

# Whānaungatanga in co-housing

Toward sustainable living for Māori

By

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**Figure 1** Maungakieke<sup>1</sup>

*“The hope is our next generation will be brighter, happier, smarter, better-looking than us. That they will continue to be different and awesome. They’ll be Ngāti Whātua.”*

(Ngārimu Blair, deputy chairman  
of the Ngāti Whātua Ōrākei Trust, 2021)

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<sup>1</sup> “Mountain where Kie Kie <sup>1</sup> grows abundantly”

# He Mihi Aroha

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Lastly, but definitely not the last, I would be remiss in not mentioning my family, especially my parents, spouse, and my little daughter. Their belief in me has kept my spirits and motivation high during this process.

# Attestation of Authorship

“I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgments), nor material which to a substantial extent has been submitted for the award of any other degree, diploma or a university or other institution of higher learning.”

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# Abstract

Through a collaborative design process, this thesis project endeavours to consider how Whānaungatanga – (a Māori core value associated with a close connection between people developed through kinship) can be used to construct a co-living medium density model of housing to improve the health and well-being of the Hawke whānau (family) of Ngāti Whātua o Ōrākei, foster a sense of community, and encourage a sustainable lifestyle for Oranga Tamariki families they look after. Thereby, effectively upholding the Whānaungatanga – kinship – of Ngāti Whātua Ōrākei and responding to the housing crisis. This is achieved by examining the contexts, analysing case studies, and through a collaborative co-design process with the Hawke whānau of Ngāti Whātua o Ōrākei and a team of people who are actively involved to discover unique perspectives through collaboration.

**Keywords:** *Ngāti Whātua o Ōrākei, Whānaungatanga, co-living, medium density housing, sustainable lifestyle, co-design.*

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# Kupu Whakataki

## Introduction

Housing is a crucial human asset, a place where we spend time resting, raising children, and doing substantial activities with family members. For Māori, their conceptions of “home” are multi-dimensional and relational. Housing is not the only place that provides economic and material security. Importantly, housing also provides an ability to support the health and well-being of the whānau (family), maintain a connection to ancestral lands, and revitalize Te Reo Māori and the environment. As mentioned in Māori and Housing in Tāmaki Makaurau: A stocktake of issues, experiences, and initiatives (2016), interviews with 70 Māori individuals and whānau across Aotearoa New Zealand (including interviews in Manukau) conducted by CHRANZ (Centre for Housing Research Association of New Zealand) and Te Puni Koriki pointed out a crucial determinant of where Māori preferred to live in close proximity to whanau as when living close to whanau or on whanau land, their satisfaction with housing was higher. Therefore, lower-grade housing being closed to their whānau is often accepted by Māori rather than better housing in a suburb further away.

*“The desire to live in close proximity to each other is a uniquely Māori dimension”*

(Hoskin, as cited in Cropp, 2015)

However, the housing crisis in Aotearoa New Zealand severely affects Māori and a large proportion of our housing stock to date do not align with a relational Māori world view. According to the Ministry of Social development’s public housing waitlist, the proportion of Māori who are housing deprived is 33.4 percent, and more than 50 percent of the applicants are on the public housing waitlist. Furthermore, Te Pā Harakeke: Māori housing and wellbeing 2021 states that Māori is also more likely to live in over-crowded homes, substandard housing conditions affected by dampness and mould, and low levels of home ownership. Māori Land ownership structures involving multiple stakeholders, red tape, and barriers in obtaining bank loans prevent whānau from being able to build a healthy home on their ancestral land.

This project site is located on Ngāti Whātua o Ōrākei land, Ōrākei, Tamaki Makaurau/Auckland (hereafter referred to as Tāmaki Makaurau) and is wholly owned by Ngāti Whātua Ōrākei which is one of three hapū (sub-tribe to the wider Ngāti Whātua Iwi (tribe)). The Hawke whānau of Ngāti Whātua Ōrākei is a multi-generational whanau currently occupying 31 Kitemoana street, Ōrākei. Their existing house was informally extended from three bedrooms to accommodate up to 14 people living there at once – which is not ideal nor structurally safe for the Hawke whanau as well as families who they care for. Those growing issues have left the family wanting to redevelop their property, create a medium density living complex to replace their current home.

The project aims to create a welcoming and economically sustainable multi-generational whare that can provide shelter and care for up to 40 residents (including the

Hawke whānau) in affiliation with Oranga Tamariki<sup>2</sup>. Potentially, through being able to see whānau living in closer proximity to each other can improve their health and well-being, foster a sense of community, and encourage a sustainable lifestyle. Thereby, effectively upholding the Whānaungatanga – kinship – of Ngāti Whātua Ōrākei. Accordingly, in future, whanau will always have a tūrangawaewae<sup>3</sup>, a place that draws them together and holds them together.

Working together on this project is a group of five Master of Architecture students. Our approach relies on a co-design methodology, coupled with consideration of indigenous values important to Ngāti Whātua o Ōrākei to ensure our design supports all the aspirations of this community.

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<sup>2</sup> Ministry for children dedicated to supporting any child in Aotearoa New Zealand

<sup>3</sup> “A place to stand”, where one has rights of residence and belonging through kinship and whakapapa (Moorfield, n.d)

# Ko wai au?

Tēnā koutou katoa,

Ko Bao Chung Phan taku ingoa

Nō Vietnam ahau

Ko Hanoi te whenua tupu

I raro I te maru o te maunga o Huong Son

Ko Red River te awa e mahea nei aku māharahara

Nō reirā, tēnā koutou katoa

# Who am I?

*Greeting everyone,*

*My name is Bao Chung Phan*

*I am from Vietnam*

*Hanoi is where I grew up*

*Under the shelter of the mountain Huong Son*

*Red river is the river that alleviates my worries*

*Thus, my acknowledgement to you all*

# Research question

How can Whānaungatanga – a Māori core value be embedded in a co-housing approach influence the creation of medium-density housing for Māori that promotes a sustainable lifestyle to create an intergenerational whare that connects its residents to the Whenua?

In order to thoroughly answer the primary research question, it has been deconstructed into the following sub questions:

- a, How can Co-living promote Māori's sustainable lifestyle?
- b, Whānaungatanga – What is it in Māori culture?
- c, How Whānaungatanga is applied architecturally?

# Chapter One: Context and history

Māori, the indigenous people of Aotearoa (New Zealand) have settled for more than 700 years in New Zealand. From the dominant population in Aotearoa with 35 times more Māori than Pakeha in 1840 (the year the Treaty of Waitangi was signed) (Pool, 2013 as cited in Matika et al, 2021), to 1901, the Māori population decreased by 50%. In post-World War II, Māori became the minority in their own land (Matika et al, 2021). In 2018, the Māori comprised approximately 16.7% (850,500 people) of the population, nearly 1/5 of New Zealand's population in 2020 (stats.govt.nz). Recently, Māori has been receiving more concern and care from New Zealand Government in response to Te Tiriti o Waitangi breaches. New Zealand Government has several development programs for Māori development. Mahi Ka Ora – The National Māori Housing Strategy (hud.govt.nz), Māori Economic Development (MBIE), and The Māori Employment Action Plan (Beehive.govt.nz) are three of the development programs aimed at supporting Māori. The main points these documents share are that they are focused on Māori development for those whose identity as Māori.

More Māori lives in Tāmaki Makaurau than in any other region in Aotearoa. However, in recent years, Auckland council's issues relating to provide appropriate housing to meet Māori needs are highly complex, especially when the land area of Aotearoa under Māori title is less than 5% <sup>4</sup>(prior to 1840, Maori owned most of the land in Aotearoa). For Māori, Whakapapa, aroha and reciprocity are the foundation of their relationship to land. Life is created, nurtured, and sustained by Papatuanuku, the earth mother, from whom all knowledge, whakapapa, history, food and resources are derived. The land, furthermore, serves as a reminder of kinship links to the atua – the gods. This relationship based on whakapapa also placed an obligation on Māori to accord respect to the land an atua.

*“For Māori, land was not a possession that could be owned in the equivalent sense of the current Land Transfer System of ownership. It was and still remains a taonga to all and, accordingly, it was held in communal ownership. Māori did not view themselves as owning the land. Rather, they were entitled to 'use' rights and were themselves owned by the land. This is best illustrated by the whakatauki:*

*No te whenua ahau, ko au te whenua: I am from the land, I am the land.”*

(Te Mana Whenua O Ngāti Whātua O Ōrākei, n.d)

Therefore, traditional communal ways of living focused on the well-being and security of the whānau are recognized as an important consideration for the design and development of contemporary housing solutions for Māori to live as Māori.

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<sup>4</sup> Based on the Maori land figures in Maori Land Court (2017)



**Figure 2:** Map of New Zealand with iwi

## 1.1. Ngāti Whātua

Based on the result in the New Zealand Census of Population and Dwelling 2018 run by Stats New Zealand, Ngāti Whātua is the second largest tribe in Aotearoa (after Waikato iwi). This number was counted in two ways: through ethnicity (cultural affiliation) and through Māori descent (ancestry). The number of Ngāti Whātua who are living in Tāmaki Makaurau is 7353 people, 49.7% of the total population of Ngāti Whātua (14,784 people in overall New Zealand) (Auckland council, nd., as cited from Stat NZ, 2018).

Although it is recognized as the second largest tribe in Tāmaki Makaurau, only 23% of Ngāti Whātua tribal members own or partly own usual residence (Stats NZ, 2018, as cited in Auckland Council website). Ngāti Whātua is one of the most developed Māori Iwi that are living in Tamaki Makaurau.

Ngāti Whātua comprises of a confederation of three hapū (subtribes) interconnected both by ancestry and by association overtime: Nga Oho, Te Taou, Te Uringutu. These three hapū can act together or separately as independent subtribes (Ngāti Whātua Ōrākei annual report 2016/17, p1).



**Figure 3:** Ngāti Whātua haerenga (journey), feasibility study, 2021

## 1.2. Ngāti Whātua o Ōrākei

*Ko Maungakiekie Te Maunga*

*Ko Waitematā Te Moana*

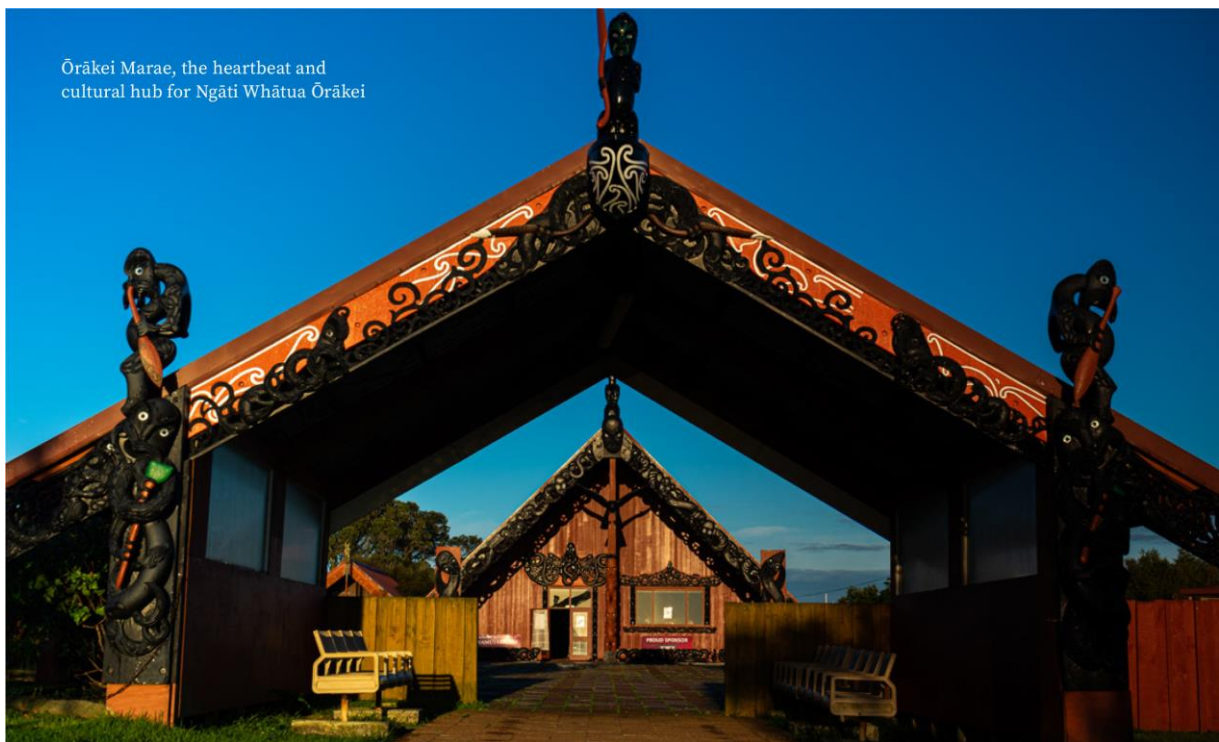
*Ko Māhuhu Ki Te Rangi Te Waka*

*Ko Ngāti Whātua Te Iwi*

*Ko Te Taoū, Te Uringutu, Ngā Oho Ngā Hapū*

*Ko Ōrākei Te Marae*

*Ko Ngā Kur ī Purepure o Tāmaki,*



**Figure 4:** *Orakei Marae, Ngāti Whātua Ōrākei annual report 2020*

*“Ngāti Whātua Ōrākei is an iwi learning from its past, and looking to the future for its people.”*

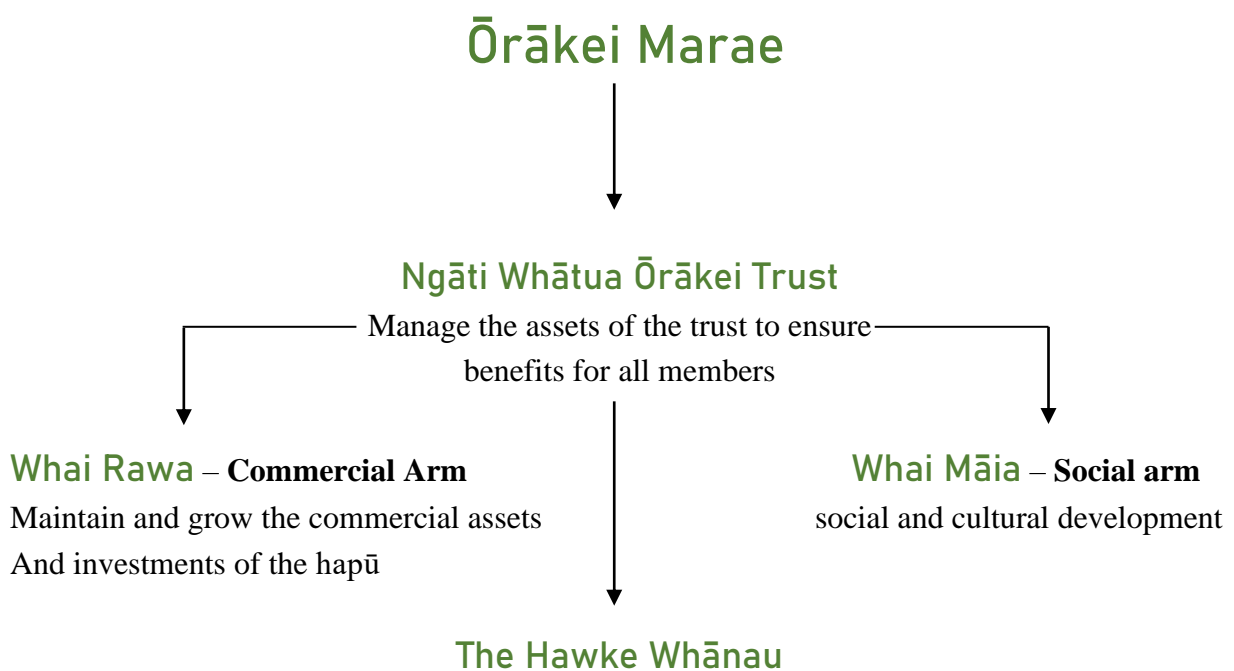
(Tokalau, 2021)

Ngāti Whātua o Ōrākei are one of the hapū from the wider Ngāti Whātua. As at 1 November 2019, Ngāti Whātua o Ōrākei had 5062 registered hapū members throughout Aotearoa New Zealand and around the world compare to 4469 members in 2018 (Ngāti Whātua Ōrākei annual report 2018/19, p5). It is a well-organised Māori community in the Tāmaki Makaurau region forming and maintaining connections with Ngāti Whātua whānau who living overseas and managing financial plans (Ngāti Whātua Ōrākei annual report 2016/17, p2).



**Figure 5:** The distribution of registered hapū members of Ngāti Whātua o Ōrākei

The community development and management strategy of Ngāti Whātua o Ōrākei formed within broader parameters including and not just limited to traditional social groups or stereotypes but also drawing from national and international examples which they integrate with local and tribal identity. Financial issues of the Ngāti Whātua o Ōrākei are looked after by Ngāti Whātua Ōrākei Trust and by Whai Rawa (commercial arm) while social issues are operated by Whai Maia (Social arm). This includes promoting whānau businesses, providing information on grants, scholarships and programmes to support whānau success, grants to support, subsidizing quality primary health care for the community, support services, agencies, and resources for whānau to help them achieve their goals and aspirations, setting up saving schemes, and health insurance plans for hapū (Ngāti Whātua Ōrākei, nd). Ngāti Whātua o Ōrākei leaders also had a well-organised plan to build several papakainga (developments established on ancestral land) for their community across Tāmaki Makaurau (Auckland Council, nd) aimed at providing comprehensive care for their members. Building papakainga on ancestral lands requires significant care from designers and considerations of Māori value to uphold the identity and meaning of the culture and convey them to the next generation. This goal is emphasized in the Ngāti Whātua o Ōrākei annual report 2016/17.



**Figure 6:** Organisational structure of Ngāti Whātua Ōrākei

### 1.3. The Orakei Visual framework 2018 v.4

Over four years, Ngāti Whātua o Ōrākei in conjunction with the Ngāti Whātua Ōrākei Reserves Board collected ideas and visions from whānau – families - and the Ōrākei community in meetings (2014, 2016, 2018, and 2019).

These ideas and visions were compiled to form The Ōrākei Visual Framework encompassing the vision of the whenua for now and future generations. Market, tourism centre, Paihikara, Kaitiakitanga & Wai, Mara Kai, Okahu Rakau etc are among several ideas that were identified and synthesized for development on Ngāti Whātua o Ōrākei (Ōrākei visual Framework, 2018), which also included ideas relating to the development at 31 Kitemoana Street, Ōrākei. The Ōrākei visual Framework emphasized that land development of the hapū should be aimed at providing activities to meet the need of the hapū in a natural way and integrate elements to support Māori identity. The report demonstrates a Māori - centered approach to land development in which the needs of different whānau are listened to and incorporated into the planning and design right from the start. This approach is applied as the premise for the co-design process of the project at 31 Kitemoana, Orākei.

However, in further examining the housing strategy for Ngāti Whātua o Ōrākei, there is not a clear orientation on exactly how Ngāti Whātua o Ōrākei are going to implement their housing plan for their people.

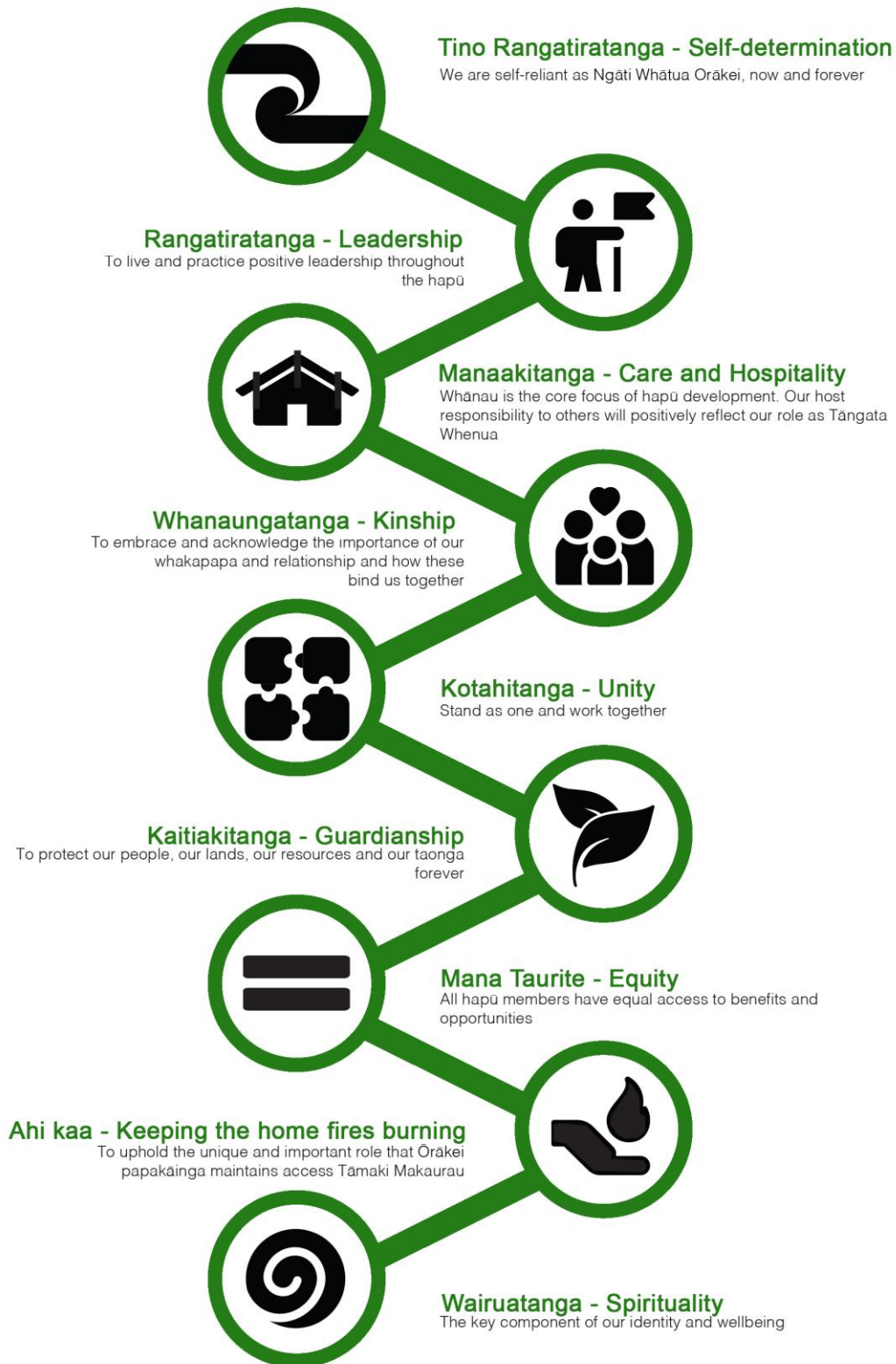


**Figure 7:** Whenua Rangatira plan, The Orakei Visual framework 2018 v.4

## 1.4. Ngāti Whātua Ōrākei annual report 2016/17

Over the past six years after their settlement, Ngāti Whātua o Ōrākei must identify the future pathway for the development of the tribe. Being bound to the whenua (land) and connected to their people are the two most important targets. In the annual report for the financial year ended 30 June 2017, the Ngāti Whātua o Ōrākei emphasized “connecting with our whānau and protecting our connection to this whenua is critical for the future of our hapū”. The hapū understand that the communicating and keeping in touch with their people is crucial, and that housing remain their key focus for them, because it is an important issue for their people, especially affordable housing (Ngāti Whātua Ōrākei, annual report – NWR – 2016/17). Additionally, the report further set six key principle that will guide the Trust in all mahi (work) in the coming five years including Whānaungatanga by embracing and acknowledge the importance of the whakapapa and relationship and how these bind the hapū people together (Ngāti Whātua Ōrākei, annual report – NWR – 2016/17).

