

**Appendix K – Archaeological and Historical Effects Assessment  
Reports prepared by W Gumbley Ltd Archaeologists and CFG  
Heritage**





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# **Archaeological and historical assessment of effects**

**Lockerbie Farm  
Kilroy Group  
163 Studholme Street, Morrinsville**

**Matthew Gainsford**  
**Reviewed by Warren Gumbley**  
**July 2019**

# Contents

<b>1</b>	<b>Summary</b> .....	<b>1</b>
<b>2</b>	<b>Statutory requirements</b> .....	<b>3</b>
2.1	The Heritage New Zealand Pouhere Taonga Act (HNZPTA) 2014.....	3
2.2	Matamata-Piako operative District Plan.....	4
2.3	The Resource Management Act (RMA) 1991.....	4
<b>3</b>	<b>Physical environment and setting</b> .....	<b>6</b>
<b>4</b>	<b>Recorded archaeological sites</b> .....	<b>7</b>
<b>5</b>	<b>Methodology</b> .....	<b>8</b>
5.1	Historical survey plans and aerial photography .....	8
5.2	Walkover survey .....	8
<b>6</b>	<b>Results</b> .....	<b>8</b>
6.1	Survey plans and aerial photography .....	8
6.2	Results from walkover survey .....	9
6.3	Shell scatter .....	11
<b>7</b>	<b>Lockerbie Homestead</b> .....	<b>12</b>
<b>8</b>	<b>Constraints and limitations</b> .....	<b>14</b>
<b>9</b>	<b>Archaeological or other values</b> .....	<b>14</b>
9.1.	Heritage New Zealand criteria .....	14
9.2.	Waikato Regional Policy Statement.....	14
<b>10</b>	<b>Assessments of effects</b> .....	<b>15</b>
<b>11</b>	<b>Conclusions and recommendations</b> .....	<b>15</b>
<b>12</b>	<b>References</b> .....	<b>16</b>

## 1 Summary

Kilroy group, who are proposing a housing development in Morrinsville, commissioned Warren Gumbley Limited to prepare the following archaeological and historical assessment (Figures 1–3).

The proposed development is an L-shaped block, at 163 Studholme Street, consisting of two titles: Lot 1 DP 24498 and Lot 2 DP 653166. Initial draft plans include the construction of 700 homes, a neighbourhood centre and potentially a retirement village.

This assessment provides the results from an archaeological walkover survey and a review of relevant historical documents of the proposed area of development including aerial photographs, historic maps, and the New Zealand Archaeological Associations (NZAA) national database, Archsite.

There are, in the surrounding area, very few recorded archaeological sites. Within the proposed development area there are no recorded sites. Results from the walkover survey identified a possible location for the Lockerbie Homestead in the southeastern corner of the proposed development area; this location is however approximate.

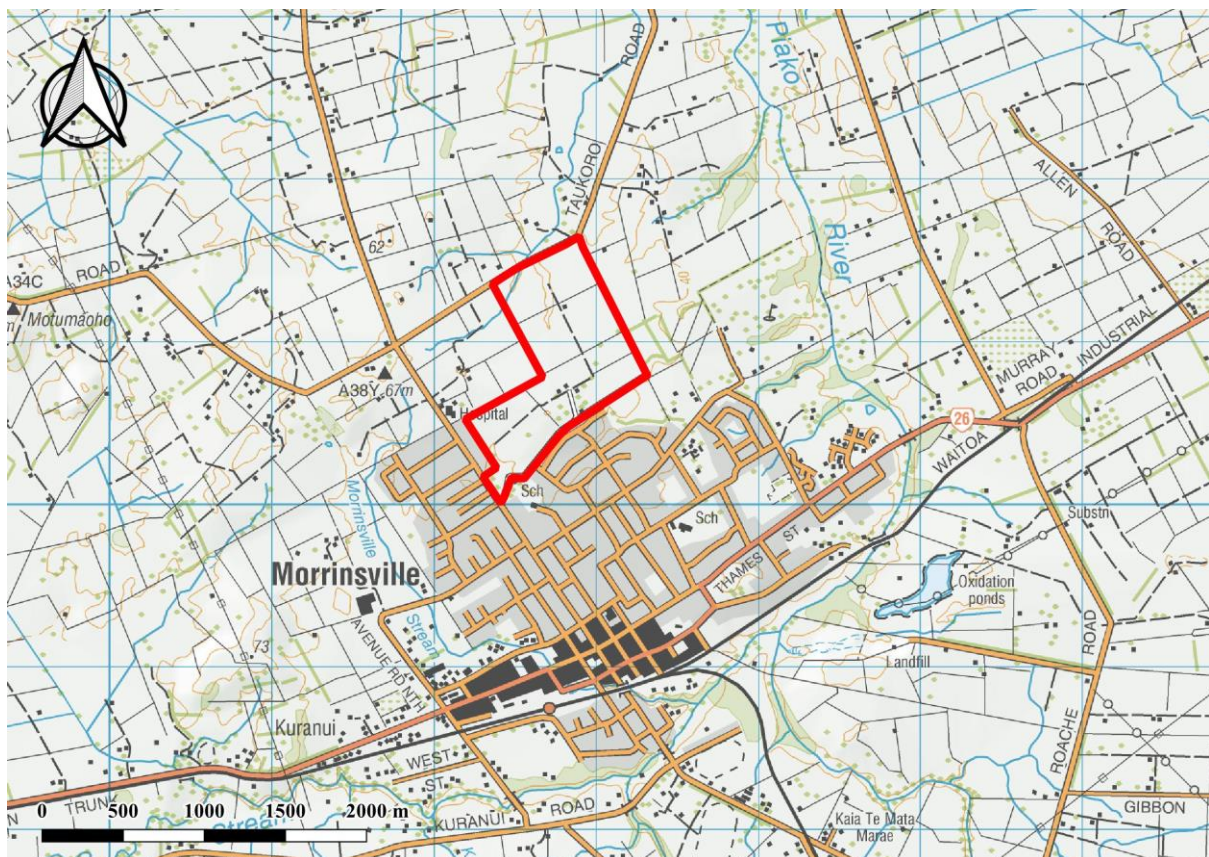


Figure 1. Location of the proposed development area (red polygon) (Source: LINZ).



