

Appendix 6: Archaeological Assessment

CAMBRIDGE GROWTH CELL C5, LEAMINGTON, PROPOSED FUTURE RESIDENTIAL DEVELOPMENT: PRELIMINARY ARCHAEOLOGICAL ASSESSMENT

Prepared for Cogswell Surveys Ltd

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INTRODUCTION

Project Background

Paul Roycroft is proposing future residential development in part of Growth Cell C5 at Leamington, Cambridge (to be referred to as the Project Area in this report). The Project Area borders the Waikato River in the north and Maungatautari Road in the south and the location and existing properties within it are shown in Figure 1. The addresses and legal descriptions are as follows: 37 Maungatautari Road (Lot 4 DPS 60022 BLK IX Cambridge SD) covering 34.39 Ha; 85 Maungatautari Road (Lot 1 DP 529457) covering 52.65 Ha; 97 Maungatautari Road (Lot 2 DP 506407) covering .29 Ha; 118 Wordsworth Street (Lot 3 DPS 60022) covering 6.89Ha and 114A Wordsworth Street (Lot 1 DP 409671) covering 4.02 Ha.

An archaeological assessment was commissioned by Cogswell Surveyors Ltd on behalf of Paul Roycroft to identify any archaeological constraints within Project Area and establish if future development is likely to impact on archaeological values. This report has been prepared in accordance with the Resource Management Act 1991 (RMA) and to identify any requirements under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA). Recommendations are made in accordance with statutory requirements.

Methodology

The New Zealand Archaeological Association's (NZAA) site record database (ArchSite), Auckland Council's Cultural Heritage Inventory (CHI), District Plan schedules and the Heritage New Zealand Pouhere Taonga (Heritage NZ) New Zealand Heritage List/Rāangi Kōrero were searched to determine whether any archaeological sites had been recorded on or in the immediate vicinity of the Project Area. Literature and archaeological reports relevant to the area were consulted (see Bibliography). Early survey plans and aerial photographs were checked for information relating to past landownership and use of the properties.

A visual inspection of the properties was conducted on 8 March 2021. The ground surface was examined for evidence of former occupation (in the form of shell midden, depressions, terracing or other unusual formations within the landscape, or indications of 19th century European settlement remains). Exposed and disturbed soils were examined where encountered for evidence of earlier modification, and an understanding of the local stratigraphy. Subsurface testing with a probe was carried out around the locations of previously recorded borrow pit sites to determine whether buried archaeological deposits could be identified or establish the nature of possible archaeological features. Particular attention was paid to the recorded archaeological sites. The sites were photographed and GPS readings taken. Field sketches were made as required and site record forms written or updated.



Figure 1. Upper map showing the regional location of Project Area and lower inset showing the details of the properties covered in this assessment (source: Upper- Google Earth and lower- Waipa District Intramaps)

HISTORICAL BACKGROUND

Maori Settlement

In oral tradition the Tainui canoe, captained by chief Hoturoa, made its final landfall at Kawhia some 800 years ago. The canoe had travelled around various parts of the central North Island, including the Bay of Plenty, the Coromandel, the Manukau Heads and the Hauraki Gulf, with some people leaving the voyage and settling in these areas (Te Ara Website). Hoturoa is said to have made his base at Kawhia and over the years the Tainui people expanded inland from there. This included movement into the Waikato and Maori settlements spread throughout the region, with many concentrated along the coast to exploit the rich resources available there. Further inland, settlements were made along navigable waterways, such as the Waikato and Waipa Rivers and their tributaries, with numerous pa sites identified as well as gardening and food storage sites. Intertribal conflicts occurred periodically as a result of alliances, disputes and competition for resources.

During the early years of the 19th century contact with European traders and missionaries increased, one result being the introduction of muskets into Maori intertribal conflicts. The northern tribes were the first to arm themselves in this way and gained some advantage in battles with tribes who had not obtained such weaponry. However, by the 1830s most tribes were more or less equally equipped and were unable to sustain the long-term and large-scale warfare often referred to as ‘The Musket Wars’ that had occurred over the previous two decades.

European Settlement and the New Zealand Wars

In the years that followed, European influence increased and conflicts between Maori and the colonial government over the European demand for land became an ongoing issue, resulting in open conflict by the early 1840s. Contentious land sales, and the demands of settlers for land that was not properly secured, continued to result in conflicts and in 1845-46 these were centred in the north. However, confrontations between Maori and government forces continued, with skirmishes, raids and battles taking place to the south, in the Hutt Valley and Wanganui in the late 1840s (Cowan 1955: 100-103; 143-144).

Tensions between Maori and the government continued to worsen and in 1858 resulted in the founding of the King Movement (Kingitanga) in the Waikato. This movement aimed to unite the Maori under a single leader to strengthen their ability to oppose the loss of their land from the growing demands of the ever-increasing number of European settlers arriving in New Zealand (Belich 1986).

The Waikato, with its proximity to Auckland and now as the seat of the King movement, was a concern to the government and on 11 July 1863, the governor of New Zealand, Sir George Grey, issued an ultimatum to the chiefs of the Waikato, ordering that they pledge allegiance to Queen Victoria or face the consequences. Without providing adequate time for the Maori leaders to respond, on 12 July, British forces marched into the territory of the Maori King, crossing the boundary (aukati) between the Pakeha and Maori lands and marking the beginning of the Invasion of the Waikato (Belich 1986). The Waikato campaign lasted for nine months and ended with the Maori defeat at Orakau Pa in April 1864. At this time, a new boundary (aukati) was established south of the Puniu River, leaving the land to the north in the hands of the government (Cowan 1955: 408-410).

The Waikato Militia and Military Settlement

Just after the outbreak of hostilities in the Waikato, the government had devised a scheme to form militia regiments that would provide a population base for military settlements in the Waikato once the government had taken control of the area (Allen 1969:33). The settlements were intended to prevent further unrest within the Maori population by establishing a larger European presence in the area and to guard from further attacks from the Kingites living to the south of the Puniu River (Cowan 1955: 412). Many of the soldiers were recruited from the gold fields of Otago and Australia with the main incentive to join up being the provision of a 1 acre town allotment and a larger farm allotment (50 acres in size for the lower ranks and larger ones for the officers) to each soldier after completing three years of military service. Enlistment began in August 1863 with the men being divided into the four Waikato regiments (Allen 1969:35). The land for the settlements was to be confiscated from the Maori by the government and by mid-1864, military settlements were being planned at four locations in the Waikato at Alexandra (later renamed Pirongia), Kihikihi, Hamilton and Cambridge. The sites were chosen as defensive positions and to overlook the Waikato and Waipa Rivers. As the settlements were intended to be self-sufficient, it was also important that the sites chosen contained enough surrounding land suitable for farming. The strategic importance of the sites, in most cases, however, outweighed other factors and in the case of Cambridge, its location was ultimately decided as it guarded the head of navigation on the Waikato River (Allen 1969: 47).

The settlement at Cambridge was established in July 1864 and the site soon became the headquarters of the Third Waikato Regiment. Construction works on redoubts soon commenced. The first was the Star Redoubt, which was located within the settlement at Cambridge. Pukerimu, which was used as a landing place by the British military from early 1864, saw the construction of two redoubts, one on each side of the Waikato River. The redoubts were only used for a very short period and were abandoned by the end of 1864 (Cambridge Museum Website).

While the soldiers were put to tasks of building facilities, including the redoubts, surveyors were at work laying out the new settlement in 1 acre town allotments and larger farm allotments in the surrounding area. The town allotments were laid out in rectangular grids situated around the two redoubts, one on each side of the Waikato River. The farm allotments were intended to spread out from the edges of the town but were planned to be kept as close to the town as possible for defensive reasons. Unfortunately, the military settlement process at Cambridge did not run particularly smoothly, as noted in the 29 November 1864 Edition of the *Daily Southern Cross*:

‘Cambridge is laid out on both sides of the Horotiu River, about 30 miles above Ngaruawahia, and is the headquarters of the third Waikato Regiment. There are about 600 men up here at present. The town is laid out in one-acre allotments, and the surveyors are busy laying out the roads for the fifty-acre allotments, and yet the men of this regiment have not got any of the acre allotments given to them, although the township has been surveyed these last two months. It is not possible, therefore, for anyone to make improvements on his acre. We hear that the men of the 2nd Regiment have some of their land in potatoes and other crops, but there is nothing of the kind here.’

The town lots were eventually provided to the men, but more problems arose with the farm allotments, the main one being an abundance of swamp land. The size of the farm lot granted was dependent on the rank of the soldier, with privates receiving 50 acre lots,

corporals 60 acres, sergeants 80 acres, subalterns 200 acres, 250 acres for surgeons, 300 acres for captains and 400 acres for field officers. The farm blocks were laid out in 50 acre units and the higher-ranking men would choose the appropriate number of blocks to make up their allotment, apart from the 60 and 80 acre farms for corporals and sergeants, which were laid out separately (Allen 1969:76). Many of the lower ranking men received 50 acres of poor-quality swampy land and, as many had no previous farming experience, the process of creating farms proved too difficult to manage and many sold their land as soon as their military service was finished, or in some cases they sold the land and transferred the military service to the new owner. The plan in Figure 2 shows the military settlement around Cambridge as it was originally laid out with the Project Area lying to the west of the town belt at Leamington (Cambridge West on the map in Figure 2).



Figure 2. Plan of the militia farm allotments around Cambridge with Growth Cell C5 shaded red (source: Allen 1969)

HISTORICAL SURVEY

Information from Early Maps and Plans

Historical maps and plans were reviewed to provide information on land ownership and usage history. The undated plan in Figure 3 shows the country lots granted to the soldiers of the Third Waikato Militia in the mid 1860s, however, the plan also has later information annotated, such as purchasers of lots and revised numbering of the original lots granted. As later plans refer to the lot numbers in red on the plan in Figure 3 this numbering will be referred to in this discussion. As can be seen on the plan the land in the current Project Area was spread over several properties with various owners: Valentine Davis (Lot 126), Duncan Gordon Campbell (Lot 125 and 127), Dr Seth Sam (Lot 121, 122 and 123) and John Wilson (Lot 129). Davis, Campbell and Dr Sam were all members of the Third Waikato Militia and these lots represent the land granted to them in the 1860s. It is noted that John Wilson has 'pur' by his name and that the ink and style of writing is different to the other names. There were several John Wilsons in the Third Waikato Militia, but it is not possible to discern if this was one of them. Regardless, it would appear that this lot was a later purchase. Dr Seth Sam enlisted in the Third Waikato Militia in 1865 and also helped to establish the first Freemasons Lodge in Cambridge and was also the first master of that lodge. He left Cambridge in 1872 for Australia and died there in 1882 (*The Alpha Gazette* April 2013).

The 1880 plan in Figure 4 showing roads to be closed has the name 'Reynolds' annotated on the lots containing the Project Area. A later plan from 1901 (Figure 5) shows a survey of land including the Project Area for a Mr Richard Reynolds. As well, a survey plan also drawn up for Mr Richard Reynolds dating from 1902 (Figure 6) shows further subdivision of land within the Project Area and two plans, one dated 1902 (Figure 7) and one dated 1912 (Figure 8), show subdivision in the southwest part of the Project Area. The Reynolds family emigrated to New Zealand from Cornwall in 1868 when Richard was 14. The family became well established in the area and owned several farms between Hamilton and Cambridge. The land containing the Project Area was farmed by the Reynolds family from the late 1870s and the family built a homestead which was called 'Trecarne' and is still present on the southern side of Maungatautari Road, just to the south of the Project Area. William and Elizabeth Reynolds, along with their son Richard and daughter Emily, moved into Trecarne, although Richard married in 1879 and moved to a farm 'Wai Valley' at Pukerimu. Richard Reynolds and his family moved back to Trecarne in 1891 after the death of his father, William (*Waikato Independent* 31 January 1928; Simmons 2011: pp.3-6). Apart from his farming endeavours, Richard Reynolds also had a great interest in trees and it was noted in his obituary that he created extensive plantations on many of his properties as well as advocating plantings throughout the district, including forestry plantations with a special interest in the planting of Eucalyptus (ibid.). It was also noted in an obituary that 'Trecarne' was surrounded by 'some magnificent trees' (*New Zealand Herald* 31 January 1928). Richard Reynolds passed away in 1928 in Rotorua at the age of 75. The homestead was sold by Richard's widow in 1932, according to a newspaper article 'to a purchaser from Auckland' (*Waikato Independent* 12 January 1932).

The Reynolds name is also well known for its association with the 'Anchor' brand of butter, which Richard's brother Henry chose as the name for his product. The original butter factory at Pukekura was established in 1866 by Henry Reynolds & Co. and was the first of its kind in the Waikato. The butter was originally sold domestically, but as refrigerated

shipping became available, the product was exported to a number of different countries. The company along with the brand name was sold onto the New Zealand Co-operative Dairy Company in 1896 with the 'Anchor' brand retained and still in use today (Doolin 1996).

The next subdivision in the land containing the Project Area did not occur until 1991 and the plan in Figure 9 shows this subdivision that created the current layout of the southern and central part of the Project Area.