As stated in the report, the hapū wants to build more houses but a strategic focus and a clear path are needed on these issues. The foundation for Ngāti Whātua o Ōrākei people in understanding strong is through building safe and secure homes. Over the years, housing has been a priority for discussions in the hapū and whānau are wanting to build more. The valuable experience of creating 30 homes for the Kainga Tuatahi development provided a good guidance on pricing and cost. However, the Trust and Ngāti Whātua o Ōrākei are wanting to consider other possible designs, which might be more affordable for their people. They want the next houses to be as affordable as possible.



**Figure 8:** Six key values mentioned in Ngāti Whātua Ōrākei annual report – NWR – 2016/17

These values also underpin our research and design process, guiding us to create a resilient and thriving outcome.

## 1.5. Housing strategy of Ngāti Whātua o Ōrākei – Whātua Āhurutanga

The housing strategy of Ngāti Whātua Orakei sets out the shift from existing condition toward a more balancing future state by overcoming challenges. In order to do so, the housing strategy used a human centred approach in which, individuals, whanau and communities are placed at the centre of the strategy. It reflects values that their whanau needs, their aspirations, and views (Ngāti Whātua Orakei trust version 1, 2018). The strategy builds on in depth listening, surveys and hui with whanau members from rangatahi to kaumatua to investigate priorities. Then the strategy is refined through the assessment of options, feasibility, and financial analysis.

The strategy aims at building villages and increases the home ownership for their members that provide incentives for long term security and pathways to home ownership. Whanau are expected to see themselves and their future options in the strategy. Key barriers in both Census and in interviews are similar in housing needs. The Hawke family's house locates in the available land in Orakei block but they are found struggle with the financial barriers. Therefore, the Hawke family needs to overcome the barrier with the support of experienced consultants.

Whanaungatanga – kinship, besides other key principle, is one of principles underpinning the Ngāti Whātua Orakei trust. This principle expects “to embrace and acknowledge the importance of their whakapapa and relationships and how these binds them together”.

### 1.5.1. The Hawke Whanau of Ngāti Whātua Ōrākei

The Hawke Whanau of Ngāti Whātua Ōrākei, a Hapū of the Ngāti Whātua iwi, have been living at 31 Kitemoana street for generations and have deep connections with their lands and people in the Tamaki regions. They are highly valued and have gained trust and respect from their local community with Bob Hawke, their father and Arohanui Hawke, their mother holding leadership positions as kaumatua in the Open Brethren Church and Oranga Tamariki, The Ministry for children.



**Figure 9:** *Ngāti Whātua o Ōrākei kaumatua Bob Hawke, image from AT transport's Flickr*

The family currently have been providing service to Oranga Tamariki taking care of trouble boys and mothers and their children to stay at their home, giving them a safe environment to learn and reground themselves. The house was built by their father, Bob Hawke, and was informally extended from 3 bedrooms, to now accommodating up to 14 persons at once. This living situation is not ideal nor structurally sound for them.

Hence, due to those growing issues of overcrowded and substandard housing, the Hawke whanau's aspiration is to create a medium density living complex to replace their current home in order to provide shelter for their extended whanau/iwi members, support their services to Oranga Tamariki, and create more communal and economically sustainable living. However, due to Māori Land ownership structures involving multiple stakeholders, red tape, and barriers in obtaining bank loans prevent Hawke whānau from being able to build a healthy home on their ancestral land.



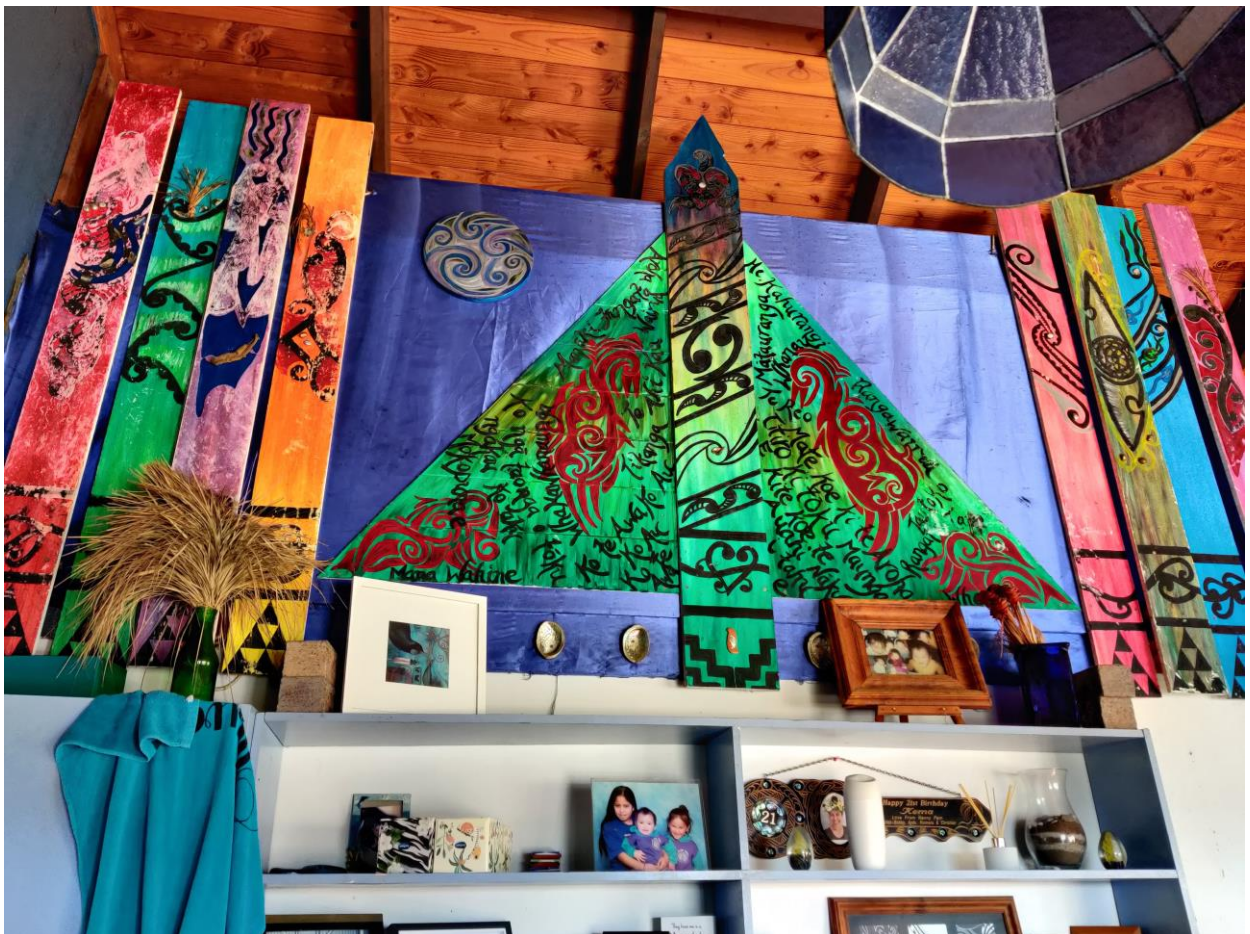
*Figure 10: Hawke whare, feasibility study 2021*



*Figure 11: the backyard of Hawke whare, author, 2021. Arohanui Hawke (red shirt)*



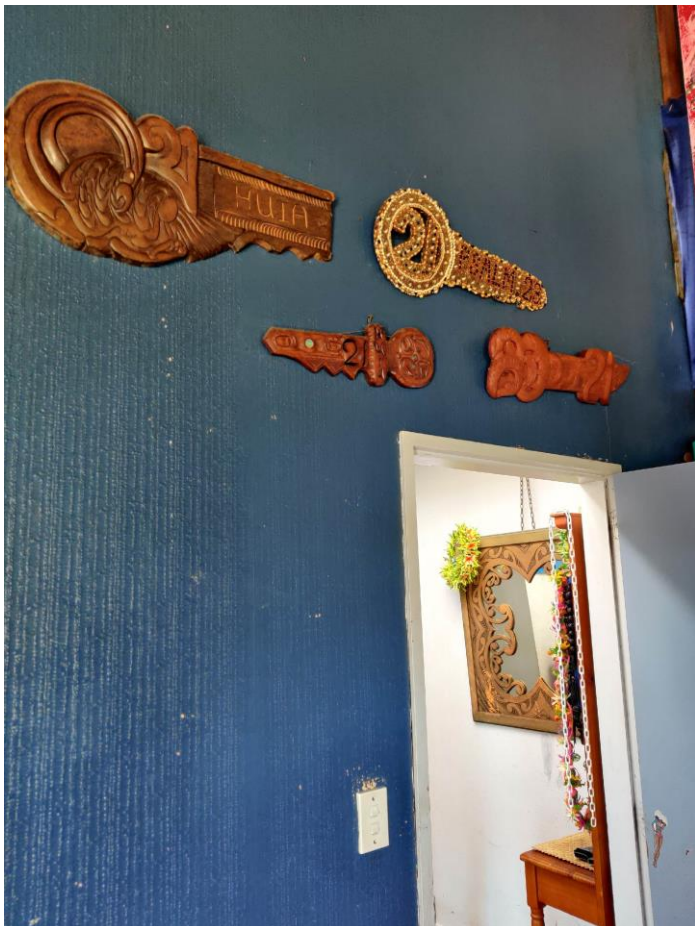
*Figure 12: Ngāti Whātua o Ōrākei kaumatua Arohanui Hawke (left) and Bob Hawke (right), image from Facebook*



*Figure 13: Treasured items on display in the existing house, author, 2021*



*Figure 14: Inside the Hawke whare, author, 2021*



*Figure 15: Inside the Hawke whare, author, 2021*

## 1.5.2. Location

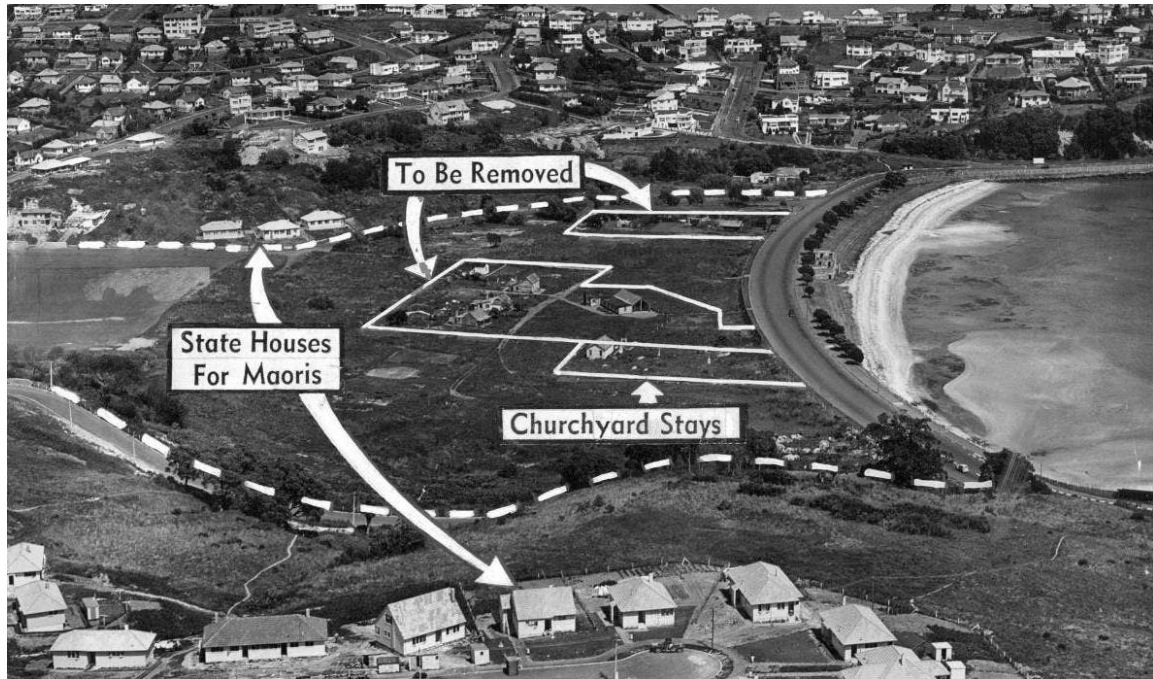
Orakei is the home of the Ngāti Whātua tribe from the 1840s, when land sales reduced their holdings to 700 acres (283 hectares) around Ōkahu Bay. Nowadays, Ōrākei (place of adornment) is a suburb of Auckland city which is situated in the North Island of Aotearoa New Zealand. It is located above Okahu bay on the shores of the Waitemata Harbour, which lies to the north, and Hobson Bay and Ōrākei Basin, two arms of the Waitematā, which lie to the west and south. To the east is the suburb of Mission Bay. Takaparawhau / Bastion Point is a coastal piece of land in Ōrākei. Between Takaparawhau and Paritai Drive is Ōkahu Bay and Reserve.



**Figure 16:** *Orakei overview*

Kitemoana street is in Ōrākei which holds much cultural significance to Māori and Aotearoa New Zealand. In the early 1900s, the land was a Greenfield site consisting of a Marae, Urupa, and other Māori community buildings and homes. Due to the systematic racism beginning at the colonization of Tamaki Makaurau, most of these buildings were in a severe state of disrepair Ngāti Whātua o Ōrākei were not granted consent for infrastructure connections or building amendments. With increasing pressure from wealthy neighbouring suburbs and an impending visit by the British monarchy, Ngāti Whātua o Ōrākei experienced extreme persecution. From 1940 to 1959 a series of events took place which would eject mana whenua from their ancestral lands: In 1951,

Ngāti Whātua was evicted from their home in Ōkahu Bay, the village was destroyed to make way for a royal visit by Queen Elizabeth II after the Crown took possession the last remaining papakāinga on Ngāti Whātua's land. The papakāinga was burnt down because the Crown considered it an eyesore and potential disease centre. Only the chapel and the cemetery remain. The council had built state houses with the idea that displaced Māori would occupy them, though there were conditions: they needed to pay rent and needed to be “of a certain character”.



*Figure 17: Crown's plan for Orakei in 1951, image from Stuff.co.nz*

These images below illustrate aerial photographs of the site before and after the Queen visited, after the Queen visited, and a recent image. The left photo shows the Māori village in place in 1940, the middle photo shows the area stripped of the Māori community with only the urupa left in 1959 and the last photo shows the site in 2017.



1940

1959

2017

**Figure 18:** *The transformation of the site 1940-2017 showing the destruction of the original papakainga documented in the Feasibility study 2021*

From 1977-1978, one of the most famous events in Aotearoa happened. There was a 506-day protest led by Joe Hawke against the sale of this land to the Crown. A child was killed, fires were lit, and the event that put an end to the peaceful protest was

due to the protestors being arrested. In 1987, The iwi's claim which ruled the land should be returned to Ngāti Whātua Ōrākei was taken to the Waitangi Tribunal and eventually, one year later, the Waitangi Tribunal supported Maori claims to the land, and the government agreed with this finding (Ministry of Justice, n.d). According to Waitangi Tribunal:

*“Ngāti Whātua o Ōrākei may have little land left, but it is the only tribe in New Zealand to own all that it has in the customary way”.*



**Figure 19:** *Ngāti Whātua occupation of Bastion Point (Auckland War Memorial Museum, neg. RMN10-1)*



**Figure 20:** Orakei overview, *The Orakei Visual framework 2018 v.4*

Nowadays, the site is situated within Māori Purpose zoning, which is defined as an area used primarily for Māori cultural and development needs. *“The zone enables Māori to assert tino rangatiratanga (chiefly authority) over the land within it, and where an iwi management plan is in place it takes precedence over any default rules.”* (Williams, 2021). It encapsulates an extended area within Orakei, Tamaki Makaurau. Outside the Māori Purpose zone, properties to its East, South and West are zoned intermittently as Residential – Terraced Housing and Apartment Buildings, Residential – Mix housing, Urban and Residential – Mixed Housing Suburban. To its north, the land is zoned largely as Open space – Informal Recreation Zone and to its South-West it is zoned as Open space – Sport and active Recreation (Feasibility study,2021).



- Site
- Special Purpose – Maori Purpose Zone
- Residential – Mixed Housing Urban Zone
- Residential – Mixed Housing Suburban Zone
- Residential – Terraced Housing and Apartment Buildings Zone
- Open Space – Sport and Active Recreation Zone
- Open Space – Informal Recreation Zone
- Open Space – Conservation Zone

**Figure 21: Zoning, feasibility 2021**

# 1. The potential of Cohousing for sustainable living

Cohousing may be relatively new to New Zealand, but it is well-established overseas. The word “Cohousing” comes from “co-operative housing” which is a different model from self-build housing and Housing co-operative. The concept of co-housing has its roots in mainland Europe and is now a global housing model. In the early 1970s, the first cohousing communities were completed in Denmark. These earliest communities were led by founding members who had visions for “recreating a village”. They envisioned that the quality of daily life and relieve some of the burdens would be enhanced by cohousing. Although cohousing focuses on living communally, it is different from a commune. Residents have their own home units which surround shared spaces, and they can decide how and when they want to interact. Hence, privacy and community are balanced.

Tummers (2017) pointed out recurrent features of international co-housing initiatives, which are the following:

- Self-management, resident involvement
- Organisational unit overlaps spatial entity
- Mutualisation and collaboration oriented
- Non-speculative, often looking for sustainable lifestyle
- Preferential mixed use and mixed income

In terms of supporting sustainable living, Jarvis et al (2016) summed up the following benefits of co- housing:

- New social practices, technical processes and collective learning can reduce energy costs and enhance housing performance.
- Due to substantial shared common household appliances and functions such as communal kitchen, play spaces, office spaces, and laundry facilities, co-housing is a more affordable cost of living.
- It increases the social and physical resilience of residents and wider communities through the provision of share facilities.
- Improve sense of belonging, sharing community knowledge, and increased self-awareness.

As mentioned in my thesis question, fostering sustainable living is a crucial goal of my thesis project. Cohousing approach can influence the creation a medium-density housing for Māori that promotes a sustainable lifestyle to create an intergenerational whare that connects its residents to the whenua by providing save environment in which children can grow and extended families made up of people of diverse ages, interest and backgrounds may provide a rich living experience. Additionally, it may reduce social isolation and create a sense of belonging which leads to the identity of the local community. Furthermore, it also enables residents to actively interact with nature and the whenua by offering activities such as community working, vegetable and fruit planting, and regular outdoor meeting. Thereby, cohousing can significantly contribute to strong, supportive and “whanau” bonds between

members which is a criterion set by the Hawke whanau and therefore, bring back the focus on whanaungatanga rather than living in individual units.

## 2. Whanaungatanga – relationship, kinship, sense of family connection

Following Māori dictionary, Whanaungatanga is “relationship, kinship, sense of family connection – a relationship through shared experiences and working together which provides people with a shared sense of belonging. It develops through kinship rights and obligations, which also serve to strengthen each member of the kin group. It also extends to others to whom one develops a close familial friendship or reciprocal relationship”. The definition of whanaungatanga in the Māori dictionary also emphasizes the importance of kinship and the close relationship of Māori who connected through direct whakapapa lineages. Whanaungatanga also refers to “a relationship – a sense of family connection through shared experiences and working together” that form the shared sense of belonging – family like – with participated people.

Whanaungatanga is a foundational aspect of Māori culture. This concept was emphasized in a review of the department of Social Welfare, Pua Te Atatu by John Rangihau in 1988 (Keelan, 2019), where John Rangihau argued that at risk Tamariki Maori should be placed with whanau – extended family, instead of sending them into foster care. The influence of this seminal report shaped legislation and since then, the bicultural strategies have been developed in other government agencies (keelan, 2019).

In the modern day, whanaungatanga can be a wider extended concept. Professor Pare Keiha, Pro Vice Chancellor Māori Advancement at AUT elucidates: “... *so notion of whanaungatanga is an important one and if we understand the relationship that we have with each other, not just our family relationships or indeed our work relationships but importantly the responsibilities that we have to a young and our elderly and indeed the environment that we operate in if everybody’s contribution helps.*” (Independent Māori Statutory board, nd). Whanaungatanga is expressed in various ways: in the customary practices and activities of ancestral and community marae, in access to forms of cultural support, in connections over the internet, and in sustaining connections with whānau.

In addition, Ara Taiohi, the organization for youth development in Aotearoa, explains that the method to create whanaungatanga is through “shared experiences and working together and provides people with a sense of belonging” in a whanau or group. This explanation is supported by the independent Māori Statutory board by expressing that Whanaungatanga value as a cornerstone of Māori cultural expression and is a vital key that unlocks connections to Māori whakapapa and cultural identity (Independent Māori Statutory, n.d).

As mentioned above, Whanaungatanga can also be formed in groups of people who are not connected by whakapapa (genealogy – ancestry) through sharing experiences and working together, binding people together (mahitahi). Hence, this is an important concept for this study because it shows how an outsider can be welcomed in and become a part of an extended family in Māori culture. Māori have a deep understanding of the importance of shared experience and

working together which “provides people a sense of belonging” and developing whanaungatanga through “familiar friendship or reciprocal relationship”. Furthermore, Whanaungatanga also is important for supporting youth development and adults who have experienced trauma.

### 3. Applications of whānaungatanga

Whanaungatanga has been applied in several fields. In the field of mental health and addictions and has a number of applications.

In mental health service, the Ministry of Health (2000) states Whanaungatanga is “about the interconnectedness and the interdependence of all members of the whanau, including the tantata whai ora (peop seeking health or receiving care). From the whanau – family side, Whanaungatanga engages with the whanau of tangata whaiora in the assessment and treatment processes in metal health (Ministry of health, 2000) and at all stages of interventions and in the provision of long-term support. Keelan, 2019).

In other organization, whanaungatanga changes the way professional work with and foster an inclusive environment. All dimensions of tangata whaiora well-being are considered in decision making processes involving multi-disciplinary actions and are shared and for the best possible outcomes. Besides, in the services relating to a responsibility to care and nurture others, whanaungatanga represents relationship with those who are consider whanau. People may not be connected through direct whakapapa lineages but my feel like kin because of their shared experiences (Ware & Walsh – Tapiata, 2010).

In the provision of youth development services, whanaungatanga can be understood as the intergenerational relationship that provide the foundation for growth. Its is applied to youth development practice (Ware, 2009), teaching (Bishop, Berryman, Cavanaugh & Teddy, 2009) and health and human development more broadly (Anae et al, 2002) because whanaungatanga reflects a person’s need to belong and be part of a collective with a focus on quality relationships and being connected.

The research of Ware & Walsh – Tapiata (2010) using semi-structured interviews on 8 Maori young man and women (age 16-18 years old) found whanaungatanga in the expression of relationships including non-kin persons who become like kin through shared experiences and relating to a common cause was an important factor in their lives. Individuals are supported by these connections and the collective group depends on the support and participation of its individual members. Your people receive support emotionally, culturally, socially, and financially in these relationships.

This establishment of strong relationships and connections or facilitation of new ones are explicitly useful for the development of youth and are acknowledged to be “Where youth development happens” (MYA, 2002). Therefore, whanaungatanga is an important concept that applies to the fields of healthy youth development, mental health, and addiction.

## 4. Homestar rating system

Homestar is an independent rating system that applied for overall housing and buildings in Aotearoa New Zealand. Launched in 2010, this rating system has evolved over the years forming 5 versions in which, Homestar v5.0 is the current version of Homestar, effective from 17 August 2021. (nzgbc, n.d).

