Ngā Kite Hauora Nō Ngāti Whātua Ōrākei

Pourewa Gardens: blending Māori tradition and contemporary design towards a healthier future for Ngā Uri o Tūperiri

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An Exegesis submitted in partial fulfilment of the requirements of the degree of Master of Landscape Architecture (by Project) In collaboration with Ngāti Whātua Ōrākei
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Figure 1 Pātaka and Kūmara garden, Te Parapara.

Figure 2. Traditional Māori māra kai. Envirohistory.com

1. Whakatauākī

E tipu e rea i ngā rā o tō ao. Ko tōu ringa ki te rākau ā ta Pākehā hei oranga mo te tinana, tōu ngākau ki ngā taonga ā o mātou tūpuna hei tikitiki mo te māhunga, a ko tōu wairua ki te Atua nāna nei ngā mea katoa.

Grow up o tender youth and thrive in the days destined for you. Give your hand to the tools of the Pākehā to provide physical structure, your heart to the treasures of your ancestors to adorn your head and your soul to God to whom all things belong.

Advice from Tā Āpirana Ngata

2. Abstract

Gardens were critical to Māori survival in Aotearoa New Zealand since their arrival from the Pacific. Spiritual beliefs and ritual practice combined with plant and cultivation knowledge developed as extensive gardens were maintained and protected. Despite the importance of gardening for Māori, neither traditional pre-colonial nor contemporary gardens for food production and health have been undertaken comprehensively in post-colonial Aotearoa New Zealand in recent times by a Māori entity as a means of sharing their knowledge and practices.

This new venture explores the context of cultural knowledge of environment, nature and gardens which developed over time, in order to create an ethnobotany garden. Adopting a kaupapa Māori, he awa whiria, braided river research, and research by design methodologies, the project sets out to create a garden at Pourewa, Auckland, which includes a nursery, traditional gardens, plants for special uses, and vegetables to feed the local community. Research examined precedent examples of other Indigenous peoples, and the selection and use of plants for health and healing (rongoā), as well as the history, context and practices of Ngāti Whātua Ōrākei.

The design is for a visionary place to encourage traditional arts, garden practice and knowledge exchange with community and visitors. The new garden will enable leadership and communication of Māori garden and traditional arts practices for Ngāti Whātua Ōrākei.

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4. Background

The proposition of a Māori ethnobotanic garden arose from my career in parks, recreation and the environment where I developed a particular interest in botanic gardens and how they might be relevant in a contemporary world. I have observed that none of the botanic gardens in Aotearoa interpret and display plants as they were used by early Māori in Aotearoa in any significant way. These gardens have generally favoured an exotic flora and a European gardenesque format. As someone with Ngāpuhi heritage, I have a strong interest in the revival of te reo Māori and its associated tikanga. I hope to explore how a garden designed around a purely Māori point of view would lead to a wider understanding of the Māori world view and Māori values and spiritual constructs relating to gardening, harvesting and rongoā and fibre plant gathering. The project represents a juxtaposition of Māori culture and a contemporary exploration of the potential contribution to society by botanic gardens and their relevance to Ngāti Whātua Ōrākei today. The development of a garden designed from a Māori world view could have a significant role in reviving the associated traditional Māori wellbeing through plant-based tonics and remedies (rongoā), cultivation of food gardens and for mahi toi (Māori arts and crafts). It would also aid in creating a wider understanding and valuing of tikanga Māori and the spiritual aspects of life that endure today for many Māori. Many of the gardens developed as showpieces in Aotearoa do so from a European or colonial construct. They represent a Western world view of botany and horticulture. I hope to show that these constructs are very different in a Māori world and in particular for Ngāti Whātua Ōrākei.

I was also aware of Ngāti Whātua Ōrākei's vision to develop a garden on their land at Pourewa Reserve. This land had recently been returned to them through their Waitangi Tribunal claim determination. As an independent director on Ōrākei's operational board, Whai Maia, it seemed natural to explore this proposition in a practical way by designing a garden for my master's project, specifically for their needs.

Reviewing other relevant gardens in Aotearoa, Otari-Wiltons Bush in Wellington have excellent collections of New Zealand plants but a limited interpretation of the Māori perspective. Otari's purpose was to interpret the botany of these plants as collections arranged according to their soil and climate preferences (Cockayne 1932). As a collection these gardens are not seen as a resource for Māori.

There is a wonderful, recently constructed māra kai in Hamilton Gardens (Te Parapara) which demonstrates a typical pre-colonial māra kai (food garden).

Overall, gathering plants for medicinal purposes has been through scavenging native forests and the cultivation of foods such as kūmara, taro and yam. These gathering, planting and preparation processes are accompanied by rituals which are part of the tikanga (culture and rituals) of the Māori world (Robin, 2019).

Figure 3 *Hue: Photo Gourdes, truffles and co. nzgeo.com*

Figure 4 *Taro: Photo theresasjoquist.com*

Figure 5 *Kūmara: 5day.co.nz*

Accessing traditional native plants used for rongoā is often in areas reserved as parks and reserves. Access permits apply to areas of Māori traditional forests which are now National or Regional Parklands. The accessibility of traditional native plants used in rongoā is problematic for some practitioners, because some plants are becoming scarce (Ahuriri-Driscoll et al, 2008). The concentration of stock plants to access in a convenient way and their cultivation in larger numbers in a garden layout could contribute to their survival but more importantly to the rituals and practices of rongoā Māori.

The concept of mātauranga Māori is complex. It involves information, knowledge, education and research. There was no written Māori language until the European settlers' times. Much of the knowledge was passed down through the generations by experts in their field to trusted apprentices. The passing of this knowledge was to learners worthy of the knowledge to ensure that the various procedures and incantations would not be corrupted over time. The knowledge of rongoā was affected by the Tohunga Suppression Act 1907 (Durie, Potaka, Ratima, & Ratima, 1993). The knowledge is further threatened by a loss of knowledgeable practitioners, but has been under revival in the last two decades along with all things Māori (Ministry of Health 2008). The same report notes some of the barriers to rongoā practitioners regarding access to traditional native plants.

The opportunity to present a more gardenesque rongoā garden design would enhance education and interpretation of rongoā and would aid in understanding by te ao whānui (the wider world) of te ao Māori (the Māori world view). It could also allow for convenient access to the material.

Figure 6 *Kawakawa. Picture: oku.co.nz*

Figure 7 *Kūmarahou.*
Picture: meaningoftrees.com

Figure 8 *Manuka.*
Picture: weloverongoā.co.nz

Figure 9 *Pūriri. W\\weloverongoa.co.nz*

4.1 What rationale did I adopt for this project?

I wished to explore what a contemporary Māori garden would look like in the 21st Century. Ngāti Whātua Ōrākei's desire to create a garden at Pourewa provided the opportunity for me to test my idea through design.

A purposeful and well-functioning space for the needs of Ngāti Whātua Ōrākei was the driver of this work as well as creation of a space and operations that supported the Ōrākei mātāpono (values).

The beneficiaries of this study and the creation of this garden extends beyond the Ōrākei people to a model for other iwi and the botanic gardens world.

In the botanic garden world this garden would represent a different path to generating relevance to communities in the same way that the Botanic Gardens Conservation International movement emphasizes our environment and species protection, and the spectacular show pieces like Gardens by the Bay in Singapore and Cranbourne Botanic Garden, Melbourne, have become spectacular show pieces of our plant world.

5. Aim and objectives

Aim

Use matauranga Māori to help design a contemporary multi-purpose garden for Ngāti Whātua Ōrākei.

There is currently a dramatic resurgence in people seeking to become fluent in te reo (the Māori language). Much of the true meaning and fluency in the language is inextricably linked to the traditional beliefs and tikanga of Māori. It is not surprising that the resurgence of an interest in more than the language has emerged. One of the key ambitions as a researcher is the possible rejuvenation of the associated arts and practices of Māori. This garden has an aim of facilitating such a resurgence and wider understanding of the Māori world generally.

Objectives

- Gardens that produce healthy organic vegetables for members of the hapū in order to increase their access to healthy food options
- An educational facility to train hapū members and others in rongoā, vegetable gardening, and traditional mahi toi associated with the use of our ngāhere (native plants)
- A garden that produces resources for the hapū including food, mahi toi (arts and crafts), rongoā (Māori wellness) and tikanga (traditional ways and traditions)
- An opportunity to recognize this land as traditional Ngāti Whātua Ōrākei land. To also recognise their ancestors (tūpuna) through traditional whakairo (carving), mahi toi, traditional medicines and their associated tikanga
- Settings to bring tikanga and traditional spiritual practices of the tūpuna to life, so that pūrākau (passing on of traditional knowledge as a gift) can be fostered
- A place for a centre of excellence and workshops with respect to the use of our traditional plants involved in māra kai, mahi toi and rongoā
- A potential model of a practical setting for the revival of local tikanga, mahi toi, and Māori food and hauora sovereignty

4.1 Project Structure

The approach to this research project is to examine traditional practices of Māori over time in terms of gardening, use of plants from our flora, and the associated tikanga and kawa of Ōrākei people. This understanding should shape or at least inform the design.

I have conducted an examination of exemplars of good practice in like gardens in the wider world and within Aotearoa, in an attempt to find any design precedents or key lessons for this research.

I have attempted to conduct wānanga when possible during the Covid pandemic and have held discussions with Ngāti Whātua Ōrākei knowledge holders and the key stakeholders including the Ōrākei Reserves Board, the board of Whai Maia and direction indicated in the Ōrākei Trust Board's Long-Term Plan and the Future Vision Ōrākei Document (White 2018) adopted by the Trust. The Reserves Act 1977 also guides what activities could take place as does the reserves management plan.

Draft designs were tested against success criteria, Ōrākei mātāpono (values) and had hapū approval.

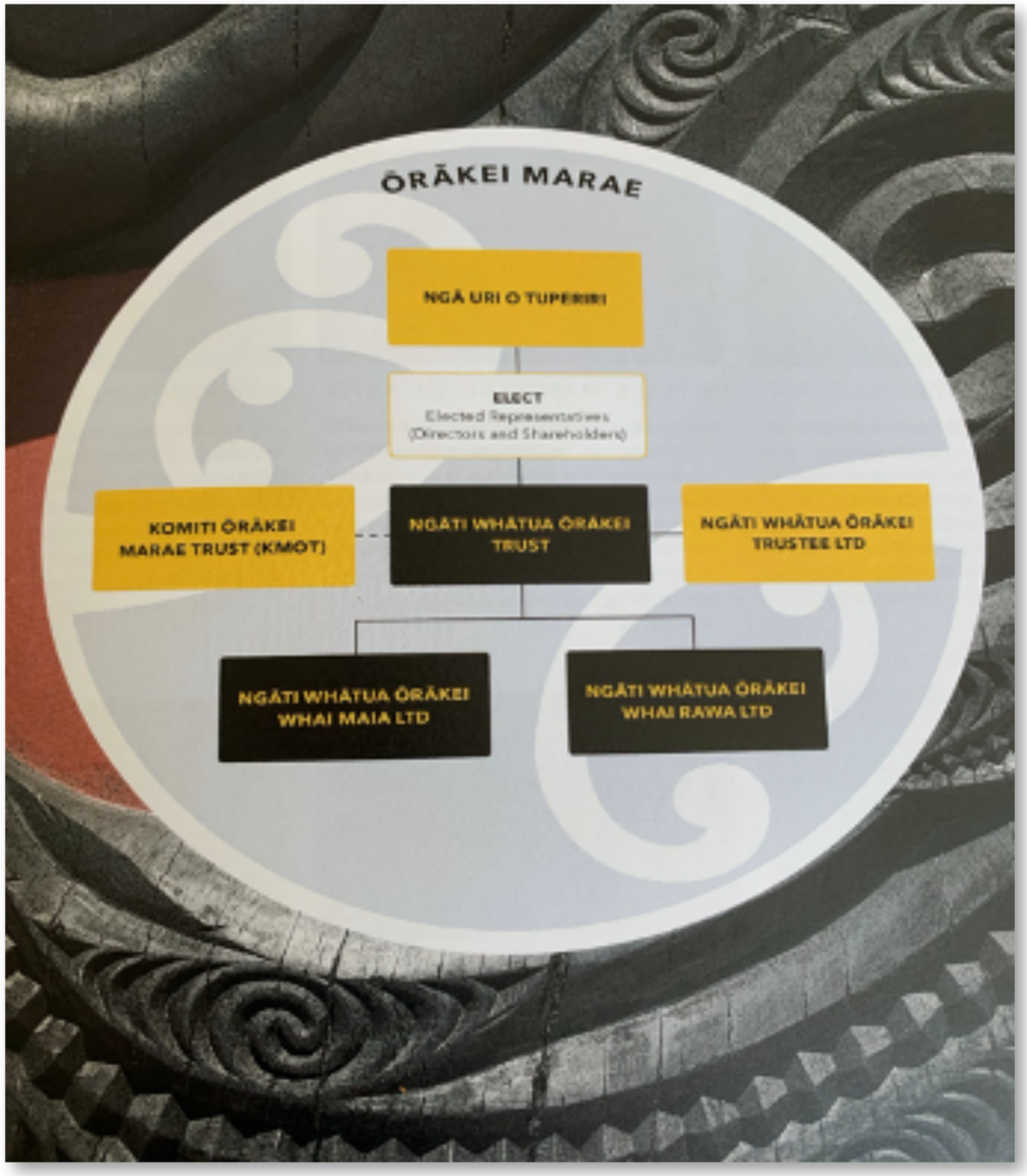


Figure 10. *Ōrākei Governance Structure. Source: Ngāti Whātua Ōrākei*

6. The research question

How can mātauranga Māori guide the development of a contemporary multi-purpose garden for Ngāti Whātua Ōrākei?

Considerations:

The key consideration for the design was to ensure that it gave full effect to the mātāpono of Ngāti Whātua Ōrākei along with their tikanga, mātauranga and the local kawa. It also needed to fulfill the contemporary needs of the hapū and the whānau during the pandemic which highlighted the hapū's need to access affordable healthy vegetables. This project was for Ōrākei (so success relies on their aspirations being met).

7. Methodologies and Methods

7.1 Methodologies

The methodologies employed in this project include:

Research by Design

This process is a practical development of a design that is informed by research. In this case, the results are only determined to guide design after close consultation with the Ngāti Whātua Ōrākei hapū. It is only with their input that a successful design is possible. Regular contact was needed with Whai Maia staff and the board along with consultation over the art and crafts and the garden plants, particularly those for the ngāhere rongoā and the māra kaiwhatu (weavers' garden) is critical to ensure that the taonga of their knowledge is embedded in the plantings. This process was energized as the design of the garden concepts and layouts was shared with them. There followed a series of internal wānanga among weavers, rongoā practitioners and carvers to inform the finer details that would more validly identify this as an Ōrākei place.

I researched ethnobotanic gardens around the world and native plants and Māori gardens throughout Aotearoa.

The following gardens were investigated as design precedents:

- Hamilton Gardens/ Te Parapara, New Zealand
- Mutsun ethnobotany centre-Amah Mutsun Land Trust, South San Francisco and Northern Monterey Bay, USA: These gardens celebrate the ethnobotany of California Coast. The gardens include a Mutsun Relearning Programme where the Amah Mutsun Trust assists the Amah Mutsun Tribal Band to identify and learn about these plants that their ancestors used as a native plant resource. Their aim is that their young people reconnect with their traditional ways, stories and histories and recover their sovereignty which was disrupted as with Māori, becoming disconnected from their roots. This model is a large part of the proposed function of the Pourewa gardens. Ref: The Mutsun Gardens-Amah Mutsun Land Trust (accessed September 2019) https://www.amahmustunlandtrust.org/the-mutsun-gardens
- Jardin Etnobotanico Oaxaca, Mexico: This garden was designed with an artist's hand and has an arrangement of plants from this area of Mexico that exhibit their traditional use by Indigenous Mexicans. The collections include an array of well-known plants that originate from Oaxaca, including balsa, cacao, early evidence of domestication of corn, and squash, and plants that were used in dying and weaving. The design of this garden is just as important as the plants' story. This garden caused me to think more creatively about the design elements that were aesthetic as well as functional (Spurrier, 2019).
- Otari-Wilton Bush Native Botanic Garden & Forest Reserve Plant Museum, Wellington, New Zealand: This garden is vaunted as the only botanic garden in New Zealand solely dedicated to native plants. The template was laid out by Dr L Cockayne, 'the father of New Zealand botany'. (Cockayne, 1932). The gardens are a good cross- section of native plants of Aotearoa and the prescription that he laid down in 1932 is still rigorously adhered to by the curators and the Trust that manages the gardens and Bush. This garden represents the design and culture of the colonial era and has very little formal connection to local Māori.

- Singapore Botanic Garden's wellness gardens and ethnobotany centre: I visited these these gardens on a trip in 2019. The new ethnobotany centre, that has been opened since 2018, complements the wellness gardens. This is the most sophisticated approach to ethnobotany that I had been able to find. The wellness garden is laid out with Malaysian plants which are grouped according to the treatments that they give effect to. This collection system has been influential in my design of the māra rongoā at Pourewa. The design of interpretive boards and Indigenous art works made an intriguing combination. This aspect caused me to consider the combination of Indigenous art, plants and insightful interpretation in my design. Significant lengths had been taken to authenticate their interpretation by natives of Malaya. Ref, Centre for Ethnobotany, Singapore Botanic Gardens: How Plants Shaped our World. https://www.littledayout.com/2018/07/01/centre-for-ethnobotany-singapore-botanic-gardens-how-plants-have-shaped-our-world/

- Western Arctic Research Centre Ethnobotany Garden, Canada: This garden highlights the plants of the Mackenzie Delta and their traditional uses by the indigenous people. The growing season here at this northern outpost of Canada is only two months. The connection between the two native groups in the area being Gwich'in and the Inuvialuit and the native plants have used use has been collected in two volumes of sketches and descriptions. These volumes followed extensive consultation with the Indigenous people. Ref, Ethnobotany Garden/Aurora Institute (February 2020).

Figure 11. *Singapore Botanic Garden Ethnobotany Centre: Small*

Figure 12. *Otari Wilton's Bush: Small*

Figure 13 *Te Parapara Garden: Small*

Figure 14 *The ornate designs of Oaxaca. Photo: Spurrier*

Kaupapa Māori Rangahau

The Māori World view represents an epistemology that aids in differentiating the approach of Māori researchers from western models by using a unique Māori approach (Bishop and Smith, 1999). The view of Powick (2003) was that Kaupapa Māori Rangahau aims to encourage the revitalization of te reo. Through my research, I believe that it can also revitalize tikanga, traditional mahi toi and be a place where mātauranga can have a space to be revitalised too.

The overall design methodology is Research by Design. The research into the different aspects of the project deeply informed my work both on design and the practical operational issues that arose as a result of it. The methodology has been described as a highly relevant design practice, because it ensures that the design parameters are managed so that they take into account the practical application of the design (Findell et al 2008).

An interesting related methodology is the concept of He Awa Whiria developed by Angus Macfarlane (2015) in which he proposes a braided approach to research for Indigenous people where the western scientific methodology and the unique Indigenous world view can co-exist and become blended to provide an enhanced result. In this new concept we are able to show cultural regard to a Māori world view while applying the learnings of the scientific western world.

This kaupapa was developed as a response to a need for Māori stories, culture and life to be told through the perspective of a Māori world view. Kaupapa Māori Rangahau was conceived as a strategy to resist western research findings and methodologies and instead base research that is conceived by Māori, conducted by Māori for the benefit of Māori. A natural conclusion that has been drawn regarding this methodology is that it can enhance the mana motuhake (self-determination) of Māori (Walker, Eketone, Gibbs, 2006).

The methodology emerged from a number of influences. There was a greater emphasis in Aotearoa, over time, on the Treaty of Waitangi (Te Tiriti), a world-wide movement for self-determination of Indigenous people, and finally the recovery of te reo and tikanga (Māori language and culture) through Kōhanga Reo, Kura Kaupapa, and the emergence of Māori health models such as Whare Tapa Wha (Durie, 1994). This education and knowledge caused more Māori to create their own process of research (Jahnke and Taiapa, 2003; Powick, 2003). Many Māori were disenchanted by their experiences of being researched by non-Māori and their methods (Barnes, 2000; Powick,2003).

From my own experiences in reading older texts, authors such as Elsden Best, for example, in his 1925 publication Māori Agriculture presents some very Europeanized comments that apparently held sway at the time. Today many would make us cringe. From this text it can be seen that there was little understanding of te ao Māori and an adherence to colonial hegemonies. Māori knowledge was not seen as legitimate and there was an exploitive nature to much of the research (McNicholas and Barrett, 2002; Teariki and Spoonley, 1992).

A further aspect that Kaupapa Māori Rangahau is noted for is its emancipatory empowering for Māori. It had the impact of questioning westernized hegemonies (Smith, L.1999).

In a keynote address to the “Cutting-Edge Conference” in October 2008, Moana Jackson put the Māori world view adroitly in his address, Once were gardeners in debunking the much-vaunted world view of Māori as a warrior race of man-eating savages. He asserted that the world view portrayed through the film “Once were warriors” that reflected this view, would have been more easily expressed as it applies to Māori people as a race as, once were gardeners, or poets. He was describing his view of Kaupapa Māori Rangahau and how it varied in its perceptions of Māori as a race of people globally from a Māori world view (Moana Jackson,2010).

From a Māori point of view the key concepts that differ in terms of gardening and a relationship with the earth or Papatūānuku are that all things have a spirit or mauri and that all things are interconnected so that everything has a whakapapa. (Hutchings, 2015), (Hutchings, Smith, 2020).

The main principle of the methodology is tino rangatiratanga (sovereignty, governance, autonomy and independence). Important Māori concepts need to be applied to this model and those values/ mātāpono that the iwi of Aotearoa hold dear. In my case the values of Ngāti Whātua Ōrākei are guiding principles for my design outcomes. These values are articulated in their annual reports, and various strategic plans including their Long-Term Strategic Plan (2018).

