28/02/18

BEFORE THE WAIKATO DISTRICT COUNCIL

IN THE MATTER The Resource Management Act 1991 (RMA)

AND IN THE MATTER Private Plan Change 20 – Lakeside Developments 2017 Limited

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SUMMARY EVIDENCE OF GERALD NICHOLAS BARRATT-BOYES

PRIVATE PLAN CHANGE 20 – LAKESIDE DEVELOPMENTS 2017 LIMITED

Dated FEBRUARY 2018

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1. INTRODUCTION

Qualifications and experience

1.1 My name is Gerald Nicholas Barratt-Boyes. I am a registered architect. I have a Bachelor of Architecture from the University of Auckland (B.Arch), I am a Fellow of the New Zealand Institute of Architects (FNZIA), and a member of the Architects Registration Board UK (ARB) and the Royal Institute of British Architects (RIBA).

1.2 I have 33 years experience as an Architect. I have practiced as an architect and Urban Designer in New Zealand and Great Britain. I have tutored in urban design at the School of Architecture, Victoria University of Wellington and lectured and led workshops on urban design in New Zealand as well as the United Kingdom, Balkan States, the Netherlands and Central Asia.

1.3 I am a founding director of Studio Pacific Architecture. As a practising architect and urban designer I am, and have been, actively involved in a diverse range of significant and complex, residential and mixed-use urban design projects throughout New Zealand.

1.4 My experience in urban design, housing, residential intensification and mixed-use regeneration within New Zealand and internationally is listed in Appendix A (attached).

1.5 Background

In February 2017 I was commissioned by Lakeside Developments 2017 Ltd (LDL) to undertake an Urban Design Peer Review of the Lakeside Te Kauwhata Residential Development Masterplan. The concept Masterplan had been prepared by Baxter Design. Following a site visit and review of the Lakeside documentation including assessments and reports, an initial Peer Review was undertaken. Baxter Design incorporated the initial review comments. They re-issued a revised Masterplan on 29th March 2017. The revised Masterplan was Peer Reviewed again and the outcomes of this iterative process formed the basis of the Masterplan Peer Review Document dated 11 May 2017 submitted with the Plan Change.

1.6 The emphasis of the Peer Review, at the time, was on structural and configuration aspects of the Masterplan i.e. the ‘bones’ of the Masterplan. I contemporaneously reviewed the Zone Living Rules and Lakeside Design Control Guidelines. The Peer Review made the following recommendations;

a) Rationalisation of the proposed pocket parks

b) Review of CPTED (Crime Protection Through Environmental Design)

c) Review of alternative local community hub location

d) Review of road hierarchy legibility

e) Increase permeability

f) Rationalisation of existing landscape and landform legibility

g) Minimisation of JOALS (joint owned access lanes)

h) Review of housing typology diversity

i) Clarity public transport network

j) Development of historical and cultural narratives within the site

k) Development of 'place making' and neighbourhood character

l) Development of neighbourhood amenity within Higher Density areas and public open space provision

1.7 Post the lodgement of the Plan Change, I have been directed to respond to concerns raised in submissions in respect to particular urban design issues.

2. PURPOSE AND SCOPE OF EVIDENCE

2.1 This evidence is in respect of LDL's Private Plan Change 20.

2.2 My evidence responds directly to concerns raised in submissions in respect to the site-wide density, allotment size and rural character aspects of the proposed built environment from an urban design perspective. I have not addressed each submitter's concerns individually but, rather, have responded to their common themes. My evidence, therefore, addresses the following particular matters;

- Density
- Allotment size
- Rural character

2.3 In addition to these I have considered aspects that characterise structure planning in terms of best practice urban design, quality and expectations.

- Best practice urban design and quality outcomes

2.4 Lastly I have summarised amendments that I support post lodgement of the Plan Change and during preparation of this evidence as well as including commentary on the s42A Report in respect of urban design matters.

- Amendments
- s42A Report
- Conclusion

3. SUMMARY OF EVIDENCE

3.1 As a designer I am concerned with the long term impact and sustainability of the built form in urban, suburban and natural landscapes/contexts. In particular I am interested in compact, affordable, well designed residential intensification and how there has been a transition from traditional residential subdivision thinking to comprehensive integrated and holistic Masterplanning and Structure Planning.

3.2 As a practice Studio Pacific undertakes continual research into medium density housing and has developed a diverse array of housing typologies that work in the New Zealand context. For example, stand alone houses, compact stand alone houses, zero-lot houses (standalone houses built up to one side of the boundary, i.e. rear, front and one side yard), semi-detached houses, terrace houses, courtyard houses, walk-up apartments and lifted apartments which create a wide degree of choice and cater for different lifestyle needs and different levels of affordability.

3.3 The demand for housing and, in particular, affordable housing has been growing intensively over the last few years. With the latest Government KiwiBuild programme and other nation-wide initiatives already in play, the demand for standalone affordable homes for first home buyers is increasing rapidly. My sense is, that townships such as Te Kauwhata with existing infrastructure, are very likely to be areas where affordability can be achieved, particularly in the Hamilton - Tauranga – Auckland triangle. In many respects the zoning and strategic structure planning that has been carried out to date for future growth in Te Kauwhata has not anticipated the pace and scale of this type of housing intensification.

3.4 The Lakeside development, in my opinion, needs to be assessed on its own merits. I have responded to the submitters' concerns in respect to density, lot size and the appropriateness of the development from an urban design perspective.

3.5 If structured and designed well, residential density can produce very good outcomes. I have placed the overall density into context and find it comparable with the lower end of the medium density housing scale in the New Zealand context. As it transpires, the density also aligns with the Future Proof Waikato Growth Strategies and Implementation Plan in terms of household units (HHU) per hectare.

3.6 In my opinion, therefore, the proposed density, which is supported by significant public open space reserves and good infrastructure, is appropriate and is comparable with residential intensification in similar rural edge and suburban locations in New Zealand.

3.7 The lot sizes proposed are smaller than those currently in Te Kauwhata and enabled by the District Plan. However, I have reviewed the concept design plans of some of the proposed compact homes, in particular, the minimum lot size dwellings in the higher density zone (attached). It is evident that they meet the Plan Change Rules and Design Control Guidelines and in my view offer quality, compact and affordable living.

3.8 Over and above compliance matters, the smaller compact houses are well supported by significant public open space, for example, green off-road walkways and cycleways, neighbourhood parks, low impact design (LID), and water sensitive design (WSD), street networks, equestrian areas, iwi reserve, retention of existing native trees and the lakefront lookout, all of which create 'spaciousness' and 'openness' to offset the smaller private open spaces.

3.9 In my opinion, the overall development successfully balances small lot sizes, density, compactness and affordability with a rural lakefront setting, significant open space and recreational cultural and visual amenity.

3.10 The advent of 1600 new houses will over time change Te Kauwhata. The town will grow. There will inevitably be more human activity which comes with residential intensification. However, the 'Peninsula' location of the site – an arm extending around the lake, away from the existing township, combined with and interwoven with a natural substantial landscape provision means that the new residential neighbourhoods are, in a sense, engulfed by open space and rural character outwardly remains legible.

3.11 An assessment against the New Zealand Urban Design Protocol has been undertaken by Baxter Design (Lakeside Urban Design Report July 2017 Baxter Design). Their assessment demonstrates that careful consideration has been given to the essential urban design qualities that create sound urban design through comprehensive masterplanning.

3.12 Best practice urban design typically encourages residential intensification to be accompanied by fundamental principles, for example, adequate social, physical, recreational and transportation infrastructure; public access to existing natural features; public open space; cycling and walking networks in close proximity to urban centres; housing choice; diversity and affordability; compact urban form; water sensitive design (WSD); low impact design (LID) and sensibility to environmental, cultural and historical issues.

3.13 In my opinion, these characteristics, are clearly evident in the Lakeside proposal as it has been approached on a multi disciplinary comprehensive structure masterplanning basis.

4. OVERALL DENSITY

4.1 The terminologies expressed in the Plan Change documentation around density, in my opinion, do require some clarification. The terms used, i.e. Medium Density and Higher Density Living Zones are relative terms in this particular context. They are both, in fact, in practice and amongst urban design professionals referred to as “medium density” zones. Both zones are at the very lower end of the medium density housing scale within NZ.

4.2 Housing density can be quantified in a number of different ways. From my experience, the number of household units (HHU) per hectare is one of the more common ways of measuring housing density in New Zealand.

4.3 I have undertaken an analysis of the proposed densities. I have compared the ratios with other medium density housing developments around the country that I have personally been involved in and am familiar with.

4.4 The following table (Figure 1) summarises the comparative density analysis.

Note: These calculations are based on the total site area excluding public open space reserves, primary collector or arterial roads and other activity zones but including local roads and communal pocket parks.

