORGANISATION	ROLE OR DEPARTMENT
Lucy Harper	GWRC	Environmental Policy Adviser
Michelle Bourke	GWRC	Policy Advisor and Environmental Protection Officer
Helen Chapman	GWRC	Senior Advisor Public Transport Policy
Kerryn Merriman	GWRC	Team Leader Public Transport Service Design
Craig Walton	Urban Plus Ltd	Manager HCC properties / social housing
Deborah Leaupepe	Ministry of Education	Education Network Advisor
Laura Robson	Ministry of Education	Education Analyst
Morris Te Whiti Love	Port Nicholson Block Settlement Trust / Wellington Tenths Trust	Trustee / Iwi Advisor
Stewart McKenzie	Wellington Water	Principal Advisor - Planning and Environment
Kim Kelly	HCC, Senior Leadership Team	General Manager City Transformation
Matt Reid	HCC, Senior Leadership Team	General Manager City and Community Services
Cr Campbell Barry	HCC Elected Councillor	Wainuiomata Ward
Cr Josh Briggs	HCC Elected Councillor	Wainuiomata Ward
Cr Margaret Cousins	HCC Elected Councillor	Deputy Chair, District Plan Committee

APPENDIX 3

Technical workshop presentations

I. GARY CRAIG - URBAN GROWTH STRATEGY

I

2

What I'll talk about

- Why an Urban Growth Strategy
- Targets and Results to Date
- Dwelling types completed
- Future Developments we are aware of.

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3

Population Changes

- Negative net migration, particularly among 20-30 year olds
- Declining birth rate and increasing death rate so little natural population increase
- Ageing population and falling average household size from 2.7 persons to 2.4 persons
- Falling working age employment base

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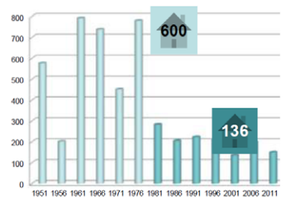
4

Housing growth - past



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5

Business As Usual is not an option

- It will not provide adequate space for new families
- It will not provide enough opportunities for older residents
- It will mean our population will decline
- May mean the loss of future commercial development opportunities;
- Retail centres will lack vibrancy

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6

Urban Growth Strategy

Adopted in 2013 the UGS sets out a vision for growth and development of the built environment in Lower Hutt for the **next 20 years**;

By 2032:

- target population at least **110,000**
- target increase of **6,000** new homes

(Average of 300 new homes per annum)

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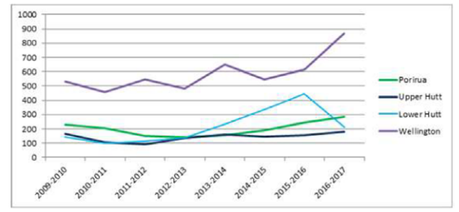
7

New Dwelling Consents



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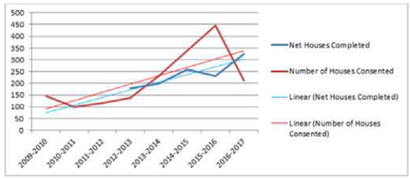
Consents vs Built



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9

Growth to date

New Residential Dwellings **Completed**

Year to 30 June 2013	Net	179			
Year to 30 June 2014	Net	198	Ave	187	
Year to 30 June 2015	Net	258	Ave	212	
Year to 30 June 2016	Net	232	Ave	217	
Year to 30 June 2017	Net	325	Ave	238	
3 Months to 30 Sept 2017		79			

[net of removals and demolitions]

Total 1271 – 21% of target

HUTT CITY

10

Population Growth

HUTT CITY

11

Pop. Growth Last 1,2,3 & 5 Years

HUTT CITY

12

Population Target 2032

Target at least	110,000
Census 2013	98,238
Population est. for 2033 was	102,100
Rev. population est. 2033 (2017)	108,100

Good progress to date but we need to do more

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Urban Growth Strategy

Identified Greenfield Development

- Up to 24 hectares in Wainuiomata in Upper Fitzherbert area
- Extend area for residential development at end of Major Dr, Kelson
- Possible development in Shaftesbury Grove area in Stokes Valley
- Reality much less potential than originally thought

14

Eg: Kelson

15

Initial Area of Interest

Stage 1A 180 lots $1.8M
2015/16

Stage 1B 190 lots $3.6M
2020/21

Stage 2 620 lots $10.9M
2025/26

Total 990 lots $16.3M

Future 800 – 900 lots

16

204 Wise Street

31 Lot subdivision

17

80A Wise Street

St Matthews Place

27 lot subdivision & houses

18

80 & 85-201 Parkway

- 58 Lot subdivision
- Further 49 lots to be developed

19

Residential Development

20

Residential Development

21

What's ahead of us?

