



NGAATI TE ATA WAIOHUA

CULTURAL IMPACT ASSESSMENT REPORT



Figure 1: Looking down the western gully from above the southern end of it.

1618 Ararimu Road

Prepared By: Ngaati Te Ata Waiohua

Prepared For: SAL Land Ltd

Date: November 2023

1. Whakataukii

“Ka pa taua, ko ngaa kaahu pookere me ngaa kurii rangaunu o Taamaki e kore e ngaro i te hinapoouri.”

“Our chieftainship in Taamaki Makaurau will never be lost to darkness.”

(Naa Te Rangihahautuu raaua ko Te Rangikaimata, Ngaati Te Ata Waiohua Chiefs)

2. Introduction to Ngaati Te Ata Waiohua

Pou Taahuhu Koorero – Ngaati Te Ata Waiohua Historical Summary

Ko wai maatou: Who are we?

“Ko Ngaati Te Ata Waiohua te iwi, we are Ngaati Te Ata Waiohua.”

Ngaati Te Ata Waiohua descend from the “taangata whenua” the first peoples of Taamaki Makaurau, Auckland where we have been in Taamaki Makaurau “mai raa anoo” since time immemorial. Our whakapapa to Taamaki stretches back 1000 years to the earliest inhabitants of our tribal rohe and the many descendants who came after them. This includes Ngaa Tuurehu (those who originated from the earth), Te Tini-oo-Maruiwi (the descendants of Maruiwi), Te Tini-oo-Ruataamore (the descendants of Ruataamore) and Te Tini-oo-Toi (the multitudes of Toi Te Huatahi).

Around 1350 AD, the great migration of waka (canoes) known as “the great fleet” traversed the vast Pacific Ocean, ‘Te Moananui-a-Kiwa’, and brought our tuupuna (ancestors) from Rai’atea, Hawaiki to these lands Aotearoa, New Zealand. On their arrival to Taamaki Makaurau, in-particular the Tainui waka passed through Te Waitemataa, Te Moananui-o-Toi, Tiikapa Moana and Te Maanukanuka-o-Hoturoa, with many of the crew members remaining in these places and inter-marrying with the earlier peoples. These tuupuna, included Rakataura (also known as Hape or Riukiuta), Poutuukeka, Marama, Horoiwi, Hiaroa, Te Keteanataua, Riukiuta and Taikehu. These were the early ancestors of the great iwi known as “Ngaa Oho,” the descendants of the Ariki, ‘Ohomairangi.’

Ngaa Oho, named after their ancestor Ohomairangi, grew and populated Taamaki and subsequently divided itself into three smaller groups who resided within the wider Taamaki Makaurau landscape. These groups of Ngaa Oho became known as Ngaa Oho, Ngaa Iwi and Ngaa Riki. Ngaa Riki lived mainly around and south of Papakura, Ngaa Iwi lived between Papakura and the Waitemataa and Ngaa Oho were based to the north of the Waitemataa (North Shore) and towards Kaipara. Eventually these three hapuu merged to become ‘Te Wai-o-Hua’ (the waters of Hua) under the “mana” mantle of our eponymous ancestor, ‘Te Huakaiwaka,’ the grandfather of our Ngaati Te Ata Waiohua ancestress, Te Ata-i-Rehia.

Ngaati Te Ata Waiohua whakapapa (genealogical link) to Taamaki Makaurau through the union of Huakaiwaka and Te Rauwhakiwhaki (Ngaa Oho, Ngaa Iwi). Huatau joined Kauahi (Ngaa Iwi) and had our Ngaati Te Ata Waiohua ancestor, Te Ata-i-Rehia. It is through these associations that we connect to Taamaki Makaurau.

Te Ata-i-Rehia of Waiohua then joined with Tapaue (whom father was Uerata and grandfather Mahuta), a prominent Waikato chief, who gained control of the lands from Taupiri to Port Waikato. In honour of Te Ata-i-Rehia and her life pledge to her people, her name became the name of her people; Ngaati Te Ata-i-Rehia. Today we are known as Ngaati Te Ata Waiohua.

Ngaati Te Ata Waiohewa Whakapapa / Genealogy¹

Huakaiwaka = Te Rauwhakiwhaki
(Origin of Te Waiohewa)
|
Huataua = Kauahi
|
Te Ata-i-Rehia = Tapaue
(Origin of Ngaati Te Ata) (Waikato)



Figure 2: A pou (carving) depicting our Ngaati Te Ata Waiohewa ancestress, **Te Ata-i-Rehia**.

Known as the path of the Rimu (Ararimu) this area was well known as an area traversed by Māori from east and west and its connection to trade from the Manukau Harbour. Both Māori and Europeans were attracted to this area and Te Maketu because of its fertile volcanic soils, fast running stream, warm climate, clear views of the surrounding area and closeness to the main roads and tracks. A paa (fortification) was built on one of the volcanic cones at Te Maketu between 1740 and 1780 by Noia, a Te Waiohewa chief. Later, a new pa- and large gardens were built below on gently sloping land.

Te Wairoa (Wairoa River) forms in the Te Ngaaherehere o Kohukohunui (Hunua ranges) and the surrounding foothills, and empties past Clevedon Village. The gullies on the site are at the most southern end of the Te Wairoa catchment. South of the site (even within the southwestern corner of the site) the catchment of the Waikato River begins, flowing the opposite direction. Nearby volcanic features such as the Otau, Paparata and Ararimu hills are the domain of Mataoho.

Te Wairoa and the paa at Te Maketu have been a place of Māori settlement and sustenance for many hundreds of years. This long history of association carries through into our present-day role in their care and well-being.

¹ F. D. Fenton, Important Judgements 1866-1879. Delivered in the Compensation Courts and Native Land Court, Ooraakei MB1, Auckland, December 22, 1869.



Figure 3: The site in a 1944 aerial outlined in purple and the leased part of the neighbouring property in blue.



Figure 4: Further down Te Wairoa (coming from the right) as it passes by Clevedon, 1959.

3. The development



Figure 5: Location of the site outlined in purple and the leased part of the neighbouring property in blue.

It is our understanding that the applicant is seeking to create a managed fill site at 1618 Ararimu Rd. It will take place over two land parcels, Pt Lot 2 DP 77813 (1618 Ararimu Rd) and Lot 1 DP 166299. The applicant has a lease with the owner on a portion of Lot 1 DP 166299 for this purpose.

Initial activities will include removal of the pine trees in the central gully and construction of access roads. Quarrying is then proposed to take place, expanding on the existing quarry located in the southeastern portion of the site on the leased land. As quarrying progresses, filling would occur in a staged manner, infilling the portions of the site that had been previously quarried. Fill is intended to be sourced from SB Civil's earthworks clients.

In order to achieve this 3 tributary gullies in the upper reaches of Te Wairoa (the Wairoa River) would be filled. These are referred to as the eastern gully, western gully and central gully (within the pine forest).

Approximately 35 metres of the intermittent stream labelled as "I1" will be lost within the western gully. This is proposed to be offset with 20 metres of planting on both banks of stream labelled "P1". 471.5m² of wetland will also be recreated, "trading up" from stream extent to wetland extent. 10m of riparian planting is also proposed around the recreated wetland.

On numbered page 30 of the Assessment of Environmental Effects is the reasoning:

"The level of effect of the loss of 35 m of Stream I1 has been assessed as being low, as although the magnitude of the effect has been assessed as high, the value of the stream is negligible due its short length, deeply incised channel, and lack of suitable fish habitat. Implementing these proposals for offsetting the loss of the stream will enhance the value of Stream P1 and restore 471.5 m² of wetland, thus creating a net biodiversity gain."

Also to be lost is 2,108m² of Wetland W7 within the eastern gully. They hope to offset this through:

"...creation of wetlands, and through restoration planting of wetlands elsewhere on the site. Most of the offset planting is proposed around the central section of Stream P2, to re-create the former extent of wetland in this area, as indicated by aerial imagery from 1944.

The remainder of the offset planting will take place in Wetland W5 and W6. The results of the Wetland Ecological Valuation (WEV) calculations indicate that 1,800m² of impacted W7 will be offset by planting and recreating 2,677m² of wetland at the historic wetland around Stream P2, and the remaining 308m² of impacted W7 will be offset by planting and restoring 1,554m² of wetland at Wetlands W5 and W6"

The current condition of Wetland W7 is described on numbered page 22 of the Ecological Effects Assessment:

*"Wetland W7... supports an assemblage of plants that meet the Rapid Test and therefore qualify the area as a natural inland wetland under the NPS-FM. Dominant species include obligate wetland species blue sweetgrass, and raupō (*Typha orientalis*) and facultative wetland species soft rush, fan-flowered rush, and spearwort.*

The ecological condition of the wetland is poor as it is trampled and grazed by stock, and supports mostly exotic species of rush and grass. There have been recent influxes of sediment into the wetland, which are likely to be the result of trampling of surrounding slopes by livestock, exacerbated by the multiple storm events in the Auckland region in 2023. Increased erosion of the upstream historic quarry during storm events may also have contributed towards sediment inputs."

While the condition both the intermittent stream I1 and wetland W7 have suffered over decades of neglect, this should not contribute towards the reasoning to fill them. They are in the same degraded state as a large proportion of waterways across Aotearoa, and have the potential to be restored like any other. In saying that, we do acknowledge that overall the proposal will result in an increase in biodiversity values.