They are:

- Rangatiratanga
- Manaakitanga
- Mana Taurite
- Kotahitanga
- Kaitiakitanga
- Whanaungatanga
- Ahi Kā
- Wairuatanga.

The challenge for me as a researcher is to be patient in taking their guidance and knowledge. I am in a privileged position in this research which connects deeply to my Māori roots and the acceptance of Ōrākei in doing this mahi with them.

Finally this methodology requires of the researcher competence and awarenes, knowledge and understanding

of the meaning of mātauranga and respecting it as well as the associated protocols and systems. There is an issue of acceptance and cultural safety in this project. Mātauranga in Māori terms is a complex concept. It is a different concept to a traditional English concept of Knowledge because it is accompanied by a range of concepts that have been held by Māori through the centuries to prevent distortion of knowledge, particularly in an unwritten language.

In te ao Māori everything has a whakapapa. Mere Roberts (2013) describes the whakapapa of the kūmara and its descent from Rangi and Papa down through Rongo-maui and Pani. Similar linear relationships are referred to in the same text for pohutukawa. *In essence the important points to understand. Māori Knowledge with respect to the origin and relationships of things such as Kūmara is visualized as a network of time-space coordinates arranged upon a genealogical framework called whakapapa. The past (personified as ancestors) is still present and continues to impact on events today; so, each planting and harvest of the kūmara is a reenactment of circumstances surrounding its origins. (Roberts, 2013, p94).*

7.2 Methods

The methods included a literature review, research through questionnaires and individual interviews. The process of acceptance of the accumulated views of Ōrākei members, the Taumata, the Trust Board, Whai Maia and the Reserves Management Board has been fundamental in gaining trust of the Ōrākei people and the various governance bodies. It also aided in gaining access to the appropriate knowledge holders to work with me on the appropriateness of design, plant selection and story-telling settings. The design phase has been critical in gaining direction for the design process and recruiting the various knowledge groups to assist in the co-design process.

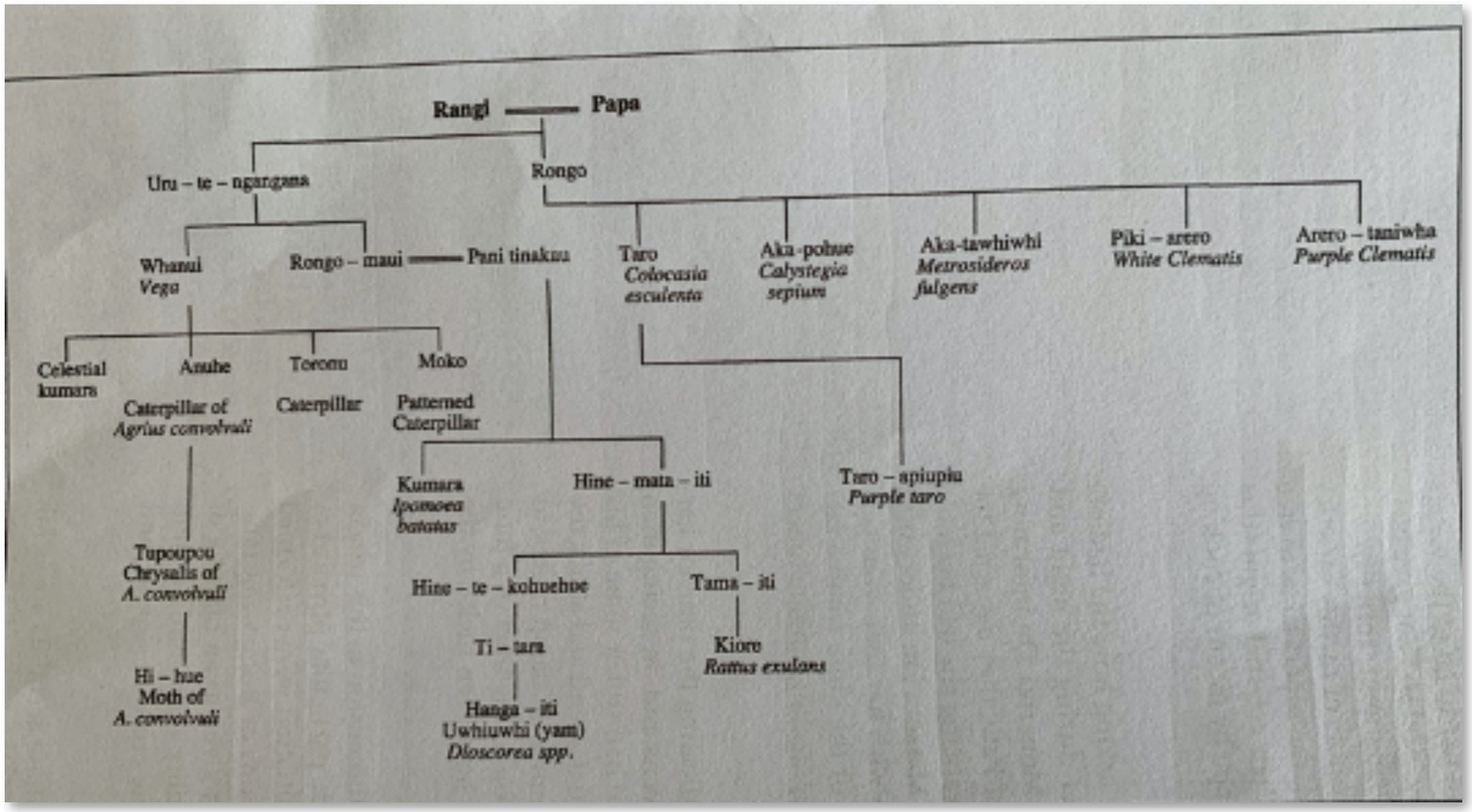


Figure 15 *Whakapapa of Rongo: Diagram by Mere Roberts*

The use of wānanga to test concepts with the hapū was necessary but many wānanga were unable to be held in the traditional way. They are occurring as the specific details of the art and detailed plant selection is being defined at present. The real engagement became possible as we came out of Covid lock-down and the broad designs were made available for refinement.
In order to facilitate this interest and engagement I prepared a number of show-boards with the designs on them and distributed them around the key public places where the Ōrākei people visit for administration purposes. This included the Whare Ora Offices, the Pourewa Community hub and the Nursery Buildings. Fortunately, the general idea has already been tested through the Ōrākei Future Vision document.

In carrying out these tasks the adherence to the ethics standards of Unitec was important as well as to the protocols that are implicit in the tikanga of the hapū.

8. Literature Review

8.1 Traditional Māori Gardening Practice

The cultivation of gardens in Tāmaki Makarau observed around the 1700s was one of fertile and extremely productive lands. These were the domains of the Waihua people and the Ngāti Whātua hapu of Te Tāōū, Ngāoho and Te Uringutu (Ngāti Whātua Ōrākei whakapapa), following their routing of Waiohua around 1750 (Kawharu, 1975: Rāwiri, 2017). While some gardens were delineated by trenches, those in Tāmaki were characterised by stone walls. These gardens were associated with villages but a little distance away from them in some cases. They were arranged in a radiating pattern around these volcanic cones with some delineated by rock walls radiating up to a kilometre away from the cone top and 35 to 80 metres wide.

The volcanic cones are scattered across the landscape of approximately 150 square kilometres. So rocks were a defining feature of these gardens in Tāmaki specifically because this was a volcanic landscape and they were readily to hand (Bulmer, 1995). From 1769 the traditions of Māori and European gardening came together and gradually the western vegetables brought by European discoverers and settlers merged into the kite kai (the food basket) of the Māori (Bulmer, 1995).

8.2 The History of traditional gardens of Aotearoa

The history of the traditional gardens of Aotearoa both in the pre-colonial times and the post-colonial times needed to be understood in order to appreciate the gardens that were being designed. The early Polynesian arrivals were facing an unfamiliar world. They brought with them plant material that they hoped could sustain themselves in the new world. In this uncertain world they developed rituals to attempt to guarantee success in the provision of these original foods. They brought kūmara, yams, taro, hue and aute (paper bark).

The paper bark was of course replaced by harakeke which proved a much more available and pliable material. Aute also was limited to the warmer areas of Aotearoa.

The key research into the various types of gardens and gardening by Māori, both in pre-colonial Aotearoa and in contemporary times involved research into early European explorers' views and accounts by observations of the Māori settlements throughout their voyages around Aotearoa (Best, 1925). Cook's voyages are mentioned by Best. They were observed as being very neat and accomplished gardeners with the main crops at that time being kūmara (Ipomea batatas), yams or uwhi (Dioscerea sp.) taro (Calocasia esculenta) and hue, or gourd (Lagenaria siceraria) (Bulmer, 1995).

The key differentiation between a western world scientific vegetable garden and a Māori no less scientific garden, is to be found in the tikanga, kawa and in particular the mātauranga of the Māori people. The Māori believe in two key elements. The first that everything has a genealogy or whakapapa (Roberts 2013). The second is that all things have a mauri. Jessica Hutchings and Jo Smith refer to this mauri as *"a life essence, energy and vibration of soils, for instance, that is tangible when you take a handful of soils and appreciate the complexity of it as a life-supporting system"* (Hutchings & Smith, 2020).

They talk about soil as being *"linked fundamentally to whakapapa, tūpuna, (ancestors), rangatiratanga, (sovereignty) and hauora (health or wellbeing)".* Their kaupapa (agenda) around this proposition is to posit the question of *"how as Māori can we develop the resilience to offset the negative impacts of industrialised agriculture, climate change, globalisation and increased drift away from the marae to urban conurbations."* The deepening understanding of the soil and the health that comes from a biodynamic approach to soil and vegetable cultivation is like a return to the superb gardening practices of our tūpuna. The founding philosophy of Te Waka Kai Ora (The Māori Organics Authority) which was developed through a 3-year Kaupapa Māori research project is about a philosophy of hua parakore. There are six basic kaupapa to this philosophy: whakapapa, wairua, mana, māramatanga, te ao tūroa and mauri. Hutchings (2015) p23-25, (Te Waka Kai Ora 2010). These elements are in stark contrast to the current scientific approach to horticulture which employs artificial fertilisers and pest control methods. Pure western soil science does not attribute a spiritual element to the soil itself or the soil micro and macro-organisms. Much of these western concepts are eschewed in a hua parakore ideology which rely on nourishing the soil organisms and natural processes in bio-dynamic or organic approaches. This approach is driven by the absolute reliance that their tūpuna had on the success of their crops in the absence of options other than fern and cabbage tree roots.

This commitment to hua parakore by Ōrākei means that only bio-dynamic methodologies are acceptable. This