Over next 5-7 years possible 2000 - 2500 homes

- Wainuiomata
  - Wise street: 370 - 460 lots
  - Ex-Wainuiomata College site: 30-100 Lots
  - Retirement village: 110 units
  - Parkway Stage 2 : 70 lots
- Stokes Valley
  - Shaftesbury Grove: 80 lots
- Petone – various new apartment developments
  - The District (Lane Block): 82 units
  - The Wellington Company (Jackson Street) 55 units
- Kelson
  - 64 Waipounamu Drive: 180 Lots (new consent required)
  - Major Drive extension: 60 Lots
- Waterloo Fire Station conversion to apartments (22)
- Avalon (2 sites): 50+ units
- Housing New Zealand: 330 units
- Summerset Retirement village 200 units
- Infill in suburbs. Smaller developers who are considering whether to do 2 or 3 houses

22

To achieve our target

- Proposed Plan Change 43
- Wainuiomata Development Framework
- Be bold

23

Questions

Thank you

Wainuiomata North
Development Framework
February 2018

Wainuiomata North
Development Framework
February 2018

2. WENDY MOORE- WAINUIOMATA SUBURB PROFILE

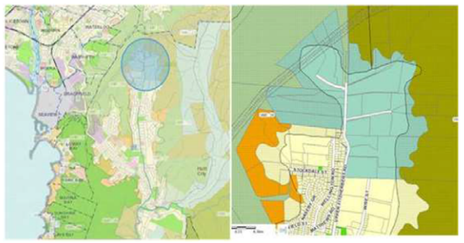
1

Wainuiomata North Structure Plan

- Wainuiomata identified in Urban Growth Strategy as key greenfield growth area
- The National Policy Statement on Urban Development Capacity
- Need plan to work out how best to provide for high quality urban development in the area shown approximately below

2

Wainuiomata North Structure Plan



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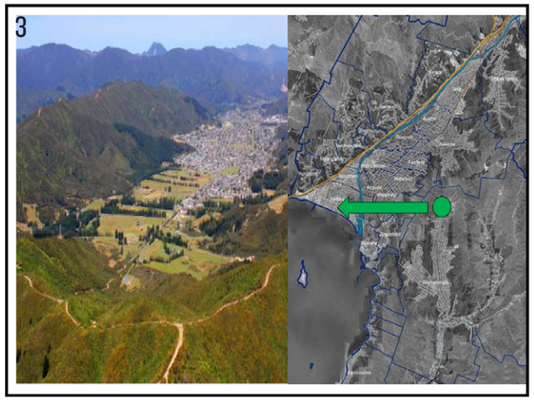

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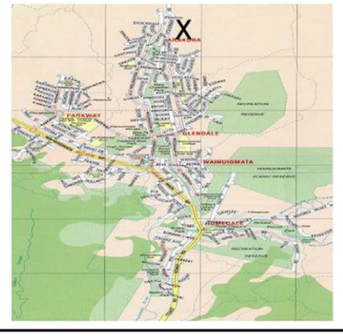
Suburbs



5

Wainuiomata today - population

- Wainuiomata is 17.6 per cent of the Hutt city population of 104,700
- Estimated Resident Population area unit and Wainuiomata at 30 June 2017

GLENDALE	4080
PARKWAY	3340
FERNLEA	2060
ARAKURA	2640
HOMEDALE WEST	2620
HOMEDALE EAST	3150
PENCARROW	580
WAINUIOMATA	18470

6

Wainuiomata today – occupied dwellings

- There are 5988 occupied dwellings and 294 unoccupied dwellings in Wainuiomata.
- Occupied and unoccupied dwellings (2013 census)