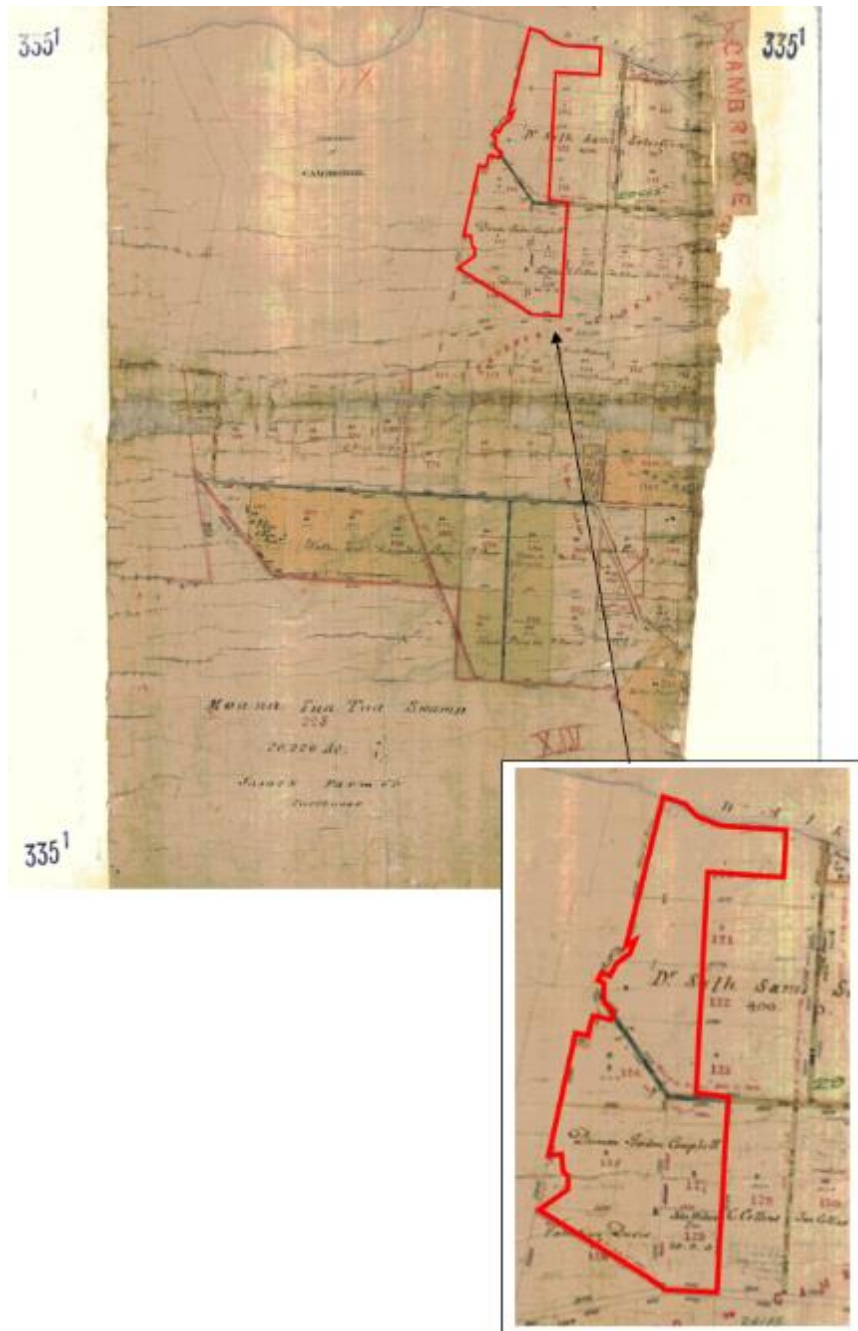


Figure 3. Undated plan HNC SO 335 1 with the Project Area outlined in red, with detail shown in lower inset (source: Quickmap)

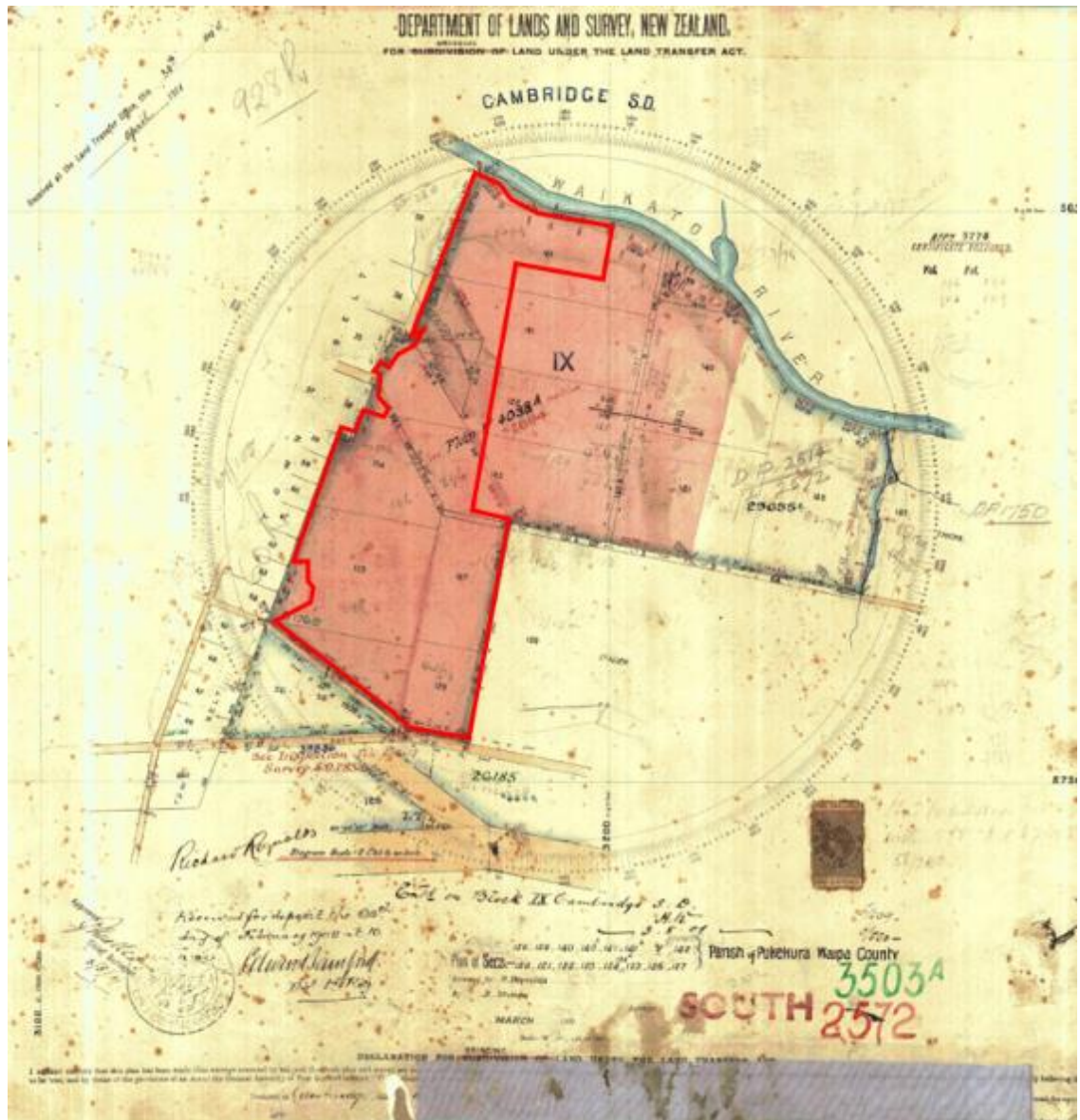


Figure 5. HNC DP 2572 plan dated 1901 showing a survey drawn up for Mr Richard Reynolds including the current Project Area outlined in red (source: Quickmap)

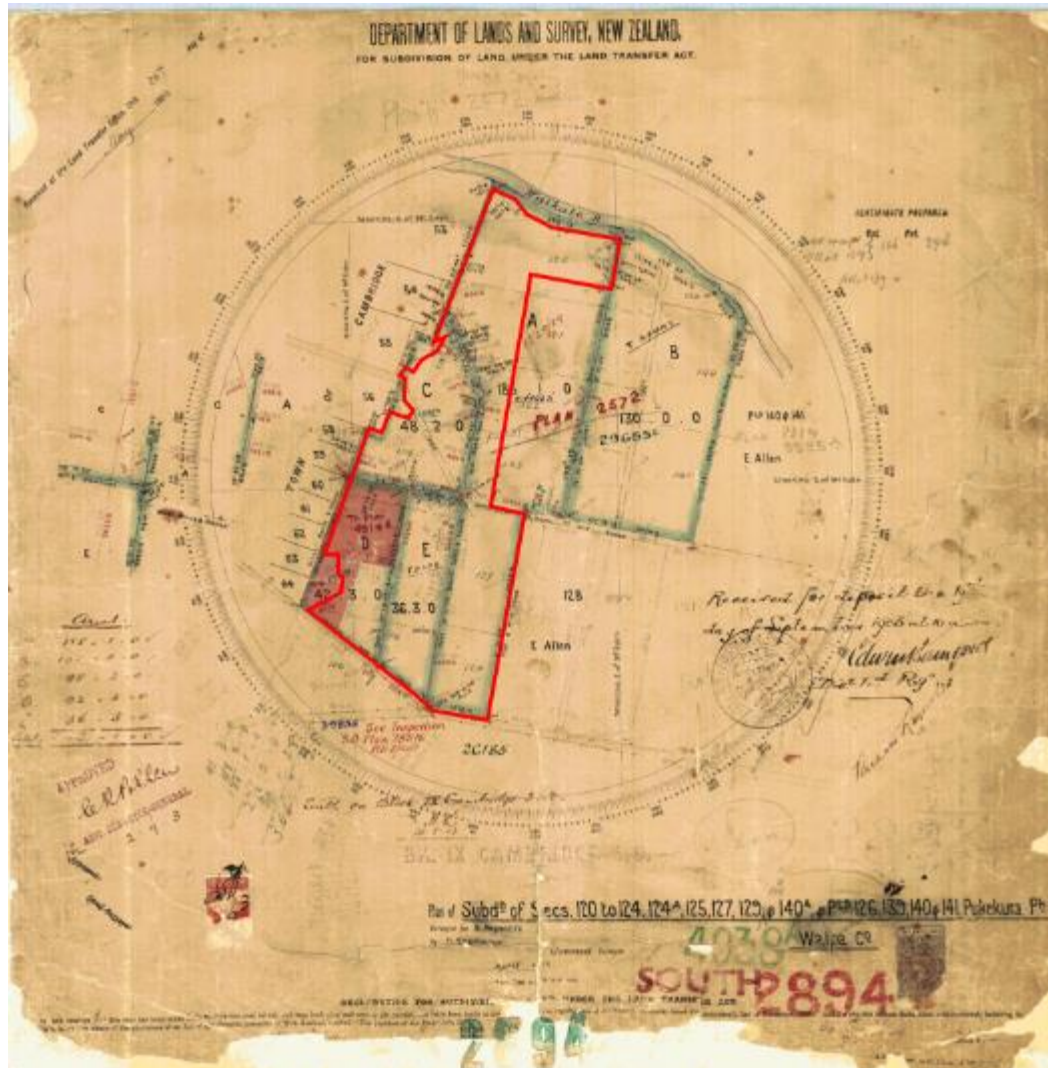
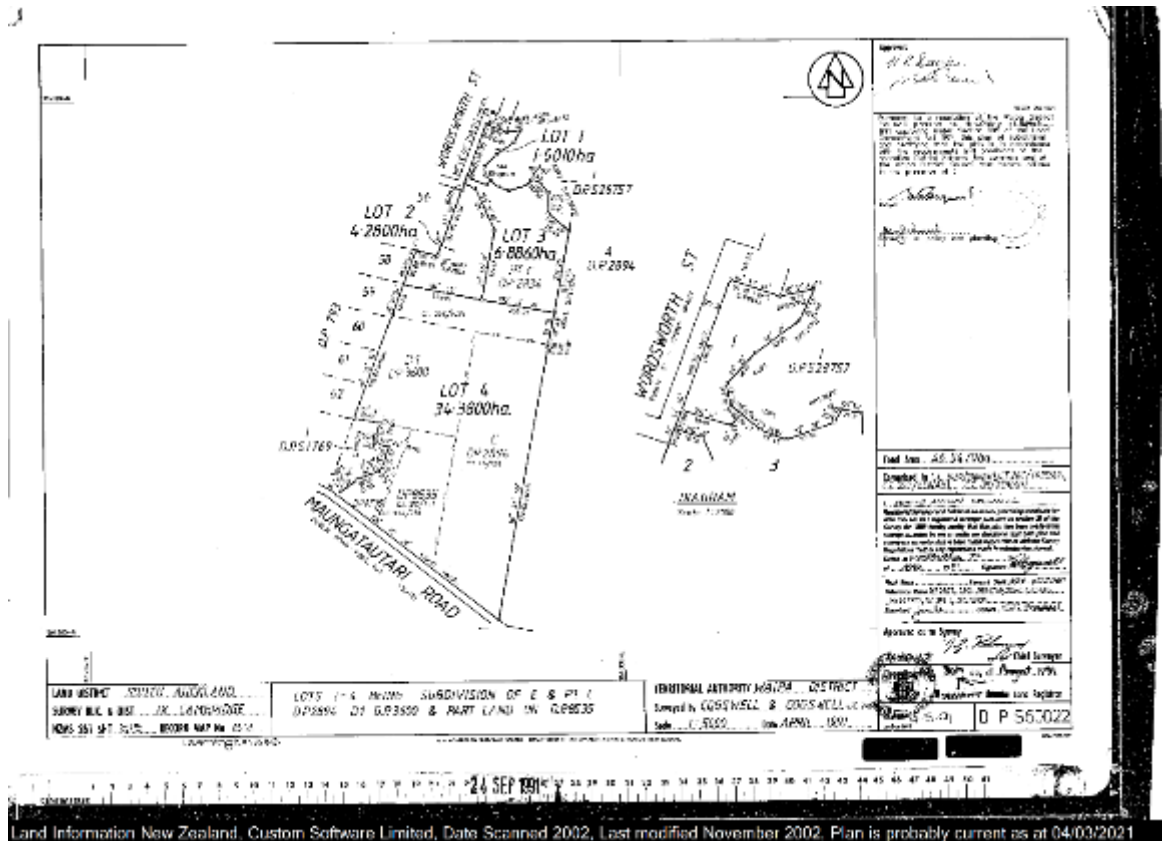


Figure 6. HNC DP 2894 I plan dated 1902 (deposited 1903) showing a subdivision including the current Project Area which is outlined in red (source: Quickmap)



ARCHAEOLOGICAL BACKGROUND

Recorded Archaeological Sites

There are four recorded archaeological site within and three recorded sites bordering (and possibly extending into¹) the Project Area and all are associated with Maori occupation. The locations of these sites are shown in Figure 10, summary details provided in Table 1 and the NZAA site records are appended to this report for reference. One of these is a pa site and the remaining six are Maori horticulture sites consisting of borrow pits and gardening soils. The pa site, **S15/24** was first recorded in 1973. It is located on a promontory overlooking two streams with the Waikato River to the north. It was described during a site visit in 2010 as triangular in shape with a northern side 60m in length and situated on a steep slope with a ditch and bank at the south-eastern side (54m long) which had been planted out in acacia trees. An earlier visit in 1996 had also identified areas with charcoal, oven-stones and pebbles (NZAA Site Record). The remaining six sites in the Project Area all consist of borrow pits that had not been visited but were identified from aerial photographs. The 1943 aerial photograph² in Figure 11 shows the locations of the pa site and the six recorded archaeological sites in and bordering the Project Area where borrow pits have been recorded. The two northernmost sites are located on a low-lying riverine terrace bordering the Waikato River. They are **S15/467**, where between 5 and 10 borrow pits were identified, and **S15/653**, where a single borrow pit was identified. The area to the east of the pa site was found to contain evidence of around 20 borrow pits spread across a large area of paddocks and recorded as **S15/466**. The remaining three sites are located in/ bordering the central part of the Project Area and consist of **S15/657**, where a single borrow pit was identified, **S15/533**, where three borrow pits were recorded, and **S15/534**, where two borrow pits were recorded.

A number of archaeological sites have also been recorded in the vicinity of the Project Area, i.e. within c.500m (Figure 10, Table 1), and these will be briefly described to provide an understanding of the broader archaeological setting. Two of the sites are pa sites that have been recorded along the southern banks of the Waikato River to the west of the Project Area. The first is **S15/94**, which is located on a promontory overlooking the Waikato River, described on the NZAA Site Record as a small quadrilateral pa that has probably been destroyed from development, although with traces considered possibly to have survived. The second is **S15/96**, which is located on a remnant river terrace between the Waikato River and a small stream, with pits and a ditch identified. To the south of the pa sites, **S15/310**, a burial, was recorded as a single skeleton in an upright crouching position discovered during house construction and which was removed from the site. The site record does not contain any additional information.

