



Ruakura Land Development Plan

**Archaeological
Assessment
Prepared for Tainui
Group Holdings Ltd**



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Prepared for Tainui Group Holdings Ltd & Chedworth Properties Ltd.

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1 Introduction

1.1 Purpose

Tainui Group Holdings Ltd. (TGH) and Chedworth Properties Ltd. (CPL) commissioned Opus International Consultants Ltd. (Opus) to carry out an archaeological assessment for their lands located within the Ruakura Land Development Plan. The study area includes lands owned by TGH and CPL within the development plan and includes two portions of land currently in private ownership. The extent of the study area is defined in Figure 1.

This assessment has been prepared to support the Land Development Plan Resource Consents application and an application to Heritage New Zealand Pouhere Taonga (Heritage NZ) for an authority to modify an archaeological site.

1.2 Background

The Ruakura Development Plan Change was a private plan change to the operative Hamilton City District Plan by TGH and CPL. The plan change was approved by a Board of Inquiry (BOI) on 9th September 2014. This allows development of the Ruakura area, as shown in coloured areas in Figure 2.

The Plan Change was notified on 20th November 2013. Heritage New Zealand¹ made a submission supporting the application in part. However they were unable to fully support the application because no archaeological or historic heritage assessments had been provided with the application.

1.3 Scope

The scope of this report is to:

- Provide a general outline of the history of the area traversed by the project;
- Identify archaeological sites within or in close proximity to the study footprint;
- Identify and describe the archaeological sites that will potentially be affected by the project;
- Assess the significance of the effects of the project on the archaeological resource;
- Identify further archaeological work that may be required; and
- Outline proposed mitigation as well as statutory requirements for the management of the archaeological resource as part of the project.

¹ Then trading as the New Zealand Historic Places Trust.

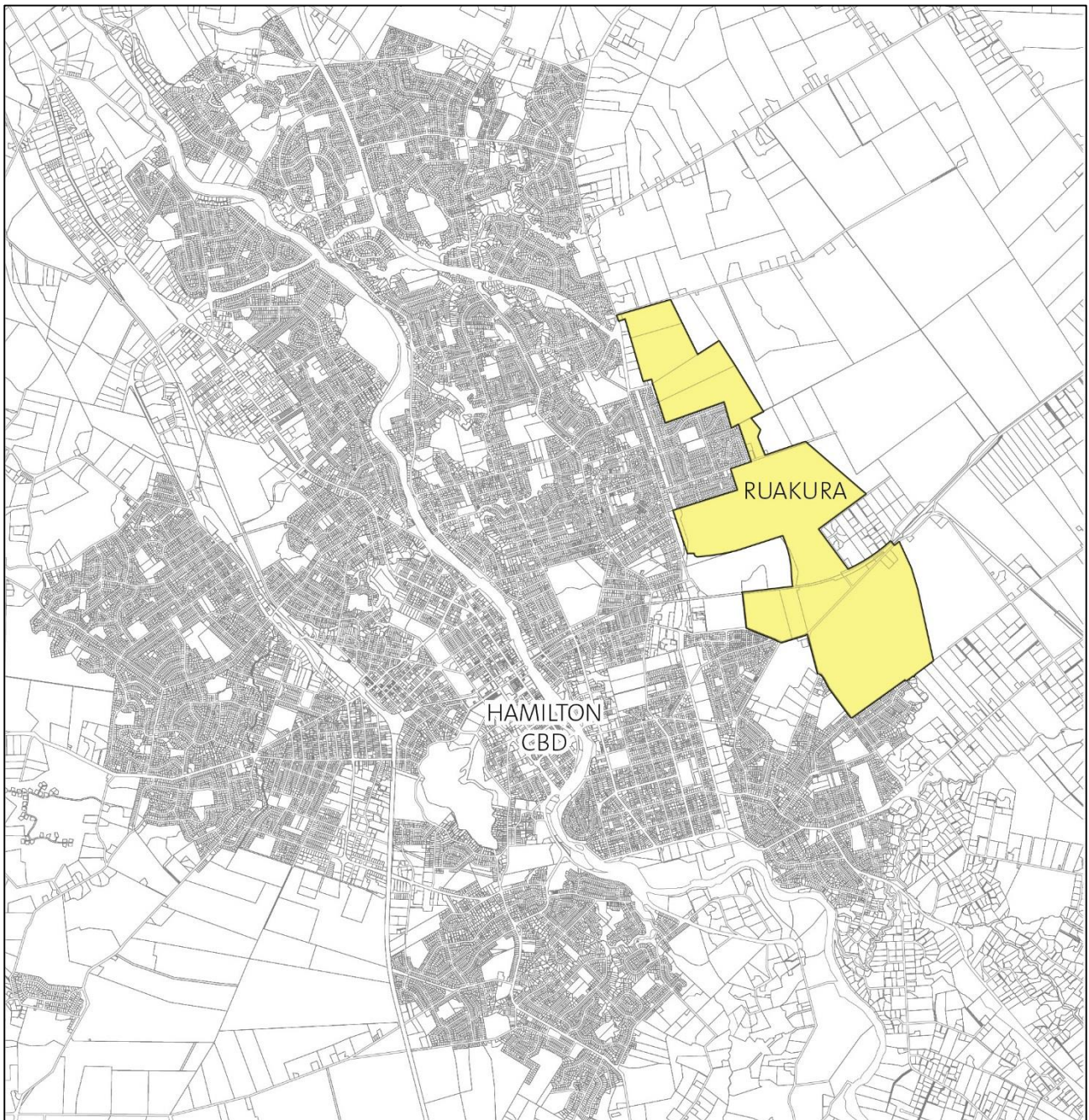


Figure 1: General Study Area in relation to Hamilton City²³

² Boffa Miskell

³ Detail of area assessed provided in Figure 13, and detail of private landholdings shown in Figure 21.

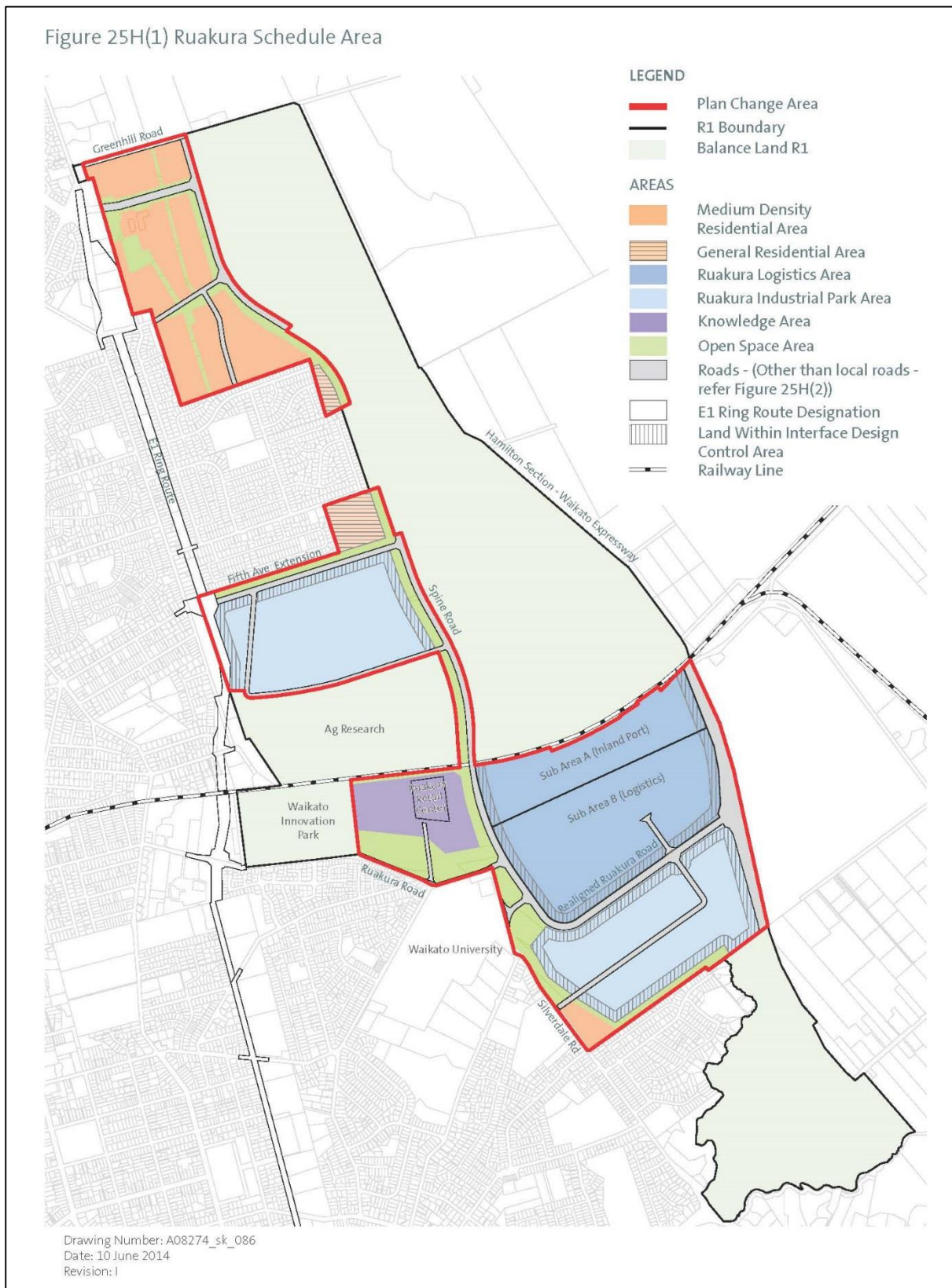


Figure 2: Ruakura Schedule Area, as approved by the BOI (final decision).⁴

⁴ Detail of area assessed provided in Figure 13

2 Statutory Requirements

2.1 Heritage New Zealand Pouhere Taonga Act 2014

The purpose of the HNZPTA is to promote the identification, protection, preservation, and conservation of the historical and cultural heritage of New Zealand (section 3), which places emphasis on avoiding effects on heritage. The HNZPTA provides blanket protection to all archaeological sites whether they are recorded or not. Protection and management of sites is managed by the archaeological authority process, administered by Heritage NZ. It is illegal to modify or destroy archaeological sites without an authority to do so from Heritage NZ.

The HNZPTA contains a consent (authority) process for any work affecting archaeological sites, where an archaeological site is defined as:

(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 that wreck occurred before 1900; and
- (ii) provides, or may provide through investigation by archaeological methods, evidence relating to the history of New Zealand (HNZPTA Section 6); and

(b) Includes a site for which a declaration is made under Section 43(1) of the Act. Any person who intends to carry out work that may modify or destroy an archaeological site, or to investigate a site using invasive archaeological techniques, must first obtain an authority from Heritage NZ. The process applies to sites on land of all tenure including public, private and designated land. The HNZPTA contains penalties for unauthorised site damage or destruction.

The archaeological authority process applies to all sites that fit the HNZPTA definition, regardless of whether:

- The site is recorded in the NZ Archaeological Association (NZAA) Site Recording Scheme or registered by Heritage NZ;
- The site only becomes known as a result of ground disturbance; and/or,
- The activity is permitted under a district or regional plan, or a resource or building consent has been granted.

Heritage NZ also maintains the List/Rārangī Korero (formerly the Register), which maintains a record of Historic Places, Historic Areas, Wahi Tapu, Wahi Tapu Areas and Wahi Tupuna. The List/Rārangī Korero can include archaeological sites. The purpose of The List/Rārangī Korero is to inform members of the public about such places and to assist with their protection under the RMA.

Time Frames

From the time of submission of the authority application, Heritage NZ has 5 working days to make a decision on the application (that is, accept that the application has all the necessary information

to make a decision about the authority, or to return the application and request additional information). Determination of authorities then must be made within up to 40 working days after the date that the application is accepted (note that determination may result in the granting or refusal of an authority, Section 48: HNZPTA).

2.2 The Resource Management Act 1991

The Resource Management Act 1991 (RMA) provides guidelines and regulations for the sustainable management and protection of the natural and cultural environment. Section 6(f) of the RMA recognises 'historic heritage' as a matter of national significance, and identifies the need for protection from inappropriate subdivision, development and use.

The definition of 'historic heritage' (RMA s2) refers to those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, and includes historic sites, structures, places and areas; archaeological sites; and sites of significance to Maori.

2.3 Statutory Planning Instruments

The study area falls within the boundaries of Hamilton City Council and is within the boundaries of Waikato Regional Council. The following district and regional planning documents are relevant to this project:

- Operative Waikato Regional Policy Statement (October 2000) (ORPS)
- Proposed Waikato Regional Policy Statement (Appeals Version, February 2013) (PRPS)
- Waikato Regional Plan (April 2012).
- Operative Hamilton City District Plan (July 2012) and Proposed Hamilton City District Plan (Appeals Version, September 2014)

2.3.1 Operative and Proposed Waikato Regional Policy Statements

The Waikato Regional Policy Statement provides an overview of resource management issues in the Waikato region. It provides policies and a range of methods to achieve integrated management of natural and physical resources across resources, jurisdictional boundaries and agency functions, and guides the development of sub-ordinate plans (regional as well as district) and the consideration of resource consents.