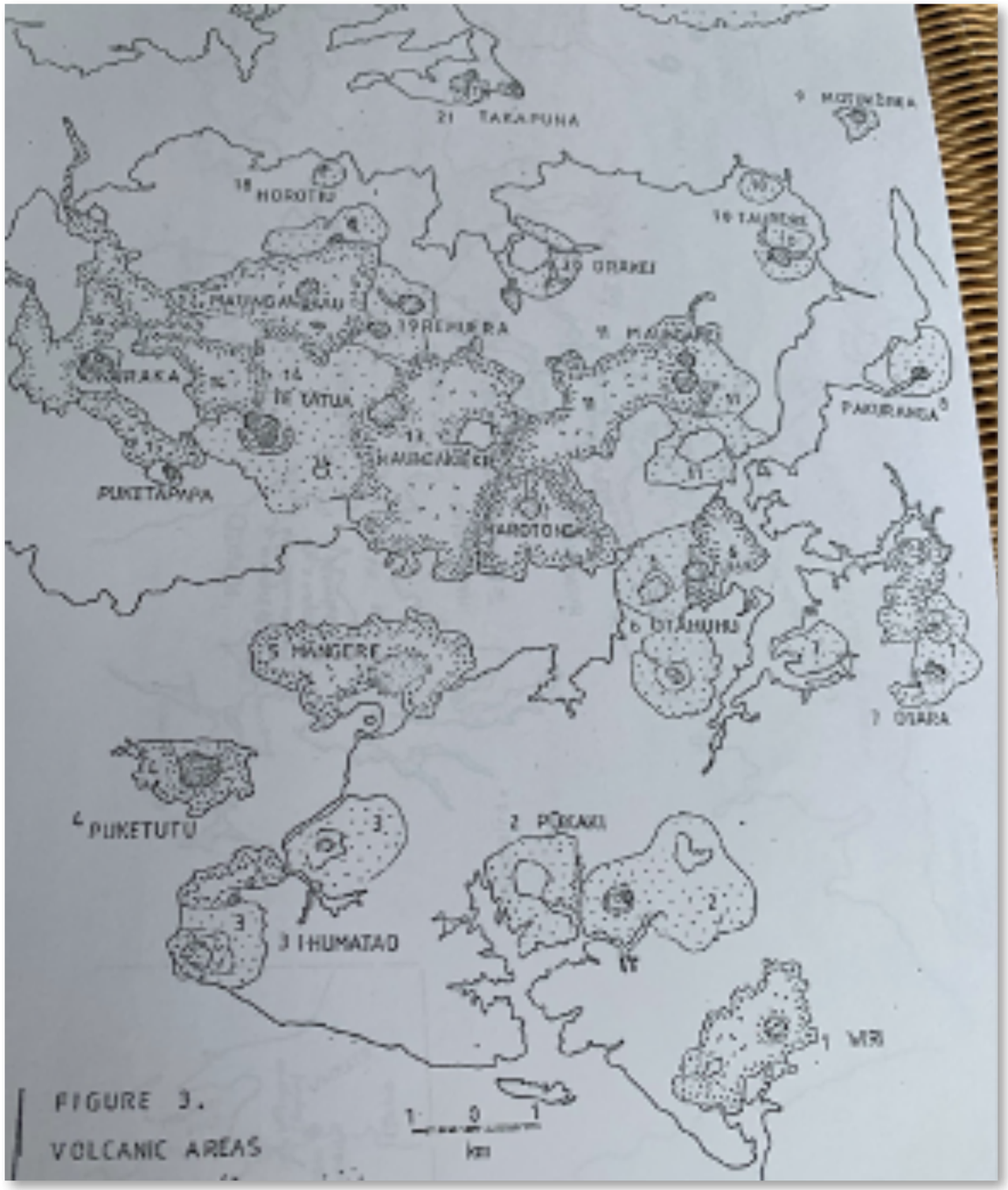


Figure 16 *Volcanic cones of Tāmaki: Agnes Sullivan*

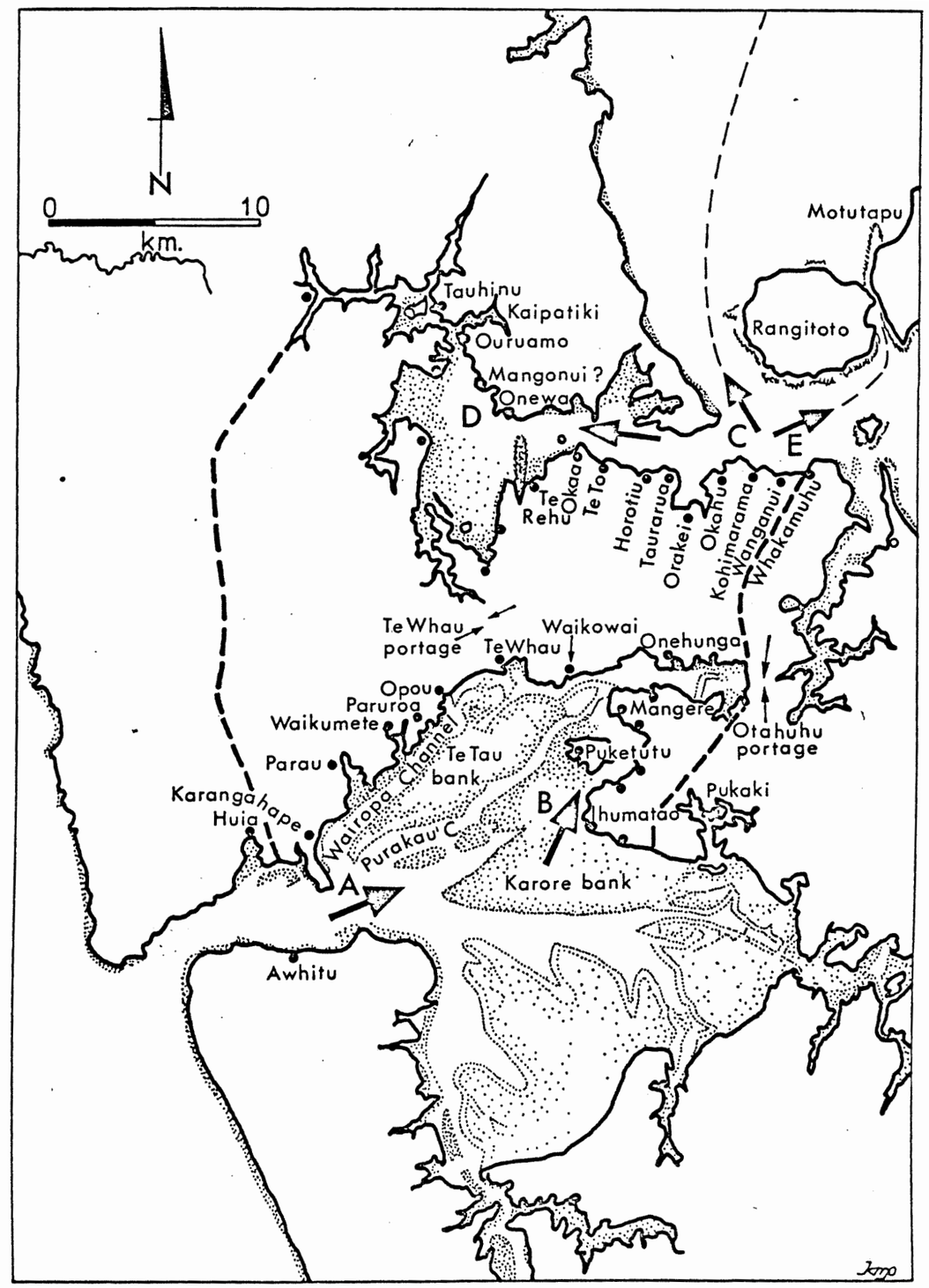


Figure 17 *Later 18th Century Localities of Te Tāou: Agnes Sullivan*

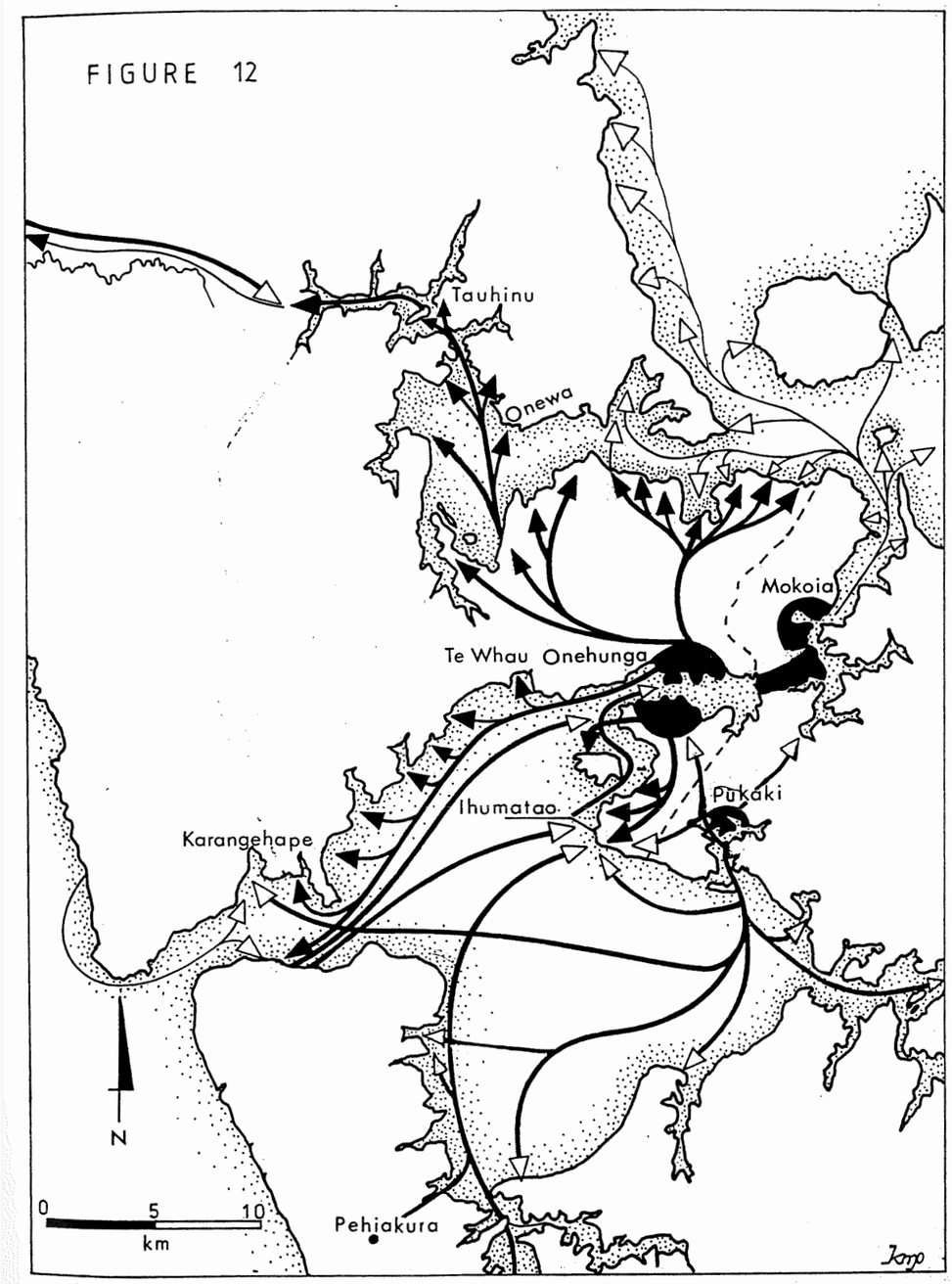


Figure 18 *Fisheries movements early 19th Century: Agnes Sullivan*

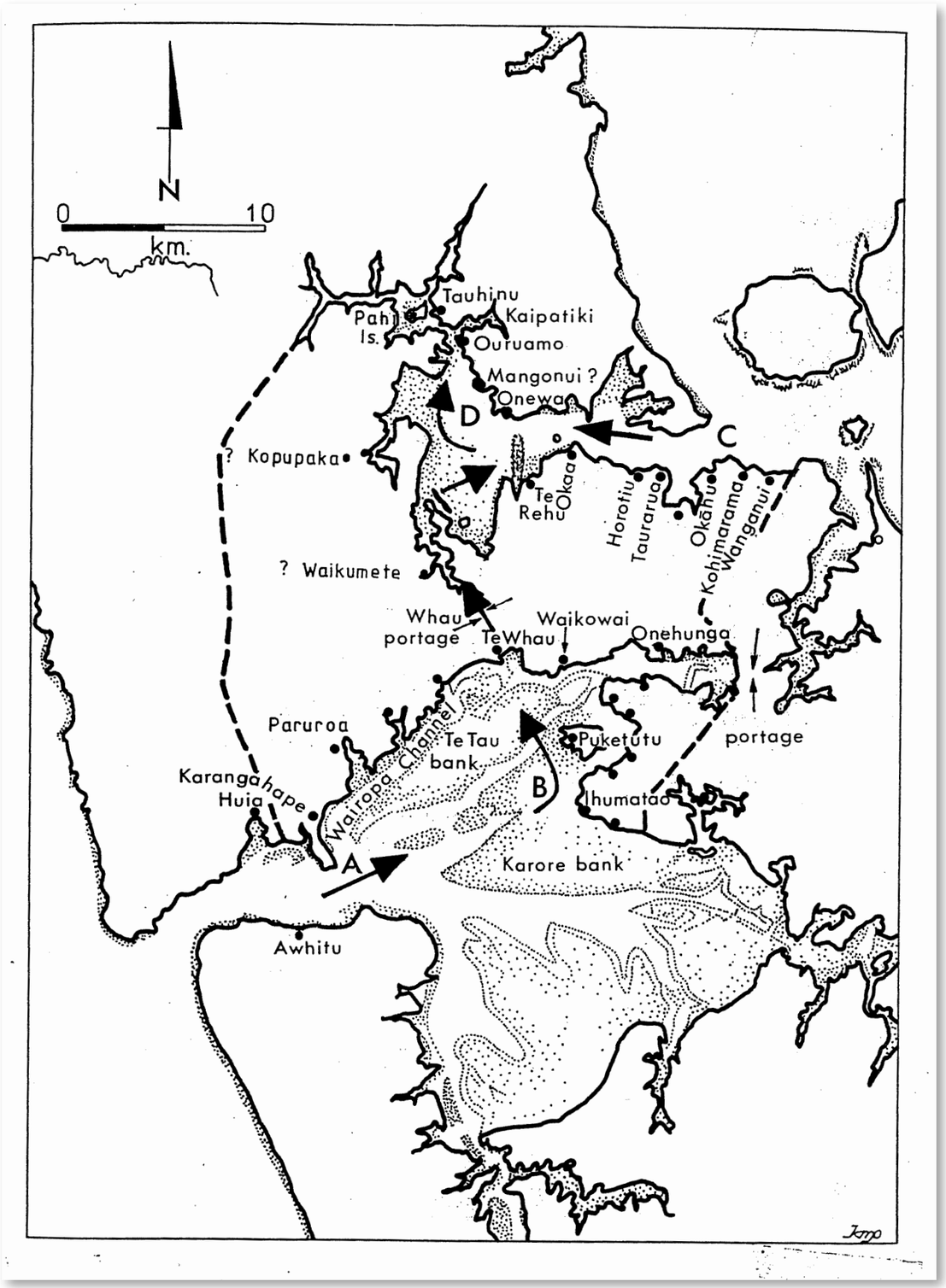


Figure 19 *Successive fishing stations of Te Tāōū A-D Late 18th Century: Agnes Sullivan*

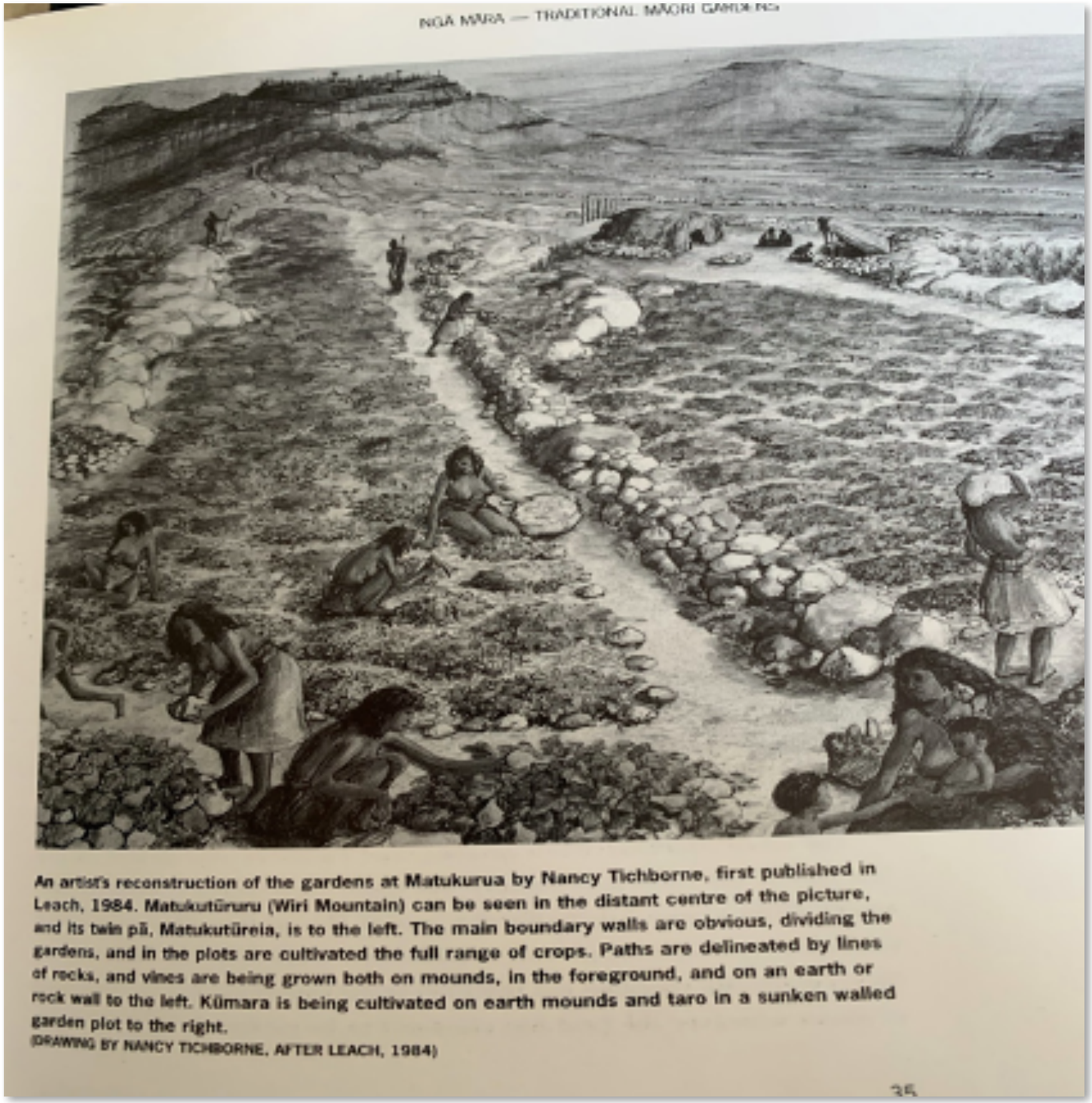


Figure 20 *Traditional pre-colonial māra kai showing rock piles delineating different gardens: Drawing by Nancy Tichbourne*

particular principle has become a specific focus of my design, to enhance an approach and an understanding to the design, that reflects Ōrākei mātāpono.

A critical aspect in this research about the māra kai is the concept of Māori food sovereignty. According to Hutchings *"It is encapsulated in the seeds and ancestral memories they hold in the co-operative practices of working with nature to produce food. It is about eating from the landscapes that we came from. It is about returning to our soils and beginning to know our soils and the life that grows from her once more",* (Hutchings 2015). Nick Roskruge (2020) wrote *"whenua is also the repository whakapapa, our identity and the association that link to the spiritual realm to which we owe our origin and that support our living years. There is no doubt given these commentaries that the soil in which we raise these māra kai is critical to our success in gardening and to which we owe the traditional reverence that emanates from our atuas and our tūpuna."* Roskruge commented that *"ethnopedology is considered to be a hybrid of natural and social sciences and encompasses all soil and land knowledge systems and populations from the most traditional to modern ones, including the soil-plant relationships"* (Roskruge in Warkentin, 2006).

Finally, on the subject of gardening in general but also in many day-to-day activities of early Māori in Aotearoa they were profoundly influenced by their observations of the world around them. In particular they set the seasons and their calendar by the celestial bodies. Matariki, the rising of the star cluster known to the Roman world as Pleiades into the skies signified the beginning of their year; Matariki (Matamua 2017). The lunar phases and the kāinga (houses) related to particular nights when the moon was at its next phase of waxing or waning were a large part of their observations

and led to a maramataka guide as to when to conduct different cultural practices (Matamua, 2017). For our purposes we should call them observations of repetitive behaviours coupled with other signs (tohu) that they observed in nature, either on the land the sea or the sky. They referred to these signals as tohu such as the flowering of certain plants, the patterns of nature and used them as harbingers (King, Skipper, Tawhai, 2008; Matamua, 2017).

The interpretation of phases of the moon and other tohu (signs) vary between iwi because different areas exhibit different tohu but the rituals that accompanied the different cultural operations strictly followed deeply seated tikanga and kawa of different iwi. Different levels of tapu applied to the cultural practices and the karakia that praised the different deities and asked for guidance were critical in the processes that ensured successful crops, and were characterised by strict processes and protocols. These practices were deeply seated in their cultural beliefs and as evidenced by Best, (1924) and were followed to the letter. This particular aspect influenced my design decision to create a maramataka compass as the central element to the māra kai. The compass creates an authenticity to cultural practices and the opportunity for pūrākau, one of the central concepts of my design. It acts as a space to lead Ōrākei back to their traditional tikanga.

My research on the practice of rongoā as it applies to the use of our native plants was informed by a major paper by the Ministry of Health (2008) titled “The Future of Rongoā: Māori wellbeing and sustainability”. The report highlighted the difficulties in accessing rongoā ngāhere, the difficulties of having to meet the evidence base required by western science and the hegemonies of the colonial based medical world. This is in spite of the 700 years or more of trial and error and successful use of rongoā ngāhere by Māori in Aotearoa. This has been against a background of rising demand for rongoā healing services (MOH 2008). Also reported in this paper were concerns regarding the loss of mātauranga Māori as healers pass away.

My conclusion from this study was that a garden that contained these rongoā ngāhere needed to be organised in a way that facilitated learning, efficient gathering and assisted rongoā practitioners in their treatments and research. This reflection has influenced my approach to the design of the garden.

In understanding the different plants from our ngāhere that should constitute this garden , the input hapū members has been sought and is now being used to refine my plant selections. The plants used in traditional rongoā were contained in detail in several sources. There are over 200 plants that are associated with rongoā ngāhere (Riley, 1994). 106 of these are listed as being effective in medicinal remedies along with their area of treatment in a matrix by Campbell (2011). Similarly, Williams (1996) has published a handbook with over 40 plants commonly used in Taitokerau.

9. A brief history of Ngāti Whātua Ōrākei

Ngāti Whātua descend from the chief Tumutumuwhenua who arrived in the far north of Aotearoa on the waka Māhūhū-ki-te-Rangi. They were early arrivers preceding the so called “great migration” (Kawharu, 1964)

They initially occupied the area around Kaitaia, where they mixed with the Muriwhenua, and then eventually settled on the northern and southern shores of the Kaipara. It was approximately 1750 when they attacked the Waiohua Iwi who occupied most of the Tāmaki Makaurau Isthmus in reprisal for attacks on the Ngāti Whātua Iwi around the Kaipara. The war parties were led by Chief Tūperiri and others. The Waiohua people were routed and their chief Kiwi Tāmaki was slain. Ngāti Whātua took up occupation and established Ahi Kā over most of Tāmaki Makaurau at that time. The Ngāti Whātua Ōrākei Iwi or hapū was a grouping of 3 hapū, being Te Tāōū, Ngāoho and Te Uringutu.

In 1840 Chief Apihai Te Kawau and 3 other Ngāti Whātua chiefs signed Te Tiriti o Waitangi on the shores of the Manukau Harbour. Chief Apihai Te Kawau and others immediately set about encouraging Governor Hobson to establish his Capital and administration for this nation in Tāmaki Makaurau. Following a generous gift by Te Kawau to make 3,000 acres of Ngāti Whātua land available for the establishment of the capital city Hobson moved from Kororāreka to a new capital city which he named Auckland. The lands were quickly settled by colonists at significant profits to the Government, and the city was duly established as the capital for a few years before moving finally to Wellington. Once the land base became populated the Crown and the Auckland Council sought further land for settlement. Ngāti Whātua reserved for itself the 600 acres known as the Ōrākei block.

Little by little the lands which Ngāti Whātua Ōrākei had reserved for itself became occupied in one way or another by the new settlers. This is a time when the Ōrākei people saw the gradual dispossession of their lands, in spite of the land being declared inalienable by the Native Land Court in 1869. By 1950 they had all of their lands ripped from their ownership.

The sacking of their village and Whare Tūpuna on the shores of Okahu Bay was a sad time in their history. They were landless and completely stripped of their mana.

These proud people continued to make representations to the Crown and the Council for their return of their lands and the injustices of this illegal removal of their lands and dignity.

- This involved eight actions through the Māori Land Court
- Four actions in the Supreme Court
- Two actions in the Court of Appeal
- Two in the Compensation Court
- Two appearances before Commissions and Committees of Enquiry
- Fifteen Parliamentary Commissions

The resolution was achieved in 2012 when the Waitangi Tribunal under WAI 338 settled their grievances over these dispossessions, recommending a financial settlement and the return of the areas of land including the Okahu Bay reserve, the Whenua Rangatira on the hill above the bay and the Pourewa Recreation Reserve. These lands had all been classified as Reserves under the Reserves Management Act 1977. Hence the Waitangi Tribunal in its findings declared that the lands should be managed as Reserves under the Act and that the lands would be managed by a Reserves Board which should

Figure 21 *Ngāti Whātua Rohe. Plan: Ōrākei Iwi Management Plan 2018*

comprise three members each of the Auckland Council, and from the Trust Board, with one of the Ōrākei Trust appointees to be the Chair. The return of the Pourewa Reserve did not occur until 2018 when a forty-year lease to the St Heliers Bay Pony club expired. The return of the land was well received and a future vision document for the lands both at Pourewa and the other lands returned to Ōrākei was produced and adopted by Whai Maia Board, the Ōrākei Trust Board, and the Reserves Management Board. This vision directs the gardens development as well as key documents such as the Iwi Management Plan and the Ngāti Whātua Ōrākei 5-year Plan.

Figure 22 *Papakāinga at Okahu Bay 1940. Photo by GeoMaps, Auckland City*

Figure 23 *Okahu Bay 1955. Photo by Geomaps,. Auckland City*

10. Ngāti Whātua whenua and moana in Tāmaki

In order to understand a Ngāti Whātua Ōrākei perspective it is necessary to appreciate their history. In this regard I have had discussions with knowledgeable people from the hapū over time and experienced the displays relating to the dispossessions of the Orākei block prepared by Sharon Hawke, daughter of Joe Hawke who of course was one of the prominent figures of the protest at Bastion Point. This display has been presented regularly at the Waitangi Day celebrations by Ōrākei at Okahu Bay.

Sir Hugh Kawharu, an eminent scholar and member of Ngāti Whātua Ōrākei presented a historical account of the history of Ōrākei since the arrival of Tumutumuwhenua on Mahūhū ki te Rangi in the far north to their present-day occupation of what is now known as Te Whenua Rangatira (Kawharu 1975). His story of the tribe's successive dispossessions relating to the Ōrākei block caused Lord Ballantrae in Jan 1974, in his introduction to Sir Hugh Kawharu's book, to say succinctly," with its 125-year association with the pākehā …. stripped of dignity and self-respect". Ballantrae refers to the eventual burning of the remaining papakāinga at Okahu Bay including their whare tūpuna. This factor is well documented in various references and upheld by the Waitangi Tribunal in its determination of the WAI 388 claim. Rāwiri Taonui's description of the events is in Te Ara Encyclopedia of New Zealand (2017). This history indicates how important this land is, recognising that it had been alienated from the people Ōrākei as part of the Ōrākei block dispossessions through the early 20th century. Also relevant is the writing of Salisbury (2012). Ngāti Whātua Ōrākei documents that relate to their ambitions for the land at Pourewa and their annual and longer-term plans are also relevant. These documents include their Iwi Management Plan (2018) the Trust's 5 Year Plan (2019) and the Future Vision Ōrākei document (White 2018).

The cultivation of gardens in Tāmaki Makaurau observed around the 1700s was one of fertile and extremely productive lands. These were the domains of the Waiohua people and the Ngāti Whatua hapū of Te Tāōū, Ngāoho, and Te Uringutu (Ngāti Whātua Ōrākei whakapapa), following their routing of Waiohua around 1750 (Kawharu, 1975; Rāwiri, 2017). While some gardens were delineated by trenches those in Tāmaki were characterised by stone walls. These gardens were associated with villages but a little distance away from them in some cases. They were arranged in a radiating pattern around these volcanic cones with some delineated by rock walls radiating up to a kilometre away from the cone top and 35 to 80 metres wide.

Figure 24 *Bastion Point occupation: The police move in but the momentum is changing in favour of Ngāti Whātua Ōrākei*

11. The site

The lands that are now under the specific control of Ōrākei are the existing location on the headland behind the Michael Joseph Savage Memorial and extend up to the marae on the land currently known as Takaparawhau, along with the flat area including Ōkāhu Bay and the reserve across the road known as the Ōkāhu Bay Reserve. It also includes the reserve land that was until recently occupied by the Remuera Pony club, Pourewa (Refer to figures 25 and 26). These landownerships were settled in 2012 as part of Ngāti Whātua Ōrākei's Treaty claim before the Waitangi Tribunal (WAI 388). That decision created the Ōrākei Reserves Board as a governing instrument to satisfy conditions in the Reserves Act 1977.

There were already plans to relocate a native plant production nursery to this land from its current site at the marae. The nursey construction is complete and operating and in my role as a board member of Whai Maia I have provided guidance and advice on this development. The key function of the nursery is to facilitate the revegetation ambitions on the lands both at Takaparawhau and Pourewa. However, there is an ambition of Whai Maia to establish a centre on this land that will establish their kaitiakitanga for the hapū and the iwi over the native plant germplasm of Tāmaki Makaurau. To that end a seed bank is proposed in the nursery complex as well as exploring (through a project with AUT) different methods of revegetation as part of the re-establishing the native vegetation on Pourewa. It is also planned to develop workshops for rongoā preparation and, mahi toi at the community hub, and that research would play an important role in this centre. The land is adjacent to Kepa Bush which is one of the few remaining intact pieces of bush of any size on the Tāmaki

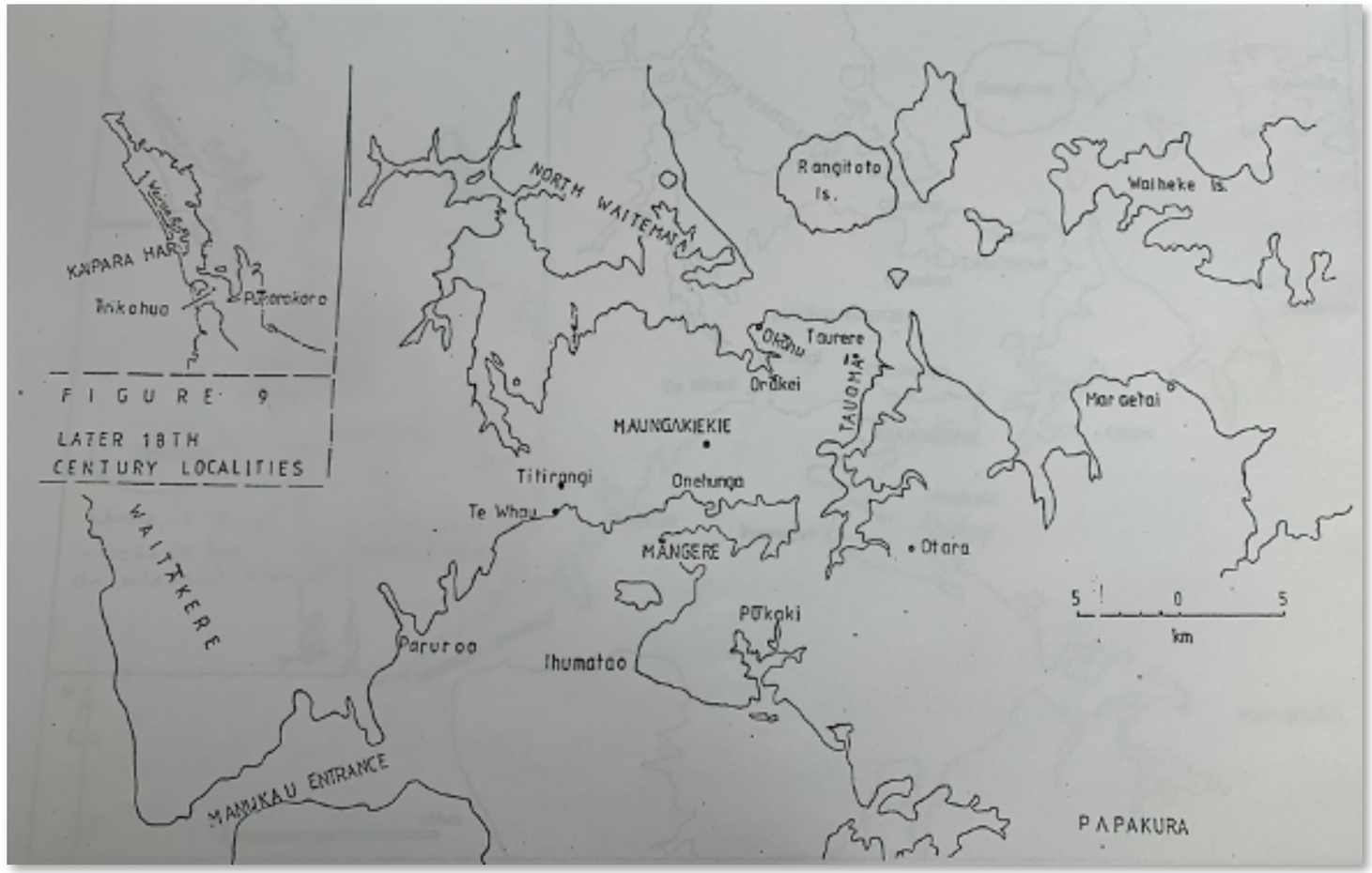


Figure 25 *Ngāti Whātua Occupation later 18th Century. Map: Agnes Sullivan*

isthmus. The chance to collect such genuine original genotypes is an amazing benefit to this wider kaupapa.

