

Archaeological assessment of effects

SL1 Houchens

Report prepared for: Chinamans Hill &
Ohaupo Land Patnership



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Summary

Chinaman's Hill & Ohaupo Land Ltd Partnership (Client) through B&A Urban & Environmental (BAUE) commissioned Redox Cultural Heritage Services Ltd (RCHS) to compile this Archaeological Assessment of Effects for a proposed development called SL1 Houchens, 3134 Ohaupo Road, Rukuhia. It affects land parcels: Lot 1 DPS 84715, Lot 2 DP 569695, Lot 4 DPS 59241 & Lot 1 DPS 29779. The area affected is referred collectively in this assessment as the Site; total area for the proposed development is 145 hectares.

The Site has been subject to background desktop study to identify the potential for archaeological sites, features or deposits whether they be recorded or unrecorded within the Site. This was followed up with a site visit to confirm whether features shown in historic survey plans existed. This assessment also includes any/relevant/available historic documents, aerial imagery, historic maps, archaeological reports and archaeological site data held in the New Zealand Archaeological Association database, ArchSite.

Results from the desktop research identified a potential for unrecorded archaeology within the Site. A site visit was conducted to identify whether this unrecorded site was archaeological. As a result, the 'Old Ditch' shown in SO5094 was recorded in the NZAA database ArchSite as S14/510 – Drain/Ditch (pending). Since there is recorded archaeology within the Site it is recommended that an Authority from Heritage New Zealand Pouhere Taonga be applied for prior to any works.

Mana Whenua should also be consulted at an early stage regarding this assessment, the conclusions reached and the cultural effects of the proposed development which can differ from archaeological effects.

Introduction

The Client proposes to undertake a development called SL1 Houchens at 3134 Ohaupo Road, Rukuhia (Figure 1). The proposed development comprises combined residential and industrial development of circa 145 hectares, which will be split into a mix of residential densities and industrial development. The assessment identified that there is a single archaeological site, S14/510, within it, constituting a pre-1900 ditch/drain.

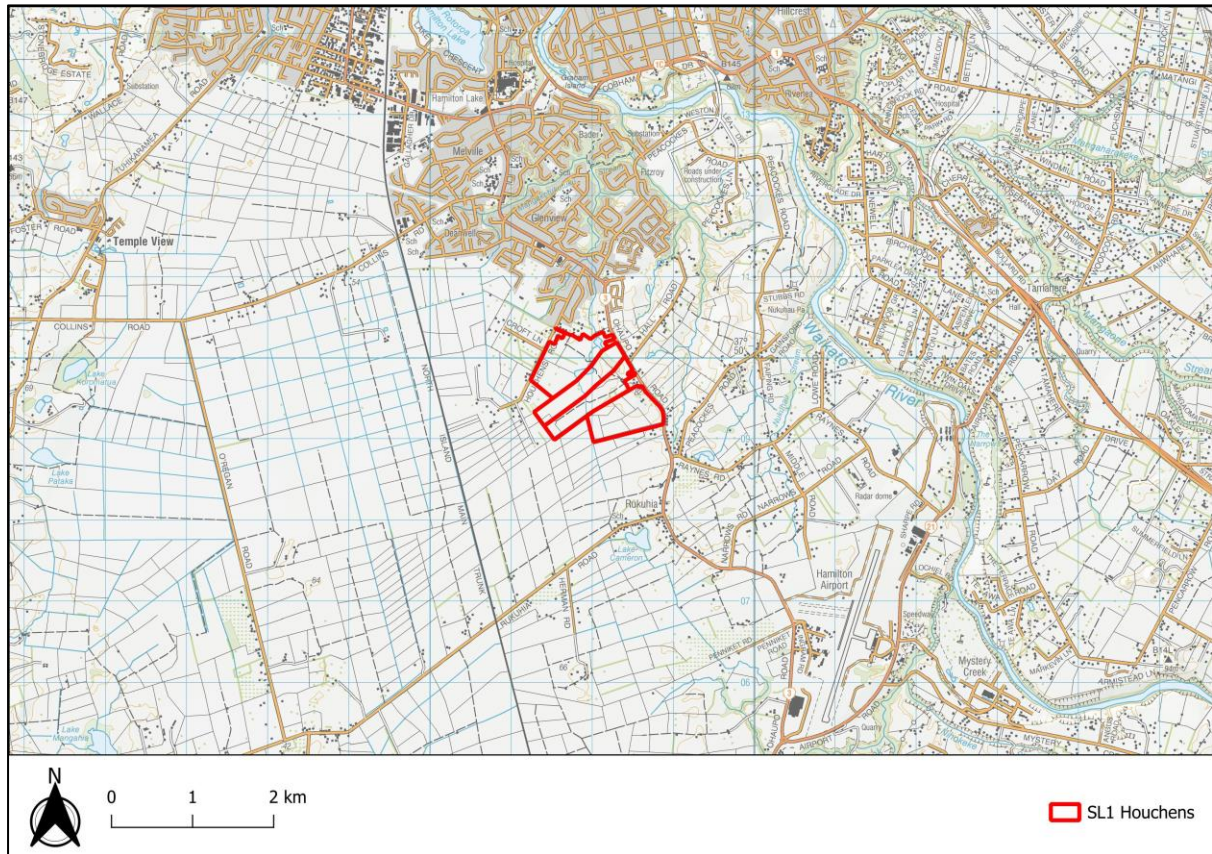


Figure 1. Location for the proposed SL1 Houchens development, 3134 Ohaupo Road, Rukuhia (Site) in the wider landscape (Source: LINZ).

Statutory requirements

The management of archaeological historical and cultural sites and landscapes are controlled by the Resource Management Act (RMA) and its associated District Plans and Regional Policy Statements. Archaeological sites are also explicitly protected through the archaeological provisions of the Heritage New Zealand/Pouhere Taonga Act (NZHPTA 2014). This Act prevents archaeological sites from being modified or destroyed without an Authority from Heritage New Zealand (HNZ).

Waipa District Plan

The Waipa District Plan are documents that describe the objectives and policies, and rules for land use activities and subdivision. The district plan prescribes what, where and how activities can happen as well as protecting buildings, natural features and sites of significance. It is required to achieve the purpose of the Resource Management Act (RMA) 1991.

Part F – District Wide Natural and Cultural Heritage

Section 22 - Heritage and Archaeology

Retaining archaeological heritage

22.2.4 The District's archaeological heritage has not been extensively recorded. Earthworks and the location of buildings in the District present an ongoing challenge to the protection and retention of archaeological heritage. This may result in sites being discovered accidentally, and/or damaged as part of a development.

Objective - Protecting archaeological heritage

22.3.4 To protect the integrity of archaeological heritage items from inappropriate subdivision, use and development.

Policy - Protection of archaeological areas

22.3.4.1 Development shall not be located within the setback from a mapped archaeological area (Appendix N3), if adverse effects on the archaeological area cannot be avoided, remedied or mitigated.

Policy - Archaeological sites

22.3.4.2 To ensure that development does not adversely affect the archaeological resource of the District.

Heritage New Zealand Pouhere Taonga Act (HNZPTA) 2014

The HNZPTA provides blanket protection to all archaeological sites meeting the definition in the Act, whether they are recorded or not. Protection and management of sites is managed by the archaeological authority process, administered by HNZPT. It is illegal to destroy, or modify archaeological sites without an authority to do so from HNZPT.

The HNZPTA 2014 (s6) defines an archaeological site as:

(a) Any place in New Zealand including any building or structure (or part of a building or structure) that:

(i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where that wreck occurred before 1900; and

(ii) provides, or may provide through investigation by archaeological methods, evidence relating to the history of New Zealand; and

(b) Includes a site for which a declaration is made under Section 43(1) of the Act¹.

Any person who intends carrying out work that may modify or destroy an archaeological site, or to investigate an archaeological site using invasive archaeological techniques, must first obtain an authority from HNZPT. The process applies to sites on land of all tenure including private, public and designated land. The HNZPTA contains penalties for unauthorised site damage.

The Resource Management Act (RMA) 1991

Own ¹ Such declarations usually pertain to important post-1900 remains with archaeological values.

The *Resource Management Act 1991* (RMA) requires City, District and Regional Councils to manage the use, development, and protection of natural and physical resources in a way that provides for the wellbeing of today's communities while sustaining the potential of natural and physical resources for future generations. The protection of historic heritage from inappropriate subdivision, use, and development is identified as a matter of national importance (section 6f).

Historic heritage is defined as those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, derived from archaeological, architectural, cultural, historic, scientific, or technological qualities.