This Regional Policy Statement provides a framework for resource use, which enables the regional community to achieve its social and economic aspirations within the capacity of the environment. The Waikato Regional Policy Statement guides the development of the Waikato Regional Plan and Regional Coastal Plan.

Section 3.15 of the ORPS addresses resource management issues relating to Heritage, including Maori Heritage.

The PRPS is still subject to Environment Court appeals. However, the PRPS also contains sections relevant to heritage (Section 10: Heritage and, Section 10A: Historic and cultural heritage assessment criteria).

2.3.2 Waikato Regional Plan

The Waikato Regional Plan (WRP) contains policy and methods to manage the natural and physical resources of the Waikato region.

The project will be applying for resource consents under the WRP, including for earthworks and soil disturbance. As part of the assessment criteria for these resource consents, effects on historic heritage, waahi tapu and any archaeological sites need to be considered and assessed.

2.3.3 Operative and Proposed Hamilton City District Plans

The Operative Hamilton City District Plan (OHCDP) contains objectives and policies relating to built heritage, and sites of archaeological, historic and cultural significance. The objectives emphasise the need to:

- Retain and enhance heritage items that contribute to the character, heritage or visual amenity of Hamilton and,
- Facilitate greater public awareness and appreciation of heritage items and heritage precincts in the city, protect significant European archaeological sites and tangata whenua historical and cultural sites from damage, destruction and desecration.

The objectives also make reference to specific heritage precincts identified within the city – the project will not affect any of these.

The Proposed Hamilton City District Plan (PHCDP) makes provisions for the protection of the city's archaeological heritage. It states that the significant archaeological and cultural sites should be protected from damage or destruction, and that subdivision, use and development shall be managed to minimise the risk of damage to archaeological and cultural sites where they exist, or are likely to exist.

There are no archaeological sites scheduled in the Proposed or Operative Hamilton City District Plans that are relevant to the Ruakura Land Development Plan or the study area as defined in Figure 13.

2.4 Criteria for Assessing Archaeological Values

The primary purpose of an archaeological assessment is to determine whether or not there are direct impacts to archaeological sites. There exist a number of guideline documents and criteria lists to assist in determining archaeological values. Both the criteria laid out by Heritage NZ and the ORPS are considered in the assessment of archaeological values and the effects the proposal will have on these values in Sections 8 and 10 of this report.

3 Description of Works

The Ruakura Plan Change is a large scale development project, included in the plan are:

- A transport hub (inland port) and logistics area;
- An industrial park area;
- A knowledge area incorporating a suburban centre;
- A medium-density housing area;
- A general residential area; and
- An integrated network of green space.

It is anticipated that a large proportion of the plan change boundary – as defined in Figure 2 – will be subject to extensive earthworks.

4 Methodology

4.1 Research

This assessment is based on the results of desk-based research and field survey. Research was undertaken of numerous published and unpublished sources including the following:

- ArchSite (New Zealand Archaeological Association's national site database);
- Heritage New Zealand List;
- Review of relevant District Plans and associated schedules;
- Published literature;
- Archaeological consultants reports for the wider locality;
- Historic survey plans
- Aerial photographs; *and*
- Fieldwork.

4.2 Consultation

The author discussed the project with the Regional Archaeologists of Heritage NZ in November 2014. It was agreed during this meeting that whilst the land had no known archaeological values⁵, based on the large scale of the project the risk of encountering historic European or Maori remains was sufficient enough to recommend an authority application.

A meeting was held between the author and Wayne Te Kerei Harris (Ngati Wairere) on 3rd February 2015. We discussed the archaeological risks to the project and a draft version of the current archaeological assessment was provided. We discussed that there are no known archaeological sites within the project footprint of Maori origin. Most known Maori archaeological sites in Hamilton are

⁵ A 19th century sod fence identified on a historic map was discussed, its field evidence was also discussed and only later was recorded as an archaeological site on NZAA. This was in consultation with Matt Felgate (Opus' Principal Archaeologist). A historic drain also identified on a historic map was located and recorded on NZAA subsequently.

located in proximity to the Waikato River and its tributaries. However considering the scale of the project there is a potential risk of encountering archaeology within the footprint. This is based on the fact that the project scale is large, and it would be expected that this land would have been utilised by Maori in the pre-European era.

We also discussed how the land has changed from swamp/wetland to the present modern drained farmland. This process was begun in the mid to late 19th century and there is likely to be evidence of 19th farming on the land, in particular drains – and a ‘sod wall’ identified on a historic map. These are further detailed below.

We also covered the inclusion of a Statement of Significance (SoS) from iwi to accompany the application to Heritage NZ for an authority to modify/ destroy an archaeological site. We agreed that the SoS will contain a note indicating that iwi protocols are being formalised and will be provided at a later stage.

Mr. Harris mentioned that there are other hapu and iwi within the scope of the project. He also raised that there could potentially be taonga deposited throughout the area while Maori were traveling, and that there is potential for taonga or even koiwi to be discovered in the higher hilly areas of the project. Mr. Harris has stated that ‘we did not document where we left our taonga or for what reason, taonga have the potential to be discovered anywhere and this project is no different’.

4.3 Constraints and Limitations

This is an assessment of archaeological and heritage values only, it does not include an assessment of 20th century built heritage. It is based on published and unpublished literature and a visual inspection of the development land. Two Cultural Impact Assessments (CIA) have been prepared for the lands at Ruakura (Penne 2011 and Puke 2011). These documents have been referred to in this report, however statements of cultural value are not provided. Statements of cultural value can only be provided by the effected iwi.

5 Physical Landscape

5.1 Location & Description

The Study area is situated on the eastern side of Hamilton City in an agricultural area which is predominantly dairy farming. Within the development is the early-20th century government initiated Ruakura Research Station.

The topography of the study area is mostly flat to gently rolling rural land. The vegetation consists of grass pasture, small stands of trees and farm hedges. The land is crossed with a network of farm and roadside drains. The study area is largely in areas of drained peat (Foster 1999, 1).

5.2 Geology

The study area lies within the Middle Waikato Basin, or Hamilton Basin. This area is characterised by four main landforms (Lowe 2010), including low rolling hills referred to as the *Hamilton hills*; flattish alluvial plains with micro-relief of low mounds (bars) and swales (depressions); low terraces adjacent to the Waikato River, and; gullies cut into the alluvial plain or low terraces and draining to the Waikato River.

Two broad landscapes are recognised at Ruakura: the low rolling hills, of which four are distinct at the site, and a gentle sloping undulating plain (ICMP 2013)⁶.

5.2.1 Low Hills

The four hills at Ruakura rise about 40m above the plain. They are the eroded remnants of alluvial deposits and are formed of moderately consolidated pumiceous sands, silts, and gravels. The parent soil is largely strongly weathered, clayey, volcanic ash (*ibid*). The low rolling hills are the remnants of a landscape dating back c. one million years.

The Lands Environments of NZ (LENZ) database classifies the gently undulating hills as imperfectly drained soils of low fertility, comprising of volcanic soils, alluvium and peat.

5.2.2 Plains

The plains represent volcanic derived alluvium mainly from the catchments of the central North Island. The alluvium was deposited by the ancestral Waipa River and then the ancestral Waikato River system in a series of depositional episodes over the past c. 100 thousand years or so (Lowe 2010). The alluvium is called the Hinuera Formation and is up to 60m in depth. These deep deposits partially buried the pre-existing hilly landscape leaving visible the protruding earlier hilltops.

The surface of the plains is called the Hinuera Surface and comprises a series of low ridges and depressions (swales). The Waikato River ceased entrenching the Hinuera Surface c.17, 000 cal. years ago in the Hamilton Basin and following this numerous thin (millimetres to centimetres in thickness) tephra layers covered much of this surface.

The soils on Hinuera Surface are well drained on the slightly raised channel/bar deposits, these are referred to as Horotiu soils and comprise tephra fallout cover on coarse alluvium. On the lower-lying swales the soils are poorly drained, these contain volcanogenic overbank flood deposits and referred to as Te Kowhai, Ngaroto, and Matangi soils, Te Kowhai are the most common (*ibid*).

The parent soils are diverse and range from weakly and moderately weathered silts to gravels on the ridges, to weakly and moderately weathered sand and clayey material in the swales, to weakly decomposed peat and humic material in the lower lying adjacent areas (ICMP 2013).

The undulating surface at Ruakura comprises of low sandy/gravelly ridges separated by swales. The ridges and swales represent the former braided Waikato River. The LENZ database classifies the majority of soils at Ruakura as poorly drained peat soils of low to very low fertility (*ibid*).

⁶ Integrated Catchment Management Plan 2013

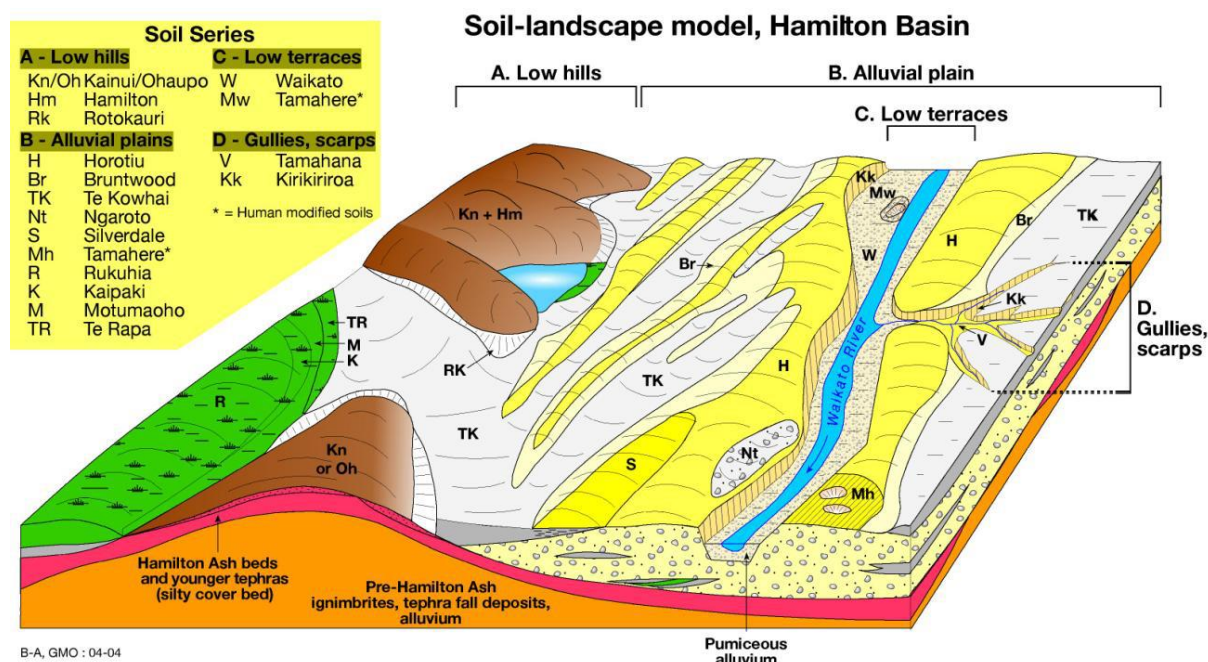


Figure 3: Diagram of the main Geological features and soil landscape in the Hamilton Basin (source: Lowe 2010).

6 Historical and Archaeological Background

6.1 Maori History

The Waikato River and its tributaries and gully systems would have been the main focus of movement, occupation and land use in pre-European Waikato. The river provided a navigable waterway in an area dominated by forest, and its adjacent land and stream systems the rich fertile soils for horticulture and fresh water supply. This is reflected in the fact that the vast majority of archaeological sites are recorded close to the river (Figure 4). Beyond this focal feature, and in particular within the Study area, were large tracks of swampland. These were not favourable for gardening or permanent habitation. There were large expanses of wetland, scrubland, permanent lakes and peat bogs as well as extensive Kahikatea forest dominating the landscape.

There are several published accounts of the oral history of Tainui which detail individuals, events and day to day activities. For a detailed account of the traditional history of the Waikato and Tainui the reader is directed to texts such as Jones (1995) and Phillips (1989). These histories are an invaluable source of information for the occupation of the Waikato and the hapu groups living here. However they have limited capacity for helping to identify physical remains directly within the project footprint.

6.1.1 Cultural Impact Assessments

Two reports detailing Maori cultural associations have been prepared for the Ruakura lands: the Cultural Impact Assessment (CIA) prepared by Maree Pene of Ngati Wairere (Pene 2011), and the NaMTOK Consultancy report prepared by Wiremu Puke (Puke 2011). These documents highlight

the hapu groups associated with the Ruakura land, the cultural associations, and the types of activities Maori would have been involved in in this area of land. Key aspects covered in these documents are summarised here.

Ngati Wairere have mana whenua status for the study area, although many other hapu are identified by Puke as having been associated with this land (2011, 7-13). Puke ascertains that although the land was not occupied it was extensively utilised by Maori prior to European arrival. The ridgelines were formalised tracks used for crossing the swamps and some of the main tracks were upgraded into the current roads such as Peachgrove Rd. Puke also details how forest burning was practised to encourage fern root growth, these being harvested and eaten.