As a result, the rongoā and māra are consistent developments in this area. It is the land adjacent to Kepa Road on the ridge above Takaparawhau and the current entrance is adjacent to the intersection of Kupe streets and Kepa Road.

Significant fill was generated with the construction of the standing-out area for the nursery and this at Auckland Council's direction was applied to the site to the west of the existing building on the site at the entrance to the land creating a large flat area.

This area is two hectares in size and will be ideal along with the slopes above it for the māra kai. The rongoā garden is proposed to be placed on the gentle slope above the nursery site providing a convenient site for eco-sourced seed and other propagules in time. The eventual activity zones rely on an analysis of the various user-group flows within the site and the wider area of the Pourewa whenua.

Figure 26 *Showing the location of te Whenua Rangatira (top of slide and the Pourewa Whenua beside Ōrākei basin: Xanthe White Design*

Figure 27 *Pourewa Reserve and Kepa Bush today. Geomaps, Auckland Council*

12. Design thinking

The starting point for the design work is what I learnt from the literature research.

1. The design needs to accommodate an Ōrākei world view.
2. The concept of weaving western and Māori science is appropriate
3. The garden needs to signal the ahi kaa of Ōrākei
4. The guidance of the Ōrākei planning documents
5. A reflection of maramataka and its relevance to Māori
6. Lessons of Singapore wellness gardens re organisation of gardens
7. Art is as important in this design as is functional dimensions
8. Guidance from Ōrākei is critical

Over-all Layout

The key components that should be present were a community māra kai, a māra rongoā, a traditional māra kai (pre-European) and the presence of Ōrākei as ahi kā. The desire was to express manākitanga through a community garden in particular and this should be a place where Ōrākei was open to the world. The overall garden should be attractive and reflect the Mātauranga Māori of Ōrākei. There was a broad indication of where the different māra should be located along with a waharoa that aligned with Kupe Street intersection with Kepa Road to connect the land to Whenua Rangatira.

The principles of sound environmental practices from an Ōrākei perspective, particularly to demonstrate the honouring of Papatūānuku and the respective Māori deities. In particular the adoption of hua parakore that applies to all Ōrākei lands was emphasised.

The land is proposed to include a central community hub which is attached to the atea and also provides for workshop spaces for mahi toi and rongoā.

Finally, the design should facilitate Ōrākei's function as Kaitiaki of Tāmaki. Particular reference in this regard was made to the ngāhere and to that end a seed bank, a relationship to the ngāhere production nursery and the revegetation ambitions for the Ōrākei whenua

These ambitions continue to be expressed in hui by zoom and face to face contact.

The understanding of what the site means to Ngāti Whātua Ōrākei, that is to reoccupy the Pourewa whenua, is also important to shape the design.

Design Exploration

I started with an examination of the components that were key to the design. These are outlined in the sketches. I also examined the convenience to different user groups and the legibility of way-finding to create a cohesive and integrated design. Safe access onto the site off Kepa Road was also a concern that needed resolution.

Site Entry

In designing the basic layout of the spaces, I explored a range of options, accepting that the corner-stone of the development is the waharoa (carved entrance archway) which had to be positioned so that it related to the axis along Kupe Street from the Whenua Rangatira where the marae is located to this land at Pourewa.

Atea

The atea of course relates directly to the waharoa since visitors are traditionally welcomed onto Māori land such as a marae through the waharoa for initial greetings and acknowledgements onto the atea. Following this protocol, in order to break the tapu of visitors who are otherwise considered waewae tapu, the atea needed to be convenient to a building where a drink and some food should be taken. Hence the waharoa, the atea and the community hub have a relationship.

Whai Maia

The slopes to the east of this area is inherently unstable and in order to gain resource consents, where they are needed, as well as avoiding the slippage of this land onto the nursery below, low impact options for development and operation were imperative. After using templates to locate the different sites around the plan of the designated site, a rationale was achieved and agreed with Whai Maia as the ideal layout.

Design Testing Issues

To test the efficiency and effective functioning of the site I analysed how various users would flow within the site. This is shown on the plans (Figures 30-33).

One area that represented a difficulty was the need to access the lower part of Pourewa Reserve and at the same time avoid the conflict between pedestrians and service vehicles accessing the lower Reserve areas. This could be achieved through the current entrance, but since this was being closed, an alternative had to be found.

The second area of concern was where to locate a carpark given that the flat area adjacent to the atea was best suited to the traditional garden or as I have called it, the māra tūpuna.

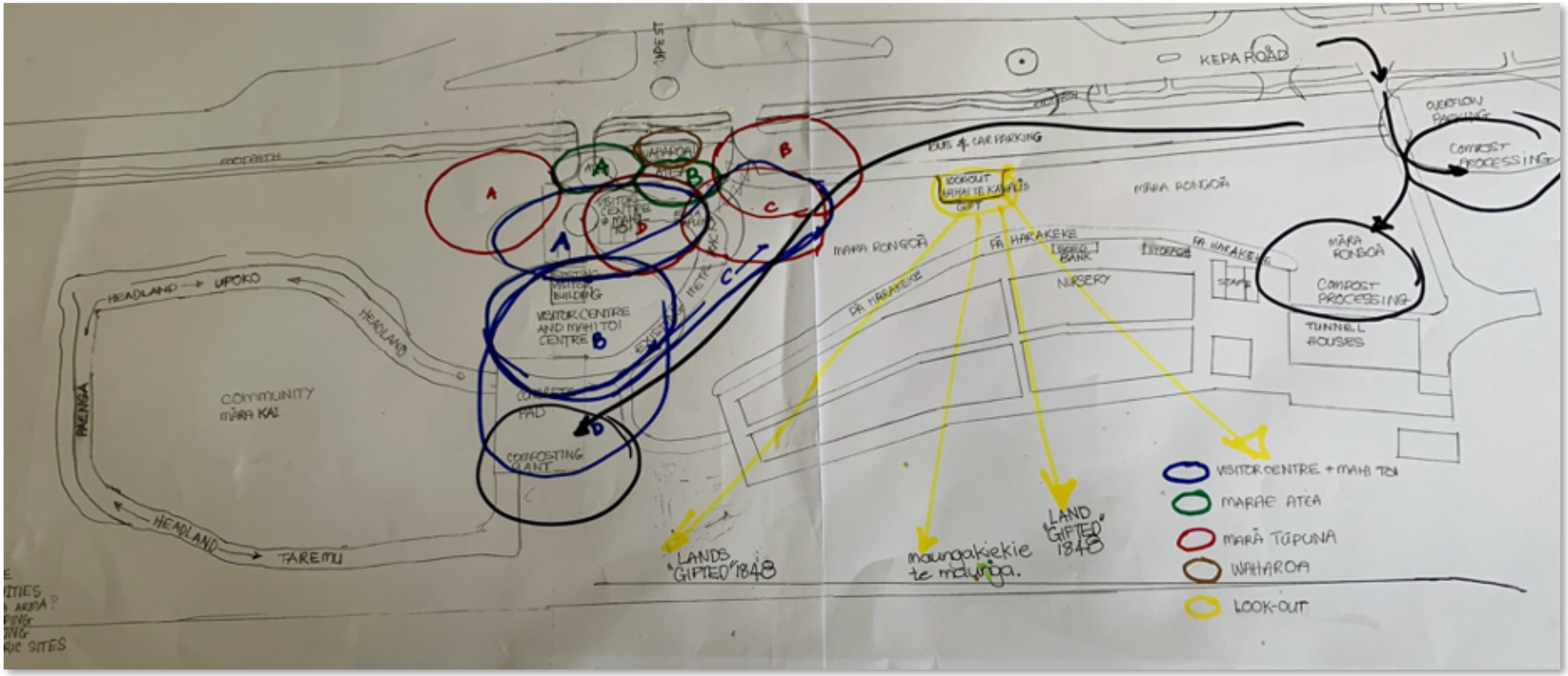


Figure 28 *Space allocation considerations*

Car Park

Resolution to the car park conflict with the land topography in the central upper area of the māra rongoā, was to locate the carparks to the flatter areas at the top of the māra rongoā area to the east and west. This left the space free in the centre of the rongoā garden's boundary with Kepa Road for a lookout. The issue of access to the site for cars and buses was a difficult one and to a certain extent defined where we could place other activities. An initial design to have a large carpark along the upper slopes of the rongoā gardens was hampered by a dip in the contours along the boundary of the property with Kepa Road. The solution was to create two smaller car parks on the more level slopes and propose that buses either use the existing bus-stop on Kepa Road or create a safer bus stop that used part of the road reserve to make debussing and boarding activities safer.

Walkways

The resolution to the design conflict between the largely vehicular and less frequent traffic down the site as opposed to the mainly pedestrian traffic across the upper areas subject to this planning was to access the lower areas via the new nursery area. Alternatively access by using part of the māra rongoā pathways, which in the main are 3 metres wide. Access to be limited ro part of these pathways, and subject to strict paths closure and control. The argument is that such movements could be separated in time or could be strictly traffic and pedestrian controlled since traffic movements to the lower park are likely to be infrequent.