The Homestar rating system relies on interview with focus groups, experts in the industry, and local authorities in combination with successfully rated case studies from other locations in the world. To illustrate, Energy and Carbon Calculator for Homes – ECCHO is developed based on the Passive House Planning Package (PHPP), developed by the German Passive House institute. Therefore, Homestar “is a comprehensive, national, residential rating tools that evaluates the environmental and design attributes of New Zealand’s homes, providing a scale that creates value around warm, healthy, sustainable, and efficient dwellings” (Homestar V5 technical manual, 2021). Homestar assesses the success of provided solutions on the improvement of health, comfort, sustainable and quality of New Zealand home following four categories (Efficient – EF, Healthy and Comfortable – HC, Livable, and Environmentally Responsible – EN) and rewards points across six categories (health & comfort, energy, water, waste, site and management).

The total number of points achieved in credit criteria within each category, are add to mandatory minimum requirements forming “star”. Their tool ranking apartments and terraces has a total of 130 points which can be achieved, stand-alone homes can achieve a maximum 128.5 points, plus 10 points awards for innovative ideas. A home typical is rated from 1 to 10 stars in the Homestar scale, where a Homestar ranking if 6 is equivalent to 60 – 69.9 points. Ranking of 6 recognises a home that has been built above the current standards set by the New Zealand building code. Only homes with 6 to 10 stars can be certified under Homestar ranking.



*Figure 22: Homestar ranking*

# 6 Homestar™ Checklist

For more information email us at [technical@homestar.org.nz](mailto:technical@homestar.org.nz) or call 09 379 3996 and ask for the Homestar team.

The Homestar tool awards points in six categories. These options are some of the features to help you achieve 6 Homestar. The most important category covers thermal performance of the whole house. There are minimum requirements for insulation, ventilation and water efficiency.

## 1 Site

An option is to build modest sized houses with a smaller footprint.

Note - this isn't mandatory.

Modest-sized benchmarks (excluding garage) are:

- less than 110m<sup>2</sup> for 2 bedrooms
- less than 150m<sup>2</sup> for 3 bedrooms
- less than 182m<sup>2</sup> for 4 bedrooms.

Other options: permeable land area; swales for storm water runoff; space for vegetable gardens, native planting.



## 2 Water

- High water efficiency (WELS) fittings: 5 stars+ for taps; 3 stars+ for showers; 4 stars+ for toilets; 3 stars+ for clothes washers; 4 stars+ for dishwashers.

Other options: rainwater harvesting tanks / plumbing to use rainwater.

## 3 Materials

- All paints and sealants are low-VOC (volatile organic compounds)
- Plasterboard, paints, insulation, carpets and floor coverings are Environmental Choice certified

Other options: FSC certified timber where practical; no non-FSC certified tropical hardwoods for decking.

## 4 Energy + 5 Health & Comfort

### Whole house thermal performance

- Good house orientation to maximise winter sun; good ventilation.
- Use of thermal mass (such as concrete slab) for year-round low energy use.
- High levels of insulation in walls, ceilings and under floor (including edge of the concrete slab).
- Double glazing with low-e glass or thermally broken window frames.

Other options: universal design features such as Lifemark; renewable energy (photovoltaics) and provision of washing lines.

### Space heating & appliances

- Efficient heating – e.g. wood burner, pellet burner or ENERGY STAR heat pumps.
- High energy rating labels on all appliances: 3.5 star min for fridges, 4 star min for dishwashers and clothes washers.

### Moisture control

- Kitchen and bathroom extractor fans, and clothes dryers, vented to outside.
- Sinks and baths with built-in overflows
- No carpet in kitchens or bathrooms

### Lighting

- Energy efficient lighting (CFLs or LEDs)
- No recessed downlights; OR downlights that can be covered with insulation
- Daylight and motion sensing controls for outdoor lights

## 6 Waste

- A site waste management plan that follows REBRI guidelines.
- Construction waste to landfill less than 15 kg per m<sup>2</sup> of finished floor area (under 2.7 tonnes for a 180 m<sup>2</sup> house).

Other options: installing composting / recycling facilities.

## 7 Management

- A home user guide covering operation (templates at [www.homestar.org.nz/](http://www.homestar.org.nz/) / hug)
- Well defined front entrance with clear street number
- Smoke alarms within 3m of all bedrooms, or sprinkler system; easily accessible fire extinguisher
- Secure locks and catches on all ground floor doors and windows.

Other options: outdoor security lighting; child resistant storage; clear views from house to street.

Figure 24: Homestar ranking checklist

Based on Homestar's data, Kainga Ora has committed to ensuring that all their new residential development meet a Homestar ranking of 6. Similarity Ngāti Whātua Ōrākei is also committed to the same levels of health and comfort for their new developments.

# Chapter two: Project context

## 1. Feasibility study

In 2021, we started working together on this project in a group of 20 first -year Master of Architecture Students and second-year Bachelor of Architecture and Future Environments students. A scheme in co-design was developed with the Hawke whanau, with input from the stakeholders at Kainga Ora and Oranga Tamariki. The resulting feasibility study includes in-depth analysis of construction techniques, resolved plan layouts, and development staging strategies to be taken forward to a proposal. The feasibility study was used to develop a proposal to apply for an infrastructure Grant through Te Puni Kokiri, the government’s policy advisor on Maori well-being and development.



**Figure 24:** Cover page from the Feasibility study 2021 and rationale and approach to developing the project, feasibility 2021

Our stakeholders

**Ngāti Whātua o Ōrākei**  
 The project's site is on Ngāti Whātua Ōrākei land. Ngāti Whātua Ōrākei is one of three hapū (sub-tribe) to the wider Ngāti Whātua Iwi (tribe). There are 6,000 members of the hapū. Ngāti Whātua began occupying Tamaki Makaurau in the 17th Century, lead by rangatira (chief) Tuperiri and are the only tribal group to own land in Auckland.



**The Hawke Whānau (client)**  
 The Hawke whānau of Ngāti Whātua Ōrākei are currently occupying 31 Kitemoana Street, Ōrākei. They usually have around 14 people living in their home at once. Growing issues of overcrowded and unaffordable housing in New Zealand has left the family wanting to create a high density living complex to replace their current home. Providing for their family and extending their services to Oranga Tamariki, creating more communal and economically sustainable living and encouraging typographies like this to increase throughout New Zealand.

**Oranga Tamariki**  
 Oranga Tamariki work to support children in New Zealand whose wellbeing is at a risk, including young people who may have offended or are likely to offend. The Hawke Family has affiliations towards this organisation and have been providing services to bring mums and their newborns, and at-risk boys into their home to accommodate for them.

**Runanga**  
 Te Runanga o Ngāti Whātua is the representative body and voice who are responsible for dealing with issues affecting Ngāti Whātua. They are responsible for providing a licence to occupy, which is done through the Maori Land Court.

**Māori Land Court**  
 Māori Land Court is part of the Ministry of Justice, to provide court service for Māori landowners and their whānau. Licence To Occupy is the most common type of licence on Māori land allowing the occupier

permission to use the space for its stated purpose.

**Te Puni Kōkiri**  
 Te Puni Kōkiri is the government's principal policy advisor on Māori wellbeing and development. They aim to promote and increase the level of achievement of Māori in education, training, and employment, health, and economic resource development. For 2021, Te Puni Kōkiri has allowed for \$1.4 billion to go towards Māori infrastructure. This feasibility study will be part of a proposal to apply for Te Puni Kōkiri's infrastructure Grant to allow the Hawke whānau to begin developing the project.

**KiwiBank**  
 Shared landholding over Māori land means that it cannot be sold for equity by banks, therefore Māori are not able to obtain loans from banks to develop their land. KiwiBank in this case is an anomaly due to the potential they are able to loan this project \$200,000 - through the Kāinga Whenua loan.

The Values of Ngāti Whātua o Ōrākei

These values underpin our research and design process, guiding us to create a resilient and thriving outcome

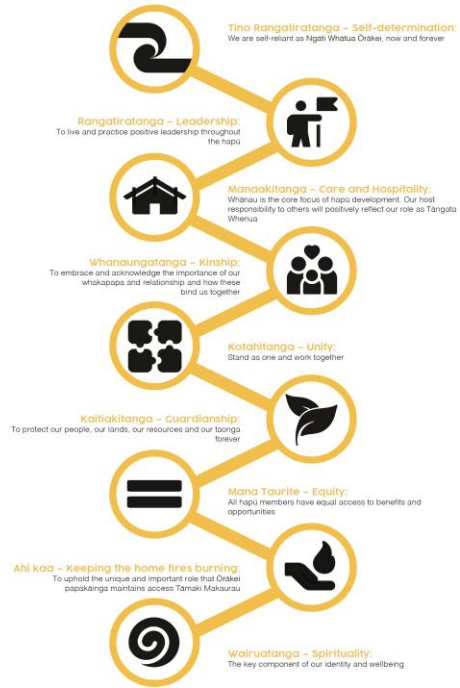
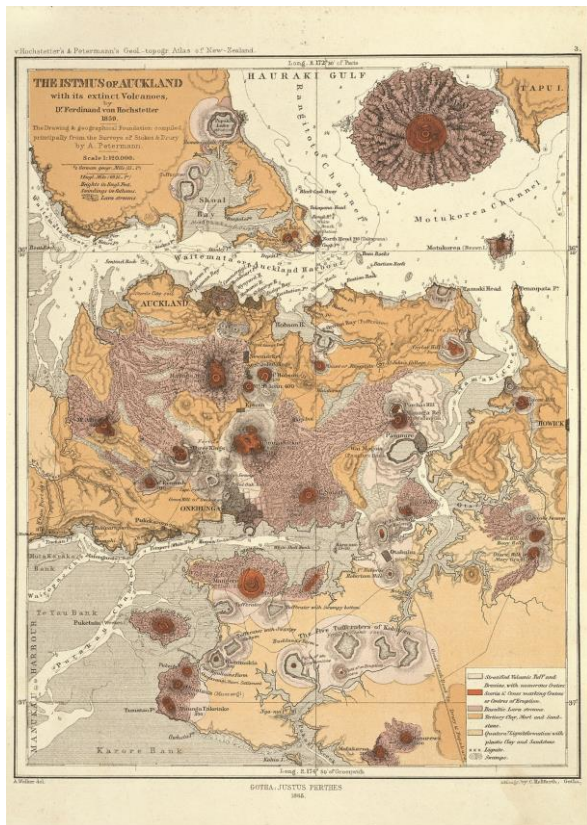


Figure 25: Cover page from the Feasibility study 2021 and rationale and approach to developing the project



Site Analysis

Important Landmarks



Figure 26: Information relating to the historical context and site location from the Feasibility study 2021

## Key Structuring Moves

### Enriching Environments



Rooftop Gardens, reusing tyres as planter boxes

View - Residential Apartments / 360 Degree

Māori have strong spiritual bonds and connections to the Earth Mother, Papatūānuku, who provides Māori unity and identity. Māori regard land, soil and water as taonga (treasures) and Tāngata Whenua (local people) act as the kaitiaki (guardians) of these

taonga. The loss of ancestral lands is a key issue for Māori, and as a step further to the reinstatement, this connection to the Whenua through meaningful and unique architecture gives Ngāti Whātua agency in their connection with the land.

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## Key Structuring Moves

### Social Connection



The aspiration is to make social relationships central to living. Allotting with Orange Tamaki brings design opportunities surrounding children

Central to the hauora of Māori, social connection and relationships are some of the main aspects in which affect one's wellbeing.

This can be achieved through social connection created by the flow of indoor and outdoor communal spaces.

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**Figure 27:** Elements to encourage whanaungatanga (relationships) and connectivity to the natural environment that need to be incorporated into the design from the Feasibility study 2021

### Site Map - Sun Path & Wind Directions



### Underground Services



21

### Zoning



- Site
- Special Purpose - Maori Purpose Zone
- Residential - Mixed Housing Urban Zone
- Residential - Mixed Housing Suburban Zone
- Residential - Terraced Housing and Apartment Buildings Zone
- Open Space - Sport and Active Recreation Zone
- Open Space - Informal Recreation Zone
- Open Space - Conservation Zone

The site is situated within Maori Purpose zoning, which encapsulates an extended area within Orākei, Tamaki Makaurau. Outside the Maori Purpose zone, properties to its East, South and West are zoned intermittently as Residential - Terraced Housing and Apartment Buildings, Residential - Mixed Housing Urban and Residential - Mixed Housing Suburban.

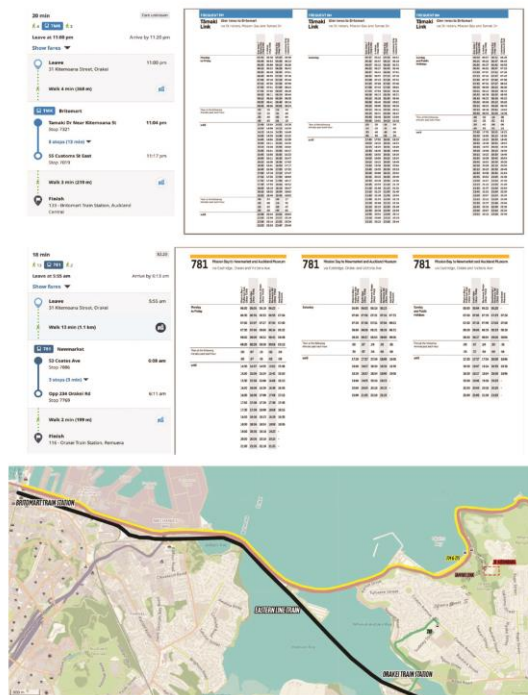
To its North the land is zoned largely as Open Space - Informal Recreation Zone and to its South-West it is zoned as Open Space - Sport and Active Recreation.

22

**Figure 28:** Sun, wind and underground services and zoning requirements from the Feasibility study 2021.

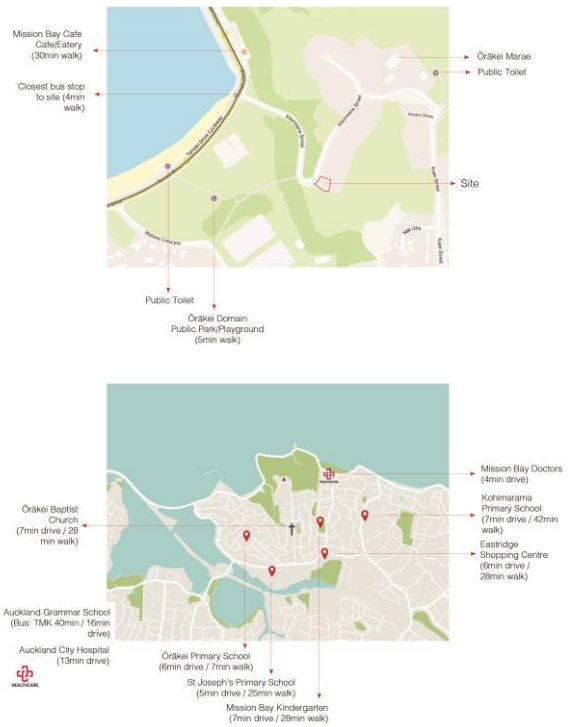
## Infrastructure Analysis

### Public Transport



23

### Nearby Amenities

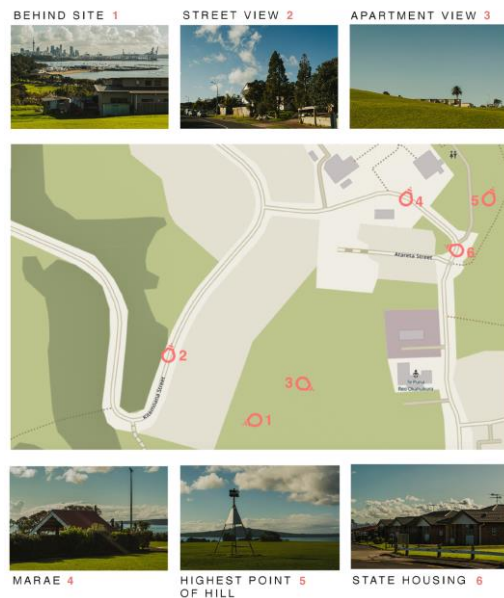


24

**Figure 29:** The site is close to good transport networks and local amenities from the Feasibility study 2021

## Neighbourhood Analysis

### Surrounding Local Context



25

## Density Analysis



Existing low density levels from state housing and non-state housing on Kiharama Street

### Density:

(see also *intensification*); the spatial compactness of urban development in a given area (e.g. housing density, which can be measured in dwellings per hectare). Typical densities are: for single family homes on individual sections, 10-25 dwellings per hectare; for townhouses and flats, 50-100 dwellings per hectare; for an apartment block, 125-250 dwellings per hectare. Population density (residents per hectare) and employment density (full-time equivalent jobs per hectare) are also useful measures of the intensity or compactness of urban development.

### Intensification:

(see also *density*); the process of increasing the density of development in an urban area. Residential intensification involves accommodating more households within an existing urban area. It could involve apartments above commercial activities or town-houses and terrace housing around town centres, along with a range of different housing types.

Definitions from: dia.govt.nz  
[https://www.dia.govt.nz/assets/Uploads/LPS\\_Recommending-Building-Sustainable-Urban-Communities-Synopsis-2019-Document.pdf](https://www.dia.govt.nz/assets/Uploads/LPS_Recommending-Building-Sustainable-Urban-Communities-Synopsis-2019-Document.pdf)

26

**Figure 30:** Neighbourhood analysis of existing low-density housing and possible increased densities that are being developed in the Tamaki region from the Feasibility study 2021

## 2. Case studies

### 2.1 26 Aroha Street, Sandringham (2020)



**Figure 31:** 26 Aroha building, image from Nzia.co.nz

#### Essence

**Name:** 26 Aroha

**Type:** Cohousing apartment

**Completion:** 2021

**Owner:** Jules MacKinnon and Blair

**Project certification:** 10 Homestar rating (October 2021)

**Awards:** 2021 NZIA Architecture Award, 2022 Interior Award

There are many examples of co-housing, one is the 26 Aroha in Auckland. It is a four-storied complex on a 900 square metre site. Apartment range in size from studio, one, two, three-bedroom. Shared laundry, kitchenette, library, toybox, coffee machine, BBQ, and outdoor lounge with city wide are located on communal rooftop. Storage cages, bike storage, and bookable guestroom are on ground level. The number of carparking is kept to a minimum with two rentable parks on site. It is an ethical rental model with shared community facilities to foster bump interactions and save cost through efficient use of space for the benefit of all residents (Feasibility study, 2021).

“As the first development off the rank in a recently re-zoned high-density area, 26 Aroha risked being perceived as a bad neighbour. But instead, this new socially minded rental complex, where tenants live more like a family, gives back to the street through welcoming stoops where neighbours can meet. Efficient and straightforward planning with generous external circulation and shared space provides many opportunities for serendipitous encounters. The icing on the cake is a communal roof terrace where tenants do laundry, chill on the deck and entertain visitors. Here in Sandringham, the architects and ethical landlords have created a sustainable, affordable and joyful new way to live.”

(New Zealand Institute of Architect, n.d)

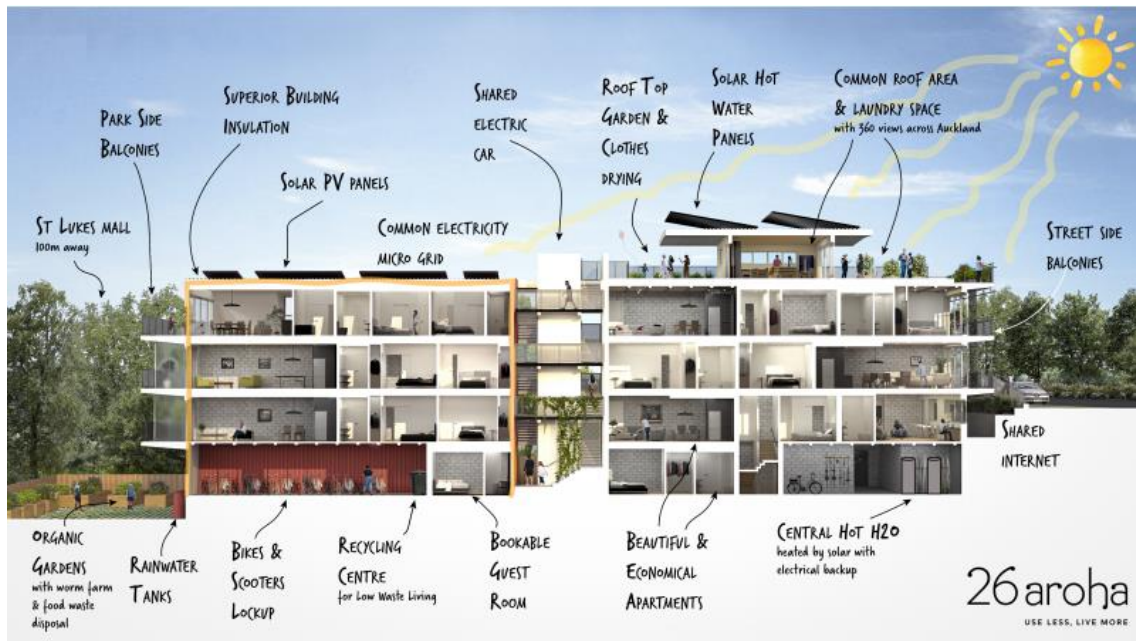


Figure 32: A diagram explaining the function of the building, Image from [www.nzgbc.org.nz](http://www.nzgbc.org.nz)

## 2.2 Nightingale 1, Brunswick, VIC, Australia



**Figure 33:** Nightingale 1 building, image from breathe.com.au

### **Essence**

**Name:** Nightingale 1

**Type:** Multi-Residential

**Completion:** 2017

**Award:** 2018 National Architecture Award for sustainable architecture, 2018 VIC Architecture Award for Residential Architecture – Multi-Residential, 2017 Premier’s Sustainability Award, 2018 INDE Award.

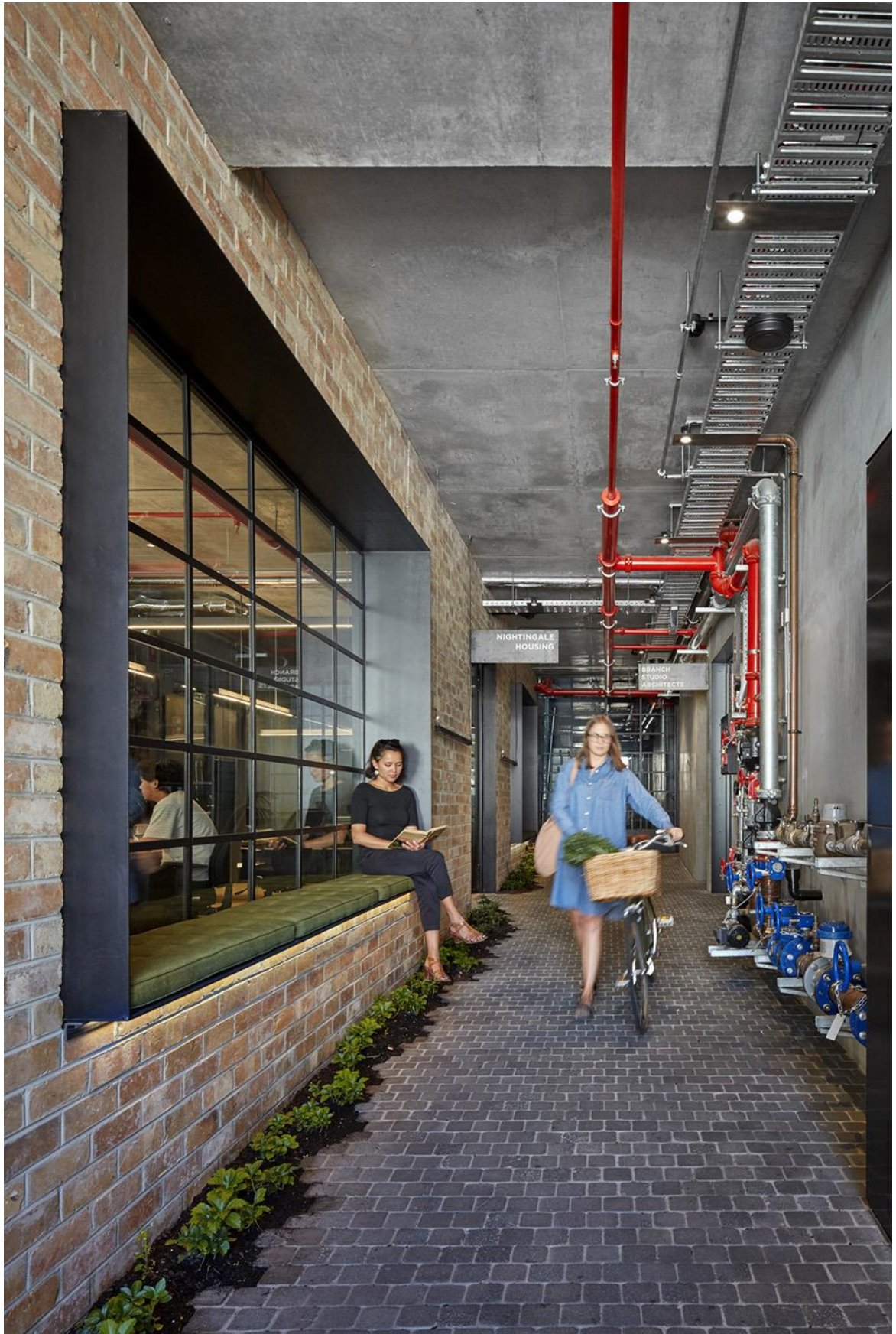
Located in Old Brunswick, an industrial and run-down area of Victoria, Australia. According to Breathe Architecture, Nightingale 1 is the inaugural project of the Nightingale model prioritizing social, economic, and environmental sustainability. Its architecture serves as a catalyst to unite a group with similar values and build community. In addition, it is the first residential building in Australia to be connected under an 100% fossil fuel free network and carbon neutral in its operation.