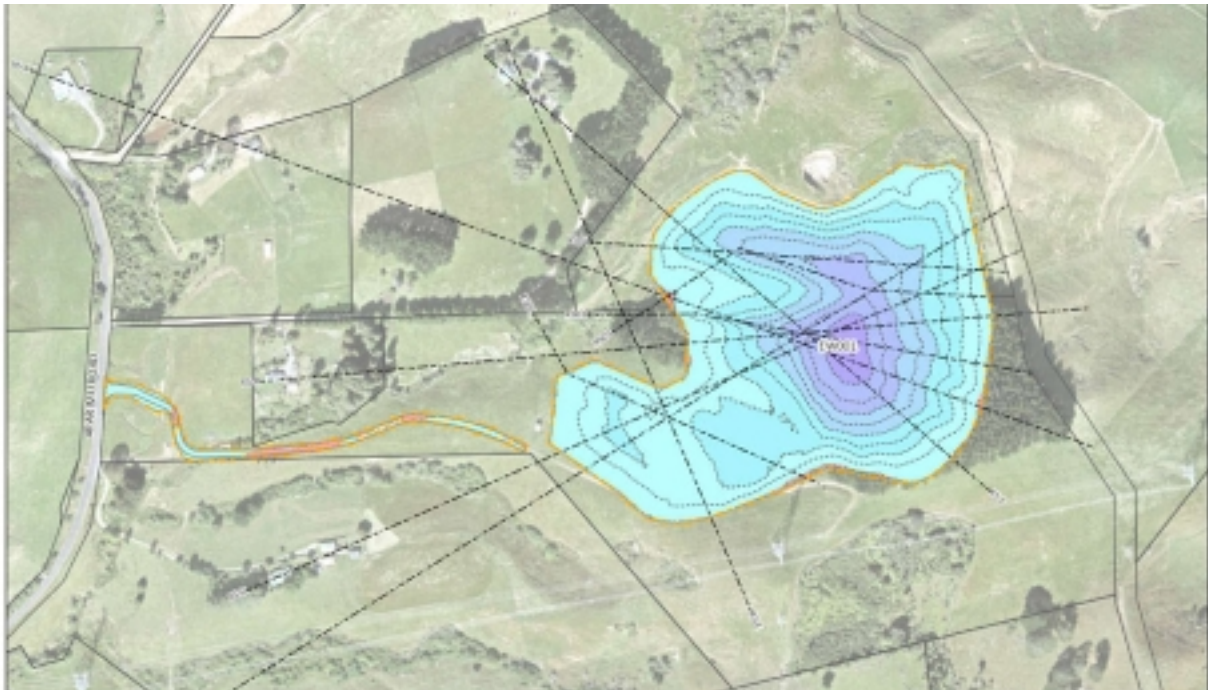


Figure 6: The overall site plan for the managed fill.

Within the central gully there is an overland flow path which meets the criteria for an ephemeral stream, and is labelled as Ephemeral Stream E1. While E1 will be filled, there is no proposed offset for this due to it not being a requirement within the EIANZ guidelines, and the "net ecological gains" being made with other offset restoration.

The smaller, mostly dry overland flowpaths which make up the furtherest reaches of the tributaries are similarly not proposed to have any offset restoration. It was noted that Permanent Stream P3 was proposed

not to be restored, due to being on the leased land, and issues around protecting the planting it perpetuity. We suggest this issue be worked out, because if a stream/wetland environment is able to be destroyed on the leased land under this proposal, then restoration on it should be done also.

While the following of EIANZ guidelines and the overall “net ecological gains” are acknowledged and appreciated, we want to emphasise the loss of ecological potential that filling in the area will bring. This is due to the offset restorations of this proposal not providing as much of an ecological gain when compared to if the gullies themselves were restored also. We also view the loss of the gullies and flowpaths in their entirety as a loss, as the beginnings of Te Wairoa. We do not support reclamation of streams and wetlands.

The location of Wetland W7, Intermittent Stream I1, Ephemeral Stream E1 and Permanent Stream P3 along with the complete proposed restoration plans can be seen below on figures 7, 8 and 9,



Figure 7: Northern end of the site showing proposed planting for offsets and mitigation:

- Re-creation of wetland (Wetland HW1) to offset the loss of extent and value of Wetland W7 (453 m²) and the loss of extent of Stream I1 (dark yellow) plus a planted margin (pale yellow).
- Planting of a minimum of 35 m of Stream P1 (dark blue line and pale blue riparian margin) to offset the loss of value of Stream I1.
- Planting of native shrub and tree species, including those tree species known to be preferred by bats for roosting (pink shading).
- Planting of the margins of Wetlands W1, W2 and W4 to reduce any potential impact of sediment runoff during construction and operation of the access track (pale green shading).
- Streams are shown in a turquoise line, and drains are shown with a pink line.
- The proposed access track is shown with an orange line.

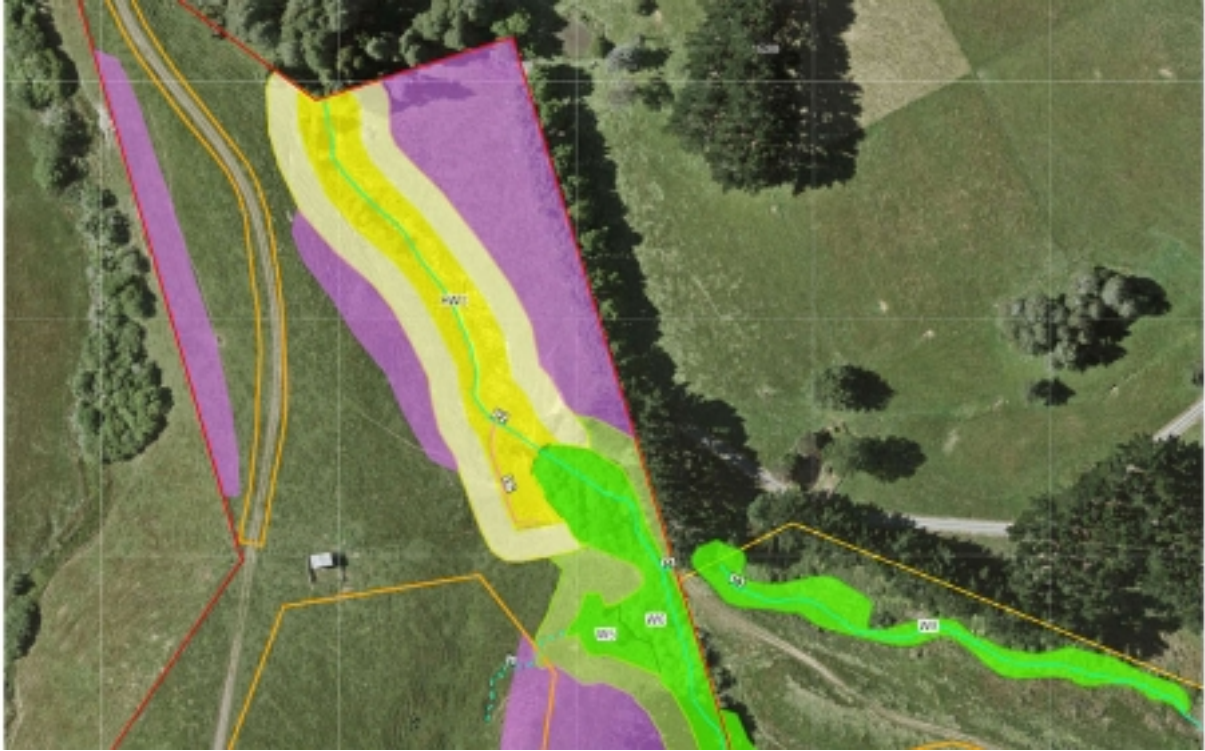


Figure 8: Central section of the site showing proposed planting for offsets and mitigation:

- *Re-creation of wetland (Wetland HW3) to offset the loss of extent and value of Wetland W7 (2, 682 m²) plus a planted margin (pale yellow).*
- *Planting of native shrub and tree species, including those tree species known to be preferred by bats for roosting (pink shading).*
- *Planting of the margins of Wetlands W5 and W6 to reduce any potential impact of sediment runoff during construction and operation of the managed fill.*
- *Permanent streams are shown with a turquoise line, the intermittent stream is shown with a dashed turquoise line.*
- *The proposed access track and fill area are shown with an orange line.*

The site has long been used for grazing and pastoral activities, as well as transmission towers towards the western side of the property. The only other recent use is the small “rotten rock” quarry on the leased portion of the site, that has been operational since 1968 but has not included any permanent infrastructure other than an unpaved access road to it.

The managed fill operation itself will consist of two fill areas – one to the south and one to the north. The fill area to the north would be filled first, with the southern area commencing afterwards. The rate of deposition of fill will vary according to projects. Topsoil from the site will be moved around as they fill and not wasted. The maximum cut depth will be 1.7m and the maximum height of the fill will be 45.2m. The total fill volume would be 1,559,094m³ over the 35-year duration of the managed fill operation.

The fill will be sloped so that surface water runs off via overland flow paths. A key design requirement of the proposed managed fill surface (i.e., the final land surface design) is that it will not alter the overall surface water catchment area or location.

We are also concerned about the source of the large amounts of fill, mainly from surrounding construction sites in South Auckland. We acknowledge that only fill that meets the accepted criteria will be allowed onto the site. This will mainly be clay and inert construction material (i.e. no asbestos or household waste etc).