Historic heritage includes:

- historic sites, structures, places, and areas;
- archaeological sites;
- sites of significance to Māori, including wahi tapu;
- surroundings associated with the natural and physical resources (RMA section 2).

These categories are not mutually exclusive, and some archaeological sites may include above ground structures or may also be places that are of significance to Māori.

Where resource consent is required for any activity the assessment of effects is required to address cultural and historic heritage matters (RMA 4th Schedule).

Project scope

The SL1 Houchens Development is a combined residential and industrial development that comprises circa 145 hectares, which will be split into a mix of residential densities and industrial development. The residential component comprises circa 55ha of net residential, including 1,300 residential units of varying typologies (including single detached, duplex, terraced apartment), a 400-unit retirement village, along with two supporting mixed-use neighbourhood centres, open spaces, waterbodies and infrastructure devices including wetlands. The SL1 Houchens Development includes a net 25ha of industrial, generating between 24 – 47 industrial sized lots for industrial activities (Figure 2).

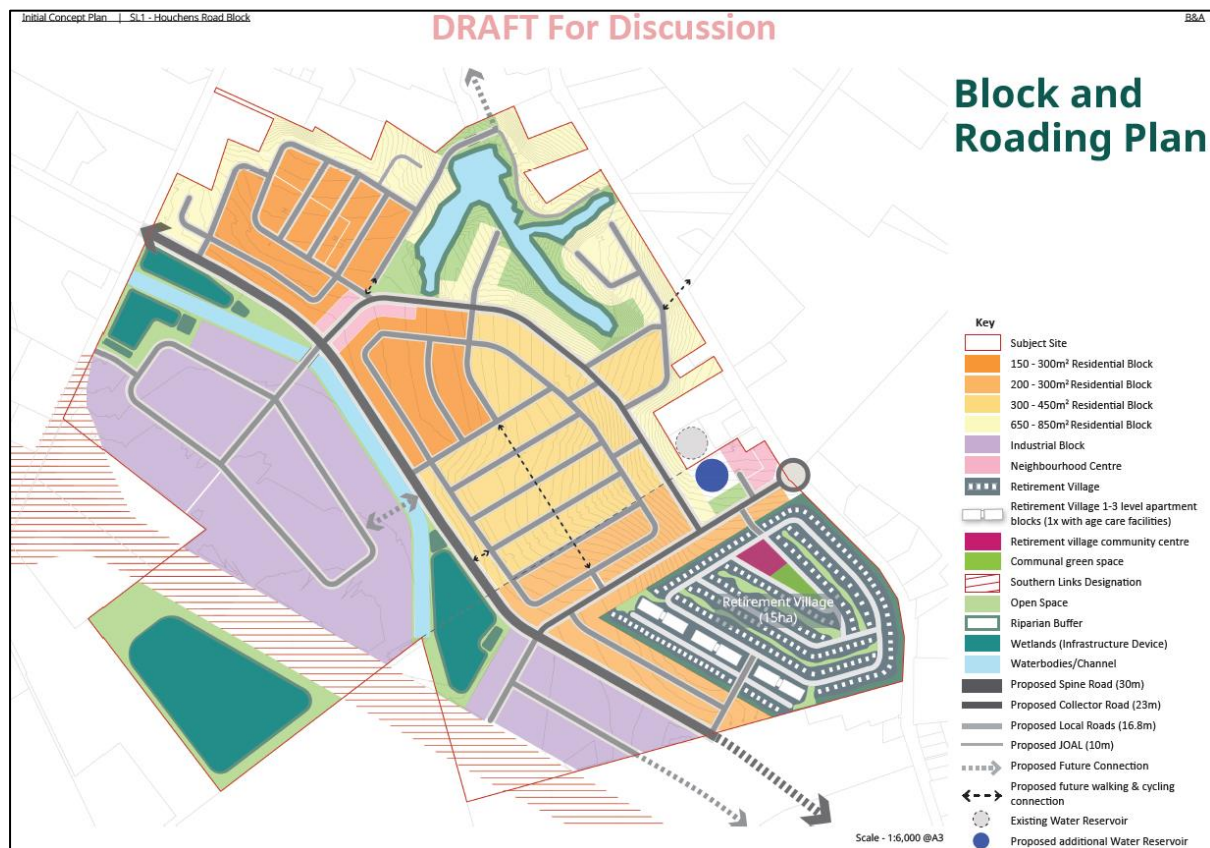


Figure 2. Proposed SL1 Houchens Masterplan (Site) (B&A Urban & Environmental).

The residential development is underpinned by a series of design principles, which focus on creating a well-connected, legible, and diverse community on Hamilton City's urban fringe. The proposed transport network, with a 30-metre-wide spine road running north-to-south, is supported by existing and proposed local roads, cycle connections and pedestrian pathways to create an accessible and legible development. As aforementioned, a range of housing typologies and densities are proposed to meet the growing and changing needs of the housing market to ensure there are options for future residents. Each typology has been thoughtfully located, based on opportunities and constraints, with density ranging from terraced, duplex and detached dwellings to ensure integration with the adjoining urban footprint.

Located on the eastern and central portions of the Houchens Development are neighbourhood centres that will provide a range of amenities and services to support the residential and industrial developments. This neighbourhood centre will likely include commercial properties, childcares, cafés, and a local superette.

Sitting at the lower, southern point of the site is a retirement village that comprises approximately 15 hectares and provides 400 units of varying typologies, including traditional villa and apartment typologies. This will be serviced by its own private transport network, infrastructure, and high amenity open spaces.

On the north-western edge is strategic industrial land that provides key connectivity to the potential Southern Links Houchens interchange, a Road of National Significance (RONS).

The wider SL1 Houchens Development integrates throughout a number of open spaces, waterbodies and wetlands that are well distributed to create a high amenity community that will be a pleasant and enjoyable place to live for future residents. These open spaces, waterbodies and wetlands support ecological restoration through the retention of a number of natural species and riparian revegetation and support broader cultural biodiversity outcomes within SL1 Houchens Development.

The SL1 Houchens Development includes a proposed Water Reservoir, to provide the ability for a long term strategic water asset for Hamilton City Council to be designated.

The development will be appropriately serviced via a robust infrastructure strategy, which includes the addition of a water reservoir to accompany the one already existing, utilisation of existing services and stormwater artificial wetlands

Local environment

The Site area is located within the Hamilton Basin. This landscape has been dominated by the meandering Waikato River, which now entrenched in its current alignment, flows approximately 2.5 kilometres northeast of the Site. Landform comprises flat lowland (former swamp) areas with smaller paleochannels and levees and antecedent hills to the northern and eastern boundaries of the Site. Soil classifications/orders within the Site are identified in soil maps from 'S-map online' as: on flatter lower elevations – Organic – (Green), and on the higher hill elevations, Allophanic – porous with a low density structure (Yellow), Granular – clayey soils from weathering of volcanic rocks or ash (Purple) and Brown (moderately free draining soils with clay (Brown). Drainage classes are identified as Rukuhia (1 – very poorly drained, Pink), Kaipaki (1 – very poorly drained, Yellow) and Hamilton (4 – moderately well drained, Brown). None of these soils are defined as free draining soils and as such have a much lower potential for horticultural sites (Figures 3–4).