¹ Two of archaeological sites bordering the Project Area have been recorded as borrow pits (Maori horticulture S15/657 and S15/534) these sites often cover large areas and can include gardening soils as well as other features. The pa site S15/24 also borders the Project Area. However, the south-eastern side of the site where a ditch is present marks the boundary of the Project Area and because of this close proximity the pa site is included in this section.

² This is the same aerial photograph used to identify the sites as stated in the NZAA Site Records.

Of the remaining 21 recorded sites in the vicinity of the Project Area all but one are associated with Maori horticulture and consist of borrow pits and gardening soils. Four of these sites have been recorded along the southern side of the Waikato River in between pa sites S15/94 and S15/96. **S15/465** is a single borrow pit that was part of a larger cluster that was investigated in advance of subdivision development, during which 284 archaeological features were recorded with the majority being-bowl shaped hollows along with pits, fireplaces, post holes and a rock cache (NZAA Site Record). **S15/536** (two borrow pits) and **S15/537** (five borrow pits) were both identified through a review of aerial photographs and neither site has been visited. Four borrow pits were also recorded from aerial photographs at **S15/761**. A site visit to S15/761 in 2018 did not identify any of the pits and it was noted that pipelines had been inserted in the area. Although no surface evidence was visible it was noted that there were still likely to be subsurface remains (NZAA Site Record).

Four more sites – **S15/532** (two borrow pits), **S15/654** (a single borrow pit), **S15/655** (a single borrow pit) and **S15/656** (a single borrow pit) – are located to the east of the northern part of the Project Area. One site has also been recorded to the east of the southern part of the Project Area this is **S15/681**, where around 43 borrow pits were identified. All five of these sites were identified from aerial photographs and have not been visited.

There are three recorded sites to the south of the Project Area – **S15/683** (c.35 borrow pits), **S15/775** and **S15/776**, both of which have been recorded as gardening soils. The latter two sites were investigated in 2020 and noted to be heavily modified by modern farming with only the deepest archaeological remains surviving. Based on radiocarbon dating, the tentative dates for the sites were placed in the 1700s and possibly into the early 1800s (NZAA Site Record). Three additional sites – **S15/771** (borrow pit and gardening soil), **S15/772** (three borrow pits and gardening soils) and **S15/773** (borrow pit and gardening soil) – located slightly further to the south at distances between 650-900m from the Project Area have also been included in this assessment, as recent investigations at these sites can provide additional information on both Maori gardening and settlement in the general area (to be discussed in detail below).

Three archaeological sites have also been recorded in the Town Belt which borders the Project Area to the west. These are **S15/535** (two borrow pits), **S15/686** (a single borrow pit) and **S15/691** (two borrow pits). Four more sites have been recorded further to the west **S15/687** (16 borrow pits), **S15/690** (two borrow pits), **S15/692** (a single borrow pit) and **S15/693** also a single borrow pit.

Two sites on the northern side of the Waikato River were also recorded within c.500m of the Project Area – **S15/685** (eight borrow pits) and **S15/688** (a single borrow pit) – both identified from aerial imagery and not visited.

The final archaeological site recorded in the vicinity of the Project Area is **S15/471**, ‘Trecarne’, the homestead of the Reynolds family which was built in 1877. An archaeological investigation was carried out for the removal of a car port and construction of a new garage and other additions. A number of glass bottles, including those used for medicine dating from the 1860-80 period and ceramic tableware from a similar period, were recovered, although it is considered likely that these objects could have been reused and retained over a number of years and would likely represent a much longer timeframe associated with the Reynolds family’s occupation of the house (Simmons 2011: 29).

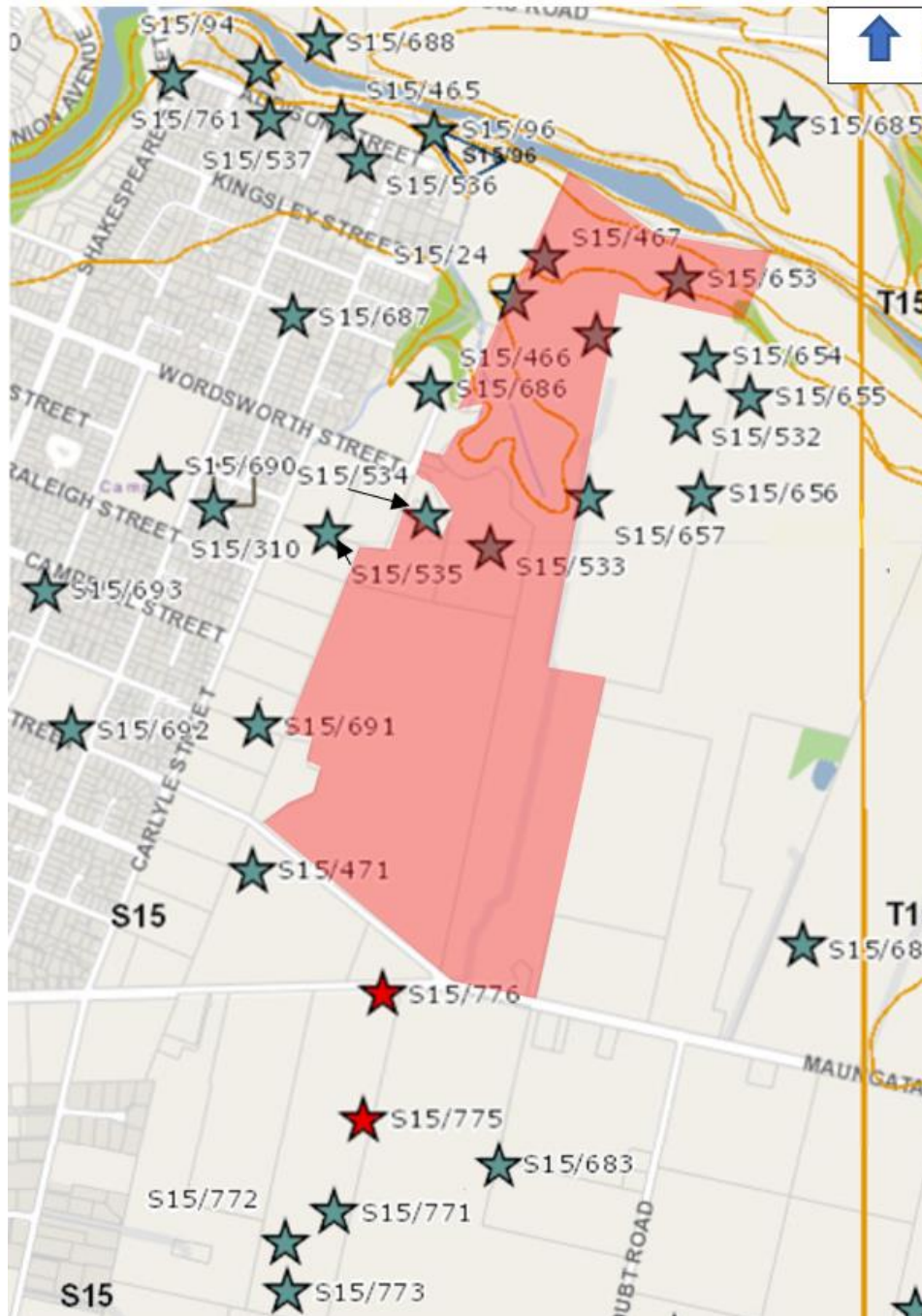


Figure 10. Map showing the locations of the recorded archaeological sites within and in the vicinity of the Project Area³ (shaded in red) note red stars indicate pending sites and blue stars confirmed sites (source: NZAA Archsite Website)

³ In the vicinity is defined as c.500m from the Project Area. It should be noted that three sites S15/771, S15/772 and S15/773 which are located c.650-900m to the south of the Project Area are included as these sites have been recently investigated and as Maori settlement and horticultural sites this information is relevant to the assessment of sites in the Project Area.

Table 1. Summary description of archaeological sites within and in the vicinity (c.500m) of the Project Area with sites located within or bordering the Project Area shaded in grey

NZAA #	Site Type	Description	NZTM Easting	NZTM Northing
S15/24	Pa	Triangular pa on upper river terrace with ditch and bank on southern side	1818924	5802210
S15/94	Pa	Small quadrilateral pa defended by scarps on edge of river. Probably destroyed.	1818298	5802779
S15/96	Pa	Located at confluence of small stream with Waikato River. Remnant ditch on southern edge	1818728	5802620
S15/310	Burial	Skeleton discovered in 1986 during house construction	1818182	5801693
S15/465	Maori Horticulture	Single remaining borrow pit - was part of larger cluster before development	1818496	5802650
S15/466	Maori Horticulture	Around 20 borrow pits to the east of pa site S15/24	1819130	5802120
S15/467	Maori Horticulture	Between 5 and 10 borrow pits located on lower river terrace to north of pa site S15/24	1819000	5802310
S15/471	Historic / Domestic	Trecarne House, the homestead of the Reynolds family, built in 1877. This is also a Category 2 Scheduled building, as are the stables	1818281	5800804
S15/532	Maori Horticulture	Two borrow pits visible on 1943 aerial photograph – area c.50 x 20m. Site has not been visited	1819346	5801902
S15/533	Maori Horticulture	Three borrow pits visible on 1943 aerial photograph – area c.130 x 20m. Site has not been visited	1818863	5801593
S15/534	Maori Horticulture	Two borrow pits visible on 1943 aerial photograph – area c.90 x 20m. Site has not been visited	1818707	5801667
S15/535	Maori Horticulture	Two borrow pits visible on 1943 aerial photograph – area c.40 x 20m. Site has not been visited	1818466	5801632
S15/536	Maori Horticulture	Two borrow pits visible on 1943 aerial photograph – area c.20 x 20m. Site has not been visited	1818545	5802548
S15/537	Maori Horticulture	Five borrow pits visible on 1943 aerial photograph – area c.160 x 30m. Site has not been visited	1818322	5802654
S15/653	Maori Horticulture	Single borrow pit visible on 1943 aerial. Site has not been visited	1819335	5802257
S15/654	Maori Horticulture	Single borrow pit visible on 1943 aerial. Site has not been visited	1819397	5802056
S15/655	Maori Horticulture	Single borrow pit visible on 1943 aerial. Site has not been visited	1819503	5801967
S15/656	Maori Horticulture	Single borrow pit visible on 1943 aerial. Site has not been visited	1819387	5801726
S15/657	Maori Horticulture	Single borrow pit visible on 1943 aerial. Site has not been visited	1819108	5801716
S15/681	Maori Horticulture	43 borrow pits recorded from aerial imagery	1819632	5800622

NZAA #	Site Type	Description	NZTM Easting	NZTM Northing
S15/683	Maori Horticulture	35 borrow pits recorded from aerial imagery	1818881	5800080
S15/685	Maori Horticulture	Eight borrow pits recorded from aerial imagery	1819591	5802637
S15/686	Maori Horticulture	Single borrow pit recorded from aerial imagery	1818717	5801984
S15/687	Maori Horticulture	16 borrow pits recorded from aerial imagery	1818378	5802164
S15/688	Maori Horticulture	Single borrow pit recorded from aerial imagery	1818443	5802843
S15/690	Maori Horticulture	Two borrow pits recorded from aerial imagery	1818048	5801766
S15/691	Maori Horticulture	Two borrow pits recorded from aerial imagery	1818296	5801160
S15/692	Maori Horticulture	Single borrow pit recorded from aerial imagery	1817837	5801152
S15/693	Maori Horticulture	Single borrow pit recorded from aerial imagery	1817765	5801487
S15/761	Maori Horticulture	Four borrow pits visible on 1943 aerial photograph – area c.20 x 20m. No surface features visible during 2018 site visit	1818081	5802755
S15/771	Maori Horticulture	Single borrow pit and gardening soil identified during field survey in 2018	1818483	5799962
S15/772	Maori Horticulture	Three borrow pits and gardening soil identified during field survey in 2018	1818362	5799887
S15/773	Maori Horticulture	Potential borrow pit and gardening soil identified during field survey in 2018	1818368	5799766
S15/775	Maori Horticulture	Gardening soil. Area modified by modern farming but in moderate condition.	1818556	5800193
S15/776	Maori Horticulture	Gardening soils. Area modified by modern farming but in moderate condition.	1818602	5800502



Figure 11. Aerial photograph dated 1943 (Crown 266 835 62) with Project Area shaded in red and general areas of recorded archaeological sites indicated, note all but the pa site have been recorded as borrow pits (sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0)

Archaeological Landscape and Previous Research

The recorded archaeological sites within and around the Project Area indicate that it was part of a broader Maori horticultural landscape located on both the northern and southern sides of the Waikato River. In general, the Waikato District contains a large number of archaeological sites, with the majority being located along the coast or in the vicinity of major waterways. The main site types that have been recorded are Pit/Terrace, Pa, Midden/Oven and Borrow Pits (Hutchinson and Simmons 2016:17). Previous research and investigations have revealed past Maori occupation with both pa sites and sites associated with Maori horticulture predominating, and with many of these sites clustered around the Waikato River.

A report on the state of pre-European Maori garden sites in Waipa District was undertaken in 2013 (Gumbley and Hutchinson 2013). Sites were identified remotely through identification of borrow pit features on 1943 aerial photographs. The results indicated that

these sites were most commonly found near the Waikato River with 78% of the identified sites located within 1km of the river and 51% within 500m. With regards to Cambridge and North Leamington, the same study found that whilst approximately 80% of borrow pits were found to be within 1km of the Waikato River, these features were also still found to occur in high numbers up to 3.5km north of the river and 3km to the south of the river (Gumbley and Hutchinson 2013:29). Due to this variation in the normal patterning of Maori horticultural sites in the Waikato, it has been suggested that Cambridge and its immediate surroundings ‘are important for understanding patterning in the chronology and distribution of Maori horticultural sites in the broader Waikato’ (Gainsford and Gumbley 2020:3).

Identification of the distribution of gardening soils through the study of soil maps has been undertaken in the past and whilst they have been found to be useful in a general sense, the data used to compile these maps have been found to be insufficient to identify individual areas of gardening soils that in turn would identify a discrete archaeological site. An example is provided in Gumbley and Hutchinson 2013 (p.14), which shows the results of the extent of gardening soils identified through an intensive archaeological auger survey from 2013 overlaid on the extent of gardening soils derived from soil data (shown in Figure 12). As can be seen in the figure, the soil map does provide guidance on the locations of gardening soil, but a more intensive and systematic archaeological survey is required to identify localised distribution of gardening soils. A more recent example of information gained from auger survey is from site S15/639, which was recorded as a single borrow pit identified from a review of aerial photographs. This site is located on a similar landform, i.e. a high flat area along the edge of a gully, c.2.5km to the west of the Project Area. The survey, which included 254 auger samples, was able to detect three discrete areas of gardening soils through the presence of elevated levels of sand and gravel in the upper portion of the soil profile. As well, two additional borrow pits were also identified (NZAA Site Record).

The detailed mapping of the borrow pits and surrounding garden soils has increased our understanding of the pre-European archaeological landscape in the broader Waikato region, including Waipa District, although more detailed information about the individual sites, the relationship between sites and how they fit into the overall archaeological landscape can only be provided through archaeological investigation, which is discussed below.