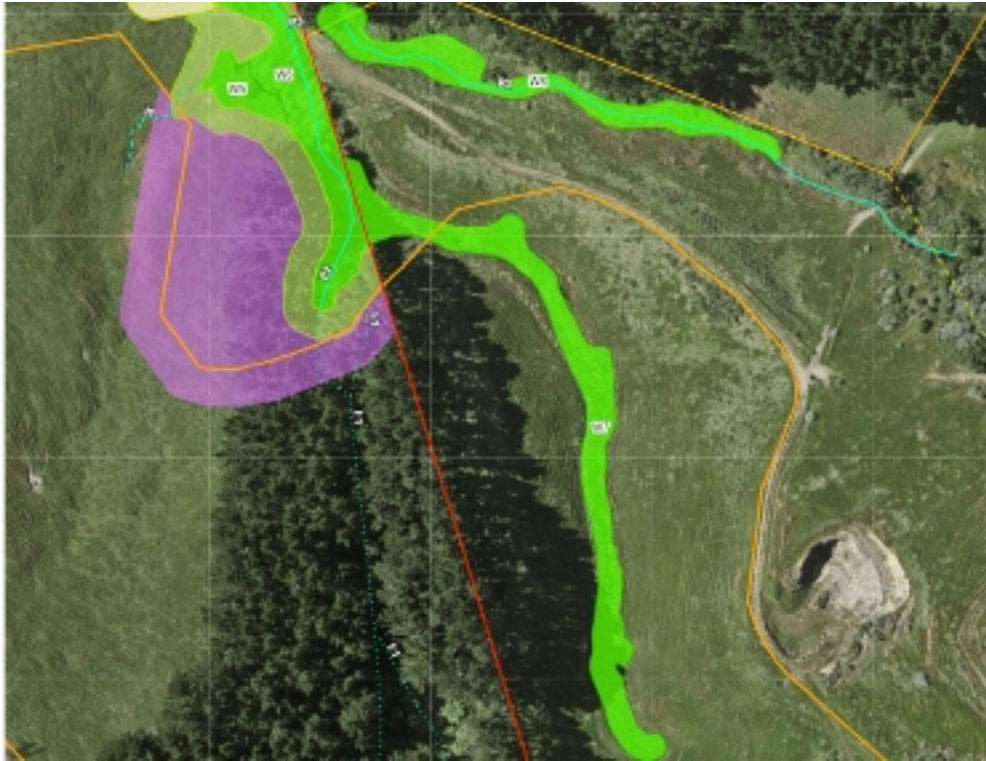


Figure 9: Southern end of the site showing proposed planting for offsets and mitigation:

- Planting of native shrub and tree species, including those tree species known to be preferred by bats for roosting (pink shading).
- Planting of the margins of Wetlands W5 and W6 to reduce any potential impact of sediment runoff during construction and operation of the managed fill.
- Permanent streams are shown with a turquoise line, the intermittent stream is shown with a dashed turquoise line and the braided ephemeral stream is shown with a dotted turquoise line.
- The proposed fill area is shown with an orange line.



Figure 10: The Auckland Council recorded streams (cyan) and overland flow paths (blue) on the site.



Figure 11: Geology of the area, site outlined in purple (Edbrooke, S.W. 2001: Geology of the Auckland area).

The geology that underlies the site consists of Waipapa Composite Terrane (TJw). This is made up of massive to thin-bedded lithic volcanoclastic sandstone and argillite, with some tectonically enclosed chert and basalt, and zones of melange. The rest of the site is recorded as Alluvial/Colluvial desposits (Q1a). Other nearby geological features include parts of the South Auckland Volcanic Field, such as the Otau, Ararimu, Paparata and Mangatawhiri cones.

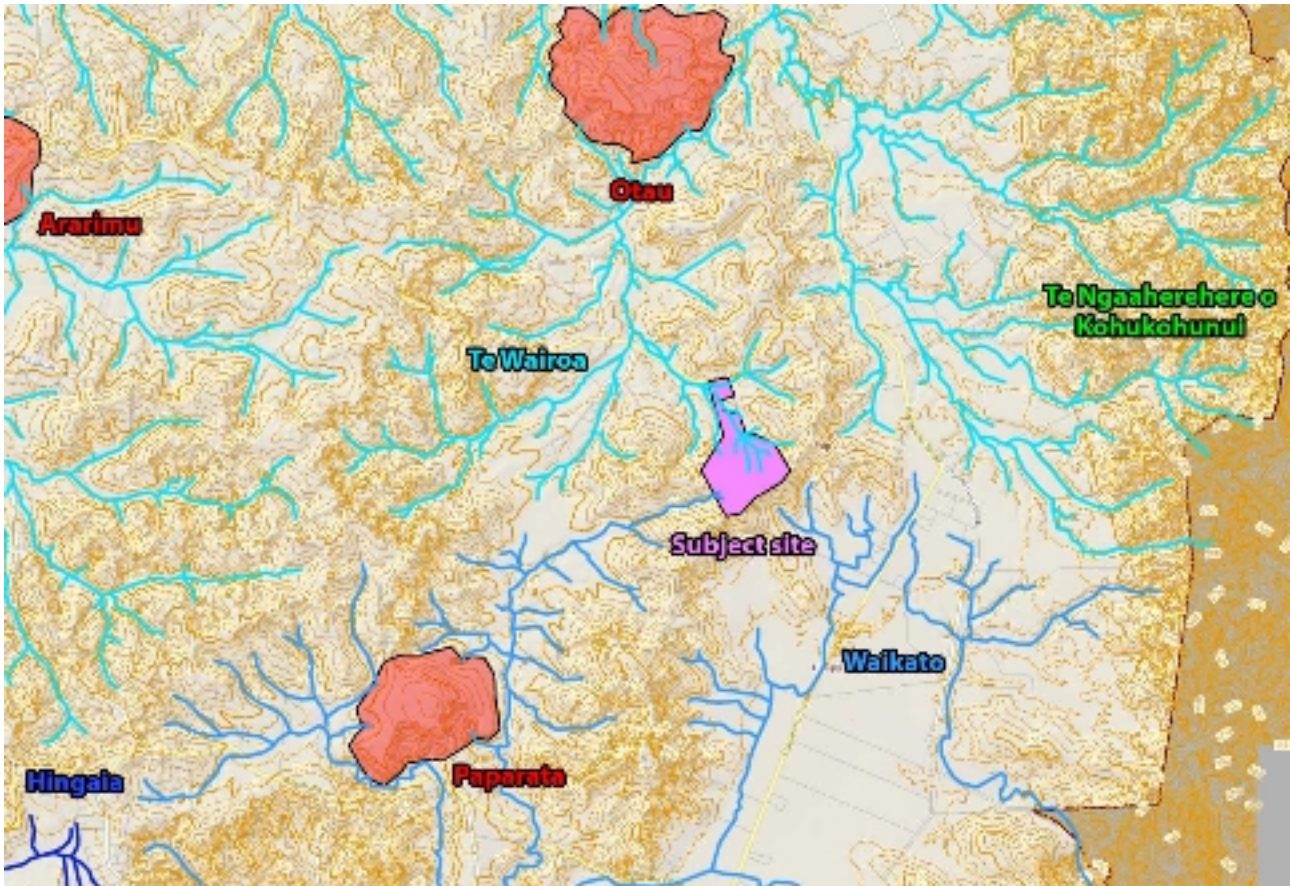


Figure 12: The relationship of the subject site to the catchments of Te Wairoa (Wairoa River) and Waikato, as well as surrounding volcanic features and Te Ngaaherehere o Kohukohunui (Hunua Ranges).

There have been long-tailed bats detected in the general area, as close as 2.5km to the southwest. No surveys have been done in the pine forest, although bat roosts are proposed to be established outside of the fill area (see the pink shaded areas in figures 7, 8 and 9). Under the Wildlife Permit, if any bats are observed during felling operations, then works would have to stop and a survey be undertaken. Note, EcoQuest are currently undertaking acoustic monitoring of long tailed bats and locating roosting sites within the wider Hunua area.

There are no Outstanding Natural Feature, Significant Ecological Area or Mana Whenua overlays on the subject site itself.

Within the neighbouring properties of 23B Aicken Rd, Lot 1 DP 463554 on Aicken Rd, about 100m adjacent to the western boundary, there is a Significant Ecological Area overlay on native bush surrounding a tributary to the Waikato. Also, further downstream along Te Wairoa itself there are various Significant Ecological Area and Outstanding Natural Feature overlays – and the tributaries on this property and proposed managed fill site of course feed into them.

There are no recorded archaeological sites in the area, however, that doesn't mean that there isn't any archaeological or cultural heritage within the proposal footprint. What lies beneath the surface is still an unknown. These are also the upper reaches of Te Wairoa that would be completely buried beneath fill under this proposal. It is our preference to have an archaeological assessment (even a desktop survey) undertaken, even though accidental discovery protocols will be adhered to during works.

4. Cultural preferences and recommendations with regard to:

Soil and earthworks

Soil is an important cultural resource and was used for various activities, such as plant cultivation and dye for garments. In the past iwi modified large areas of land for food production, such as kuumara gardens. Kuumara were an important source of food and our tupuna would add stone chippings and sand to the soil used for growing kuumara. Many of these borrow/excavation pits are still visible today.

Taonga such as carvings and whaariki were stored in peat soils in wetlands to both hide and preserve them during times of trouble. Soil also has an important cleansing role. Only by-passing treated waste through Papatuaanuku can the mauri of water be restored.

Earthworks/land modification can significantly affect our cultural heritage, especially waahi tapu or sites of significance. Earthworks can also affect land stability and water sources and result in the release of sediment.

We are also concerned about the source of the large amounts of fill that will be needed for future development. Will it be locally sourced or brought in from outside the areas? If outside the areas, where from and will it be assessed for contaminants? Contaminants, while they can become inert over time, are activated when disturbed. Will any fill be overburden from other development and infrastructure projects in Taamaki Makaurau that are currently underway?

Table 1. Issues, concerns and opportunities for Ngaati Te Ata Waiohewa to be addressed, and possible mechanisms to do so in relation to soil and earthworks.