Project	Location Characteristics	**Approx. Housing Density HHU (household units) per hectare**	**Diversity of Housing Typologies**	**Terrain**
Northlake (medium density zone), Wanaka (170 hectares)	Rural Fringe Suburban Greenfields	1:12.75 - 1:17.25	Predominately detached houses with some terrace houses	Gently contoured
Okura, Auckland (130 hectares)	Rural Fringe Suburban Greenfields	Proposed density 1:13 - 1:17	Predominantly stand alone and zero lot house with some terrace houses	Gently contoured
Tauriko West Tauranga (350 hectares)	Rural Fringe Suburban Greenfields	Proposed density 1:15-1:20	Predominantly stand alone and zero lot house with some terrace houses	Rolling contoured
The Waterfront, Seatoun, Wellington	Coastal Suburban Brownfields	1:17	Predominately stand-alone houses with some courtyard houses and clusters of terrace houses	Flat
Overlea Precinct, Glenn Innes, Tamaki, Auckland	Suburban Regeneration	1:34	Predominately terrace houses and zero lot houses, some affordable housing and walk-up apartments	Moderately contoured
Springpark, Mt Wellington, Auckland (11 hectares)	Suburban Brownfields	1:38	All terrace houses and some apartments	Flat
Hobsonville Sunderland A, Auckland	Coastal Suburban Greenfields	1:44	Predominately zero lot houses, terrace houses, some stand alone affordable houses and walk up apartments	Flat
FlatBush Town Centre, Auckland (1.2 hectares)	Town Centre Greenfields	1:56	All terrace houses 2-3 storeys	Flat
Hobsonville Marlborough Precinct, Auckland (approx. 5 hectares)	Coastal Suburban Greenfields	1:70	4-6 storey apartment buildings, one apartment tower and some stand alone houses predominately basement parking & large public oval	Gently contoured
Beaumont Quarter, Victoria Park, Auckland (2.4 hectares)	CBD Urban Fringe Greenfields	1:100	All terrace houses, walk up apartments, mixed use and full basement carparking	Flat terraces with escarpment

Figure 1: Medium Density Housing Characteristics

4.5 Figure 1 demonstrates the density characteristics for a number of sample medium density developments and neighbourhoods across New Zealand. The chart shows densities ranging from 12.75 HHU per hectare (Wanaka) to upwards of 100 HHU per hectare (Auckland CBD fringe). These densities

reflect the wide range that exists within the medium density spectrum and assists with benchmarking the proposed Plan Change relative to these developments.

4.6 The total site area owned by LDL is 179 hectares. The land area being rezoned residential is 132.5 hectares. The Medium Density area is 72.9 hectares and the Higher Density area is 50.9 hectares.

Higher Density Area	50.9 hectares
Medium Density Area	72.9 hectares
Primary Roads	8.7 hectares
Total area	132.5 hectares

4.7 Taking the Medium Density area of 72.9 hectares and dividing it by the 723 sites as drawn on the illustrative Masterplan, this equates to 10 HHU per hectare. As noted, this calculation excludes primary roads and open space reserves but includes local roads and pocket parks.

Higher Density Zone	657 houses (as drawn) @ 50.9 hectares	= 13 HHU per hectare
Medium Density Zone	723 houses (as drawn) @ 72.9 hectares	= 10 HHU per hectare
Retirement Village	148 units (as drawn)	
	1528 units total	

4.8 Taking the Higher Density area of 50.9 hectares and dividing it by the 657 sites, as drawn in the illustrative Masterplan, this equates to 13 HHU per hectare. This creates a range of 10-13 HHU per hectare across both areas.

4.9 Further to this, if the total capacity sought is 1600 dwellings then recalibrating the density per area would equate to the following; Medium Density area @ 72.9 ha divided by 759 houses is 10.4 HHU. Respectively the Higher Density area @ 50.9 hectares divided by 693 houses equates to 13.6 HHU per hectare.

Higher Density Zone	693 houses (as drawn) @ 50.9 hectares	= 13.6 HHU per hectare

Medium Density Zone	759 houses (as drawn) @ 72.9 hectares	= 10.4 HHU per hectare
Retirement Village	148 units (as drawn)	
	1600 units total	

4.10 This density analysis shows that the proposed development has a range of 10.4 HHU (Medium Density) to 13.6 HHU (Higher Density) per hectare for the two residential living zones (excluding the retirement village). Comparing this range with Figure 1 illustrates that the density is at the very lower end of the medium density spectrum within New Zealand and aligns with characteristics to that of similar proposed housing developments. Those shared characteristics are: gently contoured terrain, large contiguous sites all formerly farms (typically dairy), predominantly single story detached housing typologies and rural fringe suburban locations.

4.11 These calculations above don't take into account the extent of the 43.4 hectares designated to openspace. This equates to 24% of the total land area. If the openspace reserves were included the density ratios would drop significantly.

4.12 The predominant housing typology that LDL is proposing at Te Kauwhata is based on a compact stand alone house with the ability to provide some terrace houses. This aligns with typologies in similar developments of a similar nature.

4.13 In addition I have reviewed the Density Targets as outlined in the Waikato Future Proof Growth Strategy and Implementation Plan 2009 against the proposed densities in the development. The Density Target for Te Kauwhata (page 67) is 12-15 HHU per hectare. These are stated as general residential targets which are to be achieved over time and not necessarily immediately. Te Kauwhata is classified as a Large Township with the 12-15 HUU per hectare Target Density. It is evident that the proposed density of 10.4 to 13.6 HHU is consistent with, and anticipated over time by, the Future Proof Growth Targets in the Waikato region.

4.14 I have attached the 'Examples of Density' diagram from the Future Growth Strategy (page 68) which illustrates examples of density and dwellings per hectare (Figure 2). The 10 to 15 HHU per hectare is identified as Small Lot Suburban which again aligns with the stand alone compact typologies being proposed by LDL.

Figure 6: Examples of Density

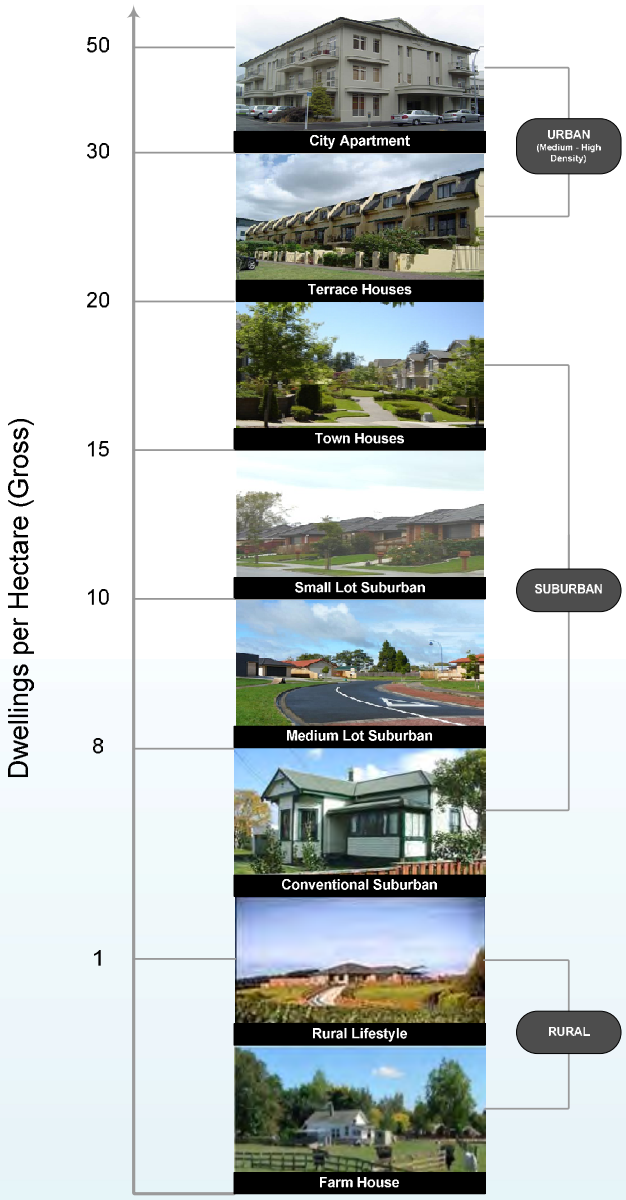


Figure 2.

5. ALLOTMENT SIZE

5.1 Submitters have raised concerns over the proposed lot sizes within the development, in particular the minimum lot size of 200m2 within the Higher Density zone.

5.2 My understanding is that, since the lodgement of the Plan Change, the minimum lot size within the Higher Density zone has been resized by LDL to 225m2. I will talk about this minimum lot size later.

5.3 The minimum lot size currently within the District Plan Living Zone is 450m2 with an average of 600m2 with 50% of the sites needing to have an average greater than 550m2. Submitters are concerned the proposed minimum 225m2 lot size isn't in keeping with the existing larger lot sizes within Te Kauwhata and the District Plan minimums. This is true. The minimum and average lot sizes proposed by LDL are smaller i.e. Higher Density area minimum site size is 225m2, with an average site size 250m2. Medium Density area minimum site size is 300m2 with an average site size 450m2 .

5.4 However, smaller lot sizes and smaller houses are critical ingredients to accomplishing affordability. Affordability comes down to size and therefore cost. The build area of the house and the land area have to be efficient. More often than not, the affordable house model is a two bedroom, one bathroom standalone or terrace type house, either single or two storey, with a carpark and no garage. This puts the build area around 70-90 sqm. The lot size then becomes commensurate with the size of the dwelling. Compact terrace house lot sizes for example can get down to approximately 120m2 i.e. 4.5 m width x 27 m length or up to 195m2 i.e. 7.5m x 26m.