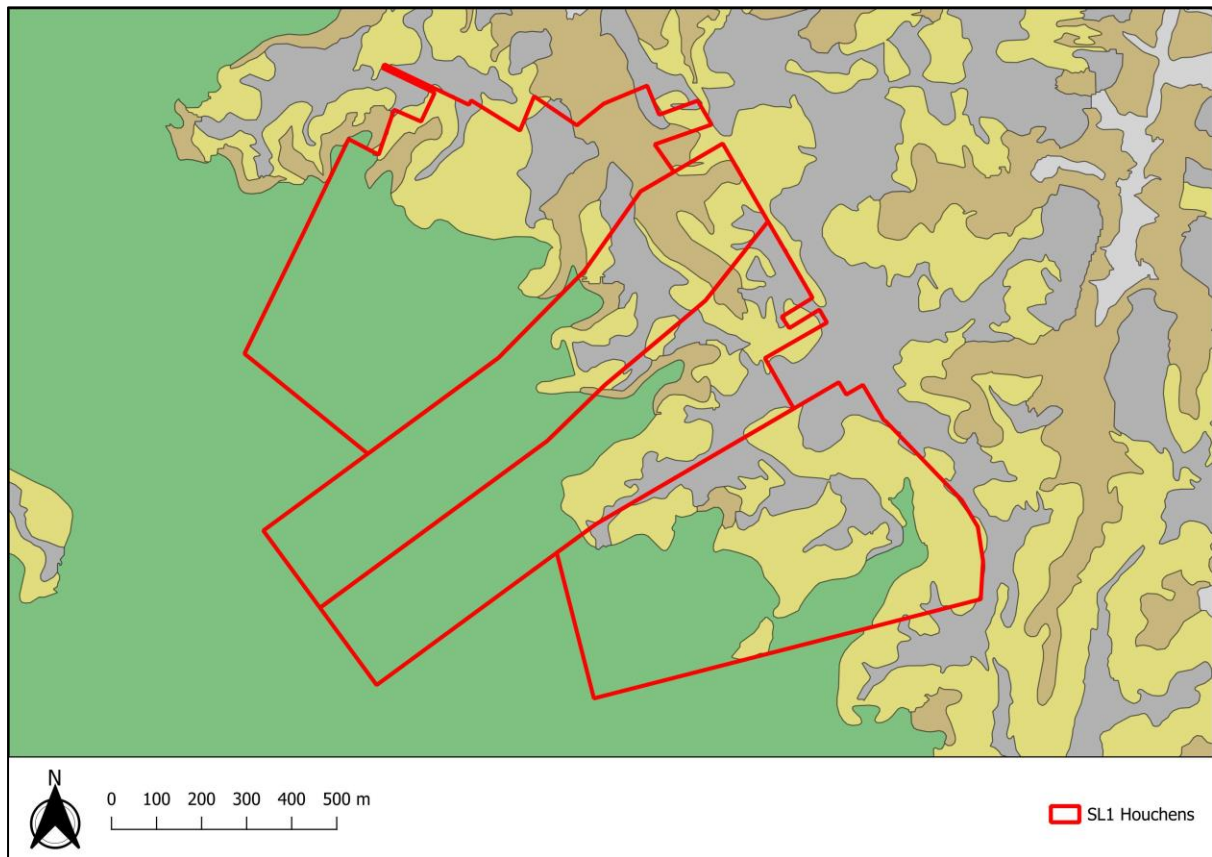


Figure 3. Soil classification (LRIS, S-Map online).

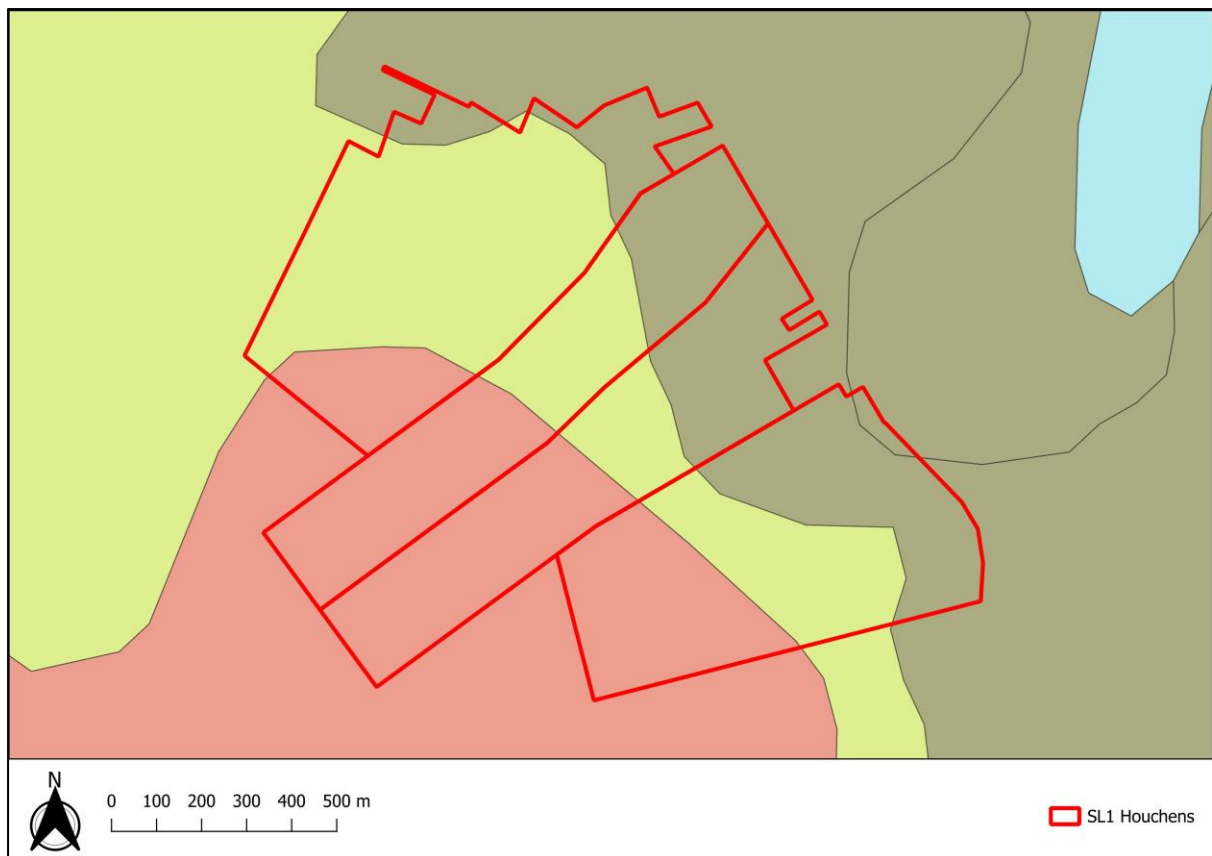


Figure 4. Soil drainage (LRIS, S-Map Online).

Geology of the Middle Waikato Basin

The Hamilton Basin features diverse landscapes and soils shaped by geological and climatic processes over thousands of years. It is characterized by four main landscape units: low rolling hills, alluvial plains, low terraces, and gullies; evolving over more than a million years, with significant geological deposits from volcanic activity (Figure 5).



Figure 5. Map from Lowe (2010) showing the Hamilton Basin.

The Hinuera Formation, consisting of volcanogenic alluvium, is a key feature of this landscape with material forming it through deposition over the last 20,000 years. A key factor in the formation of this landscape is the Waikato River which has changed the landscape through sediment deposition and river migration before its more recent entrenchment.

Both the Waikato River, Oranui eruption and Taupo pumice alluvium (Hatepe Eruption) have caused significant changes to the landscape of the middle Waikato basin, shaping the modern environment (Figure 4). During the last one hundred millennia a meandering braided Waikato River has both eroded and deposited sediment across the landscape. This has transformed the landscape into a rolling somewhat flattened environment made up of gently rolling hills composed of raised levees and depressed swales and lower swamps and lakes. After the Oranui eruption the Waikato was forced to change course being redirected away from the

Firth of Thames into the Waikato basin, and finally through to its current outlet at Port Waikato (deposition occurred between 23,500–17,000 years BP, with the river beginning to entrench in its modern channel around 17,500 BP) (Lowe 2010). The Waikato's high energy braided river system distributed sediment across the Hamilton Basin in various thicknesses and consistencies. This landscape, represented as a braided fan, has now been classified as the Hinuera surface, an accumulation/sequence of deposited tephras since the rivers' entrenchment (Lowe 2010: 5; McLeod 1984:2).

After the rivers final course had settled into the current alignment an eruption at Hatepe (c. 1800 BP) directed a lahar flow down the river (Taupo pumice alluvium-TPA). This created, through erosion and deposition, a series of new river terraces along the banks of the river, which are still visible today (Lowe 2010). Aside from natural modification humans have also significantly modified this landscape.

Within the Hamilton Basin soil types reflect a diverse landscape and soil parent materials, have varying and distinct drainage characteristics. These soil classification units can be divided into differing qualities from volcanic ash, weathering, and soils that have been modified by humans. Well-drained soils usually lie on raised deposits and less freely draining to poorly drained soils in lower down in swales. For the Hamilton Basin key soil series include Horotiu (well-drained), Bruntwood (moderately well-drained), and Te Kowhai (poorly drained). These soil types have direct importance/correlation to archaeology, especially horticulture, and the likelihood for sites. Solis are primarily formed from volcanic ash and alluvium, with varying clay types. Tamahere soils (man made) have also been identified in soil maps. These are anthropogenic and are modified soils used for agriculture, particularly the growing of tubers, such as, kumara (Lowe 2010).

From the effects of climate changes and the recent influx of humans the Basin has undergone significant changes from climatic shifts and human activity. Studies indicate that the original shrubland-grassland changed successively to a broadleaf-podocarp forest circa 17,500 years ago. During the influx of Māori into inner New Zealand deforestation and agricultural practices impacted the environment significantly in a relatively short period of time; this was exacerbated with the later influx of Europeans. As a result of deforestation and climate changes, sedimentation led to the additional formation of lakes and peat bogs (Lowe 2010).

