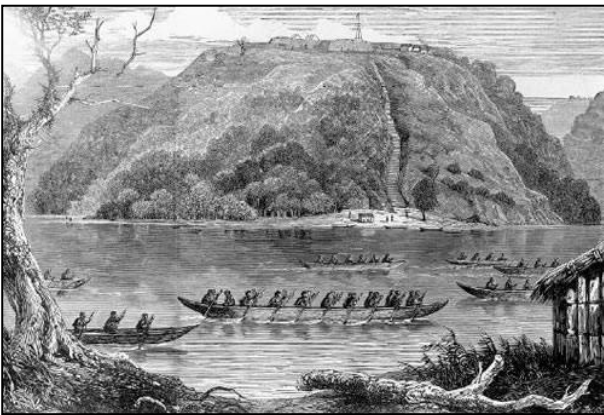


# TUAKAU STRUCTURE PLAN ARCHAEOLOGICAL HERITAGE

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## EXECUTIVE SUMMARY

The intended outcome of the archaeological assessment was to identify archaeological sites that form Tuakau's pre-1900 history. The focus was on producing a report that could be used to direct archaeological management in the structure plan area.

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, liaison with members of the local community, and several visits to Tuakau.

The comparative assessment of the structure plan growth areas indicates that no previously recorded or newly recorded archaeological sites are located in the development areas. But a substantial number of potential pre-1900 archaeological sites may be found:

- along the streams that drain into the Waikato River;
- under the existing commercial district;
- in pre-1900 residential areas along old road corridors including Harrisville Road and River Road;
- associated with pre-1900 buildings (included in the built heritage schedule);
- at Les Batkin Reserve;
- outside Alexandra Redoubt defensive bank and ditch;
- and miscellaneous other places noted in the report.

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 an archaeological conservation and management plan for Alexandra Redoubt.

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

*-Dr Alexy Simmons & Mr Malcolm Hutchinson, May 2014*

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# CHAPTER ONE TUAKAU'S ARCHAEOLOGICAL HERITAGE

## INTRODUCTION

Tuakau's archaeological heritage in the structure plan area includes both Maori and European pre-1900 sites. This archaeological heritage report was prepared to inform future decisions relating to the management of archaeological sites. The focus in this report is specifically archaeological information. This includes where a site is located, as well as contextual information about the site as a part of the district's story. Separate reports are being prepared by other authors about Maori cultural history and built heritage in Tuakau.

The archaeological research indicates there were three general historical changes in the Tuakau area: Maori settlement and land use prior to and during European contact; the Waikato campaign of the New Zealand Wars; post-campaign European settlement (up to 1900). The phases are marked by archaeological evidence that includes land modifications, buildings, and artefacts. The various types of sites and periods of land use form an archaeological landscape that provides information about human behaviour in the past in Tuakau. For example Maori hilltop pa and village sites are associated with lowland gardens, eel traps in streams, bird capture areas, flour mills, and seasonal habitation sites. Pre-1900 European houses in the River Road area are associated with farm buildings, fields, flax mills, and other types of features.

The text that follows discusses the research methods used to compile information about Tuakau's 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. For the purposes of the archaeological research an archaeological site was defined per the Historic Places Act (1993) as:

“any place in New Zealand that either (i) was associated with human activity that occurred before 1900; or (ii) is the site of a wreck of any vessel where that wreck

occurred before 1900; and (b) is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand.”<sup>1</sup>

Under the 2014 Heritage New Zealand Pouhere Taonga Act both recorded and unrecorded pre-1900 archaeological sites are protected. This definition includes pre-1900 standing structures. The Act regulates effects to archaeological sites making it unlawful to destroy, damage, or modify an archaeological site without an authority from Heritage New Zealand.

The literature and record search included: preparing a history of the area; 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 site; historical research to provide information about potential pre-1900 archaeological sites; communication with members of the local community; information sharing with the Maori cultural heritage researcher, and the built heritage researchers.

The information is compiled as three chapters in this report: the history of Tuakau prior to 1900 from an archaeological perspective; recorded archaeological sites in Tuakau; and historic survey plans and aerial photographs of the area (geo-referencing). The information summarised in the chapters 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 and future growth and management issues.

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<sup>1</sup> The 1993 Historic Places Act was the legislation in effect at the time the archaeological research was carried. 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).



# CHAPTER 2 TUAKAU HISTORY; AN OVERVIEW OF PRE-1900 TUAKAU

## HISTORY OF EARLY TUAKAU

This history has been prepared from an archaeological perspective and compiled chronologically and thematically. The identification of unrecorded archaeological sites and the context of both unrecorded and recorded archaeological sites in Tuakau and Waikato District was the primary focus.<sup>2</sup> Out of respect for tangata whenua's greater knowledge Maori cultural history is not addressed in this archaeological report.<sup>3</sup> As already noted in Chapter 1 separate reports are available on the Maori cultural history and the extant built heritage of Tuakau.

The information presented about Maori and European archaeological sites is based on European descriptions of Maori settlements and gardens and European sites. The Maori cultural assessment report may present other historical information and identify other heritage values for many of the places discussed in the following text.

The archaeological history is divided into three general phases of change in the archaeology of the Tuakau area beginning with European contact followed by the Waikato Campaign of the New Zealand Wars, and European settlement on the confiscated land.

### European Contact

Te Ara - the Encyclopedia of New Zealand states: "Tuakau was founded in 1840 and described as a flax milling centre<sup>4</sup> with a convenient landing place on the nearby Waikato River." (Davis and Dollimore 2009, p.1 and Ministry for Culture and Heritage 2013) It is likely the settlement or villages in the area were founded well before 1840 based on

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<sup>2</sup> 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.

<sup>3</sup> The Nga-Tai-E-Rua Marae is located at 16 Carr Street, Tuakau and was established to reflect the historical genealogical ties through intertribal marriage of tangata whenua.

<sup>4</sup> The basis for this assertion is not clear, certainly there were flax traders in the area, but most purchased flax that was processed by Maori women using traditional methods. The village was probably established for other reasons. For example local resources whitebait, eels, good agricultural land, and later became a village associated with flax harvest. Flax milling at Tuakau is associated with circa mid-1860s based on historical references and will be discussed later in this report

natural resources other than flax. Flax trading did have a major cultural and economic impact on tribes along the Waikato. Tangata whenua were entrepreneurs; flax became a resource that could be exploited and traded based on market demand. The flax harvest would have resulted in the location of temporary habitation sites near wetlands. The labor time required for the men to cut and women to process large quantities of flax reduced the hours available for hunting, fishing, gathering, cultivating gardens, preserving food, and making traditional tools, household goods, and clothing.

### *Tuakau Villages*

The *Tuakau District Centennial* (1965) noted, prior to the military incursion in 1863 there were four main villages and a habitation site:

- one near the railway crossing;
- a second on the property of Mr Kewish;
- another on the Domain site;
- a village on the Taupiri Dairy Company property;<sup>5</sup> and
- a minor group of huts located at the site of the 1912 Catholic Church.

The Maori settlement of 'old' Tuakau adjacent to the river (the Taupiri Dairy Company property) was on the major transportation corridor into the Central North Island—the Waikato River (Figure 1). Tuakau village was a stopping point for Maori going to the Auckland market and Europeans in the 1830s through the early 1860s. Some of the visitors passed through Tuakau, others were interested in the economic opportunities available in the region or religious conversion of Maori in the district.

### **European Traders**

Among the first European traders in the Tuakau area were Captain John Kent, Captain Payne, and Charles Marshall. They arrived in the late 1820s through early 1830s. Captain Kent actively traded throughout Waikato District and was initially sent to New Zealand by the New South Wales Government to look for flax (*Phormium Tenax*). Kent settled at Kawhia and later had a post at Ngaruawahia in the 1830 and lived at Kaitotehe across the river from Taupiri Mountain. Captain Payne settled at Port Waikato as a resident trader. Payne was at Port Waikato when Charles Marshall arrived in 1830 (Morris 1970a).

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<sup>5</sup> The identification of the specific site locations and their condition will be discussed in the predictive model and site visit chapter.

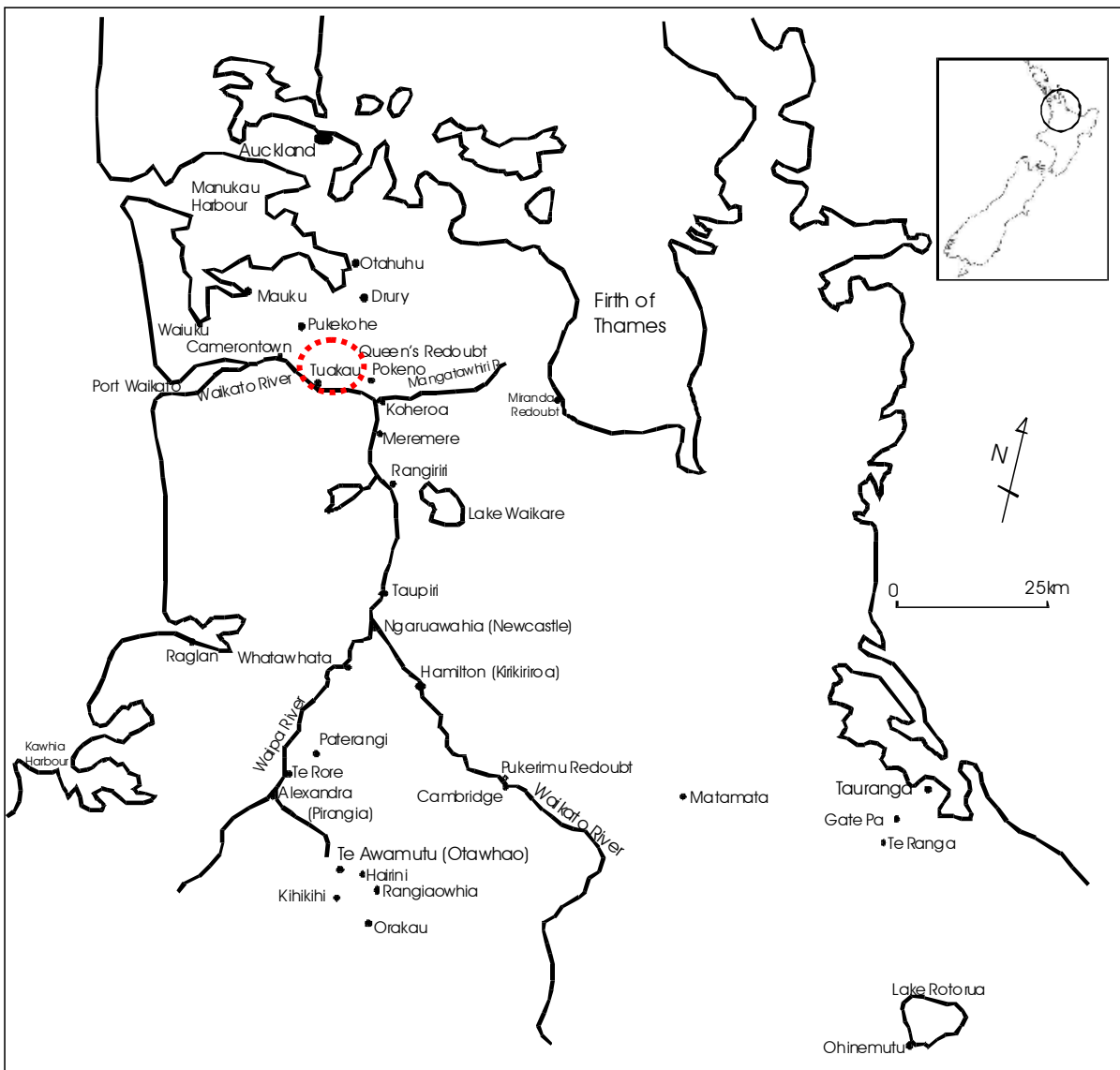


Figure 1 Map of places on the Waikato River.

Charles Marshall was a notable figure in Tuakau's history of European contact, although he did not establish himself at Tuakau. He initially had a trading post at Waikato Heads in 1830 or 1831 and was involved in trading muskets for flax (Morris 1970a). In 1832 Marshall's dwelling and store were destroyed by a Ngapuhi raiding party (Morris 1970a, p.18-19). He later returned to the lower Waikato and purchased several blocks of land in 1839-1841 close to Tuakau (Morris 1970b, p.10).

By mid-1840 Marshall occupied a farmstead about 6.5 Kilometres [4 miles] up river from Tuakau at Paparaumu. He continued to trade with local Maori at Tuakau from his farm.

Marshall supplied blankets, tobacco, knives, scissors, pipes, slates, pencils, etc., but not spirits (Morris 1970, p.12). His Paparaumu farm was visited by John Johnson in 1846.

Johnson commented, Marshall grew wheat and raised cattle. Johnson made no mention of Marshall's trade with local Maori.

In 1852 Alexander Kennedy reported in the *New Zealander* that Charles Marshall was operating an inn on the south bank of the river three miles above Tuakau on the bank opposite Rakuwaitiri. European travel into the area had increased by this time. The visitors travelled overland from Drury to Tuakau or Rakuwaitiri. Marshalls Inn was established to provide for the convenience of travellers (based on the conditions of his bush licence) (Morris 1970b, p.11-12). The hotel featured two bedrooms and a boat or canoe available for crossing the river and another for hire (Morris 1970b, p.12). How many of these visitors stopped at Tuakau is not known, very few left historical records of their visits.

### **Missionaries**

In 1839 the Reverend Robert Maunsell established Maraetai mission station at Waikato Heads, about 42 kilometres [26 miles] downstream from Tuakau (Figure 2). From this station Maunsell and his native teachers began to minister to the people of the district.

In 1854 Maunsell established another mission station closer to Tuakau, at Kohanga (16 kilometres [10 miles] downstream from Tuakau) on land given to the Crown by Waata Pihikete Kukutai, paramount chief of Ngati Tipa in 1852 to 1853 (Garrett 1991, p. 182-183; Old 1994, p. 18-19). Kukatai gave 280 acres to Governor Sir George Grey for a Church of England mission school (Old 1994, p. 18; Scott 2013, p.1). Ngatikahu "capped that gift with another 470 acres, which had once been the battle-field between the two tribes and their allies . . . making altogether 750 acres." (Old 1994, p.18-19)

John Volkner and James West Stack lead an advanced party to Kohanga in 1853 and found the soil to be sour. The school was established there in 1854; many of the buildings being floated to the site from Maraetai.

Tangata whenua at Tuakau were members of Maunsell's flock and regular services were held at Tuakau (Mead 1966, p.182). Tuakau was also used as a regular stop in the journeys of the Reverends' Maunsell, Ashwell, Lush and other Church Missionary Society representatives.

Among the teachings at the Church Missionary Society schools was European agricultural practices. Agricultural work was essential to sustain the mission school students and staff.<sup>6</sup> At Maraetai and Kohanga the male students were taught to plough, drive a cart, harvest and process grain, put up fences, build chimneys, milk and make butter (Garrett 1991, p.174). The plant species and agricultural methods introduced by the missionaries paired with economic demand affected traditional Maori agricultural practices in the region.

European introduced plant species included potatoes, maize, turnips, cabbage, wheat, pumpkins, marrows, watermelon, peaches, apples and various other vegetables and fruits. Many of these introduced species were available well before Maraetai and Kohanga mission stations were established. The plant species are evident in Williamson 1865 report to the House of Representatives about produce brought to Auckland ports by the Waikato tribes from 1852-1858, Table 1. The plants and animals brought to market were those of interest to European buyers and stimulated the development of Maori market gardens. European tools introduced by the missionaries, particularly the plough, facilitated the cultivation of more land and market demand provided an incentive to grow more crops.

In 1849 a horse powered flour mill<sup>7</sup> was established at Maraetai to grind mission and Maori grown wheat. Another was later constructed near Kohanga (Figure 2). A flour mill was also established at Tuakau in 1854 (Petrie 2006, p. 208), which will be discussed in the next sub-section. The Colonial government encouraged the establishment of native mills — and an Inspector of Native Mills was appointed in the early 1850s to draw plans, supervise construction, and generally assist in mill operation (Hargreaves 1961, p.228).

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<sup>6</sup> None of the schools were self sufficient. “The missionaries in charge were paid by the Church Missionary Society, grants-in-aid being received from the Government.” (Olds 1994, p.21)

<sup>7</sup> Purchased by Reverend Maunsell at his expense (Garrett 1991, p.170).

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

<b>FOODS</b>	<b>1852</b>	<b>1853</b>	<b>1854</b>	<b>1855</b>	<b>1856</b>	<b>1857</b>	<b>1858 1<sup>ST</sup> QUARTER</b>	<b>SUB TOTAL</b>
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

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

Figure 2 Mission stations and flour mills in the Waikato and Bay of Plenty 1830-1860s. (Compiled by Hargreaves 1961, p.230).

Maunsell's life on the Waikato, as presented in *Te Manihera* (Garrett 1991), does not include descriptive information about Tuakau village, despite his frequent presence at Tuakau. For example Archdeacon Maunsell attended a meeting with several chiefs friendly to the colonial government and the Bishop of New Zealand in 1860 at Tuakau.<sup>8</sup> As

<sup>8</sup> Maunsell's diary or correspondence might provide information about Tuakau, but this in depth research was outside the scope of this contextual history.

I've already noted only a few of the individuals that passed through Tuakau left written descriptions of the area. These descriptions are organised chronologically in the following subsection and contain obvious European bias—this is particularly evident in the description of Alexander Kennedy in 1852.

### **Early European Travellers; Descriptions of Tuakau Village**

John Johnson described Tuakau village in 1846. His observations about the village were published in the *New Zealander* on 20 October 1847 as “Notes From a Journal” and included in Nancy Taylor’s (1959) book, *Early Travellers in New Zealand*. Johnson also drew a sketch of the village, Figure 3. On 24 December John Johnson observed:

“The settlement of Tuakau consists of a few houses, within a stockade, situated in the centre of a semicircular hollow,<sup>9</sup> whose two extremities abut on the river, and enclose an area of a few acres, gently sloping down to the water’s edge, allowing canoes to be drawn up on the beach, which the precipitous and thickly wooded banks for a considerable distance on either hand, do not permit. This advantage was probably the origin of its formation, and the cause of a route being traced across the range to the Manukau side, where the hills are of a much more accessible character than those lying between Maungatawhiri [sic Mangatawhiri], and Maketu, which, until within the last three years, was the usual route from the Waikato country to Waitemate (sic). [Refer to Figure 3.] Here we had evidence of the source of the river in a volcanic region, in the rounded masses of pumice stone, which were floating on its surface or lining the beach.” (*New Zealander* December 24, 1846, p.3; Taylor 1959, p. 123)

The sketch of Tuakau (Figure 4) shows the foreshore lined with canoes, a fenced village, what appears to be a garden area on the left with a storage structure, and whares. This area is on the south side of a hill that was later used as a redoubt. One later reference refers to it as a pa (Turbott 1989).<sup>10</sup>

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<sup>9</sup> “This Tuakau Maori settlement was situated between the Alexandra Redoubt and the present main road as is approaches the river from Tuakau.” (Morris 1970, p. 100)

<sup>10</sup> “The redoubt occupied the site of a former Maori pa used in intertribal wars, and the pa is still in a good state of preservation.” (Turbott 1989, p.35) The prominent hill with its view up and down the river would have been a likely location for a pa. No mention of a pa was made by Johnson or a visitor in 1852, but Mr Fenton, a magistrate in the upper Waikato, attended a court at Tuakau was invited to “a meeting in a large wheat-chamber at the old pa, which as agent of the Government, he thought it his duty to attend” (Gorst 1959, p. 67).





Figure 3 Map of the Waikato (Stanford's Geography in Gorst 1959, insert at end of book). (Note: Cameron Town is down river from Tuakau and Bluff Stockade is up river. Cameron Town had a commissariat depot.)



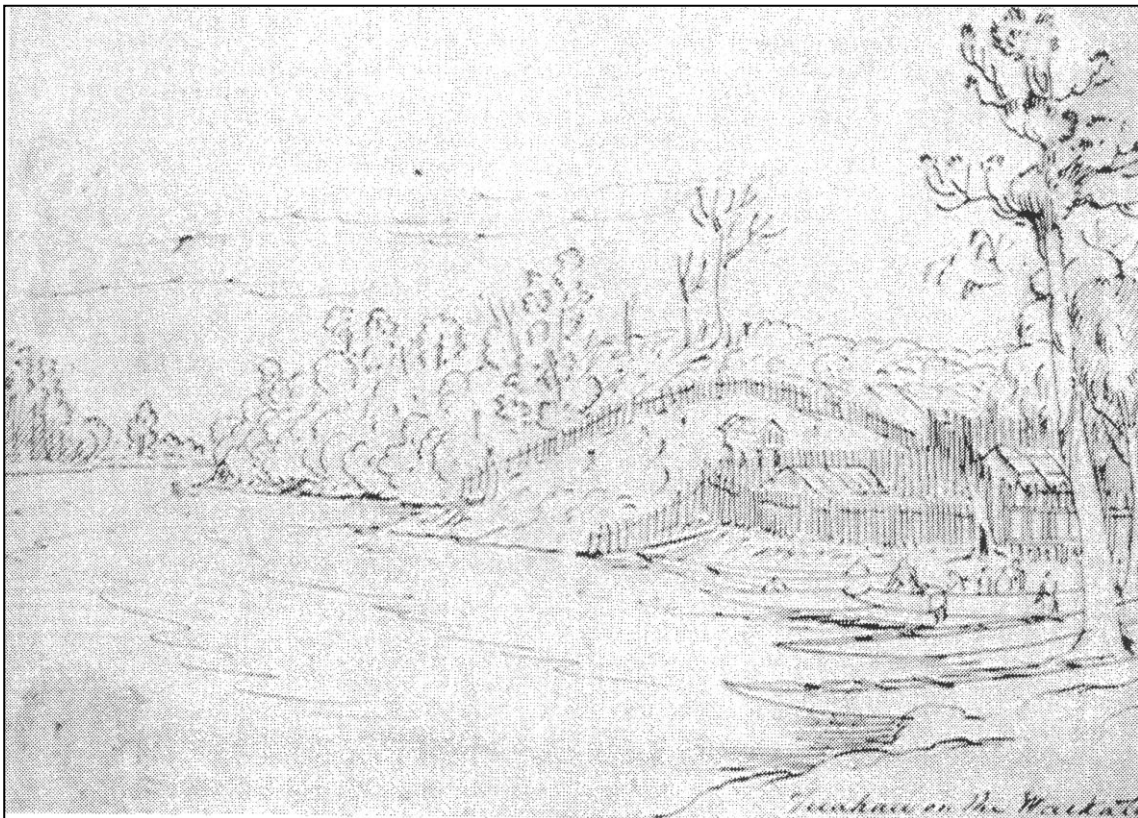
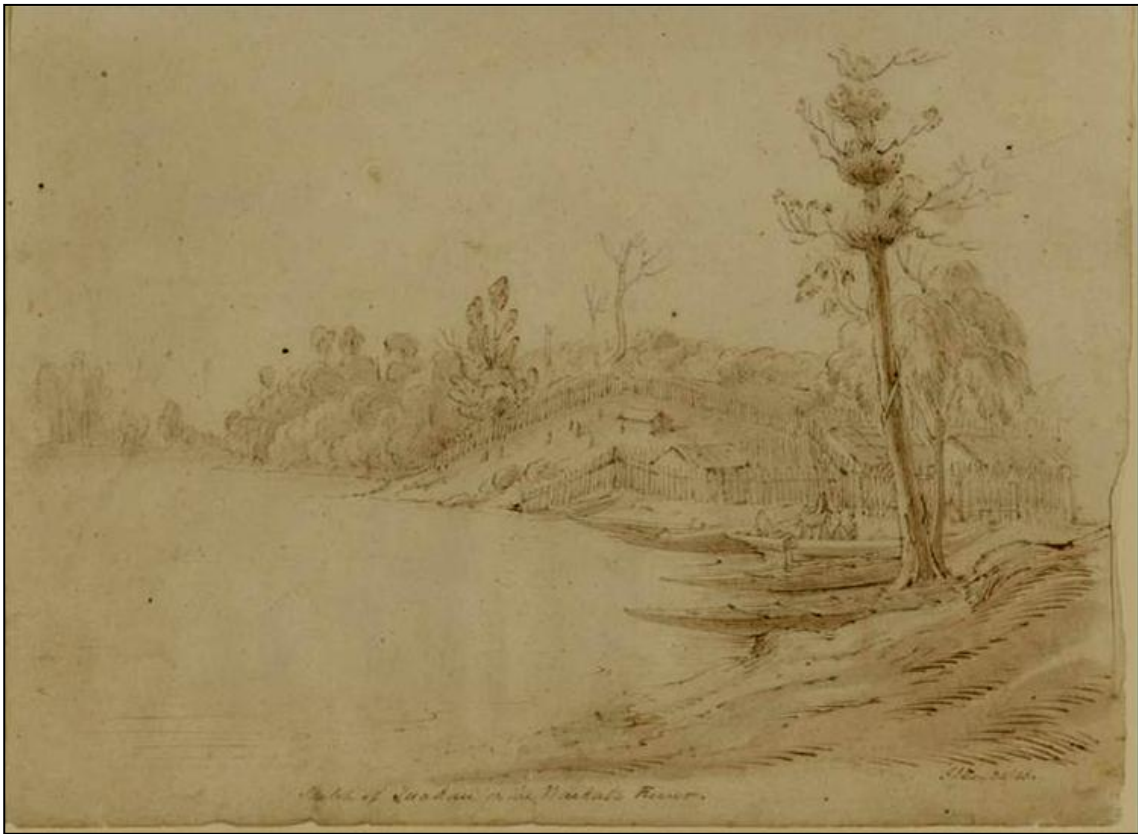


Figure 4 Tuakau Village (top), drawing by John Johnson 24 December 1846 (Auckland Museum Library PD18 (6). Version of sketch (bottom) in *Early Days in Franklin* (Morris 1999a, p.16). (Note the differences in the figure details.)

Tuakau was also a stopping point for Maori from the interior to the market in Auckland. Johnson commented: "We passed several canoes from Maungatautari and the Waipa, bound for Tuakau, with cargoes of pigs for the Auckland market." (*New Zealander* October 27, 1847, p.3)

Missionary Richard Taylor visited Tuakau in late April or early May 1847. He commented that Tuakau was a little place and only one old man was around during his visit (Mead 1996 p.116). Richard Taylor mentioned Tuakau several times as a stopping point for leaving canoes or for overnight stays (e.g. late January 1850, February 4, 1850, and early February 1852 as noted in Mead 1996). The village was located between Maunsells' Kohanga and Ashwells' Kaitotehe mission stations (Figure 3).

A description of Tuakau appeared in the *New Zealander* in 1852, almost ten years after Johnson's 1846 visit.<sup>11</sup> The newspaper heading indicates the observations were made by another explorer. The explorer was Alexander Kennedy<sup>12</sup> who visited the settlement in March and April.

Kennedy wrote:

"We got up at daybreak on the morning of the 29<sup>th</sup>, and, while the Maories were preparing breakfast, I strolled about the settlement and the adjoining fields. The Maori Kainga of Tuakau is of the poorest description and, with the exception of its small enclosures of cultivated ground is not superior to the temporary encampment of a tribe of wandering gypsies, so frequently to be seen in some of the remote districts of England and Scotland. Its population is not numerous and the few natives that we saw appeared to be an inferior class. The country, however, is very

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<sup>11</sup> Nona Morris 1999, p.94 notes Kennedy describes the Maori settlement of Tuakau as being half a mile back from the river. The original text upon which this interpretation is made states: "There was a thick fog hanging over the bed of the Waikato, which concealed it for some time from view: as the morning advanced, however, it cleared off, and I got a sight of the river through an opening in the wood, about half a mile distant." (*New Zealander* 22 May 1852, p.2) Morris' observation concerning the location of the village may be a misinterpretation of the text.

Thomas Turbott, commented "Maori inhabitants of Tuakau had been established in four small settlements on the land between the river and the present township, with the usual cultivations where the Missionaries had taught them much of their skill in growing wheat. They even had a small flour mill worked by water power." (Turbott 1989, p. 36)

<sup>12</sup> According to <http://manukau.infospes.co.nz/dbtw-wpd/exec/dbtwpub.dll>: Alexander Kennedy published an account of his journey in the *New Zealander*, 15 May-21 July 1852, as Notes of a Short Tour Into the Interior of the Northern Colony of New Zealand in March and April 1852, Auckland, 1852 and the text is also accessible in a slightly abridged version: Alexander Kennedy, *New Zealand*, 2nd ed., London, 1874 [reprinted 1990]. The version accessed was from the papers past web site <http://paperspast.natlib.govt.nz/cgi-bin/paperspast?a=d&cl=search>

fine, consisting of open fern glades, with patches of wood. (*New Zealander* May 22 1855, p.2)

Alexander Kennedy would have arrived during a time when many of the able bodied men and women were away harvesting food, hunting, or preparing new cultivation areas. The early through the mid-1850s was also a time when communicable diseases had a detrimental effect on Maori in New Zealand; depopulating many villages. Reverend Maunsell commented: "The measles had committed sad ravages among the people of this river during the year" (Garrett 1999, p.190).

In 1858 a courthouse was being constructed for hearing local cases adjudicated by Resident Magistrate Francis Fenton (Morris 1999a, p.103).<sup>13</sup> The location of a courthouse at Tuakau indicates it was seen as a settlement of regional importance.<sup>14</sup>

A reflective description of Tuakau was included in the *New Zealand Herald* in the late 1880s. The author referred to his memory of Tuakau immediately prior to the Waikato Campaign of the New Zealand Wars [1860] and described the local produce and livestock. No mention is made of the courthouse or other buildings in the village.

"My first visit to Tuakau was made some 25 years ago. At that time no pakehas resided there. It was the home of native, who were pretty numerous. They used to cultivate pumpkins, potatoes, and kumaras, raised pigs, fish for eels, & c.<sup>15</sup> Like most native kaingas, Tuakau had its groves of peach trees which grew without much trouble, yielding annually plentiful crops, the porcine family coming in for a fair share of the delicious fruits, which helped to make sweet and tender pork or bacon." (*New Zealand Herald* March 21, 1889, p.6)

An observer during the war also noted, "There is a good breath of land planted at the Tuakau settlement." (*Daily Southern Cross* 5 October 1863, p.5)

The observations of Tuakau, a Maori village, are separated by many years and contain obvious recorder bias, but do provide descriptive information that would not otherwise be available. The narratives contain a wide variety of archaeological information including what was being cultivated.

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<sup>13</sup> Francis Fenton lived down river from Tuakau on his farm (Morris 1999, p.103). The location of the courthouse could not be identified based on the literature and records reviewed.

<sup>14</sup> The actual location of the courthouse is not known.

<sup>15</sup> The returns of produce and livestock brought to Auckland by native canoes record Ngati tipa as bringing 40 kits of potatoes and 3 of maize in 1853, but do not indicate the village associated with the produce.

## Maori Cultivations Near Tuakau

Other markers of Maori settlement and use of the Tuakau area relate to land clearing for garden construction.

### *Traditional Gardens*

Traditional Maori gardening in the Waikato focused on growing kumara (*Ipomea batatas*), taro (*Colocasia antiquorum*) and yam (*Dioscorea alata*). Gourd or hue (*Lagenaria vulgaris*) was also grown. These cultivars were paired with collected plants, fish, shell fish, and birds. The Tuakau area prior to European settlement was particularly rich in white bait and eels. The wooded and marsh environments would have also contained an abundance of bird species.

Maori cultivation followed a seasonal pattern. Early ethnographers Archdeacon Philip Walsh (1902) and Elsdon Best (1925<sup>16</sup>) 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, pp.14-15).

The process of breaking in the ground involved the removal of large roots and stumps with various tasks being 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. Women and children followed breaking up the clods with small wooden instruments and “clawing out the fern-root and rubbish with their fingers” (Walsh 1902).

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;<sup>17</sup> “tupuke, about 9 inches [22.86 cm] high and 20 inches [50.80 cm] to 24 inches [60.96 cm] in 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 5).

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<sup>16</sup> Best’s comments appear to derive from Walsh’s observations.

<sup>17</sup> Other names for the mounds were tukari, ahu and tuahu (Best 1925, p.150).





Figure 5 Working a Garden. (Best 1925, p.93; Best 1931, p.8a)

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.

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 to create a layer of modified soil (not the discrete bowl shaped hollow tupuke described in the previous text) (Hoffman 2011 and 2013). The light soil type at Tuakau may have required little modification, unlike the heavy soils of the central Waikato.

