

Simmons & Associates Ltd.

**NGARUAWAHIA &
ENVIROS
ARCHAEOLOGICAL
HERITAGE**

Taupiri, Ngaruawahia, Glen Massey & Te Kowhai

EXECUTIVE SUMMARY

The intended outcome of the archaeological assessment was to identify archaeological sites in the part of Waikato District affected by the Ngaruawahia and Enviros Structure Plan. Based on the scale of the research the focus was on producing an overview report that could be used as a basis for archaeological management.

The primary method used to identify archaeological sites was a table top study that included: historical research; compilation of recorded archaeological site data; and geo-referencing of historic aerial photographs and plans. This information was used to build a predictive model or perspective on where pre-1900 sites should be and types of sites. The predicted site information was reviewed through the analysis of recent aerial photographs, Lidar data, and brief drive through visits in the study area. (Private property was not accessed.)

The comparative assessment of the structure plan growth areas indicates that both recorded and unrecorded archaeological sites are located in the proposed development areas. A substantial number of the potential pre-1900 archaeological sites are garden sites identified by geo-referencing. Historical research also indicated that two of the Church Missionary Society Mission Station sites were not recorded, nor the flour mill sites at Taupiri and Hopuhopu.

A number of specific heritage issues have been presented in the final report chapter along with management options. Among the recommended options is the preparation of archaeological site records for a number of unrecorded sites:

- Maori garden sites;
- Kaitotehe Mission Station, Hopuhopu Mission Station;
- Taupiri and Hopuhopu flour mills; and
- Catholic Church site and graveyard at Taupiri;

It is recommended this report be used as the starting point for understanding, discussing and managing Ngaruawahia and Enviros' archaeological heritage for present and future generations.

-Dr Alexy Simmons & Mr Malcolm Hutchinson, June 2014



Kaitotehe once occupied the gorse-covered ridge in the foreground, with the fertile gardens stretching towards the Waikato.

Kaitotehe and the gardens of Hoepo. Across the Waikato River, Taupiri Mountain (Phillips 1995, p.116).

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CHAPTER ONE NGURUAWAHIA & ENVIROS

Introduction

The Nguruawahia and Enviros structure plan area features both Maori and European pre-1900 archaeological sites (Figure 1).¹ This archaeological heritage document was prepared to inform future growth decisions and the management of archaeological heritage sites. The desired outcome of informed decision making about community growth is the preservation of the district's archaeological heritage so it is retained for future generations and used to enrich the lives of current generations.

Simmons and Associates Ltd. were asked to focus on four places: Taupiri, Ngaruawahia, Glen Massey, and Te Kowhai. This also involved research on the areas in between: Taupiri to Ngaruawahia; Ngaruawahia to approximately Horotiu; Ngaruawahia to Glen Massey and Ngaruawahia to Te Kowahi.

The archaeological focus was on four main phases in the district: Maori land use at contact; effects of European traders and missionaries; the Waikato Campaign of the New Zealand Wars; and the changes post-campaign European settlement created. All four phases involve physical modification of the landscape. Earthworks, deposits and artefacts all form the archaeological record of Maori and European land use prior to 1900. The phases mark distinct cultural patterns—ways of conducting daily life or social rules and beliefs.

¹ On 19 May 2014 the Heritage New Zealand Pouhere Taonga Act 2014 came into effect. Under that act an *archaeological site* means, subject to section 40(3),—

(a) any place in New Zealand, including any building or structure (or part 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; and

(b) includes a site for which a declaration is made under section 41(1).



Figure 1 Include a map showing the study area.

The archaeological sites in the Ngaruawahia Enviros area provide information about these phases in the Waikato. The sites are not isolated. They form an archaeological landscape that provides information about human behaviour in the past. For

example Maori garden sites area associated with pa, villages, gathering sites, eel traps in streams, bird capture areas, and other types of places used by the garden makers. Pre-1900 European farms are composed of house, farm buildings, fields, stock holding pens, roads, etc. The commonality is both Maori and European sites provide a perspective on how people lived in the district in the past based on land use.

The Nguruawahia Enviros archaeological study focused on specific information--where a site is located, as well as contextual information—the site as a part of the district’s story. The text that follows discusses the research methods used to compile information about Nguruawahia Enviros archaeological heritage.

Research Methodology

The archaeological research included a literature and record review to provide background information for a visit to the district to follow up on the potential sites identified.² For the purposes of the archaeological research an archaeological site was defined per the Heritage New Zealand Pouhere Taonga Act 2014 as defined in footnote 1.

Under the Act both recorded and unrecorded pre-1900 archaeological sites are protected. This definition includes pre-1900 standing structures. The Pouhere Taonga Act regulates effects to archaeological sites. It is unlawful to destroy, damage, or modify an archaeological site without an authority from Heritage New Zealand.

The table top study included: compiling all the records available for the area held in the New Zealand Archaeological Association (NZAA) site file in February 2014; a historic map search to identify maps that provide information about pre-1900 places and land division; a review of old aerial photographs of the district; compiling LiDAR data for the district to identify potential pa sites or to assess possible site locations; historical research to provide information about pre-1900 archaeological sites; information sharing with the Maori cultural heritage researcher; and the built heritage researchers.

² The agreed brief did not include the preparation of site records.

The information collected is compiled in three chapters: the history of the area prior to approximately 1900³ from an archaeological perspective; the recorded archaeological sites in the area; and historic survey plans and aerial photographs of the area. This information provided the basis for a predictive model of site locations and informed the site visit. The model and the results of site visit are included in Chapter 5. Chapter 6 provides archaeological management options based on the archaeological research carried out and summarised in Chapters 2 through 5.

³ Post 1900 information was included about Glen Massey because Glen Massey was settled after 1900.

CHAPTER 2 HISTORY; AN OVERVIEW OF PRE-1900 ARCHAEOLOGICAL SITES

Introduction

This history has been prepared from an archaeological perspective and compiled chronologically and thematically. The focus is on the historical information about pre-1900 archaeological sites associated with Maori and Europeans in the study area.

The chapter is divided into four main phases of history in the study area--Maori land use at contact; European traders and missionaries; the Waikato Campaign of the New Zealand Wars; and post-campaign European settlement. The focus is on the identification of unrecorded archaeological sites and the value and significance of both unrecorded and recorded archaeological sites.⁴ The information presented is based on European descriptions.⁵ The phases overlap with the activities of the Taupiri Mission Station and Reverend Benjamin Ashwell continuing through the war years.

A cultural report is being prepared as a separate document to present the Maori cultural history of Ngaruawahia and Enviros. It is likely the Maori cultural assessment will present other historical information and may also identify other heritage values for many of the places discussed in this chapter and other chapters.

⁴ Recorded archaeological sites are the sites included in the New Zealand Archaeological Association site record scheme at the time this report was prepared. The outcome of the report will be the identification of additional sites which may be added to the scheme in due course.

⁵ It is acknowledged that the observations are separated by many years and contain obvious recorder bias. Despite this acknowledged constraint journal entries, diaries, narratives, and images do provide descriptive information that would not otherwise be available about the Ngaruawahia and Enviros area.

Land Use Prior to European Contact

In 1835 Henry Williams described a Church Missionary Society expedition into the Waikato. They stopped to see Captain Kent, a trader residing (opposite Taupiri) who had a trading post at Ngaruawahia. Henry Williams and James Hamlin were on their way to Ngaruawahia to speak with Te Wherowhero Potatau about establishing a mission a Manukau and peace with the Thames people. On the river not far from Ngaruawahia Williams commented they over took Nate (sic Ngati) Po in several canoes who were going to Ngaruawahia⁶ to attend a grand council (Williams in Rogers 1961, p.428). *“According to the early Waikato trader Charles Marshall it [the pa at Ngaruawahia] was conjointly erected by all the Waikato Tribes at the end of 1833”* (Wilkes 2000, p. 2; S14/31). Reverend William Williams commented in 1834 that Ngaruawahia pa had a population of 200 men, women and children (Wilkes 2000, p. 2; S14/31). (See NZAA site records on the disc in the report pocket).

Henry Williams described Ngaruawahia in 1835:

“The pa stands on the junction of the Waipa and the Horotiu; below this it takes the name of Waikato and runs nearly 200 miles to the entrance. The country around is very beautiful.” (Williams in Rogers 1961, p.428)

No mention is made of Taupiri pa by the missionaries nor did they hold any special meetings with Maori at the pa opposite Taupiri. (A place that would become Kaitotehe Mission Station and Tukupoto school.) Ngaruawahia was obviously the seat of pa at the time. During the journey Henry Williams noted many large unoccupied pa with strong defensive ditches and banks.

John Johnson travelled through the area in 1846 and wrote:

⁶ The pa there was known as Ngaruawahia pa not Pikiarero/ Oika pa (S14/31). The names Pikiarero or Oika pa were identified based on a military plan that was misinterpreted, Pikiarero pa is in Taranaki. Owen Wilkes (2004) corrected this error in a New Zealand Archaeological Association file scheme update in 2004, but it has remained a persistent error because of the number of historical references to the pa and the lack of distribution of the correction information and how it is presented in the site file. The site number S14/31 is now associated only with rifle pits, actually a trench, which protected Tawhiao’s capital S14/182. The rifle trench has been identified under the skate park which caps one segment of it.

“if a portion of it [the land] is elevated above the rest it is generally crowned by a deserted pa whose mound, for they are always surrounded by an artificial earthen rampart and ditch, look like the remains of some old redoubts, on an English battle field. There are a number of these old pas on every projecting knoll on the left bank . . . They show also the former existence of a large concentrated population which has partly disappeared under the scourge of age and disease.” (New Zealander 3 November 1847, p.2)

Many of the pa Johnson passed during his travels down the Waikato and Waipa will be identified in Chapter 3.

Maori Agriculture

In the Ngauruawahia and Enviros area the land modification activities associated with gardening are very evident even today. Pick (1968) note that there was a saying used by the tribes of the Waikato to praise the cultivator:

“*He Toa Taua he toa Pahekeheke he toa mahi he toa pumau,*’ (The fame of the warrior is transient, but the fame of the food producer is enduring).” (Pick 1968, p.111)

In the Waikato Maori focused on growing kumara (*Ipomea batatas*), taro (*Colocasia antiquorum*) and yam (*Dioscorea alata*) (Figure 2). Gourd or hue (*Lagenaria vulgaris*) was also grown. These cultivars were paired with collected plant species and fish, shell fish, eels and birds to fill out the larder. The area was particularly rich in eels and bird species because of the forest and marsh environments.

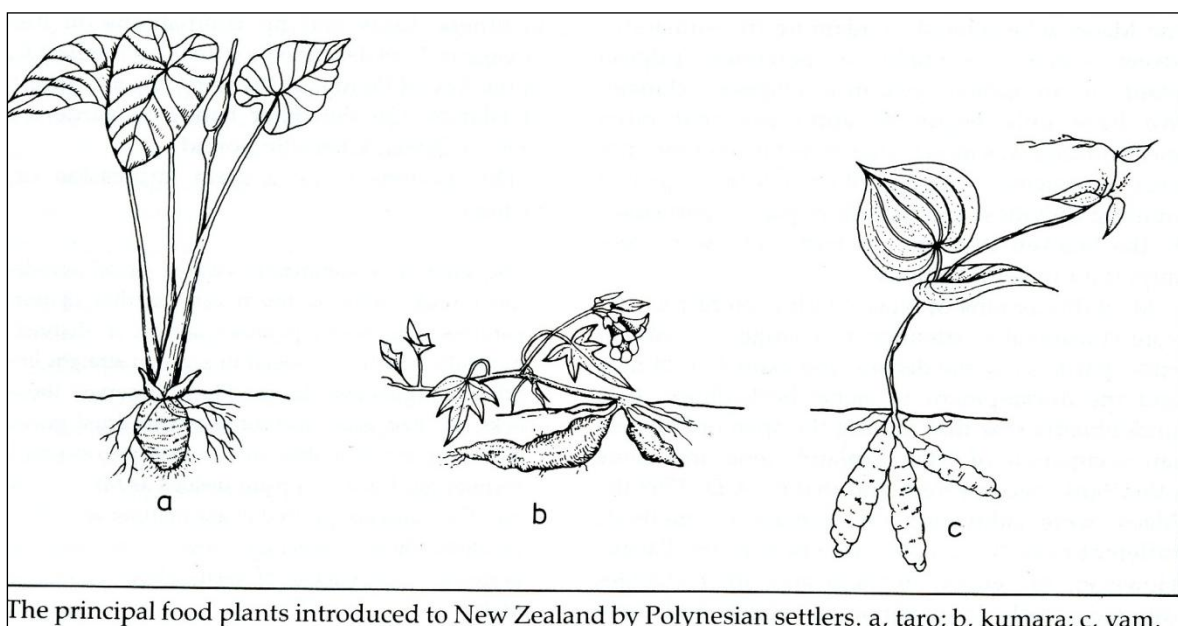


Figure 2 Food Plants Introduced by Early Polynesian Settlers.

Associated with the garden sites were living areas, frequently pa. Seasonal camps were also established adjacent to the gardens during the cultivation period. The Reverend William Yates wrote of the Waikato in 1830:

“... Here, as in other parts of the island, when the natives are not living in fortifications for security, they were found to be residing in detached villages; at a few miles distant from the others; their cultivations being still more scattered...” (Yates 1835, p.208 in Clarke 1977, p.209)

The Reverend William Williams observed about the Waikato tribes:

“... the banks on either side of the river from about fourteen miles from Ngaruawahia pa are lined with cultivations for nearly the whole distance, though for the most part they have few inhabitants except in the planting season.” (Journal 3/1/1834, p. 349 in Clark 1977, p.209)

Paramount Chief Te Wherowhero was observed supervising the planting of kumara in October 1844. Williams remarked that a number of people were working on the cultivations; when he returned a month later he estimated a thousand people were assembled at the kumara grounds. The experience in organized seasonal cultivation provided a good basis for success with new cultivars introduced by missionaries and traders (e.g. wheat, maize, and potatoes).

Maori cultivation followed a seasonal pattern. Early ethnographers Archdeacon Philip Walsh (1902) and Elsdon Best (1925)⁷ observed the land was prepared for cultivation in the late autumn when the weather was dry and the soil suitable for working. The work was carried out in conjunction with the harvest of fern root (aruhe) and the time when it was at its best. Fires were used to clear the bush at the edge of forests killing the standing trees overtime and removing the obstacles to cultivation (Walsh 1902, p.14-15).

The process of breaking in the ground involved the removal of large roots and stumps. The various tasks were carried out in different parts of the cleared area. The ko was used by men to break up the virgin ground by turning the sod over (Figure 3). Women and children followed breaking up the clods with small wooden

⁷ Best's comments appear to derive from Walsh's observations.

instruments and “clawing out the fern-root and rubbish with their fingers” (Walsh 1902, p. 15).



Figure 3 Men using ko's (Best 1979, cover illustration).

Walsh noted:

“The only object for the deep digging was to get rid of the root and clear the land from the fern, which would otherwise shoot up and injure the growing crop.” (Walsh 1902, p. 16) *“Every principal man would have one or more plots of his own.”* (Best 1925, p. 185)

For the planting of kumera Walsh, Best and Colenso noted: once the soil was worked up fine and cleaned it was formed in to little round hills, called tupuke;⁸ “tupuke, about 9 inches [22.86 cm] high and 20 inches [50.80 cm] to 24 inches [60.96 cm] in

⁸ Other names for the mounds were tukari, ahu and tuahu (Best 1925, p.150).

diameter, set quite close together" (Walsh 1902, p.16). The bulk of the ground is not dug, just the puke (Best 1925, p.165) (Figure 4 through Figure 6).



Figure 4 Working a garden. (Best 1925, p. 93; Best 1931, p.8a).



Figure 5 Archaeological evidence of Maori gardening, the base of tupuke at Lot 5, 9 Kernot Road, view west; surface at 24 centimeters below surface. (Simmons, A. 2013c, p.15)



Figure 6 Bowl shaped hollow (BSH) or tupuke remains (Simmons 2005).

Colenso observed:

“the kumara or sweet potato was planted with much ceremony and regularity in little hillocks in selected dry ground, facing the sun, carefully prepared and heavily gravelled with fresh gravel from some pit or bed of a neighbouring stream, this annual gravelling of the kumara grounds was alone a heavy service.” (Colenso in Best 1925, p.138)

Along the Waikato and Waipa gravel was obtained by digging into the under layer of gravelly soils deposited by historic floods and changes in the course of the Waikato River. The hinerua gravels, a product of Mt Taupo’s eruption, provided aeration, heat and would have served as an obstacle to the growth of long thin kumara roots. The gravelly layer was usually evident at 50 centimetres to 1 meter below the ground surface. When the gravelly material was removed large circular craters were left—borrow pits. These are still evident today in many of the fields along the Waikato and Waipa Rivers (Figure 7).



Figure 7 Borrow pits near Horotiu Bridge; S14/164.

The gardens were located near rivers, but not necessarily on the lowest flood plain, or water ways. Archaeological investigation of the Maori garden sites revealed that the introduced sand/gravel, charcoal, and other organic material were mixed into the parent soil at the garden sites. Soil Scientist David Lowe observed:

“These soils typically have over thickened, charcoal-bearing soils to which gravels and sands have been added, these being excavated from adjacent small quarries or ‘borrow pits’ in the Hinuera Formation.” (Lowe 2010, p. 7).

Other Maori gardening strategies identified by archaeologists involved the use of sheet mulching—the creation of a layer of modified soil not the discrete bowl shaped hollow tupuke described in the previous text (Hoffman 2011 and 2013).

Ethnologist Eldon Best noted: *“The taro was always planted in patches by itself, and not among or near kumara.”* (Best 1979, p.238) This observation has been contradicted by starch analysis of soil samples from a Maori garden site at Taupiri (S14/158). The analysis provides evidence that both kumara and taro were cultivated at the same site (Horrocks 2011). The garden sites will be discussed more in the next chapter on archaeology.

European Contact; Traders, Missionaries, Artists and Explorers

European contact in the Ngaruawahia Enviros area in the 1820s through 1850s brought rapid change to the region. This included changes in economic focus, new technology, and new ideas and belief systems—including the Christian religious

philosophies of the Anglicans, Methodists, and Catholics. Many of the contacts between tangata whenua were brief, e.g. transitory explorers, travellers and artists. Other Europeans came to the Waikato region and established residences and businesses. The ranks of the traders included several who stayed, married and established family links with Waikato people.

The more permanent Europeans in the central Waikato, Ngaruawahia and Enviros area, were the missionaries. They established mission stations and schools. They trained lay ministers to preach in outlying villages. Their philosophical intent was to create a change in the cultural belief system and way of life. For example the Church Missionary Society strongly supported the idea of dressing students in European clothing as part of the conversion process.

The Traders

The first Europeans to establish themselves in the region were the traders who identified economic opportunities in the Waikato basin--spars, flax, pork and potatoes. Local tangata whenua were entrepreneurs and experienced traders. Trade with the Europeans had economic benefits for them and provided a method for obtaining goods they desired.

John Rodolphus Kent (Amukete) is believed to be the first European trader to live in the Waikato. He was not the only trader in the region. Several traders were located at the lower end of the Waikato, at Port Waikato and later near Tuakau.⁹ Kent eventually settled in the Ngaruawahia area. He had a trading post at 'The Point' (Ngaruawahia) and a residence opposite Taupiri Mountain.

Captain Kent, or Amukete as his Maori friends referred to him, was an officer in the Royal Navy who served the government of New South Wales as a ship master (Ross 1979a, p.35; Te Ara-The Encyclopedia of New Zealand 2012). He resigned from military service in 1826 and turned to employment with private ship owners involved in trade to New Zealand. He put into the Hokianga in 1826 and established the first New Zealand trading post at Koutu Point and purchased 1000 acres there in exchange for muskets, powder and other goods (Ross 1979a).

⁹ Other traders included: Captain Payne at Port Waikato 1829; Charles Marshall at Port Waikato 1830 and later near Tuakau; Mr Lonsdale at Raglan harbour in 1833; the other traders mentioned in the text and a previous footnote; and probably other less well known traders.

In 1828 he moved to Kawhia to trade with the Waikato Maori and ceased to be closely associated with Hokianga. He met Te Wherowhero, a high chief of the Waikato tribes and developed a close relationship cemented by Kent's marriage to Parengaipa (probably Te Wherowhero's niece) (Ross 1979b, p.28).¹⁰ The Kawhia flax trade was lucrative and protected by secrecy about the location. In 1829 he brought over John Cowell, a rope maker and four other traders.¹¹ When Kent's wife Parengaipa died he married Tiria in 1831 (Tiria a close relative of Te Wherowhero (some sources describe her as Te Wherowhero's daughter) (Ross 1979b, p.28).

From 1827 to 1837 Kent traded goods for New Zealand spars, flax, pork and potatoes. The cargo loads of New Zealand items were shipped to Sydney Australia. The returning vessels brought tradable commodities:

"muskets, bayonets, bullet moulds, cartridge paper, cartouche boxes, plenty of gun powder. Besides the deadly stores, there were axes, knives, iron pots, coloured fabric prints, pipes and tobacco, blankets and cotton handkerchiefs." (Ross 1979b, p.28)

The flax trading posts, like the one at Kawhia and later at Ngaruawahia, featured long flax store houses where the dressed flax was hung to dry. The stores were open on the sides with a raupo roof. The one at Kawhia was 100 feet long (Ross 1979b). The dry flax was packed into casks for shipping. The flax was purchased initially for a musket to a ton, later the price rose to two muskets a ton. The price of muskets in Sydney were around £2 10s and dressed flax sold for £5 in the early years of the trade. The price later rose, in 1828 the flax sold for £38 to £40 a ton and by 1830 £45 a ton was paid by the British Government.

The flax trade affected the local economy. Men focused on cutting the flax in the swamps and carrying it to the villages for the women to process. The focus of Maori labour on flax harvest and processing would have affected the amount of time available for food cultivation and preparation. The procession of material goods, such as axes, iron pots and blankets would have also created changes in the traditional customs of people in the Waikato region.

In 1834 after many years of trading and various appointments—captain (ship master), supercargo, agent, trading master and interpreter—Kent retired to

¹⁰ Kelly (1949) states: "Kent also settled at Heahea [Kawhia] and married Amohia, the daughter of high chief Te Wherowhero." (Kelly 1949, p.424)

¹¹ The others were George Thomas, Edward Meurant, William Risdon, and George Thomas Howe (Howe 1976, p.14).

Kaitotehe across the river from Taupiri. Kaiotehe was one of the villages at which Te Wherowhero resided. Kent continued to trade during his later years. He based his flax trading activities in Ngaruawahia; the centre of the trade network for the Waikato.¹² By 1836 Kent was ill with gout, as noted by James Hamlin, a Church Missionary Society catechist who visited him at Kaitotehe (opposite Taupiri). He died six months later in January 1837.

Missionaries and Mission Stations

During the 1830s and 1840s the Church of England Missionary Society (CMS) began to establish a presence in the Waikato region. In February 1839 the Reverend Benjamin Yates Ashwell (Potaenui) made a visit to places along the Waikato and Waipa Rivers on his way to Archdeacon Brown's Te Papa Mission Station at Tauranga (Cowan 1934) (Figure 8). He visited all the kainga he encountered on the way and preached the gospel. This would be the first of many visits to villages in the Waikato. During his trip he observed large kumara cultivations at Taupiri on both sides of the river, but noted Ngaruawahia was not occupied at that time (Cowan 1934, p.5-6). Ashwell's observations provide an indication of the fertility of the Waikato and the willingness of the native population to provide an audience for religious teachings.

In July 1839 Robert Maunsell with the aid of his wife Susan established a mission station at Maraetai (Waikato Heads) that consisted of two raupo huts (Garrett 1991, p.81). Benjamin and Harriet Ashwell, joined the Maunsells at Maraetai. They had previously assisted the Maunsell's at Moeatoa on the southern Maunkau. The Maraetai station drew large congregations numbering in the hundreds. Benjamin Ashwell made many trips from the station into the interior to deliver sermons.

¹² Ngaruawahia is often noted as the place Kent resided. He probably had houses at Kaitotehe and Ngaruawahia.

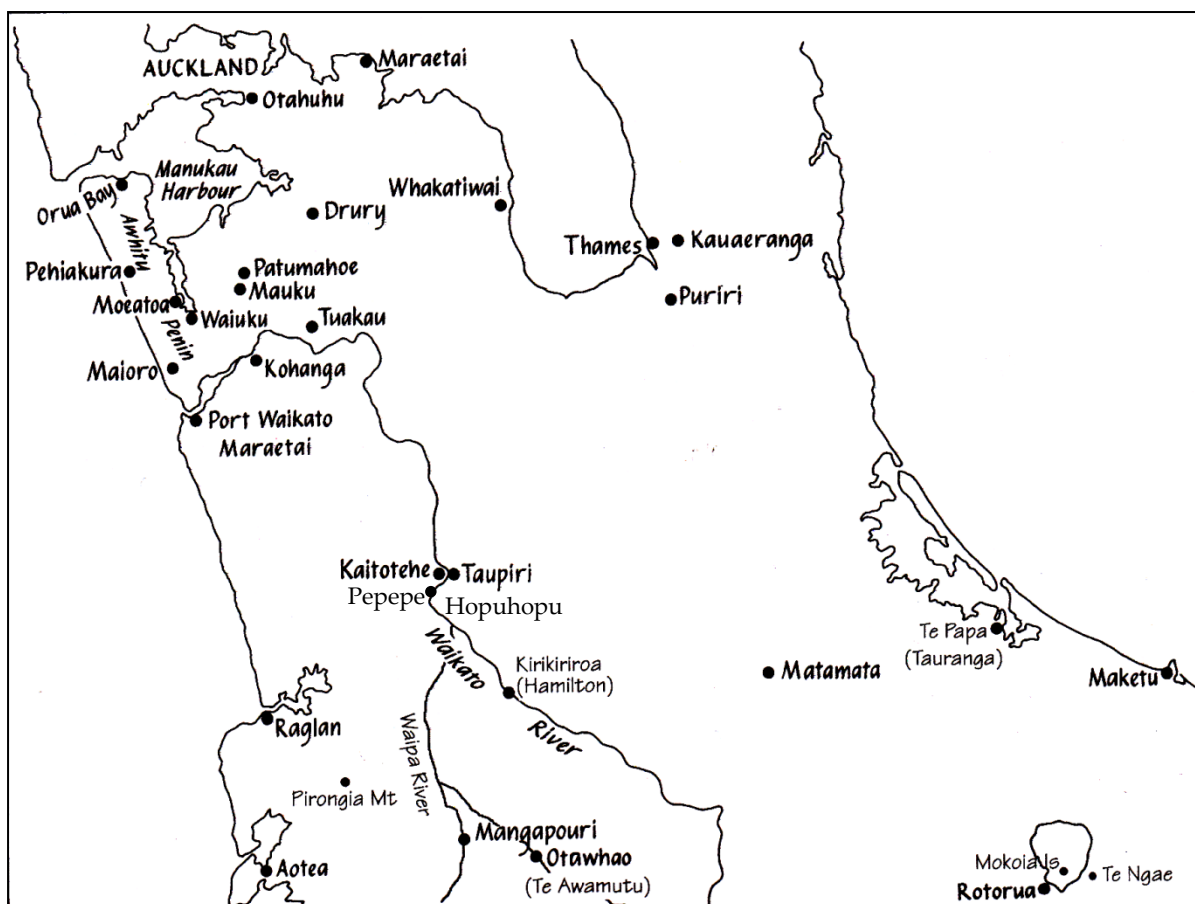


Figure 8 Main places in the Waikato associated with the Church Missionary Society (Tagg 2003, p.4).

Ashwell has been described as being somewhat temperamental, possibly due to his health (Tagg 2003, p.10) (Figure 9). In 1839 after a less than favorable start he was apparently well received at villages throughout the Waikato. He established a mission station at Otawhao (Te Awamutu). Otawhao would later become a significant station in the mission network when Reverend John Morgan took up residence in early 1843. In the same year Benjamin and Harriet Ashwell opened a mission station at Pepepe, on the Waikato River south of Taupiri (Figure 8).

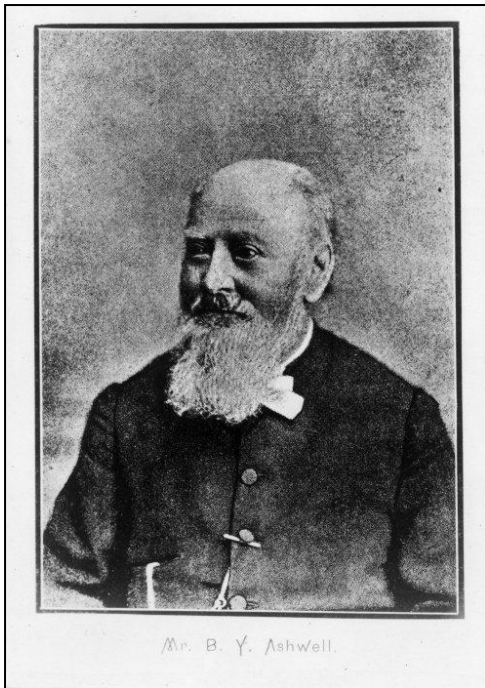


Figure 9 Benjamin Yates Ashwell circa 1870. Photographer unidentified. (Ref: 1/2-050083-F. Alexander Turnbull Library, Wellington, New Zealand.[http://natlib.govt.nz/records/23195126.](http://natlib.govt.nz/records/23195126))

Prior to establishing the station at Pepepe Benjamin Ashwell and Harriet made a visit to the mission in Thames. He wrote:

"I now discontinued my Missionary visits to Otawhao. . . at the request of my brethren, visited the western bank of the Thames. In February [1843], I visited with my wife [and child] the villages on that bank. We were much pleased at the state of the small pa at Orere, and delighted to find a good girls' school under a native teacher named Martha. She had been taught at a neighbouring Mission Station." (Ashwell in Tagg 2003, p.59)

The girls' school would serve as a model for the schools Reverend Ashwell established in the Waikato; beginning with the school at Pepepe.

Pepepe Mission Station, 1843

Ashwell's recollections state that in September 1843: *"I said farewell to my much esteemed Christian brother at Waikato Heads, and proceeded with my family to form the Church Mission Station at Taupiri [Pepepe]."* (Ashwell in Tagg 2003, p.60)¹³ The Pepepe

¹³ There has been considerable confusion in the many histories produced about the Taupiri mission stations about the dates they were established and where they were located. Two reliable sources

Mission Station would become one of several stations referred to as the Taupiri stations in Ashwell's central Waikato district.¹⁴ Ashwell's territory "*comprised the Waikato as far as Port Russell, including Whangamarino, and extending to Whatawhata, on the Waipa and Kirikiriroa. . . about 70 miles and. . .30 villages*" (Tagg 2003, p.18).¹⁵ Benjamin and Harriet would serve as missionaries in the Waikato for most of their lives. He travelled frequently from village to village and had houses for his use at Pukatea, Whatawhata, and Kirikiriroa (Watson 1981, p.26).

Pepepe was about midway between Taupiri and Ngaruawahia. Pepepe, was a Ngati Mahuta pa associated with Kakeha during the 1700s and the site of a battle with Ngati Raukawa who besieged the pa (Phillips 1989a p. 85).

Kaitotehe, Ashwell's second Mission Station site and Pepepe are illustrated on a plan prepared Leslie Kelly in 1940 (Figure 10). The Pepepe Mission Station was across the river from Hopuhopu (Hopu Hopu).

indicate Pepepe Mission Station was established in 1843 and was the first of Ashwell's three stations. Tagg (2003) states: "In September 1843, Ashwell and his family left Waikato Heads to form the Church Mission Station at Taupiri near the pa of Te Wherowhero Potatau and roughly mid-way between Robert Maunsell's station at Waikato Heads and John Morgan's Otawhao. Their first station was at Pepepe, where the Maoris gave 100 acres of land for a school." (Tagg 2003, p.17).

Robert Maunsell reported in a letter dated 2 February 1843 that Mr and Mrs Ashwell had gone to Kaitotehe [pa] near Taupiri, the scared mountain, to establish a new station near Te Wherowhero's pa (Garrett 1991, p. 110).

According to Murphy and Grinter the Pepepe Taupiri mission was established in 1842 (Murphy and Grinter 1978, p.10).

Drummond (1964) also notes the school at Pepepe on the west bank near Ngaruawahia was founded in 1842.

The Souvenir of the seventy-fifth anniversary reunion of the Taupiri School (1953) states the school across the river from Taupiri was established in 1835.

James Cowan (1934) states "in September of 1843, Mr Ashwell established himself permanently at the spot described at the beginning of this article, the great Taupiri bend." (Cowan 1934, p. 9)

¹⁴ Murphy and Grinter (1978) noted: "at least three mission houses and one school built, i.e. four sites." (Murphy and Grinter 1978, p.10 footnote) The historical references concerning when Pepepe mission station was established cite a variety of different dates as discussed in the previous footnote. The names Pepepe, Taupiri and Kaitotehe mission station also appear to have become interchanged in the descriptions of the mission stations and schools over the years. The station at Kaitotehe was also referred to as the Tukupoto.

¹⁵ Also see Norris 1956,p.7 for a detailed description of some of Ashwell's soujourns.

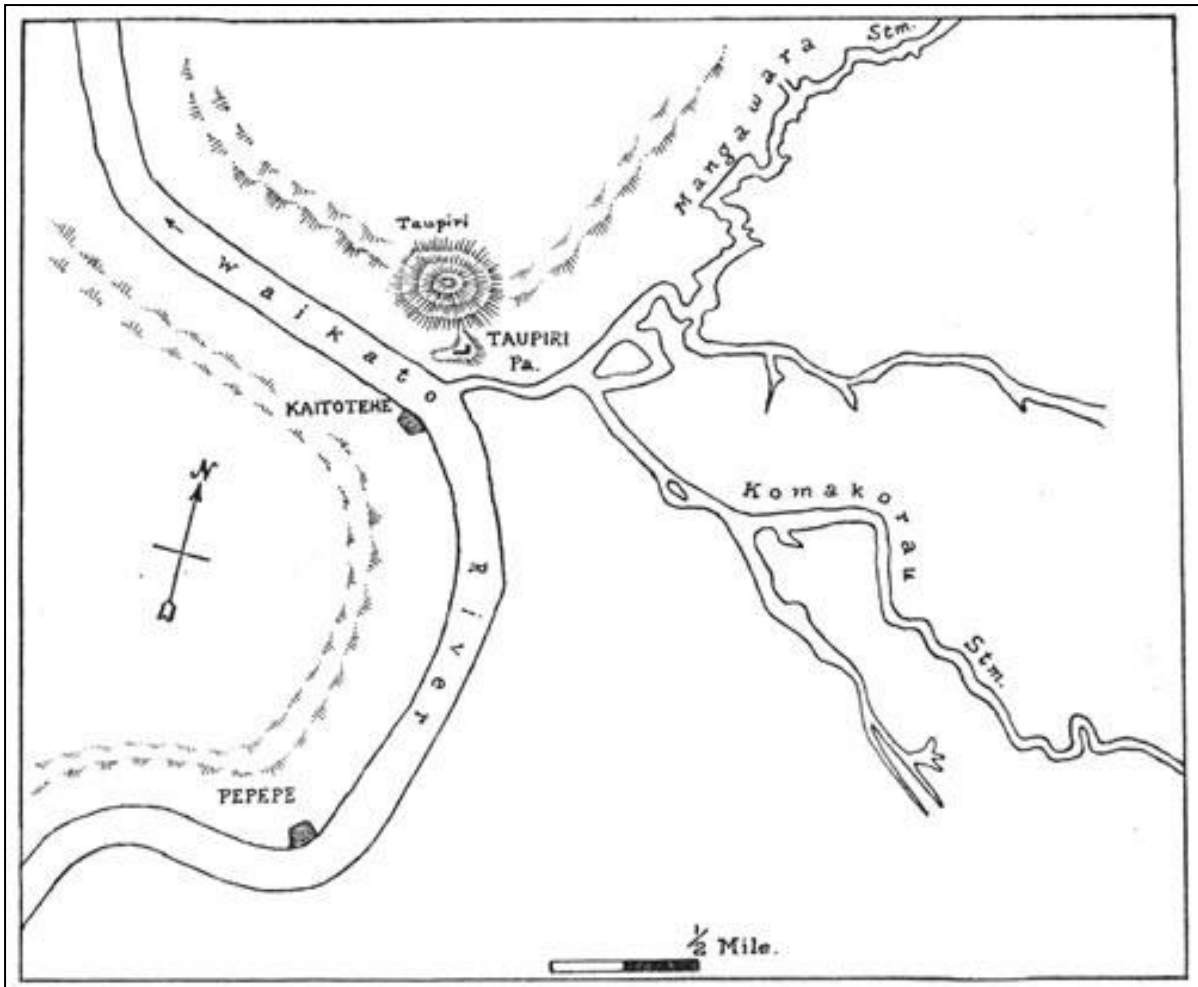


Figure 10 Plan prepared by Leslie G Kelly (1940, p.151) showing the Maori villages of Kaitotehe and Pepepe.

Kelly noted the two villages were visible from the ramparts of the old pa on Taupiri and communication was kept up between the places by a system of signals (Kelly 1940, p.151).

Figure 11 and Figure 12 show the station at Pepepe, Taupiri in 1843 and 1844. Drummond observed the 1844 engraving by Angas shows the Ashwell's raupo cottage on the slope of Pepepe pa (Drummond 1964, p.17). The use of Pepepe Mission Station as the main Taupiri station was short lived. In 1846 the Ashwell's established another mission station at Kaitotehe. According to historian Alison Drummond an adult school was operated at Pepepe, with a type of crèche for very young child attached to it (Drummond 1964, p.17). Her text suggests the Pepepe adult school was being run concurrently with the Kaitotehe school.

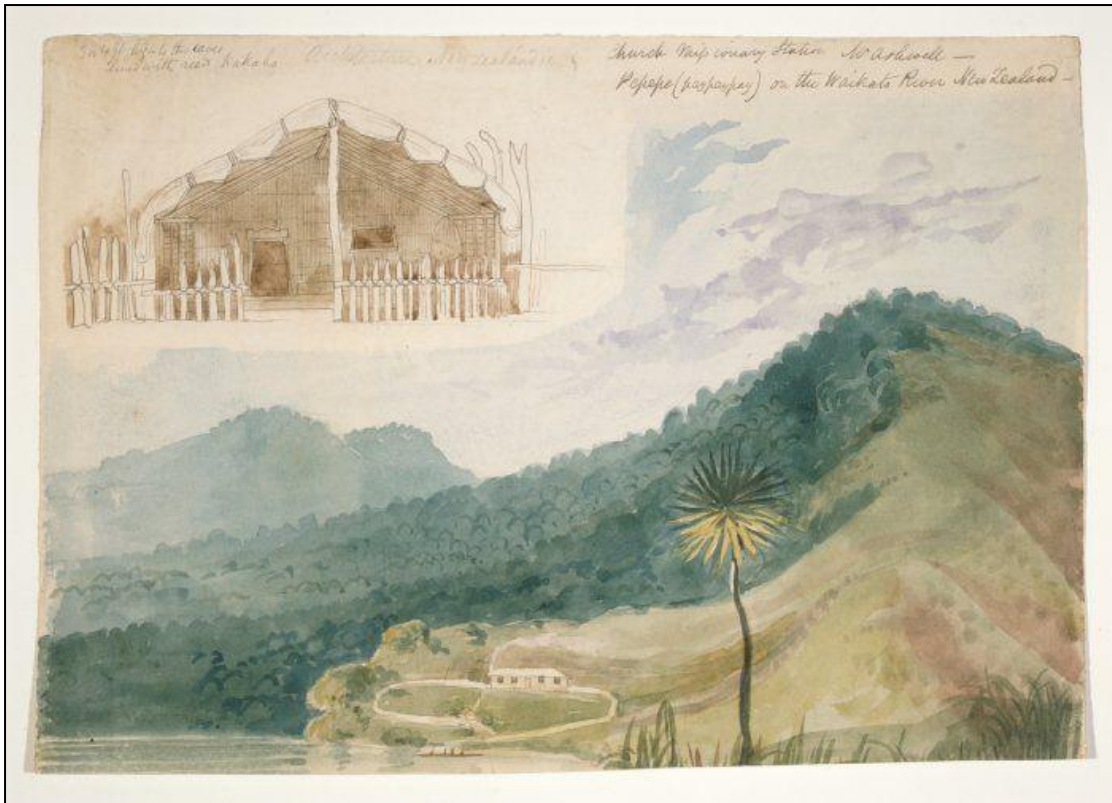


Figure 11 Church Missionary Station, "Mr Ashwell-Pepepe (paypaypay) on the Waikato River New Zealand, 1843." (Ashworth, E. Ref. A-208-002 Alexander Turnbull Library, Wellington, New Zealand. <http://mp.natlib.govt.nz/detail/?id=20342&l=mi.>)

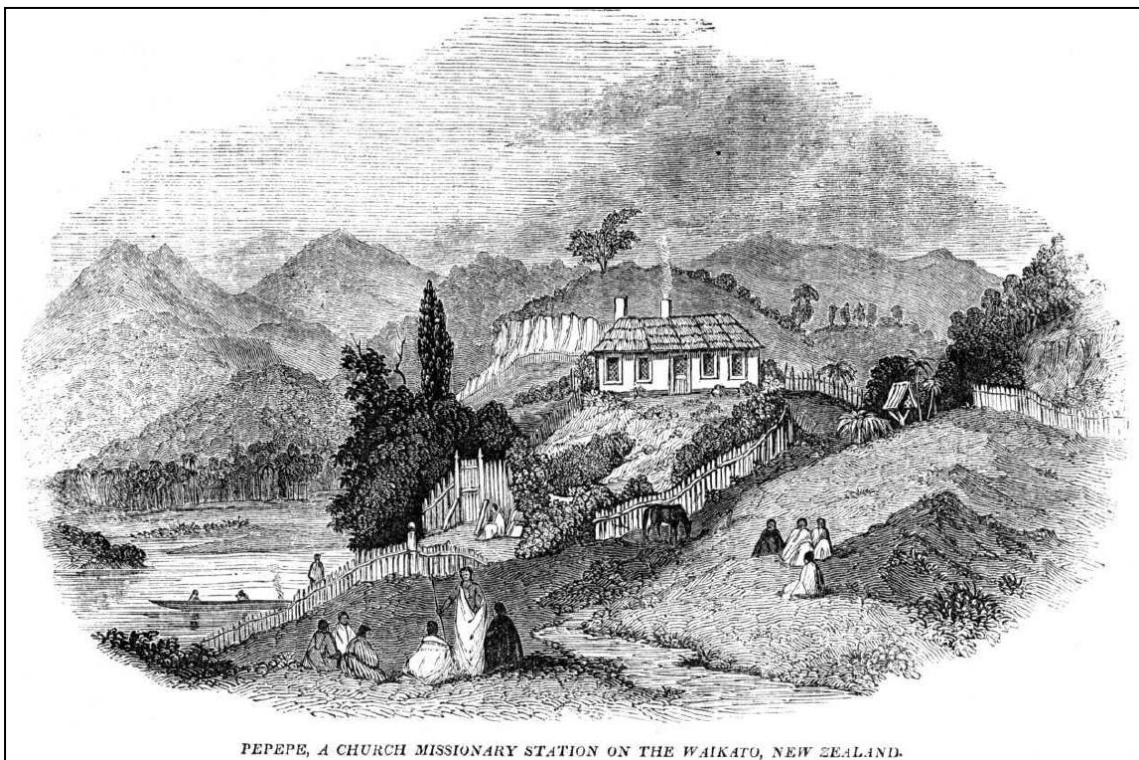


Figure 12 The station at Pepepe in 1844, engraving by G.F. Angas who visited the station in 1844.

Angas described Pepepe Mission Station in his journal,

“It’s as lovely and secluded spot as it is possible to imagine. The little cottage built of raupo with its white chimneys, and its garden full of flowers--of sweet English flower, roses, stocks, and mignonette—was snugly perched on an elevated plateau overhanging the Waikato River; and the access to it was by a small bridge thrown across a glen of tree ferns, with a small stream murmuring below.” (Angas 2011, p.37)

The Pepepe station was legally granted 133 acres in 1853, ten years after the land was made available by local Maori (Figure 13). According to Old (1994) the crown grant was made to the Church of England to be used to support the education of Maori, Europeans and Pacific Islanders (Old 1994, p.19).¹⁶ The land was cultivated to assist in the stations self sufficiency.

In 1869 the school land at Pepepe was described as over grown and having no permanent buildings ever erected on the land (AJHR 1869 Appendix A no5, p.4).

¹⁶ The land was a grant made by tangata whenua to the New Zealand government for educational purposes.

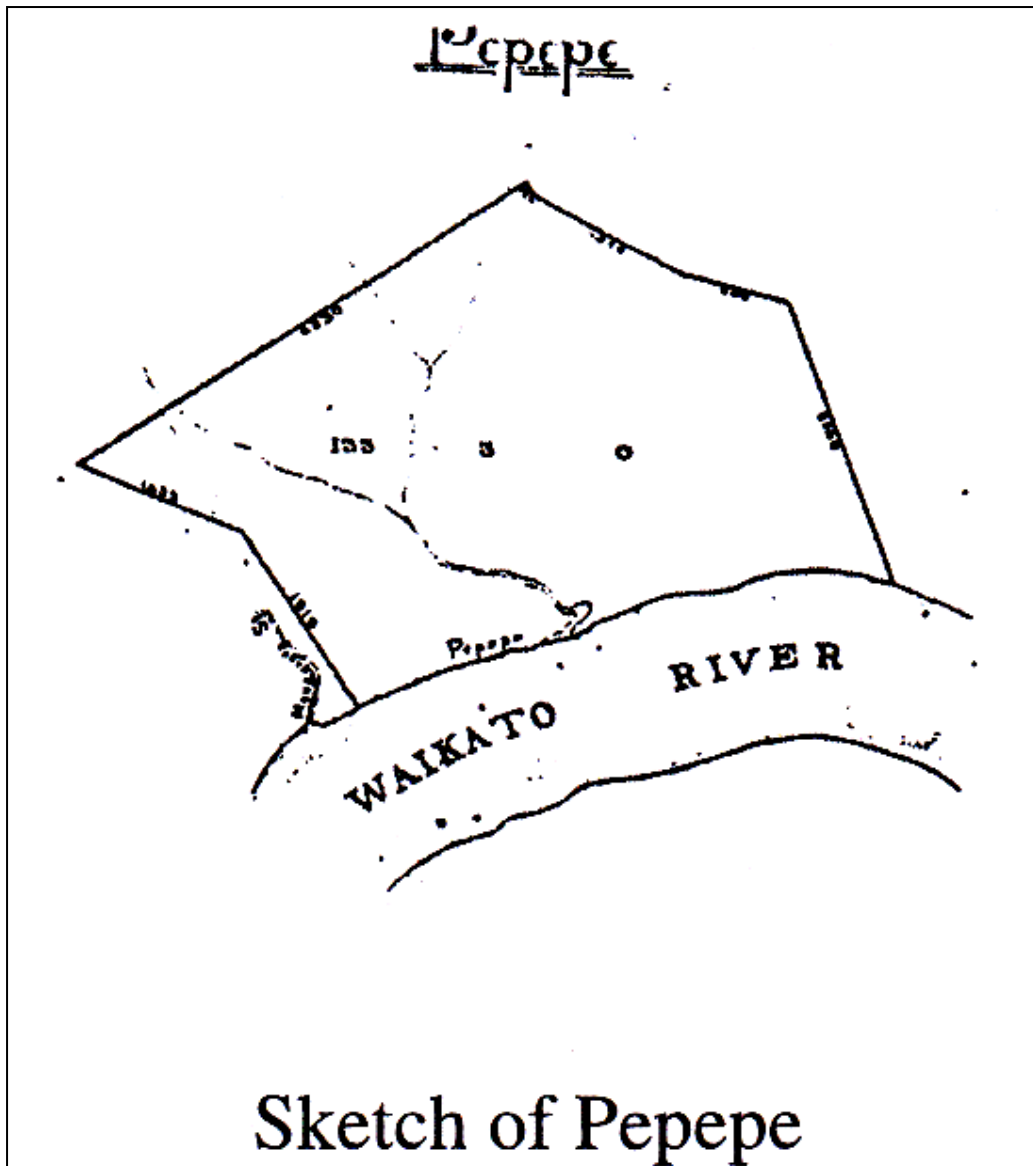


Figure 13 Pepepe Estate (Old 1994, p.19).

(Note this plan does not appear to match the location indicated by Kelly in the previous figure. This suggests Kelly's location was the location of the Maori village of Pepepe and the Mission Station land grant was further up river on the bend of the river. Near Waham Road, approximately opposite Ashwell Crescent.)

George French Angas, Artist and Traveller in the mid-1840s

The mid-1840s was a time period in which interest in the Waikato had increased. One of the most noted artists to visit the area was George French Angas. During his 1844 visit George French Angas also described Kaitotehe pa. He noted it was on the left bank of the Waikato River, two miles from Pepepe. Angas describe the walk from 'Kaitote pah' [sic Kaitotehe] to Pepepe.

“A walk across the country of about two miles again brought us to a bend of the river, where we arrived at the Church Missionary Station of Pepepe, the residence of Mr Ashwell. . . our walk was a very wet one, through swampy flax and fern, and we were obliged to cross one swamp on the shoulders of the natives.” (Angas 2011, p.36)

In the *Landmarks of Tainui* Phillips (1989b) commented:

“the village of Kaitotehe was established as a landmark of Tainui in the days of Wharetipeti and Tapuae to guard the fertile gardens of Hoepo. Eventually a pa was built there and named Tukupoto became the home of Potatau te Wherowhero.” (Phillips 1989, p. 114)

Figure 14, is Angas’s well known painting of Kaitotehe pa which was reproduced as a lithograph.

