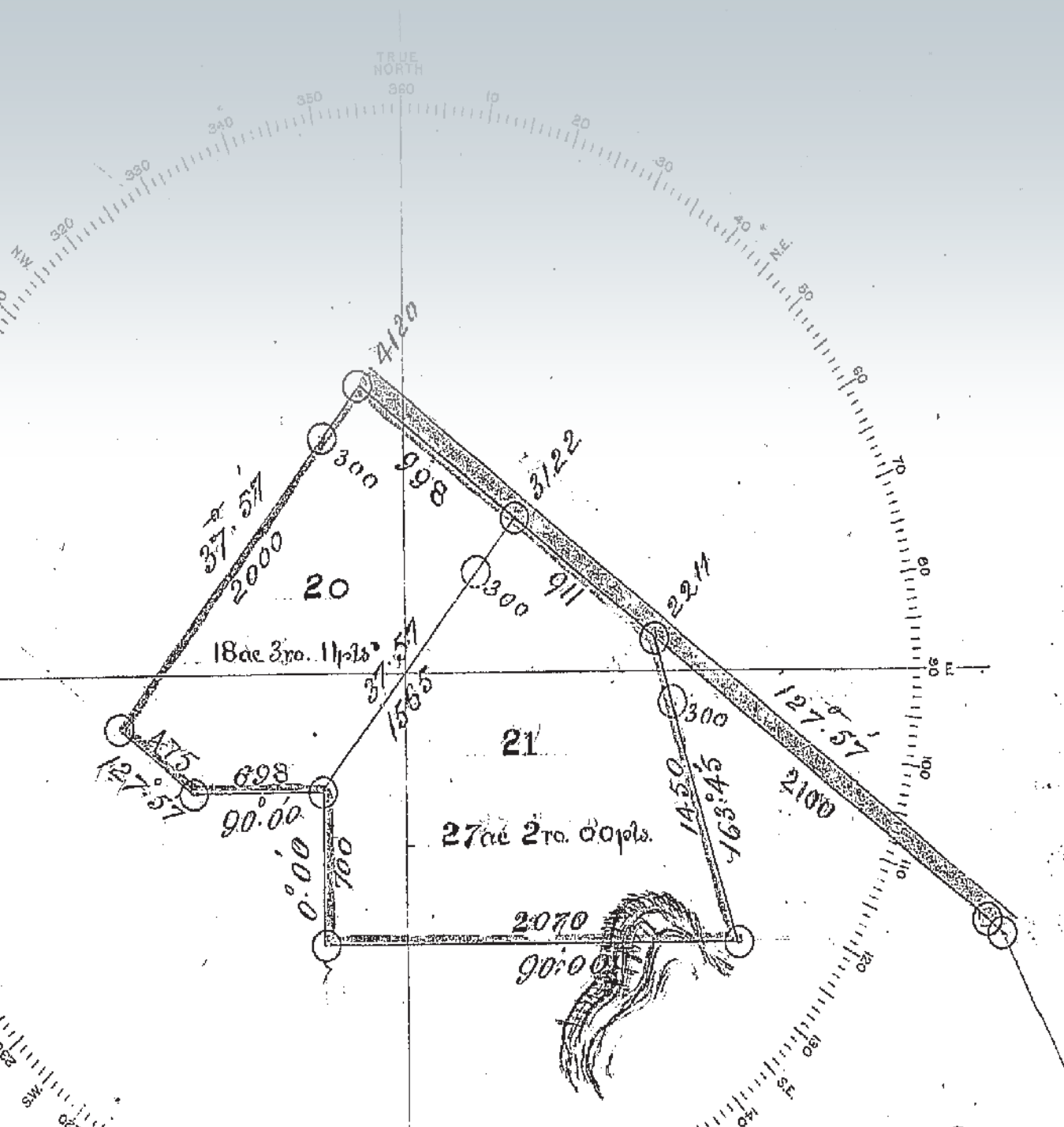


Archaeological Assessment for Morven Ferry, Arrow Junction

January 2026



Archaeological Assessment for Morven Ferry, Arrow Junction

Archaeological Sites: F41/62, F41/890

Commissioned by Cameron Hodgson on behalf of Gibbons Co

Prepared by Riley Christie

Reviewed by Russell Cook

Origin Consultants Ltd

27 January 2026

Cover Image: Survey Plan SO6385, David Jolly's Lease, 1867

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Introduction

This archaeological assessment has been prepared for Camerson Hodgson on behalf of Gibbons Co in relation to the proposed development of 122 Morven Ferry Road, Arrow Junction, known as the Doonholme Estate (Figure 1 and Figure 2). The proposed development includes the construction of a primarily residential community with supporting infrastructure and a small commercial centre. The assessment follows on from an earlier desktop evaluation, with much of the present work adapted from that report (Christie and Cook, 2025). Research and pedestrian survey have determined that the project area contains two currently recorded archaeological sites, F41/62, a pre-1900 homestead with multiple extant buildings, and site F41/890, the remains of a former pre-1900 hut site, as well as potential further unrecorded archaeological sites located at Morven Hill and near the banks of the Kawarau River. This document is prepared as part of the Fast Track application process, as the project will modify (or has potential to modify) these sites, and consequently, an Archaeological Authority is required under the Heritage New Zealand Pouhere Taonga Act 2014.

The purpose of this assessment is:

- to identify the history and nature of any archaeological features that may be affected by the proposed excavations;
- to provide appropriate recommendations for the mitigation and management of any potential damage to these features; and
- to provide information supporting an application for an Archaeological Authority under the Fast-track Approvals Act 2024 and Heritage New Zealand Pouhere Taonga Act 2014.

The legal descriptions of the assessed land parcels are:

- Lot 2 DP 601937
- Lot 3 and 4 DP 529201
- Section 23, 64, 71 Block VIII Shotover Survey District
- Section 21, 22, 23, 24 and 25 Block IX Shotover Survey District
- Section 1-2 SO 478164
- Lot 3, 4 and 5 DP 300661
- Section 1 SO 420327
- Lot 1 DP 411193

The authors of this report are Riley Christie, Archaeologist and Russell Cook, Principal Archaeologist at Origin Consultants Ltd and members of the New Zealand Archaeological Association.



Figure 1. Map of project area location in relation to Arrowtown and wider NZ.

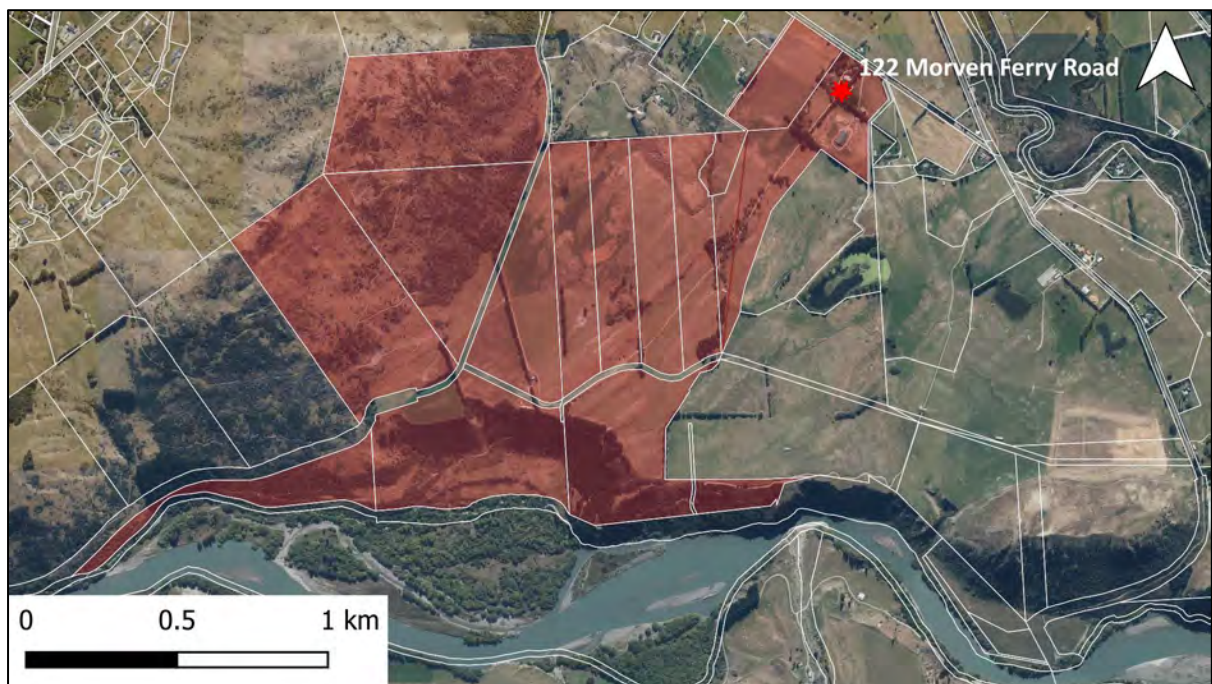


Figure 2. Site location and boundaries.

Statutory Framework

There are two main pieces of legislation in New Zealand that control work affecting archaeological sites. These are the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA 2014) and the Resource Management Act 1991 (RMA 1991). Heritage New Zealand Pouhere Taonga (HNZPT) administers the HNZPTA 2014. The newly introduced Fast-track Approval Act 2024 (FTAA 2024) creates an all-encompassing application process which incorporates the HNZPTA 2014 within its framework.

Archaeological Sites

The HNZPTA 2014 contains a consent process for any work affecting archaeological sites (Archaeological Authority). An archaeological site is defined as:

- a) any place in New Zealand, including any building or structure (or part of a building or structure), that—
 - i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where 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).

Any person who intends to carry out work that may damage, modify or destroy an archaeological site, or to investigate a site using invasive archaeological techniques, must first obtain an Archaeological Authority from HNZPT. The process applies to sites on land of all tenure including public, private, and designated land. The HNZPTA 2014 contains penalties for unauthorised site damage or destruction.

The Archaeological Authority process applies to all sites that fit the HNZPTA 2014 definition, regardless of whether:

- the site is recorded in the NZ Archaeological Association Site Recording Scheme or registered by HNZPT;
- 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.

Applications for an Archaeological Authority may be made as part of an FTAA 2024 application. While much of the process will remain the same as a standard Archaeological Authority application, the FTAA allows for the applicant to draft recommended requirements specific to their project scope. A 15-working day stand down period which is standard under authorities issued solely under the HNZPTA 2014 is waived for authorities granted through the FTAA 2024.

After taking the applicant's draft conditions into account HNZPT may impose conditions on the authority that must be adhered to by the authority holder. However, provision also exists for a review of the conditions. The authority remains current for a period of up to 35 years, as specified in the authority. If no period is specified in the authority, it remains current for a period of five years from the commencement date.

The authority is tied to the land for which it applies, regardless of changes in the ownership of the land. Prior to any changes of ownership, the landowner must give notice to HNZPT and advise the succeeding landowner of the authority, its conditions, and terms of consent.

Historic Heritage

HNZPT also maintains the New Zealand Heritage List Rārangi Kōrero of Historic Places, Historic Areas, Wāhi Tapu, Wāhi Tapu Areas, and Wāhi Tūpuna. 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 1991.

The RMA 1991 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 in section 6(f).

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 Wāhi Tapu, Wāhi Tapu Areas, and Wāhi Tūpuna; and
- surroundings associated with the natural and physical resources.

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 (Schedule 4, RMA 1991 and District Plan assessment criteria).

Methodology

An archaeological assessment is required to accompany an application for an Archaeological Authority, as stipulated in the HNZPTA 2014. The archaeological assessment for the Ridgeburn project was carried out using desktop research methods and included Geographic Information Systems (GIS) analysis, as well as fieldwork comprising pedestrian and drone survey to assess any current site features.

The desktop assessment consulted several sources to try to establish and clarify the historical development and chronology of the project area. These included:

- Online and physical archives, including PapersPast and reports held by Heritage New Zealand;
- ArchSite, the New Zealand Archaeological Association (NZAA) national database of recorded archaeological sites.
- Historic survey plans (via Premise) and historic aerial photographs (via Retrolens); and
- Modern aerial photographs (via Google Maps, Google Earth and LINZ Data Service).

A site visit was undertaken to make a visual assessment which included an appraisal of the environs of the project area. This visual assessment was supported by digital photographs that recorded features observed. The site visit was completed on 26 August 2025 by Riley Christie of Origin Consultants. A subsequent survey was made following GIS analysis of historic aerial imagery was completed on the 10 October 2025.

GIS Analysis

GIS analysis was undertaken to identify potential archaeological features using past and modern aerial photography of the project area. A grid consisting of 100 x 100 m cells, assigned an alphanumeric label (e.g. Row A, Column 24 = A24 etc) was laid over the project area boundary, and each cell was systematically reviewed for potential archaeological features. Aerial photographs from the 1950s and 1960s were used to inspect the landscape prior to the modern overgrowth of vegetation. Modern aerial imagery and drone photography captured during the survey was also analysed for potential features. Following the capture of drone photography during the site survey. If a potential feature identified in the modern survey was not visible in earlier photography, it can likely be assumed to be a modern addition.

Constraints and Limitations

The key constraints and limitations on the archaeological assessment for the Ridgeburn development are considered to be as follows:

- Reasonable time and budget constraints meant that the assessment only involved desk-based research and a visual inspection of the project area. No targeted intrusive investigations like test pitting were able to be undertaken.
- Access restrictions and health and safety concerns meant it was not possible to directly view some areas that make up part of the project area, though a visual inspection via drone was carried out in such instances.
- No images have been able to be located that clearly show the project area prior to 1900.
- The scope of the history was limited by reasonable time and budget constraints.
- Being adjacent to a flight path, aerial drone footage was limited in height and in scope due to safety requirements.

Physical Environment or Setting

The physical environment of the wider project area, with the entrance situated at 122 Morven Ferry Road, Arrow Junction, Queenstown, has varied topography and comprises some of Morven Hill (Figure 3). The elevation of the project area ranges from 350m-750m above sea level. The project area consists of farmland situated on a natural terrace and part of the bank below that extends down to the Kawarau River. A functioning water race extends through the property. The farmland is predominantly flat, with some mounds and small hills throughout the project area (Figure 4). It is not clear if some of the landscape undulations are natural or the result of human modification.



Figure 3. Topographic map of project area, facing north (LINZ - QLDC - Queenstown 0.1m Urban Aerial Photos (2021) & others 2013-2025).



Figure 4. View facing southwest across Doonholme, showing land modulations (LINZ/QLDC - Queenstown 0.1m Urban Aerial Photos (2021) & others 2013-2025).

Historical Background

General Background

Archaeology provides unequivocal evidence for sustained human occupation of Aotearoa/New Zealand by at least the early fourteenth century, (Jacomb *et al.*, 2014), and possibly as early as 1250 AD (Bunbury, Petchey and Bickler, 2022). Archaeological sites throughout the length of the country, dated to the fourteenth century, show the widespread settlement and exploration, particularly in coastal areas (Walter *et al.*, 2017). These included settled village sites along the coast adjacent to rich and sustained food resources such as seals and moa; seasonal inland sites for collecting stone resources and hunting; and comparable seasonal coastal sites for 'fishing and moa processing' (Hamel, 2001a). Such settlement patterns were not without impact. Much of the forest along the coastal region was reduced in extent; there were changes in patterns of hunting and fishing; and increasing use of smaller, more mobile occupation sites by the 16th and 17th centuries. This was followed by further changes in subsistence, based on organised food gathering and processing that created settled village communities along the Otago coastline from the mid-18th Century onwards (Hamel, 2001a).

Early use of the Whakatipu Basin by Māori is well established from archaeological, historical, and traditional sources. Interior expeditions by Māori were undertaken for a range of purposes, but most predominately for the collection of resources, which were then frequently brought back to kāika near the coast. Expeditions into the interior were often by foot, with the return journeys being made using rafts down the rivers to the coast. Occupation and use of the area by mana whenua has resulted in multiple archaeological sites across Central Otago which exhibit the material remains of these expeditions (Hamel, 2001b).

Across the region there were numerous ara tawhito (traditional pathways), and several sites of semi-permanent residence located near the Central Otago lakes. Ka-muri-wai (the Arrowtown Flat) and the Haehaenui (Arrow River) were recorded as good hunting grounds for weka. The land comprising the wider area around Arrowtown was acquired by the Crown in 1848 through Kemp's purchase (Te Rūnanga o Ngāi Tahu, 2017).

After Europeans arrived in New Zealand, an initial exploration of the basin was undertaken by Nathaniel Chalmers in September 1853. By the end of the 1850s European pastoralists had begun to stake out claims to various runs in the area, taking up the depasturing licences on offer. In 1859 Rees built a homestead and woolshed on the lake shore in the location of present day Queenstown to act as the centre of his large pastoral holdings (Griffiths, 1971).

This initial settlement was quickly followed by the Otago goldrushes of the early 1860s, which brought large numbers of miners to the area. Gold was discovered in the Arrow River, and William Fox became known as the man who found it. The real discovery of gold was made by Jack Tewa, better known as 'Māori Jack', who was working at Rees' station at Queenstown Bay. After Jack had shown Rees a sample of gold from the river, John McGregor and Thomas Low, who were visiting Rees' station, found gold in large quantities in the Arrow Gorge. Fox arrived shortly afterwards, and the discovery got out after he visited Dunstan for supplies. The mining settlement that sprang up at the site of Arrowtown was first known as Fox's. By the end of 1862 there were 1,500 men camped at the Arrow amongst a sea of canvas tents (Hall-Jones, 2005) (Figure 5).



Figure 5. Early wood graving of Arrowtown during the gold rush and the 'sea of canvas tents' (Alexander Turnbull Library).