5.5 The smaller lot sizes offer diverse housing typologies. These in turn create consumer choice, more affordable price points and typically attract a broader household spectrum and social mix. The common housing typologies for smaller sites are:

a) Compact stand alone single storey houses

b) Zero-lot two and single storey houses

c) Semi-detached two and single storey houses

d) Two storey terrace houses

5.6 As the lot size increases houses typically become larger and tend toward the double garage three bedroom, two bathroom model which is more the suburban norm.

5.7 The key question in my mind from an urban design perspective is: what is the quality of all these residential developments in New Zealand, particularly the Auckland, Hamilton and Tauranga area, that are promoting affordability, smaller sites and compact living with greater density? What are the other community and social aspects of the design that have been put in place to support the residential intensification. This question of quality in respect of the LDL proposal can be looked at in two ways: Firstly, from an overall comprehensive structure plan and masterplan point of view and secondly, from an individual lot and compact house planning perspective. I have considered both of these aspects and make the following observations.

5.8 Comprehensive masterplan and small lot size

5.9 The land is a continuous block under one ownership. This allows a comprehensive and integrated masterplan approach to be taken. Aspects of site-wide planning that have been incorporated to offset the higher density and smaller lots are:

a) Extent of openspace reserves

The entire lake frontage has been set aside as rural zoning with an openspace overlay. This has a total area of some 43.4 hectares, which is a substantial public open space provision 24% of land area. The rural character and 'sense of space' this offers is significant and creates both visual relief and recreational amenity. There is an additional 17 hectares of rural zoned land to remain as rural.

b) Extent of green walkways and cycleways

To create permeability and encourage walking and cycling, a network of landscaped public walkways thread their way through the development around the public open space and into the town centre. These have the effect of creating green filter and ecological corridors that break up the built fabric and denser smaller lot areas.

c) Higher Density buffering

Within the comprehensive planning approach the Higher Density zone, incorporating the smaller lot areas, is set within the core of the

site itself and is buffered by the Medium Density lot sizes which are in turn buffered by the open space. This creates a transition from open space to Medium Density to Higher Density.

d) Streetscape amenity

There is a hierarchy within the proposed street network. The primary roads for example which circulate predominantly through the Higher Density area are generous in width. All the streets have provision for street trees, footpaths, visitor parking, berms and lighting. The integrated street network as a whole creates visual amenity with pleasant green spaces and street frontages all of which contribute to the and offset the smaller lots.

e) Neighbourhood parks and open space

At the time of the peer review and at lodgement of the Plan Change a number of pocket parks were illustrated. My understanding is that Council, as time has passed, is not particularly interested in the pocket parks being vested as Council reserves. There are ongoing maintenance costs, and size of these spaces is problematic. Furthermore, the pocket parks were not a requirement within the Living Zones so there was a degree of uncertainty as to whether they would be implemented at all. I support a change in direction to open space whereby pocket parks are substituted by neighbourhood parks that are more substantial in size but fewer in number. Refer Baxter Design Concept Masterplan Page 3 – Indicative Residential Dwelling Assessment (attached) for the revised plan showing six neighbourhood parks within the Higher Density zone. The advent of recreational neighbourhood parks supports the smaller lot sizes within the zone. These spaces not only provide open space and visual amenity but also offer the opportunity for recreational uses and community engagement. The spaces need further design development particularly with respect to street frontages and public edges.

5.10 Compact house designs on small sites

I have reviewed the proposed concept plans and visualisations of some of the compact homes that are being developed by LDL particularly on the smallest lots. Refer Indicative Residential Dwelling Assessment (attached). In doing so I make the following observations:

a) Compliance with building coverage - The houses comply with the provisions of the Living Zone Rules. The maximum site coverage is 65%. This is an important rule, as controls need to be applied to ensure that the footprint of the dwelling does not dominate the site and there is adequate private openspace.

b) Compliance with building setbacks - The houses comply with the street frontage setback of a minimum of 3 metres and side and rear yards at 1.5m. This is an important rule that ensures that there is adequate separation between dwellings especially on the smaller sites. Equally, setbacks ensure that the street frontage is not over dominated by building fabric.

c) Compliance with fence heights - The houses comply with the fence heights particularly with respect to the street frontage where fences are prohibited and hedges are enabled. Landscaped front yards contribute to a sense of space and allow passive observation to the streets which is important.

d) Compliance with daylight admissions and height -The houses conform to the daylight provisions with respect to internal boundaries. This is an important rule ensuring that adequate natural daylight is protected to each adjoining property by virtue of a vertical and diagonal projection from the boundary i.e. 3.5m @ 45 degrees within 20m of a street frontage or 2.5m elsewhere. The 8m maximum height rule encourages one to two storey houses but does not enable three storeys.

e) Compliance with living court requirements - The houses comply with the minimum of 50sqm for one private open space which must be capable of containing a circle of 6m in diameter exclusive of parking and manoeuvring areas and has a minimum width of 2.5m. This is a pivotal rule ensuring that the most compact houses located on the minimum lot sites still offer adequate private open space and visual amenity. The house concept plans provided, show how this is achieved in each sample house and how the outdoor living areas are readily accessible from the living area.

f) Compliance with overlooking of public spaces - The houses comply with the minimum of one habitable space with 25% glazing fronting the street or public open space. This rule controls and ensures that the houses have habitable spaces fronting the street which helps with passive surveillance and street activation.

5.11 In summary, the houses as drawn comply with the Plan Change Rules which control the quality of the development for each house on each lot. Refer Planning Control Checklist, pages 19 and 32 of the Indicative Residential Dwelling Assessment (attached), prepared by LDL. I have had a particular focus on the small lot and minimum lot sizes and in particular the provision of private open space within each lot.

5.12 Over and above the compliance aspects it is important that the houses adequately deal with other items, such as rubbish storage and collection, front door presence, recycling, outdoor storage, clotheslines and mail boxes etc. Often within medium density housing, from my experience, as compact living necessitates smaller houses on smaller sites the above, details became extremely important and need to be carefully considered and integrated to avoid the spill-over effect.

5.13 Typically at Plan Change and Structure Plan stage, finegrain detail of how the proposed housing, for example, will comply with the Plan provisions, Rules and Guidelines is not always available. This is more often than not addressed later at the Resource Consent stage for comprehensive subdivision consent and comprehensive land development consent. However, in this case, concept plans and visualisations of the houses are available making it is easier to assess how they will meet the Plan Change Rules and what the built environment will be like. LDL has taken this through to visualizations and renders of streetscapes that show the intended quality outcome from an urban design, neighbourhood and built environment perspective.

6. RURAL CHARACTER

6.1 The advent over time of 1600 new dwellings and a growing number of residents will inevitably mean more human activity. It is difficult to predict exactly what the changes to the existing character of the place and community will be. Te Kauwhata is a rural township with a low key informal character. I have, from an urban design perspective, considered some aspects of the effect of the proposed development on the existing character.

6.2 Peninsula site - The site is situated to the south of the existing township. It is a ‘peninsula site’ - it wraps around the Lake Waikare waterfront away from the centre. It is bounded by the lake, the flood plain and railway line

on three sides and connects back into the township on one edge only. It is connected to but not directly adjacent to the town centre.

6.3 The existing vehicular approach to Te Kauwhata from SH1 and the physical existing character of the town centre itself will not be directly impacted visually or materially by the new residential area as it is ostensibly off to the side down Scott Road, extending to the south and around the Lake. In other words, it is a cul-de-sac with no major through roads.

6.4 Rural setting - The 43.4 hectares of lakefront rural open space that surrounds the site gives Lakeside a rural setting and a complementary aesthetic disposition. Enhancing and retaining the natural edge of the lake, for example, by protecting the existing lakeside vegetation, creating an iwi reserve and equestrian park, and recreational areas, combine to create a rural foreground character to the housing. The intensification is surrounded by openspace with a rural character.

6.5 Landform sensitivity - The development is sensitive to the existing landform, stream networks, floodplains and topography. This creates its own unique character and sense of place and allows some of the underlying rural characteristics to still be legible.

6.6 Rural aesthetic within the development - Other aspects which help define rural character and complement the existing Te Kauwhata character within the development are the low key nature of the streetscapes in terms of landscaping and materiality, the vernacular architectural expression of the houses, the character of the retirement village, the character of the hub, the neighbourhood parks and the internal walkways and landscaped pathways.

7. BEST PRACTICE URBAN DESIGN AND QUALITY OUTCOMES

7.1 The New Zealand Urban Design Protocol published by the Ministry for the Environment is a widely adopted yard stick in terms of assessing good quality urban design and built environment outcomes.

7.2 An assessment applying the NZ Urban Design Protocol has been undertaken by Baxter Design (Lakeside Urban Design Report). The Protocol is not a site specific assessment tool, per se, however the seven ‘C’s’ as they are known; collaboration, context, custodianship, creativity, choice,

connections and character, have been addressed through a comprehensive and integrated masterplanning approach.