Issues	<ul style="list-style-type: none">• Future development of these areas is expected to result in a significant number of large-scale earthworks.• This includes 'cut and fill' used to create roads and various subdivisions to accommodate building platforms.• The thresholds for earthworks are problematic i.e. too high.• Earthworks may have an adverse effect on cultural heritage, land stability, and the mauri of water.• Sediment may be released into the environment, including that from contaminated soils.• Potentially contaminated soil may be used as fill.• Removal of indigenous vegetation can cause erosion.• Soil erosion can cause sedimentation.• Increased risk of cumulative adverse effects as land uses change and development intensifies.
Ngaati Te Ata Waiohewa recommendations and aspirations	<ul style="list-style-type: none">• Cultural monitoring agreements should be established, and must be undertaken by iwi kaitiaki (alongside the project archaeologist) during any development• Review the Auckland Unitary Plan for provisions on volume of earthworks

	<p>triggers for mana whenua oversight.</p> <ul style="list-style-type: none"> • Minimise earthworks and make maximum use of natural ground levels. • Ensure sufficient erosion and sediment control measures are in place for earthworks. Earthworks that have the potential to impact on waterways must have sufficient measures in place to ensure that adverse effects on water bodies are managed. • Riparian planting of appropriate, preferably indigenous, species must be promoted and increased to stabilise riverbanks and reduce erosion in the region. Plants should be 'eco-sourced / whakapapa plants' and consistent with local biodiversity. • Riparian vegetation must only be removed from river, lake and coastal/estuarine margins using methods that do not result in increased soil erosion in the long term. Any short term effects must be managed to minimise any adverse effects. • When making decisions on future development projects, cumulative effects must be considered.
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Erosion and sediment control

Soil erosion and inappropriate or a lack of sediment control can compromise the mauri of the land, rivers, lakes, and marine environments. It can be caused by activities such as intensive farming and forestry, vegetation clearance, and the development of urban areas (e.g. earthworks). It can also result in the contamination of land and waterways and the loss of important soil nutrients. Activities that accelerate soil erosion must be managed effectively.

It is vital that the development expected in Ararimu follows best practice erosion and sediment controls. Current best practise in our opinion is set out in the Auckland Council's Earthworks Erosion and Sediment Control guidance (GD05).

While the effects of contaminants are most noticeable on water bodies, the sources and causes lie on the land and with how the land is managed. For example, the intensification of agricultural practices throughout our respective rohe (tribal area) increases the nitrogen and phosphorus loads and levels of faecal pathogens entering rivers, lakes, wetlands and estuaries. It also increases the risk of soil degradation, soil compaction, surface water runoff, and sediment loss from hill and flat land areas. The use of flocculants as part of sediment control can also be a contaminant. Flocculants are used when it rains and are generally a chemical poly aluminium chloride (PAC). They can have a devastating effect on the receiving environment if accidental over-dosing occurs.

The removal of indigenous vegetation in favour of pastoral farming, intensified urban development, production forestry and roading has caused, and continues to cause, accelerated soil erosion, particularly on hill country. This is delivering inflated loads of sediment to rivers, lakes, estuaries and coastal marine areas and causing significant negative impact on water quality and aquatic biodiversity. The removal of vegetation for urban development, such as roads, subdivision and building platforms, will also have a similar effect.

Clear-felling harvesting practices create the potential for soil erosion which causes sedimentation of receiving waterways and the coastal environment and smothers instream habitat and ecological values. This applies both within the context of forestry but can also apply to riparian management particularly invasive/pest plant removal along waterbodies.

Fluctuations in water levels (volume/quantity), accretion (gradual build-up of sediment or other natural material), wave action and water flow can all influence erosion potential, particularly along river and lake banks, around river islands and along the coast.

Iwi kaitiaki must be involved in the monitoring of sediment and silt control management, fencing and mitigation plans during any future development.

Table 2. Issues, concerns and opportunities for Ngaati Te Ata Waiohua to be addressed, and possible mechanisms to do so in relation to erosion and sediment control.

Issues	<ul style="list-style-type: none"> • Amount of sediment being released into the receiving environment. • Use of flocculants and potential for accidental overdosing. • Activities that accelerate erosion (e.g. clearance of indigenous vegetation). • Increased risk of cumulative adverse effects as land uses change and development intensifies.
Ngaati Te Ata Waiohua recommendations and aspirations	<ul style="list-style-type: none"> • Effectively manage activities that accelerate soil erosion e.g. vegetation removal and intensive agricultural practises. • Effectively manage the impact of contaminated land on the surrounding environment. Ensure contaminated land is not used as fill. • When making decisions on future development projects, cumulative effects must be considered. • Restore and protect highly erodible lands e.g. retire highly erodible land from farming, prohibit the clearance of indigenous vegetation and soil disturbance on highly erodible land that could cause further erosion and use locally sourced indigenous vegetation during restoration. • Promote the direction of funds to support local reforestation initiatives on marginal lands. • Promote the adoption of best practice land and soil management that minimises soil erosion, nutrient leaching, and sediment and nutrient runoff. • Encourage research directed at developing technology and management practices that will minimise nutrient leaching and runoff. • When undertaking earthworks ‘applicants must strive to achieve a much higher percentage of sediment retention onsite i.e. strive to meet best practice such as Auckland Council’s GD05, rather than just meeting ‘bottom line’ minimum requirements such as TP90. There are proven ways to reduce the amount of sediment entering the ecosystem and those which are supported are: <ul style="list-style-type: none"> ◦ create a series of sediment pools instead of just one fore bay silt pond ◦ use of filter/compost socks around cesspits and drains use of an organic flocculent rather than chemical, when a flocculent is necessary. There are a variety of organic flocculent available currently on the market e.g. HaloKlear.

	<ul style="list-style-type: none"> ○ use of super silt fences in conjunction with silt ponds as a 'treatment train approach' ○ in the absence of silt fences use silt ponds, hay bales
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Waterways

In the past waterways provided travel, trade and communication for the tribes, as well as a resource for food. The waterways were the life blood connecting tissue between kaainga, paa, cultivations and traditional collecting resource areas. As such they are a significant part of our cultural landscape.

It is crucial that development of Ararimu recognises and respects the importance of our coastal and inland waterways.

Ngaati Te Ata Waiohūa does not accept the altering of a natural waterway; this alters its natural state. Nor do we accept that because a natural waterway has been previously 'straightened' by previous landowners, that it becomes a 'drain', it still has water flowing within it, water that still has mauri.

Also, we do not accept that because an area of swamp, wetland or stream has become degraded through past land use (e.g. dairy farming, horticulture etc.) that it becomes the 'base line' if the intent is to redevelop it. It is always possible to restore and enhance any degraded waterway through the development process. It is usually only a matter of willingness from all parties (applicant and council) to achieve this.

The Wairoa catchment has come under increasing pressures from intensifying development.

Table 3. Issues, concerns and opportunities for Ngaati Te Ata Waiohūa to be addressed, and possible mechanisms to do so in relation to waterways.

Issues	<ul style="list-style-type: none"> • Amount of sediment being released into the receiving environment. • Past land uses and practices have altered and degraded waterways. • Future urban development could adversely affect waterways e.g. loss of streams, wetlands or floodplains; reduced water quality etc. • Increased risk of cumulative adverse effects as land uses change and development intensifies.
Ngaati Te Ata Waiohūa recommendations and aspirations	<ul style="list-style-type: none"> • Future urban development should protect, rehabilitate and enhance waterways, especially where previous land use has degraded it. • Preserve the physical integrity of receiving streams. • Streams are well integrated with town centres with use of stream management plans and special policy requirements (green space, infrastructure, wider riparian margins). • Development around streams/awa is limited to maintain access, preserve amenity, retain views and protect water quality e.g. use of 20m setbacks, use of park edge roads, lower density housing. • Address existing use rights e.g. Industrial land discharges. • Transport network planning across the wider area must consider

	<p>stormwater treatment infrastructure.</p> <ul style="list-style-type: none"> • Involvement in stormwater management planning and kept informed of the processing of the network discharge consent for the area. • Council to provide watercourse assessment reports which provide baseline information on the existing condition of waterways. • Decisions on use of reserves or similar provision in subdivision applications shall give priority to protecting the water body health regardless of the water body or subdivision size. • When making decisions on future development projects, cumulative effects must be considered. • Proposed developments shall demonstrate how they have considered and applied development principles that enhance the environment including, but not limited to how the development: • Preserves and preferably enhances the natural hydrologic functions of the site • Identifies and preserves sensitive areas that affect the hydrology, including streams and their buffers, floodplains, wetlands, steep slopes, high-permeability soils and areas of indigenous vegetation. Maintains recharge of aquifers with clean uncontaminated water • Effectively manages natural hazards • Considers beneficial re-use on-site of stormwater and wastewater • Considers water conservation • Provides for visual amenity consistent with the surrounding environment • Minimising stormwater impacts to the greatest extent practicable by reducing imperviousness, conserving natural resources and ecosystems, maintaining natural drainage courses, reducing use of pipes, and minimising clearing and grading • Providing runoff storage measures dispersed through the site's landscape with a variety of detention, retention, and runoff practices • Where they will be of benefit, encouraging the use of mechanisms such as rainwater harvesting, rain gardens, roof gardens, and onsite storage and retention • Where they will be of benefit, encouraging the use of stormwater treatment devices including on-site treatment systems, allowing for emergency storage and retention structures • Such areas that have unavoidable impervious areas, attempt to break up these impervious areas by installing infiltration devices, drainage swales,
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	<p>and providing retention areas</p> <ul style="list-style-type: none"> • Minimise imperviousness by reducing the total area of paved surfaces • Maintain existing topography and pre-development hydrological processes.
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Water Quality

Ngaati Te Ata Waiohūa aspire to have waters that are drinkable, swimmable, and fishable with the water quality at least at the level it was before the impact of European settlement.

For Ngaati Te Ata Waiohūa the quality of water determines our relationship we have with it. The waters of the region have been modified for economic gains, and the effects of poor management practices relating to activities such as farming, horticulture, forestry, damming, wastewater, and urban development are increasingly being seen. These practices have altered the natural hydrology of rivers and streams (e.g. straightening, decreased water flow) and increased pollution. Point source and non-point source pollution has resulted in significant environment degradation, effecting the physical, chemical, and biological quality of water.