Figure 2. DRAFT version of the proposed development (Source: Kilroy Group).



Figure 3. Land parcel titles affected by proposed development. There are no recorded archaeological sites in the vicinity (Source: LINZ).

## 2 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 (NZHPT). This Act prevents archaeological sites from being destroyed or modified without an authority from Heritage NZ.

### 2.1 The Heritage New Zealand Pouhere Taonga Act (HNZPTA) 2014

The purpose of the HNZPTA is to promote the identification, protection, preservation, and conservation of the historical and cultural heritage of New Zealand (HNZPTA section 3). Emphasis is placed on avoiding effects on heritage.

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 Act<sup>1</sup>.

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 archaeological authority process applies to all archaeological sites that fit the HNZPTA definition regardless of whether the site is recorded in the NZAA Site Recording Scheme or registered with HNZPT; or if the site only becomes known about as a result of ground disturbance; and/or the activity is permitted under a district or regional plan, or a resource or building consent has been granted, or the ground is subject to a designation.

The HNZPTA replaced the *Historic Places Act 1993* (HPA) in May 2014.

HNZPT also maintain the New Zealand Heritage List/Rārangi Kōrero (The List). The List can include archaeological sites. The purpose of The List is to inform members of the public about such places, and to assist with their protection under the RMA.

It is possible that archaeological sites, as defined in the HNZPTA, may be discovered by this project. Any archaeological sites identified during the ground works at this site will be protected under the HNZPTA.

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<sup>1</sup> Such declarations usually pertain to important post-1900 remains with archaeological values.

## 2.2 Matamata-Piako operative District Plan

### Section 3

#### O1

To recognise, protect and enhance significant heritage resources which are valued as part of the District's heritage.

*The recognition and protection of the heritage values of sites, buildings, places or areas is a particular matter which the RMA requires Council to have regard to (S7(e)).*

*Objective O1 extends protection for important heritage resources which are not subject to a heritage covenant or Heritage Order. See Sections 187 – 197 RMA, thus ensuring protection of important regional and local resources.*

*Policy 1 recognises that the integrity of heritage resources can be threatened by inappropriate development. Where heritage resources are located closely together in an area, it is not only the buildings that warrant protection but also the spaces, structures and sites which surround them. In these situations steps must be undertaken to ensure activities and development within these areas do not detract from the unique character of particular heritage resources.*

*Policy P4 seeks to avoid the accidental or deliberate damage to Maori heritage resources.*

*Policy P5 seeks to encourage Iwi to manage the protection of highly sensitive sites which are not publicly recorded. Council recognises the need for greater Maori control over Maori heritage resources and will consider at any time Iwi initiatives to schedule sites and resources.*

*Through Policy P6 Council wishes to encourage owners to protect and retain historic resources by providing opportunities to assist owners to restore, refurbish or retain historic resources.*

### Anticipated environmental results

1. Certainty in the protection of the significant historic resources of the District.
2. Owners of historic resources will retain and protect these resources for the appreciation of future generations (typical performance measure: reduction in the loss or degradation of historic resources).
3. Improved public awareness of the value of the District's historic resources (typical performance measure: greater public support for measures to protect historic resources).

## 2.3 The Resource Management Act (RMA) 1991

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 Maori, 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 Maori.

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



### 3 Physical environment and setting

The proposed development area lies on circa 80 hectares. It is bounded by Studholme Street the west Taukoro Road in the north and farmland and residential development to the south and east. The farm is located on rolling hill country with antecedent hills and swales formed from weathered volcanic detritus (Figures 4–5). Soils were characterised by a well-formed unmodified topsoil overlying a varying in character subsoil. No evidence for made soils were encountered.

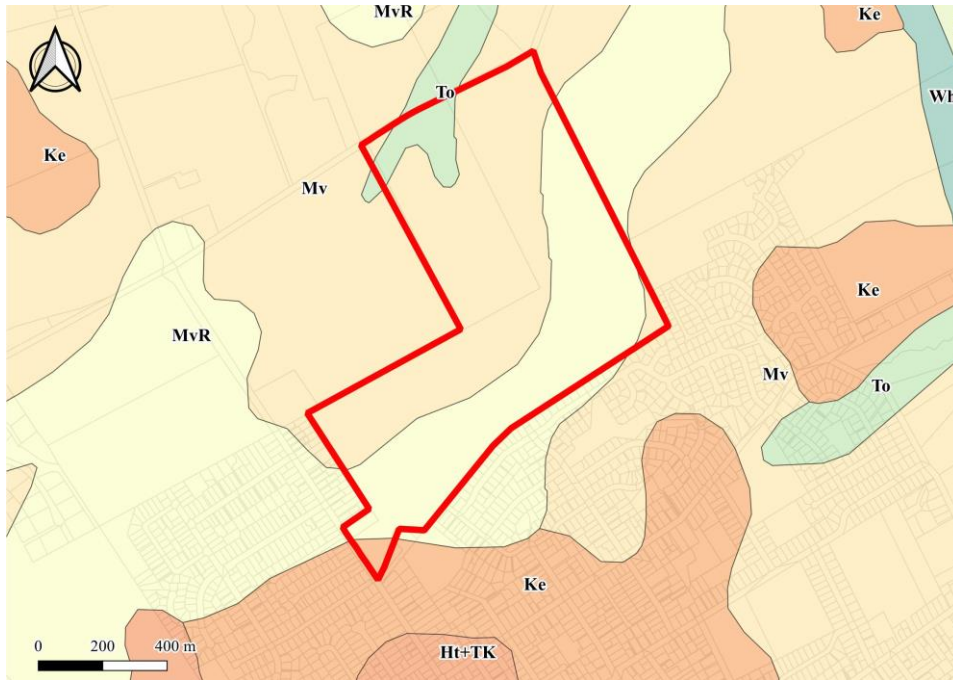


Figure 4. Soil map for the proposed development area. Soils present are To=Topehaehae clay loam, Mv=Morrinsville silt loam, MvR=Morrinsville clay loam, Ke=Kereone silt loam (Source: LINZ).