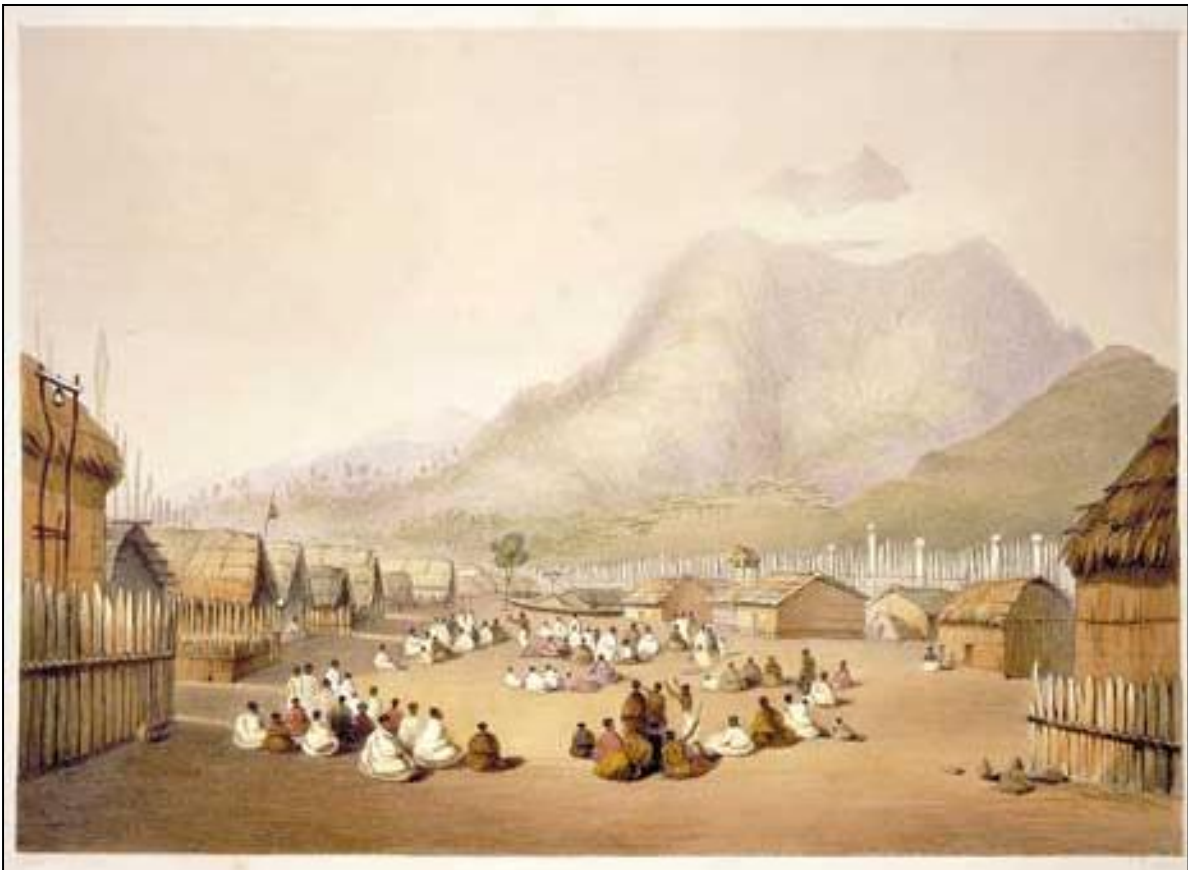


Figure 14 Lithograph of Kaitotehe pā near Taupiri is based on an 1844 painting by George French Angas. ([http://www.TeAra.govt.nz/en/artwork/27071/kaitotehe-pa.](http://www.TeAra.govt.nz/en/artwork/27071/kaitotehe-pa))

It shows a large complex of buildings grouped around a central marae (courtyard), with tall palisades around the perimeter. Kaitotehe was for a time the home of the chief Pōtatau Te Wherowhero, who became the first Māori king.

During Angas's visit to Kaitotehe pa [Tukupoto pa] in 1844 he observed:

"the pa [Kaitotehe] consists of an open quadrangle, with houses ranged on each side in the primitive style, the whole surrounded by a lofty palisade of wooden posts, having an entrance at each end. At one end of the pah stands a chapel, built of tohi tohi grass, by the Christian portion of the inhabitants: and Te Whero Whero, though not professing Christianity himself, frequently attends the worship held here by the missionary." (Angas 2011, p.36)

He also described the gardens of Hoepo at Kaitoteke:

"Numerous whatas, or elevated repositories, are scattered about this district; and the natives have extensive cultivations of potatoes, kumeras, Indian corn, and occasionally wheat. There was not a single native at Kaitote on our arrival; in company with their chief, they were all at their extensive kumera grounds on the Waipa, at a place call Whata Whata." (Angas 2011, p.35)

Angas' art work and journal excerpts were published in 1847 in London under the title, *Savage Life and Scenes in Australian and New Zealand*, Volume II. The publication was enlivened by his sketches, paintings, and lithographs (Figure 15).

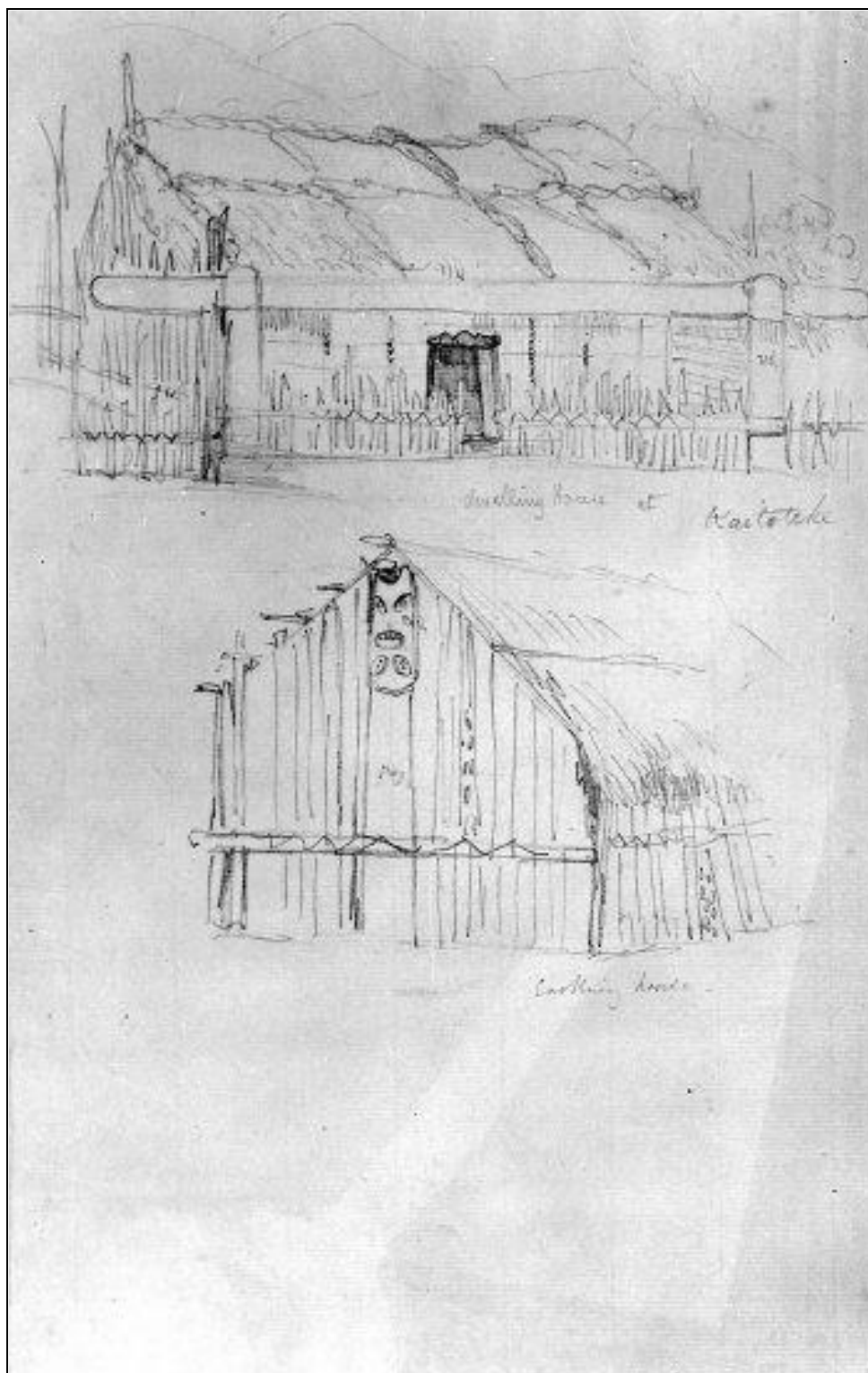


Figure 15 Sketches of a dwelling house at Kaitoteke and a cooking house [November 1844]. (Angas, George French (1844) Reference Number: A-020-033-2. Object #25459, Alexander Turnbull Library, [http://mp.natlib.govt.nz/search/?f=placeid\\$90900&l=en](http://mp.natlib.govt.nz/search/?f=placeid$90900&l=en).)

The Taupiri Mission Stations; Pepepe, Tukupoto (Kaitotehe), and Hopuhopu

In 1846, three years after establishing the Pepepe Mission Station, Ashwell moved the centre of his missionary work to a new station at Kaitotehe opposite Taupiri Mountain and the mouth of the Maungawhara River. According to historian Alison Drummond (1964) the station was relocated to Kaitotehe because “a gift of land was made to the mission by some of the Chiefs of Kaitotehe.”¹⁷ (Drummond 1964, p.17) The relocation may have also been inspired by the excellent location—four pa were located at Kaitotehe, making the station a centre of missionary activities in the Waikato and an excellent location for a school. Ashwell opened a school at Tukupoto in mid-1846. He commented on the opening:

“As regards the Taupiri school, which I commenced May 10, 1846 with the valuable assistance of my native teacher Heta Tarawhiti (now an ordained priest of the Church of England)¹⁸, at the end of the year our scholars had increased to nineteen.” (Ashwell in Tagg 2003, p.69)

John Johnson’ Visit to Kaitotehe and down to Whatawhata

John Johnson visited Kaitotehe in 1846, (after Ashwell had established a Mission Station there). Observations from his visit were published in the *New Zealander* on 30 October 1847 as “Notes From a Journal” and included in Nancy Taylor’s (1959) book *Early Travellers in New Zealand*. (Some of his journal commentary was presented in an earlier subsection on pa sites along the Waikato and Waipa Rivers.)

On reaching Kaitotehe Johnson commented:

“This flat is occupied by several pas, which we successively passed, all going under the name of Kaitotehe, the principal one just opposite to Taupiri. . . We landed a Kaitotehe, and after arranging for the board and lodging of our Natives, repaired to the house of Mr Ashwell, the resident Missionary, from who on our disembarking, we had received a hospitable invitation.” (New Zealander 30 October 1847, p.2)

He described the Kaitotehe mission house as a commodious and comfortable house:

¹⁷ “Te Wherowhero had given Ashwell 400 acres of fine land.” (Garrett 1991, p.183)

¹⁸ Te Kauri Marae history of Reverend Heta Kereru Trawhiti notes: Heta become a notable Anglican priest. He was recommended for priest training at St Stephens in 1858 and ordained a priest by Bishop Selwyn at St Paul’s Auckland in 1866. (Te Kauri Marae 2014, p. 1-2)

“a short distance in rear of the pa, on a piece of ground made over to the Mission by the Natives . . .the fruit trees in his garden were in a flourishing condition, particularly the cherry trees, which were loaded with fruit.” (New Zealander 30 October 1847, p.2)

During his stay Johnson accompanied Reverend Ashwell to the native chapel (on the 27 December 1846):

“[The chapel] is a neat raupo building of some size. The congregation, about one hundred in number, behaved very decorously, and afterwards chatechising (sic) took place in which the converts shewed considerable knowledge of the scriptures.” (New Zealander 30 October 1847, p.2) (Figure 16)



Figure 16 Reverend Benjamin Yate Ashwell’s church, Taupiri mission station, Waikato. The church was believed to have been constructed in 1846. (Nicholl, Spencer Perceval Talbot, 1863 or 1864, PA1-f-046-09-1. Alexander Turnbull Library. [http://natlib.govt.nz/records/23237039.](http://natlib.govt.nz/records/23237039))

He described the ground around Kaitotehe pa as a rich alluvium. He noted crops of kumera, maize, and potatoes—*“the latter was in a very languishing state, in consequence of the long drought.” (New Zealander 30 October 1847, p.2)*

Johnson continued upriver for two miles and noted the Kaitotehe flat terminated at Ngatihouroua pa where there was an extensive planting of maize around the pa. The occupants of the pa told him they were erecting a mill next year. One of his journal entries states:

“The hills as we ascended, abutted occasionally boldly on the river, clothed with beautiful woods at other points receded to give place to alluvial flats and terraces from twenty to fifty acres in extent, all under a rude cultivation.” (New Zealander 3 November 1847, p.2)

He reached Ngaruawahia and noted: “Ngaruawahia would seem the spot in every respect well-adapted either for a settlement or a military post, if, unhappily such should be required.” (*New Zealander* 3 November 1847, p.2) He continued up the Waipa River, apparently without stopping at Ngaruawahia.

Eventually Johnson’s party reached the pa at Wata Wata (sic Whata Whata), twenty five miles from Kaitotehe. They paid a visit to Te Wherowhero at his whare on the left bank. It was late spring/ early summer a time for cultivating crops at garden sites along the Waipa River.

Other Kaitotehe Mission Station Visitors

The Reverend Richard Taylor visited the mission station at Kaitotehe the following year. Taylor drew an image of the mission house during his 1847 visit (Figure 17).



Figure 17 Mr Ashwell’s house at Kaitotehe on the Waikato. May 31, 1847. (Taylor, Richard, Sketchbook. 1835-1860. Ref: E-296-q-077-1. Alexander Turnbull Library, Wellington, New Zealand.[http://natlib.govt.nz/records/23024859.](http://natlib.govt.nz/records/23024859))

The mission stations at Pepepe and Kaitotehe are among the best documented in the Waikato based on the images deposited in public archives. Taylor documented the station again during his brief visit in late January through early February 1851. When the Reverend Richard Taylor visited the Mission Station at Kaitotehe in 1851 He captured an image in his sketch book of an extensive station that included Ashwell's house and several other houses (Figure 18).

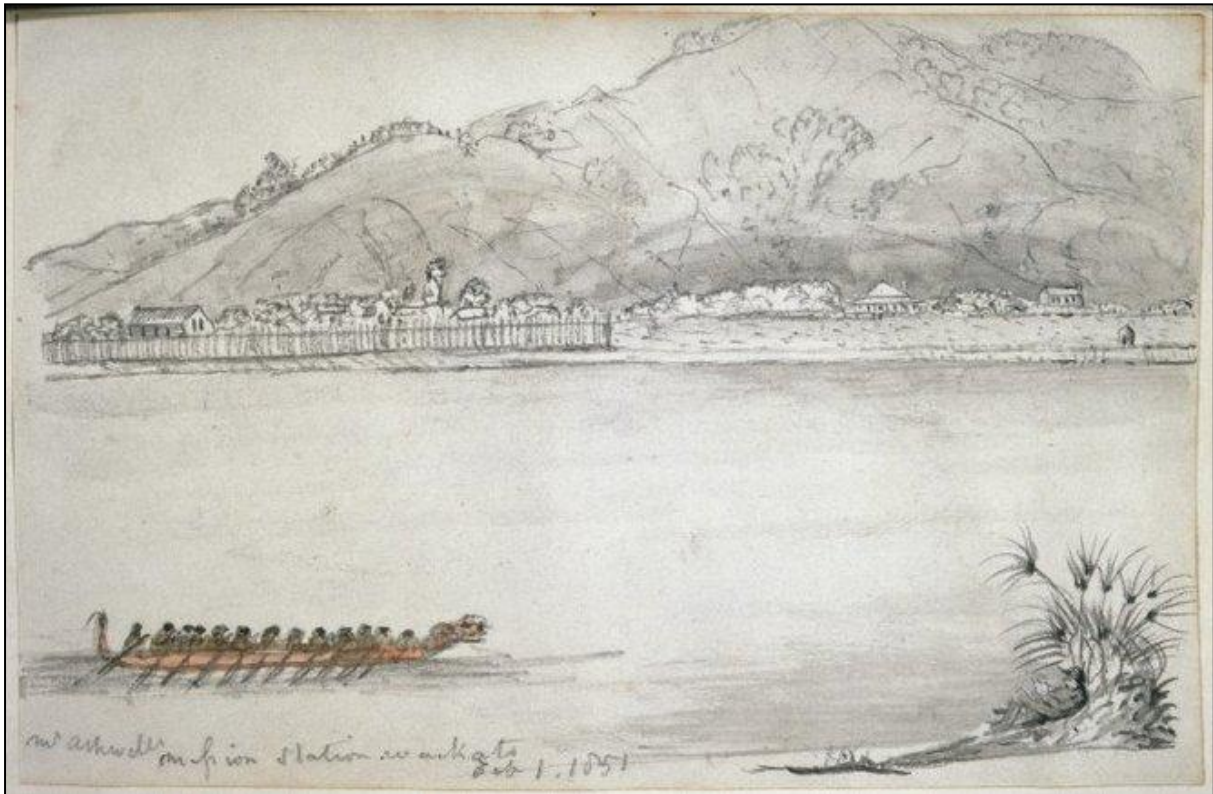


Figure 18 Mr Ashwell's mission station, Waikato. Feb 1, 1851. (Taylor, R. Sketchbook. 1835-1860. Ref: E-296-q-089-1. Alexander Turnbull Library, Wellington, New Zealand. [http://natlib.govt.nz/records/23212877.](http://natlib.govt.nz/records/23212877))

Tukupoto School at Kaitotehe

Benjamin Ashwell had a strong interest in establishing native schools and religious principals, an interest that would result in the establishment of a system of schools in the district. The Tukupoto (Taupiri) mission school, as it was known in government reports, began on 10 May 1846 by the end of the year there were nineteen students and by 1857 the school had 112 boarders—forty-nine girls, forty-seven boys, and sixteen adults (Ashwell in Tagg 2003, 69). Figure 19 is Bruno Hamel's 1859 in photograph of the station and school. It provides a more accurate image of the setting and buildings than the previous drawings.



Figure 19 Photograph of Taupiri Mission Station, 1859. The mission house with the school for native girls on the left. (Hamel, B. 1859 Record ID: 30976, [http://www.teara.govt.nz/en/1966/ashwell-benjamin-yates.](http://www.teara.govt.nz/en/1966/ashwell-benjamin-yates))

Mission Schools

Benjamin Ashwell established a schedule of daily activities designed to regulate the students day at his mission schools. These are described in his *Recollections of a Waikato Missionary* (Ashwell in Tagg 2003, p. 48-79). The schedules along with European clothing, food and other practices were part of the Christian education.

The students went to prayers and Bible-class for an hour at 6 am in summer and 7 am in winter. The time was signaled by a bell. Bible-class was followed by breakfast at 8 am in summer, 9 am in winter and school an hour later. The students were instructed in reading, native and English grammar, geography, history, writing, arithmetic, and singing. The day was broken by dinner at 1 pm in summer and 2 pm

in winter.¹⁹ After the mid-day meal the girls sewed and boys did farm work until 5pm. Tea, a lighter meal, was eaten at 6 pm followed by the elder girls knitting and reading classes for other students. The day ended with prayers at about 8.00.

The students and teachers associated with the school in 1859 are shown proudly displaying some of their sewing and weaving in Figure 20.



Figure 20 Rev Benjamin Yates Ashwell's mission school at Taupiri, photographed in 1859 by Bruno Hamel. (Ref: PA1-o-207-06. Alexander Turnbull Library, Wellington, New Zealand.<http://natlib.govt.nz/records/22307579>)

The children lived on "potatoes and flour, with pork, fish, and fruit occasionally (AJHR 1861, No 4 p. 4). The sustainability of the station was an ongoing problem. Ashwell noted in his journal:

28 July 1851 [Kaitotehe CMS Station Waikato River] "I am not without anxiety as to the future support of our institution in consequence of (1st) the increasing price of provisions from the extended commerce of the Natives of this District with Auckland.

¹⁹ The main meal, dinner in the middle of the day is not unusual in the mid-1800s. The time for dinner was changing, but an evening dinner time was associated with the upper class in England. A large mid-day meal was still the common practice for labourers.

The traders are constantly coming up the Waikato to purchase wheat, flour, Pork etc. The Society have only nine acres of very indifferent land at this station, therefore nothing can be done in the way of Agriculture. Had we land I have no doubt the Governor (who is exceedingly anxious to promote Agriculture) would render me the same assistance which he does to my Bretheren Messrs Maunsell and Morgan — Viz a Plough, horses and wages for a ploughman, which greatly assists the schools.....the School is considerably in debt in consequence of the erection of wings to the school room, viz. a dormitory and dining room.” (Ashwell 1851-1859, p. 212-213) (Figure 21).

A government grant of £212 was provided to the school in 1854 and £200 in 1855 for the scholars’ maintenance, clothing and instruction. Ashwell commented on student costs on May 27 1855: *“the average expense of each scholar is 7.10 pounds.”*²⁰ (Ashwell 1855, p.265)

The government estimated per scholar as £6 and 8 shillings in the 1856 report to the New Zealand House of Representatives. Almost a pound less than Ashwell noted — indicating a substantial shortfall existed at his station and possibly others. The children’s parents were supposed to subsidize their education. Six months later he wrote on November 20, 1856 *“a few baskets of potatoes not amounting to 10 pounds per annum is the utmost given towards the support of the children of this institution”* Ashwell 1851-1859, p.269)

The school inspection report of 1856 noted the farming operations were limited at Tukupoto (Taupiri) because the institution was a girl’s school. The inspector noted *“the girls also made fancy mats²¹ and knit stockings; the proceeds of sale are passed to the credit of the school account. Propriety and regularity seemed to pervade the whole establishment.”* (The House of Representatives, Native Education Correspondence, Appendix A No.7, 1856, p.23). Despite this negative report about aspects of the school the New Zealand government provided £300 in 1856 to Tukupoto School for cultivation and improvement of the estate granted to the school by the natives.

²⁰ The newspaper reported the cost of a scholar was £4 5s in 1852 which may be a misprint (New Zealand Spectator and Cook’s Strait Guardian 14 September 1852, p.4).

²¹ *“They made door mats of native flax, which are intended for sale in aid of the school. Some of these mats are in very neat patterns; the fibre of the flax is left in some parts in aits natural state whilst other parts are dyed either a rich brow, produced by the bark of the Tanikaha, or black from the Hinau.”* (New Zealand Spectator and Cook’s Strait Guardian 14 September 1852, p.4) Some of the mats may be shown in Figure 20.

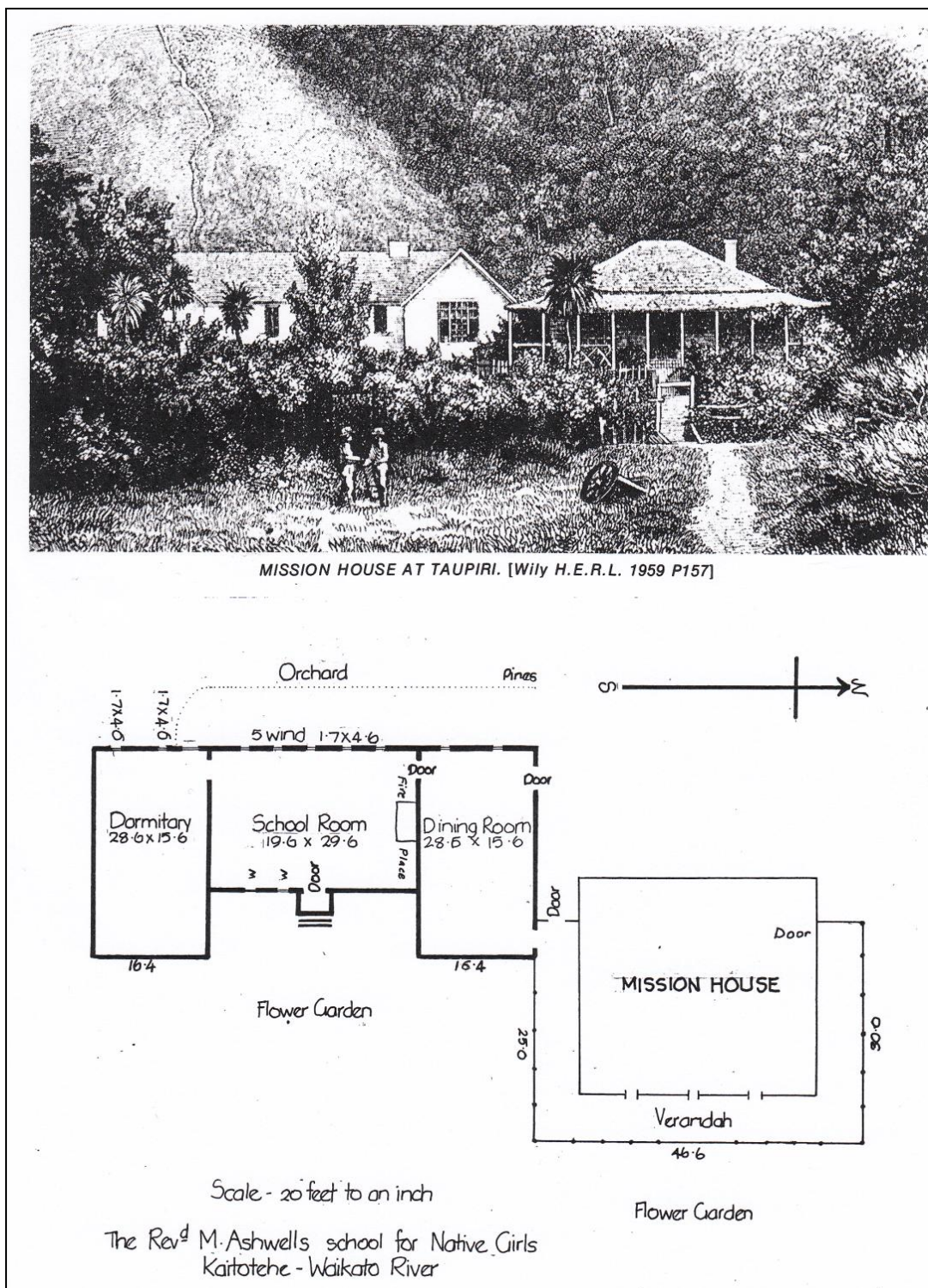


Figure 21 Native girls school and mission house at Kaitotehe. (Murphy and Grinter 1978, p. 11.)

The girls slept in iron bedsteads, two to bed and washed in a shed outside (AJHR 1861 Appendix E, No. 4, p.4).

Lieutenant Russell's inspection report in 1858 noted the girls' dormitory and boys raupo huts in the rear were well planned but were unlined and cold in winter and leaked. He noted a deficiency in shelving, tables and forms in the girls' school. He observed

"[the diet] consisted of ground wheat made into porridge for breakfast and supper—varied sometime by bread or boiled maize—and potatoes and pumpkins or other vegetables for dinner. The food was good of its kind and in sufficient quantities, but the supply of animal food is very small, and indeed almost nominal. . .there is a great want of proper cooking utensils, as well as of those for cleaning—washing—food—personal cleanliness, & c. . .a decent appearance is maintained." (Russell 1858, p.63)

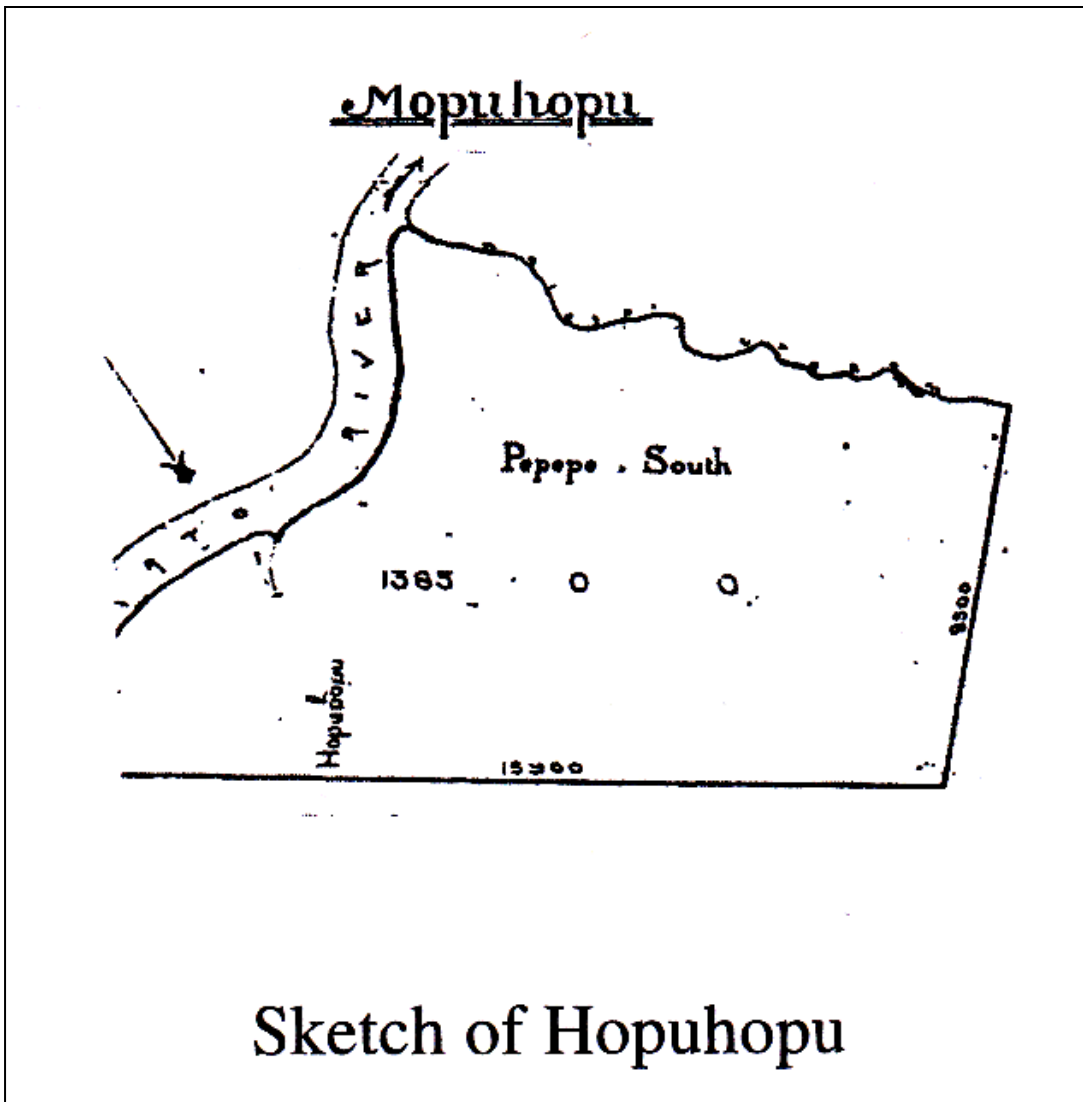
Hopuhopu (Hopu Hopu) School

In 1853 Te Ngaungau hapu and Heta Kereru Tarawhiti gifted the Church of England 1,385 acres at Hopuhopu for the usage toward education and religion (Figure 22) (Te Kauri Marae 2014, p.1). The Maori owners also paid £300 for the construction of a flour mill. The school was apparently opened at Hopuhopu by 1857, based on Lieutenant Russell's school inspection report.²² (It is probable that it opened several years earlier based on the date of the gift.)

Inspector Russell noted the land at Hopuhopu consisted of one third indifferent and one third swamp that could be reclaimed.

"Ashwell has lately enclosed (by contract) 400 acres which he hopes to have lay down in grass for sheep or cattle if funds can be provided. A tolerably good house has been erected here for the Teachers and boys employed upon the farm, out of funds furnished by the Bishop, and Mr Ashwell's most anxious desire is to remove the [Pepepe] Mission Station [house] from its isolation and unprofitable position to this Farm which he conceives, if stocked and furnished with the necessary implements, would soon make the school self supporting." (Russell 1858, p.63)

²² "Ashwell reported that the natives had given him 1385 acres opposite Pepepe for the support of the school, and said that the permanent maintenance of the Taupiri (boarding) school must depend on its success under cultivation." (Auckland Star 21 June 1905, p.2)



Sketch of Hopuhopu

Figure 22 Hopuhopu (Hopu Hopu), 1385 acres (Old 1994, p.19)

The Church of England Board administered the government grant to the school of £6 and 10 shillings per student and £50 towards each teacher's salary. This created a shortfall in maintenance of the scholars, as already noted. The Ashwell mission schools were reliant on the students as agricultural workers to sustain the institutions. Some of the boys who were trained in ploughing were 'out farmed' to help feed the pupils and stave off the mission station debts (Petrie 2006, p.87).

By 1861 the Reverend Heta Tarawhiti was in charge of Hopuhopu and Reverend Ashwell visited daily (when he was at home). The boys went to Taupiri on Sundays and Fridays for religious instruction. The station opposite Taupiri Mountain (Tukupoto or Taupiri) continued to be the main mission station.

The school inspector noted the boys slept in a dormitory with iron bedsteads at Hopuhopu, usually sleeping together for warmth. The report also stated the number of students at the schools had decreased since the onset of the war in Taranaki—most of the boys at Hopuhopu had left in February 1861.

The Taupiri Mission Schools Teachers'

Ashwell's vision of Christian education at the mission station schools was shared by others who served as teachers. Among the teachers were notable teachers like Heta Kereru Tarawhiti (Figure 23) and his wife and Elizabeth Colenso.

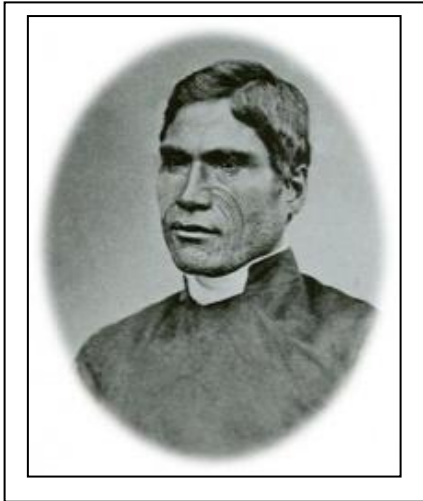


Figure 23 Heta Kereru Tarawhiti (Tarawhitit 2005, <http://www.naumaiplace.com/site/te-kauri/home/page/554/heta-tarawhiti/#>)

Heta joined Reverend Ashwell at Taupiri Mission School, Kaitotehe in 1846 as a lay preacher (Te Kauri Marae 2014, p.1). Ashwell commented:

“Heta or Seth [Tarawhiti]. . . became my fellow labourer and fellow minister. . . During twenty long years of trial and difficulty, Heta has never failed me.” (Ashwell in Tagg 2003, p.65)

Heta's years with Ashwell formed the beginning of a long career as a church missionary. As previously noted he was put in charge of the Hopuhopu school in 1861. He eventually became principal of the Taupiri mission schools in 1879 when Ashwell retired.

Another teacher that contributed to the success of the schools was Elizabeth Fairburn Colenso. She was assigned to the school after many unhappy years of marriage to

William Colenso. She was an excellent teacher, fluent in Maori. Elizabeth served as a teacher at Taupiri for seven years (1854 to 1861)(Ross 2005, p.2). Elizabeth and Harriet Ashwell ran the school. In 1861 Elizabeth left with her daughters Fanny and Latty for England where she remained until 1866. Upon on her arrival in New Zealand with her daughter Fanny in 1867 she was notified that Harriet Ashwell was dying.

She and Fanny returned to Kaitotehe at the request of the Ashwells. Elizabeth remained at Taupiri teaching, working in the parish and playing the organ at services. Harriet died on 13 February 1867 (Tagg 2003, p.38).

After her death Benjamin Ashwell asked Elizabeth and Fanny to look after his house while he returned to England. Fanny wrote *“So there we lived for two years, teaching in the Sunday School, working in the Parish, and I was organist for the church”* (Simcox 1940 p.38 in Ross 2005, p.4). Elizabeth’s work at the mission station school was highly praised by Benjamin Ashwell.

Acculturation and Salvation

Benjamin Ashwell like many of his fellow Church Missionary Society missionaries actively introduced and encouraged Maori to adopt European beliefs and customs. This was particularly demonstrated through the introduction of European material goods and practices: clothing; foods, cooking processes and dinning rituals; agricultural practices; reading and writing English; and of course religious practices. Ashwell noted his successes and disappoints in the adoption of European customs by his flock. He observed:

Nov 20, 1856 “one of the native teachers when sent back to his village from the mission station where he had been staying for two years was anxious to adopt European customs he took with him many European articles, knives, forks, spoons, plates, etc. No sooner then he arrived then his friends began to beg one, for a knife, another for a cup, etc, etc, and in less than a month his whole stock of European articles were exhausted, and shortly after the teachers house could not be distinguished (sic) from the others (Ashwell p.267-268)

Christmas day [1857] “the dinner was set three times that all might partake of it according to European custom—twenty stewards with white aprons were waiting, filling the cups and panakins with tea our only beverage. Our fare consisted of roast pork plum pudding and bread and butter and tea in abundance. I was glad to find all

our scholars anxious for salt, which the natives are beginning to think a necessary more than 1000 loaves were baked for the occasion.” (Ashwell 1851-59, pg 300-301)

Maori Agriculture in the 1850s

Ashwell was not entirely in support of Maori agri-business as a mechanism to assist in sustaining the schools, unlike Reverend John Morgan at Te Awamutu. Ashwell made periodic comments in his journal and letters about the expenditure of money on farm and milling equipment and risk. He also lamented about the lack of money for tuition because of Maori agri-business.

Ashwell’s comments provide insight into changes in Maori agricultural practices in the Waikato. The changes in cultivation methods are indicative of a shift in economic focus on the market opportunities provided by the growing Auckland population and an increase in expertise and technology. Ashwell grumbled:

May 27, 1855 “the natives are becoming more sensible of the benefits of education for their children. But mills, horses, ploughs, etc absorb their money and they are not willing to pay for the education of their children.” (Ashwell 1851-1859, p.266)

He expressed concern about the risk of over capitalizing.

November 20, 1856 “Most of the districts are overburdened already with debt, water mills, ploughs, horses, barns, coasting vessels, etc etc. (sic) have yet to be paid for by many of the tribes. Accidents are by no means infrequent, vessels lost, mills broken, etc. One opposite this station [at Taupiri] which has cost 400 pounds is entirely useless. On the east coast one tribe lost last winter, four coasting vessels valued between one and two thousand pounds.” (Ashwell 1851-59, p. 268)

The Auckland market had been a source of income for the Waikato people for many years as is evident in Table 1. The growth in the quantity of foodstuffs conveyed to Auckland is also apparent. The table suggests flour milling and wheat production was at its height in 1855-56, the time when Ashwell lamented about the trading and the Taupiri flour mill. Figure 24 shows the location of flour mills in the Ngaruawahia and Enviro area. The figure does not include the flour mill at Hopuhopu.

Table 1 Waikato tribe produce brought to Onehunga and Commercial Bay by canoe and cutter from 1852- 1ST Quarter of 1858 (Compiled from Williamson 1865, pp. 1-20 in Appendix to the Journals of the House of Representatives Session I , E-12).

FOODS	1852	1853	1854	1855	1856	1857	1858 1ST QUARTER	SUB TOTAL
kits of potatoes	179	1462	55	1266	1120	1296	863	6241
kits of kumeras (sic)	14	1	4	4	10	9		42
kits of onions	13	17		66	75	63	52	286
kits of cabbage				20	88	76		184
kits of pumpkins	7							7
kits of maize	381	307	12	142	347	921	5	2115
kits of peaches	35	18		66	138	500	104	861
kits of melons	33							33
kits of apples	16	1			45	33		95
kits of grapes	132							132
kits of gooseberries			30			50		80
kits of quinces	3							3
pounds of honey						50		50
dozens of eggs						25		25
flour	62 ton	29 ton	8 tons	2 tons	40 1/2 tons	40 1/2 tons	1 ton	183 tons
bushels of wheat	1674	1418	2408		3552	3902	1340	14294
bags of wheat				629		16		645
pigs	472	439	236	211	317	464	61	2200
goats	6	4		19		6		35
fowls	103	134	12	36	13	97		395
ducks	3							3
geese								
turkeys								
tons of fish	7	1 1/4	25	12				45.25
bundles of fish					1073	650	360	2083



Mission Stations

- A-Maraetai (CMS)
- B-Kohanga (CMS)
- C-Kaitotehe (Tukopoto, Taupiri) (CMS)

Flour Mills

- 3-Patumahoe
- 4-Waiuku
- 5-Kohanga
- 6-Tuakau
- 7-Mangatawhiri
- 8-Kaitotehe (Taupiri)
- 9-Whangaroa
- 10-Waitetuna
- 11-Karakariki
- 12-Whatawhata
- 13-Kirikiroa

The mills are indicated by triangles and the numbers. The mission stations are indicated by letters and squares.

Figure 24 Mission stations and flour mills in the Waikato and Bay of Plenty 1830-1860s. (Compiled by Hargreaves 1961, p.230).

In the late 1850s Ashwell 's journal documents his success--the continued rise in the education of native children. He also includes disparaging comments about agri-business developments along the Waipa and Waikato Rivers.

July 21 1859 "With in (sic) the last eighteen months seven boarding schools for native children kept by experienced native teachers have sprung up within the Taupiri District—and more than 100 native children are taught and boarded at the expense of their parents. . .Thus ships , flour mills, etc are or were for a season quite the rage. Each little petty tribe must have a mill. Even now it is very much the case. Two good mills would grind all the wheat on the Waipa and Waikato rivers and there are now six already erected and another to be built in a few months. (Ashwell 1851-59, p. 313-314)

Ashwell may have been an astute observer of the results of the adoption of European practices. He also noted that despite the planting of commercially viable crops and use of labour-saving equipment traditional cultural practices continued. For example the shifting of cultivation locations instead of applying manure to the land—instead scrub was burnt to create new cultivation sites.

Seasonal patterns of food cultivation and collection were also still followed. Cultivars grown for personal use indicated species preferences that relate to customary cuisine. *"Maori tastes continued to favour potatoes, kumara, taro, turnips, cabbage, pumpkin, marrow, maize, watermelons and peaches"* (Leach 1984, p.106). Wheat, one of the grains the missionaries focused on along with corn and potatoes become an agricultural crop because of the failure of other crops according to Garrett: *"Maori enthusiasm for wheat arose from the failure through exhaustion of many of their potato grounds."* (Garrett 1991, p.170)

Some crops like maize corn (kanga or kopakipaki) became the basis for new Maori recipes—kaanga kopiro (fermented corn). The maize was processed by anaerobic fermentation, a technique traditionally applied to the processing of hinau fruits at various places in New Zealand (Leach 1984, p.101). The mature dry cobs of maize were placed in a basket and in the water for several weeks until soft. *"The fermented grains were then scraped off the cobs and formed into cakes for roasting in the embers or steaming in the umu [oven]."* (Leach 1984, p.101)

The Taupiri Mission Schools and the Rumbings of Conflict

The May 3rd 1863 inspection of the Taupiri school listed 37 scholars at the establishment—5 men, 4 women, 12 boys, and 16 girls. Mrs Ashwell's health was reported as failing and the school was lacking her vigilant care (Appendix to the Journal of the House of Representatives 1863, Appendix E No.9, p.5). The report noted the the school buildings were extensive but not well planned and some were showing signs of decay. The buildings were noted as including: girls dormitory, dining hall and school room; 3 raupo whares; a wooden store; and a large building of rude construction used as a cooking house. Inspector Henry Taylor also commented the buildings and improvements at Hopuhopu, 2 miles further up the river, were falling into decay (Appendix to the Journal of the House of Representatives 1863, Appendix E No.9, p.5). He was critical of the lack of supervision although there was a conscientious native teacher who filled in for Reverend Ashwell.

Benjamin Ashwell was still in the District in June 1863 when the government press at Otawhao was seized by a Ngatimaniapoto chief. He withdrew to Auckland shortly after that and lived for a time with his family in Parnell. Ashwell was engaged as a Chaplain for the colonial forces and visited the military posts on the Great South Road. For example he was at St John's Redoubt Papakura, Drury, Shepherd's Bush, Queens Redoubt, Whangamarino Creek, etc. In February 1864 he wrote from Taupiri about the Waikato conflict.

Preamble to the Conflict and Ashwell's Perspective

Ashwell recognized the individuality of tribes and their cultural differences and practices. He believed in the Christian way of life as the first priority followed by civilization, education, law and order. In the early 1850s Benjamin Ashwell expressed concerned about the European land purchases and dissent among Maori about pressure from the Colonial government for land sales. He supported the presence of Resident Magistrate system and the use of local courts to adjudicate native issues and concerns. When Magistrate Fenton was removed from the Waikato in 1858 he expressed his disappointment.

Ashwell did not support the King movement which grew in popularity in the middle Waikato from 1862 onward. Although he understood the reason, e.g. in September 1861 most of the Waikato tribes were declared by the New Zealand Government as resistant to the British government.

The Government, King Movement and the Waikato Campaign of the New Zealand Wars

The Waikato tribes were eventually united under a Maori King who was determined to establish an independent Maori government in New Zealand. The colonial governments responded—at the beginning of 1862 soldiers began building a road between Drury and the Waikato River; the Great South Road. In May of the same year Lieutenant-General Duncan Cameron established a headquarters south of Auckland at Pokeno. Queen's Redoubt would become the main supply post at the onset of the invasion of the Waikato (Figure 25). *"It was the largest earth-walled fortification built by British forces in New Zealand"* (Ritchie 2001, p. 6). During 1862 through 1863 fighting between Maori and British and Colonial forces was renewed in Taranaki and it was suspected other tribes were involved.

Governor General Sir George Grey alleged the Waikato Kingites were involved in the fighting. On 9 July 1863 Governor Grey ordered that all Maori living between Auckland and the Waikato should be expelled south of the Waikato River unless they swore allegiance to Queen Victoria (Belish 1986, p.133). Grey's proclamation provided no time for King Tawhiao and the other Maori chiefs to respond. The government was warned that if British and Colonial troops crossed the tribal boundary (aukati) north of Meremere on Mangatawhiri Stream a war would ensue. Later the government established an aukati line south of the Puni River in southern Waikato. The aukati line would eventually become the boundary line between the post campaign colonial settlements and Maori land (or 'the King Country').

On 11 July 1863 Governor Grey declared he was going to send armed forces into the Waikato, an act that was probably intended to provoke the Waikato Maori, many of whom were not interested in conflict with the colonial government. Grey's challenge was backed by a weak military force; *"on July 11, 1863 there were less than 4,000 troops in Auckland Province available for the invasion."* (Belich 1986, p.125) On 12 July General Cameron ordered the 14th Regiment south across the Mangatawhiri River into the Waikato. Five days later, on the 17th of July, fighting broke out on Koheroa ridge.

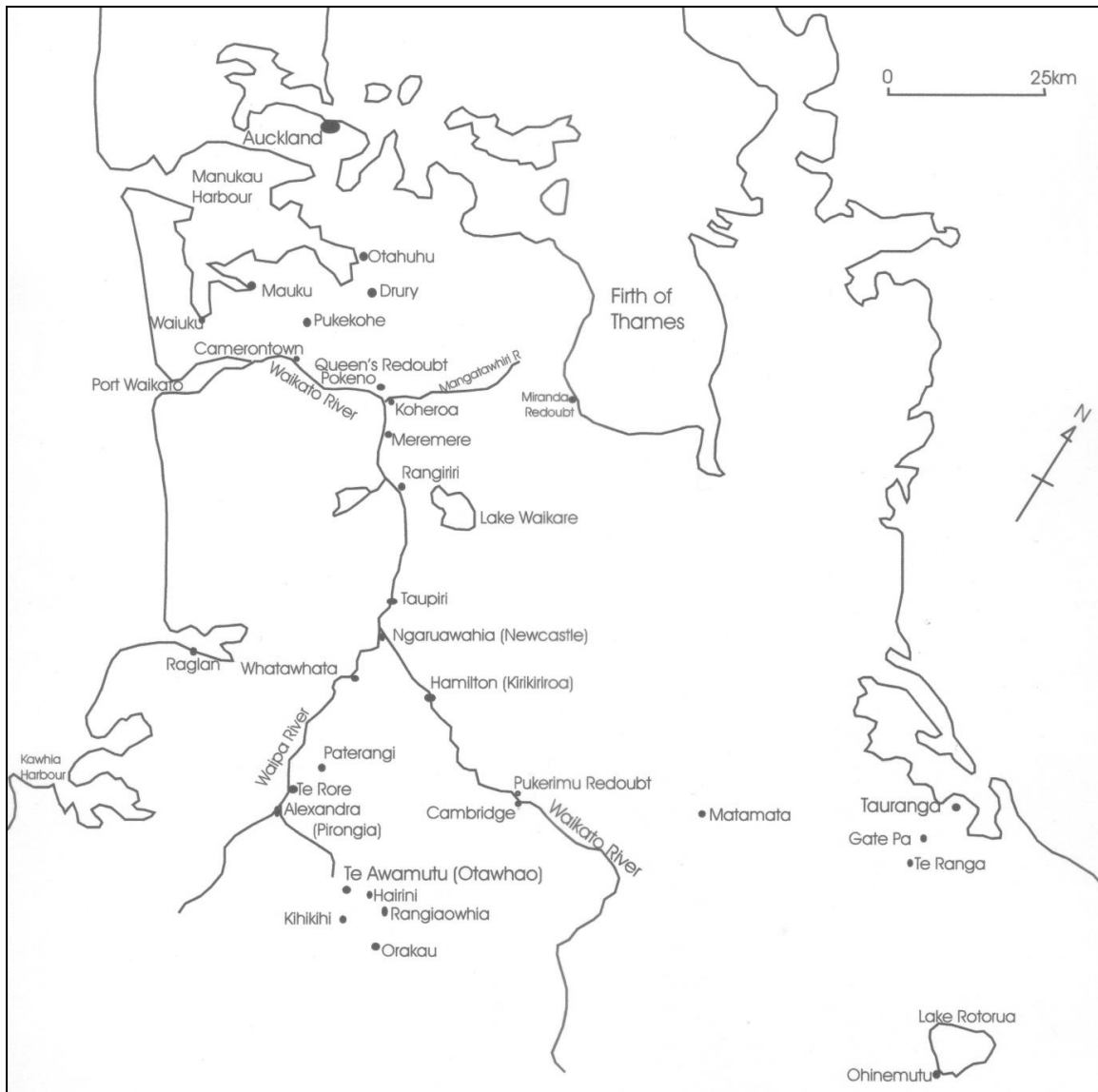


Figure 25 The locations of redoubts and villages associated with the Waikato Campaign of the New Zealand Wars (Simmons 2013d).

The invasion of the Waikato had begun. It was fuelled by a rapid increase in troops, both Imperial regulars and colonial forces, including the militia. During the course of the conflict the number of Imperial troops varied, in January 1864 there were 10,000 Imperial regulars. On 1 May 1864 there was a peak of 11,355 Imperial troops of whom three quarters served in the Waikato (Belich 1986, p.126). The Waikato campaign was staged from posts south of Auckland to Orakau in the southern Waikato and affected both coasts and the Firth of Thames. The battle front moved from Queen's Redoubt at Pokeno, south east and west.

General Cameron was a strategist and ensured campaign success by creating multiple supply routes through the establishment of redoubts and posts along the Firth of Thames and Port Waikato and other port cities on the west coast. Three redoubts were established south of Queen's Redoubt adjacent to Mangatawhiri stream. Mangatawhiri stream became the access point for supply transport during the next stages of troop movements into the Waikato. The force focused on taking Whangamarino where Maori involved in the engagement on Koheroa ridge occupied an old pa. By 14 August 1863 Cameron's troops' held the pa and established a redoubt nearby. The 'rebel force' had shifted across Whangamarino swamp to Meremere pa (Figure 26). By November 1 Cameron's forces occupied Meremere pa and Maori forces had shifted to Rangiriri pa. Twenty days later British soldiers commenced attack on Rangiriri pa. The battle proved to be the bloodiest battle since the commencement of the campaign. Cameron's men eventually secured Rangiriri when Maori laid down their arms.