	OCCUPIED PRIVATE DWELLING	OCCUPIED NON-PRIVATE DWELLING	TOTAL OCCUPIED DWELLINGS	UNOCCUPIED DWELLING - RESIDENTS AWAY	UNOCCUPIED DWELLING - EMPTY DWELLING	TOTAL UNOCCUPIED DWELLINGS
GLENDALE	1209	0	1209	12	36	48
PARKWAY	1122	0	1119	18	27	42
FERNLEA	666	0	666	9	21	30
ARAKURA	870	0	870	18	33	51
HOMEDALE WEST	891	0	894	15	33	48
HOMEDALE EAST	1026	0	1023	27	33	60
PENCARROW	204	3	207	6	9	15
WAINUIOMATA	5988	3	5988	105	192	294

7

Wainuiomata today - bedrooms ☺

Number of bedrooms for occupied private dwellings – 2013 census

	ONE BEDROOM	TWO BEDROOMS	THREE BEDROOMS	FOUR BEDROOMS	FIVE OR MORE BEDROOMS
GLENDALE	3	51	804	225	45
PARKWAY	9	156	663	174	57
FERNLEA	12	78	363	147	39
ARAKURA	18	165	492	129	27
HOMEDALE WEST	27	123	495	144	36
HOMEDALE EAST	12	120	555	222	60
PENCARROW	15	24	60	72	30
WAINUIOMATA	96	717	3432	1113	294

8

Wainuiomata today – age range

- Lowest median age in Glendale (30.9) and Arakura (32.8)
- Highest median age Pencarrow (46.1), Homedale West (35.2) and Parkway (35.1)

AGE	TOTAL
0-4 years	1450
5-9 years	1450
10-14 years	1340
15-19 years	1390
20-24 years	1310
25-29 years	1310
30-34 years	1230
35-39 years	1180
40-44 years	1130
45-49 years	1210
50-54 years	1190
55-59 years	1110
60-64 years	870
65-69 years	710
70-74 years	510
75-79 years	450
80-84 years	280
85 years and over	160

9

Wainuiomata today - ethnicity

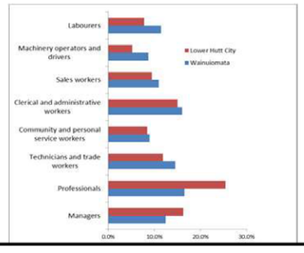
- Most common group is European (same as Lower Hutt City as a whole)
- Significantly higher percentage of Maori people compared to Lower Hutt City
- Lower percentage of Asian people.

ETHNICITY	WAINUIOMATA	LOWER HUTT CITY
EUROPEAN	11151	66051
MĀORI	4530	15876
PACIFIC PEOPLES	2382	10257
ASIAN	1068	10893
MIDDLE EASTERN, LATIN AMERICAN, AFRICAN	87	1062
OTHER ETHNICITY	303	1509

10

Wainuiomata today – work and income aged 15 and over

- Unemployment rate 10 % for people aged 15 years and over - 8 % for Lower Hutt City.
- Most common occupational group is professionals - this is also the most common occupational group in Lower Hutt City.



11

Wainuiomata today – grouped household income (2013)

	$20,000 or less	$20,001 - $30,000	$30,001 - $50,000	$50,001 - $70,000	$70,001 - $100,000	$100,001 or more
GLENDALE	90	93	189	192	231	186
PARKWAY	75	108	186	159	222	195
FERNLEA	45	45	117	102	126	126
ARAKURA	96	84	141	141	141	105
HOMEDALE WEST	84	96	156	111	147	141
HOMEDALE EAST	78	84	168	162	183	189
PENCARROW	12	15	21	21	36	75
WAINUIOMATA	480	525	978	888	1086	1017

12

Wainuiomata today - households

- 5982 households in Wainuiomata and 35988 in Hutt City as a whole.
- One-family households make up 71.1 % of all households in Wainuiomata – Lower Hutt 68.5%.
- 1206 one-person households or 20.8 % of all households - Lower Hutt City 24.3% one-person households
- Average household size in Lower Hutt is 2.7 people per household