With the explosion in the mining population came the need for food and the gradual establishment of a more settled community. In 1862, James Flint at Glenpanel near Lake Hayes, harvested the first grain crop in the district. The Wakatipu basin provided space for agriculture, and formal survey of the area that was undertaken in 1864 made land available for development. Speargrass Flat, the area north of Lake Hayes, provided fertile ground for agriculture with ample water supply in natural waterways and mining water-races. Many of these farms were established in the first years of the gold rush to provide food to both the local population, and further afield. These farms initially focused on a mix of cereal and vegetable crops, with grain very quickly becoming the main crop grown around in the basin. As a result, three flour mills were set up in the area; Bendix Hallenstein & J.W. Robertson's Brunswick Mill at Frankton (1867), William & Robert Gilmore's Wakatipu Mill on Hayes Creek (1870), and Peter & John Butel's mill near Arrowtown (now on the Millbrook Estate) (early 1870s). These mills actively encouraged farmers through cash advances to establish wheat crops (Thornton, 1986). The Wakatipu District soon became the foremost wheat growing region in the country.

Following the rapid increase in population created by the gold rushes, the population declined and stabilised for the rest of the 19th century. Farmers and runholders were significantly impacted by the introduction of rabbits, which reached plague proportions in combination with a national economic depression during the 1880s. Farmers in the Speargrass area continued to produce mixed crops, with a gradual shift towards pasture for sheep. Following the initial establishment of farms in the 1860s and early 1870s, the land boundaries appear to have been relatively unchanged, and many of the same owners worked the land into the early 1900s, where they were then passed on to their children. As such, there are a number of family names strongly associated with certain geographical areas within the basin.

Project Area Specific History

The following section focuses on the specific history of the project area. As no specific locations associated with Māori occupation have been recorded within the area, this section focuses primarily on the European Colonial history. It should however be noted that the absence of recorded Māori archaeological sites does not indicate an absence of early Māori activity, as Māori are known to have traversed and occupied the landscape prior to the arrival of Europeans.

There are some differences seen between the historic and modern legal parcels, which for clarity, has been mapped in Figure 6 and described below.

- Lot 2 DP 601937 (Originally Pt of Sections 21 and 24 Block 8)
- Lot 4 DP 529201 and Lot 1 DP 411193 (Originally Section 20 Block 8).
- Lot 3 DP 529201 (Originally Pt of Sections 24 and 66 Block 8)
- Lot 5 DP 300661 (Originally Section 66 Block 8)
- Section 23, 71 Block VIII
- Section 21, 24 Block IX
- Section 64 Block VIII Shotover Survey District
- Section 22 Block IX Shotover Survey District
- Section 23 Block IX Shotover Survey District
- Section 1 SO 478164 (Originally Part of Sections 84 and 88 Block 9)
- Section 2 SO 478164 (Originally Pt of Sections 35 and 84 Block 9)
- Section 25 Block IX Shotover Survey District
- Lot 3 300661 (Originally Pt of Sections 35 and 84 Block 9)
- Lot 4 DP 300661 (Originally Section 84 Block 9)
- Section 1 SO 420327 (Originally Crown Land)

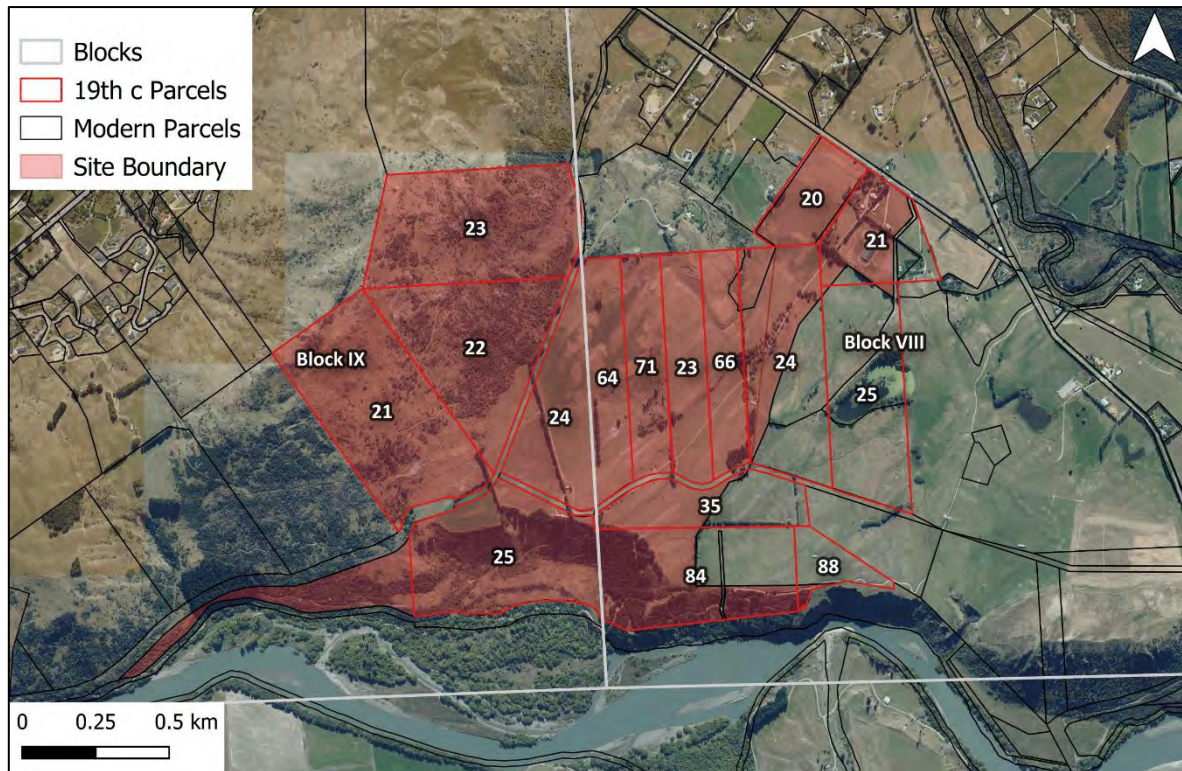


Figure 6. Historic land parcels overlaid with modern boundaries. Note the unmarked parcel was originally crown land – but the boundaries remain the same.



Figure 7. SO 1505 (Block IX) and SO 1503, 1863 (Block VIII), showing relevant land parcels in present work.

David Jolly, Henry Steele (Section 71 Block VIII), Stewart Angelo (23, 66 Block VIII), Borthwick Robert Baird (Sections 21, 22 Block IX, OT53/81), and James Whelan (Sections 21, 25, Block IX) all had agricultural leases in the area associated with the modern property parcels, some of which transitioned into Crown Grants in the 1870s (SO6385; OT31/140; OT53/81; OT47/185; OT84/82). This demonstrates the long-term agricultural use of the area, which lessens the likelihood of significant structures being present in the landscape beyond the identified farmstead. David Jolly was the most significant landholder of these figures, and as the 19th century went on, he would acquire the majority of land parcels associated with the modern section (Original Sections 20, 21, 24, 25, 35, 69, Block VIII).

Jolly would be present on the property from at least 1867 as per SO6385, though it appears that he was already occupying the land by this point. As per certificate of title OT31/140, by 1875, Jolly owned Sections 20, 21, 24, 25, 35 and 69 Block VIII. Section 21 Block VIII is the parcel originally associated with the historic farm buildings. In the later 19th century and early 20th century Jolly would apply to purchase sections 84 and 88 Block VIII. He would retain these sections until his death in 1903, upon which they were transmitted to his son, William Jolly. Due to illegibility within the Certificate of Title, further details of several subsequent transmissions are unable to be stated with certainty. John Brown Hamilton then took over the full ownership from the previous title OT31/140 in 1949, and his son, William Alan Hamilton would then take over in 1967 (OT399/44). Sections not visible in the main Title document, for example, 21, 22, and 23 Block IX may have been acquired or managed by the Hamilton's earlier, with some attained after the purchase of the main farmstead buildings/sections. Hamilton writes about acquiring others farms in the area throughout the 20th century, including those associated with Steele and Baird (subsequently the Fitzgibbons) (OT47/185; 51/81) (Hamilton, 2016, pp. 87, 12).

As for the less significant land holders in the area in relation to the titles associated with the modern property extent; these included the aforementioned Stewart Angelo, David Craig Jolly, Borthwick Robert Baird, James Whelan and Henry Steel (OT47/185; OT53/81; OT47/145) (Archives NZ: R14635806, R13287782). While they had less significant areas of land in relation to the modern boundary, some of this land included the Morven Hill Parcels, though with some Certificate of Titles relating to the Morven Hill parcels, the writing is not legible enough to make out. These parcels would be used predominantly for grazing and obtained by the Hamilton's in the 20th century. Angelo is also referenced as the owner of "Morven Hill Farm" in 1877, though it is unclear which land parcels this is referring to (Lake County Press, Volume VI, Issue 340, 27 December 1877, Page 2).

Sale of Cattle and Horses AT MORVEN HILL FARM. TH J. BARRY and CO have received instructions from the Proprietors to Sell by Auction, at Mr. Angelo's Morven Hill Farm. Arrow Junction. On SATURDAY, Dec. 20, 1877 (Lake County Press, Volume VI, Issue 340, 27 December 1877, Page 2).

Of note from Angelo's tenure as partial owner was a water race application from Cornish creek Arrow River was in 1889. No modern reference to the location of this creek or race has been identified (Archives NZ: R24046028), though it may have run along Morven Hill. The currently operational race in the mid-section of the property is associated with the Arrow Irrigation Scheme (Borrell, 2021) and therefore is 20th century in nature.

The following 19th century newspaper reference demonstrates the gradual acquisition requests for Jolly to take on more Grants/Titles for the already leased agricultural land he had in the area.

"Applications from Mr John Cameron, Shot-over, -Mr Joseph Clark, Crookston, and Mr David Craig Jolly, Shotover, to purchase certain lands held by them under agricultural Lease, were approved." (Otago Daily Times, Issue 4099, 8 April 1875, Page 3).

"Three weeks from the date hereof application will be made to the Otago Waste Lands Board to Purchase the undermentioned Section held by me under Agricultural Lease No. 1389 c:— Section 84, Block VIII., Shotover Survey District, comprising fifty-three acres or thereabouts. DAVID CRAIG JOLLY, Arrow Flat, Farmer (By his Agent, Henry B. Smith). The above application will be heard at the Court house, Arrowtown, on the 26th day of October 1882." (Lake County Press, Volume XI, Issue 594, 26 October 1882, Page 1)

"The application by David Craig Jolly to purchase for cash section 88, block VIII, Shotover district, was referred to the ranger for report." (Otago Daily Times, Issue 12449, 4 September 1902, Page 6).

"Application for an Agricultural Lease. District of Arrow, August 4th, 1879, To the Warden at Arrowtown T Hereby apply for a Lease of Land for Agricultural purposes situate between Sections 34 and 35, Block VIII., Shotover Survey District, and the Kawarau. River, being part of ,Section 25 Block VIII Shotover Survey District, and comprising fifty acres or thereabouts, in accordance with the Agricultural Lease Regulations made under The Mines Act 1877. DAVID CRAIG JOLLY, Farmer, Arrow Junction. The above application will be heard at Arrowtown on the 25th day of August 1879." (Lake County Press, Volume VIII, Issue 430, 7 August 1879, Page 3)

Despite illegibility in historic records and ambiguity in archival newspaper articles, it is clear both Angelo and Jolly had significant farms/agricultural leases in the area in the 19th century. Though valuation records do not give insight into the age of the buildings associated with the historic Section 21 Block VIII, it is likely these were constructed during Jolly's lease in the 1860s, as is further inferred from Hamilton's description of the buildings (Hamilton, 2016, pp. 17–23).

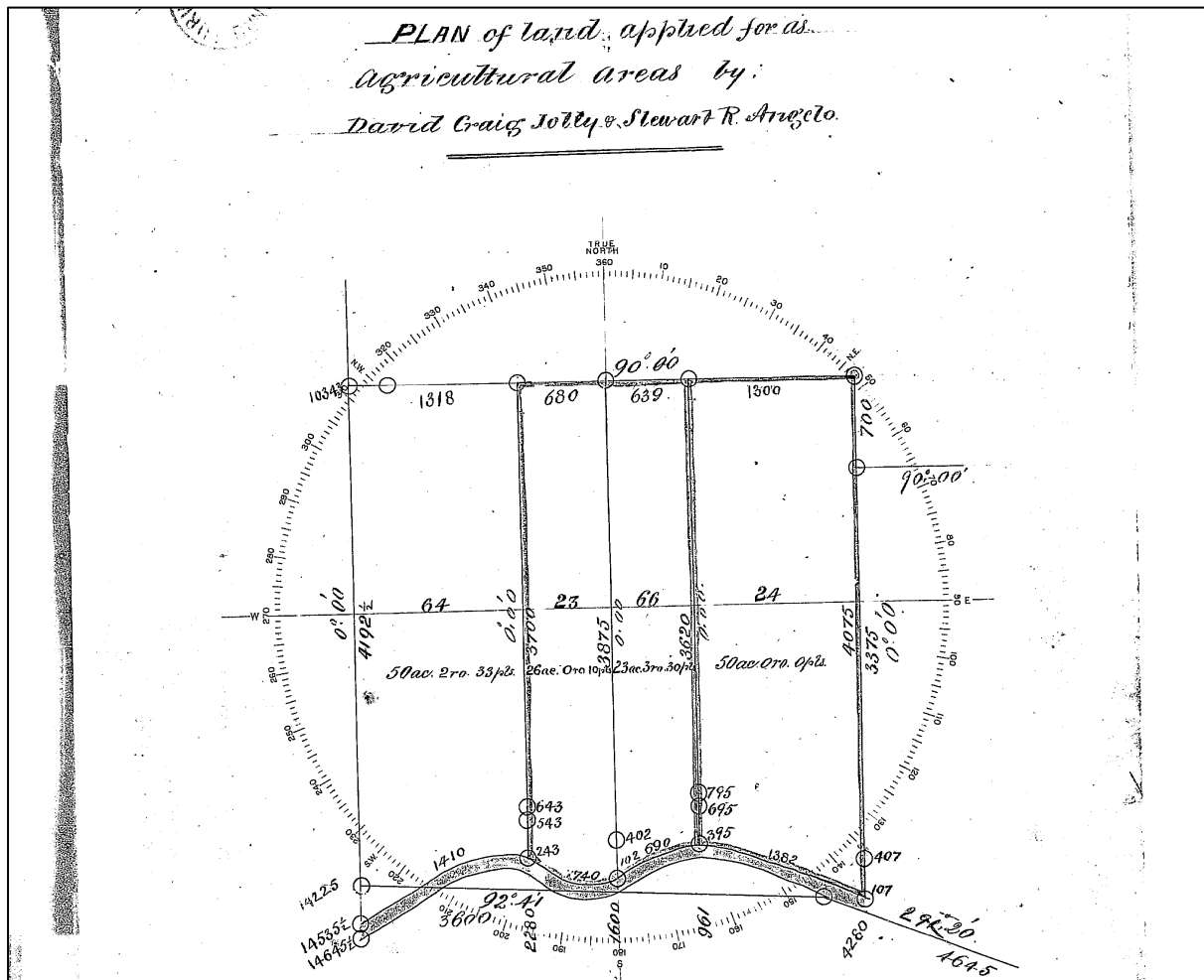


Figure 8. SO 6395, 1867, Showing agricultural areas of David Jolly and Stewart Angelo (Sections 64, 23, 66 and 24, Block 8)

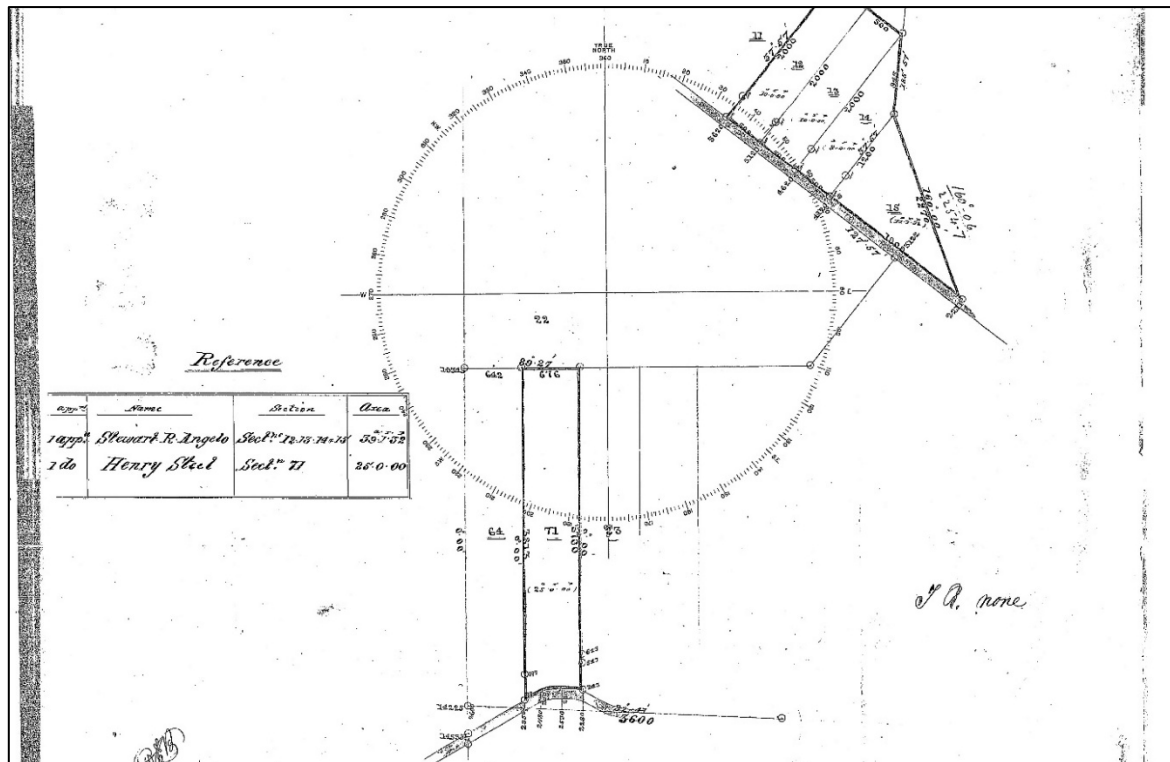


Figure 9. SO 6436, 1868, Agricultural Lease Areas applied for by Stewart Angelo and Henry Steel.