Main soil types within the Hamilton Basin include a variety of parent materials and how they are situated in the landscape (Figure 6). Low rolling hills include Hamilton, Kainui, and Ohaupo series, characterized by weathered tephra and clay-rich profiles. Plains soils such as Horotiu, Bruntwood, and Te Kowhai series exhibit varying drainage and clay types, influenced by alluvial deposits. Low terrace soils, primarily Waikato series, are weakly developed due to their young age from recent flood deposits. Gully soils include Tamahana and Kirikiriroa series, formed from recent sediment and colluvium. Horotiu soil is classified as Typic Orthic Allophanic Soils, indicating its tephric and mixed rhyolitic composition. Te Kowhai soil profile presents a contrasting structure and composition compared to Horotiu soil. It is classified as Acidic Orthic Gley Soils, reflecting its tephric and rhyolitic nature. As mentioned above there are also large areas of organic soils from former peat swamps which have now been drained in the modern era (Lowe 2010).

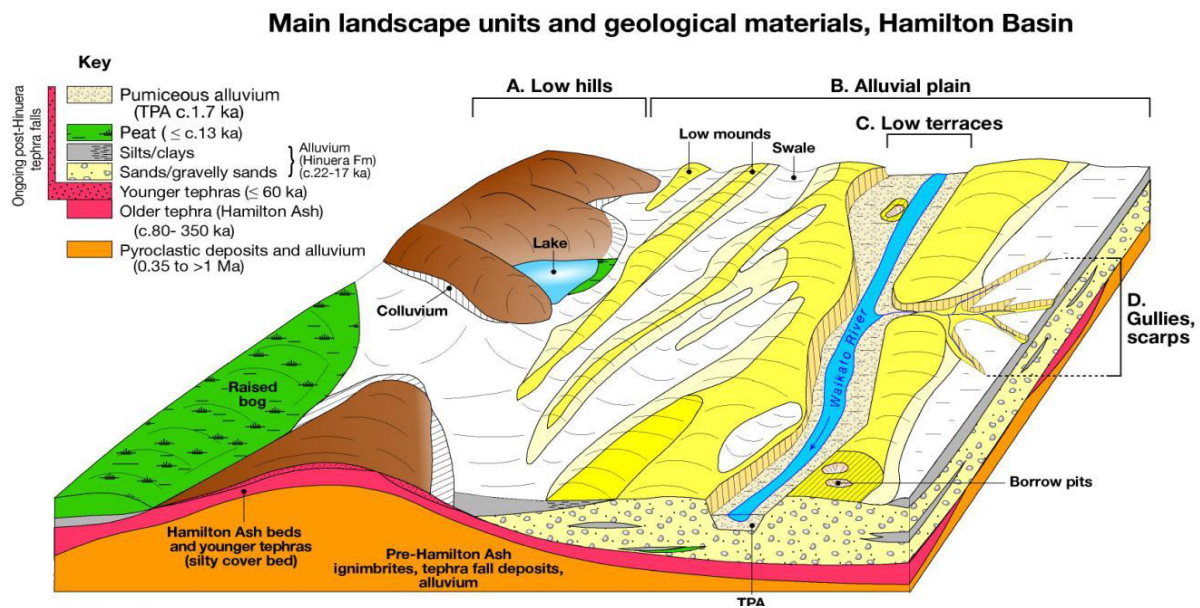


Figure 6. Block diagram showing the principal landform units of the Hamilton Basin (Lowe 2010:4).

Recorded archaeology within the Site and in the immediate vicinity

There are currently no recorded archaeological sites within the Site.

The closest recorded archaeological sites to the Site are the site of a former Militia Cottage (S14/503), a flour mill (S14/102), Farm building (S14/287) and Māori horticultural sites following the Waikato River (more than 1.5 kilometres from the boundary) (Figure 7).

Previous work within the general area (east of SH3) has also been undertaken by the author during an assessment for Northview Capital (W. Gumbley Ltd, date unknown) and an assessment and investigative works for the east-west arterial road called Whatukooruru Drive (Gainsford 2021). Neither of these assessments identified any archaeological sites. There is however pre-1900 European occupation/land use within the Site.

The extensive pre-European Māori horticultural landscape along the river corridor identified by soil maps from the late 1930s onwards (Grange 1939) combined with more modern research by Gumbley and Hutchinson in 2012–3 have identified multiple archaeological sites in the landscape. These were recorded from aerial images from the late 1930s and early 1940s and were identified due to the presence of borrow pits (Gumbley & Hutchinson 2013). Neither the soil maps nor work by Gumbley and Hutchinson have identified any horticultural soils or archaeological sites relating to this landscape within the Site.

The New Zealand Heritage List/Rārangī Kōrero

No heritage sites are identified on the list within or in the immediate vicinity of the Site.

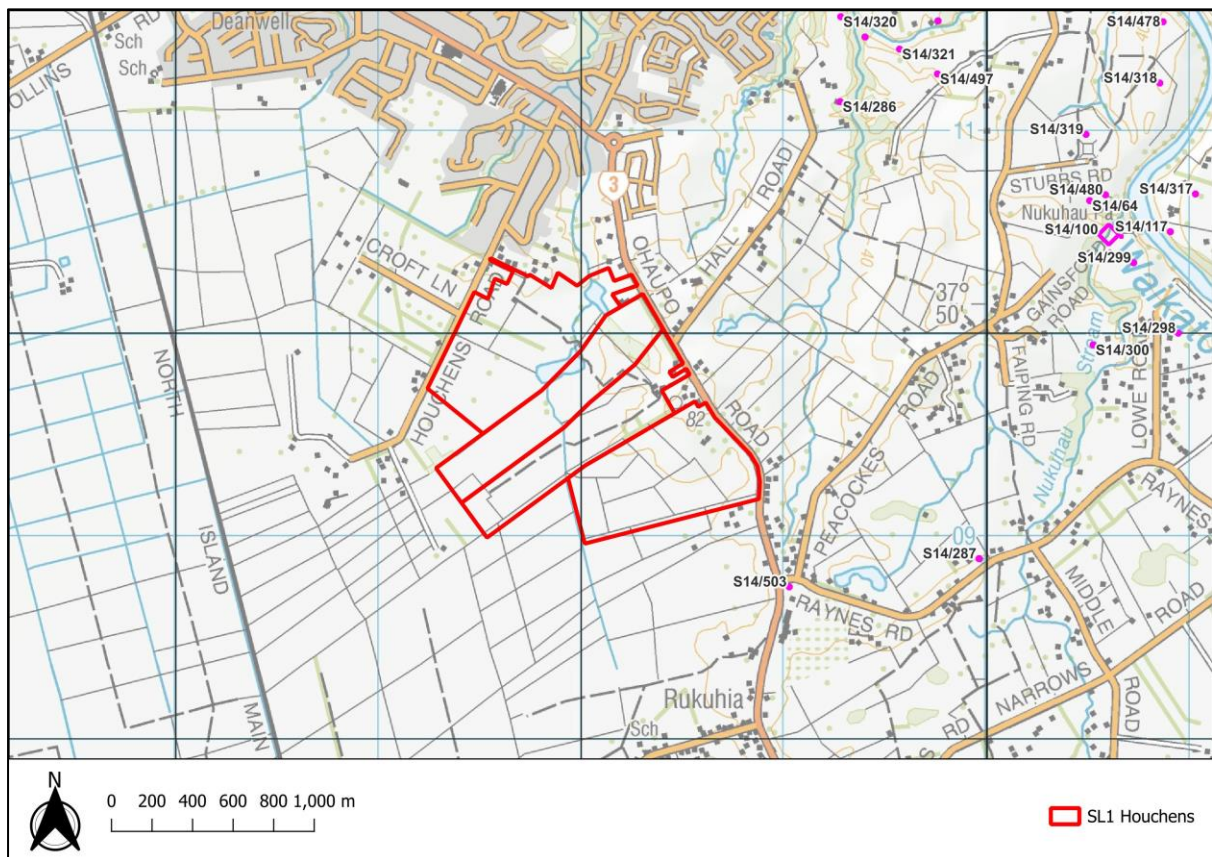


Figure 7. Recorded archaeological sites in the general vicinity of the Site, taken from the NZAA database Archsite in October 2025 (ArchSite).