Previous Archaeological Investigations

Archaeological monitoring was carried during subdivision development works at S15/465. The site is located along the Waikato River and c.560m west of the northern part of the Project Area. This site was originally recorded as a single borrow pit during the review of the 1943 aerial photographs. The results of the monitoring showed that a large number of subsurface archaeological features were also present, with 284 recorded during the investigation. The majority of these features were associated with Maori gardening and consisted of 267 bowl-shaped hollows making up the bulk of the identified features. Other features recorded included pits, a linear trench, a charcoal concentration relating to forest clearance, post holes and a rock cache. Radiocarbon dates indicated an occupation date from 1500-1600 AD (Gumbley and Laumea 2019: 33). The results of the monitoring provided information on variation in gardening techniques over time and also geographically, as the bowl-shaped hollows identified at this site represent the

southernmost extent of these features identified at the time of reporting. As well, the dating of this site provides information concerning settlement chronologies in the area, as earlier sites would be expected closer to the river. The radiocarbon dating results for the site placed it from c.1500 to 1600 AD.

Five archaeological sites to the south of the Project Area (from c.100-900m from the southern boundary of the Project Area) have been recently investigated. These are S15/771, S15/772, S15/773, S15/775 and S15/776. These sites are all associated with Maori settlement and horticultural activities and the locations of these sites in relation to the current Project Area is shown in Figure 10. It is noted that these sites are located c.3km to the south of the Waikato River and, as mentioned previously, this distance from the river is not typical of such sites in the Waikato.

The investigation of S15/771 focussed on the evaluating the different components of the living area and the relationship between an occupation area (kainga) and associated gardening areas. A total of 185 features were recorded during the investigation with the majority related to the occupation area in the form of post holes and fireplaces. As well storage pits were identified along with gardening soils (Gumbley, Laumea and Gainsford 2020a). The main aim of the investigation of S15/772 was to evaluate the distribution and condition of gardening soils that were identified during a previous auger survey and investigate the borrow pits present (Gumbley and Laumea 2020: 14). The other features recorded included pits, charcoal patches, fireplaces and post holes (Gumbley and Laumea 2020: 20). During the investigation of site S15/773 gardening soils were identified. Nineteen features were recorded including pits, charcoal patches, fireplaces and post holes. Sites S15/775 and S15/776 were investigated during development of a residential subdivision. The sites were determined to have been highly modified by modern farming. Trenches were machine excavated based on locations where gardening soils were identified during the survey for the assessment. The trenches were c.1-2m wide and 100m in length (Gainsford and Gumbley 2020: 12). Thirty-seven features were identified at S15/775, including fireplaces, postholes, charcoal patches, slots, pits and three areas of gardening soils. The results of the monitoring at S15/776 produced similar results.

Radiocarbon dates for all of five sites indicated a relatively late date of occupation from the late 1600s through the 1700s and probably into the early 1800s, which again adds to the understanding of the chronological settlement patterns in the area, with sites at greater distances from the Waikato River expected to have later dates than those in proximity to the river. It should be noted that the collection of material suitable for radiocarbon dating is an important aspect of the archaeological investigations of Maori horticultural sites. As noted by Campbell in 2012, at that time there was not enough available data to reconstruct the temporal progression of occupation in the wider Waikato Basin (Campbell 2012:57). Although additional data has become available since that time, a full understanding of the temporal progression of settlement and the date of the first occupation has still not been established. The earliest radiocarbon dates available would suggest a date from the mid-14th century at sites S15/639, S15/641 and S15/757 located c.2.5km to the west of the Project Area (Gumbley and Laumea 2018). The activities associated with early occupation are thought to have been forest clearance in desirable gardening areas, as evidence has indicated that the gardens were established in areas formerly covered by primary forest, which became fern land after the gardens were abandoned (Campbell 2012:58).

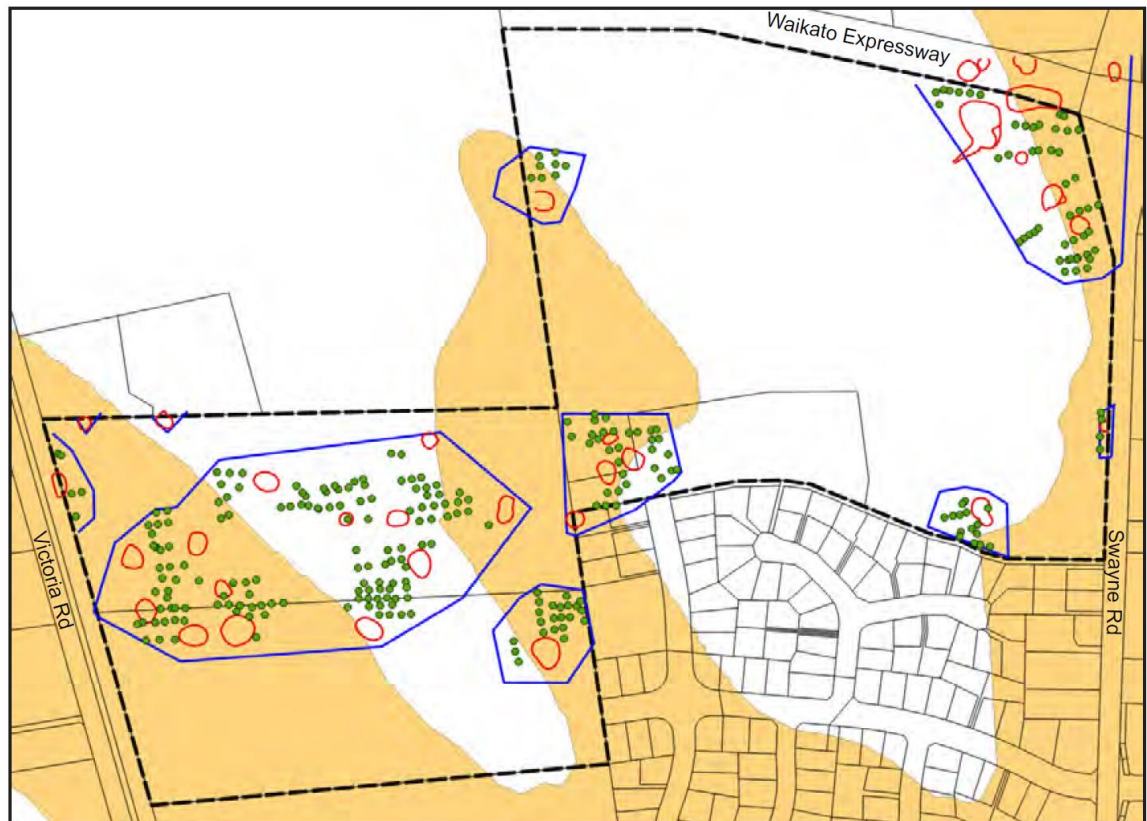


Figure 12. Plan showing the results of an archaeological survey in the Cambridge area (with survey area outlined in black) with extent of archaeological sites indicated by blue polygons, borrow pits outlined in red and auger tests where gardening soils were identified indicated by green dots with yellow shaded area showing the extent of gardening soils based on soil survey data (source: Gumbley and Hutchinson 2013: 14)

PHYSICAL ENVIRONMENT

Geology and Geomorphology

The geology of the Waipa region consists predominantly of volcanic material, including tephra. The geology of the region has been impacted by volcanic events, such as eruptions coming from the Taupo region, depositing large volumes of alluvial material (Waipa District Council 2008). Volcanic features can be found across the Waipa region, an example being Pirongia Mountain, a basaltic-andesite volcanic cone. Along with volcanic events, the region has been shaped by flooding events from the Waikato and Waipa rivers, carving out channels that can be found near the rivers.

The underlying geology of the area, including the Project Area, is known as the Hinuera Formation, which is made up of volcanogenic alluvial deposits. The soil patterns on the Hinuera Formation mimic the earlier alluvial depositional activity with the more well-drained Horotiu soils found on slightly raised ancient channel and bar deposits and the lower-lying and more poorly drained soils (Te Kowhai, Ngaroto and Matangi) on ancient floodplains. The floodplains consist of silt, sand and gravel (the Hinuera Formation) deposited by migrations of the ancient Waipa and Waikato River systems over the past c.100,000 years with deposits up to 60m thick (Figure 13). These ancient alluvial deposits swept around an even older pre-existing hilly landscape, partially burying it and creating a mostly flat alluvial surface with only remnants of the older hills protruding in places (Lowe 2010). The last depositional episode was between 22,000 and 17,000 years ago and the deposits above the surface consist of numerous thin tephra layers (ibid.).

Topography, Vegetation and Land use

The Project Area borders the Waikato River to the north and there is a stream running to the west which branches into two streams just to the south of pa site S15/24. The pa site is situated on the edge of a promontory facing northwest and overlooking the streams. There are steep slopes on the western, northern and southern sides of the pa site that extend to the south and east creating a flat area covered by paddocks to the east and southeast of the pa site. It is in this area where many of the borrow pits within the Project Area have been recorded. This area has steep slopes leading down to a deep and broad gully that cuts across the north central part of the Project Area. The steep slopes also extend to the east of the pa, becoming less steep near the north-eastern part of the Project Area. The land in the northernmost part of the Project Area is undulating for the most part with steep banks down to the Waikato River. Borrow pits were also recorded in this area from the 1943 aerial plan in Figure 11.

The Project Area to the south of the gully can be seen to be fairly flat in the aerial photograph with contours shown in Figure 14. This part of the Project Area is also the most built up with a house, landscaped grounds and stables at 37 Maungatautari Road; a house and farm buildings at 85 Maungatautari Road, where there is also a milking shed and old effluent ponds associated with the property's use as a dairy farm in the past; and a house and landscaped grounds at 97 Maungatautari Road.

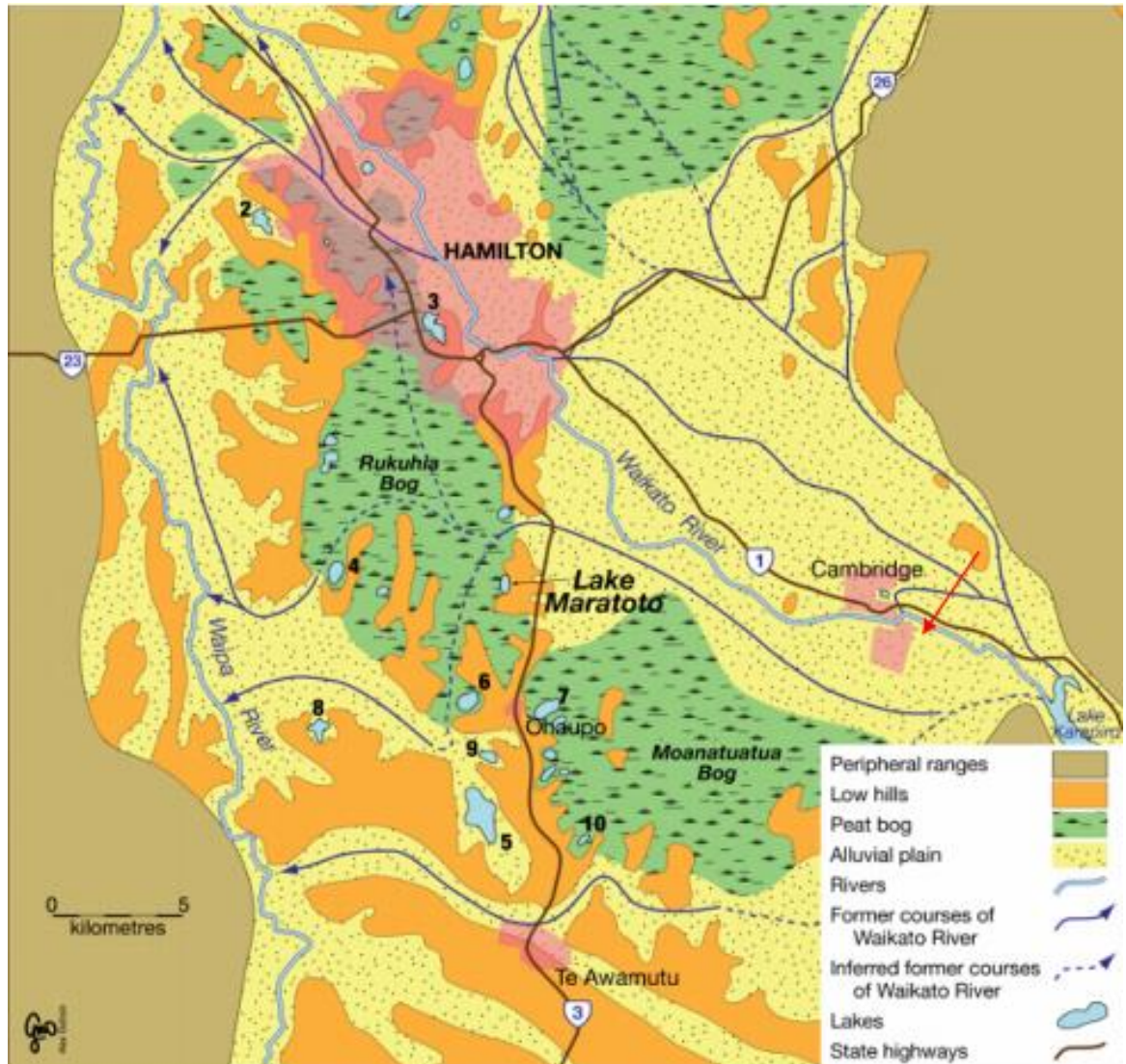


Figure 13. Map showing the modern landscape features in the central and southern part of the Hamilton Basin with approximate location of the Project Area shown by arrow (source: Lowe 2010)