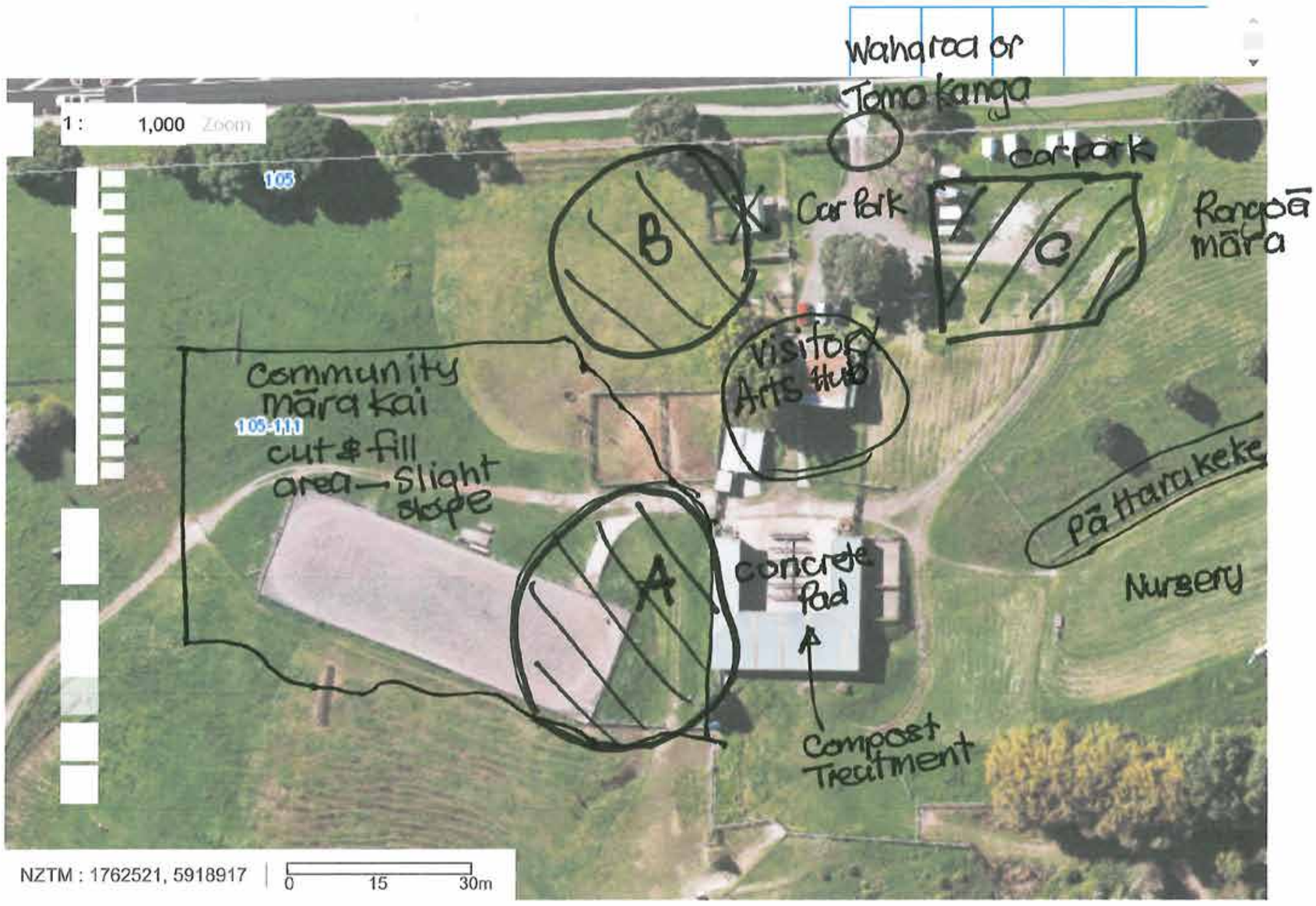


Figure 29 *Māra Tūpuna options*

A, B & C
alternative
traditional
Gardens/māra kai

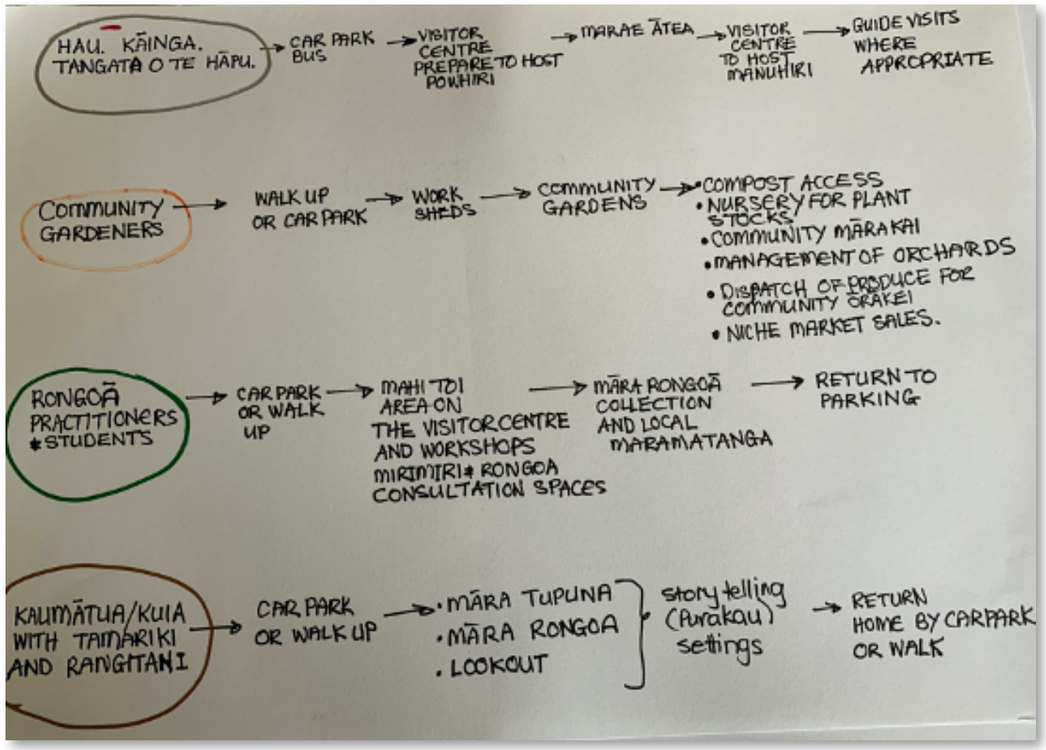


Figure 30 *Considerations of user traffic flows*

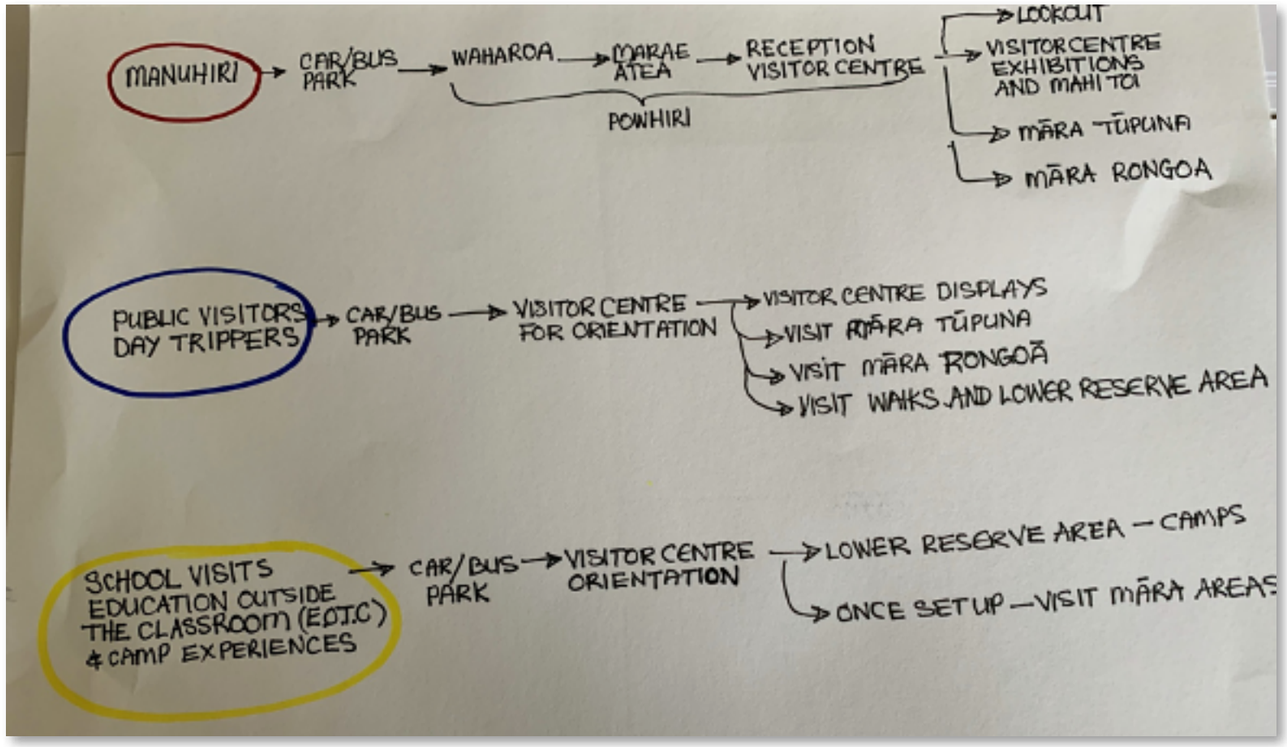


Figure 31 *Consideration of user traffic flows 2*

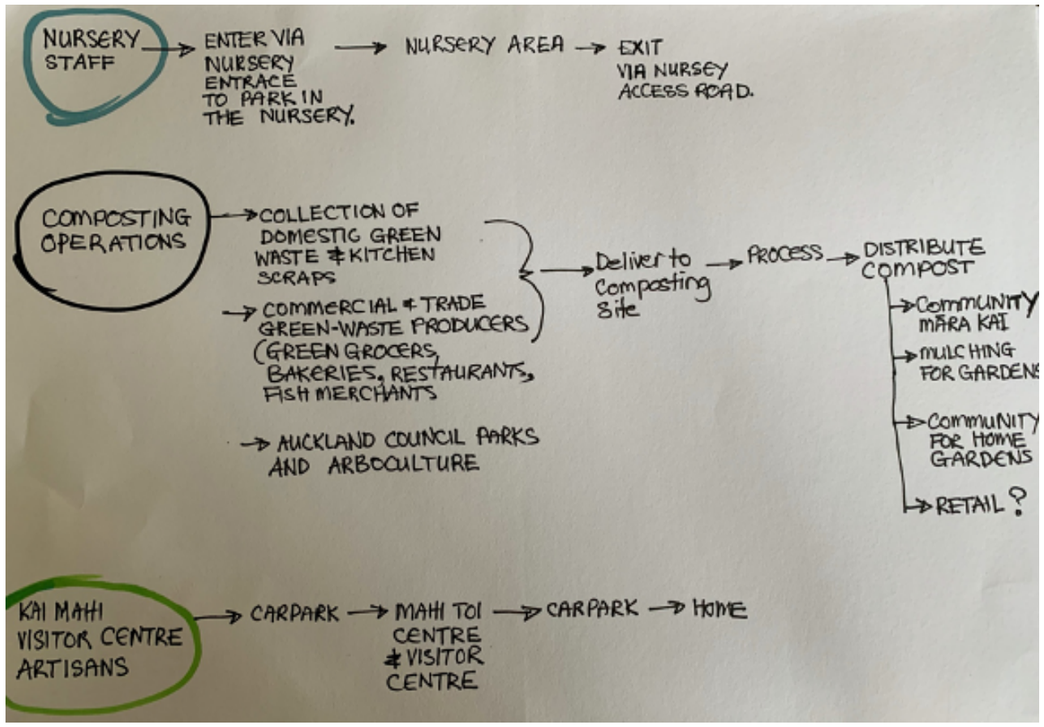


Figure 32 *Consideration of user traffic flows 3*

Figure 33 *Examination of user group flows across the site. R. W. Small*

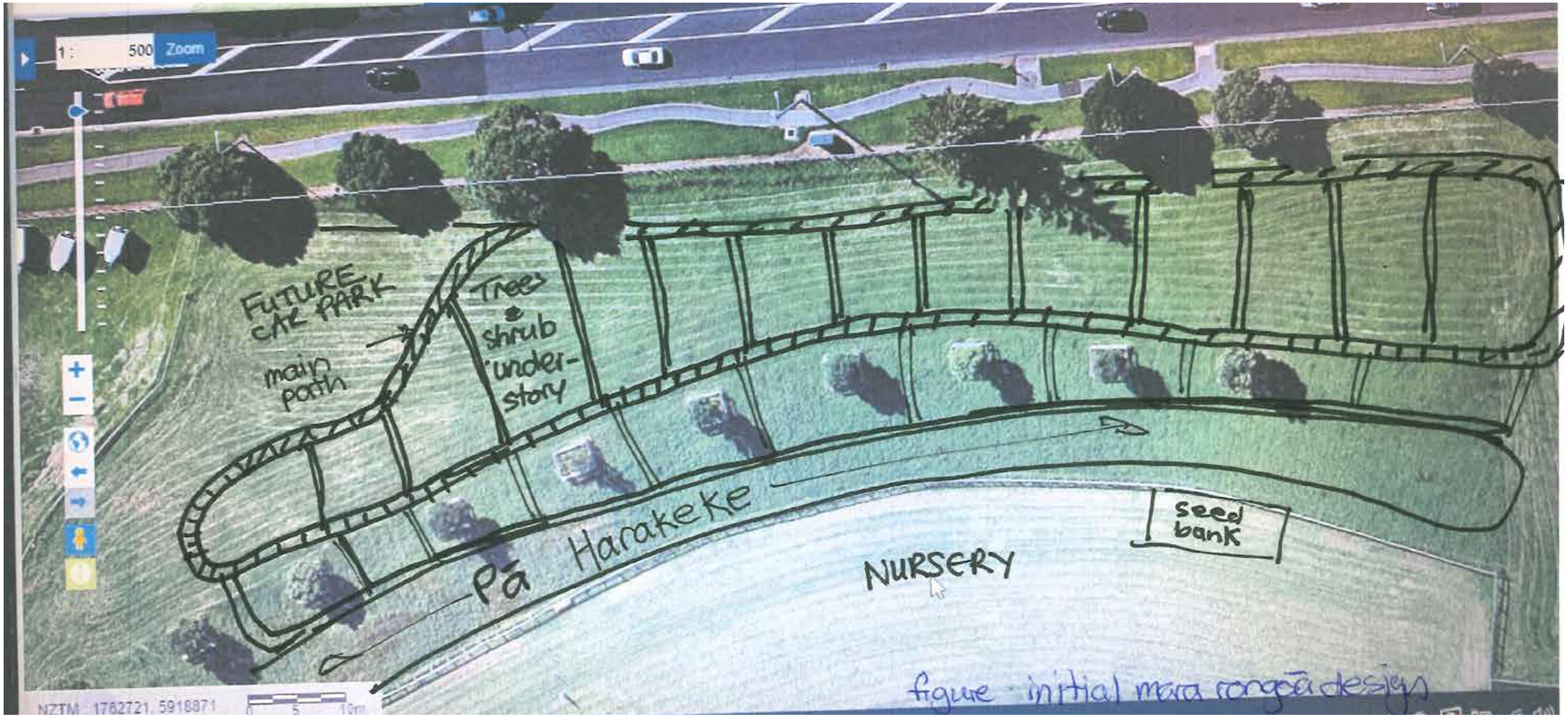


Figure 34 *Initial Māra Rongoā Concept*

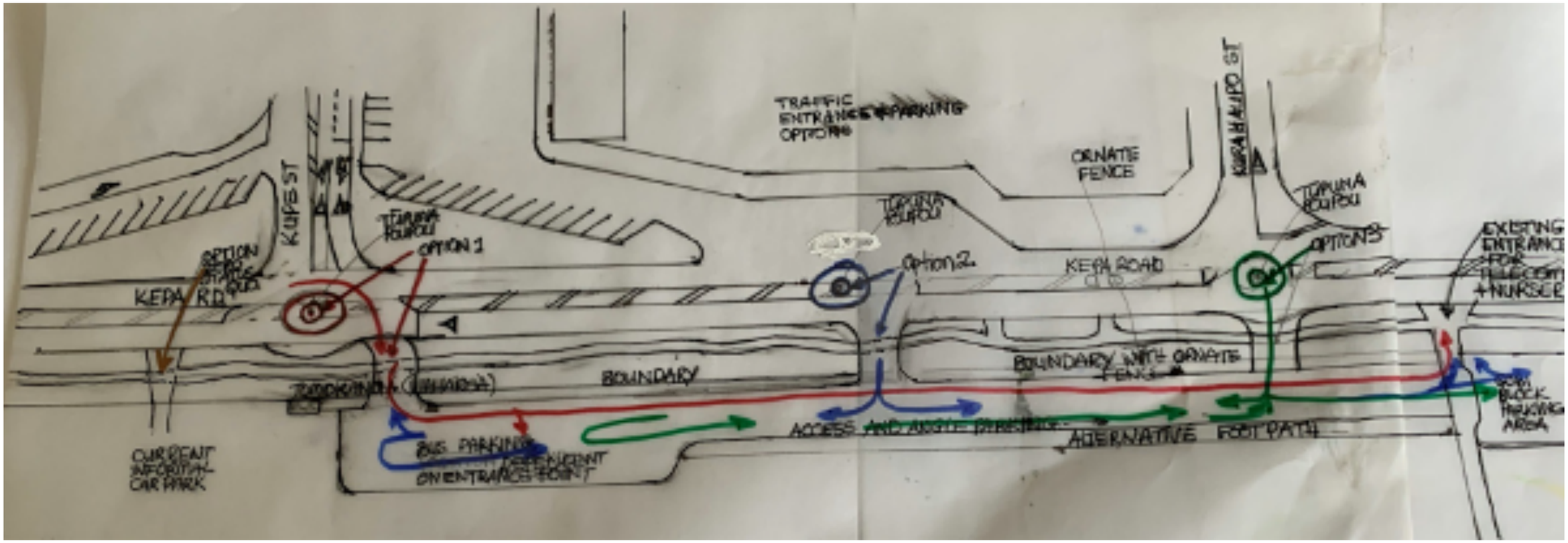


Figure 35 *Initial considerations for traffic management and parking*

Finally, a third option is to create a new access further to the West in negotiation with the Auckland Transport corporation. These discussions are pending at the time of writing this exegesis.

Finally, an examination of cross sections of the site using the contour data for the site and the proposed base plans showed that two issues in particular were critical.

The first was that in order to avoid undue disturbance to the site of the māra rongoā, because of its inherent instability, to build the paths running across the site that the paths would be built up from the down-hill side rather than cutting into the landform.

The second was to abandon a proposal that I had made for paths traversing the more level areas of the site with steps to gain access between the paths and delineate the beds themselves. The solution was to angle the paths across the gentler slopes and avoid the need for steps and to use collections such as the harakeke in the steeper areas.

Lookout

I have called the lookout Chief Apihai Te Kawau's gift in order to recognize the view which includes many of the significant sites across the isthmus to Ngāti Whātua. This includes the area of Remuera which Te Kawau offered to Governor Hobson so that he could establish a capital in Tāmaki Makaurau.

Footpath

An idea to bring more people onto the site involved diverting the public footpath from its existing alignment along the public berm to the inside boundary of Pourewa. In concert with this a planting of mid height native plants on the berm would create a unique experience and introduce the pedestrians to the new landscape and create a much more pleasurable and calming experience away from the busy traffic on Kepa Road.

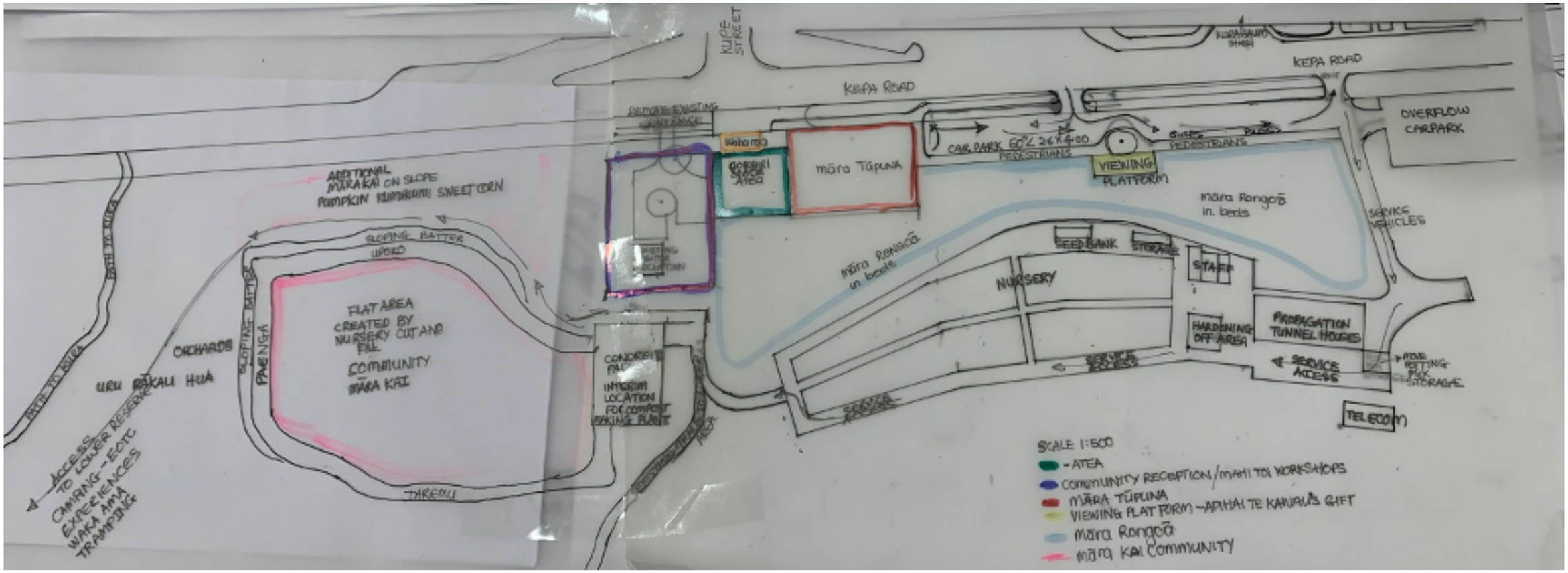


Figure 36 *Final resolution of space allocation*

Fences

The second challenge is to create a clear presence of Ngāti Whātua Ōrākei on the site. In part this is met by the waharoa and improved signage, but the idea of a palisade fence with pouwhenua along the boundary, maybe within the berm area, or other mahi toi is being explored by Ōrākei in order to signify a welcoming presence and the opportunity to meet the ambition of being “open to the world”. This proposition is being explored by the crafts people and knowledge holders within Ōrākei, as an element of co-design.

Final Design

The final area layout is as displayed and has a resounding approval of Whai Maia and the people who are now engaged in the finer detail of the design.

This for me, has been a humbling and fundamentally a critical finding of Kaupapa Māori Rangahau. As a designer and someone who is of Ngāpuhi descent, rather than Ngāti Whātua Ōrākei descent, I need to acknowledge that this is their story to tell. Having created from a design point of view the framework on which they can hang their tapestry which is their taonga for the world to see.

As this project design has progressed the importance of the community māra kai has become more evident in generating a more resilient future for the whānau. To this end significant funding has been provided which is sufficient to progress the project, particularly the community māra kai, and the māra rongoā including mahi toi and roading.

12.1 Community Māra kai

The proposition of designing a food garden from an Ōrākei world view requires an understanding of the way in which Māori perceive all things to have both a life force and a whakapapa all of their own, be it a kūmara, a microorganism in a soil population, or even Mother Earth as Papatūānuku.

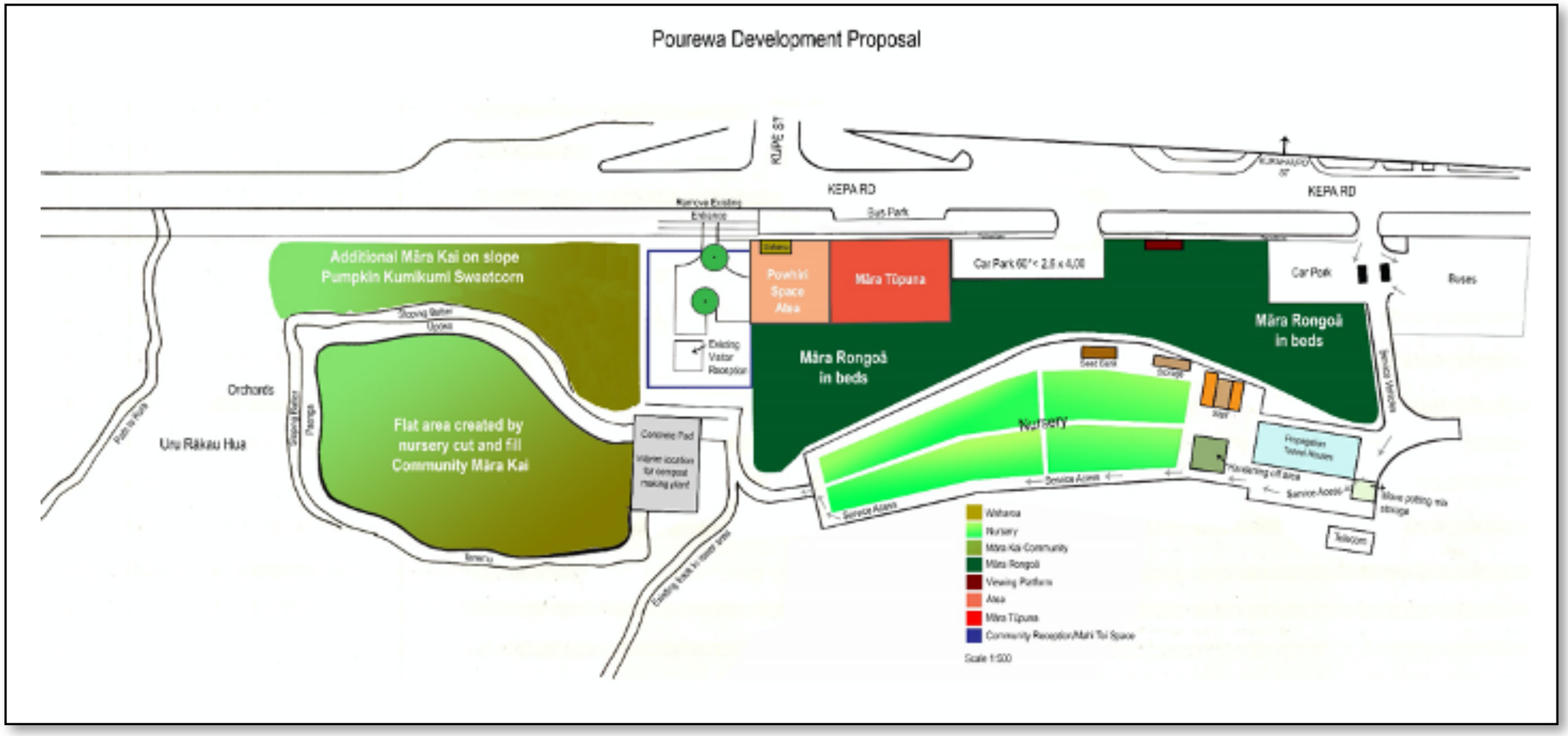


Figure 37 *Overall design layout for gardens area*

This in essence is a reflection that all things have a life essence or mauri. The cultivation of plants in general includes consideration of the micro-organisms in the soil, the other fauna within it, the soil itself as well as the plants and other creatures that they may host. This reverence for all things from a Māori world view leads to protocols that show respect for all of these elements. So, the rituals, the timing, the practices, the tikanga, that are part of a unique Māori world view must be respected in both the design but more particularly in the gardening operations.

Secondly this reverence extends to the whakapapa of all things.

This relationship extends to the whole life cycle of the kūmara which involves its pests and environmental indicators that are so intrinsic to the observations of the environment around them. These observations or indicators or tohu can be from the stars or nature.

The complexity of these observations and the associated genealogy of the atua and the stars is like a mental mind map of a specific ecosystem.

As a result, the reverence that is paid to the gardening operations is deeply steeped in the associated atua and whakapapa of the crops.

The value that Ōrākei places on caring for Mother Earth has resulted in their development of biodynamic gardening and land management practices. This practice which in modern times is known as Hua Parakore has been their adopted practice of Ōrākei in managing the land since it was returned to them.

In developing the māra kai I developed two zones. The flat area created by the cut and fill operations in the

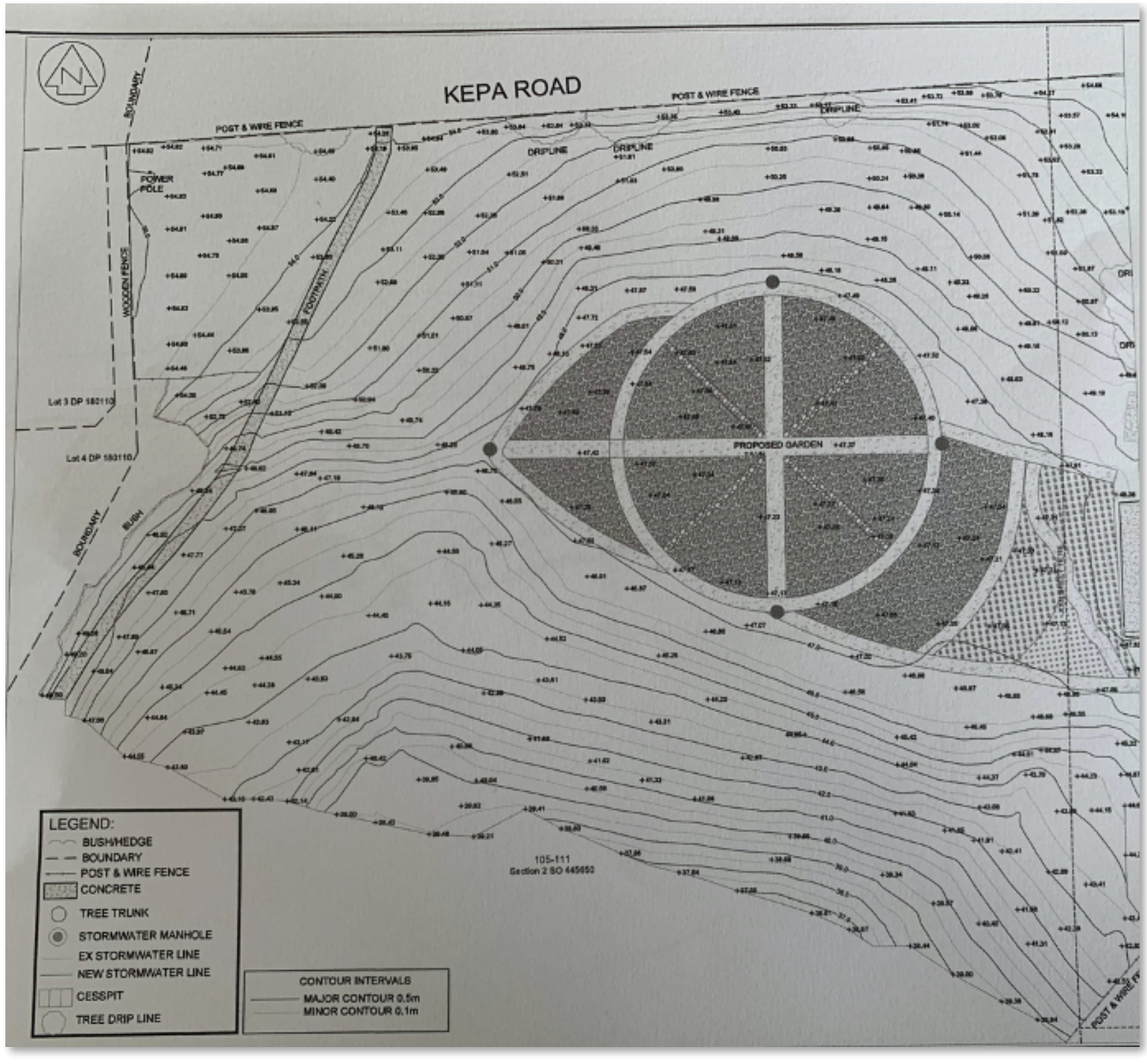
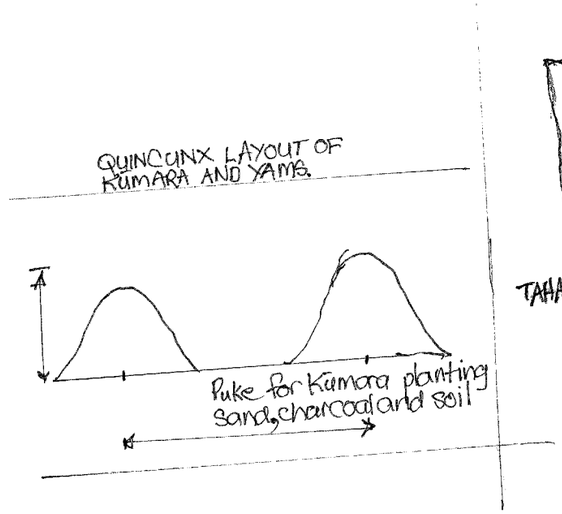
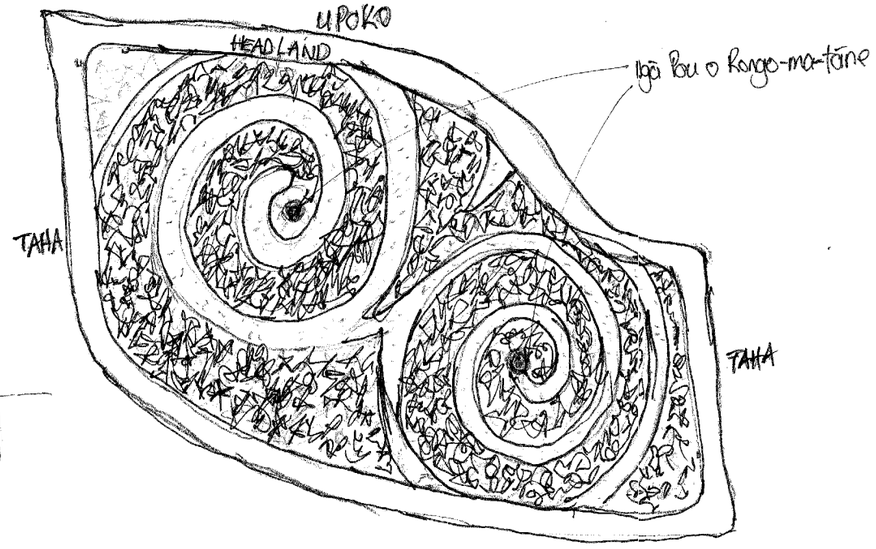
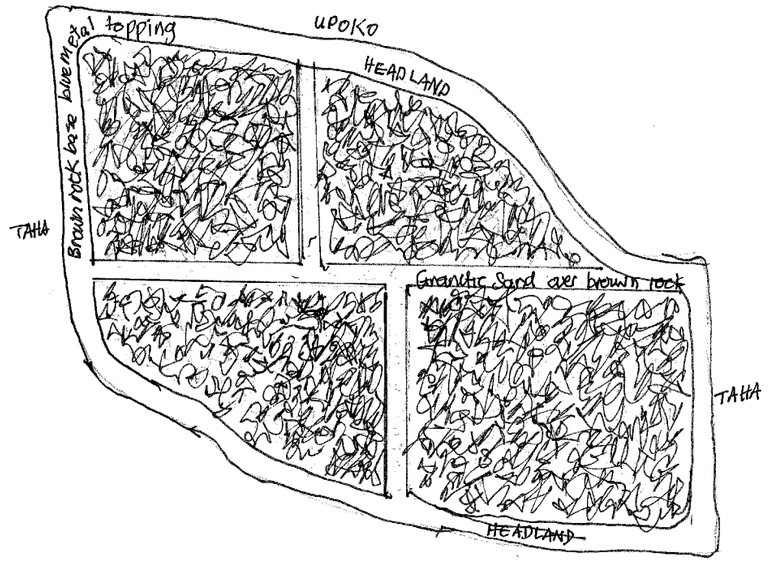