7.3 I do not see it necessary to undertake another assessment with the same terms of reference. However I thought it would be beneficial to summarise some of the best practice design strategies that are evident in the design. The following outline the characteristics of the Structure Plan that produce quality outcomes;

a) Significant public access to Lake Waikare

b) Substantial public waterfront open space and reserves

c) Rural setting for the housing through rural character and lakefront reserves.

d) Diversity of recreational uses and repurposing of flood plains

e) Walking and cycling promoted through a network of green corridors

f) New wetland areas for stormwater treatment

g) Low impact design (LID), water sensitive urban design measures (WSD)

h) Existing stream corridors protected and enhanced

i) Historical and cultural narrative expressed through landscape

j) Existing and proposed infrastructure to support density

k) Housing situated in very close proximity and walking distance to existing town centre node

l) Close proximity to existing social infrastructure

m) Future-proofed for public transport

n) Access to State Highway (1) to Auckland and Hamilton

o) Clear legible street hierarchy

p) Excellent solar access and views for the housing

q) Diverse mix of housing typologies

r) Affordable housing

s) Neighbourhood parks and open spaces within Higher Density zone

t) Neighbourhoods based on landform character areas

u) CPTED promoted through streetscape and frontage controls

v) Local community hub creates identity and ‘sense of place’

8. AMENDMENTS

8.1 Consideration has been given to a number of aspects post Plan Change lodgement. Consideration has also been given to the submitters' and Council's concerns. The following amendments are supported from an urban design perspective.

8.2 I support the increase in minimum lot size in the Higher Density zone from 200 sqm to 225 sqm.

8.3 I support the introduction of vested neighbourhood parks within the Higher Density zone.

8.4 I support the modifications to the Lakeside Design Control Guidelines.

8.5 I support the change to an average site size of 450sqm for the Medium Density Zone.

9. s42A Report

9.1 I have been directed to the s42A Report Recommendations in relation to carparking standards section 21 E.2.6 page 29. Council have proposed the following; *for a residential activity with two or more bedrooms, provide a minimum of two carparking spaces per dwelling for a residential activity.*

9.2 From an urban design perspective there are a number of aspects that make the requirement for two on-site carpark spaces on the smaller lots onerous and discordant with the objective of creating affordable, compact dwellings with high quality streetscape amenity. I have set out my concerns in this respect below.

a) <u>Affordability and space efficiency</u>

Providing two carparking spaces, for example, on a 225sqm site for a two bedroom house would necessitate either stacking the cars in a tandem parking manner i.e. end to end or having two car parking spaces side by side. Providing two spaces end on end would mean increasing the lot length by 5 to 6 metres which, in turn, increases the lot area by 50 to 60sqm (i.e. 10m width x 5m to 6m).

Affordability is directly related to lot size and build size. The 225sqm

two bedroom home without a garage and a single carpark is the fundamental building block of affordability and, in this case, the stand alone, compact homes being proposed by LDL. To increase the land area to accommodate a second carpark space is an inefficient use of space and land.

b) Streetscape Visual Amenity

If two carpark spaces were provided, one beside the other, on the smaller lots this would dominate the streetscape with carparking. The frontages of the smaller lots are 10m wide, two carparks would equate to an approximate 6m width. This would create a poor outcome in terms of visual amenity in the streetscape of the Higher Density Zone.

c) Tree Planting Limitations

If the carpark spaces were provided side by side on the frontage the double crossing space required to access the spaces off the street would limit the number of street trees that could be planted and reduce the green berm area.

d) Primacy of cars over pedestrians

Providing two side by side carparking spaces across a narrow lot frontage will effect the footpath due to the frequency and width of double crossings. Given the streets are designed to promote walking and cycling the double crossings become problematic.

e) Effect on street parks

Double crossings at a high frequency, which would eventuate if two carpark spaces were provided side by side on the smaller lots, would also mean less available space for street parking and visitor parks.

9.3 In summary the advent of a requirement for two carparking spaces for a two bedroom compact and affordable home does have a material effect on the design of the house, the size of the lot and the streetscape. This needs to be weighed up against the benefits of proving two on site spaces.

9.4 In my experience, most two bedroom houses (70 to 90sqm) without a garage, in medium density developments, only have one carpark space. Typically, it is a two bedroom terrace house, semi detached or standalone house, on a small lot. That is essentially what makes them affordable. If there was a second car it would invariably be parked on the street.

9.5 The other rationale only one car is provided for on the smallest compact, affordable homes, is to promote walking and cycling to town centres in close proximity and as an acknowledgement of supporting public transport infrastructure. This is why Councils encourage medium density and residential intensification close to existing social, cultural and commercial infrastructure, as is the case with LDL's development proposal. From my experience, territorial authorities are shifting to abandoning carparking minimum limits, and either having maximums or no regulations for carparks.

10. CONCLUSION

10.1 The proposed density is supported by essential features such as adequate social, physical and transportation infrastructure, public access to existing natural features i.e. Lake Waikare, public open space reserves, cycling and walking networks, housing affordability and choice, compact urban form, WSD and LID, proximity to an existing town centre hub and sensibility to existing character, environmental issues and cultural and historical narratives.

10.2 The density itself is comparable with other medium density developments in similar contexts in terms of HHU per hectare. The smaller minimum lot size houses have adequate controls to ensure quality outcomes are achieved as evidenced by the concept plans attached.

10.3 Best practice urban design guidelines have been followed to achieve the quality outcomes summarised in section 7.3.

11. APPENDIX A:

11.1 New Zealand Urban Design Housing and Mixed Use Experience

a) 2018-2017: Tauriko West, Tauranga – Masterplan and Structure Planning for new growth corridor for 350 hectare greenfields site on Wairoa River for Medium Density housing.

b) 2017 - 2013: Okura Residential Development, Auckland – 130 hectare greenfield site. Masterplanner & expert witness in urban design for IHP, AUP & Environment Court.

c) 2017 - 2015: Hobsonville: Launch Bay Precinct, Auckland – Masterplan for medium density generally 6 storey apartments on the headland by the landing. Approximately 350 dwellings.

d) 2017 - 2014: Wynyard Quarter, Auckland – Masterplan for medium to high-density mixed-use inner city new waterfront residential neighbourhood, approximately 800 apartments.

e) 2017 - 2013: Hobsonville: Sunderland A Precinct, Auckland – Masterplan for medium-density housing and Axis Homes under Special Housing Accord including landscape and open space design.

f) 2015: Northlake, PC45, Wanaka – Expert witness in support of residential intensification and rezoning for an approximate 170 hectare greenfield rural site incorporating approximately 1500 dwellings and small community hub.

g) 2015-2009: Flatbush Town Centre (Ormiston), Manukau City – Masterplan for 19 hectare green fields mixed-use new Town Centre including medium-density housing, retail and cultural amenity.

h) 2014: Springpark Affordable Housing, Mt Wellington, Auckland – Masterplan for medium-density 'market affordable' housing, approximately 420 houses within brownfields former quarry, 11 hectares.

i) 2014-2010: Frankton Flats Special Zone, PC19, Queenstown – Expert witness for mixed-use Structure Plan including affordable housing, town centre retail, industrial and commercial uses.

j) 2014-2001: Harbour Quays Masterplan, Wellington – Masterplan for 10 hectare mixed-use waterfront CentrePort Limited.

k) 2013: Navy Sites, Devonport, Auckland – Masterplanning for medium-density housing and residential intensification for multiple sites for Proposed Auckland Unitary Plan submissions for Ngati Whatua-o-Orakei.

l) 2013: Overlea Precincts – Tamaki, Auckland – Masterplan for inter-generational mixed-tenure and blind tenure affordable and social housing for Tamaki Redevelopment Company and Housing New Zealand.

m) 2011: Shotover Country, PC41, Queenstown – Expert witness for medium-density housing and capacity testing masterplanning, 6 hectares.

n) 2010: Crown Lynn, New Lynn, Auckland – Masterplan for mixed-use medium to high-density residential Masterplan, (TOD) Transport Orientated Development, 19 hectares.

o) 2009-2007: Wellington International Airport Masterplan – Mixed-use masterplan, structured around landside commercial opportunities, hotels and short stay accommodation and airside aeronautical operations, 112 hectares.

p) 2009-2006: Kumutoto Masterplan, Wellington – 6 hectare waterfront mixed-use Masterplan for Wellington Waterfront Limited.

q) 2008: Porirua City Centre Revitalisation – Masterplan for revitalisation of CBD of Porirua City.

r) 2008-2005: The Waterfront Seatoun, Wellington – Masterplan for 4 hectare green fields coastal medium-density residential community on the former Fort Dorset military base.

s) 2008-2003: Kawarau Falls Station, Frankton, Queenstown – Masterplan for 6 hectare lakefront Alpine Resort Village and residential.

t) 2007-2005: MacArthur Ridge, PC10, Central Otago – Masterplan for 800 hectare low-density residential accommodation, golf course, vineyard and hotel lodge within an Outstanding Natural Landscape.

u) 2007-2001: Beaumont Quarter, Victoria Park, Auckland – Masterplan for 2.4 hectare medium-density mixed-use brownfields inner city innovative housing project, approximately 240 townhouses and apartments.

v) 2006: Kilbirnie Suburban Centre, Wellington – Masterplan for revitalisation of historic Kilbirnie Bus Tram Depot into mixed-use medium-density residential precinct.

w) 2006-2002: Lighter Quay, Viaduct Harbour, Auckland – Masterplan for former brownfields site, medium to high-density apartments and five star hotel structured around new canal.