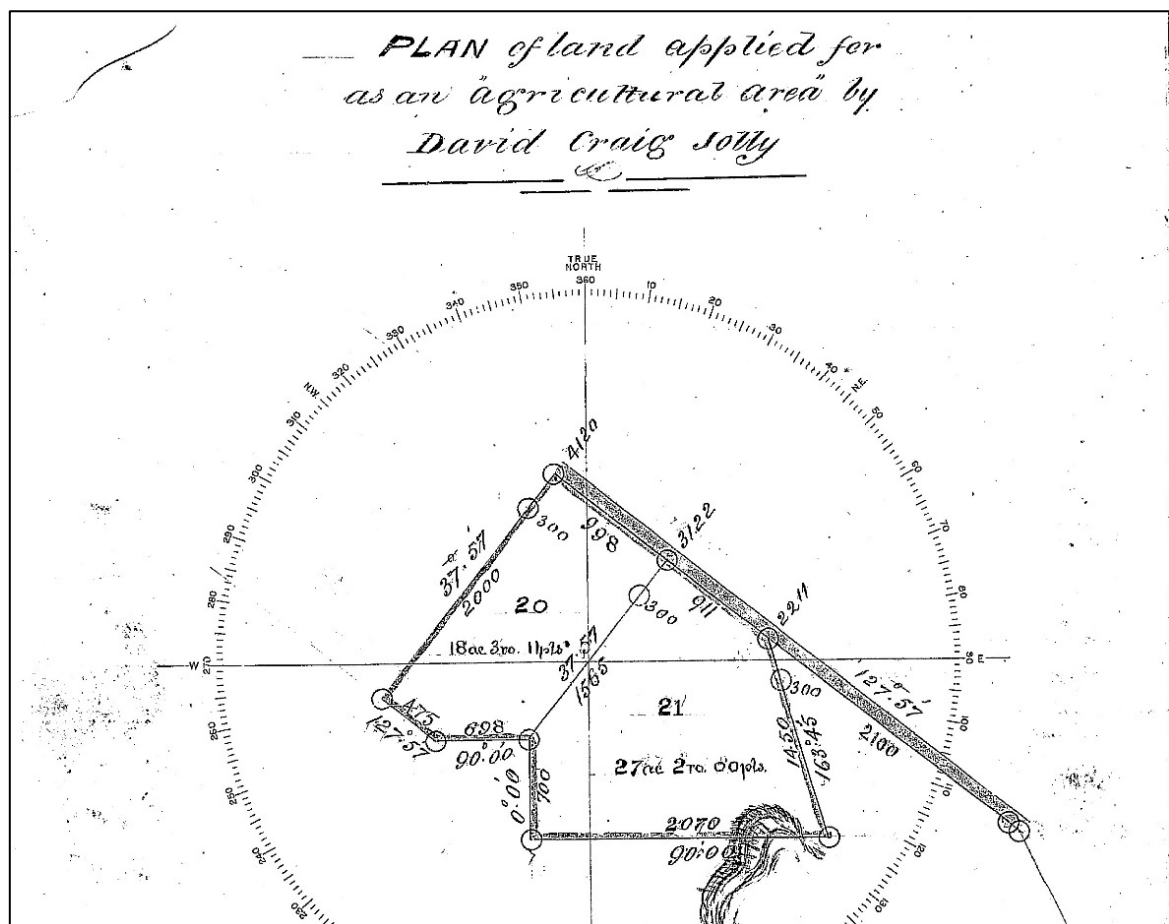


Figure 10. SO 6385, 1867, Land applied for as agricultural by David Craig Jolly.

History of Extant Buildings

The extant farm buildings recorded as part of the Doonhome farmstead include the farmhouse, Jolly's original stone hut – now known as "The Museum", the stables, and the Hay Barn which was a later, 20th century development at the site. The following building history has been provided by Justin Dubbeld of Novak + Middleton (Dubbeld, 2024).

Farm House

"The early Doonholme farm cottage was built for the first leaseholder David Craig Jolly c. 1865 -1867. Jolly is recorded as the leaseholder of the property in the 1865 survey and later obtained the crown grant for the land in 1875 (Hamilton, 2016). It was constructed of locally sourced stone schist and mortar by local stonemasons. The original house is likely to have originally been a smaller Scottish influenced stone croft / cottage with a central entranceway with windows either side, a veranda, two chimneys and matching gabled ends. This earlier gabled form construction can be clearly seen in an image of the house from the 1930s-1940s [see Figure 11]. In Alan Hamilton's book 'The History of Doonholme Farm' he refers to the stone gabled form that runs at right angles to the original cottage likely being an alteration undertaken by Jolly later in the 1870s [see Figure 12]. Hamilton's book reveals that a number of original cottage window openings were made larger and renewed at the time his parents Jack and Lou Hamilton moved onto the farm circa 1946. The early roof of the smaller cottage was revealed, in a 1986 alteration, to have been constructed using timber shingles that had later been roofed over with corrugated iron (Hamilton, 2016) [see Figure 13]. The Queenstown Lakes District Council records show that the cottage underwent two significant alterations post 1946. The most significant alteration was in 1986 with the re-pitching of the roof over the early cottage and a second story with roof dormers added (QLDC, 2024)." (Dubbeld, 2024).



Figure 11. The farm cottage, likely to have been photographed c. 1930s-1940s when the farm was purchased by Jack and Lou Hamilton. Form of the museum visible in the bottom left (Hamilton, 2016 p.11)



Figure 12. Rebuilding of kitchen, the walls and window are retained within the modern structure (Hamilton, 2016 p. 126).



Figure 13. 20th century renovations revealing original roof shingles beneath current modern roof (Hamilton, 2016 p. 125).

The Stables

“The original Doonholme Farm Stables were likely built circa 1865-67 in conjunction with the original farm cottage by the first leaseholder David Craig Jolly. Constructed of locally sourced stone schist and mortar by local stone masons. The photo in [Figure 14] clearly shows the un-altered stone schist walls with unsymmetrical gabled form and corrugated iron roof. This form is typical of the agricultural ancillary farm buildings of this period in the district. The photo in [Figure 15] indicates what appears to be part of the left-hand section of schist wall having been replaced with timber frame and cladding. Queenstown Lakes District Council records show that significant alterations were undertaken in 1963 (QLDC, 2024). These significant alterations were likely due to Jolly’s stables being converted into a woolshed. The alteration included the addition of two shearing machines and a sheep yards. Hamilton’s book also notes that remnants of the original schist flagstone floors are still partly in existence along with the stables stall poles where the horse collars, Hames & halters were hung (Hamilton, 2016). A higher corrugated iron extension to the rear and a lightweight single storey timber framed garage to the end of the original stone gable end has now been added” (Dubbeld, 2024).

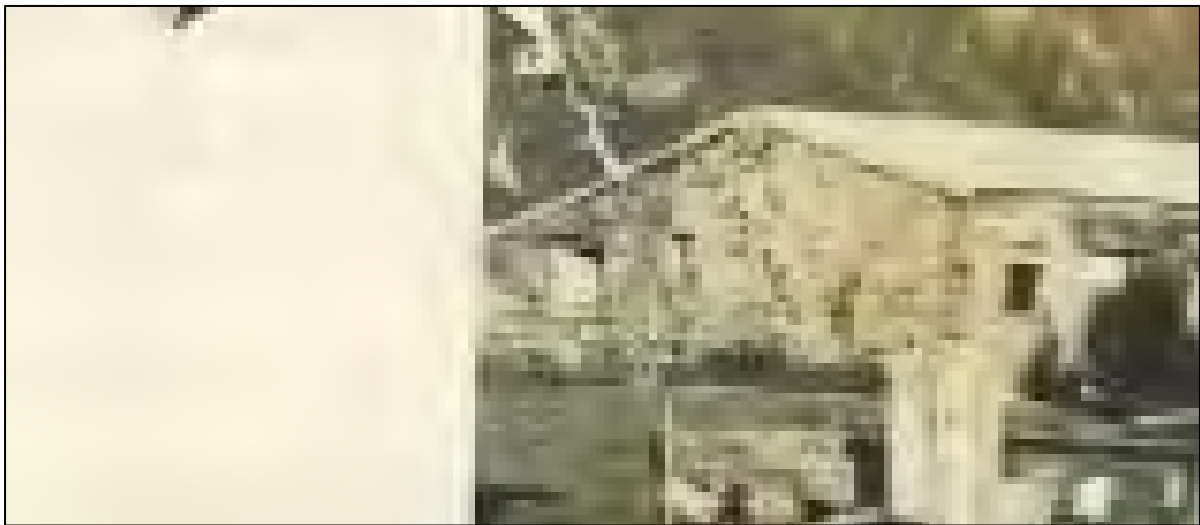


Figure 14. The original stables form, facing west (Hamilton, 2016).



Figure 15. Stone stable with timber extension, pre 1963 with lean to added (Hamilton. 2016, p.64)

The Museum

"The building now named 'The Museum' is referenced in Alan Hamilton's book to have been originally a small modest cottage that provided early accommodation to the leaseholder David Craig Jolly. The stone remnants of this building are likely to be some of the earliest stone masonry that exists on the property (Hamilton, 2016). It is unknown what the original built form of the small cottage was. Alan Hamilton writes about restoring the cottage for his children to use as a playhouse." (Dubbeld, 2024).

Steele's Hut

The recorded remains of stone hut ruins at the Morven Ferry farm site (ArchSite No. F41/890), located in Section 71, Block XI, at the southern edge of the parcel. The site was located using information provided by one of the owners of the farmstead, who indicated the site was constructed by David Jolly, who is associated with the 19th century farmstead to the north. However, it is noted that as shown in SO 6436 and OT57/168 (Figure 17, Figure 18), the Section in which the remains reside was initially occupied and farmed by Henry Steele from c. 1868. This coincides with a description provided by Hamilton (Hamilton, 2016, p. 12), where it is stated that stone remnants of the Steele's original hut and fireplace remain, as do the poplars planted by them, and were also observed during the current survey.

"The Steels [sic] owned 25 acres; that land is now part of Doonholme. The Steels planted poplar trees, a hawthorn hedge and fruit trees. My stags wrecked the plum trees, but a pear tree survived. The Steels' stone house, with its fireplaces and stone floors, still remains, all built in the 1860s." (Hamilton, 2016, p. 12).

In 19th century newspapers, Henry Steele is stated to own a significant farm in the area although no specific parcel descriptions are given, having listed it for Sale in 1872:

"TO CAPITALISTS & OTHERS. A SPLENDID FARM FOR SALE, JOHN O. M'ARDELL received instructions from Mr Henry Steele to Sell by Private Contract his property, situated between Hayes Lake and Morven Ferry, and bounded on one side by the Kawaru River. The Farm contains 210 Acres of Rich Agricultural Land, the greater part of which is securely fenced; 40 acres are under (first) crop, and 80 acres are cleared ready for the plough. The property is so situated that all the grain grown thereon can be satisfactorily disposed of on the Farm, as it is in close proximity to the main trunk road." (Lake County Press, Issue 42, 22 March 1872, Page 3).



Figure 16. Photo of the Steele's property and trees, Hamilton 2016 p 12.

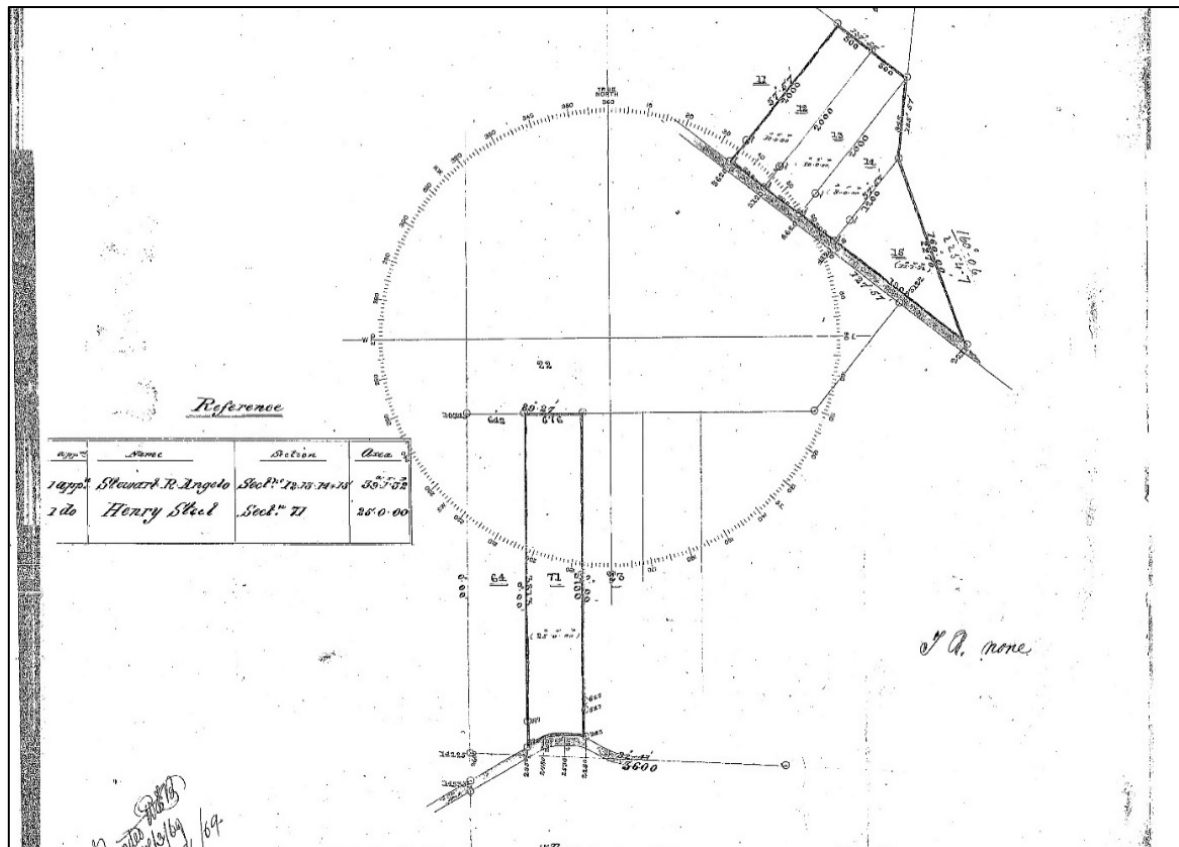


Figure 17. SO 6436, 1868, Agricultural Lease Areas applied for by Stewart Angelo and Henry Steel.

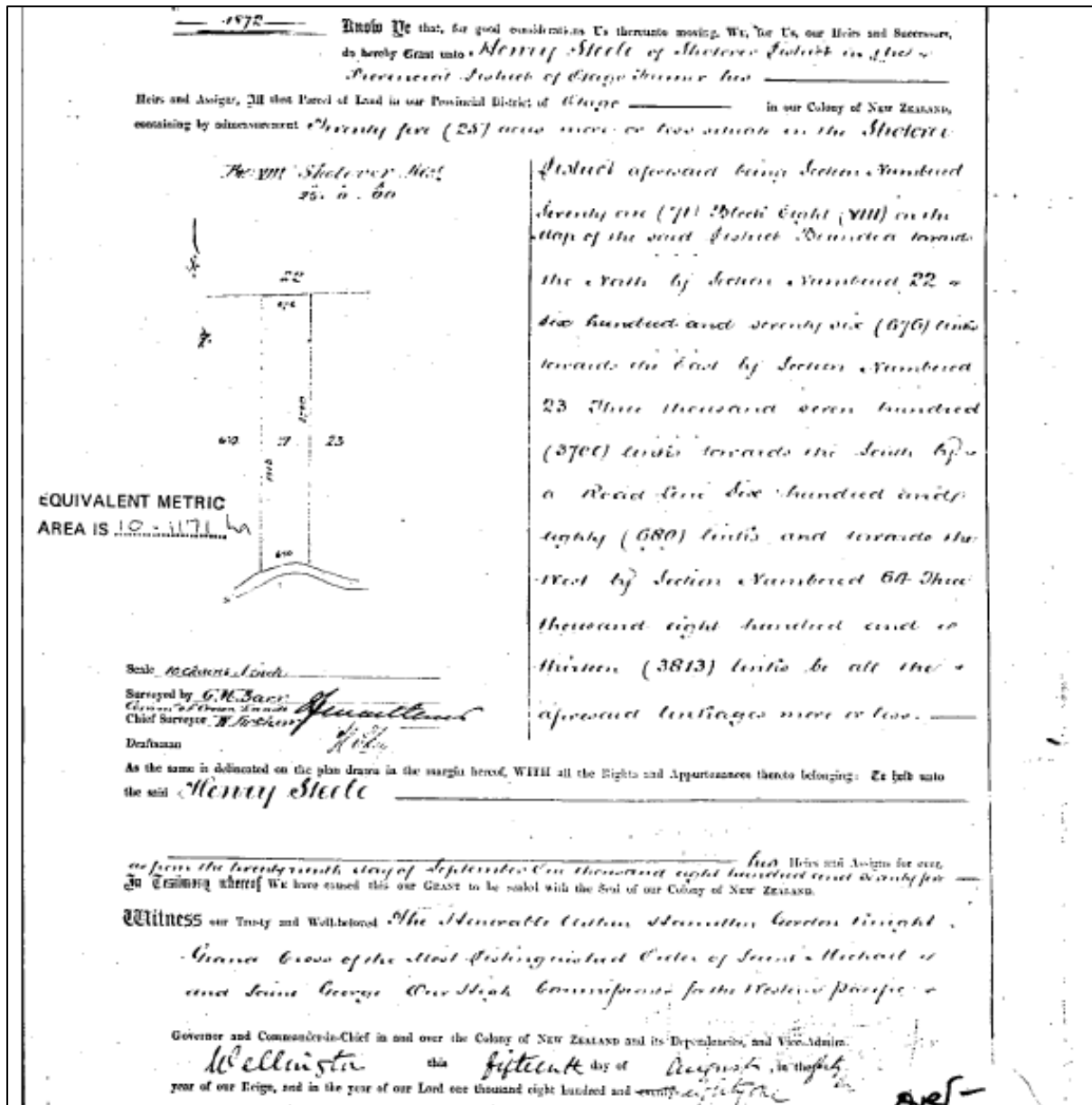


Figure 18. Title OT57/168, Henry Steele, 1870s.