Landform of the proposed development area can be characterised as low hill-country with flatter wetter areas. Soils identified in the area are moderately to very poorly draining soils that arise on hills and surrounding lower elevations (Figures 4–5).

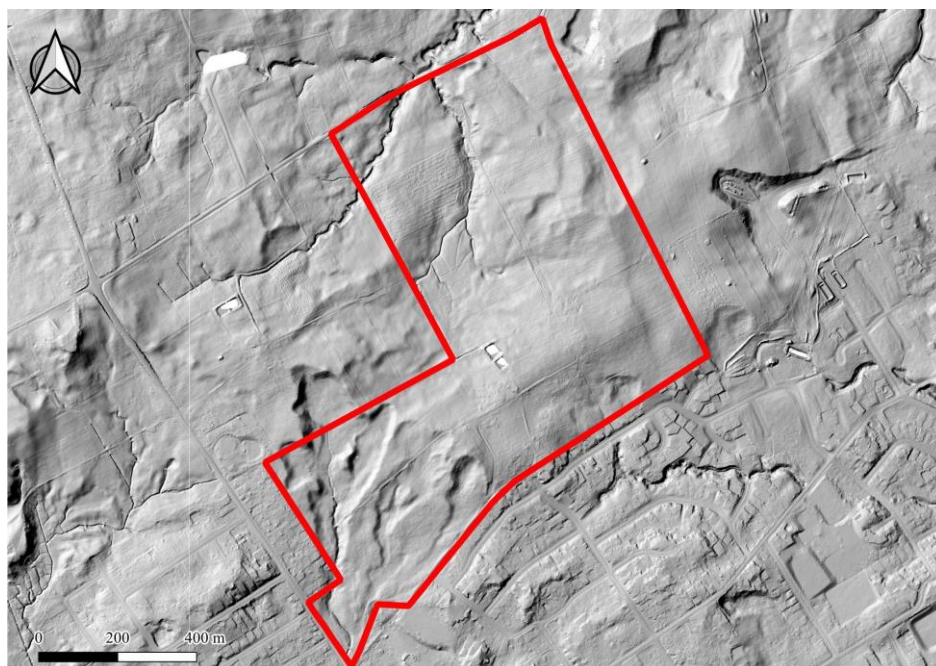


Figure 5. Hillshade model derived from LIDAR data of the proposed development area (Source: WRC).

## 4 Recorded archaeological sites

A search of the NZAA online database ArchSite was undertaken to identify any archaeological sites either on the proposed development area or in the vicinity. Table 1 below shows archaeological sites within 2–3 kilometres of the proposed development area (Figure 6 & Table 1). There are no recorded archaeological sites within the proposed development area. However, it should be noted that the area has not been subject to any form of systematic archaeological survey.



Figure 6. Recorded archaeological sites in the vicinity of the proposed development area (Source: NZAA ArchSite).

Table 1. Archaeological sites near the proposed development area (Source: Archsite).

NZAA ID	Description	NZTM E	NZTM N
T14/646	Corrugated iron granary	1823347	5828854
T14/647	Morrinsville station yard site	1823267	5828886

## 5 Methodology

### 5.1 Historical survey plans and aerial photography

A search of relevant survey plans was conducted to determine if there is any reference to any Māori occupation within the proposed development area. Aerial photographs from the 1940s series to more modern series were also examined to identify possible structures and determine if land use has changed over time.

### 5.2 Walkover survey

A walkover survey was conducted by Matthew Gainsford of W. Gumbley Ltd 16–17 June 2019 of the proposed development area. Survey included the entirety of the two properties concerned.

Walkover survey included: a visual inspection of the area, soil testing of paddocks, with a 50 millimetre hand-held auger, and examination of drain cuttings. The general area was photographed and described.

## 6 Results

### 6.1 Survey plans and aerial photography

An examination of historic survey plans in Quickmaps did not identify any notations of Māori occupation within the proposed development area. The 1940s and following aerial photography series showed land use as being primarily pastoral grazing (Figures 7–8). In Figure 7 (1948) a double row of trees and a dilapidated structure are visible. The double row of trees represents the former laneway to one of the Lockerbie Homesteads; and the structure, which is slightly north of the laneway may be an associated outhouse?