Puke identifies that archaeological objects including adzes and grinding stones were found in 1978 in a paddock belonging to the Ruakura Research Centre, near Tramway Road (2011, 14). He also identifies that waahi tapu sites and archaeological remains are likely exist along the ridges, including camp sites, discarded artefacts and possibly koiwi (*ibid*, 15).

Puke discusses that Ngati Parekirangi cultivated and harvested the flax in this area trading the raw materials for ship building with European settlers for muskets, he states this activity and gum digging continued in the 1890s.

6.1.2 Archaeological Landscape

In the archaeological record, the date of first occupation of the Waikato Basin is not certain and it is likely that prior to more permanent settlement people moved through the basin from an early date to exploit forest resources or to access areas further inland (Campbell 2012, 57). Dates from archaeological investigations at Mangakaware (Bellwood 1978: 70), Taupiri (Campbell 2011) and Horotiu (Hoffmann 2011) indicate a 16th century date for first occupation.

The study area is not known to have been a focus for either domestic or horticultural activity prior to European settlement. The vast majority of recorded pre-European Maori archaeological sites and gardening soils occur within 1km of the Waikato River and its tributaries. The study area is c.3km from the Waikato River and over 1.5 km from the main section of the Mangaonua Stream gully system.

6.2 European History

Prior to the military settlement of the 1860s early European settlement in the Waikato was generally confined to flax traders and mission stations, the latter of which were located outside of the study area in places such as Matamata, Te Awamutu, Raglan and Kaitotehe.

Following the British invasion of the Waikato in 1863 land was confiscated from Maori and apportioned to the military for settlement. The study area was part of the confiscated lands and was divided up for the 4th Waikato Regiment and Forest Rangers (Norris 1972, 31). Militia were provided with a town dwelling and c.20 hectares of farm land according to rank⁷.

Once soldiers were allotted their farm sections their military pay ceased, with a twelve month period of rations provided after which the soldier was left to depend on their own resources.

⁷ The land confiscations are further discussed in the Statement of Significance provided by Wayne Te Kerei Harris.

Soldiers were not generally provided with adequate funds to make their farm land viable, nor was adequate infrastructure such as roads and bridges provided. Only infrastructure of absolute necessity was built and even then it was constructed on the 'cheapest principals' (*ibid*, 31).

Soldiers were not given the titles to their land for three years from their enlistment date, some soldiers deserted before they received their land titles and others on-sold their land to property speculators in Auckland. The large tracks of swamp in the north-eastern side of the city were inhibitive for soldier-farmers who had little financial support and often limited farming skills.

Many of the blocks were never worked. Some soldiers remained on their land subsistence farming, and others concentrated their efforts on their town sections. The 1860s gold rush took many early Europeans from the Waikato into the Thames Goldfield or further south to Otago, although many eventually returned. In 1869 it is estimated that there were only 250 people within the military township of Hamilton (*ibid*, 34).

The advent of refrigerated shipping in the early 20th century and the introduction of fertilisers saw the expansion of commercial dairying in the Waikato. This led to a rapid increase of population in the main centres (Hamilton, Te Awamutu, and Cambridge) and a spread of smaller settlements and farms particularly concentrated along the course of the Waikato River. Following the end of WWI farming increased in the Waikato in response to high demand and prices for dairy products in Europe (Norris 1972, 41). This caused more intensified settlement and was aided by the government land grants awarded to returned servicemen.

6.3 Ruakura Model Farm / Research Centre

The Ruakura Agricultural Research Centre has occupied the majority of the study area⁸ in the 20th century (ICMP 2013). During that time, the research focus has been on sheep and dairy farming including dairy herd management, fertiliser application, and effluent disposal. Cropping and pasture management were undertaken regularly for the past 80 years and also agricultural research involving breeding programmes and pasture management (ICMP 2013).

Experimental work was first carried out last century. The Government acquired 137 acres in 1886, and in 1888 the Waikato Agricultural College Model Farm Act vested the land in the Waikato County Council 'subject to be used as and for the purposes of an agricultural college and model farm, where the inhabitants of the said county and the adjacent or neighbouring counties may acquire knowledge in practical farming' (Scott, 1997). Ruakura was established in 1901 when the original 137 acres were amalgamated with the 690 acre property purchased from Isaac Coates, a farmer, contractor and early mayor of Hamilton. The new centre was called the Ruakura Experimental Station, and in the first reported experiment, superphosphate was assessed in terms of hay cut from topdressed and non-topdressed areas (*ibid*).

Development and experimental work continued until 1912 when the function was changed. Ruakura became the first Farm School of the Dominion, the Ruakura Farm of Instruction. Toward the end of World War 1 short courses were held for ex-servicemen, and in 1922 over 100 received tuition. By 1924 a farm school for youths was again set up and about 40 were in residence. By 1935 the number of students attending the school had fallen to less than half previous rolls, partly because of the depression and partly because of competition from Massey College and Flock House (*ibid*). Experimental work was re-established with investigations on fertilisers, feed flavours,

⁸ Except for Percival Road private small holdings and the Chedworth Farm to the north.

poultry and pig feeding, sterility in bulls, chilled beef production, cobalt deficiency, and ragwort (*ibid*).

The 1938 facial eczema outbreak was a stimulus to the establishment of Ruakura as a research station. The outbreak was severe and widespread and farmers were greatly affected, emotionally and financially. The Minister of Agriculture, the Hon. W. Lee Martin announced in July 1938 £17,000 for equipment and facilities to study the disease at Ruakura, and in March the following year, Ruakura was formally established as an animal farm research centre (*ibid*).

When Ruakura first opened in 1939 as a research station there were 69 staff investigating facial eczema, pig and cow nutrition, bull fertility and artificial insemination, mastitis, cobalt deficiency, ragwort control, topdressing and curd feeding of poultry. The outbreak of war six months later saw staff leave for military service, rationing and short supply of resources, and a greater emphasis on growing more feed, including vegetables, for troops and for export (*ibid*). The veterinarian also spent a lot of time collecting horses for the army. Growing vegetables was part of a national scheme in which over 5,000 acres were cropped to provide food for troops in the Pacific area as well as New Zealand, this continued until 1944 (*ibid*).

By the mid-1900s the Ruakura wetlands had been drained to create farmland and this changed the natural vegetative cover from predominantly alluvial secondary vegetation to exotic pasture (Boffa Miskell 2013).

7 Evidence for Archaeological Sites

The evidence for archaeological sites within the project footprint is sourced from the NZAA website *ArchSite*, historic plans and aerial imagery, combined with several fieldwork programmes.

7.1 Previous Archaeological Work

The archaeological work in the Waikato was initially based on earlier soil survey studies (e.g. Grange *et al* 1939 and Taylor 1958) where Tamahere soils were identified as culturally modified soils, and borrow pits were identified. Pick (1968) published a discussion on the distribution of borrow pits in the Waikato, and identified that these features were clearly visible on aerial photos (Campbell 2012).

From the 1990s archaeological investigations were undertaken associated with development-led mitigation and since this time there have been numerous archaeological investigations of garden sites within the Waikato Basin (see Campbell and Harris 2011, Gumbley 2009, Gumbley *et al* 2003, Gumbley and Higham 2000, Gumbley and Hoffman 2011, Hoffman 2011, and Prince 2008).

Along the route of the Waikato Expressway there have been numerous assessments and archaeological investigations, including for the Ngaruawahia Section (see Gumbley and Hoffman 2011), and the Cambridge Section (Spinks and Campbell forthcoming). The proposed Hamilton Section of the expressway connects the Cambridge and Ngaruawahia sections and passes through the study area, its location is identified on Figure 2 (including the proposed realignment of Ruakura Road).

The Hamilton Section, including the Ruakura Interchange, has been the subject of three assessments (Foster 1999, and Keith 2013 and 2014), which included fieldwork close to the study area. Foster did not identify any archaeological evidence within the study area, and Keith identified

only the presence of a possible late 19th century sod fence, identified from an historic map. This feature is discussed further below as it is also with the current project footprint.

No archaeological investigations (excavations) are known to have been undertaken at Ruakura, directly within the current study area.

7.2 Recorded Archaeological Sites

The New Zealand Archaeological Association's (NZAA) online database (Archsite) clearly shows that the vast majority of archaeological sites in the Hamilton area are located within close proximity to the Waikato and Waipa Rivers, and their tributaries (Figure 4). There were no recorded archaeological sites within the footprint of the study area at the start of this project. The closest recorded sites are S14/52, recorded as a pa and S14/92, a linear trench. **Both sites are recorded as destroyed.**

7.2.1 S14/52

The NZAA Site Record Form (SRF) suggests that pa S14/52 was located at the end of Nevada Road, on the western bank of the Mangaonua Stream, the full SRF is provided in Appendix A. Differing information is provided in the SRF by two individuals. The site was originally recorded in 1974 from aerial photographs and by hearsay. It was not physically inspected as it was considered to have been destroyed prior to 1968 by a domestic subdivision. However a subsequent reassessment by Owen Wilkes in 1999 suggests that a pa never existed in this location. The location of this site is within a private subdivision and no site visit was made during the course of this assessment.

7.2.2 S14/92

Site S14/92 was located to the immediate west of Crosby Road, on land now taken for Wairere Drive. It was a linear drainage trench located during text excavations by Christopher Mallows under authority 2007/283. The trench did not hold any datable finds or material and has no associated features, the full SRF is provided in Appendix A. No visit was made to this site during the course of this assessment as the site is recorded as destroyed.



Figure 4: NZAA ArchSite Map of Recorded Archaeological Sites (stars), general study area highlighted blue. S14/52 (pa) indicated with red arrow, S14/92 (linear) with a blue arrow.⁹ A sod fence and 1880s drain are also annotated and are detailed below.

Table 1: List of recorded archaeological sites within c.1km of the project footprint

NZAA No.	Type	Brief Description
S14/52	Pa	Destroyed
S14/92	Linear Trench	Destroyed by the formation of Wairere Drive

⁹ Detail of area assessed provided in Figure 13

7.3 Historic Plans

Cartographic sources are important in tracing land use patterns within a study area as well as providing important information on the topography and archaeological potential of a region. Numerous historic plans held by Land Information New Zealand (LINZ) were viewed on QuickMaps to establish if any historic maps indicated evidence of previous land use and/or division within the study areas.



Figure 5: Part SO143-1, 50 Acre Farms 1865, showing the south-east corner of the proposal.

7.3.1 '50 Acre Farms' 1865

The earliest plans viewed show lots allocated to military settlers and date to soon after the Waikato campaigns and confiscation of Waikato Tainui lands in 1864 (as discussed above in Section 6.2).

SO143-1 (Figure 5) is a map from this series and shows part of the project footprint area. The map depicts plots described as '50 Acre Farms' these are generally sub-rectangular in shape though their shape and pattern is often influenced by topography and planned road routes. Each of the plot divisions is numbered and in some cases individual land grantees associated with plots are named. However, general land-use is not indicated and no buildings of any description are represented.

No features of pre-European or pre-1900 interest are shown. The plans do not hold significant evidence for archaeological sites or features including pre-European gardening, occupation and burial, although it has not been possible to determine whether these farms were in fact occupied when allotted.

7.3.2 1880s

Two late 19th century plans provide evidence for the former swamp at Ruakura, these are SO 1972-A2 dated to 1881 and is titled *Plan of Swamp Road Hamilton to Piako* (not shown); and SO 2752 dated to 1883 showing sections at the southern end of the project footprint, which is annotated *flax and manuka swamp* (Figure 7). The latter plan also illustrates a sod fence, this was the subject of a recent field visit and is discussed in Section 7.3.2 (also see Figure 13 for its location in relation to the study area).

As discussed previously, swamp land was not gardened by Maori and was not a place of permanent settlement, although swamps would have been important places for resource gathering. European soldiers did not have the funds or the skills to drain the swamps and farm these areas and this greatly inhibited early use of this part of the Waikato until farming practices were more advanced. Farming advances towards the latter part of the 19th century and into the early 20th century, especially the use of mechanical excavators, saw the swamps drained and the land made productive.

7.3.3 1900s

SO 12249 (Appendix 3) is a plan of the Ruakura Agricultural Station from 1901. It illustrates the boundary of the station and various road networks. No features of archaeological interest are shown on the map.

DP 3643, dated to 1906, also shows the *Govmt Experimental Farm*, of interest on this plan is a drain annotated as having '*been in existence over 25 years*'. The drain therefor would be from the 1870s-1880. Evidence for a 19th century drain is of some interest as the farms in this part of Hamilton were, according to the historical records, often abandoned or deserted. Often there is no clear evidence of when the mapped boundaries (fences, ditches etc.) were physically established. The drain is not considered to be within the study area, but on its boundary (see Figure 13 for its location in relation to the study area). However it is indicative that pre 1900 farming was occurring close to the study area, suggesting that similar activity could have occurred within it.