Historical Background

Māori

Today the Waikato is a much-altered landscape from what it once was with once predominant swamps now drained and vegetation cleared to create pasture and exotic forests. However, major landscape features, especially those for Māori identity remain, for example the sentinel mountains – Taupiri, Karioi, Pirongia, Kakepuku, Maungatautari, Maungakawa, Te Tāpui and Te Aroha, and the Waikato River. Major rivers in the Waikato were initially used for transport and the inland diaspora of Māori as well as European trade and transport. These rivers and their tributaries flow through some of the most productive land in New Zealand.

Waikato is the ancestral region of tribes descended from people who came to New Zealand on the *Tainui* waka (canoe) in the 13th century. The waka, commanded by Hoturoa, explored both coasts of the central North Island before making its final landfall at Kāwhia Harbour. The Tainui people explored the area around Kāwhia and settled there first, before spreading to the north, east and south, absorbing other tribes already in occupation. In later generations, Tainui ancestors founded tribes which spread throughout and beyond the Waikato region. In the Waikato basin the Waikato confederation of tribes settled. During the period of occupation prior to European influence alliances and disputes affected the dynamic between neighbouring iwi. For the Tainui tribes, the harbours, rivers and swamps of Waikato provided food and other resources, and its mountains and ranges were strongholds. Settlements sprang up throughout the region, usually on hilltops or beside lakes. Harbours were traditional centres of population, as were mountains such as Maungatautari. As waka traffic

increased along the rivers during the 1800s, settlements in these areas increased (Swarbrick 2025).

After the initial occupation of coastal New Zealand, the Māori diaspora led inland towards the Middle Waikato Basin. To access the Waikato, navigable waterways and accessible land were used to locate suitable areas for horticulture and occupation; evidenced by the plethora of recorded archaeological sites along the Waikato River, its tributaries and gully systems. Recorded archaeological sites within this landscape are a combination of defensive structures; established at higher elevations to provide a watershed of the area. Pā are also closely linked with surrounding settlements and gardens, utilising the fertile soils adjacent to the river for the cultivation of kumara and other plant species (Gainsford 2025, O'Hagan 2025).

Following the signing of the Treaty of Waitangi in 1840, there was increased pressure on Māori by Europeans to sell their land. In response to increasing European pressure some chiefs decided to unite and stave off the threat to both land, customs and mana. In 1858 the first Māori King was proclaimed at Ngāruawāhia; chief Pōtatau Te Wherowhero. Following this and disputes over land in Taranaki, which Waikato tribes had support, the Government planned an invasion into the Waikato, which led to the wars in the early 1860s. Governor George Grey had accused the Waikato chiefs of disloyalty. Following this he announced his intention to send troops into Waikato on 11 July 1863. A result of the Waikato Wars was that the majority of Māori owned land was confiscated under the NZ Settlements Act (NZSA) 1863 (Swarbrick 2025).

European

Following the first European settlers (traders and missionaries) more permanent Europeans were soldiers who were guarding militia townships, for example, Cambridge. As the war was being fought, the government planned to confiscate Waikato lands and establish defended townships to deter Māori from reoccupying their territory. Settlers earmarked for these areas were part of the Waikato militia, consisting of four regiments recruited from Otago and Australia (1863) with the promise of land grants post-service. Following the wars and disestablishment of the militia (1865–66) and formation of the armed constabulary (1867) to guard the confiscation line, many men were released from service. They were granted land in the region that had been confiscated from Māori under the NZSA 1863. However, this land was usually allotted into 50-acre blocks drawn up on survey plans and mostly turned out to be less ideal for agriculture being inaccessible and swampy. Lots of these allotments were either left, on sold or they were cleared, drained for use. Following the close of the war around circa mid-1864 new towns were surveyed at Alexandra (now Pirongia), Cambridge and the former Māori villages of Kihikihi and Kirikiriroa (renamed Hamilton). Also, former military outposts were also settled at Te Awamutu, Ōhaupō, Whatawhata, Huntly and Ngāruawāhia.

During the early influx of European settlers Māori continued as they had since their arrival into the Waikato. Initially the Waikato was not considered favourable by Europeans for farming or cultivation as it was deemed difficult, too swampy and quite inaccessible. Little land changed hands during this period due to its 'unfavourable' nature. However, Māori with newly acquired agricultural skills, tools and modern farming techniques and crop species (introduced often by Missionaries) changed Europeans perceptions. Māori farming and exports became very successful (Phillips 2014). Most likely this success prompted, to a degree, the British invasion of the Waikato (1863) by the Crown. Land acquired was used for European

settlers and allotted to militiamen. Following the land wars large tracts of Māori owned land were confiscated and allocated to militiamen. Later this land was often sold by the men since they too thought it too difficult to clear and cultivate. This is the case for the site and the surrounding area around Cambridge and Hamilton whereby land was confiscated to be allotted to militiamen men following service (Gainsford 2025, O'Hagan 2025).

Local history

Prior to the arrival of European settlers to the Waikato River was the major transport route for initial exploration, settlement and burgeoning trade (through the 1850s). These canoes were later replaced by steamers during the British expansion into the region, through the Waikato Wars. Part of this British expansion included the 3rd and 4th Waikato Militia Regiments. As with initial settlement the river was the only major route from Auckland into the Waikato. The first settlers were members of the disestablished 4th Waikato Regiment who settled around 1864–1866. They received a 1-acre town section and were also entered into the ballot for one fifty-acre section or more according to rank/station so that they could commence farming the outlying Hamilton district. The area around the Site was identified as South of West Hamilton now known as Rukuhia. A lot of this surrounding land south of Ohaupo Road was identified as the Rukuhia Swamp (Raynes 1981).

Korokonui and Acacia Hill

The land southwest of Hamilton, as with large tracts of land surrounding the town, was divided up for militiamen leaving service/being struck off around 1865-66. The initial division was as 50-acre lots in a reasonably ordered fashion, being drawn directly onto maps.

The proposed development of SL1 Houchens covers to a certain degree the land holdings which are historically referred to as Korokonui and Acacia Hill. These two land holdings are a result of militiamen taking up their farms and quite often realising that the land was difficult to farm, required significant work in clearing scrub, trees and often significant drainage. A lot of these former militiamen left their land selling it other interested parties who amalgamated these into larger landholdings.

In 1866 John Howe Mandeno on his way to Te Awamutu from Auckland came across the farm of D. M. Brown who had 400 acres west of Ohaupo Road south of Mill Creek. As part of this farm Brown had built a house on the hill by the Tirohanga homestead east of Houchens Road (Shown in survey plan DP7975 of 1912). After his demise the farm, which was known as Acacia Hill became to absorbed into the later holdings of R. W. Hammond in 1868.

Hammonds aggregated holdings totalled circa 1000 acres on either side of Ohaupo Road and were mostly rolling grassland aside from Acacia Hill which was mostly swamp. Despite this Hammond probably lived at Acacia Hill around Garden Heights, located north of Ohaupo Road. The properties were used for both crops, such as wheat, as well as running stock e.g. sheep.

Originally a road had been surveyed around the militia farms, but this was absorbed into the larger land holdings since the road only provided access to unviable or unwanted sections, this appears to be a common theme with some roads around the middle of the 1800s. These roads however remained as paper roads for some time afterwards.

The land continued as pastoral and dairy industries until over 300 acres was seized under the Public Works Act by the Department of Agriculture for the establishment of gardens to supply the Armed Forces in the South Pacific. Following the war, it was used as a research facility and became the Government Soil Research Station (Raynes 1981).

Historic plans and aerals

Historic plans

A review of historic survey plans in Quickmap identified several plans of direct relevance to the Site, for example, SO 380_2 (Figure 8), SO381 (1865), SO390 B_1 (Road through Rukuhia Swamp – mid 1800s?), SO 635 (1869), SO 5094 (1888), DP 3801 (1904) & DP7975 (1912). Also, a composite map by Raynes (1981) and, a sketch map by Captain Newell shows various sites and features of interest within and around the Site.

Results of the review identify Militia Allotments ('Farms'), farmstead/homestead buildings, vegetation and roads. Initially the land parcels are shown as the lots issued to militiamen but later representations of this area by Raynes (1981), and others, show these as being transformed into larger landholdings.

Around the southern half, at least, of the Site is marked as swampland. This has subsequently been drained; with the initial draining occurring soon after militiamen took up residence of the land or directly after it was sold (the swamp is best visualised in SO5094 - Figure 10). In SO5094 an 'Old Ditch' is identified and in DP7975 there is a drain and post & rail fence shown. Both follow the same alignment and run along the southern boundary of original militia lots, through the middle of the Site (Figures 8–13).