Figure 38 *Contours of Māra Kai area. Survey map: surveygroup, Auckland*

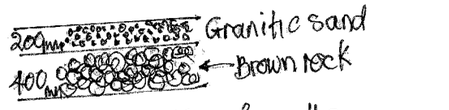




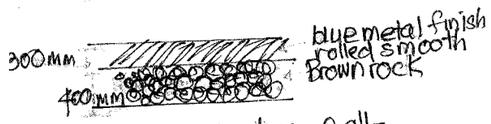
OPTION 2. Koru.



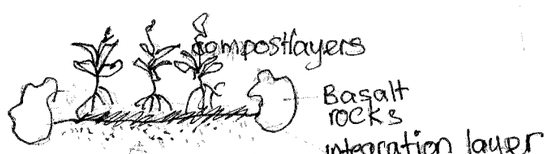
option 3. Quadrangles



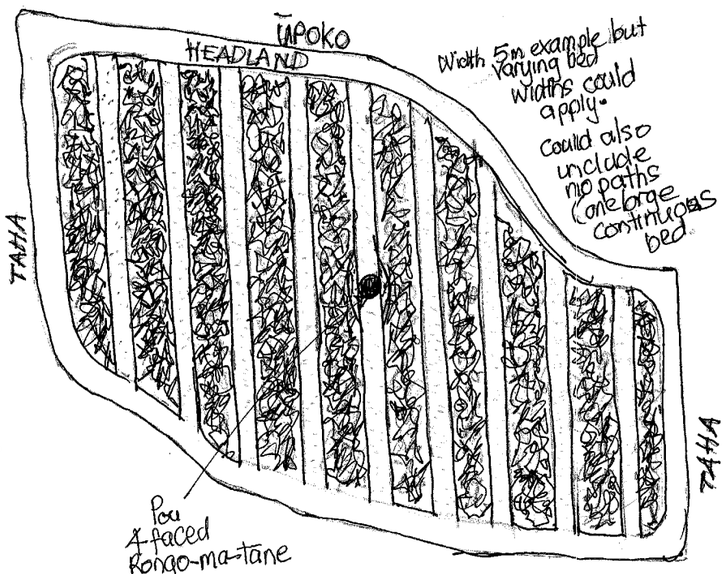
cross section of paths



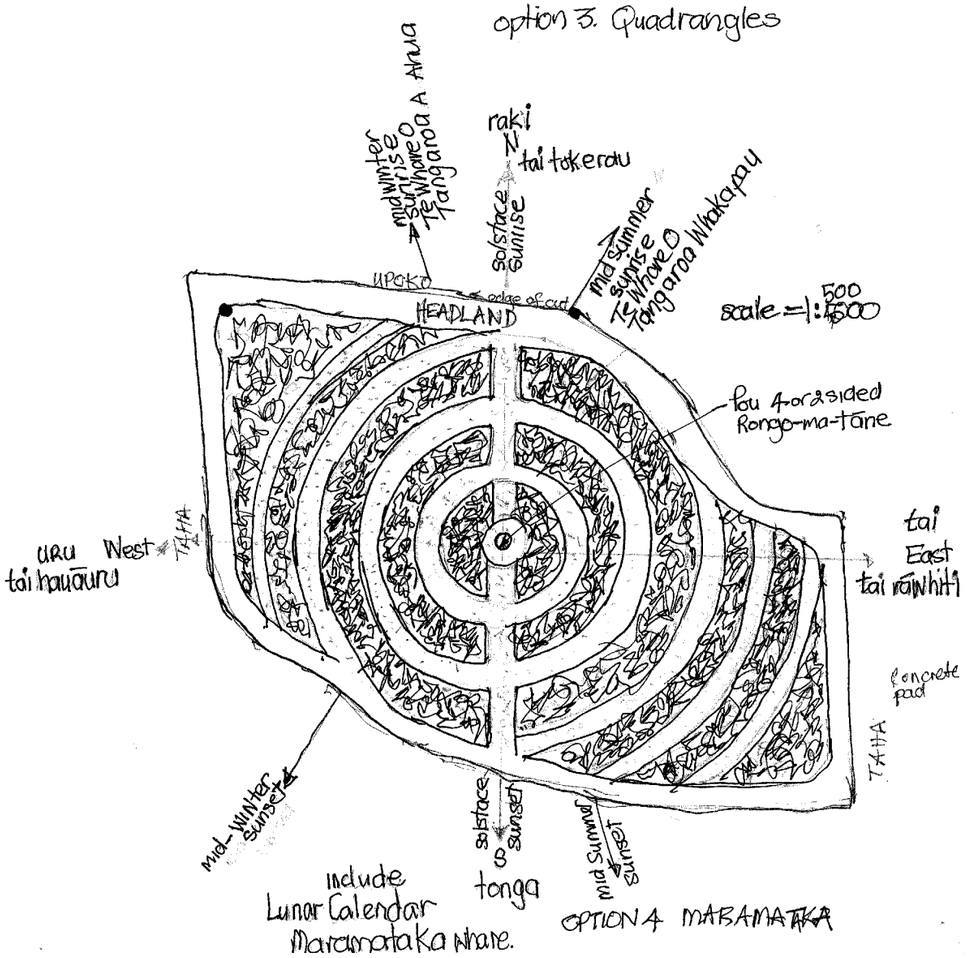
cross section of all-weather headland



Cross section of Garden employing "no dig" biodynamics



OPTION 1. Conservative



include Lunar Calendar Maramataka Whare.

OPTION 4 MARAMATAKA

Figure 39 *Māra Kai concepts*

nursery and the slopes from Kepa Road boundary down to this flat area.

In the flat area I started from the position of wanting to reflect the energies apparent in Ōrākei tikanga and the reverence for nature. To that end after exploring a simple layout of 5-meter beds running North to South, I decided to explore the energy reported to be part of “genesa gardening” (Langham, 1978). This practice was developed by Derald Langham and I adopted that as a starting point. I also wanted to incorporate the garden and the earth and their relationship to the sun, the moon phases and the stars as seen through a Māori lens. To that end the design has to reflect the moon phases or maramataka. The design includes a central dial that depicts the 30 houses of the maramataka to indicate ideal times for certain operations. It is my understanding that these desirable phases can vary from area to area. The compass is mounted on a waist high plinth with the moon phases around the outer part of the dial and a traditional Gregorian calendar on the inside. The dial for the Gregorian calendar is separate and can move to align the Gregorian date with moon phase (see Figure 42).

The pathways will be oriented to true north, south east and west with pou whenua as appropriate at these axes and spaces where traditional pūrākau can occur. The design of the 8 segments as shown in the main māra kai diagram allows for crop rotation but also represents the traditional separation of whānau plots in a traditional garden (Leach, 1984) p 43 in referring to the work of Agnes Sullivan who explored and researched the archeology of Tāmaki. (Sullivan, 1972) In the process of this design I have allowed for drainage that will collect water and direct it to a bed to the south east as shown to allow for the cultivation of traditional taro varieties and water cress.

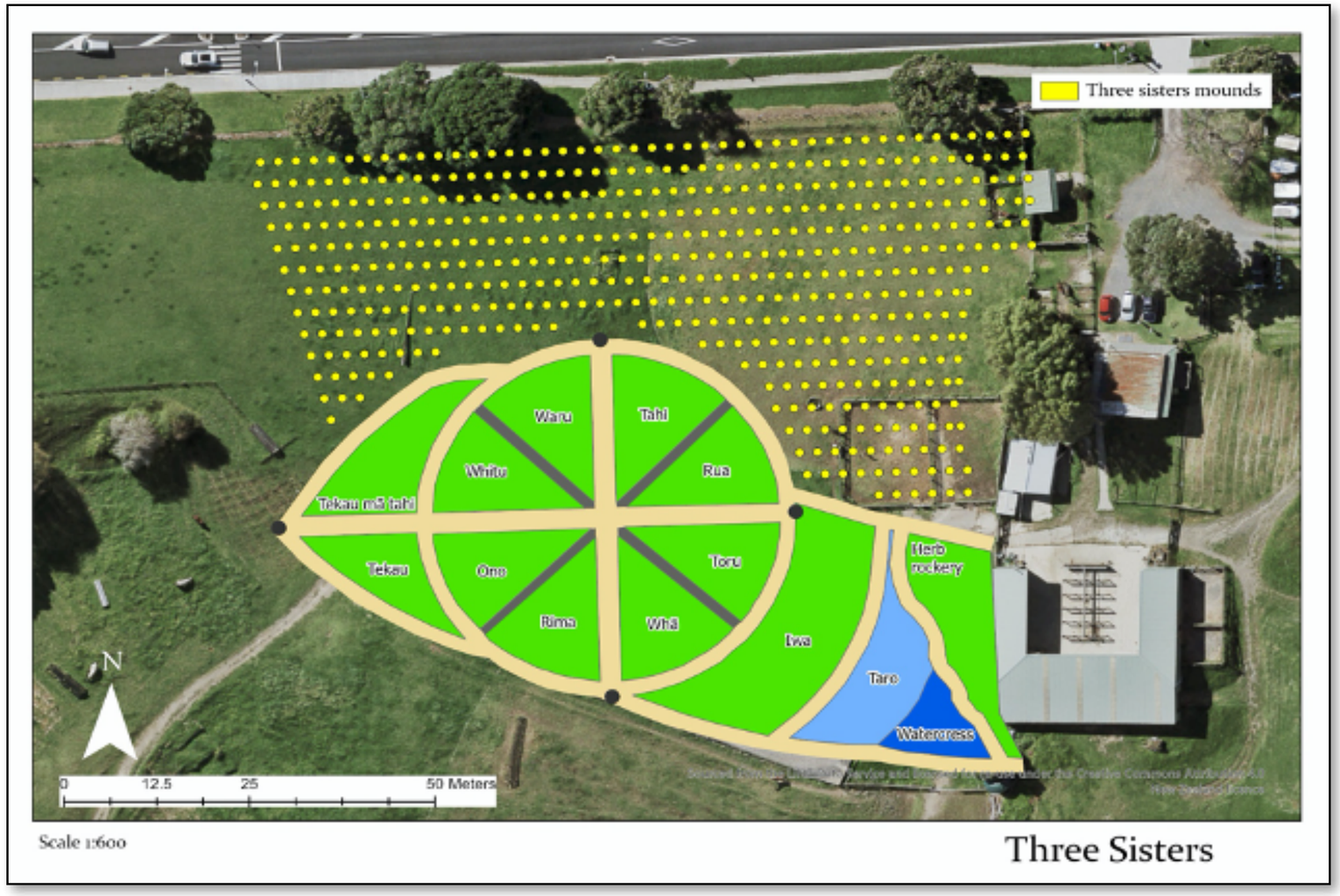


Figure 40 *Community Māra Kai showing the flat maramataka garden and the three sisters’ arrangement on the slopes towards Kepa Road. R.W. Small and Wyatt Dooley.*

The beds will be raised 300 mm above the paths to allow for a no-dig compost rich cultivation regime. The paths will be hoggin (granitic sand) to allow air and water to pass through to the earth below. The principles of Hua Parakore will be strictly followed for this garden and developments on the site. The edging of all curved paths will be basaltic rock which we have obtained from the tunneling under Maungwhau and the straight edges will be constructed from timber sleepers with low chemical leaching. The rock work is evocative of the traditional gardens that flanked the maunga around Tāmaki Makaurau which were used to delineate different areas for either whānau or crop types (Furey, 2006).

The slopes between the Kepa Road boundary and the flat garden area will be planted with a traditional North American Indian Design known as Three Sisters. This involves growing corn, climbing beans and squash in a complimentary arrangement as shown in the cross sections.