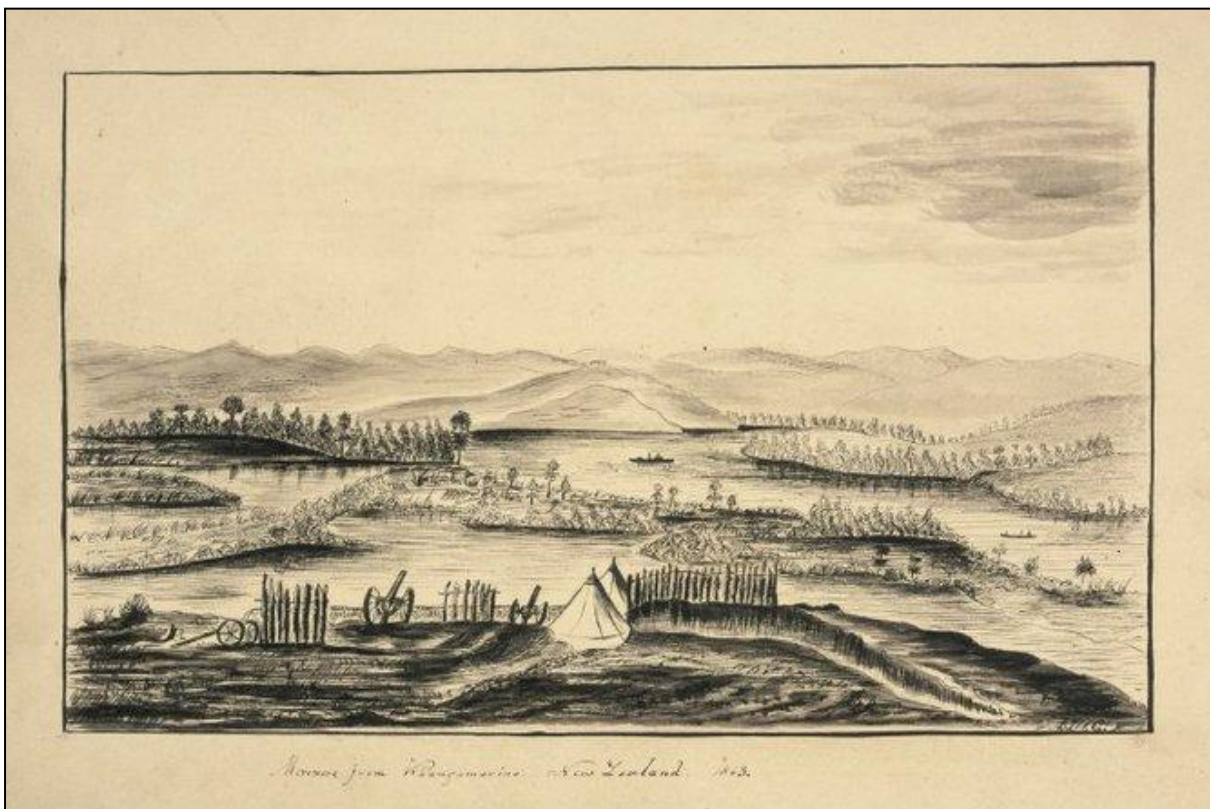


Figure 26 Meremere from Whangamarino, 1863. (Carbery, A.T. Ref: E-248-q-082. Alexander Turnbull Library, Wellington, New Zealand. <http://natlib.govt.nz/records/23115754>

Each time the troops were moved, the last position was secured and used as a base of operations. The flat bottomed river boats served them well—moving troops and supplies down the Waikato River (Figure 27).

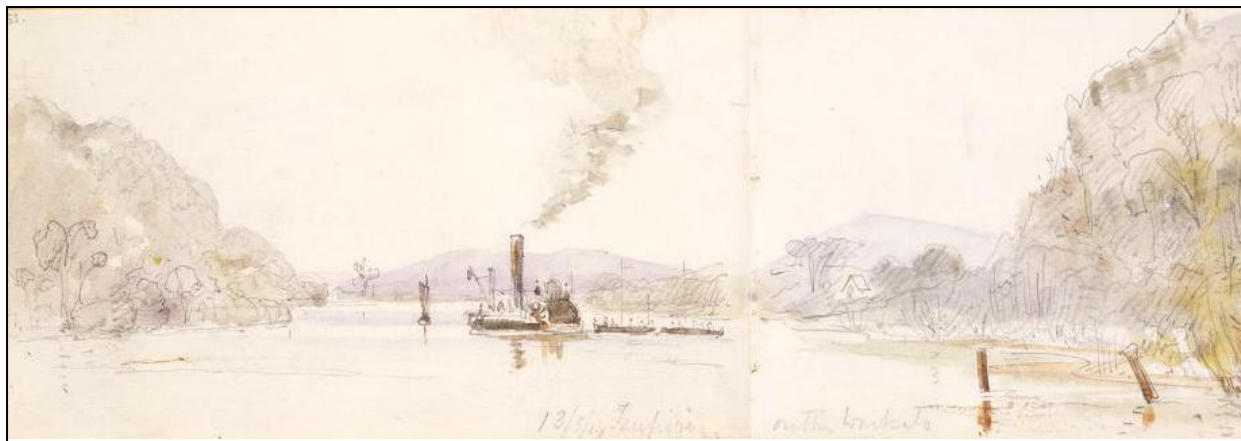


Figure 27 Looking along the Waikato River, with a rear wheel paddle steamer, probably the *Koheroa*, in the middle distance, two canoes alongside it. *Taupiri on the Waikato*. 13/3/64. (Williams, Edward Arthur 1824-1898 :[Sketchbook of English and New Zealand scenes] 1860 - 1864. Ref: E-349-053/054. Alexander Turnbull Library, Wellington, New Zealand. <http://natlib.govt.nz/records/22720015>)

Troop Movements; Taupiri to Ngaruawahia

From Rangiriri, Cameron moved south to Ngaruawahia, the abandoned village of the Maori king. They occupied sites along the way including Taupiri and Taupiri Mission Stations. Private Edward Tedder of the 40th Regiment noted:

December 4 "struck our tents and proceeded (sic) to a place named Taupiri 9 miles further up river and pitched our tents on top of a steep hill commanding a view of the country round. . . a small village being on the opposite bank of the river a potato party was sent across to get some for our dinner tomorrow (sic)." (Tedder 1863: December 4)

The Kaitotehe mission station opposite Taupiri was maintained by Heta Tarawhitii, Ashwell's Maori Deacon during the conflict. A newspaper correspondent on board the *Pioneer* noted:

"The beautiful and picturesque dwelling of Mr Ashwell comes in view, on the right bank, surrounded with cultivations, and groves of peach trees. The house itself is built with great taste, with the church alongside it, and several outbuildings and whares immediate about it. The garden gate opens upon the river, and her Bishop Selwyn was standing with three natives, who had been left in charge of the house. . . there were four

horse running on the property, and . . . several sheep there also, which have been handed over to the Commissariat for the use of the troops. . . Beyond Mr Ashwell's is another missionary station at Hopuhopu where there is a very pretty little church of raupo with a few whares just about it." (Daily Southern Cross, December 1863, p.5)

Heth refused to leave when the Kaitotehe station was occupied by the British and Colonial military as a headquarters. The commodore's tent was pitched in the field in front of Ashwell's house at Kaitotehe (Tagg 2003, p.37). The church at Kaitotehe was photographed in 1863 or 64 during the occupation (Figure 16). Ashwell did not abandon the station or his co-worker Heta. He visited monthly.

Cameron used the gunboat Pioneer to carry out reconnaissance of Ngaruawahia on 8 December 1863 following the battle at Rangiriri Pa. He found the village deserted. He returned to Rahuipukeko and immediately sent 400 men from the 65th and 40th Regiments under Colonel Wyatt to Ngaruawahia as an occupying force.

Private Tedder recorded in his journal the movement of the 40th Regiment:

"December 8, 1863 [going to Ngaruawahia] about 7 miles up we came suddenly on a lovely little place surrounded by peach trees with a neat little church peeping out between the trees and a large flock of sheep feeding." (Tedder 1863: December 8)

He does not record crossing the Waikato River, therefore his description of the number of a large flock of sheep may indicate they paused at Hopuhopu and not Kaitotehe. He also makes no mention of the mission house and school building.

Ngaruawahia; Cameron's Headquarters

When the troops arrived the Kings village at Ngaruawahia was abandoned. The Daily Southern Cross correspondent noted the village was on a level flat at the junction of the Waipa and Horotiu [Waikato] Rivers. The fortifications at the site were described as including rifle pits along the river banks for some distance facing the river and on the banks of the Waipa a half finished redoubt. The redoubt was described as being 30 yards square and surrounded by a ditch, cut diagonally with a parapet behind. The soldiers found part of a plan of an intricate linked entrenchment, but no semblance of the design in the fortifications at Ngaruawahia (Figure 28).

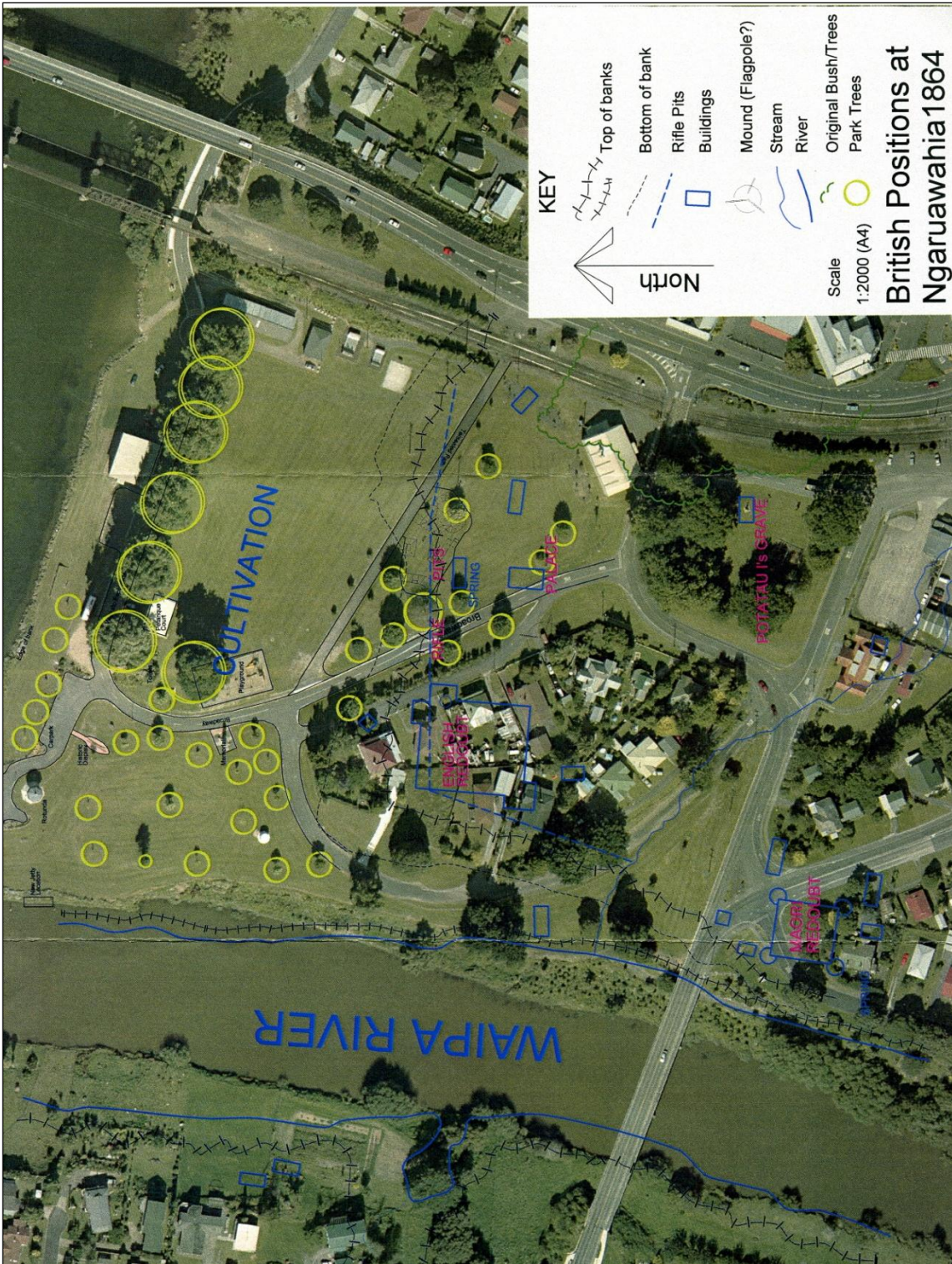


Figure 28 Greaves 1864 Plan of the Point (in blue and pink) overlaid on an aerial photograph (Simmons 2004). (Note: Maori cultivations associated with S14/182 & S14/31 and used as a military camp associated with S14/181.)

A letter was also left on the wharenui requesting the whares not be destroyed and the grave of Potatou be held as sacred. A sentry was posted to ensure the Potatou's tomb was not broken into (Figure 29).



Figure 29 Potatau Te Wherowhero's tomb at Ngaruawahia, 1864, Beer, D.M. 1864, J.D 'Sir George Grey Special Collections, Auckland Libraries, 4-1164)

The newspaper correspondent travelling with the troops noted:

"[At Ngaruawahia] directly opposite the point, at about fifty yards from the beach, stands the flag-staff . . . the bones of King Potatau the 1st are here reposing in their last resting place, which is a small wooden building, about 12 by 16, with a balcony in front ornamented in the modern gothic style of European architecture; there are two small windows in the building; inside is the coffin in the head of which is a small pane of glass. The place of the ex-king is near the beach and building the good old Maori style , it measures about 40 feet by 20 feet, is beautifully thatched, and line with small reeds tastefully tied together. . . Besides the Kings there are several well-built whares—among them the printing office, the runanga, and houses of his ministers. The press has been taken away. . . The number of whares in all is about 40." (Daily Southern Cross, 31 December 1863, p.5)

Ngaruawahia, which was named Queenstown (and later Newcastle) by the British and Colonial force provided access to both the Waipa and Waikato Rivers. Cameron's force rapidly established a headquarters camp at Ngaruawahia over a period of a few days; on 9 December 250 men of the 40th Regiment arrived (Figure 30). By the end of 1863 three thousand militiamen were in Ngaruawahia (Latta 1980).

'Queenstown' would as a staging base for the movement of British and colonial troops into the southern Waikato). The rivers were the primary transportation corridors for troops and supplies.

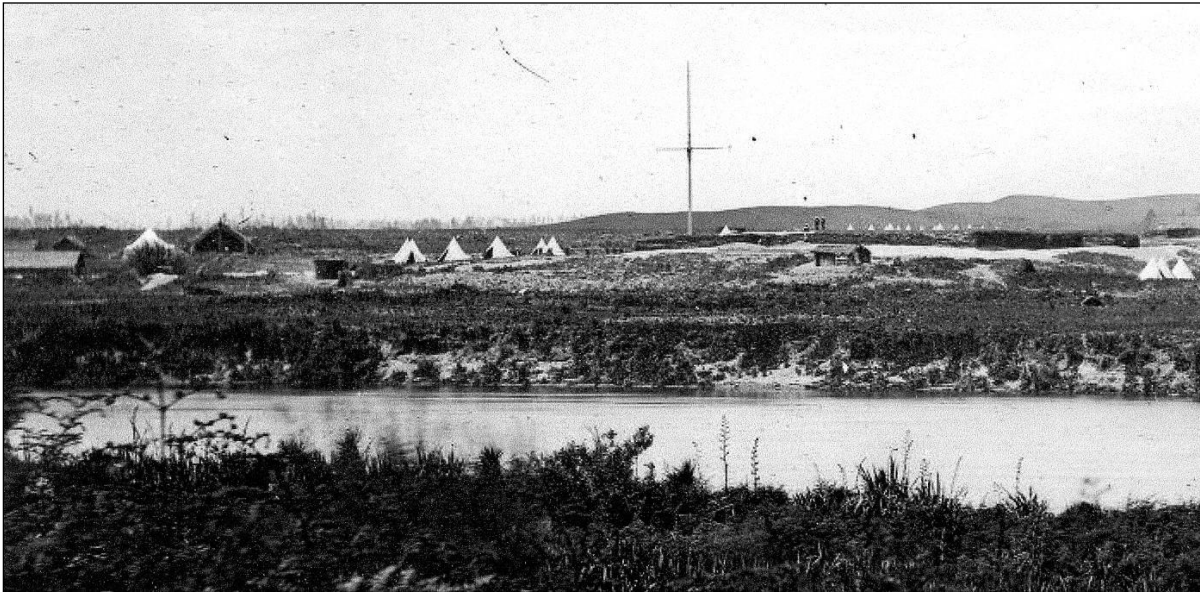


Figure 30 Military Camp and Maori Whares at The Point, 1864.

(<http://mp.natlib.govt.nz/detail/?id=12405&recordNum=17>)

The newspaper correspondent also described cultivations at the site.

"A great deal of land on both sides [or the river] is in cultivation, being planted with potatoes, Indian corn, & c. Te potatoes are not very large, but still very acceptable. Besides the land already planted some has been ploughed up and lies in fallow." (Daily Southern Cross, 31 December 1863, p.5)

The potatoes were of interest to not just the newspaper man. Private Tedder wrote:

"December 8 (1863) arrived at Ngaruawahia. . . large flag staff in front of the royal whare floated the British ensign. . . We were soon landed and pitched our tents in line with No 10 in the centre of a large potato field and before long the whole Regiment was at it with shore paddles sticks and all sorts of impromptu tools rooting out the Leive's (sic leavings?) and boiling and baking was the order of the day for the next two or three hours." (Tedder 1863, December 8)

The 40th were not allowed time to linger over their roast potatoes. They were immediately put to work building a redoubt at Ngaruawahia.

“December 9 (1863) We are to build a large redoubt here and there is to be a township laid and so I believe we remain here for some days . . . there being only a small redoubt on the bank of the Waipa and a single line of rifle pits extending from River to River in front of the Kings Palace as it is called. There is a good many large whares about the place and any amount of cultivations. The most remarkable feature about the place is Old Patataus (sic) tomb or mausoleum . . . we have plenty of good rations and any amount of potatoes to be got for the digging so for the present we are in clover.”
(Tedder 1863, December 9)

The camp at Ngaruawahia (Newcastle) provided a base for Cameron to re-group his force and plan his advance (Figure 31). A signal look out station was established on Taupiri Mountain and a road is describing as running from the river beach up to the top if the mountain (Daily Southern Cross, 31 December 1863, p.5). Note the telegraph line in Figure 31, below. The telegraph lines and posts are to the left of a barracks building and cross the river near the canoes. Communications was a priority during the campaign—as was the supply system.

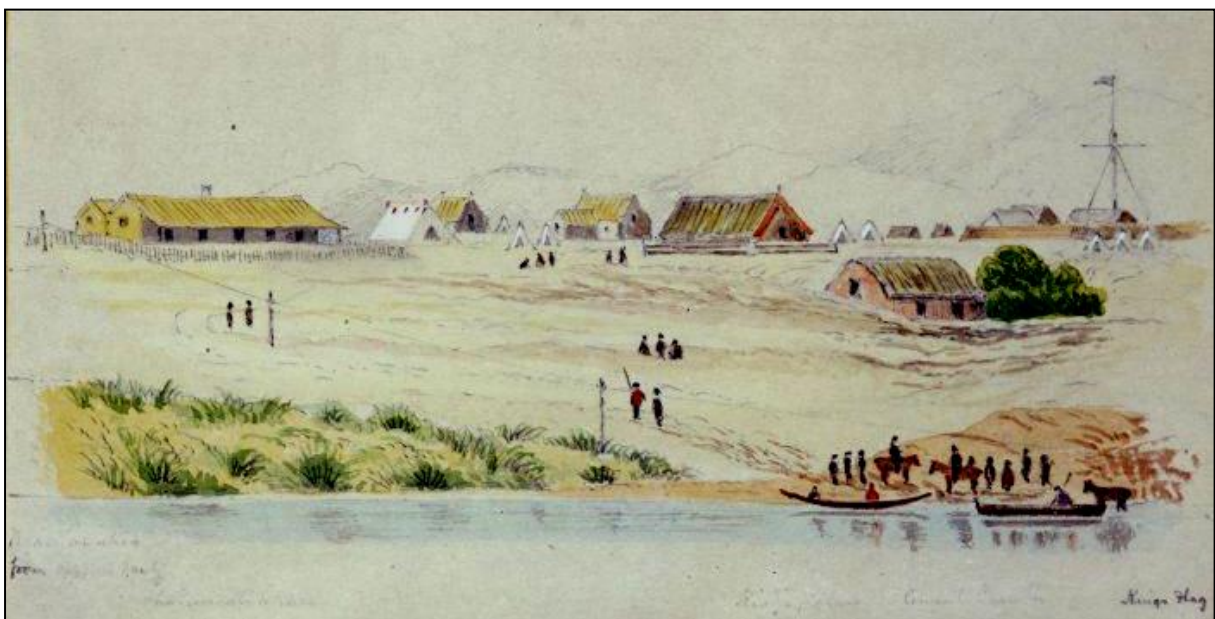


Figure 31 Ngaruawahia from the opposite bank. The General's headquarters, Maori King's palace and council chambers, Maori Kings flagstaff, and structures associated with the army of occupation. (Hamely, J.O.23 1864, E-047-q-009, Alexander Turnbull Library).

²³ Joseph Osbertus Hamely was an officer of the Royal Artillery. He commenced service in the Ordnance Department. He would have been trained in estimating weapon firing ranges and

Ngaruawahia (Newcastle) played an important role in the river based supply system during the invasion of the lower Waikato. Port Waikato was established as a major supply depot. Supplies were transported to 'The Point' (between the rivers) at Ngaruawahia and conveyed up the Waipa or Waikato Rivers. Military food rations, camp equipment, and ammunition flowed through Ngaruawahia. Many regiments passed through the camp over the years of operation including the Royal Irish 12th Regiment, Figure 32.



Figure 32 Military Quarters 12th Royal Irish Ngaruawahia 1864. Non-commissioned officers of the 12th (19th) Royal Irish Regiment standing outside a whare serving as military quarters at Ngaruawahia. The officers are named as Sergeant Moore, Sergeant Smith, Sergeant Furnish, Lieutenant Thomas, Sergeant Major Kenny. (Sir George Grey Special Collections, Auckland Libraries, 589-154.)

In mid or late December 1863 troops were being shifted south from Ngaruawahia down the Waipa River to Whatawhata. The move was in response to reports of rebel Maori activity in the lower Waikato.

The redoubt at 'The Point' was nearly finished by Christmas. It was described as being large and very strong and superseding Queens Redoubt as an important

identifying targets. This may have included the preparation of range cards or drawings. A range card is a sketch or diagram of the terrain that a weapon is assigned to cover by fire. It shows possible target areas and terrain features plotted in relation to a firing position. The information on a range card is used for planning and controlling fire.

military position (*Daily Southern Cross*, 31 December 1863, p.5). Friendly Maori arrived from Whatawhata on 23 December bringing pigs, turkey's fowls, eggs and milk for sale. The General remained at Ngaruawahia for Christmas.

From Whatawhata Cameron's force advanced five miles to Tuhikaramea on 1 January 1864 (Belich 1986, p.161). Seven thousand men were south of Ngarauwahia in January 1864 creating a heavy demand on supply transport. The key to transport during this phase of the campaign was the Waikato and Waipa Rivers and Cameron's fleet of flat bottomed river boats.

The military occupation of Ngaruawahia included several phases from the initial camp (1863), to redoubt construction and supply line support (1863-1865), and finally Waikato Force Headquarters (1865-1867), Figure 33.



Figure 33 Soldiers of the 12th Regiment alongside a raupo building at Ngaruawahia, 1 August 1865. From left Sergeants Moore, Smith, and Furness, Adgt. Thomas [with whip], S/M Kenny (Lennard, L. M. 1865, ½-082116-F, Alexander Turnbull Library).

The second military fortification constructed at 'The Point' was constructed by the Armed Constabulary (A.C.).²⁴ The other walls were composed of sod and fern and the inside building was constructed of brick—"by the time it was finished, part of the outer wall had fallen down, and the whole wall was shortly afterwards leveled, leaving the brick building standing" (Bruce Herald 9 July 1980, p.5). After the war was over this building was used as a jail/ gaol.²⁵ The gaol, and by inference the redoubt was at the north end of Herschel Street, south of the British ('English') Redoubt shown on Figure 28. The redoubts and fort at the point were located on higher ground in areas that have been developed for residential housing since before the turn of the century.

Town of Queenstown (Ngaruawahia) Land Sale

The town of Queenstown (Ngaruawahia which was later called Newcastle) was laid out in 1863 by government surveyors. In mid April 1864 Mr H Hanson Turton was appointed by the government to investigate Native Titles at Ngaruawahia prior to sale of the township. A public notice was issued for sale of the town by public auction on 8 August 1864, but the sale was delayed and the newspapers carried various editorials relating to the sale.

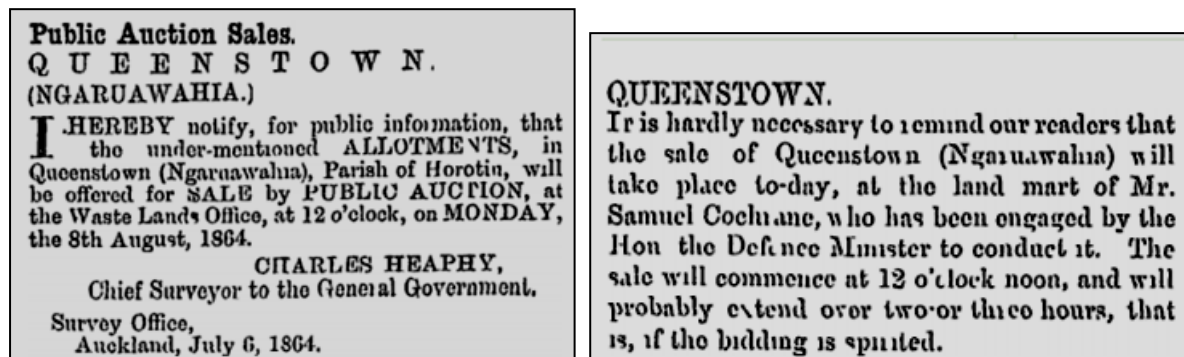


Figure 34 Daily Southern Cross 7 July 1864, p.2. (left) and Daily Southern Cross 9 September 1864, p.4. (right).

²⁴ The Armed Constabulary of New Zealand 1867 - 1871. The Armed Constabulary of New Zealand was formed by Act of Parliament in 1867, with constables used as both soldiers and sworn police. Constables also became involved in road and bridge building and swamp draining, while still doing police work. In 1877 the Provincial Police were amalgamated with the Armed Constabulary the whole Force being re-named the New Zealand Constabulary. <http://www.aucklandlibraries.govt.nz/EN/heritage/familyhistory/militaryhistory/armedconstabulary/Pages/armedconstabulary.aspx>

²⁵ The location of the gaol is noted in an 1882 surveyors' Field book #422 p. 33 and referred to on site record S14/190.

The sale on 9 September 1864 was apparently successful based on the number of section owners' names that are listed on the 1863 plan, SO 57. Some of the new settlers were soldiers of the 3rd Regiment of the Waikato Militia. They were provided with farms across the Waipa River near Ngaruawahia (*New Zealand Herald* 29 May 1923, p.2).

The town continued to be occupied by the military following the sale of sections. The town name was changed from Queenstown to Newcastle during the military occupation. A summary of the invasion and occupation is included as Figure 35.

General chronology of the invasion and occupation of the Waikato by British and Colonial troops:

- 1863-64 Active campaign by British forces assisted by the Waikato militia and Forest Rangers.
- 1865-67 Military occupation by both British and Colonial forces. The withdrawal of British troops commences with most regiments transferred from New Zealand by 1866. Waikato militiamen assigned their land grants. Soldiers of the 3rd Regiment of the Waikato Militia were assigned land grants near Ngaruawahia, Taupiri, Te Kowhai, and at Cambridge.

The New Zealand government enacts legislation to create the Armed Constabulary in 1867 and begins to enrol constables.

- 1867-86 The Armed Constabulary occupation Ngaruawahia with assistance from militiamen under the terms of their enlistment and volunteer cavalry.
-

Figure 35 Summary of Waikato invasion and occupation forces.

Taupiri; Mission Stations and Schools--1865 and After

In June 1865 following the active phase of the war in the upper Waikato Ashwell increased his stays in the upper Waikato to three Sundays each month somewhere in his district (Tagg 2003, p.37). After the death of his daughter in 1865 he travelled to Taupiri with the Reverends Volkner and Grace. When he returned to Auckland he learned of Volkner's death and Grace's capture and was shocked. He withdrew from active Church Missionary Society service and focused on chaplaincy work in Auckland for a period of time (Tagg 2003, p.38). Eventually he returned to Kaitotehe.

As I already noted following his wife's death in mid-February Benjamin applied for leave. He sailed to England with his surviving daughter Sarah in April 1867, leaving Elizabeth Colenso and her daughter at the Kaitotehe Mission Station. The Ashwell's returned to New Zealand a year later.

Hopuhopu Mission Station; Reverends Pritt and Ashwell

The Reverend Longsdale Pritt was assigned the duty of visiting clergyman to the Upper Waikato in May 1867. According to the testimony of the Reverend Robert Burrows to the commission of inquiry into trust estates for religious purposes:

The Reverend Longsdale Pritt leased the house and five acres at Hopuhopu and also 100 acres in aid of the school. The school with accommodation for a master was added to by Mr Pritt and used as his dwelling house. The Reverend Pritt moved the school building from the station at Kaitotehe for use as a school building at Hopuhopu. Pritt also erected dormitories for pupils and several out buildings for farming purposes and cleared 20 to 30 acres of formerly cultivated land that was over grown. Pritt estimated the cost of the building and clearing was £400, which was expended from his own money (Appendix to the Journal of the House of Representatives 1869: Appendix A No.5, p.4).

Benjamin Ashwell served the missionary society in Auckland during this period and periodically visited the Taupiri mission stations. In May 1868 he married Maria Brothers. Maria was forty years old and had been a matron at the Taupiri school.

In 1871 Reverend Longsdale Pritt was made Archdeacon of the Waikato (*New Zealand Herald* 9 November 1885, p.2). Reverend Pritt apparently moved to Hamilton to take up the post. Ashwell returned to the Waikato and served as minister at Hopuhopu in 1872 and lived in the old school house (former boys' dormitory and

school masters accommodation) (Tagg 2003, p.39). Heta remained at Kaitotehe and erected a new chapel.

Ashwell's stay at Hopuhopu was brief—in July 1873 Ashwell returned to Auckland.²⁶ (Possibly due to declining health and the small native population left in the area.) During this period his longtime friend Heta was invited to establish a new ministry at Kaipiha on the edge of the King Country (Tagg 2003, p.39).²⁷

Benjamin Ashwell continued in religious service and periodically visiting the Waikato and Kaipiha. He finally retired in late April 1883 after 49 years of Church Missionary Society service.

The buildings at the Hopuhopu station were in poor condition by the mid-1880s due to the lack of maintenance. On 15 March 1886 the old mission station at Hopuhopu burned down. In a commentary on the Mission Station schools in the Waikato the Auckland Star noted:

“For about ten years the [Taupiri mission] schools were maintained by the product of the soil, by grants from the government, and by the help from friends of the Mission. About 300 men, women and children were being educated in this way [in the Waikato] under the supervision of the Archdeacon and the Reverends Ashwell and Morgan.”
(Auckland Star 21 June 1905, p.2)

In 1902 efforts were made to re-establish the former mission and school at Hopuhopu. The Reverend Nikora Tautau moved onto the estate to oversee the process. In 1910 the Reverend Hare Maihi Ruarangi (also known as C or H Marsh) was curate for Maori work in the Huntley Parish (Waikato Museum n.d.). *“At Hopuhopu Mission Station, he recorded that he had 1 church, 1 vicarage, 15 other Service places. . .”* (Waikato Museum n.d., p.2) This would indicate the Reverend Tautau had constructed a church and vicarage on the property after 1902 to replace the destroyed mission station buildings.

Hopuhopu Military Camp

The use of Hopuhopu as a military camp may have altered some of the historic fabric from the mission period (Figure 36 and Figure 37). Hopuhopu camp was used to prep recruits for two wars. A soldier noted:

²⁶“In 1879 Rev AShwel retires leaves Waikato permanently for Auckland . Heta is made Principile of the school and church.” (Te Kauri Marae 2014, p.3)

²⁷ Tagg does not note the date. Accroding to Hone Nuku Tarawhiti: “In 1877 Heta leaves Taupiri for a new ministry in Pirongia. The land block is called Pourew-o-te-Tonga.” (Te Kauri Marae 2014, p.2)

“Into Hopuhopu they tramped; and what they saw of Hopuhopu they didn’t like much. That was not altogether surprising. Hopuhopu, though fair enough by 1914 standards, wasn’t too good by the changed standards of 1939. The bell tents, dug out from stores where they had lain for years, were by no means waterproof. The cookhouses were inconvenient and outdated. You had to line up for a wash, and rip your whiskers off in cold water. The whole camp had been hurriedly patched up on the outbreak of war to hold nearly twice the numbers it was designed for.” (Dawson 1945, p.1)



Figure 36 The cooking tents at Hopuhopu military camp, n.d.. (Hamilton City Council Library, HCL 03833).

How much earthworks was carried to construct the camps is not known, but there is a reasonable potential that evidence of the old Mission Station buildings remains in the ground. It is assumed that the station buildings were located near the river bank.²⁸ The areas of Hopuhopu near the river have not had a substantial amount of modification based on the information provided by Figure 37 and a visual assessment made during a field visit.

²⁸ No maps have been identified of the Hopu Hopu Mission Station. A plan was prepared for Reverend Morgan’s Mission Station at Te Awamutu so it is likely that plans may exist for Pepepe, Kaitotehe and Pepepe Mission Stations.



Figure 37 Hopuhopu Military Camp, north of Ngaruawahia Jan 1953. (Whites Aviation Ltd :Photographs. Ref: WA-32158-F. Alexander Turnbull Library, Wellington, New Zealand. <http://natlib.govt.nz/records/23507348>.)

European Settlement at Taupiri

Other changes were taking place at Taupiri. The active phase of the War was over and the men of the militia were being struck off active service and assigned their farm and country allotments as required under the conditions of their enrollment. The militia men drew their farm allotments in the late 1860s including farms near Taupiri (Figure 38). Private's received a farm section of 50 acres and a town section of 1 acre. Officers received larger farm sections. Some of the land was in swamp and

this problem was eventually dealt with but not to the satisfaction of the soldiers—the rule was if half of a private’s fifty acres were swamp he must accept it.



Pepepe Hopuhopu Taupiri Mountain (Note Kaitotehe across from Taupiri Mountain.)

Figure 38 Military Settlements in the Waikato, mid-1860s, NZ Map 4314, showing the farm sections (Sir George Grey Special Collections, Auckland Libraries, NZ Map 4314, <http://www.aucklandcity.govt.nz/dbtw-wpd/exec/dbtwpub.dll?>)

During the war the military had a post on Taupiri Mountain and mined coal north of Taupiri. In the late 1860s an Armed Constabulary camp was established on the banks of the Mangawara River at Taupiri (Murphy and Grinter 1978, p.14). A travelling reporter that visited in 1875 noted Taupiri had been proclaimed a township. He went on to describe the new bridge, soldiers’ camp and Taupiri’s commercial district:

“A bridge now spans the Maungawara Creek, marking the line of an excellent road leading into the interior of the Waikato. Near the bridge is to be seen a breastwork thrown up by the Engineer Volunteer Militia, whose huts and tents within give the place quite a lively appearance. Further up the road is the residence of Captain H.T. Rowe, officer commanding the above force, and three stores kept by Messrs. Bradley, Brown, and Lovell; the last named, has nearly completed extensive alterations, so that his store (the pride of Taupiri) can now successfully vie with any in the district.” (New Zealand Herald 11 February 1875, p. 3)



Figure 39 The bridge over the Mangawara Stream at Taupiri, photographed in 1866 by Daniel Manders Beere. (*Daniel Manders, 1833-1909 :Negatives of New Zealand and Australia. Ref: 1/2-096123-G. Alexander Turnbull Library, Wellington, New Zealand. <http://natlib.govt.nz/records/23101595>*)²⁹

By the early 1870s Taupiri was forming into a small town with a few businesses, albeit the nearby town of Ngaruawahia dominated the region. In about 1871 William H.N. Lovell, a local entrepreneur and his wife Rosanna³⁰ established a store and accommodation house on the Waikato River bank as illustrated on an 1882 plan (Figure 40).

The Lovell's accommodation house was the first hotel in Taupiri. The Lovell's business was located to take advantage of traffic on the Great South Road and the Gordonton Road and the railway which reach Taupiri in 1877 (Figure 41). Lovell's business would also have benefited from river traffic that stopped at the Taupiri wharf.

²⁹ The date listed on the figure above may be incorrect based on the *New Zealand Herald* 11 February 1875, p. 3 newspaper article that discusses the bridge.

³⁰ Rosanna Esther Lovell was the daughter of the late Mr. A. Ralph, pioneer, and originally owner, of the Huntly coal mines.

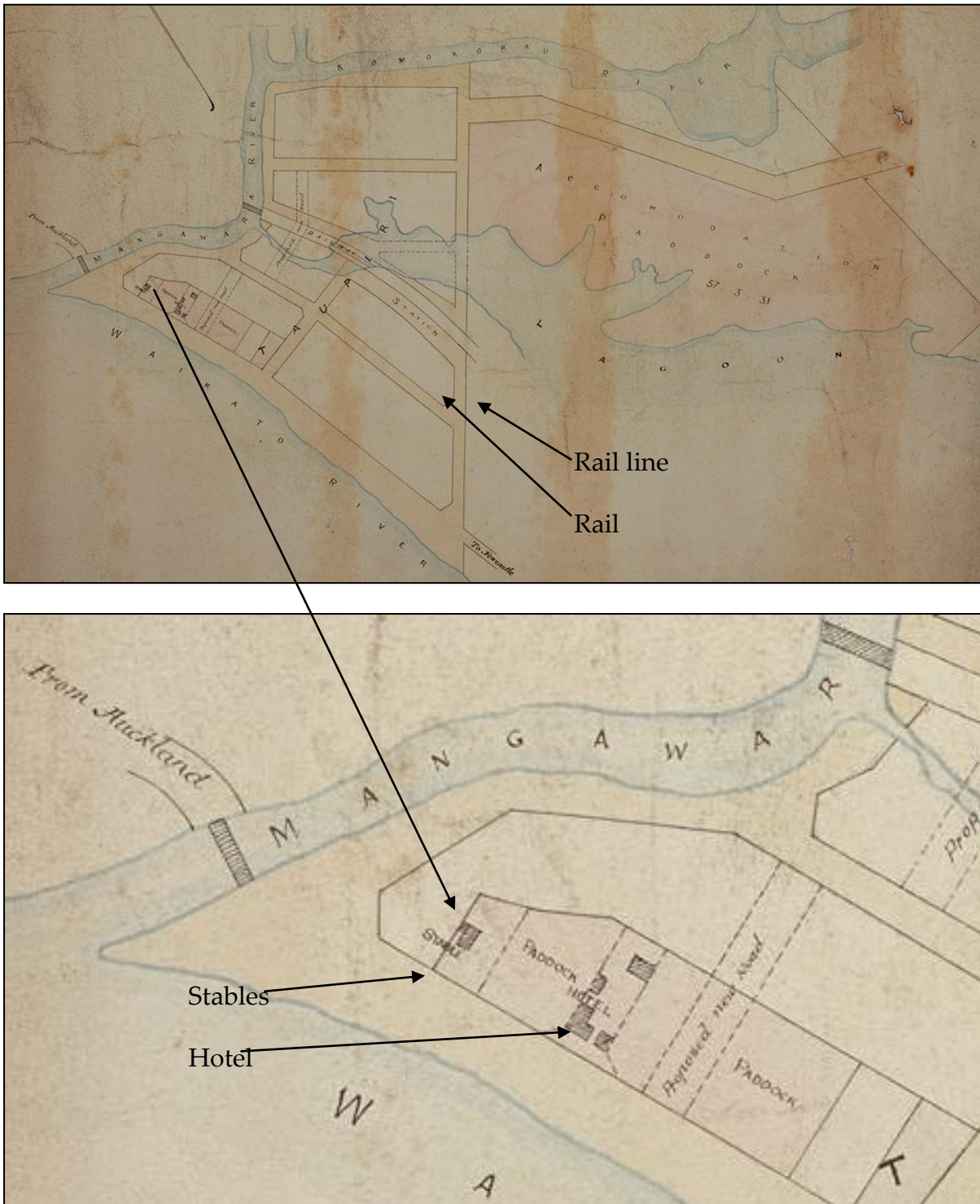


Figure 40 Premises of W.H. Lovell, Taupiri, 1882. Proposed roads in Taupiri, with the landholding and buildings of Mr W. H. M. Lovell—stables, hotel, store, etc. (Sir George Grey Special Collections, Auckland Libraries, NZ Map 4140, <http://www.aucklandcity.govt.nz/dbtw-wpd/exec/dbtwpub.dll>)



Figure 41 View of Taupiri village and plain from the top of Little Taupiri Hill, 1876. (Sharpe, A. 1951/10/D, 0/204, OCM 2322; Auckland Art Gallery, gift of the Rev Charles Palmer, 1951)

Lovell's buildings are circled — stables, accommodation house and store. The building configuration in the painting differs from the 1882 plan (the previous figure). Anglican church is in the approximate middle of the painting to the left of the river boat [circled with a solid line].

The wharf was constructed in 1875 by Messrs. Brittan and McVee. They also constructed the railway bridge. The railway station was opened in 1877. The railway was interested in Taupiri as a source of ballast rock. The railway station was downgraded to a flag station in 1895 or 96 (Waikato Times 12 December 1895, p.3, Scoble, 2010 p.120).

In 1881 Lovell renewed his hotel license and built a shop in Taupiri for the sale of groceries and sundries. William Lovell also focused on acquiring property in Taupiri, both town sections and farm land. By April 1882 Lovell owned 591 acres in or near central Taupiri (Lynch 1989, p.112).

In May 1882 he leased the Taupiri Hotel to Alfred W Ellis, but shortly afterwards the hotel and 1871 store were destroyed by fire. On 29 May 1883 the Lovell's reopened their store (Innes 1989, p.112).³¹

In 1884 William Lovell commenced construction of a new 17 room hotel close to the Railway station, post office and armed constabulary camp (Innes 1989, p.112).³² The Taupiri hotel was opened in early 1885. In May 1890 William Lovell died of congestion of the lungs. Mrs Lovell, took over management of the hotel and her family of seven children. William's will appointed Rosanna and Margaret Schlinker (his mother-in-law) as executors of his estate. Under the terms of the will Rosanna had to remain unmarried to receive the rent income and other profits.

The railway station has been removed, but a hotel has remained on the site, albeit it has been modified over the years. Figure 42 shows the changes made to the front of the building.

³¹ The store was apparently a different venture than the 1881 shop.



Figure 42 Lovell's Taupiri Hotel near the railway station. (Top preparing for a hunt, ca 1890s and bottom, 2014). (Murphy and Grinter 1978, p.14 and Simmons May 2014)

A comparison of the two photographs (above) indicates two wings were added to the front of the building, but it appears the original ground floor entry has been retained along with other elements.

Other Businesses in Taupiri

Other town based businesses came to Taupiri a bit later. A butcher, Mr Arthur Waring commenced business in 1891. In 1894 Charles Gleeson opened a bakery and confectionery under the management of his son. Charles Gleeson (senior) was an experienced baker with a business in Huntly. The business continued into the 1950s under different ownership. In the mid 1890s a Post Office was established in a railway cottage by Mr W Mellings the station master. It had been preceded by a post office at the Kaitotehe Mission Station from about 1860 through 1868.

The business community was never large but was sufficient to serve the needs of the community. Much of the agricultural land near Taupiri was taken up by large estates which were generally self-sufficient.

Taupiri's first saw mill was established in 1888 by George F. Mellars. When the timber on his land holdings of a 1000 acres and in the general area of Taupiri was cut out in 1899 he turned to fax milling. Bailey and Bollard also owned a sawmill at Taupiri prior to 1900. The Bailey and Bollard mill continued into the early 1900s.

Taupiri School

An application was made for a district school in 1876. By February 1877 tenders were called for the construction of a one room school with attached porch. The first school session opened on 18 February 1878 under George E Thom, an early settler at Taupiri.

Mr Thom received an annual salary of £100. The school roll was 19 pupils in the report to the House of Representatives but 4 on the actual school register and 6 the following year (Murphy and Grinter 1978, p.22). In about 1881 a teachers residence and a horse paddock were added to the school property. By the late 1880s the school was enlarged, the chimney removed and central heating installed (Murphy and Grinter 1978, p.23). In the years that followed additional building work was carried out to enlarge the school in 1900, 1907, and so on. In 1964 the old teacher's residence was removed (Murphy and Grinter 1978, p.27).

The history of the school documented by Murphy and Grinter for the 1978 Taupiri School Centenary indicates that despite many changes over the years the old school is still at the core of the new school.

Churches

St Mary's Roman Catholic Church, Taupiri

The site for St. Mary's Church, Taupiri, was procured from the Government in the mid-1870s (Golden 1922) (Figure 43). It was located on historic Lot 49, now Lots 1 and 2, DP 26858 (Kellaway 2006, p.1).



Figure 43 Catholic Church site near the northern end of Wright Street. (The church site is marked with a monument and plaque.)

At the time the church was constructed there were only four Catholic families at Taupiri—the Lovells,³³ the Hogans, the Timmonses, and the Hacketts. Their children were few at the time and very young. The necessary monies for construction were raised by means of concerts and subscriptions. Mr. William Lovell, though a non-Catholic, managed a concert, which raised £20 and others contributed money and labour (Golden 1922). The total cost—including fencing and gate—was £101 7s 1d.

³³ Rosanna Lovell, formerly Rosanna Ester Ralph was a Catholic or Irish decent. Her husband William Lovell was not a Catholic.

The building measured 30 feet by 18 feet (Golden 1922). Father John Golden blessed and opened the building towards the end of 1876. Father Golden (1922) commented, Early Mass was celebrated in Taupiri and late Mass at Ngaruawahia.

The Catholic Church was captured in a painting by Alfred Sharpe in 1876 (Figure 44). The church is also pictured in a 1901 photograph taken from Taupiri Mountain that appeared in the Auckland Weekly Newspaper. The church has some small houses or whares nearby in 1901 (Figure 45). No buildings are shown adjacent to the church in Sharpe's painting.

The church was surrounded by a small cemetery. It reportedly contained the graves of five people who were buried close to the church (Kellaway 2006, p.1). "Michael O'Halloran who died May 30th 1879, is noted to be in the cemetery." (Kellaway 2006, p.1) (The small white objects/ specs on the stream side of the church, Figure 45, but the quality of the digital image is too poor to confirm this.)

In 1904 sparks from the train-engine ignited rubbish which had accumulated about the building, and the church was reduced to a heap of ashes (Golden 1922 and Watson 1981). The Catholic Church was not rebuilt on the site. The site is marked by a monument and plaque near the street (Figure 46).



Figure 44 View of Taupiri village and plain from the top of Little Taupiri Hill, 1876 showing the Catholic Church. (Sharpe, A., 1876, ref. no. 1951/10/D, 0/204, OCM 2322; Auckland Art Gallery, gift of the Rev Charles Palmer, 1951.)

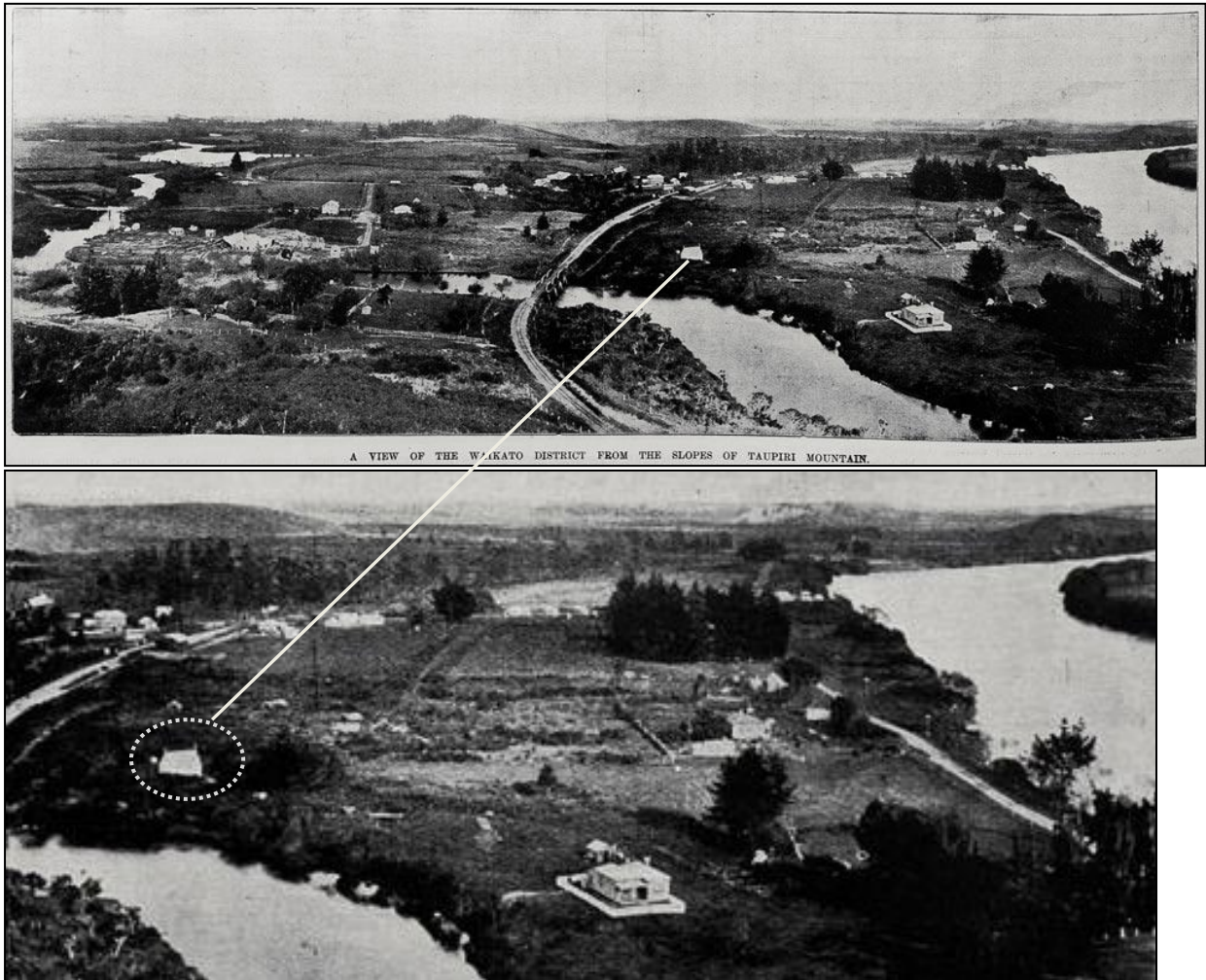


Figure 45 A view of the Waikato district from the slopes of Taupiri Mountain, 1901. (Auckland Weekly News 31 May 1901, p. 4, Sir George Grey Special Collections, Auckland Libraries, AWNS-19010531-4-4 <http://www.aucklandcity.govt.nz/dbtw-wpd/exec/dbtwpub.dll>)

Top frame is the complete view. The 1st Roman Catholic Church is circled. The railway line is to the left of the church and four whares are nearby.



