

BEFORE THE INDEPENDENT HEARINGS PANEL

IN THE MATTER of the Resource Management Act 1991 ("**RMA**")

AND

IN THE MATTER Resource consent applications by Te Puna Industrial
Limited in relation to 297 Te Puna Station Road

**STATEMENT OF EVIDENCE OF KENNETH JOHN PHILLIPS ON BEHALF OF TE
PUNA INDUSTRIAL LIMITED**

(ARCHAEOLOGY)

25 JUNE 2024

1. EXECUTIVE SUMMARY

- 1.1 I have carried out an inspection of the Site and have identified one archaeological site within the Site. No archaeological sites were identified on the floodplain and the likelihood of identifying unrecorded sites in this environment is extremely difficult prior to the commencement of earthwork.
- 1.2 If an intact archaeological site is encountered on the flood plain work in the immediate area will need to stop until an appropriate mitigation strategy is established by tangata whenua, Heritage New Zealand and the landowner. An appropriate strategy may include obtaining an authority from Heritage New Zealand to investigate and record the site.
- 1.3 One archaeological site comprising two terraces and associated shell midden was identified on the spur descending north from the dwelling. This site indicates occupation occurred on the spur. Any proposed earthwork that may adversely affect this site will require consent from tangata whenua and an authority from Heritage New Zealand.

2. INTRODUCTION

- 2.1 My name is Kenneth John Phillips. I am the Director of Archaeology B.O.P. Heritage Consultants.

Qualifications and experience

- 2.2 I have a Bachelor of Arts in Anthropology and Ancient History and a Master of Arts in Anthropology majoring in archaeology from the University of Auckland.
- 2.3 I have over 30 years' experience in field archaeology in New Zealand. This has involved survey and excavation work throughout the North Island but primarily in the Bay of Plenty.

Code of conduct

- 2.4 I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving oral evidence before the Hearings Commissioners. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

3. SCOPE OF EVIDENCE

- 3.1 My evidence relates to the resource consent applications by Te Puna Industrial Limited ("**TPIL**") in relation to its site at 297 Te Puna Station Road ("**Site**"). The applications are to authorise the development of the Site for the establishment and operation of yard-based industrial activities, with associated earthworks and discharge to water, within the Site. The proposed development will give effect to the Te Puna Business Park Structure Plan ("**Structure Plan**") provisions that apply to the Site under the Western Bay of Plenty District Plan. Container Co will be the anchor tenant of the Site. ContainerCo intends to store, repair, and lease out / sell shipping containers.
- 3.2 Regional resource consents to enable the Project are required from Bay of Plenty Regional Council ("**BOPRC**") and land use consents are required from Western Bay of Plenty District Council ("**WBOPDC**") (together, the "**Application**"). The specific consent requirements are set out in the planning evidence of Mr Murphy.
- 3.3 I was engaged by TPIL in 2024 to assess the potential archaeological effects of the Application and provide recommendations as to mitigation. In preparing my evidence I undertook an archaeological inspection of the Site in May 2024. Following this archaeological inspection, I prepared an Archaeological Assessment Report (dated June 2024). This report is attached to my evidence as **Attachment A**.
- 3.4 In this statement of evidence, I will:
- (a) set out the statutory context relevant to assessing the archaeological values of the Site and the Application's potential effects;
 - (b) describe the archaeological landscape of the Site and surrounding area;
 - (c) describe the potential archaeological effects of the Application and my recommendations as to mitigation;
 - (d) respond to relevant submissions received on the Application and the Councils' Section 42A Reports; and
 - (e) comment on the proposed conditions of the consent relating to archaeology.

4. STATUTORY CONTEXT

4.1 An archaeological site, as defined by s 6(a) of the Heritage New Zealand Pouhere Taonga Act 2014 ("HNZPTA"), is any place in New Zealand, including any building or structure (or Part of a building or structure), that:

- (a) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and
- (b) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand.¹

4.2 The RMA recognises as matters of national importance:

- (a) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wahi tapu, and other taonga (s6(e)); and
- (b) the protection of historic heritage from inappropriate subdivision, use, and development (s6(f)).

4.3 Territorial authorities are required under Section 6 RMA to recognise and provide for these matters of national importance when managing the use, development and protection of natural and physical resources.

4.4 Historic heritage is defined in Section of 6 the RMA as:

those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, deriving from any of the following qualities: (i) archaeological; (ii) architectural; (iii) cultural; (iv) historic; (v) scientific; (vi) technological'. Historic heritage includes: '(i) historic sites, structures, places, and areas; (ii) archaeological sites; (iii) sites of significance to Māori, including wahi tapu; (iv) surroundings associated with the natural and physical resources

4.5 Archaeological sites cannot be modified or destroyed unless an authority is granted under sections 48, 56(1)(b), or 62 of the HNZPTA. In respect of an archaeological site, no person may modify or destroy, or cause to be modified or destroyed, the whole or any Part of that site if that person knows, or ought reasonably to have suspected, that the Site is an archaeological site.²

¹ Heritage New Zealand Pouhere Taonga Act 2014, s6(a).

² Heritage New Zealand Pouhere Taonga Act 2014, s42(1).

5. THE ARCHAEOLOGICAL LANDSCAPE

- 5.1 Available archaeological evidence including the results of archaeological surveys and investigations indicate the Te Puna peninsula was extensively settled and cultivated by Māori prior to European arrival.
- 5.2 There are over 200 recorded archaeological sites on the Te Puna tablelands that extend north from the base of the Minden Ryholite formation. The majority of these sites are indicative of open settlement and cultivations of the favourable airfall tephra-based soils.
- 5.3 At least 10 defended Pā are located on the peninsula between the Te Puna River and the Wairoa River most notably 'Pukewhanake' which was a large settlement comprising of at least two defended areas, open settlements and probable cultivations extending over much of the northern half of the ignimbrite formation between Te Hakao valley and the Wairoa River. This is evidenced by visible defensive earthwork features and numerous shell midden exposures on the surrounding escarpments.
- 5.4 While there are numerous recorded archaeological sites on elevated ground around the margins of the valley floor, there are no recorded archaeological sites on the floodplain proper. This is not surprising given that activity on the flood plain typically does not leave archaeological sites with surface expression. This activity may also have included cultivation of traditional cultigens, sourcing of wetland vegetation such as raupo and harakeke and harvesting avian and marine fauna.
- 5.5 There are 21 recorded archaeological sites within a 500m radius of the Site. These may be arbitrarily grouped by their location on three discrete topographical landscapes comprising the Pukewhanake Te Puna Ignimbrite cluster, the Oturu fluvial terrace cluster and the Okimoke fluvial terrace cluster.
- 5.6 Sites recorded on the Pukewhanake Te Puna ignimbrite may potentially be described as a contiguous archaeological landscape focused on the two defended components of Pukewhanake, however the multiple recorded sites date has not yet been connected to the settlement period.
- 5.7 Sites recorded at the southern end of the Okimoke fluvial terrace are comprised of archaeological features indicative of cultivation and crop storage, as do the sites recorded immediately west of Site on the Oturu tablelands. This latter group includes five sites within 150m of the Site. These sites include evidence of settlement above the eastern escarpment and crop storage along

the Te Puna Road ridge as well as Oturu Pā (U14/214) near the Te Puna Road, Te Puna Station Road intersection.

- 5.8 None of the 21 previously recorded archaeological sites in the general vicinity of the Site are affected by the proposed industrial development within the Site.
- 5.9 However, one previously unrecorded site was identified on the southern spur extending into the Site during the May 2024 archaeological survey of the Site.³ This previously unrecorded site may potentially be affected by the proposed industrial development.⁴
- 5.10 As set out above, I undertook an archaeological inspection of the Site in May 2024. The Site encompasses two distinct landforms comprising the flood plain and the spur.
- 5.11 Surface visibility on the flood plain component of the Site was poor in all areas due to c1m of imported soil covering approximately half the Site, the extent of which is most clearly shown on Lidar imagery. Rank pasture obscured much of the remainder of the flood plain, including drain profiles that may have provided information on the natural soil strata. An exposed soil profile halfway along the southern Site boundary revealed an intact airfall Kaharoa ash layer dating to the early 14th century located approximately 0.5m below the current surface. The ash layer was overlain by at least two mixed alluvial layers separated by a palaeosol indicative of topsoil accumulation during a prolonged hiatus between flood events.
- 5.12 Overall, unsurprisingly no visible archaeological sites were identified on the flood plain within the Site. However, there remains a possibility that unrecorded subsurface archaeological sites and or artifacts survive within this area.⁵ Such sites are generally only identifiable by extensive earthwork.
- 5.13 A small spur descending from the western fluvial terrace ridge extends into the southern Site boundary. It is the location of an existing dwelling and access drive. The spur has been modified by the formation of the house platform and has been partially quarried away on its eastern flank. An inspection of the spur revealed terrace features descending down the spur north of the house platform and an associated shell midden eroding down the eastern scarp below the terrace features. Identifiable species within the shell midden included pipi and cockle. No intact shell midden deposit was identified. The

³ Archaeological Assessment Report (June 2024) at p. 16.