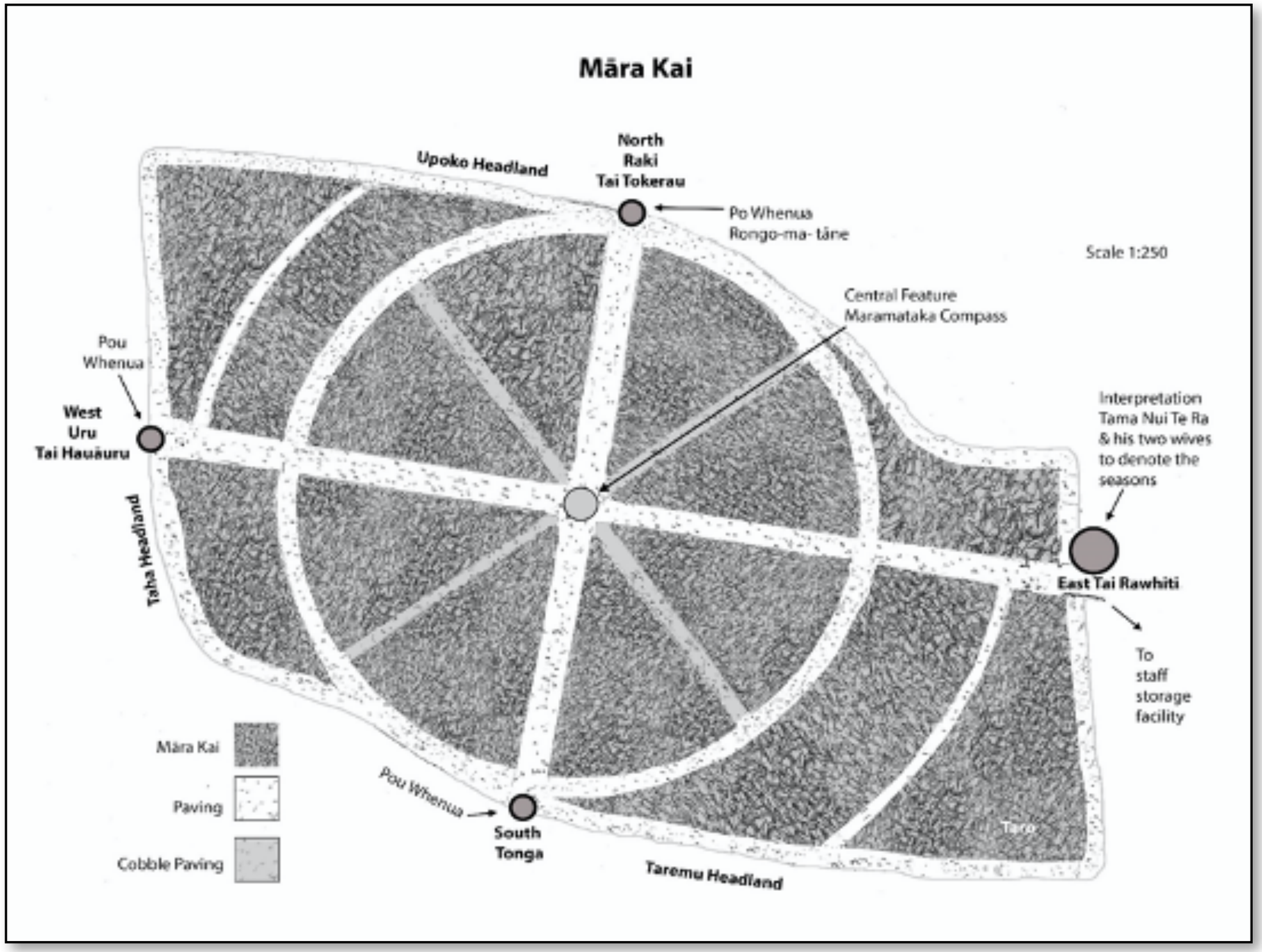


Figure 41 *Māra Kai Maramataka Garden*

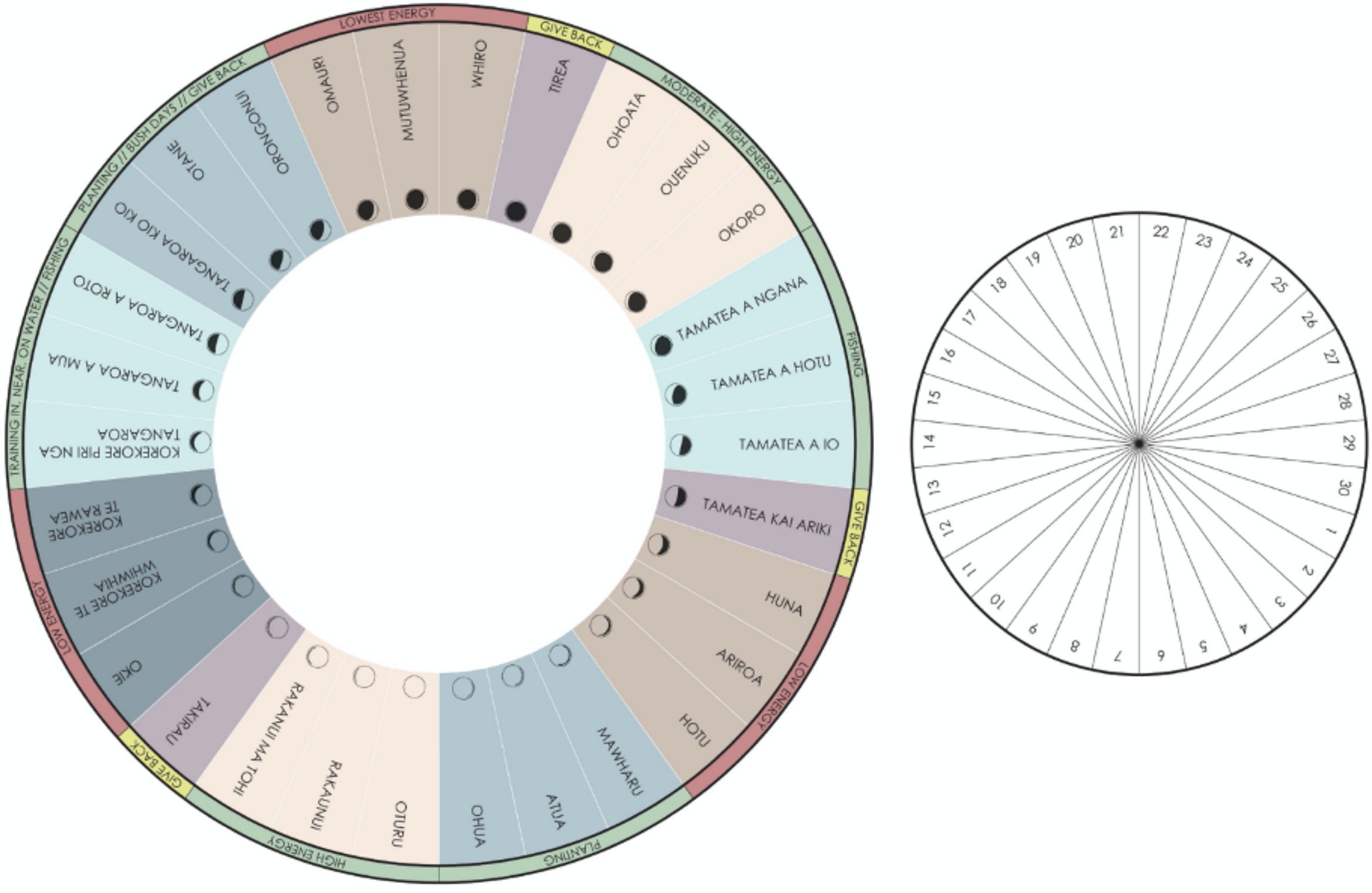


Figure 42 *Maramataka Compass layout; Spinoff. Ayla Hoeta*

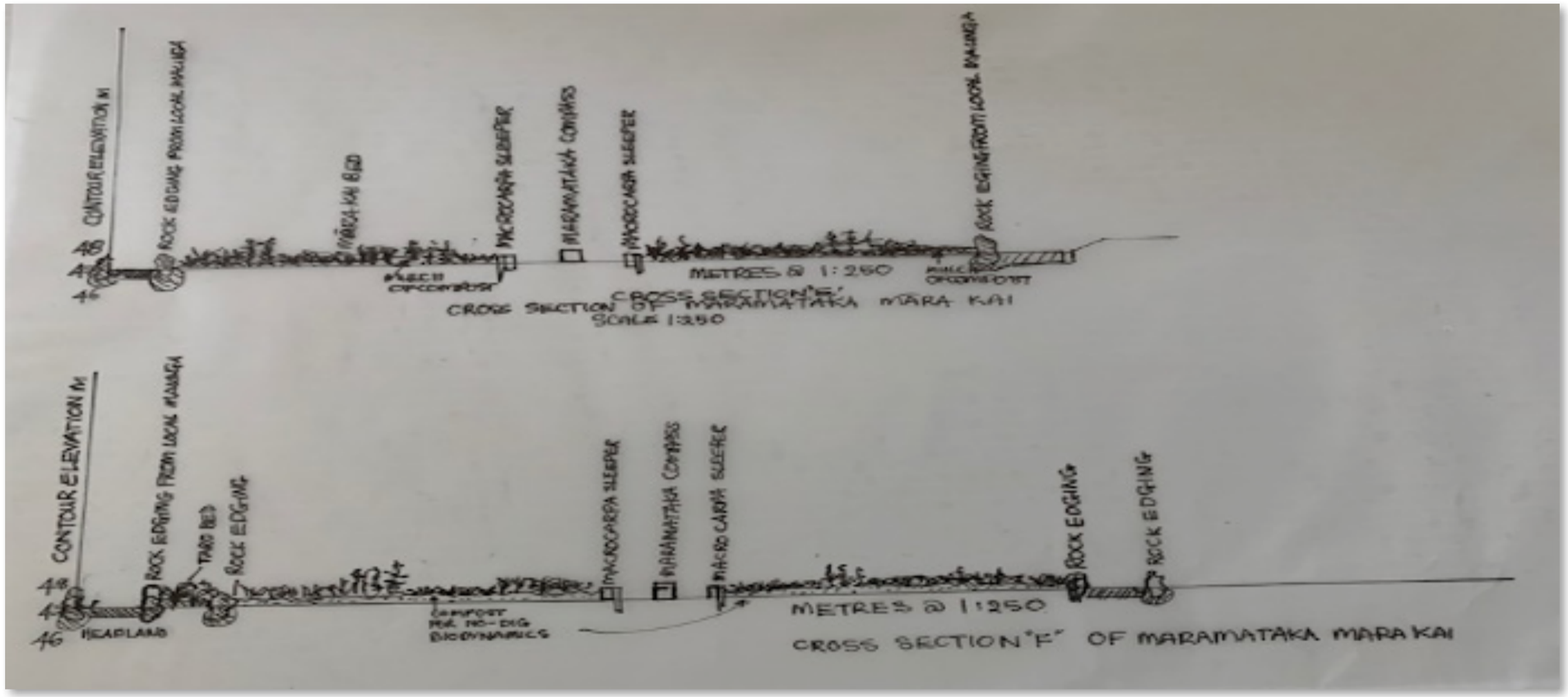


Figure 43 *Cross sections E and F across the maramataka Garden*

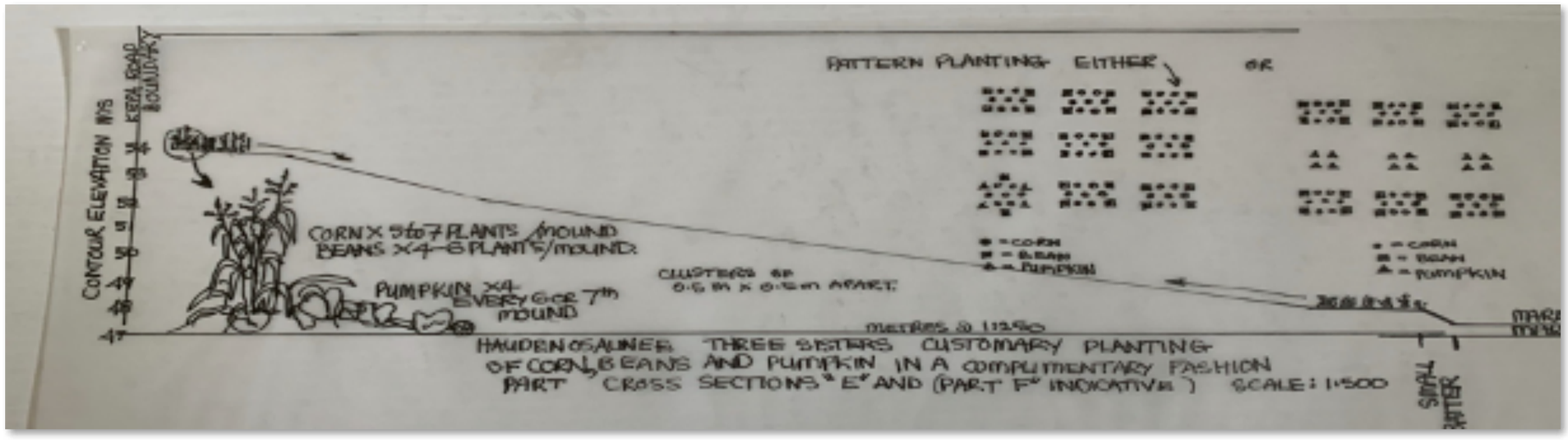


Figure 44 *XS of Three Sisters planting arrangement for the Corn, Squash and Beans above the Maramataka Māra*

12.2 Māra rongoā

The objectives that I had in mind when designing this garden were the functions of harvesting, interpretation and spaces for pūrākau, and creating environments suitable to different plant groups such as ferns or those that needed special soil treatments.

I was impressed with the way that the Singapore wellness garden arranged plant collections according to their area of medicinal treatment which met my parameters of ease of educating, interpretation and the creation of a highly legible interpretation.

For that reason, the treatment areas have been arranged as areas of the tinana or body or ailments. The Ōrākei Future Vision proposed harakeke on the lower slopes so these were included in the gardens along with the plants that produced fibers and the traditional dyes. These plans for both the rongoā and the fibre plants are being refined by the various artisan groups from the hapū. I have researched the common plants traditionally used by Māori but the wānanga with practitioners will refine those collections to their purpose.

The interpretation of each bed will be in the hands of the hapū practitioners and mahi toi exponents, but to create a legibility to the beds I have proposed a family of directional signs that will guide users and visitors to the particular treatment areas as well as a parent sign interpreting the practice of rongoā and the purpose of the garden. Bilingual signage in te reo and English is essential in this information and interpretation giving prominence to the traditional Māori names as adopted by Ōrākei people.

12.3 Māra tūpuna

The māra tūpuna's location adjacent to the atea is to honour its representation as a traditional garden comprising many of the key facets of an Ōrākei and Māori tikanga and the spiritual elements of te ao Māori. Unlike this model the community māra kai and the rongoā garden are adaptations of a more colonial construct but which allow for the traditional interpretations as well as a more contemporary kaupapa. These spaces are all intended, through the design, to facilitate and revive traditional mātauranga and provide for the hapū in terms of health (hauora) and, spiritual wellbeing.

I have used the Te Parapara garden, in Hamilton Gardens, as a model and have been in consultation with one of the key facilitators of this project Wiremu Puke. In this garden I have designed a traditional māra kūmara with pātaka, rua kūmara and an inner waist high tea tree post fence. This garden will include rewai (potato) and uwhi (yams) as well as traditional kūmara varieties. All will be planted on small hillocks or puke which are composed of charcoal or ash, gravel to increase warmth and parent soil. This follows some traditional arrangements for growing these crops to facilitate greater success in their cultivation (Best, (1925); (Leach,1984). The layout of these puke is a quincunx pattern (like the 5 on a dice) This traditional layout was observed by the early European explorers (Best, 1925).

Included in the design is a fringe of small to mid-height native trees and shrubs encircled by a typical palisade fence with pou whenua of the significant tūpuna of Ōrākei. My design intention was to create a more separate and intimate space that provides a place for reflection and separates it visually from the gardens of a more colonial construct. The detail of this is carving and other cultural icons is with the carvers and knowledge holders of Ōrākei for final design. This is appropriate since as the designer I possess neither the mātauranga nor the mana to create such art so reflective of the Ōrākei story.

Also included in this design are plants that were either accessed from the wild such as aruhe (bracken) and the range of berry trees such as karaka. The stone icons will be represent Rongo-ma-Tane as the key deity of cultivated food and Pani who gave birth to the kūmara. The design intent is to create a reflective space, and to facilitate this I have included seating and interpretation boards as well as the intimacy of an enclosed garden.

12.4 Chief Apihai Te Kawau's Gift Lookout

Much of the history of Māori in Aotearoa has been told through a colonial lens and has often simply represented a colonial view. It differs significantly in many cases from reality in the Māori world view. The story of how Tāmaki Makaurau became Auckland is seldom mentioned in European history.

The movement of the capital city from Kororāreka to Tāmaki was made at the specific request of Ngāti Whātua in 1840. This move , in the mind of Chief Apihai Te Kawau and other chiefs , would provide protection against both the Ngāpuhi raiders from the north and unprincipled settlers. The invitation was made and as a gesture to make this move possible approximately 3,000 acres of land was offered. Apihai Te Kawau stood with Hobson on Maungawhau with his arms outstretch wide and is reported to have said "I offer you all of this land (to create your capital)." This land included Remuera, and much of the land in downtown Auckland and beyond. The viewing platform gives views of much of this gifted area but also of many of the sites which have been and still are important to Ngāti Whātua Ōrākei hapū. It includes Maungakiekie, as well as Maungawhau, two of their most significant maunga but many of their other traditional sites as well.

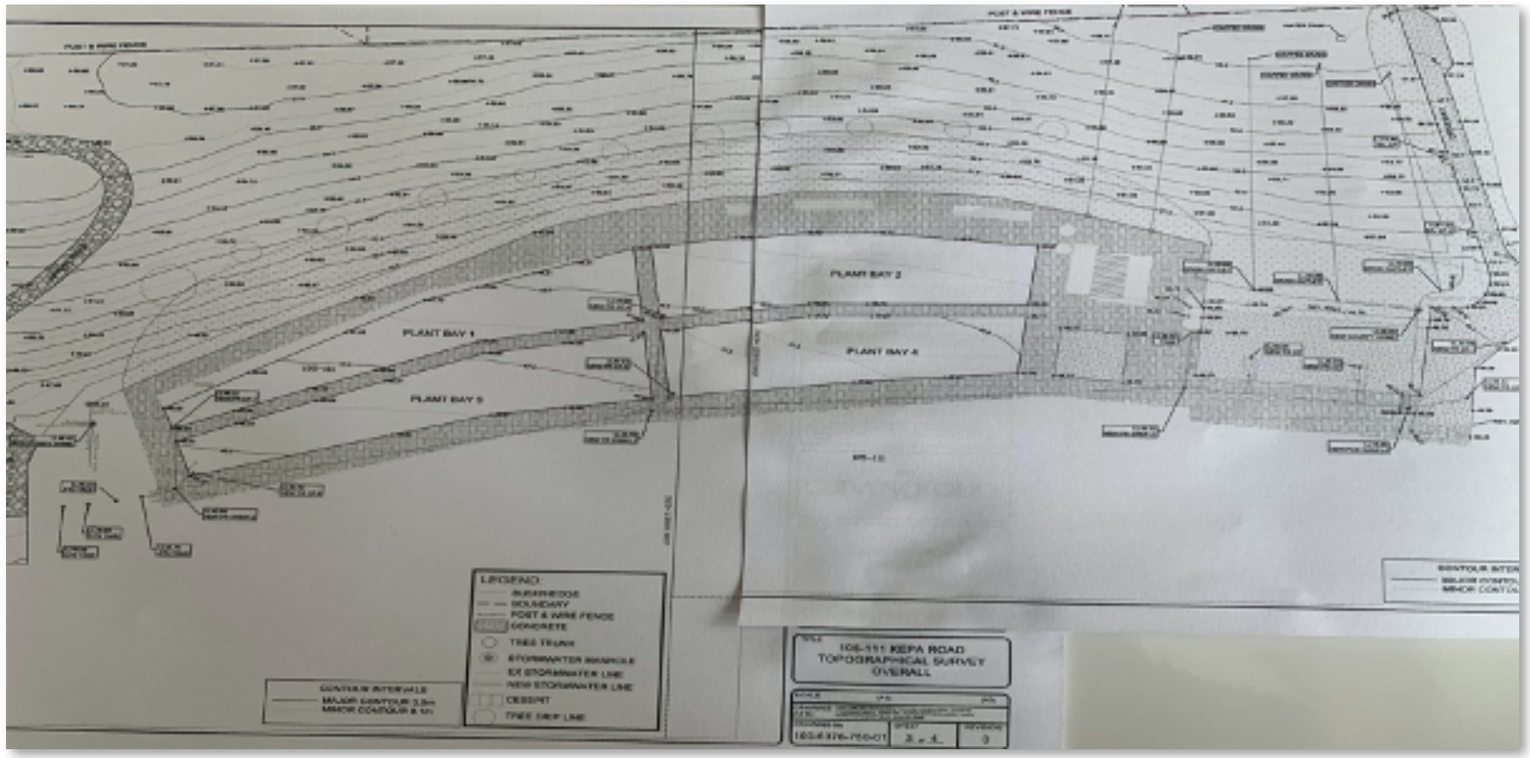


Figure 45 *Contour lines of māra tūpuna and rongoā areas. Survey map by: SurveyGroup, Auckland*

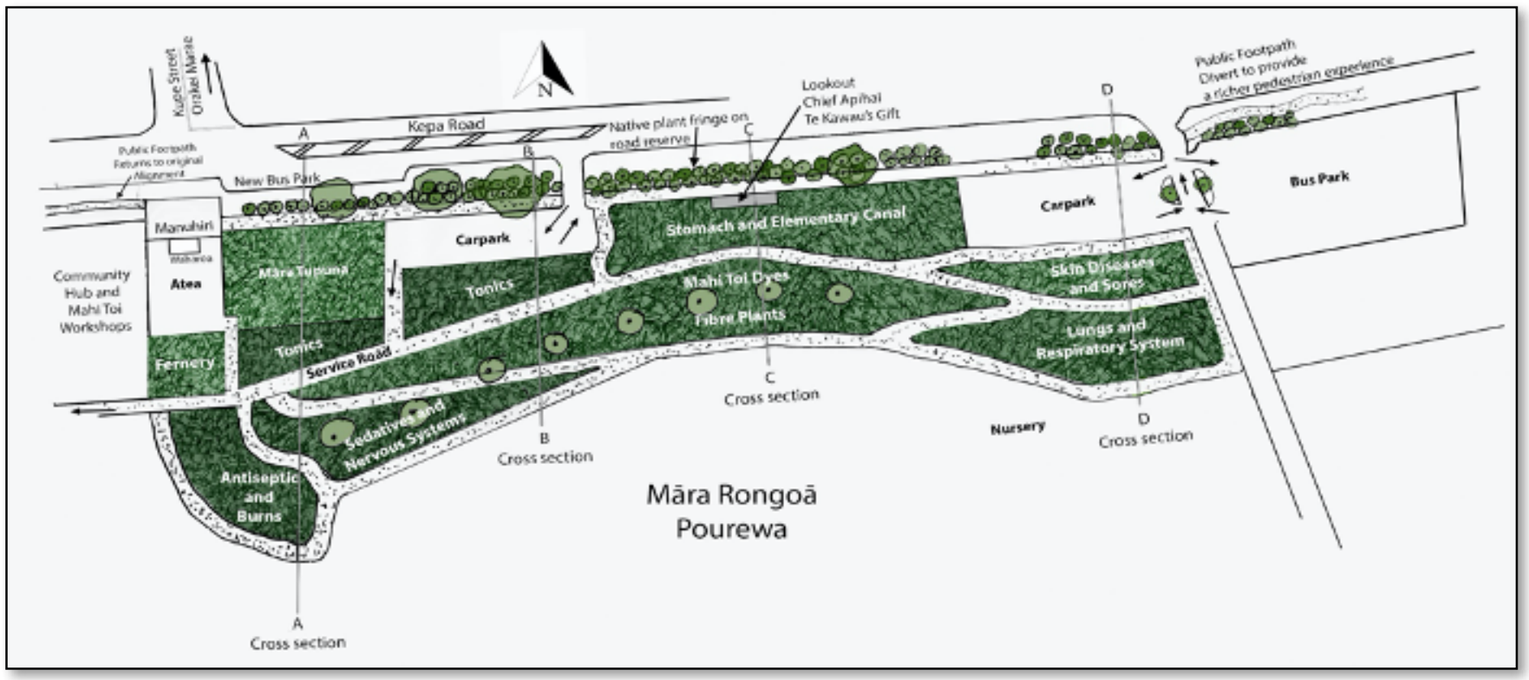


Figure 46 *Māra rongoā showing beds for specific remedies and altered car parking arrangements and Chief Apihai te Kawau's Lookout and new footpath alignment*

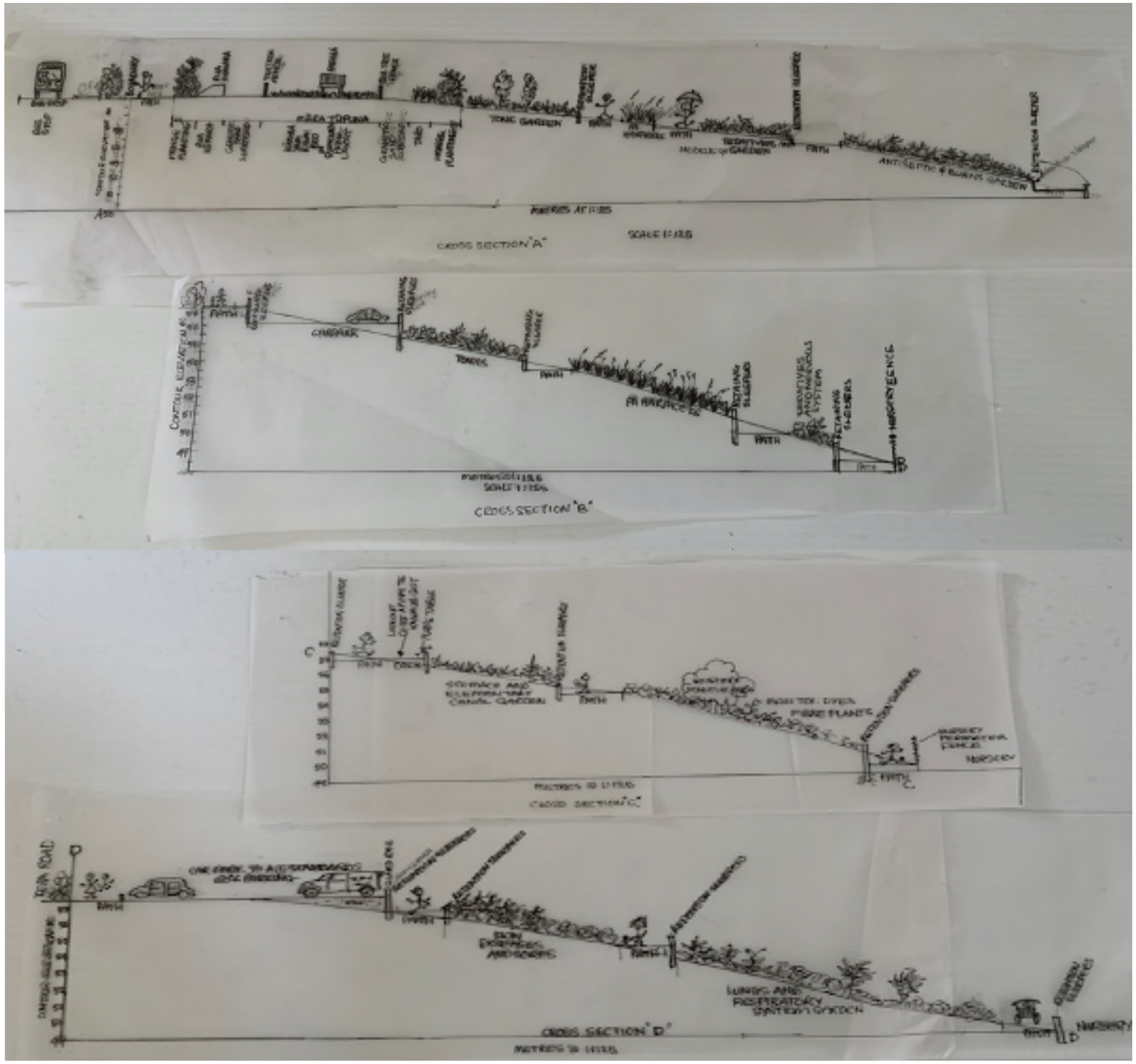


Figure 47 *Cross section A - D māra rongoā*

Figure 48 *Signage at Singapore Botanic Garden*

Figure 49 *Further signs showing multi-lingual descriptions and (50) more general interpretation of the gardens function*