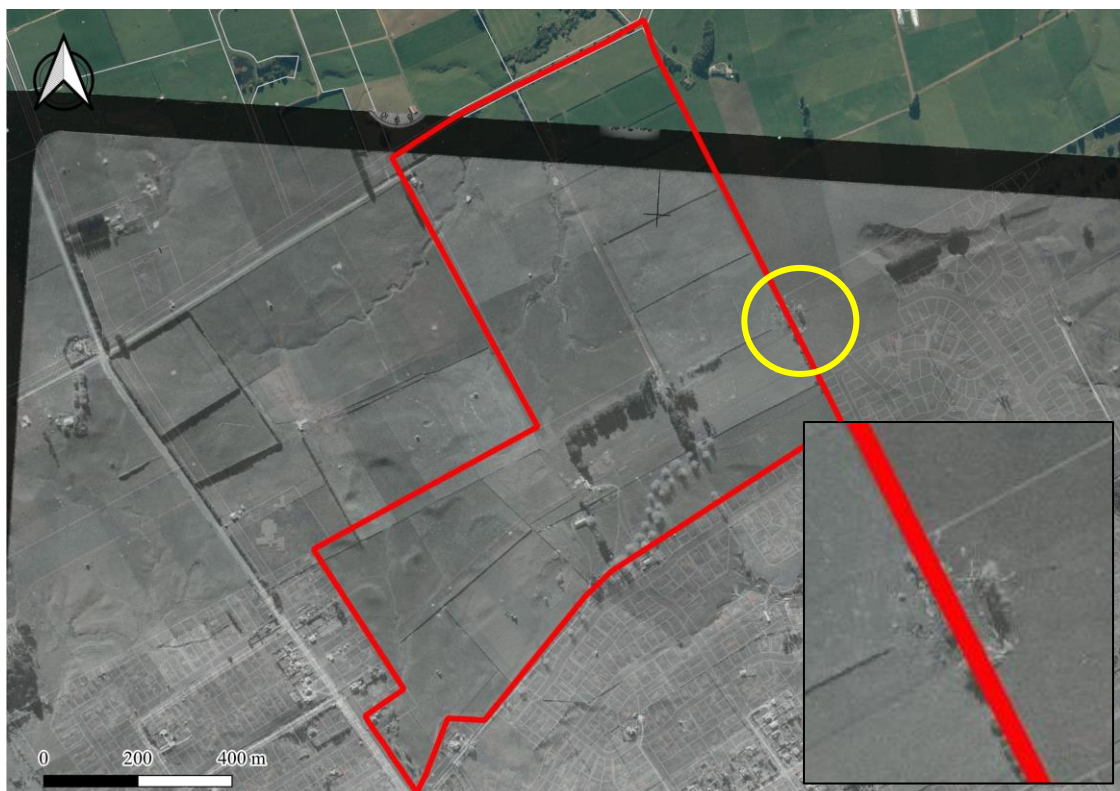


Figure 7. Excerpt from georeferenced aerial photography from 1948. The proposed development area is denoted by the red polygon and the structure by the yellow circle and inset (SN\_525\_1571\_32) (Source: Retrolens).

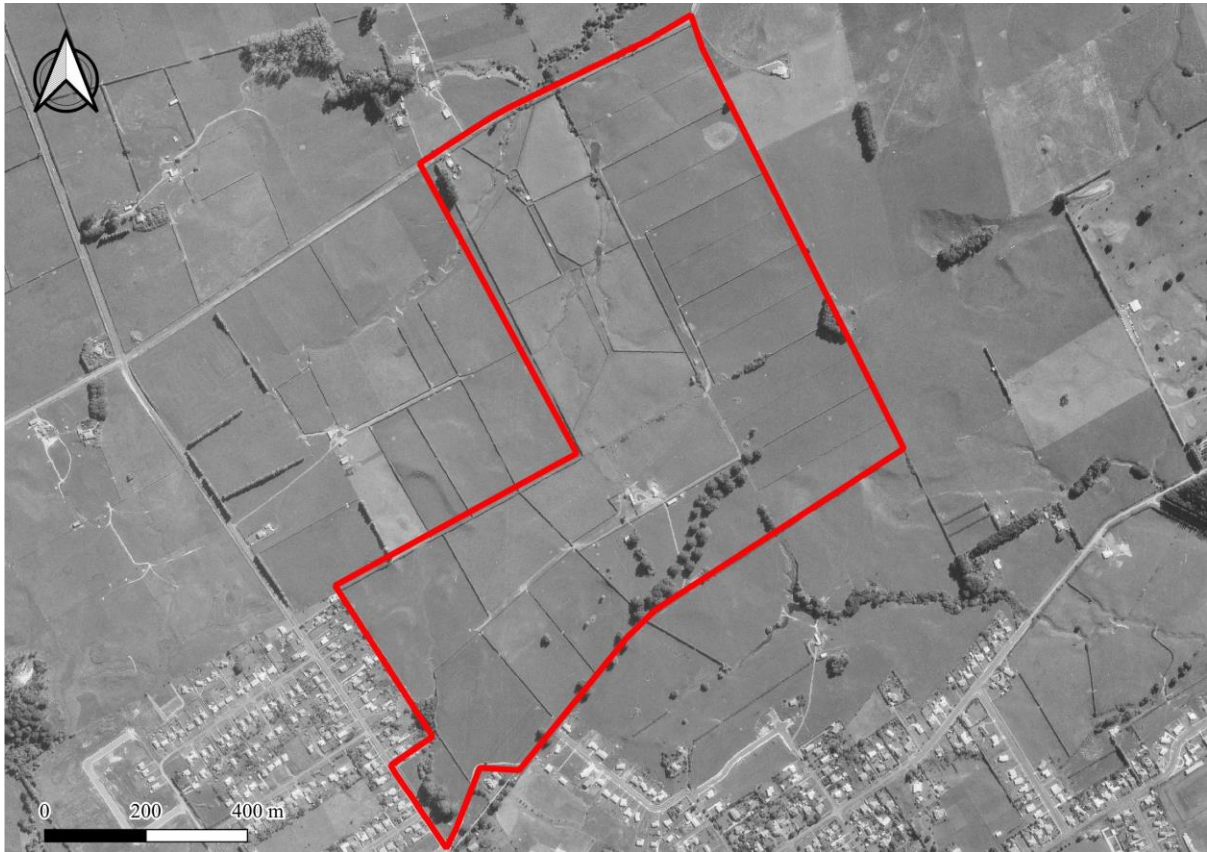


Figure 8. Excerpt from the aerial photography series from 1968. The proposed development area is denoted by the red polygon (SN1848\_4094\_3) (Source: Retrolens).