Water quality is often poor in areas where high levels of agricultural activity leach pollutants into groundwater. The nature of non-point source pollution, non-compliant discharges of urban run-off, and sewage effluent make it difficult to manage water quality, resulting in the accumulation of contaminants in sensitive environments. Point source discharges, such as those from wastewater treatment plants, can be highly organic and cause a reduction in water oxygen levels. This can stress fish life.

By-products of the previously mentioned activities contribute to the increase in nutrient levels and accumulation of key contaminants in water. Presence of metals such as iron, manganese, boron, mercury, and arsenic can have harmful effects on human health. Likewise, the use of herbicides, pesticides, insecticides, and fungicides are also recognised as potential contaminants of water. Water clarity can be altered by activities such as sand dredging/mining and soil erosion that increases the risk of sedimentation. Increased suspended sediment in waterways can have an adverse effect on ecosystems such as through smothering aquatic life in estuaries.

Contributing contaminants in water degradation are the levels of nitrogen and phosphorous. Nitrogen is found in groundwater (in the form of nitrate) and is monitored for health and environmental reasons. Elevated levels of nitrogen indicate the presence of other pollutants in freshwater and can pollute surface water. A key issue is that, with increasing nitrogen and phosphorous levels, the risk of harmful algal blooms also increases threats to human and animal health. Increasing nutrients also increases nuisance aquatic weed growth and, with increasing algae, reduces water clarity. Elevated pathogen (bacteria, such as E. coli, and viruses) levels in water are a risk to human and animal health.

Another major contributor to the quality of water is the introduction and poor management of pest species. The quality of water and its role in the natural biodiversity of waterways has been greatly altered because of transporting and holding pest fish and plant species. Pest fish (e.g. koi carp, catfish, perch, and tench) have stripped water channels of vegetation as well as excluded or out-competed native fish species. Similarly, pest plants (e.g. hornwort, yellow flag, and alligator weed) are also being transported by water and deposited on lands, where they have dominated and crowded out native flora.

Table 4. Issues, concerns and opportunities for Ngaati Te Ata Waiohūa to be addressed, and possible mechanisms to do so in relation to water quality.

Issues	<ul style="list-style-type: none"> • Degradation of water quality has happened at a national and local level. Adverse effects are becoming more evident. • Adverse effects caused by past land uses and practices such as farming, horticulture, urban development, point and nonpoint source discharges, modified waterways and decreased water flow, pest species, erosion and sedimentation, increased nutrient levels • Increased nutrient levels and contaminants in waters are a risk to human and animal health • Increased risk of cumulative adverse effects as land uses change and development intensifies.
Ngaati Te Ata Waiohuria recommendations and aspirations	<ul style="list-style-type: none"> • Ngaati Te Ata Waiohuria aspire to have waters that are drinkable, swimmable, and fishable with the water quality at least at the level it was before European arrival. • When making decisions on future development projects, cumulative effects must be considered.

Groundwater, recharge and water allocation

Ngaati Te Ata Waiohuria anticipate further development of Ararimu will have further adverse effects on groundwater in the longterm, especially if the lowering of groundwater levels is permanent. The key issue is to ensure the aquifers do not get contaminated. That's why it is vital to identify puna and the potential impact on these resources.

Groundwater recharge is vital to retain base flows within streams, and to keep aquifers recharged. In some areas (depending on soil type) rainwater can take between 1-100 years to seep down into aquifer. Stream base recharge does not take so long. Piping of any water flow lowers the base flow of a stream and causes higher peak flows. Impervious cover also has a devastating effect on stream base flow health. Up to 10 percent impervious cover of any site reduces base flow by 50 percent. Up to 50 percent and over of impervious cover of an area totally negates the ability for stream base flow recharge (Dr Tom Schueller).² Our maunga and tuff rings are a direct avenue for groundwater recharge because of their porous nature and it is therefore imperative that they are not built upon or modified so they can continue to function as they are intended. Our aquifers are being constantly relied upon as a source of water supply. Aquifer water can take between two and 100 years to regenerate depending on soil type. Some of our aquifer in the Waikato Region are already fully allocated. Others are over allocated and already have saline intrusion. This is not sustainable, and ground water recharge must be applied in all instances. Water allocation must be consistent with restoring and protecting the health and wellbeing of water bodies within our rohe, including aquifers.

Our aquifer and groundwater resources are slowly depleting and becoming polluted at a fastening rate as our population continues to grow. While not necessarily 'taking groundwater' new houses continuing to be built are taking away the earth's natural way of recharge by way of impervious surfaces. Each new dwelling, road, cycle/pedestrian way prevents rainwater from naturally permeating through the ground.

The practice of using soak pits for contaminated road runoff with no prior treatment also adds to the pollution of groundwater. Ngaati Te Ata Waiohuria are concerned that contaminant levels measured in groundwater will exceed the permitted activity criteria and will not be consistent with water quality in the receiving environment. On-going discharge of low levels of contaminants into the groundwater, will generate levels of risk to the environment and human health.

² Dr. Tom Schueller is a leading expert in groundwater recharge, and his evidence was taken into account at an Environment Court hearing regarding the Long Bay marine reserve area during a proposed development.

Before any further development of the Ararimu district is carried out, further information is required to better understand the current state of groundwater and the effects future development may have. For example, what effects will the lowering of groundwater have on aquifers with possible long-term saline intrusion? What are the effects on ground settlement? Our past experiences with large scale housing and industrial subdivisions is that they can cause ground settlement, which is a major concern to us.

Table 5. Issues, concerns and opportunities for Ngaati Te Ata Waiohewa to be addressed, and possible mechanisms to do so in relation to groundwater, recharge and water allocation.

Issues	<ul style="list-style-type: none"> • Disruption to natural recharge of groundwater and stream base flow due to increased urban development. • Adverse effects of lowering groundwater e.g. ground settlement, saline intrusion. • Increased risk of cumulative adverse effects as land uses change and development intensifies. • Ongoing discharge of low levels of contaminants into groundwater which will adversely affect the environment and human health. • Protection of maunga and tuff rings as an avenue for direct groundwater recharge.
Ngaati Te Ata Waiohewa recommendations and aspirations	<ul style="list-style-type: none"> • Ensure groundwater recharge to retain base flows within streams, and to keep aquifers recharged. • Support the promotion of innovative green business initiatives and practices. For example, the use of low-impact building materials, packed gravel or permeable concrete instead of conventional concrete or asphalt, to enhance replenishment of ground water. • When making decisions on future development projects, cumulative effects must be considered. • The water allocation framework must be underpinned by the following principles: <ul style="list-style-type: none"> ◦ Recognition that mana whenua iwi have rights and interests in water. ◦ Unauthorised water takes are subject to immediate enforcement action to ensure a level playing field for all water users. ◦ All water takes (excluding those required for civil or general emergency) should be accounted for within the allowable limit. ◦ The framework for allocating water to users should focus primarily on ensuring the health and well-being of waterways and secondly on contributing to the long-term economic, cultural, spiritual, environmental, and social well-being. • The water allocation framework must cater for all catchments and particularly consider catchments: <ul style="list-style-type: none"> ◦ that have no significant current or foreseeable demand pressure ◦ that continue to have water available for use and a trend of increasing demand towards full allocation ◦ that are fully allocated ◦ Where water is over allocated and all or any of that over allocation

Stormwater

Stormwater is a term commonly used in today's climate as referring to all water run-off, both clean (i.e. from roof tops) and contaminated (from roads, access ways, silt etc.). Past stormwater practice has been to get it all into a pipe and out of the way as fast as possible, usually draining into curb and channel, a cesspit then piped into the nearest waterway. This practice results in mixing stormwater with freshwater. This not only wastes water but also degrades the mauri of the water and is a culturally provocative act in the same vein as discharging treated effluent or waste directly into water.

There has always been a strong argument within New Zealand society regarding economic gain versus environmental and cultural gain. Because money talks, the gains more often than not are weighted on behalf of the economic argument. However, Ngaati Te Ata Waiohū will always advocate the highest level of treatment of stormwater before it is discharged into our waterways, and that the protection of the mauri of all-natural waterways and the food producing capacity of natural waterways is protected and enhanced, as is their life supporting capacity. Our cultural position is that we advocate water conservation and efficient use of water, oppose the direct disposal of any waste into waterways and require that waste pass through the soils, or through other innovative means, before discharge. Ngaati Te Ata Waiohū Iwi living on the Manukau Harbour despair at the despoiling of our harbours, long treasured for their fisheries.

Ngaati Te Ata Waiohū also promote the regeneration of any wetland (even if degraded) as wetlands featured prominently in the past as nature's natural filters. Natural wetlands should not be used as a stormwater filter device, or they will become a source of pollution. Natural wetlands should only be used to filter stormwater once it has passed through at least two forms of treatment.

The mixing of clean roof water runoff and contaminated road water is now considered a wasted resource, and often the cause of stormwater devices becoming 'inundated' during heavy rainfall, leading to further pollution and erosion of natural waterways. Often in the common 'stormwater pond' the sediments that have 'dropped out' during the 'settlement' phase within the ponds are 're-suspended' during heavy rain fall and inundation, and so all those contaminants become 'mobile' again and are flushed out of the pond and into the water ways, making the pond in-effective, and a source of contaminants.

New approaches to treating contaminated road runoff and stormwater in general are constantly being investigated and methods are becoming more 'natural'. Ngaati Te Ata Waiohū currently promote the 'treatment train' approach as current best practice. This promotes at source retention, provides quality contaminant removal, less inundation at the final stage, ensures the cost is more evenly spread, and is easier to maintain.

The treatment train approach includes methods such as roof water detention on site via rain tanks and or soakage pits, where clean rainwater can be reused or used to recharge the underground water systems as first treatment; then road water to vegetated swale and/or rain-garden; and then to a wetland for a final 'polish'. Natural stream greenways are being designed into natural waterways instead of piping to produce a more natural look, and further treatment. This is particularly important when creating a 'coastal or stream outfall', natural vegetated, semi rocked outfall/flow structures also add additional treatment and are more natural.