11.2 International Urban Design Experience

x) 2010: Regatta Tripoli, Libya – Masterplan for mixed use, medium-density sustainable residential neighbourhood on Mediterranean coast: 96 hectares in association with the Brisbane Group and UPET.

y) 2005: ANZAC War Memorial, Canberra Australia – Winner international competition, urban design and open space design for memorial in association with sculptor and artist Kingsley Baird.

z) 1994: CIBOGA: Groningen Netherlands – Winner international competition for mixed-use masterplan “New Ways of Living” (S333).

aa) 1992: Revitalisation of Samarkand Uzbekistan – Winner international competition for cultural centre and Masterplan for 70 hectare site (S333).

LAKESIDE

TE KAUWHATA

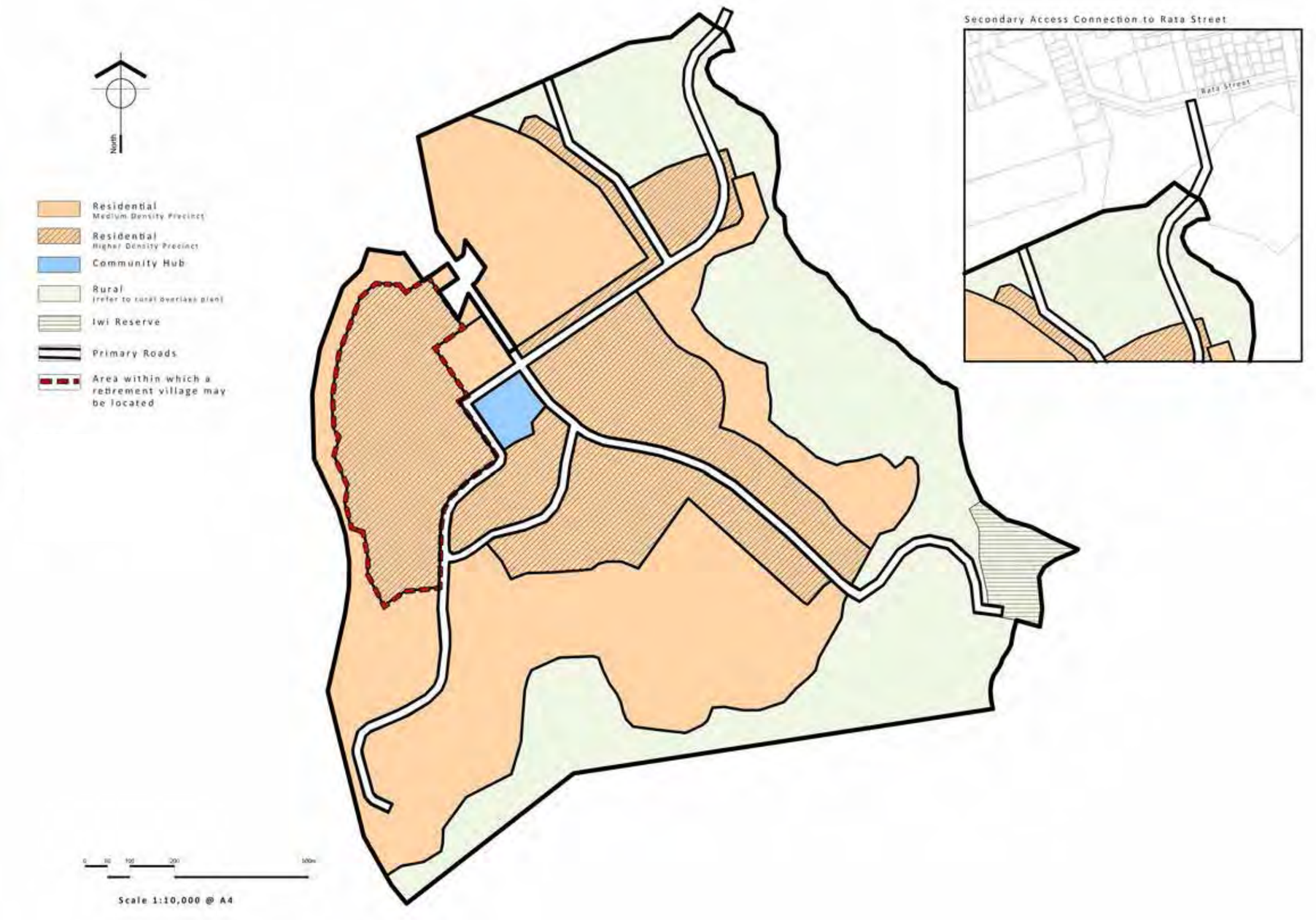
LAKESIDE PRIVATE PLAN CHANGE 20

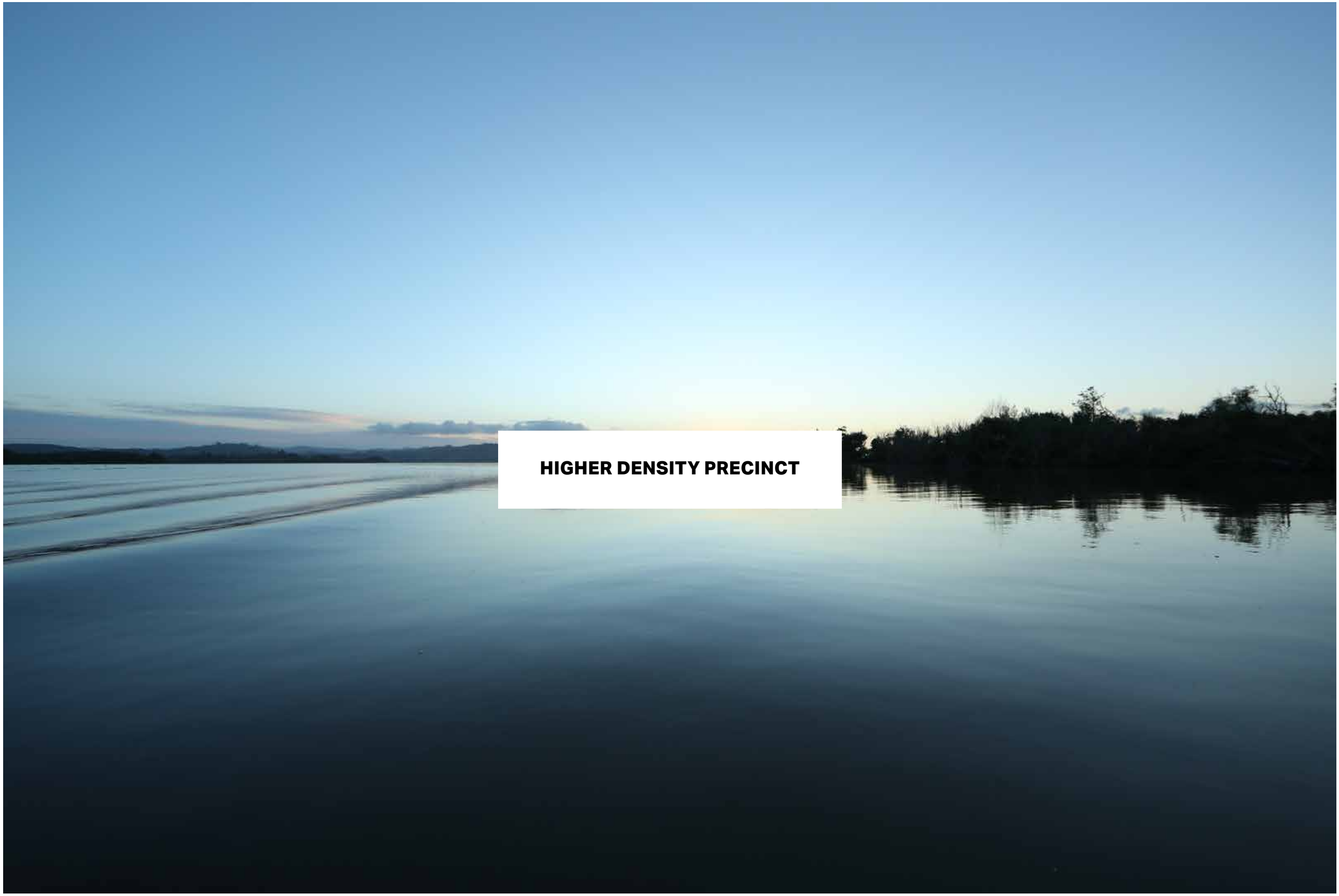
INDICATIVE RESIDENTIAL DWELLING ASSESSMENT

February 2018

CONTENTS

DRAWING IS INDICATIVE ONLY AND SUBJECT TO FINAL SURVEY AND DESIGN


North
Residential
Medium Density Precinct
Residential
Higher Density Precinct
Community Hub
Rural
(refer to rural overlays plan)
Iwi Reserve
Primary Roads
Area within which a retirement village may be located
Secondary Access Connection to Rata Street
Rata Street
0
50
100
200
500m
Scale 1:10,000 @ A4