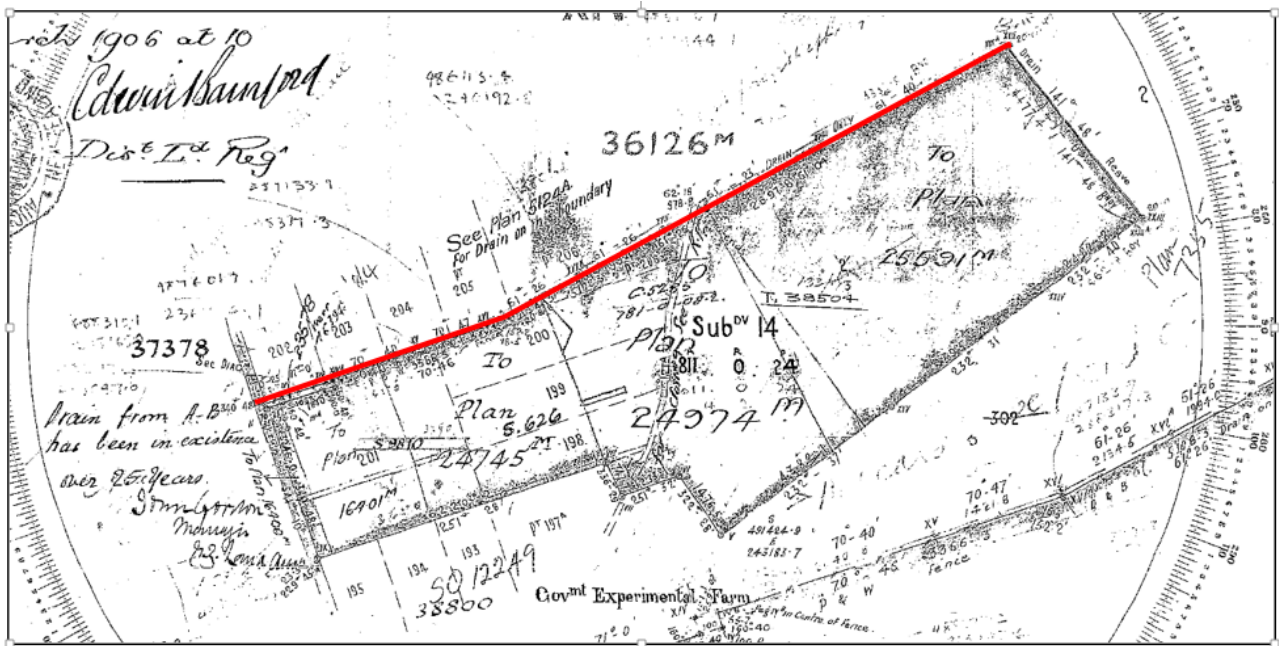


Figure 6: PART DP3643 1906. Drain AB identified, and annotated ‘has been in existence over 25 years’.

Late nineteenth century farms were often stocked with sheep, cattle and horses. As such, bank and ditches were often dual purpose features, having a drainage function, but also likely serving as a stock barrier. Stock barriers were a common feature in pre-1900 colonial New Zealand (Phillips 2001: 4, in Mallows 2012). By the turn of the century draining the swamp at Ruakura was well underway. A map from 1910 (DP 6779 – Appendix 3) shows the area to the south of Ruakura Junction as ‘Drained swamp covered with short scrub’.

The Opus library in the Hamilton office has a collection of mid-century plans of the Ruakura Research Station, a selection of these is provided in Appendix 2. These plans do not show any sites of archaeological interest, i.e. pre 1900, within the study area.



Aerial photographs were viewed from 1943, 1963 and 1979. In areas of particular archaeological interest these were viewed through a stereoscope. No evidence for sites of archaeological or historic interest were identified on these images and they are not reproduced here.

A search of papers past¹⁰ found c.500 references for Ruakura between the 1880s and 1900s. The references include domestic issues including births and deaths, and it is clear that a few people were resident at Ruakura by the late 19th century. However, the vast majority of reports are related to the railway station at Ruakura. The news articles almost invariably mention the great Piako Swamp through which the rail line travels.

Three article excerpts are provided below. The first one describes how the station is built within a swamp but it has been drained at the station and there are plans to construct a pumping station. The second article describes a fire in the swamp, and further articles refer to this fire and later fires at Ruakura, suggesting this was on an on-going hazard of the peat environment. The third article discuss that the main drains traversing the Piako swamp were left open in 1893, and that although

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the district appear to be completely swampy from the rail-line, in fact there were by this time extensive areas of good grazing land.

most paying character. Junctioning with the Waikato-Thames railway at Ruakura, the line starts through some of the swamp property of the Waikato Land Association. The Ruakura station is a veritable island, for though the swamp is well drained on either side, it is approached by no road, and with the exception of the railway it has no means of communication with the outside district. A pumping station is being erected here for the accommodation of both lines. The Mongonui [This is the spelling adopted by the railway authorities. It should be "Mangaonua,"] station is in the centre of a large pastoral district, and should contribute a fair quota to the traffic of the line. The Mongonui bridge

Waikato Times, Volume XXIII, Issue 1913, 9 October 1884, Page 2

The residents of Hamilton have been buying water for the past few days, but their tanks are now supplied. A fire in Piako swamp threatened Ruakura Railway Station buildings on Sunday afternoon, and they were saved only after great exertions. The fire destroyed the station gates, and damaged the line slightly.

Auckland Star, Volume XVII, Issue 21, 26 January 1886, Page 2

About half of the area of Woodlands (40,000 acres) will soon be all in grass and cultivation. The other half—the great Piako Swamp—is left to be dealt with later on, the main drains being meanwhile kept open. The Auckland public, and most of the visitors travelling on the Waikato railway line, are under the impression that the estate is almost wholly of the character of the great swamp which is seen on passing the Ruakura Junction, and are unaware that back from the railway line, at both ends of the estate, are thousands of acres of good fattening country, on which are grazed and fattened the thousands of sheep and bullocks which go into the Auckland market, and the thousands of sheep which are frozen for export to London.

New Zealand Herald, Volume XXX, Issue 9181, 22 April 1893, Page 1

7.6 Fieldwork

Field visits have been made by the author to the lands of the study area. Two site visits concentrated on the realignment of Ruakura Road and the wider lands¹¹ and two site visits undertaken in November and December 2014 for the plan change development at the CPL land and the TGH land.

7.6.1 TGH Land

7.6.1.1 Ruakura Rd Realignment Area

The central area of the development in the region of the Ruakura Rd realignment is currently an operating dairy farm and is divided up by modern fencing into paddocks connected by cattle-races. The fields have been drained and the topography is generally flat with minor undulations evident. No historical features were identified and no prehistoric features such as borrow pits¹² were evident.

The location of a 'sod fence' identified on historic plan SO2752 was visually inspected. This location is a property boundary which is now mainly defined by a hawthorn hedge. The hedge is planted on a low earth rise c. 20-30cm high, with minor and discontinuous linear depressions identified parallel to each side of the hedge. It was not clear during the visit if the low earth rise was evidence for an eroded sod fence, or is this had formed naturally due to plough turning, vegetation build up and stock movement. It is possible that this feature has been bulldozed and flattened and/or has eroded to the low earth rise visible at present.

¹¹ These site visits were related to the Hamilton Section of the Waikato expressway (Keith 2013, Keith 2014).

¹² Borrow pits are features which provide evidence of Maori horticulture.

The form and purpose of the sod fence remains unknown. It is envisaged that this feature was either substantial to contain animals, or minor as a boundary definition. It is not known how the feature was constructed or how continuous it was. Aerial photographs dating from 1949-1970s were examined following the field visit. The hawthorn hedge was not present on these images and the images were at a scale too large to identify if the sod fence had survived into the mid-20th century. The sod fence was subsequently recorded as S14/335.

7.6.1.2 Ruakura Research Station

A field visit to the research station was undertaken on the 18th December 2014 by the author with Peter Caldwell (Opus Archaeologist). Access to most of station was provided and the field visit took the form of a visual inspection by foot and by vehicle throughout the property with particular attention focused on hillocks and ridges. One hill area was not able to be accessed due to PSA research quarantine restrictions.

The area comprised of gently rolling farmland in pasture and immature maize. The research station has a number of 20th century buildings dating from c.1930. Many of these buildings occupy hill tops, and their construction is likely to have disturbed any possible subsurface archaeological remains within their footprint.

No archaeological remains were noted during the site visit. There is low to moderate potential for pre-1900 subsurface remains existing in the development footprint particularly in the areas of drier higher ground.



Figure 8 View from the centre of the research station looking northeast



Figure 9: Disused farm building with offal pits left foreground. Photo looking northwest.

7.6.2 CPL Land

A site visit to the northern area of the proposal was undertaken in November 2014. Much of the ground was either recently ploughed or in pasture/ maize and the land was gently rolling, divided into paddocks by modern fencing. The land was visually inspected, the ploughed land also provided a good opportunity to view the underlying soil.

The ploughed paddocks provided visual evidence of the gravel ridges from the former braided river system discussed in Section 5.2. The low hills were walked over and two test pits (TP1-2) were excavated by hand on the highest points. The test pits were excavated using a spade to examine the underlying soil profile and to identify if archaeological deposits were present. The locations of the pits is shown in Figure 11 and an image of TP1 is shown in Figure 12.

The test pits showed 10cm of topsoil overlying fine clayey-silt. No evidence for archaeological material was identified in the two test pits.



Figure 10: Recently ploughed CPL land, north-east of Drake Place, image looks north-east.



Figure 11: Test Pit 1 and 2 Locations



Figure 12: Test Pit 1

7.7 Summary of Archaeological Evidence

The evidence for archaeological sites within the study area has been sourced from the NZAA site recording scheme ArchSite, published accounts, historic maps and aerial photographs, and fieldwork. Together these sources indicate that historically the study area was mainly swamp and therefore not favourable for pre-European or early European farming or settlement.

The associated land divisions from the 1860s are still evident in the current plot distribution although some areas have been subdivided and others amalgamated to form part of larger farms. Some of the existent field drainage systems and stock barriers may date to pre-1900, although the extent of this is currently not well understood. To date, no nineteenth century sites associated with early European settlement activities (e.g. homes) have been identified within the project area, and likewise no farming infrastructure such as sheds and storage areas are known.

No buildings including dwellings or farm sheds are illustrated on the historic aerial photographs or plans. None of the plans indicate that structures, including dwellings of historical or pre-European interest, were present within the study area.

Two possible features of archaeological interest were identified, that being the sod fence and c.1880 drain, these were the only features of historical interest shown on the maps viewed. It is not currently known if these features have any archaeological value, the sod fence was not distinctive on the ground and is considered eroded or destroyed. The c.1880 drain is likely to be on the boundary of, and possibly outside, the study area.

The drainage system and sod fence are of some potential archaeological value and have been recorded in Archsite, with polygons indicating extents (refer Appendix A).

8 Discussion

The archaeological record for the wider landscape reflects the general pattern of settlement prior to European farming, that being settlement and gardening within c.1km of the river and its fertile soils and gully systems. Areas further from the river with extensive tracts of swamp and swamp lakes would have been less attractive for long-term settlement and most likely would have served as resource areas rather than areas of permanent settlement (Foster 1999).

From 1864 the study area was confiscated and given by ballot to the British military soldiers. Struggling to make their farms viable, and with little government assistance these plots were often abandoned or on-sold to land speculators.

European farming practices particularly in the later 19th century and into the 20th century would have directly affected the landscape, including tree felling, draining of swamps and bush clearance.

There may be additional unrecorded archaeological sites on the land to be developed, these are likely to be sub-surface historical farming infrastructure, drains and ditches, and possibly rubbish pits containing historical datable material. The risk of identifying such features is considered to be moderate based on the large scale of the proposal.

In addition, it is also possible that sporadic evidence for Pre-European Maori sites may also be identified during earthworks. Such sites are expected to be small fireplaces and temporary camps or walking tracks on the ridgelines, evidence for scrub burn-off, and possibly koiwi (human remains). The risk of identifying such features is considered to be low to moderate based on the large scale of the proposal.

Two potential archaeological sites have been identified, that being the sod fence (S14/335) and the drain (S13/334). The latter is not considered to be within the study area but on its immediate boundary, however this should be tested during earthworks in this area.

Considering the scale of the project it is reasonably possible that archaeological material and objects will be encountered within the project footprint during earthworks. Archaeological sites are often concealed below topsoil and vegetation and may not be easily detected until the area has been cleared of these.

The study area has potential for pre-European archaeological sites and artefacts. It is unlikely that there will be extensive remains as this part of the Waikato Basin was not favourable for long-term occupation and no previous sites have been located within the footprint.

9 Assessment of Archaeological Values

The total footprint of the area assessed is identified in Figure 13. This includes all lands owned by CPL and TGH within the Ruakura Plan Change area, with the exception of the main portion of the Ruakura Research Station, currently excluded from development.