Rain gardens/swales for contaminated road water retention/detention, underground Stormwater 360 or Hynds Up-Flo devices can be used where a site is already developed if space is available and then a wetland or attenuation device (large vegetated dry swale system) for a final 'polish'. This system is currently best International practice; it serves to reduce initial runoff by infiltrating the first 10mm back into source, while containing contaminants, and adding to the recharge of the ground water. This also lessens volumes to device, which improves the function of the treatment device. It is important to note that as time goes by technologies change and monitoring has time to gather data and gain understandings of how stormwater is best treated. At the very least we expect all cesspits to be fitted with a 'stormwater 360 litter trap' or 'enviro-pod'. These devices fit easily into a cesspit and have been designed to fit under the grate for easy convenient installation and cleaning. The reference to and addition of the GD01 stormwater guidelines is

promoted.³ Mana Whenua have had input into these designs and if used in a treatment train approach they an effective guideline to encouraging better stormwater quality outcomes.

Green roofs are also becoming popular mainly in overseas countries, and where pollution is a problem. The green roof concept not only adds to more oxygen being produced but to the health and well-being of people who can grow their own vegetables, fruit trees etc.

The separation of clean roof water from contaminated road runoff must become a priority for all new development, both 'brown fields' and 'greenfield' development. This is easy enough to do. The provision of roof tanks to capture clean water, which is then reused for outdoor, and some indoor use is important, if we (citizens and residents) are to retain enough available water for future generations. Excess water can then be directed to groundwater recharge via soakage pits, and any additional can then be slowly released into the rest of the infrastructure.

Table 6. Issues, concerns and opportunities for Ngaati Te Ata Waiohewa to be addressed, and possible mechanisms to do so in relation to stormwater.

Issues	<ul style="list-style-type: none"> • Mixing of waters, especially clean roof water with contaminated run off. • Treatment of contaminated stormwater – follow best practice. • Efficient use of water. • Increased risk of cumulative adverse effects as land uses change and development intensifies.
Ngaati Te Ata Waiohewa recommendations and aspirations	<ul style="list-style-type: none"> • When making decisions on future development projects, cumulative effects must be considered. • 'Clean' and 'contaminated' waters are not mixed i.e. no direct disposal of any waste into waterways, including wetlands. • Highest level of stormwater treatment should be used before it is discharged into waterways. This includes, but is not limited to: <ul style="list-style-type: none"> ◦ use of 'treatment train' approach ◦ use of raingardens/swales and green roofs ◦ all cesspits to be fitted with a 'stormwater 360 litter trap' or 'enviro-pod' ◦ use and adoption of the Auckland Council's GD01 stormwater management devices guideline as an appropriate means to support the mitigation of stormwater issues.

Wastewater

The discharge of human effluent into natural water bodies is culturally offensive and unacceptable. Only land-based treatment through Papatuuānuku can cleanse this type of waste. Our preference is for land-based disposal or at least a significant percentage of it. No wastewater to be discharged into streams.

New ideas and innovative technologies need to be explored for the treatment of wastewater. For example, using power free natural aerating processes, instead of mechanical pumps etc. to treat wastewater to

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This document was produced by Auckland Council to provide guidance on stormwater management devices. Cunningham, A., Colibaba, A., Hellberg, B., Silyn Roberts, G., Symcock, R., Vigar, N and Woortman, W (2017) *Stormwater management devices in the Auckland region*. Auckland Council guideline document, GD2017/001.

advanced secondary levels. Nature is one huge recycling mechanism. It harnesses these forces that have been quietly working together for thousands of years to break down and decompose waste all around us. It then positions them in an enclosed eco-system that simulates the forest floor, to treat and break down your wastewater until it is perfectly safe to be re-introduced into the environment, via the soil.

Moving up the chain of life-forms capable of digesting solid matter from human and food wastes, early conclusions form the opinion that early vermiculture and biological processes offered by far the best means of treatment for solid waste, without using mechanical or electronic means. It has been shown, through extensive trialling worldwide, these vermiculture processes which reduce the solids by up to 95 percent, are unmatched by any other process. There are no mechanically moving parts in these processes and nature's power is free.

Ngaati Te Ata Waiohua are concerned what the effects of both residential and industrial trade wastes will be on existing infrastructure.

Table 7. Issues, concerns and opportunities for Ngaati Te Ata Waiohua to be addressed, and possible mechanisms to do so in relation to wastewater.

Issues	<ul style="list-style-type: none"> • Mixing of waters, especially clean roof water with contaminated run off. • Treatment of contaminated stormwater – follow best practice. • Efficient use of water. • Increased risk of cumulative adverse effects as land uses change and development intensifies.
Ngaati Te Ata Waiohua recommendations and aspirations	<ul style="list-style-type: none"> • When making decisions on future development projects, cumulative effects must be considered. • 'Clean' and 'contaminated' waters are not mixed i.e. no direct disposal of any waste into waterways, including wetlands. • Highest level of stormwater treatment should be used before it is discharged into waterways. This includes, but is not limited to: <ul style="list-style-type: none"> ○ use of 'treatment train' approach ○ use of raingardens/swales and green roofs ○ all cesspits to be fitted with a 'stormwater 360 litter trap' or 'enviro-pod' ○ use and adoption of the Auckland Council's GD01 stormwater management devices guideline as an appropriate means to support the mitigation of stormwater issues.

Indigenous vegetation

Native trees and biodiversity are what make Aotearoa unique. Prior to the arrival of Europeans, native trees were abundant, and used only following karakia and for specific purposes. To mana whenua these old trees were tupuna taonga, living entities that commanded respect. Following the arrival of Europeans, entire regions were 'clearfelled' then burnt, before being turned into farmland. Profit was made from the trees, either used for building houses within the country, or exported by the ship full. Imagine the greed of being able to destroy thousands of hectares of forest, hundreds and thousands of years old, there for 'the taking'. Unfortunately, our current Auckland Council Unitary plan does not offer blanket protection to these remaining

old trees. Each tree has to be individually protected if not within a covenant. Ngaati Te Ata Waiohuria believe that all trees over 200 years old should be automatically protected.

There are so many exotic plants and trees within our society today, and not all of them are welcome. Some have proven to be pests, while others drop their leaves in the autumn and block stormwater infrastructure, while adding to the nitrate content within the waterways. There are also a lot of 'hybrid' trees and plants around, as people meddle with nature to achieve 'better looking' or 'better producing' trees/plants. It is distressing to see areas denuded of original flora. Some areas were specifically named because of a particular tree species that thrived there, only today to find not even one still flourishing.

Ngaati Te Ata Waiohuria support and promote the use of eco-sourced / whakapapa plants and trees and would like input into the selection of plant species planted. This will enable original species to be returned to the areas from locally sourced seed. This in turn promotes the return of the native bird and insect species back into the immediate and surrounding environment. Using native species in key locations that express seasonal change and variety is also encouraged. This will reinforce associations with the wider and former landscape of the areas, as well as respect the importance of these seasonal changes in life. Many native species demonstrate clear seasonal variations through their flowers, seeds and foliage.

Table 8. Issues, concerns and opportunities for mana whenua to be addressed, and possible mechanisms to do so in relation to indigenous vegetation.

Issues	<ul style="list-style-type: none"> • Lack of blanket tree protection to old trees. • Use of inappropriate trees/plants, especially exotics. • Loss of traditional trees/plants has affected our cultural landscape. • Increased risk of cumulative adverse effects as land uses change and development intensifies.
Ngaati Te Ata Waiohuria recommendations and aspirations	<ul style="list-style-type: none"> • Tree surveys should be undertaken to identify all native trees. • All trees over 200 years should be protected (without the need to individually identify them). • Ngaati Te Ata Waiohuria to have input in the selection of appropriate indigenous trees and plants, and involvement in the design of wetland planting. • Promote the use of eco-sourced / whakapapa plants and trees from within the area. Eco-sourced / whakapapa plants must be used where adjacent to areas of high ecological and conservation value and should be encouraged for all landscape plantings elsewhere. • When making decisions on future development projects, cumulative effects must be considered.

Open Space and greenways

Ngaati Te Ata Waiohuria advocates that more open space is needed in urban environments. It is our expectation that a fundamental aim of Auckland Council would be to maintain and encourage kaitiaki responsibility of mana whenua by implementing a partnership approach to the sustainable management of physical resources, including parks and open spaces in Ararimu. We acknowledge that there will be issues for mana whenua, relating to waahi tapu, protection and restoration of the mauri of natural eco-systems of land, water and air, the harvesting of kai and cultural materials, as well as the future management of significant open spaces.

We support the development of internal neighbourhood parks and open space buffer zones. Internal neighbourhood parks are for passive and active recreation and open space buffer zones help to 'soften the edge' of new urban development. Where possible the natural and cultural landscape should be preserved in the design and long-term maintenance of open space.

Ngaati Te Ata Waiohūa also support the use of 'park edge roads' along open space zones and esplanade or recreation reserves, rather than private property backing onto these spaces. This encourages a sense of public responsibility for these spaces and can help to reduce instances of illegal dumping.

Ngaati Te Ata Waiohūa support the use of greenways plans. Greenways plans should provide cycling and walking connections that are safe and enjoyable, while also improving local ecology and access to recreational opportunities. We support walkways that connect people to place and in particular access to the coastal margin. The objective being the long-term improvement of walking, cycling and ecological connections across the Auckland region. The primary reasons we support this are that the network typically follows natural landforms such as streams and coastlines, crosses existing parkland as well as man-made features such as streets and motorways. If people have access to the coastal margin and the lowland streams catchment then attention will start to focus on the restoration and healthy upkeep of these waterways. We need to find innovative connectivity solutions to connect Ararimu residents and users with the wider community.