*“The Nightingale Model emerged from collective dismay at the state of multi-residential developments in Australia. From the conviction that our cities and communities deserve considered, affordable, well-built homes a group of Melbourne architects banded together to try something better. Apartments designed to encourage community drive values. Homes built for people, not profit.”*

(Breathe, n.d)



**Figure 34:** Rooftop garden in Nightingale 1 building, image from [breathe.com.au](http://breathe.com.au)



**Figure 35:** Corridor in Nightingale 1 building, image from breathe.com.au

### 3. Co-design wānanga

#### 3.1 Co – design hui with the Hawke Whanau

In august 2021, During wānanga with the Hawke whanau, we generated a co-design feasibility study. This involved initial research into the history of the site, took consideration of aspects that were considered by the whanau to be critical to a successful outcome for them and generating bulk and location studies.

This session marked an first important milestone in our design process.



**Figure 35:** Co-design hui with the Hawke whanau, author, 2021



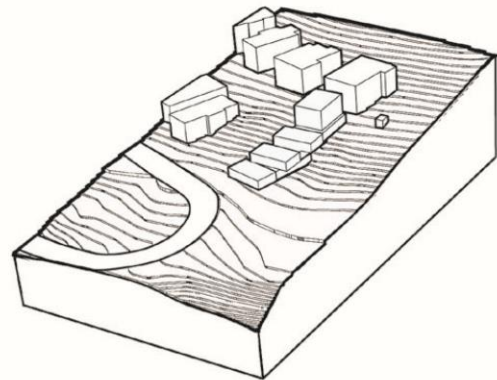
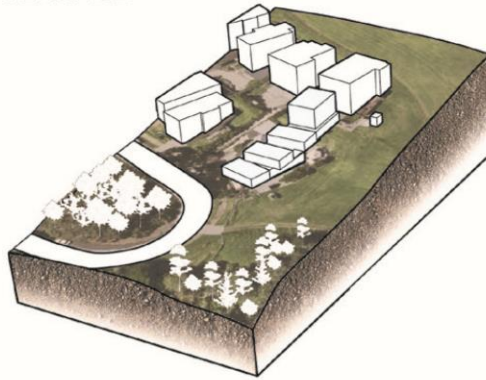
**Figure 36:** Massing concept, author, 2021



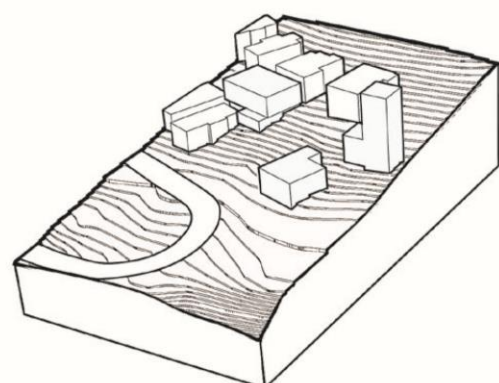
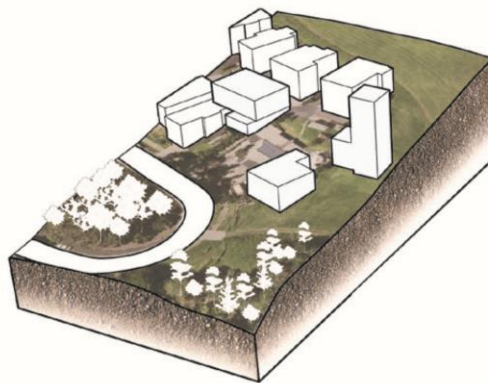
**Figure 50:** Co-design hui with the Hawke whanau, author, 2021

# Massing Concepts Overview

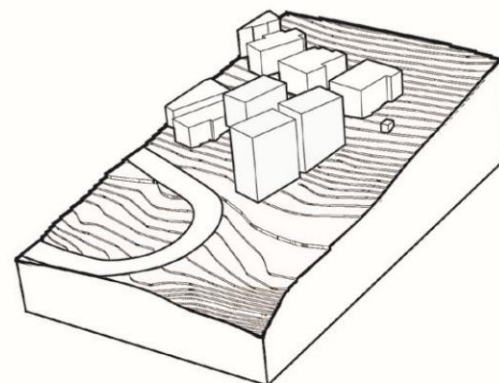
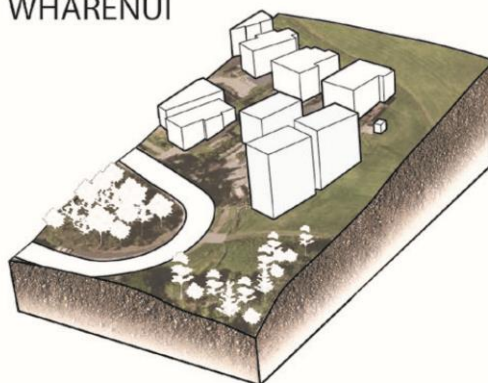
TERRACE



INTERNAL ST

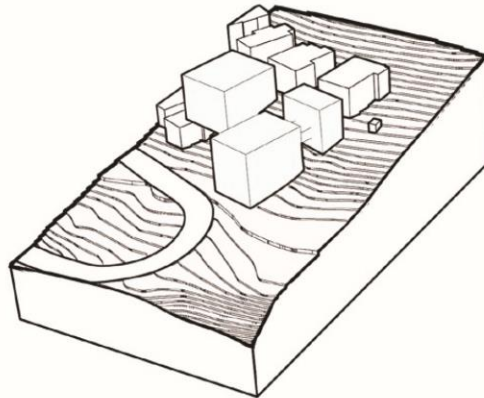
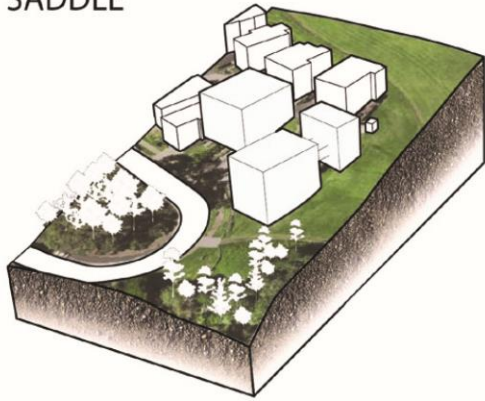


WHARENUI

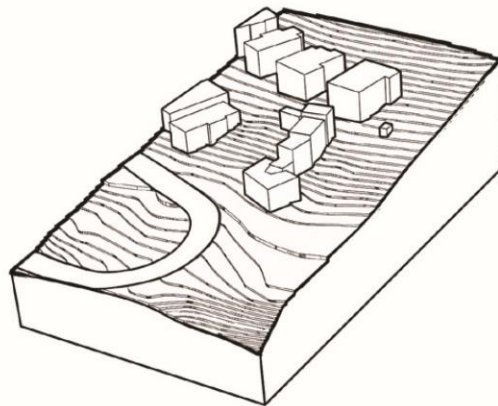
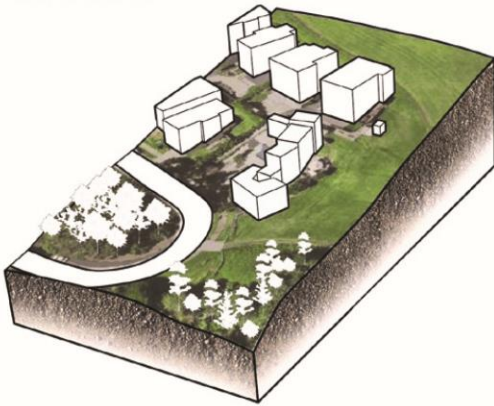


**Figure 42, 43, 44, 45, 46:** To testing massing densities and sunlight we generated several options within the feasibility study 2021

SADDLE



CRESCENT



TWIN STACK

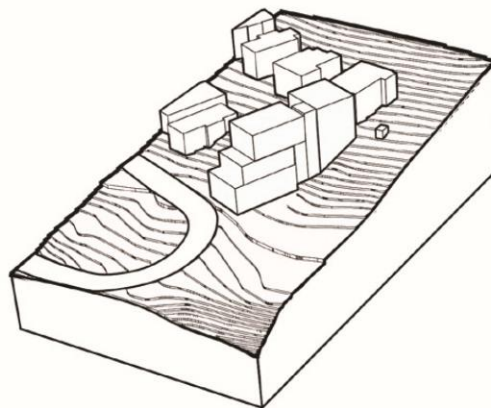
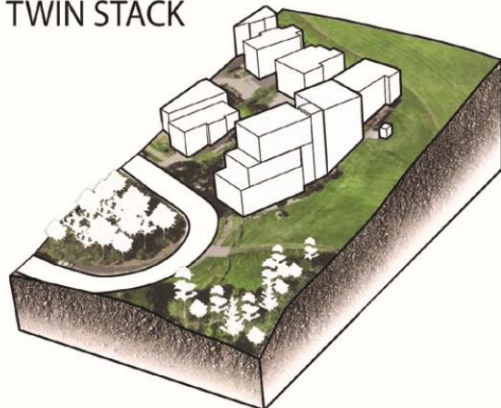
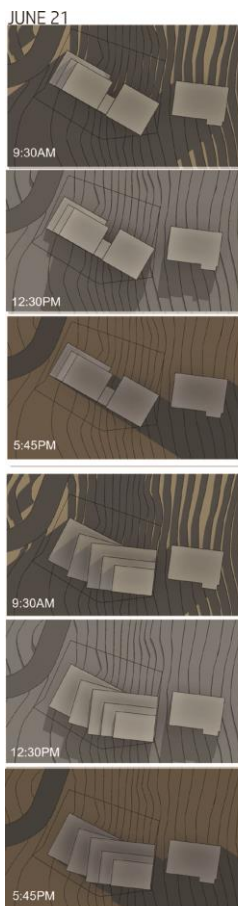


Figure 43

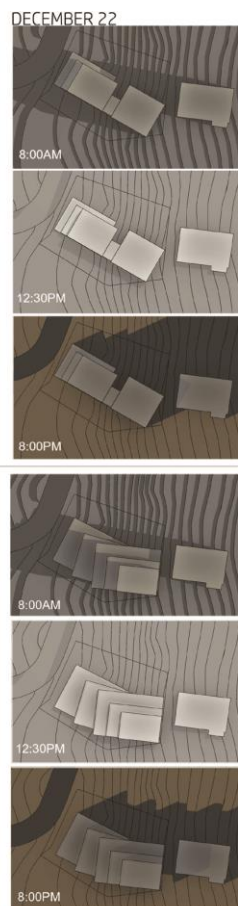


**Figure 44**



TWIN STACK

**Figure 45**



**Figure 46**

# Potential Parking Situations



Carparking Option 1 - Existing Carpark Onsite + Off-street parking

Option 1 would be to employ a similar strategy as the site currently has: an onsite driveway and park.

Currently the Hawke family can fit around 6 cars with this plan, however it does mean the vehicles fit in awkwardly and there can be cars that get blocked in by others.

A parking strategy at the front of the housing unit leads to a vehicle-focused complex and outdoor landscape.

Above ground parking however does mean that there does not need to be any excavation of soil.



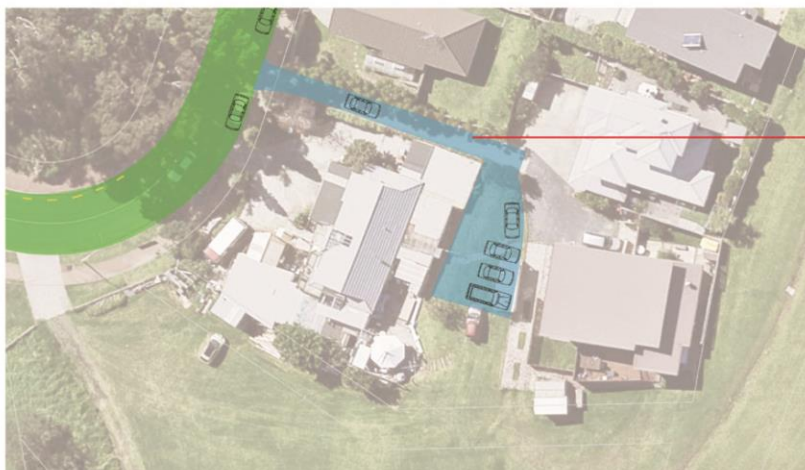
Carparking Option 2 - Underground Carpark Onsite + Off-street parking

Option 2 is an underground parking strategy which could accommodate 6-8 cars, and potentially bicycle parking as well. The proposed underground parking is on the shallow end of the site.

Underground parking means removing a vehicle-focus to the housing unit, opening up the North-facing landscape to communal, people-focused programmes.

Soil excavation is needed for this, approx. 600m<sup>3</sup> of soil. This soil could be repurposed to level out another area of the site.

Carpark spaces would be all planned to the standard of disabled/pram parking for accessibility (3m x 5m).



Carparking Option 3 - Shared Driveway-to-Back Onsite + Off-street parking

Option 3 makes use of the existing driveway to the left of 31 Kitemoana Street, which is used by the houses 33A & 33B to the back of the site.

Parking for vehicles would then turn into the back of the site, which is a strategy for implementing above-ground parking without crowding the front of the apartment complex with cars.

This strategy would require the approval of sharing the adjacent driveway from 33A & 33B Kitemoana St.

Figure 47: Testing best options for parking within the feasibility study 2021

## 3.2 Co-design session key notes

### **They prefer the terraced concept.**

- A 6-storeyed apartment is unaffordable for the Hawke whanau currently, they have enough funding to build 3 storeys.

- Build with the ability to build up in future.
- Underground parking.
- Rent out apartments for income.
- External stairs could be incorporated due to passive fire requirements.
- View is important. Communal spaces to be placed at the top of the building.

- The Hawke whanau to live separately from Oranga Tamariki due to restrictions if they were to live with them.

### **“Hawke whanau wharenuī” big house needs**

- Private outdoor space.
- Allows for no restriction.
- Studio rooms
- Sun room/Winter Garden.
- At least 10 bedrooms.
- Internal staircase.
- Also, externally accessible.

### **Communal space vs privacy**

- Spread out communal spaces throughout the building.

- Oranga Tamariki should not be isolated.

- Create “bump space” and make people move through the building with a purpose.

- Sharing of office spaces

- The Hawke whanau showing to Oranga Tamariki how they live as a whanau.

### **Wharehui – “The hub of the home”**

- Allow for 4-5 people coming to visit at a time.
- A space for them to sleep, hangout, eat.

- Located at the front of the building – so people do not walk through other people’s living spaces.

- Mattress room.

- Multipurpose space – BBQ, kitchenette

### **Recreational indoor activities**

- Table tennis

- Gym

- Storage

### **Things should be avoided**

- They do not want to build a “box” going straight up

- They do not want to conform to the current state housing standard

### **Re-think how we build on Māori land**

- Current housing does not work for Māori ways of living.

- Current new builds and housing on maori land is too expensive for them to afford.

- They want this building to set an example for other Maori land owners to do the same thing with their land for their families.

## Chapter 3: Sketch design proposal

From the wananga co-design session with the Hawke whanau, we massed up possible configurations on the site using both digital and physical models. A decision was made to go with a terraced 5-story building with the Hawke whanau located on the northern side of the site and Oranga Tamariki to the south side. Under Covid lockdown, we developed individually a sketch proposal.



**Figure 48, 49:** My first physical model, 2021



Figure 49



**Figure 50:**

My ideas were creating a six-story residential building arranged in L-shaped plan and covered in a lot of mature trees such as Pohutukawa, Cabbage trees, and Harakeke. The footpath leading to the entrance foyer will be shaded by vast canopies, as the landscape meanders along with the natural lay of the land forming a green space that allow residents to closely live in the nature.

The building is designed to be as space-efficient as possible to be able to include 11 apartments containing a mix of one, two, and three bedrooms that vary in layout and in size. However, they all share access to a communal kitchen, swimming pool, garden, and shared facilities. This complex is able to serve 35-45 people in which 3-5 single mom, 10-12 young boys and caregivers. The Hawke whanau lives with their whanau in a separated space to the Oranga Tamariki residents, but still remain closely connected through corridors and the provision of several meeting spaces.

Additionally, open and close spaces allow connection and privacy when needed. Corridor and all floors provide spaces for hanging out, resting, reading, and scenic viewing. A backyard with a pool serves as a children play are. A communal dining room can be used as a multi-functional area where community meeting or parties can be held in bad weather. The house is also accessible for disabled persons from the house scale to resident scale. The design of the spaces helps residents to build relationships with others and places to connect with the family and the whenua.

VIEW FROM FOOTPATH LEADING TO THE HOUSE



VIEW LOOKING SOUTH

**Figure 51:** view from footpath leading to the house and view looking south

Welcoming area is located in the center of ground floor. It is a multi-functional space offering a friendly greeting to everyone and a functional connection through outdoor activities. This sharing space is designed for the user ... and touch the sunlight and shadow while they move from the ground floor to the staircase and this sharing space.



**Figure 52:** Welcoming area,

Accommodated above communal dining room, communal deck is designed to be accessible, usable, and attractable for all residents. In particular, it can be used in variety of recreational purposes such as an elevated playground for children, big group meeting or BBQ's, and scenic viewpoint.





While Stories' podium and core are made from concrete, the majority of the tower is built from cross-laminated timber (CLT) which is five-times lighter than concrete but has a comparable strength-to-weight ratio.

## Mass Timber Construction - The Lightweight CLT Structure

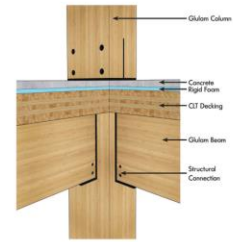
CLT offers high strength and the structural simplicity needed for cost-effective buildings, as well as a lighter environmental footprint than concrete or steel. It also provides numerous other benefits, including quicker installation, reduced waste, improved thermal performance and design versatility.

### I. Structural System

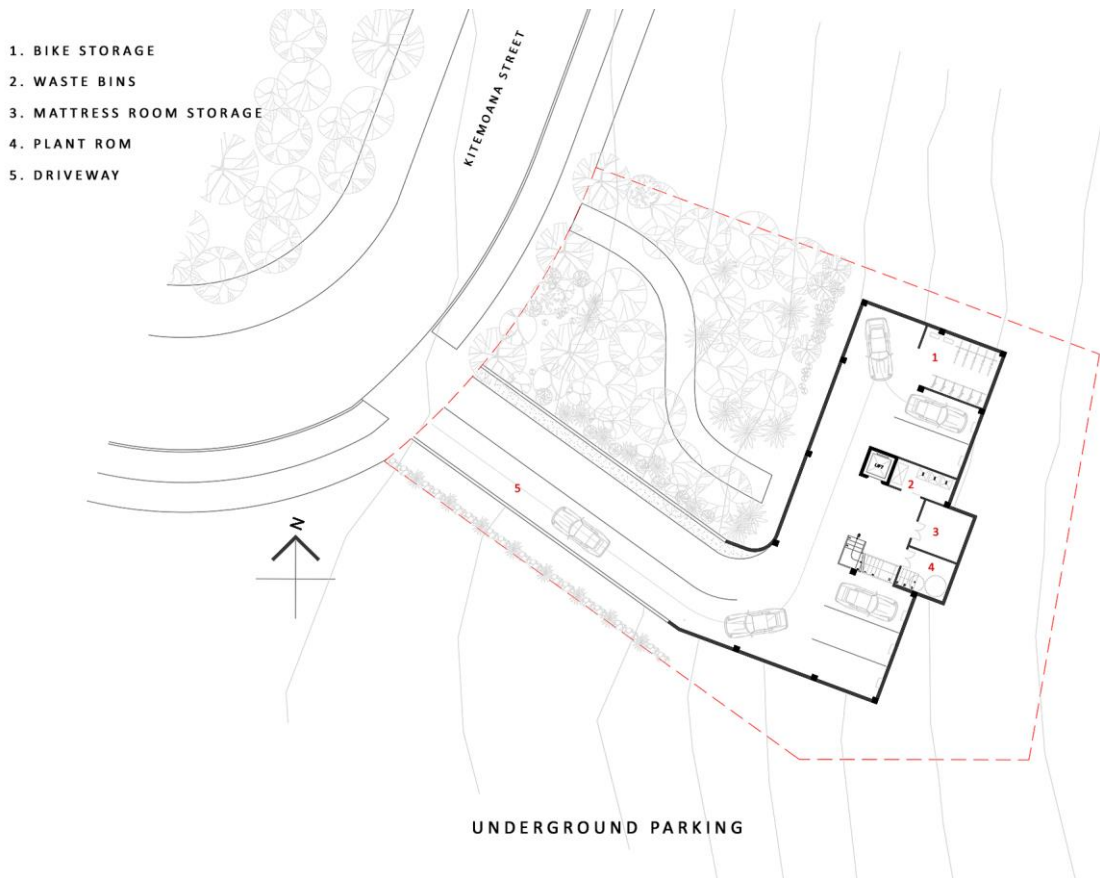
Mass timber was explored as an alternative to typical steel and concrete construction. Glulam beams and columns support a 5-ply Cross-laminated-timber (CLT) deck topped with a layer of rigid foam and concrete. This combination gives the floor superior strength and stiffness, while reducing sound transmission and weight.