13

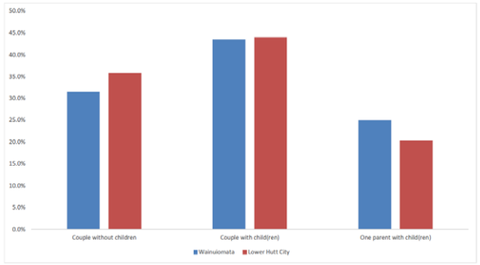
Wainuiomata today - households

For the areas in Wainuiomata the average household size is:

Census area units in Wainuiomata	Average household size
Homedale East	2.9
Homedale West	2.7
Fernlea	2.9
Arakura	2.8
Parkway	2.8
Glendale	3.1
Pencarrow	2.6

14

Wainuiomata today - families



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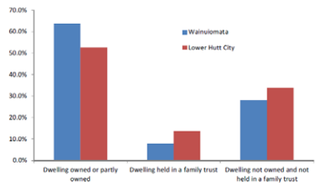
Wainuiomata today - tenure

- 71.8 % of households in occupied private dwellings owned/partly owned their dwelling or held it in a family trust.
- 28% of households rent their home.



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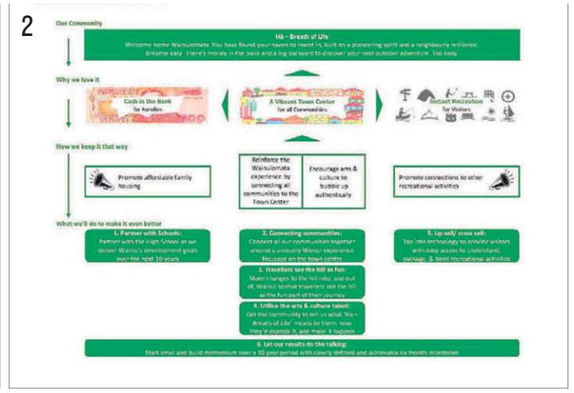
Wainuiomata today – deprivation index

CENSUS AREA UNIT	1991	1996	2001	2006	2013
PENCARROW	1	2	1	2	3
PARKWAY	5	6	6	7	7
FERNLEA	5	6	7	7	7
HOMEDALE EAST	5	6	6	7	7
ARAKURA	7	7	8	8	9
HOMEDALE WEST	6	7	7	8	8
GLENDALE	7	8	8	9	8

3. JAMES LAMB- WAINUIOMATA DEVELOPMENT PLAN

1

2



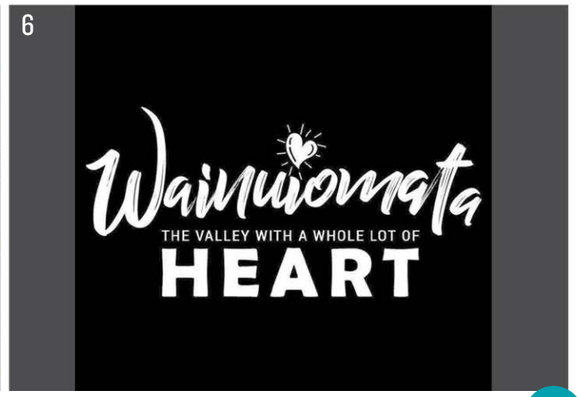
3

- social good <=> economic
- harness the fierce pride
- empowering local solutions embrace "we'll do it anyway"
- thought influencers / leaders and socialise: go to the people
- leading with quality draws out pride
- "connected" perception ≠ reality
- nature + valley = desire to be eco

4

5

6



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Development Framework
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4. STEWART MCKENZIE AND RYAN ROSE - WELLINGTON WATER

1

Wainuiomata North Structure Plan

Three Waters Overview

Wellington Water

Our water, our future.

2

Who are we?

Wellington Water

- Wellington Water is a council-controlled organisation (CCO) jointly owned by the Hutt, Porirua, Upper Hutt and Wellington City Councils, and Greater Wellington Regional Council
- We manage, operate, renew and upgrade the three waters networks (drinking water, stormwater and wastewater) and associated infrastructure
- Regional three waters assets are valued at approximately $5.3 billion

Our water, our future.