### *European Observations of Traditional Land Use*

European observations of land use near Tuakau included observations in 1846 by John Johnson and others that followed. For example, John Johnson observed the land use activities in and near the Maori settlement of Tuakau in December 1846 and noted:

“In about an hour and a-half from our last resting place, we come in sight of the cultivations of Tuakau and the Waikato River, which shewed (sic) several reaches, winding through that swampy ground to the north, and bounded to the south, by partially wooded hills, but at this distance it had nothing imposing or picturesque in its appearance. After traversing a wood, and some ragged potato plantations we reached Tuakau about three o’clock.” (*New Zealander* October 20, 1847 p. 3)

“The whole of the ground we had passed over in the previous part of the day, both from soil and outline is well suited for cultivations—slope of the hills with few exceptions are gentle, and the summits are often perfect plateaus, of many hundreds of acres in extent. . .” (*New Zealander* October 20, 1847 p. 3; Taylor 1959, p. 123)

“In ascending the river from Tuakau, the banks on either hand rise to the height of several hundred feet, sometimes abruptly from the watery edge, that one could almost fancy it would be easy to step from the canoe and ascend to the summit, on the dense foliage of the forest, that universally clothes them—at other places the hills recede, forming crescent-shaped vales or hollows, encircling a few acres of level ground, where families of Natives had established themselves, and were preparing the ground for the autumnal or spring crop of potatoes, by their usual destructive mode of burning the wood, and tough it was painful to see the fires, favoured by the dryness of the season, which rendered the under wood inflammable, eating their way up wards, and consuming hundreds of noble trees,

far beyond the cultivations, yet the presence of these isolated plantations, shows most forcibly the state of security which now existed in the country, as, formerly, the Natives on the banks of the river were compelled to congregate for safety in pas, well fortified by stockades against hostile attacks to which they were continually liable, and which only permitted them to cultivate the immediate vicinity of their defences, or in places not easily accessible to enemies." (*New Zealander* October 20, 1847 p. 3; Taylor 1959, p. 126)

Some of the cultivation areas up river from Tuakau, noted by Johnson, may have been settlement sites. A war correspondent writing in 1863 commented:

"There are two old native settlements on the banks of the river between the Bluff [Redoubt] and Tuakau, and the selection of these spots reflects considerable credit on the taste and discrimination of the natives. But the traces of cultivation were of the most scant description." (*Daily Southern Cross* 5 October 1863, p.5)

Kennedy who described Tuakau in 1852 makes no reference to cultivated fields or gardens near Tuakau. He noted:

"At this spot, at least on the Tuakau side of the river, the country still retains its level of undulating English landscape character, and which is the descriptive feature in the appearance of the country from Auckland to the Waikato—about forty-five miles—with this exception, that the greatest part of it is covered with fern, and still in a state of nature. But a short distance below Tuakau the features of the country are changed, and present a very different appearance: the basin of the Waikato expands into a valley of considerable extent; the undulations swell into hills, exhibiting a bold and rugged outline, and assuming picturesque appearance. . . ." (*New Zealander* May 22, 1852, p.2)

The ferns mentioned in the previous observation may indicate an area of cleared land that was once used for a garden. Abandoned gardens were frequently colonised by bracken fern. Fern root was a useful natural crop. It was gathered, processed and consumed.

An observation made of the Tuakau area by a correspondent during the Waikato War campaign of 1863 document Maori archaeological sites and express the intent behind the war and events to come,

"The land on the right and left banks, so far as I could judge, is of the best description, and will yet prove a lasting source of wealth to this province. A few



abandoned whares mark the spots where the aborigines resided . . . Soon these traces of occupation will disappear, and the waste places of the Waikato will be turned into fruitful fields, the homes of prosperous settlers." (*Daily Southern Cross* 5 October 1863, p.5)

The 1866 survey of Tuakau (SO 413) identifies several cultivation areas (Figure 6). One of the cultivation areas is adjacent to the stream near St Andrews Catholic Church on George Street; land obtained by Mr Dromgool. The other cultivation area is near the intersection of Whangarata and Brown Road and the Domain (Figure 6—cultivation on the right). This may be the area referred to as the 'spud grounds' by Turbott (1989, p.37). It is also possible that several discrete cultivation areas existed adjacent to the River Road Domain used as a temporary camp by the first immigrants. The cultivation area near the Domain assisted in the survival of the immigrants.



Figure 6 Maori cultivations, Plan SO 413, drawn in 1866. (Note: the legibility of the old plan makes it difficult to read.)

### *European Plant Species and Agricultural Technology*

Tangata whenua in and around Tuakau rapidly adopted many European plant species as was evident in the previous descriptions of the peach trees and potatoes.<sup>18</sup> As already noted, the introduction of European foods, domestic arts, clothing, customs, agricultural methods, etc. was part of the Church Missionaries approach to conversion of the Maori to Christian living and beliefs. But there were other reasons Maori adopted introduced cultivars. For example market demand had a strong influence on what was grown for whom. Many of the introduced species were also easy to grow and formed a useful addition to the traditional diet.

The cultivars grown indicate 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 around Tuakau because of the failure of other crops. Garrett commented: “Maori enthusiasm for wheat arose from the failure through exhaustion of many of their potato grounds.” (Garret 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 introduction and use of European cooking equipment and methods slowly affected the preparation of kaanga kopiro and other foods and resulted in an increased use of iron pots and the boiling of food. Changes in traditional cooking methods were also fostered at the mission schools. For example at Mareatai the girls and teachers produced 400 pounds of bread during one week in March 1851.

### **Flour Mill**

The Ngati Pou flour mill at Tuakau was completed in 1854 (Petrie 2006, p.208). The mill was constructed after John Johnson (1946) and Alexander Kennedy (1852) visited the area. During the mid-1850s flour mills were being constructed near Maori villages throughout

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<sup>18</sup> ‘Potatoes’ may be a misnomer the writers may have been referring to kumara. Potatoes easier to grow than kumara and rapidly adopted by Maori, but exhausted the soil more rapidly than kumara.

the Waikato. The colonial government had a policy of assisting Maori in the construction of mills in the mid-1850's it is not known if they assisted with the Tuakau mill. According to historian Hazel Petrie, Tomo, the Ngati Pou chief, paid the millwrights £100 above the contract price when their costs exceeded the agreed amount (Petrie 2006, p.208). The location of a flour mill adjacent to Tuakau village indicates wheat was being grown near Tuakau, possibly from the early-1850s onward creating a demand for a local mill.

Five European millwrights were listed as employed in the Waikato in the 1856 electoral roll. Due to various problems with mill operation by the end of 1858 many Maori were taking their wheat to European flour mills (Hargreaves 1961, p.227-228). The 1863 military map of Tuakau shows the location of a mill (Figure 7) and John Featon's also mentions the mill in his 1863 description of Tuakau (Featon 1971, p.20). The mill was apparently burned by the troops as was the mill at Pokeno (Petrie 2006, p.270). The mill is illustrated on the SO 415 plan (Figure 8).

The remains of the mill at Tuakau were later converted into a flax mill by C. Dromgool, well after the confiscation of Maori land in the mid-1860s (as a part of the outcome of the Waikato Campaign of the New Zealand Wars) (Turbott 1989). Changes in land ownership will be discussed in the next sub-section.

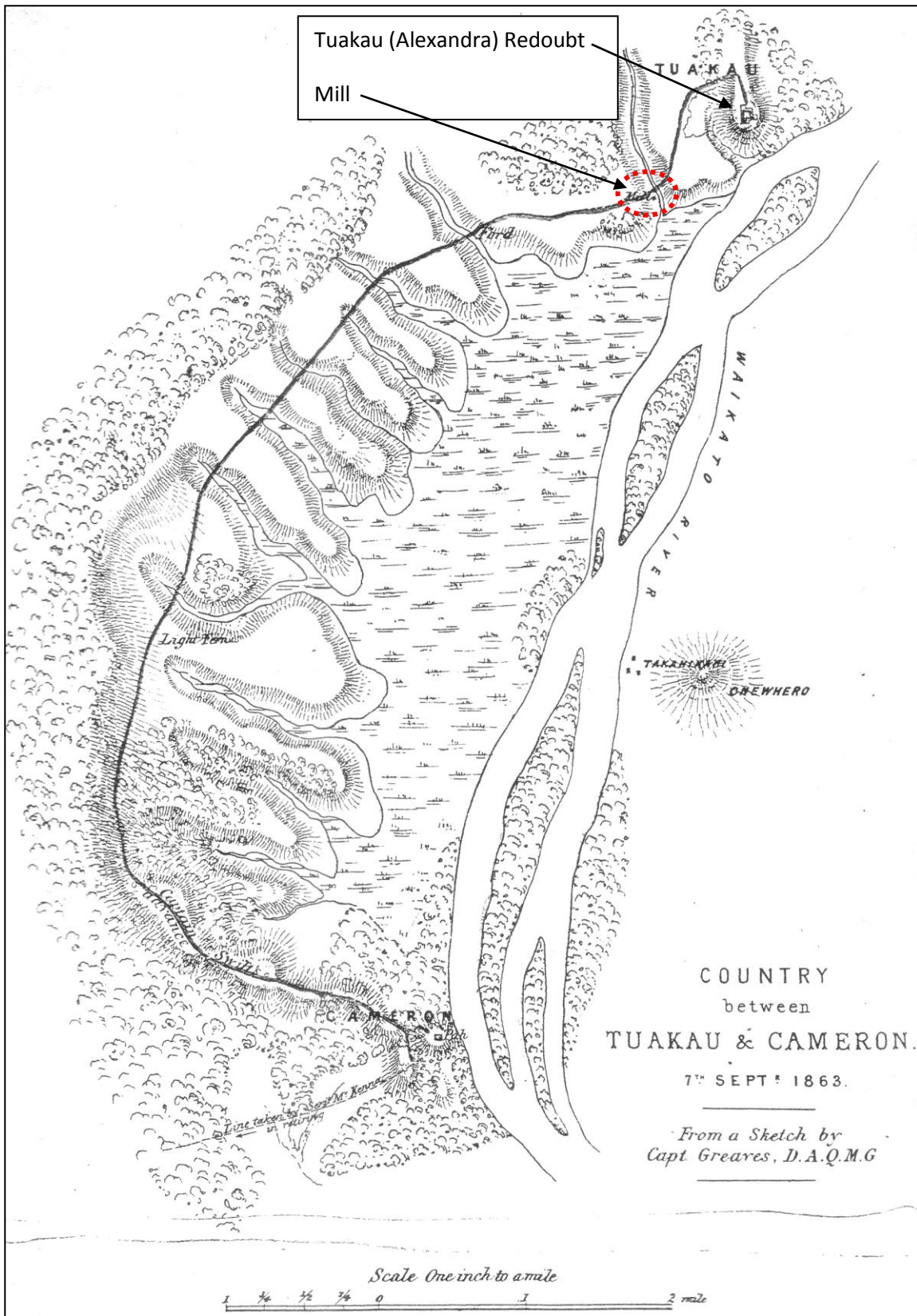


Figure 7 Tuakau, Military map by Captain Greaves, 1863 in Journals of the Deputy Quartermaster General in New Zealand (Gamble 1864, p.57). (Note: Track/ road from Tuakau Redoubt to Cameron Town.)





mill dam or bridge

Figure 8 Maori flour mill at Tuakau village, SO plan 415 (circa 1865 or 1866).

## THE WAIKATO CAMPAIGN OF THE NEW ZEALAND WARS

On 9 July 1863 Maori in South Auckland were required to take an oath of allegiance to the Queen and give up their arms or remove to beyond the Mangatawhiri River (Figure 9). The demand was ignored by most of the Waikato Maori and followed by a virtual declaration of war on 11 July by the Colonial Government. The declaration indicated the government's intent to establish posts throughout the Waikato to maintain order and peace. On 12 July the colonial government took action—British troops crossed the Mangatawhiri.

“Three hundred of the 65<sup>th</sup> Regiment under Colonel Wyatt marched from Drury by a bush track toward Tuakau . . . to take possession of the place, and establish a post on high ground overhanging the stream, so as to secure the right flank of our river front, and to insure the safe passage of the steamers at that part” (Gamble 1864, p.44).

The force bivouacked for the night and continued through rough country the next day to Tuakau. Military records indicate, “The natives fled on the approach of the troops, leaving behind them a few arms, a small quantity of ammunition, a good supply of flour, potatoes, pigs, poultry, & c. of which possession was taken.” (Gamble 1864, p.45) The Maori at Tuakau crossed the river to the Pukekawa side.

War Correspondent John Featon commented that the force marched to Tuakau, “for the purpose of expelling the Maoris who had not left or given in their allegiance according to the Governor's order.<sup>19</sup> The village was situated on the edge of the river, and justly considered one of the prettiest and most flourishing in the lower Waikato. The land was good. Potatoes, kumeras, and corn grew luxuriantly, and each year filled the store houses of the Natives to overflowing. A water mill close by ground their wheat into flour, and their fruit trees were loaded with apples and peaches.” (Featon 1971, p.20)

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<sup>19</sup> A similar observation is made in the *Daily Southern Cross* 14 July 1863, p.3.

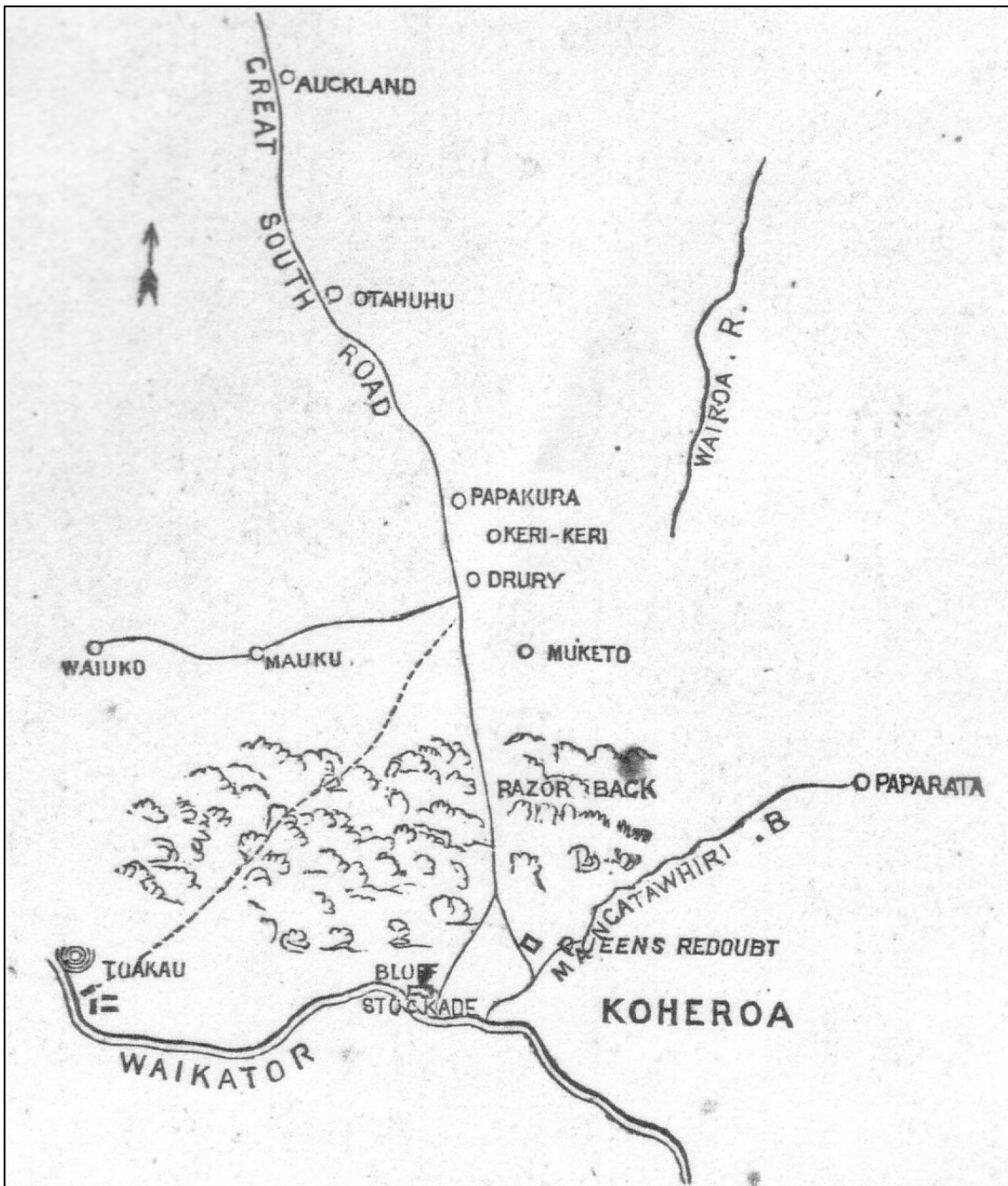


Figure 9 Plan showing the Great South Road and military locations near Tuakau—Bluff Stockade and Queens Redoubt (Gamble 1861-64, p.45). (Note: original copy of the plan in Gamble’s Journal was stained.)

The *Daily Southern Cross* reported, “When the troops appeared at Tuakau the natives crossed the river . . . leaving two old women hostages in our hands, a quantity of provisions and pigs, besides eight canoes, a quantity of powder and several stands of arms.” (*Daily Southern Cross*, 16 July 1863, p.3)

A company of soldiers remained to construct a redoubt on a bluff overlooking the Waikato River (Figure 10). Alexandra Redoubt at Tuakau was the first redoubt situated on Maori



land in the Waikato country (Lennard 1986, p.83). The redoubt was named Alexandra Redoubt after the consort of the then Prince of Wales (later King Edward VII), but was frequently referred to as the Tuakau Redoubt. Historian Thomas Turbott commented that the site was formerly a pa used in intertribal wars (Turbott 1989, p. 35).

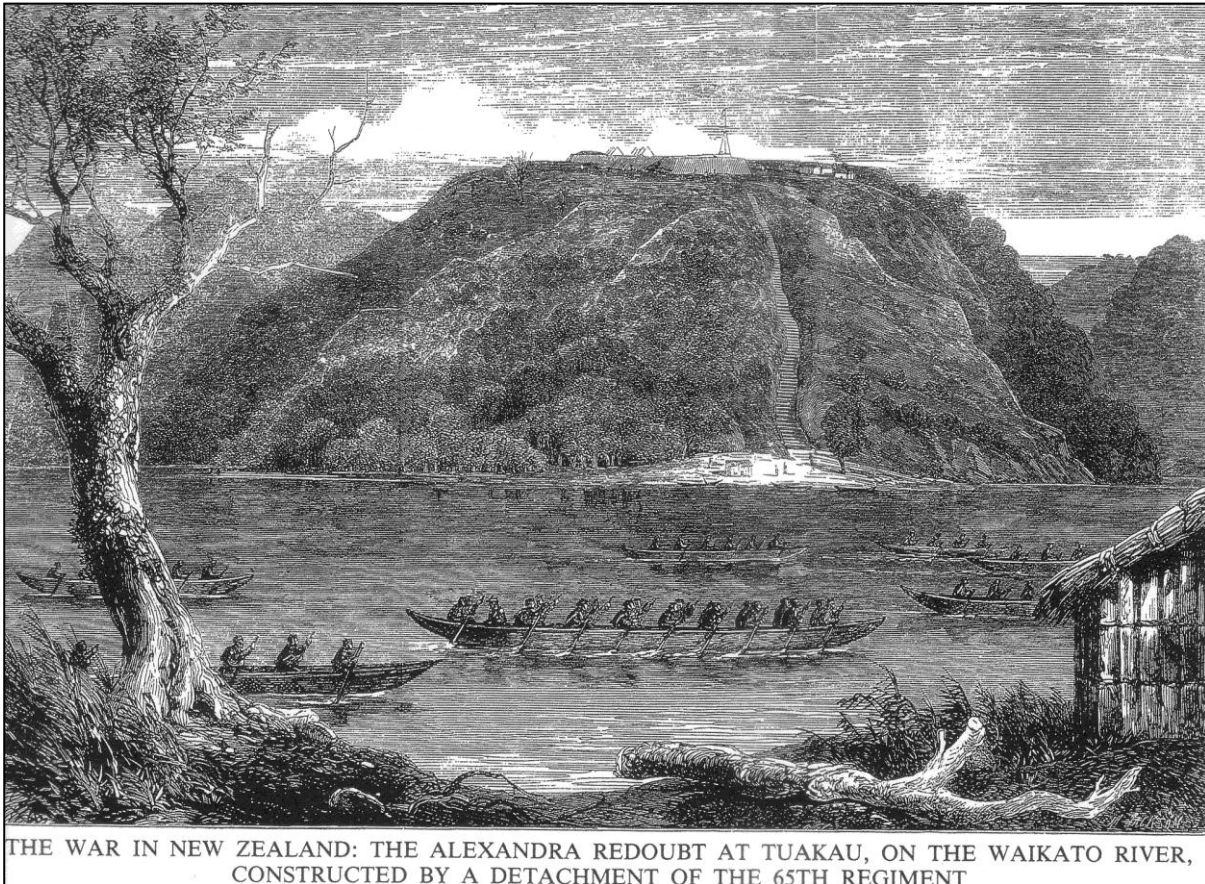


Figure 10 Alexandra Redoubt, Tuakau. (*The Illustrated London News in Sketches From Early New Zealand*, Published by David Bateman 1985).

Lennard observed in *The Road to War* (1989), the canoes shown in Figure 10 were manned by men of the 65<sup>th</sup> and used to keep the river clear of the enemy. "It was also reported that at night a string of lanterns flickered across the river as a primitive forerunner of the modern searchlights." (Lennard 1986, p.84)

### ***Redoubt Construction***

Once the redoubt site was cleared defence features, ditches and banks, were constructed. The redoubt plan was based on the design of Lieutenant Hurst of the 12<sup>th</sup> Regiment, formerly of the Royal Engineers (*Daily Southern Cross* 5 October 1863, p.5). Alexandra Redoubt was designed to hold 100 men and paved. By 28 July 1863 the 65<sup>th</sup> Regiment had completed the redoubt and in due course it was turned over to Major Broun<sup>20</sup> (Lennard 1986, p. 82-84).

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<sup>20</sup> Excerpts from the Diary of Captain Thomas Broun of the 1<sup>st</sup> Waikato Militia Regiment are included in the *Tuakau District Centennial* booklet.

It was described in early October 1863 by a newspaper correspondent,

“The position is certainly the most commanding of most of the posts established by General Cameron. . . The river face is precipitous, but landward the descent is gradual towards the old Maori village of Tuakau, which is about a mile away. When the troops first occupied this post the bluff was covered with bush and tall fern, which have since then been cut and burnt off to such an extent as prevents surprise. . . The prospect (sic), I should say, east and west, is twenty miles, and it would be difficult to name any similar extent of river scenery which makes an approach to the varied beauty the eye can take in at a glance from Tuakau Redoubt.” (*Daily Southern Cross* 5 October 1863, p.5)<sup>21</sup>

The redoubt featured a natural landing and a flight of 365 steps cut into the eastern (river side) face of the bluff and a winding path on the western side for the conveyance of supplies (*Otago Daily Times* 7 October 1863, p.6) (Figure 10). Boats docked near the base of the steps where there was a small landing. At the foot of the steps a memorial cross was erected made of three blocks of sandstone, raised on a tree stump. The memorial was inscribed with “India, Arabia; 65<sup>th</sup> Tuakau 1863” (Lennard 1986, p.84).

### *Guarding the Waikato River*

The Waikato River formed the main transportation corridor for supplying Tuakau Redoubt and other redoubts up and down river. Access to the Great South Road from Alexandra Redoubt<sup>22</sup> was by a track suitable only for pack-horses, not wagons (Turbott 1989, p.35). A track linked the redoubt to Cameron Town, a major commissariat depot (Figure 7).

Supply demands at Tuakau would have included military issued food rations and equipment. The standard food ration was deducted from the soldiers pay at a set rate (stoppage rate). The soldiers’ diet was composed primarily of meat and bread (Figure 11). A vegetable ration was added three months after the troops began occupying Alexandra Redoubt. British military officers requested the vegetable ration based on the lack of vegetable sellers in the areas being occupied and the continuous movement of troops which prevented the planting of gardens. Soldiers commonly kept gardens to serve their needs. Attempts may have been made to establish vegetable gardens at Tuakau.

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<sup>21</sup> The perspective of the river below the redoubt and east and west is currently obstructed by trees and dense high bush (March 2014). The integrity of the redoubt would be improved by the creation of view shafts from the redoubt to the river.

<sup>22</sup> Alexandra Redoubt is frequently referred to as Tuakau Redoubt in the Deputy Quartermaster General’s Journal and other war related correspondence.

No bread ovens were listed as being operated at Tuakau. The nearest bakeries were at Queens Redoubt and Waikato Heads. It is likely the bread ration came by canoe or boat from either post along with wholesale cuts of beef or sheep. The camp cook may have also prepared bread in a camp oven.

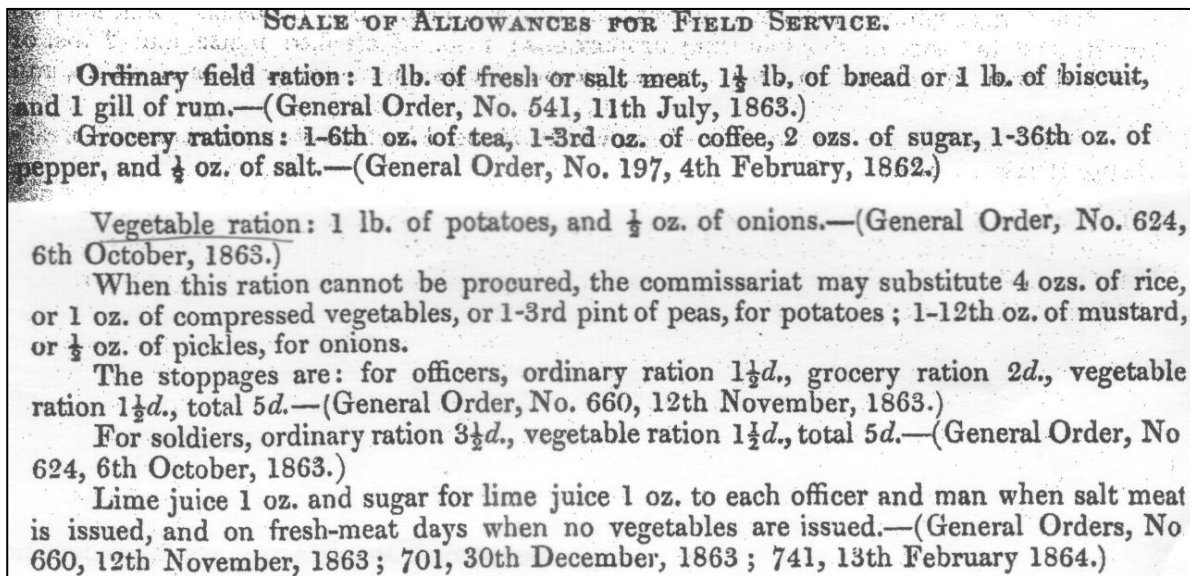


Figure 11 Military rations; allowances for field service in New Zealand (Jones 1864, p. 75-76 in Simmons 2013).

Figure 10 shows tents inside the redoubt and three or four buildings outside the defensive banks. One of these outer buildings may have been the canteen (mentioned in Captain Thomas Broun's diary in *Tuakau District Centennial* 1965). A place where men and officers could obtain alcohol and other non-military issued foodstuffs. Based on archaeological evidence, the types of non-military issued food that were consumed included Lea & Perrins sauce, Yorkshire relish, many varieties of fruits, shell fish, eggs, milk, fresh pork, fowl, as well as other foods. The commercially produced proprietary sauces, like Yorkshire relish, would have been obtained from store keeper/ sutlers, canteen men, or shipped to the front from Auckland. Other foodstuffs would have been obtained from friendly Maori or by gathered/ pillaging. It is likely that any food stuff left by the Maori at Tuakau village was seized and used by the army. The extra foodstuff would have contributed to the nutritional welfare of the troops, and in the case of sauces added flavour to the bland military diet. Alcohol also made up a large portion of extra's being consumed (based on the archaeological record from British and Colonial Waikato campaign sites).

Alexandra Redoubt was manned throughout the active phase of the war by both the British army regulars and colonial forces. With the movement of the invading British and Colonial forces into the southern Waikato other supply routes were also used, e.g. port of Raglan. In February 1864 Alexandra Redoubt is described as in need of immediate repair (*Daily Southern Cross* 17 February 1864, p.3). On 29 June 1864 it was observed in the *Daily Southern Cross* that there were no troops at Tuakau and the First Waikato Militia had left Pukekohe District. The departures from the northern district occurred in the wake of the victory by the British and colonial forces at Orakau in the southern Waikato on 2 April 1864—the last battle of the Waikato campaign.

In late 1864, following the period of military engagements in the Waikato in 1863-64 the Colonial Government advocated for the rapid phasing out of imperial troops.<sup>23</sup> The push for a reduction of imperial forces in New Zealand was an outgrowth of imperial government criticism of the colonial government's handling of Maori issues paired with the costs levied for the British Imperial Forces. By the end of 1865, British Forces in New Zealand totalled about 10,000 men, composed of the 12th, 14th, 18th, 40th, 43rd, 50th, 57th, 65th, 68th, and 70th Regiments, two batteries of Field Artillery, and Royal Engineers and Military Train (Barber 2011, p. 1). Over the next two years Imperial soldiers were rapidly deployed, primarily to England, although some chose to retire and remain in New Zealand. The last British regiment, the 18th, departed in February 1870 (Barber 2011). With the departure of British troops from New Zealand, military control passed to the Colonial Defence Forces.

The redoubt is a marker of this period in New Zealand's history—an episode that would affect many generations of New Zealanders (Figures 12 through 14). Lennard (1986) commented:

“The remains of this [Tuakau Alexandra] redoubt are among the best preserved in the lower Waikato area . . .the parapets, ditches and the two caponiers<sup>24</sup> are more or less as left by the troops, and the stone causeways flanking the tent lines are still there, as is the well (now filled in). The north-eastern caponier is now occupied by an obelisk bearing the names of soldiers who fell in the district. Frost, in his *Maori Trails and Pakeha Roads*, mentions that two 63 pounders were set up in the caponiers and on one occasion were fired at Maori canoes, but gives no authority for the statement; and guns of this calibre do not appear on the official lists. Outside the redoubt walls is now an old cemetery . . . some of the totara steps were in place in the 1950s. There is now no trace of them.” (Lennard 1986, p.83-84)

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<sup>23</sup> The financial burden the British troops placed on the Colonial treasury probably prompted the reduction in troop numbers.

<sup>24</sup> Caponiers- a structure for defensive firing designed for conducting flanking or oblique fire.

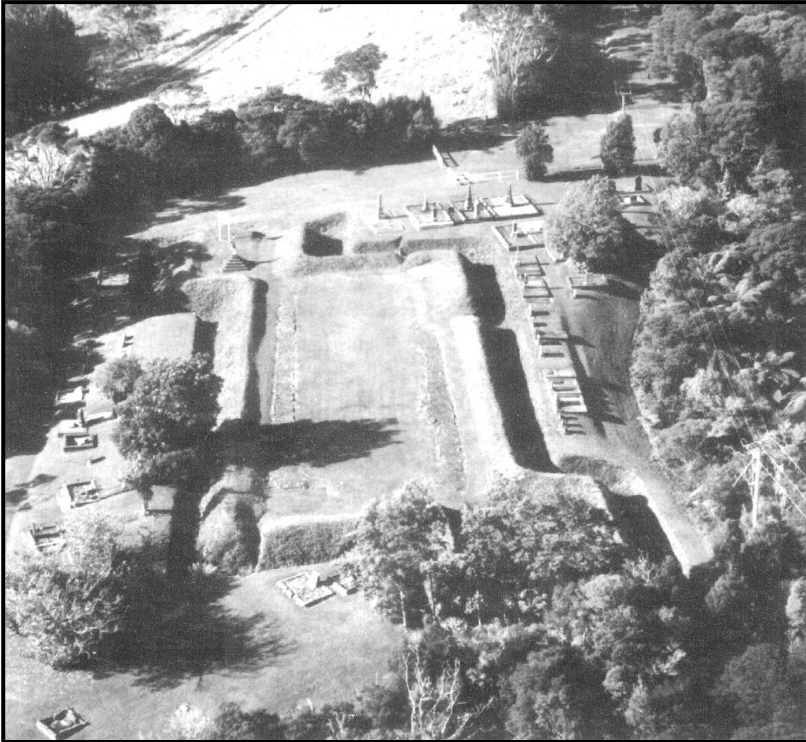


Figure 12 Alexandra Redoubt (Weber, 1993, p.10).



Figure 13 Alexandra Redoubt, Tuakau (Tuakau and District Museum Society Inc. n.d., photo #183; notebook Tuakau Public Library).





erosion.

Figure 14 Alexandra Redoubt, 2014.

*Note: erosion of the banks is increased by the opportunistic visitor paths through the bank.*

## LAND CONFISCATION AND EUROPEAN SETTLEMENT

In December 1864 the colonial government confiscated 10,887 acres at Tuakau through proclamation—it became part of the Northern Blocks of the Waikato (AJHR 1865, p.38). The Maori Compensation court under Judge Fenton considered compensation claims for the Tuakau block in April and May 1865 and awarded £230 in individual claims (Morris 1999a, p.134). The land in Tuakau and adjacent settlements was slated for settlement under the Special Waikato Immigration Scheme. The government intended to bring 20,000 immigrants to New Zealand for settlement on the Northern Blocks. Government agents sought emigrants from England, Scotland, Ireland and the Cape (South Africa) to settle the Northern Block (Allen 2006, p.8). Conditions for the selection of immigrants and the terms of settlement related to the country of origin, the class of immigrant, and whether passage was paid by the government or the immigrants.