Figure 46 Catholic Church Site marker, "site of the first Catholic Church in Taupiri 1876 with surrounding graves." (Simmons, May 2014)

The extent of the graveyard is not known. Additional research to identify a historic plan of the property or archival research might provide more information about the location of the church and graves.

Anglican Church, Taupiri

An Anglican Church was opened at Taupiri in early October 1875 by Reverend Benjamin Ashwell (Waikato Times 7 October 1875).³⁴ Sixty to seventy people attended the opening. It was constructed by subscription and only three quarters of the money required to pay for the construction had been raised by the time it opened. Alfred Sharpe captured the 1st Anglican Church in his 1876 painting of Taupiri township (Figure 41).

The Reverend Ashwell acted as minister to all who wish to attend services in Taupiri, Kaitotehe and Hopuhopu when he was in the district. A newspaper correspondent who visited Taupiri reported:

"[I made a] visit to the peach groves on the other side of the Waikato River belonging to Mr Heta Tarawhita, who very kindly allows anyone to take as many peaches and cherries as they like. His daughter, Miss Mary Palmer, keeps the Government school for Maori children. . . I arrived just in time for church, the service was conducted by the Rev. B.Y. Ashwell, and the congregation consisted of Maories and Europeans."(New Zealand Herald 11 February 1875, p. 3)

The 1875 church was replaced in 1905 by the current Anglican church—Christ Church (Figure 47). The 1905 Anglican Church, above, was designed by local architect Thomas H. White who resided at Ferndale. Newspaper advertisements indicate he conducted his business from his Ferndale property for many years.

³⁴ Ashwell was no longer based in the Waikato, but did make periodic visits.

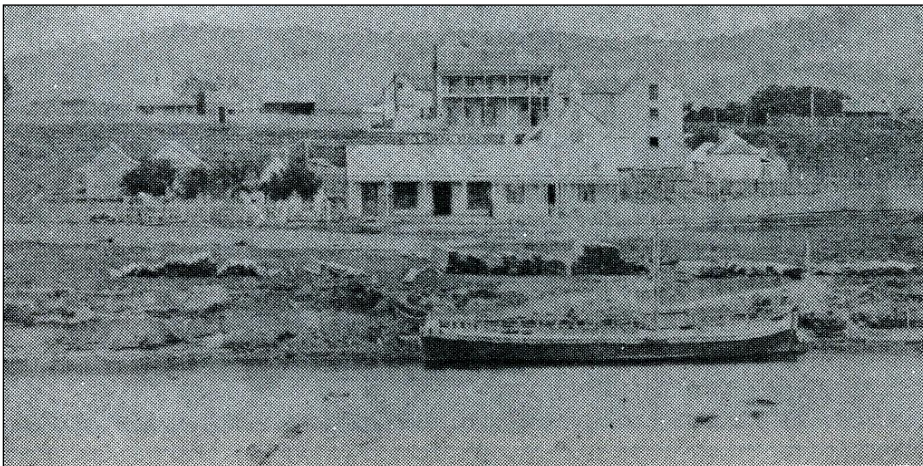


Figure 47 1905 Anglican Church on 1875 church site (Simmons, May 2014).

Ngaruawahia; Commercial and Residential Growth; mid-1860s through 1900s

Ngaruawahia (Newcastle) town's commercial and residential area grew up at 'the point' (a flood terrace) between the Waipa and the Waikato River's below Fort Newcastle. The town was established in close proximity to the busy river traffic essential to its survival. In the early days of European settlement in the Waikato the navigable rivers were the main highways for the transport of supplies and people. The town was a bustling port for paddle steamers that plied the Waipa and Waikato Rivers serving the towns of Hamilton, Cambridge, and Pirongia with a regular boat service. The river system was instrumental in the establishment and maintenance of the soldier-settler towns that grew up in the wake of the Waikato Land Wars.

Ngaruawahia was the regional centre for commerce in the central and lower Waikato. Charles Bell's store at the Point is shown in 1865 in Figure 48. Bell kept a store at the Point, on the Waikato River, and advertised his store as being opposite the Wharf. Bell sold goods that included: groceries, flour, brandy, rum, whiskey, old Tom, Geneva, port wine, sherry wine, ginger wine, cordials, bottled ale, bottled porter, and building material (Latta 1980). Orders could be dispatched via the Waikato or Waipa River.



NEWCASTLE 1865. Bell's store in the foreground.

Figure 48 Photograph of 'The Point' during the establishment of the town (from Latta 1980:58) (Note fort on high ground right edge of photo and the two story Delta Hotel behind Innes brewery.)

The Bank of New Zealand (BNZ) on section 49 (Figure 49) was the only business opened in 1865 adjacent to the main road.³⁵ Rail lines, a station and other public facilities would be established near the main road in the ensuing years, but in the 1860's the rivers were the main transportation corridors not the poorly constructed and maintained road.



Figure 49 Ngaruawahia, the river town. The Bluenose and Lily docked. Looking south across the Waikato River, 1875. (Sir George Grey Special Collections, Auckland Libraries, 4-3795.)

The pattern of establishing early BNZ's adjacent to the main road, often in area where there were no other commercial buildings, is apparent in other early Waikato towns (e.g. Hamilton). What usually followed was the establishment of other commercial buildings near the bank over a period of a few years. This potential shift of the commercial centre of Ngaruawahia was forestalled by withdrawal of the troops and reassignment of the bank manager, Mr Hume, to a post in Hamilton in 1868. The BNZ building became a residence and was occupied by a brewery employee Mr Andrew Douglas.³⁶

The town at the point grew rapidly in 1870s based on the number of businesses and residences evident in (Figure 50 through Figure 52). The photographs provide a visual impression of the booming town. In 1872 the Waikato Times established an office in Ngaruawahia.

³⁵ The BNZ featured a manager's residence--a feature of banks at that time.

³⁶ The BNZ was demolished in 1909 and replaced by a new bank building in 1911.



Figure 50 Ngaruawahia 1876-77. Looking south from the north bank of the Waikato River to the punt landing; showing Ngaruawahia with the Delta Hotel, (left), Fitzpatrick's store, (centre background), and Royal Mail Hotel, (right). (Sir George Grey Special Collections, Auckland Libraries, 4-3798; Auckland Library.)



Figure 51 Looking east across Waipa River towards Ngaruawahia, 1876-77. Flour mill on the far left. (Photograph archive text states: "shows the railway bridge and the paddle steamer 'Quickstep'? or 'Waipa'? at the wharf; photo caption states 1875 steamer Waipa" (Sir George Grey Special Collections, Auckland Libraries, 4-3799.)



Figure 52 Robert Lambs flour mill at Ngaruawahia with the Bluenose tied up and the punt tied up in the foreground, 1875. (Looking north west across the Waikato River from Ngaruawahia to the mill. (Mill was opened in 1874 and sold in 1883 to the Waikato Steam Navigation Company.³⁷) (Sir George Grey Special Collections, Auckland Libraries, 4-3794.)

'The Point' remained the commercial and residential heart of Ngaruawahia in the 1870s (Figure 53). The businesses included: a shipping office & workshop, building yard, blacksmith, wheelwright, store, stables, and hotels. According to local historian Albert Latta (1980) the great flood of 1875 brought an end to the riverside town.

"Many buildings were shifted to higher ground close to the railway lines. Others crumbled and were dismantled. A few of the houses remained as long as the 1930's."
(Latta 1980, p.59)

³⁷ The mill burnt down in about 1883 and was rebuilt in brick and reinforced concrete. The mill closed in 1890 and was used briefly as a fellmongers business, a improvised public hall for social functions, and the Walsh Brothers flaxmill in 1898 (Watson and Walsh 1969, p.21-22).



Figure 53 Ngaruawahia at the Turn of the Century (Latta 1980, p.63). (Note: Some of the buildings date to 1865).

The establishment of the railway on the upper terrace in 1877 increased commercial interest in the area and sparked the steady growth of Ngaruawahia's new commercial centre over a thirty-year period. The rivers were still an important transportation corridor. In 1877 a railway siding was laid to a wharf on the Waipa (Figure 54). Finally in September 1898 the bridge across the Waipa River was completed connecting the town to the west bank.



Figure 54 *The Point circa 1885; Waikato River and Railway Shed (railway terminus).*
(Alexander Turnbull Library 1/2-096172-G <http://mp.natlib.govt.nz/detail/>)

Ngaruawahia Primary School

The first school, like many small settlements in the Waikato, was started in the home of a private individual. *“Mrs Lestrangle, the wife of a retired army officer opened a school in her home near where the band rotunda is.”* (Latta 1980, p.225). A year later after the death of Mrs Lestrangle the role of teacher was taken on by Mrs Hoskings who taught from her home in Market Street.

By May 1873 a school had been established in a room of the Military Hospital at the corner of Market and Jesmond Streets. This was again a temporary location. After many requests to the Education Board Mr L.P. Harris, owner of the Delta Hotel, arranged for a 15 metre x 6 metre kauri building to be moved onto the school reserve and requested compensation of £100. The Board granted money for the building and the first school building was opened under headmaster T.W. Scott. (See Figure 53 for location.)

There were concerns about the location of the school near the railway line and attempts made to locate a more suitable site. In July 1882 parcel of Crown land was identified and became the site of the Ngaruawahia School. In 1885 a 1400 square foot school building was constructed on the site. The old school was demolished in 1966. The area was leveled to create a playground and sports field.

Ngaruawahia Churches

When General Cameron arrived at Ngaruawahia he discovered one of the whares at the Kings village belonged to a Roman Catholic priest. *“It was divided into small apartments and was ornamented characteristically with a little kitchen garden.”* (Ngaruawahia Primary: 125 years 1869-1994, p.4) Father Anthony, nephew to Bishop Pompallier, was their pastor. His whare was on the banks of the Waipa (Father Golden, 1922 at <https://sites.google.com/site/4th9coro/home-Coromandel/some-old-waikato-days>).

Roman Catholic Church

Ngaruawahia was served by the Benedictine priests. In 1872 a wooden church was constructed in Herschel Street, close to the railway line (Figure 55). It was located on the western side of the railway station. The church was 40 ft by 20ft, painted, but not lined. The church and land were eventually sold to allow extension of the railway yards. The church was apparently demolished and not moved to another site (Latta 1980).



Figure 55 Catholic Church [ca 1910] (Green & Colebrook, Price, William Archer, 1866-1948, Collection of post card negatives, Alexander Turnbull Library, 1/2-001600-G, <http://natlib.govt.nz/records> .)

Anglican Church

The first Anglican Church of the Holy Trinity was built by the soldiers of the 12th Regiment (Figure 56). The church plans were drawn out by Private Shepherd of the Royal Engineers. Around the church are the graves of many of the soldiers who helped in its erection (Cyclopedia of New Zealand 1902, p.714). It was opened by Bishop Selwyn in 1864 Reverend Benjamin Ashwell was present at the opening. The church was West end of Market Street (see Figure 53 for the location). It was deteriorating by 1902 and demolished. It was replaced in 1914.

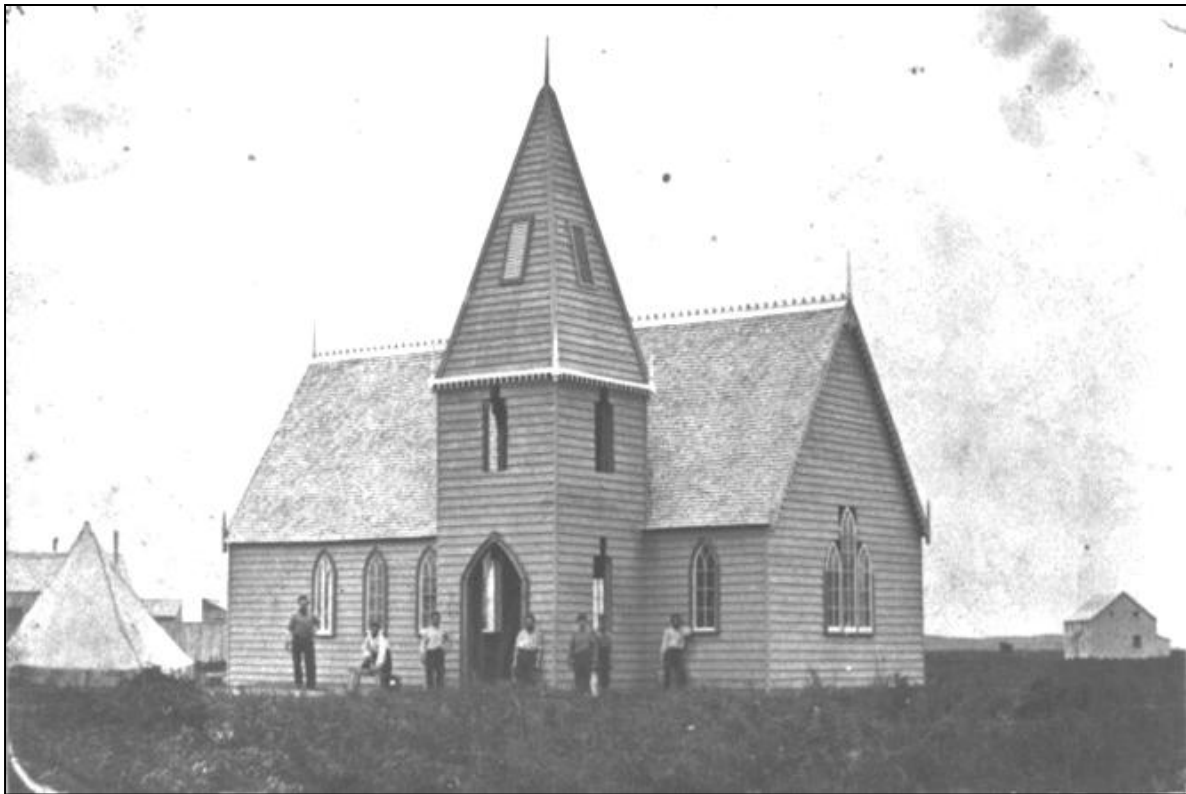


Figure 56 Anglican Church, Ngaruawahia 1864. (*Lennard, L M :Photographs of Ngaruawahia in 1864*, Alexander Turnbull Library, 1/2-082119-F, <http://natlib.govt.nz/records>.)

Presbyterian Church

Presbyterian services were held in Ngaruawahia by Reverend R.T. Norrie in about 1864, but no church was erected until almost ten years later. On 9 December 1875 the Presbyterians opened their church at the corner of Durham and Jesmond Streets opposite the Octagon and adjacent to the Maori Parliament Building (Latta 1980). The church was described as being large enough to seat 150 worshippers (Figure 57). (See Figure 53 for the location.)

The Presbyterian congregation apparently opposed the building of the Parliament and acquired a new site in Galileo Street gifted by Mr T Patterson. The congregation purchased a redundant Krangahake Knox Presbyterian church in 1919. It was cut into sections and railed to Ngaruawahia and erected on the Galileo site now occupied by the Union Church (Watson 1981, p.58). The Durham Street church and site were sold.



Figure 57 The first Presbyterian Church constructed in 1875, Ngaruawahia [ca 1910] By: Green & Colebrook, Price, William Archer, 1866-1948, Collection of post card negatives, Alexander Turnbull Library, 1/2-001599-G, <http://natlib.govt.nz/records> .)

Methodist Church

The first Methodist Church was located on Newcastle Street. It was opened on 15 January 1888 and was destroyed by fire 14 years later (Latta 1980). A new church was constructed in 1907 (Watson 1981, p.110) (Figure 58). In 1962 the Methodist's acquired the corner of State Highway one to Galileo Street and entered into discussions about a combined church (Latta 1980). In 1972 the Union Parish was formed with the Presbyterians and the Methodists vacated their old church property. The land was sold to the National Bank (Latta 1980, p.220)



Figure 58 The second Wesleyan Church at Ngaruawahia, 1910. The church was constructed in 1907 (Watson 1981, p.110). (Green & Colebrook - Photograph taken by G & C Ltd. Price; William Archer, 1866-1948, Collection of post card negatives. Alexander Turnbull Library 1/2-000174-G. <http://natlib.govt.nz>.)

Other Buildings and Changes over Time in Ngaruawahia

Meeting of the Waters (Latta 1980) provides a more detailed history of the Ngaruawahia than can be provided in this summary focused on identifying archaeologically sensitive areas. The plan of buildings in the town at the turn of the century prepared by Mr Latta (1980, p.63) illustrates many of the general locations of pre-1900 structures and the town activity areas. Ngaruawahia was not static over the years most of the buildings have been removed (Figure 59). Many of these places exist as archaeological sites under existing buildings.

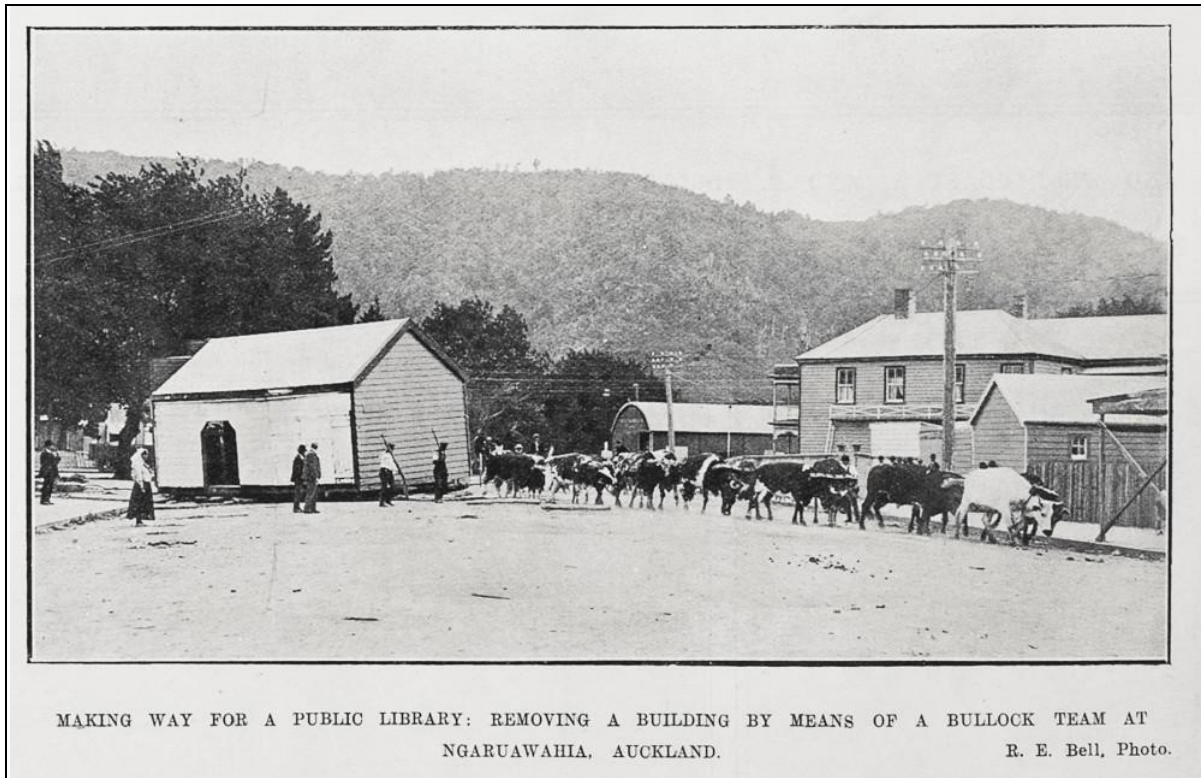


Figure 59 Moving buildings Ngaruawahia, 1911. Bell, R.E. *Auckland Weekly News* 9 November 1911, p.10. Sir George Grey Special Collections, Auckland Libraries, AWNS-19111109-10-8, <http://www.aucklandcity.govt.nz/dbtw-wpd/exec/dbtwpub.dll?>)

The Latta plan, Figure 53 is only indicative and not conclusive as is evident when historic plans are examined, but does provide information that would not otherwise be available. Figure 60 shows an excerpt from Latta's plan and a survey plan for the same areas. Chapter 4 on geo-referencing will illustrate the importance of examining more than one reference to identify potential archaeological sites.

The town between the Waipa and Waikato Rivers was again badly affected by a flood in 1907. Property owners that hadn't moved after the flood of 1875 moved to higher ground. Today the old town is a well used reserve. It still retains evidence of the Maori village, military camp, and town in the many archaeological features and deposits that are buried under the grass. Over the years Waikato District Council has arranged for a archaeologist to monitor earthworks in the domain and record the information exposed and provide reports on the findings. This resulted in the discovery of a section of a rifle trench under the skate park in 2004 and during the 2014 upgrade.

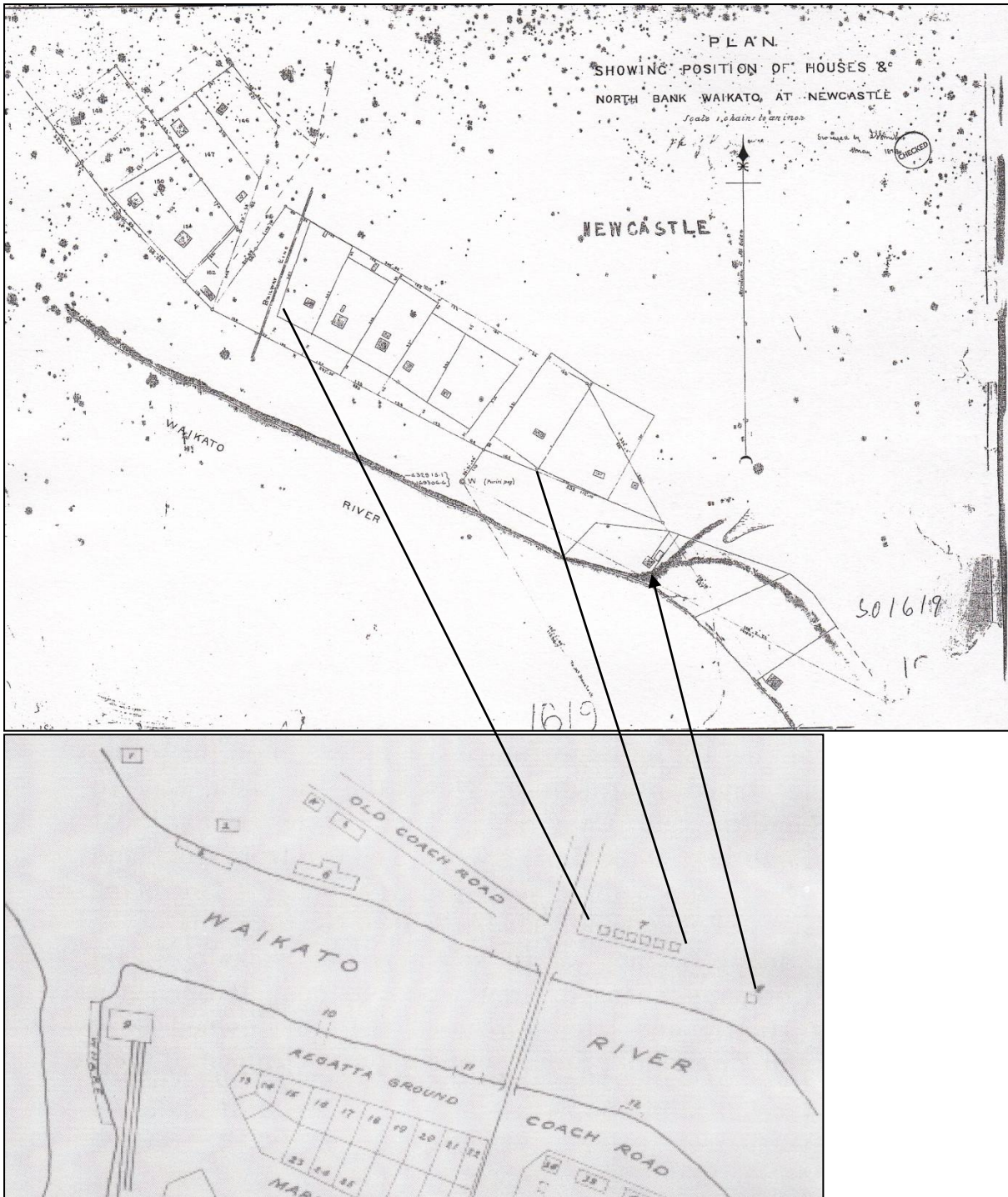


Figure 60 Comparison of Latta plan and SO 1619 (1879); number 7 military houses and number 1 Bone Mill.

(Note the Bone Mill may be the building in the lower right on plan SO 1619.) Latta's plan provides a good indication of where pre-1900 structures were located, but was not intended to be a detailed plan of pre-1900 structures.

Te Kowhai

Maori settlement and pre-European agriculture in the Te Kowhai area focused on the Waipa River. John Johnson observed in 1846 during his travel up the Waipa from Ngaruawahia to Whatawhata:

“if any portion of it [the land] is elevated above the rest it is generally crowned by a deserted pa whose mounds, for they are always surrounded by an artificial earthen rampart and ditch. . . there are also a number of these old pas on every projecting knoll on the left bank. . . they show also the former existence of a large concentrated population, which has partly disappeared under the scourge of war and disease, or now that peace is restored, have scattered themselves over the face of the country.” (New Zealander 3 November 1847, p.2)

Te Kowhai is divided into north and south by the Te Otamanui Lagoon—a significant wetland area (Figure 61) (Harris 1990, p.3).

This and other wetland areas and creeks were used by Maori for foraging—the wetlands were food repositories. Eels were plentiful and trapped in the creeks that drained the inland Repo Maire (tree swamp) (Harris 1990, p.3). Along the eastern bank of the Waipa River in the Te Kowhai area, as Johnson noted, there were important pa—Waikeri, Tangirau, Te Puru (Bluenose),³⁸ and Morehaki (near Bedford Road) (Harris 1990, p.3). Bluenose and Tangirau, along with Otamaori and Karakariki were occupied by Maori into the 1900s (Auckland Star 3 February 1893, p.3). These were not the only notable pa in the area.

Historian Carl Norris noted there were white traders at Te Kowhai. They focused on the salted pork trade.

“They buy it [pork] alive from the natives at a penny half-penny per pound, salt it, and dry it and sell it in Auckland for a shilling and sixpence a pound.” (F.W. Mackenzie 1853 in Norris 1956, p. 5)

No references were found during the research to other European settlers at Te Kowhai prior to the Waikato Campaign of the New Zealand Wars, although the mission station at Karakariki may have been occupied from time to time by a European Methodist Missionary and it is likely the Reverend Benjamin Ashwell

³⁸ Te Puru was named Bluenose for the trading vessel that sunk there (Harris 1990, p.3).

would have visited villages in the area, but Ashwell did not have a house at Te Kowhai. (He had a house at Whatawhata.)



Figure 61 Te Kowhai, SO 54A 1873; Indicating several areas that appear to have been set aside as Maori land. (The church location is the approximate location shown as St Stephen's Church site in 1903 on a plan drawn by Ray Taylor, see Figure 66.)

European Settlement at Te Kowhai

Following the active phase of the Waikato Campaign of the New Zealand Wars (1863-64) the Te Kowhai area was divided in to 50 acre blocks for allocation to a company of the 3rd Regiment of Waikato Militia. The blocks of land are illustrated on Figure 61. The land was described as being rich and fertile, “but the gullies and creeks are destitute of bridges and there was no means of mutual support” if the militiamen were called to serve (Wellington Independent 4 December 1869, p.6).

A few parcels were apparently set aside as Maori reserve land based on the coloration on SO54A, one had a Maori Church under the care of Methodist Maori Minister William Barton, and other parcel had an urupa and Pukehemu pa (Figure 62).³⁹

William Barton was a native minister who worked at various Methodist stations in the Waikato. In August 1864 he was at Whatawhata. His son Andrew and daughter Martha, who were trained at Three Kings Wesleyan Maori Institute Auckland, were teaching school at Karakariki (Otago Witness 20 August 1864, p.1). In 1865 the school report noted the school at Karakariki was under the supervision of William Barton. The school had fourteen Maori boarders with most of the teaching being carried out by Martha Barton (AJHR 1865, Appendix E no.3 , p. 6).

³⁹ It is assumed he was in charge of the church because his name appeared on SO 54A.

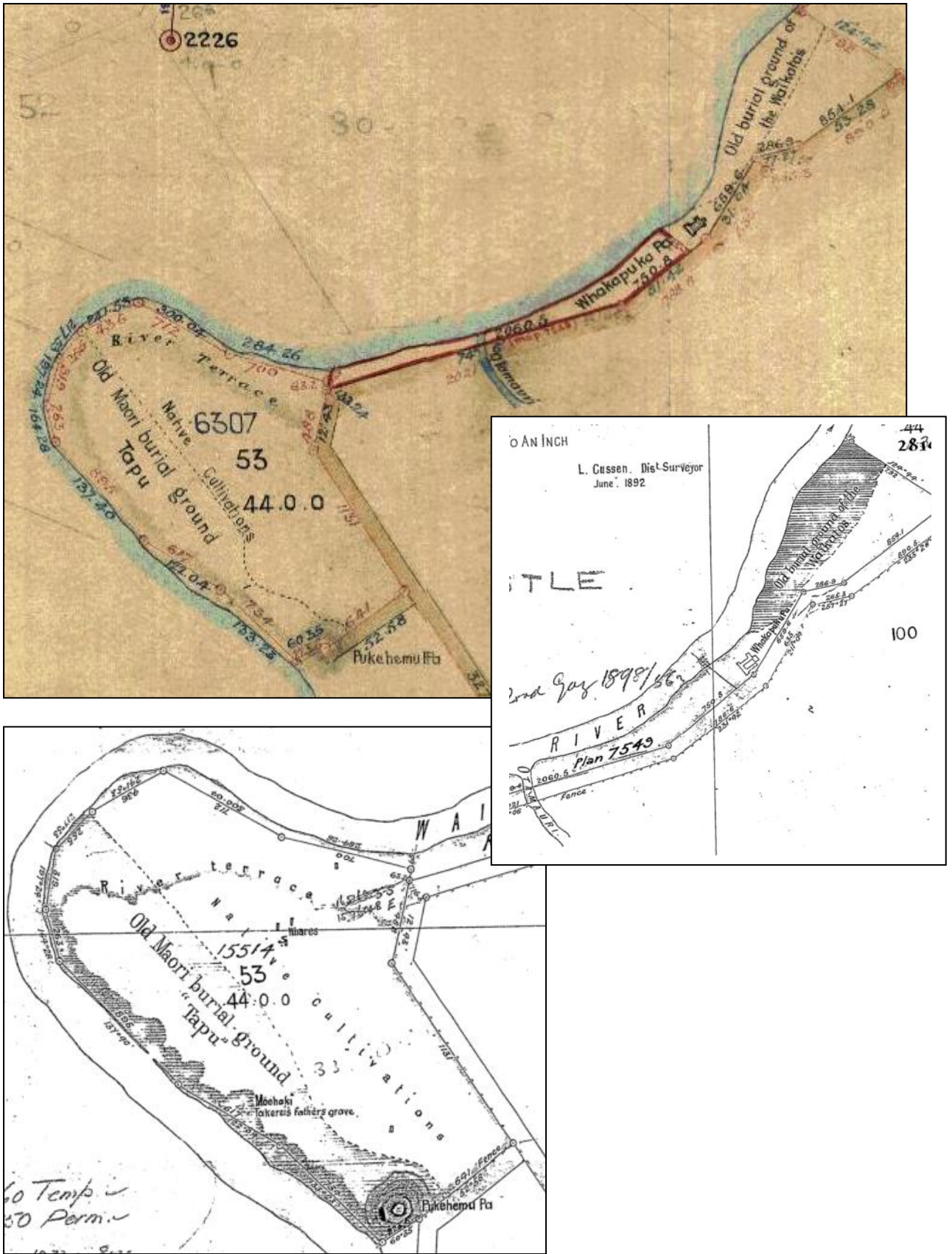


Figure 62 SO 2465 1892; Pukehemu Pa, Whakapuka Pa, two old urupa, and a cultivation area. The urupa on section 53 contains Moehaki Takerei's father's grave.

Te Kowhai On the Move

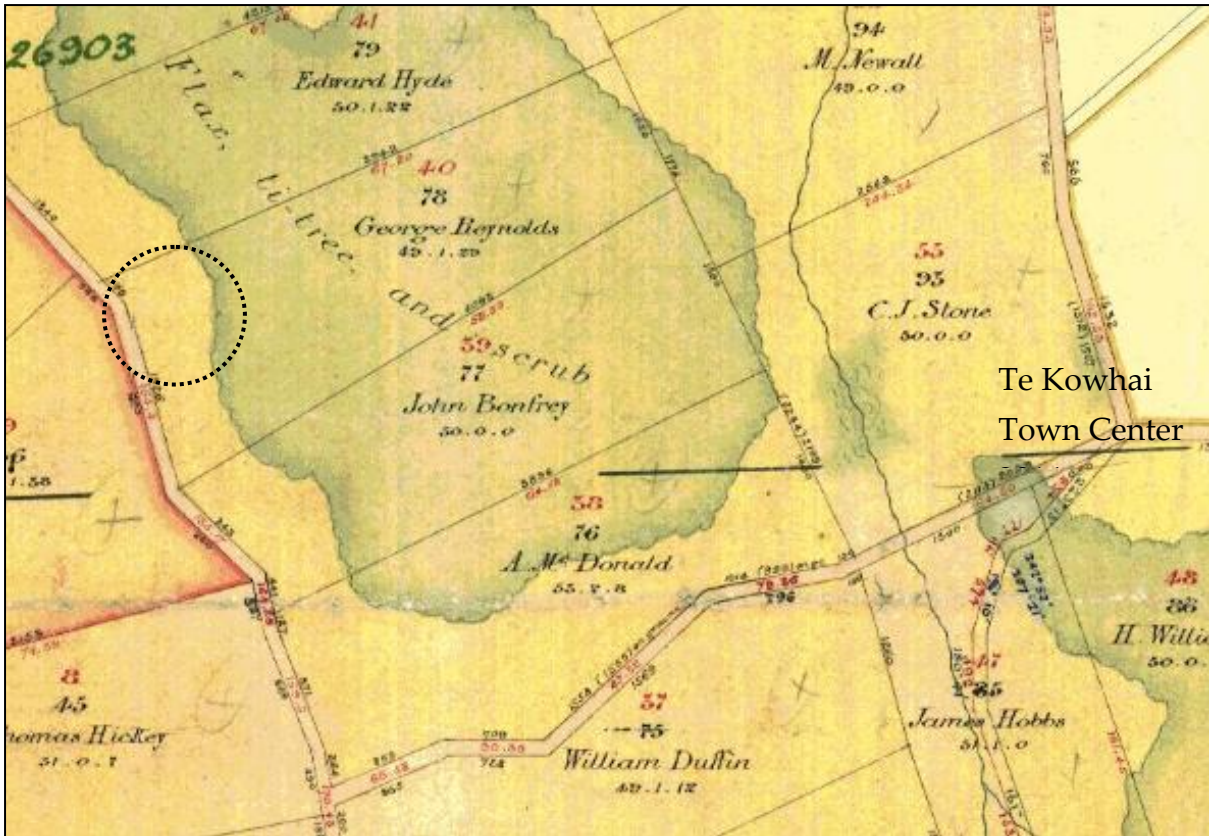
Te Kowhai settlement was originally located west of the current township to take advantage of the Waipa River as a transportation corridor. With the establishment of the rail link between Auckland and Hamilton in 1877 the town shifted eastward toward Horotiu and use of river transport rapidly decreased.

Te Kowhai School

The residents of Te Kowhai were interested in providing a local school for their children in the 1880s, but despite considerable lobbying a school was not established until 1890. The first school was at Stones Corner. The Bycroft family donated the use of the school room—the 12 ½ feet x 16 feet front room of an empty house (Te Kowahi Jubilee Committee 1950, p.3 and Harris 1990, p.3). Unfortunately use of the property as a school was short lived. The property was transferred to C. J. Stone who requested other arrangements be made for use of the property as a school.

Part of Lot 78, near the corner of Bedford and Richardson Roads was selected as a site for the Te Kowhai school (Harris 1900, p.5) (Figure 63). In 1893 tenders were accepted from Mr Stoup for the erection of a school and a teacher's house for £427 (Te Kowahi Jubilee Committee 1950, p.4). The 1990 school history reports the tenders were £73 school and £254 teacher's house (Harris 1990, p.5).

The school site was not entirely satisfactory. Harris noted some of the problems—the land was low, wet and many of the children had to cross a stream on the way to school (Harris 1990, 5).



The approximate location indicated by the broken circle, above and below is based on the description in *Te Kowahi School and District 1890-1990*, by Marjorie Harris (Ed.) 1990, p.5 and plan by Ray Taylor, p. 48 and Figure 65).



Figure 63 School constructed on lot 78 in 1893 (top). The lot includes notations that indicate 70 percent is covered in flax, ti-tree, and scrub. The site was not considered centrally located and was wet (Harris 1990, p.5).

Mrs John Bycroft donated lot 86 adjacent to the center of Te Kowhai for a school site. Mr Petrie the chief inspector of recommended relocation of the school onto lot 86, a mile from the current location of the school (Te Kowhai Jubilee Committee 1950,

p.4). In December 1899 tenders for removal were advertised. Mr Stoup again won the school tender.⁴⁰ He shifted the school on to lot 86 for £55 in early 1900 (Te Kowhai Jubilee Committee 1950, p.4 and Harris 1990, p.5-6) (Figure 64). Figure 65 shows the school locations.

The old school was moved and dismantled in the 1960s and a new classroom block erected on the site (Harris 1990, p.15).⁴¹

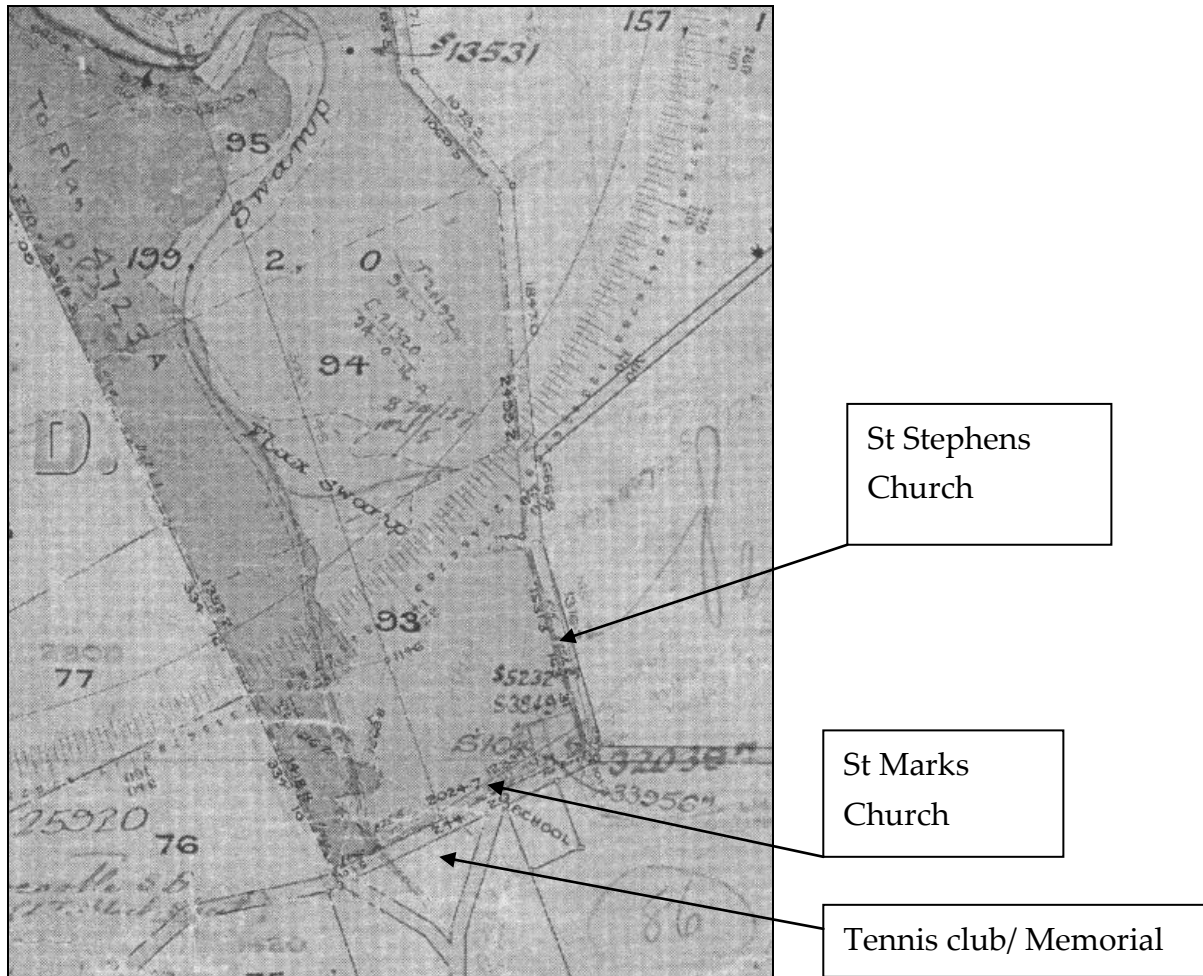
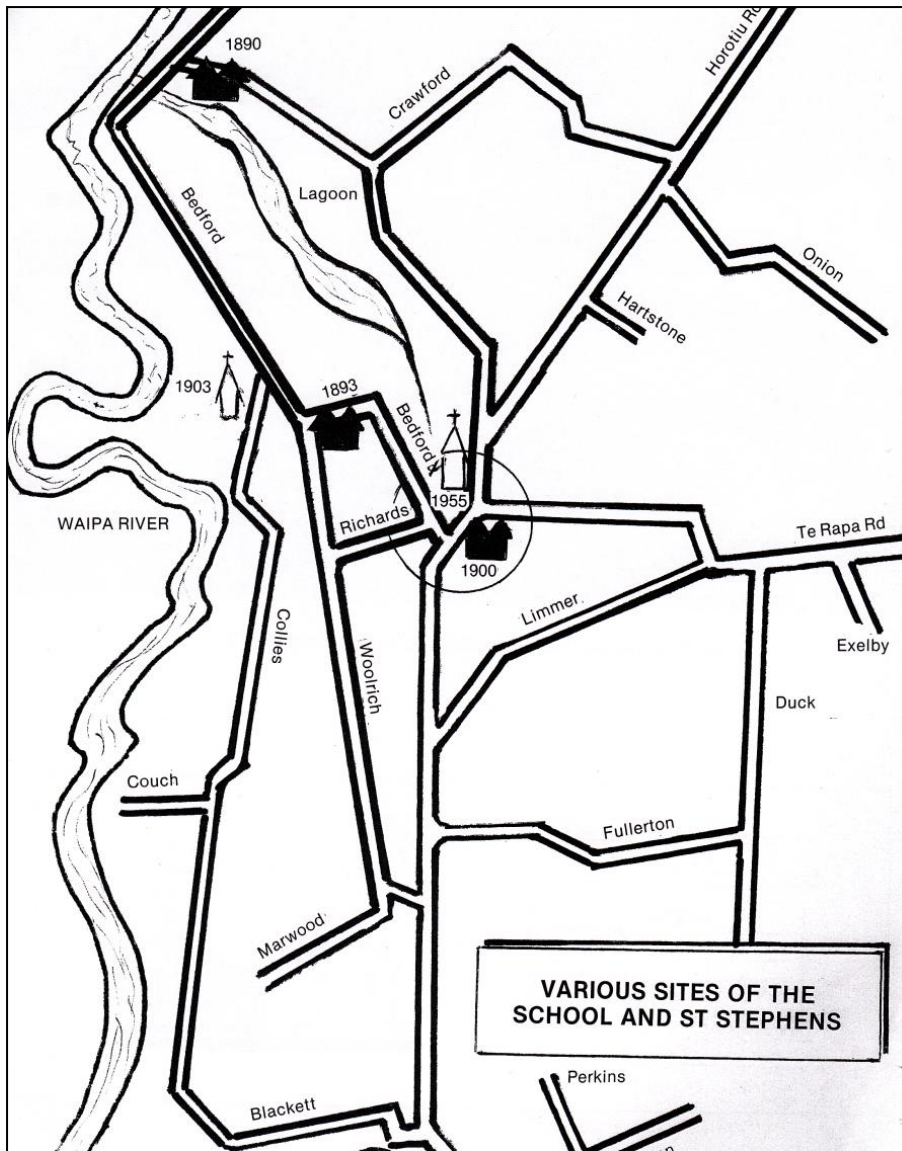


Figure 64 Deposited Plan 2948, 1903. Showing the location of buildings in Te Kowhai.

(Note: The historic road pattern has changed. There is no road immediately north of the tennis club. The school is included as a plan notation and is still at this location. The school was moved to this location (lot 86) in 1900.)

⁴⁰ The teacher's house was not included in the tender request (Harris 1990, p.6).

⁴¹ Based on the period when the school was removed and a new block constructed it is likely mass earthworks removed most if not all of the archaeological evidence of the school.



Drawn by Ray Taylor

Figure 65 Te Kowhai School and St Stephens Church sites (Harris 1990, p.48).

Te Kowhai a Rural Farming Community in 1890

Te Kowhai was a rural farming community. A travelling correspondent commented:

“No settlement has been made along this road, the land being of a broken and barren nature. . . Upon reaching Bonfrey’s hill a splendid view of the country is obtained, and the changes and improvements upon the various farms which lie spread out before the observer are very clearly seen. . . The old road has a fine mansion upon it and is farmed by Mr Hunt, the old house fronting the Waipa, formerly the residence of Mr James Stone, being the present Te Kowahi School.” (Waikato Times 16 April 1891, p.4)

The correspondent also noted that across the river were Maori houses and plantations. He noted: *“The natives have a good crop this year at Karakariki, a first class crop of oats being reped by Bartons”* (Waikato Times 16 April 1891, p.4)

Crops prior to 1900 included potatoes, sweetes, wheat and oats (Magner 1983, p.91). Dairy was also a focus. *“The first Te Kowhai Creamery was built by Messrs Reynolds and Company on a site about half way between the present factory houses—the junction of Bedfords Road and the main Ngaruawahia to Whatawhata Road”* (Magner 1983, p. 93). The Te Kowhai creamery opened in early September 1894 (Waikato Times 8 September 1894, p.8). Milk was brought to the factory and the cream separated (Figure 66). In 1896 the firm was sold to the New Zealand Dairy Association (Magner 1983, p.93). The Dairy industry has continued to be at the heart of Te Kowhai’s development as a rural town.



Figure 66 Te Kowhai Creamery, the 1890s. The first manager, Mr Thomas Ashford is outside the Creamery (Magner 1983, p.88).

Flooding of Farmland

Farms in the Te Kowhai area were affected by flooding in 1876 and 1893. The 1893 flood particularly affected Maori farmers. The newspaper reported:

“Amongst the greatest suffers by it [the flooding of the Waipa River] are the Maoris of Karakariki, Bluenose, Tangirau, Otamaori and Whatawhata villages. Thes Maoris have lost all their crops and are absolutely destitute. All their potatoes, oats and wheat as well as vegetable crops are destroyed, especially those growing on the flats. . . a number of Maori whares were quite covered with water and a portion of the river ooze was consequently deposited inside these houses” (Auckland Star 3 February 1893, p.3).

The newspaper called for charity for the Maori affected by the flood and published figures listing the number affected at each village based on the report of Abraham Barton son of the late Reverend Mr Barton and Rawhiri Hemi, Chief of Bluenose and Tangirau. The villages were sizable—*“Bluenose 60 men, women, and children; Karakariki 45; Tangirau 40; Otamaori 20; total 165” Auckland Star 3 February 1893, p.3).* Contributions of money and seeds were to be made to the Star Office.

Maori Reserve Land

Te Kowhai’s history includes various debates over the years about school building and creamery locations. In 1894 complaints were made about the crown land occupied by Maori on the Waipa River adjacent to the river landing and the access road to the landing.

“A Government reserve, which latter also takes in a considerable length of the river frontage . . . very fertile land suitable for cropping purposes. For some years past the natives have been cropping portions of this land but of late are taking the extreme step of fencing in the whole block, thereby cutting off the settlers’ means of access t the river, the native plea being the Tawhiao had given the land to them. . . fear is the later will plant potatoes right across the old track.” (Waikato Times 20 October 1984, p.2

A petition was sent to the Newcastle Road Board. They contacted the Commissioner of Crown Lands who responded as follows:

“Section 53, parish of Horotiu is a gazette Maori burial ground, and there can be no objection to any Maories simply living upon the ground, but they have no right of obstruction . . .you should remove any obstruction on the road leading to the wharf. . . If you want a clear title to the wharf road you should take it under the Public Works Act.” (Waikato Times 1 November 1894, p.3)

Te Kowhai Post 1900; Center of a Farm Community

The current town of Te Kowhai is still centered at the intersection of Te Kowhai Road with Horotiu Roads this configuration was well established by 1903 (Figure 64). The existing buildings in Te Kowhai are all post 1900.

Among the notable older buildings is St Marks Methodist Church, which was originally, named Victoria Church. St Marks was originally located at Waitekauri, and opened in September 1901 (Te Kowhai Jubilee Committee 1950). The church was purchased by the local Methodist congregation in 1909; cut into sections and sent by rail from Waitekauri to Te Kowhai (Figure 67). St Stephen's Anglican Church was opened in 1903 on Collies Road Te Kowhai (Figure 65). The church was moved to its current site in 1955. A community hall was constructed in 1904-05 and replaced after 45 years of use.



Figure 67 Saint Marks Methodist Church, Te Kowahi (May 2014).

The first store and post office was established by Mr William Henderson in about 1904, based on A Thousand Years of Wisdom, Mr Magner's (1983) history of the area. It was located north of the dairy factory in a small building, 8 feet square (Magner 1981, p.130). A few groceries and candy were sold. After Mr Henderson died (circa 1905), a new store was opened by Mr Norm Nicol—called Te Kapai (Figure 68).

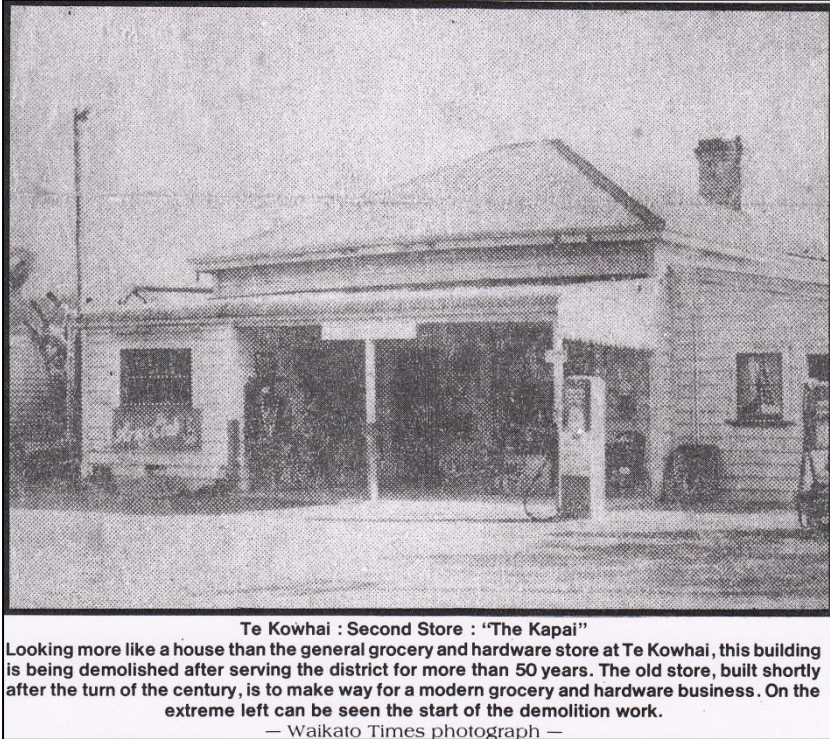


Figure 68 The Kapai, store prior to demolition (Magner 1983, p.131).