⁴ Archaeological Assessment Report (June 2024) at p. 19.

⁵ Archaeological Assessment Report (June 2024) at p. 19.

two possible terrace features have been modified during formation of the house platform and it is not possible to determine if intact subsurface features survive without subsurface archaeological investigation.

6. ASSESSMENT OF POTENTIAL EFFECTS

- 6.1 I completed an archaeological survey of Pt Lot 3 DP22158 & Section 3 SO61751 located at the Site in May 2024. No archaeological sites were identified on the flood plain; however, one terrace / midden site was identified on the spur descending north from the existing dwelling within the Site.
- 6.2 While the likelihood of encountering intact archaeology on the flood plain during the proposed development of the Site is considered low, there remains a possibility that archaeological sites and or artifacts may be encountered.
- 6.3 Any proposed earthwork on the spur descending north from the house site may disturb intact archaeological features. Consequently, a Heritage New Zealand archaeological authority should be obtained before earthworks that may affect this site can commence in this area.
- 6.4 In the event that unrecorded subsurface archaeological features are encountered during earthwork associated with the development, an appropriate mitigation strategy will need to be established between Heritage New Zealand and tangata whenua. This may include obtaining an archaeological authority.
- 6.5 Subject to above, I consider that the archaeological effects are acceptable.

7. RESPONSE TO ISSUES RAISED IN SUBMISSIONS

- 7.1 I have reviewed relevant submissions on the Application that raise matters relating to archaeology.
- 7.2 I note that the submissions filed by 50 of the submitters on this Application are identical in form and substance.⁶ I acknowledge that these submissions were made by individual submitters, however for ease of reference and given the likeness of these submissions, I will refer to these submitters as "Submitter Group 1", rather than by referring to their individual submitter number.

⁶ Submitters #3, #4, #6, #8, #9, #10, #11, #12, #14, #15, #16, #17, #19, #20, #21, #22, #23, #24, #27, #28, #29, #31, #32, #33, #37, #40, #41, #42, #45, #47, #48, #51, #52, #57, #58, #61, #62, #63, #64, #66, #71, #72, #100, #105, #111, #112, #127, #187, #194 and #195.

- 7.3 Many of the submitters have commented that this area is an area of Māori culture and historical value.⁷ In particular, Pirirākau have expressed concerns regarding the location of burial grounds in this vicinity, and the need for archaeological investigation.⁸ In response to Pirirākau's concerns, I agree that the area has Māori culture and historical value. My area of expertise is in identifying and interpreting the physical archaeological record and I am not qualified to comment on cultural values of a landscape. This is the exclusive domain of tangata whenua. Obviously the cultural and archaeological landscaping are closely related. This is supported by the recorded and predicted archaeological site inventory for the area that provides tangible evidence of numerous settlements and extensive cultivations.
- 7.4 With regard to burial grounds, I defer to tangata whenua regarding the whereabouts beyond known urupā and koiwi encountered during past archaeological investigations in the general area. I have been involved in the discovery and excavation of numerous koiwi throughout the Bay of Plenty Region and beyond. Few are predicted and they are found in many different environments and archaeological contexts.
- 7.5 One archaeological site has been identified within the Site at 297 Station Road and I cannot discount the possibility that further subsurface sites are present both on the spur and within the flood plain. It would be extremely difficult to predict where possible sites might be on the flood plain. However as stated in my evidence above, such sites or artifacts are typically found adjacent to settlement sites on land elevated above the flood plain.

8. RESPONSE TO MATTERS RAISED IN THE SECTION 42A REPORT

- 8.1 I have reviewed the BOPRC and WBOPDC Section 42A Reports and recommendations (both dated 17 June 2024). Matters relating to archaeological effects are addressed primarily at [245]-[264] of the WBOPDC Section 42A Report, and at [7.60]-[7.65] of the BOPRC Section 42A Report.
- 8.2 The BOPRC reporting planner states that it is understood I recommend an archaeological authority be obtained from Heritage New Zealand for the proposed works.⁹ In relation to this I clarify that, as set out above at [6.3], I recommend a Heritage New Zealand archaeological authority should be

⁷ Submitter numbers #81, #126, #120, and #121 and Submitter Group 1.

⁸ Submission number #50. Pirirākau Assessment of Cultural Effects (Julie Shepherd) at [9.2] and [9.3].

⁹ BOPRC Section 42A Report (dated 17 June 2024) at [7.64].

obtained before earthworks that may affect the site on the spur descending north from the house site commence.

- 8.3 The WBOPDC reporting planner states that given the strong indications in the Pirirākau Assessment of Cultural Effects that there may be taonga or koiwi affected by the proposed earthworks, Ms Perring's preference is for the applicant to provide an Archaeological Assessment Report of the Site.¹⁰ This has been completed and is included in my evidence.

9. COMMENTS ON PROPOSED CONDITIONS

- 9.1 I have reviewed the proposed conditions for consent for the Application and comment as follows.

- 9.2 The reporting planner in the BOPRC Section 42A Report recommends the following condition:¹¹

12 Accidental Discovery

12.1 If an archaeological site(s) and/or koiwi are unearthed, the consent holder must immediately stop work in the vicinity of the discovery, and contact Heritage New Zealand and Pirirākau for advice (see Advice Note 2).

- 9.3 The Applicant has proposed the following draft condition:

11.8.4. In the event that an archaeological site and/or koiwi is unearthed during earthworks, the consent holder shall immediately stop work on the part of the site that the archaeological site or koiwi is located, and contact Heritage New Zealand Pouhere Taonga (Lower Northern office) and the Pirirākau Co-Chair of the ECMC to ensure correct preservation and procedural requirements are followed in accordance with the ADP.

- 9.4 I support the above condition proposed by the Applicant, however I consider this condition needs to include an advice note reflecting the requirements of the Heritage New Zealand Pouhere Taonga Act 2014 with respect to the discovery of archaeological sites. The BOPRC reporting planner has recommended including an advice note (Advice Note 2, referenced in the Accidental Discovery condition) in the recommended conditions set for BOPRC.¹² I support the drafting of this advice note and consider that this

¹⁰ WBOPDC Section 42A Report (dated 17 June 2024) at [255].

¹¹ BOPRC Recommended Conditions at 12.

¹² BOPRC Recommended Conditions at Advice Note 2.

should be included, and referenced, in the draft condition proposed by the Applicant.

No archaeological sites, whether recorded or unrecorded, may be destroyed, damaged or modified without the consent of Heritage New Zealand (under Subpart 2 of the Heritage New Zealand Pouhere Taonga Act 2014). If an archaeological site(s) and/or koiwi are unearthed, the consent holder is advised to immediately stop work in the vicinity of the discovery, and contact Heritage New Zealand and all relevant iwi/hapū for advice. Heritage New Zealand. Contact details: email infolowernorthern@heritage.org.nz; phone 07 577 4530. Bay of Plenty Regional Council can provide the contact details of the relevant iwi and hapū in this area.

10. CONCLUSION

- 10.1 There are numerous recorded archaeological sites in the general vicinity of the Site including significant archaeological landscape on the Pukewhanaki Ridge to the east. The Site is comprised primarily of flood plain that would have been used primarily for resource procurement rather than occupation. Archaeological evidence of resource procurement in such environment rarely leaves a visible surface archaeological expression. Consequently, it is difficult to predict the nature and location of possible intact subsurface archaeological sites that may be encountered within that part of the flood plain within the Site.
- 10.2 The terrace and midden features identified on the spur below the existing dwelling within the Site likely indicates that pre European Māori occupation occurred in this area. While much of this spur has been modified by past quarrying and house and section development intact archaeological features appear to have survived and any proposed adverse effects on this site will require consent from tangata whenau and an authority from Heritage New Zealand Pouhere Taonga.

Kenneth John Phillips

25 June 2024

Attachment A

**ARCHAEOLOGICAL
ASSESSMENT**

**PROPOSED INDUSTRIAL DEVELOPMENT
297 TE PUNA STATION ROAD
TAURANGA**

PT LOT 3 DP 22158 & SO 61751

Prepared by

KEN PHILLIPS (MA HONS)

TE PUNA INDUSTRIAL LIMITED

JUNE 2024

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INTRODUCTION

This report was commissioned by Te Puna Industrial Ltd in order to determine if archaeological sites are affected by the proposed industrial development within Pt Lot 3 DP22158 & Section 3 SO61751 located at 297 Te Puna Station Road Tauranga (Figures 1-3). Ground disturbance associated with the project will include the construction of perimeter bunds and storm water ponds.