“Four main classes of immigrants were initially sought: 'labourers', 'mechanics', small farmers, and capitalists. The 'labourers' (agricultural and railway workers) and 'mechanics' (industrial craftsmen and artisans) were to be offered free passages plus a land grant if they resided on that land for three years. Exact conditions varied slightly between immigrants from the United Kingdom and immigrants from the Cape. Whereas there was a surfeit of applications from people eager to leave the depressed Cape Colony, the quantity of land offered to English and Scottish immigrants had to be increased to provide an adequate incentive. Thus immigrants from the Cape were entitled to five acres, whereas immigrants from the United Kingdom were entitled to ten, plus five for each child above 12 years old. Both could apply for an additional grant of ten acres, plus five acres for their wives and children over 12 years old, if they repaid half their fare. Small farmers were expected to pay their own passage but would receive a 50 acre land order per adult (plus 25 acres for each person between 12 and 17 years) if they stayed for three years. The capitalists would be attracted by the large areas of land available for purchase and would therefore come and provide supplementary employment for the other immigrants.” (National Archives Leaflet 5 in <http://homepages.ihug.co.nz/~jess/scrapebook/geneology/waikato> 2014, p.1).

The general land grant was one town allotment and one 10 acre suburban section with further entitlements for repaying half the passage money within three years, but there were variations. For example South African emigrants that paid their own passage were granted 5 acres and no mention was made of a quarter acre town section (Morris 1999a, p.141). Immigrants from Britain who paid their own fare (per the 1858 land regulations) were entitled to a grant of 40 acres (Morris 1999a, p.141-142).

By October 1864 immigrant ships were departing for New Zealand. The immigrants arrived and were frequently housed in the Onehunga immigration barracks or tents in the towns while their suburban sections were surveyed. Tuakau Block was among the areas surveyed after many of the immigrants had arrived.

The delay in settlement of immigrants was a result of the shortage of surveyors and the huge demand—several experienced chainmen were promoted to fill the gap. In late February 1865 Mr Graham was removed from surveying the coal pit area [Huntly?] and directed to lay out roads in the Tuakau Block. The Tuakau Block was temporarily withdrawn from the settlement scheme and the survey suspended while negotiations were going on between the government and Auckland Province for the purchase of a railway depot site. In April, Charles Heaphy, the Chief Surveyor directed Mr O'Meara and Mr Pugh to complete the road lay out. It was then proposed by Mr Heaphy that the best land along the roads be cut into fifty five-acre allotments as part of the Waikato Immigration scheme followed by the survey of lands for sale (AJHR 1865, p.38).

On July 11, 1865 William Morgan observed:

“I visited Tuakau, now I suppose Provincial property. We found various surveyors engaged in laying off allotments. When I was last there the natives were living there in large numbers. Now only vestiges of whares are seen, the military having consigned them to flames. Peach trees there are in great numbers but little else. . . There seems to be only one landing place, extensive swamps existing all along the banks of the Waikato.” (Morgan in Morris 1999b, p.116)

### **The Tuakau Immigrant Camp**

Tuakau was viewed as a promising settlement with fertile land. William Morgan commented in July 1865,

“Tents were erected [in Tuakau] for the accommodation of the Immigrants, who had yet arrived. Tuakau is a desirable place of residence, has some very good land—large flats of alluvial soil—and will eventually become a town of some size.”(Morgan in Morris 1999b, p.116)

The tents supplied by the army were erected on the land later used for the Domain Tennis Courts and an adjacent area was planted in potatoes (Turbott 1989, p.37). The potato patch was a former Maori garden (Kerse and Kerse 1994, p.22). It was associated with the village mentioned at the beginning of this chapter. The immigrant tent settlement was probably



near the stream. The camp would have featured fire hearths for cooking and probably disposal areas and privies.<sup>25</sup> A war correspondent observed:

“At Tuakau a considerable breadth of land has been got in under direction of Mr Harris, the Government Officer there. . . We were quite surprised on visiting Tuakau lately, to see the large quantity of horses, cattle, & c. Which have been acquired by the immigrants stationed there.”(Daily Southern Cross, 3 November 1865, p.5)

The Reverend Vicesimus Lush visited Tuakau on 8 February 1866 and described the camp in his journal:

“I got to Tuakau—most of the people still living in tents. Mr Benjamin Harris had promised me a (sic) lodging so I rode to the place where he put up. It was, I found, a long corrugated-iron store divided into two rooms by a low partition: the first was furnished with a counter and served as a shop, and was crowded with groceries, stores, & c.—the hinder room served as a kitchen and eating room and sleeping room. . . as the room was swarming with mosquitoes (sic) I turned out for a stroll by the banks of the Waikato river. . . Mr Harris came and said my bed was ready: he took me into the iron store, into the room behind and pointed to one end of a bunk that ran the whole length of the room . . . One man was already in bed and apparently asleep on the opposite end . . . Before long no less than six men had settled down in this small room for their night’s rest. . . We breakfasted at 7—again no meat.” (Drummond 1982, p.67-68)

The description provided by Reverend Lush suggests the store was also a local hotel and served meals. The store-hotel may have catered to single male immigrants. It was the first store in Tuakau. Nona Morris (1999a) suggests that Mr Benjamin Harris, who was in charge of immigrant road building, may have been running the store on behalf of the Government.<sup>26</sup> The store-hotel was probably near the river south of the immigrant camp, possibly at the landing, based on Reverend Lush’s description.<sup>27</sup>

Nearly all the immigrants were still living in tents in late February 1866, but 25 acres of land at Tuakau was ploughed and laid down in potatoes<sup>28</sup> (*Daily Southern Cross* 22 February 1866, p.3).<sup>29</sup> Many of the immigrants were receiving pay for road work. Road

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<sup>25</sup> The camp was probably set up by local contractors or by a division of the colonial militia, but this would need to be researched.

<sup>26</sup> Mr Harris was appointed by the Government to take charge of the newly arrived immigrants located at Pokeno, Tuakau and Pukekohe (*Cyclopedia of New Zealand* 1902, p.690).

<sup>27</sup> This is only speculation based on limited information.

<sup>28</sup> The potatoes may be those referred to by Turbott as being adjacent to the immigrant camp.

<sup>29</sup> The 25 acres may have been the potato ground next to the immigrant camp.

construction was the major public work project in the Tuakau/ Pukekohe area. The road construction workers were paid 5 shillings per day for a six day week (Kerse and Kerse 1994, p.15).

Other employment options in 1866 included flax preparation. Tuakua flax (*Phormium tenax*) was reported to grow to 6 feet long, perfectly clean, and free of gum (*Daily Southern Cross* 14 July 1866, p.5). The government sent Finlay Macmillan to Tuakau to direct flax processing by the immigrants. The men employed in flax dressing were paid 3 shillings a day which was considered a poor wage (*Daily Southern Cross* 14 July 1866, p.5). The location of the 1866 government flax mill has not been identified. It is likely it was a water powered mill on the creek near the immigrant camp.

The conditions at Tuakau were rudimentary and the settlers faced many obstacles. The 10 acre blocks at Tuakau were covered in bush. The land grants were situated in the vicinity of the Alexandra Redoubt, at Whangarata and near Harrisville (Morris 1999a, p.172). The intent of both the government and the immigrants was the same—settlement on the allocated land.

The government provided the married men ten day's rations and single men seven days' rations while they constructed huts on their allotments. The first houses, slab huts, were constructed by felling trees and splitting the timber into slabs for the walls. Shingles or probably more commonly nikau palm leaves were used for roofing and the floors were packed earth. The huts were one or two rooms in size and might incorporate a tent in the design. Window openings were covered with oil cloth (Kerse and Kerse 1994, p.16). Some of the settlers probably constructed separate cooking buildings or sheds, for others the main fireplace served as the cooking area (Turbott 1989, p.37-39).

The colonial government also advanced cash, seeds, and other essential commodities that had to be repaid before the Crown land grants were issued (National Archives Leaflet 5 in <http://homepages.ihug.co.nz/~jess/scrapebook/geneology/waikato> 2014, p.1). By early May 1866 many of the settlers were on their ten acre allotments and each family had one or two cows (*Daily Southern Cross* 4 May 1866, p.4).

Some of the later arrivals from Ireland were visited by Reverend Lush on June 16, 1866. He wrote:

“These poor people are worse off than any I have seen. They are not yet on their own land—most of them have not even seen it and the few who have say it is all dense forest: moreover there are no roads formed to the blocks of land which has

been allotted to them. . . I found there were here no less than 32 families belonging to the Church.” (Drummond 1882, p.87)

### ***Settlers Housing and Farms***

Settlers houses, as I already noted were rough slab huts. Later better houses were constructed. Making the farms productive involved clearing the land of bush and tree stumps and propagating small crops of potatoes, wheat, corn, etc. on the land. Grass was also sown to provide for livestock essential for milk, meat, land cultivation, and transportation. The early settlers’ farms were agricultural factories. They produced the meat, dairy products, vegetables and grains that sustained them. Other farm products might include wool. Many of the farmers also worked in local industries like the flax industry or had special skills, e.g. boot making. It was not an easy life—the wheat had to be reaped by hand, threshed, and cleaned, prior to grinding into flour and bran. From the first settlement period into the early 1880s the wheat had to be carted to the mill in Pukekohe for grinding. The alternative was hand milling, a slow small-scale process.

### **Tuakau; The Early River Town And The Later Railway Town**

Many of the new immigrants remained on their land and help build the town of Tuakau, others sought other opportunities. In 1867 land was offered for sale at Tuakau (Morris 1999a, p.175). The opportunity brought more settlers to the area. Only a few of the people involved in building the early town will be discussed. The focus, as in the previous section is on identifying the location of pre-1900 archaeological sites associated with Tuakau and areas that might be archaeologically sensitive.<sup>30</sup>

Tuakau town consisted of two towns that co-existed in the 1870s and 80s and several outlying farm based districts. The older township along River Road focused on the Waikato River and the later 1875 town was centered near the Railway line. Both transportation corridors were important to Tuakau’s growth, but eventually the railway centered town dominated.

### ***Early Tuakau; The River Town***

Early Tuakau was a Waikato River town. The Tuakau Landing was accessed via River Road. The old SO 415 survey plan drawn to divide the land into lots shows what appears to be a structure near the landing (Figures 15 and 16).

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<sup>30</sup> A detailed land title search and archaeological assessment would be necessary to identify the potential for slab huts, houses and other pre-1900 structures on the original allotments. This level of detailed work is beyond the scope of this report. Pre-1900 structures recorded by surveyors or those noted in the historical references reviewed have been recorded as possible. It is acknowledged their may be omissions in the information compiled. Historical information is not static and is constantly being added to.



Figure 15 Early Plan of Tuakau, SO 415.





Figure 16 Tuakau landing and building. (Excerpt SO 415.)

Tuakau Landing served as a significant transportation location throughout much of Tuakau's history. Tuakau was a stop for river boats plying the Waikato in the late 1860s and early 1870s. The early landing was quite primitive. It lacked facilities for unloading and loading boats. River transport was affected by river conditions and the 1875 opening of the railway from Auckland to Mercer with a stop at Tuakau. Figure 17 shows the landing in 1899, near Frosts' flax mill.

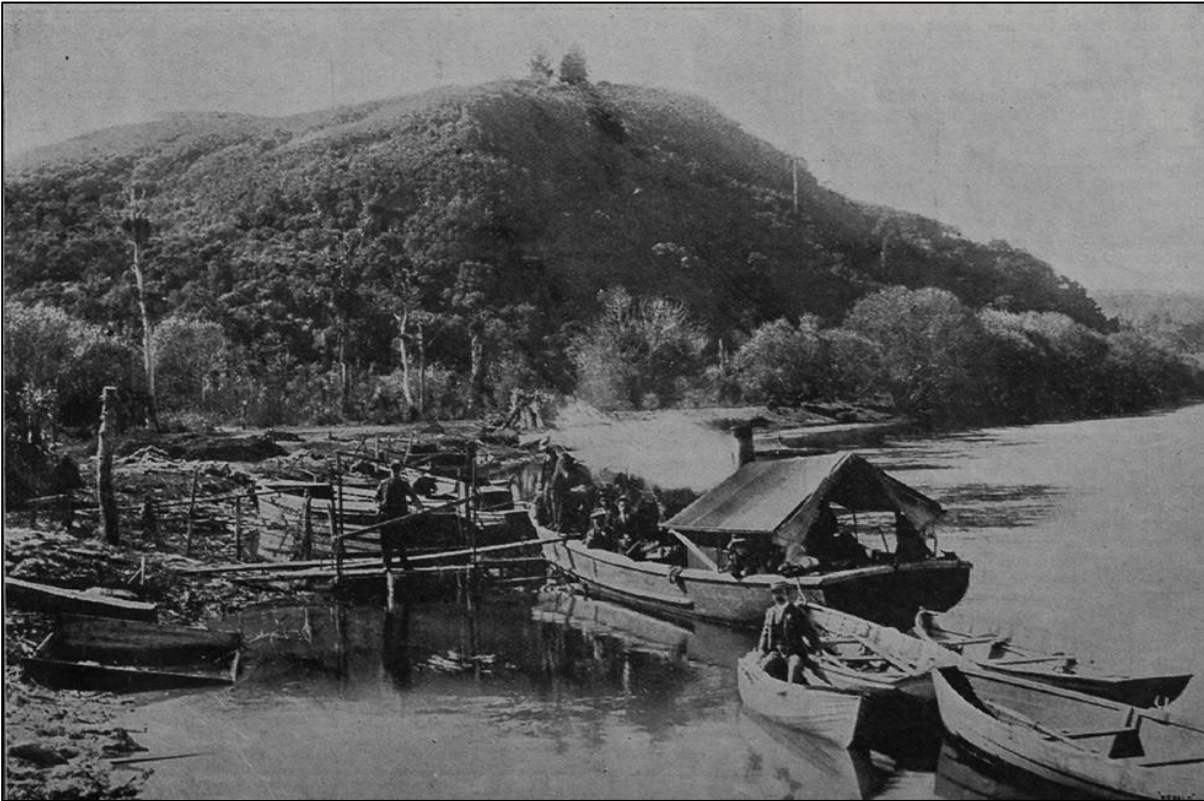


Figure 17 Tuakau landing near Frosts' flax mill. (Pegler, Supplement to the *Auckland Weekly News* 09 June 1899, p.5, Sir George Grey Special Collections, Auckland Libraries, AWNS-18990609-5-3.)

In 1886 a government grant funded the establishment of a punt near the landing (Anonymous History of Tuakau ca. 2000, p.8), Figure 18 shows horses being conveyed across the river. The Tuakau Punt provided access across the Waikato River prior to opening of the first bridge on 26 May 1903 (Figure 19).



Horses on the punt

Figure 18 Tuakau Punt before the Tuakau Bridge was built (HCL 4335 Hamilton Public Library).

The Tuakau landing area and foreshore were actively used and occupied by the European settlers into the early 1900s (Figures 20 and 21). But by 1913, the commercial focus on the river was declining. The newspaper reported: “there is only a collection of three or four houses on the river bank, there is still a jetty at which the launches call, a quaint old stern-wheel steamer puts out coal, and boats call with flax for the mill close by.”<sup>31</sup> (*Auckland Star* 1913, p.9)

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<sup>31</sup> This was George Walker’s mill. He was also raising flax from seed sown in about 1910. Other millers in the vicinity were the Lapwood Brothers, B. Geraghty, and J. Dromgool. The white bait factory and bone factory were also operating. (*Auckland Star* 1913, p.9)



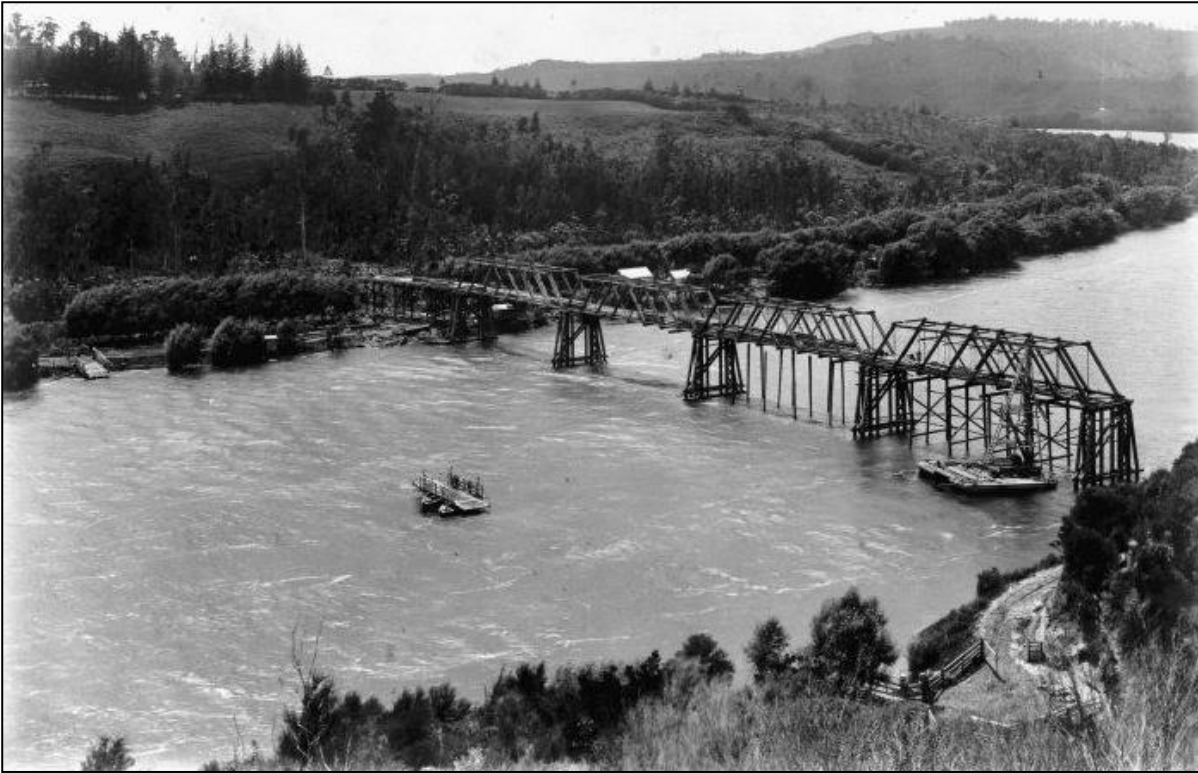


Figure 19 Overlooking the Waikato River, and Tuakau bridge under construction, 1902.  
(Alexander Turnbull Library 1/2-077507-F [http://mp.natlib.govt.nz/detail/?id=24186.](http://mp.natlib.govt.nz/detail/?id=24186))

(Note: the punt landings on the foreshore on either bank of the Waikato.)



Figure 20 Tuakau foreshore/ landing circa 1900.

(<https://www.google.co.nz/search?q=Tuakau+historic+photographs.>)



Figure 21 Tuakau Beach 1902, George Lapwood's boats the Shamrock and Lauence McQuire's bullock team. (Tuakau District Historical Society Inc. n.d. page 260).

### *River Road; Early Town Centre*

The early town of Tuakau was laid out along River Road. The focus was on the main transportation corridor, the Waikato River. The store and accommodation building operated by Mr Harris in 1866 (which was already discussed) was probably near the landing on the Waikato River. Harris was not the only businessman in the new town. John Poland opened a store in his house in 1868 (Figure 22). Poland's property was reportedly near that of John Collins, another early Tuakau entrepreneur (Figure 23).<sup>32</sup>



Figure 22 John and Tessa Poland's house and general store, Tuakau.

(Note: General Store on the far end of the house.)

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<sup>32</sup> Poland's store is described as being located on the property of Mr A. E. Welsh (Morris 1999a, p.172. The location of A.E Welsh's property has not been identified.

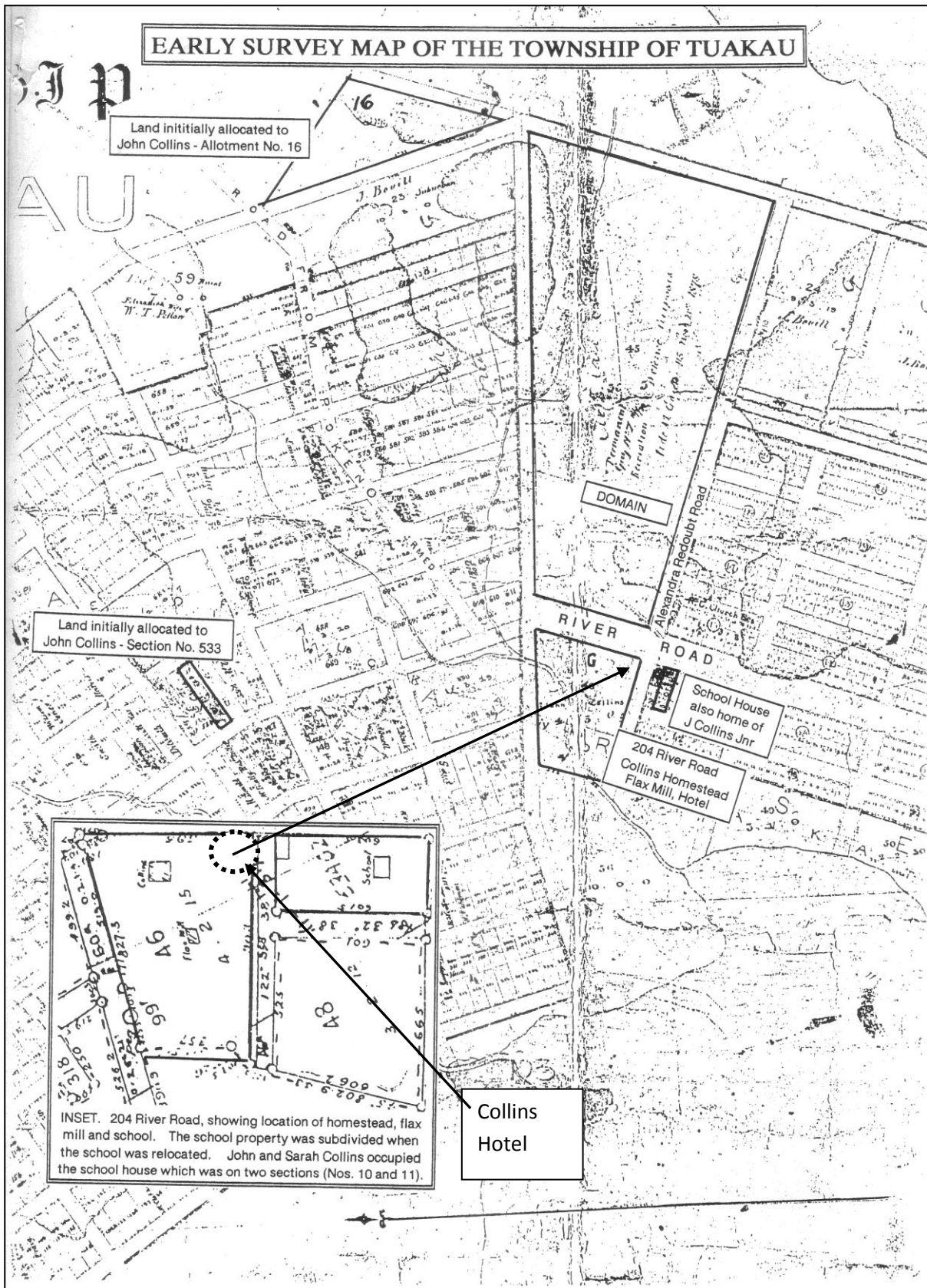


Figure 23 Early Survey Plan of Tuakau showing the Collins property (Kerse and Kerse 1994, p.13 and p.21).



John Collins was industrious and involved in many local enterprises over the years. For example he established a flax mill on his property at 204 River Road in the late 1860s, and later a hotel. The Collins house on River Road, Figure 24 provides an example of the home of a family that prospered in Tuakau. The house probably consisted initially of a single gable house with a lean-to with the second gabled section added later. John Collins established a large orchard and built a glass house on the property.

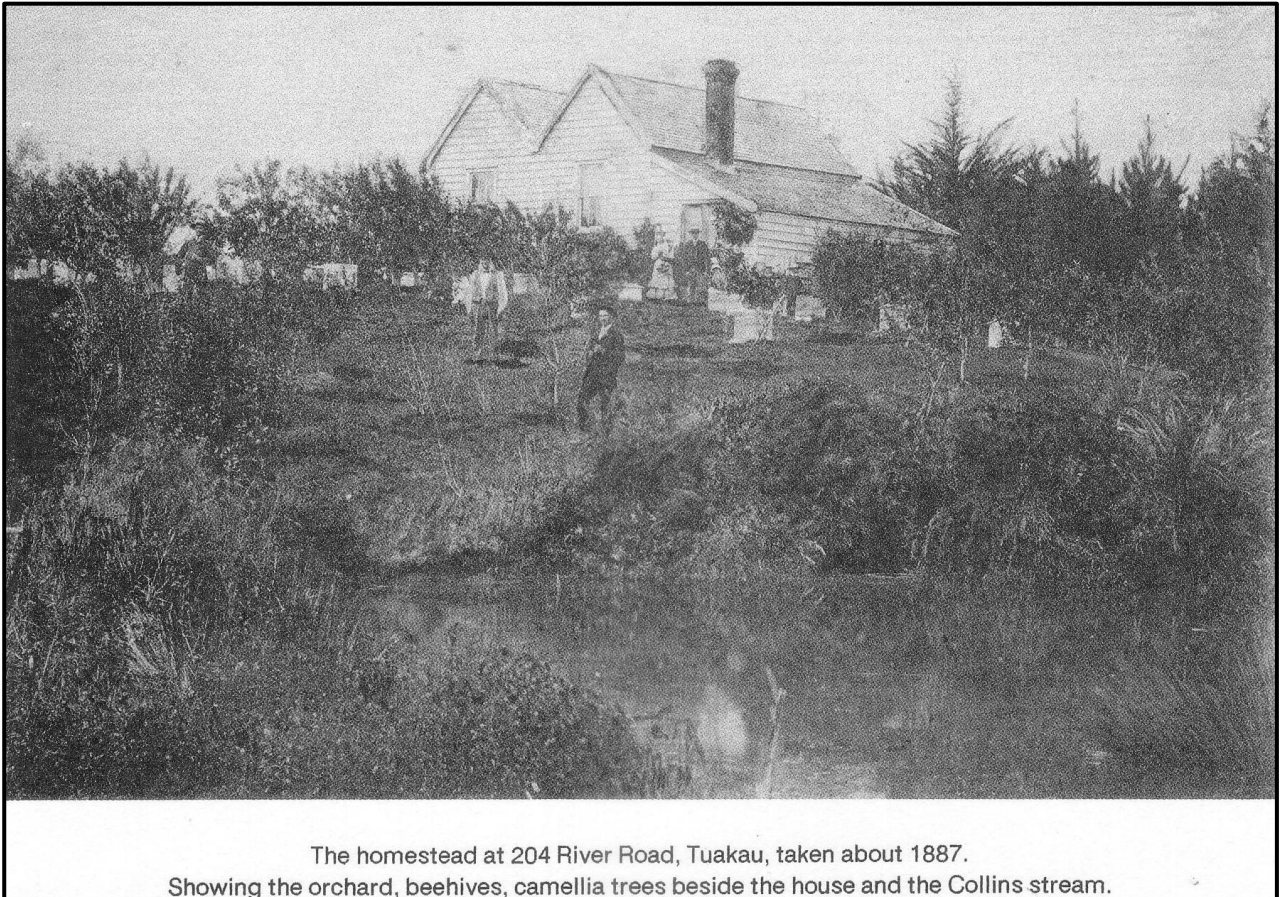


Figure 24 The Collins' family home at 204 River Road, 1887 (Kerse and Kerse 1994, p.iii).  
(Note: The house was destroyed by fire (Kerse and Kerse 1994).

By 1869 the new town had its first church. In 1869 St Andrew's Catholic Church was established opposite the Domain on River Road (Figure 25). The church was constructed by John Poland. Like many of the early settlers he had a diverse range of skills. The first St Andrew's was a modest size building, 24 x 14 feet. Eight years later the floor space was doubled (Van Gessel 2005).

The land surrounding the Catholic Church was used for drying flax (Van Gessel 2005). Other fields in the area may have also been used for flax drying. River Road provided direct access to the Tuakau landing, the delivery point for green flax. Collins Flax mill was across River Road from the first Catholic Church. Other mills were probably also located in the area. (The old Catholic Church site is now part of a cultivated field.)

After the church was established a school was opened in 1870 on River Road near the Domain (Figure 25). The first school was housed in a shed erected for military purposes. The site is now occupied by Howell's Engineering Shop (Morris 1999a, p.185). The school had 20 pupils in 1871 (Morris 1999a, p.184). The school house (former military shed) was repaired during the following year.

According to the 1902 Cyclopedia of New Zealand the old school was located on an acre-size lot. It was built of wood and shingle and contained one class room and a porch (Cyclopedia of New Zealand 1902, p.690). The Cyclopedia goes on to note, a larger school teachers house with five rooms was constructed on the property and a shelter shed was located on the playground. The school had a roll of forty-one pupils in 1902 (Cyclopedia of New Zealand 1902, p.690). The school building was removed from the site and is now occupied by D.R. Howell's Engineering Company.



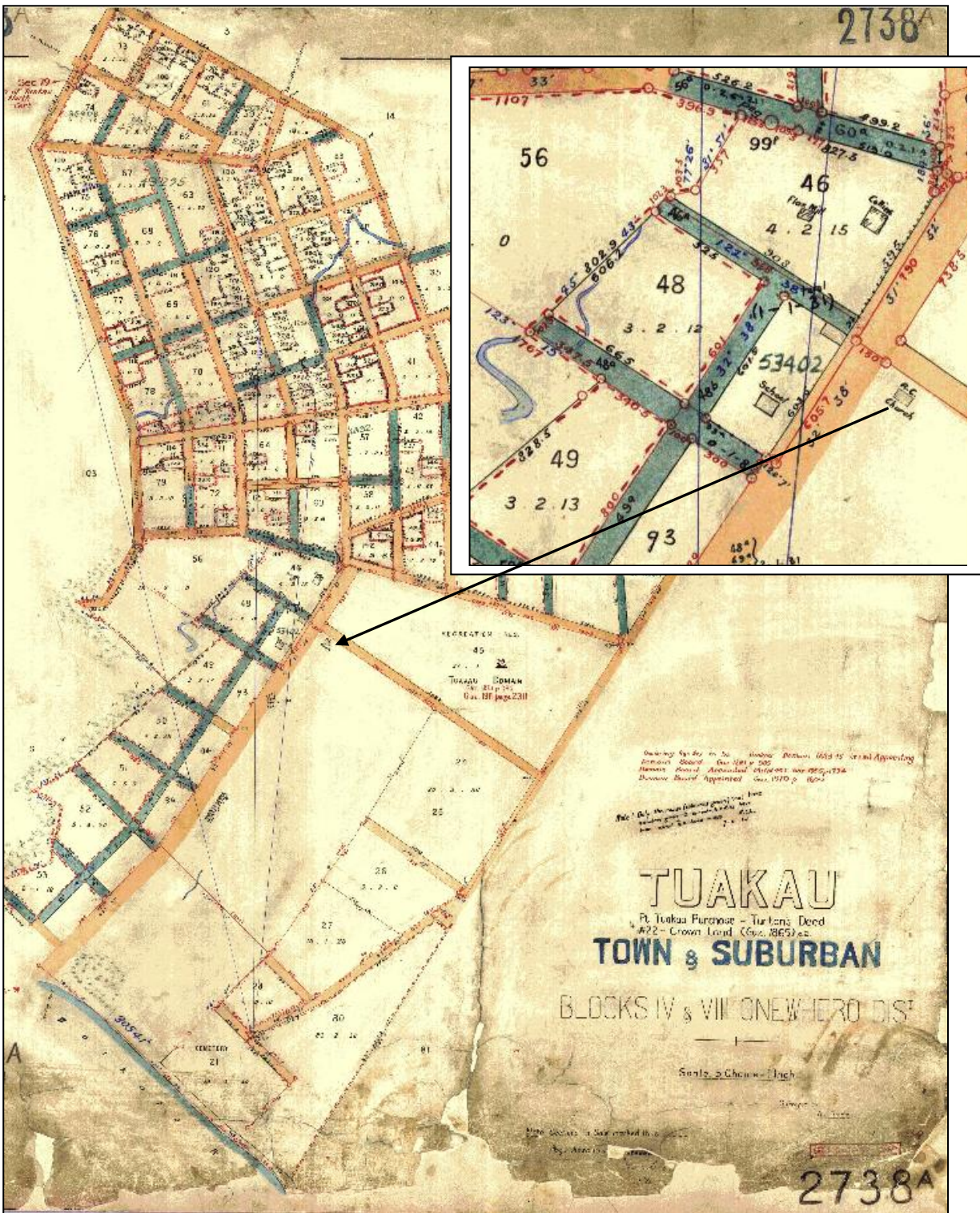


Figure 25 Location of St Andrews Catholic Church in 1859 adjacent to the Domain.