Glenn Massey

Glen Massey was founded after 1900. The area was part of the land confiscated following the Waikato Campaign of the New Zealand Wars which was granted to soldier and other blocks open for settlement by purchase. Te Akatea, about 3 kilometers from Glen Massey on the road to Waingaro was settled in the 1880's under a government scheme to settle families on small pieces of land. Twenty-two of these families formed the settlement of Te Akatea (Bovill 1990, p.55). A small post office was established there in 1887 with mail delivered by horse back and later the coach to Waingaro landing (Bovill 1990, p.55).

In 1888 Mr J. Guy requested, on behalf of the residence, that the Education Board establish a school at the settlement (Bovill 1990, p.1). Several years passed before a positive response was received. In 1892 a school was opened on the old Te Akatea clay works site (Bovill 1990, p.1). The first teacher, Frank McGrath, taught at Te Akatea Monday through Wednesday and Waingaro Thursday and Friday. Later the teacher of both schools worked a six day week.

Clay and Coal

In the early 1900's at Te Akatea clay and coal were identified as resources that could be easily exploited. The clay was used for brick making. An attempt at starting a China clay and porcelain company was not successful (Bovill 1990, p.59). The coal fields in the area was recognized in 1908 and in 1912 the Waipa Collieries came into being and the focus shifted down the valley to a flat that would become Glen Massey (Bovill 1990, p.1).

A railway was constructed by the Waipa Railway and Colliery Company in 1912 to carry coal from the mines to Ngaruawahia. The line was considered an engineering feat at the time (Bovill 1990, p.72). It featured 22 bridges and 2 viaducts. There was also a passenger stop at the shops in Glen Massey. Figure 69 through Figure 73 show the rail line, coalfield and residential area.

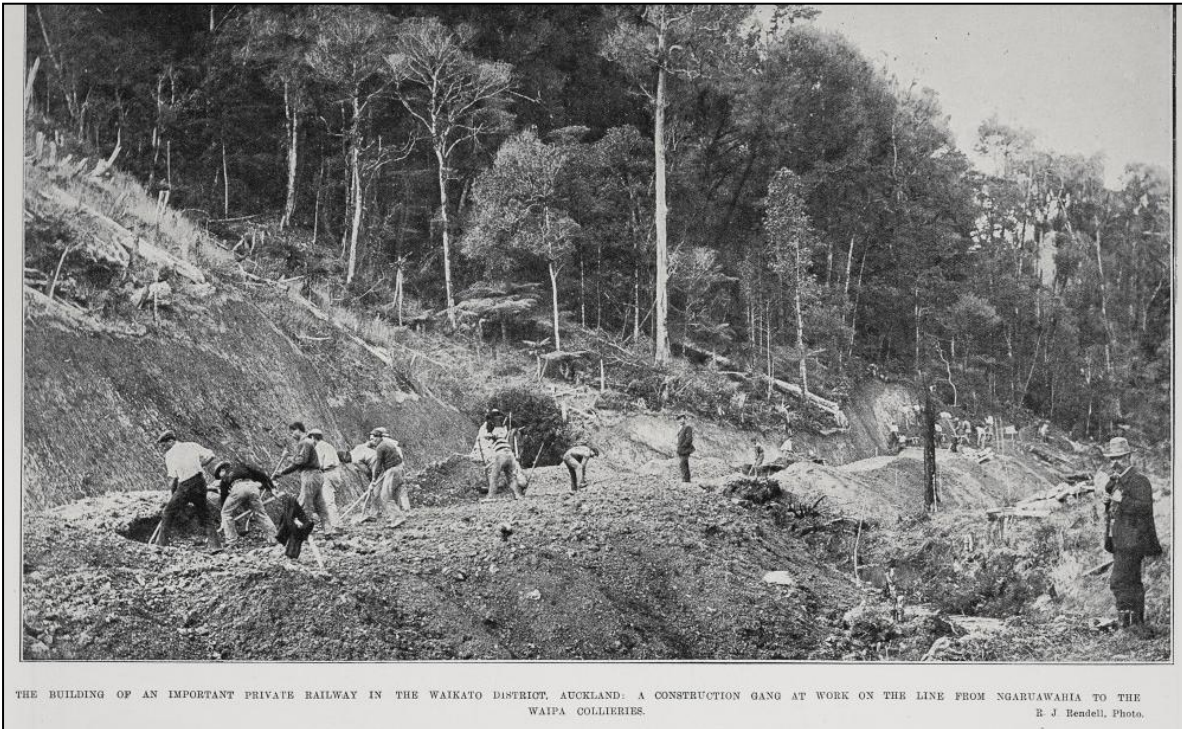


Figure 69 Railway line construction to the Waipa Collieries. (Rendell R. J., *Auckland Weekly News* 19 September 1912, p.3; Sir George Grey Special Collections, Auckland Libraries, AWNS-19120919-3-1.)



Figure 70 The new town of Glen Massey. Cottages built for employees of the Waipa Collieries. (*Auckland Weekly News* 9 July 1914 p48, Sir George Grey Special Collections, Auckland Libraries, AWNS-19140709-48-9.)

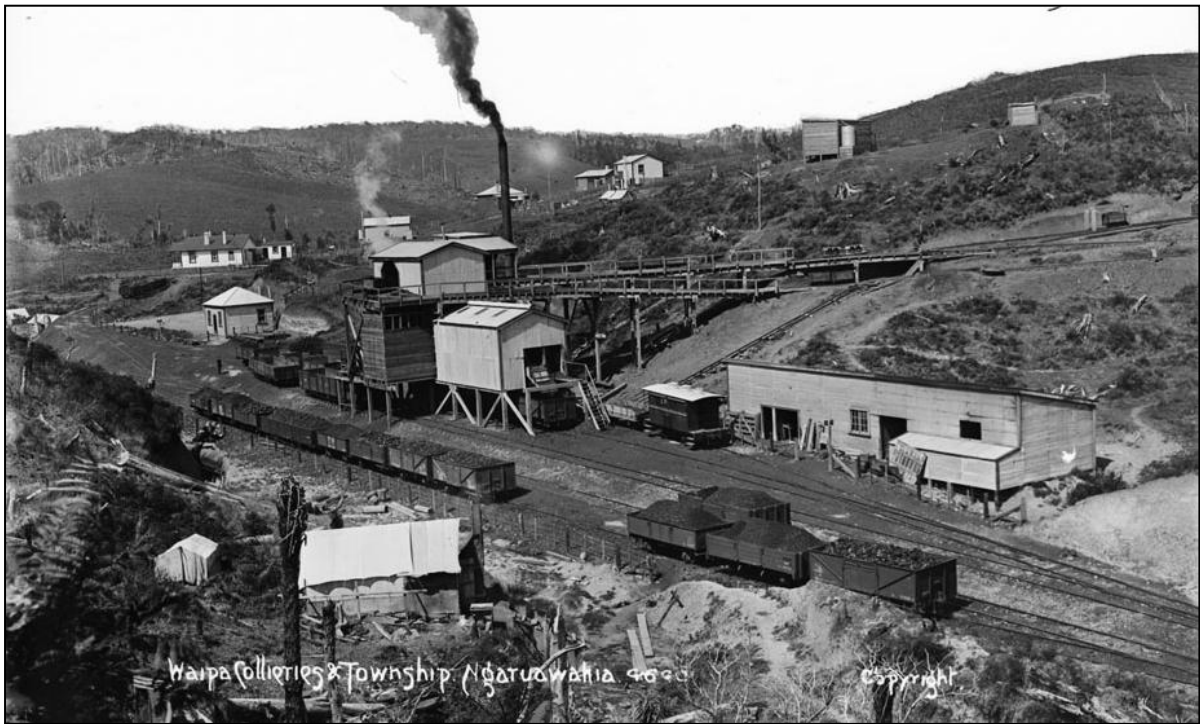


Figure 71 Waipa Collieries and Township. (Radcliffe, F. G., Sir George Grey Special Collections, Auckland Libraries, 35-R965)

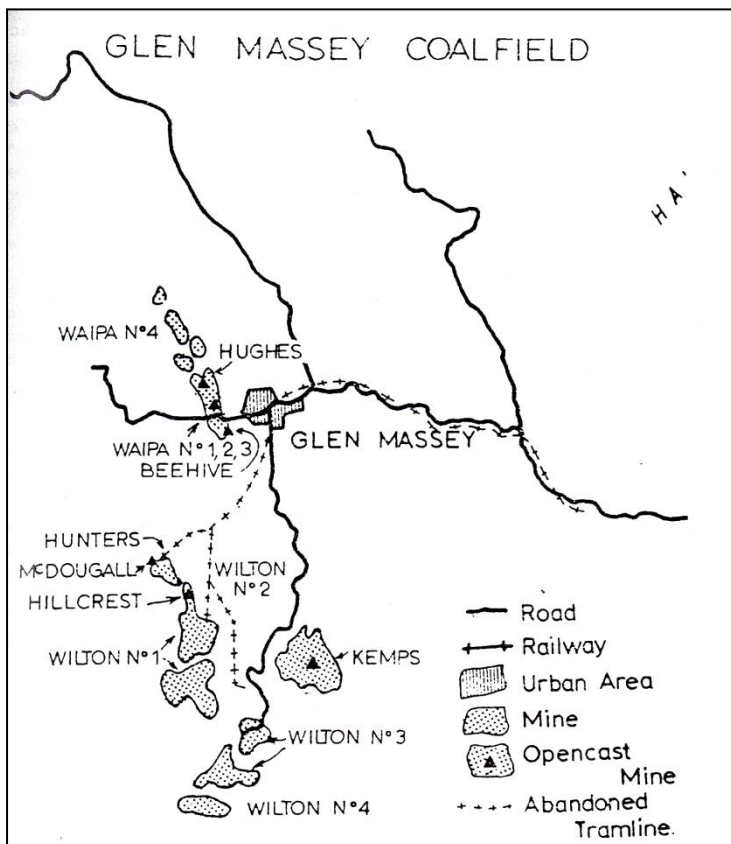


Figure 72 Glen Massey coal field. (Bovill 1990, p.76)

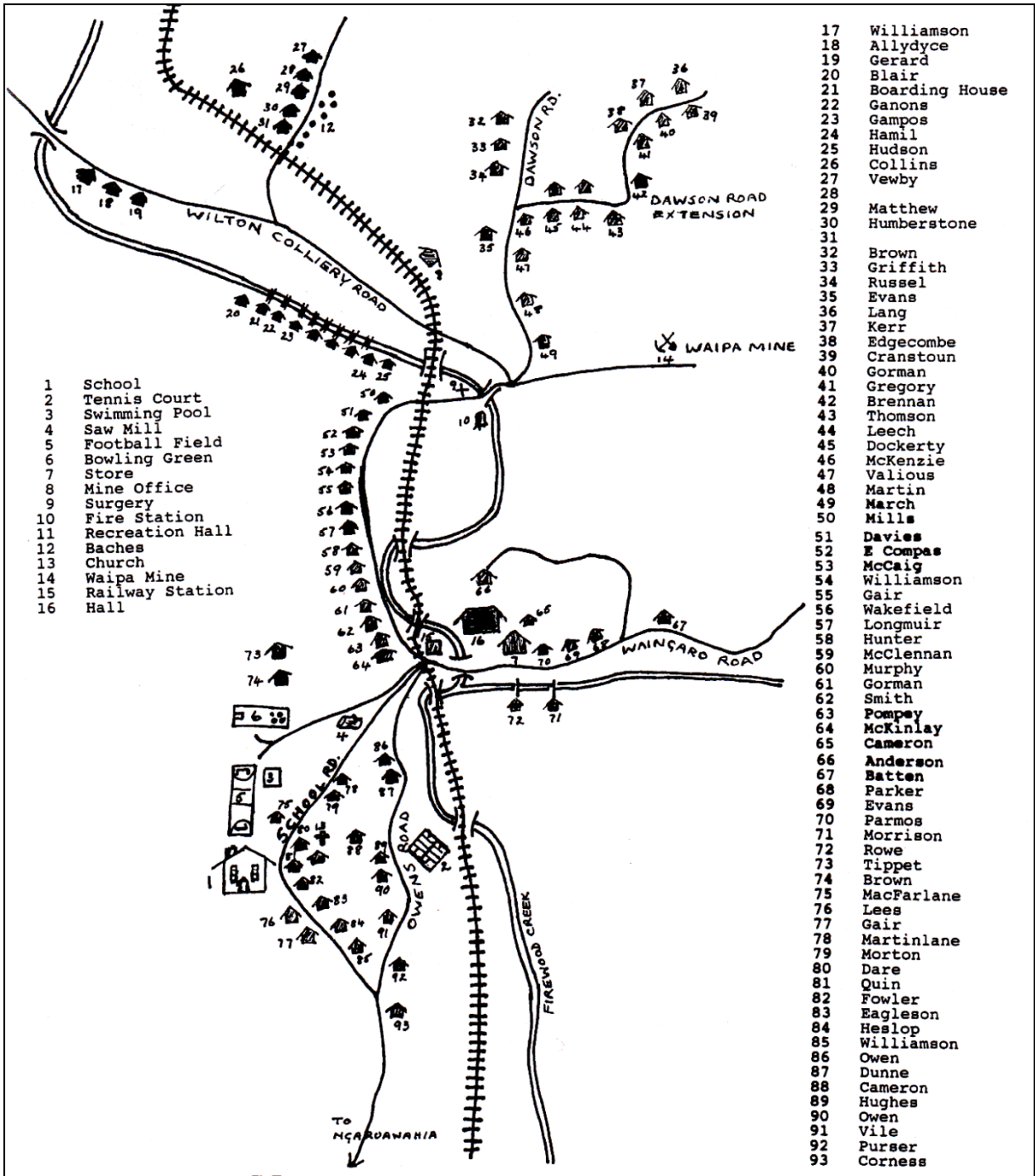


Figure 73 Glen Massey Village, 1950's. (Bovill 1990,p. 90)

Summary

The Ngaruawahai and Enviros area was a rich fertile environment. Maori created large pa and gardens that reflect the size of the population prior to European contact. Among the first Europeans that made their way into the central Waikato were traders and missionaries. The traders identified resource opportunities—salt pork and flax—in the late 1820s. The flax trade was a source of revenue for both European traders and Maori for almost ten years.

Trading establishments were based at Te Kowhai and Ngaruawahia. The Te Kowhai traders focus was salt pork for the Auckland market. Salt pork was replaced by the trade in flax. Flax was exchanged by Maori for European goods—muskets, bayonets, bullet moulds, cartridge paper, cartouche boxes, plenty of gun powder; axes, knives, iron pots; coloured fabric prints, blankets and cotton handkerchiefs; pipes and tobacco. The flax trade created a change in the settlement pattern in the Waikato. Villages were at least temporarily located near the flax filled wet lands and labour focused on harvesting and processing flax. The best known trader in the area was Captain Kent. He had a trading post at Ngaruawahia and resided at Kaitotehe, opposite Taupiri Mountain, from the early 1830 until his death in 1837.

The Taupiri area continued to be a significant focus of activity in the central Waikato in the 1840s through 1850s. The Church Missionary Society established three mission stations in this area from 1843 on ward--Pepepe, Kaitotehe, and Hopuhopu. The stations were established through the willingness of local Maori to provide sites adjacent to their villages. They also gifted land for cultivation to help sustain the mission station school teachers and students.

The mission stations thrived because of the large Maori population they served. The influence of missionary Reverend Benjamin Yates Ashwell was evident throughout the area because of the village school system he established under his lay preachers. The Church Missionary Society was not the only religious organization in the Ngaruawahia and Enviros area. The Catholics had a priest located at Ngaruawahia pa who was there prior to the arrival of the invading British and Colonial force. The Methodists were also in the study area. They focused on the Te Kowhai area and the coast.

The Waikato Campaign of the New Zealand Wars in 1863 changed the central Waikato forever. The land of local Maori was confiscated as a result of the war brought an ever increasing population of Europeans to the area, in response to land development and commercial opportunities.

Te Akatea, about 3 kilometers from Glen Massey was occupied by Europeans in the 1880s under a government settlement scheme. Glen Massey is a post 1900 town founded on coal mining. The industrial heritage of Glen Massey is evident in modifications that are archaeological in character; for example the tram lines. Without the mines the works settlement of Glen Massey would not have been formed.

The Ngaruawahia and Enviros structure plan area has a rich and diverse archaeological history composed of:

- pre-contact pa, village, garden, urupa and other sites;
- contact period sites associated with traders and missionaries, e.g. schools, houses, flour mills, churches, etc.;
- war sites—the markers of the Waikato Campaign of the New Zealand Wars;
- pre-1900 European businesses, commercial and civic buildings, houses, farm structures, roads, bridges and rail lines, to name just a few types of post 1863 archaeological sites; and
- the post-1900 industrial heritage settlement of Glen Massey—a workers town and industrial sites.

CHAPTER 3 RECORDED ARCHAEOLOGICAL SITES

Introduction

The New Zealand Archaeological Association (NZAA) Site Recording Scheme was established in 1958 to "encourage the recording and surveying of archaeological remains". The objective of the scheme is to create simple but systematic files of information about archaeological sites (Prickett, 1999, p. 1-2).

For the purposes of the Site Recording Scheme an archaeological site is defined as any specific locality at which there is physical evidence for human occupation in the past that is, or may be able to be, investigated by archaeological techniques (Prickett, 1999, p. 1-2).

The Site Recording Scheme is the only national inventory of archaeological site information in New Zealand. There are currently over 63,000 site records listed in the scheme, and this number is growing all the time as professional archaeologists and interested amateurs add newly discovered sites.

Metadata describing archaeological records in the Site Recording Scheme have been kept electronically in the Central Index of New Zealand Archaeological Sites (CINZAS) since 1982 (Prickett 1999, p. 121). The CINZAS system records NZMS 260 map sheet number and site identifier, metric eastings and northings, site description, site type code, and codes for the condition, possible damage, responsible local body, and the date of the last recorded visit by an archaeologist.

In 2009 the Site Recording Scheme was presented as a website, making archaeological records available to members of the NZAA, local bodies, iwi and other organisations via the Internet. ArchSite contains copies of the CINZAS records as well as scans of the paper files.

The data for the present study were drawn from ArchSite. These include the aggregate fields listed in CINZAS, and the scanned copies of paper documents found in the site files.

A note on recorded site locations

Before conversion to electronic recording with ArchSite, locations for archaeological sites were given in grid references for the NZ Map Grid 1949, from NZMS 260 topographic map sheets. These references specify a location to the nearest 100 m, and it was common practice to give the coordinates for the south west corner of a 100 m

square which contains the site. Reported point locations are therefore sometimes seen to be considerable distances from the actual archaeological remains.

This can be illustrated by the location given in converted eastings and northings for Smith's house, R12/284, as shown in Figure 74.

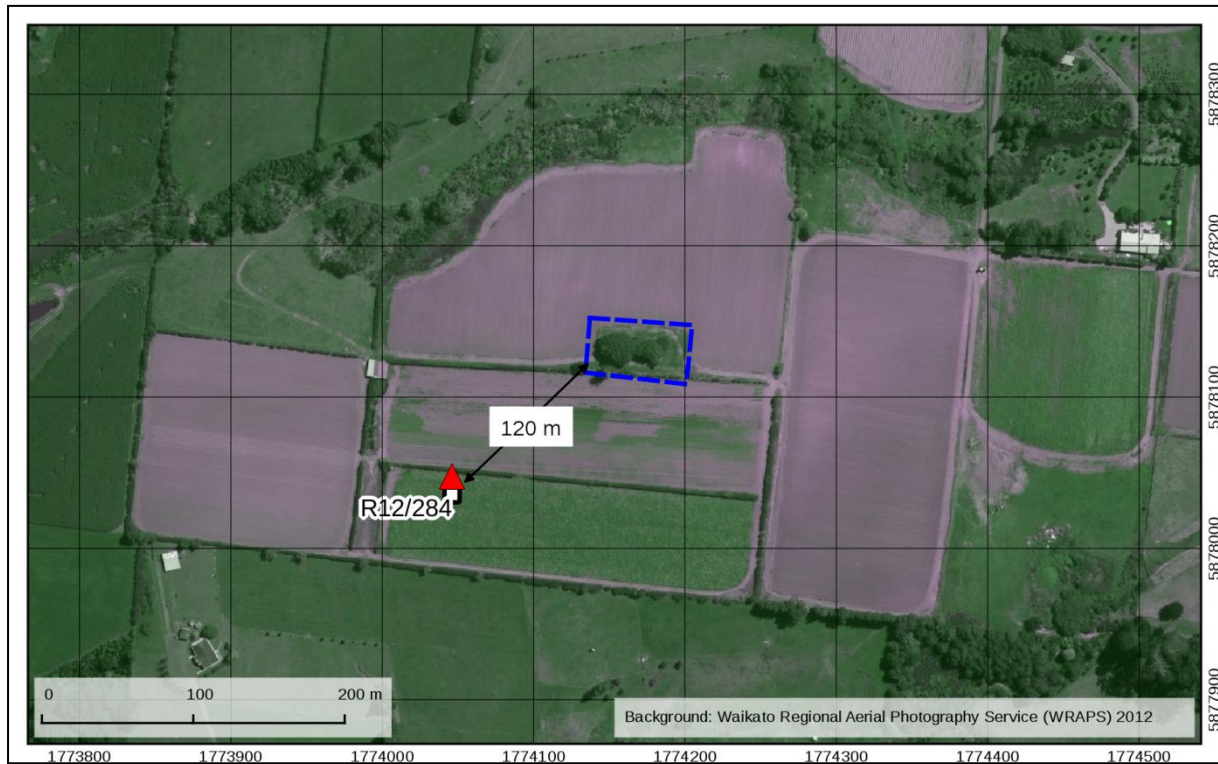


Figure 74 Illustrating the difference between a site's recorded location and the actual location as depicted on air photography from 2012.

Archaeological site typologies

There is no internationally recognised typology for archaeological sites. This is a reflection of the fact that archaeology is often regionally unique. For example, a common type of New Zealand site is the Maori fortification or pa. These may bear a superficial resemblance to prehistoric fortifications in other parts of the world but are, in fact, unique to New Zealand because they were created by the Maori tradition, with its genesis in Pacific Polynesian material culture, and access to mineral resources, foods and other materials particular to this place.

The method of classifying sites most commonly used in New Zealand is by what type of archaeological features are present or visible. Thus, many sites are classified

as "Midden/oven" or "Pit/terrace" on the basis that these were the visible features when the site was first visited by an archaeologist.

The Site Recording Scheme has 51 different site types listed, although some of these might be considered as sub-types of a larger category – there are six listed classes for "mining", for example. The site types are listed in Appendix 1.

The CINZAS data include codes for a variety of site types, which are classified into larger categories. A type may appear in more than one category. For example, pa are listed under "General", "Defensive" and under their own category "Pa". The "Midden" category includes codes for: middens; ovens and middens; middens, ovens and terraces; middens, ovens and pits; and middens and pits. There are 14 categories for prehistoric sites, and 12 for historic ones.

What type a site is recorded under is to a large extent left up to the opinion of the recording archaeologist. The quality of such information varies considerably, with some archaeologists completing comprehensive surveys and providing detailed descriptions, site plans and photographs, while others give a brief description, little more than a note as to the existence of archaeological features at the location. Many sites in the Site Recording Scheme have not been revisited since the original recording was made, and many records can be somewhat vague as to the nature and content of the site.

Some sites fit easily into obvious types. Pa, for example, or the later style of fortifications known as redoubts (there are redoubt structures associated with the Imperial British Army, the Colonial Armed Constabulary and with Maori). These usually comprise defensive earthworks and can often be seen in air photography – indeed, the largest proportion of prehistoric pa in the Waikato region were first identified from historic aerial photographs.

Maori horticulture is another type of site common in the Waikato which falls easily into a particular category. These sites may also be identified in remotely-sensed data as in this region they are marked by the presence of borrow pits – large, subcircular depressions in the landscape from which the Maori were quarrying sand and gravel to mix with the soils. This is discussed in more detail below.

It is also clear from reading the files that some sites within the study area have been misclassified. Where this has been the case, sites have been reclassified based on information found in the scanned copies of the paper files.

Site typology, Ngaruawahia and Environs

A group of sites from the NZAA Site Recording Scheme were chosen based on their location within a 5 km boundary of centres at Ngaruawahia, Glen Massey, Horotiu and Te Kowhai. The selection process yielded 65 archaeological site records (Appendix 1) Figure 75.

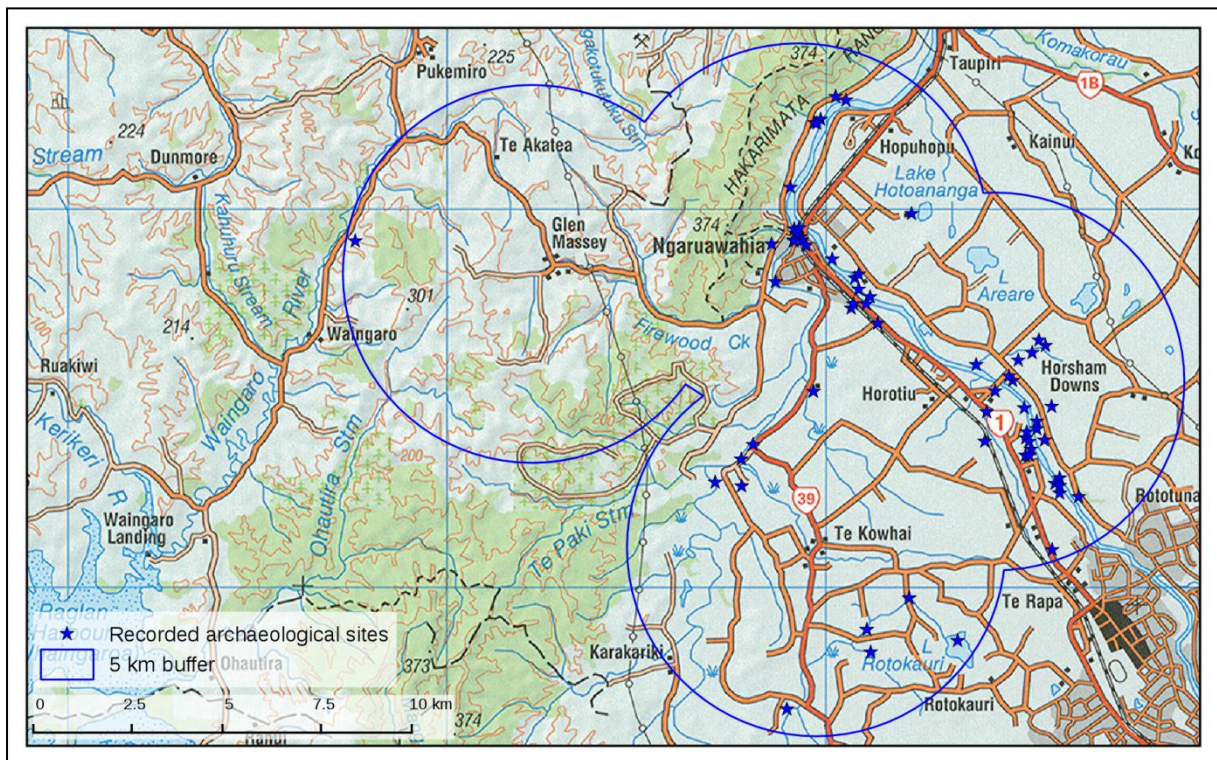


Figure 75 Detail from NZ Topo250 sheet 5 Auckland showing the location of 65 recorded archaeological sites selected for study. The blue line represents five kilometres from centres in Ngaruawahia, Glen Massey, Horotiu and Te Kowhai.

These 65 sites represent 12 site types, from "Artefact find" to "Transport/communication". Table 2 lists the selected sites by site type, with the number of sites of each type within the selection.

Table 2 Number of sites by type in selection.

nzaa_type	count
Artefact find	6
Burial/ cemetery	2
Fishing	1
Historic - domestic	1
Maori horticulture	23
Midden/Oven	2
Military (non-Maori)	6
Pa	16
Pit/Terrace	4
Shipwreck	1
Transport/ communication	2
Unclassified	1
(12 rows)	
Total	65

By far the largest number of sites in the selection are of the type "Maori horticulture", with 23 of 65 site records. This is followed by sites of type "Pa", with 15 records. In the middle-Waikato basin, the predominant form of prehistoric archaeology is the Maori horticulture type and the closely associated fortified pa.

The pa and the gardens

Pa are often the most visible archaeological sites in the area. They occupy prominences on hills and ridges, and can be found on the escarpments formed by the entrenched Waikato River and its major tributary gullies. As a group, they were defended structures with ditch and bank earthworks, and often took advantage of defensive possibilities in the local landscape, by being built against river scarps and in swampy lakes.

Most pa on the Waikato and Waipa rivers occur in proximity to mapped garden soils or clusters of borrow pits, indicating their relationship with the horticulture sites.

Prehistoric horticulture sites are highly visible in this region in comparison with those known in other parts of New Zealand, because of the modified soils which are enriched with sand and gravel quarried from the underlying alluvium. The quarrying has left a large number of sub-circular depressions in the landscape, called "borrow pits". These features can readily be seen on aerial photographs, and in more recent lidar-derived elevation data.

The modified soils were first mapped by soil scientists in the 1930s, who identified their anthropic origin, and called them "Maori-made soils" (Grange & Taylor 1939, p. 39). The made-soils were later classified as Tamahere sandy gravelly loam (McLeod 1984, p. 24). Figure 76 illustrates the extent of Maori-modified soils within the study area. Each of the light green shapes represents evidence of prehistoric horticultural activity and is a strong predictor of the presence of archaeological sites as defined in the *Heritage New Zealand Pouhere Taonga Act 2014*.

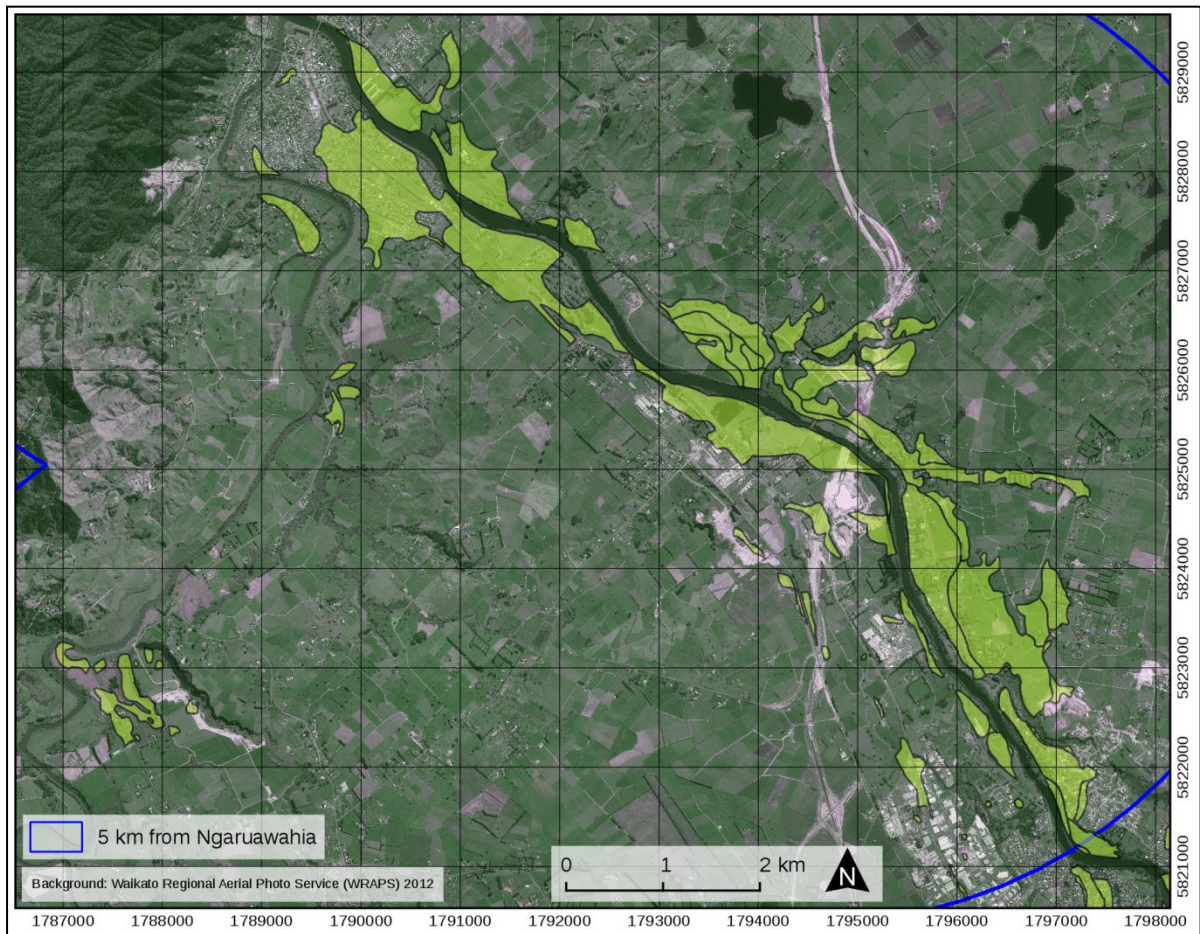


Figure 76 Deposits of Tamahere sandy gravelly loam as identified by soil bureau scientists since 1939.

The first sites of the type to be recorded in the NZAA scheme were made in the late 1960s, and a series of them were recorded from aerial photos in the 1980s. More recently, studies by Campbell (2012) and Gumbley & Hutchinson (2013) have revealed an entire archaeological landscape comprising wide tracts of modified soils and the borrow pits from which the alluvial sand and gravel were quarried. There

are now over 500 sites of type "Maori horticulture" recorded in the mid-Waikato basin between Hora Hora and Taupri.

It is known that Maori horticulture sites exist which have not been entered in the NZAA site recording scheme. Extensive areas of Tamahere sandy gravelly loam have been mapped by Grange & Taylor, and by McLeod, on both banks of the Waikato River from Pukete down to Ngaruawahia. Clusters of borrow pits have been spotted from historic and modern aerial photography, and from lidar-derived elevation data, in a corridor along the river. Borrow pits and modified soils are also known at a place along the Ngaruawahia Road by Saalbrey Road, and at Bedford Road close to Pukehemu Pa (S14/26), Figure 77.



Figure 77 Detail from SN174/302/19, flown 16 April 1941, showing the pa S14/26 and an unrecorded Maori horticulture site indicated by borrow pits.

Figure 77 is a detail from one of the 1943 aerial photographic survey frames. It shows a cluster of borrow pits near the centre of the image, between the road and the wooded gully. The pa S14/26 is indicated. This is in a bend in the Waipa River which also has deposits of Tamahere sandy gravelly loam indicated by Grange et al in their soil survey of 1939.

Reclassification

During research for the current study it was noticed that several records have been misclassified. Four records (S14/9, S14/10, S14/11 and S14/49) have been marked "Deleted" because the information in them is insufficient to confirm the location of an archaeological site and the informant was later considered unreliable.

One site (S14/87) recorded as "Pa" has been reclassified to "Mission station".

The record S14/182, classified as "Military (non-Maori)", was found to describe a Maori village and has been reclassified as "Domestic" subclass "Kainga".

The site S14/187 has been reclassified from "Military (non-Maori)" to "Pa," subclass "Gunfighter".

The site S14/205, describing a British redoubt in Ngaruawahia which never existed, has been reclassified as "Deleted".

Table 3 lists the reclassified site types and a count of records of each type within the selection.

Table 3 Number of sites by reclassified type in selection.

site_type	count
Artefact find	6
Burial	1
Deleted	4
Historic	1
Kainga	1
Maori horticulture	23
Midden/Oven	2
Military (non-Maori)	3
Mission station	1
Pa	16
Pit/Terrace	4
Shipwreck	1
Transport/ communication	2
(13 rows)	
Total	65

The following section discusses the sites and site types represented in the sample.

Artefact find

The artefact find site type is used to record the location of an isolated artefact which has no discernible archaeological features or landforms associated with it.

Six artefact findspots are recorded in the Ngaruawahia study area. These record a prehistoric greenstone pendant (S14/29); decorative panels from a structure of some kind, discovered in a spoil heap (S14/89); an adze (S14/103); an adze found on the farm that is now the Te Rapa Dairy Factory (S14/114); a hoe waka or canoe paddle (S14/123) and a ko or digging stick (S14/124).

Burial/cemetery

The location of human remains are recorded as sites of type "Burial". These may be a formal cemetery or urupa, or isolated remains, usually bones.

King Potatau's tomb is recorded as archaeological site S14/188. This is in the Ngaruawahia Domain. The archaeological site S14/10 records the site of a battle between Taranaki and Waikato tribes on the east bank of the Waipa River where there is now a golf course.

The record for site S14/11 where a crouching skeleton was reportedly found contains a handwritten note to the effect that the informant was later found to be unreliable. This seems to be the same informant who supplied information for S14/10, casting doubt on the veracity of this record as a location where skulls had been found. Both have been reclassified to "Deleted".

Deleted

In addition to the three records reclassified as Deleted mentioned above, a site (S14/9) which had recorded hearsay evidence of fishing activity on the west bank of the Waikato River "3/4 of a mile north of Ngaruawahia" (Gorbey 1975, p. 1), has also been reclassified "Deleted". This record has the same handwritten annotation that the informant is unreliable as found on records S14/10 and S14/11.

Sites of type "Fishing" almost always refer to the remains of prehistoric fish traps and weirs made of stones.

Domestic

Originally classified as 'Historic - domestic' in the NZAA records, this site type relates to the remains of places where people conducted their daily lives. Most

common within the records are houses, but other structures such as huts, cottages and Maori whare are also recorded in this type category.

There are two sites of type "Domestic" in the selection, 53 Newcastle Street, Ngaruawahia (S14/186), the site of an historic cottage, the "Doctor's house", now used as a carpark; and the reclassified S14/182, a Maori kainga in the Domain near the Point. This latter record had formerly been classified as "Military (non-Maori).

Maori horticulture

There are 23 sites of type "Maori horticulture" recorded within the study area. These cluster along the Waikato River, with a few scattered Horotiu Bridge. It is known from soil survey and remote sensing data that more sites exist than are recorded.

Table 4 lists the sites of type Maori horticulture within the study area. along a gully below the

Table 4 Sites of type "Maori horticulture".

nzaa_id	site_type	recorded	recorded_by
S14/104	Maori horticulture	1986-01-06	Morgan, P.H.
S14/105	Maori horticulture	1986-01-06	Morgan, P.H.
S14/106	Maori horticulture	1986-01-06	Morgan, P.H.
S14/111	Maori horticulture	1985-12-28	Morgan, P.H.
S14/121	Maori horticulture		Leatherby, J.
S14/160	Maori horticulture	1993-03-03	Ritchie, N.
S14/162	Maori horticulture	1993-06-09	Ritchie, N.
S14/163	Maori horticulture	1993-06-18	Ritchie, N.
S14/164	Maori horticulture	1994-03-21	Ritchie, N.
S14/165	Maori horticulture	1994-08-24	Barr, C.
S14/175	Maori horticulture	1997-04-01	Hooker, R.
S14/177	Maori horticulture	2009-02-17	Ritchie, N.
S14/179	Maori horticulture	2002-12-01	Wilkes, O
S14/192	Maori horticulture	2004-07-25	Walton, A.
S14/194	Maori horticulture	2010-09-08	Campbell, M.
S14/195	Maori horticulture	2010-09-08	Campbell, M.
S14/203	Maori horticulture	1997-09-20	Wilkes, O
S14/221	Maori horticulture	2009-10-12	Hoffmann, A. J.
S14/222	Maori horticulture	2009-10-12	Hoffmann, A. J.
S14/242	Maori horticulture	2011-06-23	Mallows, C.
S14/246	Maori horticulture	2011-07-28	Keith, Sian
S14/247	Maori horticulture	2011-07-28	Keith, Sian
S14/253	Maori horticulture	2011-10-11	Gumbley, W.

Midden/oven

A midden is a rubbish heap. In New Zealand archaeology, the term is commonly used to refer to pre-European Maori occupation rubbish and sites of this type are most commonly comprised of marine shellfish remains.

S14/110 is the only midden site recorded near Ngaruawahia (Figure 78). It is a hangi pit or cooking area, recorded as exposed by a bulldozer in 1985. It stands on the left bank of the Waikato River in an area of known but unrecorded prehistoric gardening.

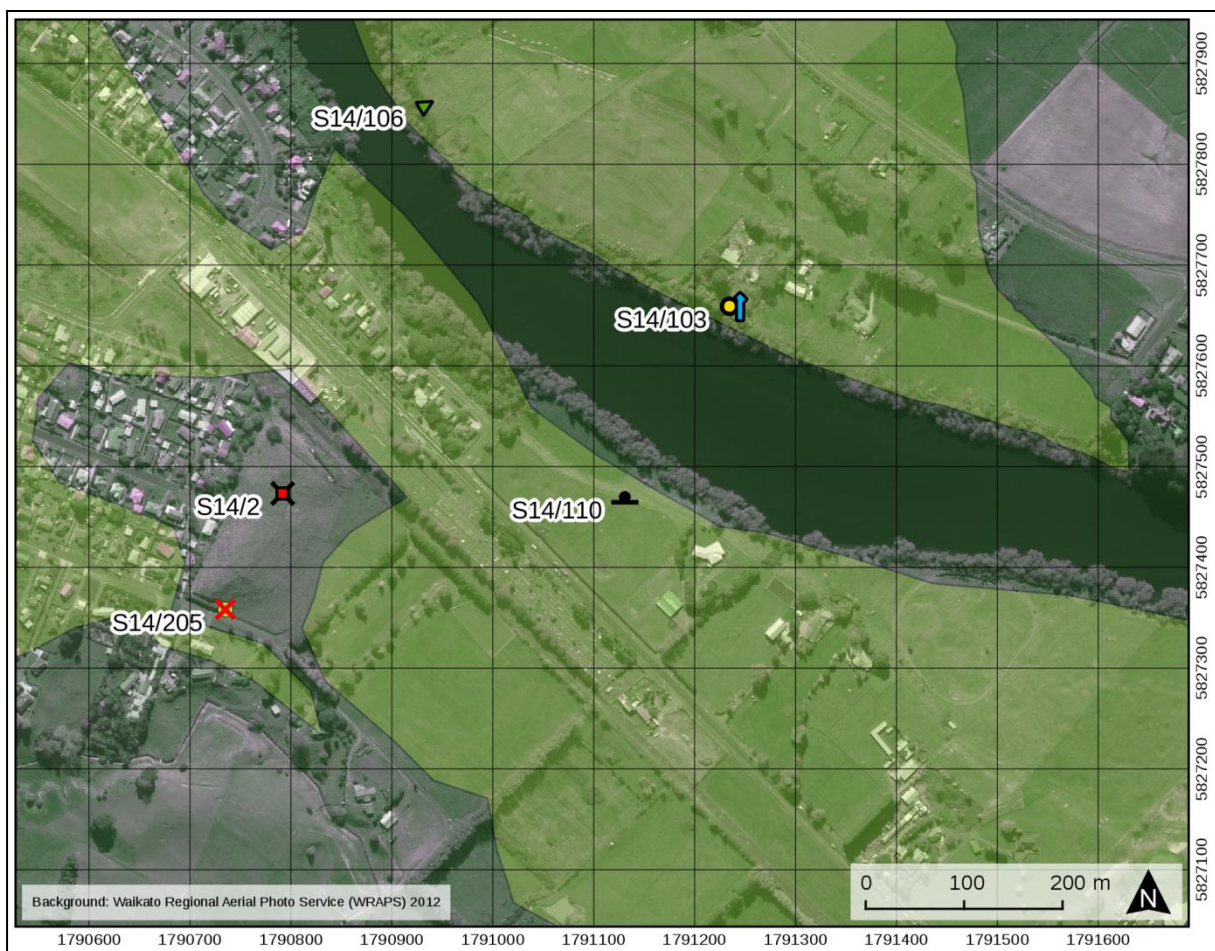


Figure 78 The midden/oven site S14/110. The green depicts tracts of Tamahere sandy gravelly loam as indicated on soil maps from 1939.

Figure 78 above depicts polygons of Tamahere sandy gravelly loam (transparent green shapes) mapped by Grange et al in 1939.

Military

Sites of type "Military" mostly relate the activities of the British Army and associated European units, but S14/187, at the Waipa bridge at Ngaruawahia, is recorded as a "Maori redoubt".

Military-type sites in the collection are Fort Newcastle (S14/181), remains of which may survive along Broadway St; an Armed Constabulary redoubt (S14/190) on Herschel St, and a set of munitions magazines (S14/213) (. This last record, being of a site which dates to after 1900, does not fit the definition of an archaeological site in the Heritage New Zealand Pouhere Toanga Act 2014. The Site Recording Scheme has a slightly looser definition which does not account for the age of the site.

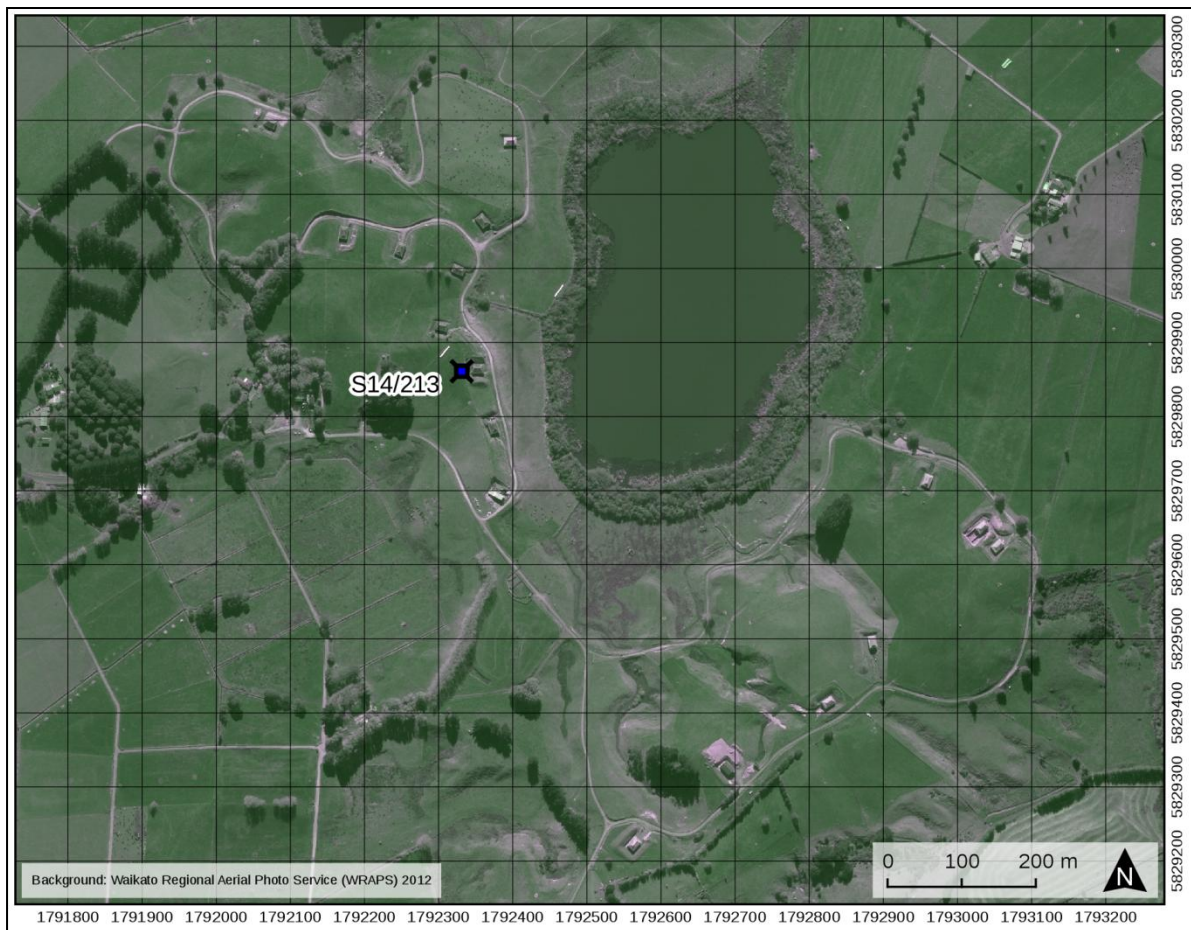


Figure 79 The munitions magazines (S14/213) next to Lake Hotoananga. The background is aerial imagery from 2012.

Figure 79 shows the munitions magazines on aerial imagery from 2012. The earthen revetments surrounding the store buildings are plainly evident, as is the distributed nature of the facility. There is another cluster of magazines to the south of this image.

One site (S14/187) is misclassified as "Military (non-Maori)", when the description written in Wilkes' record clearly states this is a Maori redoubt (Wilkes 1994, p. 1). This has been reclassified as a "Pa" subclass "Gunfighter".

Mission station

One site, S14/87, records the presence of the Pepepe Church Mission Station. This is on the true-left of the Waikato River, downstream from Ngaruawahia opposite Hopuhopu.

There is no classification in the NZAA Site Recording Scheme for "Mission station", and this record had been misclassified as a pa. Wilkes inserted a note on his research listing several historical sources for this mission.

Pa

Pa are the remains of fortified emplacements associated with Maori activity, both pre-historic, and from the period after European arrival. They commonly comprise earthworks including ditch and bank defences, and may include pits, platforms and other indications of domestic activity. Pa were commonly the centre of much activity, particularly the growing of kumera and other crops.

Sixteen pa are recorded in the study area, and five of them are named. These are Pukeiahua Pa (S14/2) on a ridge at the end of Couch Street, Ngaruawahia; Mangaharakeke Pa (S15/18) which is on land belonging to Fonterra at the Te Rapa Dairy Factory and is part of a complex of pa including S14/17 and S14/112; Pukehemu Pa (S14/26) on the banks of the Waipa River near Bedford Rd; Pikiarero Pa (S14/31), a gunfighter pa in the Ngaruawahia Domain; Whakapuku Pa (S14/122), on the Waipa River downstream of Pukehimu Pa.

The other sites of type "Pa" in the selection are S14/5, S14/8, S14/13 (pictured in Figure 80), S14/16, S14/50, S14/81 and S14/97.



Figure 80 Unnamed pa (S14/13) shown in air photography from 2012. The ditch defending the point can be seen in this image.

Figure 80 shows the pa S14/13 in a reasonable state of preservation with at least one ditch visible in modern aerial imagery. The transparent green shapes represent deposits of modified soils mapped by McLeod (1984), showing unrecorded Maori horticulture sites exist in this area east of the river near Hereford Drive.

Pit/terrace

An archaeological site of type "pit/terrace" records the existence of levelled ground commonly associated with pre-European Maori activity. These sites may also include depressions in the ground, which are often found amongst remains of domestic sites, and may have been used for storage of kumera crops.