In figure 8 the double row of trees is still visible, but the dilapidated structure is not. Development has occurred east of the Lots; the land being prepared for residential lots. According to Kilroy Groups draft plans the laneway trees are to be incorporated into a park area within the development. It is not possible to accurately determine where the homestead was located since it is not visible in historic aerials nor on the current surface.

## 6.2 Results from walkover survey

Soils within the development area varied depending on their distribution. Higher elevations, that is the ridges/hills were formed on ancient weathered volcanic deposits. Soils from these comprised of Morrinsville silt loam (Mv) and Morrinsville clay loam (MvR). Lower elevations within the gullies surrounding creeks and drains were formed of Kereone silt loam (Kv) and Topehaehae clay loam (To) (Figures 9–11). All soils within the proposed development area are deemed to be medium to poorly draining. As such these soils are generally unsuitable for Māori horticultural practice. No free draining soils were identified from the auger survey or visually.



*Figure 9. Photo that shows the rolling nature of the landscape.*



*Figure 10. Auger sample showing Morrinsville clay loam from one of the hills.*



*Figure 11. Auger sample showing Topohaehae soil from the northern end of the proposed development area.*

### 6.3 Shell scatter

An area was identified by the presence of a marine shell scatter. Shell was scattered across an area approximately 15 by 13 metres. Its location was both within and adjacent the house/section at the end of the driveway just south of the double row of trees. Shell extended from inside the fence line northwards towards the treeline. Shell is possibly either the remains of a former garden associated with the house or a separate dumping area. A testpit was excavated to determine the composition and depth of the feature. It contained a mixed profile of marine shell and modern elements (pig bone, plastic and iron). No distinguishable layers were identified. This is interpreted as modern/recent deposit.



Figure 12. Shows location of house encased by red ring (Source: Retrolens).



Figure 13. Shows location and size of shell scatter (Source: Retrolens).



Figure 14. Image of shell within the shell scatter, that extends past the fence line into the house yard.



Figure 15. Modern material (plastic and bone) located within the mixed fill.

## 7 Lockerbie Homestead

Lockerbie is the name of the original estate which incorporated several blocks of land (Motomaoho No1 and No. 2 and Kuranui), purchased by Thomas Morrin; the location for modern day Morrinsville (Allen 1959, Morrinsville Historical Society 2008, Vennel & More 1976). According to written sources the Estate had five houses upon it, one of which was constructed pre-1900, although the exact date is unknown. Its approximate location is described:

*...situated on the outskirts of the settlement – on Lot 19 on the northern side of the town off Studholme Street. This Lot and Lot 18 were referred to after the Asset Realisation Board's subdivision as 'Lockerbie Homestead block' (Morrinsville Historical Society 2008:36).*

According to Mike Gribble of the Morrinsville Museum the house referenced above pre-dates 1900 and that it was located at the end of the laneway (represented by the double row of trees). This house was the Estate managers house since Mr Morrin did not frequent the estate. Sometime in the early 1900s it is said to have burned down (Gribble pers. comm. 28 June 2019). Currently there are no visible surviving remnants of the structure within the proposed development area, nor can it be determined exactly where the residence was located. It would be reasonable to assume that the house would have been located somewhere from the end of the double row of trees out towards, and perhaps beyond, the proposed boundary for the development. It is also possible to see in the 1948 aerial photograph remains of a structure just outside of the proposed development area (Figure 16). This is perhaps a structure that was associated with the homestead; although no remains were visible in the 1960 aerial photographs; this area has recently been pre-developed for residential lots?



*Figure 16. Possible location for the homestead (blue ellipse) and the remains of a structure on the eastern boundary for the proposed development (yellow ellipse) (Source: Retrolens).*



## 8 Constraints and limitations

This report is an assessment of the impacts of Kilroy Group’s proposed development on archaeological values. There are no statements on the cultural significance of the project area nor are the views of tangata whenua represented in this report.

Identifying features within the landscape is based on surface topography. This can be difficult and the level of confidence of recording sites can vary without associated archaeological information and/or features, for example, shell midden.

## 9 Archaeological or other values

There are archaeological sites with corresponding values in the wider landscape that correspond to the Lockerbie Estate. There are however currently no visible remains of historic structures within the proposed development area; this does not preclude the possibility of subsurface remains. The basis for this is the presented desktop assessment combined with current and previous archaeological fieldwork conducted by W. Gumbley Ltd. Archaeological values are assessed against the criteria for Heritage New Zealand and the Waikato Regional Policy Statement.

### 9.1. Heritage New Zealand criteria

Value	Assessment
<i>Condition</i>	It is not possible to determine the condition of archaeology remaining of the Homestead since it is subsurface. Its position is currently approximate. The possible remains of an outhouse in the immediate vicinity is visible on historic imagery, but is not visible currently.
<i>Rarity/uniqueness</i>	An unique opportunity investigate the settlement of Morrinsville. Thomas Morrins’ land is the location for modern Morrinsville.
<i>Contextual value</i>	The homestead represents a historically significant feature of the settlement of the Waikato.
<i>Information potential</i>	Has the potential to provide insight into settlement patterns and attitudes to settlement in remote locations.
<i>Amenity value</i>	Since there are no visible structures and they reside on private land there are no amenity values associated.
<i>Cultural associations</i>	This is a historical structure and as such does not incorporate any cultural associations of Tangata Whenua.

### 9.2. Waikato Regional Policy Statement

Archaeological Qualities	
<i>Information</i>	The homestead/estate has been destroyed by fire. Potential information value for possible identified remains and subsurface features is moderate. Remains of a range of structures that may be expected to be associated with a mid/late 19 <sup>th</sup> Century Homestead.
<i>Research</i>	Has the potential to develop knowledge surrounding early settlement of Morrinsville and the Waikato. The association of the site with Thomas Morrins can provide insight into early settlement and purchases of land.