### *The Railway Town of Tuakau*

The opening of the Railway in 1875 about a mile to mile and a half from the original river focus settlement resulted in the establishment of a second commercial center (Figure 26). The two towns contained similar commercial enterprises, but public building (schools and churches) were divided between the two areas. One area provided river transport access the other rail.

For an approximately ten years similar types of businesses were operated in both areas — eventually the town shifted north. For example, in early July 1875 it was reported four stores were open in Tuakau. Along River road were Mr Collins store and post office<sup>33</sup> and Mr Poland's store; near the new Railway Station was Mr Walker and Mr Fergie's store. Two hotels were providing lodging in early 1880s, Collins River Road Hotel opposite the Domain on River Road<sup>34</sup> and the Tuakau Hotel<sup>35</sup> near the Railway Station.

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<sup>33</sup> In 1876 the *Daily Southern Cross* reported John Collins was operating a store and post office from his River Road property (*Daily Southern Cross* 23 November 1876, p. 3).

<sup>34</sup> By 1877, possibly earlier, the Collins Hotel was located on the corner of Collins property opposite the Domain Tennis courts (Kerse and Kerse 1994, p.17-18)—“in the corner opposite the road to the Alexandra Redoubt.” (Kerse and Kerse 1994, p.21)

<sup>35</sup> Also referred to as the Tuakau Family Hotel.





The railway station featured a station master's cottage and goods shed<sup>36</sup> (Figures 27 and 28).

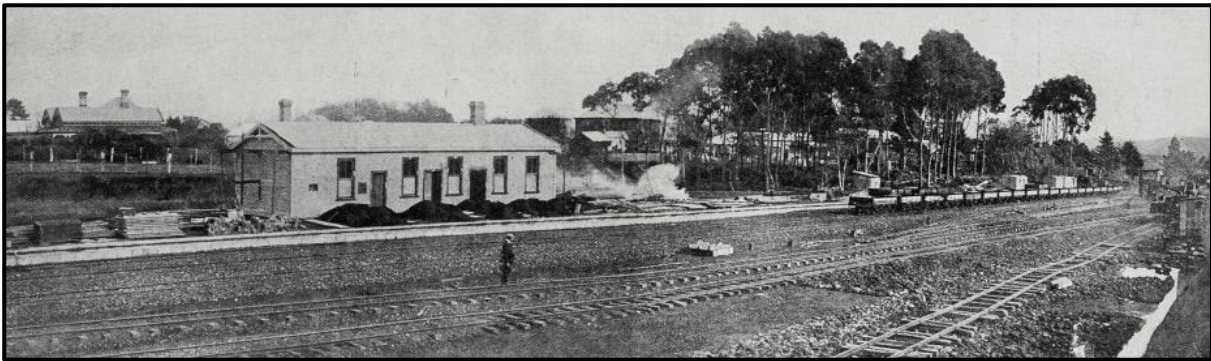


Figure 27 Tuakau Station, Improving the Waikato Railway 10 August 1911(A.N. Breckon, *Auckland Weekly News* in Sir George Grey Special Collections, Auckland Libraries, AWNS-19110810-15-2).



Methodist Church      Hall

Figure 28 Tuakau Hill with railway yard and rolling stock in the foreground in early 1900s. (W. A. Price. Ref: 1/2-001526. Alexander Turnbull Library, Wellington, New Zealand. [http://natlib.govt.nz/records/23073105.](http://natlib.govt.nz/records/23073105)) (Note: A road leads up a slight incline towards houses and the former Literary Hall. The hall is still on the hill, but is being converted into a house. The Methodist church was located adjacent to the hall.)

<sup>36</sup> *Auckland Star* 20 May 1875, p.2 and *Daily Southern Cross* 10 July 1875, p.3.

The new railway provided access to nearby towns and helped to grow Tuakau. Figures 29 through 34 provide visual illustrations of Tuakau's commercial centre in the early 1900s. Tuakau had a butcher and by early July 1875 a baker.<sup>37</sup> By late March 1889 there were several butchers, blacksmiths, and shoemakers.<sup>38</sup> Other business people including seamstresses also had businesses in the community.<sup>39</sup> Many of the businesses were involved in several types of activities, e.g. the Tuakau Bakery operated a refreshment room and a boarding house. In 1915 and 1916 it was being refurbished and new baking facilities added (Figures 30 and 31). These changes are typical of the modifications made to businesses over the years.

### *The Outlying Districts*

The outlying districts of Harrisville and Whangarata developed as small focused farm communities. The families living in these areas used Tuakau (both the old river-focused Tuakau and the Railway town of Tuakau) as regional service centres. Harrisville, named for Major Harris, was settled by many Danish families (Cyclopedia Company 1902, p.44). It had school. Whangarata became a railway flag station and had a creamery, post office, and public school (Cyclopedia Company 1902, p.693). Today the Whangarata district retains at least one pre-1900 house, Glencairn at 85 Ewing Road.

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<sup>37</sup>*Daily Southern Cross* 10 July 1875, p.3. The locations of the butcher shop and bakery were not identified.

<sup>38</sup>*New Zealand Herald* 21 March 1889, p.6.

<sup>39</sup> The business district was not specifically researched. It is likely that the archaeological remains of earlier buildings may be evident in the old river-focused town area and in the Railway town under some of the pre-1950s buildings.



Figure 29 Tuakau Hotel early 1900s. (W.A. Price, 1866-1948 Ref: 1/2-001522-G. Alexander Turnbull Library, Wellington, New Zealand. <http://natlib.govt.nz/records/23218773>.)



Figure 30 Tuakau Bakery.  
(<https://jeandavidisabellaandjohn.wordpress.com/tag/whangarata-school/>)





Figure 31 Tuakau Main Street, circa early 1900s? (HCL\_08596, Hamilton City Council Library.) (Note: grocer (left) and Tuakau Bakery refreshment room and boarding house on the right (see Figure 2 and the Tuakau Bakery and Boarding house below).)

**Tuakau Bakery and Boardinghouse.**

15<sup>th</sup> April 1915

*M. J. Prescott*

SOIREES, PICNICS  
AND EVENING  
PARTIES Catered for  
at Lowest Rates.

BUTTER BOUGHT

WEDDING AND  
BIRTHDAY CAKES  
Supplied at Shortest  
Notice

EGGS BOUGHT

**Dr. to A. J. Prescott**

BAKER AND CONFECTIONER  
SMALL GOODS ALWAYS ON HAND

To account rendered

26 <sup>th</sup> Feb		
29 <sup>th</sup> Feb	1 <sup>st</sup> Fruit Cake	17 6
	1 <sup>st</sup> No. Madra Cake	10 1
20 <sup>th</sup> Feb	1 <sup>st</sup> No. Pasty	18 4
20 <sup>th</sup> Feb	1 <sup>st</sup> No. Mixed Cakes	18 4
15 <sup>th</sup> Feb	1 <sup>st</sup> No. Buns	13 9
14 <sup>th</sup> Feb	1 <sup>st</sup> No. Large Bread	10 6
26 <sup>th</sup> Feb	1 <sup>st</sup> No. Ham	11 9
		<hr/>
		£ 67 . 2

*Paid*  
13-4-15  
*M. J. Prescott*

**TUAKAU BOARDINGHOUSE.**

Since Mr A. J. Prescott has taken over the Tuakau boardinghouse considerable improvements have taken place. Painters have been busy on the exterior and interior and paper-hangers have paid attention to every room. The result is that both outside and inside the building has a much improved appearance. In the shop portion of the establishment a plate-glass window with white tiles set in behind has made a marked difference and allows Mr Prescott every opportunity of displaying his goods, a fine "two decker" wedding cake being prominent on the occasion of our representative's visit. Special provision is made for the storing of pastry and cakes, these being kept in a dust and fly-proof cabinet. The building of a new bakehouse and workroom, and the erection of a new oven with a capacity of 350 loaves, is now proceeding and it is expected will be finished in about three weeks' time.

Pukekohe and Waiuku Times on Friday 6 February 1914 in <https://jeandavidisabellaandjohn.wordpress.com/tag/whangarata-school/>

(<https://jeandavidisabellaandjohn.wordpress.com/tag/whangarata-school/>)



Figure 32 Tuakau Streetscape, n.d. [circa early 1900s?]. (A1569 Auckland War Memorial Museum Library.) (Note: view is through town to the railway line)

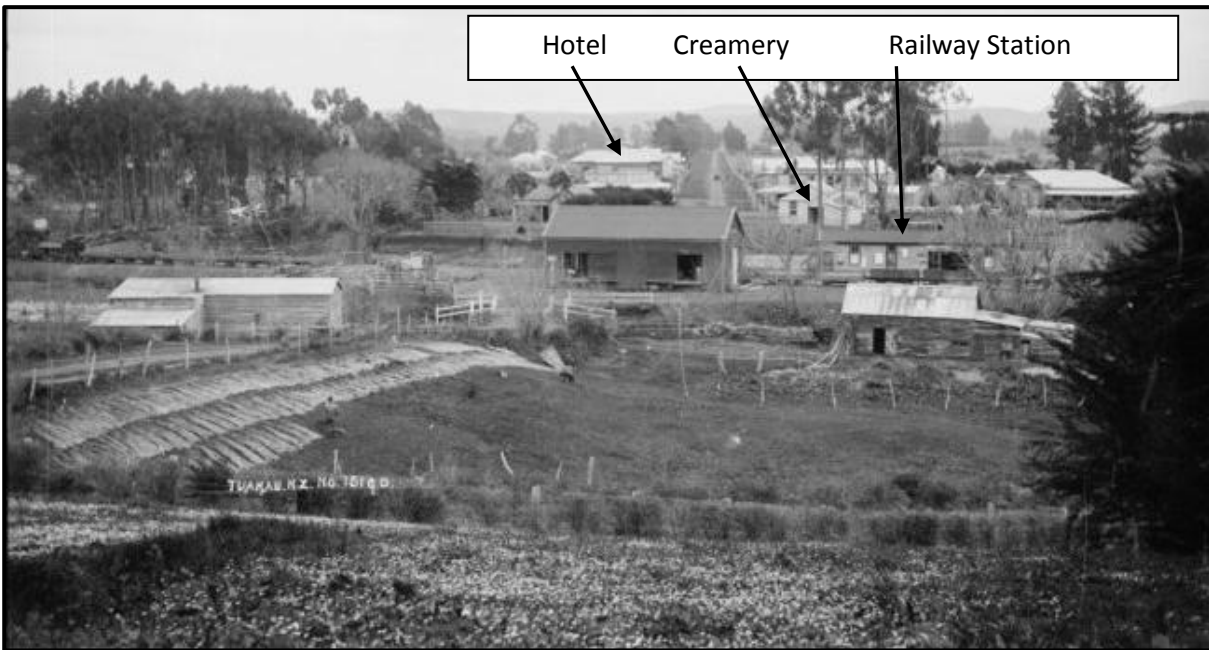


Figure 33 Tuakau township early 1900s. (W.P. Price 1/2-001515-G. Alexander Turnbull Library, Wellington, New Zealand. <http://natlib.govt.nz/records/23117228>.)

( Note: In the foreground flax fibre is laid out for drying and bleaching. In the middle distance is the railway station and yards, with the main street in the distance. The creamery can be seen near the tall trees in the middle distance.)



George Street, Tuakau from the railway end. Green & Colebrook Ltd on the right.  
Photo courtesy of Tuakau & District Museum Society Inc.

Figure 34 Tuakau, George Street  
(<https://jeandavidisabellaandjohn.wordpress.com/tag/whangarata-school/>)

### ***Public Buildings***

#### **Literary Hall**

A Literary Hall (Revell's Hall) was erected near the Methodist Church<sup>40</sup>, 12 Harrisville Road, in late 1890 by Mr George Revell a local builder (Turbott 1990, p.34) (Figure 28). The hall was used for a wide variety of community social activities over the years. For example a fancy dress ball was held on 3 January 1896 and the 8<sup>th</sup> annual Bachelors' Ball in late January the following year (*Observer* 18 January 1896, p.22 and *Observer* 23 January 1897, p.22). The hall was also used by many local organizations at various times, e.g. football club, Blue Banner Good Templar Lodge (I.O. G. T), etc.

The hall is still in its original location and is being converted into a house (Figure 35).

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<sup>40</sup> The first Methodist Church was constructed in 1877 contiguous to the railway station (*New Zealand Herald* 28 July 1877, p.1). The second Methodist Church was constructed on the same site in 1886.





Figure 35 Tuakau Literary Hall (Revell's Hall), 2014.

## *Lodges*

### Blue Banner Lodge & Masonic Hall

One pre-1900 lodge was identified in the literature search. Others probably also existed. The Reverend T.W. Dunn was instrumental in the formation of the Blue Banner of Tuakau Good Templar Lodge. The Blue Banner Lodge gave an open meeting on 17 September 1883 that was well attended and included a programme of music, solos, reading, and recitations (*New Zealand Herald* 8 October 1883, p.11).

The Lodge must have owned or rented a building based on the newspaper comment: on 22 October the Lodge provided entertainment in the lodge rooms (*New Zealand Herald* 5 November 1883, p.3). The location of the lodge rooms was not identified.<sup>41</sup>

The draft built heritage report identified the Literary Hall at 12 Harrisville Road as a Former Masonic Hall (refer to the previous discussion of information about the hall). The date when the Literary Hall became the Masonic Hall not known.<sup>42</sup>

## *Churches*

### St Andrews Roman Catholic Church

The first St Andrews Roman Catholic Church was established on the corner of Alexander Redoubt Road, as noted in the previous section in 1869 or 1872 (Ringer 2011, p. 1).<sup>43</sup> The first church was replaced by a concrete building in 1912. The building was erected at 186 George Street on property donated by Mr C Dromgool's and opened on 26 October 1913. The site was described as a former Maori Kainga (Van Gessel 2005). St Andrew's is still in use today. The old church on River and Redoubt Roads was used as a temporary classroom between 1919 and 1922 and advertised for removal in 1923 (Ringer 2011, p.2).

### St John's Anglican Church

St John's Anglican Church was opened in 27 March 1881 (*New Zealand Herald* 1 April 1881, p.3) (Figure 36).<sup>44</sup> The Anglicans were the last of the four primary denominations in Tuakau to construct a purpose-built church. Prior to construction of St John's Church they used the old Tuakau school building on River Road for worship services (*New Zealand Herald* 17 July 1873, p.3).

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<sup>41</sup> Additional research may indicate the Literary Hall was the site of the 'lodge rooms'.

<sup>42</sup> Please refer to the Built Heritage Report for information about this building.

<sup>43</sup> Ringer's detailed research indicates that the *Cyclopedia of New Zealand* (1902) information concerning the Catholic Church was incorrect—it was not erected in 1882.

The old Anglican Church was sold and moved to the corner of Church Street and Edinburgh Street and converted in to a residence (Taukau and District Museum Society Inc., n.d. Photograph 245 information).



Figure 36 St John's Anglican Church, Tuakau.  
(<https://www.google.co.nz/search?q=Tuakau+historic+photographs.>)

### Harrisville [Anglican] Mission Hall

The Harrisville Mission Hall was established at the intersection of Buckland and Harrisville Roads in 1899 on land given by Thomas Collins (Auckland Star 25 September 1899, p.5). It cost £48 10s. The building was 26 feet long by 16 feet wide and had a 12 foot stud (New Zealand Herald 25 September 1899, p.6). It was referred to as Harrisville Mission House at its opening and was made available to other Protestant denominations two days a week. In 1948 it was moved to the Anglican Church in Tuakau. In 2007 it was moved to the Tuakau Museum (Figure 37).<sup>45</sup>

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<sup>45</sup> Although the church hall is not on its original site it is a pre-1900 building and could be recorded using archaeological methods. If demolition or major changes are proposed in the future Heritage New Zealand should be contacted and requested to comment on any requirements under the Historic Places Act or similar legislation.





Figure 37 Harrisville Mission Hall.

### Wesleyan (Methodist) Church

The first Methodist Church was constructed in 1877 on land given by Mr T. Holmes contiguous to the railway station (*New Zealand Herald* 28 July 1877, p.1) (adjacent to 12 Harrisville Road—the Literary Hall (Figures 28 and 35). The church opened in late July 1877. In 1886 it was demolished and replaced by a larger church of gothic design which was moved in 1974 (Anonymous, *History of Tuakau ca2000*, p.27) (Figure 38).



Figure 38 Methodist Church at the site it was moved to in 1974. (Tuakau and Districts Museum Society Inc. n.d. reference #50, *Memories*, Tuakau Public Library.)<sup>46</sup>

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<sup>46</sup> See footnote 47.

### Presbyterian Church

“A new Presbyterian Church was opened in Church Street in 1880 and enlarged in 1892 (Anonymous History of Tuakau ca2000, p.28). The church was shifted to a new site in 1914 at 5 Madill Street (Figure 39).<sup>47</sup>



Figure 39 Presbyterian Church, 5 Madill Street, Tuakau.<sup>48</sup>

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<sup>47</sup> The use made of the historic site on Church Street is not known, but may be identified in the built heritage history or during public consultation.

<sup>48</sup> See footnote 47.

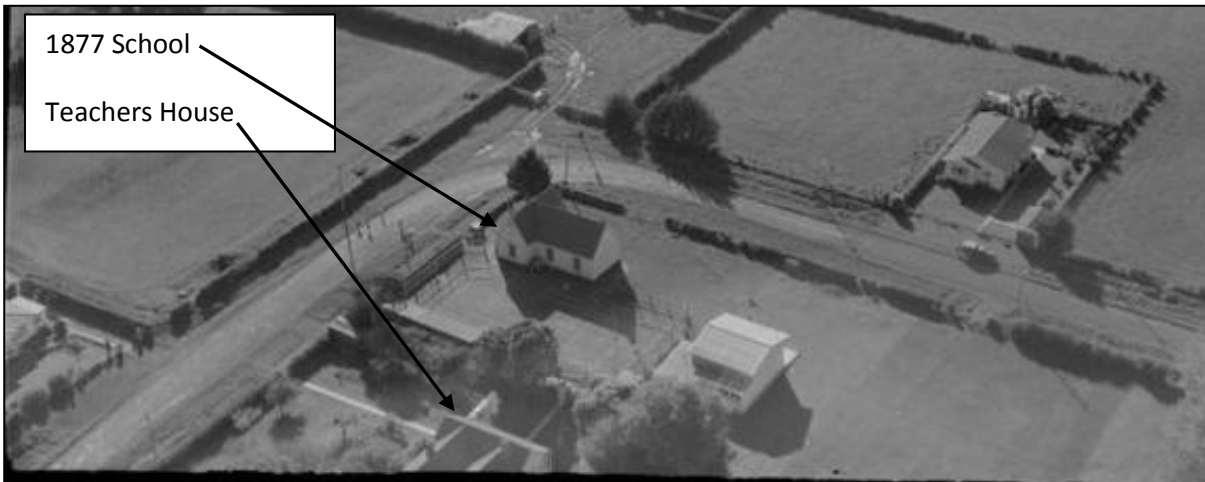
## *Education in Tuakau*

### Tuakau School

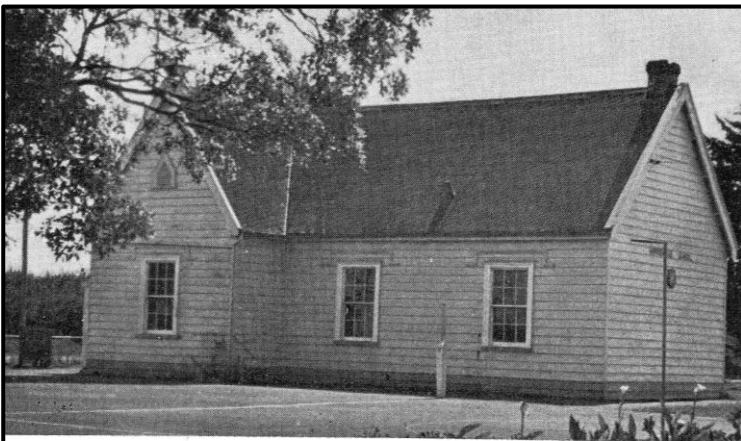
Tuakau School, as noted previously was established in 1871 on River Road. On March 8<sup>th</sup>, 1922, the school was moved to the present site of Tuakau school in Buckland Road. Six years later a new school house was constructed (Tuakau Primary School <http://www.tuakaupr.school.nz/history.htm>). Prior to the school being moved many of the children in the town of Tuakau centered near the railway station attended the Harrisville School along with children from the Buckland's area.

### Harrisville Schools

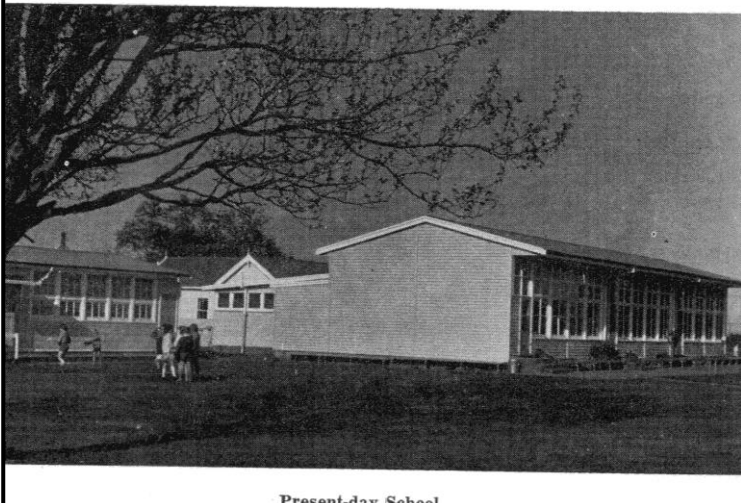
Another early school in the district was Harrisville school, about 1 ½ miles from Tuakau on the Harrisville Road. The Harrisville school was established in 1877 (Turbott 1990, p.30). A teacher's residence was added to the Harrisville school in 1883. In 1885 one of the rooms was used as a classroom because of the shortage of space at the school (*Harrisville School Centennial 1877-1977*). The teachers' residence is still located at the school. In 1896 a 29 foot deep well was dug on the school grounds. "In 1964 the old school built in 1877 was demolished." (*Harrisville School Centennial 1877-1977*, p.9) Another school was built on the site (Figure 40). The 1883 school is still located at the site and has had a veranda added to one side (Figure 41).



Harrisville School, near Tuakau, Franklin District. (Whites Aviation Ltd :Photographs. Ref: WA-35447-F. Alexander Turnbull Library, Wellington, New Zealand. [http://natlib.govt.nz/records/23527156.](http://natlib.govt.nz/records/23527156))



Original Harrisville School.



Present-day School

Figure 40 Harrisville School and School Teachers House. (Note: Teachers house behind newer school.)



Figure 41 Harrisville School Teachers House, 202 Harrisville Road.

(Note the established trees and fence line of the original school allotment.)<sup>49</sup>

### Whangarata School

The school at Whangarata was established in 1886 (Cyclopedia of New Zealand 1902, p.693), Figure 42. In 1902 it was described as having two classrooms and a porch. The school could accommodate up to 100 pupils and featured a shelter shed on the playground. The school property also featured a five room teachers' house.

On 24 July 1925 the school was destroyed by a fire (*The Franklin Times* July 27 1925, p. 6 in Brasell at <https://jeandavidisabellaandjohn.wordpress.com/tag/whangarata-school/> ). The newspaper noted,

“in the absence of a water supply nothing could be done to save the structure from complete ruin. All efforts were directed to saving desks, but only a few were recovered, and the remainder together with the pupils' books, a new piano, an organ, hymn books, a blackboard, cupboards and 920 volumes of library books were reduced to ashes in a very short time.

The building consisted of two large rooms, but owing to a falling off in the attendance one room only was used for scholastic purposes, the spare room being utilised as a church and public meeting place.

Everything went up in smoke and today Whangarata is without a school.”

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<sup>49</sup> Additional information may be found about this item in the Built heritage report.





Original Whangarata School, built in 1886. Destroyed by fire on 24 July 1925. (Brasell at <https://jeandavidisabellaandjohn.wordpress.com/tag/whangarata-school/> )



“After the Whangarata School burnt down in 1925 a new one-room school building was built in 1926. This served the community well until 1940 when the school became overcrowded and in 1941 another room was added. The school swimming pool was built in 1954, complete with bathing sheds. A pantry-storeroom-sick bay was built on the west end of the school in 1959. In 1960 the dividing wall between the two rooms was removed as the roll had dropped and the school once again became a one classroom school.” (<https://jeandavidisabellaandjohn.wordpress.com/tag/whangarata-school/> )

Figure 42 Whangarata School, date unknown.

## *Agriculture*

The pre-1900 commercial focus was on livestock and the products of that industry--milk and meat production and horse power essential for farming and transportation.

### Tuakau Creamery

Milk was carted to the creamery for separation. Once the cream was separated the by-product, skimmed milk, was returned to the supplier. The cream was sent by rail to the butter factory in Pukekohe. Tenders were advertised for daily cartage of the cream to the station and the transport of coal from the station to the creamery (*Auckland Star* 21 July, 1894, p.8). Eventually the use of home separators replaced the cream separation plants.

Two creameries were in operation in March of 1889 (*New Zealand Herald* 21 March 1889, p.6).<sup>50</sup> The Tuakau Creamery was established in 1888 at the rear of the railway station (railway end of the main street) (Figure 33 and 43) (Anonymous History of Tuakau ca. 2000 p. 12). The location of the second creamery is not known.



Figure 43 Farmers are waiting at the Tuakau creamery in the early 20th century, near the Railway Station. (W.A Price, 1/2-001517 G. Alexander Turnbull Library, Wellington, New Zealand. [http://natlib.govt.nz/records/23073105.](http://natlib.govt.nz/records/23073105))

### Livestock Sale Yards

The first auction sale of livestock was held at Tuakau in September 1899 followed by Alfred Buckland and Sons establishing a sale yard on the site of the present sale yards in 1900. Use of the sale yard site for livestock holding and sale continues into the present.

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<sup>50</sup> The location of the second creamery was not identified.

## ***Industry***

Flax mills dominated the industrial face of Tuakau. Tuakau became for a time a well-known flax producing centre.

### Flax Mills

Tuakau was particularly noted as a flax milling centre in the 1860s through the early 1910s. The structures associated with flax milling were roughly built as is apparent in Figure 44.

The first flax mill in Tuakau was the government flax mill. The early mills were powered by water wheels. Based on the use of water power the early mills were located near streams. Later, stationary steam engines were used.



Figure 44 Frost's Flax mill on the Waikato River. (E. S. Pelgler, Supplement *The Auckland Weekly News* June 9, 1899 pg. 5 in Sir George Grey Special Collections, Auckland Libraries, AWNS-18990609-5-1.)

(Note the flue from the engine and the flax stacked next to the Waikato River.)

Figure 44 (above) shows a stationary engine is in use. The risk of fire would have increased with the use of stationary engines. Several of the mills were destroyed by fire (Figure 45). At other mills industrial accidents occurred—William Sefton, a lad of 14 years, lost his arm working at one of the machines (Auckland Star 15 April 1891, p.5).

At Tuakau, a fire broke out in Mr. Walker's flax mill, between Saturday night and Sunday morning, which resulted in its total destruction. The mill was stopped at five on Saturday afternoon, and at ten the same evening it was visited by the owner, when everything was found quite right, the different parts of the machinery which are apt to become heated were found quite cool, and no appearance of fire was visible, but on Mr. Walker rising the following morning, nothing but a heap of ruins met his eye. There was a new machine which had just arrived, and not being put in the mill, was the only thing saved; its cost was £25. There was about half a ton of dressed flax in the mill at the time of the fire. Great sympathy is felt for the owner by the surrounding neighbours, who have volunteered their assistance in rebuilding the mill, which is to be commenced forthwith.—[Correspondent.]

*New Zealand Herald* 5 April 1872, p.2

#### **FLAX MILL DESTROYED**

A FLAX mill belonging to Mr John Poland was destroyed by fire at Tuakau last night, together with about three tons of flax. The cause of the fire is at present unknown. Mr Poland estimates his loss at £150, as the building, plant, and stock were not insured. It is stated that a mill on this site was also burned down about 12 months ago, when a new building was erected. Constable McGovern has been despatched to make inquiries as to the origin of the fire.

*Auckland Star* 25 February 1890, p.5

#### **FIRE AT TUAKAU**

Yesterday morning at five a.m. Mr Frost's flax mill at Tuakau was burnt down. About £40 worth of dressed flax was burnt. The origin of the fire is a mystery, as Mr Frost was round the mill at about 8 p.m. the previous evening, and there were no indications of fire. Loss is estimated at £150. The engine and machines are saved.

*Auckland Star* 14 February 1900, p.4

Figure 45 Flax mill fires at Mr Walker's, Mr Poland's, and Mr Frost's mills.

Flax processing at the mills involved several steps following the wet and heavy process of harvesting and bundling the green flax. In the 1860 various machines for mechanically stripping the fibre from the flax leaf were trialed. The most successful processing machine beat the flax leaf between revolving metal drums and a fixed metal bar (Alexander



Turnbill Library <http://www.teara.govt.nz/en/video/10407/processing-flax-by-machine>). Although a finer fibre was produced by hand stripping, the output difference was substantial—250 kilograms per day from mechanical stripping versus about 1 kilogram from hand stripping. The stripped fibre was washed to remove the remaining leaf matter. Figure 46 shows the fibre being washed in the Waikato River.

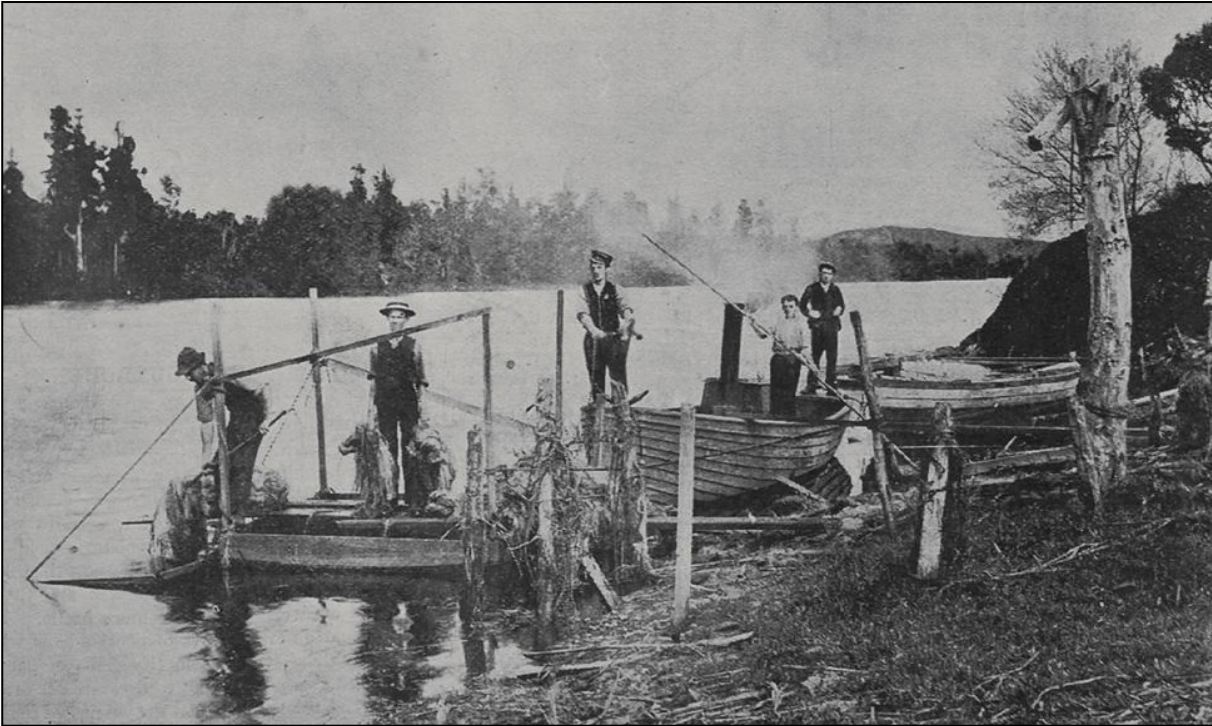


Figure 46 Frosts' Flaxmill, Tuakau. Washing the machined green flax in Waikato River (E.S. Pelgler, Supplement to the *Auckland Weekly News* 9 June 1899, p. 5, Sir George Grey Special Collections, Auckland Libraries, AWNS-18990609-5-2)

The washed fibre was then laid out to dry and bleach in paddocks (Figure 33). This process took from about 10 days to two weeks. Once the flax fibre was dried and bleached it might be put into a scotching machine to make it finer and softer (Alexander Turnbull Library <http://www.teara.govt.nz/en/video/10407/processing-flax-by-machine>). Following this it was packed into bales for transport.