Gold Mining History – Kawarau River and Morven Hill

Documentation relating to gold mining history within the project area is limited. SO1503 from 1865 shows the land adjacent to the banks of the Kawarau as being an “Auriferous Reserve” meaning it had been set aside specifically for mining claims (Figure 19). Unfortunately, there is little surviving documentation on early mining claims. Most early claims were modest affairs, being of a size and scale capable of being worked by hand by a limited number of men. As such, while it is likely that some gold mining occurred within the reserve, the documentation surrounding it does not exist. From SO 6686 (Figure 20), it can be observed that Jolly was occupying the land directly adjacent to the auriferous reserve and was understood to be a miner, so it is possible to infer potential activity in this area (Archives NZ: R24046600). Morven Ferry was also located close downstream from the project area, so the area may have experienced increased traffic in the 19th century (SO 6445). Hamilton does state the following on early mining activity in the area:

“...Looking over at the farm, with Morven Hill and Arrowtown in the distance and the Kawarau River immediately below. The early miners thought this would be a rich patch for gold, but it was not to be” (Hamilton, 2016, p. 122).

From this, it can be inferred that mining likely did take place in the area during the 1860s and later 19th century, however, due to limited success, this activity was not prolonged, substantial or large in scale. This could contribute to the absence of definitive claim documentation in the immediate area. It does appear that to the west, further mining activity including dredging continued in the 20th century (Figure 21).

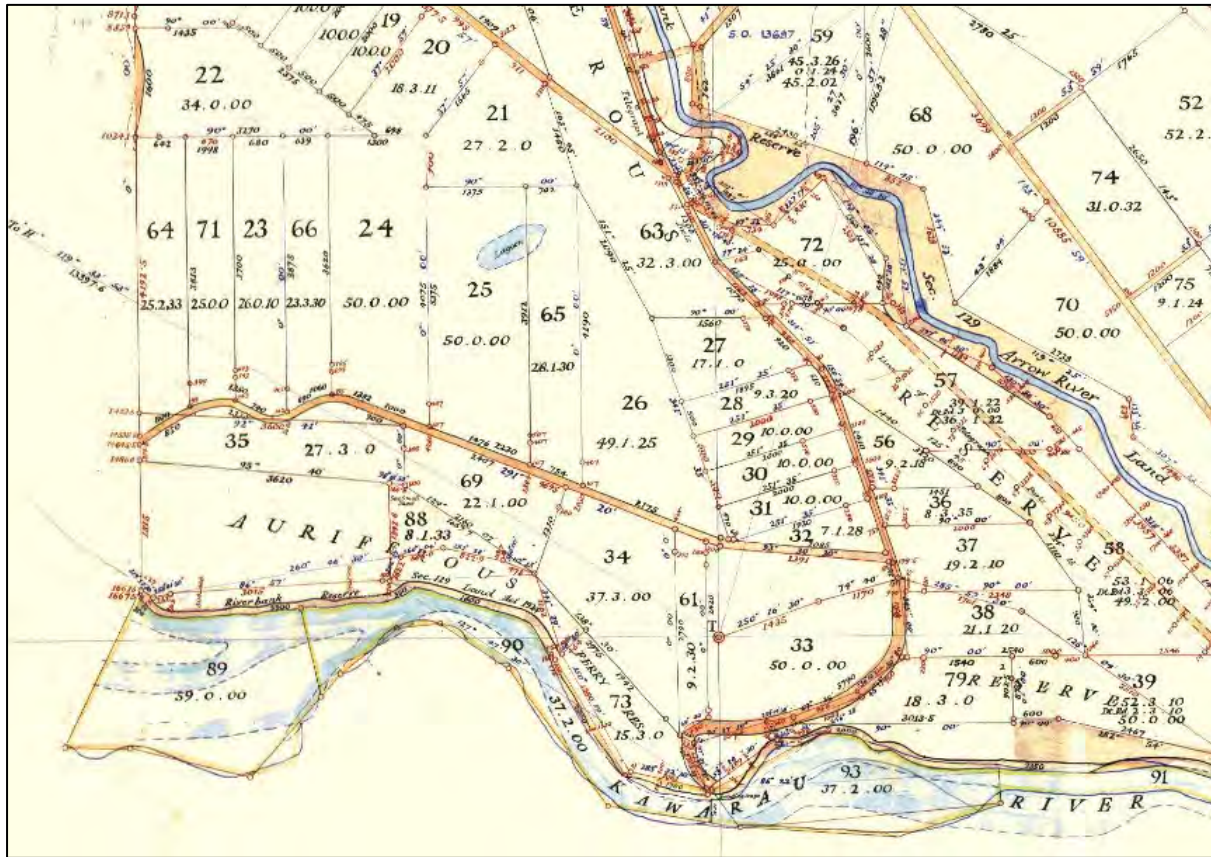


Figure 19. Block 8 Shotover SD - SO 1503, 1865, relevant parcels; Sections 35, 69, 88, 64, 71, 23, 66, 24, 21, 20, 25, Block 8. Note the Auriferous Reserve along the Kawarau River.

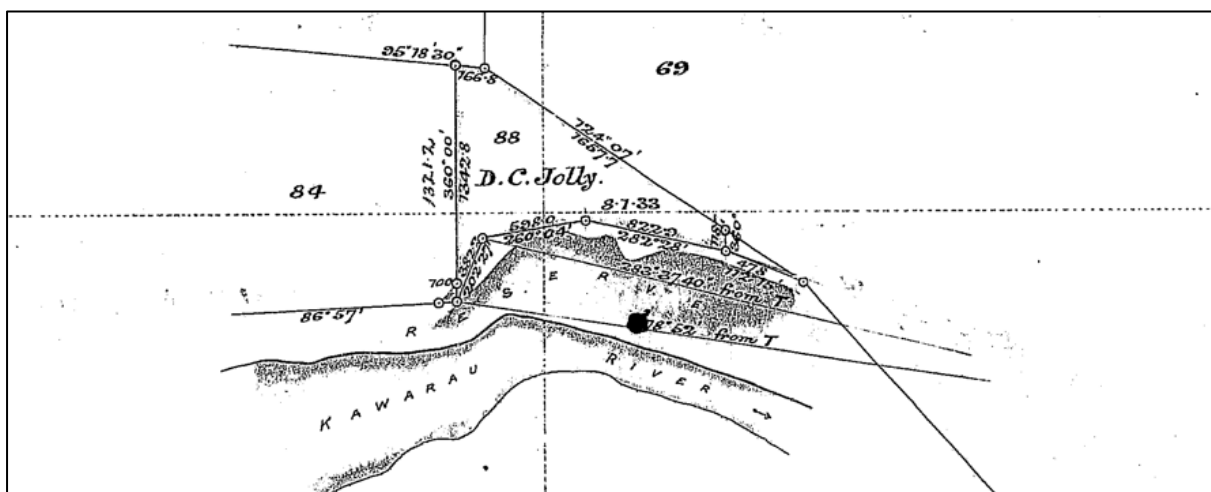


Figure 20. SO 6686, 1887, showing Jolly's claim/land.

By the 1880s and 1890s the nature of mining had changed becoming much more industrialized and employing complicated hydraulic equipment. Claims were also much more formalized and well documented. There is a noted occurrence where the following application was deposited in archives NZ, "Application for cancellation of

special claim - Stewart R Angelo, David C Jolly, William Lyons, John Cockburn - Kawarau District – 1891” (Archives NZ: R24046600). Special claims do generally refer to mining activities, and as such, while no specific area is given apart from the Kawarau District, it indicates that key figures in land holding in the area, Jolly and Angelo, had some mining association in the Kawarau, potentially within the project area. Directly south of the project area, five mining claims adjacent to the Kawarau but on the opposite bank were taken out in the 1880s and 1890s, see Figure 22-Figure 27. Based on the available information, the highest potential locations for mining activity within the proposed project area are the sections adjacent to the Kawarau River and Morven Hill. Additionally, some modern photography has suggested that potential tailings are visible on Morven Hill. The area immediately south and west of the main farmstead was predominantly used for agricultural purposes, with no evidence of mining activities.

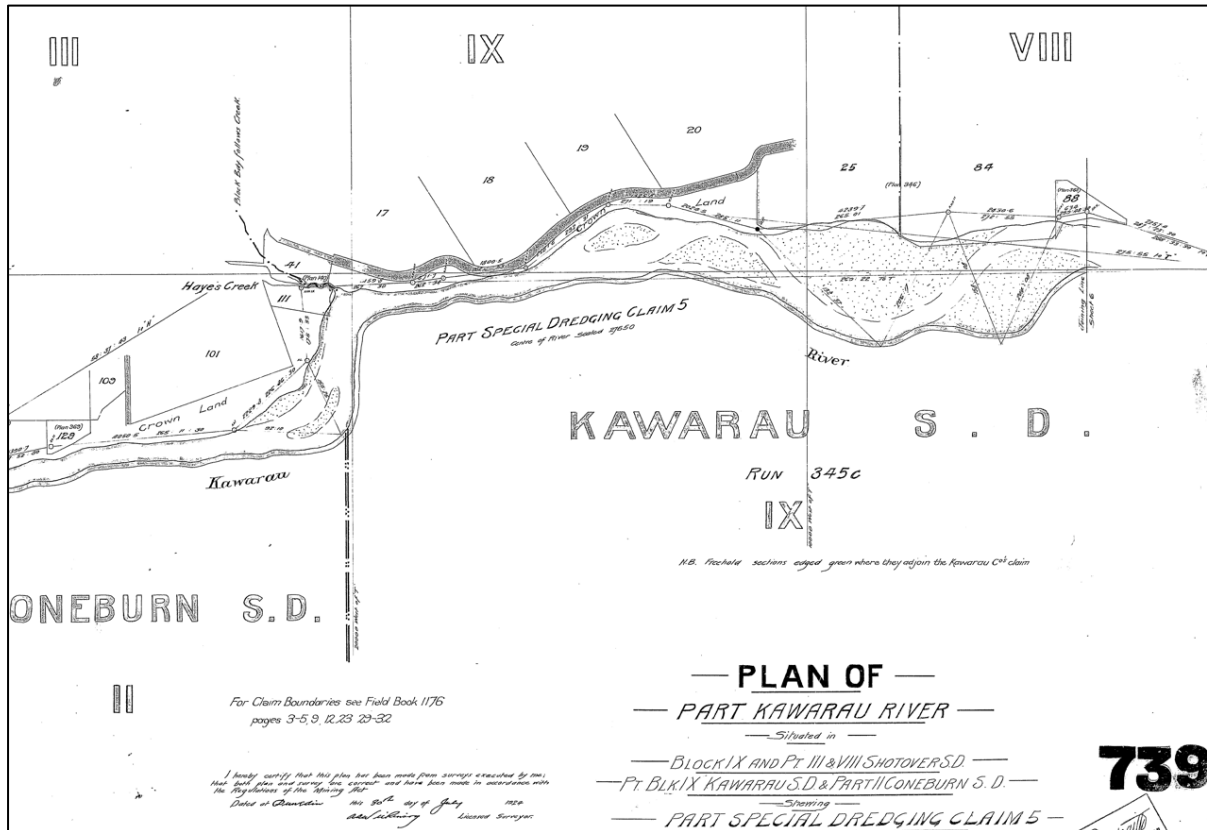


Figure 21. SO 739, 1924 Dredging Claim.

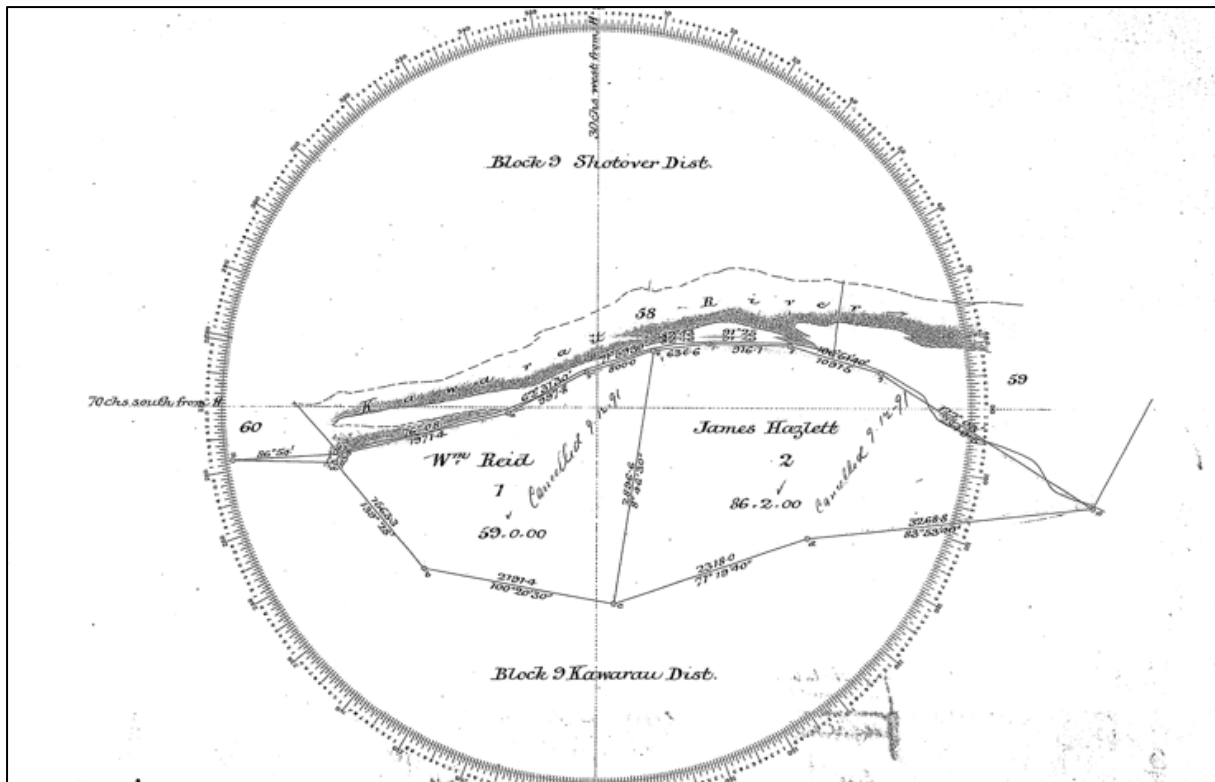


Figure 22. Mining claim taken out by W Reid and James Hazlett, 1889, SO 4692.

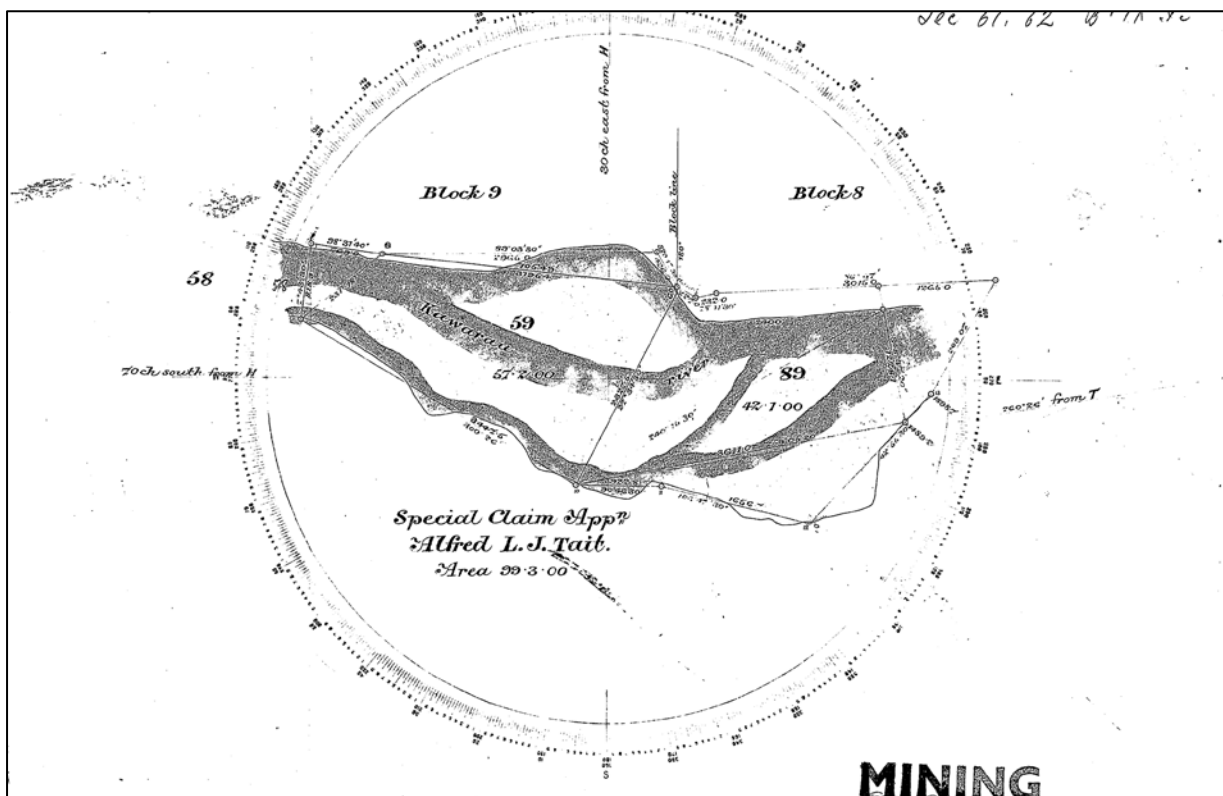


Figure 23. Adjacent mining claim taken out by Alfred Tait, 1897, SO 6731.