3

What we do

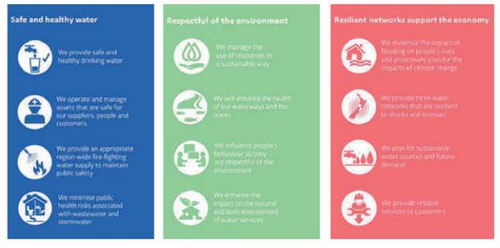
Wellington Water

Our water, our future.

4

Customer Outcomes & Service Goals

Wellington Water



Our water, our future.

5

Context for Urban Development and Three Waters Infrastructure

Wellington Water

- Regulatory drivers
  - National Policy Statement - Urban Development Capacity (NPS-UDC)
  - National Policy Statement for Freshwater Management (NPS-FM)
  - Havelock North Water Inquiry recommendations
  - Proposed Natural Resources Plan (PNRP)
  - Wellington Harbour & Hutt Valley Whaitua Process
  - Hutt City District Plan
  - Code of Practice and Regional Water Standard
- Level of Service (LoS) and Service Planning
- Resilience and adaptation
- Customer and Stakeholder expectations

Our water, our future.

6

Wainuiomata Constraints Analysis

Wellington Water

- Three waters capacity constraints in Wainuiomata documented through previous investigations
- Further development in Wainuiomata will exacerbate existing capacity issues
- Need for an innovative and integrated response to urban growth to:
  - Reduce flooding risk and wastewater network overflows
  - Maintain and improve three waters level of service
  - Meet current and emerging regulatory requirements
  - Meet community expectations in terms of environmental quality and amenity
- Requirement for long term investment in all three waters networks

Our water, our future.

7

Stormwater high level analysis

Wellington Water

Our water, our future.

8

Flooding inundation areas

Wellington Water

Our water, our future.

9

Wastewater high level analysis

Wellington Water

Our water, our future.

10

Wastewater Network key constraints

Wellington Water

Our water, our future.

11

Stormwater Policy Response

Wellington Water

- Focus moving away from piped networks
- Resilience and improved environmental outcomes key
- Stormwater policy responses include:
  - Regional Water Sensitive Urban Design Guide (WSUD) - draft close to completion
  - Recognition of the WSUD in District Plans, Codes of Practice and Regional Standard for Water Services (RSWS)
  - Hydraulic Neutrality for all new development

Our water, our future.