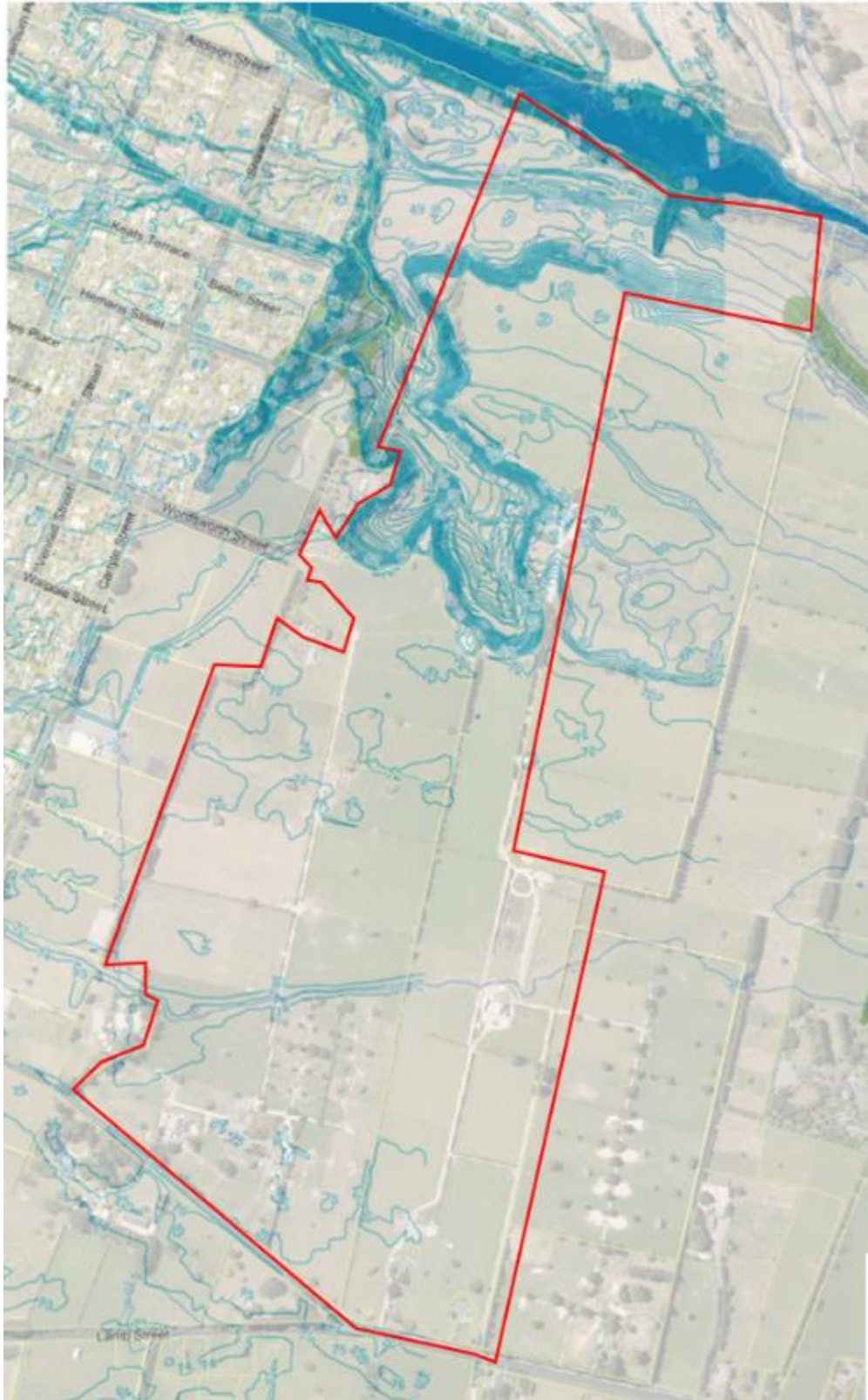


Figure 14. Aerial photograph with contours showing the topography of the Project Area (source: Waipa District Council Intramaps)

FIELD ASSESSMENT

Field Survey Results

A field survey was conducted on 8 March 2021. All parts of the Project Area were accessible, although as the gully was overgrown with vegetation it was not included in the survey. As has been noted, a large number of borrow pits have been identified in the Project Area from inspection of aerial photographs and the survey focussed on these areas to determine if these features could be identified from surface evidence. It should be noted that the results below are not intended to provide a comprehensive record of all of the archaeological remains that are present in the Project Area, but to indicate the current status and general condition of the archaeological sites, and a more detailed survey would be required prior to development to identify areas of gardening soils associated with the sites. According to the landowner a number of depressions that had been present on the property have been filled in and levelled off over the years to prevent stock from injuring themselves. It was also noted that the low terrace bordering the Waikato River in the northern part of the Project Area had undergone modifications from drainage works in the past. Four borrow pits were able to be identified at S15/466 and coordinates were taken by handheld GPS. The Project Area has been divided into four survey areas (for presentation purposes only) as shown on the plan in Figure 15.



Figure 15. Aerial plan of the Project Area showing the four areas identified for presentation of the survey results (source: Waipa District Council Intramaps)

Area 1 (Northern River Terrace)

This area contains two recorded archaeological sites S15/467 and S15/653 (see photographs in Figure 16). No evidence of borrow pits at S15/653 was visible on modern aerial photographs and the absence of surface evidence was reconfirmed during the survey, as no evidence of the recorded pits was able to be identified. Between 5 and 10 borrow pits were identified from the 1943 aerial photograph at S15/467. This area was walked over, but no evidence of depressions likely to represent borrow pits was visible. As this area has undergone drainage works and contouring, the surface evidence has been obscured. It is, however, considered likely that subsurface evidence could still be present, as borrow pits are deep features.



Figure 16. Left photograph looking east and right photograph looking northeast in the area where S15/467 and S15/ 653 were recorded

Area 2 (East and Southeast of Pa Site S15/24)

As previously mentioned, the ditch and bank along the south-eastern side of the pa site border the western boundary of the Project Area. These features were observed to still be in a similar state to that described in the NZAA Site Record. The main part of the pa site was not entered as it lies outside the Project Area.

The area to the east of the pa site contains recorded site S15/466, where around 20 borrow pits were identified from a review of a 1943 aerial photograph. Although filling in of depressions and levelling out had taken place in this area, four depressions likely to represent borrow pits were able to be identified, although it is noted that further survey/investigation would be required for confirmation. The locations are shown in Figure 17 and photographs in Figure 18 - Figure 20. The details of these borrow pits are as follows:

- 1) Possible borrow pit feature measuring c.20m x10m at coordinates E1819102 N5802232+-2m. This pit had been filled in and levelled, although a slight depression was still present. It was mainly identifiable by the different vegetation it contained from that surrounding it.
- 2) This feature was located at coordinates E1818987 N5802178+-2m and was located along a fence line. It was roughly rectangular in shape and measured c.10m x 20m and was c.30m in depth.
- 3) and 4) These two possible borrow pit features were located at coordinates E1819006 N5802145+-2m. The more southerly pit was larger, measuring c.12m x 10m and c.0.50m in depth. The smaller northern pit measured c.8m x 4m and was c.0.30m in depth.



Figure 17. Aerial plan showing the locations of the depressions considered likely to be borrow pits identified during the survey (source: Waipa District Intramaps)



Figure 18. Photograph showing possible borrow pit 1 (indicated by arrow) looking east



Figure 19. Photograph showing possible borrow pit 2 (indicated by arrow) looking west



Figure 20. Photographs showing possible borrow pits 3 and 4 (indicated by arrows) looking northeast

Area 3 Central Area to the South and East of the Gully

Three archaeological sites had been recorded in this area, one of these sites is fully within the Project Area (S15/533) and the other two are just outside of the Project Area boundaries (S15/534 and S15/657). The recorded location of Site S15/533 was found to be located in paddocks with an undulating ground surface and areas with irregular depressions were present. However, they appeared to be natural features or to have been modified by contouring of the land in this area. No evidence of the three borrow pits recorded from the 1943 aerial photograph could be positively identified. A photograph of the area is shown in Figure 21.

The location S15/534 was found to have been developed for house construction and to lie just outside of the Project Area. No evidence of archaeological features or deposits were observed on the ground surface in the Project Area in the vicinity of this site, however, it is considered possible that gardening soil may be present.

The location of site S15/657 (a single borrow pit identified from a 1943 aerial photograph) was determined through coordinates provided on the NZAA Site Record and also through aerial photographs. The location is outside of the Project Area and it was not entered. The land within the Project Area near this location consists of an access track which borders the gully and archaeological remains associated with this site would not be expected to be present in the Project Area.



Figure 21. Photograph of the paddock where S15/533 was identified through review of aerial photographs, looking southwest

Area 4 Southern part of Project Area

The western part of this area is located at 37 Maungatautari Road and the area bordering the road contains a house, landscaped grounds and buildings associated with the operation of an equestrian business including, stables and small fenced paddocks. The remainder of the property is divided into large, grassed paddocks and an access track runs in a north-south direction from behind the stables through Area 4 and into Area 3. The area just behind the stables was observed to slope down to the paddocks to the north which were for the most part flat on both sides of the access road. The east and west sides of the property were lined with trees and there were a number of isolated willow trees in the paddocks. The southern part of the property at 85 Maungatautari Road is also included in the Project Area. This property contains a house and outbuildings and barns. It was also noted that a paddock in the northeast corner contained an old milking shed and was the site of former effluent ponds from the past usage of the property as a dairy farm and that earthworks had been undertaken in the paddock to fill in the ponds and recontour the land. The remainder of this property contained flat grassed paddocks with horses grazing. A small property at 97 Maungatautari Road is also included in the Project Area, as the property has been modified through house and outbuilding construction as well as landscaping this property was not included in the survey. Photographs taken during the survey are shown in Figure 22 - Figure 26.



Figure 22. Photograph showing paddocks at 37 Maungatautari Road in the southern part of the Project Area, looking north



Figure 23. Photograph looking north into paddocks from behind the stables at 37 Maungatautari Road



Figure 24. Photograph of a paddock in the southern part of the Project Area at 85 Maungatautari Road, looking southwest



Figure 25. View of the modified paddock that contained effluent ponds associated with dairying, looking southeast



Figure 26. Photograph looking south along the access track at 85 Maungatautari Road

DISCUSSION AND CONCLUSIONS

Summary of Results

Seven archaeological sites have been previously recorded within or bordering (and possibly extending into) the Project Area and all are associated with Maori occupation and gardening activities. A desk-based review and a survey were undertaken as part of this preliminary assessment to gather background information and to make note of the current status and condition of the sites. The review and survey had the following results:

- Borrow pit sites S15/467 and S15/653 are located on a terrace along the northern boundary of the Project Area. The area had been modified through drainage and contouring works and no surface evidence was visible. As borrow pits are often deep features and associated with additional archaeological deposits and features, subsurface evidence is considered likely to still be present.
- Pa site S15/24 – the ditch and bank along the south-eastern side of the pa which border the Project Area were observed to still be in a similar state to that described in the NZAA Site Record. The main part of the pa site was not entered as it lies outside of the Project Area
- Borrow pit site S15/466 is located to the east of the pa site. This site covers a large area and around 20 borrow pits were identified from 1943 aerial photographs. Filling in and levelling has taken place over the years to prevent injuries to grazing stock. Four depressions considered likely to represent borrow pits were identified during the survey for this preliminary assessment and additional subsurface evidence of borrow pits, gardening soils and additional archaeological features and deposits are likely to be present.
- No evidence of the remaining three recorded archaeological sites S15/657, S15/533 and S15/534 (all borrow pit sites) was able to be identified during the survey. Based on available information on the locations of S15/657 and S15/534, it is considered possible that they may be situated just outside of the Project Area, although additional subsurface remains, such as gardening soils could be present within the boundaries of the Project Area. The recorded location of S15/533 was found to be located completely within the Project Area and although no surface evidence could be detected, again the presence of subsurface remains is considered likely.

All of the above-mentioned sites are located in the northern and central parts of the Project Area and no sites have been previously recorded in the southern part of the Project Area. The survey for this assessment did not identify any surface evidence of archaeological deposits or features in the southern part of the Project Area. It should be noted however, that archaeological sites associated with Maori horticulture have been recorded just to the south of the Project Area and also to the east and west of the southern part of the project Area. As such, it is considered possible that unrecorded archaeological sites may be present in the southern part of the Project Area even though no surface evidence remains.

Maori Cultural Values

This is an assessment of archaeological values and does not include an assessment of Maori cultural values. Such assessments should only be made by the tangata whenua. Maori cultural concerns may encompass a wider range of values than those associated with archaeological sites.

Survey Limitations

It should be noted that archaeological survey techniques (based on visual inspection and minor sub-surface testing) cannot necessarily identify all sub-surface archaeological features, or detect wahi tapu and other sites of traditional significance to Maori, especially where these have no physical remains.

It should be noted that identification of archaeological remains associated with Maori horticultural sites prior to topsoil stripping is often not possible and random subsurface testing is likely to miss most if not all associated features that may be present. Soil augering in a systematic manner can be helpful in defining the extent of gardening soils and could be implemented at a later stage of the development.

Archaeological Value and Significance

The Waikato Regional Policy Statement (RPS) identifies several criteria for evaluating the significance of historic heritage places. In addition, Heritage NZ, has provided guidelines setting out criteria that are specific to archaeological sites (condition, rarity, contextual value, information potential, amenity value and cultural associations) (Heritage NZ 2019: 9-10). Both sets of criteria have been used to assess the value and significance of archaeological sites S15/466, S15/467, S15/533, S15/534, S15/653 and S15/657 which have been evaluated collectively in Table 2 and Table 3 as they are all Maori horticultural sites recorded as borrow pit sites from aerial photographs. S15/24, the pa site, has been evaluated separately, with results in Table 4 and Table 5.

The archaeological value of sites relates mainly to their information potential, that is, the extent to which they can provide evidence relating to local, regional and national history using archaeological investigation techniques, and the research questions to which the site could contribute. The surviving extent, complexity and condition of sites are the main factors in their ability to provide information through archaeological investigation. For example, generally pa are more complex sites and have higher information potential than small midden (unless of early date). Archaeological value also includes contextual (heritage landscape) value. Archaeological sites may also have other historic heritage values including historical, architectural, technological, cultural, aesthetic, scientific, social, spiritual, traditional and amenity values.

It should be noted that the borrow pit sites were originally recorded from a review of aerial photographs and classified as borrow pits as this was the feature most easily identified remotely. Previous investigations have shown that these sites usually contain gardening soils and additional archaeological features, such as bowl-shaped hollows, storage pits, fireplaces and charcoal deposits. As such they have been evaluated not as a single feature site type (borrow pits) but as Maori horticultural sites containing borrow pits. Overall, the borrow pit sites are considered to have moderate archaeological value based on the criteria discussed, relating mainly to information potential as investigation of these sites can

increase the existing knowledge of Maori horticultural processes in the local area and how this relates to similar sites in the broader region. As well, material suitable for radiocarbon dating is often present at these sites and can be used to provide information on how Maori settlement patterns developed over time in the Waikato, a subject which is not clearly understood at present. They are a common site type in the area, however, and have little amenity value.

Overall, the pa site is considered to have high value based on the site type, degree of preservation and information potential.

Table 2. Assessment of the archaeological values of sites S15/466, S15/467, S15/533, S15/534, S15/653 and S15/657 (borrow pit sites) based on Heritage NZ criteria (Heritage NZ 2019: 9-10)

Value	Assessment
Condition	The landscape in the Project Area has undergone varying degrees of modification through farming practices and residential development. The best-preserved features are in the area to the east of the pa site. It is also noted that most of the borrow pit features have been damaged through filling in and levelling. However, it is considered likely that even where past impacts have damaged the upper layers, deeper archaeology and features are likely to have survived. Previous investigations have shown that these sites are associated with gardening soils and usually with archaeological features such as bowl-shaped hollows, storage pits, fireplaces and charcoal deposits. However, the full extent and condition of features associated with the sites cannot be determined prior to topsoil stripping
Rarity	The sites are not rare as Maori horticultural sites containing borrow pits are a very common site type in the area.
Contextual value	The borrow pits are associated with an archaeological landscape of Maori settlement and horticulture in the local and regional area.
Information potential	The formation and usage of borrow pits is well understood and it is not considered likely that the archaeological sites would contribute any new or significant information to the site type. However, the recording of information on Maori horticultural features such as borrow pits and associated gardening soils does have potential to lead to a better understanding of the archaeological landscape of pre-European Maori occupation in the Waikato along with providing information to increase our understanding of variation and innovation of Maori horticultural practices both temporally and geographically. As well, it has been noted that dates of early settlement and occupation patterns in the Waikato are not well understood and that archaeological sites associated with Maori horticulture have the potential to contain material suitable for radiocarbon dating, which could add to the understanding of these processes and also for establishment of the earliest dates for gardening sites in the Waikato.
Amenity value	The borrow pits are situated on private land, have mainly been infilled and have little surface expression/amenity value.
Cultural associations	The sites have Maori cultural association. The cultural significance of the sites is for tangata whenua to determine.
Other	No other values have been identified.