Ngaati Te Ata Waiohūa want the waterways in Ararimu to be waterways to be proud of. They will hopefully be clean and have local walking and cycling paths connecting our neighbourhoods from one side to the other and re-establish a new 'modern' portage from one harbour to the other. This is why it is so crucial to re-establish these connections through landscape, cultural, heritage, geological, environmental and water linkages.

Table 9. Issues, concerns and opportunities for Ngaati Te Ata Waiohūa to be addressed, and possible mechanisms to do so in relation to open space.

Issues	<ul style="list-style-type: none"> Urban development in Ararimu should provide open spaces that protect and enhance our cultural and natural landscapes.
Ngaati Te Ata Waiohūa recommendations and aspirations	<ul style="list-style-type: none"> Cultural values and mana whenua associations should be known and understood before the type and location of open spaces are decided. Tikanga Māori and customary activities should influence how parks and open spaces are planned, developed and managed. The focus should be on visually and physically connecting Ararimu's network of parks, open spaces and streets to create opportunities for residents to move around their neighbourhoods and to enhance native biodiversity. Mana whenua should have First Rights of Naming reserves and open spaces. Require subdivision and new development to provide open space/reserves next to oceans, lakes and rivers. This will protect the water body, allow access, increase biodiversity, and enhance ecosystems. Open space buffer zones and internal neighbourhood parks should be encouraged.

- Encourage the use of 'park edge roads' along open space zones and esplanade or recreation reserves.
- Develop greenways plans that provide cycling and walking connections that are safe and enjoyable, while also improving local ecology and access to recreational opportunities.



Figure 13: Sustainable development.

Sustainability

Sustainable development for Ngaati Te Ata Waiohau means all new development should mostly, if not totally, be self-reliant and self-sustainable. Sustainable development is the organising principle for meeting human development goals while at the same time sustaining the ability of natural systems to provide the natural resources and ecosystem services upon which the economy and society depend. The desired result is a state of society where living conditions and resource use continue to meet human needs without undermining the integrity and stability of the natural system.

This means that sustainable development can meet the needs of the present without compromising the ability of future generations. There are many options for sustainability, with solar panels and green roofs to roof water capture for re-use and groundwater recharge being among a few. Each new development should be considering 'Where is my generated power coming from?' and 'How can we not waste any of the good clean water that falls from the sky?'. Sustainability also includes the retention of landscapes, cultural, visual and archaeological features, and enhancement of streams, bush areas, flora and fauna. Sustainable development also needs to consider the potential or actual effects of climate change and the risks associated with natural hazards. Natural hazards can pose a risk to human health, property and the environment, and development that ignores these risks is not sustainable in the long term.

All mana whenua of Taamaki Makaurau are having to 'culturally accommodate' another million people in our respective rohe by 2040. Our challenge is to reduce and manage our ecological footprint. Ngaati Te Ata

Waiohū support proposals for energy efficiency and transition away from fossil fuels. We support zero waste minimisation initiatives and proposals to reduce, reuse and recycle.

Ngaati Te Ata Waiohū promotes sustainable development and believe that all new development should in some form, if not in most ways, be self-reliant and sustainable. There are many options for sustainability to be built into the build design, e.g. solar panels, green roofs, and water recycling. Ideally all houses should achieve at least a 6-star level from New Zealand Green Building Council 'Homestar' or an equivalent standard. Achieving this would ensure new houses are typically better quality than a house built to just the building code i.e. warmer, drier, healthier and cost less to run.⁴

Solar power is a renewable energy source, and unlike many other energy sources it does not disrupt the local environment or annoy people. Solar panels are inexpensive to maintain (after initial costs of installation) and can be an efficient energy source for households and street lighting. Green roofs can provide insulation, noise attenuation and reduce energy use. They can also sustain a variety of plants and invertebrates and provide a habitat for various bird species. By acting as a stepping stone habitat for migrating species they can link species together that would otherwise be fragmented.

Current stormwater and wastewater management practices often contravene our principles. Water recycling is a major opportunity that should be pursued, and primary stormwater retention and treatment methods should be universally applied. Rainwater can also be collected and used by households. Developments are not sustainable if their waste products and wastewater cannot be managed consistently with our cultural values. Discharging hazardous, toxic, wastewater into our waterways and water bodies remains a cultural and spiritual offence. It is one of the greatest contributors to Māori ill health. Others may not understand that but our wairua does. The use of potentially contaminated fill during development is also an unsustainable practice that should be avoided. Any contaminated land should be remediated. Consistent use of sustainable practices can, over time, have cumulative positive effects and help to enhance the state of the environment.

Table 10. Issues, concerns and opportunities for Ngaati Te Ata Waiohū to be addressed, and possible mechanisms to do so in relation to sustainable development.

Issues	<ul style="list-style-type: none"> • Significant growth in Taamaki Makaurau (including the Ararimu area) requires mana whenua to 'culturally accommodate' a significant amount of people. • Ecological footprint needs to be reduced and managed. This includes reducing greenhouse gas emissions, restricting urban sprawl, and using more sensitive urban design. • Unsustainable development is inconsistent with our cultural values, especially when does not manage wastewater and waste products appropriately. • New development should be sustainable and self-reliant. • Operational costs can be a barrier to trying new methods to achieve better environmental outcomes e.g. stormwater infrastructure.
Ngaati Te Ata Waiohū recommendations and aspirations	<ul style="list-style-type: none"> • Support energy efficiency, transition away from fossil fuels and zero waste minimisation initiatives. • New development should incorporate sustainable options and housing should achieve at least a 6-star level from New Zealand Green Building Council 'Homestar' (or equivalent). This includes but is not limited to green roofs, solar panels and recycling of water and other resources.

	<ul style="list-style-type: none"> • New development should have positive impacts on the environment e.g. enhance water quality, increase biodiversity connections, and remediate contaminated land. • Significantly improve stormwater and wastewater management and treatment to acknowledge our cultural values. • Support the use of LID (Low impact design) principles in all new subdivisions and developments.
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Infrastructure

Planning for the further development of Ararimu needs to ensure new and/or upgraded infrastructure will be provided to meet the demands of growth. Currently inadequate and outmoded infrastructure is not keeping up with the rate of growth and is contributing to environmental degradation. For example, we are concerned with leaking and deteriorating stormwater and wastewater pipes and wastewater overflows. Non-compliant and unconsented Wastewater Treatment Plants do not meet acceptable environmental standards and many need to be upgraded. There are better alternatives out there in treating wastewater.

Transport is a vital part of creating healthy and connected communities. This is as true today as it was in our past - our old transport routes are an important part of our cultural landscape. Transport options will need to be improved within Ararimu with a focus on creating environments for people not cars and de-emphasising road building. Pedestrian and cycling options are an important part of this. More roads just equal more vehicles. Accessible and affordable public transport is also essential. For example, our kaumaatua need to be able to conduct tribal duties, often at night, throughout their rohe. Broadband supports our intent to live locally but be global players. Fast broadband is required for rural and urban areas. This will support our people and help us deliver services to them more efficiently and effectively.

Like other development within the Ararimu area, it is important that future and existing infrastructure also uses a water sensitive design approach.

Table 11. Issues, concerns and opportunities for Mana Whenua to be addressed, and possible mechanisms to do so in relation to infrastructure.

Issues	<ul style="list-style-type: none"> • Provision of infrastructure is not matching the pace of urban growth. • Inadequate and deteriorating infrastructure such as wastewater and stormwater pipes are causing adverse environmental effects. • Wastewater Treatment Plants are problematic and better options exist. • Transport options need improving to create healthy and connected communities. • Fast broadband is needed. • Provision of infrastructure should use a water sensitive design approach.
Ngaati Te Ata Waiohua recommendations and aspirations	<ul style="list-style-type: none"> • Actively explore alternative wastewater treatment and disposal options including removal of trade wastes, recycling of grey water, disposal to land (or other innovative methods) and not using water as a waste transport system. • De-emphasise road building and car parking and create people-friendly environments, including pedestrian and cycling networks.

	<ul style="list-style-type: none"> • Reduce current transport congestion levels. • Support fast broadband rollout including to rural areas. • Support and encourage the use of water sensitive design in the provision of infrastructure.
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5. Conclusion

Ngaati Te Ata Waiohuria generally have no issue with this application proceeding providing any actual and potential cultural and environmental effects will be appropriately managed and proposed mitigation measures are provided for, and the other matters in this report are addressed.

The ultimate goal for Ngaati Te Ata Waiohuria is the protection, conservation, preservation and appropriate management of our natural and cultural resources in a manner that recognises and provides for our collective interests and values, and enables positive environmental, social and economic outcomes.

Ngaati Te Ata Waiohuria generally support the Assessment of Environmental Effects report, with the exception of the lack of planting around Permanent Stream P3.

We generally support Ecological Effects Assessment report and its recommendations, particularly recommendation 2: *“Salvage of native eels and fish from Stream I1 and Wetland W7 that are proposed to be infilled, and from Stream P1 and Stream P2 that are proposed to be disturbed through the removal and/ or installation of culverts. The salvage of eels and fish will be undertaken by a qualified expert and in accordance with a Native Freshwater Fish Relocation Plan outlining the approach for salvage and the location(s) where salvaged species will be released...”*

This CIA report represents only a starting point for initial engagement and will require further consultation and dialogue between Ngaati Te Ata Waiohuria and SAL Land Ltd.

Further discussion will be needed regarding information gaps in our thinking, raise issues or opportunities we had not foreseen, and clarify and reach agreement of those issues as identified in this report. It is intended that this assessment will assist with ongoing decision making from all relevant parties involved and ensure that Ngaati Te Ata Waiohuria issues, concerns, interests and values are provided for, including resource consent requirements.