Figure 51 *Directional sign at Singapore Botanic Garden showing treatment areas*

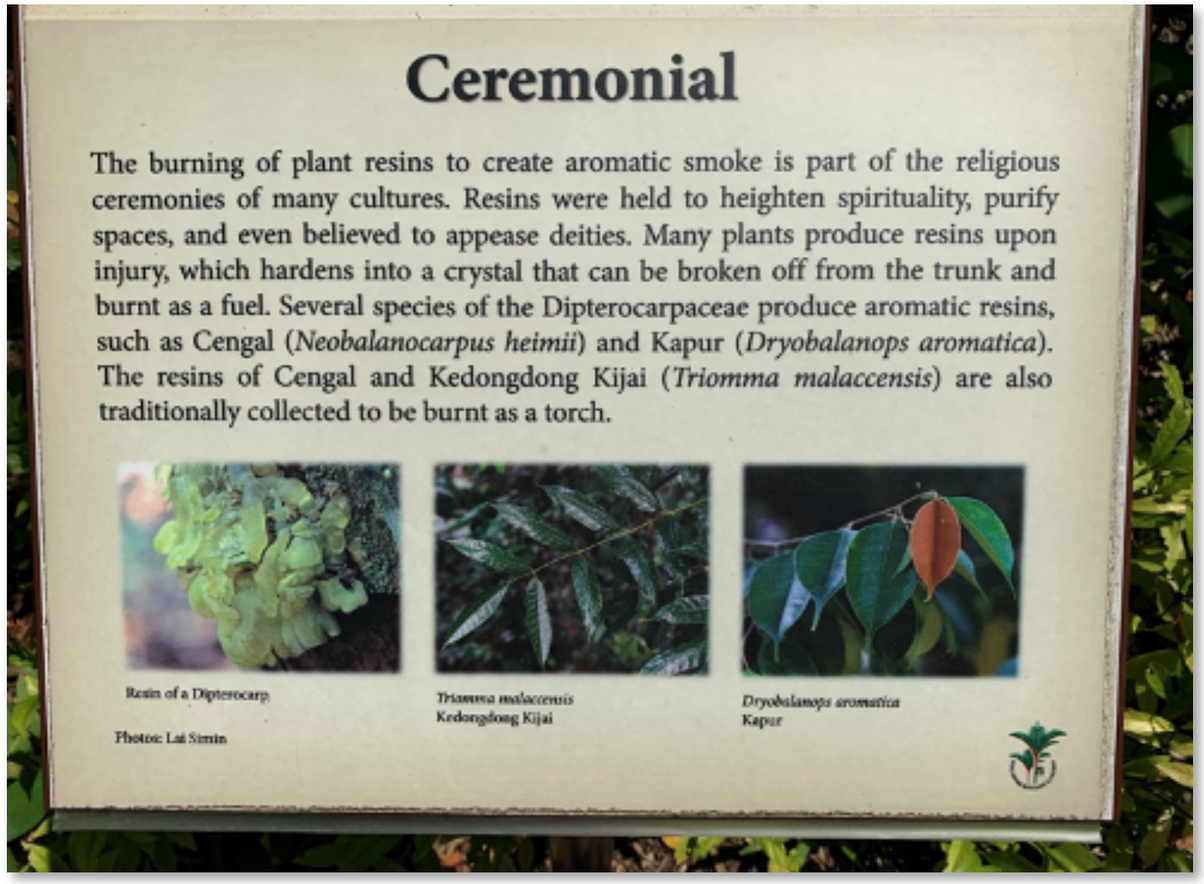


Figure 52 *Interpretive signs at Singapore Botanic gardens*

13. Concepts for the site

A challenge for the māra area will be to accommodate traditional māra concepts and this will be an opportunity to add elements that reflect on the tūpuna and also the spiritual aspects of these traditional crops. The Māori world view is that all things have a mauri or life force. These practices of both gardening and harvesting plants from the wild are steeped in spiritual aspects and associated tikanga. This suggests to me that the appropriate deities must be represented in some way. Gaining access to these traditional varieties of food crops will be important to truly reflect the heritage nature of these crops that evolved over the period of more than 700 years. Clearly art will play a role here with carving, interpretation and space for the rituals to occur and be observed. I envisage a manuka fenced garden with tūpuna depicted as pou carvings around the gardens. The post-colonial gardens will depict a wider range of crops and this will be the major community vegetable garden that provides for the needs of the Ōrākei people as a priority including the Papakāinga. I can envisage crops such as cultivated pūhā beds and traditional crops that evolved through this period. This can also be an area that depicts the tūpuna of that era and reflects the ahi kā of Ōrākei. This area will also need to accommodate the community gardens and this challenge of separating the two areas needs consideration.

In the area for the rongoā garden there are two options presented. The first is to plant the area as a forest allowing pathways that give good access to various native plants. The second option is to place the plants in beds according to arrangements such as their remedies as was observed in the Singapore Botanic gardens.

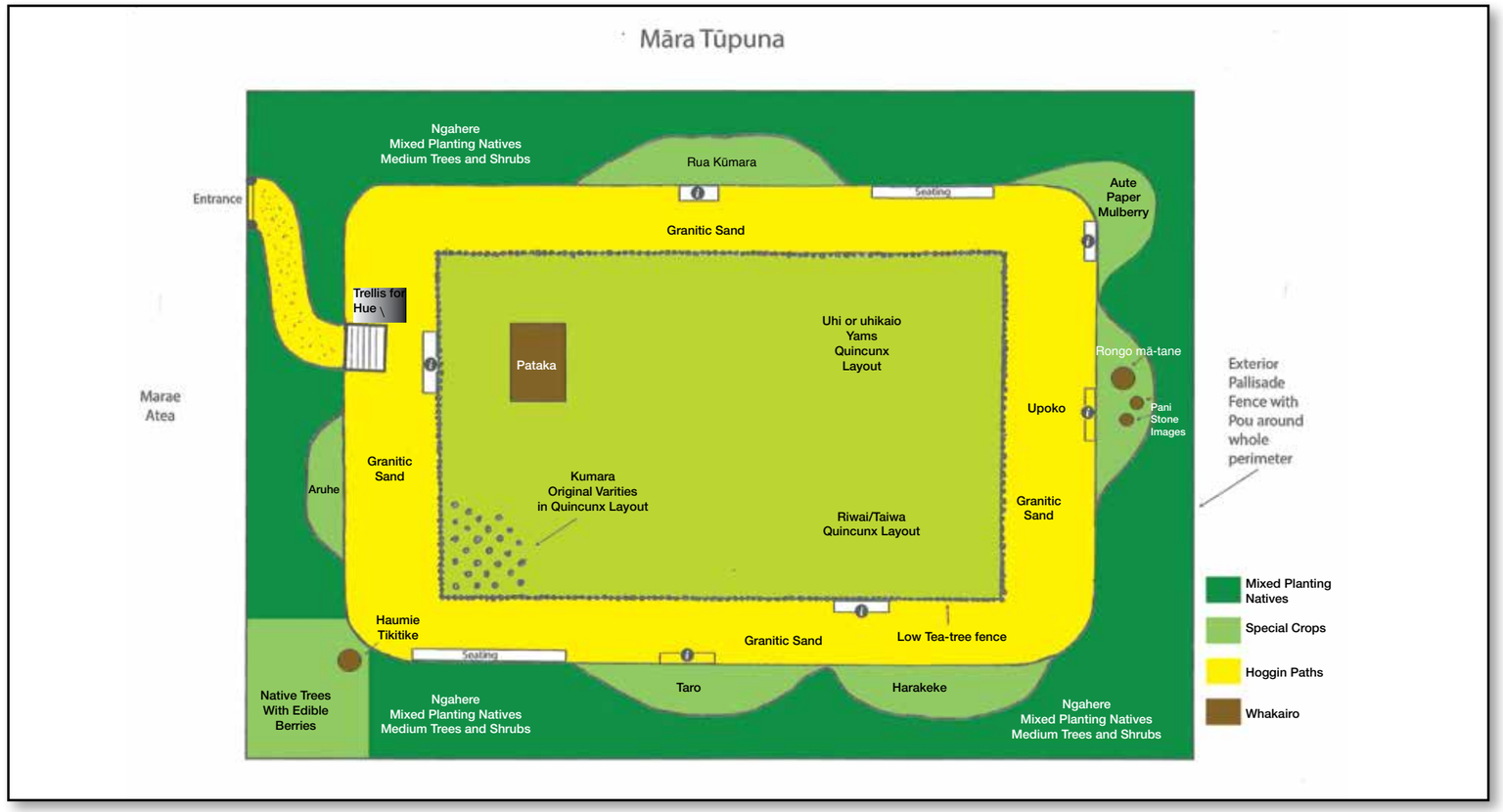


Figure 53 *Mara Tupuna design*

Figure 54 *Te Parapara Garden, Hamilton Gardens showing Pātaka*

Figure 54 *Te Parapara garden showing outer fringe that creates a more enclosed intimate feel*

14. Management

The return of this land is significant to Ōrākei because it is land over which they had gardens and occupation in the past. Until their dispossession of this land they could claim ahi kā. This was part of the 600-acre Ōrākei block which was declared inalienable by the Māori Land Court in 1869.

Their aspirations have been articulated in the Ōrākei Future Vision document and the Iwi Management Plan. The aspiration to build māra kai and māra rongoā are clear aspirations in those documents. More importantly, the link to the papakāinga around the marae on the Whenua Rangatira to the Pourewa Whenua is clear. The mātāpono that guides Ōrākei in its thinking, and a clear focus to be hapū-facing in their services through the Ōrākei Trust Board and its subsidiaries (Whai Maia and Whai Rawa) gives clear purpose and direction to the use of this land.

In the management of the land, the guidance that I have been given by the Trust Board and Whai Maia is to return the mana to Papatūānuku and the mauri to the land. The kaupapa that this infers is to take a fully organic approach to the land management with only non-artificial and non-chemical uses in land and vegetation management. This conforms to Ōrākei's long-held adoption of Hua Parakore, which is a Māori organic gardening methodology developed under the guidance of the Te Waka Kai Ora organization's verification system. This is a growing movement among Māori gardeners across the motu. (Hutchings, 2015).

The second principle that has guided much of my design is the creation of settings that allow for the interpretation of Ōrākei lore and the passing of mātauranga to the people of the hapū. This is demonstrated by the additional desire on the part Ōrākei to develop a centre for arts workshops and rongoā preparation and learning. This has deliberately influenced the design of the all of the māra to reflect an Ōrākei construct. The maramataka relationship with māra kai is fundamental to Ōrākei gardening practices. This complex relationship between the moon, the signs from ngāhere (nature) involves observation that tells the gardeners the optimum timing for the various gardening practices. The design is also calculated to generate energy or mauri in all things connected to the garden.

The layout of the māra rongoā is designed to facilitate ease of education, cultivation and gathering. The Singapore Botanic Garden's Wellness Garden was a key influencer in this concept.

One of the most important aspects of the design is to signal the return of ahi kā to this land for Ōrākei. A need to signal a strong Ōrākei presence but at the same be a welcoming presence has been articulated to me through various boards and individuals from Ōrākei. The diversion of the public footpath into the parks along the top of the māra kai provides a teaser for the pedestrian public. The inclusion of mahi toi within the design will also create this impression.

The waharoa on the axis between the whenua rangatira and Pourewa along Kupe Street further accentuates that point as indeed does the palisade fence on the roadside on the perimeter of the māra tūpuna.

The design of the interpretation and the mahi toi rests with the Ōrākei knowledge holders and governance entities involved.

15. How has the Question been Answered?

(Refer to the table on page 46) demonstrates how the design of these gardens has met the Question:

How can mātauranga Māori guide the development of a contemporary multi-purpose garden for Ngāti Whātua Ōrākei?

Through alignment with Kaupapa Māori Rangahau, the site selection, and then co-design with Ngāti Whātua Ōrākei, their knowledge has been the basis of both traditional and contemporary design and management including the importance of Hua Parakore and the provision of pou indicating deities as symbolic of the importance of mātauranga Māori: the spiritual, emotional and essence of life. Firstly, in meeting the values or mātāpono of Ōrākei the design can be said to reflect their values.

Secondly the regular consultation with key individuals and groups ensured that my work reflected the wishes of Ōrākei and has agreement, as the design progressed, from the Whai Maia board, but more importantly the Ōrākei Reserves Board. The Reserves Board consists of representatives of the Ōrākei Trust Board and Auckland Council. This Board has approved funding for the first phase of the development in 2020/2021 and further funding for 2021/2022.

The project team to build the māra kai has been assembled and detailed design and costings have been developed. Staff have been appointed for the gardens.

The Whai Maia staff are working through their mahi toi coordinator to develop a mahi toi plan for the wider land but it will particularly influence the carvings and interpretation. Wānanga are being conducted with these knowledge holders and with particular knowledge groups such as weavers, rongoā practitioners and māra kai people.

As a sign of confidence, the researcher has been retained to provide both explanations and input for these wānanga. At the same time the integration of this work and that of the marae management is being explored to ensure that a more integrated solution is provided since the marae is inextricably involved in this kaupapa.

Success Indicator	Achievement
Meet the Ōrākei mātāpono • Tino Rangatiratanga • Rangatiratanga • Manaakitanga • Whanaungatanga • Kotahitanga • Kaitiakitanga • Mana Taurite • Ahi Kā	 • This process has delivered on an ambition expressed, this is determined by Ōrākei • The leadership expressed in this design is calculated to reinvigorate a kaupapa around retaining the mātauranga Ōrākei • This landscape will assist in the interpretation of Ōrākeitanga; a taonga for all • This project is designed to provide for all of the Ōrākei people. It has the potential to interpret for all the whakapapa of Ōrākei • This design is for all people of Ōrākei but also for the wider world as well • The underlying influence of this design is to restore the mana to the whenua of Ōrākei including Pourewa. It has a wider intent of creating a new relevance to the ngāhere of Tāmaki and in a wider sense seeks to preserve the germplasm of Tāmaki flora • All hapū members are intended to share equally in the products of this māra • This development firmly establishes Ōrākei as the manawhenua on this land
Need for Māori food sovereignty/ wholesome food for the Whanau	Provision of significant community gardens in the design for providing healthy organic food. Crop selection is influenced by commonly eaten vegetables
Spaces for pūrākau	Much of the design has created spaces and elements that lend themselves to the telling of stories and other Kōrero. This is evident in design elements such as the maramataka compass and the various elements in the māra tūpuna
Collections of ngāhere rongoā	The ngāhere rongoā are collected in a way that facilitates education, collection and interpretation
Respect for Papatūānuku and the deities and Te Taiao	The principles of hua parakore have influenced the selection of low polluting construction materials, a no-dig garden concept and our composting proposition targeted at waste minimization and the principle of reciprosity where food is returned for green waste. The revegetation of the whenua has long been a principle of Ōrākei and returning the original vegetation to the land (authentic locally provenanced material). Similarly, the collection and recycling of water from both the nursery and the garden areas will minimize water usage and divert water from the Pourewa waterway.
A design that responds to expressions of Ahi kā	This design has created the tableau onto which Ōrākei can paint their Mahi Toi and interpretation. Ahi Kā is represented in establishing mahi Toi and rongoā workshops, and the establishing of the native plant nursery which will furnish ngāhere for the revegetation of the land healing of Papa.
Expressions of kaitiakitanga	The care for our land and the respect for the realms of Tāne Mahuta, Rongo-ma-tāne and Haumia-tiketike are Māori world expressions of guardianship. The protection of authentic Tāmaki germplasm is part of the kaupapa of this project overall

Figure 56 *Table to show Achievement of Responses to the Question: Can mātauranga Māori guide the development of a contemporary multi-purpose garden for Ngāti Whātua Ōrākei?*

16. Conclusions

The way in which Māori see gardening differs in two key aspects that I have been able to identify in my research.

The first can be summarised in the Whakatauākī:

Figure 57 *He Whakatauāki: Manos Nathan*

Everything is from the same spirit. This in essence is a reflection that all things have a life essence or mauri and everything is connected. The cultivation of plants in general includes consideration of the micro-organisms in the soil, the other fauna within it, the soil itself as well as the plants and other creatures that they may host. This reverence for all things from a Māori world view leads to protocols that show respect for all of these elements. So, the rituals, the timing, the practices, the tikanga, that are part of a unique Māori world view must be respected in both the design but more particularly in the gardening operations.

Secondly this reverence extends to the whakapapa of all things.

The complexity of these observations and the associated genealogy of the atua and the stars is like a mental mind map of a specific ecosystem.

As a result, the reverence that is paid to the gardening operations is deeply steeped in the kawa associated with the atua and whakapapa and mauri of the crops, the soils and their microbial, floral and faunal communities.

17. Reflections

As I progressed with my research and design work there were significant moments which enhanced my findings.

From the design precedents I learned of the effective display idea for wellness gardens (māra rongoā). This also influenced my approach to way-finding within the māra. I learned that the aesthetic appearance of the gardens was an important element to generate interest and pride from Jardin Botanico Oaxaca. The layout of the māra Te Parapara and discussions with the researcher and designers of this garden provided an insight to the important elements of the māra tūpuna.

The Kaupapa Māori Rangahau methodology could not have been better deployed for this project. The project is real rather than theoretical and will have commenced construction by the time this project is examined. The Taumata, the Whai Maia Board and staff and the Ōrākei Reserves Board have approved the designs and Whai Maia staff and hapū members are now working on the mahi toi that will enrich both the aesthetics and the translation of their tikanga and culture onto this landscape. The initial guidance given to the project came from the founding documents in the Ōrākei Future Vision and the 5-year plan.

The literature searches gave me a far better understanding of the Māori world view about the spiritual nature of the world and how it influenced their tikanga relating to the gardening and the natural world. This understanding influenced my approach to the garden design, particularly the community māra kai. The central maramataka compass relates to the Māori calendar rather than a Gregorian calendar but displays it in a way that allows an understanding of both. This idea

is influenced by Macfarlane's He Awa Whiria (braided rivers model). I was influenced in this design by the knowledge gained of the connection to Papatūānuku and the deities in the Māori world. Using the circular shape of the central garden evokes. This spiritual connection and mauri that is so fundamental in te ao Māori. The circular design represents the radial arrangements of former māra kai here in Tāmaki around their maunga. The specific design elements of pouwhenua within the garden recognised the relationship of mātauranga and cultural practices. The history of the three hapū as they occupied Tāmaki is highly relevant to how the design elements are related. The axis between the Whenua Rangatira and Pourewa along Kupe Street was already directed through the Ōrākei Future Vision. It influenced how some features then became fixed such as an atea, the hub into which manuhiri could be welcomed, and as a result the central location of the Community Hub and mahi toi workshops. The design here is strongly influenced here by Ōrākei Kawa and Tikanga.

The topography of the land presented challenges due to the steepness of the rongoā garden which meant that the paths were better angled across the slopes to reduce steep inclines and meant that path development didn't disturb the parent soil on the slopes. Guidance from Whai Maia staff emphasised accessibility for all ages and abilities should be a consideration. It was for this reason after examining different configurations of the spaces on this upper ridge of Pourewa that the māra tūpuna was placed next to the atea on a flat space that had originally been planned as a carpark. Accessibility for elders to both enjoy this traditional form of an ancient garden and to create a site for pūrākau meant that it was well placed to facilitate one of the key kaupapa of bringing the tikanga and the mātauranga to life. The implications of the site contours, the geomorphology of the site and with the collaboration of hapū knowledge- holders altered my approach to the design.

These slopes also caused some changes to how the parking could be facilitated on the site and an extra wide berm meant that a bus-stop could be accommodated on Kepa Road in a safer fashion by using part of the berm top to take buses further from the heavy traffic that is evident there.

The relationship between the many maunga of Tāmaki and early gardening is reflected in the choice of basaltic rock as an edging for the māra kai. I applied the cues that I saw in the natural environment and the principles of Hua Parakore also guided my approach to design.

In order to meet the needs of Hua Parakore careful choice of materials was essential to avoid materials that would leach chemicals into the soil. Initially I had considered untreated macrocarpa sleepers, plastic recycled posts and planks and TrustWood environmentally treated pine. In the end after careful evaluation the TrustWood timber was chosen. The recycled plastic products which appealed at first because of their impact of taking plastics out of circulation. However, it was argued that plastic has no whakapapa and mauri that would be associated with te ao Māori. The standard treated timbers were rejected because they leached copper, chromium and arsenic into the soil. For reasons of longevity the TrustWood product was accepted as the best solution.

Given that my starting point was to produce a Māori ethnobotanic garden, the research and interaction with Ōrākei through this exploration has become richer as I infused mātauranga Māori and the Orākei world view into my thinking and design.

Finally, as this design project progressed it has generated excitement among the hapū. It will produce a unique garden in Aotearoa where all the traditional ethnobotany of the Māori world comes together. While the site could be said to be an ethnobotanic garden, it is unique because it will meet the practical needs of Ōrākei. Food will be available to the community, the best collection of harakeke and other fibre plants will be at hand for the weavers and rongoā ngāhere will be available to harvest and all sites will provide a distinctive Ngāti Whātua Ōrākei presence.

It has been an undoubted privilege to be able to participate in this project with Ngāti Whātua Ōrākei.

He toa mau rākau he tōku piringa, He toa mahi kai he rākau whakamarumaru

The man who holds the weapon is a rock in defense, but a man who is an expert in food production is a sheltering tree

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