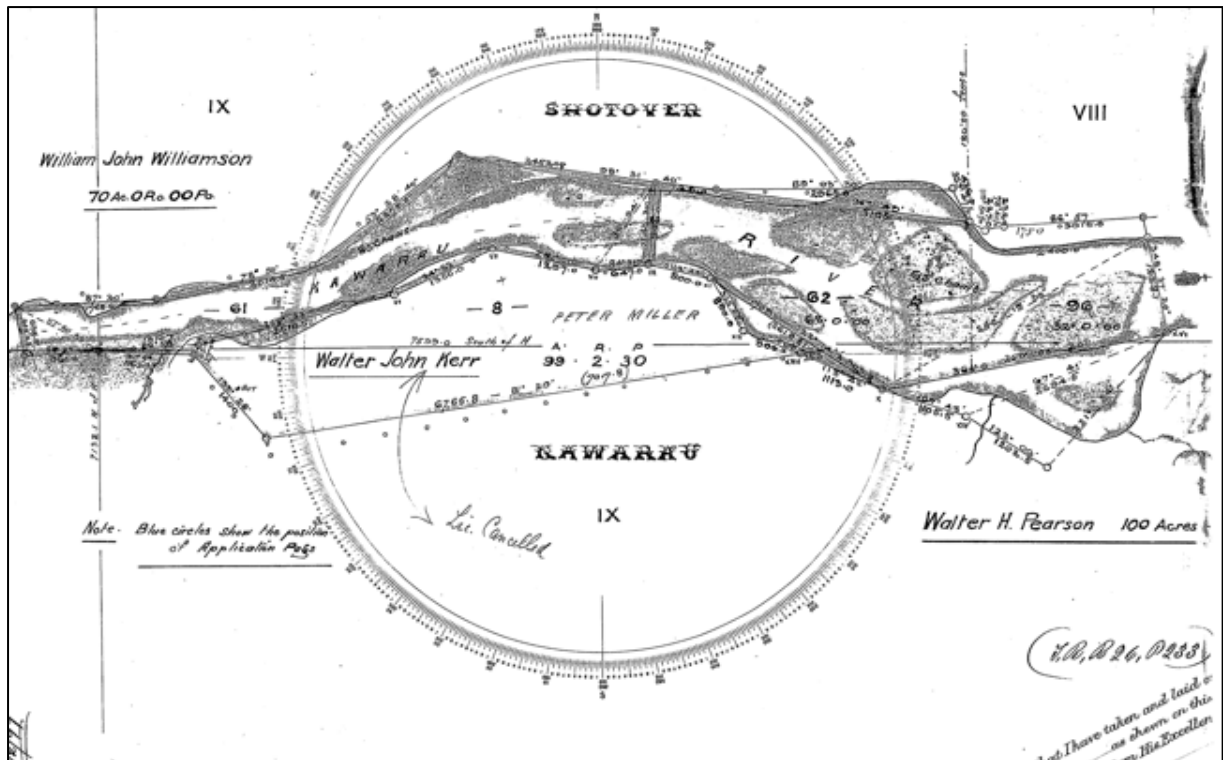


Figure 24. Adjacent mining claim, SO 6746, 1899.

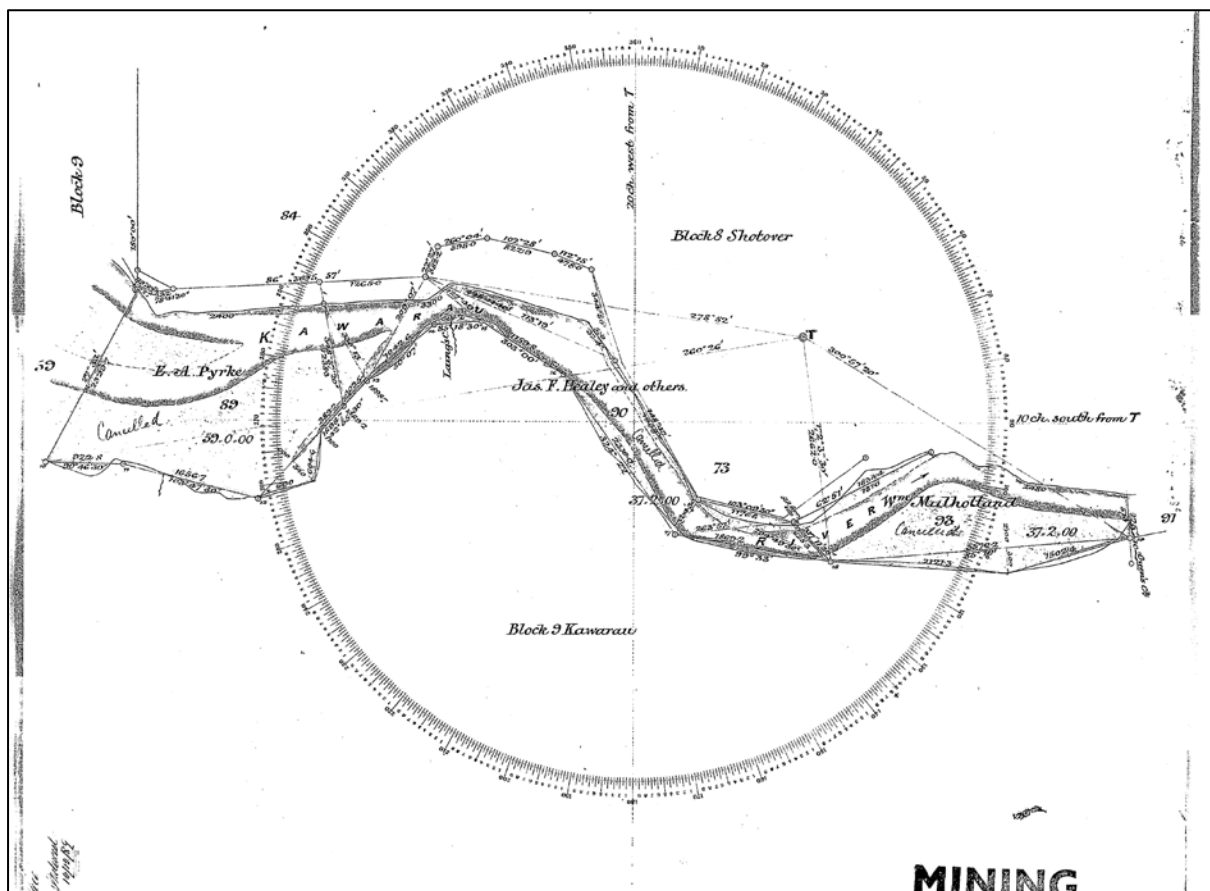


Figure 25. Adjacent mining claims to the south SO 6699, 1899.

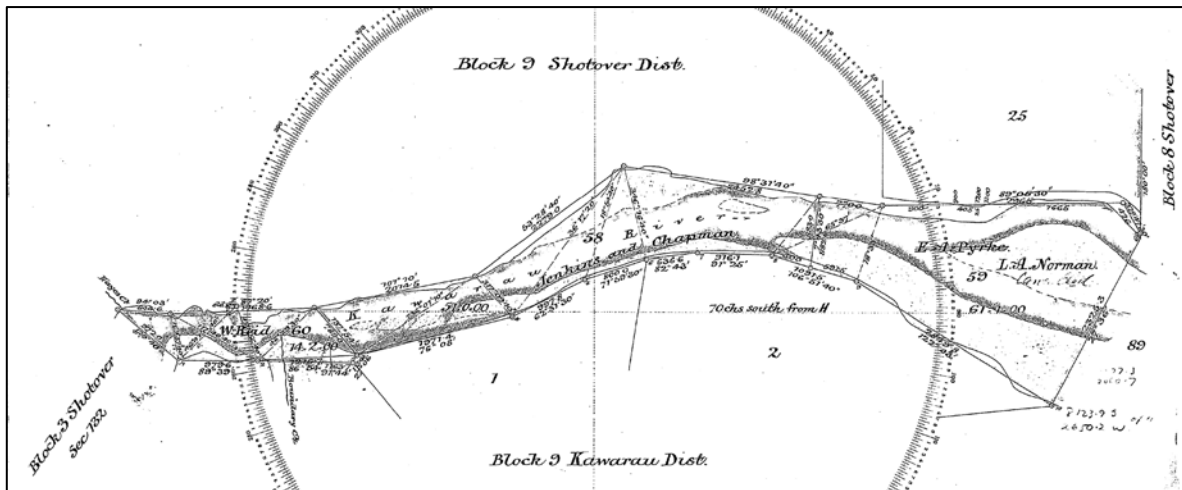


Figure 26. Adjacent mining claim, SO 6698, 1889.

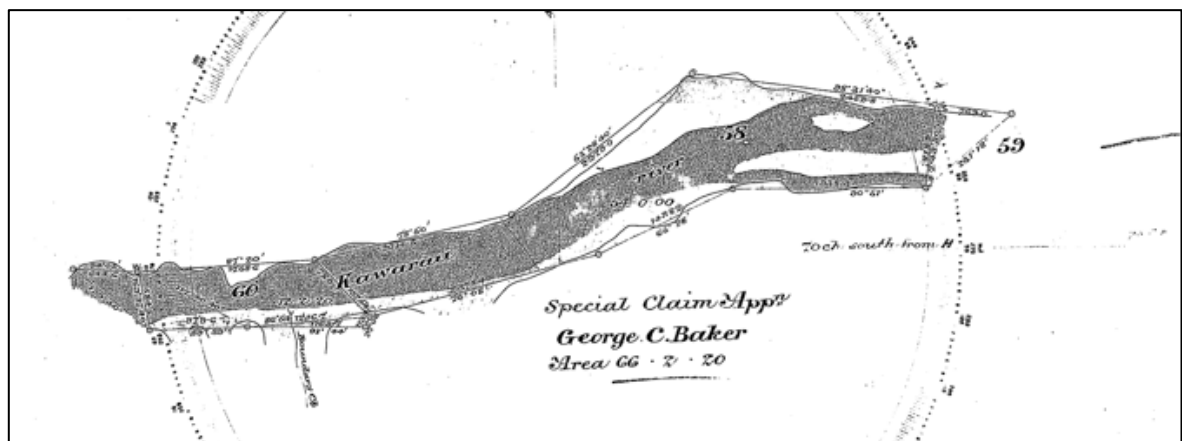


Figure 27. Mining claim by George Baker, 1897, SO 6730

Additionally, an examination of historic aerial photography from the 1950s shows the landscape mostly devoid of vegetation growth. One such image shows the section of embankment leading down towards the Kawarau as having potential sluicing remains present along its face (Figure 28).



Figure 28. Potential sluicing features within project area boundary adjacent to Kawarau River (Retrolens: SN1219/2/840/1).

Archaeological Context

Archaeological sites recorded on ArchSite

ArchSite shows that several sites have been recorded near the project area. These predominantly fall into mining and agricultural categories, which is consistent with site types present within the project area.

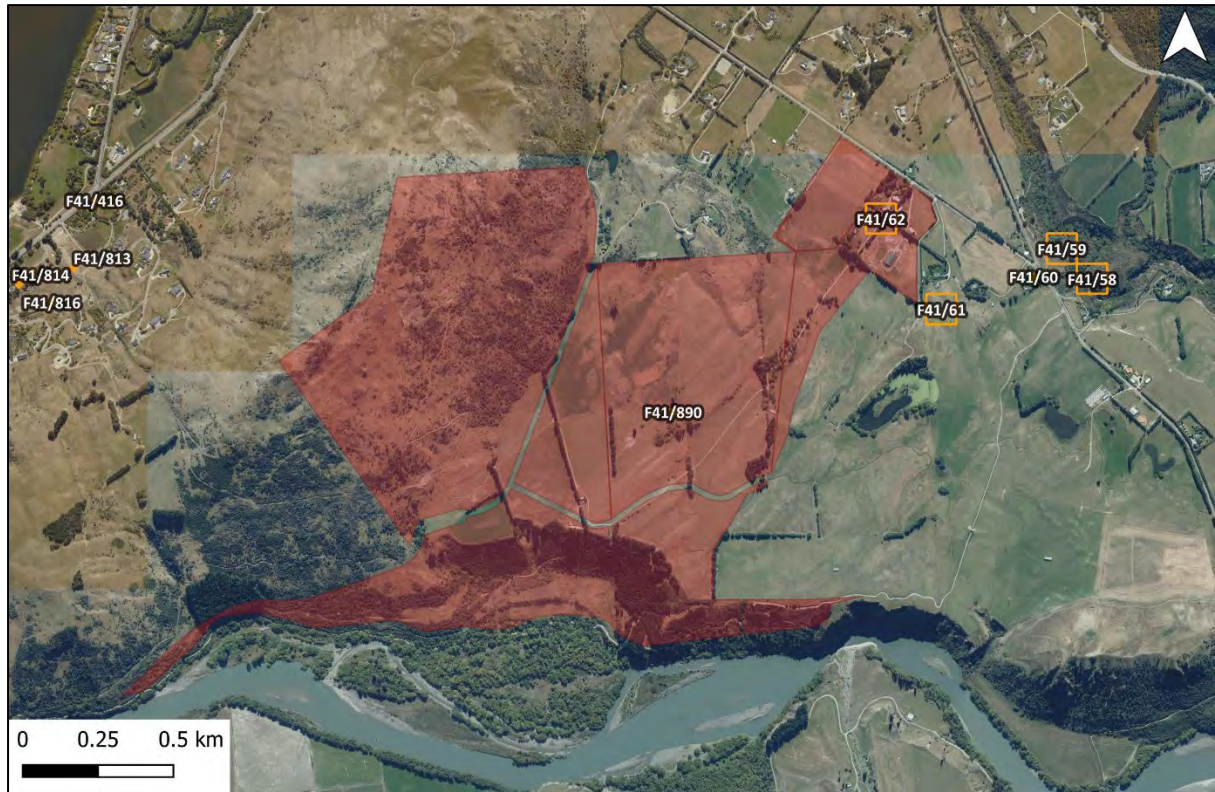


Figure 29. Map showing ArchSite recorded archaeological sites in vicinity of 122 Morven Ferry Road.

Table 1. Table of recorded archaeological sites in the vicinity of the project area.

Site Number	Site Name	Site Type	Details
F41/58	N/A	Mining – Gold	Tailings 50m x 30m (Till & Wilson, 1979).
F41/59	N/A	Mining - Gold	Tailings 100mx100m 300m west of Morven Ferry Road (Till & Wilson, 1979).
F41/60	Shaw's Cottage	Historic/ Domestic	Stone stable and timber cottage built sometime around 1874 during the ownership of Robert Pritchard (Teele, 2017).
F41/61	N/A	Agricultural/ pastoral	Farm building (Harrison & Lee, 1979).
F41/62	N/A	Agricultural/ pastoral	Farm buildings/homestead likely built in 1870s/80s under ownership of David Craig Jolly (Harrison & Lee, 1979).
F41/416	Lake Hayes Hotel	Commercial	The Lake Hayes Hotel building was constructed in 1867, burnt down in 1881, and rebuilt in 1882 (Teele, 2017).

F41/813	N/A	Agricultural/ pastoral	19 th century boundary fence with augured timber posts (Petchey, 2018).
F41/814	N/A	Agricultural/ pastoral	A small stone cottage that was built by George White, probably in the 1870s or 1880s (Petchey, 2018).
F41/815	N/A	Agricultural/ pastoral	1880s Stone barn constructed by George White originally and converted into house in 1960s (Petchey, 2018).
F41/816	N/A	Agricultural/ pastoral	A section of the Bendemeer Rac (Arrow Irrigation Scheme). The Bendemeer Race was added to the scheme in 1935/36 (Petchey, 2018).
F41/890	N/A	Historic/ Domestic	Ruins of a hut site, likely associated with Henry Steele c. 1860s/1870s (Christie, 2025).

Other archaeological work

A previous desktop pre-assessment was undertaken for the current assessment area in order to identify potential features in the assessment area based on historic research (Christie and Cook, 2025).