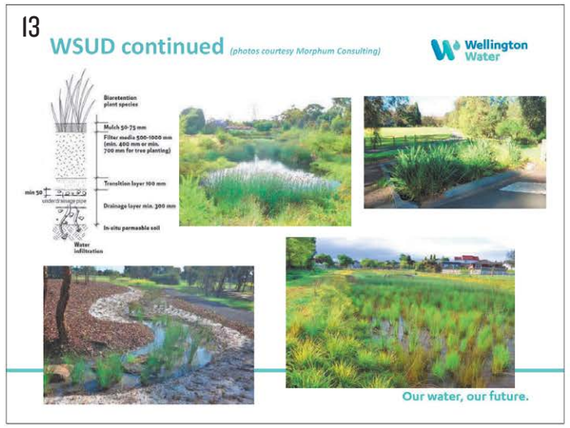
12

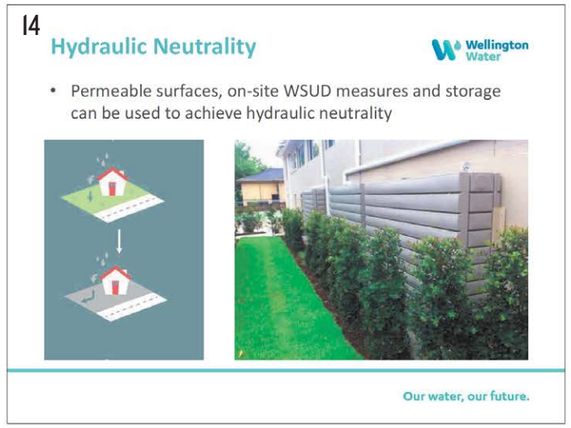
Water Sensitive Urban Design

Wellington Water

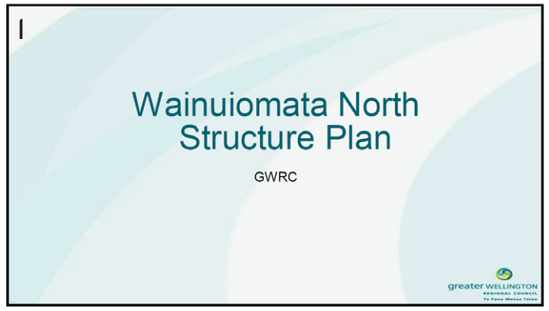
- Principally involves design and installation of stormwater management devices that attenuate, retain and treat stromwater
- Soft engineering measures as opposed to hard engineering
- Both micro and macro interventions can be successful
- Range of additonal benefits eg ecology and amenity
- Measures can include:
  - bio-retention or raingardens
  - Wetlands
  - Swales
  - Green walls and roofs
  - Permeable paving
  - Riparian planting and restoration

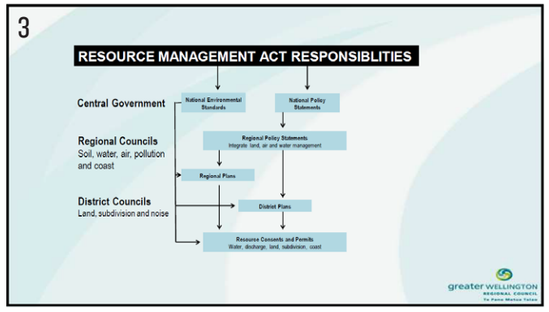
Our water, our future.

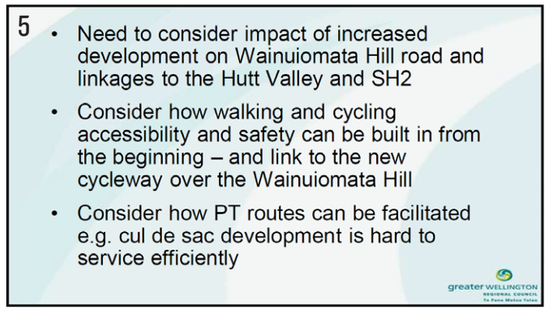


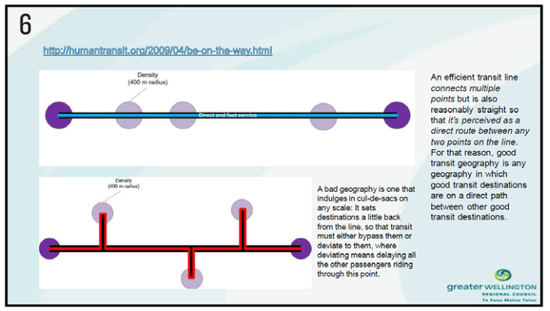


2. LUCY HARPER AND MICHELLE BOURKE- GREATER WELLINGTON REGIONAL COUNCIL









Wainuiomata North
Development Framework
February 2018

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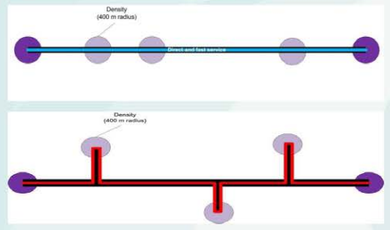
http://humantransit.org/2009/04/be-on-the-way.html



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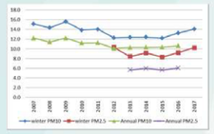
Wainuiomata home heating places the greatest pressure on air quality as wood smoke contains high levels of fine particles (including PM2.5). Poor air quality inside and outside our homes leads to lung and heart problems, ranging from restricting some people's normal activities to increased hospital and doctors' visits. Sensitive groups, such as children and the elderly, are especially vulnerable.

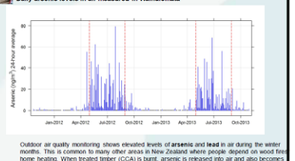
Wainuiomata residents are eligible for a loan against their rates for insulation and to replace old wood burners and open fires with clean heating appliances such as heat pumps and lower emission wood burners.