The number of flax mills in Tuakau and the surrounding area fluctuated over the years. For example in 1875, when the Railway station opened there were 5 flax mills, “but not all presently at work, but probably will be in the spring.” (*Daily Southern Cross* 10 July 1875, p.3). By 1889 it was reported seven to eight mills were in operation. Mills also changed ownership over the years. For example in June 1881 Mr Oldham bought Mr Holmes flax



mill near the railway station and set up a flax weaving mill, both powered by an old water-race (*New Zealand Herald* 16 June 1881, p.6). The weaving mill could weave 50 yards a day or 3000 yards a year. In mid-June 1881 the mill was weaving matting for the Railway Department in a weaving room 20 x 16 feet on a loom invented by Mr Oldham (*New Zealand Herald* 16 June 1881, p.6).

Other flax mill owners included: Charles Dromgool who was engaged in flax milling in the 1870s (*Auckland Star* 28 May 1925, p.9); Mr R. Bycroft owned a flax mill near the Railway Station and constructed a flour mill adjacent to it in the late 1880s (*New Zealand Herald* 10 March 1881, p.5); Thomas Crawford who had mills near Tuakau and filed for Bankruptcy in 1896 (*New Zealand Herald* 27 March 1896, p.3); and John Polland who was operating a mill by 1889 and among the best flax makers in New Zealand (*Taranaki Herald* 19 June 1889, p.2). Poland added a new steam mill to his flax mill in early 1890 (*Auckland Star* 6 February 1890, p.5). Frost operated a mill adjacent to the Waikato River in 1899 (Figures 44 and 45). His mill featured in the *Auckland Weekly News* 9 June 1899, p. 5. Less than a year later, in mid-February 1900 Mr Frost's mill burnt down. The loss was estimated at £150. Dressed flax worth £40 was destroyed but the mill engine and machines were saved (*Auckland Star* 14 February 1900, p.4).

Some owners like the Collins Family established more than one mill over the years. The first mill was on the Collins River Road property near the Domain in the late 1860s, as noted previously. A second mill was located near the Waikato River and owned by John (jnr) and Thomas Collins from mid-1880s to early 1896-97 (Kerse and Kerse 1994, p. 32) Figure 48. The mill was destroyed by the 1907 flood.

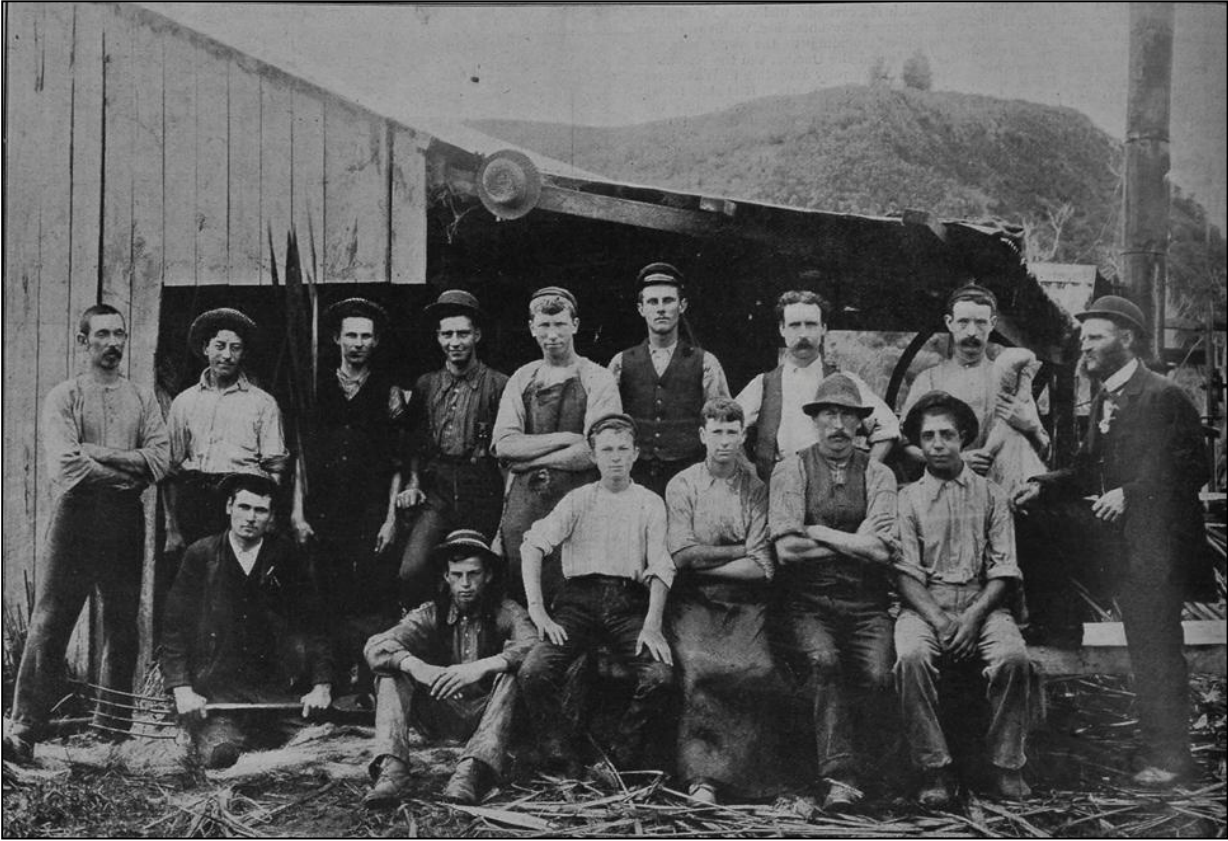


Figure 47 Flax mill workers at Frost's Mill, Tuakau. (E.S. Pegler, *Auckland Weekly News* 9 June 1899, p.6, Sir George Grey Special Collections, Auckland Libraries, AWNS-18990609-6-1.)

The flax mills were a constant local employer. Figures 47 through 48 suggest the Tuakau mills probably employed about 8 to 15 workers and used contract flax cutters. The mills were part of a national flax industry that employed 1,766 workers at 161 mills in 1870 (Alexander Turnbull Library 2014).

None of the old Tuakau mill sites are recorded in New Zealand Archaeological Association (NZAA) site recording scheme (like the majority of the historic places discussed in this chapter). The exact location of the riverside mills and the mills adjacent to the streams in the Tuakau area is problematic. Streams, like the one on John Collins River Road property would have been damned and the water diverted into a race to power the water wheels. Later with the use of stationary engines the water requirements for the operation of the flax mills changed and the older water power mills were probably abandoned.



Flax dressers. (Collins brothers seated with flax fibre.)

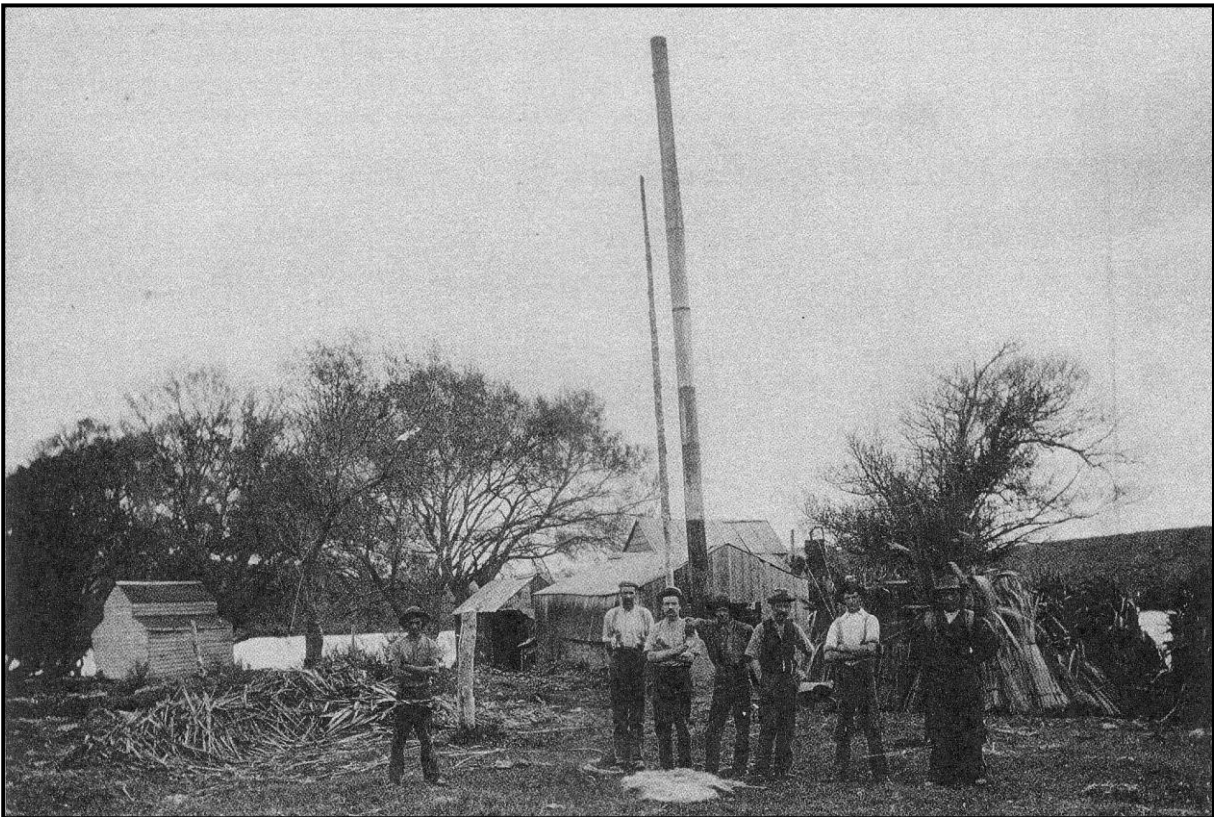


Figure 48 Collins' flax mill near the Waikato River. (Kerse and Kerse 1994, p.iv.)

(Note: Engine flue and bundles of flax behind the workers.)

## *Other Types of Mills and Industries*

### Flour Mills

The flour mill constructed in circa 1850 has already been discussed in the previous section. Mills were also erected around Tuakau later in its history. Bycrofts flour mill near the railway station, which was constructed adjacent to Bycrofts flax mill in 1880 was destroyed by fire in early March 1881 immediately prior to being started up (*New Zealand Herald* 10 March 1881, p.5). The newspaper reported the mill fire was a hardship to local settlers because they would be obliged to send their wheat to Auckland.

The flour mill was apparently rebuilt since Bycrofts Flour Mill [Franklin Roller Flour mill] was operating in June 1896 and connected to the rail line, e.g. "close to the Franklin railway station which it is connected to by iron tram" (*New Zealand Herald* 25 June 1896, p.3). The *New Zealand Herald* also reported other flour mills were located in or near Tuakau that were owned and operated by Gourley, Oldham, and others in the late 1890s.

### Bone Mill

Adam Madill established a bone crushing mill in late 1900 (*New Zealand Herald* 26 November 1898, p.1). By 1899 he was operating the bone mill in partnership with Arthur Bertram Collier on the Main Road (*Auckland Star* 1 September 1899, p.2 and *Cyclopedia Company Ltd* 1902, p.691). The crushed bone was in demand as a fertilizer.

In 1901 Madill and John Collins founded a bone mill located just off George Street (Kerse and Kerse 1994, p.20). John Collins withdrew from the venture after several years. The bone mill was later damaged by fire. The mill was rebuilt and located further back on George Street. The second mill also burnt down (Kerse and Kerse 1994, p.20, *Anonymous History of Tuakau* ca. 2000, p.13).

### Threshing and Sawing Plant

In addition to his bone mill Mr Madill established a threshing and sawing plant prior to 1900 (*New Zealand Herald* 26 November 1898, p.1). The plant was managed by his son Adam Madill junior in 1902 (*Cyclopedia Company Ltd* 1902, p.691).<sup>51</sup>

### Timber Mills

Prior to 1900 pit sawing and later portable mills were used. The sites associated with these activities are very ephemeral and information about their locations was not identified in the historical research.

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<sup>51</sup> The location of the plant, which may have been on Madill's farm was not identified in historical references reviewed.

### Whitebait Fishery and Cannery

Whitebait was abundant at Tuakau and would have helped sustain the earlier Maori and late European populations in the area (Figure 49). The commercial harvest of white bait became the focus of at least one local entrepreneur. In 1894 E. C. Frost of Tuakau advertised for purchasers of whitebait (Auckland Star 20 July 1894, p.1). In 1901 Mr Frost's whitebait canning factory had opened at Tuakau and was processing one ton of whitebait a day under the management of William Ewing (Auckland Star 28 September 1901, p.1). Figure 50 shows the interior of the cannery.



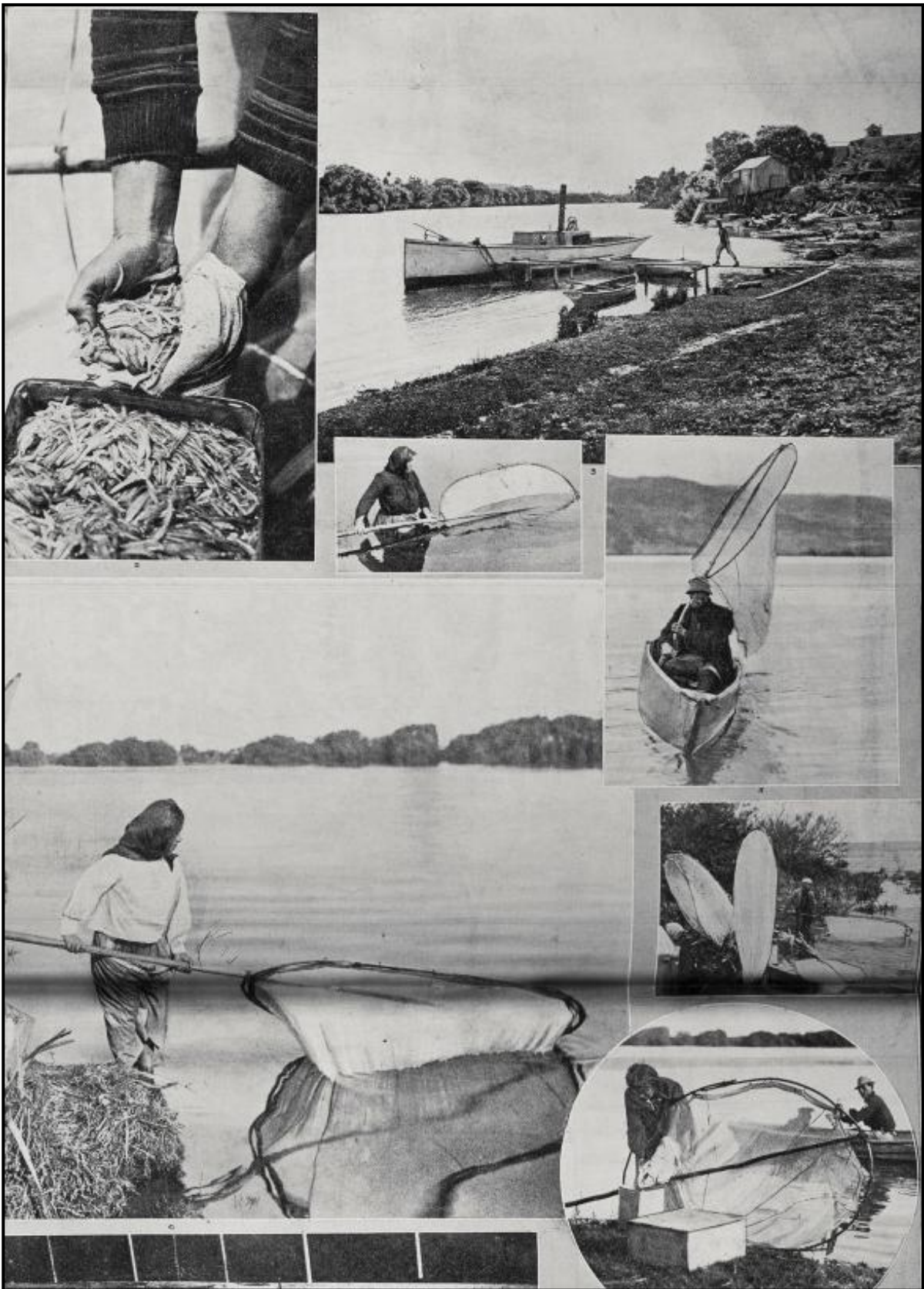


Figure 49 Whitebait harvest. (*Auckland Weekly News* 23 NOVEMBER 1911, p.9 Sir George Grey Special Collections, Auckland Libraries, AWNS-19111123-9-1).

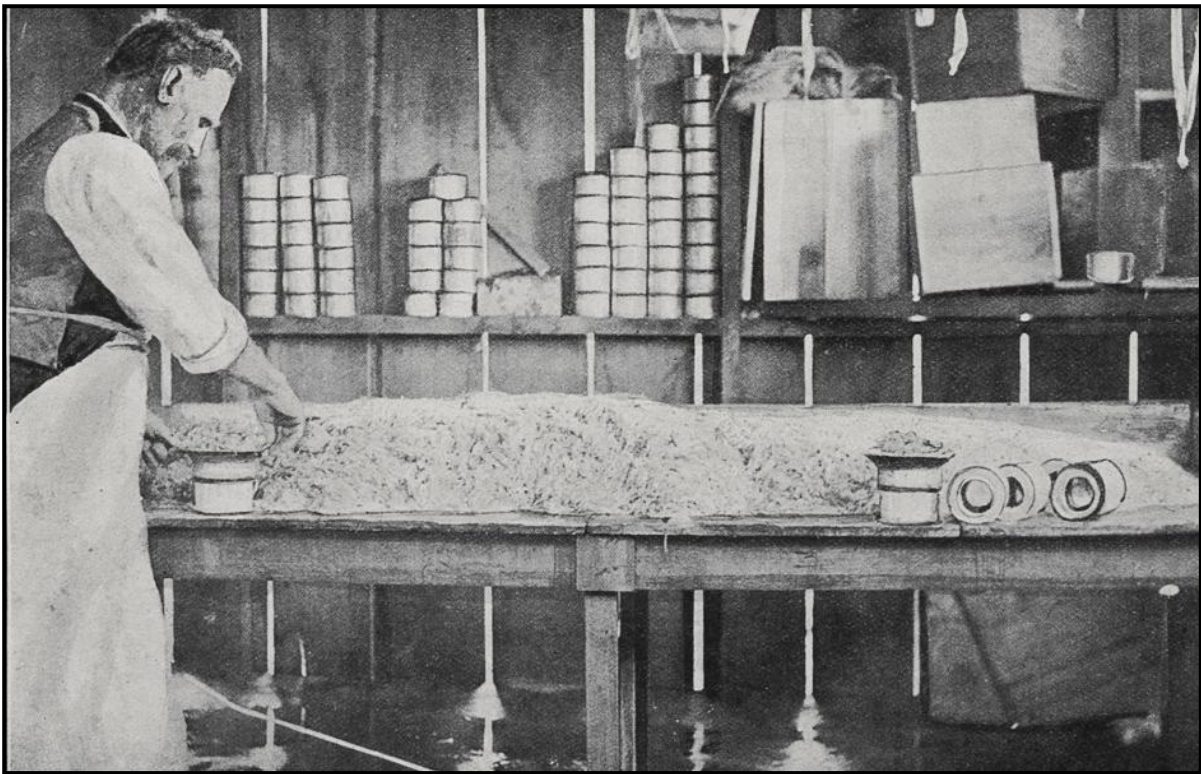


Figure 50 Canning Whitebait at Tuakau in 1911; a day's catch of 600 pounds of fish. (S. Wells, *Auckland Weekly News*, 9 November 1911, Sir George Grey Special Collections, Auckland Libraries, AWNS-19111109-2-6.)

## SUMMARY

The human landscape of Tuakua changed radically over a brief period of time. This history has addressed Maori settlement and land use prior to European contact; the effects of the pre-1863 flax trade; pre-1863 European agricultural technology and plant species; and the war campaign of 1863 and its aftermath. The historical research has focused on identifying places associated with Maori and European occupation and land use prior to 1900, Table 2, and providing a context for understanding the heritage significance of these places. The places listed in Table 2 all tell a story from Tuakau's past, many are not marked by obvious standing structures or other extant remains. The information these sites contain is frequently in the form of buried deposits and archaeological features. The sites noted have **not** been recorded in the New Zealand Archaeological Site file with the exception of Alexandra Redoubt. The next chapter discusses the recorded archaeological sites in the Tuakau area.

**Table 2 Sites identified in the Chapter 2 historical research.**

Site Name	Location Information and Reference	Dates
Maori village of Tuakau adjacent to the River	<p>“Tuakau Maori settlement was situated between the Alexandra Redoubt and the present main road as it approaches the river from Tuakau.” (Morris 1999, p. 100)</p> <p>one mile from redoubt; various references including Johnson in Tayler 1959, p. 123; Featon 1971, p.20, Gamble 1863-64, p. 44-45; Morris 1999, p. 93-94; Morris 1970, p. 100)</p> <p>“old Tuakau, which was located below the Alexandra Redoubt on the riverbank soon became quite a thriving little trading centre and no doubt if trouble had not arisen in 1863, the then collection of wooden huts might have developed into a 20<sup>th</sup> century river side community.” (<i>Tuakau District Centennial</i> 1965, p.8-9)</p> <p>According to Te Ara - the Encyclopedia of New Zealand “Tuakau was founded in 1840. It was originally a flax milling centre with a convenient landing place on the nearby Waikato River.” (Davis and Dollimore 2009, p.1 and Ministry for Culture and Heritage 2013)</p>	Pre-1840s  c. 1840-1863
Village in Tuakau	“On the Taupiri Dairy Company property. ( <i>Tuakau District Centennial</i> 1965, p.9)	Pre 1863
Pa in Tuakau	“Near the present railway crossing.” ( <i>Tuakau District Centennial</i> 1965, p.9)	Pre 1863
Village in Tuakau	“On the property of Mr Kewish.” ( <i>Tuakau District Centennial</i> 1965, p.9)	Pre 1863
Village in Tuakau	“On the Domain site.” ( <i>Tuakau District Centennial</i> 1965, p.9)	Pre 1863
Kainga at Catholic Church on George St	<p>Several native huts were also situated on the present site of the the Roman Catholic church.” (<i>Tuakau District Centennial</i> 1965, p.9)</p> <p>Maori Kainga under the 1912 Catholic church site on 186 George Street (Gessel 2005).</p>	Pre 1863
Maori owned flour mill, [later flax mill]	<p>On a stream adjacent to Maori Village (Featon p.20, Gamble plan [p.56b] plate no. 8, Morris p.93-94 and sketch); “on a property owned by Mr C.J. Leathem. After the war, a flaxmill was operated here by William Dean. The old waterwheel and race can still be seen.” (Morris p.113)</p> <p>The mill was later used by Mr C Dromgool as the nucleus of a flax mill (Turbott 1989, p.35). His mill was on the creek that runs past the 1912 Catholic Church on River Road (Gessel 2005)</p>	1854-
Military Redoubt		1863

Canteen near redoubt	"January 19, 1864 Canteen Orders... ." ( <i>Diary of Capt Thomas Brown in Tuakau District Centennial 1965, p.9</i> )	1863
Immigrant Camp	"The tents erected on land which now is the Domain Tennis Courts. Adjacent to this on a clearing, a crop of potatoes had been planted for their use, and to this day this part of the Domain is known to old settlers as the 'Spud Ground' ." (Turbott 1989 , p.37)	1865?
Store-Hotel	Benjamin Harris store and hotel, near the river, possibly located near the landing. (Rev Lush's Journal in Drummond 1982, p.67-68.)	1866
Store	Poland's store at his house (Wilson n.d.,p.8) 1868-early 1900s	1868
Store	Collins Store & Post Office (Daily Southern Cross 23 November 1876, p.3)	1876
Store	"Dad Chesire store near the waterfront" (early settler) ( <i>Tuakau District Centennial 1965, p.9</i> )	circa 1870s
Collins Hotel on River Road	Collins Hotel, on the Collins property on the corner opposite the Alexandra Redoubt Road; (Section 46) (Collins Family Reunion, Kerse & Kerse 1994, p.19)	1877 (possibly prior)
Slab Huts and early houses	Initial slab huts of early settlers followed by better houses (2 <sup>nd</sup> house). Collins at 204 River Road and other families in this area as well as other parts of Tuakau.	c1866
Roads	Early road alignments	c1865
Wharves and jetties	Military jetty associated with redoubt. Wharves and jetties associated with early settlement of Tuakau.	c1863 military c1866
Punt	Operated prior to the Bridge opening in 1903 (Photograph 4335 HCL); located adjacent to the bridge during construction (See photo of bridge construction 1902 with punt)	c1900 or earlier
Railway Station with Post & Telegraph Office	At existing site (History of Tuakau WDC)	1875
Harrisville [Anglican] Mission Hall	Harrisville and Buckland Roads corner on land donated by Thomas Collins (Auckland Star 25 September 1899, p.5 and New Zealand Herald 25 September 1899, p.6).	1899
Harrisville School and teachers residence	School-On Harrisville Road, at the Harrisville school (Harrisville School Centennial 1877-1977, p.9 notes: "In 1964 the old school built in 1877 was demolished")  Teachers residence (1883), in 1885 one of its rooms was used as a class room in 1885. (Harrisville School Centennial 1877-1977)  Well (1896), a 29 foot well was dug in school grounds. (Harrisville School Centennial 1877-1977)	1877 (opening date listed as March 1 1887, possible misprint)  1883  1896

Tuakau Primary School	River Road where Howell's Engineering workshop now stands (History of Tuakau WDC & Tuakau Primary School history on web)	1870-1922
St Andrews Roman Catholic Church	Corner of Alexander Redoubt Road (History of Tuakau WDC, Gessel 2005)	1869-1912 Then used as a school room until 1922
<b>COMMERCIAL TUAKAU NEAR THE RAILWAY STATION</b>		
Tuakau Hotel, near the Railway	Main road Tuakau, still on the same site but altered (based on photograph).	1882
General Stores	(Anonymous History of Tuakau ca. 2000)	
Butcher Shop	(Anonymous History of Tuakau ca. 2000)	
Black smith	( Anonymous History of Tuakau ca. 2000)	
Baker	( Anonymous History of Tuakau ca. 2000)	
Bootmaker	(Anonymous History of Tuakau ca. 2000)	
Wheelwright	( Anonymous History of Tuakau ca. 2000)	
Dressmaker	( Anonymous History of Tuakau ca. 2000)	
<b>SOCIAL &amp; CULTURAL IN THE RAILWAY STATION TOWN CENTRE</b>		
St John's Church (Anglican)	(History of Tuakau WDC)	1881
1 <sup>st</sup> Tuakau Wesleyan Church	First church demolished in 1886	1877-1886
2 <sup>nd</sup> Tuakau Wesleyan Church	Second church demolished in 1974	1886-1974
Tuakau Presbyterian Church	Church Street in 1880. Enlarged in 1892. Shifted to 5 Madill Street in 1914. In 1960 a church centre was erected on the same site alongside the church.	1880-1914
Tuakau Literary Hall	Erected near the Methodist Church	c. late 1890s
<b>INDUSTRIAL</b>		
Saleyards	The first auction sale of livestock was held at Tuakau in September 1899 followed by Alfred Buckland and Sons establishing a sale yard on the site of the present sale yards in 1900.	1899
Tuakau Creameries	The Tuakau Creamery was established in 1888 at the rear of the railway station (railway end of the main street) (Figure 23) (Anonymous History of Tuakau ca. 2000 p. 12).	1888



	Two creameries were in operation in March of 1889 ( <i>New Zealand Herald</i> 21 March 1889, p.6). <sup>52</sup>	
Timber mills/ pit saw features	Prior to 1900 pit sawing and later portable mills were used. The sites associated with these activities are very ephemeral and information about their locations was not identified in the historical research.	c.1865
Franklin Roller Flour Mill [Bycrofts Mill]	Fire destroys Bycrofts new mill, "The mill was just completed and about to be started" <i>New Zealand Herald</i> 10 March 1881, p.5)  In Tuakau, "Close to the Franklin railway station to which it is connected by iron tram." ( <i>New Zealand Herald</i> 25 June 1896, p.3)	1880 first mill Mill rebuilt after 1881 fire
Threshing and Sawing Plant	Mr Madill established a threshing and sawing plant prior to 1900 ( <i>New Zealand Herald</i> 26 November 1898, p.1). The plant was managed by his son Adam Madill junior in 1902 ( <i>Cyclopedia Company Ltd</i> 1902, p.691). <sup>53</sup>	Late 1890s
Bone Mill	Near the site of the present sale yard in 1890s.  1899 operating a bone mill on the Main Road in partnership with AB Collier ( <i>Auckland Star</i> 1 September 1899, p.2)  In 1901 Madill and Collins built a bone mill just off George Street. Damaged by fire and rebuilt further back on George Street. Second mill also burnt. (Kerse and Kerse 1994, p.20)	c. late 1890s 1899 partnership A.B. Collier  1901 partnership J Collins
Flax Mills	9 or 10 flax mills in Tuakau (Turbott 1990; Tuakau History prepared by WDC staff)  River road provided access to many of the flax mills—green flax was carted from the landing to mills along River road (Kerse & Kerse 1994, p.20).  The land surrounding the 1869 Catholic Church on River Road was used for flax drying (Gessel 2005).	
Government Flax Mill	Government flax mill, referenced the newspapers.	1866
Mr Oldham Flax and Weaving Mill (formerly Mr Holmes Flax Mill)	Mr Oldham bought Mr Holmes flax mill near the railway station in June 1881 and set up a flax weaving mill, both powered by an old water-race ( <i>New Zealand Herald</i> 16 June 1881, p.6).	Pre-1881
John Collins (Sr) Flax Mill	John Collins (Sr) flax mill, shown on his property opposite the immigrant camp on River Road. (Section 46 on the stream) (Collins Family Reunion, Kerse & Kersey 1994.)	1871 (possibly prior)

<sup>52</sup> The location of the second creamery was not identified.

<sup>53</sup> The location of the plant, which may have been on Madill's farm was not identified in historical references reviewed.

Thomas and John Collins Flax Mill	Thomas and John Collins (Jnr) Flax mill by the Waikato River. The mill was destroyed by the 1907 flood (Kerse & Kerse 1994, p.20).	Mid-1880s – early 1890s
Frost's Flax Mills	Frost's flax mill at Tuakau Landing (9 June 1899 <i>The Auckland Weekly News</i> p.5)	Frost's mill working by 1899
Geraghty's Flax Mills	Geraghty's had several flax mills at various locations  Flax mill at- Woodbridges timber yard and latter Dricon concrete business (Tuakau History WDC)  Flax mill at Black's Bridge on Buckland Road (in McEwan 2008, p.16).  Flax mill on Mill Road (in McEwan 2008, p.16).  Steam flax mill few hundred yards up the creek from the bridge a little north of St Andrew's Church (in McEwan 2008, p.16).	
Dromgool Flax Mill	Mr C Dromgool –used Old flour mill as the nucleus of a flax mill (Turbott 1989, p.35). The mill was on the stream that runs past St Andrew's Catholic Church.  Somerville's Flax mill on the creek below Mrs M Dromgool's, later worked by M Geraghy and then Mr Dromgool (in McEwan 2008, p.15). (Is this the same flax mill Turbott describes?)	
Walkers Flax Mill	Walkers Flax mill fire(New Zealand Herald 5 April 1872, p.2)	
John Poland's Flax Mill	John Poland's mill at Tuakau Beach (in McEwan 2008, p.15).  Mill fire in 1890 (Auckland Star 25 February 1890, p.5)	
Other Flax Mills	Other millers not noted above include: Escott, John Logan, J. Copeland, the Lapwoods, Murtons." ( <i>Tuakau District Centennial</i> 1965, p.29)	
Whitebait fishery & cannery	In 1894 E. C. Frost of Tuakau advertised for purchasers of whitebait (Auckland Star 20 July 1894, p.1).  In 1901 Mr Frost's whitebait canning factory had opened at Tuakau and was processing one ton of whitebait a day under the management of William Ewing (Auckland Star 28 September 1901, p.1).	1894 fishery  1901 cannery
Tuakau Creamery	The Tuakau Creamery was established in 1888 at the rear of the railway station (railway end of the main street) (Figure 23) (Anonymous History of Tuakau ca. 2000 p. 12).  Two creameries were in operation in March of 1889 ( <i>New Zealand Herald</i> 21 March 1889, p.6). <sup>54</sup>	1888

<sup>54</sup> The location of the second creamery was not identified.

## 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 aggregated 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 the NZTM coordinate system for Smith's house, R12/284, as shown in Figure 51.