Table 3. Assessment of the heritage significance of sites S15/466, S15/467, S15/533, S15/534, S15/653 and S15/657 (borrow pits) based on the Waikato Regional Policy Statement (Section 10A Table 10.1)

Archaeological Qualities	
Information	The sites have moderate potential to provide information on horticultural practices (gardening processes) in the local area and how this relates to the regional archaeological landscape of pre-European Maori occupation in the Waikato. The sites also have moderate potential to provide dating information that could add to the understanding of Maori settlement over time in the local area and along the Waikato River.
Research	It has been noted that the distribution of pre-European Maori horticultural sites in the Cambridge / Leamington area differs from other parts of the Waikato and that investigation of these sites can provide insights into both the local settlement patterns and be used to interpret broader settlement patterns in the Waikato region.
Recognition or Protection	The sites are recorded in the NZAA Site Recording Scheme and as pre-1900 archaeological sites are protected under the provisions of the HNZPT Act 2014.
Cultural Qualities	
Sentiment	The sites are not currently important as a focus of spiritual, political, national or other cultural sentiment. Their Maori cultural value should be determined by tangata whenua.
Identity	The sites are not currently a context for community identity or sense of place and do not provide evidence of cultural or historical continuity.
Amenity or Education	Limited, as the sites are situated on private land and are largely subsurface.
Historic Qualities	
Associative Value	The sites do not have any known direct association with, or relationship to, a person, group, institution, event or activity that is of historical significance to Waikato or the nation, but are generally associated with Maori settlement in the area.
Historical Pattern	If appropriate material is present for dating purposes it could be used to provide information on temporal patterns of Maori settlement in the local area.
Scientific Qualities	
Information	The sites do not have any particular potential to contribute information about an historic figure, event, phase or activity (apart from Maori horticulture, which is addressed under the first heading).
Potential Scientific Research	The research potential of the sites is of an archaeological nature and is addressed under the first heading.
Technological Qualities	
Technical Achievement	The creation of manmade gardening soils was an innovative adaptation to a new environment and the data gathered from archaeological investigation can provide information to increase the understanding of Maori gardening processes.

Table 4. Assessment of the archaeological values of site S15/24 (pa) based on Heritage NZ criteria (Heritage NZ 2019: 9-10)

Value	Assessment
Condition	The site is in good condition with features such as the ditch and bank along the south-eastern side still clearly visible.
Rarity	There are a number of pa sites in the area. It is not a particularly rare site type.

Contextual value	The site should not be considered in isolation, as it is part of a wider archaeological landscape of sites associated with settlement around the Waikato River, a highly desirable area for Maori settlement in the past. Its contextual value lies in its contribution to the wider archaeological landscape of the area, which includes several pa and numerous sites relating to Maori horticulture.
Information potential	This site is in good condition and is likely to contain subsurface archaeological remains which could provide settlement and dating information and contribute to knowledge of Maori settlement patterns in the Cambridge area.
Amenity value	The site is not easily accessible to the public at the current time as access is through private property. However, as the pa site is located in the Cambridge Town Belt Reserve, it has the potential to be included in future heritage trails which would increase its amenity value.
Cultural associations	The site has Maori cultural association. Its cultural significance is for tangata whenua to determine.
Other	No other values were identified.

Table 5. Assessment of the heritage significance of site S15/24 (pa) based on the Waikato Regional Policy Statement (Section 10A Table 10.1)

Archaeological Qualities	
Information	The site is in good condition and likely to contain subsurface archaeological remains that could provide site specific settlement and dating information.
Research	The information recovered from the site would contribute to research into the settlement patterns in the local and wider area.
Recognition or Protection	The site is recorded in the NZAA Site Recording Scheme and is a protected archaeological site as defined in the HNZPT Act 2014.
Cultural Qualities	
Sentiment	The site is not currently important as a focus of spiritual, political, national or other cultural sentiment. Its Maori cultural value should be determined by tangata whenua.
Identity	The site is not currently a context for community identity or sense of place and does not provide evidence of cultural or historical continuity.
Amenity or Education	Limited, as the site is not accessible to the public.
Historic Qualities	
Associative Value	The site does not have any known direct association with, or relationship to, a person, group, institution, event or activity that is of historical significance to Waikato or the nation, but is generally associated with Maori settlement in the area.
Historical Pattern	If appropriate material is present for dating purposes it could be used to provide information on temporal patterns of Maori settlement in the local area.
Scientific Qualities	
Information	The site does not have any particular potential to contribute information about an historic figure, event, phase or activity.
Potential Scientific Research	The research potential of the site is of an archaeological nature and is addressed under the first heading.
Technological Qualities	
Technical Achievement	There is no evidence that the site shows a high degree of creative or technical achievement or is associated with scientific or technical innovations or achievements.

Potential Effects of Future Development

Seven recorded archaeological sites are located in or are likely to extend into the Project Area. These are S15/24, a pa site situated on a promontory projecting out from the western side of the Project Area (largely on the adjacent property in the Cambridge Town Belt Reserve) and six borrow pit sites (S15/466, S15/467, S15/533, S15/534, S15/653 and S15/657) with associated gardening soils likely to be present.

The pa site S15/24 has high archaeological value and should be avoided in future development plans. Provision of a buffer zone (reserve) around this site should also be considered.

As the Project Area is proposed for residential development, it is not considered practical to avoid all impacts on the recorded borrow pit sites, which are spread over a relatively large area. However, as the project is at the planning stage, consideration could be given to partial avoidance of one or two of the borrow pit features, which could be retained and protected in a reserve area within the future development layout, with appropriate interpretation. A suitable location for this would be near the pa site, where it was possible to identify some of the borrow pits making up S15/466. A buffer area around the pa site extending up to and include pit 2 on Figure 17 could be considered.

As the five borrow pit sites are considered to have moderate archaeological value with respect to information potential, the potential effects on the sites (or parts of sites) if they cannot be avoided during future development is considered to be minor and can be mitigated through recording of sub-surface remains and through collection of information (particularly through the recording of Maori horticultural features and the collection of material suitable for radiocarbon dating) under the provisions of the HNZPTA.

Based on historical and previous archaeological research it is also considered likely that additional unrecorded subsurface archaeological sites are located in the Project Area and will be exposed during future development. The remains are expected to be associated firstly, with Maori settlement and horticulture, but possibly with early European settlement as the land was owned and farmed by the Reynolds Family from the late 1870s. Any unrecorded archaeological sites are not expected to be complex in nature and for sites associated with Maori settlement and horticulture they are likely to consist of additional borrow pits, gardening soils, midden and oven remains. As the currently recorded archaeological sites are located in the northern and central parts of the Project Area, this would be the most likely area to find additional sites. However, based on the distribution of archaeological sites associated with Maori gardening being present on all sides of the Project Area, the presence of unrecorded sites in the southern part of the Project Area cannot be ruled out.

As this is a preliminary assessment, once layout and design have been prepared it will be necessary to determine the specific level of effects on both archaeological sites and the broader archaeological landscape and to recommend appropriate mitigation measures. This report should be updated accordingly.

Resource Management Act 1991 Requirements

Section 6 of the RMA recognises as matters of national importance: ‘the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga’ (S6(e)); and ‘the protection of historic heritage from inappropriate subdivision, use, and development’ (S6(f)).

All persons exercising functions and powers under the RMA are required under Section 6 to recognise and provide for these matters of national importance when ‘managing the use, development and protection of natural and physical resources’. There is a duty to avoid, remedy, or mitigate any adverse effects on the environment arising from an activity (S17), including historic heritage.

Historic heritage is defined (S2) as ‘those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, deriving from any of the following qualities: (i) archaeological; (ii) architectural; (iii) cultural; (iv) historic; (v) scientific; (vi) technological’. Historic heritage includes: ‘(i) historic sites, structures, places, and areas; (ii) archaeological sites; (iii) sites of significance to Maori, including wahi tapu; (iv) surroundings associated with the natural and physical resources’.

Regional, district and local plans contain sections that help to identify, protect and manage archaeological and other heritage sites. The plans are prepared under the provisions of the RMA. The Waipa District Plan is relevant to the proposed activity.

This assessment has established that future development in the Project Area has the potential to affect seven previously recorded archaeological sites (S15/24, S15/466, S15/467, S15/533, S15/534, S15/653 and S15/657). There is also potential for additional unrecorded archaeological remains to be present in the Project Area.

An evaluation of archaeological values of the recorded archaeological sites has been prepared and levels of effects have been predicted based on planned future development, which is proposed to be residential. Only one of the sites, S15/24 (a pa site) is listed in Appendix N3 on the Waipa District Plan. It should be noted, however, that all archaeological sites are protected under the provisions of the Heritage New Zealand Pouhere Taonga Act 2014 (see below). Preliminary mitigation measures for the recorded sites are included in this report, but further assessment and detailed mitigation recommendations will be required once future development plans have been prepared.

Heritage New Zealand Pouhere Taonga Act 2014 Requirements

In addition to any requirements under the RMA, the HNZPTA protects all archaeological sites whether recorded or not, and they may not be damaged or destroyed unless an Authority to modify an archaeological site has been issued by Heritage NZ (Section 42).

An archaeological site is defined by the HNZPTA Section 6 as follows:

‘archaeological site means, subject to section 42(3)⁴, –

⁴ Under Section 42(3) an Authority is not required to permit work on a pre-1900 building unless the building is to be demolished.

- (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 43(1)⁵

Authorities to modify archaeological sites can be applied for either in respect to archaeological sites within a specified area of land (Section 44(a)), or to modify a specific archaeological site where the effects will be no more than minor (Section 44(b)), or for the purpose of conducting a scientific investigation (Section 44(c)). Applications that relate to sites of Maori interest require consultation with (and in the case of scientific investigations the consent of) the appropriate iwi or hapu and are subject to the recommendations of the Maori Heritage Council of Heritage NZ. In addition, an application may be made to carry out an exploratory investigation of any site or locality under Section 56, to confirm the presence, extent and nature of a site or suspected site.

At present seven archaeological sites have been identified in and bordering the Project Area. Based on the findings of the background research and survey it is considered likely that other unrecorded sub-surface archaeological remains related to Maori settlement and horticulture and also possibly to early European Settlement may be present. As it will not be possible to avoid effects on archaeological sites during the proposed residential development, an Authority issued under the HNZPTA would be required prior to the commencement of site works. This would also apply to unrecorded archaeological sites in the Project Area.

Conclusions

This assessment has identified existing and potential heritage constraints in the Project Area in the form of seven recorded archaeological sites and the potential for unrecorded archaeological sites to be present. The recorded sites consist of a pa site (S15/24, located largely outside the Project Area) and six borrow pit sites (S15/466, S15/467, S15/533, S15/534, S15/653 and S15/657) extending over the northern and central parts of the Project Area. Although the full effects on archaeological values are not yet known, it is recommended that future development plans should take account recorded archaeological sites and avoid them to the extent possible.

As complete avoidance will not be feasible due to the extensive areas covered by the sites, an authority issued by Heritage NZ would be required before any modification or destruction of the recorded sites (as well as any unrecorded archaeological sites) occurs as a result of future development.

⁵ Under Section 43(1) a place post-dating 1900 (including the site of a wreck that occurred after 1900) that could provide ‘significant evidence relating to the historical and cultural heritage of New Zealand’ can be declared by Heritage NZ to be an archaeological site.

Adverse effects on recorded and unrecorded archaeological sites should be mitigated through archaeological recording and investigation to recover information relating to Maori horticulture and settlement, and this would be a requirement of any authority issued by Heritage NZ.

RECOMMENDATIONS

- Future development plans should take account of the locations of the recorded archaeological sites and ensure that they are avoided to the extent possible.
- Further assessment will be required once plans for the future development have been prepared and this report should be updated accordingly.
- As it will not be possible to avoid all effects on the recorded sites, an Authority must be applied for under Section 44(a) of the HNZPTA and granted by Heritage NZ prior to the start of any works that will affect them or any additional unrecorded archaeological sites that may be exposed during development. (*Note that this is a legal requirement*).
- The tangata whenua should be consulted regarding the potential cultural effects of future development.

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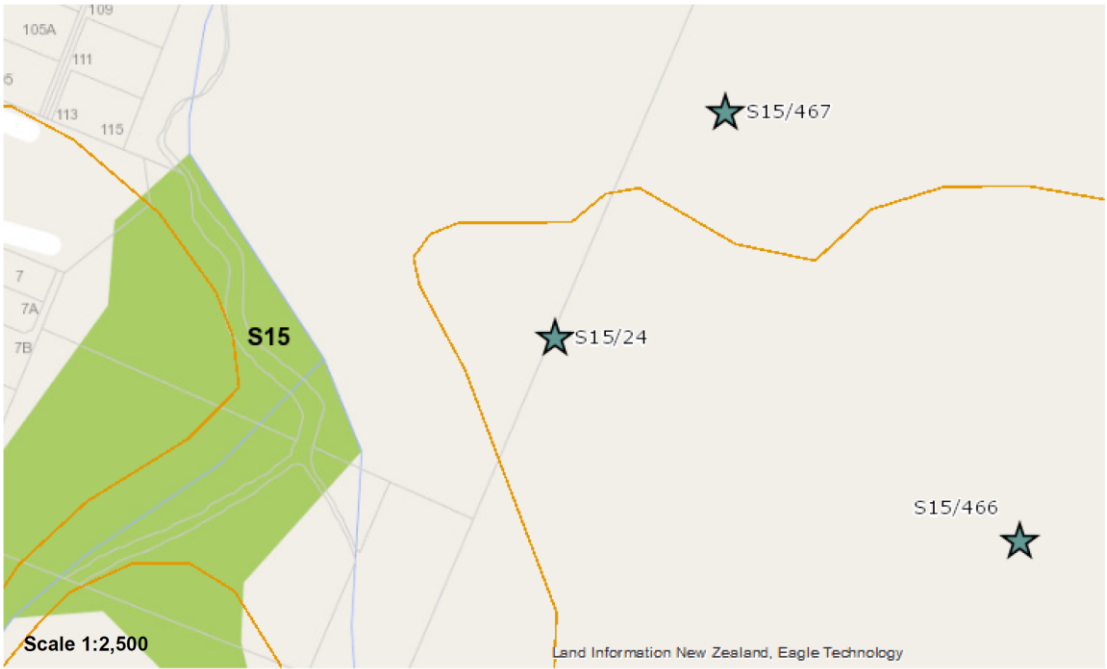
New Zealand Herald 31 January 1928

Waikato Independent 31 January 1928

Daily Southern Cross 29 November 1864

APPENDIX A: SITE RECORD FORMS

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 Site Record Form	NZAA SITE NUMBER: S15/24 SITE TYPE: Pa SITE NAME(s): DATE RECORDED:
SITE COORDINATES (NZTM) Easting: 1818924 Northing: 5802210 Source: On Screen	
IMPERIAL SITE NUMBER: N65/44 METRIC SITE NUMBER: S15/24	
	
Finding aids to the location of the site Leamington, Cambridge. 160m due east and across stream from the end of Upper Kingsley St. Pa is located on the upper river terrace above the junction of two small streams.	
Brief description Triangular pa with 60 m sides, defended by ditch and bank on southeastern side. The pa is located on a promontory formed by the stream gully and the edge of the upper river terrace.	
Recorded features Bank (earth), Ditch - transverse, Ovenstones	
Other sites associated with this site S15/94, S15/96	

Printed by: ellencameron

28/11/2019

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S15/24
Site description Updated: 23/11/2010, Visited: 23/11/2010 - NZTM E1818924 / N5802210 (On Screen). Triangular shaped pa. Site is located on a promontory formed by the stream gully and the edge of the upper river terrace. Each side is 50 to 60 m long. The southeastern side is marked by a single ditch with the remains of a bank on the inside of it. A row of pseudoacacia robinia have been planted on each side of the ditch and fence is on the immediate southeast side of these trees. The interior of the pa is flat. Inspected by: Gumbley, Warren. Condition of the site Location visible on Environment Waikato 2002 aerial photos. Visited O.Wikes 1996. Rough pasture, and acacias, fenced. Farm track up northern side (J. Coster, 2007). Statement of condition Updated: 24/11/2010, Visited: 23/11/2010 - Good – Majority of visible features are intact, but some minor loss of definition and/or damage Current land use: Threats:	

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28/11/2019

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: S15/24
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Supporting documentation held in ArchSite

<u>PHOTOGRAPHS AND SLIDES</u>	
SITE NUMBER N65/44	GRID REFERENCE 991332
NZHT COLLECTION	CENTRAL FILE
	AR 3159 (W.A.M 1980)
	AR 3259 (W.A.M. enlargement of 1943 air photo)

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

C

N Z ARCHAEOLOGICAL ASSOCIATION
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SITE RECORD FORM (Metric)

MAP NO	S 15	SITE NO	24
MAP NAME	Te Awamutu	VISIT DATE	28 Nov 96
EDITION	1	SITE TYPE	Pa
GRID REF	291 639	NAME	??