Wainuiomata residents have a higher proportion of households that burn wood (approx. 1/3) than in Lower Hutt (approx. 1/4).

Air quality trends



Daily arsenic levels in air measured in Wainuiomata



PM10 improved between 2007 and 2012, but in recent years this trend has slowed and air quality in the last two years has worsened slightly, most likely due to the impact of weather conditions. Complies with PM10 and PM2.5 guidelines for annual average. 2017, five exceedances of WHO PM2.5 24-hour average (10 in 2016). Complies with 24-hour national standard for PM10.

Outdoor air quality monitoring shows elevated levels of **arsenic** and **lead** in air during the winter months. This is common to many other areas in New Zealand where people depend on wood fires for home heating. When treated timber (CCA) is burnt, arsenic is released into air and also becomes concentrated in the fire box ash posing a disposal risk. Arsenic is a known carcinogen. Because summer levels are low (no burning) the annual average for arsenic is at or above the guideline level.

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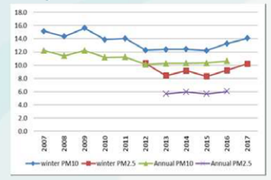
Air quality trends



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Regional Policy Statement

Four key areas to discuss

- Air discharges
- Freshwater health
- Regional form
- Hazard management

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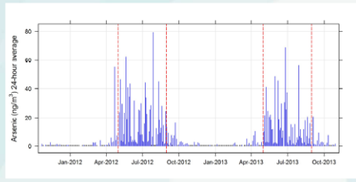
Daily arsenic levels in air measured in Wainuiomata



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Wainuiomata residents have a higher proportion of households that burn wood (approx. 1/3) than in Lower Hutt (approx. 1/4).

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Air discharges

- Already an area known for poor air quality over the colder months
- Smoke/particles from wood fires meets the standards but …
- Arsenic and lead high in winter but summer reduces the annual average to close to the guideline level.

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Air quality

- Further develop must consider effects of new inputs from wood burners- would need investigation
- Opportunity to look at alternate sources/methods of providing warm dry homes

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Freshwater health

- National Policy Statement - freshwater management requires us to 'maintain and improve'
- Wainuiomata River and all tributaries above Black Creek are listed as a Schedule F1 River in the PNRP

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Freshwater health - Earthworks

- Need to maintain or enhance aquatic ecosystem health for surface water bodies
- Minimising the effects of earthworks and vegetation disturbance

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Freshwater health - Stormwater

- Quality and quantity of runoff from site
- Focus on hydraulic neutrality and ecosystem health
- Will have impact on downstream environment, which is already a flood prone area

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Regional form

- Key idea is to identify centres suitable for higher density and mixed use development
- Areas should maintain a compact, well designed and sustainable regional form
- Need good access to public transport network

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Regional form

- Consideration should be given to enhancing public access along rivers
- Structure planning must be undertaken
- Infrastructure networks – are more needed in this area?

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Hazard management

- Identify areas at high risk from natural hazards
- Develop rules and polices to avoid inappropriate subdivision and development
- Hazard mitigation works an option but there is still a residual risk

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Biodiversity

- The footprint adjoins indigenous vegetation
- Some of this ecologically significant vegetation is protected
- The footprint is classed as an acutely threatened environment

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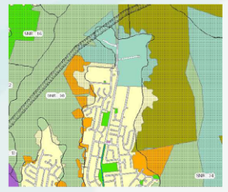
Significant Natural Resources



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Legally protected areas

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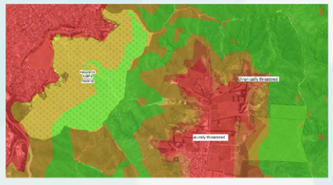
Any remaining indigenous vegetation is significant



31

RPS Policy 47: Managing effects on biodiversity

- Maintain and enhance connections between areas of indigenous vegetation
- Buffer these areas
- Protect the life supporting capacity of indigenous ecosystems within the area

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Use what's in the area

- Assess what ecological values are present, go beyond only RMA s6(c) values
- Incorporate areas containing ecological values into open space areas eg, reserves, parks, walkways
- Enhance areas containing ecological values