Site Visit/Survey

An initial site visit was conducted by Riley Christie of Origin Consultants on 26 August 2025, and a survey was conducted on 10 October 2025. The initial site visit was undertaken to assess if there were potential archaeological features clearly visible in the area, and to assess the known archaeological structures surrounding the main homestead. Following a targeted mapping exercise, georeferencing historical aerial photographs in a grid across the farm area, a further period of surveying the property followed utilising pedestrian survey and drone recording.

GIS Analysis

Several areas of what appeared to be lineal mounds and eroded features were identified during the GIS analysis, and were marked as Potential Areas of Interest for further investigation during the survey process (Figure 30, Figure 31). The coordinates of these Potential Areas of Interest were used to locate these features in the field using GPS. The features subsequently observed on the surface of Morven Hill within the project area boundary are most likely to have been from the 20th century, with any 19th century features in this area being too ephemeral to identify in the field due to vegetation growth. Potential areas of interest adjacent to the Kwarau River included potentially sluiced features that were then identified visually during the drone survey. However, due to the overgrowth of scrub and vegetation, much of the underlying physical land formation was not visible. For location identification in the below photos, grid references are shown on Figure 30.

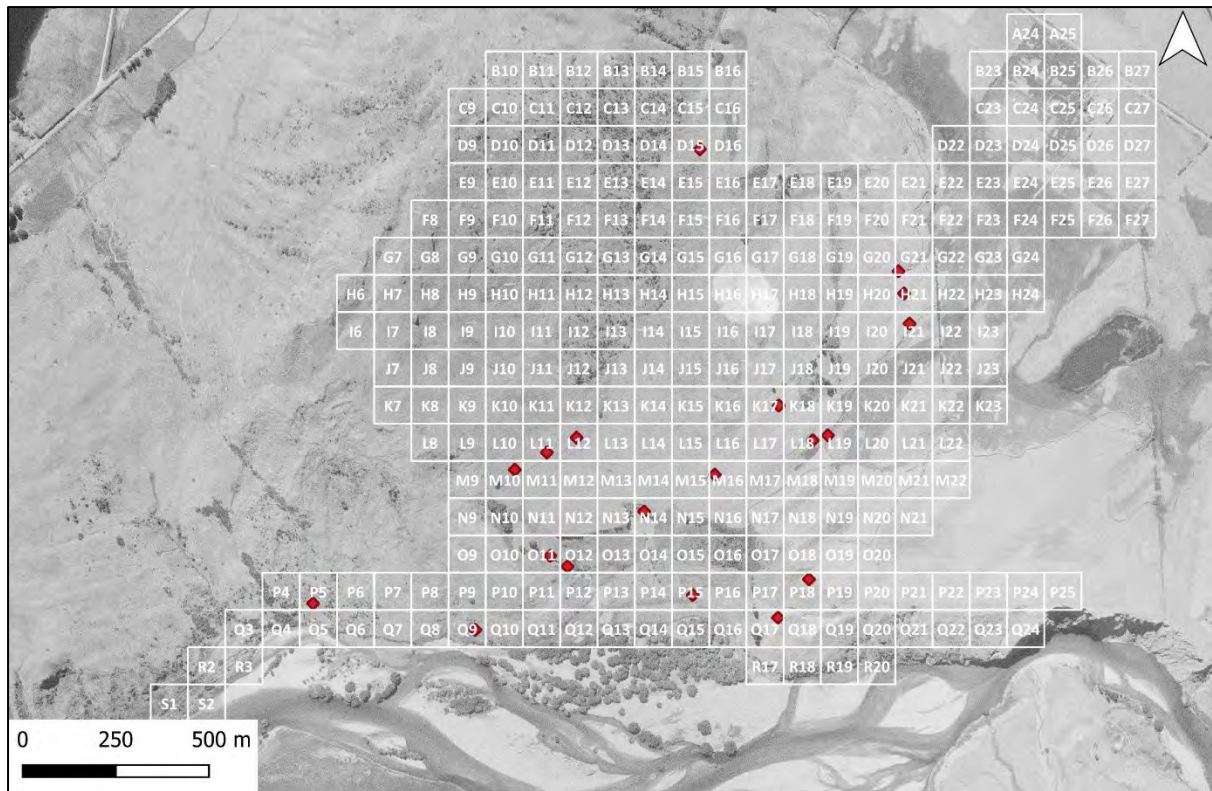


Figure 30. Example of historic aerial overlay and grid method used to identify potential features in the landscape. Red diamonds correspond to Potential Areas of Interest identified during the analysis.

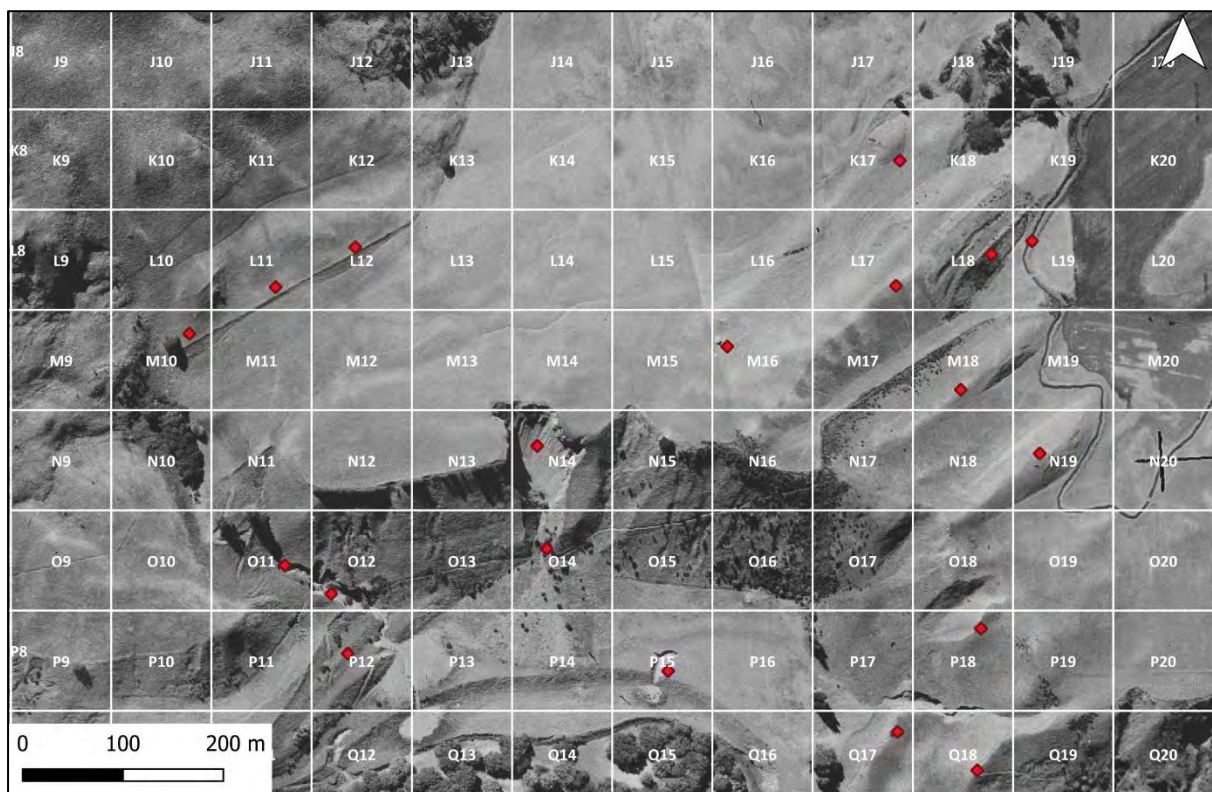


Figure 31. Closer detail of grid employed in preliminary survey strategy.

Survey Results

The pedestrian and drone survey covered the designated survey grid cells and surrounding landscape, focusing on identifying above-ground archaeological evidence and potential landscape features associated with 19th century activity. All accessible paddocks were systematically walked over and photographed, while aerial imagery from drone survey was used to detect features not readily visible from ground level or were inaccessible due to health and safety concerns. This included recording areas of Morven Hill and the part of the project area adjacent to the Kwarau River via drone.

Overall, the surveyed areas were largely absent of discernible above-ground archaeological features. This absence is likely attributable to extensive 20th century agricultural use, vegetation overgrowth, and later development, which have obscured or removed earlier landscape traces. Potential features such as mounds, ditches and depressions were noted (see Potential Areas of Interest) but could not be conclusively characterised as archaeological in nature due to a lack of existing information on 19th century activities at the project area. The agricultural features present across the mid-sections of the property were not distinctively characteristic, and at Morven Hill no visible 19th century features were identified within the landscape.

The GIS grid was used to guide the physical survey process, though all accessible areas were visually inspected and recorded. Grid Cells P5 and Q9 were not accessed for pedestrian survey but were viewed via drone. Similarly, areas from Grid Rows N–Q, except for a potentially sluiced face and modified terrain between Grid Cells O12–O16 and P12–P16, were subject to dense scrub and bush cover, significantly limiting surface visibility.

Several mound formations were identified during the field survey, including some not visible in historical aerial photography. These appeared to be more consistent with 20th century landscape modification, and the extent to which the landscape was altered in the 19th century remains uncertain. Consequently, these mounds cannot be confidently attributed to historical occupation or activity.

The primary feature identified within the survey area remains the recorded archaeological site F41/890, which possesses evidence of 19th-century occupation and activity. The preliminary visit and survey also served to confirm the surviving 19th-century elements of the farmstead building complex (F41/62).

Beyond these areas, large portions of the land south of the farmstead parcel were primarily subjected to agricultural use over the 19th and 20th centuries. Any archaeological evidence that was potentially present in these areas may have been impacted by these activities.

Farmstead 19th Century Buildings – F41/62

The 19th century buildings at the project area, as previously described in the History of Extant Buildings section, comprise the farmhouse, stables and hut, now referred to as The Museum. The farmhouse retains its 19th century stone form, and is now used as an office (see Figure 32, Figure 33, Figure 34). The later addition to the house by Jolly is also retained although modified by 20th century renovation. The original stone walls are still present within the frame of the house, although covered by modern cladding. The building is observed to still be in good condition and appears to be well maintained. The museum, while modified by Hamilton in the 20th century, appears to be in fair condition and retains elements of its original construction. The complete original footprint is unclear although an additional unroofed section to the west of the main structure was observed, serving an unknown purpose in the original utilisation of the building (Figure 36, Figure 37). The stables/woolshed are in a significantly deteriorated condition, with the building's stone walls showing cracking and leaning. The 20th century timber additions have also served to remove some of the original construction, although from viewing the structure internally, the original footprint of the building can be understood (Figure 41), and it is thought that the original stone floor remains under the timber slats of the building, which were installed to transition the stables into a woolshed (Figure 38-Figure 43).



Figure 32. Aerial view of farmhouse, section at bottom left constitutes remaining stone section.



Figure 33 Alan Hamilton's office inside David Jolly's former stone dwelling.



Figure 34. Exterior of stone shed and timber kitchen extension added in 1986 by Alan Hamilton, August 2025.



Figure 35 . Rear northwest elevation of David Jolly's stone shed.



Figure 36. David Jolly's original hut front elevation, August 2025.



Figure 37. Facing west showing additional section of original hut.



Figure 38. 19th century stables, with modern timber and steel extensions.



Figure 39. Inside 20th century barn, facing east toward eastern wall of stables.



Figure 40. Western elevation of original stables, showing degradation and cracking.



Figure 41. Image demonstrating original portions of stables remaining, beam visible along floor and stonework indicating original extent, facing west.



Figure 42. Internal woolshed wall showing degradation and lean.



Figure 43. Facing north showing original stone wall.

Steele's Hut - F41/890

As discussed in the History of Extant Buildings section, the identified hut site located during the site survey was predominantly identified through the written histories of the site, as the feature was not visible through analysis of historic or modern aerial photography. The survey confirmed the presence of the site, and it was subsequently recorded as F41/890. The site represents the remains of a stone hut ruin located within Section 71, Block XI, at the southern edge of the parcel.

The site was identified following information provided by one of the farmstead owners, who indicated that the structure was constructed by David Jolly, associated with the 19th-century farmstead to the north. However, cadastral records (SO 6436; OT57/168) show that this section was originally occupied by Henry Steele from around 1868, aligning with Hamilton's written references to the Steele family's early residence in this area. The location of the remains, the presence of associated poplar trees (Hamilton, 2016, p. 12), and the broader historical context suggest that the site is likely linked to the Steele family occupation rather than the potential for the site to be associated with an earlier hut of Jolly's.

The visible remains consist of a small pile of stacked and loose schist stones measuring approximately 1m x 1m, which have been displaced and disturbed by the growth of a tree through the site. Additional disturbance via referenced repurposing of stones and animal grazing were also indicated by Hamilton. The disturbance and likely removal of stones make it impossible to determine the original dimensions of the structure. It is possible that subsurface features, such as stone footings, walls, or archaeological refuse material remain beneath the current ground surface. While Hamilton (2016) notes that elements of the Steele's hut and fireplace remained visible in the early 21st century, these features may now be obscured by vegetation or have deteriorated further due to tree root disturbance.



Figure 44. Area of stacked stone hut remains/ruins, facing north.



Figure 45. Closer detail of stacked stone hut remains/ruins.



Figure 46. General area, drone survey of tree growing through the hut ruins in red, located in Section 71 Block VIII, (found per comms Janice Clear).



Figure 47. Closer drone image of stones at base of tree, facing west.

Kawarau Mining

As discussed in the previous Gold Mining History, a number of claims existed in the general area and the designation of an auriferous reserve to the south of Lots 3 and 4 DP 300661 demonstrate that mining was occurring in the area surrounding the river. From historic aerial imagery, it can be observed that several areas appear to have been impacted by sluicing, and potential land modification in the flatter areas extending toward the river (Figure 49-Figure 53).

The results of the drone survey show likely sluiced and modified areas in Section 25 Blk IX Shotover Survey District, this area was not subject to a pedestrian walkover due to a combination of factors including access and safety concerns, and the usefulness of drone photography when capturing a large landscape modification.

Vegetation, scrub and willow trees obscured much of the ground at the south of the project area toward the river. However, from the adjacent claims, landowners in the area recorded as having special claims, and the likely sluiced features visible in historic aerials and drone imagery, it is considered likely that Section 25 Blk IX Shotover Survey District, Section 1 SO 420327, Lot 3 DP 300661 and the southern portion of Lot 4 DP 300661, likely were subject to mining activity, despite this only likely constituting small scale mining.

As Hamilton states, mining in the area was not successful relative to other areas of the Kawarau, and from the visible evidence collected as part of the present work, it appears that features related to long term mining activities are not present. Lot 3 and 4 DP 300661 and Section 1 SO 420327 were densely covered in vegetation, and as such, mining features were not observed in these sections, though it is still considered likely some obscured features remain. Flooding of the river over time, and weathering has likely eroded extant mining features on the flat adjacent to the river, further reducing their visible impact in the landscape.

While the identified potential sluicing areas are considered to have a high likelihood of being archaeological in nature, they have not been recorded as archaeological sites as the above-mentioned limitations made it impossible to confirm at this stage.

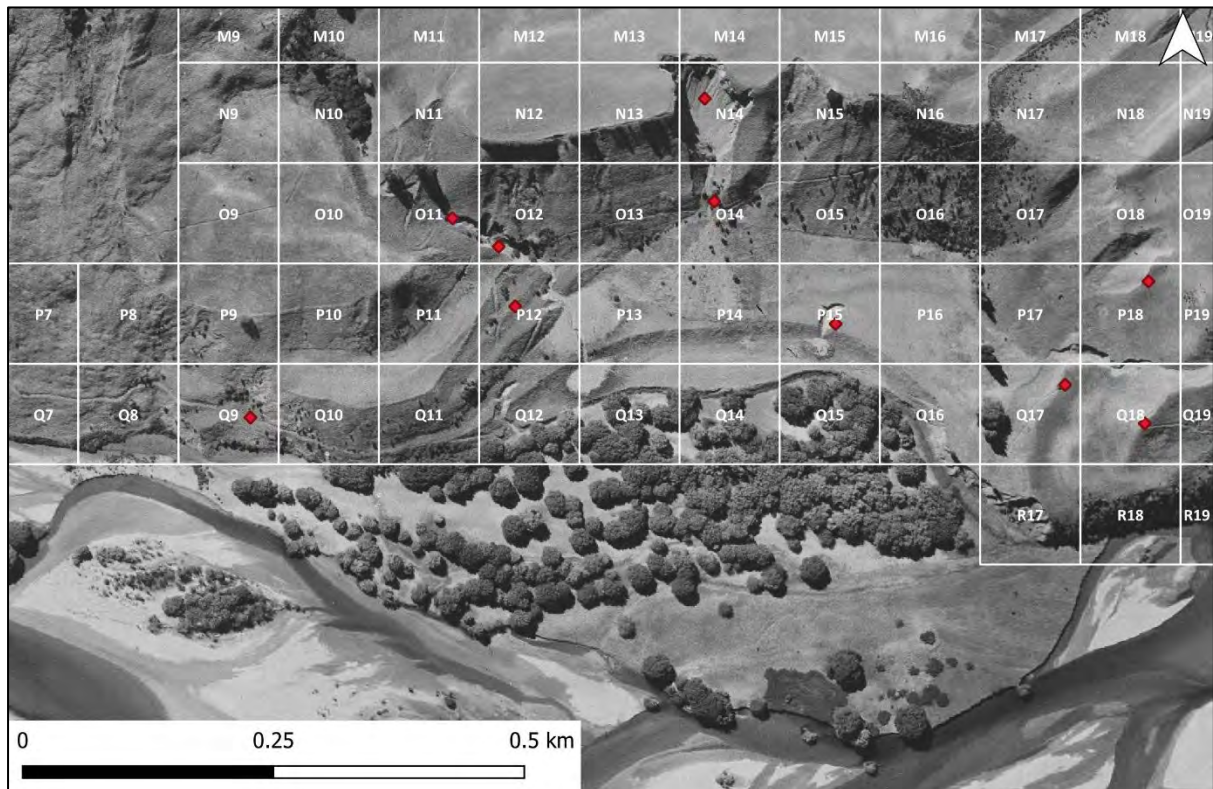


Figure 48. Areas identified for further analysis in Kawarau adjacent areas.