There are no known archaeological sites on the flood plain and one archaeological site on the spur descending north from the house within the property. There is also a possibility that unrecorded subsurface archaeological sites and or artefacts may be encountered during earthwork associated with the proposed development. An authority from Heritage New Zealand Pouhere Taonga with requisite consultation with tangata whenua will need to be obtained if it is proposed to adversely affect the terrace / midden site on the spur. If an archaeological site is encountered on the flood plain during earthwork, work will need to stop in the immediate area until an appropriate mitigate strategy is established between Pirirakau, HNZPT and the land owner before the recommencement of ground disturbance associated with the development in that area.

This report has been prepared to identify requirements under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA). Recommendations are made in accordance with statutory requirements.



Figure 1. Topographic map showing the approximate location and extent of the project area.

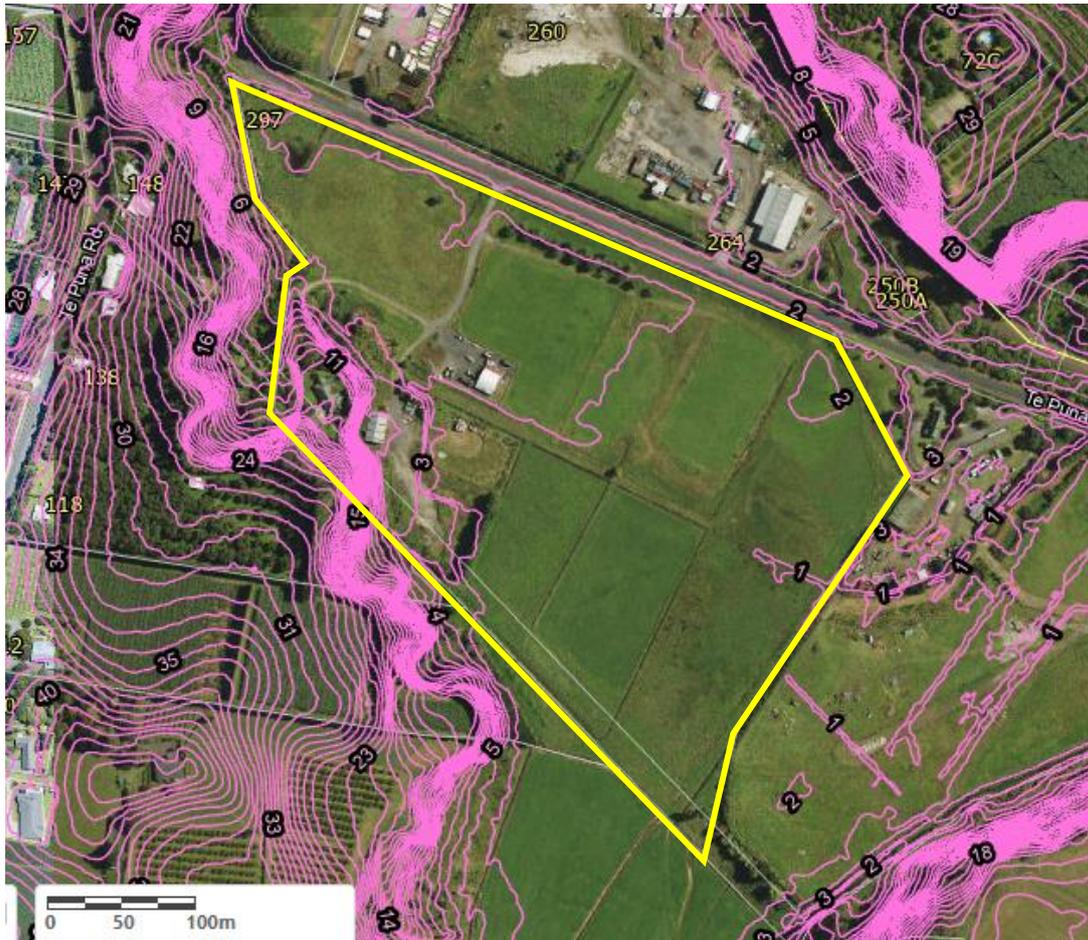


Figure 2. Recent aerial photo showing approximate extent of the project area outlined yellow.

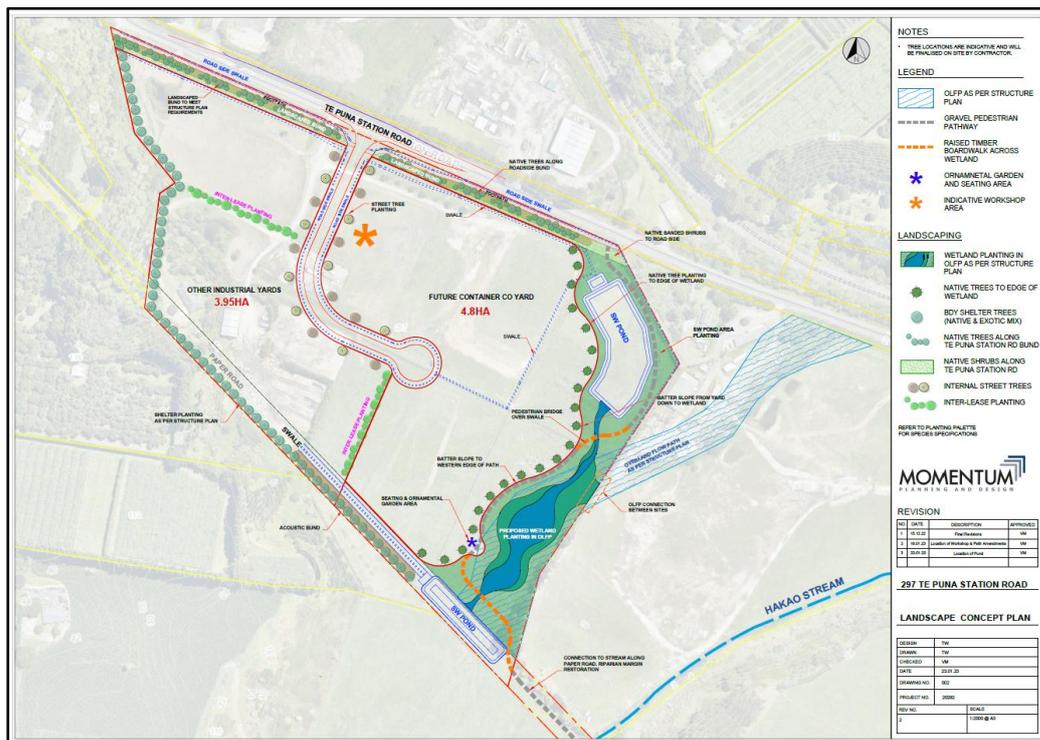


Figure 3. Development plan produced by Aurecon for Stolthaven showing the approximate extent of the development footprint highlighted yellow.

Constraints and Limitations

This is an assessment of archaeological values and does not include an assessment of Māori cultural values. Consultation with tangata whenua is being carried out independently of this report. An assessment of the cultural significance of an area can only be competently made by tangata whenua. It should be noted that an assessment of cultural significance might not necessarily correlate with an assessment of archaeological significance.

RELEVANT LEGISLATION

Heritage New Zealand Pouhere Taonga Act (2014)

An archaeological site, as defined by the Heritage New Zealand Pouhere Taonga Act 2014 6(a), is any place in New Zealand, including any building or structure (or Pārt of a building or structure), that (i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900 and (ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand.

Archaeological sites cannot be modified or destroyed unless an authority is granted under section 48, 56(1)(b), or 62 in respect of an archaeological site, no person may modify or destroy, or cause to be modified or destroyed, the whole or any Pārt of that site if that person knows, or ought reasonably to have suspected, that the site is an archaeological site.

Resource Management Act (1991)

The RMA 1991 recognizes as matters of national importance: ‘the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wahi tapu, and other taonga’ (S6(e)); and ‘the protection of historic heritage from inappropriate subdivision, use, and development’ (S6(f)).

Territorial authorities are required under Section 6 of the RMA to recognise and provide for these matters of national importance when ‘managing the use, development and protection of natural and physical resources.