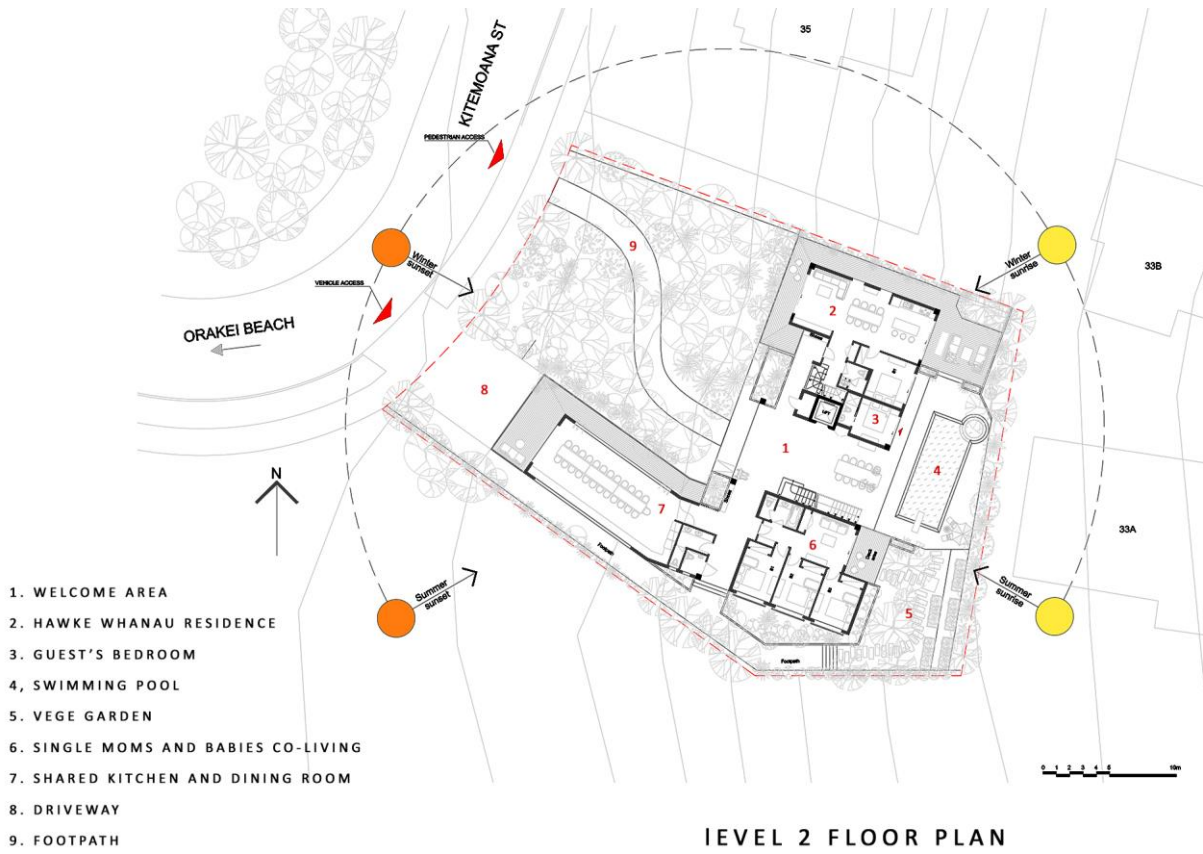
### III. Cross-laminated-timber (CLT)

CLT panel is consist of layered lumber boards ( thickness 90mm up to 310mm or more for 3,5,7 layers) stacked crosswise at 90 degree angles and glued into place. Can be used as wall, deck, or roof panel. CLT decking is comparable in strength to concrete and steel, but weighs much less. The panels are currently available in sizes up to 3,4 meter wide, and 16 meter long. Piles can be added or subtracted according to the structural requirements. The wood harvested for the panels stores carbon, meaning it can offset carbon.



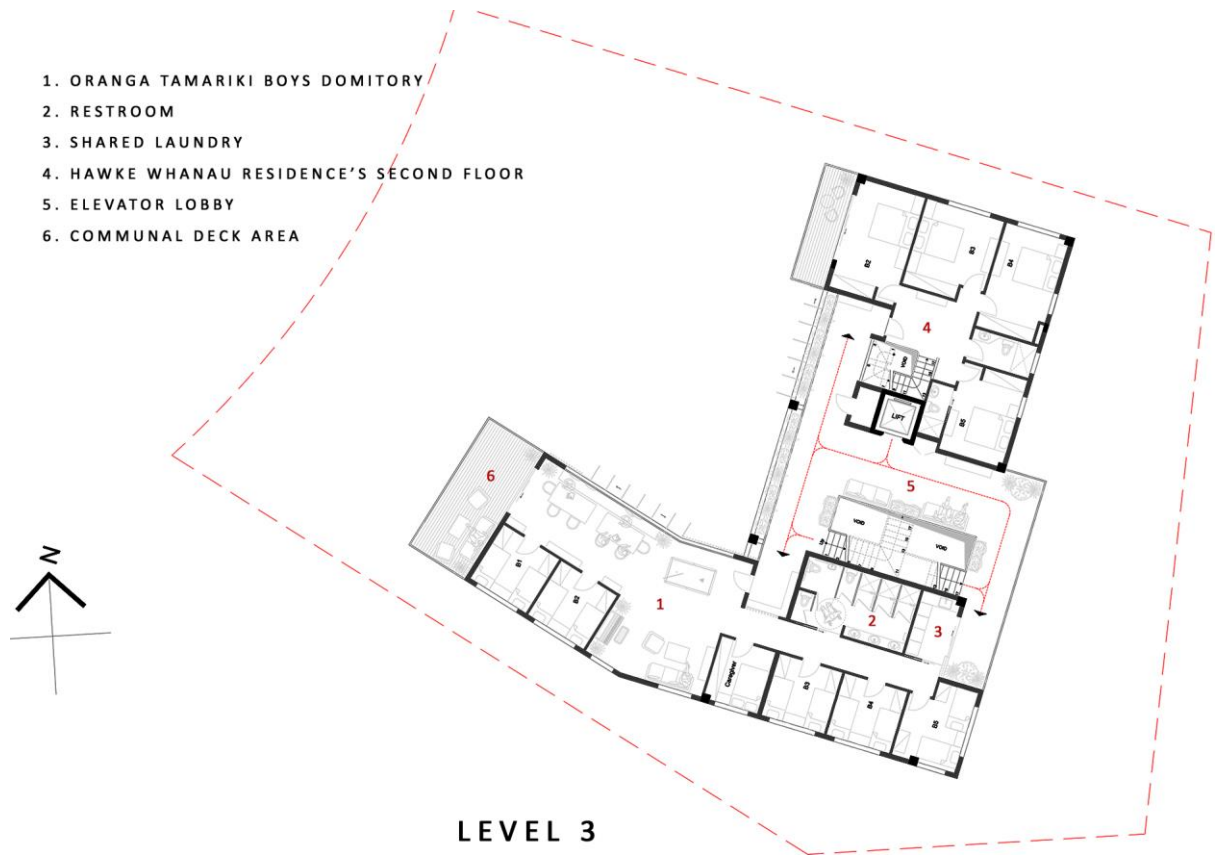
The building is designed to be low-energy and is powered entirely by electricity. Solar panels and natural ventilation ensure living spaces are comfortable year-round. The solar system on the roof reduces the energy consumption. This system provides maximum 11.000 watt of green electricity for electrical equipment. Eco-friendly building material are selected to reduce the carbon emission to the environment.





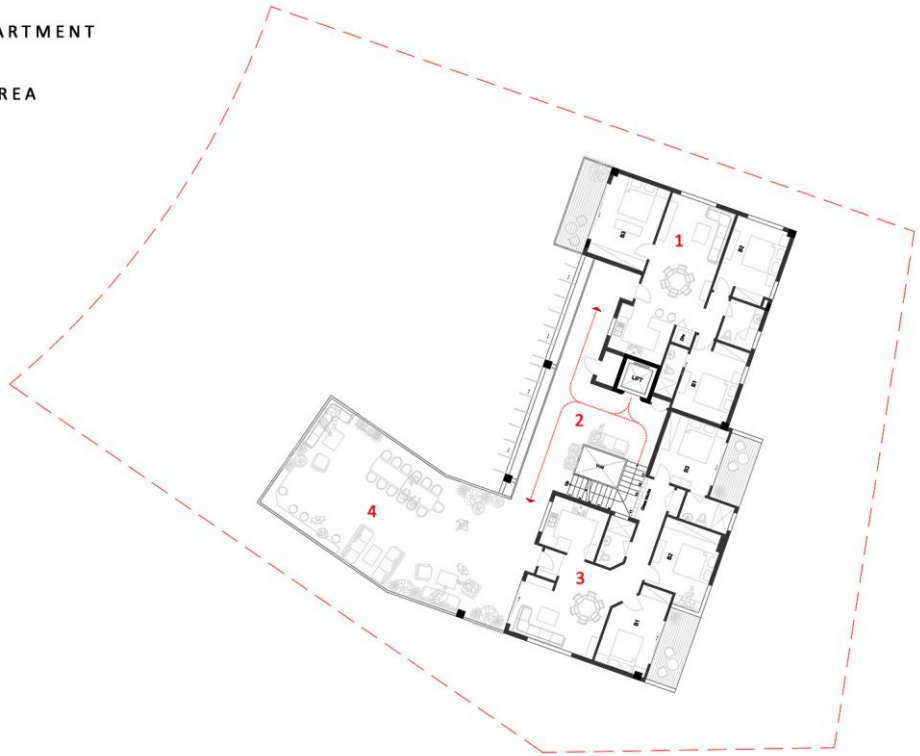
**LEVEL 2 FLOOR PLAN**

- 1. ORANGA TAMARIKI BOYS DOMITORY
- 2. RESTROOM
- 3. SHARED LAUNDRY
- 4. HAWKE WHANAU RESIDENCE'S SECOND FLOOR
- 5. ELEVATOR LOBBY
- 6. COMMUNAL DECK AREA



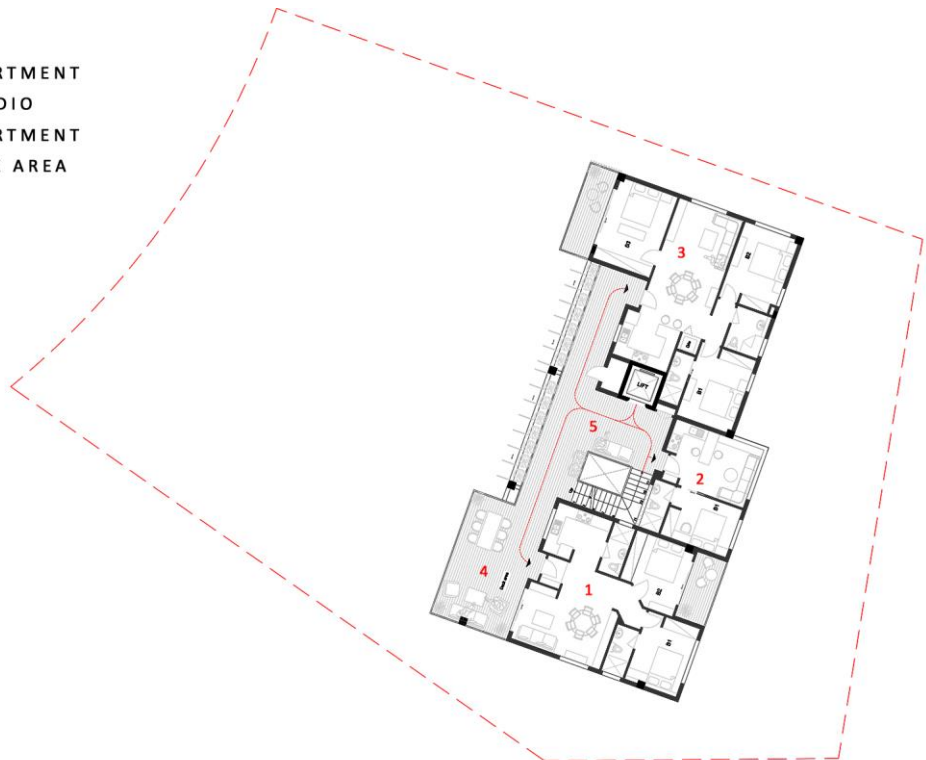
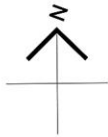
**LEVEL 3**

- 1 + 3. 3-BEDROOM APARTMENT
- 2. ELEVATOR LOBBY
- 4. COMMUNAL DECK AREA



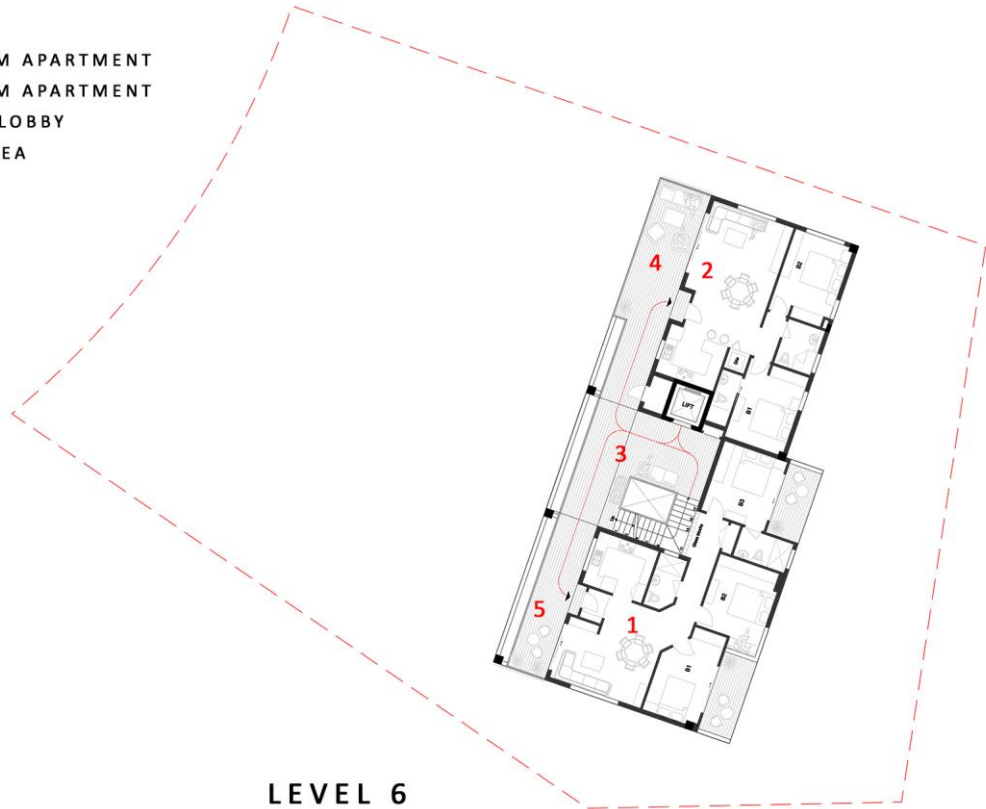
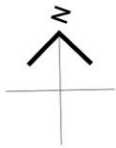
LEVEL 4

- 1. 2 BEDROOM APARTMENT
- 2. 1 BEDROOM/STUDIO
- 3. 3 BEDROOM APARTMENT
- 4. COMMUNAL DECK AREA
- 5. ELEVATOR LOBBY



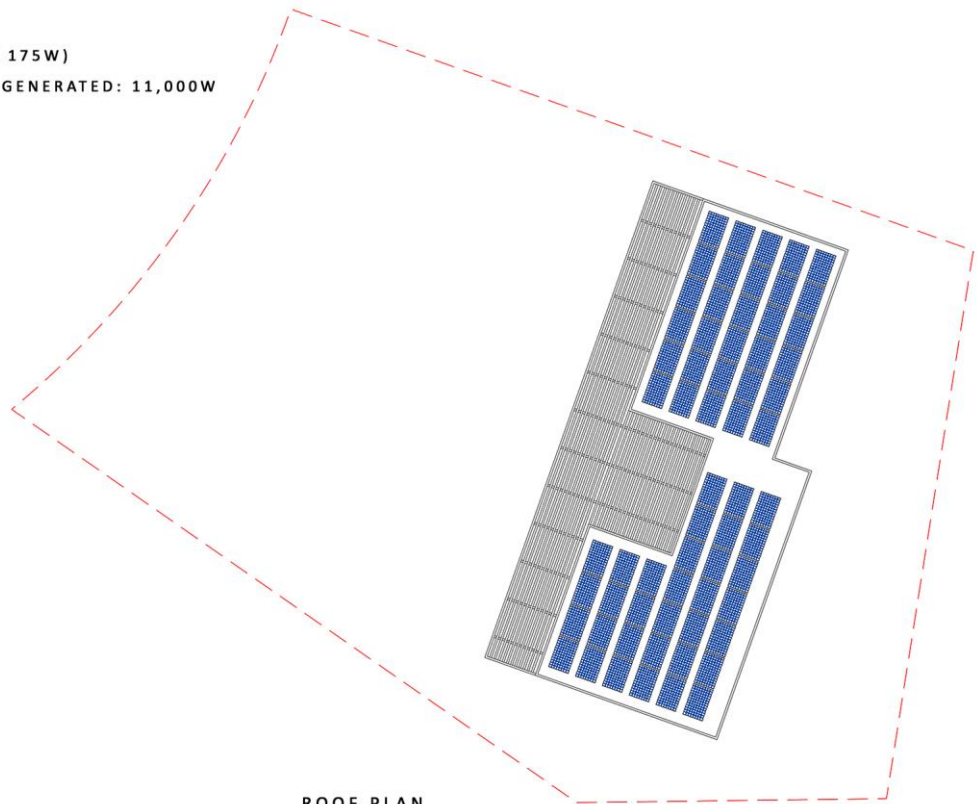
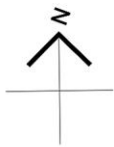
LEVEL 5

- 1. 3-BEDROOM APARTMENT
- 2. 2-BEDROOM APARTMENT
- 3. ELEVATOR LOBBY
- 4+5. DECK AREA



**LEVEL 6**

SOLAR PANEL (MAX 175W)  
MAXIMUM ENERGY GENERATED: 11,000W



**ROOF PLAN**



## Chapter 4: Co-design development

The Hawke whanau seemed to be interested in some of our design proposals but preferred Rory's scheme possibly because it has more strongly reflected values and materials that the whanau related to. However, according to the Hawke whanau's feedback, while Rory's scheme looked beautiful, the building was embedded too far into the ground, lower levels were not well lit, and the structural system and planning was inefficient. This led to a difficult process of trying to incorporate more efficiency into the design drawing on ideas drawn from Lana's, Holly's, Rana's and my layout while roughly sticking to Rory's concept. Besides, to reduce the excavation, we moved the design closer to the front of the site and slightly lifted it.

After received feedback from the Hawke whanau, we started off our new co-design process by identifying the drawbacks of each members' proposal and working together to redesign a new one. In recent months we have been able to engage with the Hawke whanau by holding hui (meeting) in person and also through online sessions. Our team has compiled individual aspirations and ideas to redesign the concept.