1. LOCATION Leamington
East of Upper Kingsley St. Best access is by a rough track from end of upper Kingsley St thru the Town Green Belt, across the stream, and up the terrace slope.
2. STATE OF SITE Good. Double row of acacia trees along the ditch and bank. In rough pasture. Could very easily be fenced off from stock. Only real damage is a farm track cut up the northern edge.
3. DESCRIPTION Terrace edge pa.
As described by Neil Laurie. It is located on a terrace-edge headland, between the Waikato and a small steep-banked tributary, bounded by a steep (38 deg) scarp about 25 m high. On the south side this scarp shows loose scree of charcoally soil, ovenstones and pebbles. There is also a very charcoally patch within the pa. The ditch is 1.3 m deep and the inner bank 0.8 m high - a modest fortification by Waikato standards.
Located so close to the Town Belt, this pa deserves some sort of protection as a managed historic site.

4. OWNER ? TENANT ?

5. SOURCE OF INFO Brief visit. [Field notes, p. 1962.]

PHOTOS: Enclosed.

6. REPORTED BY Owen Wilkes
210 River Rd
Hamilton

FILEKEEPER

OW Dec 96

7. NZ Register

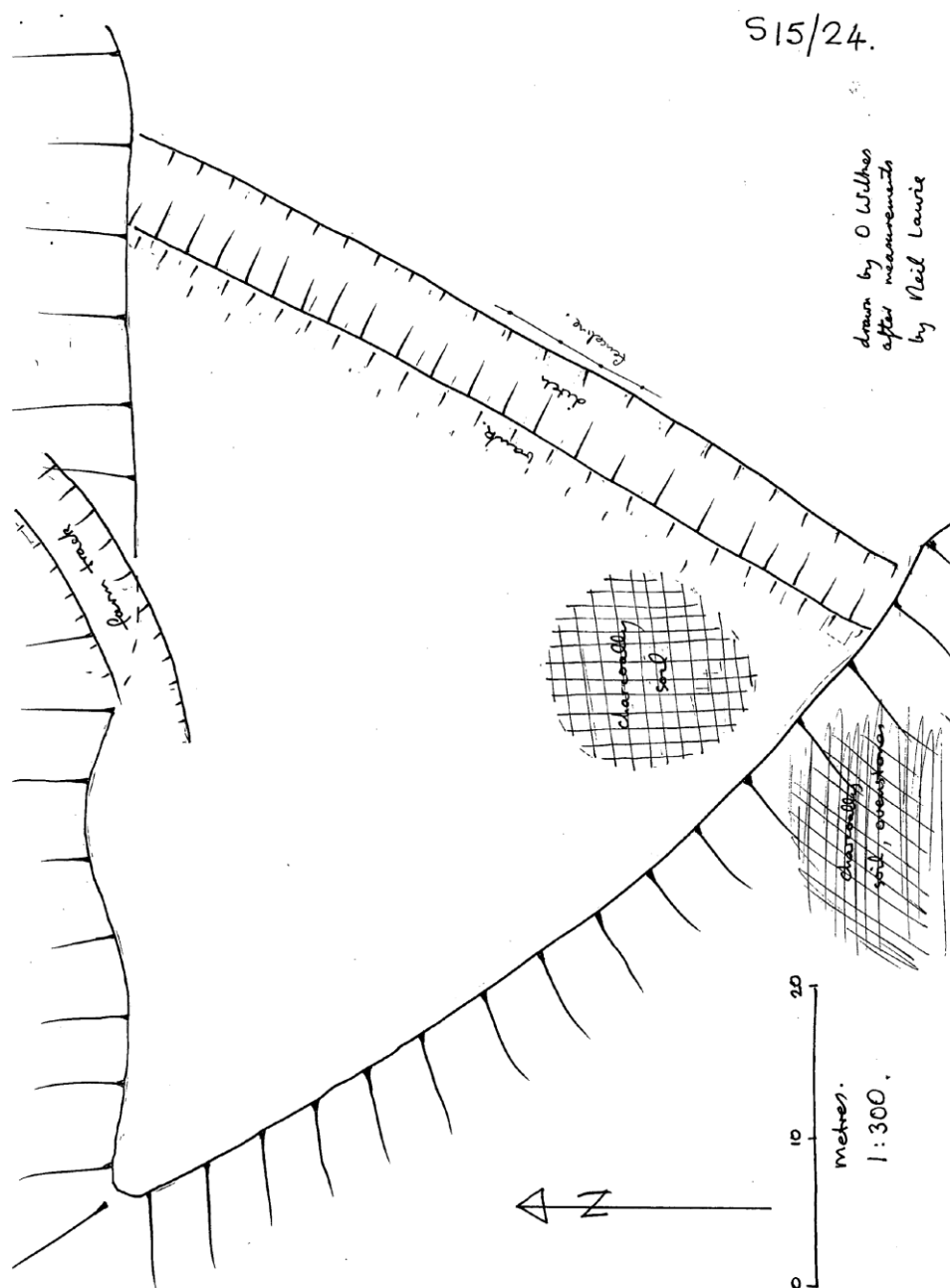
----	Type	----	Condition, future danger
! ! !	Local envmt	! ! !	Local body
! ! !	Land clasfn	----	

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION



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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM		SITE NUMBER N65/44	
Map number	N65	SITE NAME: MAORI	
Map name	Hamilton	OTHER	
Map edition	3rd	SITE TYPE Pa	
Grid Reference	990 332 99/332 4 th ed 1974		
1. Aids to relocation of site South east of Cambridge. Drive to end of road on south side of river, through paddocks to ridge to south east.			
2. State of site; possibility of damage or destruction Deep sditch and bank slowly eroding			
3. Description of site (NOTE: This section is to be completed ONLY if no separate Site Description Form is to be prepared.) Triangular shape flat with northern side 60 metres long on top steep slope - south western side 60m long on top steep slope and a ditch and bank at south eastern side 54 metres long			
4. Owner J & L Watt Ltd Address		Tenant/Manager Address	
Attitude		Attitude	
5. Methods and equipment used visit site - intersection method using two compasses at ends of base line Photographs taken: ~~Yes~~ No (Describe on Photograph Record Form) See Edmon slides Date recorded 30 September 1973			
6. Aerial photograph or mosaic No. 2173/37 & 38 835/62 (1243.)		Site shows: Clearly/badly/not at all	
7. Reported by NC Laurie Address RD 9 Frankton		Filekeeper J. P. Edmon per K. Soutby	
Date 1 May 1974		Date 28/10/76	

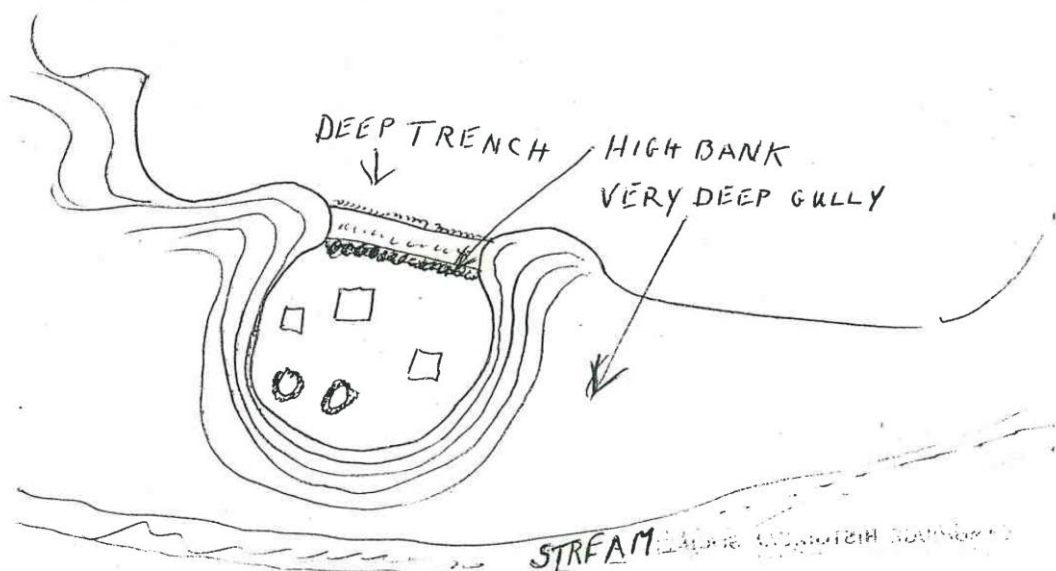
515/24

S15/24

MAP REF. 990 332 HAMILTON SHEET 65

ON MR J. WATTS FARM PUKEKURA.

SITE WAS ORIGINALLY COVERED WITH GORSE BUT
HAS BEEN CLEARED & GRASSED. ONLY TRENCH
REMAINS



R.J. Porter 35 Hall St Cambridge c. 1973.

7 T15
19

C1968

7 T15
94

Recently two members of our group inspected two pa sites in the Cambridge area, one near the golf links is very large and has many divisions by ditch and banks. The pa at present is in standing timber which is to be felled this summer and after the burn off we propose to visit the site again. Two miles away is a hilltop pa surrounded by many long spurs and each of these spurs is densely covered with house platforms, there are hundreds of them, a most spectacular sight and from the top of the stronghold can be seen other pa and more house platforms. These earthworks point to a far greater population than we were first led to believe. This is Ngati Haua country, across the Horotiu (Waikato) is the Ngati Raukawa country, feeding the Horotiu are many sluggish streams still well stocked with eels.

~~Our two site recording ladies have been busy on recently mapped pa and~~



P
E
C



S15/24

124/7, Nov 96.



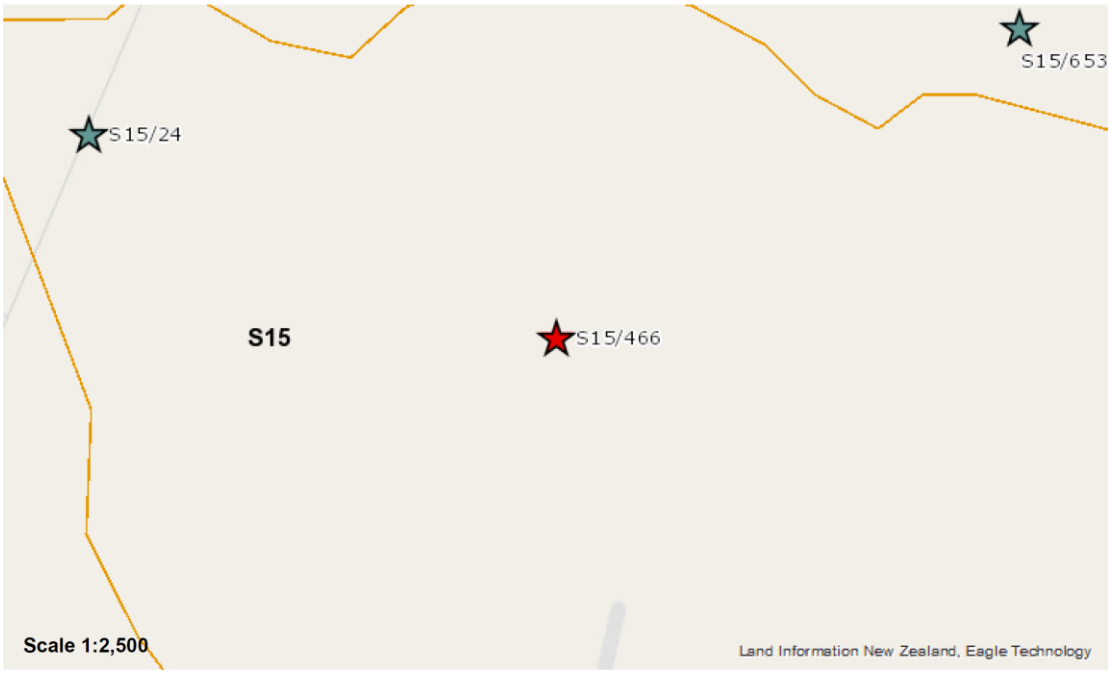
← View toward east
from upper Kingsley
St.



124/5.

View toward east along ditch. Inner bank to left.