Figure 49. Facing northeast toward section.



Figure 50. Potential areas of landscape modification toward river, facing southeast, partially obscured by vegetation.



Figure 51. Eroded potential sluiced face facing toward flat plateau designated for development – (See Figure 28) – Section 25 Block IX.



Figure 52. Facing west, showing areas of overgrowth obscuring other potential features.



Figure 53. Facing west along Kawarau adjacent section.

Morven Hill

Following the results of the GIS analysis and review of secondary sources, it appears that the majority of the visible features observed on the surface of Morven Hill are 20th century. A rock quarry and cut tracks, not identified in historical aerial imagery, were observed in the current survey and recording of the Morven Hill area (Figure 54-Figure 57). The rock quarry is stated to have been created by Alan Hamilton in the 1980s. From Hamilton's book, it is stated that David Jolly cleared an area on Morven Hill to form a paddock using a hillside plough, but evidence of this was not observed in the present survey, and is likely, if still existing, to only have ephemeral traces in the landscape. The feature at the base of the hill detailed in the previous evaluation, was found to be a quarry loading zone for the 20th century quarrying activity. It should however be noted that areas which will be subject to development discussed below were obscured by enough vegetation that the identification of small scale mining features, such as exploration pits or test adits, would not have been visible, regardless of survey method.



Figure 54. 20th century quarry visible on southern area of Morven Hill, facing west.



Figure 55. Features observed at the base of Morven hill beneath quarry, stated by landowner to be the result of modern quarry loading.



Figure 56. Facing west, showing trails to Morven Hill.



Figure 57. Showing 20th century cut trail in mid area of Morven Hill.



Figure 58. Facing north, showing cut tracks extending up Morven Hill.



Figure 59. Northern portion of Morven Hill, facing west

Water Races

There is reference in Hamilton (2016) to small ditches dug by Dave Jolly and neighbours that were then flooded by the Hamiltons in the 20th century, although it is unclear exactly where these are, and if any were transitioned into the extant race associated with the Arrow Irrigation Scheme, established around the 1940s. Several small ditches were observed on the property (Figure 60) though it was not possible in the current research to determine whether these may have been the original flooded ditches referenced on the property. The Arrow Irrigation Scheme is clearly visible in the landscape and still in modern use (Figure 61-Figure 64).

During Angelo's tenure as partial owner, an application was made in 1899 for a water race from Cornish creek. No modern reference to the location of this creek or race has been identified (Archives NZ: R24046028), though it was considered that it may have run along Morven Hill. Unfortunately, no evidence of this was identified in the present survey.



Figure 60. Potential ditch formation, to the east of main arrow irrigation race, facing north.



Figure 61. Water race and pond/ditch, facing north.

Potential Areas of Interest

Several Areas of Potential Interest were noted, both as a result of the GIS analysis, and from the on-ground survey. The area surrounding the Hawthorn Hedge (Grid Cells H22, G22) (Figure 64) and Poplar trees (Grid Cell J19) (Figure 65), associated with Jolly and Steele respectively in the 1860s are areas for interest once ground excavation begins. Due to early association with the original land holders at the site, and with the poplar plants association with the Steele's hut, there is increased potential for archaeological evidence in the areas surrounding these features.

Another potential feature noted was observed in Section 64 Blk VIII Shotover Survey District, two depressions with loose rock were observed and noted, although due to not being clearly observed in the 1950s aerial imagery, it is likely these may be modern features (Grid Cells I17, K17) (Figure 66). However they may also be the remains of 19th century exploration pits that were not readily visible in the historic aerals. Further archaeological investigation would be required to confirm this.

A pond was also noted by Hamilton to have been associated with Jolly's ownership, and multiple ponds, depression and dry ditches were observed at the site, although it is not able to be stated with certainty if any of these are associated with 19th century activities due to a lack of cadastral information (Figure 69-Figure 71).

Several mound formations were identified during the GIS analysis as Areas of Potential Interest, including some not visible in historical aerial photography. Upon observation during the field survey, these appeared more consistent with 20th century landscape modification, and the extent to which the landscape in these areas was altered in the 19th century remains uncertain (Figure 62). Consequently, these mounds cannot be confidently attributed to historical occupation or activity.



Figure 62. Facing south along farm track, showing paddocks and mounds from likely 20th century landscaping



Figure 63. Hawthorn hedges associated with Jolly's activity



Figure 64. Arrow Irrigation race, Hawthorn hedge and mound formations to the right, facing south.



Figure 65. Poplar trees and surrounding area associated with Steele, facing northwest.



Figure 66. Area of interest in Section 64 Block VIII.

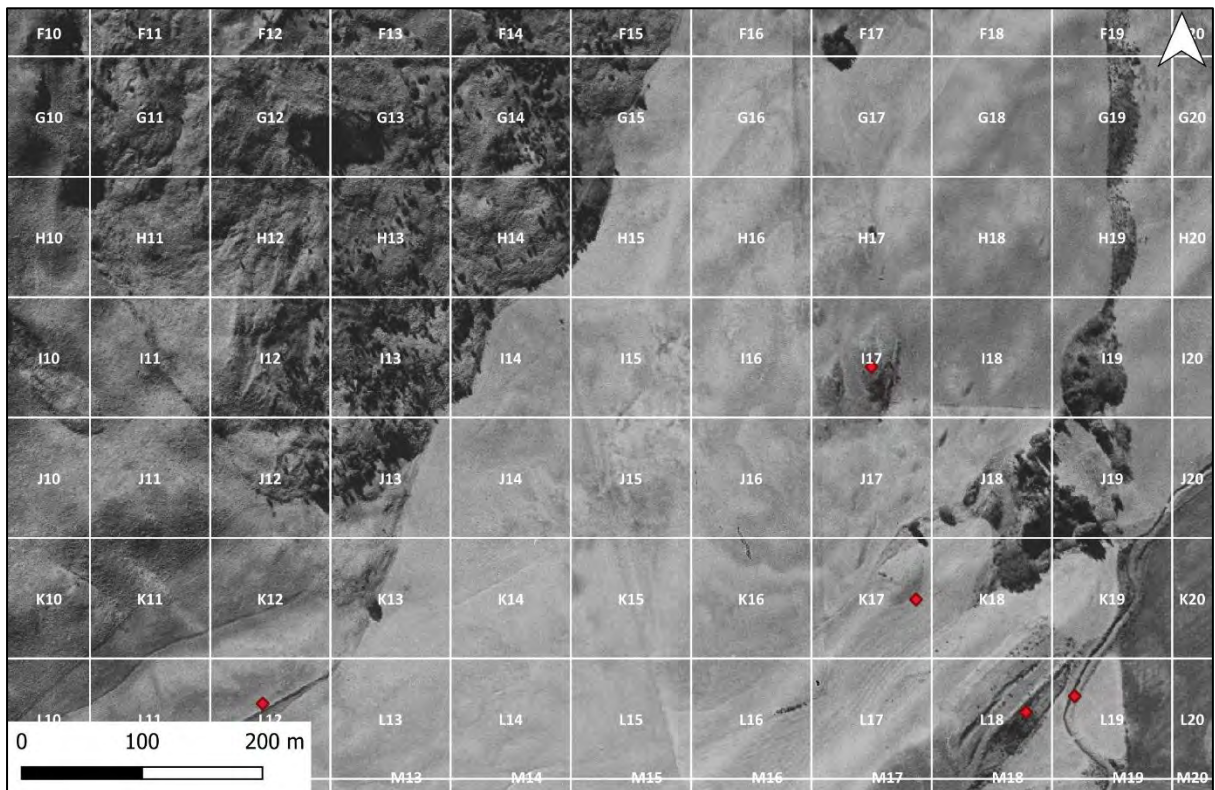


Figure 67. GIS Analysis Grid, showing Cell I17, showing area identified in modern survey.

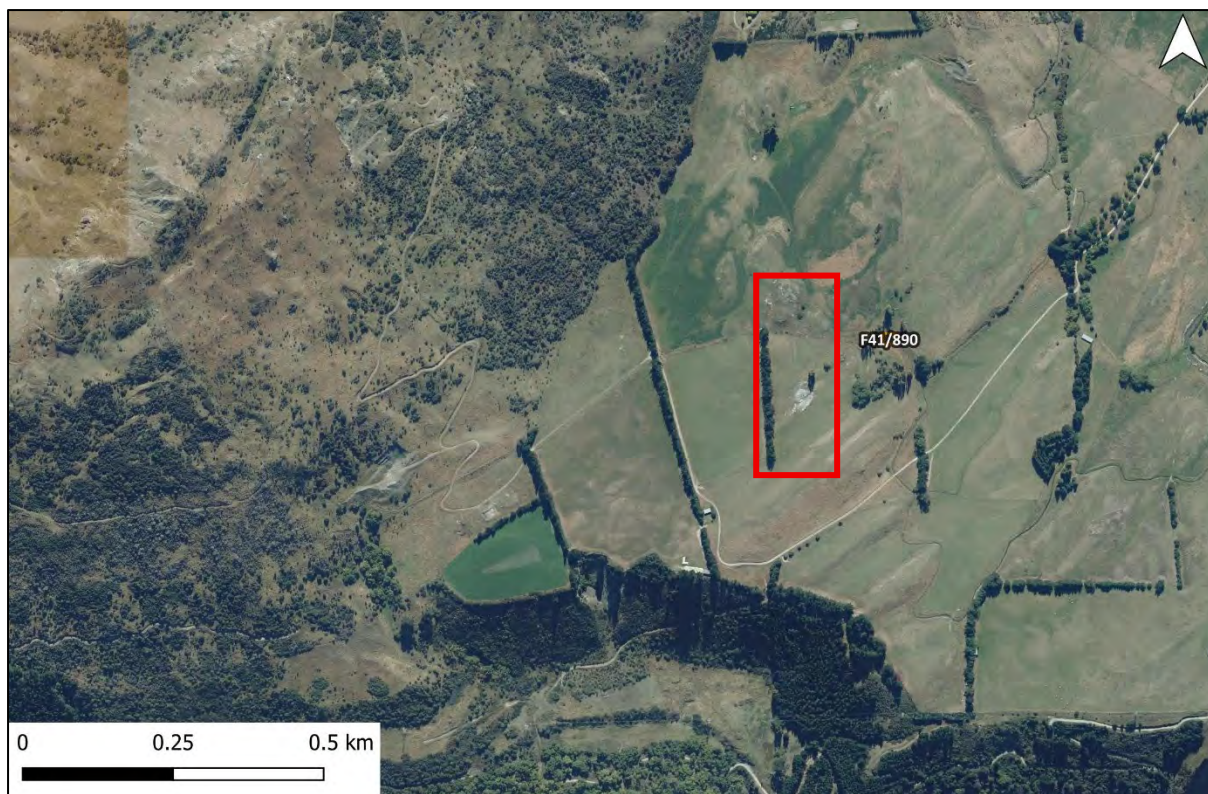


Figure 68. Potential quarry areas outlined in red.



Figure 69. The area surrounding the Hawthorn hedges and pond.



Figure 70. Facing north toward pond.



Figure 71. Facing southeast toward dry ditch formation.

Archaeological and Other Values

The archaeological values of F41/62 and F41/890 and the potential Kawarau sluicing remains are presented below. The archaeological value of F41/62 is deemed to be high, while the remaining values of the Steele's hut ruins and Kawarau sluicings are assessed to be low. Six main criteria have been used for assessing the archaeological values of F41/62 and F41/890 and the potential sluicings area (Table 2-Table 4). These are:

- Condition – the physical condition of the site and any associated features.
- Rarity/Uniqueness – the degree of rarity of the site within its immediate and/or wider contexts.
- Contextual – the contribution of the site to its broader contextual situation (e.g. cultural, local, and archaeological contexts).
- Information potential – the potential for additional information to be recovered by archaeological means and its nature.
- Amenity – the potential contribution of the site as a local amenity.
- Cultural associations – the cultural associations of the site.

Table 2. Assessment of archaeological values for F41/62.

Site	Value	Assessment
F41/62 – The Jolly Farmstead	Condition	The buildings associated with the 19 th century occupation are in a reasonable state of repair given their age. The stables have significantly degraded stonework, however, and will likely need significant intervention. Assessment – Good/Fair
	Rarity/Uniqueness	Intact rural farmsteads with surviving outbuildings are relatively rare in the wider New Zealand landscape. One other similar site, F41/578 the Ayrburn Farmstead is located nearby but lacks the original 19 th century house, though several pre-1900 outbuildings are still present. Assessment – Medium-high
	Contextual value	The site is contextually associated with early agriculture and farming in the Queenstown/Arrowtown area. It also has additional contextual association with the wider Arrowtown landscape, being part of the early phase of European settlement of the region. Assessment – Low-medium
	Information potential	The intact buildings have a high information potential as they may inform on construction and maintenance techniques of pre-1900 rural buildings as well as providing an example of how such buildings have been altered and adapted over the decades of use. There is also the potential for subsurface deposits to provide further information on the lives of the farm's inhabitants. Assessment – High
	Amenity value	The standing buildings provide a high level of interpretive and visual value, being an outstanding visual indication of the history of both the site and providing an example of what life would have been at other similar sites throughout the region. Assessment – High
	Cultural associations	The site is associated with the European colonisation of Central Otago. Assessment – Colonial European

Table 3. Assessment of archaeological values for F41/890.

Site	Value	Assessment
Steele's Hut F41/890	Condition	The hut is in poor condition, with all that remains being the ruins of stacked schist stones, as the majority of the hut material was noted repurposed in the 20th century for other buildings. Additionally, the site is currently grown through by a tree. It is unclear if any of the building remains subsurface, foundations for example. Assessment – Poor/Subsurface
	Rarity/ Uniqueness	Stone huts and ruins are common throughout Otago. Assessment – Low
	Contextual value	The site is likely associated with Henry Steele and fits contextually into the early settlement and establishment of agricultural settlers in the Queenstown-Lakes area. Assessment – Low-medium
	Information potential	Possible subsurface remains have the potential to give insight into the original layout of the hut site if present, and other potential features like rubbish features could give information on the nature of the occupation of the site if present. Closer analysis of the hut site upon clearing of vegetation could allow for further detail on remaining features and construction to be gauged. Assessment – Medium
	Amenity value	The ruins have low amenity value due to their minimised and ruinous state, although there is the potential for further subsurface evidence relating to this site to be observed upon excavation. Assessment – Low
	Cultural associations	The site is associated with the European colonisation of Central Otago. Assessment – Colonial European

Table 4. Assessment of archaeological values for potential sluicings.

Site	Value	Assessment
Kawarau Sluicing Remains	Condition	The potential sluicings are heavily eroded in areas that are not covered by wilding pine growth, with vegetation growth additionally impacting other areas. The tailings that would have resulted from such works and once been present on the river flats appear to have been erased due to natural river action of the Kawarau. Assessment – Poor
	Rarity/ Uniqueness	Eroded sluicing remains are common throughout Otago. Assessment – Low

Site	Value	Assessment
	Contextual value	The site is possibly associated with several early landowner and fits contextually into the early settlement and establishment of agricultural settlers in the Queenstown-Lakes area. Assessment – Low-medium
	Information potential	What portions of the site could be viewed appeared typical of an eroded 19 th century sluicing. Many similar features have already been recorded throughout Otago and the wider New Zealand archaeological landscape, limiting the information potential here. Assessment –Low
	Amenity value	The sluicing has a low amenity value due to the eroded state, although there is the potential for further distinct features to become visible after vegetation clearance has occurred. Assessment – Low
	Cultural associations	The site is associated with the European colonisation of Central Otago. Assessment – Colonial European

Other Heritage Values

The wider area is understood to be of cultural value to mana whenua and this may need to be addressed as part of the substantive application requirements. If required, any assessment of mana whenua cultural values, and the potential effects of the Ridgeburn development on these values, is beyond the scope of this report and will need to be carried out by an appropriately qualified individual or institution.

While the Doonholme Farmstead is not listed in the QLDC district plan, nor is it listed on Rārangī Korero/The List, three other sites in the vicinity to the project area are heritage listed on the District Plan (Ref No. 383, 83, 128).

Any heritage impact from the development of the project area has not been considered in this assessment. Any potential impact to the site's/building's heritage value that may be caused by development, or renovation will need to be addressed in the Fast Track Approvals Act 2024 substantive application.

A Heritage Assessment of the project area has been undertaken by Robin Miller and Alicia Taylor of Origin Consultants, which addresses the aforementioned heritage values and recommendations for mitigation of heritage loss at the project area (Miller and Taylor, 2025).

Assessment of Effects

Proposed Site Works

For the purpose of describing the proposed development the project area is best subdivided into four distinct sections: the Doonholme Homestead, the former agricultural area, Morven Hill, and the lower Kawarau terrace. Development in each section is described separately below.