Historic heritage is defined as ‘those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, deriving from any of the following qualities: (i) archaeological; (ii) architectural; (iii) cultural; (iv) historic; (v) scientific; (vi) technological’. Historic heritage includes: ‘(i) historic sites, structures, places, and areas; (ii) archaeological sites; (iii) sites of significance to Māori, including wahi tapu; (iv) surroundings associated with the natural and physical resources.

ASSESSMENT METHODOLOGY

The New Zealand Archaeological Association's (NZAA) Central Index of New Zealand Archaeological Sites (CINZAS) was searched to establish the location and background of recorded archaeological sites or other cultural heritage sites in the general vicinity of land affected by the project. Relevant background literature pertaining to the recorded traditional Māori and early European settlement of the area were reviewed and early survey plans, photographs and archaeological survey reports relevant to the area were consulted. An inspection of the property was carried out by the author in May 2024.

PHYSICAL LANDSCAPE

The greater part of the property is situated on an alluvial flood plain within the lower Te Hakao Stream catchment. It also includes a small spur descending north into the western end of the property from the fluvial terrace formation to the west. Te Hakao valley commences in the lower Minden and has carved a broad alluvial valley between the fluvial terrace formation to the west and the Te Puna ignimbrite to the east. The stream originally discharged into the Tahataharoa estuarine marshlands on the left bank of the Wairoa River mouth before the construction of the East Coast main trunk railway in the 1920s. Based on a brief examination of exposed soil profiles within the property the valley appears to have infilled by about 0.5m since the Kaharoa eruption in the early 14th century. Drainage and channelling of the stream alignment appears to have commenced in the second quarter of the 20th century as part of the East Coast Railway construction and enabled pastoral farming of the valley. Lidar imagery of Te Hakao valley indicates prior to drainage works the stream course meandered across the alluvial valley floor. The northern end of central drain was moved to the east c1970 to its current location.

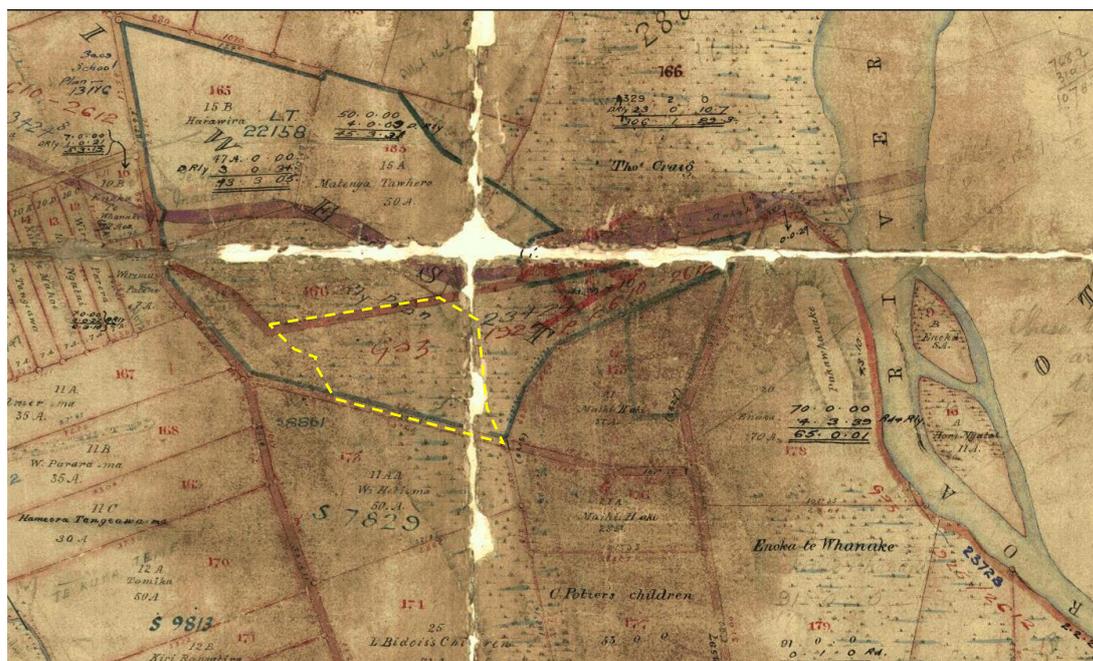


Figure 4. Part survey plan ML 9760 produced in 1867 illustrates the lower Hakao valley as undifferentiated poorly drained land. The approximate location of Pt Lot3 DP 22158 is outlined in yellow.

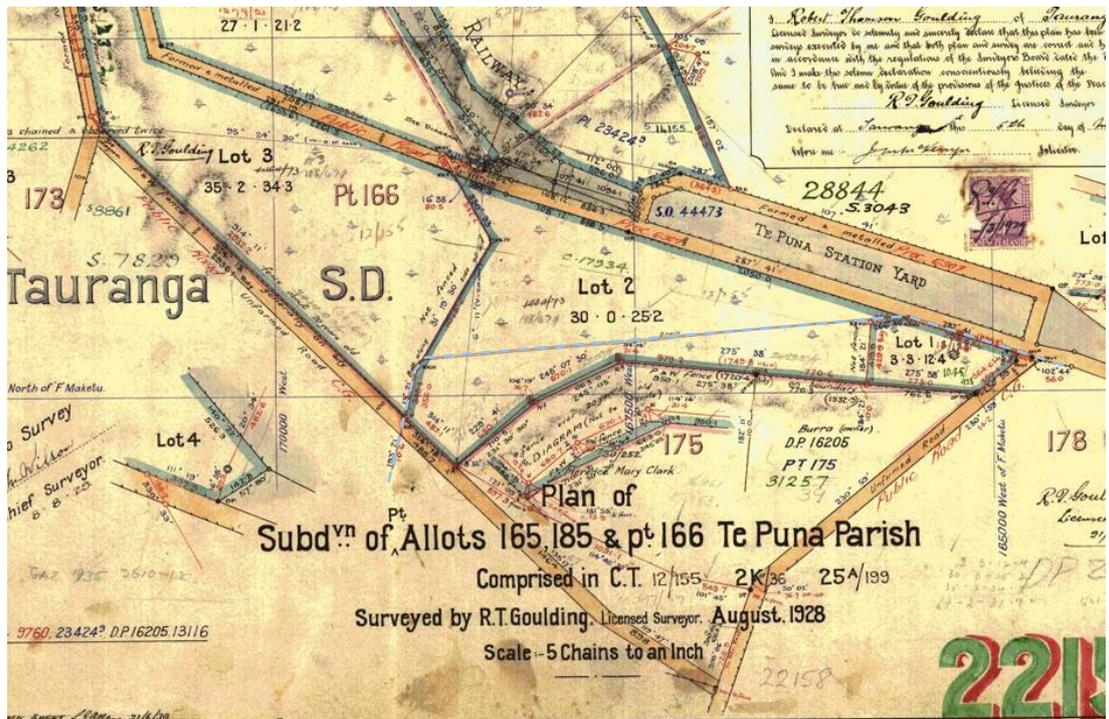


Figure 5. Pärt survey plan DP 22158 produced in 1928 showing Te Hakao as poorly drained land with no main channel and a proposed drain extending along the southern third of the eastern boundary of proposed Lot 3 DP 22158 blue broken line added for clarity.



Figure 6. Aerial Photo taken in 1943 showing the main drain conforming with the proposed alignment illustrated on 1928 survey plan DP 22158. NZAM Neg.500/38



Figure 7. Aerial Photo taken in 1974 showing the altered main drain alignment (orange broken line) and the abandoned drain (Light blue broken line). NZAM Neg.SN3731 H5.