<i>Recognition or protection</i>	HNZPT archaeological provisions.
<b>Architectural Qualities</b>	
<i>Style or type</i>	No standing remains.
<i>Design</i>	No standing remains.
<i>Construction</i>	No standing remains.
<i>Designer or Builder</i>	No standing remains.
<b>Cultural Qualities</b>	
<i>Sentiment</i>	Represents the beginnings of early settlement for Morrinsville.
<i>Identity</i>	Morrinsville identifies strongly with Thomas Morrin, hence the towns name.
<i>Amenity or Education</i>	Education surrounding the settlement of the Waikato.
<b>Historic Qualities</b>	
<i>Associative Values</i>	Development of the town after the initial stages of development.
<i>Potential Scientific Research</i>	see Archaeological Qualities.
<b>Technical Qualities</b>	
<i>Technical Achievement</i>	Unknown.

## ***10 Assessments of effects***

### **Lockerbie Homestead**

The location for the homestead possibly lies within the development envelope. The exact location is at this stage approximate. If any remaining traces of the homestead reside within the development envelope, they will be destroyed by the proposed development.

## ***11 Conclusions and recommendations***

No physical archaeological features or deposits were identified within the development area during the walkover survey. However, the laneway and a visible structure in the 1948 aerial photograph may indicate that the Homestead resides within the proposed development area. An identified shell scatter is deemed to be later than 1900 and therefore not subject to the Heritage New Zealand Pouhere Taonga Act.

It is possible that there are subsurface archaeological features and deposits that leave no surface visible trace within the proposed development area. Such features and deposits would most likely represent the remains of the Homestead and any associated out-buildings, rubbish pits or similar. The information potential from such remains would however be moderate to low.

Given the acknowledged potential, albeit low, it is recommended that this is controlled under an Archaeological Site Instruction that provides protocols to provide for accidental discovery of the remains of the Morrin homestead. In relation to this a contractor briefing should be conducted for the construction crew before work continues.

If any archaeology is identified it shall be mitigated through archaeological investigation to record physical remains of identified sites.

Although the risk is low, it is recommended that an archaeological authority pursuant to the Heritage New Zealand Pouhere Taonga Act is applied for as a precautionary measure.

## ***12 References***

Allen, S. 1959. *Early Morrinsville*. Morrinsville Star. Morrinsville.

Morrinsville Historical Society, 2008. *Beyond the landing. The centennial of the establishment of the Morrinsville Town Board in 1908*. Morrinsville.

Vennel, C. W. & More, D. 1976. *Land of the three rivers: a centennial history of Piako County*. Te Aroha.

### ***Databases***

Waikato Regional Council. WRAPS 2012 and LIDAR 2007.

Quickmaps.

### ***Websites***

ArchSite. June 2019. New Zealand archaeological associations site recording database. < <http://www.archsite.org.nz/>>.

Land Information. June 2019. LINZ Data service. < <https://data.linz.govt.nz/>>.

Retrolens. June 2019. < <http://retrolens.nz/>>.

**Lockerbie Estate, 182 Morrinsville–Tahuna Road,  
Morrinsville:  
archaeological assessment**

**report to  
Lockerbie Estate Ltd**

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Reference: 21-1258

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# Lockerbie Estate, 182 Morrinsville–Tahuna Road, Morrinsville: archaeological assessment

## 1 Introduction

Lockerbie Estate are proposing a residential development incorporating 40 ha of land at 182 Morrinsville–Tahuna Road, Morrinsville (Pt Lot 2 DP 7445). The Morrinsville area has been under surveyed archaeologically, with the closest recorded sites just south of the town some two km away. An archaeological assessment of effects is required in support of a plan change and future resource consent applications to Matamata–Piako District Council and possible archaeological authority applications to Heritage New Zealand Pouhere Taonga (HNZPT). GD Jones of Lockerbie Estate commissioned this assessment from CFG Heritage Ltd.

### 1.1 Statutory requirements

All archaeological sites, whether recorded or not, are protected by the provisions of the Heritage New Zealand Pouhere Taonga Act 2014 and may not be destroyed, damaged or modified without an authority issued by Heritage New Zealand Pouhere Taonga (HNZPT).

An archaeological site is defined in the Heritage New Zealand Pouhere Taonga Act 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 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).

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 safeguarding the options of 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:

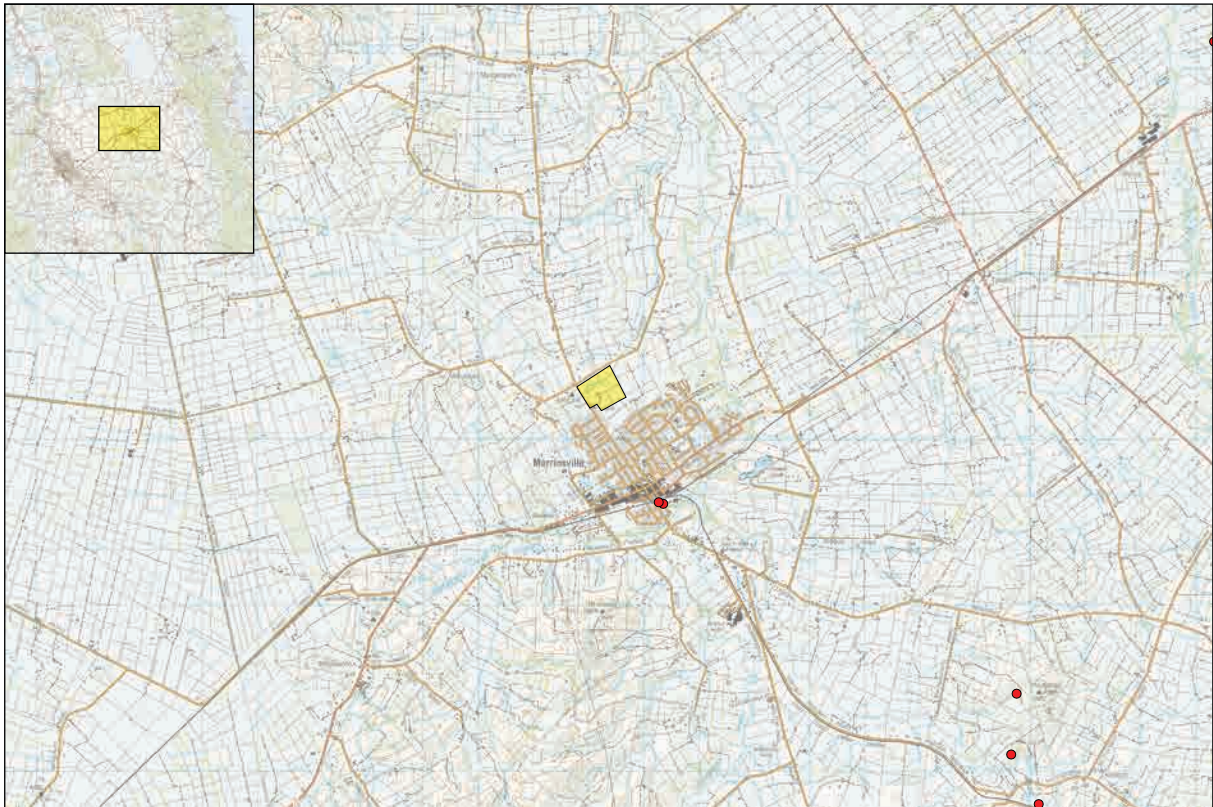
- historic sites, structures, places, and areas
- archaeological sites;
- sites of significance to Maori, including wahi tapu;
- surroundings associated with the natural and physical resources (RMA Section 2).

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 Maori.

Where resource consent is required for any activity the assessment of effects is required to address cultural and historic heritage matters.

## 2 Methodology

The SRS was searched for records of archaeological sites nearby. The digital library of archaeological reports held by Heritage New Zealand Pouhere Taonga was searched for records previous archaeological investigations around Morrinsville. Old maps and plans held by Land Information New Zealand (LINZ) were reached using Quick Map software. The Matamata–Piako District Plan was



*Figure 1. 182 Morrinsville - Tahuna Road with recorded archaeological sites in the area.*

searched for scheduled items. The HNZPT New Zealand Heritage List / Rārangī Kōrero was accessed for information on listed heritage sites.

A site visit was conducted on foot by Brendan Kneebone of CFG Heritage Ltd on 19 July 2021. The proposed area was inspected for evidence of archaeological material or features which could be affected by potential earthworks. A 1.1 m gum spear was used to probe for sub-surface midden deposits or other anomalies, and three spade test pits was dug.

### **3 Background**

There is little written about the Māori occupation of the Hauraki Plains, with some of the only historical accounts of the area containing erroneous information regarding the settlement and timing of the peopling of Aotearoa in general, indicating much of their information should be viewed with caution (e.g., Drummond 1964; Vennell and More 1976).

In the 1840s there was an estimated 1100 km<sup>2</sup> of wetlands in the lower Waikato and Hauraki Plains, greatly influencing settlement and land use. By the middle of the 20th century the majority of these wetlands had been drained to promote farming in the region, significantly altering the landscape and the settlement patterns of the Hauraki Plains (Cruickshank 2021).

Further afield during investigations at Te Miro (Edson 1977; Gainsford 2020) have shown that historic Māori settlement was based around low hills near these wetlands, providing easy access to waterfowl and eels, while ensuring they were not affected by flooding. A similar situation is described near Rukumoana marae (Vennell and More 1976), and it is likely that similar settlement would be happening in the vicinity of what is now the Morrinsville township. The areas of land above the flood zones where drainage is suitable would likely support kumara growing and storage, with the waterways used to access the Piako River.

### 3.1 *Historic Settlement*

Historic settlement in the area began slowly, with some questionable early land purchases in the 1830s, but happened in earnest following the Waikato wars in the 1860s. By the 1870s land blocks were being purchased by settlers, with the 4825 acre (1953 ha) Motumaoho Block sold to Thomas Morrin in 1876. This included the land on which the settlement bearing his name was built.

Eventually Morrinsville grew, with the construction of the Thames Valley and Rotorua Railway Line in the 1880s, with the Morrinsville Station opened in 1884. Future settlement in the area was reliant on the drainage of the wetlands, with farming land ballots occurring from 1910 in recently drained paddocks (Vennell and More 1976).

In 1917 the government bought 2000 acres of the Kereone Estate to offer up as soldier resettlement blocks, to help with rehabilitation of returned servicemen. This led to the development of the Kereone settlement, with a rugby club and regular mail service (Vennell and More 1976). The rugby club and the running of the settlement were eventually absorbed by Morrinsville, but the area remains a rural community.

### 3.2 *Archaeological investigations*

Very little archaeological research has been undertaken in the vicinity of Morrinsville, with the nearest archaeological authority being granted for the Te Kauhanganui Parliament building at Rukumoana Marae (Simmons 2005). No archaeological deposits were found during this investigation. Additional investigations were undertaken near the Greenlea Premier Meat Ltd factory in 2015 due to its proximity to the 1884 Morrinsville Station Yard (T14/647). A 20th century brick-lined sump was encountered during works, but no pre-1900 features or material was identified during works (Simmons 2015).