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 ARCHSITE archaeological site recording scheme Site Record Form	NZAA SITE NUMBER: S15/466 SITE TYPE: Maori horticulture SITE NAME(s): DATE RECORDED: 23/11/2010
SITE COORDINATES (NZTM) Easting: 1819130 Northing: 5802120 Source: Handheld GPS	
IMPERIAL SITE NUMBER: METRIC SITE NUMBER:	
 Scale 1:2,500 Land Information New Zealand, Eagle Technology	
Finding aids to the location of the site Borrow pits and made soil are located on the upper river terrace east of the the pa S15/24.	
Brief description Borrow pits and made soil.	
Recorded features Borrow pit, Soil - garden, Soil - made	
Other sites associated with this site	

Printed by: ellencameron

05/04/2021

1 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S15/466
Site description Updated 05/04/2021 (Field visit), submitted by ellencameron , visited 08/03/2021 by Cameron, Ellen. Grid reference (E1819130 / N5802120) The area containing the site is currently in pasture and in use for grazing horses. Former use was a dairy farm. Most of the borrow pits have been filled in and levelled out making identification difficult. Four depressions considered likely to be borrow pits were identified during the site visit: 1) Possible borrow pit feature measuring c. 20m x10m at coordinates E1819102 N5802232 +2m. This pit had been filled in and levelled, although a slight depression was still present. It was mainly identifiable by the different vegetation it contained from that surrounding it. 2) This feature was located at coordinates E1818987 N5802178 +-2m and was located along a fence line. It was roughly rectangular in shape and measured c. 10m x 20m and was c. 30m in depth. 3) & 4) These two possible borrow pit features were located at coordinates E1819006 N5802145 +-2m. The more southerly pit was larger measuring c. 12m x 10m and c. .50m in depth. The smaller northern pit measured c.8m x 4m and was c. .30m in depth. It is considered likely that subsurface evidence of the remaining borrow pits and other archaeological features and deposits are still present. A plan showing the locations of the possible borrow pits identified during the site visit has been added to this record. Updated: 23/11/2010 - NZTM E1819130 / N5802120 (On Screen). A number of borrow pits (approximately 20+) are clearly visible in the 1943 aerial photograph 835/62 on the upper river terrace immediately east of the pa S15/24. The borrow pits stretch east of the pa for approximately 400 m east of the pa and up to approximately 250 m south from the edge of the river terrace. 2006 aerial photographs show some borrow pits remain visible. A farm house has been built on the edge of the river terrace and may have had some affect on the site. Update by: Gumbley, Warren. Condition of the site Updated 05/04/2021 (Field visit), submitted by ellencameron , visited 08/03/2021 by Cameron, Ellen. Although the ground surface has been impacted by farming activities and many of the borrow pits have been filled in and levelled. The presence of subsurface archaeological remains is considered likely. Updated: 23/11/2010 - The recent aerial photographs suggest there are some pits still visible on the ground surface. The degree of subsurface preservation will depend on the cultivation regime, particularly whether it has been planted in maize. Statement of condition Current land use: Threats: Updated: 24/11/2010 - Farming practices, Property development, Ploughing/ cultivation	

Printed by: ellencameron

05/04/2021

2 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: S15/466
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Supporting documentation held in ArchSite

Locations of possible borrow pits identified during site visit 08.03.2021. Uploaded by Ellen Cameron.

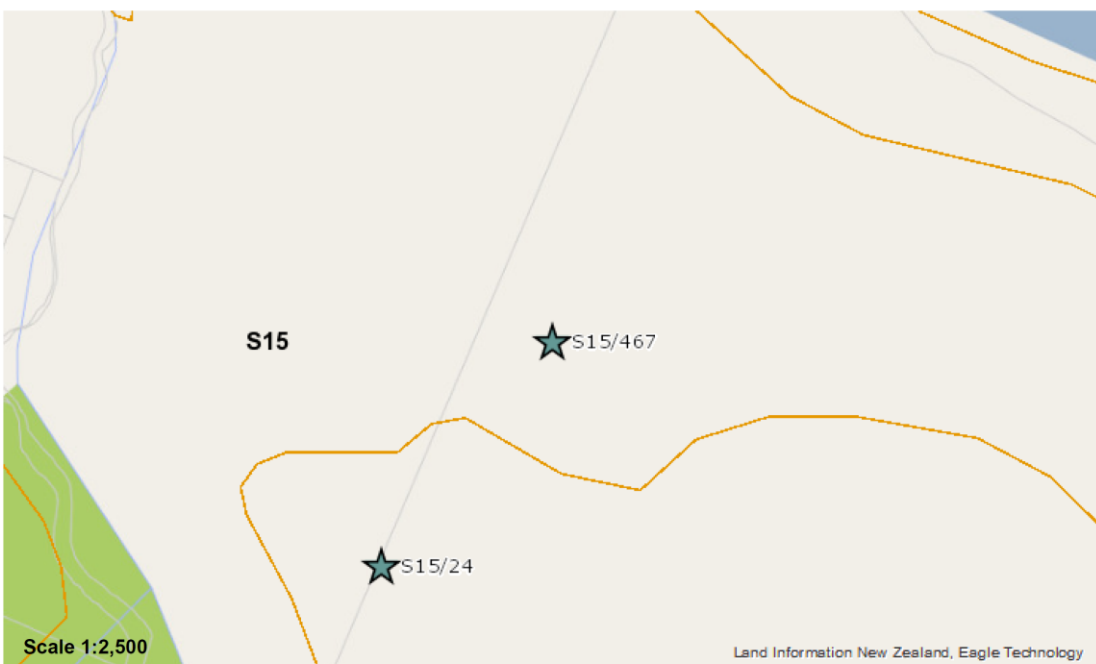


Printed by: ellencameron

05/04/2021

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 Site Record Form	NZAA SITE NUMBER: S15/467 SITE TYPE: Maori horticulture SITE NAME(s): DATE RECORDED: 23/11/2010
SITE COORDINATES (NZTM) Easting: 1819000 Northing: 5802310 Source: On Screen	
IMPERIAL SITE NUMBER: METRIC SITE NUMBER:	
	
Finding aids to the location of the site Site is located on the lower river terrace below the pa S15/24, approximately 200 m east of Upper Kingsley Street.	
Brief description Borrow pits.	
Recorded features Borrow pit	
Other sites associated with this site S15/24	

Printed by: ellencameron

26/02/2021

1 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S15/467
Site description Updated: 23/11/2010 - NZTM E1819000 / N5802310 (On Screen). A series of approximately 5-10 borrow pits are clearly visible in the 1943 aerial photo 835/62. The borrow pits are on the lower river terrace immediately below and north of the pa S15/24. At least one of the pits remains visible in 2006 aerial photo. Update by: Gumbley, Warren. Condition of the site Statement of condition Current land use: Threats: Updated: 24/11/2010 - Farming practices, Ploughing/ cultivation	

Printed by: ellencameron

26/02/2021

2 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: S15/467
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Supporting documentation held in ArchSite

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26/02/2021

3 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 Site Record Form	NZAA SITE NUMBER: S15/533 SITE TYPE: Maori horticulture SITE NAME(s): DATE RECORDED: 26/03/2012
SITE COORDINATES (NZTM) Easting: 1818863 Northing: 5801593 Source: On Screen	
IMPERIAL SITE NUMBER: METRIC SITE NUMBER:	
 Scale 1:2,500 Land Information New Zealand, Eagle Technology	
Finding aids to the location of the site	
Brief description 3 borrow pits in an area of 130 x 20 m, visible on aerial photo SN266/835/62.	
Recorded features Borrow pit	
Other sites associated with this site	

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28/11/2019

1 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S15/533
Site description Updated: 26/03/2012 - NZTM E1818863 / N5801593 (On Screen). 3 borrow pits in an area of 130 x 20 m, visible on aerial photo SN266/835/62. Aerial photo dates from 1943. The site has not been visited and its current condition has not been ascertained. Updated by: Campbell, Matthew. Condition of the site Statement of condition Current land use: Threats:	

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28/11/2019

2 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: S15/533
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Supporting documentation held in ArchSite

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28/11/2019

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 Site Record Form	NZAA SITE NUMBER: S15/534 SITE TYPE: Maori horticulture SITE NAME(s): DATE RECORDED: 26/03/2012
SITE COORDINATES (NZTM) Easting: 1818707 Northing: 5801667 Source: On Screen	
IMPERIAL SITE NUMBER: METRIC SITE NUMBER:	
 Scale 1:2,500 Land Information New Zealand, Eagle Technology	
Finding aids to the location of the site	
Brief description 2 borrow pits in an area of 90 x 20 m, visible on aerial photo SN266/835/62.	
Recorded features Borrow pit	
Other sites associated with this site	

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28/11/2019

1 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S15/534
Site description Updated: 26/03/2012 - NZTM E1818707 / N5801667 (On Screen). 2 borrow pits in an area of 90 x 20 m, visible on aerial photo SN266/835/62. Aerial photo dates from 1943. The site has not been visited and its current condition has not been ascertained. Updated by: Campbell, Matthew. Condition of the site Statement of condition Current land use: Threats:	

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28/11/2019

2 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: S15/534
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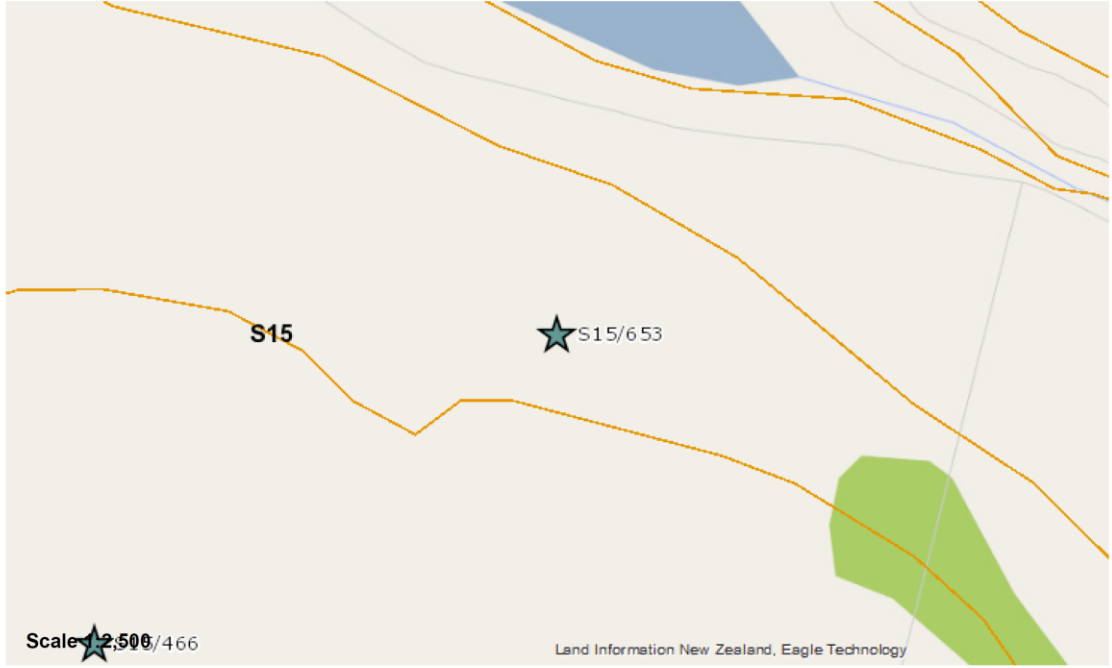
Supporting documentation held in ArchSite

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28/11/2019

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 ARCH SITE archaeological site recording scheme Site Record Form	NZAA SITE NUMBER: S15/653 SITE TYPE: Maori horticulture SITE NAME(s): DATE RECORDED: 26/04/2012
SITE COORDINATES (NZTM) Easting: 1819335 Northing: 5802257 Source: On Screen	
IMPERIAL SITE NUMBER: METRIC SITE NUMBER:	
	
Finding aids to the location of the site	
Brief description Single borrow pit visible on aerial photo SN266/835/62.	
Recorded features Borrow pit	
Other sites associated with this site	

Printed by: ellencameron

28/11/2019

1 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S15/653
Site description Updated: 26/04/2012 - NZTM E1819335 / N5802257 (On Screen). Single borrow pit visible on aerial photo SN266/835/62. Aerial photo dates from 1943. The site has not been visited and its current condition has not been ascertained. Updated by: Campbell, Matthew. Condition of the site Statement of condition Current land use: Threats:	

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2 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: S15/653
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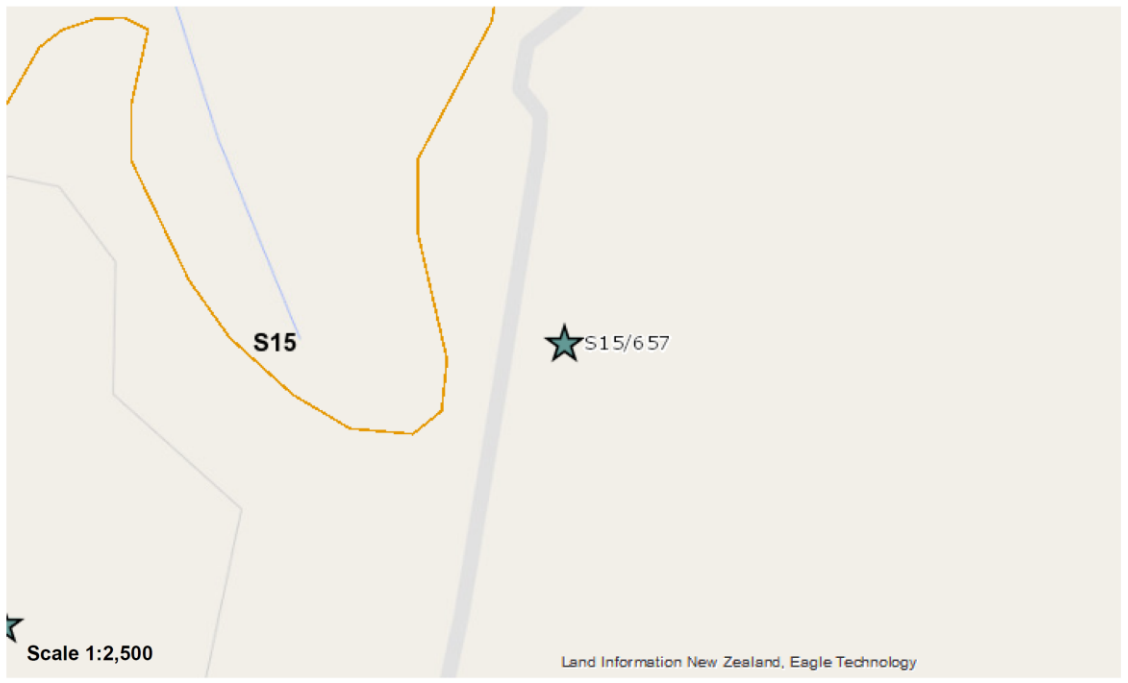
Supporting documentation held in ArchSite

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28/11/2019

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 ARCHSITE archaeological site recording scheme Site Record Form	NZAA SITE NUMBER: S15/657 SITE TYPE: Maori horticulture SITE NAME(s): DATE RECORDED: 26/04/2012
SITE COORDINATES (NZTM) Easting: 1819108 Northing: 5801716 Source: On Screen	
IMPERIAL SITE NUMBER: METRIC SITE NUMBER:	
	
Finding aids to the location of the site	
Brief description Single borrow pit visible on aerial photo SN266/835/62.	
Recorded features Borrow pit	
Other sites associated with this site	

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28/11/2019

1 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S15/657
Site description Updated: 26/04/2012 - NZTM E1819108 / N5801716 (On Screen). Single borrow pit visible on aerial photo SN266/835/62. Aerial photo dates from 1943. The site has not been visited and its current condition has not been ascertained. Updated by: Campbell, Matthew. Condition of the site Statement of condition Current land use: Threats:	

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28/11/2019

2 of 3

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD INVENTORY	NZAA SITE NUMBER: S15/657
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Supporting documentation held in ArchSite

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