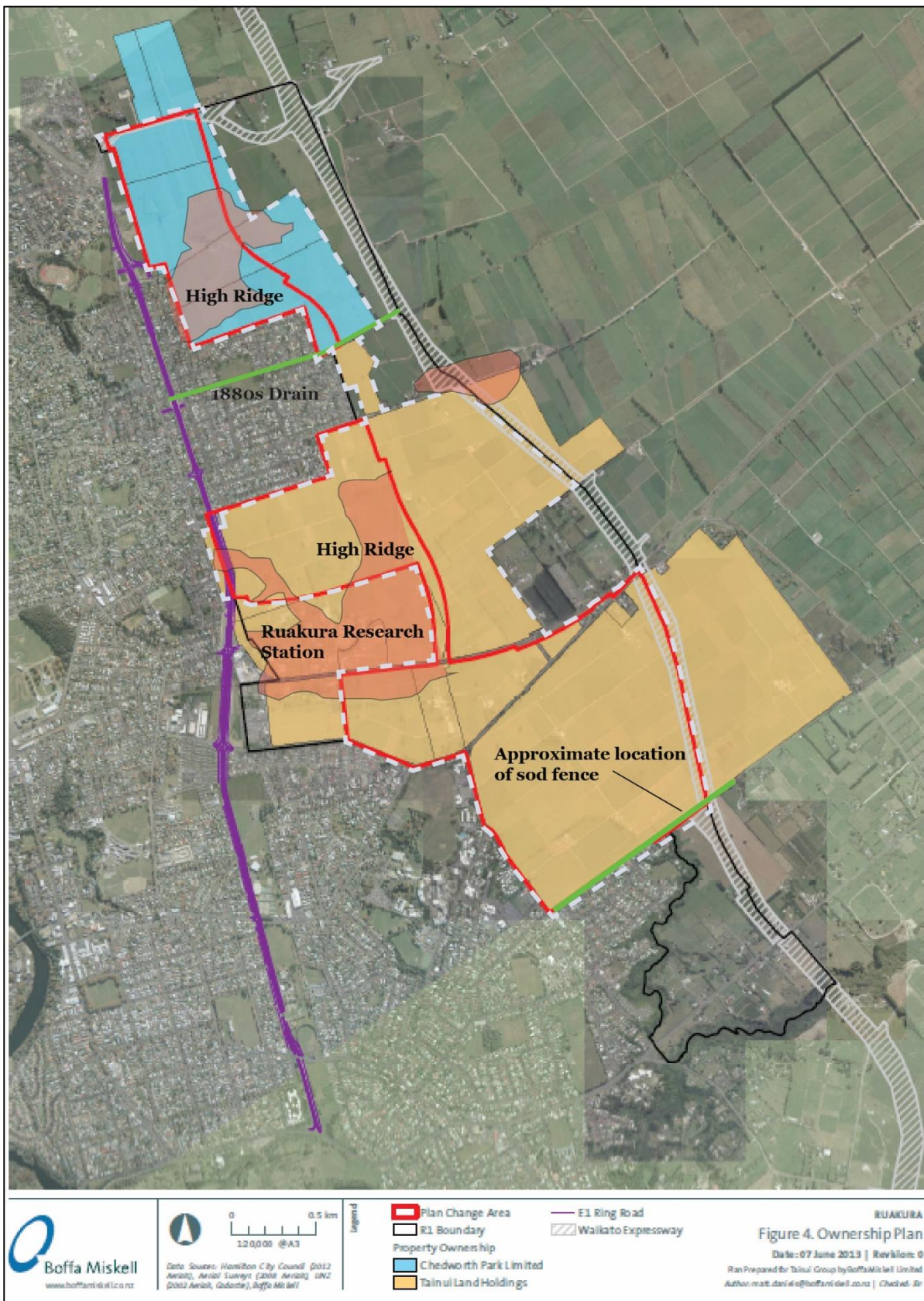


Figure 13: Map showing areas of archaeological interest/ potential, including high ridges (highlighted red), the sod fence (in green) and the 1880s drain (in green – note this is outside the study area). Area assessed highlighted with white dashed line.

9.1 Heritage New Zealand/ RPS

The following assessment of archaeological values is based on the requirements of the Heritage New Zealand and the ORPS, those from the ORPS are shown in italics.

9.1.1 Condition/ *The integrity and state of preservation*

S14/334-5 have no known extant remains within the project footprint, however subsurface evidence may be present.

There are likely to be further unrecorded archaeological sites within the footprint of the study area. Considering that most of the land is agricultural in nature there exists the possibility that if sites are present they will be preserved to some degree below the topsoil/ plough horizon. This is as yet not fully understood as the condition of any subsurface feature will be dependent on the robustness of the feature (in particular how deep the feature is cut into the subsoil), and the nature of farming on the land since the 19th century.

9.1.2 Rarity/ *Rare types of historic place*

S14/334-5 are common agricultural features from the mid to late nineteenth century. However relatively few such features are recorded in the archaeological record for the wider study area.

Should unrecorded archaeological sites be located during earthworks within the project footprint these are likely to be temporary camps, lost artefacts, and European farming related sites. Any of these site types would be considered relatively rare for this part of the Waikato and would require careful archaeological investigations.

9.1.3 Information Potential/ *The potential of the place to provide knowledge of Waikato or New Zealand history*

Investigation of S14/334-5 by trenching may provide datable evidence of early European (c.1870s-1880s) farming in the study area.

Should further sites be located during the earthworks, these have the potential to add to our knowledge and understanding of settlement patterns, settlement distribution and land-use prior to intensive farming from the late 19th century.

9.1.4 Contextual / *The association of the place with the events, persons, or ideas of importance in Waikato or New Zealand history/ The extent to which the place reflects important or representative aspects of Waikato or New Zealand history*

S14/334-5 are likely to be associated with mid to late 19th century European farming.

Should further archaeological sites be located during the earthworks, they will be related to either the pre-European-era Maori activity or to early European-era farming from the 1860s. There are no known events, persons, or ideas of importance directly associated with the land within the project footprint of archaeological value.

However the study area is related to the Ruakura Research Station/ Model Farm etc. which does hold some social historic value. This assessment has not considered 20th century historic values,

and of note the main area of the research station had been excluded from this assessment as there are no current plans to develop it.

9.1.5 *Amenity Values / The potential of the place for public education/ The community association with, or public esteem, for the place*

S14/334-5 have no amenity value.

The project footprint currently has no amenity value. There is potential for providing information to the public within the new development on any historic information identified during the earthworks for this project.

9.1.6 *Cultural Associations / The association of the place with the events, persons, or ideas of importance in Waikato or New Zealand history/*

The reader is directed to the two CIA (Pene 2011 and Puke 2011) for a list of hapu associated with the land. Statements on the significance of the area are also provided in the CIA, and the document prepared by Mr. Wayne Te Kerei Harris included in the authority application.

The study area includes a portion of the Ruakura Research Station (1901) and holds values associated with early farming practices and experiments in New Zealand. These values are not assessed in this document because they are not considered to be able to be investigated using archaeologically methods.

9.1.7 *The important of the place to tangata whenua/ The symbolic or commemorative value of the place*

Statements on the importance of the land within the study area to tangata whenua can only be made by the effected iwi and hapu. Statements on the significance of the area are provided in the two CIA (Penne 2011 and Puke 2011) completed as part of the project and the document prepared by Mr. Wayne Te Kerei Harris included in the authority application.

9.1.8 *The technological accomplishment or value, or design of the place;*

Currently there is no information which would suggest that in the wider project landscape there are archaeological sites which could be considered under this category. The Ruakura Research Station and its wider lands would be considered as technical accomplishments however these are beyond the scope of the current assessment.

9.1.9 *The importance of the historic places which date from periods of early settlement in Waikato;*

Archaeological sites within the study area, should they be present, are likely to date from late 19th century European farming period. However there is potential that earlier sites from the 1860s may be present, and additionally that pre-European sites (from approximately 1600AD) may exist in the landscape. S14/334-5 may date from the 1870s and thereby be relatively early evidence for European farming.

9.1.10 *The extent to which the place forms part of a wider historical and cultural complex or historical and cultural landscape;*

The archaeological landscape is centred at some distance from the current study area. Activity is generally concentrated on the Waikato River and its tributaries and is generally considered to extend c.1km from the river and gullies and is limited by the former swamp areas over which the proposal is located.

Early European evidence (i.e. from the 1860s-1880s) may be considered rare in this landscape. Should S14/334-5 provide evidence for these decades of European occupation this will add to our understanding of farming practices in Ruakura and this eastern part of Hamilton.

The study area is within the historical landscape of the Ruakura Research Station etc. The main centre of the station is not included in the current development plans and has not been assessed in this report. The wider landscape includes paddocks and out buildings associated with the research station but these are 20th century and are not recorded as archaeological sites. No buildings within the study area are included on The List maintained by Heritage NZ.

10 Effects of Proposed Works

Topsoil stripping, the removal of subsoil and the operations of heavy plant and machinery will have a significant negative impact on any archaeological sites which *may exist* in the study area including evidence for the two sites recorded as S14/334-5, should this exist.

Archaeological sites are by their nature subsurface and there remains a moderate risk of encountering unrecorded archaeological sites. Considering the scale of this project it would seem likely that isolated archaeological features and/or archaeological objects will be encountered during earthworks. Archaeological sites at Ruakura may include the following:

- Temporary campsites (fireplaces/ temporary shelters)
- Artefacts
- Evidence for scrub burn off
- Walking tracks
- European farming structures (buildings, fences, field boundaries, ditches)
- Burials

11 Conclusions

The literature research and evidence from historic maps identified that the study area was divided up for soldiers in the mid-1860s, however no reports were found to suggest that the land was actually taken up and farmed in this decade.

The evidence suggests that drainage works began in the 1870s-1880s, at least one drain is recorded in the area from this time. A sod fence was identified on a map dating to 1883, likely to be a boundary marker or stock fence. The sod fence was not conclusively relocated during the visit, however it has been formally recorded with NZAA. Evidence for the sod fence, including cut ditches, may be present below the ground and monitoring of earthworks should be undertaken to confirm if there is any evidence for this feature remaining.

The records and maps did not indicate that any buildings of an agricultural or domestic nature were ever sited within the study area prior to 1900. The field evidence failed to identify any such structure, or the remains of, on this land.

In summary, although the NZAA records did not provide evidence for archaeological sites in the Ruakura Plan Change Area, and the field visit did not identify the presence of any undocumented archaeological sites, research of historic maps indicated the presence of two possible archaeological features. These have subsequently been added to the NZAA file.

There remains the possibility that undocumented subsurface archaeological features, deposits, or sites are located in the study area concealed below topsoil. The risk of encountering such material is considered to be moderate based mainly on the large scale of the project.

Considering the general lack of documentary and field evidence for archaeological sites in the study area, and the moderate probability of encountering pre-1900 remains here there are no known reasons to alter or modify the current proposal on archaeological grounds.

A general authority should be sought for the entire development footprint within the study area. This will enable any unexpected archaeological findings during earthworks in this area to be properly managed and recorded.

The archaeological work, including investigations and monitoring should be detailed in an archaeological management plan. This document should include provisions for undertaking monitoring of earthworks in the location of the documented sod wall/ drain.

Earthworks should also be monitored, or land inspected following topsoil removal. This should occur on the crest of the low-lying hills, and in a sample range of the low-lying areas.

11.1 Avoidance of Archaeological Sites

Discussions were held between the author and the Senior Planner¹³ for this project to discuss if there were any opportunities in the current project design to avoid the archaeological values of site S14/335 – ‘sod fence’. Although the final design plans for the proposed developments are not available, it is likely that this portion of land will be developed for drainage with swales and ponds.

It was indicated at this time that there is no convincing above-ground evidence for the archaeological site, and the extent of any below ground archaeological evidence is not currently known.

It is considered that archaeological monitoring and investigations is an appropriate management strategy to establish and record the archaeological values of site S14/335. There are no known significant archaeological values associated with this site and therefore no grounds to limit or avoid development in this area.

¹³ On 25/03/2015 with John Carter at Boffa Miskell, Auckland

12 Recommendations

Archaeological sites are protected by the HNZPTA whether they are recorded or not and it is illegal to modify or damage an archaeological site without first obtaining an authority from Heritage NZ.

To manage the potential of uncovering archaeological remains during earthworks, and to avoid the costly delays encountered should archaeological material be uncovered during earthworks the following recommendations are made:

- A general authority application to Heritage NZ should be made.
- A short Management Plan should be prepared which should include:
 - Area and location of archaeological sites to be investigated:
 - In the location of the S14/335 *Sod Fence*
 - On the boundary where S14/334 1880s drain is identified
 - Area and location of areas requiring monitoring/ field inspection following topsoil stripping. In general on the high ridges - see Figure 13 - at:
 - Pt Lot 1 Deposited Plan 11006
 - Pt Lot 1 Deposited Plan 12771
 - Lot 1 Deposited Plan South Auckland 75964Pt
 - Lot 2 Deposited Plan South Auckland 77458
 - Lot 3 Deposited Plan South Auckland 78549
 - Protocols for the accidental discovery of archaeological material,
 - Protocols for the recovery of archaeological objects, including the potential for waterlogged artefacts, and
 - Protocols for the discovery of human remains across the project footprint.
- As part of any archaeological investigations undertaken for this project opportunities will be sought, in conjunction with Tainui, and when it is considered appropriate, to publicise work through press releases and publications.