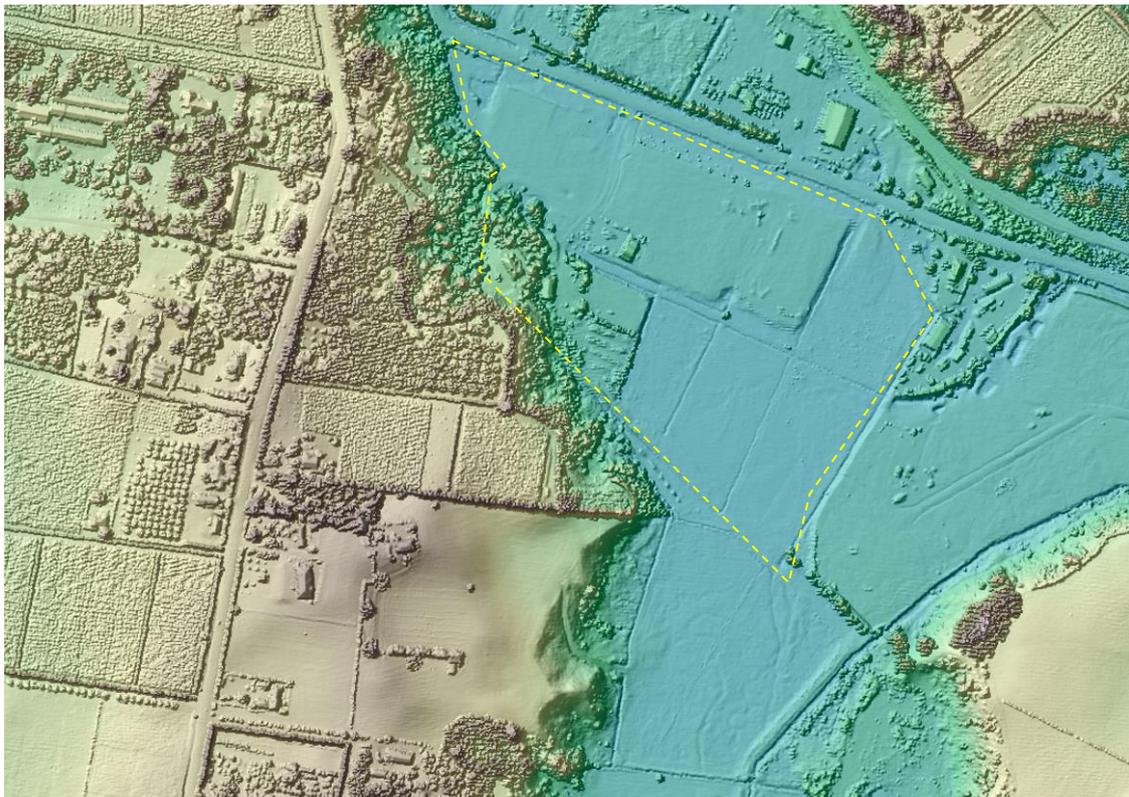


Figure 8. Lidar image showing old meander channels within the Te Hakao valley immediately south of Pt Lot 3 DP 22158 and areas of imported fill within property indicated as a pale green area.

ARCHAEOLOGICAL LANDSCAPE

Available archaeological evidence including the results of archaeological surveys and investigations indicate the Te Puna peninsula was extensively settled and cultivated by Māori prior to European arrival. There are over 200 recorded archaeological sites on the Te Puna tablelands that extend north from the base of the Minden Rhyolite formation (Figure 9). The majority of these sites are indicative of open settlement and cultivations of the favourable airfall tephra-based soils. At least 11 defended Pā are located on the peninsula between the Te Puna River and the Wairoa River most notably 'Pukewhanake' which was a large settlement comprising at least two defended areas, open settlements and probable cultivations extending over much of the northern half of the ignimbrite formation between Te Hakao valley and the Wairoa River. This is evidenced by visible defensive earthwork features and numerous shell midden exposures on the surrounding escarpments. Two radiocarbon dates established for Pukewhanake Pa (NZ6207 & 6237) were derived from grab samples taken from exposed middens proving dates in the 16th and 17th centuries (Schmidt 1996:13) and do not reflect the earliest period of occupation, however, traditional history suggests settlement at this location dates to the 14th century.

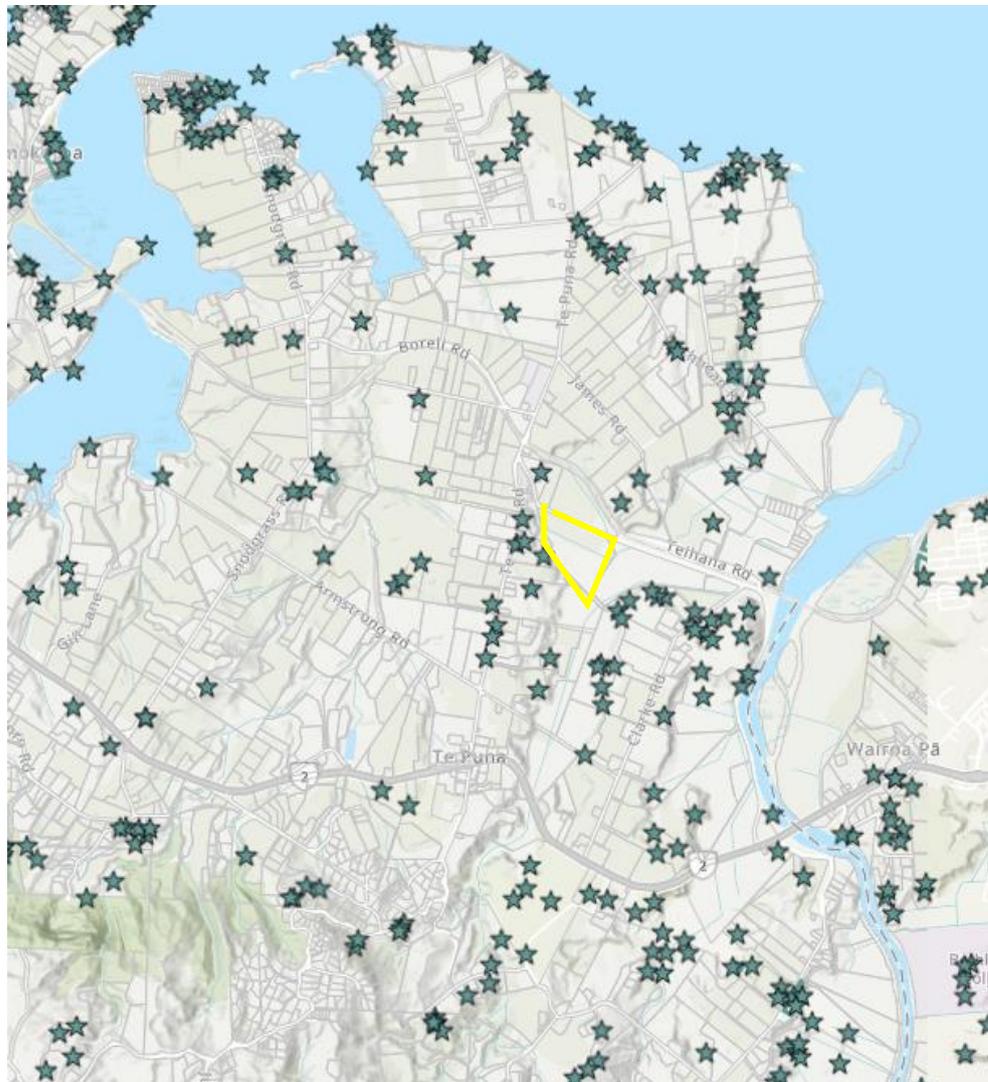


Figure 9. Plan showing recorded archaeological sites on the Te Puna peninsula north of the Minden. Pt Lot 3 DP22158 is outlined yellow. Archsite.

In the mid-1860s Theophilus Heale surveyed the Te Puna peninsula resulting in the survey plan SO 464 dated 1865 (Figure 10). The plan provides considerable detail about the natural landscape as well as the cultural/archaeological landscape including a number of 'Old Pā' as described in his Field Book notes (Field Books 18 & 37). Two Pā not currently recorded include one on the Okimoke peninsula (Figure 11, Star A). This is likely to be Tahataharoa Pā of which archaeological features exposed on the eastern slopes of the Pā were recorded as U14/3800 (Gallagher 2017). The second apparently unrecorded Pā is located on the Te Puna Road ridge (Figure 12, Star B).