HIGHER DENSITY PRECINCT

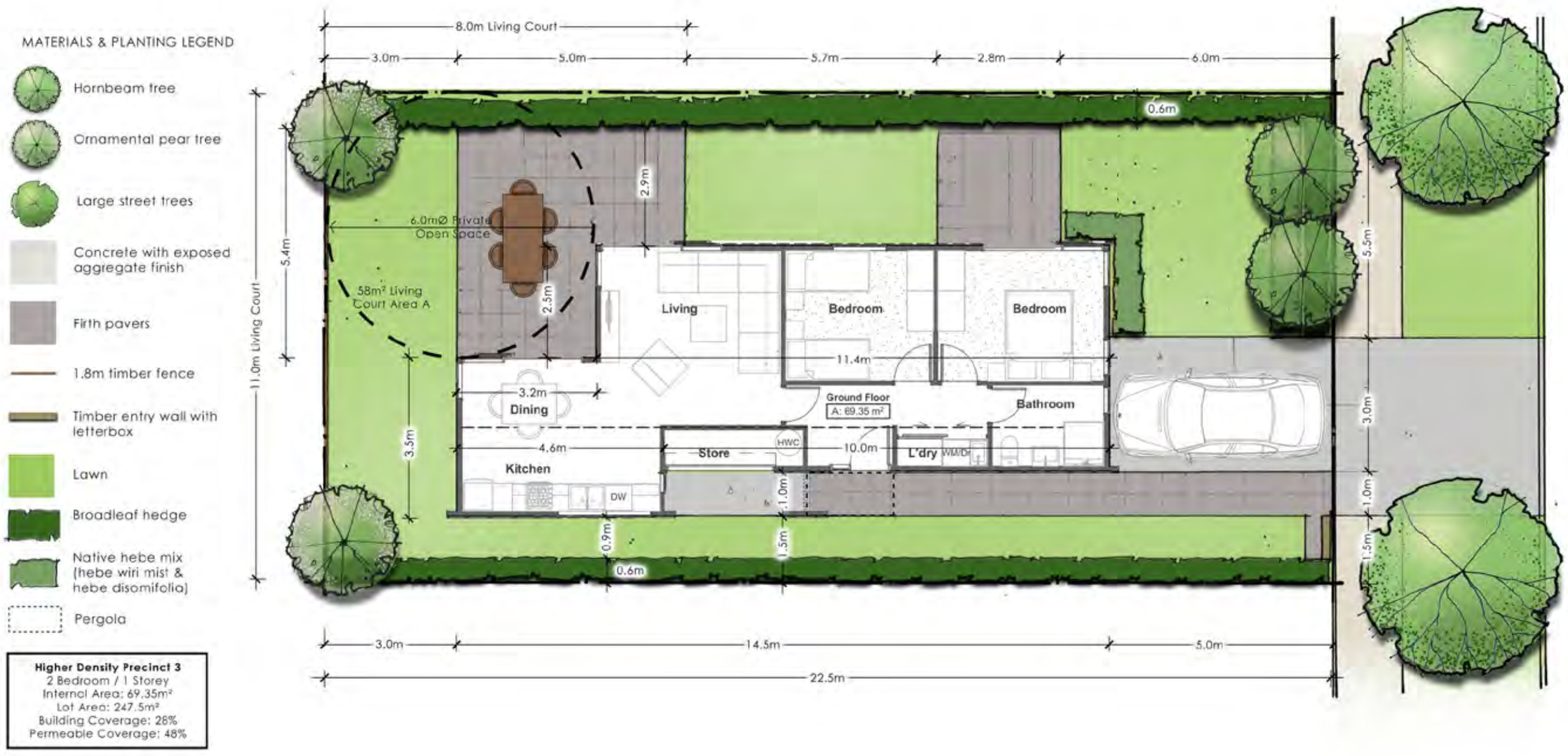

STREET
Higher Density Precinct 1
2 Bedroom / 1 Storey
Internal Area: 68m²
Lot Area : 225m²
Higher Density Precinct 2
2 Bedroom / 1 Storey
Internal Area: 67.34m²
Lot Area : 225m²
Higher Density Precinct 3
2 Bedroom / 1 Storey
Internal Area: 69.35m²
Lot Area : 247.5m²
Higher Density Precinct 4
3 Bedroom / 2 Storey
Internal Area: 102.66m²
Lot Area: 225m²
Higher Density Precinct 5
3 Bedroom / 1 Storey
Internal Area: 87.49m²
Lot Area : 300m²


MATERIALS & PLANTING LEGEND
Hornbeam tree
Ornamental pear tree
Large street trees
Concrete with exposed aggregate finish
Compacted gravel
Firth pavers
1.8m timber fence
Timber entry wall with letterbox
Lawn
Broadleaf hedge
Native hebe mix (hebe wiri mist & hebe disomifolia)
Pergola
Higher Density Precinct 1
2 Bedroom / 1 Storey
Internal Area: 68m²
Lot Area: 225m²
Building Coverage: 30%
Permeable Coverage: 37%
5.5m Living Court
4.1m
5.4m
10m
3.0m
10.0m Living Court
6.0mØ Private Open Space
74m² Living Court Area A
1.9m
3.9m
3.0m
4.4m
10.2m
6.2m
0.6m
1.0m
4.9m
3.3m
1.3m
3.2m
0.9m
0.6m
4.1m
1.5m
10.7m
6.2m
22.5m

MATERIALS & PLANTING LEGEND

- Hornbeam tree
- Ornamental pear tree
- Large street trees
- Concrete with exposed aggregate finish
- Firth pavers
- 1.8m timber fence
- Timber entry wall with letterbox
- Lawn
- Broadleaf hedge
- Native hebe mix (hebe wiri mist & hebe disomifolia)
- Entrance pergola

Higher Density Precinct 2
2 Bedroom / 1 Storey
Internal Area: 67.34m²
Lot Area: 225m²
Building Coverage: 30%
Permeable Coverage: 46%


MATERIALS & PLANTING LEGEND
Hornbeam tree
Ornamental pear tree
Large street trees
Concrete with exposed aggregate finish
Firth pavers
1.8m timber fence
Timber entry wall with letterbox
Lawn
Broadleaf hedge
Native hebe mix (hebe wiri mist & hebe disomifolia)
Pergola
Higher Density Precinct 3
2 Bedroom / 1 Storey
Internal Area: 69.35m²
Lot Area: 247.5m²
Building Coverage: 28%
Permeable Coverage: 48%
8.0m Living Court
3.0m
5.0m
5.7m
2.8m
6.0m
0.6m
2.9m
6.0mØ Private Open Space
5.4m
11.0m Living Court
58m² Living Court Area A
2.5m
Living
Bedroom
Bedroom
11.4m
3.2m
Dining
Ground Floor
A: 69.35 m²
Bathroom
4.6m
Store
HWC
10.0m
L'dry
WM/D
Kitchen
DW
3.5m
1.0m
0.9m
1.5m
0.6m
5.5m
3.0m
1.0m
1.5m
3.0m
14.5m
5.0m
22.5m


BB6780

MATERIALS & PLANTING LEGEND

- Hornbeam tree
- Ornamental pear tree
- Large street trees
- Concrete with exposed aggregate finish
- Compacted gravel
- Firth pavers
- 1.8m timber fence
- Timber entry wall with letterbox
- Lawn
- Broadleaf hedge
- Native hebe mix (hebe wiri mist & hebe disomifolia)