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Other sources referred / reviewed to:

- Historic aerial photographs 1943, 1963;
- NZAA ArchSite database;
- Heritage New Zealand Digital Library;
- Heritage New Zealand List;
- Waikato District Council District Plan;
- LINZ Historic Maps
- Opus Library Hamilton

Appendix 1

NZAA Site Record Form

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>ARCHSITE archaeological site recording scheme</p> <p>Site Record Form</p>	<p>NZAA SITE NUMBER: S14/52</p> <p>SITE TYPE: Pa</p> <p>SITE NAME(s):</p> <p>DATE RECORDED:</p>
<p>SITE COORDINATES (NZTM) Easting: 1805457 Northing: 5815379 Source: CINZAS</p>	
<p>IMPERIAL SITE NUMBER: N65/38 METRIC SITE NUMBER: S14/52</p>	
	
<p>Finding aids to the location of the site</p>	
<p>Brief description PA</p>	
<p>Recorded features</p>	
<p>Other sites associated with this site</p>	

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04/02/2015

1 of 4

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S14/52
<p>Site description</p> <p>Condition of the site</p> <p>Statement of condition</p> <p>Current land use:</p> <p>Threats:</p>	

SITE RECORD INVENTORY	NZAA SITE NUMBER: S14/52
-----------------------	--------------------------

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2 of 4

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

Observations about this site made in

Author Year Title Publication Details

Supporting documentation held in ArchSite

AD AK -- CD AA CC

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM		SITE NUMBER N65/38
Map number N65 Map name Hamilton Map edition NZMS 1 4th ed. 1974 Grid Reference 839470 approx.	SITE NAME MAORI OTHER	
		SITE TYPE Pa

1. Aids to relocation of site **E283900 N547000** On western bank of Mangaonua Stm. branch approx. 1.5km due north of the intersection of Matangi Rd. with the Morrinsville Rd. (Route 26), and several hundred metres south-west of the southern end of Vaile Rd.

2. State of site; possibility of damage or destruction
?Destroyed by housing subdivision prior to 1968.

3. Description of site *(NOTE: This section is to be completed ONLY if no separate Site Description Form is to be prepared.)*

River terrace pa. No further details.
Site's former presence confirmed using aerial photographs.

4. Owner Address Not ascertained. Tenant/Manager Address

Attitude Attitude

5. Methods and equipment used Verbal comm. 1968. Re-located 1977.
Photographs taken: Yes/No (Describe on Photograph Record Form)
Date recorded 13/3/68

6. Aerial photograph or mosaic No. 2168/24 & 25 Site shows:
Clearly/badly/not at all
S. C. EDSON

7. Reported by K. Gorbey & confirmed Filekeeper
Address by S. Edson, Waikato Art Museum, Box 937, Hamilton.
WAIKATO ART MUSEUM
BOX 937 HAMILTON
Date 13/3/68 Date 16th August, 1977.

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04/02/2015

3 of 4

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

<

N Z ARCHAEOLOGICAL ASSOCIATION
=====RE-VISIT / ADDITIONAL INFORMATION
=====MAP NO S 14 SITE NO 52
REVISED GRID REF 157770.5 DATE 3 Mar 1999

Comparison of Edson's air photo 830/44 with a current air photo (both enclosed) indicate that this site was located at the end of Nevada road rather than in the nearby park, where Neil Laurie had located it.

The air photo 830/44 on its own would not seem very convincing evidence that a pa had been located here. On the site record however Edson's 1968 site record is confusing. It appears to indicate that Gorbey told Edson about the site in 1968 and Edson "confirmed" its existence in 1977 from air photos [NR plural]. It would seem more likely that Gorbey had learned about the site in 1968 and told Edson about it in 1977. Edson further notes "Destroyed by housing subdivision prior to 1968" - which implies that Gorbey had only picked up the information at second hand and made no field investigation.


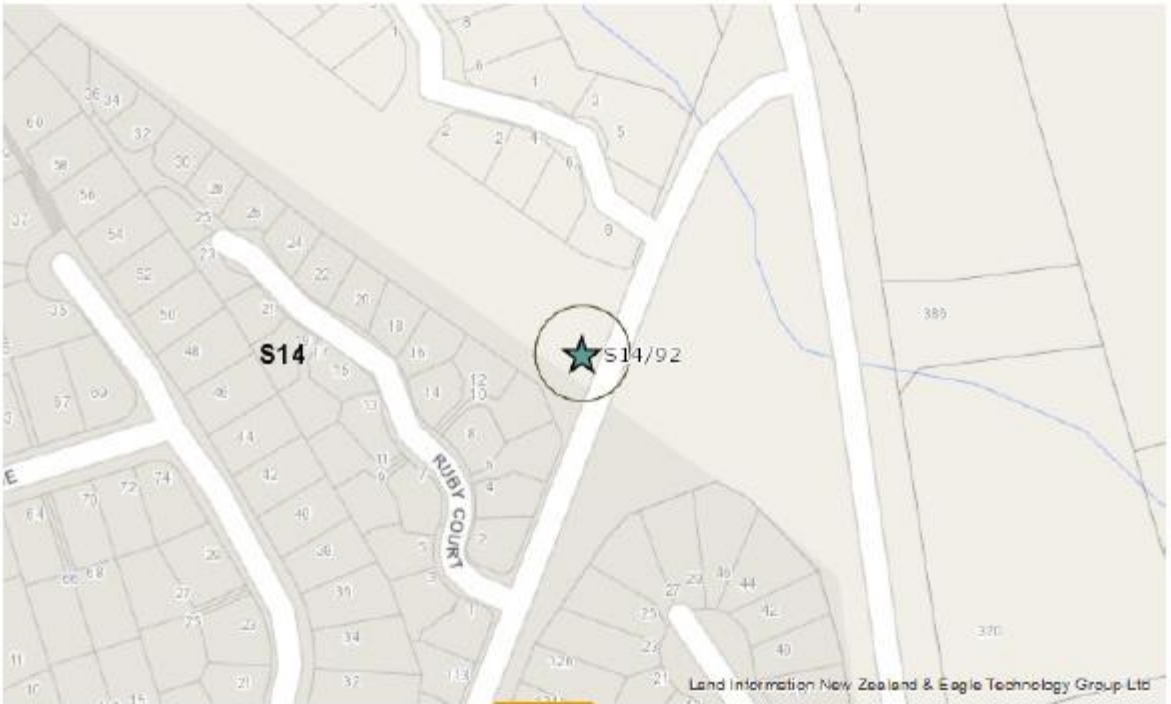
Altogether this is hardly convincing evidence for a pa at this location. Gorbey may have heard about a pa somewhere else along the west bank of Mangaonua stream.

FILED BY Owen Wilkes
210 River Road
Hamilton

FILEKEEPER

OW May 99.

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>ARCHSITE archaeological site recording scheme</p> <p>Site Record Form</p>	<p>NZAA SITE NUMBER: S14/92</p> <p>SITE TYPE: Agricultural/ pastoral</p> <p>SITE NAME(s):</p> <p>DATE RECORDED:</p>
<p>SITE COORDINATES (NZTM) Easting: 1801990 Northing: 5819396 Source: Handheld GPS</p>	
<p>IMPERIAL SITE NUMBER: METRIC SITE NUMBER: S14/92</p>	
 <p>Land Information New Zealand & Eagle Technology Group Ltd</p>	
<p>Finding aids to the location of the site The site was located to the immediate west of Crosby Road, on land now taken for Wairere Drive.</p>	
<p>Brief description The site consists of a linear trench. Refer to NZHPT Authority 2007/283.</p>	
<p>Recorded features Trench</p>	
<p>Other sites associated with this site</p>	

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24/09/2014

1 of 5

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S14/92
<p>Site description</p> <p>Condition of the site</p> <p>The site has been destroyed through the construction of the Wairere Drive extension from Hukanui Road to Gordonton Road. (2007)</p> <p>Statement of condition</p> <p>Current land use:</p> <p>Threats:</p>	

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY			NZAA SITE NUMBER: S14/92
Observations about this site made in			
Author	Year	Title	Publication Details
Supporting documentation held in ArchSite			
<div><p>Monitoring Report submitted to NZHPT "Wairere Drive, Hamilton: Archaeological Monitoring" for Authority 2007/283.</p><p>Chris Mallowes. Opus International Consultants. Hamilton. February 2008.</p></div> <div>2014/9</div>			

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24/09/2014


3 of 5

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION



NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM (NZMS260) NZMS 260 map number S14 NZMS 260 map name Hamilton NZMS 260 map edition 1987		NZAA METRIC SITE NUMBER S14/92 DATE VISITED September 2007 SITE TYPE Linear <i>shallow trench</i> SITE NAME: MAORI OTHER <input checked="" type="checkbox"/>	
Grid Reference Easting 2712240 Northing 5381022 <i>43m</i>			
1. Aids to relocation of site (attach a sketch map) Site was located to the immediate west of Crosby Road, on land now taken for Wairere Drive.			
2. State of site and possible future damage Site has been destroyed through the construction of the Wairere Drive extension from Hukanui Road to Gordonton Road			
3. Description of site (Supply full details, history, local environment, references, sketches, etc. If extra sheets are attached, include a summary here) <p>As part of the archaeological programme of works ten evaluation excavation trenches were dug along the Wairere Drive extension road corridor. The aim of the evaluation excavation trenches was to confirm the presence or absence of sub-surface archaeological features and locate areas of garden soil. Only one trench produced positive results in terms of archaeological features.</p> <p>Within this trench a linear feature was located underneath the topsoil. The linear was c.16.5m in length and orientated in a north-west to south-east direction. The linear had a U-shaped profile, concave sides, a flat base and a breadth of between 0.22m and 0.32m. The predominant fill of the linear was a firm silty-clay, light to mid-brown in colour and 0.2m in thickness. An additional fill was excavated towards the south-eastern end of the features. This basal fill was orange-brown in colour, of a friable silty-clay consistency and up to 0.12m thick. It is likely that this fill is derived from weather natural geology, exposed when the linear was originally excavated.</p> <p>The depth of the linear increased from a north-west to south-east direction, indicating that water run-off within the feature would have been in a south-easterly direction. There was no discernable end to the linear in the north-west direction. Instead the feature ended in a shallow, homogenous layer with no discernable shape or function.</p> <p>Continued overleaf.</p>			
4. Owner Address Hamilton City Council		Tenant/Manager Address N/A	
5. Nature of information (hearsay, brief or extended visit, etc.) Photographs (reference numbers and where they are held) Aerial photographs (reference numbers and clarity of site)		Archaeological Monitoring Opus International Consultants, Hamilton N/A	
6. Reported by Address Chris Mallows Opus International Consultants, Hamilton.		Filekeeper Date	
7. Key words			
8. New Zealand Register of Archaeological Sites (for office use) NZHPT Site Field Code			
Latitude S		Longitude E	
<input type="checkbox"/> Type of site		<input type="checkbox"/> Present condition & future danger of destruction	
<input type="checkbox"/> Local environment today		<input type="checkbox"/> Security code	
<input type="checkbox"/> Land classification		<input type="checkbox"/> Local body	

S. 14/92

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

<p>NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION</p> <p>SITE DESCRIPTION</p> <p>NZMS 260 map number S14 NZMS 260 map name Hamilton NZMS 260 map edition 1997</p>	<p>NZAA METRIC SITE NUMBER S14/92</p> <p>DATE VISITED September 2007</p> <p>SITE TYPE Linear Shallow trench</p> <p>SITE NAME: MAORI OTHER ✓</p>
<p>On the south-west side of the linear was observed a localised mid-brown, clay-silt layer with frequent small charcoal flecks.</p> <p>The function of both the linear and the layer is unclear. No artefactual evidence was found in either, so there is no tangible date for use of the features. Neither was there enough charcoal present to obtain a radiocarbon date. Water run-off from the linear is in a south-easterly direction. This would draw water towards the present-day Crosby Road and also any precursor to the road that may have been present there. This would appear to indicate that the feature is not a 20th century drainage gully associated with the road. The linear does not correspond to any boundaries shown upon historic survey plans for the area. In addition the linear has no return or alignment of post-holes which could be associated with a division of land or a structure. This makes the feature problematic as, in essence, the linear is a solitary gully with no additional archaeological features surrounding it.</p> <p>The presence of an isolated charcoal flecked layer occurs just to the immediate south-west of the linear. This appears to indicate that the action that caused the accumulation of the flecks of charcoal in the soil was contemporary with the linear and also contained by it.</p> 	

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>ARCHSITE archaeological site recording scheme</p> <p>Site Record Form</p>	<p>NZAA SITE NUMBER: S14/334</p> <p>SITE TYPE: Agricultural/ pastoral</p> <p>SITE NAME(s):</p> <p>DATE RECORDED:</p>
<p>SITE COORDINATES (NZTM) Easting: 1802924 Northing: 5818167 Source: On Screen</p>	
<p>IMPERIAL SITE NUMBER: METRIC SITE NUMBER: S14/334</p>	
	
<p>Finding aids to the location of the site</p>	
<p>Brief description</p>	
<p>Recorded features</p>	
<p>Other sites associated with this site</p>	