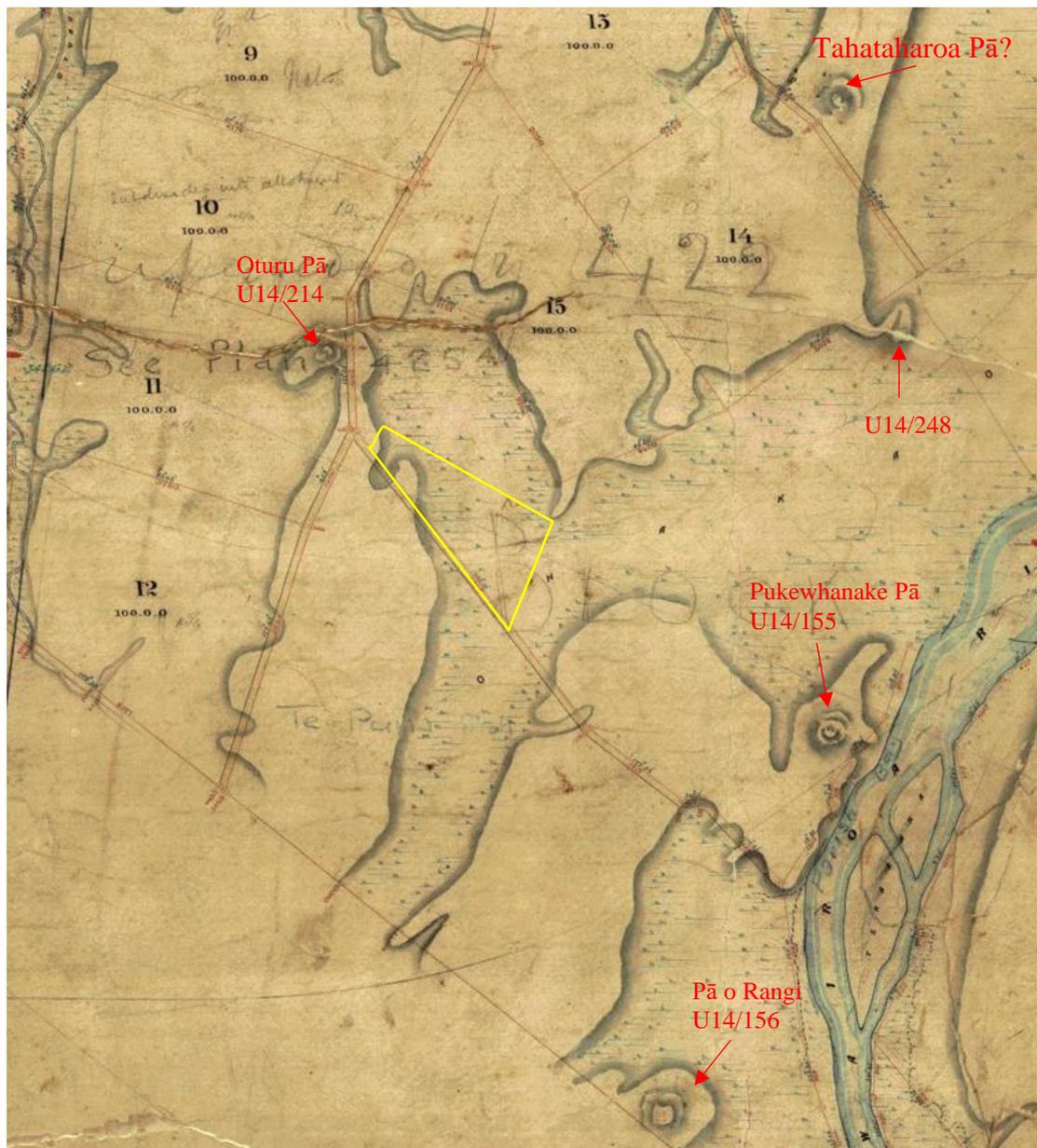


Figure 10. Part survey plan SO 424 produced in c.1865 showing road corridors some of which were constructed and some remained as Paper roads. Five Pā are also shown and referred to in field book notes. The approximate location of Pt Lot 3 DP 22158 is outlined in yellow.

The latter Pā is likely to be Oturu Pā recorded by Ken Moore in 1974 but given incorrect coordinates placing it 500m to the west. Based on Heale's Field Book it appears he used the elevated position of Oturu Pā as a survey point to map the surrounding area and triangulation of compass bearings taken at this location enable an accurate positioning of the Pā. The corrected coordinates would place the Pā immediately adjacent and partly within Te Puna Rd reserve in the vicinity of 159 and 163 Te Puna Road and within 150m of Pt Lot 3 DP 22158.

Heale also noted many cultural features in his Field Book that did not make it onto the final survey plan. These include many tracks that likely provided links between settlements and various resources. Heale describes vegetation covering the landscape primarily including fern, tea tree and raupo at that time but he also noted a number of potato fields east of Oturu Steam and south of Epiha and Kareti on the tablelands south of the northern coastal settlements.

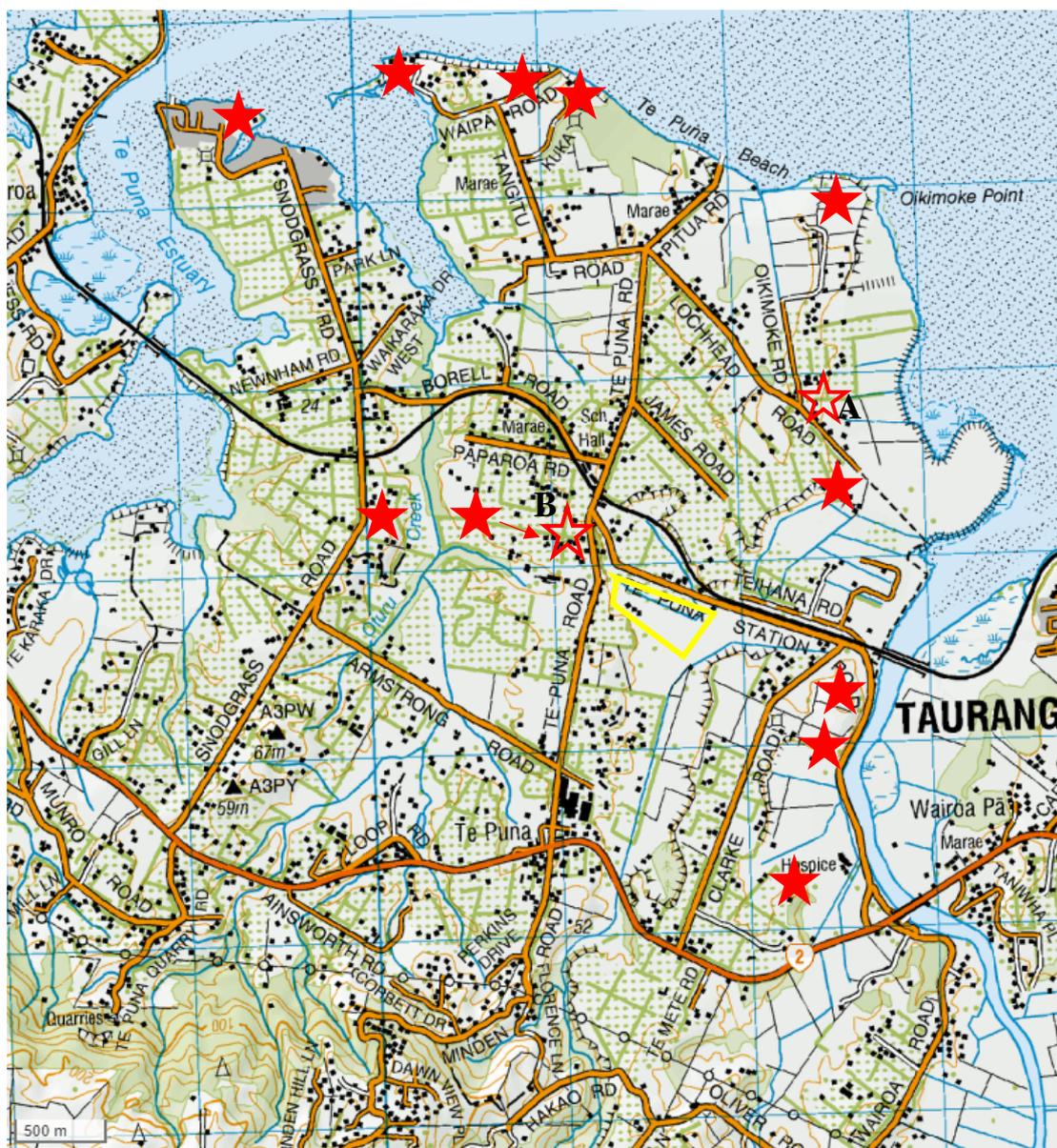


Figure 11. Plan showing recorded Pā on the Te Puna peninsula north of the Minden.

While there are numerous recorded archaeological sites on elevated ground around the margins of the valley floor there are no recorded archaeological sites on the floodplain proper. This is not surprising for a number of reasons. Activity on the flood plain typically does not leave archaeological sites with surface expression. This activity may have included cultivation of traditional cultigens, sourcing of wetland vegetation such as raupo harakeke for thatching and construction and harvesting tuna from the stream channels.

While recorded archaeological sites in wetlands are few, those that have been identified tend to be significant due to the preservation of organic artefacts in the anaerobic context. The Kohika sites on the Tarawera River perhaps being the most well-known and a more recent discovery on the lower left bank of the Rangitaiki River also in the eastern Bay of Plenty. Artefacts have been regularly uncovered in wetland contexts throughout the wider Bay of Plenty primarily adjacent to settlement sites on terra-firma although adzes have been found recently in wetlands 100m from hard ground during the Kaituna River diversion work, thought to be associated with felling or harvesting components of the kahikatea forest.