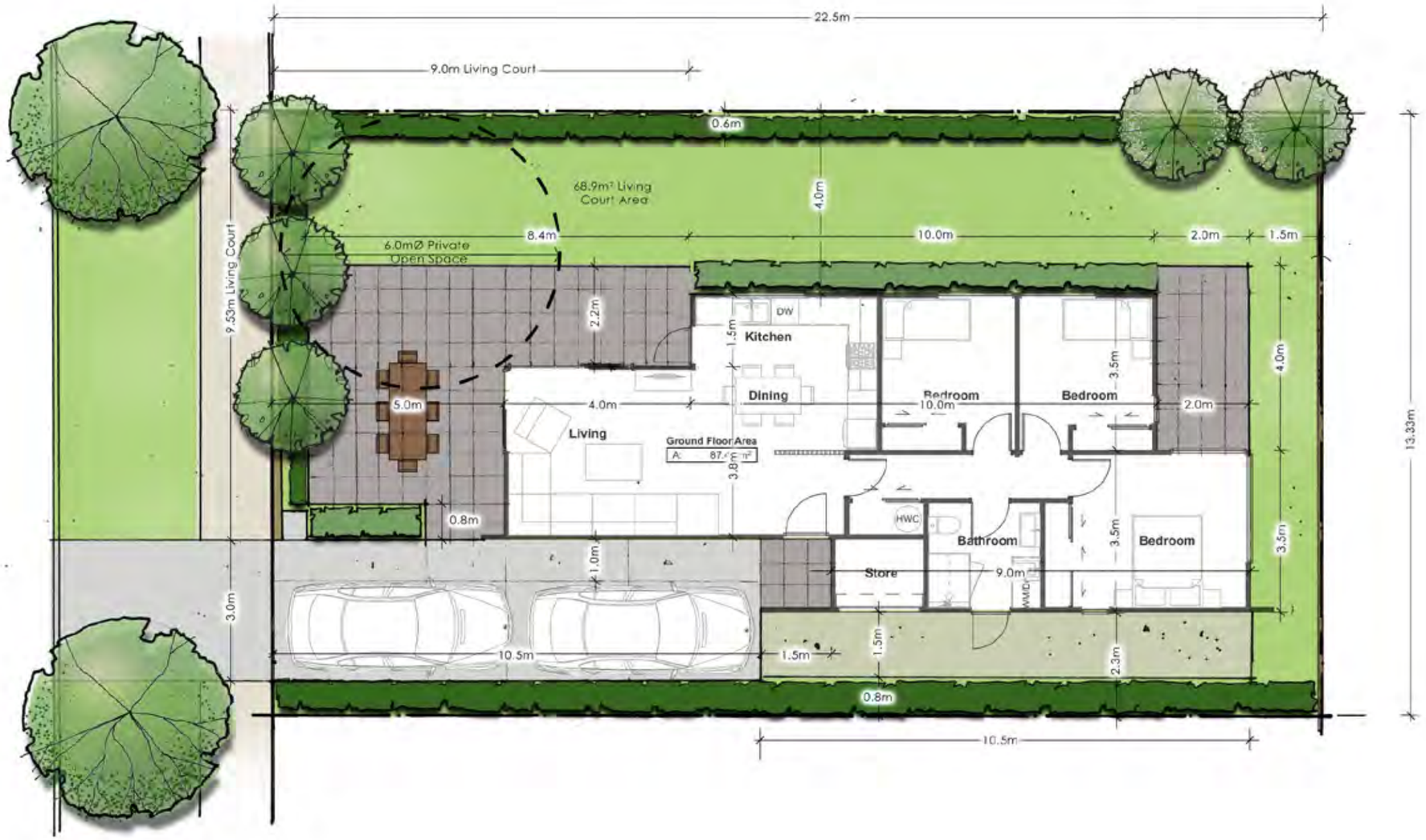
Higher Density Precinct 4
3 Bedroom / 2 Storey
Internal Area: 102.66m²
Lot Area: 225m²
Building Coverage: 23%
Permeable Coverage: 38%

Second Storey

MATERIALS & PLANTING LEGEND

- Hornbeam tree
- Ornamental pear tree
- Large street trees
- Concrete with exposed aggregate finish
- Compacted gravel
- Firth pavers
- 1.8m timber fence
- Timber entry wall with letterbox
- Lawn
- Broadleaf hedge
- Native hebe mix (hebe wiri mist & hebe disomifolia)

Higher Density Precinct 5
3 Bedroom / 1 Storey
Internal Area: 87.49m²
Lot Area: 300m²
Building Coverage: 29%
Permeable Coverage: 37%



PLANNING CHECKLIST

HIGHER DENSITY PRECINCT

Zone	Density	Building Coverage	Frontage	Daylight Admission & Fences	Building Setbacks	Living Court	Car Parking	Overlooking of Public Spaces
HIGHER DENSITY PRECINCT:	**Minimum 225m² (with average lot size of 250m²)**	65% No more than 70% impervious area	9 metre minimum lot frontage	8 metre maximum height 3.5 metres plus 45 degrees within 20 metres of street frontage >20 metres of street frontage 2.5 metres plus 45 degrees Fencing shall not be located on the road boundary or within the road boundary 3 metre setback except: (a) That this does not preclude planting, landscaping or; (b) A single pillar used for street numbering and/or letterbox. The maximum height of a single pillar shall be 1.2 metres with a maximum length of 1.8 metres Fences 1.8m maximum on other boundaries (including combined fences and retaining walls)	3 metres from the road boundary, 1.5 metres from every boundary other than a road boundary Construction or alteration of a building is a permitted activity if the building is set back at least 10 metres from the centre line of an indicative or legal road	Construction or alteration of a dwelling in the higher density precinct is a permitted activity if either: (a) it complies with the living court rules for the medium density precinct, except that the ground floor living court must have a minimum area of 50m²; or (b) Communal open space is provided and: (i) the communal open space is accessible from all dwellings the subject of this provision, and (ii) each dwelling has a legal right to use and en joy the communal open space, and (iii) an on-site private open space is provided where either: • on the ground floor the living court has a minimum area of 30m² capable of containing a circle of 4 metre diameter, exclusive of parking and manoeuvring areas and buildings and has a minimum width of 2.5 metres; or • if the dwelling does not have a habitable room on the ground floor, a balcony is provided containing at least 10m² and a circle with a diameter of at least 2.0 metres.	1 on-site car park per lot on lots 300m² or less. 2 on-site car parks on lots greater than 300m2	Any residential building located on a site which fronts a street or public open space is a permitted activity if: (a) at least one habitable room with glazing overlooks the street or public open space, and (b) the area of glazing shall be a minimum of 25% of that part of the wall area of the habitable room which faces the street or public open space
House 1:	Compliant: 225m² lot	Compliant: 30% building coverage / 37% permeable coverage	Compliant: 10 metre lot frontage	Compliant: 5 metre building height All other aspects comply	Compliant	Compliant	Compliant	a. Compliant b. Compliant at 70%
House 2:	Compliant: 225m²	Compliant: 30% building coverage / 46% permeable coverage	Compliant: 10 metre lot frontage	Compliant: 5 metre building height All other aspects comply	Compliant	Compliant	Compliant	a. Compliant b. Compliant at 35%
House 3:	Compliant: 247.50m²	Compliant: 28% building coverage / 48% permeable coverage	Compliant: 11 metre lot frontage	Compliant: 5 metre building height All other aspects comply	Compliant	Compliant	Compliant	a. Compliant b. Compliant at 45%
House 4:	Compliant: 225m²	Compliant: 23% building coverage / permeable coverage 38%	Compliant: 10 metre lot frontage	Compliant: 7.5 metre building height All other aspects comply	Compliant	Compliant	Compliant	a. Compliant b. Compliant at 50%
House 5:	Compliant: 300m²	Compliant: 29% building coverage / permeable coverage 37%	Compliant: 13.33 metre lot frontage	Compliant: 5 metre building height All other aspects comply	Compliant	Compliant	Compliant	a. Compliant b. Compliant at 45%

MEDIUM DENSITY PRECINCT

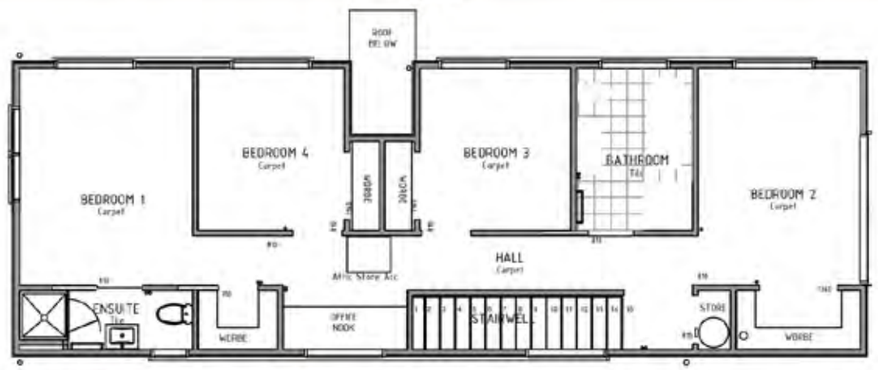

Medium Density Precinct 1
3 Bedroom / 1 Storey
Internal Area: 132m²
Lot Area : 400m²
Medium Density Precinct 2
4 Bedroom / 2 Storey
Internal Area: 169.28m²
Lot Area : 330m²
Medium Density Precinct 3
3 Bedroom / 1 Storey
Internal Area: 132m²
Lot Area : 350m²
Medium Density Precinct 4
4 Bedroom / 2 Storey
Internal Area: 173m²
Lot Area : 500m²
STREET


MATERIALS & PLANTING LEGEND
Hornbeam tree
Ornamental pear tree
Large street trees
Concrete with exposed aggregate finish
Compacted gravel
Firth pavers
Outdoor fire with wood storage
Lawn
Broadleaf hedge
Native hebe mix (hebe wiri mist & hebe disomifolia)
Medium Density Precinct 1
3 Bedroom / 1 Storey
Internal Area: 132m²
Lot Area: 400m²
Building Coverage: 33%
Permeable Coverage: 41%
LIVING ROOM
KITCHEN
BATHROOM
BEDROOM 2
BEDROOM 3
ENTRY
LOUNGE
BEDROOM 1
ENSUITE
GARAGE
STORE
4.0mØ Private Open Space
6.2m
0.6m
5.9m
16.0m
5.6m
3.9m
3.3m
5.07m
14.54m
8.27m
1.21m
8.59m
5.21m
3.38m
2.05m
1.45m
15.7m
5.0m
27.5m