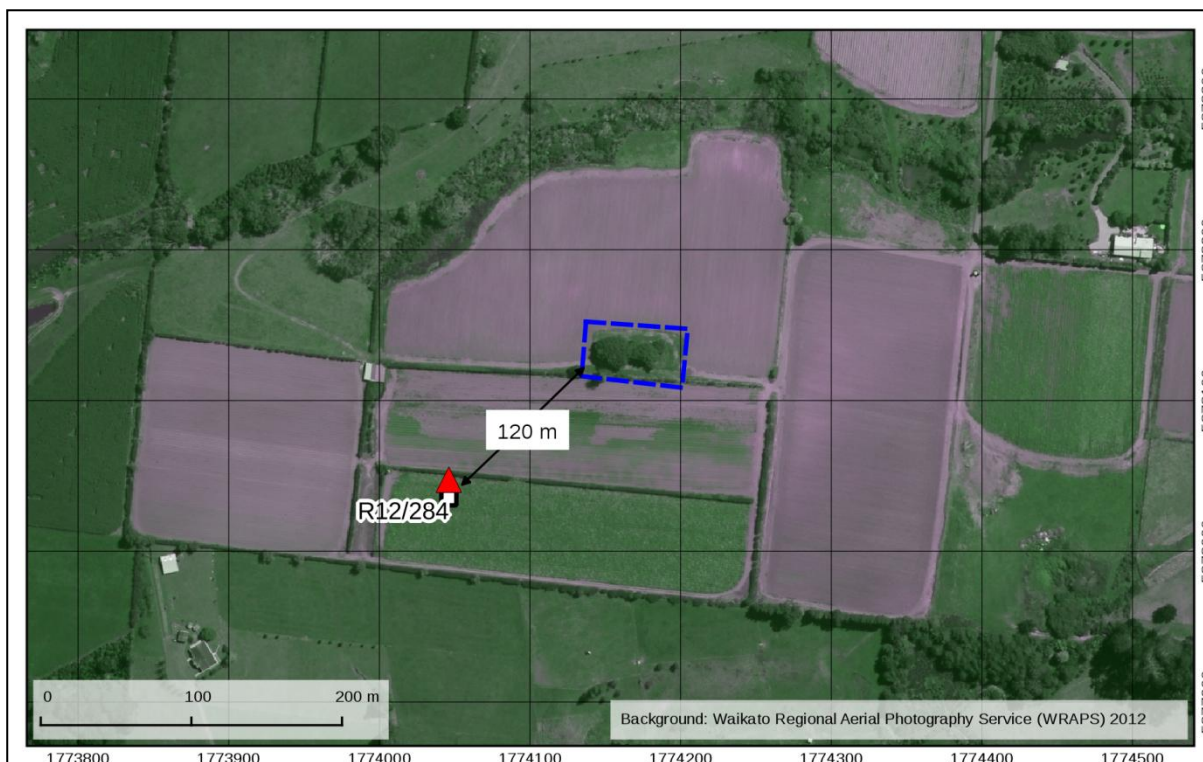


Figure 51 Illustrating the difference between a site's recorded location and the actual location as depicted on air photography from 2012.

## 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.

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.

## **ARCHAEOLOGICAL SITES RECORDED WITHIN THE TUAKAU AREA**

Thirty two recorded archaeological sites in the vicinity of Tuakau have been selected for this study (Appendix 2 and Appendix 3). These have been identified as those falling within a five kilometre radius of the Tuakau railway station (Figure 52). None of these sites fall within the town itself. Most of them cluster on the natural right bank of the river south of Tuakau, with a similar cluster on the left bank, and scattered isolated sites outside this zone (Figure 53).



Figure 52 Archaeological sites recorded in the NZAA site recording scheme within a 5 km radius of the railway station at Tuakau.



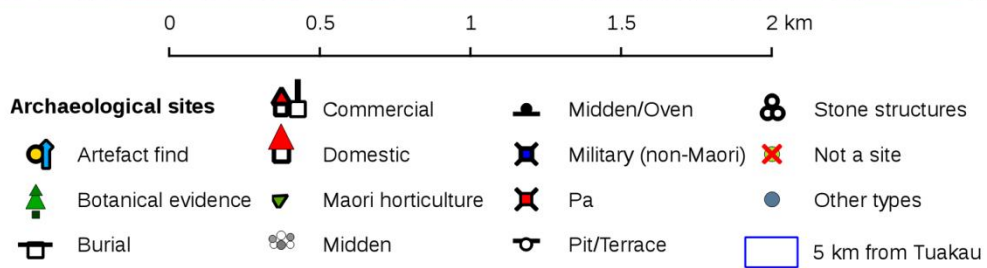
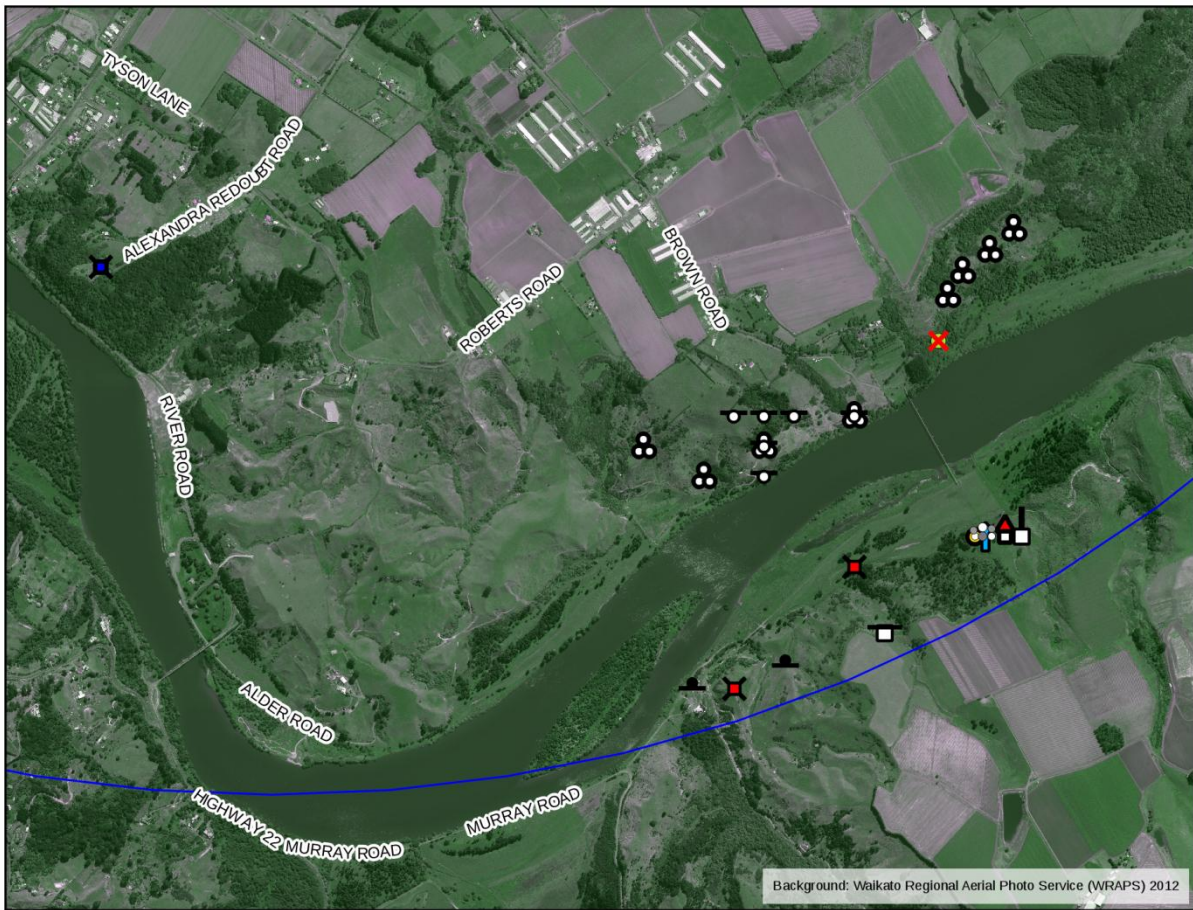


Figure 53 Recorded archaeological sites clustering along the banks of the Waikato River.

These 32 sites represent 12 site types, from Agricultural/ pastoral to Transport/ communication. Table 3 lists the selected sites by site type, from the sample of 32 recorded sites around Tuakau.

**Table 3 Number of sites by type around Tuakau**

nzaa_type	count
Agricultural/ pastoral	4
Artefact find	1
Botanical evidence	1
Burial/ cemetery	1
Commercial	1
Historic – domestic	1
Maori horticulture	3
Midden/Oven	2
Military (non-Maori)	1
Pa	3
Pit/Terrace	9
Unclassified	5
Total	32

A close reading of the site files revealed several have been misclassified. All of the reported sites of type "Maori horticulture" were found to comprise only piles of stones or stone structures, as were those classified as "Agricultural/pastoral". The five unclassified sites were also examined and reclassified based on the information in the files (Table 4). Most of these were found also to consist of stone arrangements or structures.

**Table 4 Reclassified sites by type around Tuakau**

site_type	count
Artefact find	1
Botanical evidence	1
Burial	1
Commercial	1
Domestic	2
Midden	1
Midden/Oven	2
Military (non-Maori)	1
Not a site	1
Pa	3
Pit/Terrace	9
Stone structures	9
(12 rows)	
Total	32

The following section discusses the sites and site types represented in the sample. It should be noted that none of these sites were visited during research as they are all on private property.

### 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.

One site (R12/160) records the location of several artefacts recovered over some time by the owner of the farm, a Mr Nicholson. The site record makes reference to adzes, wooden artefacts such as a paddle and a digging stick as well as bottles (Figure 54). This is a low-lying area subject to artificial drainage. Wet areas are known to preserve organic material such as wood and leather.

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE DESCRIPTION FORM		SITE NUMBER R51/97
Map Number N51	Map Name Onezero	SITE NAME: MAORI OTHER J Nicholson's farm
Map Edition 2nd	Grid Reference H81063	adze
		SITE TYPE paddle, digging stick 8

*(This form may be used for recording any descriptive information or other supplementary information on the site, or for maps and drawings.)*

Sketches of Artefacts  
approx scale  
0 10  
cm  
(drawn from memory)

adze

paddle ?

digging stick

Figure 54 Sketch of artefacts found at site R12/160, from the NZAA record for that site.



### **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.

One burial is recorded as an archaeological site (R12/159) within the selected group. It was recorded by Grant & Slane in November 1979, and records three skulls beneath a group of boulders on a farm. The site was visited by M. Felgate in January 2006, who reported no trace of the bones were left.

### **Botanical Evidence**

Sites of this type are identified by the existence of plant species which are not native to the area. These are often cultivars which have gone wild after the site was abandoned.

A single site, R12/917, is recorded as type 'Botanical evidence'. This is a stand of karaka on a flat above river bluffs.

### **Commercial**

Sites of type 'Commercial' are commonly recorded as the locations of hotels, stores or warehouse buildings. Other commercial sites were the locations of boarding houses, factories, breweries or shops.

One site (R12/156) is recorded as type 'Commercial'. This was recorded in November 1979 by Grant and Slane, as the remains of a fireplace and building foundations. The site record reports oral history from the owner of the property, a Mr J. C. Nicholson. Unfortunately, there is nothing in the record to indicate what the site was, or whether it was a commercial or domestic building.

### **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.

Two sites (R12/284, R12/285) are recorded as 'Domestic'. R12/284 is the site of a settlers cottage known as "Smith's house" (Figure 55) while R12/285 is reportedly a well covered by a farm shed (Figure 56).



Figure 55 The location of Smith's house, R12/284, as seen from Rube Road, looking south.

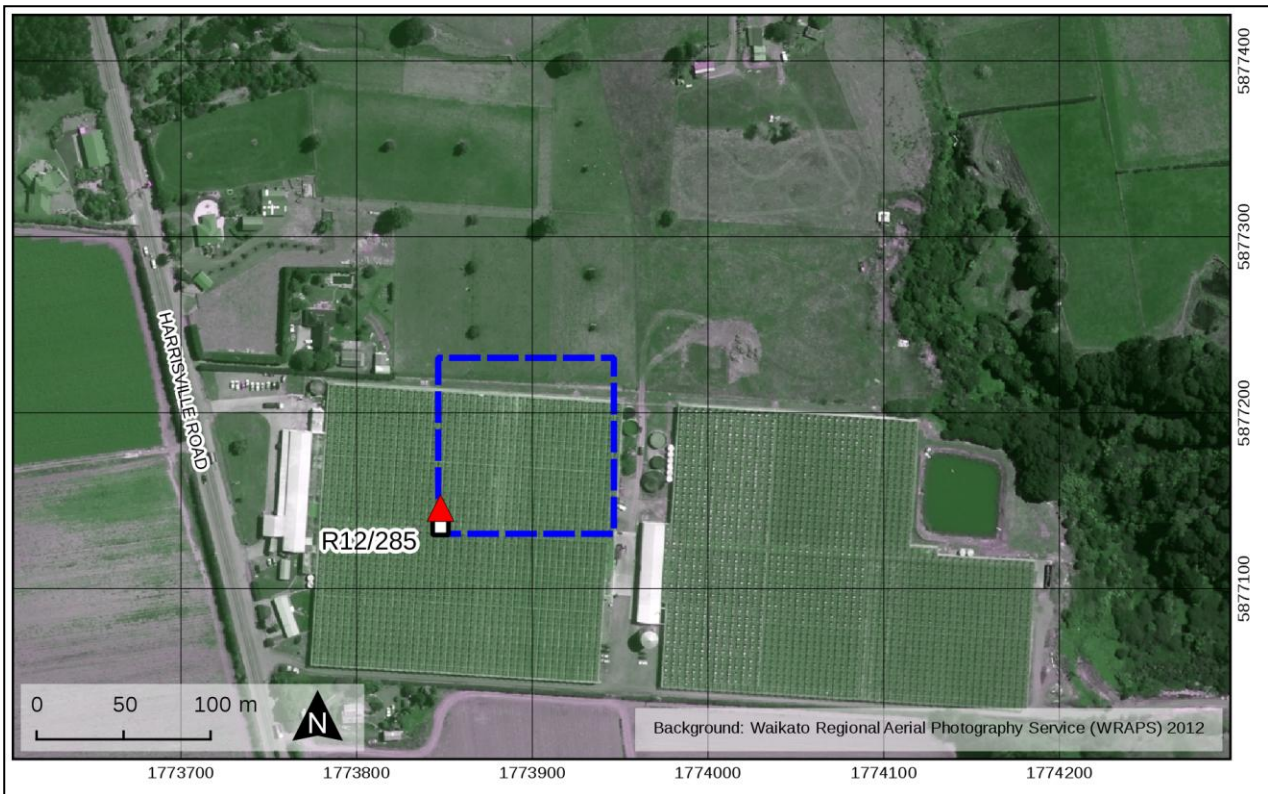


Figure 56 2012 air photo of location of R12/285.

In Figure 56, the grid lines are 100 m apart, and the reported location of the site is likely to be the south west corner of a 100 m square (dashed blue line). It seems likely that this archaeological site has now been covered by new buildings.

## **Midden and 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.

There are three midden sites recorded within the Tuakau precinct. These are R12/155 R12/953 and R12/973. All of them occur on the south bank of the river to the east of the sharp bend in Murray Road.

## **Military**

Military sites are the recorded archaeological locations of activities associated with the Imperial British Army (or other forces, e.g. the Navy).

The Alexandra Redoubt (R12/141) is the only military site recorded in the Tuakau area.

## **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.

R12/157 is a hilltop pa on the south bank of the River just east of the big bend in Murray Road. It is associated with artefacts recovered from a riverside site nearby. It seems from aerial photographs and LiDAR elevation data that remnants of the defences and some of the internal features may still be apparent (Figure 57).



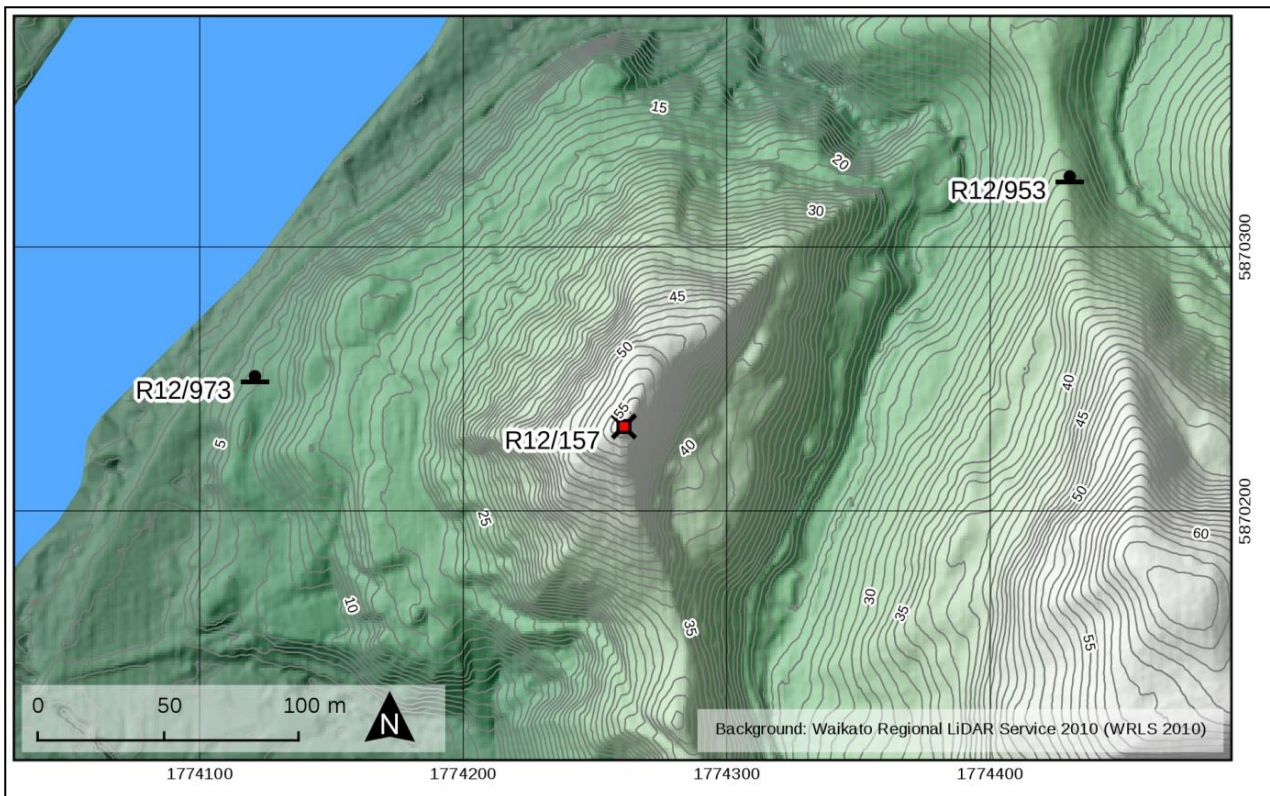


Figure 57 Lidar-derived elevation map of the area surrounding R12/157.

R12/158 was recorded by J. Grant and C. Slane in 1979, who described a hilltop pa with pits and terraces. A detailed sketch plan was made of the pa, showing terraces, pits and platforms on a promontory by a stream leading to the Waikato River. The site was revisited by M. Felgate in 2006. Felgate found "no trace of defensive ditch" and that the terraces found in 1979 were not clearly defined.

Although the site location from the NZAA file has it on a river flat, it seems likely the place referred to is a spur with a broad saddle approaching it from the south, which can be seen in hill-shade images derived from elevation data.

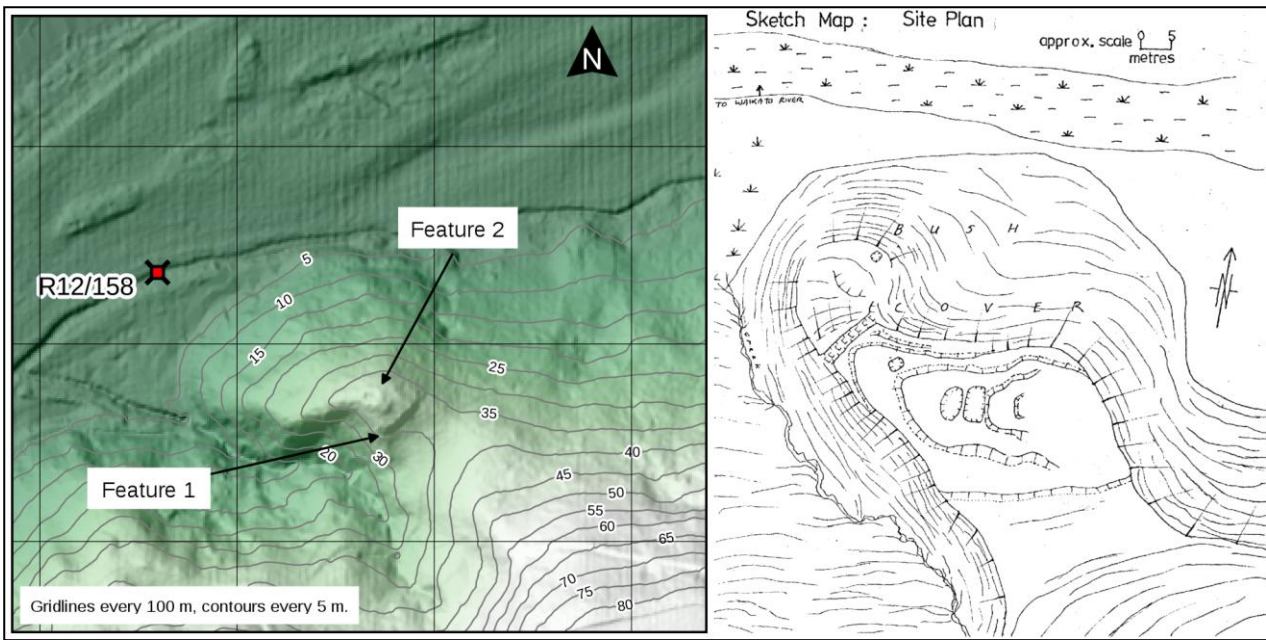


Figure 58 Lidar-derived elevation map of the area surrounding R12/158 (left) and the sketch plan made by Grant & Slane in 1979.

Figure 58 (above) compares the Grant & Slane sketch plan (on the right) with lidar-derived elevation data collected in 2010. The high point near the centre of the image seems to be the place described by the sketch. There are two targets in the data which seem to suggest the presence of archaeological features. These have been marked on Figure 8. Feature 1, a linear shadow, is suggestive of a bank or scarp, and the shape of the object labelled Feature 2 suggests a platform. It is not possible to confirm this without visiting the site.

The third pa within the selection is R12/736 (Figure 59). This is a hilltop pa located well to the east of any staged areas surrounding Tuakau. According to the site record it has been partially destroyed by a farm track and seems today to be in an area affected by forestry.



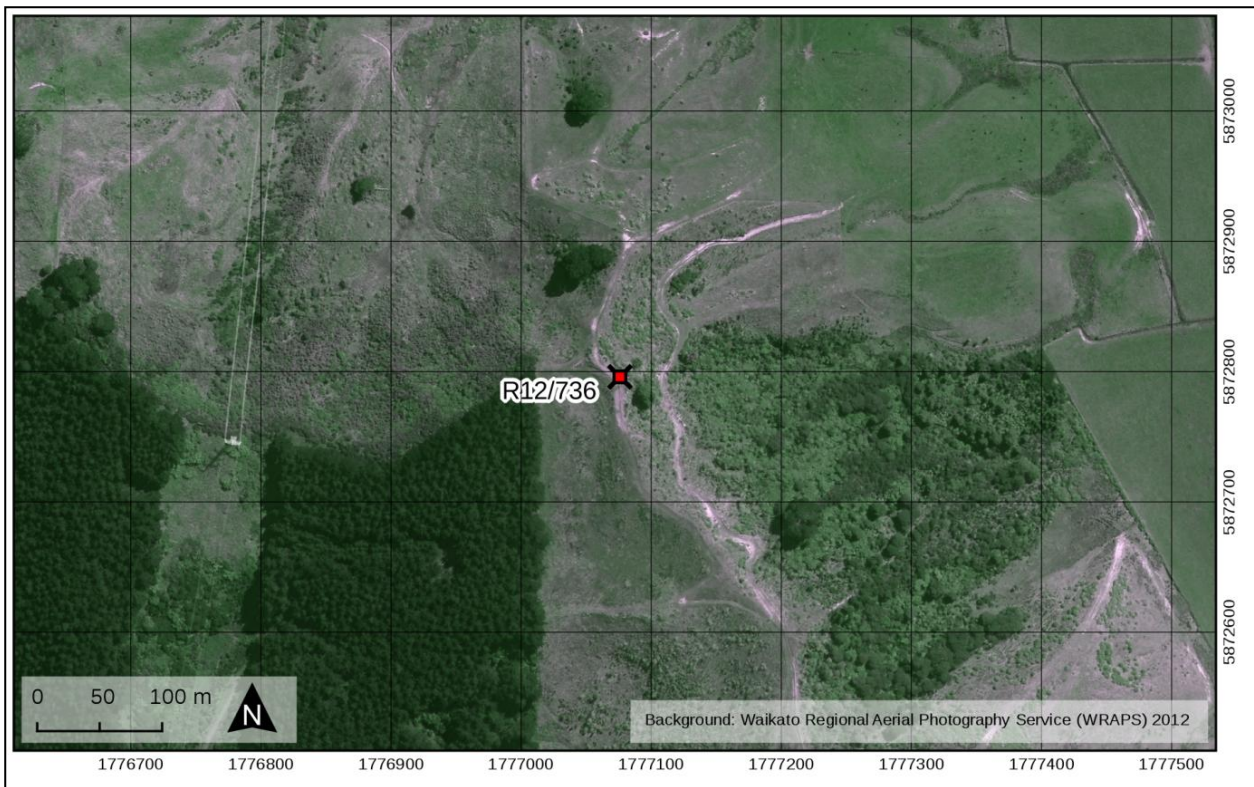


Figure 59 Aerial photograph from 2012 the area surrounding R12/736.

### **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.

Nine sites of type 'Pit/terrace' are in the study area. R12/94 is a cluster of small pits near Parker Lane and R12/170 is a partly-quarried scoria cone off Attenwell Road. R12/734 records three terraces located on a small knoll on the south bank of the river near Namuheiriro Island. R12/740 is a large rectangular indentation, interpreted as a terrace on a promontory above the north bank of the river at the end of Trig Road. These four sites are all isolated outliers with no other recorded archaeological sites nearby.

A cluster of five pit/terrace features are recorded at the end of Brown's road centred on 1774350 5871087. This is a south-facing slope overlooking the river. Sites in this cluster are R12/707, R12/708, R12/709, R12/712 and R12/713.

## **Stonework**

Sites of type "stonework" record the deliberate arrangement of stones. They may be drystone walls, the remains of possible structures, or may simply be piles of rocks removed from fields for cultivation.

Nine stonework sites are recorded. (R12/710, R12/711, R12/714, R12/716, R12/720). Four of these are clustered in a similar area to the pit/terrace features at the end of Brown's Road. These sites are reported to contain stone walls, but it is impossible to tell from the site records whether they relate to European or Maori settlement, or to which period they belong.

## **SUMMARY**

Although no archaeological sites are recorded within the town boundary, this should not be taken as evidence of an absence of archaeology there. The site recording scheme is by no means a comprehensive record of archaeological sites. The density and distribution of sites is more often an indication of the presence or absence of archaeologists actively working in an area than it is of the existence or otherwise of archaeological deposits.

# CHAPTER 4 GEO-REFERENCING; PLANS AND HISTORIC AERIAL PHOTOGRAHS

## INTRODUCTION

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 medium-format cameras and the results survive as prints in the library collections of the Waikato Regional Council and the University of Waikato.

Figure 60, 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.



Figure 60 Detail from aerial photograph SN192/282/89 flown 29 April 1941.

The Alexandra redoubt can clearly be seen on the prominence over the Waikato River, and can actually be mapped with some precision from this image. Also of interest is the cluster of small buildings on the opposite bank of the river, and the barge tied up at top left. Towards the centre of the image, between the road and the toe of the bush-clad slope up to the redoubt, is another cluster of activity of some kind. All of these features may point to the survival of archaeological evidence in these specific locations.

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 visualised in a GIS.

## 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 copies 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 61 shows a Survey Office plan from 1881 with the modern cadastral dataset overlain as a set of dark blue lines.

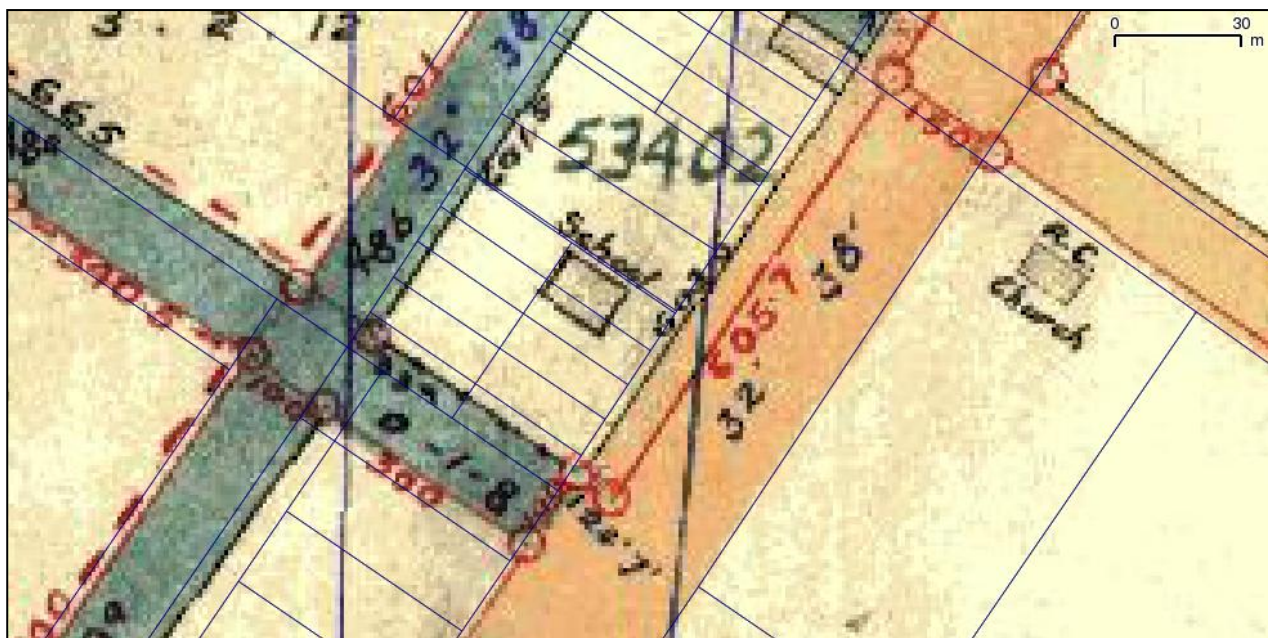


Figure 61 Detail from historic plan SO 2738A (1881).

The area depicted is the intersection of Alexandra Redoubt Road with River Road. Two named buildings can clearly be seen inscribed on the map, 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 archaeological sites.

We do have to treat what we see on the old plans with some scepticism, however, as is illustrated by Figure 62, a detail from one of the earliest Survey Office plans.





Figure 62 Detail from SO 413 of 1866, overlaid on 2012 aerial imagery, with the modern cadastral dataset as blue lines.

Figure 62 clearly shows the redoubt drawn backwards, with the bastions at the wrong corners. However, the rest of the boundary lines provide good matches for the modern cadastral lines, without generating obvious distortions in the background image, so we can be fairly certain of the spatial accuracy of this plan.

### 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 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.

## **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 shape-files.

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 inventory into account along with historical 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.

## SITES FOUND DURING THIS STUDY

A number of archaeological sites were discovered during the geo-referencing analysis; most have been inferred from indications on old Survey Office plans. Some of these matched the historic descriptions identified in Chapter 2.

### Site of the Catholic Church

A building is marked 'R. C. Church', on SO 2738 , close to the corner of Alexandra Redoubt Road and River Road. Figure 63 shows the location of the church building as indicated on the georeferenced copy of SO 2738, overlaid on aerial photography from 2012. This is now the corner of a large cultivated field, and there is a small building close to, or on the spot the where the church was.