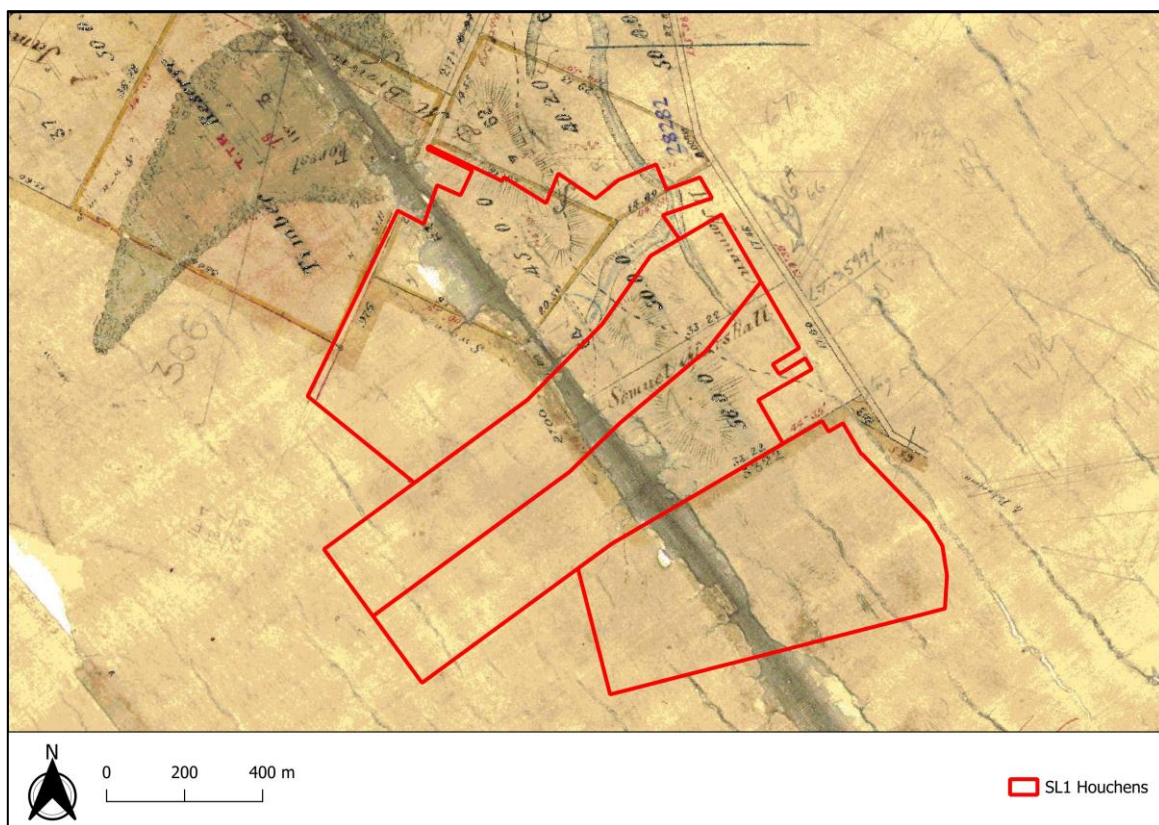


Figure 8. Excerpt from SO380_2 (1865). The area around the southern boundary is identified as swamp (Quickmap).

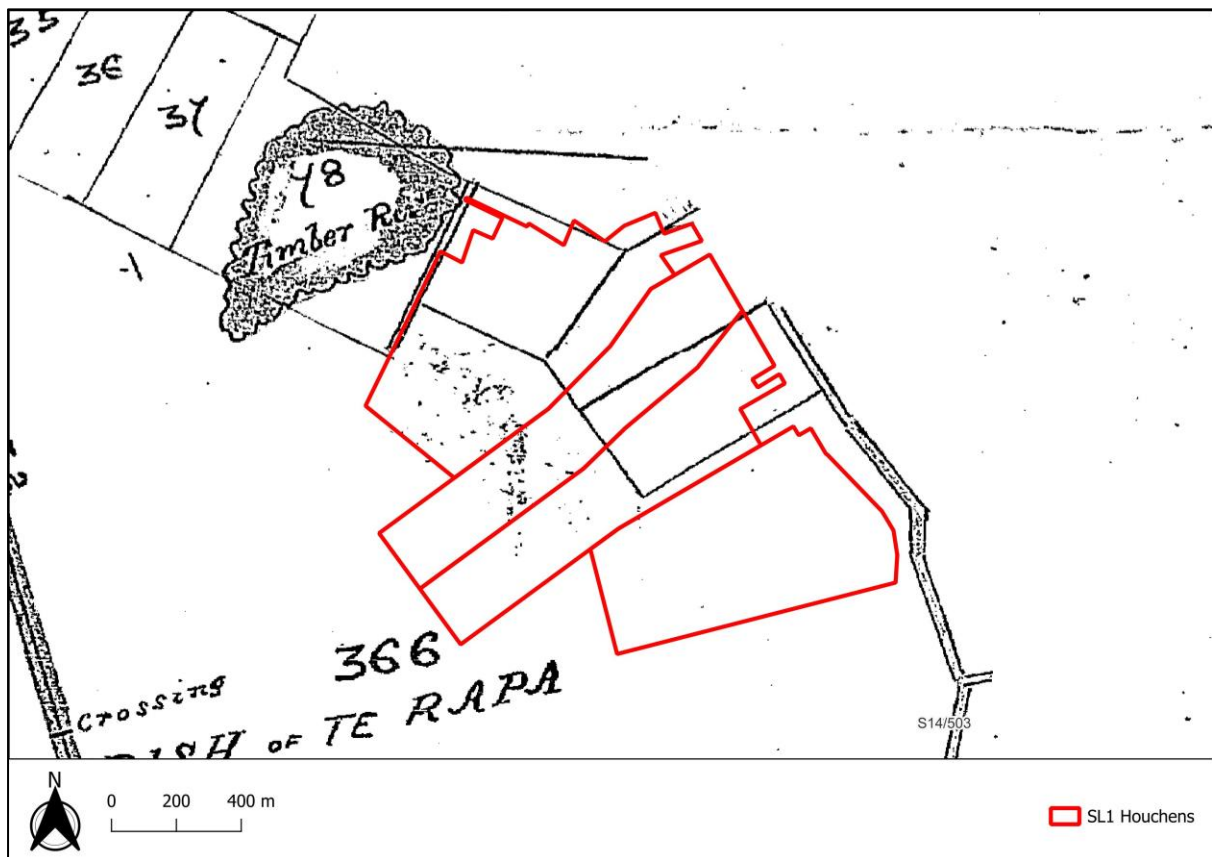


Figure 9. Excerpt from SO 390 B-1, a mid 1800s (?) plan showing the sections, road and timber reserve (Quickmap).