MATERIALS & PLANTING LEGEND

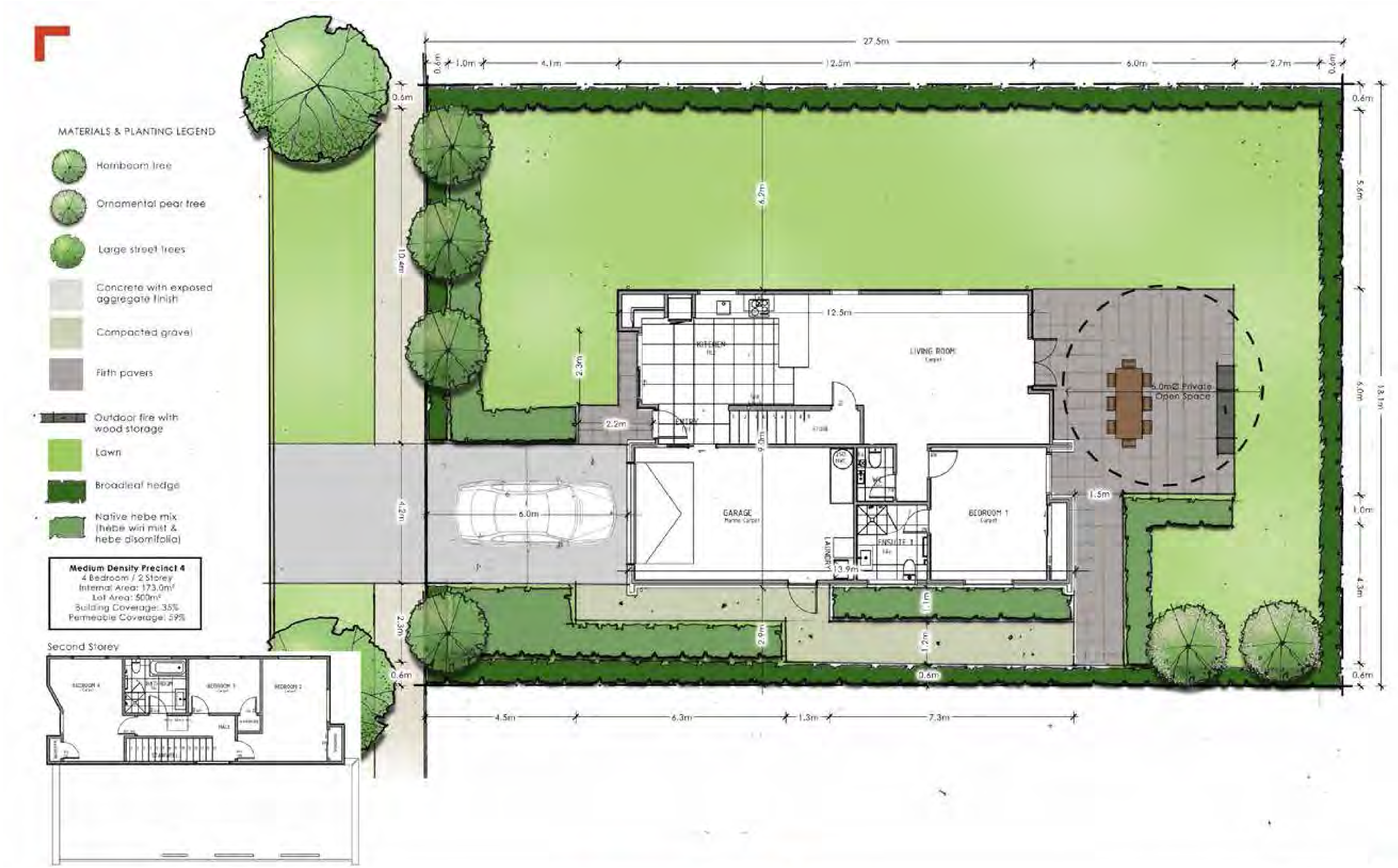
- Hornbeam tree
- Ornamental pear tree
- Large street trees
- Concrete with exposed aggregate finish
- Compacted gravel
- Firth pavers
- 1.8m timber fence
- Lawn
- Broadleaf hedge
- Native hebe mix (hebe wiri mist & hebe disomifolia)

Medium Density Precinct 2
4 Bedroom / 2 Storey
Internal Area: 169.28m²
Lot Area: 330m²
Building Coverage: 26%
Permeable Coverage: 41%



Second Storey


MATERIALS & PLANTING LEGEND
Hornbeam tree
Ornamental pear tree
Large street trees
Concrete with exposed aggregate finish
Compacted gravel
Firth pavers
Outdoor fire with wood storage
Lawn
Broadleaf hedge
Native hebe mix (hebe wiri mist & hebe disomifolia)
Medium Density Precinct 3
3 Bedroom / 1 Storey
Internal Area: 132m²
Lot Area: 350m²
Building Coverage: 38%
Permeable Coverage: 35%
27.5m
4.5m
5.8m
16.0m
2.43m
1.83m
5.7m
0.6m
5.81m
3.38m
12.72m
1.21m
LIVING ROOM
KITCHEN
DINING
BATHROOM
WC
WORKE
BEDROOM 2
BEDROOM 3
ENTRY
WORKE
STORE
LOUNGE
BEDROOM 1
ENSUITE
GARAGE
6.0m² Private Open Space
8.22m
5.21m
5.21m
1.7m
1.1m
1.7m
0.6m
0.6m
5.5m
15.7m
5.7m



MATERIALS & PLANTING LEGEND
Hornbeam tree
Ornamental pear tree
Large street trees
Concrete with exposed aggregate finish
Compacted gravel
Firth pavers
Outdoor fire with wood storage
Lawn
Broadleaf hedge
Native hebe mix (hebe wiri mist & hebe diosmifolia)
Medium Density Precinct 4
4 Bedroom / 2 Storey
Internal Area: 173.0m²
Lot Area: 500m²
Building Coverage: 35%
Permeable Coverage: 59%
Second Storey
27.5m
1.0m
4.1m
12.5m
6.0m
2.7m
0.6m
6.2m
10.4m
2.3m
2.2m
KITCHEN
LIVING ROOM
ENTRY
GARAGE
BEDROOM 1
ENSUITE 1
LAUNDRY
6.0m
4.2m
9.0m
13.9m
1.5m
6.0m Private Open Space
5.6m
18.1m
1.0m
4.3m
1.1m
1.2m
2.9m
4.5m
6.3m
1.3m
7.3m

PLANNING CHECKLIST

MEDIUM DENSITY PRECINCT

Zone	Density	Building Coverage	Frontage	Daylight Admission & Fences	Building Setbacks	Living Court	Car Parking	Overlooking of Public Spaces
MEDIUM DENSITY PRECINCT:	**Minimum 300m² (with an average site size of 450m²)**	40% No more than 70% impervious area	12 metre minimum lot frontage	8 metre maximum height 2.5 metre plus 45 degrees Road boundary and road boundary setback: (i) The fence does not exceed 1.2m in height. (ii) The combined fence and retaining wall does not exceed 1.8m in height provided that the fence alone does not exceed 1.2m and 40% of the fence is of a transparent construction. Other boundaries: (i) The fence does not exceed 1.8m in height. (ii) The combined fence and retaining wall does not exceed 1.8m in height.	3 metres from the road boundary 1.5 metres from every boundary other than a road boundary Construction or alteration of a building is a permitted activity if the building is set back at least 10 metres from the centre line of an indicative or legal road	Construction or alteration of a dwelling in the medium density precinct is a permitted activity if: (a) an outdoor living court is provided, and (b) the outdoor living court is for the exclusive use of the occupants of a dwelling, and (c) the living court is readily accessible from a living area of the dwelling, and (d) either (i) on the ground floor the living court has a minimum area of 60m² capable of containing a circle of 6 metre diameter, exclusive of parking and manoeuvring areas and buildings and has a minimum width of 2.5 metres; or (ii) if the dwelling does not have a habitable room on the ground floor, a balcony is provided containing at least 10m² and a circle with a diameter of at least 2.0 metres.	2 on-site car parks per lot on lots greater than 300m²	Any residential building located on a site which fronts a street or public open space is a permitted activity if: (a) at least one habitable room with glazing overlooks the street or public open space, and (b) the area of glazing shall be a minimum of 25% of that part of the wall area of the habitable room which faces the street or public open space
House 1:	Compliant: 400m²	Compliant: 33% building coverage / permeable coverage 41%	Compliant: 14.5 metre lot frontage	Compliant: 5 metre building height	Compliant	Compliant	Compliant	a. Compliant b. Compliant at 40%
House 2:	Compliant: 330m²	Compliant: 26% building coverage / permeable coverage 41%	Compliant: 12 metre lot frontage	All other aspects comply Compliant: 7.75 metre building height	Compliant	Compliant	Compliant	a. Compliant b. Compliant at 45%
House 3:	Compliant: 350m²	Compliant: 38% building coverage / permeable coverage 35%	Complant: 12.7 metre lot frontage	All other aspects comply Compliant: 5 metre building height	Compliant	Compliant	Compliant	a. Compliant b. Compliant at 40%
House 4:	Compliant: 500m²	Compliant: 35% building coverage / permeable coverage 59%	Compliant: 18.1 metre lot frontage	All other aspects comply Compliant: 7.75 metre building height All other aspects comply	Compliant	Compliant	Compliant	a. Compliant b. Compliant at 60%


LAKESIDE
TE KAUWHATA