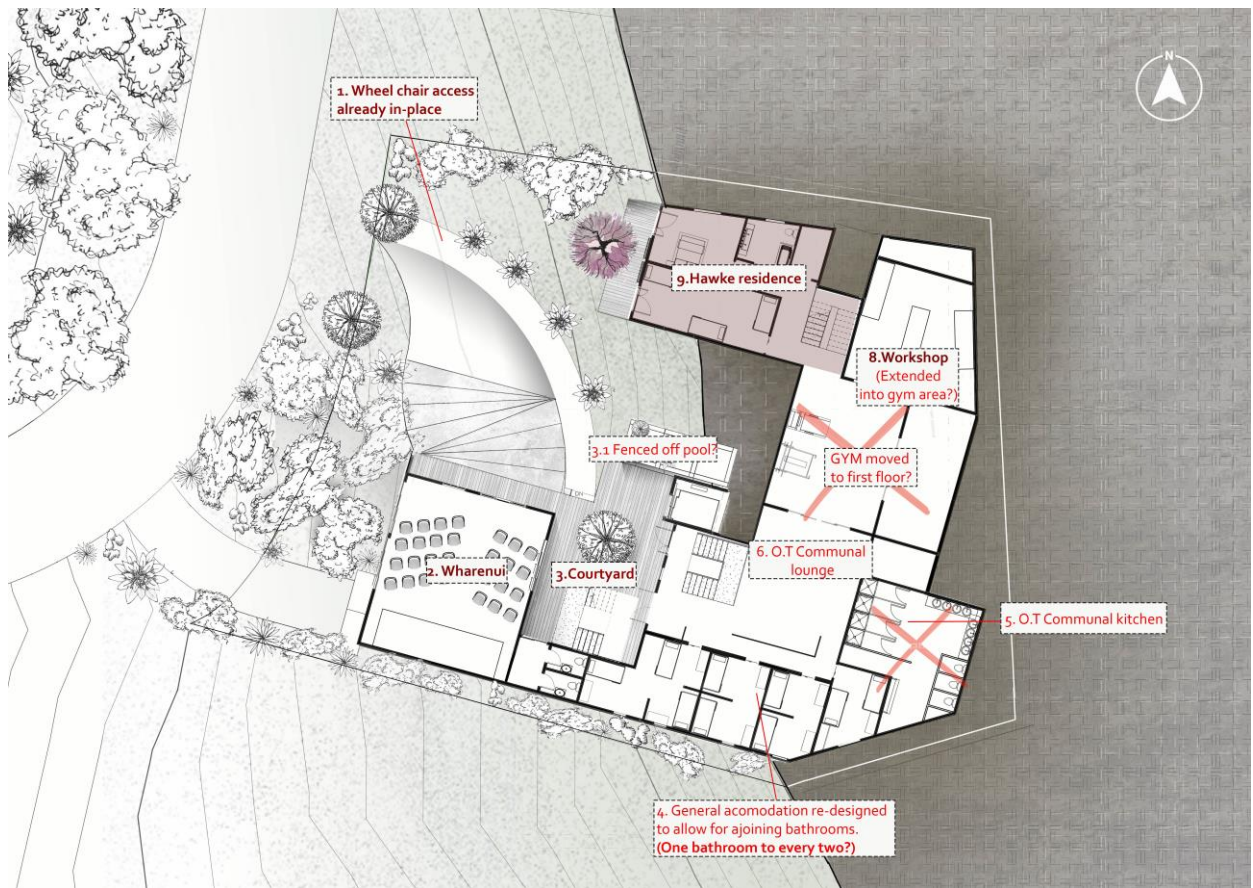
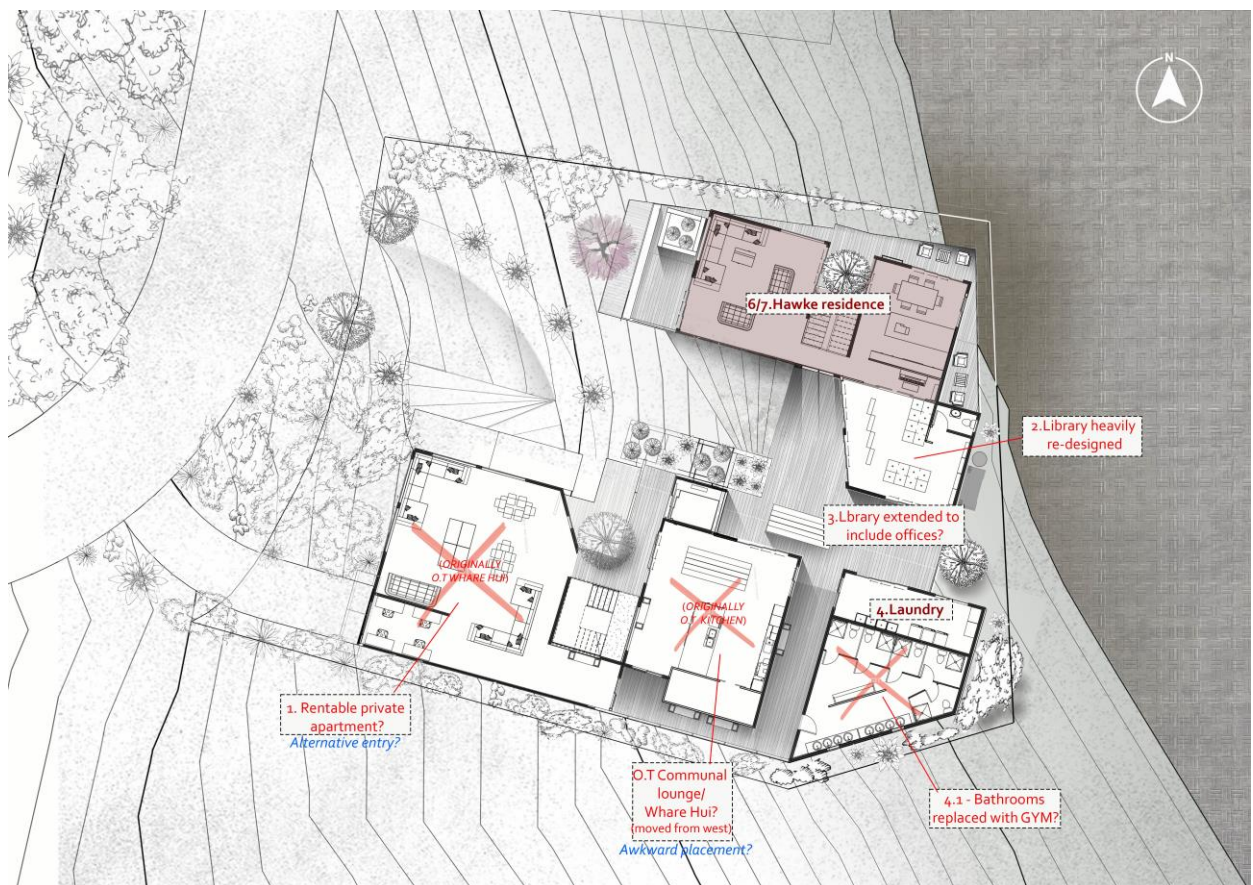
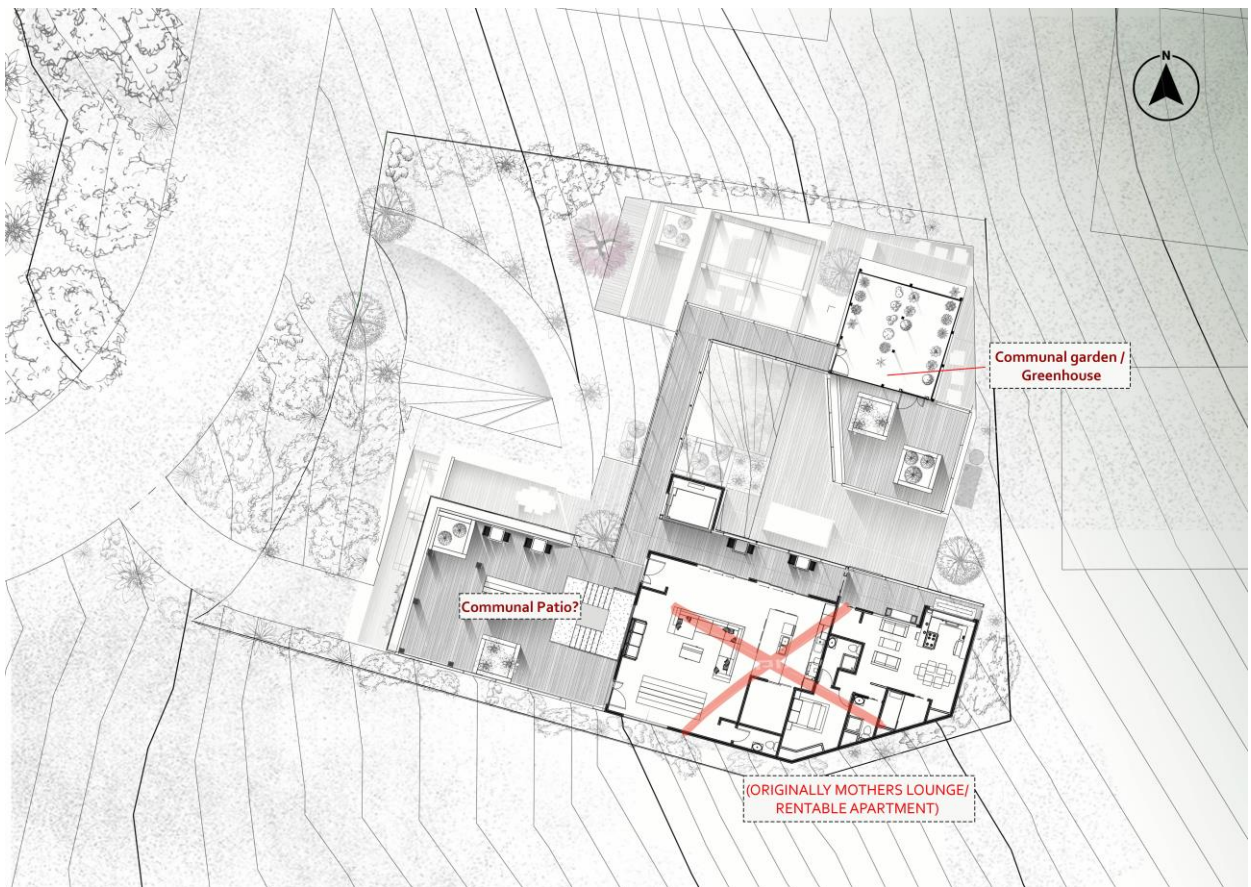
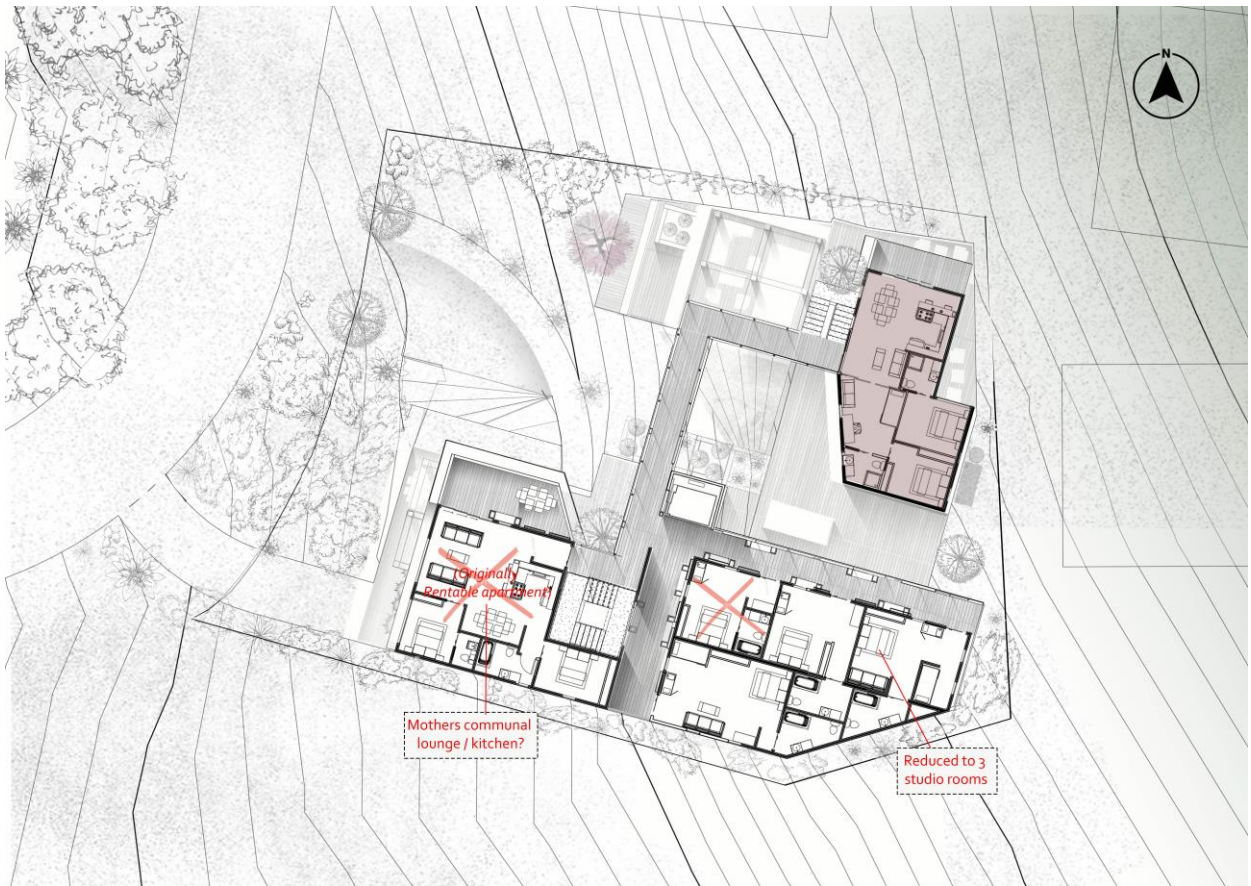
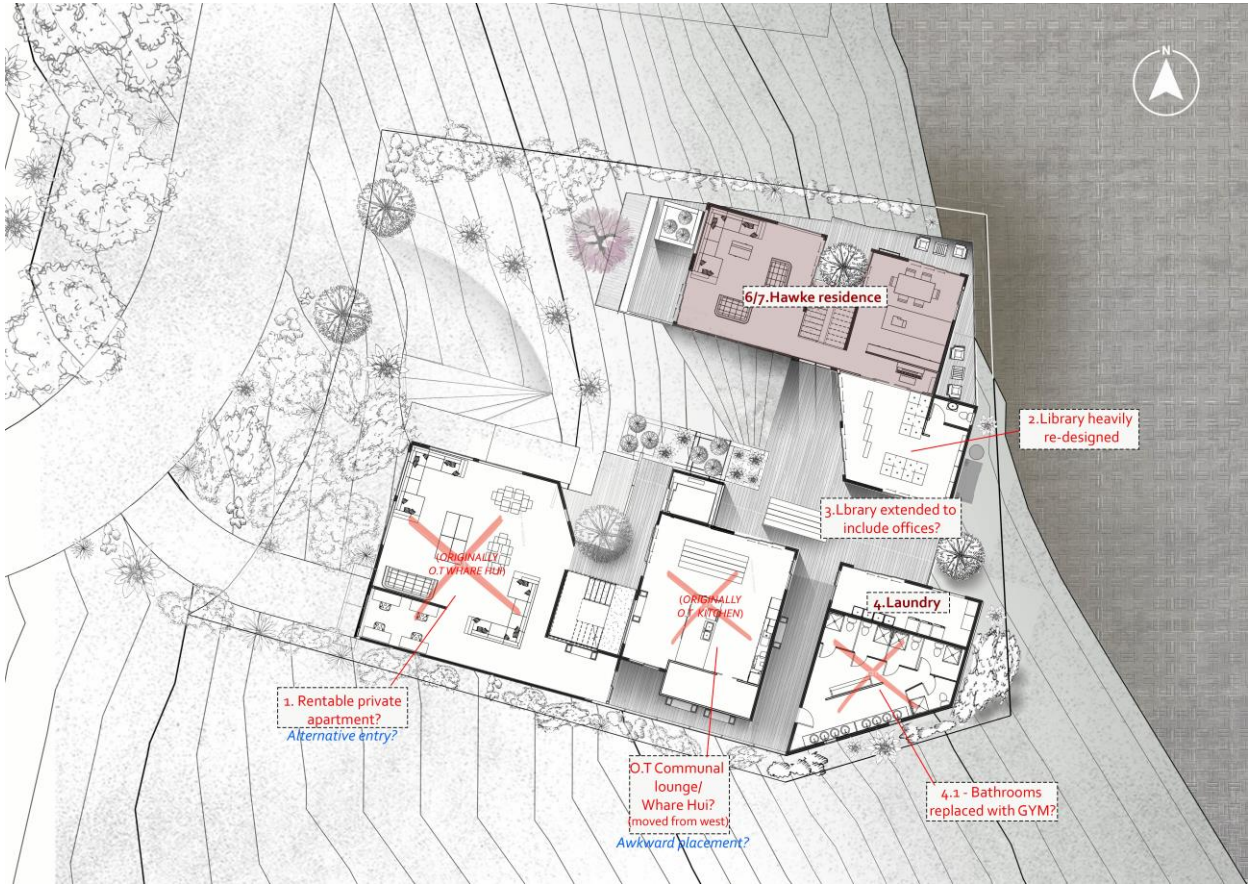


Figure 66, 67,68,69: The Hawke whanau markup, Rory's layout, 2022







## 4.1 Feedback from the Hawke Whanau

The major change is to make both buildings the same height. Oranga Tamariki building would consist of underground, ground, 1,2,3 and Hawke residence ground, 1, 2, 3, 4 (rooftop). They would like to take out the 4<sup>th</sup> floor of the OT side and only build a rooftop outdoor area on the Hawke residence side. Therefore, the OT side would need to be redesigned.

### **Ground floor**

- Welcoming area but must include a wheel accessible ramp.
- Wharenui
- Courtyard
- Fenced off pool
- General accommodation with adjoining showers and toilets (min 2 of each)
- OT communal kitchen
- OT communal lounge area
- Workshop (they emphasized that they absolutely love this area)
- Hawke Residence – 2 bedrooms, 1 bathroom.

### **First floor**

- Rentable private apartment
- Communal library
- Office space & toilet for library
- Communal laundry
- Gym with 1 toilet and 1 shower
- Compost system
- Media room for the Hawke residence

### **Forth floor**

- Solar panels on the roof
- This level is accessible for only the Hawke whanau
- Whare Nga taonga

## 4.2 Co-design process

As a whanau, the Hawke whanau want to make sure the momentum for our project remains high. Hence, they decided to allocate their time better to all the different components of the build. Each members leads different parts of the project and actively involved in the co-design process

Scheduling – project manager – Aroha Hawke

Architectural design – Tui Hawke

Infrastructure & supply – Roimata Hawke

Financial & funding – Hui Hawke

Administration – Kema Hawke



**Figure 70:** Codesign group: From left to right: Rory Norton, Holly Anaru, Lana Webster, our supervisor Dr. Fleur Palmer, author, 2022



**Figure 71:** Our Hui with the Hawke whanau and

# CO-DESIGN SESSION

31-03-22

{ POINTEA  
KINA  
TUHI  
AROHANUI }

ALLAN

- MORE PRIVATE APT STYLE LIVING

- O.T. NOT AS EXTENSIVE AS HAVING ITS OWN FLOOR. - COMBINED.

- INTEGRATE FUNCTIONS.

- MAHI FLOOR.

- SCHEDULE AREAS + SPACES.

- MULTI-FAITH ROOM

12.500 x  
x 5k  
=

RENTAL  
- SEPARATION OF APTS FROM MAHI

- 6 PARKS INCL 1 ACCESSIBLE.

→ INTEGRATING INTOI KAUAPAPA MAORI

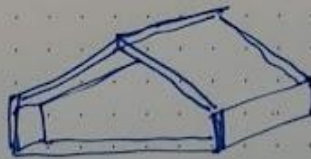
WHARENUI  
- NO STAGE  
FACE EAST



- FORM. EMBODIMENT OF ANCESTORS.  
GABLE HAS TO EXTEND BEYOND FACADE.

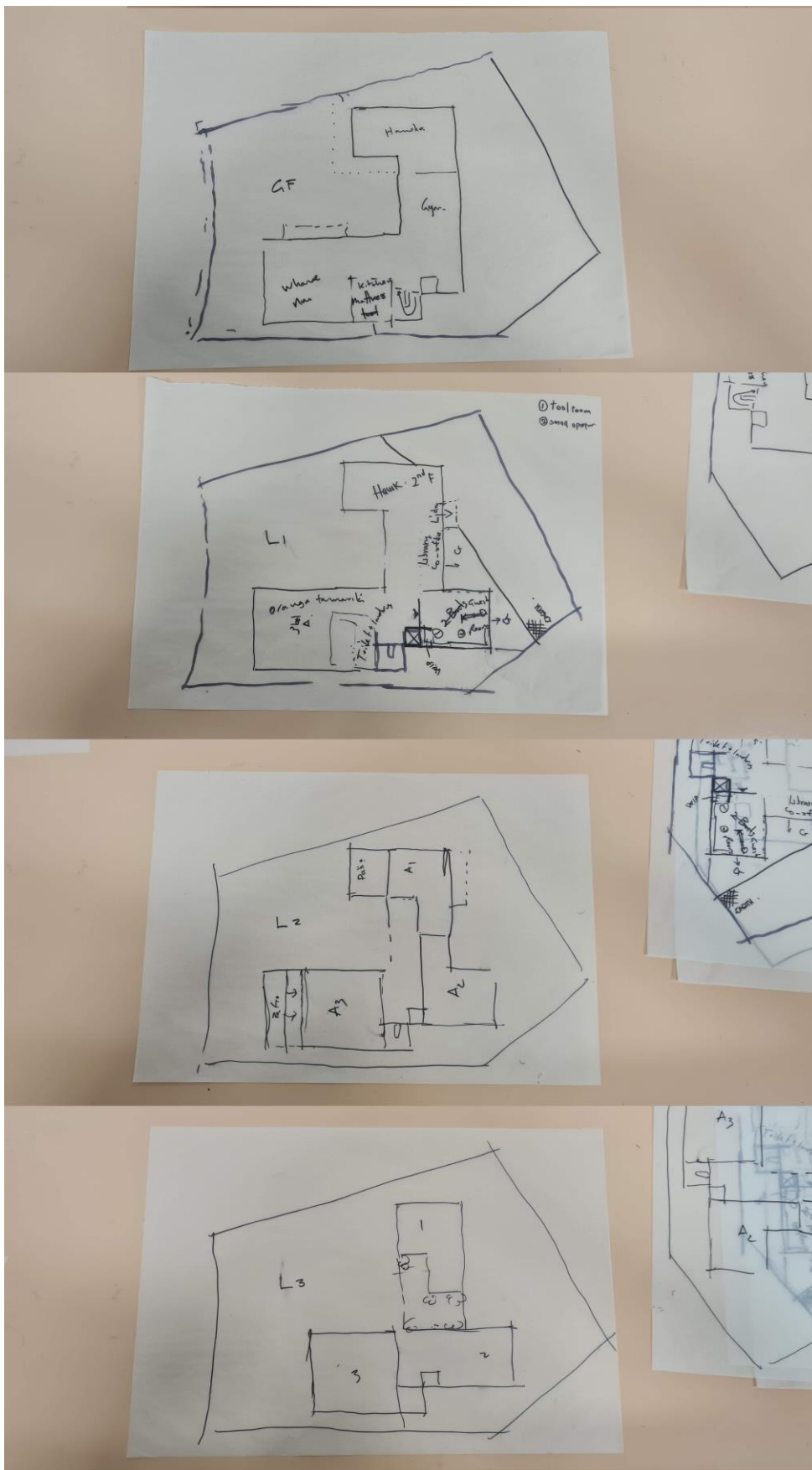
PUBLIC WC

→ BABY CHANGE TABLE



→ FOYER / PRIVACY TO APTS - NO ENTRY INTO LIVING SPACE.