Printed by: siankeith

04/02/2015


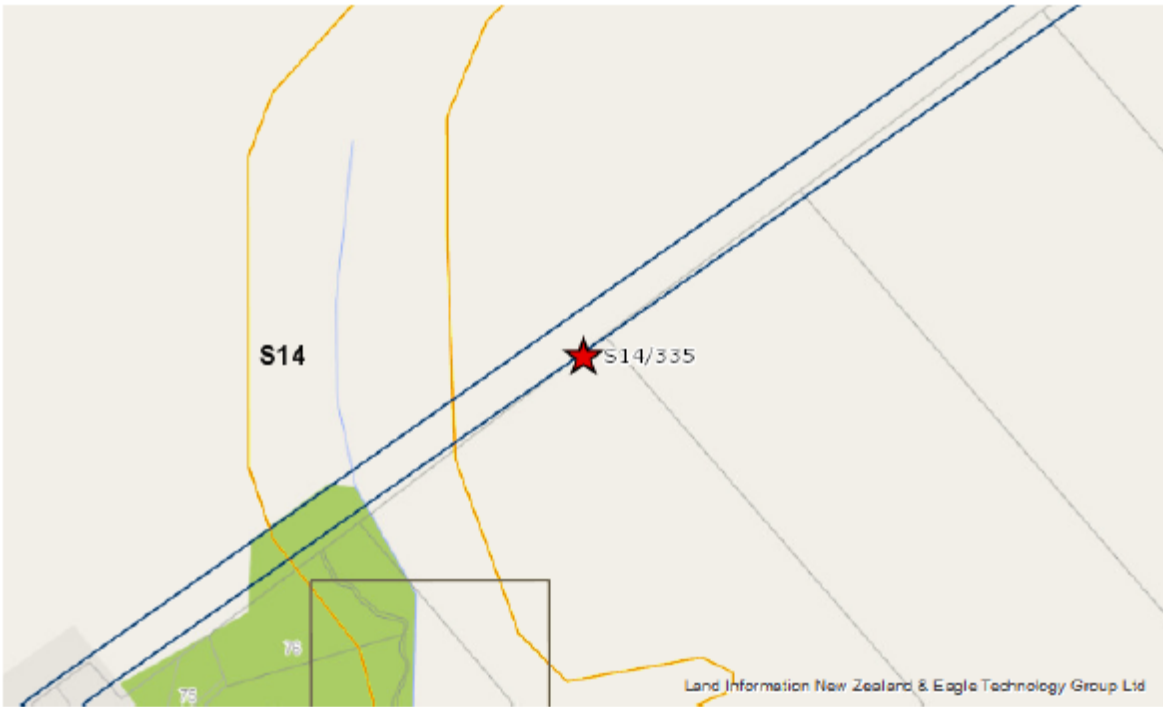
1 of 3

SITE RECORD HISTORY	NZAA SITE NUMBER: S14/334
<p>Site description</p> <p>'Updated 04/02/2015 (other), submitted by siankeith Grid reference (E1802924 / N5818167)</p> <p>C.1870s-1880 field drain annotated on historic map DP 3643 (1906) as "been in existence over 25 years"</p> <p>Updated 04/02/2015 (other), submitted by siankeith Grid reference (E1802924 / N5818167)</p> <p>C.1870s-1880 field drain'</p> <p>Condition of the site</p> <p>'Updated 04/02/2015 (other), submitted by siankeith</p> <p>Unknown'</p> <p>Statement of condition</p> <p>Current land use:</p> <p>Updated: 04/02/2015 - Urban residential, Reserve/ recreation</p> <p>Threats:</p>	

04/02/2015

2 of 2

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p>ARCHSITE archaeological site recording scheme</p> <p>Site Record Form</p>	<p>NZAA SITE NUMBER: S14/335</p> <p>SITE TYPE: Agricultural/ pastoral</p> <p>SITE NAME(s):</p> <p>DATE RECORDED:</p>
<p>SITE COORDINATES (NZTM) Easting: 1805571 Northing: 5815573 Source: On Screen</p>	
<p>IMPERIAL SITE NUMBER: METRIC SITE NUMBER: S14/335</p>	
	
<p>Finding aids to the location of the site west of Davison Road following a similar trajectory and defined by a hedge.</p>	
<p>Brief description</p>	
<p>Recorded features</p>	
<p>Other sites associated with this site</p>	

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04/02/2015

1 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S14/335
<p>Site description</p> <p>'Updated 04/02/2015 (Field visit), submitted by siankeith , visited 25/07/2014 by Sian Keith Grid reference (E1805571 / N5815573)</p> <p>Annotated on historic map SO2752 (1883) is a 'sod fence'. This location is a property boundary which is now mainly defined by a hawthorn hedge. The hedge is planted on a low earth rise c. 20-30cm high, with minor and discontinuous linear depressions identified parallel to each side of the hedge. It was not clear during the visit if the low earth rise was evidence for an eroded sod fence, or is this had formed naturally due to plough turning, vegetation build up and stock movement. It is possible that this feature has been bulldozed and flattened and/or has eroded to the low earth rise visible at present. The form and purpose of the sod fence remains unknown. It is envisaged that this feature was either substantial to contain animals, or minor as a boundary definition. It is not known how the feature was constructed or how continuous it was. Aerial photographs dating from 1949-1970s were examined following the field visit. The hawthorn hedge was not present on these images and the images were at a scale too large to identify if the sod fence had survived into the mid-20th century.'</p> <p>Condition of the site</p> <p>Statement of condition</p> <p>Current land use: Updated: 04/02/2015, Visited: 25/07/2014 - Horticulture, Road reserve</p> <p>Threats: Updated: 04/02/2015, Visited: 25/07/2014 - Road/ track formation or maintenance, Property development</p>	

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04/02/2015

2 of 3

Appendix 2

Selection of Plans of Ruakura Research Station held at Opus Library Hamilton

Figure 14: Gas Reticulation Plan 1987, showing buildings in existence, planned, and planned for removal