Four sites of type "pit/terrace" are known in the area. These are R14/11, S14/12, S14/113 and S14/147. S14/12 is on the left bank of the Waipa River above Waingaro Road, opposite the Ngaruawahia domain; S14/113 has been affected by the Te Rapa Dairy Factory and S14/147 is opposite Hopuhopu (Hopuhopu) on the left bank of the Waikato River above Hakarimata Road.

S14/174, a row of three rectangular storage pits, is close to an unrecorded Maori horticulture site, indicated as shapes on the LRIS Raglan soil survey.

R14/11, below is the only archaeological site recorded within 5 km of Glen Massey, being isolated well to the west of the town in the Otuturu Stream a short distance off the Waingaro Road.

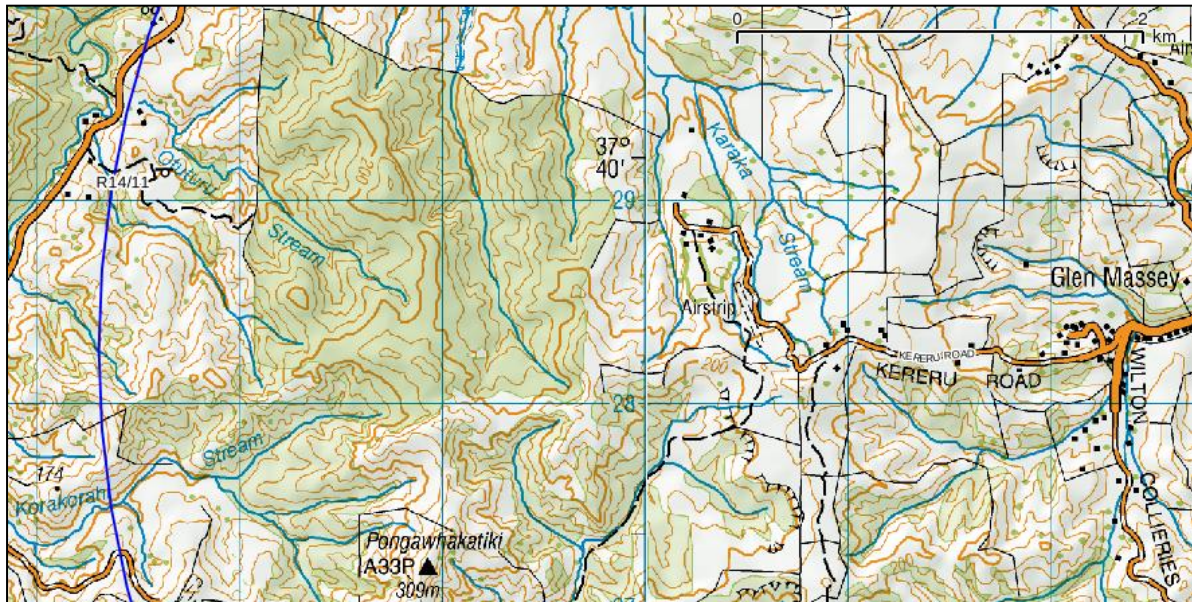


Figure 81 Topographic map showing the Pit/terrace site R14/11, 5 km west of Glen Massey.

Shipwreck

One shipwreck is recorded (S14/183). Lying in the bed of the Waikato River in the Point Domain, Ngaruawahia, this is a collection of timbers forming the hulk of a boat (Figure 82). Owen Wilkes, who recorded the site in 2000, believed it to be the wreck of the screw steamer *Alert*.



Figure 82 Remains of a wooden riverboat, thought to be the steamer *Alert* exposed on the bank of the Waikato River at the Ngaruawahia Domain.

The wreck was exposed during a visit in April 2014, and about 7-8 m of the bottom plating was visible, including sections of the keel and ribs, with iron fixtures protruding from them.

Although the wreck was measured and described by Wilkes in his site record (Wilkes 2000a, p. 1), there has been no comprehensive survey of these remains and no confirmation of Wilkes' suspicion of its identity. Because of its location, and periodic exposure during periods of low water, these wooden remains are vulnerable to decay from drying out, and from damage by vandals and souvenir-hunters.

Transport/communication

Roose's steamer wharf is recorded as archaeological site S14/184 in the Domain, on the Waipa River. The wharf was up near the point, close to the confluence with the Waikato River. There were timbers from the wharf photographed by Wilkes in 2000, but it is not known if they remain today (Figure 83).



Figure 83 Wilkes' photograph of timbers from Roose's steamer Wharf. (Wilkes 2000b, p. 4)

Taupiri

An additional 19 site records from the Site Recording Scheme around Taupiri were examined. One mission station was recorded in this group, and two sites of type "Pit/Terrace". The rest were Maori horticulture (5) and pa (11).

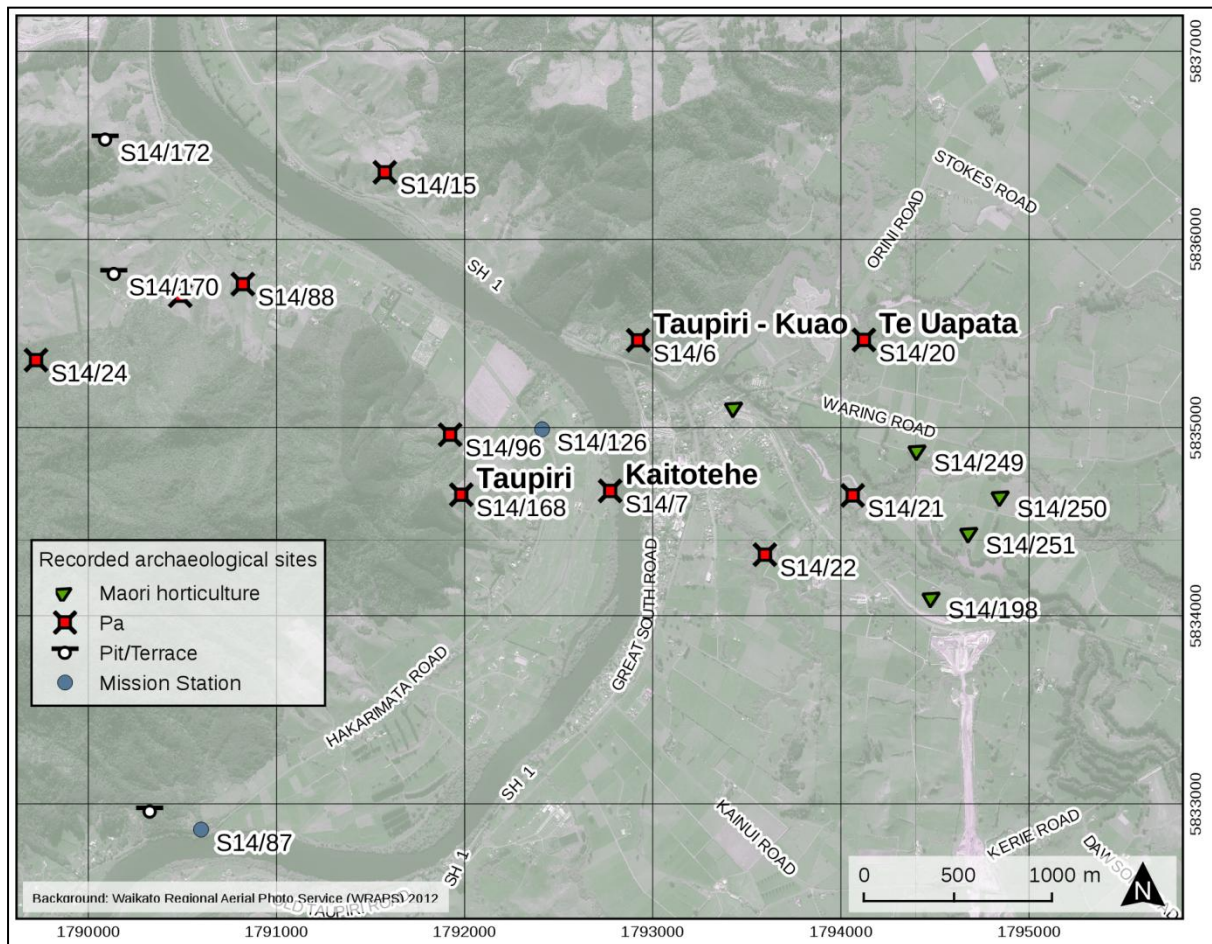


Figure 84 Archaeological sites around Taupiri.

Ashwells' Mission Station is recorded as S14/126, in a bend in the Waikato River opposite Taupiri. The other Mission Station in the collection is S14/87, the Pepepe Church. These two places are discussed extensively in previous chapters.

Eleven pa are recorded in the area, including five named ones. These are the Taupiri-Kuaou Pa (S14/6) on a hillock at the foot of Taupiri mountain and another pa called Taupiri (S14/68) across the river from it. Kaitotehe Pa (S14/7) is recorded on the left

bank of the river, opposite Taupiri Township. Te Uapata (S14/20) in the Whangamaire Stream, and Tarake (S14/22) in an unnamed stream south of Taupiri Township. There are three pa inland from Parker Road (S14/24, S14/88 and S14/171. S14/15 is on the right bank opposite Parker Road, and there are two more unnamed pa in the selection: S14/69 on a hill above the second Taupiri pa, and S14/21 in the Mangatoketoke Stream.

The recorded Maori horticulture sites around Taupiri are all clustered in the Whangamaire, Komakorau and Mangatoketoke Streams to the east of the town. More sites of this type are known than are recorded in Taupiri, as soil science maps show extensive tracts of modified soils along the left bank above Taupiri and in the valleys associated with the pa mentioned above. Prehistoric horticulture sites are known to exist along the banks of the Komakorau Stream as far as Sainsbury Road at Gordonton.

New Zealand Historic Places Trust List of Selected Archaeological Sites in the Waikato District

In 2012 the New Zealand Historic Places Trust (NZHPT)⁴² prepared a list of archaeological sites in the Waikato Region for consideration for scheduling in the District Plan. This was based on a 2009 report by Dr Rachel Darmody.

The region was divided into 29 areas representative of landscape features, and recorded archaeological sites were selected according to an assessment criteria which included condition, rarity, archaeological value, contextual value, amenity value and historic value. The assessment process used by NZHPT is illustrated in Figure 85.

Of the 29 areas, three fall within the present study area. These three areas list a total of 14 sites which correspond with those selected for the present study, Table 5. In the lower Waipa River list, only one site—the pa S14/81—is included in the present study area. The full list of sites is available in Coster (2012).

⁴² Re-named Heritage New Zealand in May 2014.

Table 5 List of NZHPT Select Archaeological Sites in the Ngaruawahia and Enviros Structure Plan Area

Lower reaches of the Waipa River	1
The Point	8
Te Rapa Dairy Factory	5

Assessment Criteria

Six categories were used to assess the archaeological sites within the Waikato district based on the definition of historic heritage under the RMA and the suggested criteria for assessing historic heritage values in NZHPT's *Sustainable Management of Historic Heritage: Guide No. 3 District Plans* (McClellan and Greig 2007). The criteria were also based on NZHPT's archaeological guidelines (NZHPT 2006), Tony Walton's assessment of archaeological values of historic places (Walton 1999, 2002) and Arczoo Archaeology's heritage assessment of the Tasman District (Greig 2007b).

Archaeological sites in the Waikato district have been assessed against the following criteria:

1. **Condition:** The current state of the archaeological site and whether there is archaeological evidence still present at the recorded location. Assessing whether the condition of the site has compromised its archaeological integrity.
2. **Rarity:** Identifying the uniqueness of the class of site and if it is represented by any other known examples (Walton 1999:13).
3. **Archaeological value:** The archaeological value is based on the potential of the site to provide evidence relating to the history of New Zealand. Diversity and representivity have been included in this category, to highlight sites that are unusual or diverse in form and those which are characteristic of given period or type. Also included are technology and scientific value.
4. **Contextual value:** This considers the importance of the site within the wider archaeological landscape and assesses its group value. Single sites may not necessarily be of high value individually, but when grouped together they form a significant archaeological landscape. This considers the relationship between the sites and their wider setting.
5. **Amenity value:** The visual, educational or recreational resource associated with the site determines its amenity value. Consideration has also been given to the ability for the public to access the site in terms of whether it is located on private property or on Crown land. This also includes the public's esteem for the site and commemorative values.
6. **Historic value:** Historical information associated with the site that may highlight aspects of the past or be associated with important events, such as the New Zealand Wars. It includes people, events and patterns.

Standard assessment sheets were used to systematically document each identified area, with provision for noting the quality of information used to make the assessment. The heritage criteria were not treated as mutually exclusive, as some archaeological sites displayed a range of overlapping values while others were strongly associated with only one.

Figure 85 NZHPT Assessment Criteria; (Darmody 2009, p.5).

Summary

Although there are 65 recorded archaeological sites within the study area, 14 of which have been identified by NZHPT as significant sites, this does not represent a comprehensive inventory. Density of records in the Site Recording Scheme often says more about the places where archaeologists are actively working than the actual density of archaeological evidence. Chapter 2, for example includes Mission Station sites had substantial significance in the history of the district, but have not been recorded.

It is also known from remote-sensing data that there are more sites of the Maori horticulture type within the area than currently appear in the SRS. These unrecorded sites will be discussed in greater detail in the next chapter.

CHAPTER 4 GEOGRAPHIC INFORMATION

Introduction

Geography is an integral part of archaeology. Archaeological sites are always *somewhere*, and where they are in geographic space can inform interpretation of the archaeological evidence. Archaeologists have always been makers of maps, and in recent years Geographic Information Systems (GIS) software and the hardware powerful enough to operate it has become available and affordable to independent researchers. This is having an impact on the way archaeological sites are studied at small scales— the wider view, taking in aggregates of sites and interpreting the archaeological landscape.

A geographic information system is used to pull together a disparate collection of sources, and to synthesise data by interpreting and combining those sources. So historic maps can be overlaid against modern aerial imagery, and geological data from soil surveys can be viewed with a digital elevation model illustrating topography. All the factors which inform or influence the creation, preservation and subsequent decay of archaeological sites can be gathered together and seen on the screen. This greatly assists the process of building a predictive model of the archaeology of a region.

Some information comes already spatially-enabled, and much valuable and accurate geographic information is made available by Land Information New Zealand (LINZ) <http://www.linz.govt.nz/> and Landcare Research (<http://landcareresearch.co.nz/>). Other sources have to be digitised and encoded with geographic coordinates before they can be introduced into the system.

Georeferencing is the process of allocating spatial coordinates to image data like aerial photographs and historic plans. This enables the images to be projected on a map, and the locations, size and area of objects indicated on the plan or photograph to be measured. The process is time-consuming, as ground control points must be identified on the image to be referenced, and co-located against another data layer. The New Zealand cadastral set is the standard layer for referencing aerial photos to,

and all photos and historic maps derived for this project have been referenced against this dataset.

Anywhere from three to over eighty ground control points must be identified before a software algorithm is run, combining the image data with the ground control points to produce an image file with the spatial coordinates encoded within it. This georeferenced file can now be visualised in a GIS, and objects within it should fall over their correct location in geographic space.

Georeferencing aerial photographs and historic survey plans can yield a wealth of archaeological information, as they often indicate the presence of structures which no longer exist. Any building erected in the past is likely to have left some archaeological footprint, even if it is just the holes left where the posts used to be.

Aerial photography

Aerial photography has a long history in archaeology. Lieutenant Philip Henry Sharpe of the Royal Engineers Balloon Section was reportedly the first to take an aerial photograph of an archaeological site, when he photographed Stonehenge from a balloon in 1906 (Barber 2006).

During World War I the use of aerial photography for reconnaissance expanded greatly, and the first aerial cameras designed specifically for the purpose appeared. Techniques for determining scale and measuring objects on the photographs were also developed, and air photography became a crucial component of cartography (Blake Palmer, 1974, p. 233).

O. G. S. Crawford, an archaeologist and observer in the Royal Flying Corps, was an early proponent of the use of aerial photography for the purposes of archaeological prospection. In 1920 Crawford was appointed to the British Ordnance Survey, and began a long career of photographing British archaeological sites from the air.

In New Zealand, the value of aerial photography for mapping was realised by the 1930s (Jones 1994, p. 17), and the Government engaged the Air Force and private firms on systematic surveys of the country. One set of early surveys was flown over the greater Waikato Basin in 1942 and 1943.

The photographic surveys were conducted using large-format cameras and the results survive as prints in the library collections of the Waikato Regional Council and the University of Waikato.



Figure 86 Detail from aerial photograph SN174/300/21 flown 16 April 1941.

Figure 86 (above) a detail of an aerial photograph captured as part of one of these early surveys, illustrates the value of this type of photography to archaeologists. This depicts the Waipa River just south of Ngaruawahia. In the bottom right corner, on both sides of the Waipa River, we can see borrow pits visible as dimple-like depressions in the flat ground. It also shows the Glen Massey Line railway bridge and the rail corridor approaching it, as well as giving an indication of how much Ngaruawahia has expanded since 1941.

This print has a number of unfortunate flaws which the scanning process was unable to erase. The bright patch in the centre is an emulsion stain from the printing of the photograph. It has also been heavily annotated in coloured chinagraph pencil. The print was scanned as a monochrome image, so these annotations appear as shades of grey. Nevertheless, it is still valuable as a primary source for the accurate location of borrow pits and other archaeological features.

Broadly speaking there are two types of aerial photographs used by archaeologists; vertical and oblique. The terms refer to the direction of the camera, either pointing vertically down at the ground, or sideways to some degree. Both are useful for illustrating and mapping archaeological sites, but only vertical photographs can be georeferenced and displayed in a GIS.

Orthorectified aerial imagery

A new source of remote sensing data has recently become available to the researchers. This is the Waikato Regional Aerial Photography Service (WRAPS) orthorectified aerial imagery set.

This is a region-wide dataset of aerial photographs which have been processed into a seamless image without clouds and with most areas lit alike. This has the great benefit of being already spatially-encoded, so the time-costly process of georeferencing can be avoided.

Historic Plans

A number of historic survey plans were sourced for the project, and georeferenced into the GIS. These were prepared by the British Military and later the Colonial Survey Office from soon after the British invasion of the Waikato valley in the early 1860s. In most cases, electronic scans of these large documents have been captured by Land Information New Zealand (LINZ).

Early survey plans are of particular interest to archaeologists because they often mark the locations of buildings, many of which may not be standing in modern times, but whose presence in the past is a strong predictor of archaeological evidence remaining in the location.

Figure 87 shows a Survey Office plan from 1881 with the modern cadastral dataset overlain as dark blue lines. The area depicted is the northern bank of the river at Ngaruawahia.

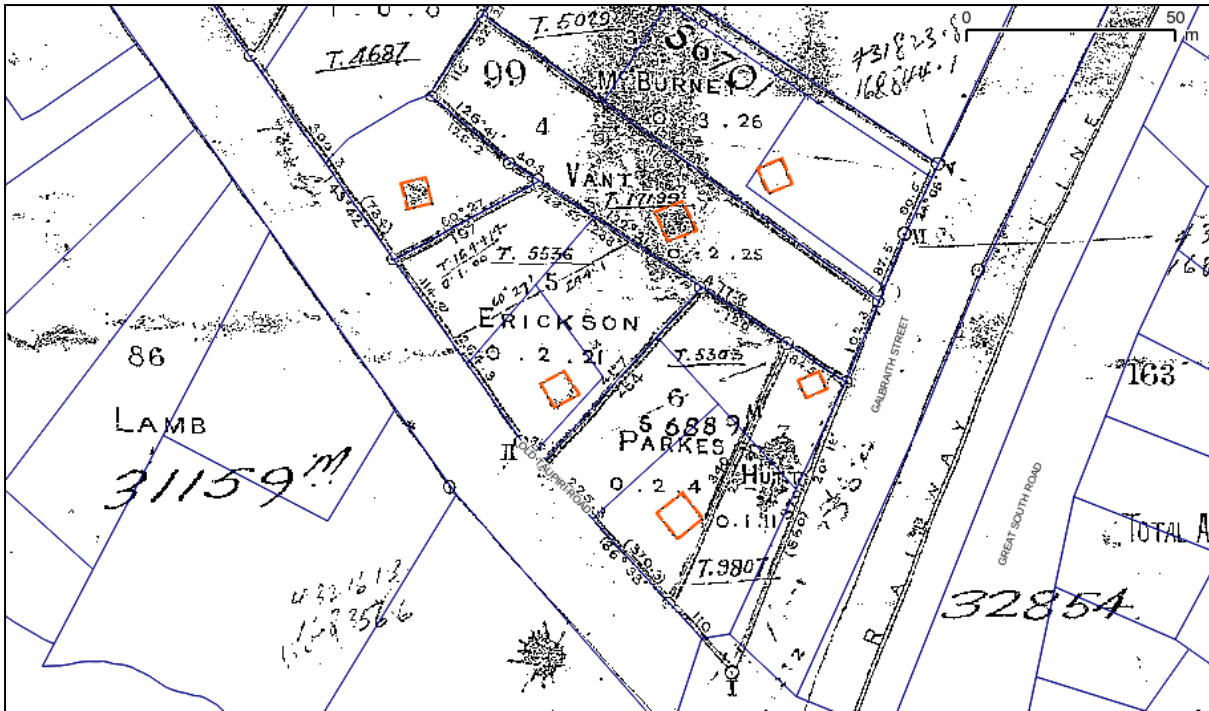


Figure 87 Detail from historic plan DP 217 (1881).

Six buildings on named lots can clearly be seen inscribed on the map (above)—these have been highlighted in red—and the georeferencing technique permits us to predict the archaeological remains of the buildings to within a few metres.

Indications of structures on maps and plans made before 1900 are clear evidence for the existence of archaeological sites. They can be mapped using a polygon layer in a GIS application, and populate an inventory of objects of archaeological interest.

Elevation Data

A wide-coverage collection of 1 m resolution elevation data has also been examined for this project. This dataset is derived from airborne lidar measurements and models the shape of the landscape by having a grid of 1 m squares, each of which has an elevation value in metres above sea level encoded in it. This Digital Elevation Model (DEM) can be used to generate other useful spatial layers, such as contours down to 30 cm intervals, and hillshade images which help the viewer to visualise a landscape (Figure 88).



Figure 88 An image derived from lidar elevation data showing a levee by the Waikato River heavily pitted with borrow pits. This archaeological site has been recorded as S14/192.

The elevation data are valuable to archaeologists because they reveal subtle changes in the landscape which are the remains of past human activity. Borrow pits show up particularly well, but lidar is also helping to identify and map ground features in pa and other archaeological sites.

Soil Maps

The predominant category of archaeological sites found in the mid-Waikato basin are the Maori horticulture sites marked by borrow pits and modified garden soils (Gumbley & Hutchinson, 2013). For this reason, maps compiled by the Soil Bureau at the Department of Scientific and Industrial Research (DSIR) offer a unique method for locating sites of this type.

The earliest soil maps available on which deposits of prehistoric modified soils are indicated are those made in the late 1930s by Grange, Taylor and others. Of particular interest is the sheet *Parts of Newcastle & Komakorau S. D's Waipa County* (Grange, Taylor et al 1935).

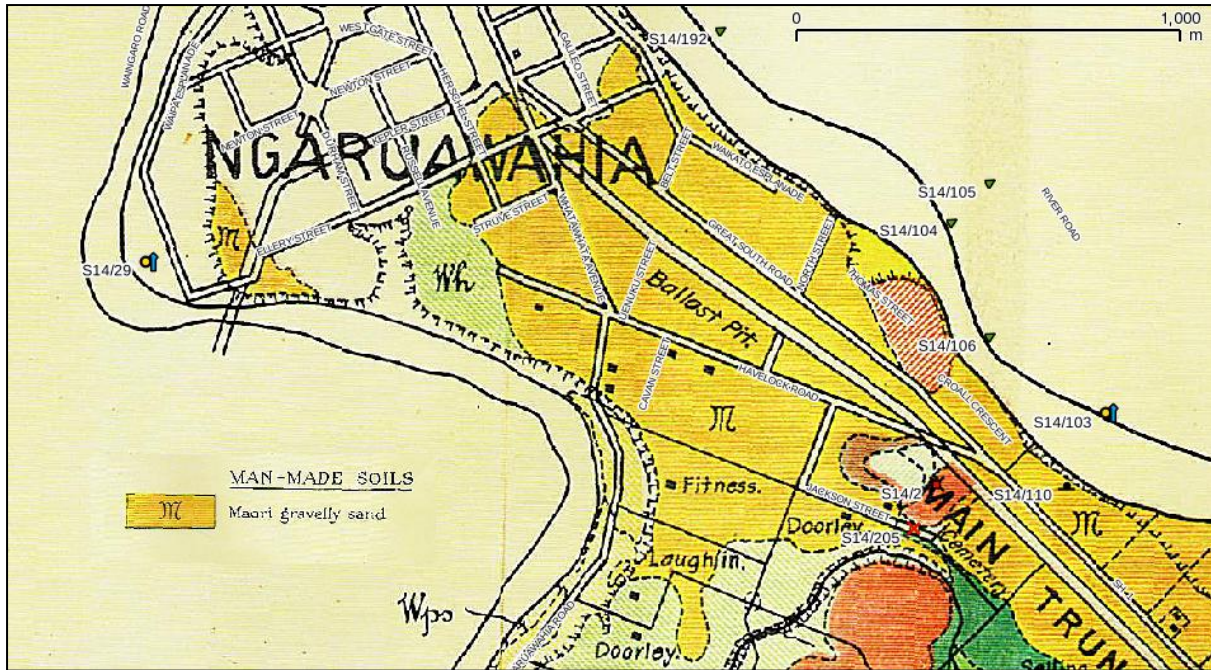


Figure 89 Detail from the 1939 soil map showing Maori-made soils in south Ngaruawahia.

Figure 89 is a detail from the Soil Bureau map sheet *Parts of Newcastle & Komakorau S. D's Waipa County*. It shows a large deposit of "Maori gravelly sand"—the unit later classified as Tamahere sandy gravelly loam—covering an area south of the Point Domain in Ngaruawahia.

A later soil map covering the mid-Waikato basin was compiled by McLeod in 1984. The data on McLeod's unpublished map was converted by Landcare Research Ltd and made available as geospatial data on the Internet.

Research Datasets

Datasets generated during previous and ongoing research by Gumbley and Hutchinson into Maori horticulture sites in the mid-Waikato basin were also accessed as primary sources.

A layer containing polygons of Tamahere sandy gravelly loam deposits extracted from the several regional sets of soil data, and by tracing polygons from the Grange & Taylor surveys of 1939, had been compiled as part of earlier research and was made available to this project. This single layer displaying all known deposits of archaeological soils in the mid-Waikato basin has formed the basic target for

identifying areas of likely prehistoric horticulture. The Tamahere loam layer has been compared to scanned and georeferenced versions of the McLeod map and found to be in general agreement.

An inventory of borrow pits is also in ongoing development, and has been used for this project. This is a spatial layer recording point locations for borrow pits which have been discovered from the examination of the set of georeferenced photographs flown in the 1940s, modern aerial imagery and lidar-derived elevation data. Although not complete, the borrow pit inventory is another layer of evidence concerning prehistoric Maori horticultural activity within the study area.

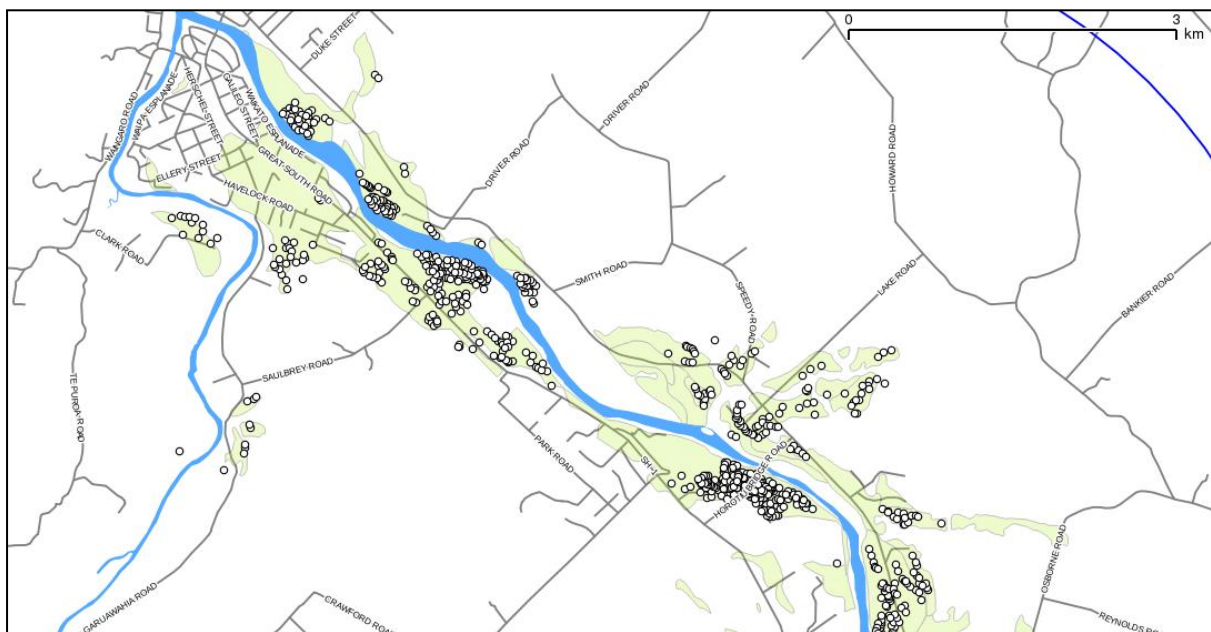


Figure 90 Map representing the two research layers used in this project.

Figure 90 illustrates the two research datasets used. The pale green shapes are deposits of Maori modified soils as extracted from s-map data and 1930s soil maps, while the white dots are borrow pits from the inventory, captured from historic and modern aerial photography and lidar data.

Processing

In the case of aerial photography, paper prints from the Waikato Regional Council library collection were scanned at 1,200 dpi, and copies were made with the collar information at the edges of the frames cropped off. These cropped copies were then

referenced against the New Zealand cadastral layer sourced from Land Information New Zealand (LINZ) in the manner described above.

Similarly, digital copies of historic survey plans and soil maps were also referenced against the modern cadastral dataset and georectified image copies generated by the same method used on the photographs.

The resulting images were then imported into a GIS and visualised along with other data layers, including the set of recorded archaeological sites. Objects of interest, such as old houses, rail structures and redoubts were then identified, traced as polygons and accessioned into a database table for historic objects. This layer was then combined with data from other sources and interpreted to produce a layer indicating areas of archaeological sensitivity.

Some of the plans were only available in lower-resolution scanned images, and these can be difficult to read at large scales. The photographs also become blurry and detail is lost at scales much larger than 1:1,000.

Unfortunately, due to gaps in the collection held by the Waikato Regional Council, aerial photographs from the 1940s covering all of Glen Massey, most of Ngaruawahia and Horotiu were unavailable.

The Product

The culmination of the process of georeferencing source data in the form of aerial photos and survey plans, and then analysing them for potential archaeological sites, is the generation of two spatial layers. These are stored in a database system, but can be expressed as shapefiles.

The first is an inventory of all objects of interest from those multiple primary sources. Records on this layer retain the provenance of each object, so we can tell where the individual polygons come from.

The second is an interpretation, taking the historic objects inventory into account along with literature sources and archaeological records, combined with landform analysis, to make an informed guess as to which places are those where archaeological evidence is likely or possibly to be found.

A data archive is submitted with this report. This contains electronic copies of the files used to derive the two interpretative layers. These include the high-resolution scans of aerial photos and survey office plans, and the georeferenced copies created using the process described in this chapter. Appendix 5 describes the contents of this archive.

Areas of Archaeological Sensitivity

Unrecorded Maori Horticulture Sites Around Taupiri

There is a collection of unrecorded Maori Horticulture sites along the Waikato River at Taupiri. These are indicated by deposits of modified soils from the soil maps, and by borrow pits seen in elevation data. Figure 91 shows clusters of borrow pits which have been discovered from examination of lidar elevation data.

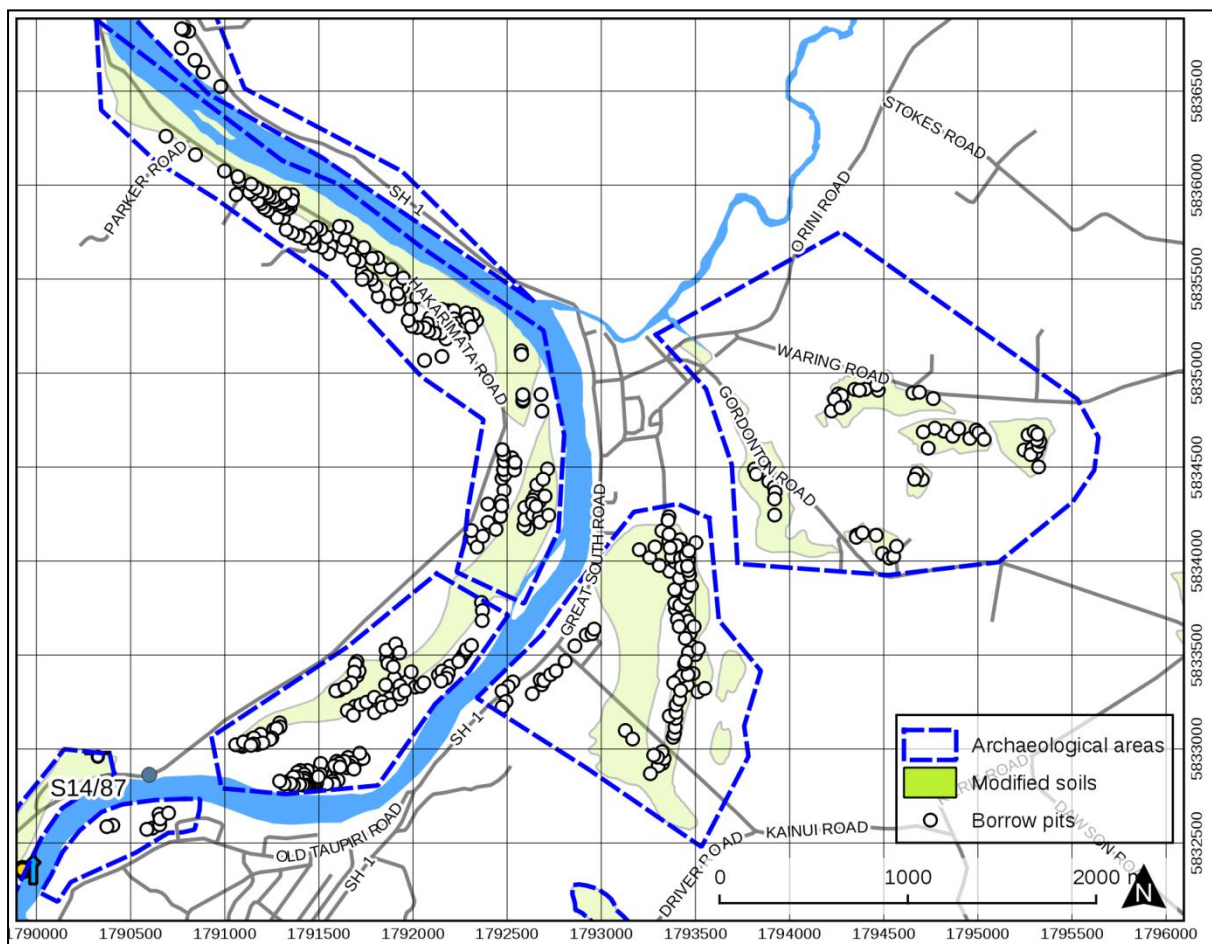


Figure 91 Unrecorded Maori horticulture sites around Taupiri.

The Point, Ngaruawahia

There are nine recorded archaeological sites within the area bounded by the confluence of the Waipa & Waikato Rivers and Newcastle & Princess Streets. These include significant sites such as King Potatau's Tomb (S14/188) as well as his village (S14/182), two pa and two redoubts (S14/31, S14/187 and S14/181, S14/190), the remains of a wooden riverboat, possibly the *P. S. Alert* (S14/183), and the location of a historic house (S14/186). The remains of Roose's steamer wharf are also present within the precinct (S14/184). Figure 92 shows the locations of all nine archaeological sites recorded within the Point Domain and surrounds.

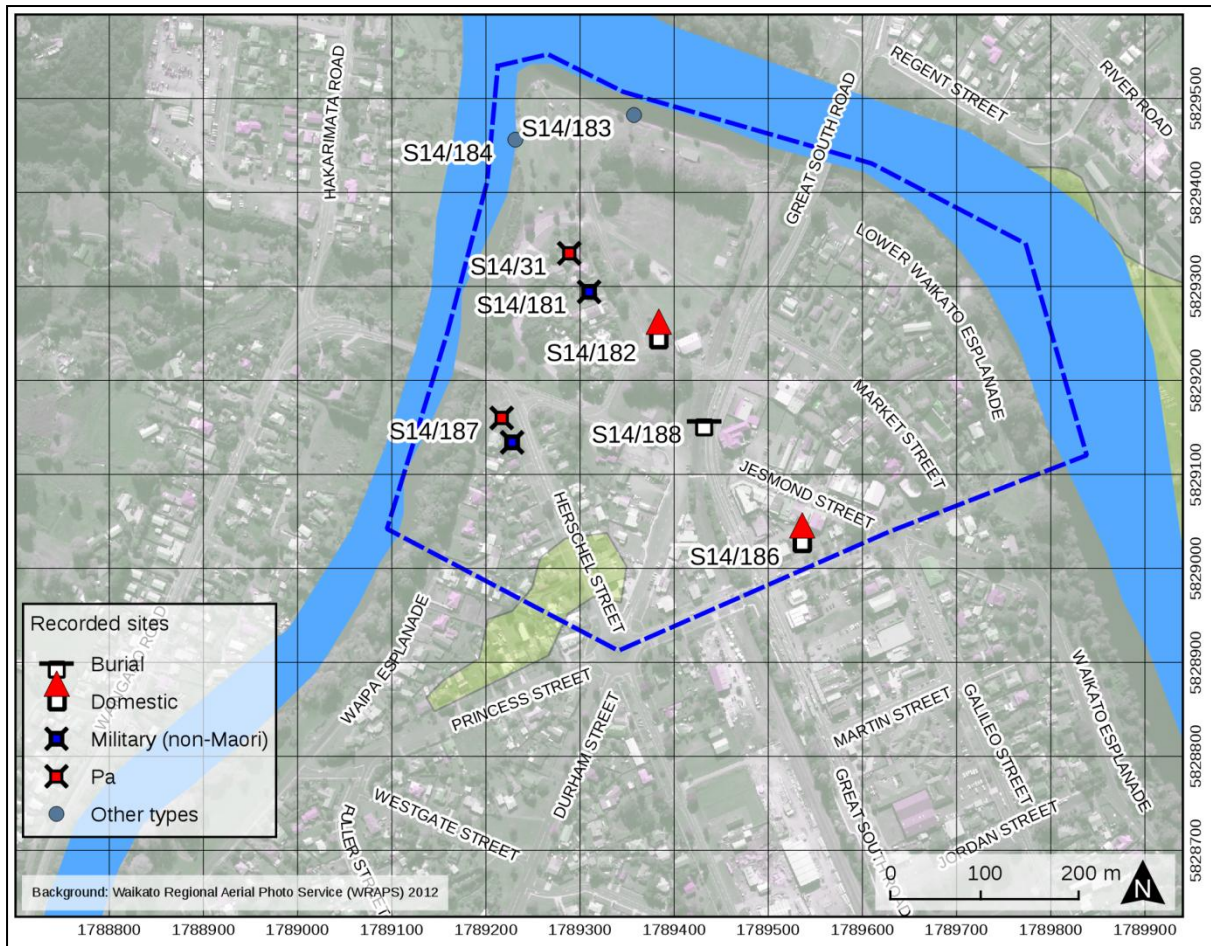


Figure 92 The Point at Ngaruawahia, showing the location of recorded archaeological sites.

It seems likely that there may be further unrecorded archaeological remains in this area. It is known to have had human occupation since before historic times and occupies an important strategic location at the confluence of two major rivers.

Unrecorded Maori Horticulture, Driver Rd

This is a deposit of Tamahere sandy gravelly loam marked on the McLeod map. About 14 Ha have been mapped in the Waireri stream at the northern end of Driver Rd.

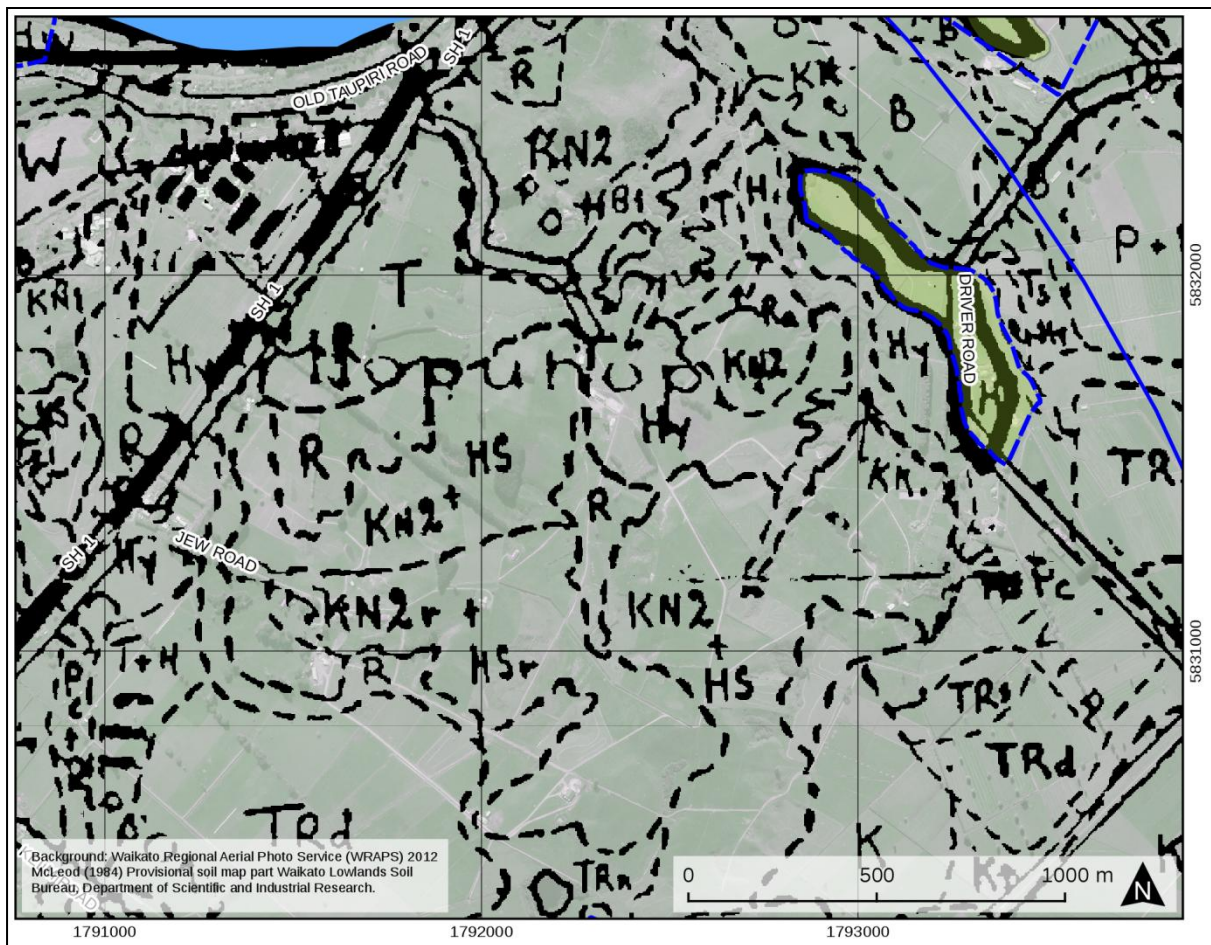


Figure 93 Tamahere soil deposit at Driver Rd.

Figure 93 shows the 1984 McLeod soil map overlaid on aerial imagery from 2012. Deposits of Tamahere sandy gravelly loam have been highlighted in green.

Unrecorded Maori Horticulture, Hakarimata Rd

This is a deposit of Tamahere sandy gravelly loam indicated on the Part Raglan soil dataset (Landcare Research n. d. b), accompanied by a cluster of borrow pits visible in lidar elevation data.

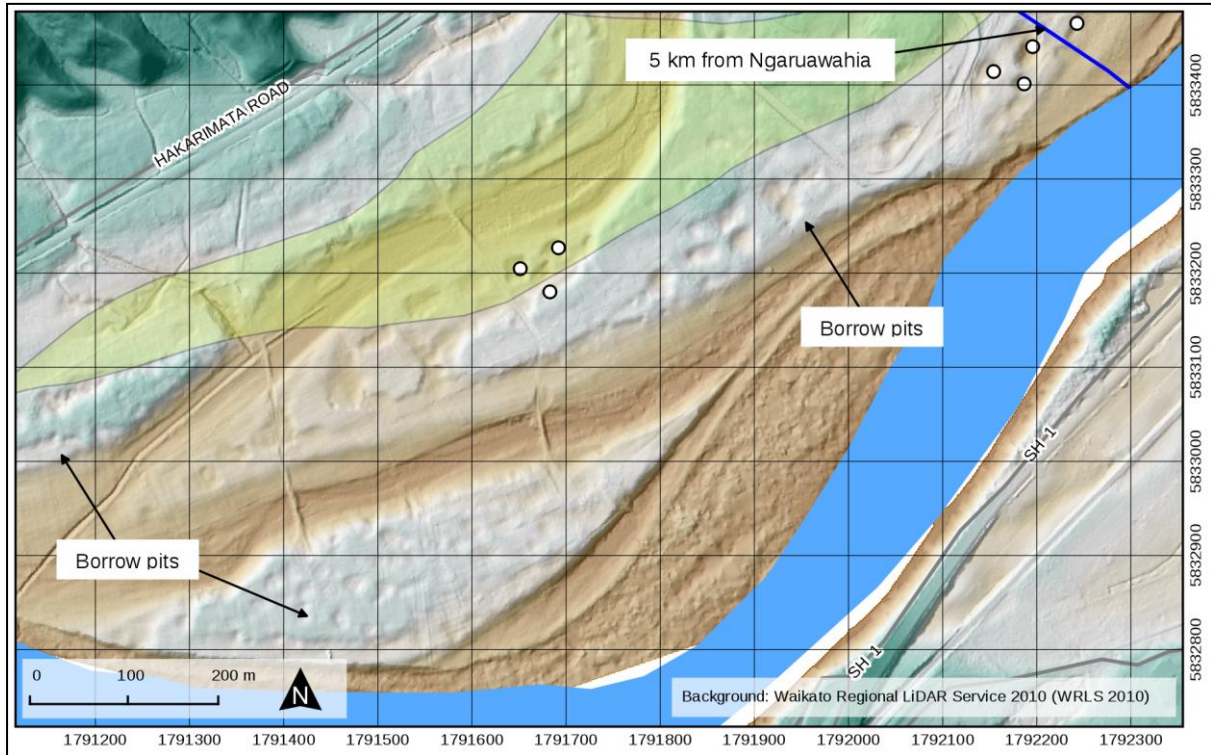


Figure 94 An elevation map of the Waikato River north of Ngaruawahia.

Figure 94 uses colour to display changes in elevation, and a hillshade to aid with landscape interpretation. This technique can reveal subtle features in the landscape which may not be visible on aerial photographs. It shows a set of river levees and swales formed on a floodplain approximately 800 m wide between the hills to the north and the live river channel to the south. The levee tops are heavily pitted with borrow pits, only some of which have been accessioned into the inventory (white dots). The pale green shape is a modified soil polygon from the s-map dataset (Landcare Research n. d. b). This is mapped at a much coarser scale than the rest of the data presented in the image, and in all likelihood would correspond to the pitted levee top adjacent to the south.

Unrecorded Maori Horticulture, Old Taupri Rd & Hakarimata Rd

This is a cluster of borrow pits in the inventory, and tracts of Tamahere sandy gravelly loam as indicated on the s-map Part Raglan layer (Landcare Research n. d. b).

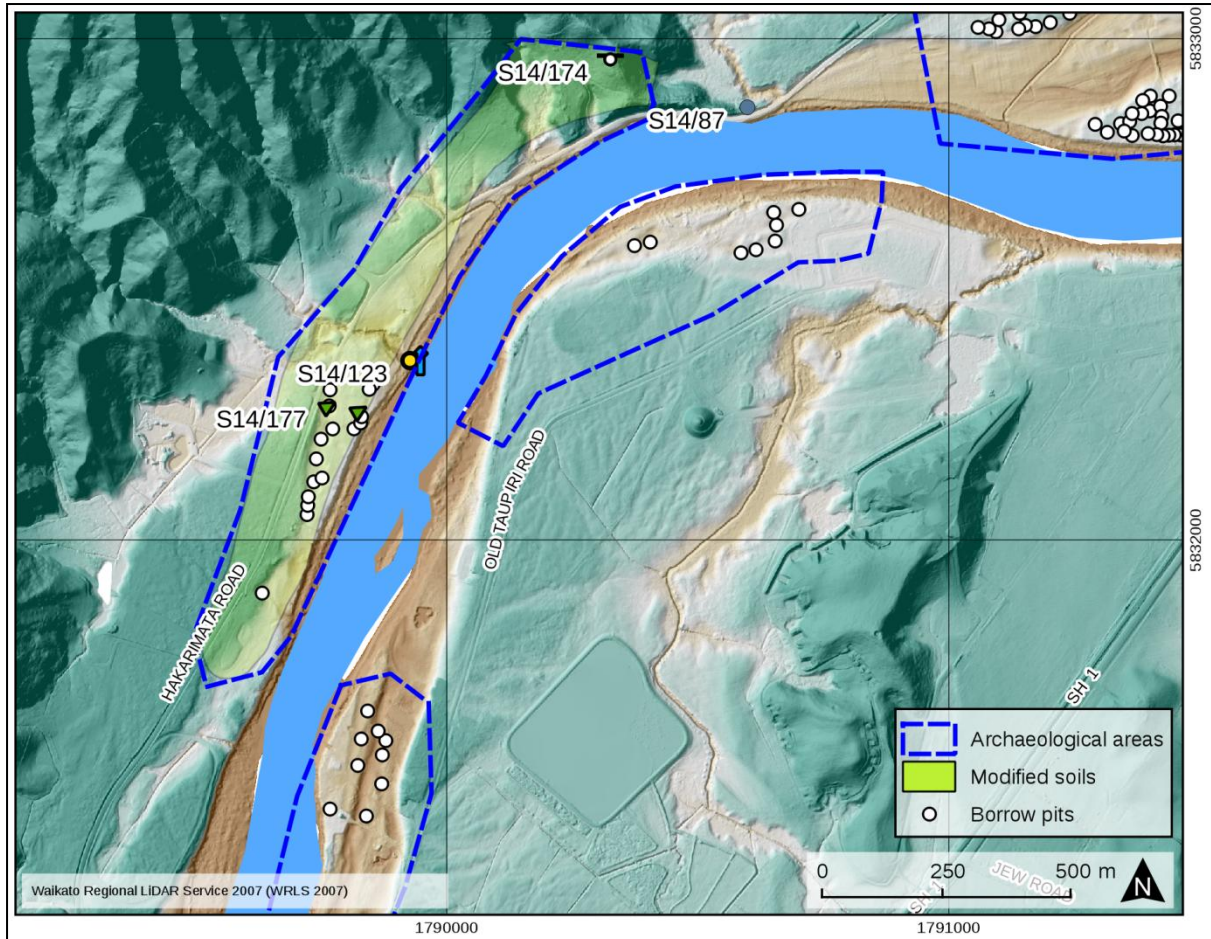


Figure 95 Elevation map showing modified soil deposits and borrow pits from research data.