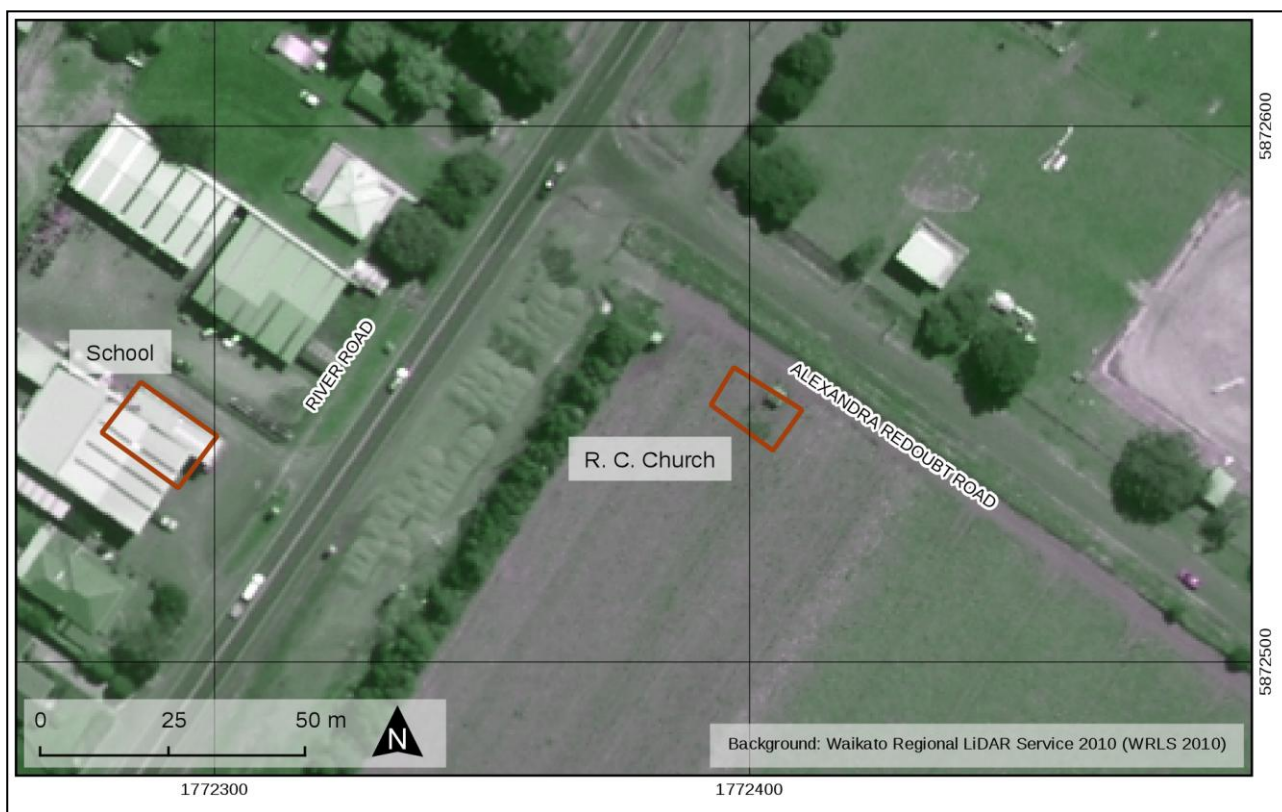


Figure 63 The site of the Roman Catholic Church, on the corner of Alexandra Redoubt Rd, and River Road.

### Site of the school building

Another structure indicated on SO 2738 and marked as 'School'. This is on River Rd, near the site of the church, under what is now D. R. Howell's Engineering (Figure 64).



Figure 64 Location of a school building traced from SO 2738.



## Maori cultivation, Whangarata Rd

This is an area circled on SO 413, surveyed in 1866 soon after the British invasion of the Waikato (Figure 65). Today it occupies most of Part Allot 29 PSH OF Tuakau, and parts of Part Allot 29 PSH OF Tuakau.

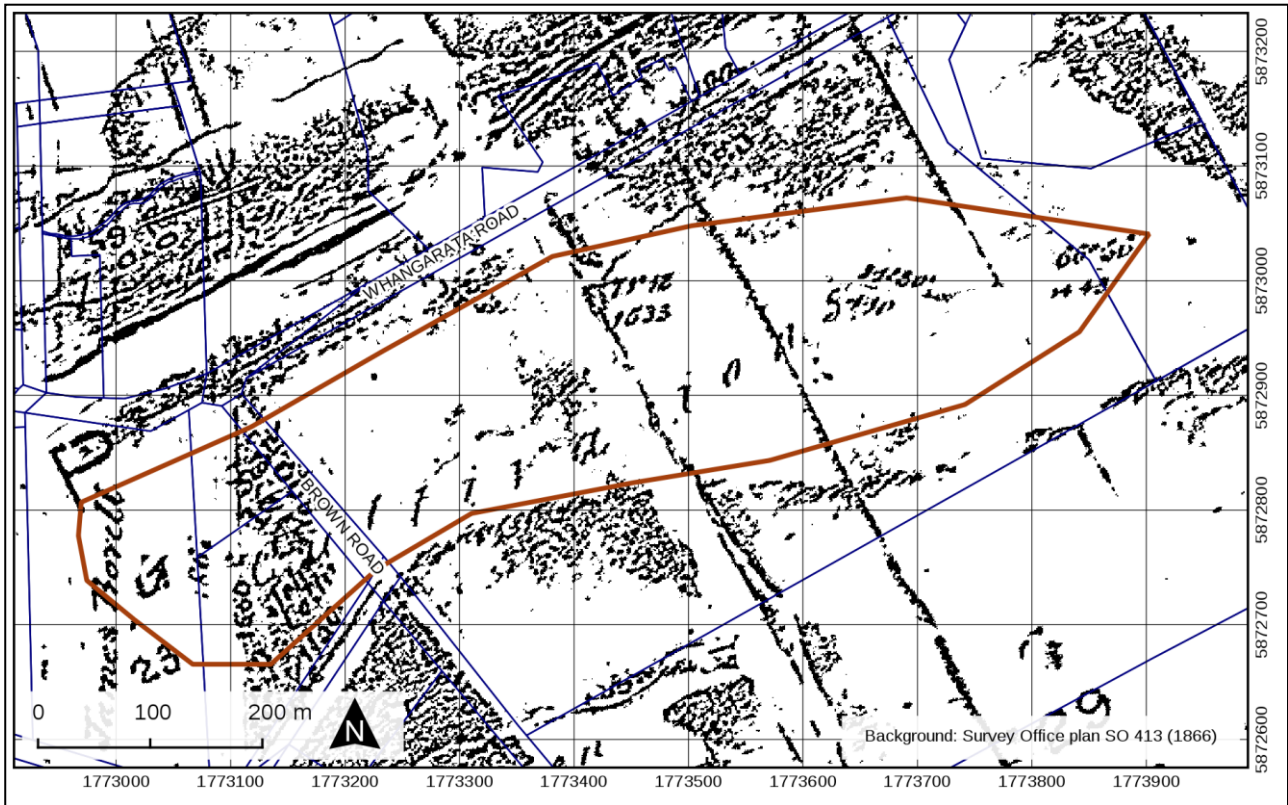


Figure 65 Detail from SO 413 (1866), showing cultivation areas.

In Figure 65 above, the red line is an interpretation of the extent of the cultivated area. When this shape is overlain on modern aerial imagery, we see that the area indicated as under Maori cultivation prior to the British arrival is still under cultivation today (Figure 66). What is not shown on the early plan is the stream bed meandering through the fields.

It seems likely that this stream would have been a centre of activity associated with the early cultivations, as a place to draw water and perhaps a place to prepare meals during the working day. For this reason, the stream here has been added to the areas of archaeological sensitivity.





Figure 66 This area today, looking from Whangarata Road west towards the intersection with Brown Road.

### Maori cultivation, Dromgools Rd

This is an area marked 'Cultivations' on SO 413 (Figure 67). It is located on the north bank of an unnamed stream, east of Geraghtys Road.

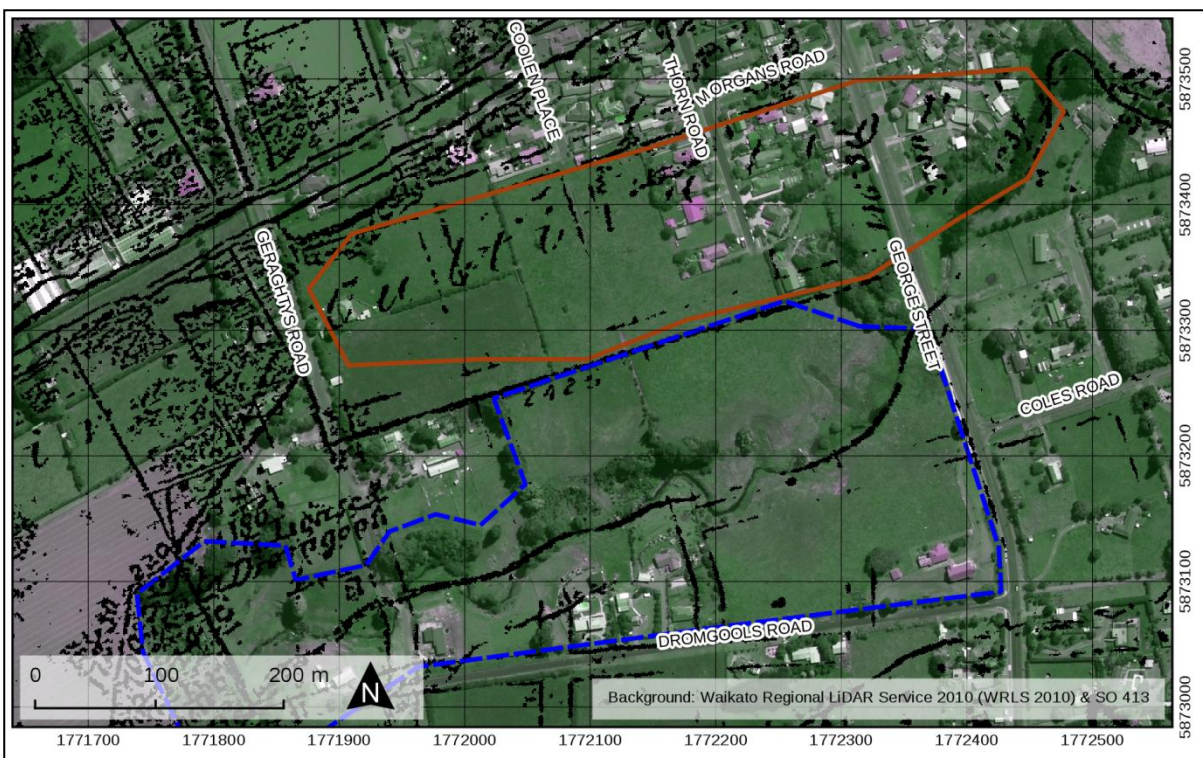


Figure 67 Detail from SO 413 showing cultivations.

Figure 67 shows the early survey plan in the area now on the southern boundary of the town, overlaid on aerial imagery from 2012. The cadastral parcels are outlined in dark blue. The red line represents an interpretation of the extent of cultivation from the plan. This image also shows the speculative location for the kainga referred to in historical sources, shown as a heavy dashed blue line.

Although the eastern end of this cultivated area is now built-up, a significant portion of it remains in pasture and may retain some archaeological evidence in subsurface contexts.

### Collins building

This is a square structure marked on SO 2738. It is close to another structure marked as 'Flax Mill' (Figure 68). Both are on cadastral parcel Section 46 SBRS OF Tuakau.

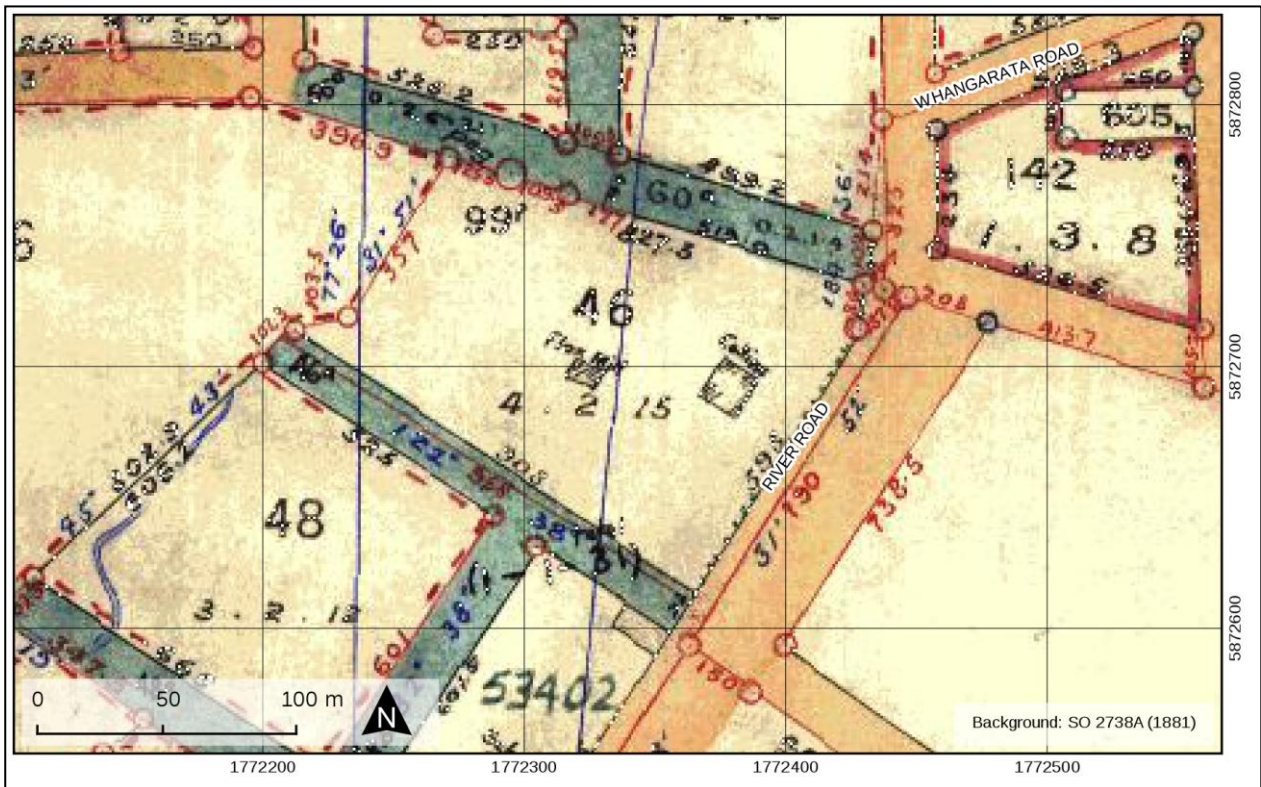


Figure 68 Detail from SO 2738 (1881) showing two buildings on the Collins property on River Road near Whangarata road.

### Collins flax mill

Another building indicated on SO 2738, this is a rectangular structure which sits in an unnamed stream behind River Road. When the buildings were traced from the georeferenced plan, and overlaid with modern elevation data, the mill building appeared very close to the stream, near to a steep bank and a flat (Figure 69).



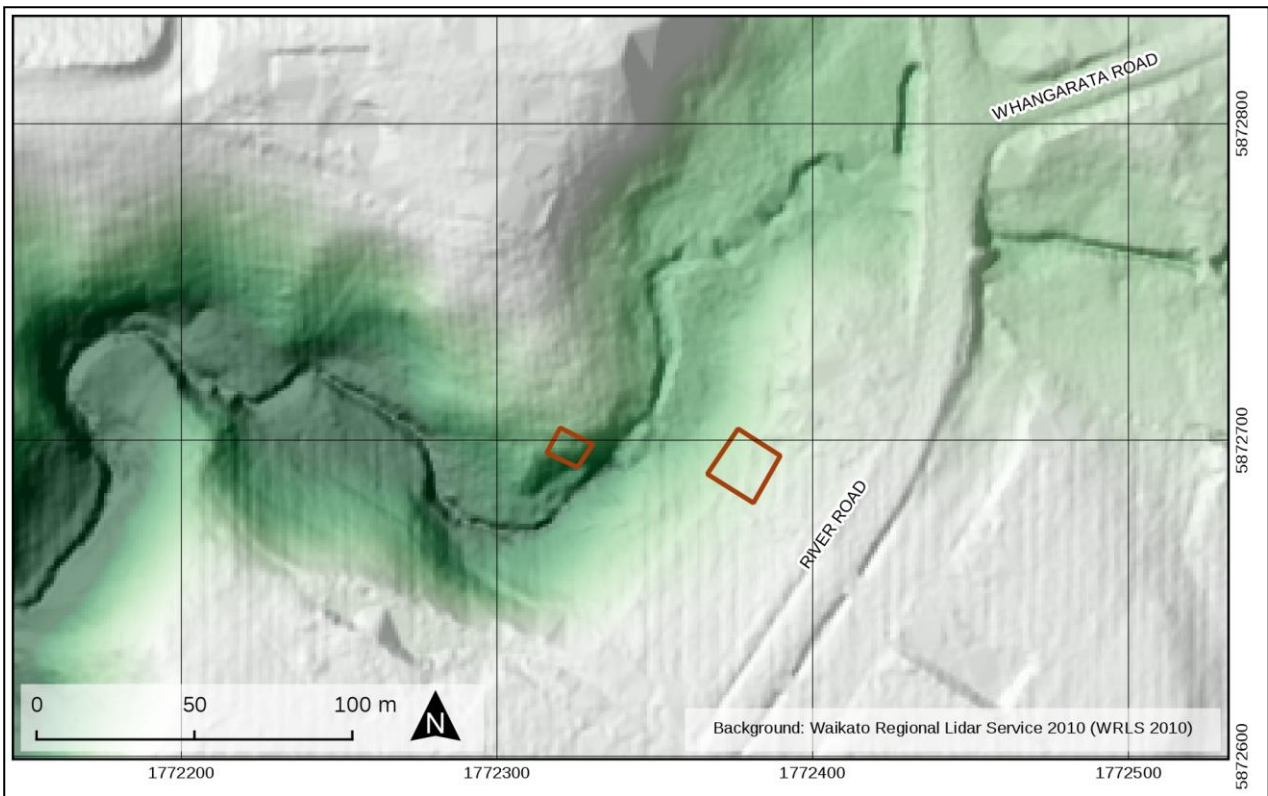


Figure 69 Location of Collins' house and mill, taken from SO 2738, overlaid on lidar-derived elevation data. In this image, green is low and white is high.

Figure 69 shows the flax mill sitting in an area of the stream which may be a natural flood terrace, or may be modified. There is insufficient information in the remote sensing data to decide. This site should be visited by an archaeologist, with permission from the landowner, and the existence or otherwise of remnant earthworks associated with the mill confirmed.

# 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 visits. The process of summarizing the information in the previous chapters creates 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 sites 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—the places that were occupied and intensely used by human's prior to 1900. For example historical references were found that noted the location of Maori sites in Tuakau and an 1866 plan showed the location of "cultivations" (Figure 6).

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 fire can also affect archaeological sites. Tuakau had at least one major fire in the commercial district. In 1929 the Farmer's Trading Company general store, the garage and motor workshop of Giles Brothers Ltd were destroyed by fire and other buildings in the vicinity were damaged (Auckland Weekly News 10 January 1929, p.40) (Figure 70). While fires destroy some materials they also preserve types of information that can be recovered using archaeological methods. For example the wood in a building will burn, but generally many of the metal fittings and construction materials survive. The ceramic and glass containers in a shop may be broken by falling debris or intense heat but the fragments and melted remains of the containers remain. Site clearing associated with buildings prior to the availability of mass earth working machinery—bulldozers—was usually minimal and resulted in broken glass, ceramics, and metal objects being left in place. Frequently buildings erected prior to 1940 or 50 cap the archaeological foot print of early building or other types of sites.



Figure 70 Fire at Tuakau. (Auckland Weekly News 10 January 1929, p.40 Sir George Grey Special Collections, Auckland Libraries, AWNS-19290110-40-1.)



## ARCHAEOLOGICALLY SENSITIVE AREAS; UNRECORDED SITES

### Model Development

The information in Chapters 2 was compiled into an unrecorded site list. The list of places was taken to a public open day by Anne McEwan, built heritage researcher, to obtain additional information based on local knowledge. The historical information was then used to inform the predictive model of unrecorded sites and referred to during the site visit in March 2014.

The geo-referencing work in Chapter 4 resulted in the location of several pre-1900 buildings on old Survey Office plans. This information was matched with similar historical information. Other historical references could not be matched with similar information on old plans 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.<sup>55</sup>

The sites identified included:

- 1<sup>st</sup> Catholic Church;
- Collins house and flax mill;
- Two Maori cultivation areas; and
- The School house site on River Road.

### *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 Tuakau areas that had a high potential for Maori occupation and land use as well as specific types of European uses, e.g. flax mills.

The waterways are a particularly sensitive area. The streams that meander through the Tuakau area drain into the Waikato River and are good eel habitats. Maori would have made use of the water ways as an eel fishery. The land adjacent to the water ways also provided fertile soil for gardening as was indicated in Figure 6. A mill was located near one of these gardening areas suggesting at some time wheat may have been grown for milling. The streams were also a focus of water power for flax mills during the European settlement phase after the Waikato campaign of the New Zealand Wars.

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<sup>55</sup> Unfortunately historical information errors can be presented multiple times in secondary sources.

The Waikato river edge was also an important resource area for whitebait fishing, an activity that continued during the European settlement phase.

The river was also a significant transportation corridor for trade—an obvious location for Maori settlement.

Flax harvest was a focus of locally from about the 1830s through early 1900's. Maori villages were frequently located near the swampy flax dense areas to facilitate harvest.

A map of archaeological sensitive areas was created. (This is included at the end of this report as a A-3 plan.)

## FIELD VISITS

The field visits involved driving and walking through out the structure plan area. Every effort was made to check the places identified in Table 2 and the high probability areas discussed in the previous sub-section. Many places of these places were located on privately owned land and therefore not accessible (Figure 71). This included almost all of the land along River Road, the first European Tuakau settlement area.



**Figure 71 River Road opposite the Domain Reserve, Tuakau.**

Notes were compiled in Table 5 relating to the places identified in Table 2. Table 5 also includes notes about places for which no specific location information could be found.

The site of the 1<sup>st</sup> Catholic Church was confirmed and a New Zealand Archaeological Association (NZAA) site record was prepared. The Catholic Church was recorded as R12/1094 and included in the Appendix 3.

## Table 5 Potential Archaeological Sites and Site Visit Results.

(Refer to Table 2 in Chapter 2 for additional location information and references.)

Note: houses were not listed in Table 5. The built heritage report should be referred to for houses constructed prior to 1900. Pre-1900 structures are managed under the Heritage New Zealand Pouhere Taonga Act 2014.

Site Name	Location Information and Reference	Dates	Notes
Maori village of Tuakau adjacent to the River	"Tuakau Maori settlement was situated between the Alexandra Redoubt and the present main road as it approaches the river from Tuakau." (Morris 1999, p. 100)	Pre-1840s  c. 1840-1863	On private property not accessible.  May have been destroyed by industrial activities based on current land use.
Village in Tuakau	"On the Taupiri Dairy Company property. ( <i>Tuakau District Centennial</i> 1965, p.9)	Pre 1863	The location of the Taupiri Dairy Company was on Lapwood Road where Waikato By-Products is situated (email from Sandra Brasell 8 April 2014). This is where the Pa sketched by J. Johnson and described by later historians was.
Pa in Tuakau	"Near the present railway crossing." ( <i>Tuakau District Centennial</i> 1965, p.9)	Pre 1863	Pa may be on a hill near the railway crossing, but would need to be verified through a site visit. (The aerial photographs do not provide enough detail to verify.) The property appears to be in private ownership.
Village in Tuakau	"On the property of Mr Kewish." ( <i>Tuakau District Centennial</i> 1965, p.9)	Pre 1863	The location of Mr Kewish's property may be his 1962 property or the 1928 Coles Road property (email from Sandra Brasell 8 April 2014). The stream adjacent to Coles Road suggests that area is a high probability area. The aerial photographs provide no evidence of a village or cultivations. Survey plan SO 413, Chapters 2 & 4, show an area of cultivation near the intersection of Whangarata and Browns Road. On private property, not accessible.
Maori Village in Tuakau Domain and Cultivation Area	"On the Domain site." ( <i>Tuakau District Centennial</i> 1965, p.9)	Pre 1863	The Domain has been levelled to create playing fields, it is likely the mass earthworks has destroyed archaeological evidence in the levelled area. Remains of the Maori village may still be evident adjacent to the creek (which appears less modified). Survey plan SO 413 shows an area of cultivation near the domain (Whangarata and Browns Road). The aerial photographs provide no evidence of a village or cultivations. The reference on SO 413 is

			on private property and therefore not accessible.
Kainga at Catholic Church on George St	Several native huts were also situated on the present site of the the Roman Catholic church." <i>(Tuakau District Centennial 1965, p.9)</i>  Maori Kainga under the 1912 Catholic church site on 186 George Street (Gessel 2005).	Pre 1863	The top of the hill has been levelled for church and auxiliary building construction. There is also a parking lot. There is the potential for buried archaeological deposits, because the church was constructed prior to bulldozers and large mechanical earth working equipment. The SO 413 shows an area of cultivation near the creek on this property. The aerial photographs provide no evidence of a village or cultivations. The cultivations may have been grain since the area is near the old mill. The cultivation area is on private property, not accessible.
Maori owned flour mill, [later flax mill]	On a stream adjacent to Maori Village (Featon p.20, Gamble plan [p.56b] plate no. 8, Morris p.93-94 and sketch); "on a property owned by Mr C.J. Leathem. After the war, a flaxmill was operated here by William Dean. The old waterwheel and race can still be seen." (Morris p.113)  The mill was later used by Mr C Dromgool as the nucleus of a flax mill (Turbott 1989, p.35). His mill was on the creek that runs past the 1912 Catholic Church on River Road (Gessel 2005).	1854-	On private property, not accessible.
Military Redoubt		1863	In reserve, well preserved, but some erosion noted from users cutting through the banks. Other issues: -No view of Waikato River. View shafts needed and interpretation of where the steps went down to the river. -Graveyard monuments and fences need repair and to be assessed for erosion. -There is community interest in relocating and possibly reinstating the steps down to the river.  Recommend an archaeological conservation and management plan.
Canteen near redoubt	"January 19, 1864 Canteen Orders... ." <i>(Diary of Capt Thomas Broun in Tuakau District Centennial 1965, p.9)</i>	1863	Location? Probably on the flat outside the redoubt. (The landing immediately below the redoubt was an area with little land surrounding it. The later

			Tuakau landing featured adjacent land and stores.)
Immigrant Camp	"The tents erected on land which now is the Domain <u>Tennis Courts</u> . Adjacent to this on a clearing, a crop of potatoes had been planted for their use, and to this day this part of the Domain is known to old settlers as the 'Spud Ground'." (Turbott 1989 , p.37)	1865?	The Domain has been extensively earth worked. No tennis courts were evident during the field visit.  There is a potential that archaeological evidence of the immigrant camp may be found adjacent to the stream.  (It was also noted previously this was a Maori settlement area.)
Store-Hotel	Benjamin Harris store and hotel, near the river, possibly located near the landing. (Rev Lush's Journal in Drummond 1982, p.67-68.)	1866	Location could not be specifically identified. This may be the building shown on SO 415, Figure 16.
Store	Poland's store at his house (Wilson n.d.,p.8) 1868-early 1900s	1868	Locations could not be specifically identified. Title research on Poland's property might provide information on where the house and store were.
Store	Collins Store & Post Office (Daily Southern Cross 23 November 1876, p.3)	1876	On River Rd property location not specifically known (probably at the hotel).
Store	"Dad Chesire store near the waterfront" (early settler) ( <i>Tuakau District Centennial</i> 1965, p.9)	circa 1870s	Locations could not be specifically identified.
Collins Hotel on River Road	Collins Hotel, on the Collins property on the corner opposite the Alexandra Redoubt Road; (Section 46) (Collins Family Reunion, Kerse & Kerse 1994, p.19)	1877 (possibly prior)	On private property not accessible.
Slab Huts and early houses	Initial slab huts of early settlers followed by better houses (2 <sup>nd</sup> house). Collins at 204 River Road and other families in this area as well as other parts of Tuakau.	c1866	Locations could not be specifically identified.
Roads	Early road alignments	c1865	Many of the road alignments still exist, e.g. River Road. River Road is the most significant and consideration should be given to its interpretation.
Wharves and jetties	Military jetty associated with redoubt. Wharves and jetties associated with early settlement of Tuakau.	c1863 military c1866	The foreshore was probably the location of various wharves and jetties over the years. There is the potential for subsurface evidence of these.
Punt	Operated prior to the Bridge opening in 1903 (Photograph 4335	c1900 or earlier	A jetty was evident, but this may not be the punt jetty, e.g. possibly a more



	HCL); located adjacent to the bridge during construction (See photo of bridge construction 1902 with punt)		recently constructed boat ramp.
Railway Station with Post & Telegraph Office	At existing site (History of Tuakau WDC)	1875	The railway station area has been extensively earth worked and redeveloped, it is likely no archaeological evidence remains of the previous station and associated buildings
Harrisville [Anglican] Mission Hall	Harrisville and Buckland Roads corner on land donated by Thomas Collins (Auckland Star 25 September 1899, p.5 and New Zealand Herald 25 September 1899, p.6).	1899	Moved to the Anglican Church in Tuakau in 1948 and moved to the Tuakau Museum site in 2007.
Harrisville School and teachers residence	School-On Harrisville Road, at the Harrisville school (Harrisville School Centennial 1877-1977, p.9 notes: "In 1964 the old school built in 1877 was demolished")  Teachers residence (1883), in 1885 one of its rooms was used as a class room in 1885. (Harrisville School Centennial 1877-1977)  Well (1896), a 29 foot well was dug in school grounds. (Harrisville School Centennial 1877-1977)	1877 (opening date listed as March 1 1887, possible misprint)  1883  1896	The school is gone (as noted in column 2). The teachers residence is located on the grounds and appears to be well looked after. The condition and location of the well is not known.
Tuakau Primary School	River Road where Howell's Engineering workshop now stands (History of Tuakau WDC & Tuakau Primary School history on web)	1870-1922	Howell's Engineering work shop is on the school site. Construction of the workshop may have modified or destroyed evidence of the school.
St Andrews Roman Catholic Church	Corner of Alexander Redoubt Road (History of Tuakau WDC, Gessel 2005) The location identified by historical research and geo-referencing.	1869-1912 Then used as a school room until 1922	The bare paddock may still contain archaeological evidence of the first Catholic Church which was used as a school after 1912. An archaeological site record was prepared, R12/1094, Appendix 3.
<b>COMMERCIAL TUAKAU NEAR THE RAILWAY STATION</b>			
Tuakau Hotel, near the Railway	Main road Tuakau, still on the same site but altered (based on photograph).	1882	The hotel is still in use, but has been extensively remodelled. It was not specifically assessed to identify pre-1900 building fabric.
General Stores	(Anonymous History of Tuakau ca. 2000)		The existing town has been developed on top of the 1870s town; no pre-1900 buildings were visually evident from

			public accessible areas.
Butcher Shop	(Anonymous History of Tuakau ca. 2000)		As above
Black smith	(Anonymous History of Tuakau ca. 2000)		As above
Baker	(Anonymous History of Tuakau ca. 2000)		As above
Bootmaker	(Anonymous History of Tuakau ca. 2000)		As above
Wheelwright	(Anonymous History of Tuakau ca. 2000)		As above
Dressmaker	(Anonymous History of Tuakau ca. 2000)		As above
<b>SOCIAL &amp; CULTURAL IN THE RAILWAY STATION TOWN CENTRE</b>			
St John's Church (Anglican)	(History of Tuakau WDC)	1881	At St John before the Latin Gate cnr Buckland Road & George Street
1 <sup>st</sup> Tuakau Wesleyan Church	First church demolished in 1886	1877-1886	Adjacent to 12 Harrisville Road, the former Literary Hall. Site is level and may have been mechanically cleared. Consultation with the owner is required to determine how disturbed the surround area is.
2 <sup>nd</sup> Tuakau Wesleyan Church	Second church demolished in 1974	1886-1974	Location same as first Wesleyan Church on Harrisville Road.
Tuakau Presbyterian Church	Church Street in 1880. Enlarged in 1892. Shifted to 5 Madill Street in 1914. In 1960 a church centre was erected on the same site alongside the church.	1880-1914	Exact location of the Church on Church Street is not known. Moved to 5 Madill Street in 1914.
Tuakau Literary Hall	Erected near the Methodist Church	c. late 1890s	12 Harrisville Road. Hall is being turned in to a house. Consultation with the owner is required to determine how disturbed the surround area is.
<b>INDUSTRIAL</b>			
Saleyards	The first auction sale of livestock was held at Tuakau in September 1899 followed by Alfred Buckland and Sons establishing a sale yard on the site of the present sale yards in 1900.	1899	The existing site is still in active use. There is a potential that archaeological remains of the earlier saleyards may still exist, but a specific location for Buckland and Sons yard would need to be identified.
Tuakau Creameries	The Tuakau Creamery was established in 1888 at the rear of the railway station (railway end of the main street) (Figure 23) (Anonymous History of Tuakau ca. 2000 p. 12).	1888	Substantial modification has taken place near the Railway Station; The 1888 creamery site may have been completely destroyed.  Location of the second creamery could

	Two creameries were in operation in March of 1889 ( <i>New Zealand Herald</i> 21 March 1889, p.6). <sup>56</sup>		not be determined.
Timber mills/ pit saw features	Prior to 1900 pit sawing and later portable mills were used. The sites associated with these activities are very ephemeral and information about their locations was not identified in the historical research.	c.1865	Locations could not be determined.
Franklin Roller Flour Mill [Bycrofts Mill]	Fire destroys Bycrofts new mill, "The mill was just completed and about to be started" <i>New Zealand Herald</i> 10 March 1881, p.5)  In Tuakau, "Close to the Franklin railway station to which it is connected by iron tram." ( <i>New Zealand Herald</i> 25 June 1896, p.3)	1880 first mill Mill rebuilt after 1881 fire	Specific site was not identified, but extensive modification newer buildings near the station suggest the remains of this site have probably been destroyed, but the specific location for the flour mill would need to be identified to determine the potential for remains.
Threshing and Sawing Plant	Mr Madill established a threshing and sawing plant prior to 1900 ( <i>New Zealand Herald</i> 26 November 1898, p.1). The plant was managed by his son Adam Madill junior in 1902 ( <i>Cyclopedia Company Ltd</i> 1902, p.691). <sup>57</sup>	Late 1890s	Location could not be determined.
Bone Mill	Near the site of the present sale yard in 1890s.  1899 operating a bone mill on the Main Road in partnership with AB Collier ( <i>Auckland Star</i> 1 September 1899, p.2)  In 1901 Madill and Collins built a bone mill just off George Street. Damaged by fire and rebuilt further back on George Street. Second mill also burnt. (Kerse and Kerse 1994, p.20)	c. late 1890s 1899 partnership A.B. Collier  1901 partnership J Collins	Located on the saleyards site. There is a potential for archaeological evidence of the Bone mill at the saleyards site; possibly very disturbed by earthworks but this would need to be investigated.
Flax Mills	9 or 10 flax mills in Tuakau (Turbott 1990; Tuakau History prepared by WDC staff)		
Government Flax Mill	Government flax mill	1866	
Mr Oldham Flax and Weaving Mill (formerly Mr Holmes Flax Mill)	Mr Oldham bought Mr Holmes flax mill near the railway station in June 1881 and set up a flax weaving mill, both powered by an old water-race ( <i>New Zealand Herald</i> 16 June 1881, p.6).	Pre-1881	Near Railway station/ probably destroyed by earthworks in this area, but focus historical research might result identification of the location.
John Collins (Sr)	John Collins (Sr) flax mill, shown	1871	On private property not accessible.