Figure 70: Co-design session, Lana's note, 2022



**Figure 70:** hand-sketched layout, author, April 2022

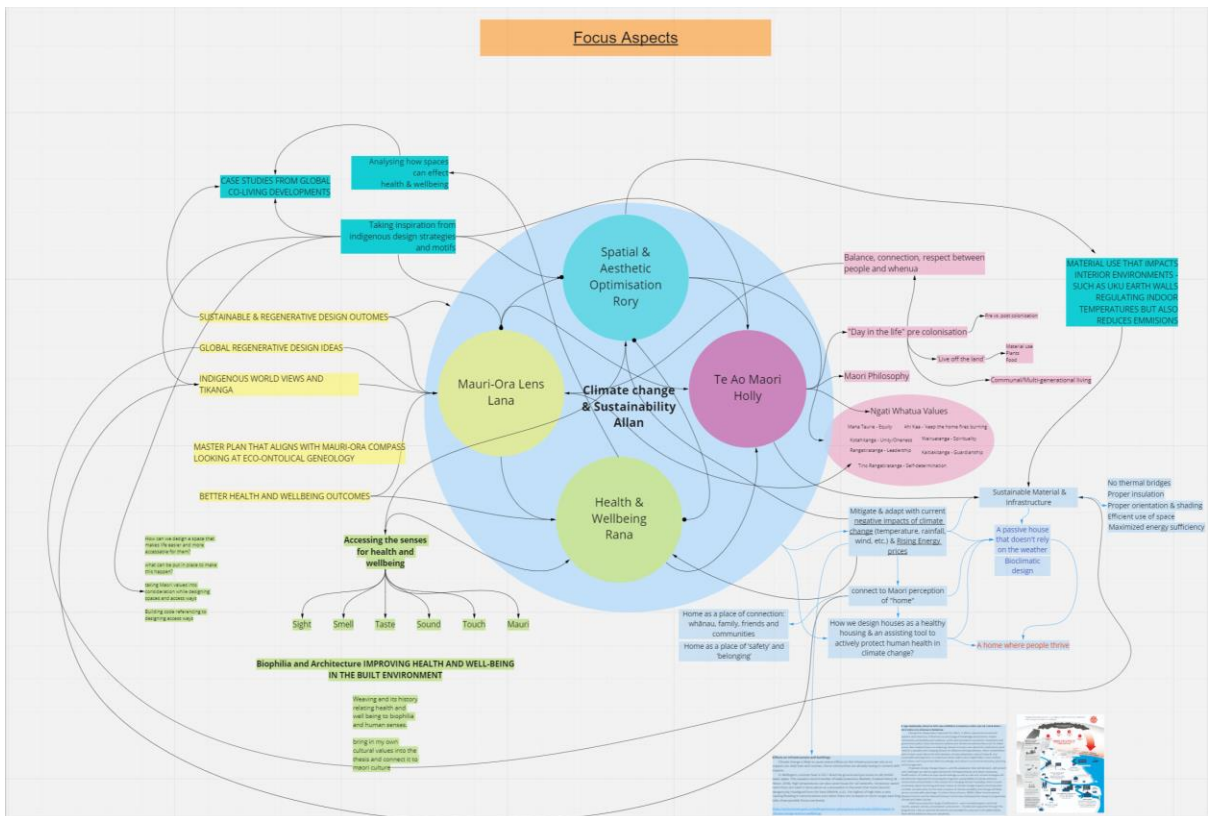
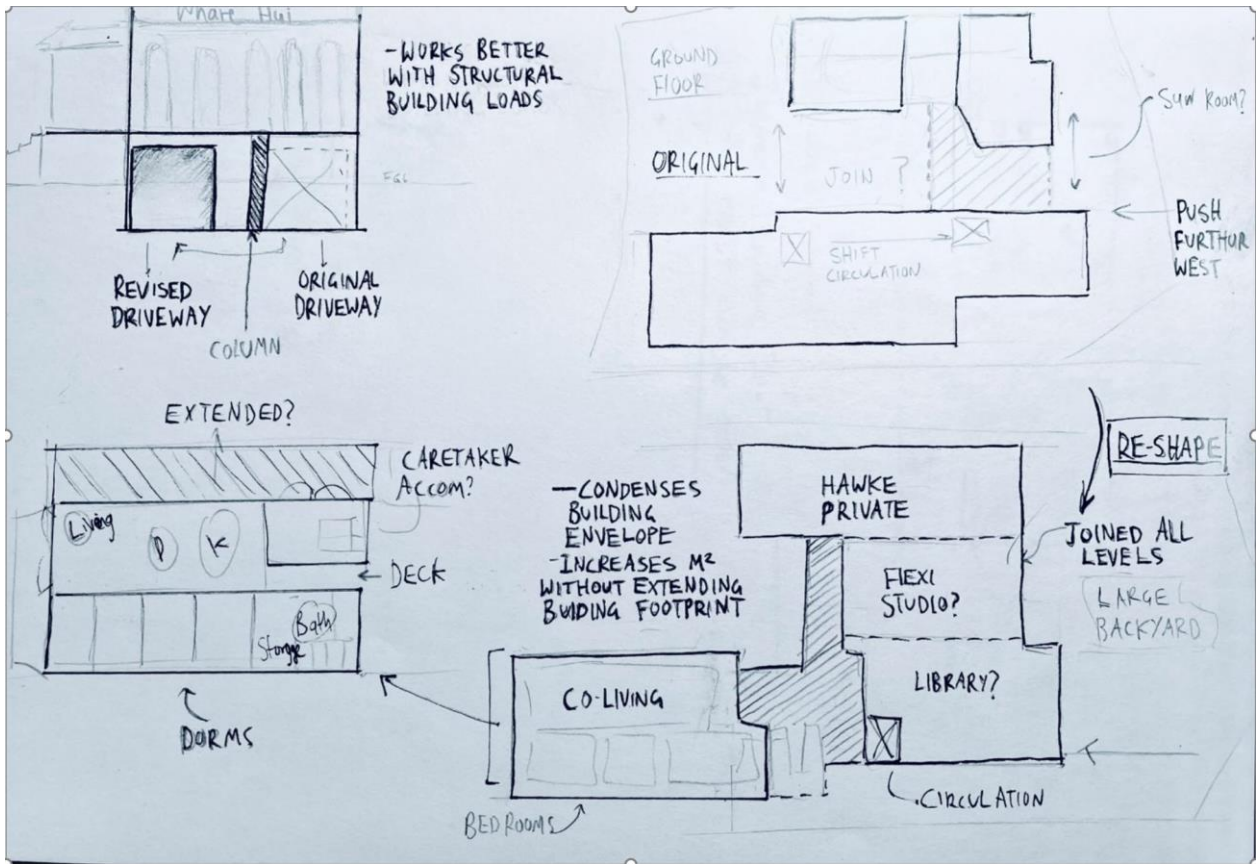
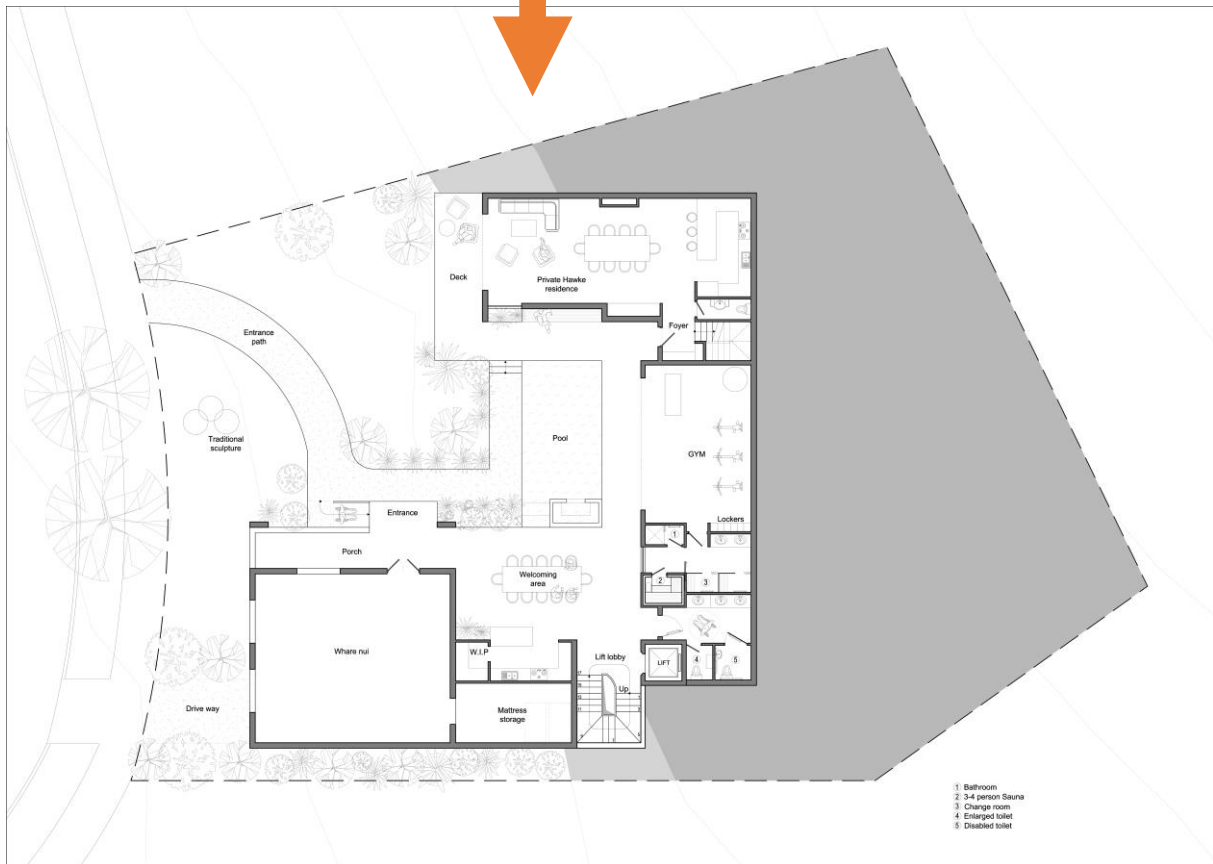
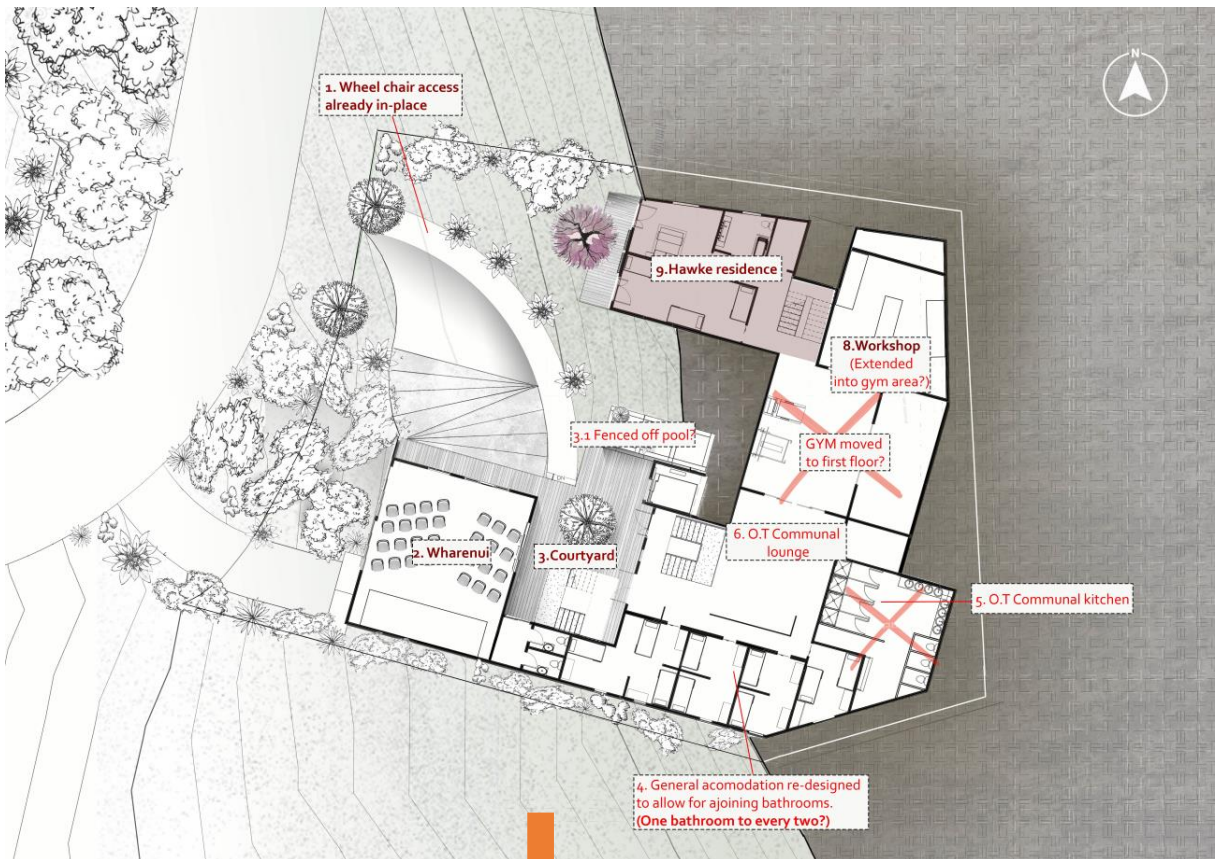
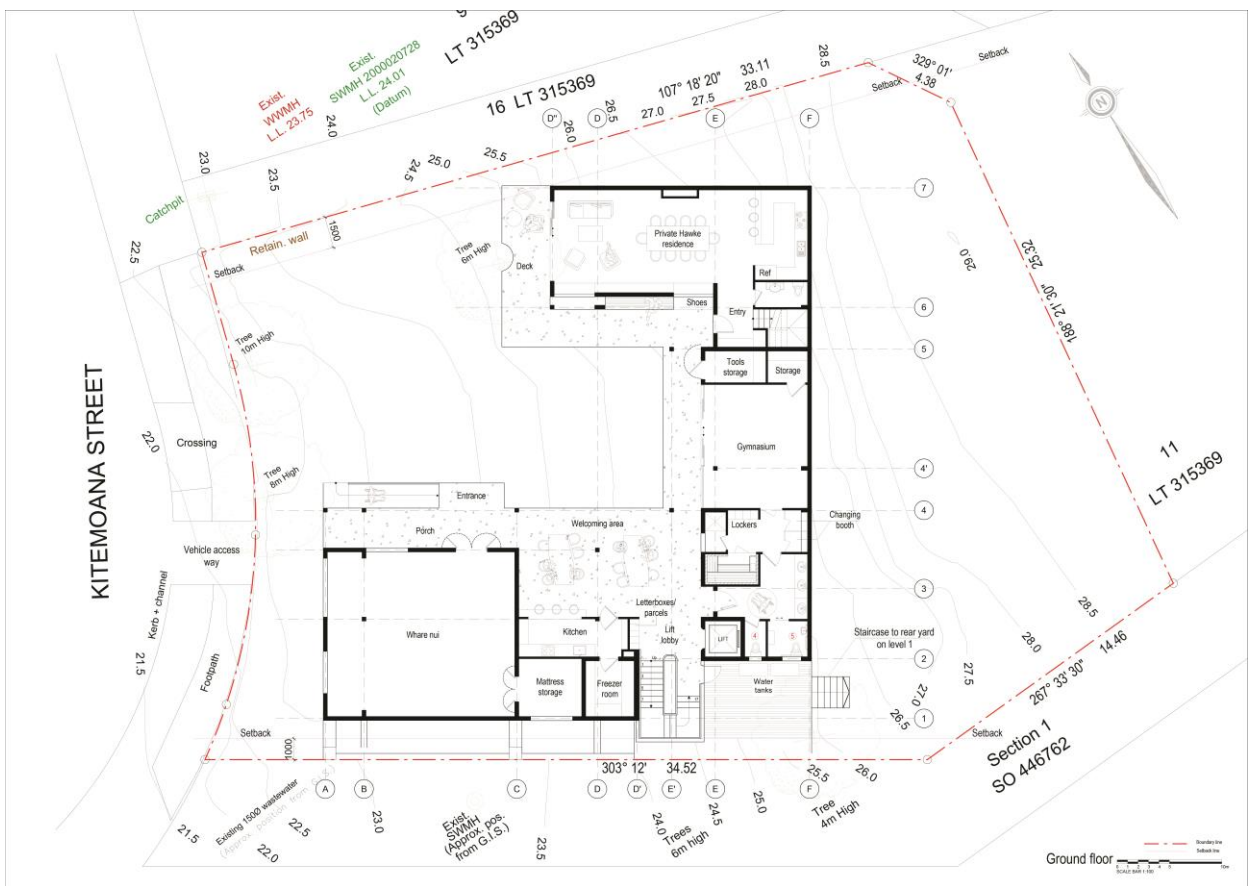
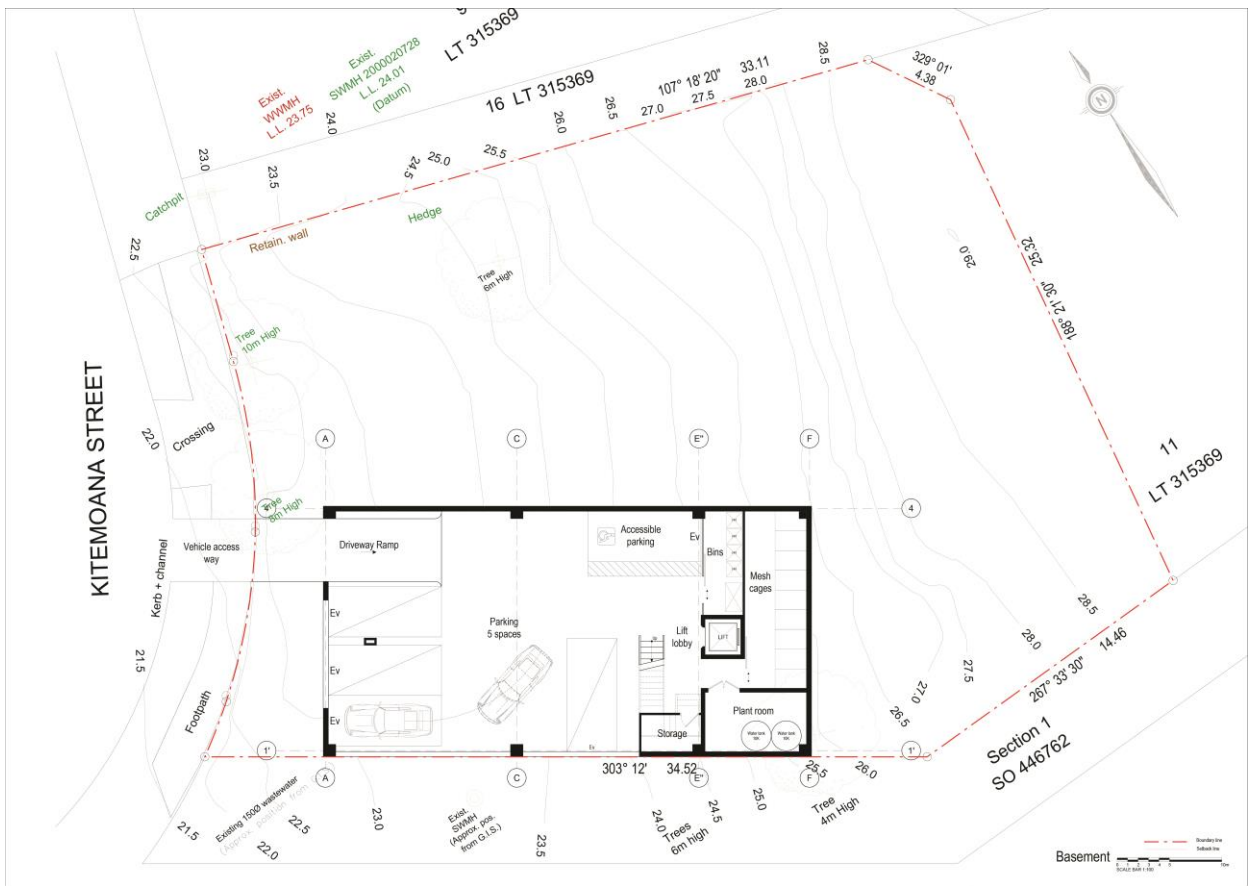