Figure 95 shows a tract of modified soils and borrow pit locations from the inventory (white dots). These borrow pits were spotted on an aerial photograph in Google Earth, and can be discerned in the elevation data also. The bend in the river here is approximately 3.5 km downstream from the Point at Ngaruawahia.

Unrecorded Maori Horticulture, Old Taupri Rd

This is a dense cluster of borrow pits on a river terrace beside Old Taupri Rd, approximately 1 km downstream of the Point at Ngaruawahia (Figure 96). The borrow pits are so densely clustered together that it is difficult to tell one from another. This is an area not identified as having modified soils by the soil scientists.

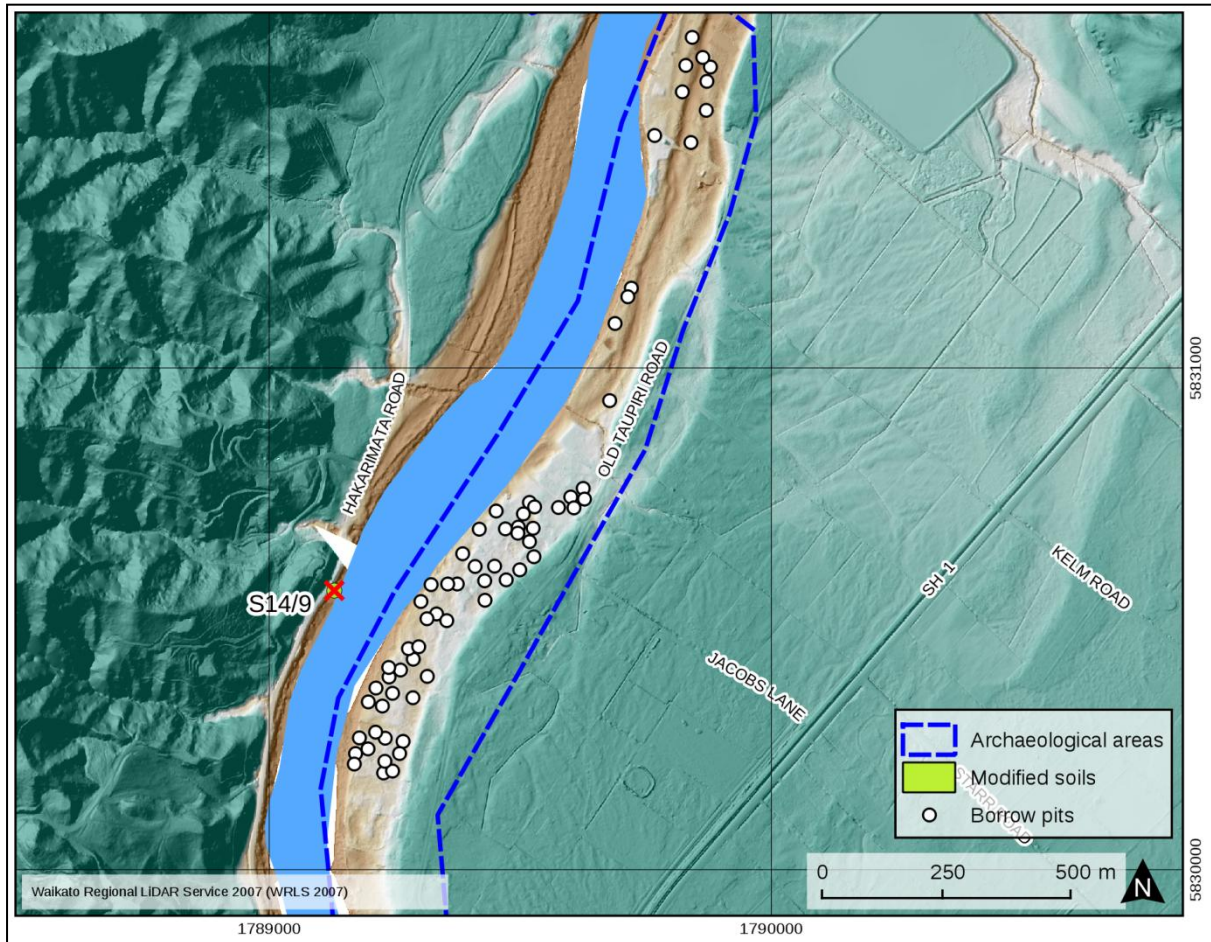


Figure 96 Elevation map of a cluster of borrow pits on a river levee near Old Taupri Rd.

Unrecorded Maori Horticulture, Clark Road

On the western side of the Waipa River, on the other side from Ngaruawahia, is an area of modified soils identified Part Raglan soil map (Landcare Research n. d. b).



Figure 97 An area of modified soils from soil maps, and borrow pits found in lidar data.

Unrecorded Maori Horticulture, South Ngaruawahia

An area of modified soils was mapped here in 1939, and examination of the lidar elevation data reveals that some depressions suggestive of borrow pits remain. The presence of borrow pits is a close predictor of the survival of in-situ modified soils and the corresponding likely survival of archaeological features in subsurface contexts.

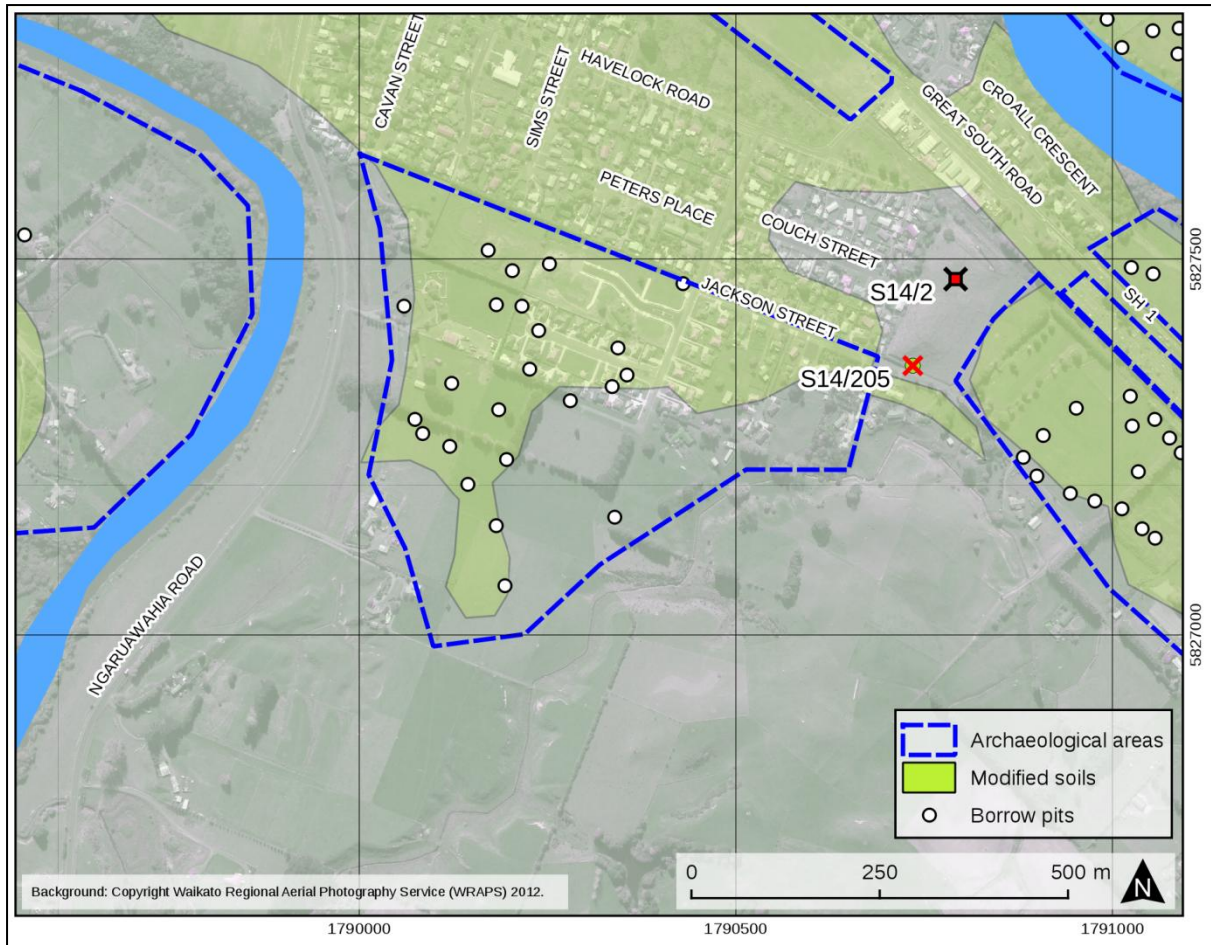


Figure 98 Modified soils and borrow pits near the south of Ngaurawahia.

Figure 98 shows the southern extent of Ngaurawahia with the Waipā River at the left. Areas of Tamahere loam soil deposit are shown in transparent green and surviving borrow pits identified in lidar elevation data with white dots.

Recorded & Unrecorded Maori Horticulture Sites, Waikato River

In the stretch of the Waikato River from the Horotiu bridge down to Ngaruawahia, eight areas of archaeological interest have been identified based on evidence for the existence of Maori horticulture sites in soil science maps, 1940s aerial photography, modern aerial imagery and lidar data.

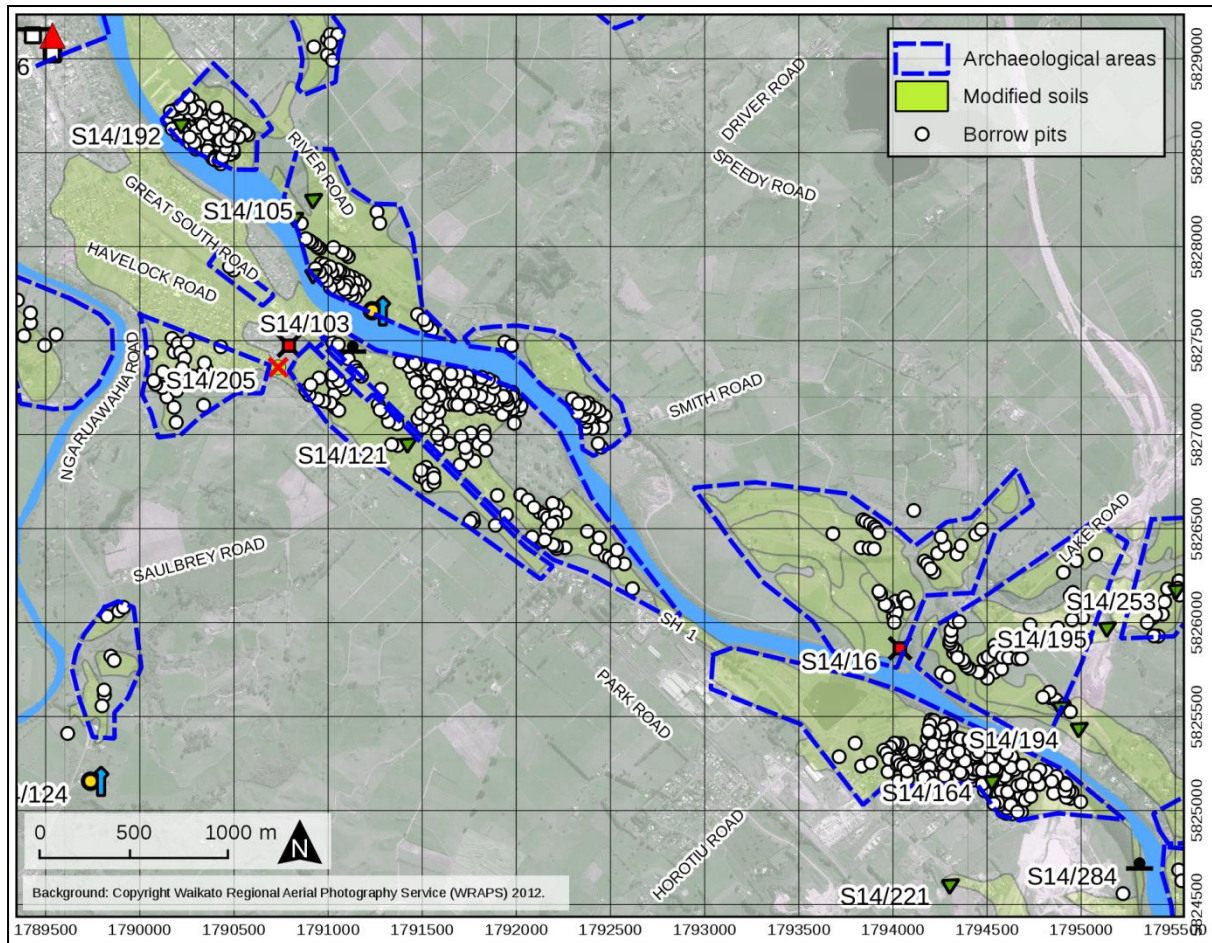


Figure 99 The eight areas of archaeological interest identified along the Waikato River from Horotiu to Ngaruawahia.

These cluster closely towards the river and include nine recorded archaeological sites of type "Maori horticulture"⁴³ and two pa⁴⁴.

⁴³ Maori horticulture sites: S14/104, S14/105, S14/106, S14/121, S14/164, S14/192, S14/194, S14/195, S14/242 .

⁴⁴ Pa: S14/2, S14/16 .

Unrecorded Maori Horticulture Site, Ngaruawahia Road

This site lies on the eastern side of the Waipa River some 5 km upriver from its confluence from the Waikato.

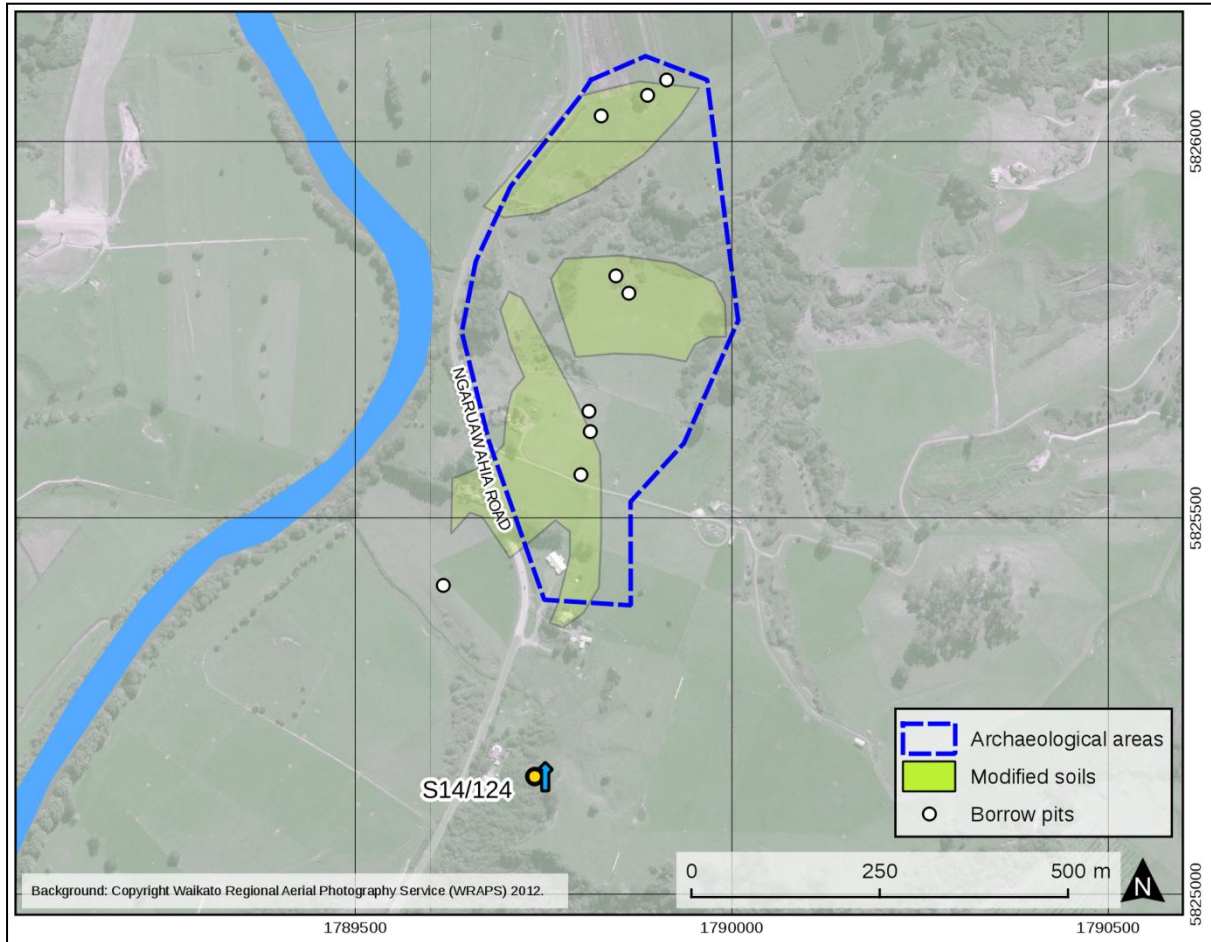


Figure 100 Cluster of borrow pits from lidar data, and soil deposits from soil maps, on the Waipa River near Saalbrey Rd.

Unrecorded Maori Horticulture, Starr Road

A tract of Tamahere sandy gravelly loam was identified by McLeod (1984) lying just south of Starr Road on the eastern side of the river. The likely survival of archaeological evidence is indicated by a cluster of borrow pits visible in the elevation data.

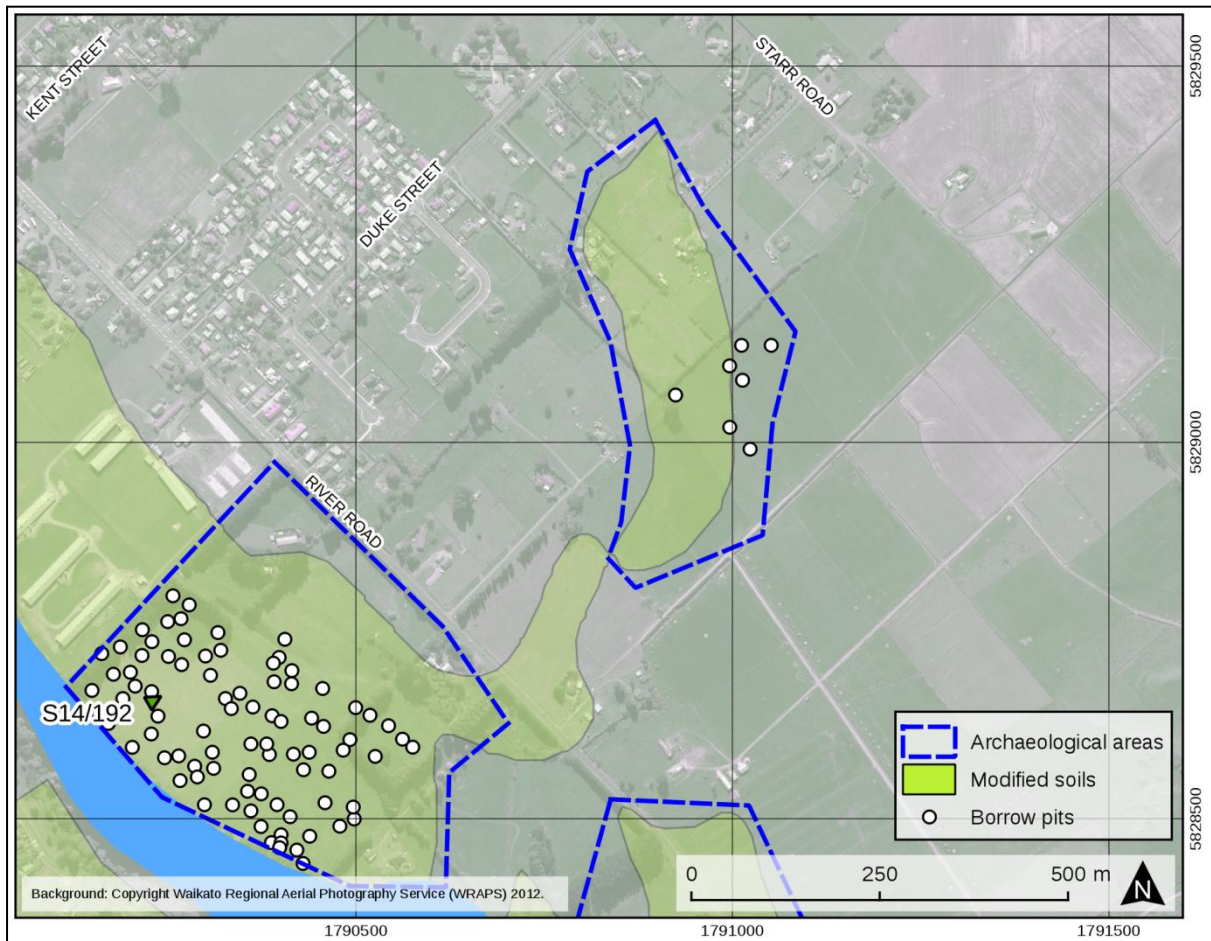


Figure 101 Tract of modified soils and borrow pits identified in elevation data near Starr Road.

Pukehemu Pa Cluster, Bedford Road

There is more historical evidence for this as a place of Maori horticulture than any other site in the study area. The river terraces nearly encircled by the Waipa River are mentioned in several historic plans and structures are shown on soil maps.

The site is annotated "Native Cultivations" and "Old Maori Burial Ground: Tapu" on SO 2465 (date unknown), on which Pukehemu Pa (S14/26) is also marked. It is mentioned again on SO 6307 (1892).

Grange & Taylor (1931) map several tracts of Maori-made soils and note the presence of Maori Huts on the Western side of Bedford Road.

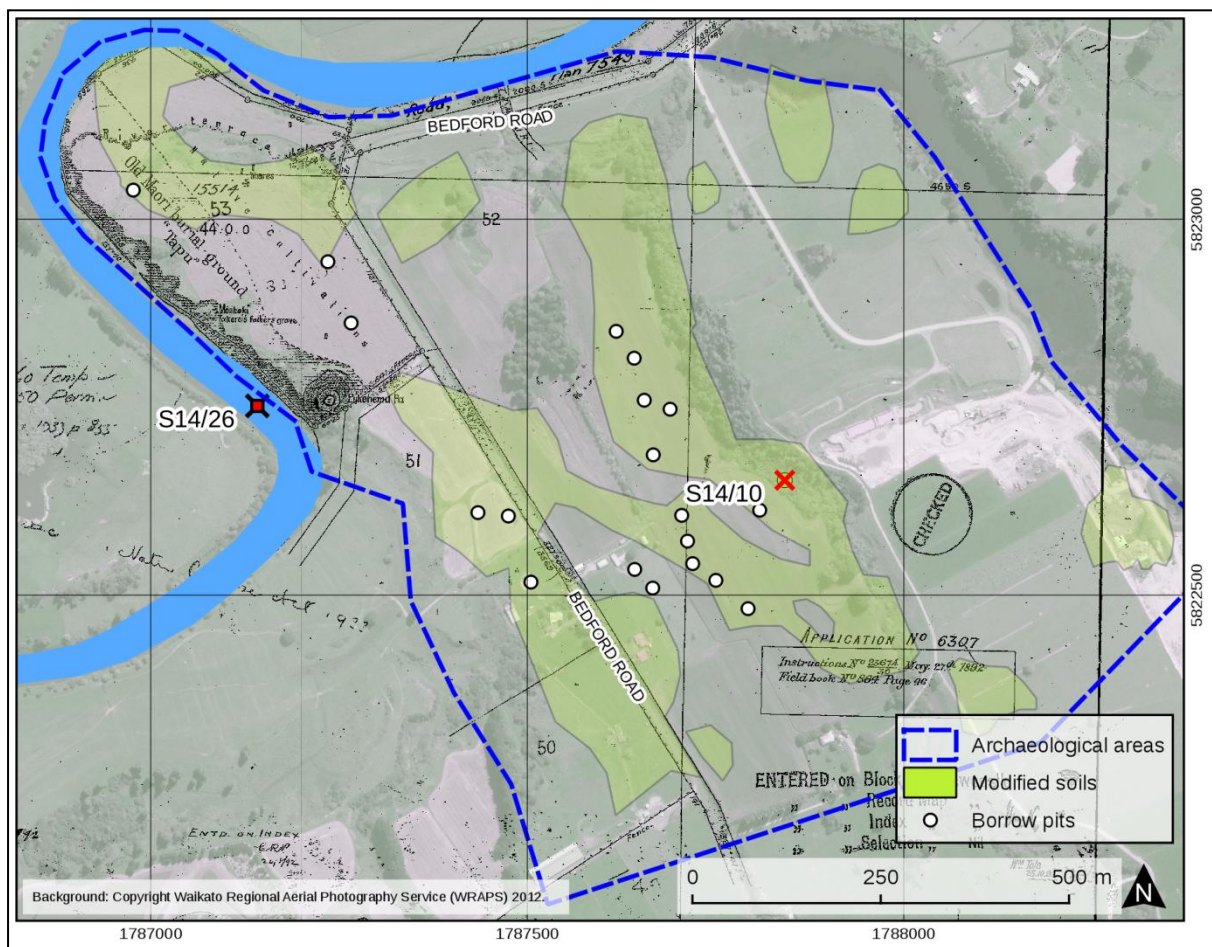


Figure 102 Pukehimu Pa in a bend in the Waipa River.

Figure 102 depicts the Pukehimu Pa area with the historic plan SO 6307 overlaid, showing annotations for the pa and burial ground, and the grave of Moehaki Takerei's Father.

Possible Remnant Garden Site, Great North Rd, Ngaruawahia

This is a rectangular piece of land between the Great South Road and Havelock Road in Ngaruawahia. Lidar elevation data reveals a dimpled and irregular surface suggestive of an intensively gardened area.

Figure 103 is a montage, combining shaded elevation data with aerial imagery from 2012. The transparent green shapes are Maori-made soils mapped by Grange and Taylor in 1939. This rectangle appears to be a survivor of a process of infill housing and urban encroachment, sandwiched between the old State Highway One (now the Great South Road), and the rail corridor.

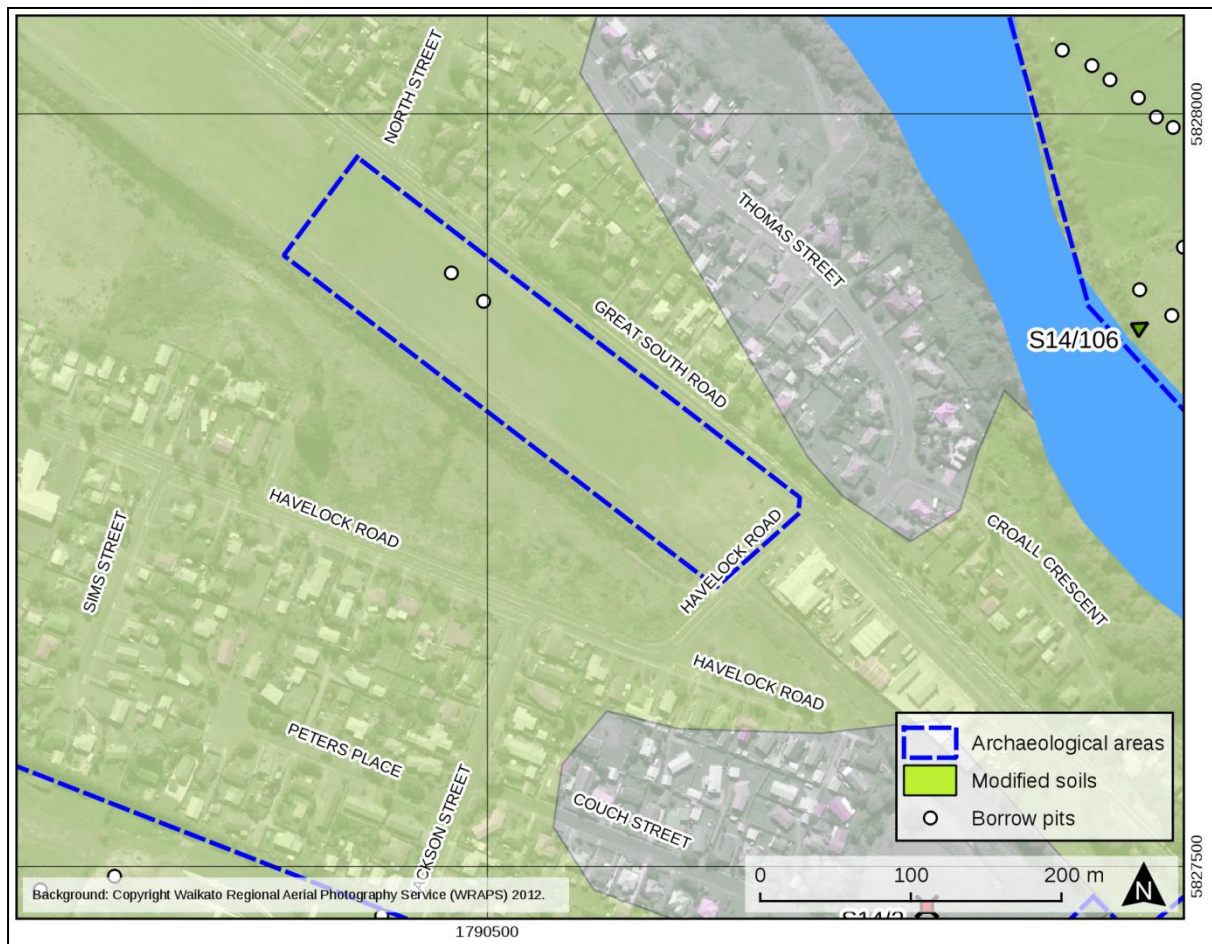


Figure 103 The possible remnant garden surface between Havelock Road and Great South Road, Ngaruawahia.

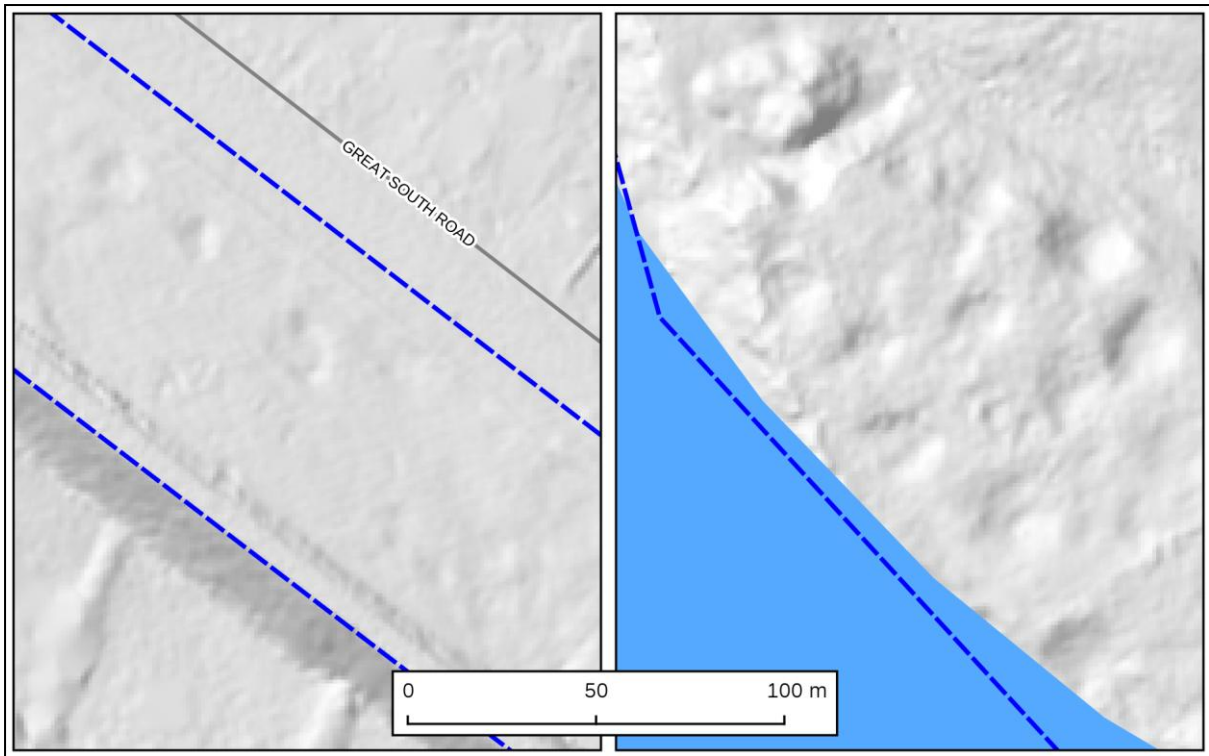


Figure 104 The possible remnant garden surface in 1 m elevation data (left) compared with a known gardening area at the same scale (S14/106, right).

Figure 104, above shows a comparison between the dimpled surface at this location with that of a known area of Maori horticultural practice. S14/106 is across the river from this location, some 500 m to the east. The dimpled areas near the top left corner of the image on the left are suggestive of borrow pits, although they are not as large as the ones on the right.

It is possible these features do not represent an intact archaeological surface. A programme of field-testing, in which soil profile pits are excavated, would allow the determination of whether modified archaeological soils remain in this location.

Whakapuku Pa S14/118 & S14/122

This is an area on the right bank of the Waipa River where two pa (Whakapuku Pa, S14/118 and S14/122) are recorded within 500 m of each other. Annotations on SO 6307 (1892) indicate that the area on the riverbank between them was a burial ground for Waikato people, and the same plan notes a complex shape for the pa itself.

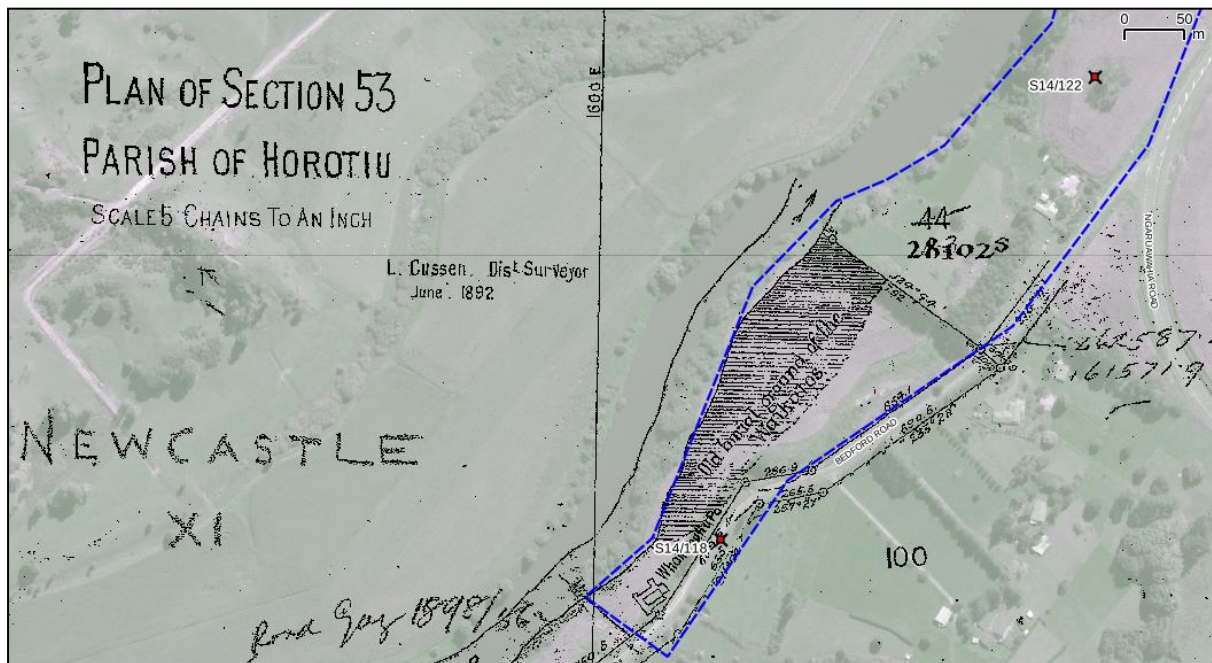


Figure 105 Whakapuku Pa S14/118 and S14/122.

Figure 105 shows the Survey Office plan SO 6307 overlaid on aerial photography from 2012. The dark area on the riverbank is marked "Old burial ground of the Waikatos".

Both records S14/118 and S14/122 are named "Whakapuku Pa" but it seems the earlier one is correct.

The Munitions Magazines (S14/213)

These are 19 munitions storage sheds built during World War 2, recorded as S14/213. These are strongly-built brick structures with earthen bunds built around them to contain any explosion. All 19 of them remain visible on modern aerial photography and lidar-derived elevations data.



Figure 106 Wilkes' photograph of the munitions magazines of S14/213 dug into the hillsides.

The figure above is a reproduction of one of Owen Wilkes' photographs, taken from his site record upgrade (Wilkes, 2000c). The site is accessed via Kelm Road. The magazines are entirely encompassed by Lot 1 DP 390490 and Lot 2 DP 401881.

Other Recorded Archaeological Sites

Several archaeological sites within the study area have been identified in the areas of archaeological interest layer, but have not been discussed in detail here. These are:

- Rotokauri Pa (S14/5) is a swamp pa on the shores of Lake Rotokauri. A small test excavation was conducted by Neil Laurie in 1973, the records for which may be at the Waikato Museum.
- Pa S14/81 is a pa occupying a gully scarp on the Waipa River 5 km south of Te Kowhai.
- Pa S14/8 and S14/50 are two gully pa located either side of Fullerton Road.

These sites are all discussed in detail in the NZAA records, appended to this report.

The Glen Massey Area

As stated in previous chapters, there are no recorded archaeological sites in or near Glen Massey. One is recorded (R14/11) 5 km west of the town.

A railway was built some time in the early 20th Century to service the mines at Glen Massey, and parts of the embankment are visible from Owen Drive and Wilton Colliers Road. The alignment is visible in parts of the WRAPS 2012 aerial photography dataset, and the Waipa River crossing and approach is visible on the one aerial photo frame from the 1940s surveys which was available at time of writing (SN174/300/21).

Attempts were made to trace the alignment from what remote sensing data is available, but without the 1940s aerial photo frame, the task could not be completed.

Summary

A set of maps has been compiled illustrating 38 individual areas of archaeological sensitivity compiled from the research presented in this report (Appendix 3). These maps cover five sections.

The Southern River Section (Map 2)

This is an area similar to the northern river section in that both sides of the river are heavily populated with archaeological sites, both recorded and unrecorded.

Continuing intensification along River Road and in the commercial and industrial areas on the western side of the Waikato River will affect these archaeological sites.

Ngaruawahia Section (Map 3)

The Point and the Domain in Ngaruawahia are areas of concentrated historic and prehistoric activity, and as such is a place of dense archaeological sensitivity.

The Northern River Section (Map 4)

An examination of soil mapping data and a close scrutiny of lidar-derived elevation data has shown an almost continuous presence of Maori-modified soils and borrow pits along both sides of the Waikato River from Ngaruawahia to Taupiri.

These constitute evidence of the presence of archaeological sites as defined in the *Historic Places Act 1993*. Of this cluster of archaeological sites, only two have been recorded (S14/175, S14/177).

Any development along Hakarimata Road or Old Taupri Road is likely to affect these archaeological sites.

The Waipa River Section (Map 5)

There are two groups of archaeological sites along the banks of the Waipa River identified in this study. The northern one is an unrecorded Maori horticulture site close to the artefact find spot (S14/124).

The southern one is a cluster of recorded and unrecorded sites including three pa (S14/26, S14/118 and S14/122) with modified soil deposits and borrow pits nearby. The report of urupa and the individual burial of a named person on survey plans (SO 2465 and SO 6307) must be taken into consideration.

Te Kowhai and Surrounds (Map 6)

Although no archaeological sites are recorded in or around Te Kowhai, a scattering of individual gully pa are known, and these will almost certainly have unrecorded archaeological features associated with them.

CHAPTER 5 PREDICTIVE MODEL AND FIELD VISIT

Introduction

This chapter draws together information compiled in Chapters 2, 3, and 4 and uses this information to inform the field visit. Summarizing the information in the previous chapters provides what archaeologists refer to as a predictive model.

Predictive Model

An archaeological predictive model is an evidence-based idea or set of ideas about the location and type of archaeological site(s) in a specific place or region. The information or data base for constructing a model includes facts about the physical environment, area prehistory, history, recorded archaeological sites, and human behavior.

The information compiled in Chapters 2 (history), 3 (recorded archaeological sites), and 4 (plans and aerial photographs) informed model construction--human use of the Ngaruawahia and Enviros landscape prior to 1900. For example historical information was compiled about Kaitotehe Mission Station which was not recorded in the New Zealand Archaeological Association (NZAA) site recording scheme. Geo-referencing resulted in the identification of Maori garden sites that were also not recorded in the NZAA site file.

The predictive model must also consider events and actions that overlay previous archaeological sites or affect them--taphonomic processes. The effects can be quite dramatic or minor and linked to the process of site decomposition. Robert Ascher (1961) described this process very aptly:

“Every living community is in the process of continuous change with respect to the material which it utilizes. At any point in its existence some proportion of materials are falling into disuse and decomposing, while new materials are being added as replacements. In a certain sense a part of every community is becoming, but is not yet, archaeological data. The community becomes archaeological data when replacement ceases. What the archaeologist disturbs is not the remains of a once living community, stopped as it were, at a point in

time; what he does interrupt is the process of decomposition” (Ascher 1961, p. 324).

Terrestrial archaeological sites are affected by man-made and natural effects as well as commensal creatures such as birds, rats and dogs. The preservation and decomposition of archaeological information can be affected by soil pH, climate, flooding, plant growth, human activities, etc. Many of the sites sampled have been affected by reuse and major land modifications. Ploughing, for example, can scatter archaeological remains and destroy shallow ephemeral features located near the surface, such as tent circles, building pilings, garbage pit deposits, etc.

Other events including fires and floods can also affect archaeological sites. Fires destroy some materials but they also preserve types of information that can be recovered using archaeological methods. Floods at ‘The Point’ resulted in the relocation of many early Ngaruawahia businesses and houses to the current (upper) town site. The removal of the town left behind the in-ground remains of the shops and houses. This information was capped by alluvial deposits left by the subsequent floods, including the 1907 flood.

In Taupiri, Ngaruawahia, and Te Kowhai many of the sites of earlier buildings have been modified prior to mass earth working machinery—bulldozers. Frequently buildings erected prior to 1940 or 50 cap the archaeological footprint of early building or other types of sites. One site in Ngaruawahia known as the Doctors House, at 53 Newcastle Street, was excavated in 2001 to create a parking lot (Figure 107). The site was monitored by an archaeologist during the work to record and recover information relating to the house and its occupants (Simmons 2001). The site no longer contains any archaeological information.

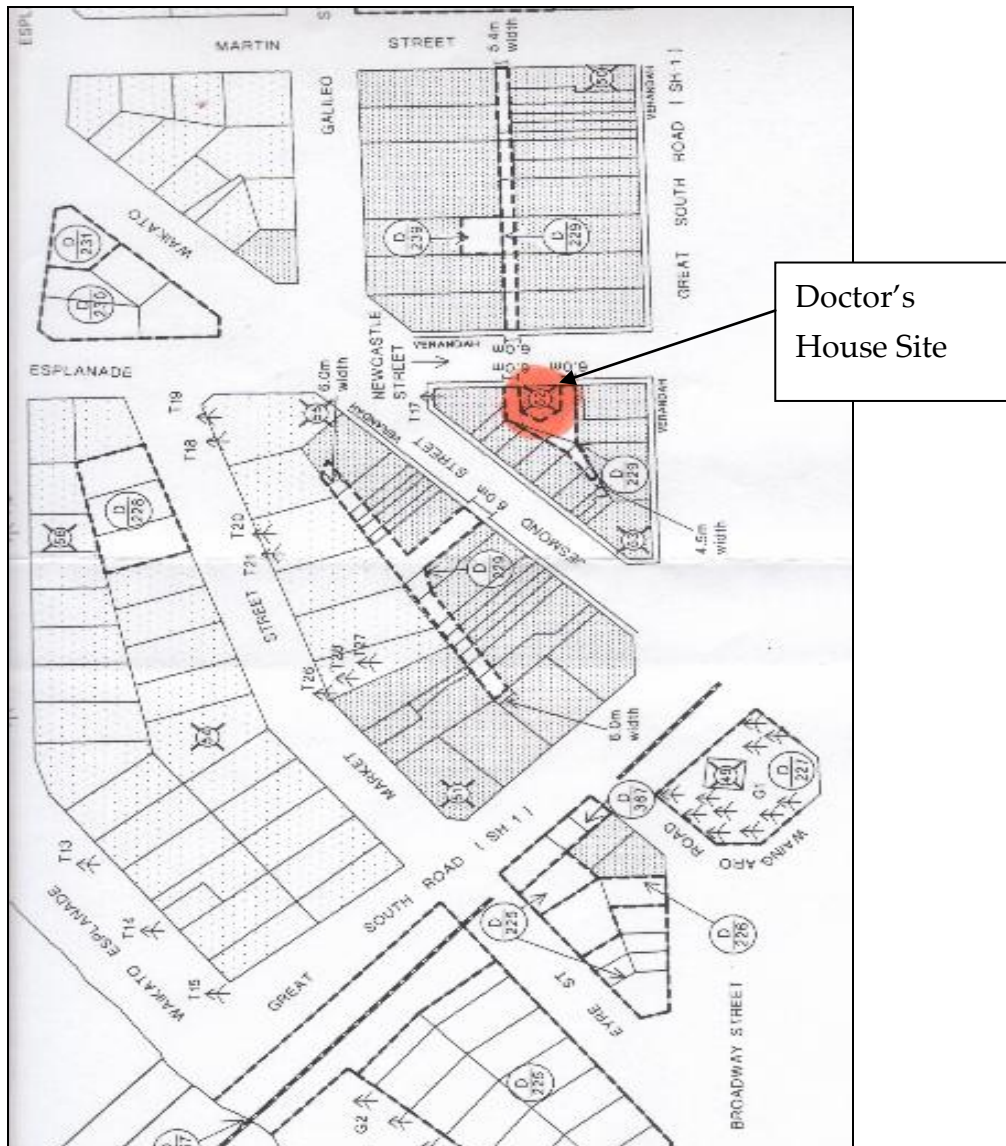


Figure 107 Doctor's House site, 53 Newcastle Street.

Archaeologically Sensitive Areas; Unrecorded Sites

Model Development

The information in Chapters 2 and 4 were compiled into an unrecorded site map. The geo-referencing work in Chapter 4 resulted in the location of several pre-1900 buildings on old survey plans. This information was matched with similar historical information. Other historical references could not be matched with plan notations or aerial photographs. This process of linking data from several types of sources is

essential to confirming information derived from a single historical source or secondary sources.⁴⁵ This is also the reason why field verification of potential sites is essential. For example a site visit may reveal evidence of major earthworks which would have destroyed the archaeological site.

The information was then used to inform the predictive model of unrecorded sites and referred to during the site visits in April and May 2014.

Identified Archaeologically Sensitive Areas

The recorded archaeological site data Chapter 3 and the Geo-referencing Chapter 4 paired with some of the historical data (Chapter 2) provided an indication of areas that had a high potential for Maori land use. For example the Waikato river edge and upper terraces along the river were significant gardening areas. The river was also a significant transportation corridor for trade—an obvious location for Maori settlement.

Maps of the archaeologically sensitive areas were created and discussed in Chapter 4. The maps are included in Appendix 3.

Field Visits

The field visits in April and May involved driving through the areas included in the Ngaruawahia and Enviros structure plan and visually sampling some of the places identified in Chapters 2 and 4.

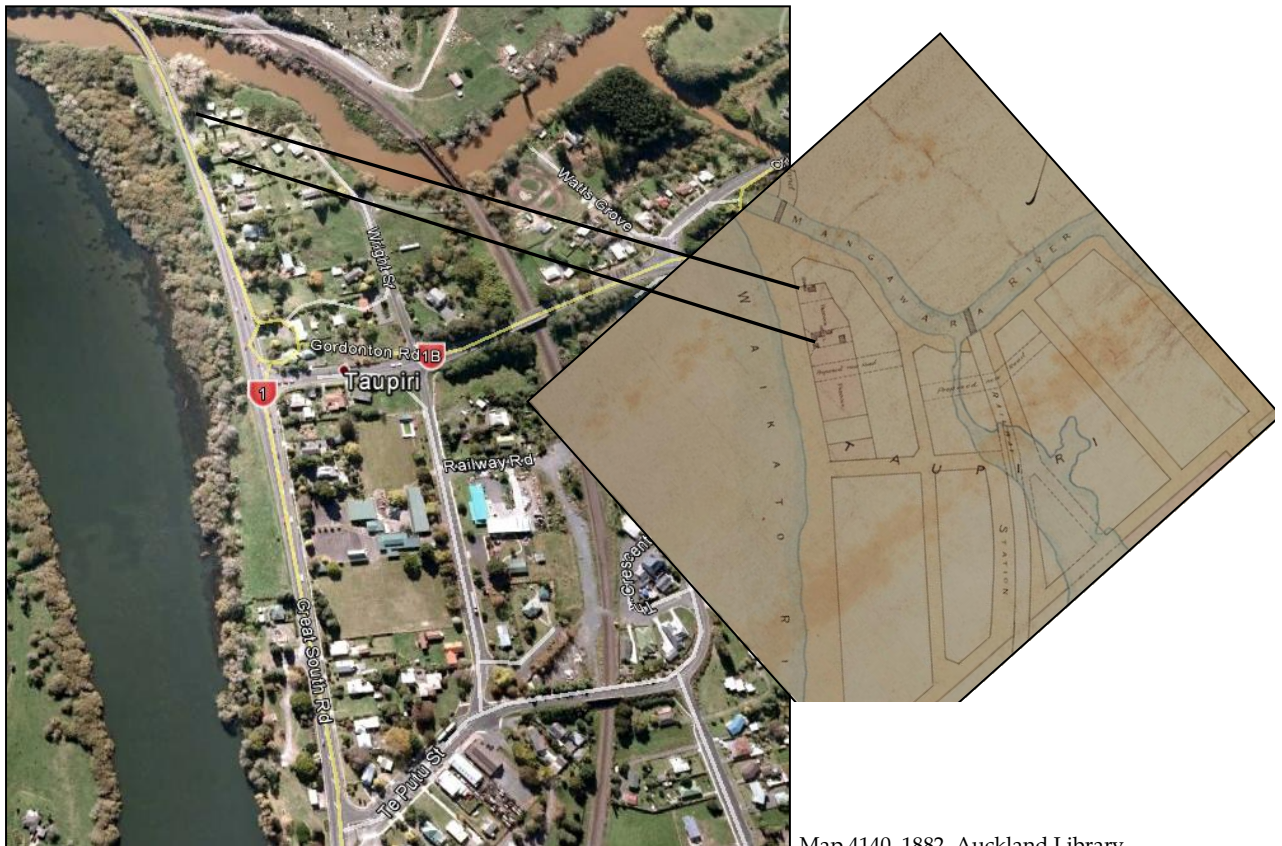
In Chapter 2 some of the findings were presented, e.g. the site of the 1st Catholic Church at Taupiri and the Taupiri Hotel.