<sup>56</sup> The location of the second creamery was not identified.

<sup>57</sup> The location of the plant, which may have been on Madill's farm was not identified in historical references reviewed.

Flax Mill	on his property opposite the immigrant camp on River Road. (Section 46 on the stream) (Collins Family Reunion, Kerse & Kersey 1994.)	(possibly prior)	(Flax mill and Collins house locations were confirmed by historical research and geo-referencing. Site visit required.)
Thomas and John Collins Flax Mill	Thomas and John Collins (Jnr) Flax mill by the Waikato River. The mill was destroyed by the 1907 flood (Kerse & Kerse 1994, p.20).	Mid-1880s – early 1890s	Exact location not known.
Frost's Flax Mills	Frost's flax mill at Tuakau Landing (9 June 1899 <i>The Auckland Weekly News</i> p.5)	Frost's mill working by 1899	Exact location not known.
Geraghty's Flax Mills	Geraghty's flaxmills  Flax mill at- Woodbridges timber yard and latter Dricon concrete business (Tuakau History WDC)  Flax mill at Black's Bridge on Buckland Road (in McEwan 2008, p.16).  Flax mill on Mill Road (in McEwan 2008, p.16).  Steam flax mill few hundred yards up the creek from the bridge a little north of St Andrew's Church (in McEwan 2008, p.16).		Exact locations are not known.
Dromgool Flax Mill	Mr C Dromgool –used Old flour mill as the nucleus of a flax mill (Turbott 1989, p.35). The mill was on the stream that runs past St Andrew's Catholic Church.  Somerville's Flax mill on the creek below Mrs M Dromgool's, later worked by M Geraghy and then Mr Dromgool (in McEwan 2008, p.15). (Is this the same flax mill Turbott describes?)		Exact location not known.
Walkers Flax Mill	Walkers Flax mill fire(New Zealand Herald 5 April 1872, p.2)		Exact location not known.
John Poland's Flax Mill	John Poland's mill at Tuakau Beach (in McEwan 2008, p.15).  Mill fire in 1890 (Auckland Star 25 February 1890, p.5)		Exact location not known.
Other Flax Mills	Other millers not noted above or below: Escott, John Logan, J. Copeland, the Lapwoods, Murtons." ( <i>Tuakau District Centennial</i> 1965, p.29)		Exact location not known.

White Bait fishery & cannery	In 1901 Mr Frost's whitebait canning factory had opened at Tuakau and was processing one ton of whitebait a day under the management of William Ewing (Auckland Star 28 September 1901, p.1).	1894 fishery  1901 cannery	Exact locations not known.
Tuakau Creamery	The Tuakau Creamery was established in 1888 at the rear of the railway station (railway end of the main street) (Figure 23) (Anonymous History of Tuakau ca. 2000 p. 12).  Two creameries were in operation in March of 1889 ( <i>New Zealand Herald</i> 21 March 1889, p.6). <sup>58</sup>	1888	Earthworks in this area may have destroyed evidence of the creamery, but additional research would be need to confirm this, including examining property plans.  The location of the other creamery is not known.

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<sup>58</sup> The location of the second creamery was not identified.



### Field Checking Sites identified in Chapter 3

Some of the recorded site locations identified in Chapter 3 were visited; others were on private property and could not be viewed from a public space. For example The Smith's Homestead R12/284 was visible from the public road (Figure 72). An updated site record was prepared for the homestead.



Figure 72 Smith's Homestead, R12/284. (Note: Established trees and fencing.)

### Field Checking Sites Identified in Chapter 4

Several of the sites identified in Chapter 4 were discussed in Chapter 2, in particular the Catholic Church, Collins House and Flax Mill and the cultivation areas identified on the 1866 plan. These were summarised in Table 5, column 4. The Catholic Church site was the only site that was accessible at the corner of an open field. Collins House and Flax Mill sites are on private property and were not accessed. The cultivation areas are visible from public spaces, but not accessible because they are on private property.

### Other Sites Identified During the Field Work

On the hill opposite the former Railway Station is Revell's former Literary Hall and was once the site of other pre-1900 structure (Figure 28 and Figure 31). Figure 73, is an excerpt version of Figure 31 that shows pre-1900 the structures on the hill. Sandra Brasell of the Tuakau District and Museum Society was for information about a house at 33 Harrisville Road that was suspected to be a pre-1900 building, albeit substantially altered. This could not be confirmed.

This and other information relating to built heritage structures was shared with the built heritage researcher's.<sup>59</sup> The result was that structures like the Harrisville school teachers house were included in the built heritage inventory.



Figure 73 Harrisville hill, Tuakau. (Memories of Tuakau notebook n.d., Tuakau and Districts Museum Society Inc., Tuakau Public Library.)

### *Shell midden in the Les Batkin Reserve*

A spot check was made of the river edge of the Le Batkin Reserve and a shell midden was identified (Figure 74). A NZAA site record was prepared for the site. The midden, R12/1093, on the north bank of the Waikato River is immediately south of the small boat ramp. It is 130 m north along the riverbank below the Tuakau Bridge. At NZTM 1772441E 5870480N.

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<sup>59</sup> The built heritage researchers also shared information. The cooperative approach was beneficial to both the heritage research teams.





Figure 74 Shell midden exposed in the riverbank, recorded as R12/1093. Scale divisions are 10 cm (on red and white rod).

The midden contains lens of tuhua shells some 4 m long and up to 30 cm thick. It is being eroded out of the riverbank below the road surface at the Les Batkin reserve. The shells are well-weathered whole and crushed tuhua shell in a grey silty matrix. Individual whole shells are up to 4.5 cm long. A site record is included along with the other records in Appendix 2.

The site, which is located in the river bank is eroding. The find suggests the potential for other midden sites along the edge of the river. A complete survey of the river edge of the Les Batkin Reserve may result in the finding of other shell middens.

## SUMMARY

A number of unrecorded sites were identified and confirmed through the Tuakau visits, others could not be confirmed. NZAA site records were prepared for the 1869 Catholic Church site (1<sup>st</sup> St Andrews Church) and the shell midden in the riverside reserve. Additional field work would need to be carried out to locate and collect information about many of the other pre-1900 sites identified in Table 5. For example an archaeological survey is required to confirmation the location and condition of Collins Flax Mill site and record any remains.

# CHAPTER 6 ARCHAEOLOGICAL HERITAGE MANAGEMENT ISSUES AND OPTIONS

## INTRODUCTION

The intended outcome of this document, as was noted in the introduction is to provide an understanding of pre-1900 identify physical locations used and occupied by Maori and European's that contain evidence of their stories in the form of archaeological sites. The focus in this chapter is on land use planning methods that can be applied to manage, identify, investigate, protect or preserve Tuakau's archaeological heritage. 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 proposed current District Plan to attend to this responsibility.

In addition to the requirements of the Resource Management Act are protected and regulated under national legislation (the newly enacted Heritage New Zealand Pouhere Taonga Act 2014 . 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).

## HERITAGE ISSUES AND OPTIONS

The heritage issues are based on the information compiled in this report. This includes the recorded archaeological sites (NZAA site recording scheme) and the unrecorded or probable sites based on the historical research, geo-referencing, and field visits. It is recommended the reader refer to: Chapter 3 Figure 52; Appendix 2 (recorded archaeological sites list) and 3 (recorded archaeological sites records); and Appendix 4 (map of archaeologically sensitive areas).

### **Issue; Archaeological site management (general)**

- Management of effects to recorded and unrecorded archaeological sites in the Tuakau Structure Plan area.

### **Options; Archaeological site management (general)**

- Status quo. Use the existing heritage provisions of the operative Waikato District Plans to manage affects to any recorded or unrecorded archaeological sites in the Tuakau Structure Plan area; including recorded site avoidance and requirements for archaeological assessment and survey of land being developed within the growth cell.
- Implement an archaeological survey of the Structure Plan areas where intense development is proposed to ensure unrecorded archaeological sites are identified and managed.
- Implement archaeological survey and limited sub-surface assessment of areas where there is a high probability for archaeological sites (e.g. water courses, hill tops, land near recorded archaeological sites, Maori cultivation areas) to assist in the identification and management of unrecorded archaeological sites. (Refer to the plan included at the back of this report, Appendix 4.)
- Avoid affects to recorded sites noted in Chapter 3 by identifying the sites and excluding the sites from any residential development areas.
- Manage the long term preservation and conservation of unrecorded sites in areas that have a high probability for sites, e.g. areas along water ways. Methods may include:
  - Identification through archaeological survey; avoidance during development; and passive management (e.g. periodic monitoring).



### **Issue; Alexandra Redoubt Reserve, archaeological conservation and management**

- Alexandra Redoubt Reserve, long term heritage and management issues including:
  - remedying problems associated with site deterioration, particularly erosion;
  - re-establishing historically significant view shafts;
  - maintaining the paved area, particularly encroachment by grass;
  - relocating and possibly reinstating the steps to the river;
  - grave markers/fencing deterioration;
  - public use issues; and
  - long term site conservation.

### **Options; Alexandra Redoubt Reserve, archaeological conservation and management**

- Status quo. Use the existing heritage provisions for reserve management in the operative Waikato District Plan to manage conservation of the site.
  
- Commission an archaeological conservation and management plan for Alexandra Redoubt and cemetery.
  - The plan will include an archaeological assessment of the redoubt,<sup>60</sup> cemetery and adjacent areas linked to the reserve and development of conservation and management policies. Management issues would include:
    - Erosion problems, site repair;
    - The provision of view shafts of the Waikato River and surrounding country side;
    - Marking the location or reinstating steps to the river;
    - Conservation and stabilisation of grave markers/fencing;
    - Issues identified during the assessment; and
    - Other issues identified by the local community.
  
  - Establishing a local management committee to provide input into the conservation and management plan process and represent the community.

### **Issue; Domain Reserve on River Road archaeological management**

- Public Reserve on River Road, long term heritage management including any future development along the stream edge of the reserve, e.g. bike path, walking trail, or other recreational uses.

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<sup>60</sup> This would include identifying the location of the steps to the river and other features of the redoubt. For example military period buildings outside the redoubt defensive ditch.

### **Options; Domain Reserve on River Road archaeological management**

- Status quo. Use the existing heritage provisions of the operative Waikato District Plan to manage affects to any recorded or unrecorded archaeological sites adjacent to the stream.
- Undertake an archaeological survey of the land adjacent to the stream to identify any archaeological sites and development recommendations for future development.

### **Issues; Les Batkin Reserve archaeological management**

- Les Batkin Reserve adjacent to the Waikato River, long term heritage management to provide for the preservation of archaeological sites and recreational uses.
- Les Batkin Reserve erosion of midden site on the reserve river edge.

### **Options; Les Batkin Reserve archaeological management**

- Status quo. Use the existing heritage provisions for reserve management in the operative Waikato District Plan to manage affects to archaeological sites.
- Carry out an archaeological survey of the land adjacent to the river to identify any archaeological sites and assess erosion.
- Develop recommendations for conserving eroding sites.

### **Issue; Unrecorded sites on or adjacent to the streams that drain into the Waikato River**

- The research indicates there is a high potential for unrecorded archaeological sites adjacent to the streams located on private property.

### **Options; Unrecorded sites on or adjacent to the streams that drain into the Waikato River**

- Status quo. Use the existing heritage provisions of the operative Waikato District Plans to manage affects to any recorded or unrecorded archaeological sites adjacent to the stream.
- Conduct an archaeological survey of the land adjacent to the stream to identify any archaeological sites and development recommendations for future development.

**Issue; Future building demolition and construction in the town centre**

- Tuakau was an 1870s town. Many of the existing commercial buildings in the town centre are located on top of the remains of the pre-1900 town. When an existing building is demolished there is a potential the pre-1900 archaeological remains of a previous building may be destroyed.

**Options; Future building demolition and construction in the town centre**

- Status quo. Use the existing heritage provisions of the operative Waikato District Plan to manage affects to any recorded or unrecorded archaeological sites.
- Require information from the building owner / developer about the age of the existing building, previous buildings on the site, previous land disturbance (e.g. site was bulldozed to create a level foundation for the building being demolished).

**Issue; Recorded archaeological sites on private property**

- The archaeological sites recorded in the NZAA site recording scheme could not be visited because of access. The condition of these sites is therefore unknown.

**Options; Recorded archaeological sites on private property**

- Status quo. Use the existing heritage provisions of the operative Waikato District Plans to manage affects to any recorded archaeological sites in the Tuakau Structure Plan area.
- Arrange site visits to assess the condition of the recorded sites located on private property.

**Issue; Heritage education**

- Tuakau has many sites that could be used for public education through interpretation.

**Options; Heritage education**

- Interpretive signage and heritage trails. Thematic heritage trails that focus on the various periods of history in Tuakau and driving the old road routes.
- A heritage month with guest speakers at the local library or hall speaking about local sites.

## REFERENCES

Allen, J.M. (2006). *From Ireland to the Antipodes*. Auckland: Polygraphia Ltd.

Alexander Turnbull Library (2014) Flax milling. [Online] Available at: <http://www.teara.govt.nz/en/video/10407/processing-flax-by-machine>. [Accessed 24 February 2014].

Anonymous (ca 2000). History of Tuakau. (Unpublished). Available from Waikato District Council.

Appendix to the Journals of the House of Representatives (1865). Correspondence to the maintenance and location of emigrants introduced in to the northern island, under "The New Zealand Settlement Act, 1863." Session I, D-02 [Online]. Available at: [http://atojs.natlib.govt.nz/cgi-bin/atojs?a=d&cl=search&d=A\]HR](http://atojs.natlib.govt.nz/cgi-bin/atojs?a=d&cl=search&d=A]HR) [Accessed 17 February 2014].

Appendix to the Journals of the House of Representatives (1865). Return of land taken under "The New Zealand Settlement Act, 1863." Session I, D-13. [Online]. Available at: [http://atojs.natlib.govt.nz/cgi-bin/atojs?a=d&cl=search&d=A\]HR](http://atojs.natlib.govt.nz/cgi-bin/atojs?a=d&cl=search&d=A]HR) [Accessed 17 February 2014].

*Auckland Star* (1875a). Opening of the Auckland and Mercer Railway. 20 May 1875, p.2 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 24 February 2014].

*Auckland Star* (1875b). Districts opened by the railway. 20 May 1875, p.2 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 24 February 2014].

*Auckland Star* (1890). Tuakau. 6 February 1890, p.5 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*Auckland Star* (1891). Flax mill accident. 15 April 1891, p.5 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*Auckland Star* (1894). Wanted. 20 July 1894, p.1 [Online]. Available at:  
<http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 15 April 2014].

*Auckland Star* (1894). Tenders are required by the New Zealand Dairy Association. 21 July 1894, p.8 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 15 April 2014].

*Auckland Star* (1899). Advance Tuakau. 1 September 1899, p.2 [Online]. Available at:  
<http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*Auckland Star* (1899). Advance Tuakau. 1 September 1899, p.2 [Online]. Available at:  
<http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*Auckland Star* (1899). Pukekohe Notes. 25 September 1899, p.5 [Online]. Available at:  
<http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 6 February 2014].

*Auckland Star* (1900). Country News Tuakau. 11 October 1900, p.2 [Online]. Available at:  
<http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 15 April 2014].

*Auckland Star* (1901). Table talk. 28 September 1901, p.1 [Online]. Available at:  
<http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 24 February 2014].

*Auckland Star* (1913). Tuakau, a riverside township. 10 September 1913, p.9 [Online].  
Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 24 February 2014].

*Auckland Star* (1918). The Flax Milling Industry. 1 July 1918, p.6 [Online]. Available at:  
<http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 February 2014].

*Auckland Star* (1925). Obituary, Mr Chas Dromgool. 28 May 1925, p.9 [Online]. Available at:  
<http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 February 2014].

*Auckland Weekly News* (1929). The Recent Destructive Fire at Tuakau. 10 January 1929.  
[Online]. Available at: in Sir George Grey Special Collections, Auckland Libraries, AWNS-  
19111109-2-6.) [Accessed 29 January 2014].

Barber, Martyn (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. Accessed 2014-05-27 from [http://www.jpss.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](http://www.jpss.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).

Brasell, S. (2011). The Old Whangarata School. [Online]. Available at: <https://jeandavidisabellaandjohn.wordpress.com/tag/whangarata-school/> [Accessed 15 April 2014].

Brasell, S. (2014). Excerpts relating to Glencairn house, Whangarata. On file at Simmons & Assoc. Ltd.

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

Brewer, K.E. (2005). The history of the Tuakau Police. [Manuscript]. Available at: the Tuakau Library, Tuakau.

Clarke, A. (1968). Maori Modified Soils of the Upper Waikato. New Zealand Archaeological Association Newsletter, December 20(4), p. 204-222.

Cyclopedia Company (1902). *The cyclopedia of New Zealand*, volume 2. Christchurch: The Cyclopedia Company Ltd.

*Daily Southern Cross* (1863). Military and volunteer movements. 14 July 1863, p. 3. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 29 January 2014].

*Daily Southern Cross* (1863). Native intelligence. 16 July 1863, p. 3. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 29 January 2014].

*Daily Southern Cross*. (1863). A Forest Rangers diary. 8 September 1863, p. 3. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*Daily Southern Cross* (1863). A review of operations. 5 October 1863, p. 5. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 24 January 2014].

*Daily Southern Cross* (1863). A trip on the Waikato. 7 October 1863, p. 3. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 24 January 2014].

*Daily Southern Cross* (1864). Queen's Redoubt from our own correspondent. 17 February 1865, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 16 April 2014].

*Daily Southern Cross* (1864). At the front. 21 August 1863, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 16 April 2014].

*Daily Southern Cross* (1864). Luceo non uro. 29 June 1864, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 18 February 2014].

*Daily Southern Cross* (1865). Special settlements.-no 1. 18 March 1865, p.4 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 18 February 2014].

*Daily Southern Cross* (1865). Queen's Redoubt from our own correspondent. 3 November 1865, p.5 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 16 April 2014].

*Daily Southern Cross* (1866). Waikato Correspondence. 22 February 1866, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 18 February 2014].

*Daily Southern Cross* (1866). Progress of settlement. 4 May 1866, p.4 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 18 February 2014].

*Daily Southern Cross* (1866). Drury; Preparation of Flax. 14 July 1866, p.5 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 18 February 2014].

*Daily Southern Cross* (1870). New Zealand Flax. 8 April 1870, p.4 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*Daily Southern Cross* (1871). Tuakau. 8 March 1871, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 18 February 2014].

*Daily Southern Cross* (1875). Progress of Tuakau. 10 July 1875, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 7 February 2014].

*Daily Southern Cross* (1876). Deputation to the Chief Post Master. 23 November 1876, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 6 February 2014].

Davis, B.N. and Dollimore E.S. (2009). Tuakau. A.H. McLintock (ed.). *An Encyclopaedia of New Zealand*, Government Printer, 1966, republished by *Te Ara: the encyclopedia of New Zealand*, updated 22-Apr-09. [On line]. Available at: <http://www.teara.govt.nz/en/1966/tuakau> [Accessed 28 January 2014].

Drummond, A. (ed.) (1982). *The Waikato Journals of Vicesimus Lush*. Christchurch:Pegasus Press.

Elliott, G. J. (1995). Port Waikato. In *The Mail Coach; Journal of the Postal History Society of New Zealand* 31(5) (277), June.

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 24<sup>th</sup> December, 1861 to the 7<sup>th</sup> September 1864*. London: War Office.

Garrett, H. (1991). *Te Manihera; the life and times of the pioneer missionary Robert Maunsell*. Hong Kong: Reed Books.

Gorst, J. E. (1959). *The Maori King*. Hamilton: Paul's Book Arcade.

Gorst, J. E. (2001). *The Maori King*. Auckland: Reed Books.

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/](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/](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/](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/](http://www.jps.auckland.ac.nz/document/Volume_72_1963/) [Accessed 20 January 2014].

Harrisville School Centennial (1977). *Harrisville School Centennial 1877-1977*. Pukekohe: Alpine Printers 1977 Ltd.

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.

Jones, Kevin L. (1994) *Nga Tohuwhenua Mai Te Rangi: A New Zealand Archaeology in Aerial Photographs* Victoria University Press.

Jones, Kevin 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](http://www.ashadocs.org/aha/14/14_04_Jones.pdf).

Kerse L. and Kerse R. (1994). *Collins Family Reunion*. Wellington: Snap Instant Printing 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.

McEwan, A. (2008). 48 and 52 Dominion Road Tuakau, Historic Heritage Assessment. (Unpublished Report.) Prepared for Franklin District Council and RSSL Investments NZ Ltd. Hamilton: Heritage Consultancy Services.

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

Morris, N. (1970a). Charles Marshall, early trader on the Waikato River, part I. *Auckland-Waikato Historical Journal*, (16), p.18-19.

Morris, N. (1970b). Charles Marshall, early trader on the Waikato River, part II. *Auckland-Waikato Historical Journal*, (17), p.10-13.

Morris, N. (1999a). *Early days in Franklin; a centennial volume*. Christchurch: Cadsonbury Publications.

Morris, N. (ed) (1999b). *The journal of William Morgan*. Christchurch: Cadsonbury Publications.

National Archives (2014). Waikato Immigration; The Scheme. [Online]. Available at: <http://homepages.ihug.co.nz/~jess/scapbook/genealogy/waikato.html> [Accessed 17 January 2014].

New Zealand History (2014). Alexandra Redoubt NZ wars memorial. [Online]. Available at: <http://www.nzhistory.net.nz/media/photo/alexandra-redoubt-nz-wars> [Accessed 16 January 2014].

*New Zealander*. (1847). Notes from a journal. 13 October 1847, p.3. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*New Zealander*. (1847). Notes from a journal. 20 October 1847, p.3. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 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 7 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. 22 May 1852, p.2. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*New Zealand Herald (1865)*. Correspondence relative to the Waikato settlement scheme. 22 April 1865, p.5 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*New Zealand Herald (1872)*. Destructive Fire at Pukekohe. 5 April 1872, p.2 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*New Zealand Herald (1873)*. Tuakau. 17 July 1873, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 29 January 2014].



*New Zealand Herald* (1877). New Wesleyan chapel at Tuakau. 28 July 1877, p.1 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 29 January 2014].

*New Zealand Herald* (1881). Destructive Fire at Tuakau. 10 March 1881, p.5 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*New Zealand Herald* (1881). Tuakau. 1 April 1881, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 24 February 2014].

*New Zealand Herald* (1881). Tuakau-flax weaving. 16 June 1881, p.6 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*New Zealand Herald* (1883). Good Templarism. 8 October 1883, p.11 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 15 April 2014].

*New Zealand Herald* (1883). Good Templarism. 5 November 1883, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 15 April 2014].

*New Zealand Herald* (1889). Mr J. Collin's orchard. 21 March 1889, p.6. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*New Zealand Herald* (1883). New Church at Harrisville. 25 September 1899, p.6 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 7 February 2014].

*New Zealand Herald* (1896). Franklin Roller Flour Mill, Tuakau. 25 June 1896, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 20 January 2014].

*New Zealand Herald* (1896). Bankruptcy. 27 March 1896, p.3 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

*New Zealand Herald* (1898). A trip to Pukekohe. 26 November 1898, p.1 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 17 January 2014].

- New Zealand Herald* (1909). Country News, p.5 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 7 February 2014].
- Observer* (1896). Taukau. 18 January 1896, p.22 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 24 February 2014].
- Observer* (1897). Taukau. 23 January 1897, p.22 [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 15 April 2014].
- Olds, B. (1994). *St. Stephen's School; missionary and multi-racial origins*. Auckland: Concept Print.
- Otago Daily Times*. (1863). The Tuakau Redoubt on the Waikato. 7 October 1863, p.6. [Online]. Available at: <http://paperspast.natlib.govt.nz/cgi-bin/paperspast> [Accessed 20 January 2014].
- Petrie, H. (2006). *Chiefs of Industry; Maori tribal enterprise in early colonial New Zealand*. Auckland: Auckland University Press.
- Pick, D. (1986). Gravel Quarries in the Waikato. *New Zealand Archaeological Association Newsletter* 11(3) p. 111-114.
- Prickett, N. (ed) (1999) *Archaeological Site Recording in New Zealand* NZ Archaeological Association Monograph 23.
- Ringer, B. (2010) Tuakau's second Catholic church. [Online]. Available at: <http://manukau.infospecs.co.nz> [Accessed 6 February 2014].
- St. John, J. H.A. (1984). *Pakeha rambles through Maori lands*. Christchurch, N.Z: Capper Press.
- Simmons, A.L. (2013). *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.
- Taylor N. H. (1958). Soil Science and Prehistory. *New Zealand Science Review* Sept-Oct 16 (9-10), p. 71-79. Wellington.
- Taylor, N.M. (1959). *Early Travellers in New Zealand*. Oxford: Clarendon Press.

Tuakau and Districts Museum Society Inc. (n.d.) Memories of Tuakau notebook, Tuakau Public Library. (Reference used March 2014.)

Tuakau District Centennial (1965). *Tuakau District Centennial 26<sup>th</sup>, 27<sup>th</sup>, and 28<sup>th</sup> November 1965*. On file Tuakau and Districts Museum Society Inc.

Tuakau School (2014). Tuakau Primary School [web site] [Online]. Available at: <http://www.Tuakaupr.school.nz/history.htm>

Turbott, T. (1989). Tuakau as I knew it, up to 1900, part I. *Auckland-Waikato Historical Journal*, (55) p.34-38.

Turbott, T. (1990). Tuakau as I knew it, up to 1900, part II. *Auckland-Waikato Historical Journal*, (56) p. 28-36.

Van Gessel, E. (2005) One hundred years and more 1905-2005: St Andrew's Catholic Church Tuakau. [Unpublished] Copy available at the Tuakau Library.

Weber, J.P. (ed) (1993). Report on the redoubts of the great south road. *Auckland-Waikato Historical Journal*, (63) special edition.

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.

Wilson, D. *Hugh Poland born Tuakau 1867-died Paeroa 1938*. No publisher listed. (Available from the Hamilton Public Library.)

### **Historic Plans**

SO 413 Auckland District (1866)

SO 2738A Auckland district. Parris (surveyor) (1881)

**APPENDICES**

## 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

## APPENDIX 2 NZAA SITE RECORDS CONSIDERED IN THE STUDY

These are the site records within a 5 km radius of the Tuakau railway station, with the reclassified site types and location coordinates given in the NZ Transverse Mercator projection.

nzaa_id	site_type	easting	northing
R12/94	Pit/Terrace	1769152	5874826
R12/141	Military (non-Maori)	1772158	5871632
R12/155	Midden	1775085	5870738
R12/156	Commercial	1775159	5870737
R12/157	Pa	1774261	5870232
R12/158	Pa	1774660	5870636
R12/159	Burial	1774760	5870436
R12/160	Artefact find	1775059	5870737
R12/284	Domestic	1774046	5878035
R12/285	Domestic	1773848	5877135
R12/707	Pit/Terrace	1774359	5871036
R12/708	Pit/Terrace	1774359	5871136
R12/709	Pit/Terrace	1774259	5871135
R12/710	Stone structures	1773959	5871035
R12/711	Stone structures	1774159	5870935
R12/712	Pit/Terrace	1774359	5870936
R12/713	Pit/Terrace	1774459	5871136
R12/714	Stone structures	1774659	5871136
R12/715	Pit/Terrace	1774659	5871136
R12/716	Not a site	1774938	5871387
R12/717	Stone structures	1774968	5871537
R12/718	Stone structures	1775018	5871617
R12/719	Stone structures	1775188	5871757
R12/720	Stone structures	1774359	5871036
R12/734	Pit/Terrace	1770857	5871929
R12/735	Stone structures	1776857	5872140
R12/736	Pa	1777076	5872796
R12/740	Pit/Terrace	1776421	5872140
R12/753	Stone structures	1775108	5871687
R12/917	Botanical evidence	1776357	5871939
R12/953	Midden/Oven	1774430	5870327
R12/973	Midden/Oven	1774121	5870251

**APPENDIX 3 NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION  
(NZAA) SITE RECORDS**

## APPENDIX 4 MAP OF ARCHAEOLOGICALLY SENSITIVE AREAS

## APPENDIX 5 DATA ARCHIVE MANIFEST

This is a list of the contents of the data archive supplied with this report.

### VECTOR LAYERS

Two spatial vector layers are included:

1. Inventory of archaeological objects, visible from air photography and historical plans.
2. Areas of archaeological sensitivity.

These are supplied as ESRI shapefiles referenced to EPSG:2193 NZ Transverse Mercator 2000.

### RASTER LAYERS

Raster layers include historic plans and aerial photographs. The georeferencing process generates several files for each plan or photo frame and all these files are included in the archive. Amongst the set of files for each frame is the georeferenced geoTIFF encoded file which can be visualised in a GIS.

#### Aerial photographs

11 frames were scanned. These are all from Survey Number (SN) 192, and were flown on 29 April and 27 May 1942. One frame (832/30) was flown on 29 April 1944.

Aerial photographs are referenced to EPSG:2193 NZ Transverse Mercator 2000.

Frames included in the archive are:

1. 280/30
2. 280/32
3. 280/34
4. 281/26
5. 281/28
6. 281/30
7. 281/31
8. 282/89
9. 282/90
10. 282/92

The georeferencing process described in Chapter 5 generates a set of files for each photographic frame. These are:

1. The scan, at 1,200 dpi, including collar information (TIFF)
2. A copy of the scan with collars cropped. This is to enable adjacent frames to montage together. (TIFF)
3. A points file recording ground control points and their corresponding pixel location



- in the image (TXT)
4. The georeferenced image, which can be visualised in the GIS (geoTIFF)
  5. A low-resolution copy which can be viewed in a web browser (JPG).

The filename convention is:

{run}-{frame}\_{type}. {extension}

An example is frame 280/30, which comes packaged with the following files:

280-30_scan.tif	Original scanned file.
280-30_crop.tif	Cropped file.
280-30_crop.tif.points	Ground control points file.
280-30_georef.tif	Georeferenced image, GIS-ready.
280-30.jpg	Low-res copy, browser-ready.
280-30.html	Computer-generated index file, browser ready.

In addition to the georeferencing files, each photographic frame also comes with a computer-generated index page, as an HTML file. This displays the low-resolution image with geographic metadata.

The georeferenced files are stored in the folder *georef* and all ancillary files in the folder *files*.

### Historic plans

Five historic plans were sourced for the project. The georeferencing process for plans produces slightly fewer files as a cropped image is not necessary.

Historic plans are referenced to EPSG:2193 NZ Transverse Mercator 2000.

The Survey Office plans included in the archive are:

1. DP 585
2. SO 295
3. SO 413
4. SO 415
5. SO 2738A

The files generated in the georeferencing process are:

1. The original image file (JPG or TIFF).
2. The points file (TXT).
3. The georeferenced image copy, GIS-ready (geoTIFF).

The filename convention is

{LINZ-supplied filename}\_{type}. {extension}

An example from SO 415 is:

AKC_SO_295_I_1_georef.tif	Georeferenced image, GIS-ready.
AKC_SO_415_I_1.JPG.points	Ground-control points file.
AKC_SO_415_I_1.JPG	Original LINZ-supplied file.
AKC_SO_415_I_1.html	Computer-generated index file, browser ready.

The georeferenced files are stored in the folder *georef* and all ancillary files in the folder *files*.

## **TECHNICAL INFORMATION**

The transformation to produce georeferenced images were for the most part the thin plate spline algorithm as applied by the Geospatial Data Abstraction Library (GDAL) raster transformation library.

The points files, with the crop files, can be used to examine the georeferencing for each image, and fine-tune it by adding more points or moving existing ones.

## **ACCESSING THE ARCHIVE**

An HTML index page has been supplied. This can be read with any web browser. Open the file called *index.html* with Microsoft Internet Explorer, Firefox, Safari, or other browser.