RECORDED ARCHAEOLOGICAL SITES

The New Zealand Archaeological Association Site Recording Scheme was consulted in order to determine if archaeological sites have been recorded within or in the immediate vicinity of land affected by the proposed industrial development.

There are 21 recorded archaeological sites within a 500m radius of the property (Figure 12, Table 1). These may be arbitrarily grouped by their location on three discrete topographical landscapes comprising the Pukewhanake Te Puna Ignimbrite cluster, the Oturu fluvial terrace cluster and the Okimoke fluvial terrace cluster. Sites recorded on the Te Puna ignimbrite may potentially be described as a contiguous archaeological landscape focused on the two defended components of Pukewhanake however contemporaneity has not been established. Sites recorded at the southern end of the Okimoke fluvial terrace are comprised of archaeological features indicative of cultivation and crop storage as are the sites recorded immediately west of Pt Lot 3 DP22158 on the Oturu tablelands. This latter group includes five sites within 150m of the proposed development. These sites include evidence of settlement above the eastern escarpment and crop storage along the Te Puna Road ridge possibly contemporaneous with Oturu Pā (U14/214).

None of the twenty-one previously recorded archaeological sites in the general vicinity of Pt Lot 3 DP 22158 are affected by the proposed industrial development within the property.

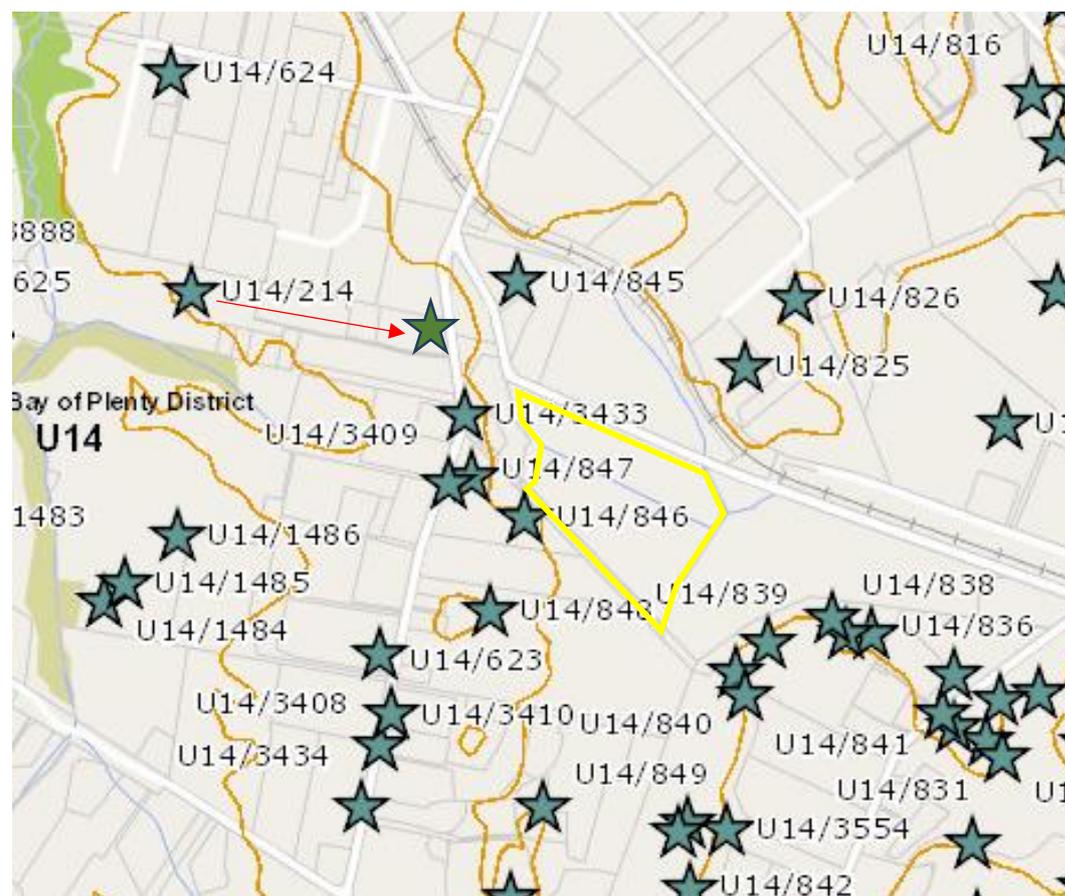


Figure 12. NZAA plan showing recorded archaeological sites within the general vicinity of Pt Lot 3 DP 22158 (outlined yellow).

Table 1. Recorded archaeological sites within 500m of Pt Lot 3 DP22158.

Site Number	Site Type	Easting	Northing	Date Recorded
U14/214	Pa	1871160	5825104	1974
U14/623	Midden	1871062	5824427	1982
U14/825	Midden	1871822	5825028	1982
U14/826	Midden/soils	1871930	5825174	1982
U14/862	Midden/soils	1871930	5825174	1982
U14/836	Midden	1872083	5824469	1982
U14/837	Midden	1872033	5824470	1982
U14/838	Midden	1872003	5824503	1982
U14/839	Midden	1871871	5824448	1982
U14/840	Midden	1871803	5824388	1982
U14/841	Midden	1871824	5824341	1982
U14/845	Midden/soils	1871351	5825208	1982
U14/846	Midden	1871365	5824714	1982
U14/847	Midden	1871252	5824797	1982
U14/848	Midden	1871292	5824517	1982
U14/849	Midden	1871403	5824107	1982
U14/3409	Pits	1871208	5824783	2012
U14/3433	Pits	1871240	5824930	2012
U14/3554	Midden	1871782	5824058	2017
U14/3577	Midden	1871703	5824073	2017
U14/3578	Terraces/pit	1871685	5824056	2017

Pukewhanake Site cluster U14/836-41 & 3554, 3577 & 3578

There are 9 recorded sites on the Pukewhanake ridge within 500m metres of the property. These sites represent settlement on the western edge of the Te Puna ignimbrite formation probably focused on the Te Hakao valley resources and adjacent cultivations on the tables lands and possibly contemporaneous with Pukewhanake Pā settlement complex that covers much of the northern half of the ignimbrite landscape.

Okimoke site cluster U14/825, 826, 845

These three sites are located on the southern extent of the Okimoke fluvial terrace site cluster. All three sites have midden components and two have possible evidence of cultivation in the form of modified soil profiles.

Oturu site cluster U14/214, 623, 846-849, 3409, 3433

Seven sites on the eastern side of the Paparoa fluvial terrace site cluster are located within 500m of Pt Lot 3 DP22158. These sites include middens as well as crop storage pit features exposed during the widening of Te Puna Road in 2012. Sites U14/846, 847 & 3409 are located within Lot 1 DPS 8861 immediately adjacent to and overlooking the flood plain within Pt Lot 3 DP22158 (Figure 12). They indicate that this was the location of settlement and cultivations possibly associated with Oturu Pā (U14/214) which appears to be located 500m to the east of the current NZAA coordinates for the site and at a strategic point at the narrowest part of the watershed between the Oturu and Hakao stream catchments. This places the Pā on in the vicinity of 159 & 163 Te

Puna Road and within 150m of Pt Lot 3 DP 22158. The site was described as ‘almost destroyed’ in 1974 which simply means the ditches were infilled. Topography in the immediate area would have supported a substantial Pā. The site is now occupied by several dwellings and outbuildings.



Figure 12. Aerial photo showing five recorded archaeological sites located within 150m of the western end of Pt Lot 3 DP 22158 and the terrace/midden site located within the property. Archsite.

SURVEY RESULTS

An archaeological inspection of 297 Te Puna Station Road was carried out by the author in May 2024. The property encompasses two distinct land forms comprising the flood plain and the spur. Archaeological survey results are presented below for each land form.

The Flood Plain

Surface visibility on the flood plain component of the property was poor in all areas due to c1m of imported soil covering approximately half the property the extent of which is most clearly shown on Lidar imagery (Figure 8). Rank pasture obscured much of the remainder of the flood plain including drain profiles that may have provided information on the natural soil strata (Figure 13). An exposed soil profile halfway along the southern property boundary revealed an intact airfall Kaharoa ash layer dating to the early 14th century located approximately 0.5m below the current surface (Figure 15). The ash layer was overlain by at least mixed alluvial layers separated by a palaeosol that had accumulated over the intervening 700 years. Unsurprisingly no visible archaeological sites were identified on the flood plain within the property, however there remains a possibility that unrecorded subsurface archaeological sites and or artifacts survive within this area. Such sites are generally only identifiable by extensive earthwork.



Figure 13. Photo looking south showing a north south oriented internal drain on the eastern edge of the introduced soil.