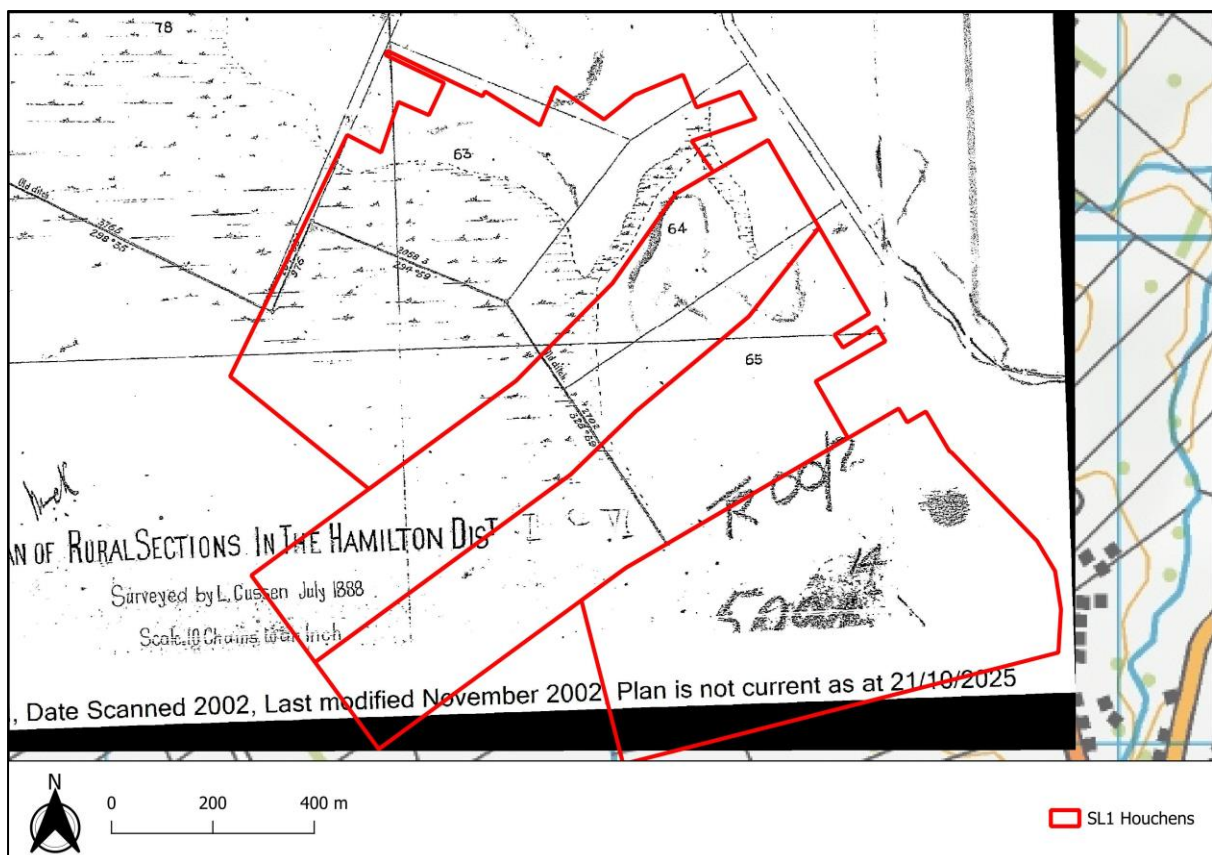


Figure 10. Excerpt from SO5094 (1888). The northern part of the swamp is shown on the map (Quickmap).

There are no structures identified within the Site in the plans, however, one of the old homesteads is shown just outside of the Site to the east on DP 7975 (1912), this is most probably the old homestead for Acacia Hill/Korokonui that was Hammonds.

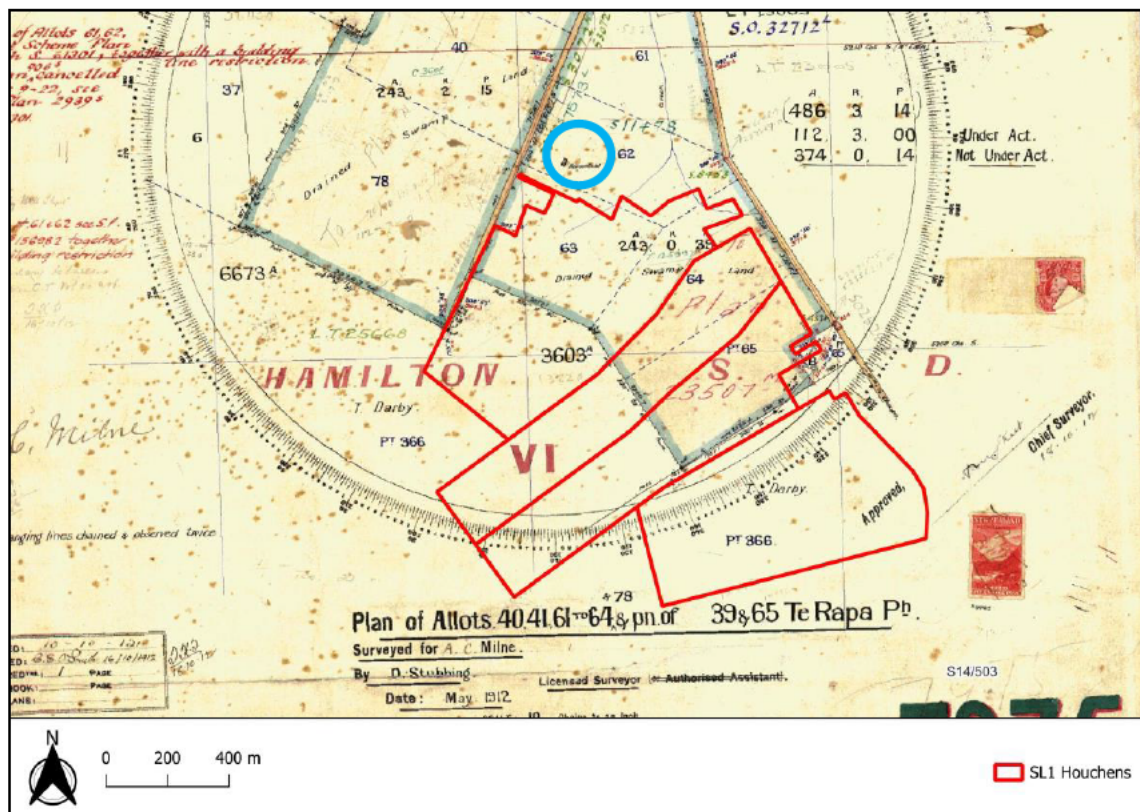


Figure 11. Excerpt from DP 7975 (1912) showing the homestead (Quickmap).

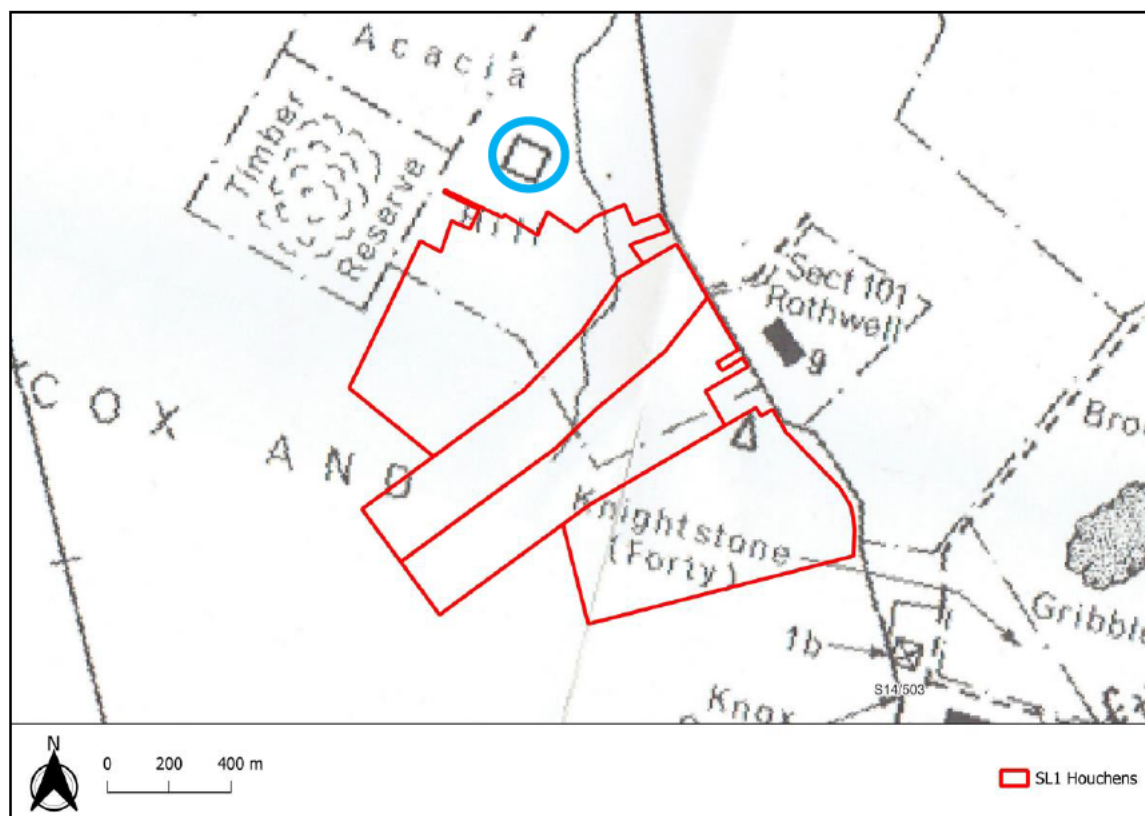


Figure 12. Excerpt from Raynes (1981) composition of the landholdings southwest of Hamilton showing the homestead.



Figure 13. Figure 6. Part of Newall's Sketch Map (Reproduction), 1874. Thought to have been prepared by the military leader Captain Stuart Newall the map shows various sites and features of interest. The map is a sketch and therefore it is not possible to define the exact area for the proposed development but it has been approximated by the red ellipse (1973/38/4 – Newall's Map: Collection of Te Whare Taonga o Waikato Museum & Gallery).

Historic aerals

Early aerial imagery was reviewed on the website Retrolens. The earliest available images for the Site are from 1943. Aerial images visualise historic land use for the Site, which has primarily been pastoral grazing. Aerials show a landscape that is quite similar in land use up to current images. The drain/old ditch shown in aerial images is most probably the same feature that extends through the Site past the small lake. There have also been construction of outhouses, tree planting, race maintenance, drainage ditches and fences etc. None of the images studied identified any archaeological features aside from the old ditch (Figures 14–15).