In 2019 Matt Gainsford undertook an assessment of effects for a proposed housing development on Studholme Street on the northern outskirts of Morrinsville just south of the subject property. Although no pre-1900 archaeological material was identified during the desktop research or field survey of the property, the presence of a laneway and structure on a 1948 aerial photograph of the property indicated that there may be subsurface evidence of 19th century historic settlement within the property (Gainsford 2019).

## 4 **Survey**

The property was walked and inspected for evidence of archaeological features or materials, with close attention being paid to farm / animal tracks, along fence lines, around the wetland areas and in other places which have been subjected to erosion or modification (Figure 2).

The majority of the landscape is low lying drained swampland that had been converted to a dairy farm in the early 1900s. It has slightly undulating paddocks with higher points and ridges occurring in various places (Figure 3 and 4). The steepest valley is located in the southwestern section of the property (Figure 5). A small, narrow creek runs through the north-east of the property which widens into a small lake/wetland area at one part (Figure 6 and 7) however, farming practices have modified this area. Further areas of the property have been modified by buildings, fences, hedge boundaries, effluent ponds, farm tracks and races, stock trampling and erosion. There is also some evidence for modern landscape modification on flattened areas.

At the time of the survey, the paddocks were in pasture and grazed. The grass cover was short, and visibility was generally good, however much of the lower area in several paddocks was boggy which restricted access to these places. Selected areas, the majority of which on high points, ridges and around waterways, were probed for evidence of subsurface material or anomalies. Three spade test pits were dug in selected places (Figure 2) to understand the soil profile of the area and to investigate the possibility of sub surface cultural deposits.





*Figure 2. Map of area surveyed showing test pit locations.*



*Figure 3. Example of low-lying topography looking northward.*



*Figure 4. Example of low-lying topography with gently undulating paddocks and some higher points.*



*Figure 5. Steepest ridge leading to a wide flat valley floor located in the south west of the property.*



*Figure 6. Wetland area located in the northern half of the property.*



*Figure 7. Example of erosion and land modification (access way).*



*Figure 8. Example of boggy ground in low areas.*



*Figure 9. Effluent pond modification.*

#### 4.1 Test pit 1

The first spade test pit was dug on the flat area above the steep, wide valley in the south – west of the property (Figure 2). The soil indicated a relatively thin layer of topsoil, 100–150 mm deep, over a compacted yellow/brown subsoil (Figure 10). This is the natural subsoil of the area. The flatness of the ridge, alongside the thickness of the topsoil and the degree to which the subsoil was compacted indicates this area has been modified, most likely by bulldozing.

#### 4.2 Test pit 2

Test pit 2 was dug on a relatively higher, ridge line towards the east of the property (Figure 2). The soil profile indicated a much deeper layer of topsoil, c. 300 mm deep, over a slightly less compacted, yellow/brown natural subsoil.

#### 4.3 Test pit 3

The last test pit was dug on the flat area above the creek in the northern half of the property. Like test pit 2, the soil profile indicated a thick layer of topsoil, 300 mm deep, over the yellow/brown natural subsoil.



Figure 10. Test pit 1.



*Figure 11. Test pit 2.*



*Figure 12. Test pit 3.*

## 5 Assessment

The following assessment relates only to archaeological values. Other interested parties, in particular mana whenua, may hold different values regarding the sites and proposed development. It should be recognized that the visible archaeological inspection carried out during the current survey cannot provide conclusive evidence for the absence of archaeological sites. Most archaeological sites are only identified following significant ground disturbance involving topsoil removal. However, no obvious evidence of archaeological material or features were noted in the test pits or observed at any point during the field survey. There is no reasonable cause to suspect that in situ archaeological material or important 20th century heritage items will be encountered during this development.

It is noted that an archaeological authority was recommended for the neighbouring property, 163 Studholm Street (Gainsford 2019). These recommendations were made on the basis of a historic homestead, evidence of which may be present along the eastern border of that property. It is highly unlikely this site extends into the current survey area. Therefore, there is no reasonable cause to suspect that in situ archaeological material or important 20th century heritage items will be encountered during this development.

## 6 Recommendations

These recommendations are only made on the basis of the archaeological values that have been outlined above. Any other values associated with special interest groups, including tangata whenua, can only be determined by them. It is recommended that:

- an authority to destroy, damage or modify archaeological sites within the scope of works does not need to be applied for from Heritage New Zealand Pouhere Taonga under Section 44 of the Heritage New Zealand Pouhere Taonga Act 2014;
- all works should be undertaken under an Accidental Discovery Protocol. A draft protocol is appended to this report;
- since archaeological survey cannot always detect sites of traditional significance to Māori, or wāhi tapu, the appropriate tangata whenua authorities should be consulted regarding the possible existence of such sites, and the recommendations in this report.

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## Accidental Discovery Protocols

In the event of the accidental or unexpected discovery of archaeological features, including human remains:

1. All work within the vicinity of the discovery should cease immediately.
2. A buffer of at least 10 m should be set up around the discovery and this should be marked on the ground, preferably with pegs and tape, or similar.
3. All machinery and plant should be removed from the buffer zone where this is possible.
4. The site archaeologist, or other qualified archaeologist, should be informed.
  - i Heritage New Zealand Pouhere Taonga (HNZPT) should be informed.
  - ii If the discovery is of Māori origin, the relevant tangata whenua authorities should also be informed. Appropriate protocols (tikanga) should be observed.
  - iii If the discovery is of human remains, the New Zealand Police should also be informed.
5. The archaeologist should take relevant steps to secure the area of the discovery.
6. The archaeologist will assess the discovery and advise HNZPT and the client on the relevant steps to be taken.
7. Works in the area of the discovery shall not recommence until authorised in writing by the archaeologist in consultation with any identified affected parties or HNZPT.