Figure 14. View looking east along the northern property boundary showing an artificial scarp dropping to the north from the introduced soil deposits.



Figure 15. View of soil profile on the southern property boundary showing airfall Kaharoa ash covered by at least two major flood silting episodes separated by a palaeosol possibly indicating a hiatus between major flood events.

The Spur

A small spur descending from the western fluvial terrace ridge extends into the southern property boundary. It is the location of an existing dwelling and access drive (Figure 16). The spur has been modified by the formation of the house platform and has been partially quarried away on its eastern flank. An inspection of the spur revealed possible terrace features descending down the spur north of the house platform and a small shell midden eroding down the eastern scarp below the possible terrace features (Figure 18, Figure 19). Identifiable species within the shell midden included pipi and cockle. No intact shell midden deposit was identified. The two possible terrace features have been modified during formation of the house platform and it is unclear if intact subsurface features survive without subsurface archaeological investigation.



Figure 16. Oblique view looking south showing the bush covered spur descending north of the house site.



Figure 17. View looking north down the spur from the house site showing dense bush cover.



Figure 18. Photo showing shell midden eroding down eastern scarp below possible terrace features.

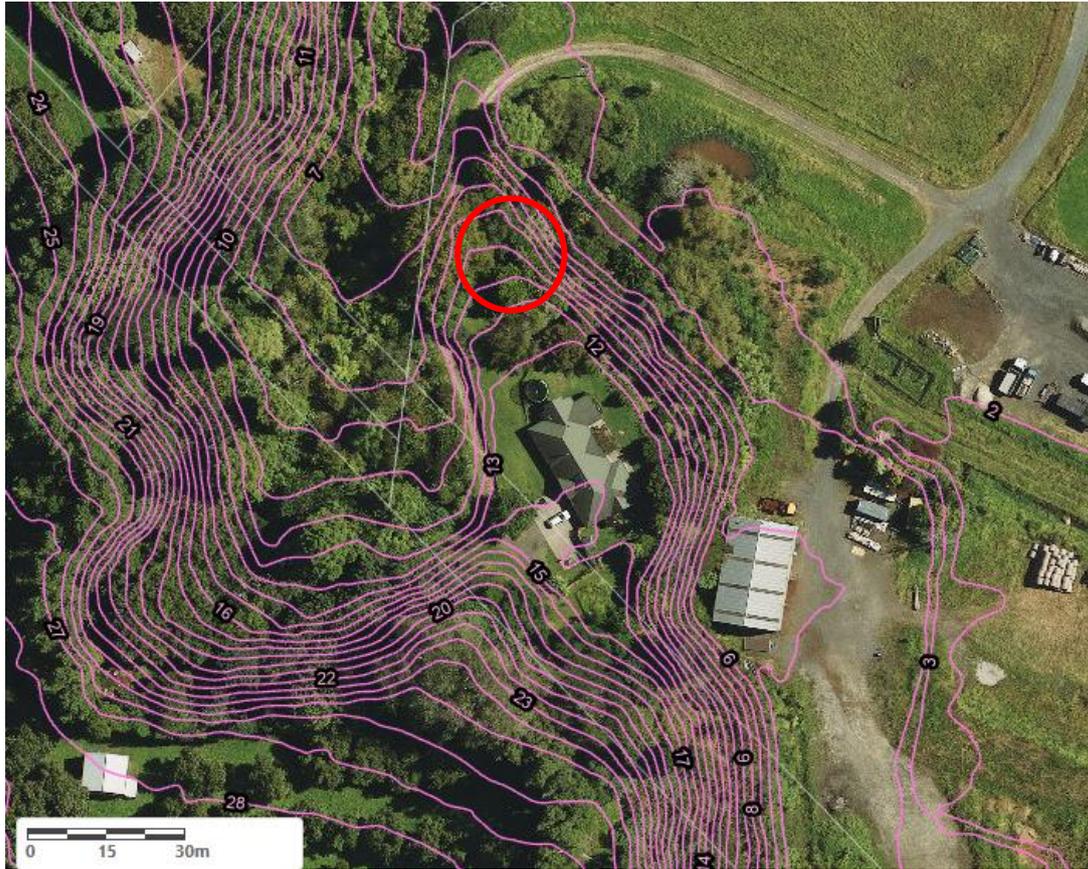


Figure 19. Aerial photo with contour overlay showing the location and possible extent of the terrace / midden archaeological site on the spur (circled red).

SUMMARY OF ARCHAEOLOGICAL LANDSCAPE

The proposed industrial development at 297 Te Puna Station Road is located within a broader area of high archaeological site density. The recorded sites represent the surface expression of numerous defended and undefended pre-European Māori settlements, cultivations and associated crop storage sites. Archaeological investigation of similar sites throughout the Tauranga district have revealed extensive subsurface components and the Te Puna sites will likely have the same attributes. Almost all of the 200+ recorded sites on the peninsula are situated on the elevated lands of the ignimbrite and fluvial terrace formations that provided favourable aspect, topography and soils for settlement and cultivation. These attributes were further complimented by the proximity to the Wairoa River and Tauranga Harbour as well as fresh water sources and wetland resources within the Hakao valley and the Oturu Stream catchment. At least 11 Pā are situated on the peninsula including the large Pā complex on Pukewhanake and two Pā overlooking Tahataharoa and the Wairoa River mouth including Okemoki on the north eastern point of the peninsula.

There are no recorded archaeological sites within the Te Hakao valley floor on which the greater Pārt of Pt Lot 3 DP 22158 is situated. As discussed above, sites within wetland environments rarely have surface expression and when uncovered usually comprise artefacts associated with adjacent settlements on dry land.

During the May 2024 archaeological survey one archaeological site was identified on the spur descending north from the existing dwelling within the property. The site comprises possible terrace features and shell midden eroding down the east facing scarp. The proximal end of the spur has been extensively modified by the levelling of the house platform and quarrying of the south eastern face.

SUMMARY & ASSESSMENT OF EFFECTS

An archaeological survey of Pt Lot 3 DP22158 & Section 3 SO61751 located at 297 Te Puna Station Road Tauranga was completed by the author in May 2024. No archaeological sites were identified on the flood plain; however, one terrace / midden site was identified on the spur descending north from the existing dwelling within the property.

While the likelihood of encountering intact archaeology on the flood plain during the industrial development within the property is considered low, there remains a possibility that artefacts may be encountered. If a site is encountered on the flood plain during earthwork all work will need to stop in the immediate area until an appropriate mitigation strategy is established between Pirirakau, HNZPT and the land owner before work that may affect the site can recommence.

Any proposed earthwork affecting the terrace midden archaeological site on the spur descending north from the house site will require an HNZPT. Conditions of an authority will likely include prior archaeological investigation of the site.

In the event that unrecorded subsurface archaeological features are encountered during earthwork associated with the development, conditions of an HNZ authority will allow

for the immediate investigation of such sites and prevent significant delays during the development programme.

The Heritage New Zealand Pouhere Taonga Act makes it unlawful for any person to “modify or destroy, or cause to be modified or destroyed, the whole or any part of an archaeological site without the prior authority of Heritage New Zealand” regardless of whether the land on which the site is located is designated or the activity is permitted under district plan rules. Therefore, the appropriate pathway for considering recorded and possible unrecorded archaeological sites within land affected by the development, is through the archaeological authority process and an application to Heritage New Zealand to modify or destroy such sites within the project area.

RECOMMENDATIONS

The following recommendations for avoidance or mitigation are provided below.

1. That if it is proposed to adversely affect the terrace/midden archaeological site identified on the spur descending north of the dwelling within Pt Lot 3 DP22158 a Heritage New Zealand (HNZ) authority to modify damage or destroy the site will need to be obtained before the commencement of ground disturbance in this area.
2. That in the event that intact archaeological sites or artefacts are encountered during ground disturbance associated with the project on the flood plain all work must stop in the immediate area until an appropriate mitigation strategy is determined in consultation with Pirirakau, Heritage New Zealand, the project archaeologist and the land owner. The mitigation strategy may include applying for an HNZ authority to investigate and record the site.
3. That if kōiwi tangata (human remains) are encountered, no further modification of the site concerned shall occur until tangata whenua and the HNZ have been advised and their responses received.
4. As archaeological survey cannot always detect sites of traditional value to Māori, such as wāhi tapu, tangata whenua should be consulted regarding the possible existence of such sites and informed of the recommendations of this report.

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Survey Plans

DP 22158, ML 9760, SO 424, SO 425, SO 61751

Aerial Photos

Retrolens: 1943, 1953, 1959, 1963, 1974, 1981, 1986, 1992, 1994

Google earth: 1994 - 2024