Figure 14. Excerpt from earliest available aerial photography from 1943 (SN266-832/47 & 49) (Source: Retrolens).



Figure 15. Excerpt from later photography from 1971 (SN3470-4511/15) (Source: Retrolens).

LiDAR imagery

Height data shown below provides an elevation model for the landscape and subject area in 2008 and 2023. LiDAR data uses laser points taken from aircraft to create a height elevation model for the landscape and can remove extraneous object such as houses and trees. There is no visible evidence for archaeology within the Site aside from the drain from shown in SO5094 (1888) (Figures 16–17).

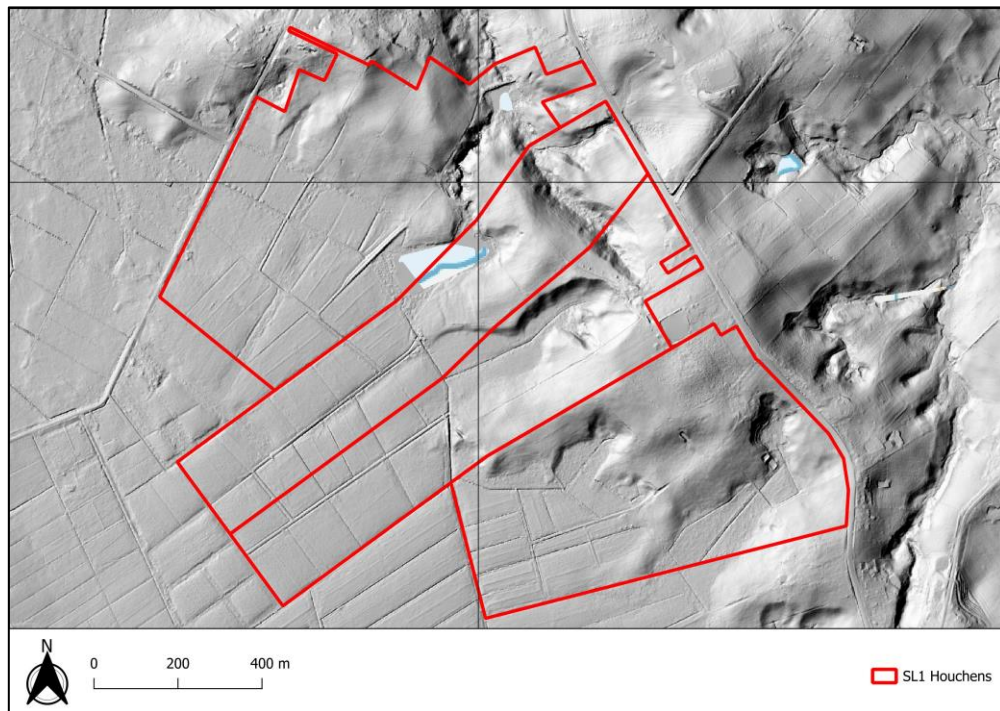


Figure 16. LiDAR excerpt from 2008.

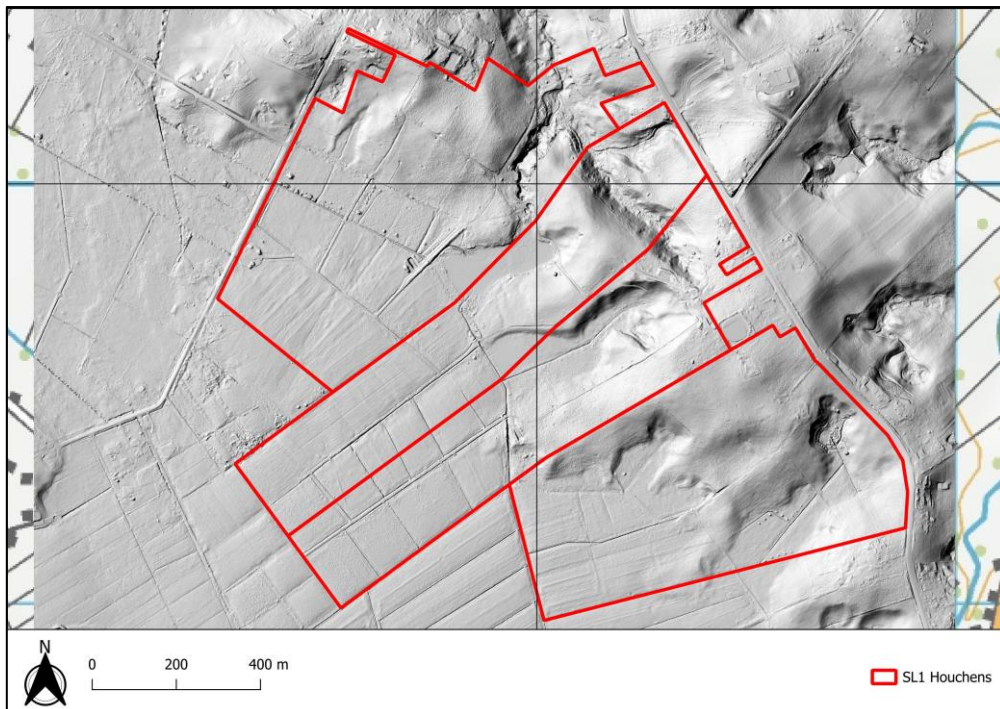


Figure 17. Lidar derived hillshade model from DEM data taken in 2023 that shows the Site as mostly flat with some lower hills to the north (Source: LINZ).

Site visit

Due to the identification of a potential unrecorded archaeological site within the Site a visit on January 8th, 2025, was undertaken to identify whether the feature shown on historic survey plans was in fact formed and whether there was any visible evidence of it. The visit concentrated on the 'Old Ditch' shown on SO5094 (1888), which was visually inspected. It was determined that the ditch shown in historic survey plans is the same ditch alignment currently in use today. However, the middle section of the feature has been modified through realignment, bridges, culverts and drainage/soak areas. Also, the middle section within the Site has potentially been modified or filled in with realignment connecting the two sections further south. The easternmost section shown in the plan does not mirror the current alignment within the Site. Either this section has been realigned or the landscape originally dictated that the alignment be altered to accommodate low hills through that section. Some of the original ditch alignment was still present, in use and the alignment matching that in pre-1900 survey plans (Figures 18–19).



Figure 18. Facing along the ditch from the east. The middle section shown by the blue line has been straightened at some point. The red line shows the potential original alignment on the SO plan.



Figure 19. Start of the modern realignment facing east from the corner. A new bridge and culvert have been constructed as well as the new ditch alignment being made wider with more potential to soak.

Assessment of Archaeological Values

The Site encompasses land that was allotted to the Waikato Militia as farms following its disestablishment in 1865–66. Following this, farms were on sold and amalgamated into larger landholdings for example Korokonui and Acacia Hill which border the Site. Farms were often drained and used for grazing livestock or crops. The only reference/visualisation prior to this assessment of potential unrecorded archaeological features on historical plans, aerials or LiDAR is an Old Ditch along a boundary shown on SO5094 (1888). Due to this potential a site visit was conducted to identify whether this feature was in fact formed and whether it is archaeological; it identified that the ditch (S14/510) is in use and is the same shown on the survey plan, although somewhat modified. The ditch provides insight into the early settlement of Hamilton and the wider region by Europeans.

Assessments of effects on archaeological values

Due to the nature of the proposed development/works within the Site, any remains of S14/510 will most likely be modified/destroyed through works.

Conclusions and recommendations

The Site is assessed as containing recorded archaeology in the form of a ditch/drain associated with the early European settlement of Hamilton (S14/510 – pending). Since there is recorded archaeology within the Site it is recommended that an Authority be made to HNZ to modify/destroy a recorded archaeological site.

Recommendations:

1. That an application be made to Heritage New Zealand for an Archaeological Authority to modify/destroy an archaeological site prior to any development works.
 - a. That modification/destruction of any archaeology be mitigated through archaeological fieldwork, sampling, recording and reporting. Mitigation shall be controlled by an Archaeological Site Management Plan (ASMP). This document identifies the appropriate controls, protocols and procedures as well as how any archaeological monitoring/investigation will take place.
2. Consultation be undertaken with Mana Whenua at an early stage of the process. The results of this assessment should be discussed in detail so that Mana Whenua are aware of this report and its results and have opportunity to comment on the findings, the project and discuss any Authority application.

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