Figure 71 and 72: concept of shared amenity and focus aspect venn diagram

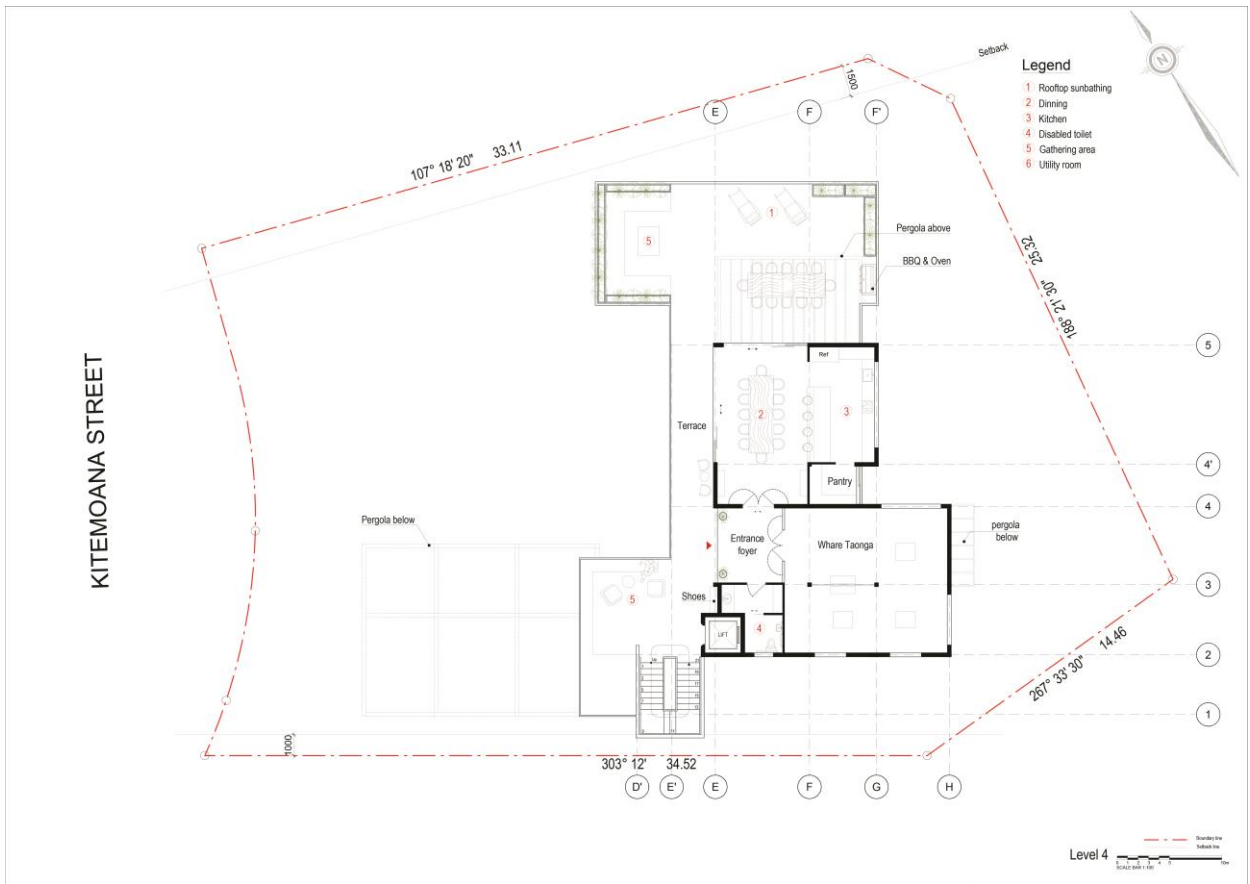


**Figure 73:** Note from our codesign session, Rory's note, 2022











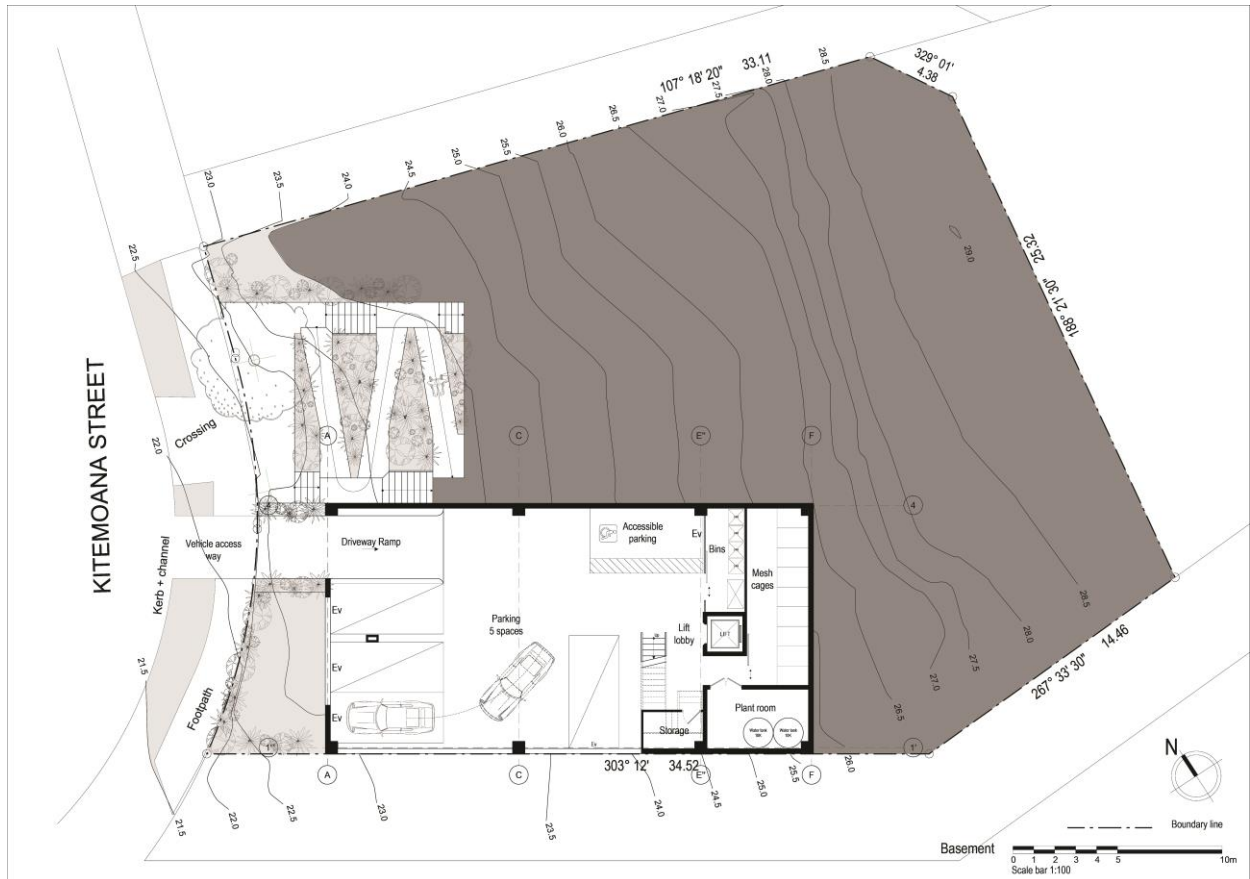


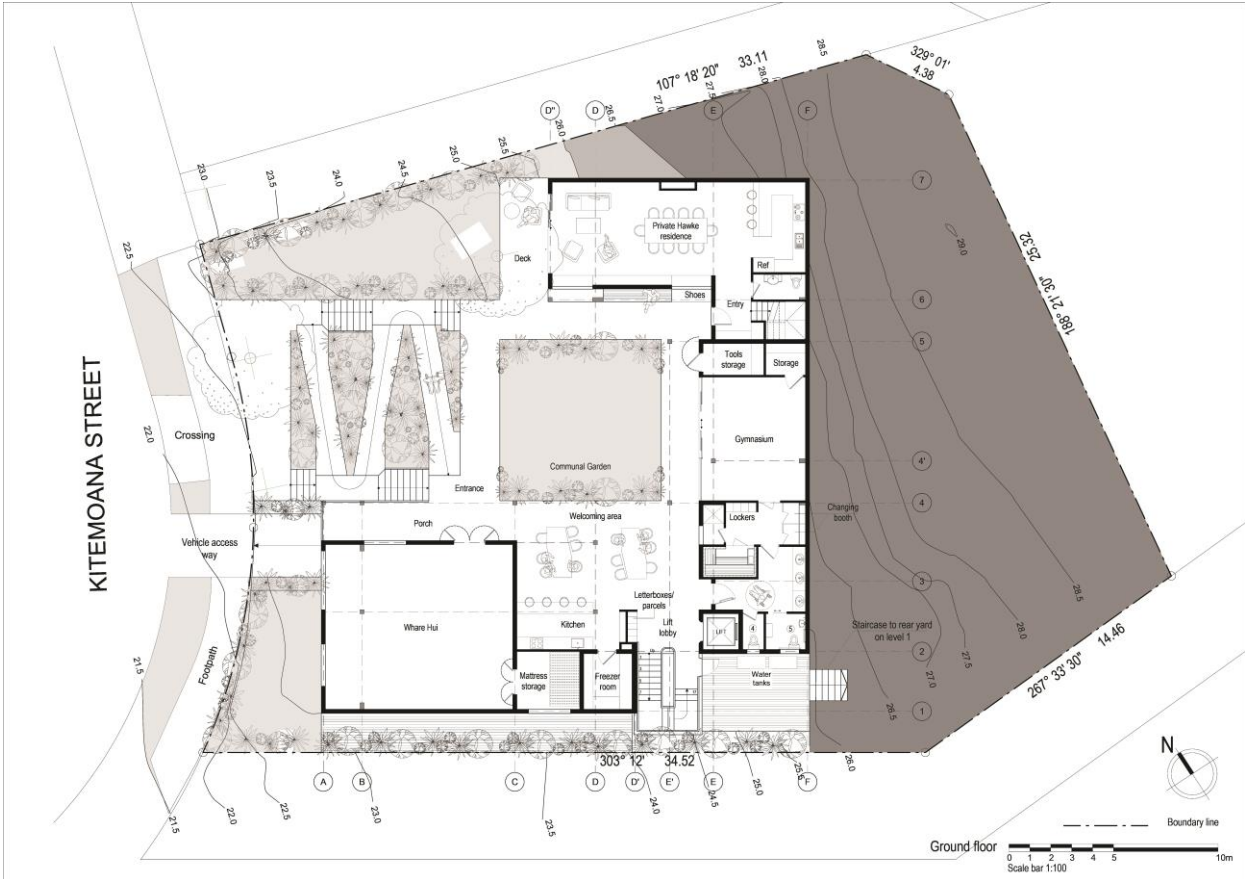




# Chapter 5: developed proposal

## Basement & Ground floor

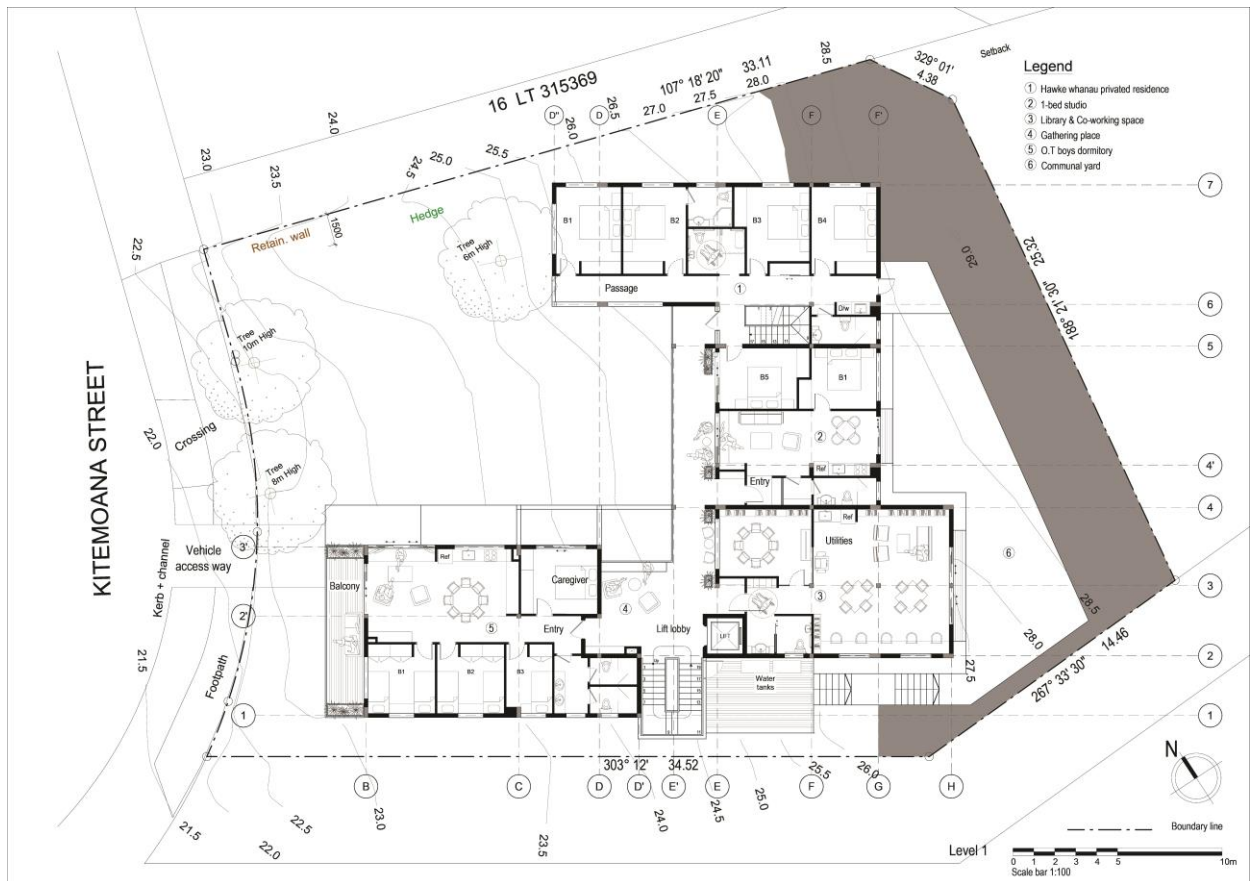




The whare hui spills out into the communal ground floor - acting as a foyer welcoming visitor. A kitchen serves an open dining area for large gatherings, opening out onto the front lawn. To the west is a communal gym room with tool storage attached, intending to double as a woodworking space. Considering the whanau’s interest in craftsmanship, integrating a place where residents can connect over learning and creating was essential. Placing this centrally, forms a common ground for whanau to interact.

The North wing of the ground floor houses the first floor of the Hawke whanau’s residence. Arohanui Hawke - the matriarch of the whare, specifically mentioned she wanted to reside on this floor as a way of watching over the comings and goings of the community.

# LEVEL 1

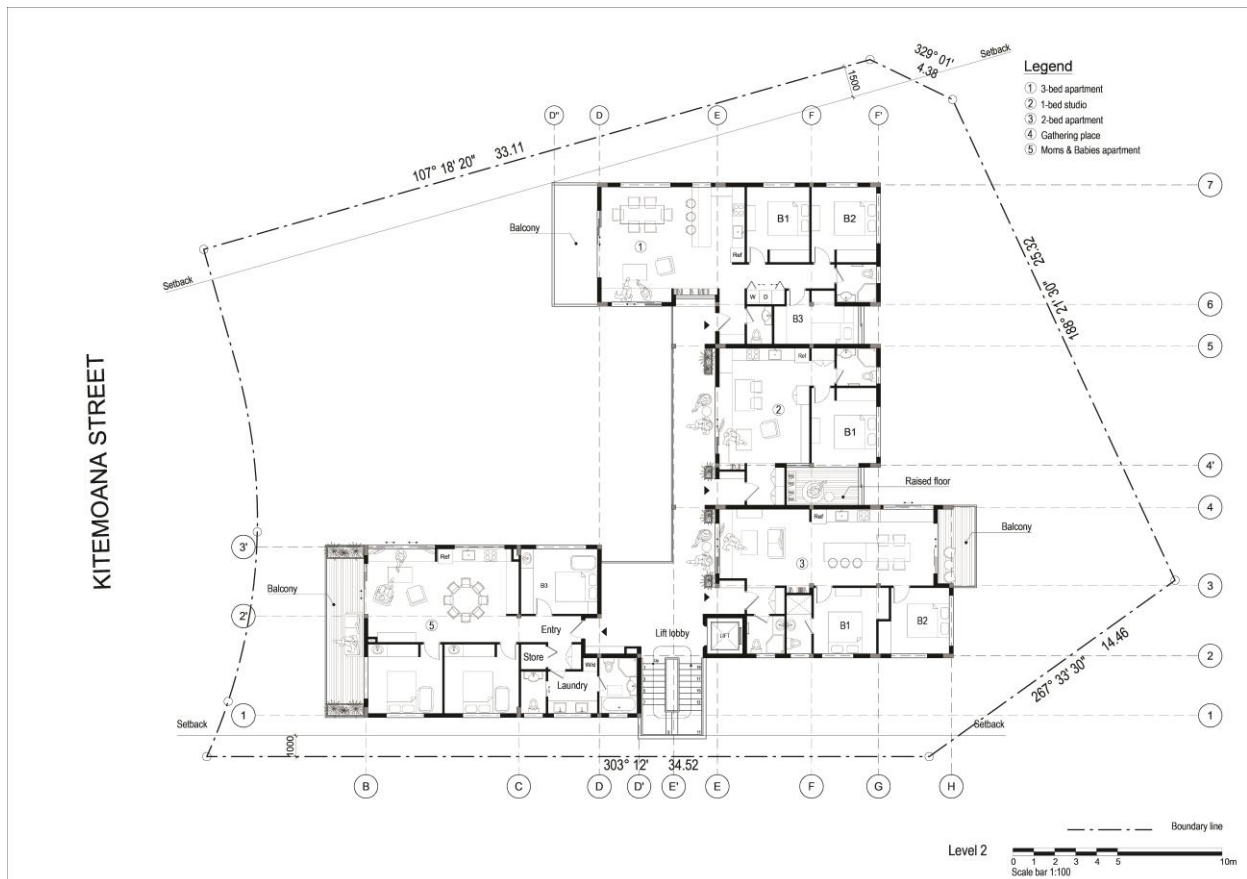


During our co-design meetings our team was told of the importance of parallel living for this development. The whanau stressed that they wanted everyone living within the whare to be fully part of the wairua (or spirit) of the community. So our team needed to design floor layouts that optimised a shared flow and common ground while retaining the option of privacy. Therefore, an exterior corridor acts as a communal bridge between each space. These external corridors are an integral part of the whare’s whanaungatanga or essence of family unity - and encourage chance encounters.

Level 1 provides co-living accommodation for children in need. Parallel to this is a communal library - where tamariki can do their homework. To the north of the floor, apartments provide general accommodation for the Hawke whanau. The close proximity between the Hawke’s and their guests emphasises their goal of ‘parallel’ - not separate living.

As shown in this view, the library utilises adjustable screen doors, allowing the whanau to customize the layout of the space - giving them the power to adapt as their needs change over time.

## LEVEL 2



Level 2, follows a similar layout to the floor below, repeating the communal walkway seen on level 1. To the West of the stairwell lies co-living accommodation for solo mothers and their newborns needing shelter. 3 bedrooms, each with their own kitchenette, provide mothers with the privacy to care for their baby while having the option of socialising with other whanau in a shared living and patio space that looks out towards the Waitemata.

Giving woman with newborns the option of solitude was stressed as an important factor within our co-design discussion with the whanau.

## LEVEL 3

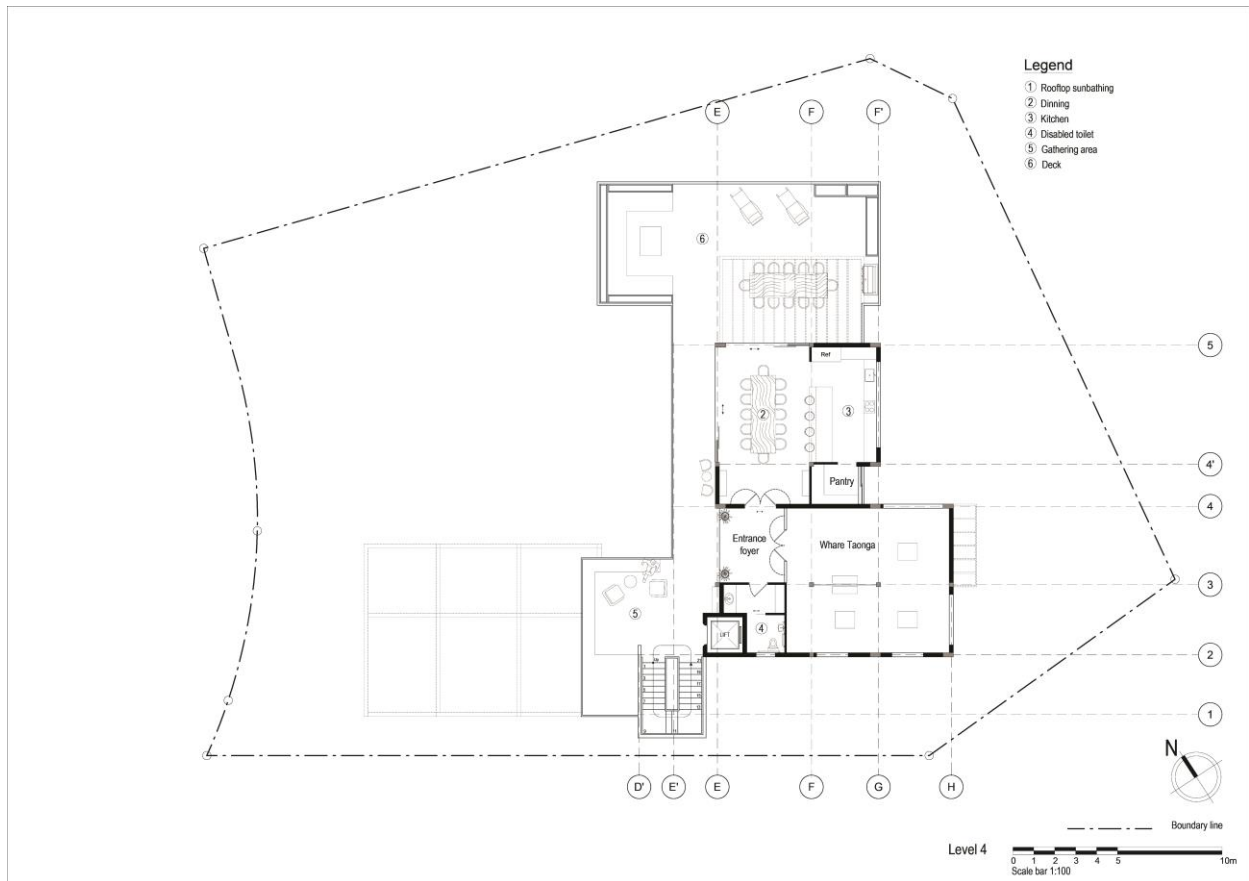


Moving up to Level 3, this floor also provides the whanau with general accommodation, allowing them to provide shelter to their extensive wider Hapu.

Along with the communal laundry room, this floor acts as an important representation of whanaungatanga.

To the west lies a large open patio deck, shaded by a leafy pergola. This space provides the community with a PLACE to socialise and unwind with each other as they look out across the WAITEMATA - thus establishing a clear visual connection to geographical markers of sacred and historical importance to the Ngati whatua Orakei hapu - This was a feature greatly emphasised within our co-design discussions.

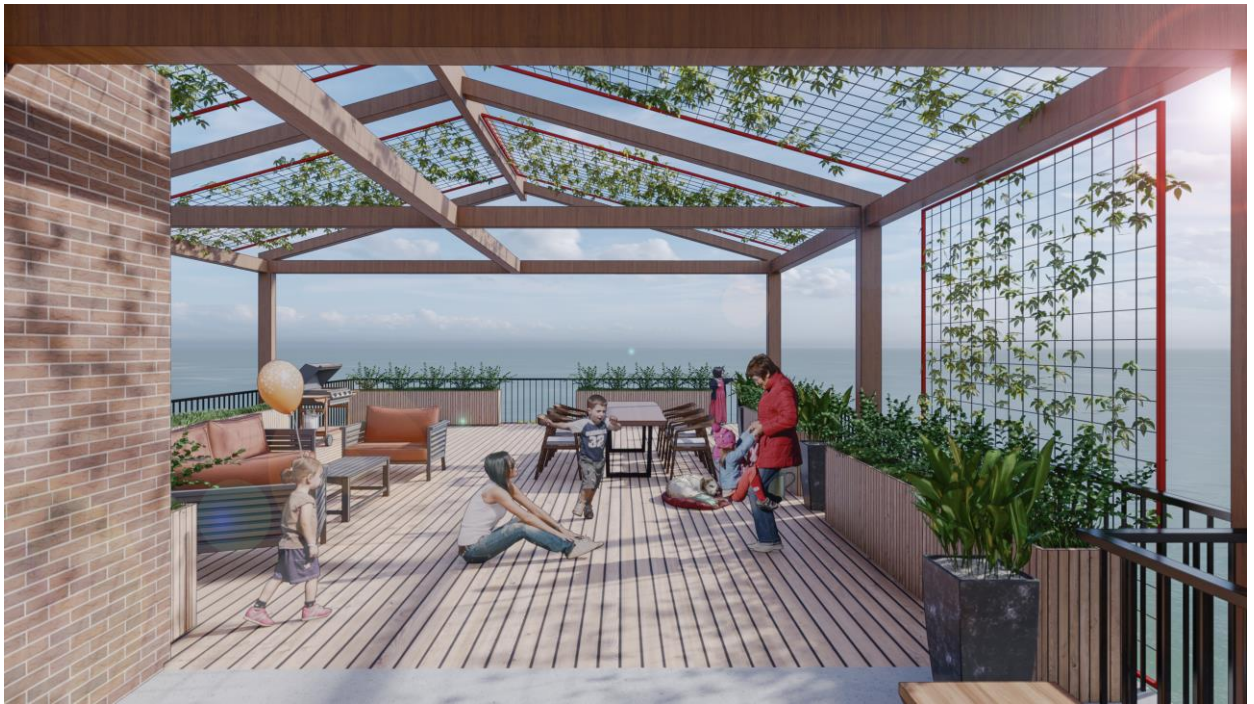
# Level 4



Level four displays one of the real innovations of this design - the whare toanga - which we would never have developed without the direct input of the Hawkes.







# Chapter 6: Conclusion and final reflection

## 6.1 Responses to the research question

The goal of this thesis is to explore how Whānaungatanga – (a Māori core value associated with a close connection between people developed through kinship) can be used to construct a co-living medium density model of housing to improve the health and well-being of the Hawke whānau (family) of Ngāti Whātua o Ōrākei, foster a sense of community, and encourage a sustainable lifestyle for Oranga Tamariki families they look after the emerging co-living typology and in what way its characteristics can affect community building among residents. In order to achieve this goal, the main research question was formulated:

*“How can Whānaungatanga – a Māori core value be embedded in a co-housing approach influence the creation of medium-density housing for Māori that promotes a sustainable lifestyle to create an intergenerational whare that connects its residents to the Whenua?”*

This question was deconstructed into four sub research questions that will be answer one by one.

*a, how can Co-living promote Māori’s sustainable lifestyle?*

Fostering sustainable living is a crucial goal of my thesis project. Cohousing approach can influence the creation a medium-density housing for Māori that promotes a sustainable lifestyle to create an intergenerational whare that connects its residents to the whenua by providing save environment in which children can grow and extended families made up of people of diverse ages, interest and backgrounds may provide a rich living experience. Additionally, it may reduce social isolation and create a sense of belonging which leads to the identity of the local community. Furthermore, it also enables residents to actively interact with nature and the whenua by offering activities such as community working, vegetable and fruit planting, and regular outdoor meeting. Thereby, cohousing can significantly contribute to strong, supportive and “whanau” bonds between members which is a criterion set by the Hawke whanau and therefore, bring back the focus on whanaungatanga rather than living in individual units.

*b, Whānaungatanga – What is it in Māori culture?*

In the modern day, whanaungatanga can be a wider extended concept. Professor Pare Keiha, Pro Vice Chancellor Māori Advancement at AUT elucidates: “... so notion of whanaungatanga is an important one and if we understand the relationship that we have with each other, not just our family relationships or indeed our work relationships but importantly the responsibilities that we have to a young and our elderly and indeed the environment that we

*operate in if everybody's contribution helps.*" (Independent Māori Statutory board, nd). Whanaungatanga is expressed in various ways: in the customary practices and activities of ancestral and community marae, in access to forms of cultural support, in connections over the internet, and in sustaining connections with whānau.

### *c, How Whānaungatanga is applied architecturally?*

Architectural design links one or many building blocks together. The program within once space, connects one function to other functions within a building. However, the way the spaces in a building are designed can favour a connection among users and bring meaning to their daily lives has not been examined in the literature yet. From my standpoint of view, in buildings and architectural design, qualities relating to whanaungatanga has not attracted enough attention in Māori housing design. Whanaungatanga deepens the possibility of building relationships and strengthen the health and well-being of people who live and use different spaces.

The collaborative intergenerational design project for the Hawke family's is located at 31 Kitemoana street, Orakei on the Ngati whatua o Orakei whenua. The existing building usually provides living spaces for approximately 14 people as a part of services to Oranga Tamariki. The Hawke whanau work closely with Oranga Tamariki accommodate at risk boys, mums and their newborn babies. Due to the house is located on ancestral land of Ngati Whatua o Orakei, the Hawke's intergenerational house is designed for the people of the land – tangata whenua.

The "attachment/engagement between people" and the land is a criterion set by the Hawke family. They nurture vulnerable boys, infants and single mothers until they reground themselves. The people who come to live in this house are from diverse iwi, and different family backgrounds, therefore, increasing the interactive among resident in the generative building will bring a sense of belonging. As a result, this home helps families to connect with each other and creates a safe haven for them.

## **6.2 Reflection and conclusion**

Through the collaboration design process, I had a great opportunity to work on a real-life project that help me extend my knowledge on Māori cultural and gain substantial practical experience. I realized that to successfully achieve a true sense of community and belonging, architects must have adequate understanding of Māori worldview and their values because they are recognized as important considerations for the design and development of contemporary housing solutions for Māori to live as Māori. In addition, to combat the housing crisis in Aotearoa New Zealand, co-housing could be a suitable alternative model that not only are able to provide a higher quality life to residents, foster a truest sense of belonging, promote sustainable lifestyle but also can effectively uphold the Māori values.

Finally, I close this thesis by sending my best wishes to the Hawke whanau, to be involved as a member of the team is my immense privilege. I hope in the near future, they can move in their dream house and share this journey to other members of their whanau as well as their community.

# Reference

## Glossary of Terms

Aroha	Love
Atua	The Māori Gods
Hapū	Extended family group
He mihi Aroha	Acknowledgments
Hui	Meeting
Iwi	Tribe
Kainga Ora	The Ministry of Housing
Kaumatua	Elderly
Marae	Courtyard - the open area in front of the wharenuī, where formal greetings and discussions take place
Maunga	Mountain
Moana	Ocean
Oranga Tamariki	The Ministry for Children
Papatuanuku	Earth, Earth mother and wife of Rangi-nui - all living things originate from them.
Pepeha	Personal introduction (traditional)
Tāngata	People
Tāngata Whenua	“People of the land”
The Waitangi Tribunal	A New Zealand permanent commission of inquiry established under the Treaty of Waitangi Act 1975
Urupa	Cemetery
Whānau	Family
Whānaungatanga	Relationship, kinship, sense of family connection
Whare Hui	Meeting house
Whare Nui	Large house
Whare Taonga	House of sacred artifacts
Whenua	Land
Whakapapa	Genealogy, genealogical table, lineage, descent
Papa kāinga	Original home, home base, village, communal Māori land

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