Please note roof water detention and wastewater section are general (not site specific) recommendations

6. Recommendations

1. That the matters raised in this report are addressed and we are provided a response to them.
2. That issues blocking planting around P3 be resolved so it can be used to further enhance Te Wairoa and offset the loss of the wider gully environs that are not accounted for.
3. That ongoing measurements of the ecological condition and water quality of the remaining streams/wetlands occur to ensure continued improvement and lack of impact from the fill site.
4. That Ngaati Te Ata Waiohuria recommends the following Archaeological Discovery Protocols:

If, at any time during site works, potential koiwi (human remains) or archaeological artefacts are discovered, then the following discovery protocol shall be followed:

- a. All earthworks will cease in the immediate vicinity (at least 10m from the site of the discovery) while a suitably qualified archaeologist is consulted to establish the type of remains;

- b. If the material is identified by the archaeologist as human, archaeology or artefact, earthworks must not be resumed in the affected area (as defined by the archaeologist).
- c. The consent holder must immediately advise the Team Leader, Compliance Monitoring Central, Heritage New Zealand Pouhere Taonga and Police (if human remains are found) and arrange a site inspection with these parties;
- d. The discovery contains koiwi, archaeology or artefacts of Maaori origin, representatives from those Iwi groups with mana whenua interest in the area are to be provided information on the nature and location of the discovery; and
- e. That the consent holder shall not recommence works until approved by the Team Leader, Compliance Monitoring Central.

Heoi, na

Te Taiao Unit
Ngaati Te Ata Waiohau

Appendix 1:

FIELD REPORT

Hui date

12pm, 7/11/2023

People present

Laila Alkamil (Planner, Williamson Water & Land Advisory), Alastair McCourtie and Josh Simpson (SB Civil).

Beau from Ngati Tamaoho did an onsite previously. They are opting to do a CIA.
The applicant is SAL Land Ltd.

Kaupapa

The proposal is to create a managed fill site at 1618 Ararimu Rd. It will take place over two land parcels Pt Lot 2 DP 77813 (1618 Ararimu Rd) and Lot 1 DP 166299. They have a lease with the owner of 166299 for using the land for filling activities.

This will fill in 3 tributary intermittent/ephemeral stream gullies. Effectively the upper reaches of tributaries to the Wairoa River. There's the eastern gully, western gully and smaller central gully that is hidden in the pine forest.

35m of the intermittent stream "I1" will be lost (this is in the western gully), and offset with 20m of planting on both banks of stream "P1". 471.5m² of wetland will also be recreated, "trading up" from stream extent to wetland extent. Their methodology is as follows:

"The level of effect of the loss of 35 m of Stream I1 has been assessed as being low, as although the magnitude of the effect has been assessed as high, the value of the stream is negligible due its short length, deeply incised channel, and lack of suitable fish habitat. Implementing these proposals for offsetting the loss of the stream will enhance the value of Stream P1 and restore 471.5 m² of wetland, thus creating a net biodiversity gain."

Also to be lost is approximately 2,108 m² of Wetland W7 (this is the eastern gully stream). They hope to offset this through:

".. creation of wetlands, and through restoration planting of wetlands elsewhere on the site. Most of the offset planting is proposed around the central section of Stream P2, to re-create the former extent of wetland in this area, as indicated by aerial imagery from 1944. The remainder of the offset planting will take place in Wetland W5 and W6. The results of the Wetland Ecological Valuation (WEV) calculations indicate that 1,800 m² of impacted W7 will be offset by planting and recreating 2,677 m² of wetland at the historic wetland around Stream P2, and the remaining 308 m² of impacted W7 will be offset by planting and restoring 1,554 m² of wetland at Wetlands W5 and W6"

Attached images "ecological 10a/b/c" from the Ecological Effects Assessment will help to show what streams and wetlands are labelled as I1, W7, etc.

There's pine forest in the middle of the fill area and would be removed. There have been long-tailed bats detected in the general area, as close as 2.5km to the southwest. No surveys have been done in the pine forest although bat roosts are proposed to be established outside of the fill area. There is a central gully in the pine forest with an ephemeral stream that runs through it. Most of this will be removed and there is no offset for it.

The fill material will be sourced from earthworks sites largely in Auckland but with potential for Waikato on a case-by-case basis. Topsoil from the site will be moved around as they fill and not wasted. The maximum fill volume is 1,560,000m³, with a maximum fill depth of 45m.

Resource consent is sought for 35 years though its lifespan may only be 15 years. Most of the filled area will become paddock after the site closes. This excludes the riparian planting and new wetland/stream areas.

If things continue smoothly they are looking to start enabling works early next year, with filling to begin next season after that. They lodged 3 weeks ago.

Heritage & Overlays

There are no SEA, ONF or Mana Whenua overlays on the site. However in the neighbouring property about 100m adjacent to the west is an SEA overlaying native bush. Also, the Wairoa River further down has various SEA and ONF overlays, and the tributaries on this property connect to there.

There are no recorded archaeological sites in the area, however an archaeological assessment should be undertaken.

Conclusion & Recommendations

Overall I'm uncertain about this proposal. While it offers a fair amount of planting and wetland restoration, we do not support wetland and stream reclamation.

If this proposal proceeds I recommend:

- Further offsetting for the ephemeral stream in the central gully, as these gullies are all starting points for the waters that fuel the Wairoa River.
- An archaeological report is undertaken.

Photos

[The photos have already been submitted to the applicant]



Figure 14: Looking up the eastern gully (Source: Field report)

Appendix 2:

LIST OF PREFERRED PLANTS

Species	Common name	Depth range
Urban: Scree Garden Plants		
Sedges, Knobby club rush, Silver and other tussock grasses, tussock sedge and swamp kiokio (fern), Rengarenga, Pohuehue, NZ Iris, NZ linen flax and reeds in swales		
Korokio, Pohuehue, Mikimiki, NZ flax, Lancewood and cotulas in the lawn		
Large scale formal native garden with totara, matai and miro hedges, kahikatea avenue, copses of different tree types and a diverse native NZ border of trees and shrubs.		
Esplanade reserve: Coastal Bank Revegetation		
Astelia banksii	coastal astelia	
Coprosma robusta	karamu	
Cordyline australis	cabbage tree / ti kouka	
Hebe stricta	koromiko	
Sophora microphylla	kowhai	
Macropiper excelsum	kawakawa	
Vitex lucens	puriri	
Phormium tenax	NZ flax/ harakeke	
Myoporum laetum	ngaio/ mousehole tree	
Pseudopanax lessonii	houpara/ coastal five finger	
Metrosideros excelsa	pohutukawa	
Entelea arborescens	whau	
Cyathea dealbata	silver fern	
Dicksonia fibrosa	wheki-ponga	
Pittosporum crassifolium	karo	
Blechnum novae-zelandiae	kiokio	
Coprosma sp.		
Pittosporum eugenoides	tarata/ lemonwood	
Kunzea ericoides	kānuka/ white tea-tree	
Leptospermum scoparium	mānuka/ tea-tree	
Wetland and stream: Bank planting		
Sophora microphylla	kowhai	
Macropiper excelsum	kawakawa	
Vitex lucens	puriri	
Hebe stricta	koromiko	
Phormium tenax	NZ flax	
Carex lessoniana	ruatahi	
Phormium cookianum	wharariki/ mountain flax	
Cyathea dealbata	silver fern	
Dicksonia fibrosa	wheki-ponga	
Pittosporum crassifolium	karo	
Coprosma robusta	karamu	
Blechnum novae-zelandiae	kiokio	
Myoporum laetum	ngaio	
Coprosma sp.		
Kunzea ericoides	kānuka/ white tea-tree	
Leptospermum scoparium	mānuka/ tea-tree	
Wetland: Margin moist soil planting		

Cortaderia fulvida	toetoe	
Phormium tenax	NZ flax/ harakeke	
Cordyline australis	cabbage tree / ti kouka	
Blechnum novae-zelandiae	swamp kiokio	
Carex virgata	small samp sedge	
Carex secta	makura/ purei	
Sophora microphylla	kowhai	
Macropiper excelsum	kawakawa	
Carex flagellifera		
Kunzea ericoides	kānuka/ white tea-tree	
Leptospermum scoparium	mānuka/ tea-tree	
Wetland: Shallow bench (0-0.3m)		
Apodasmia similis	oioi/ jointed wire rush	0-0.3m
Baumea arthropphylla		0-0.1m
Carex secta	makura/ purei	0-0.4m
Carex ustulatus	giant umbrella sedge	0-.1m
Eleocharis acuta	sharp spike sedge/ spike rush	0-.1m
Bolboschoenus fluviatilis	march clubrush/ river bulrush	0-.15
Wetland: Shallow pond slopes (0.3-1.1m)		
Baumea articulata	jointed twig rush	0-0.36m
Eleocharis sphacelata	kuta	0-0.15m
Schoenoplectus tabernaemontani	lake clubrush/ softstem bulrush	0-1.2m
Typha orientalis	raupo/ bulrush	0-1m
Wetland: Open water (1.1-2m)		
Myriophyllum propinquum	water milfoil	0-3.5m
Nitella hookeri	stonewort	0.3-10m
Ruppia polycarpa	horses mane weed	0.1-3m
Stream: Edge planting		
Carex dissita	purei/flat leaved sedge	
Carex secta	makura/ purei	
Carex lessoniana	spreading swamp sedge	
Carex virgata	small swamp sedge	
Dacrycarpus dacrydioides	kahikatea/ white pine	
Kunzea ericoides	kānuka/ white tea-tree	
Leptospermum scoparium	mānuka/ tea-tree	
Stream: Marginal planting		
Carex lambertiana	forest sedge	
Carex virgata	small swamp sedge	
Cordyline australis	cabbage tree / ti kouka	
Kunzea ericoides	kānuka/ white tea-tree	
Leptospermum scoparium	mānuka/ tea-tree	
Carex secta	makura/ purei	
Cortaderia fulvida	toe toe	
Carex lessoniana	ruatahi	