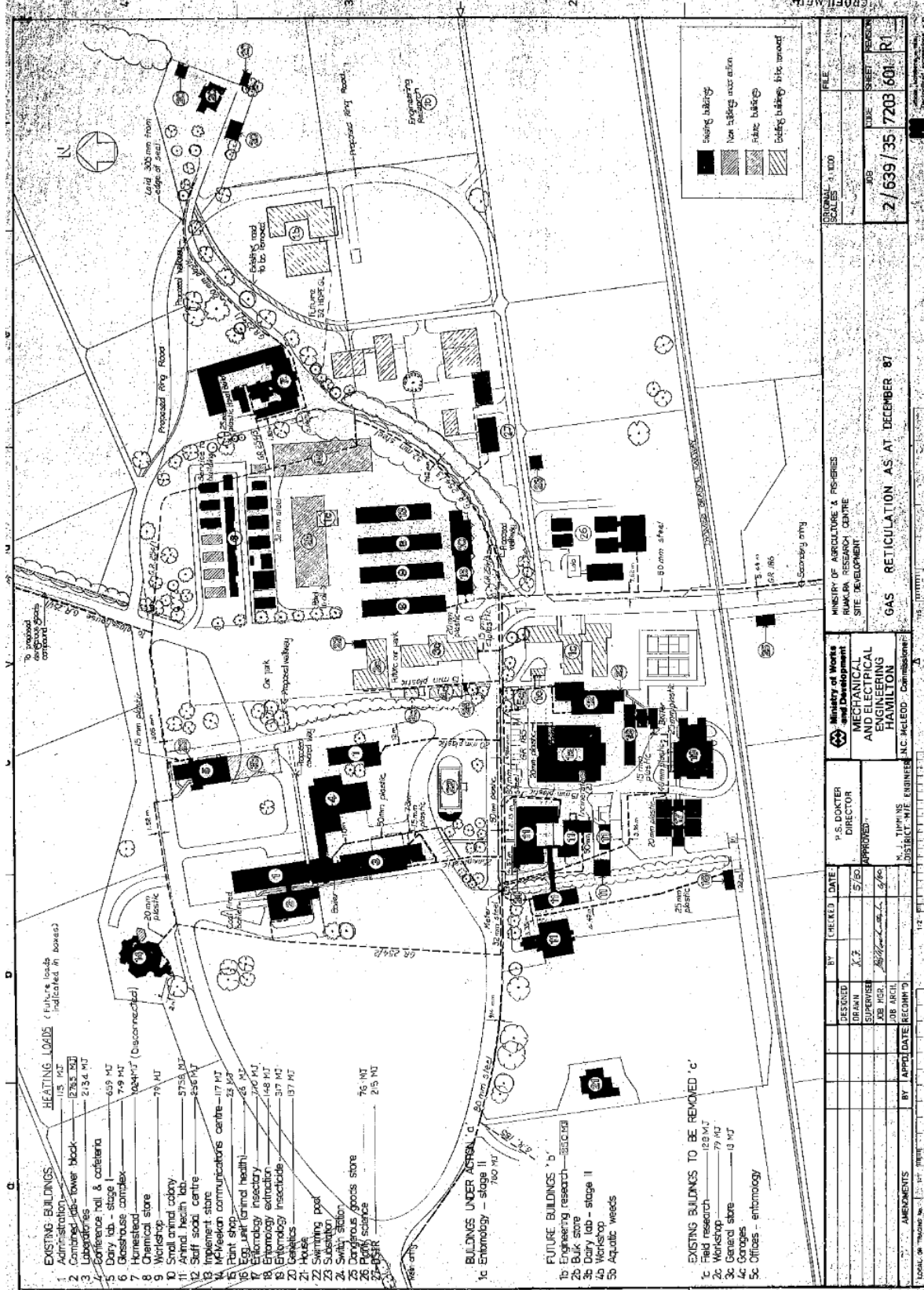


Figure 15: Plan of Ruakura Research Station 1951

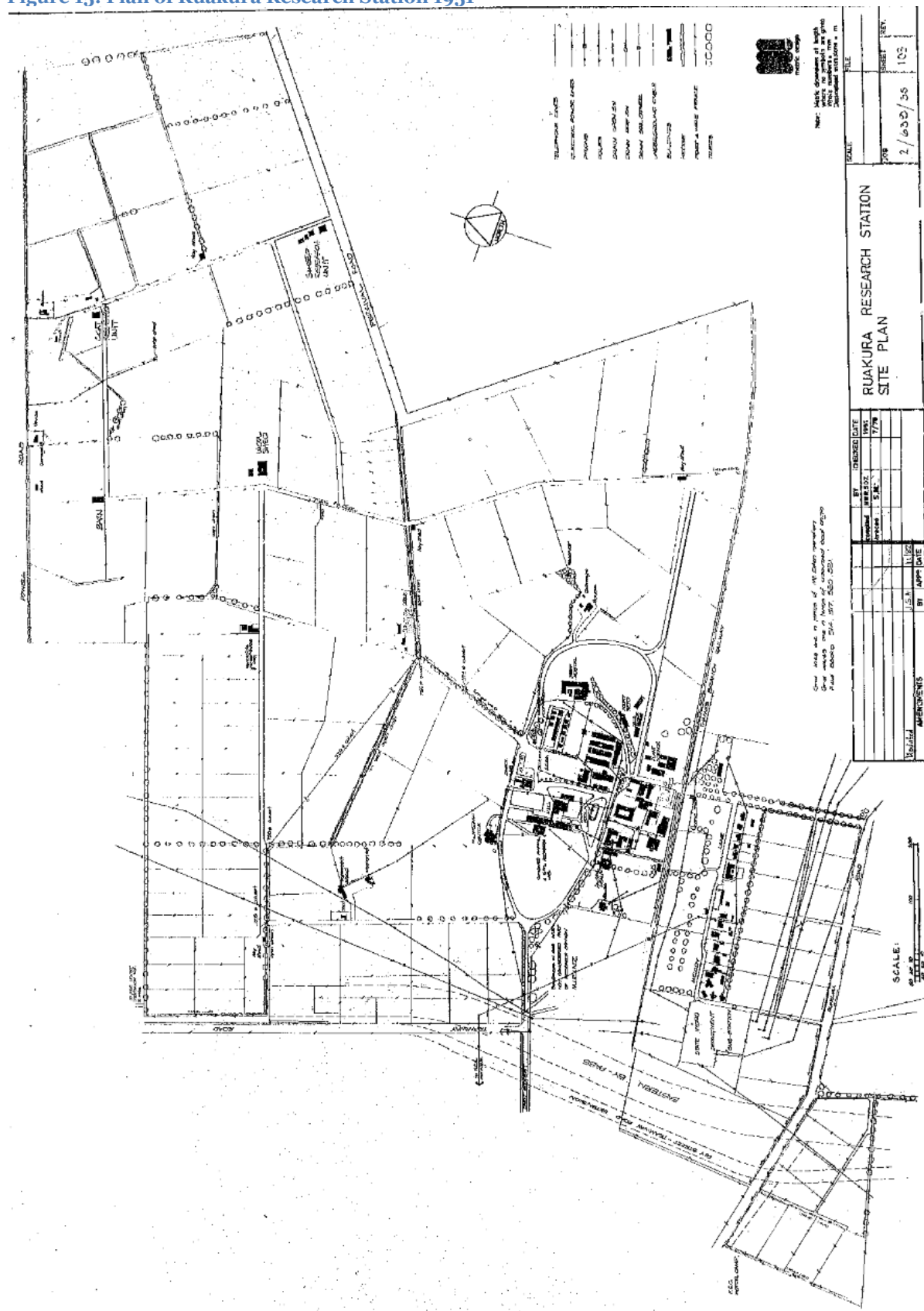
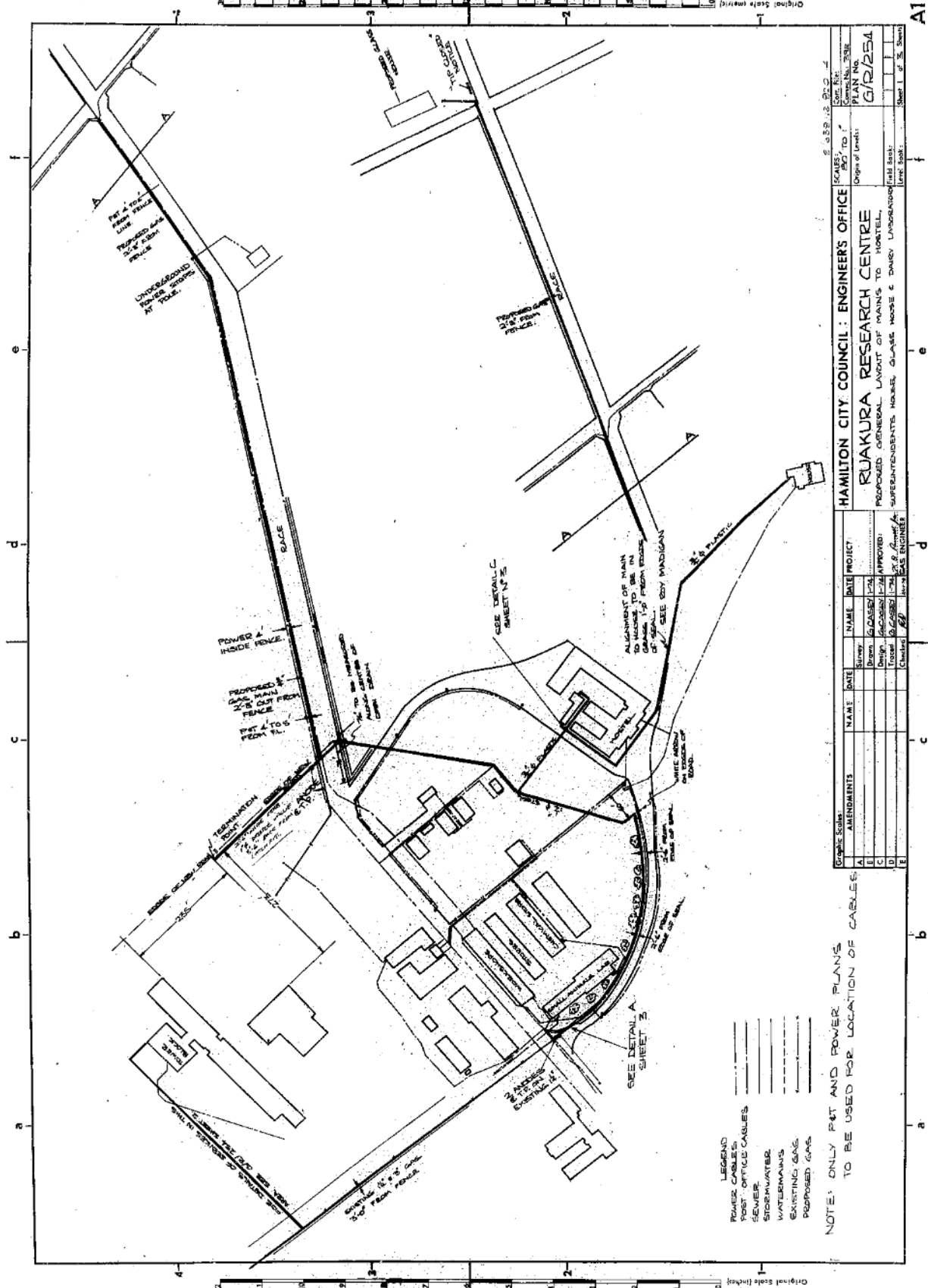


Figure 16: Plan of mains layout to hostel, superintendent's house, glass house and dairy laboratory 1975.



Appendix 3

Additional Historic Maps

Figure 17: SO12249 Plan of Ruakura Agricultural Station 1901



DEPARTMENT OF LANDS AND SURVEY, NEW ZEALAND.
FOR SURVEYS UNDER THE LAND TRANSFER ACT.

Appn 5063
CERTIFICATE PREPARED.
18/10/48
RECEIVED FOR DEPOSIT THE
31st July
1948
10 am
18/10/48

Received at the Land Transfer Office this
18th day of
May 1948.
Plan 11448
6663

212R

Railway Junction

Railway

Reformed

KIRIKIRIROA

PARISH

XIV

XV

KOMAKORAU

Public Road

Auckland

To Mod Plan 11448

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10000 South of T. Eden

H.C. Missen

Plan of All 293 & P 302 Kirikiriroa Parish,
Surveyed for D.C. Missen Esq.
By Thomson and Farrer
Licensed Surveyors
Date: 21/2/10
SCALE: 5 Chains to an Inch

DECLARATION.
James Thomson of Hamilton, Licensed Surveyor, do hereby declare that this plan has been made from surveys executed by me and my assistants, and that both plan and survey are correct, and have been made in accordance with the regulations of the Surveyors Board, dated the 5th day of August, 1907.
And I make this solemn declaration conscientiously believing the same to be true, and by virtue of an Act of the General Assembly of New Zealand entitled "The Justice of the Peace Act, 1903."
Declared at Hamilton this 23rd day of May 1910.
James Thomson
Thomson and Farrer
Licensed Surveyors

6779

44928

44928

Pr Lot 2
DP 25591
RJ Brinkworth.
CT 665/290.

Pr Lot 1
DP 15962
Tor Properties Ltd.
CT 24/896.

Lot 48
DP 9210
H Cavanough
CT 350/22.

POWELLS ROAD

PERCIVAL ROAD

Buildings
Survey control points
poles
spikes
Spot heights
Height of contours
Drains
Drains fenced on either side
Trees
Hedges
Gates

Datum in terms M.S.L.

Note - contour interval up to 135' thereafter at 5' intervals.

D.I. - Drawn Invert.

Surveyed April-May 1909.
by B. Coleman Survey Cadet.
J.E. Netherby Field Assistant.

44928

Topographical Plan
Pr. Ruakura Research Station
Scale 3 chains to an inch.
Area 253 acres.

44928

Figure 20: DP9210, 1914 showing properties either side of Ruakura Junction in study area.

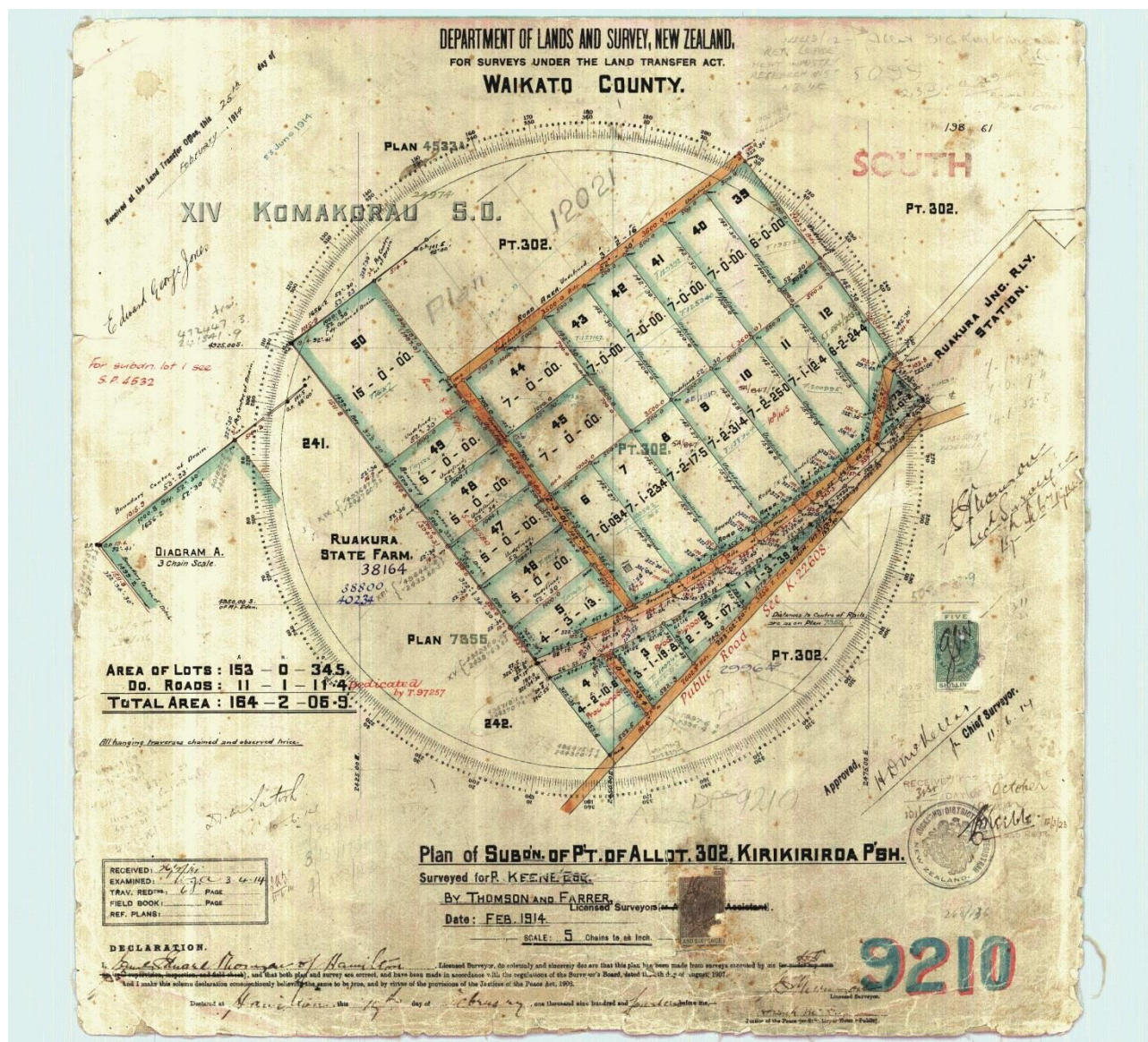
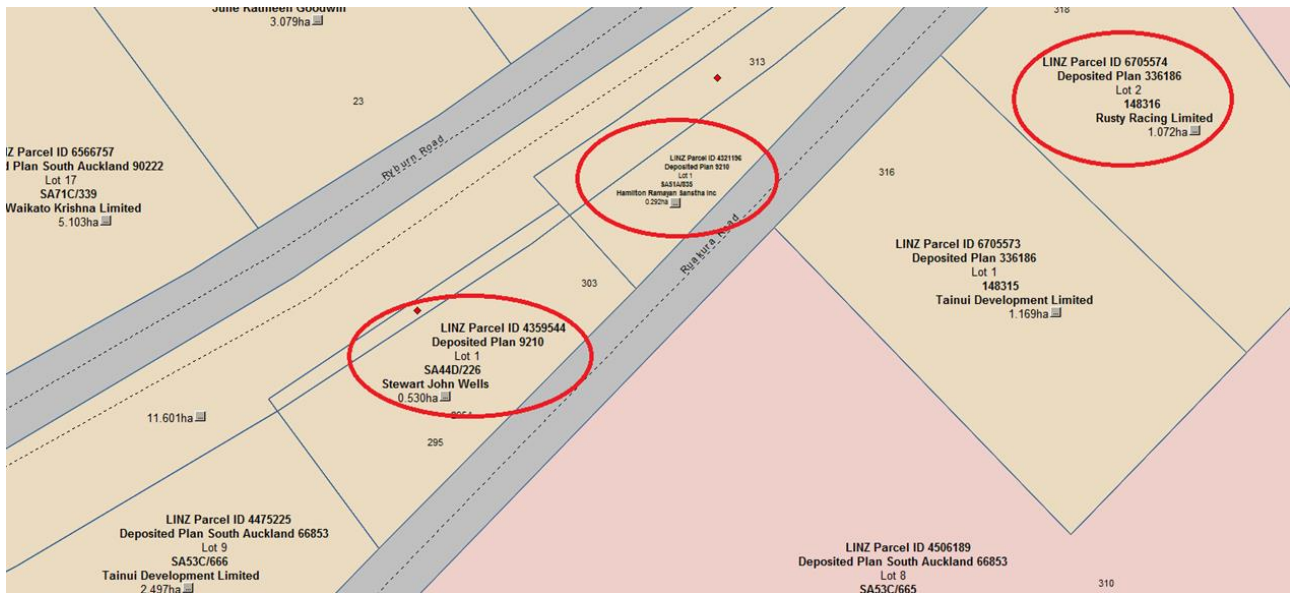


Figure 21: Plan showing location of private properties included in Study Area and Shown in Figure 20 .





Opus International Consultants Ltd
Opus House, Princes Street
Private Bag 3057, Waikato Mail Centre,
Hamilton 3240
New Zealand

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f: +64 7 838 9324
w: www.opus.co.nz