The regional centres visited are summarised in the following text.

⁴⁵ Unfortunately historical information errors can be presented multiple times in secondary sources.

Taupiri

Taupiri is bisected by multiple roadways and major highway work on the original Great South Road does not appear to have affected Lovell's early stable, store, and hotel site Figure 108 or the Catholic Church site and cemetery Figure 109. The second hotel adjacent to the railway line is also still on its original site (see Chapter 2).



Map 4140, 1882, Auckland Library

Figure 108 Approximate location of Lovell's former stable, store, and hotel site.

The Catholic Church and cemetery site is indicated by a marker and plaque adjacent to the street. The figure on the following page shows the approximate location of the church based on comparison with an historic photograph taken from the top of Taupiri Mountain in the early 1900s. Historic survey plans or church records may provide additional information about the building footprint and the cemetery.

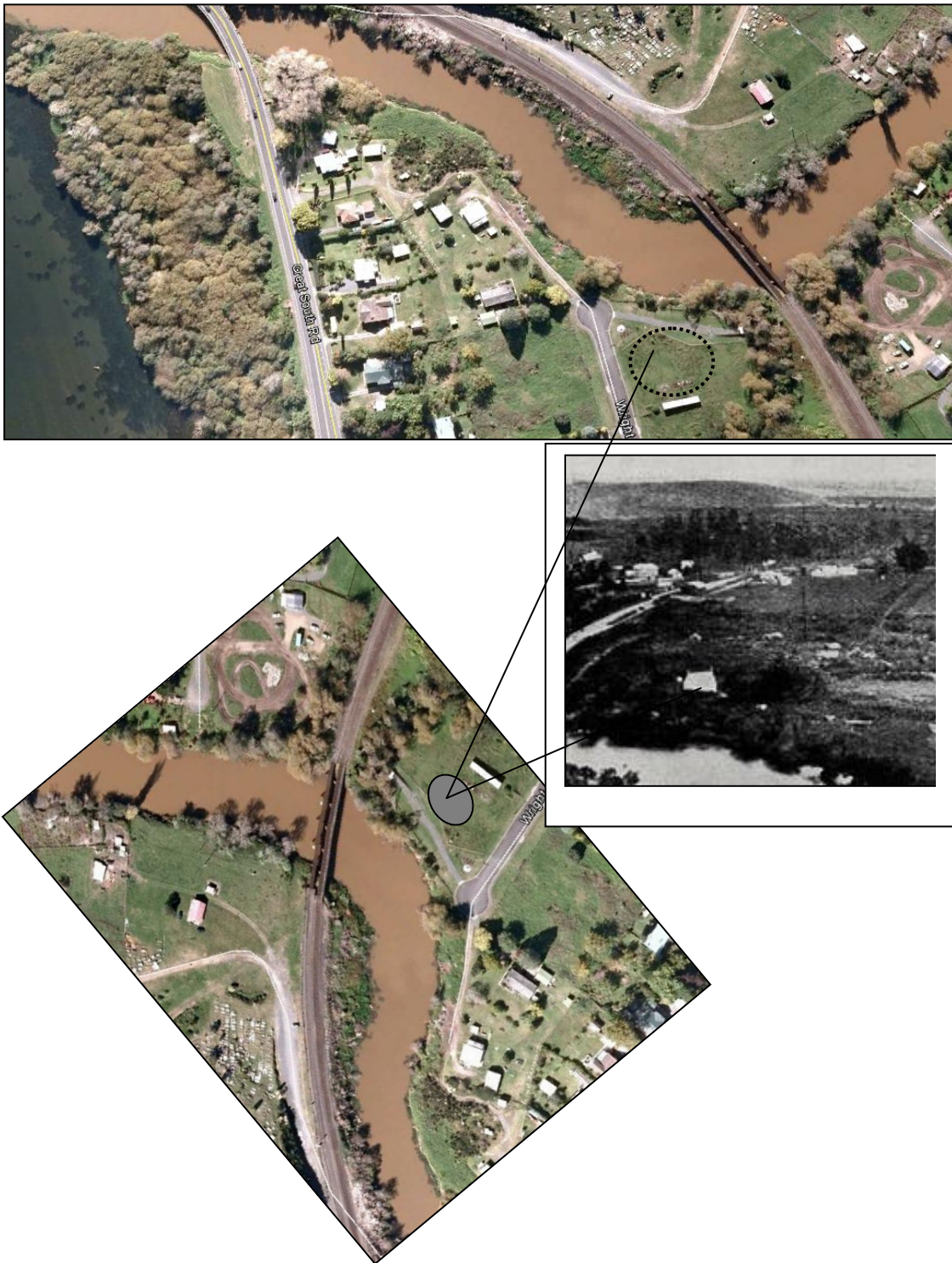


Figure 109 Catholic Church and cemetery site based on the historic photograph. The cemetery surrounded the building.

Near the former Catholic Church site is the railway bridge. Parallel to the existing rail bridge are trestle bridge support posts from the 1877 rail bridge (Figure 110).

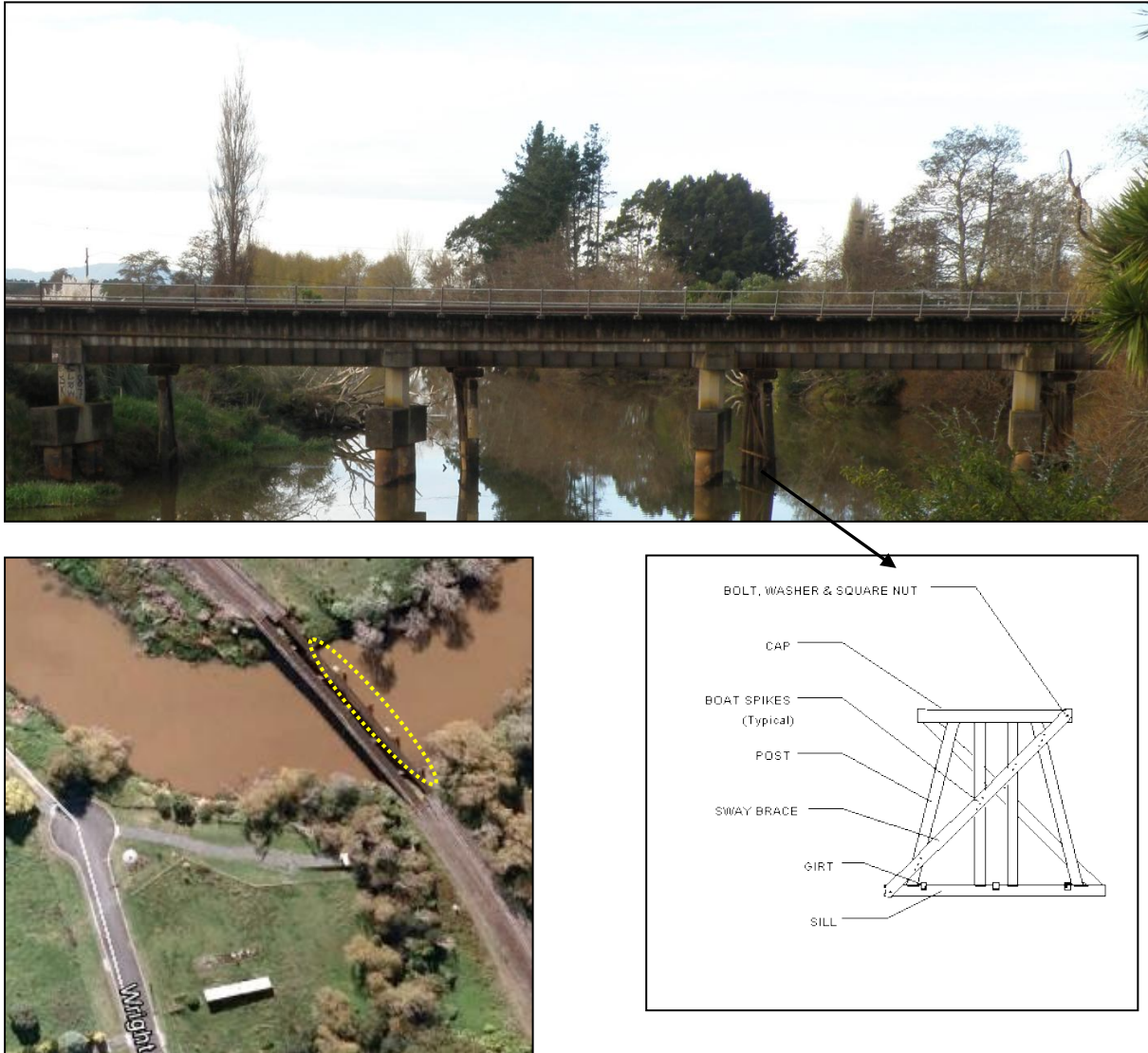


Figure 110 Remains of the former trestle bridge parallel to the new rail bridge.

Part of the pre-1900 Taupiri school may also exist on its original site, based on the information compiled in Chapter 2. The old bake house (bakery) is still *in situ* on a private property, albeit damaged by a bottle collector about fourteen years ago.⁴⁶

⁴⁶ The bottle collector was convicted for damaging an archaeological site without a permit under the provisions of the Historic Places Act 1993.

The Kaitotehe Mission Station site (S14/126), opposite Taupiri may have been affected by residential development, but this cannot be determined without first identifying the site of the mission station buildings and conducting a field visit.

It is likely the remains of other pre-1900 structures in Taupiri are under or adjacent to existing houses. Any pre-1900 houses identified by the built heritage researchers are archaeological sites and will be regulated by the Heritage New Zealand Pouhere Toanga Act 2014.

Hopuhopu

Hopuhopu was already previously discussed. The actual location of the mission station buildings on this large site is not known. The use of the river as the major transportation highway when they were established would suggest the station was situated not far from the river bank. The mission station reportedly burnt in 1886, it is not known if this included all the structures on the site or not.

Until a plan is found or other information about the location of the structures it will remain difficult to identify their location and manage any effects.

Pepepe was not visited.

Ngaruawahia

Ngaruawahia has been a major centre of human occupation since pre-historic times. The historic references to extensive cultivations along the river bank are supported by historic air photographs, elevation data and soil science maps. The town's location on the confluence of two navigable rivers ensured its early prosperity from prehistory through the 1850s and into the European occupation.

Ngaruawahia has several particularly significant sites, Puke-i-aahua pa and the collection of sites at 'Point Reserve'. They represent various periods of occupation and types of uses. Both reserves have been interpreted and are community assets.

Use of Puke-i-aahua has been guided by a conservation and management plan and a local community committee. The site is available for public use because of the effort of the committee.

'The Point' is used by local residents of all ages throughout the day. It features equipment that facilitates both active and passive recreational use (Figure 111).



Figure 111 Skatebowl being used for a photo opportunity (Simmons March 2014).

Waikato District Council has arranged for archaeological assessment and mitigation work at the reserve in association with construction work carried out in the reserved since 2001.

The result has been the identification of new information about this heritage area. Recently during excavation work to construct phase II of the skatepark additional segments of a rifle trench were identified (Figure 112). The feature will be capped by the new segment of the skatepark. It will be preserved for future generations while allowing current generations of children to enjoy a snake-run.

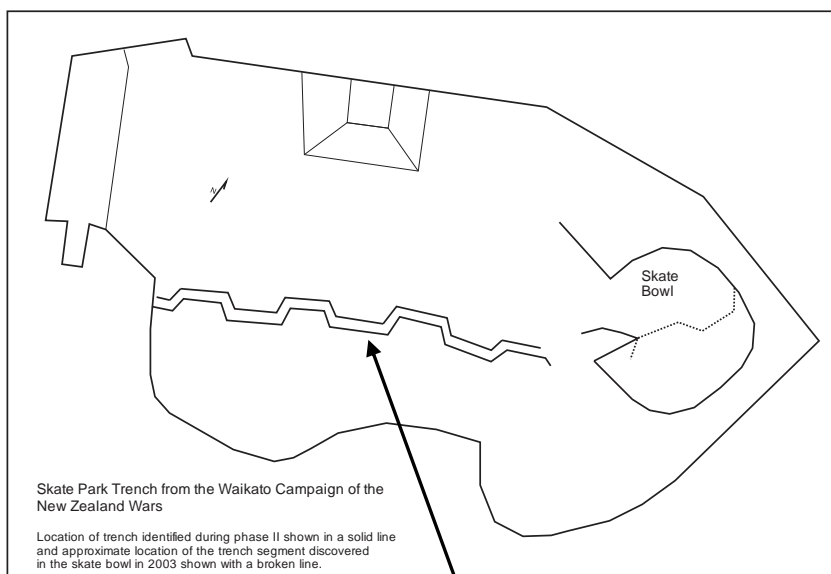


Figure 112 Skatepark showing the rifle trench segment exposed in March 2014.

Te Kowhai

Te Kowhai contains a number of significant pa, urupa, and cultivation areas. These are located on farm land and not in the residential areas of Te Kowhai.

The only pre-1900 building sites were the creamery and the 1893 school. The exact location of the creamery was not identified. The 1893 school site is currently a grassy paddock at the intersection of Bedford and Richardson Roads (Figure 113).



Figure 113 Richardson and Bedford Road intersection, former 1893 school house site based on Watson in Harris 1990, p.48.

Glen Massey

We drove extensively around Glen Massey but did not identify any unrecorded Maori archaeological sites. Community consultation may reveal additional information.

Glen Massey (Figure 114) is a post-1900 settlement and therefore not managed under the Heritage New Zealand Pouhere Toanga Act 2014. It does contain industrial heritage archaeological remains, in particular the railway line cut evident along the foot of the hills. Glen Massey's industrial heritage should be inventoried and managed as part of the community's built heritage. The mines provided the need for the workers settlement.



Figure 114 Glen Massey, April 2014.

Summary

Each of the towns and regional centres has a unique archaeological heritage. The brief field visits to each area confirmed the information presented in Chapters 2, 3, and 4. The next Chapter provides some recommendations about issues that were identified and heritage management options.

CHAPTER 6 ARCHAEOLOGICAL HERITAGE MANAGEMENT ISSUES AND OPTIONS

The intended outcome of this document, as was noted in the introduction is to provide an understanding of pre-1900 identified physical locations used and occupied by Maori and Europeans that contain evidence of their stories in the form of archaeological sites. The focus in this chapter is on landuse planning methods that can be applied to manage, identify, investigate, protect or preserve archaeological heritage in the Ngaruawahia and Enviros area. Many of the recommendations are based on legal requirements associated with archaeological heritage management and protection.

Relevant Legislation

Section 6 of the Resource Management Act 1991 recognises Maori heritage as a matter of national importance and the Resource Management Amendment Act of 2004 elevated all heritage to being a matter of national importance. Waikato District Council is required under the Act to have particular regard to the recognition and protection of the heritage values of sites, buildings, places or areas in management of the use and development of the district's natural and physical resources. This includes: identifying those heritage resources worth preserving and adopting suitable measures to secure the preservation of identified heritage resources. Provisions are included in the operative District Plan to attend to this responsibility.

In addition to the requirements of the Resource Management Act archaeological sites are protected and regulated under national legislation (the Historic Places Act 1993). As noted in Chapter 1. The Heritage New Zealand Pouhere Taonga Act 2014 all pre-1900 archaeological sites are protected regardless of whether they are recorded or not. Under that act an archaeological site means, subject to section 40(3),—

- (a) any place in New Zealand, including any building or structure (or part 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; and
- (b) includes a site for which a declaration is made under section 41(1).

An archaeological authority is required from Heritage New Zealand to modify damage or destroy an archaeological site (including pre-1900 buildings).

Heritage Issues and Options

Issue: Management of Effects to Recorded Archaeological Sites

Management of effects to archaeological sites in the Ngaruawahia and Enviros Structure Plan area.

Options: Management of Effects to Recorded Archaeological Sites

- Status quo. Use the existing heritage provisions of the operative Waikato District Plans to manage effects to any recorded or unrecorded archaeological sites in the Ngaruawahia and Enviros Structure Plan area as a result of development.
- Avoid effects to recorded sites noted in Chapter 3 by identifying the site boundaries and excluding the sites from development areas.
- Avoid effects to recorded sites noted in Chapter 3 by identifying the site and establishing planning rules that inform the property owner of the necessary sets required to avoid, remedy, or mitigate effects to sites.
- Avoid effects to recorded sites noted in Chapter 3 by identifying the sites on planning maps as an alert layer and advise they contact Heritage New Zealand if they wish to modify the site.

Issue: Management of Effects to Un-Recorded Archaeological Sites

Manage the long term preservation and conservation of unrecorded sites in areas that have a high probability for sites identified in Chapters 2, 3 and 4.

Options: Management of Effects to Un-Recorded Archaeological Sites

- Record the sites identified in Chapter 2 and Chapter 4 that have not been recorded.
- Implement an archaeological survey of the Structure Plan areas where intense development is proposed and the historical information and geo-referencing data indicates sites are likely. (This will ensure unrecorded archaeological sites are identified and managed.)
- Implement archaeological assessment and survey of areas where there is a high probability for unrecorded archaeological sites as indicated on the plans in Appendix 3 and the information presented in Chapters 2, 4, and 5.

Issue: Heritage New Zealand's Selected Archaeological Sites.

New Zealand Historic Places Trust, now Heritage New Zealand, has proposed sites and groups of sites for scheduling in the district plan as sites that merit special management consideration. Some of these sites located in the Ngaruawahia and Enviros Structure Plan Area. Other recorded and unrecorded sites may also merit consideration as special sites.

Options: Heritage New Zealand's Selected Archaeological Sites.

- Status quo. Continue to consider the Heritage New Zealand select recorded sites issue.
- Schedule the select recorded sites identified by Heritage New Zealand that are in the Ngaruawahia and Enviros Structure Plan area.
- Hold discussions and gather information to identify other unrecorded special sites.

Issue: Managing Recorded Archaeological Sites in Reserves.

Managing recorded archaeological sites in reserves can present challenges, like the exposure of the 'P S Alert' during a drought period at 'The Point' (Figure 115). One reserve, Puke-i-aahua Pa, Ngruawahia has a management plan that includes policies that ensure the long term conservation of the site.



Figure 115 The remains of the 'Alert', exposed in April 2014.

The exposed wood is deteriorating because of drying (it was previously submerged). It is also at risk of destruction through vandalism.

Options: Management of Archaeological Sites in Reserves

- Status quo. Use the existing heritage provisions of the operative Waikato District Plan to manage effects to archaeological sites in reserves.
- Develop management policies for sites in reserves throughout the district in consultation with Heritage New Zealand.

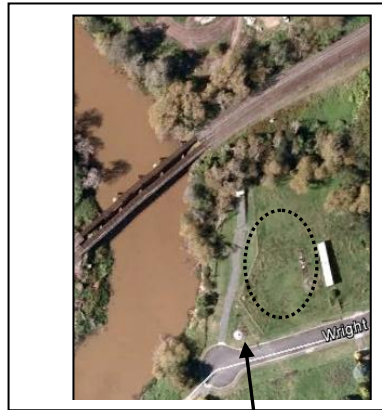
- Prepare conservation and management plans for reserves that contain archaeological sites.⁴⁷

Issue: Catholic church and cemetery Taupiri

The exact location of the church and cemetery is not known. A marker is located adjacent to Wright Street. Historic photographs suggest the actual site was closer to the railway line.



Rough road may be Wright Street



Church site marker

Figure 116 Catholic Church and cemetery location issue. (Probable site location is shown by the circle.)

Options: Catholic church and cemetery Taupiri

- Survey plan and archival search to identify the location of the Catholic Church and cemetery site and provide information about the cemetery.

⁴⁷ A conservation and management plan was prepared for Puke-i-aahua Reserve in 2006 in cooperation with a working committee of local representatives and WDC Reserves Department staff members. (See Simmons 2006)

Issue: Glen Massey's Industrial Heritage

Glen Massey's industrial heritage is not pre-1900 and therefore not protected or managed under the Pouhere Toanga Act 2014. The industrial heritage is directly linked to buildings in the settlement like the abandoned shop pictured below (Figure 117).



Figure 117 Abandoned shop in Glen Massey.

Commercial and civic buildings like the one above were established to serve the mining community. Without the mines the community would not have developed.

Options: Glen Massey's Industrial Heritage

- Status quo. Use the existing heritage provisions of the operative Waikato District Plans to manage effects to any recorded or unrecorded archaeological sites in the Ngaruawahia and Enviros Structure Plan area.
- Carry out an archaeological survey project to record Glen Massey's industrial heritage.

REFERENCES

Angas, G.F. (2011 reprint). *Savage life and scenes in Australia and New Zealand*. [Online] Accessed at: <http://books.google.co.nz/books?id=zK7PUtRgHncC&pg>. [Accessed 23 March 2014]

Appendix to the Journal of the House of Representatives [AJHR] (1856). Native education report on appropriation. Appendix A, No.7 [Online] Available at: www.atojs.natlib.govt.nz/cgi/atojs?a=d&d=AJHR1856 [Accessed 2 April 2014]

Appendix to the Journal of the House of Representatives [AJHR] (1858). Report on native schools. Appendix E, No.1 [Online] Available at: www.atojs.natlib.govt.nz/cgi/atojs?a=d&d=AJHR1858 [Accessed 2 April 2014]

Appendix to the Journal of the House of Representatives [AJHR] (1860). Papers relative to Native education: being reports of inspectors. Appendix E, No.8 [Online] Available at: www.atojs.natlib.govt.nz/cgi/atojs?a=d&d=AJHR1860 [Accessed 2 April 2014]

Appendix to the Journal of the House of Representatives [AJHR] (1861). Native schools reports of inspectors. Appendix E, No.4 [Online] Available at: www.atojs.natlib.govt.nz/cgi/atojs?a=d&d=AJHR1861 [Accessed 2 April 2014]

Appendix to the Journal of the House of Representatives [AJHR] (1863). Native schools reports of inspectors. Appendix E, No.9 [Online] Available at: www.atojs.natlib.govt.nz/cgi/atojs?a=d&d=AJHR1863 [Accessed 2 April 2014]

Appendix to the Journal of the House of Representatives [AJHR] (1865). Papers relating to native schools. Appendix E, No.3 [Online] Available at: www.atojs.natlib.govt.nz/cgi/atojs?a=d&d=AJHR1865 [Accessed 10 May 2014]

Appendix to the Journal of the House of Representatives [AJHR] (1869). First report of the commission of inquiry into the condition and nature of trust estates for religious, charitable, and educational purposes. Appendix A, No.5 [Online] Available at: www.atojs.natlib.govt.nz/cgi/atojs?a=d&d=AJHR1869 [Accessed 12 May 2014]

Arvidson, K. (2005). A pre-settlement record of life in the Waikato: the journal of Benjamin Yates Ashwell. [Online] Available at: <http://www.thefreelibrary.com/A+pre-settlement+record+of+life+in+the+Waikato> [Accessed 2 May 2014]

Ashwell, B.Y. (1851-1859). Letters and journals [Unpublished manuscript 0860/002]. Dunedin: Hocken Library.

Ashwell, B.Y. (1878). Recollections of a missionary. *Anglican Historical Society Occasional Papers* No. 5., p.47-79.

Auckland Star (1890). Board of education. 26 April, p.2 [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 20 May 2014].

Auckland Star (1893). The floods in Waikato; losses by the natives. 3 February 1893, p.3 [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 12 May 2014].

Auckland Star (1905). Church Trust commission. 21 June 1905, p.2 [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 12 May 2014].

Barber, M. (2006). Palaeolithic contrivance over Stonehenge in *British Archaeology* Issue 89 July/August 2006.

Blake Palmer, G. (1947a). The Use of Aerial Photographs in New Zealand Archaeology, in *Transactions and Proceedings of the Royal Society of New Zealand 1868-1961*; Volume 77.

Blake Palmer, G. (1947b). New Zealand Archaeology and Air Photography in the *Journal of the Polynesian Society*, Volume 56 No. 3, 1947: 233-241. [Online] Available at: http://www.jp.s.auckland.ac.nz/document//Volume_56_1947/Volume_56,_No._3/New_Zealand_archaeology_and_air_photography,_by_G._Blake_Palmer,_p_233-241/p1. [Accessed 27 May 2014].

Begg, N. (2012). Kent, John Rodolphus. Dictionary of New Zealand Biography. [Online] Available at: <http://www.TeAra.govt.nz/en/biographies>. [Accessed 15 March 2014].

Best, E. (1976). Maori agriculture. [Reprint without textual alteration]. Wellington: AR Shearer Government Printer.

Bovill, P. (1990). Glen Massey school 75th jubilee 1915-1990. Hamilton Public Library.

Bruce, J.G. (1978). Soils of part Raglan County, South Auckland. *New Zealand Soil Bureau Bulletin*, 41.

Bruce Herald (1880). Recollections of the Armed Constabulary. 9 July 1880, p.5. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 12 May 2014].

Campbell (2012). *Cambridge Section of the Waikato Expressway: archaeological desktop study* [Unpublished report].

Church Mission Society Paper (1847). Recent miscellaneous intelligence. page 287-288. [Online] Available at: <http://books.google.co.nz/books?id=2sUHAAAAQAAJ&pg=PT96&lpg=PT96&dq=church+missionary+society+Pepepe>. [Accessed 7 May 2014].

Clarke, A. (1968). Maori Modified Soils of the Upper Waikato. *NZAA Newsletter*, December No. 20(4) pp 204-222.

Coster, J. (2012). List of archaeological sites in the Waikato District. [Unpublished report for NZ Historic Places Trust and Waikato District Council.]

Cowan, J. (1934). Famous New Zealanders: No.18: The Rev. B.Y. Ashwell; Missionary of the Waikato. *The New Zealand Railways Magazine*, Vol.9 (6). New Zealand Government Railways Department.

Daily Southern Cross (1863). Headquarters, Ngaruawahia. 31 December 1863, p.5. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 26 April 2014].

Daily Southern Cross (1864). Queenstown [Ngaruawahia]. 9 September 1864, p.4. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 26 April 2014].

Daily Southern Cross (1867). Ngaruawahia. 16 January 1867, p.3 [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 26 April 2014].

Daily Southern Cross (1867). Luceo non uro. 2 August 1867, p.4 [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 26 April 2014].

Darmody, R. (2009). List of selected archeological sites in the Waikato District. [Unpublished report]. Tauranga Office of New Zealand Historic Places Trust.

- Drummond, A. (1964). *Early Days in the Waikato*. Hamilton: Paul's Book Arcade.
- Drummond, A. (ed.) (1971). *The Auckland Journals of Vicesimus Lush*. Christchurch: Pegasus Press.
- Drummond, A. (ed.) (1982). *The Waikato Journals of Vicesimus Lush*. Christchurch: Pegasus Press.
- Dawson, W.D. (1961). 18th Battalion and armoured regiment. [Online] Available at: <http://nzetc.victoria.ac.nz/tm/scholarly/tei-WH2-18Ba-c1.html>
- Ellot, G.J. (1995). Ngaruwwahia (Newcastle). *The Mail Coach*, Vol.31 (278), p.175-186. *Journal of the Postal History Society of New Zealand*. Auckland.
- Featon, J. (1971). *The Waikato War 1863-1864*. (Reprint) Christchurch: Caper Press.
- Gamble, D.J. (1864). *Journals of the Deputy Quartermaster General in New Zealand: from the 24th December, 1861 to the 7th September 1864*. London: War Office.
- Garrett, H. (1991). *Te Manihera; the life and times of the pioneer missionary Robert Maunsell*. Hong Kong: Reed Books.
- Golden, J. (1922). *Some Old Waikato Days*. [Online] Available at: <https://sites.google.com/site/4th9coro/home-Coromandel/some-old-waikato-days> [Accessed 15 May 2014].
- Gorbey, K. (1975) S14/9 Archaeological site record in the NZ Archaeological Association Site Recording Scheme.
- Gorst, J. E. (1959). *The Maori King*. Hamilton: Paul's Book Arcade.
- Gorst, J. E. (2001). *The Maori King*. Auckland: Reed Books.
- Grange, L. and Taylor, N. (1939). Soils and Agriculture of Part of Waipa County. *Department of Scientific and Industrial Research Bulletin*, No 76. Government Printer, Wellington.
- Grange, L. I., Taylor, N. H. and Sutherland, C. F. (1939) *Soils and Agriculture of part of Waipa County*, Department of Scientific and Industrial Research, Bulletin No. 76
- Gumbley, W (1996). Initial Archaeological Assessment of the Gillander Property Hooker Road, Pukeroro. [Unpublished report]. NZ Archaeological Association site files, Department of Conservation, Hamilton.

Gumbley W. and Higham, T. (1999). State Highway 1 Four-Laning: Ngaruawahia Bypass: Assessment of Affects on the Archaeological Values of Prehistoric Maori Garden Soils and Borrow Pits at Archaeological Site S14/164, Horotiu. [Unpublished report]. W Gumbley, Hamilton.

Gumbley W. and Higham, T. (2000). Archaeological Investigaton of Prehistoric Garden Complexes Affected by R1 & N1 Arterial Routes, Chartwell, Hamilton.

Gumbley, W. and Hutchinson, M. G. (2013) *Pre-European Maori Garden Sites in Waipa District: An assessment of the state of the resource*. [Unpublished report]. New Zealand Historic Places Trust.

Hargreaves, R. P. (1959). The Maori agriculture of the Auckland province in the mid-nineteenth century. *The Journal of the Polynesian Society*, 68 (2), pp. 227-232. [Online]. Available at: http://www.jps.auckland.ac.nz/document/Volume_68_1959/ [Accessed 20 January 2014].

Hargreaves, R. P. (1960). Maori agriculture after the wars (1871-1886). *The Journal of the Polynesian Society*, 69 (4), pp. 227-232. [Online]. Available at: http://www.jps.auckland.ac.nz/document/Volume_69_1960/ [Accessed 20 January 2014].

Hargreaves, R. P. (1961). Maori flour mills of the Auckland province 1846-1860. *The Journal of the Polynesian Society*, 70 (2), pp. 227-232. [Online]. Available at: http://www.jps.auckland.ac.nz/document/Volume_70_1961/ [Accessed 20 January 2014].

Hargreaves, R.P. (1963). Changing Maori agriculture in pre-waitangi New Zealand. *The Journal of the Polynesian Society*, 72 (2), pp. 101-117. [Online]. Available at: http://www.jps.auckland.ac.nz/document/Volume_72_1963/ [Accessed 20 January 2014].

Harris, M. (ed) (1990). Te Kowhai school & district. [Unpublished?]. Hamilton Public Library.

Hoffman, A. (2011). Archaeological investigation of S14/222 (modified soils), Horotiu, Waikato: final report. [Unpublished report]. Wellington: New Zealand Historic Places Trust.

- Hoffman, A. (2013). Archaeological investigation of S14/221 (modified soils), Horotiu, Waikato: final report. [Unpublished report]. Wellington: New Zealand Historic Places Trust.
- Horrocks, M. (2011). Starch Analysis of Archaeological Deposits from Taupiri, Waikato (S14/158). [Unpublished report]. Auckland: Microfossil Research Ltd.
- Horrocks, M. (2012). Plant microfossil analysis of archaeological samples from S14/164, Horotiu, Waikato. [Unpublished report]. Auckland: Microfossil Research Ltd.
- Horrocks, M. (2013). Plant microfossil analysis of archaeological samples from S14/164, Horotiu, Waikato. [Unpublished report]. Auckland: Microfossil Research Ltd.
- Howe, G. (1976). Johnny Cowell, pakeha-Maori trader. *Historical Journal Auckland-Waikato*, Vol 28 (April), p.13-18.
- Innes, C.V. (1989). *A crown for the lady*. Tauranga: Moana Press.
- Jones, K. L. (1994). *Nga Tohuwhenua Mai Te Rangi: A New Zealand Archaeology in Aerial Photographs* Victoria University Press.
- Jones, K. L. (1996). Aerial Photography in New Zealand Archaeology in *Australasian historical archaeology: journal of the Australian Society for Historical Archaeology* Vol 14, 1996: 25-33. Accessed 2014-05-12 from http://www.ashadocs.org/aha/14/14_04_Jones.pdf.
- Kellaway, L. (2006). Catholic cemetery at Wright Street Taupiri. [Unpublished record]. Obtained from L. Kellaway, Hamilton.
- Kelly, L.G. (1940). Taupiri Pa. *The Journal of the Polynesian Society*. Vol.49 (193), p.148-159. [Online] Available at: <http://www.jps.auckland.ac.nz/document> [Accessed 7 April 2014].
- Kelly, L. G. (1949). *Tainui, the story of Hoturoa and his descendants*. Wellington: The Polynesian Society.
- Latta, A.M. (1980). *Meeting of the waters*. Hong Kong: Yee Tin Tong Printing Press Ltd.

Lennard, M. (1986). The road to war. *Whakatane and District Historical Society, Monograph 16*.

Leach, H. (1984). *A thousand years of gardening in New Zealand*. Wellington: A.H. & A.W. Reed.

Lowe, D.J. (2010). Introduction to the landscapes and soils of the Hamilton Basin. In D. J. Lowe, V. E. Neall, M. Hedley, MB Clothier, and A. Mackay. Guidebook for Pre-conference North Island, New Zealand, Volcanoes to Oceans field tour. 19th World Soils Congress, International Union of Soil Scientist, Brisbane. *Soil and Earth Sciences Occasional Publication 3*. Palmerston North: Massey University. (Online). Available at: <http://researchcommons.waikato.ac.nz/bitstream/handle/10289/5316/3.%20Ham%20basin%20soils%20Lowe%20%202010.pdf?sequence=1> [Accessed on 27 February 2013].

Magner, W.L. (1983). *A thousand years of wisdom*. Hamilton Public Library.

McLeod (1984). Soils of the Waikato Lowlands. *Report HN 11, Soil Bureau of the Department of Scientific and Industrial Research*.

Mead, A.D. (1966). *Richard Taylor missionary tramper*. Wellington: A.H. & A.W. Reed.

Murphy, M.A. and Grinter, B.A. (1978). *A history of Taupiri school district*. Hamilton: Times Commercial Printers.

New Zealander (1846). Journal kept by two British officers, on there overland route from Wellington to Auckland. 11 July 1846, p.3. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 April 2014].

New Zealander (1847). Notes from a journal. 27 October 1847, p.3. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 April 2014].

New Zealander (1847). Notes from a journal. 30 October 1847, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 April 2014].

New Zealander (1847). Notes from a journal. 3 November 1847, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 April 2014].

New Zealander (1847). Notes from a journal. 25 December 1847, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 April 2014].

New Zealander (1847). Notes from a journal. 29 December 1847, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 April 2014].

New Zealander (1850). Saturday February 23, 1850...coal. 23 February 1850, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 May 2014].

New Zealander (1852). Notes of a short tour into the interior of the northern colony of New Zealand in March and April 1852. 5 June 1852, p.3. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 May 2014].

New Zealand Herald (1875). Taupiri. 11 February 1875, p.3. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 25 April 2014].

New Zealand Herald (1884). Board of education. 26 January 1884, p.6. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 20 April 2014].

New Zealand Herald (1885). Death of Archdeacon Pritt. 9 November 1885, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 20 April 2014].

New Zealand Herald (1902). News from country districts. 21 February 1902, p.3. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 25 April 2014].

New Zealand Herald (1923). Hamilton's history. 29 May 1923, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 20 May 2014].

New Zealand Spectator and Cook's Strait Guardian (1847). A letter from the surveyor general to the colonial secretary. 20 February 1847, p.3. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 May 2014]

New Zealand Spectator and Cook's Strait Guardian (1850). Journal. 16 November 1850, p.4. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 12 April 2014]

New Zealand Spectator and Cook's Strait Guardian (1850). Taupiri school Rev B.Y. Ashwell, 14 September 1853, p.4. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 2 May 2014]

- Ngaruawahia Primary (1994). *Ngaruawahia primary: 1869 to 1994*. Cambridge: Gogetters.
- Norris, H.C.M. (1956). *Armed Settlers*. Auckland & Hamilton: Paul's Book Arcade.
- Norris, H.C.M. (1964). *Settlers in Depression*. Auckland & Hamilton: Paul's Book Arcade.
- Olds, B. (1994). *St Stephen's school; missionary and multiracial origins*. Auckland: Concept Printing.
- Otago Witness* (1864). The Wesleyan Maori institute, Auckland. 20 August, 1864, p.1 [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 26 May 2014]
- Petrie, H. (2006). *Chiefs of Industry; Maori tribal enterprise in early colonial New Zealand*. Auckland: Auckland University Press.
- Phillips, F.L. (1995). *Landmarks of Tainui; volume one*. Otorohanga: Tohu Publishers.
- Phillips, F.L. (1995). *Landmarks of Tainui; volume two*. Otorohanga: Tohu Publishers.
- Pick, D. (1968). Gravel Quarries in the Waikato. *NZAA Newsletter* Sept No. 11(3) pp111-114.
- Rogers, L.M. (ed) (1961) *The early journals of Henry Williams*. [Online] Available at: <http://nzetc.victoria.ac.nz/tm/scholarly/tei-RogEarl-t1-body-d9.html> [Accessed 5 May 2014]
- Ross, C.R. (2006). The legacy of Elizabeth Fairburn Colenso. *International Bulletin of Missionary Research*. [Online] Available at: [http://thefreelibrary.com/The+legacy+of+Elizabeth+Fairburn+Colenso.-a\)148479946](http://thefreelibrary.com/The+legacy+of+Elizabeth+Fairburn+Colenso.-a)148479946) [Accessed 13 May 2014].
- Ross, J.O. (1979a). Captain Kent, trader 1823-28. *Historical Journal Auckland-Waikato*. Vol.34 (April), p.35-38.
- Ross, J.O. (1979b). Captain Kent's last years. *Historical Journal Auckland-Waikato*. Vol.35 (September), p.28-30.
- St.John, (1873). Pakeha rambles through Maori lands. [Online] Available at: <http://www.enzb.auckland.ac.nz/docs/StJohn/pdf/stj1001.pdf>. [Accessed 15 January 2014].

Scobie, J. (2010) Names and opening and closing dates of railway stations in New Zealand. Rail Heritage Trust.

Simmons, A. (2001). Doctor's House Ngaruawahia, Report on Archaeological Monitoring and Data Recovery. [Unpublished report]. Tauranga: New Zealand Historic Places Trust.

Simmons, A. (2002). Archaeological Report on Part of Borrow Pit Site S14/164; Proposed Perry Subdivision Kernott and Horotiu Roads. Prepared for CKL Surveys Ltd. [Unpublished report]. Tauranga: New Zealand Historic Places Trust.

Simmons, A. (2003). Report on Archaeological Assessment of Lot 5 DPS 18706, Te Kowhai, Waikato District. [Unpublished report]. Tauranga: New Zealand Historic Places Trust.

Simmons, A. (2006). Puke-i-ahua Historic Reserve conservation and management plan. [Unpublished report]. Ngaruawahia: Waikato District Council and Tauranga: New Zealand Historic Places Trust.

Simmons, A. (2008). Report on archaeological monitoring of earthworks at Riverton Estate, prepared for Cheng International Investments Ltd. [Unpublished report]. Tauranga: New Zealand Historic Places Trust.

Simmons, A. (2012a). Archaeological Assessment of the Proposed Lower Waikato Esplanade Water Reticulation Upgrade Pipeline, The Point, Ngaruawahia. [Unpublished report]. Tauranga: New Zealand Historic Places Trust.

Simmons, A. (2012b). Archaeological Assessment of (Lot 5) Kernott Road, Horotiu and Methodology/Site Management Instructions. Prepared 16 November 2012 on behalf of Ross and Odette Cambridge. [Unpublished report]. Tauranga: New Zealand Historic Places Trust.

Simmons, A. (2013a). Summary of Archaeological Monitoring on Part of S14/164; Lot 5, 9 Kernot Road, Waikato District. Prepared January 2013 on behalf of Ross and Odette Cambridge. [Unpublished report]. Tauranga: New Zealand Historic Places Trust.

Simmons, A. (2013b). Archaeological Monitoring on Part of S14/164; Lot 3, 49 Horotiu Bridge Road, Waikato District; (NZHPT Authority No 2013/194; Final Report). Prepared March 2013 on behalf of Scott and Kathryn Duggan. [Unpublished report]. Tauranga: New Zealand Historic Places Trust.

Simmons, A. (2013c) Final Report on Archaeological Monitoring of Part of S14/164 on Lot 5, 9 Kernot Road, Horotiu; NZHPT Authority No 2013/194.

Simmons, A.L. (2013d). Soldier's Foodways: historical archaeology of military comestibles in the Waikato campaign of the New Zealand Wars. [Thesis]. University of Otago Department of Anthropology, Dunedin.

Tagg, M.A. (2003). Te Ahiwera a man of faith, the life of Benjamin Y. Ashwell missionary to the Waikato. *Anglican Historical Society Occasional Papers* No. 5, p.1-46.

Taylor, N.M. (1959). *Early Travellers in New Zealand*. Oxford: Clarendon Press.

Taylor N.H. (1958). Soil Science and Prehistory. *New Zealand Science Review* Sept-Oct 16 (9-10) pp 71-79. Wellington.

Taupiri School Committee (1953). Souvenir seventy-fifth anniversary reunion of the Taupiri school. Hamilton Public Library.

Tedder, E. (1863). Diary. [Unpublished manuscript] Wellington: Alexander Turnbull Library.

Te Kauri Marae and Tarawhiti H.N. (2007-2008). Reverend Heta Kereru Tarawhiti. [Online] Available at: <http://www.naumaiplace.com/site/te-kauri/home/page/554/heta-tarawhiti> [Accessed 2 May 2014]

Te Kowhai Jubilee Committee (1950). Te Kowhai district school 1890 diamond jubilee reunion. Hamilton: A.O. Rice.

Thomas, J. (1986). *Grand old man of the river Caesar Roose*. Waiuku: W.J. Deed Printing Ltd.

Vennel, C.W. (1976). The early traders on the west coast. *Historical Journal Auckland-Waikato*, Vol 28 (April), p.19-22.

Waikato Museum (n.d.). Reverend Hare Maihi Ruarangi. [Unpublished manuscript] Hamilton: Waikato Museum of Art and History.

Waikato Times (1873). Waikato and Waitemata Native Church Board. 8 March 1873, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 May 2014].

Waikato Times (1875). Taupiri. 7 October 1875, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 May 2014].

Waikato Times (1886). The mission station at Hopu Hopu burned down. 16 March 1886, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 May 2014].

Waikato Times (1891). A trip to Te Kowhai. 16 April 1891, p.4. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 12 April 2014].

Waikato Times (1894). The Te Kowhai creamery opens. 8 September 1894, p.8. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 25 April 2014].

Waikato Times (1894). Native difficulties at Te Kowhai. 20 October 1894, p.2. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 12 April 2014]

Waikato Times (1894). The native obstruction at Te Kowhai. 1 November 1894, p.3. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 12 April 2014].

Waikato Times (1895). Taupiri railway station. 12 December 1895, p.3. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 12 April 2014].

Waikato Times (1895). Proposed closing Taupiri railway station. 17 December 1895, p.5. [Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 12 April 2014].

Watson, N. (1981). Sermons in wood. [Unpublished manuscript] Hamilton: on file Simmons & Assoc. Ltd.

Watson, N. and Walsh, T. (1969). Early Days in Ngaruawahia. *Historical Journal Auckland-Waikato*, Vol. 15, p.16-26.

Wellington Independent (1869). Our Waikato settlements. 4 December 1869, p. 6
[Online] Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 26 April 2014]

Wilkes, Owen (1994). *S14/187* Archaeological site record in the NZ Archaeological Association Site Recording Scheme.

Wilkes, Owen (2000a). *S14/183* Archaeological site record in the NZ Archaeological Association Site Recording Scheme.

Wilkes, Owen (2000b). *S14/184* Archaeological site record in the NZ Archaeological Association Site Recording Scheme.

Wilkes, Owen (2000c) *S14/213* Archaeological site record in the NZ Archaeological Association Site Recording Scheme.

Williamson, J. (1865). Native produce imported into the ports of Auckland and Onehunga. Appendix to the Journals of the House of Representatives, Session I, Appendix E-12. Wellington: Government Printer, pp.1-20.

Historic plans

DP 217 (1881) *Plan of Lot 99 Suburbs on Newcastle North*, Hamilton Office

SO 1619 (1878) *Plan showing positions of houses & c North bank Newcastle at Waikato*, Hamilton Office

SO 2465 (date unknown) *Block XI Newcastle District*, Hamilton Office

SO 6307 (1892) *Plan of Section 3 Paris of Horotiu*, Hamilton Office

Soil maps

Grange, L. I.; Taylor, N. H. and Jones, W. M. (1939) *Soil map of parts of Newcastle & Komakorau S. D's Waipa County*. Soil Survey, NZ Geological Survey.

McLeod (1984) *Provisional soil map part Waikato Lowlands* Soil Bureau, Department of Scientific and Industrial Research.

Geospatial data references

Landcare Research Ltd (n/ d. a) *Soil Map of Hamilton City* Accessed 2014-06-07 from <https://lris.scinfo.org.nz/layer/119-soil-map-of-hamilton-city/>

Landcare Research Ltd (n. d. b) *Soils of Raglan County* Accessed 2014-06-07 from <https://lris.scinfo.org.nz/layer/153-soil-map-of-part-raglan-county-south-auckland-new-zealand/>.

APPENDIX 1

NZAA site types

This is the list of unique values for site type held in the ArchSite database.

nzaa_type

Administrative
 Agricultural/ pastoral
 Art
 Artefact find
 Botanical evidence
 Burial/ cemetery
 Canoe building
 Cave/ rock shelter
 Cement/ lime works
 Commercial
 Educational
 Fishing
 Flax milling
 Flour milling
 Gum digging
 Health care
 Historic - domestic
 Historic - land parcel
 Hospital
 Hulk
 Industrial
 Maori horticulture
 Marae
 Memorial
 Midden/Oven
 Military (non-Maori)
 Mining
 Mining - chromite
 Mining - coal
 Mining - copper/ antimony
 Mining - gold

Mining - tin
Mission station
Pa
Pa - gunfighter
Pa - island/ swamp
Pit/Terrace
Power generation
Recreation
Religious
Sealing camp
Shipwreck
Source site
Source site - argillite
Timber milling
Traditional site
Transport/ communication
Unclassified
Whaling Station
Working area

APPENDIX 2

NZAA site records considered in the study

These are the site records within a 5 km radius of centres at Ngaruawahia, Glen Massey, Horotiu and Te Kowhai, with the reclassified site types and location coordinates given in the NZ Transverse Mercator projection. NZAA site records from all sites discussed in the report are appended as an electronic document.

nzaa_id	site_type	easting	northing
R14/11	Pit/Terrace	1777630	5829138
S14/2	Pa	1790792	5827473
S14/5	Pa	1793549	5818561
S14/8	Pa	1791148	5818857
S14/9	Fishing	1789130	5830556
S14/10	Burial	1787842	5822653
S14/11	Burial	1792268	5819691
S14/12	Pit/Terrace	1788632	5829055
S14/13	Pa	1796031	5824758
S14/16	Pa	1794038	5825863
S14/17	Pa	1795431	5823828
S14/18	Pa	1795487	5823625
S14/26	Pa	1787142	5822752
S14/29	Artefact find	1788733	5828055
S14/31	Pa	1789289	5829335
S14/50	Pa	1791249	5818257
S14/81	Pa	1789035	5816751
S14/87	Pa	1790599	5832863
S14/89	Artefact find	1796046	5820965
S14/97	Pa	1796243	5822666
S14/103	Artefact find	1791235	5827659
S14/104	Maori horticulture	1790834	5828159
S14/105	Maori horticulture	1790934	5828259
S14/106	Maori horticulture	1790934	5827859
S14/110	Midden/Oven	1791131	5827470
S14/111	Maori horticulture	1796244	5822466
S14/112	Pa	1795374	5824080
S14/113	Pit/Terrace	1795350	5823926
S14/114	Artefact find	1795442	5823465
S14/118	Pa	1787830	5823364
S14/121	Maori horticulture	1791436	5826959
S14/122	Pa	1788141	5823748
S14/123	Artefact find	1789927	5832358
S14/124	Artefact find	1789738	5825156
S14/160	Maori horticulture	1795641	5824365
S14/162	Maori horticulture	1795842	5823866
S14/163	Maori horticulture	1795641	5824165
S14/164	Maori horticulture	1794539	5825164
S14/165	Maori horticulture	1796744	5822367
S14/174	Pit/Terrace	1790326	5832959

S14/175	Maori horticulture	1789827	5832258
S14/177	Maori horticulture	1789765	5832267
S14/179	Maori horticulture	1796243	5822866
S14/181	Military (non-Maori)	1789310	5829294
S14/182	Military (non-Maori)	1789384	5829243
S14/183	Shipwreck	1789357	5829482
S14/184	Transport/ communication	1789231	5829456
S14/186	Historic - domestic	1789536	5829027
S14/187	Military (non-Maori)	1789217	5829160
S14/188	Burial	1789432	5829156
S14/190	Military (non-Maori)	1789228	5829134
S14/192	Maori horticulture	1790233	5828658
S14/194	Maori horticulture	1795000	5825445
S14/195	Maori horticulture	1795150	5825980
S14/203	Maori horticulture	1795342	5823465
S14/205	Unclassified	1790735	5827358
S14/213	Military (non-Maori)	1792331	5829861
S14/221	Maori horticulture	1794316	5824613
S14/222	Maori horticulture	1794266	5823837
S14/242	Maori horticulture	1794902	5825559
S14/246	Maori horticulture	1795697	5826512
S14/247	Maori horticulture	1795869	5826369
S14/253	Maori horticulture	1795518	5826181
S14/254	Transport/ communication	1796121	5822721
S14/284	Midden/Oven	1795310	5824720

Sites around Taupri

nzaa_id	site_type	easting	northing
S14/6	Pa	1792922	5835463
S14/7	Pa	1792774	5834663
S14/15	Pa	1791576	5836356
S14/20	Pa	1794123	5835465
S14/21	Pa	1794063	5834639
S14/22	Pa	1793596	5834324
S14/24	Pa	1789722	5835358
S14/88	Pa	1790821	5835762
S14/96	Pa	1791923	5834961
S14/126	Mission station	1792412	5834990
S14/158	Maori horticulture	1793440	5835110
S14/168	Pa	1791982	5834643
S14/170	Pit/Terrace	1790135	5835816
S14/171	Pa	1790488	5835700
S14/172	Pit/Terrace	1790089	5836530
S14/198	Maori horticulture	1794490	5834100
S14/249	Maori horticulture	1794415	5834882
S14/250	Maori horticulture	1794857	5834638
S14/251	Maori horticulture	1794690	5834444

APPENDIX 3

Appendix 3 Maps

1. Overview of archaeological areas.
2. Archaeological areas along the Waikato River from Horotiu to Ngaruawahia.
3. Archaeological areas, Ngaruawahia and environs.
4. Archaeological areas along the Waikato River between Ngaruawahia and Taupri.
5. Archaeological areas along the Waipa River.
6. Archaeological areas, Te Kowhai and environs.