Former Agricultural Area

This portion of the project area includes the relatively flat ground bounded by the lower terrace banks of the Kawarau River to the south, Morven Hill to the Northwest, Morven Ferry Road to the northeast, and excluding the area immediately surrounding the Doonholme farm buildings. Proposed works in this portion of the project area, will be the most intensive and will include a large scale, primarily residential development, with buildings proposed up to three stories and the construction of a supporting water treatment facility. The land parcels involved in this development include Section 24, Blk IX Shotover Survey District, Section 23, 64, 71, Blk VIII Shotover Survey District, Lot 2 DP 601937, Lot 5 DP 300661, Lot 4 DP 529201, Lot 1 DP 411193, and Lot 2 DP 601937. Limited development is proposed in the northern portion of Section 25 Blk IX Shotover Survey and Lot 4 DP 300661, north of the banks of the Kawarau (Figure 75). Earthworks will likely occur to varying degrees over most of this area, seen as the footprint of roads and property parcels in Figure 72. Due to the varied topography of the project area and required depths for three story building foundations and water treatment facility infrastructure the depth of excavations (both cuts to remove soil and fill to level ground) will be varied and likely of large scale. Though exact depths cannot be established at this stage, similar projects have in some areas required meters of soil to be both added and subtracted from the current elevations, and it is expected that works here will be similar in scale. Where possible some identified features, such as the Hawthorn hedge alignments, water races and Steele's Hut remains, may be maintained, though specific project engineering requirements will first need to be confirmed. As such it should be assumed that said features will be removed entirely until plans for their retention have been confirmed.

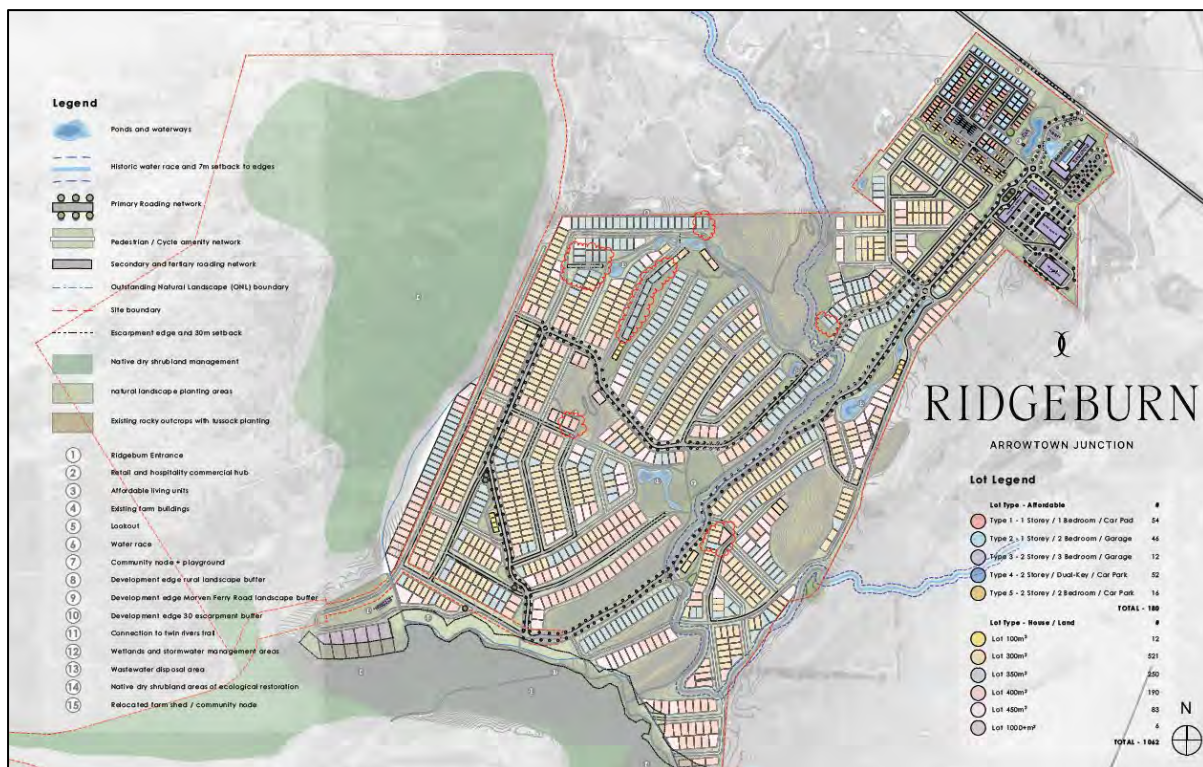


Figure 72. Figure showing location of proposed works.

Doonholme Homestead

Works around the historic Doonholme homestead will focus on the retention of heritage and archaeological values, with a goal of restoring the site's amenity values and serving to highlight the history of the property and surrounding region. The extant historic buildings are proposed to be restored, being reused as community buildings in the proposed development. The description of works to the historic farm buildings below has been prepared by Joshua Dubbeld of Novak and Middleton (Dubbeld, 2024). This will primarily consist of, where possible, restoring the buildings to fit modern purposes, and in the case for more degraded buildings such as the woolshed/stables, to partially deconstruct and reconstruct the most damaged elements to ensure their continued longevity. The following provides a summary of the proposed works and reuse of the buildings at the Doonholme farmstead (located in Lot 2 DP 601937).

- *Doonholme Farmhouse (19th century) - Reuse: Ridgeburn Community Facility:* Sympathetically adapt and make the building fit for purpose to the new use. Restore the original elements of the farmhouse to achieve a similar aesthetic described in 3.1 and figure 3 (see Dubbeld, 2024). Expose and retain the original stone schist walls and gabled roof forms clad in corrugated iron.
- *The Woolshed (19th Century) - Reuse: Ridgeburn Hospitality Venue:* The building is to remain a single storey form. Sympathetically adapt the building to the new use and restore original aspects of the original stables and woolshed. Retain original stone schist walls, floors and gabled roof forms clad in corrugated iron.
- *The Museum (19th Century) - Reuse: Museum, Doonholme Farm History and Information board:* Sympathetically adapt the cottage to the new use and restore original remnants. Retain original stone schist walls and roof form clad in corrugated iron.

The condition of the stable/woolshed is very poor with much of the historic stonework cracked, leaning and unstable. It is likely that the building's adaptive reuse will require it to be carefully dismantled and then sensitively reconstructed and adapted to meet modern requirements.

Additional earthworks will also be undertaken for the purpose of landscaping. This will not have any impact on the extend buildings but does have the potential to encounter subsurface archaeological deposits such as rubbish pits or the remains of unrecorded and now demolished outbuildings. Depth of excavation have not yet been confirmed but the formation of the proposed ponds will likely require more than 1m of excavation, with other areas subject to excavations in the range of 300-500mm depending on topography.

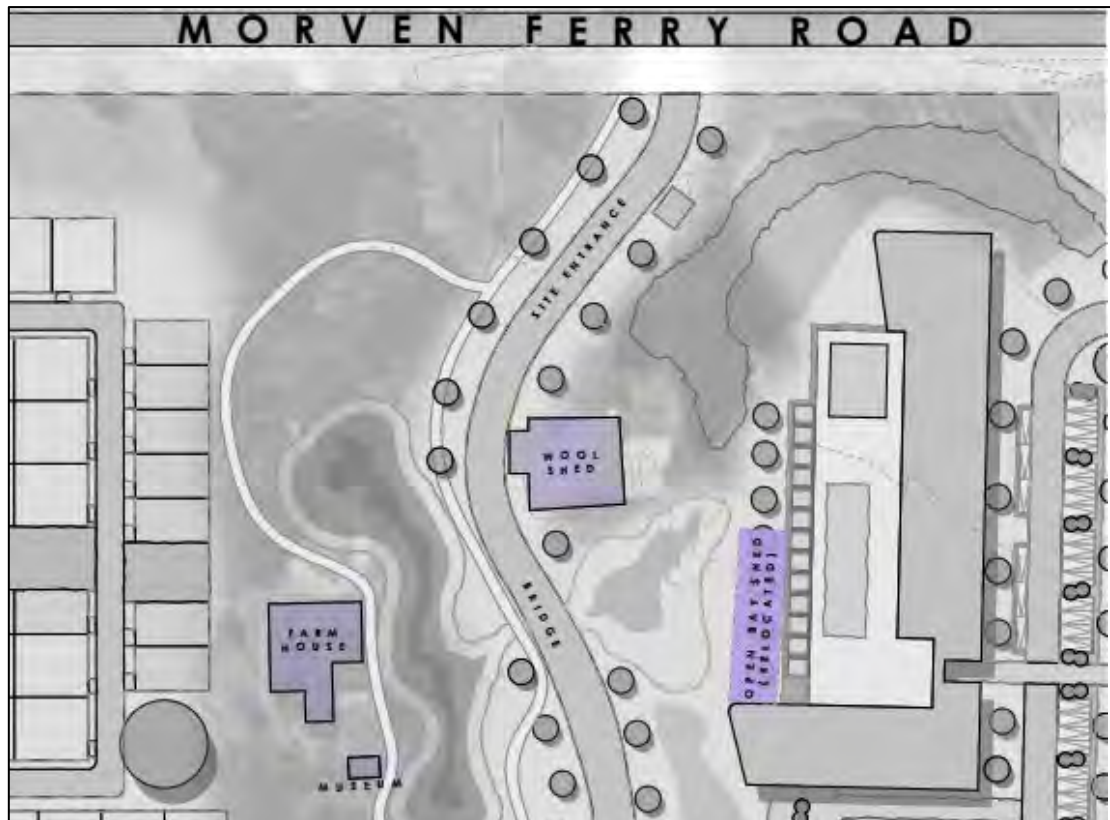


Figure 73. Morven Ferry Farmstead buildings (From Novak + Middleton, 2024 - Page 2)

Morven Hill

The slopes of Morven Hill will be used to facilitate the wastewater disposal required for the proposed community. This will be achieved through the installation of a wastewater sprayer system across the slope of Morven Hill within the project area, excluding a buffer area around the walking track, top of Morven Hill and 60m exclusion zone along the base of the hill. Additionally, the hillside will be subject to regenerative planting activities throughout its portion of the project area.

While much of the sprayer system will be installed above ground level some piping will be required to be installed below surface. Exact locations for the installation of said piping have yet to be determined, however they are expected to be required at a limited scale throughout the area. Depths of excavation for piping are not expected to exceed 1.5m-2m.

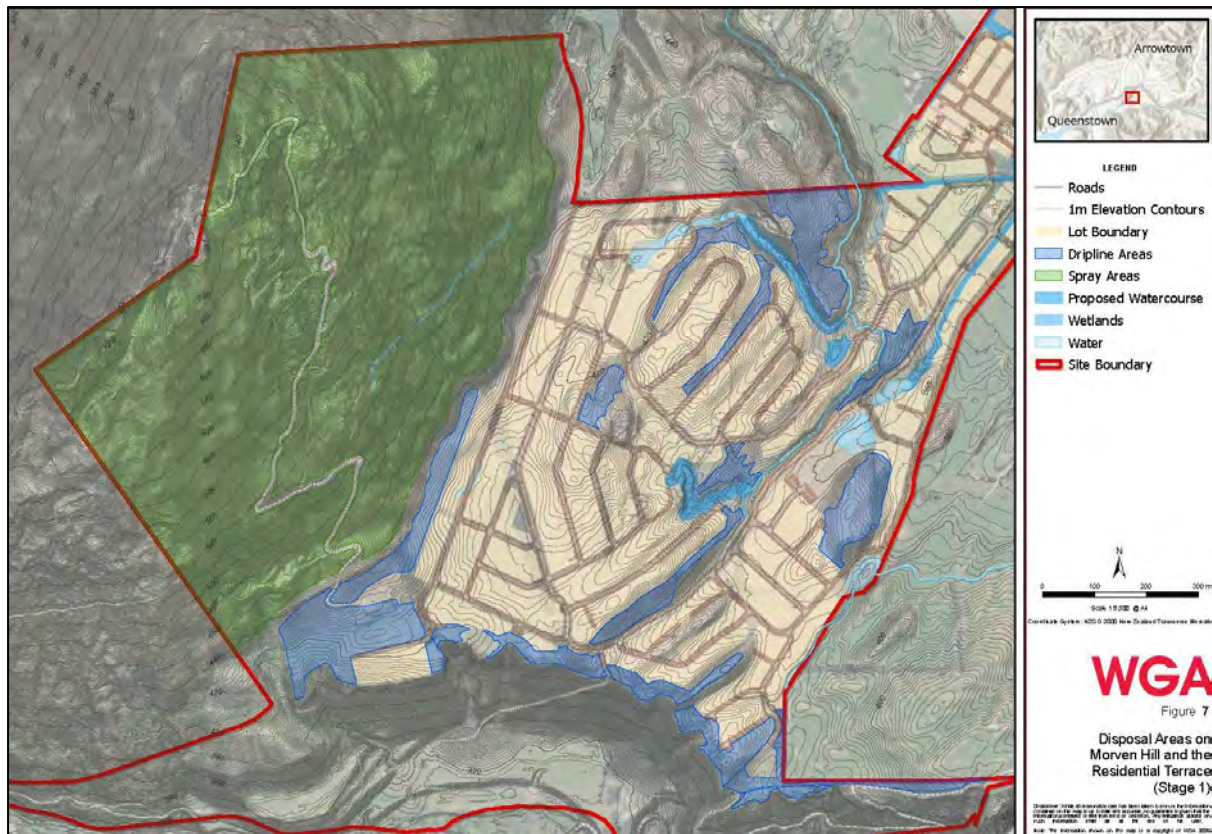


Figure 74 Map showing the proposed disposal area (green).

Kawarau River Terrace

Works on the lower Kawarau River Terrace and related slope will comprise of a range of limited impact activities. These include: the formation of lizard habitats from on-site materials, the expansion of two pre-existing water bores, the removal of wilding pine, and the upgrade of an existing access track into an access way to the existing Twin Rivers Trail.

The creation of lizard habitats will involve the hand construction of multiple stacked rock formations designed to provide ideal homes for a range of native reptiles. This activity will be carried out by contract biologists and will be done entirely by hand and via pedestrian access. The locations for these will be chosen at time of construction to best meet the on-site requirements at that time, though they are expected to be roughly evenly placed throughout the project area.

The expansion of the two pre-existing bore holes will be done via mobile modular drill rig. The rig is of compact enough size that it can be towed to the locations indicated in Figure 75 via the existing access track with no additional impact necessary. The existing bore holes will be expanded in width by approximately 150mm matching the existing depths of 37.79m (BH04) and 102.96m (BH05).

The upgrade of the existing track into an access way to the Twin Rivers Trail will take place entirely within the footprint of the existing track and is not expected to have any additional impact.

The removal of wilding pine along the slopes is likely to be the most immediately disruptive activity. Trees will be felled with chainsaw and removed via the pre-existing access road. While this will mean that no additional infrastructure will be required there is the possibility that the use of machinery onsite may cause further erosion and disturbance to the sluicing features, though this will not result in the complete removal of said features due to their size and make up.



Figure 75. Landscape master plan, provided by Gibbons Co and Rough Milne Mitchell Landscape Architects.

Effects of the Proposed Works

Former Agricultural Area

For Steele's hut, the limited information that can be gathered from the limited stacked stones remaining may be increased in the event that earthworks uncover subsurface portions of the original building, as described in Hamilton 2016. As this area is set for development, there is potential this feature may need to be removed, however, if further intact portions of the structure are uncovered at the site there is potential for interpretation of the site within the development. As the above ground remaining features are in significantly degraded condition, with little remaining to interpret, there are low remaining archaeological values considered for this site.

Doonholme Homestead

Sympathetic modifications to the existing 19th century farm buildings may modify some of the original material remaining in the buildings. However, the buildings have been significantly modified over the 20th century, and as such, restoration of original elements of the buildings will serve to both maintain the integrity of the buildings as well as assist in highlighting the 19th century elements. This will help preserve and even return some of the original archaeological value, most notably enhancing the amenity values of the site. Overall, this can be seen as a net positive for the archaeological values of F41/62.

Additionally, maintaining buildings through utilisation can prevent degradation of historic elements and fabric. It is evident that action is needed to repair some elements of the historic buildings to prevent further damage. Repurposing and restoring the building is a feasible solution to prevent condition from worsening and showcase the historic buildings in a public setting.

Earthworks for the purpose of landscaping and pond formation will likely result in the removal of any subsurface archaeological evidence encountered in those areas. Though unavoidable any loss of archaeological information can be mitigated through the recording of all features following archaeological best practice.

Morven Hill

Impacts on Morven Hill are expected to be minor. Though no discrete archaeological features were able to be identified during the site survey it is still considered likely that small scale goldmining features such as exploration pits or shallow adits could be present but not visible due to access issues and vegetation growth. It is possible that the installation of the disposal system and planting activities could have a minor effect on such remains. These impacts will be avoided where possible through a bypass of said features and in the instance where the feature cannot be avoided any loss of information can be mitigated through recording of the site following archaeological best practice.

Kawarau River Terrace

Only limited works will occur in the flattened portions of Section 25 Block IX and Lot 4 DP 300661 to the north of the banks of the Kawarau, with the observed mining features situated south of the project area. Any earthworks are likely to remove subsurface remains, but the likelihood of encountering said remains in this area is low. The works within the lower terrace are likely to have a minor impact on the archaeological remains present. The expansion of the bore holes and updating of the access way into a connection to the Twin Rivers Trail will be the least impactful, mostly utilising the existing track, with the boring activities taking place on the lower terrace which has mostly been flattened by the natural action of the Kawarau River. The creation of lizard habitats may have a minor effect as some of the areas most likely to contain remains of amorphous fan tailings are large enough that they may be impossible to avoid. However, due to the miniscule scale of these works any loss of information can be easily negated through a recording of the location and effect of the stone stacks.

The most impactful works will be the removal of the wilding pine. It is proposed to use the existing accessway to offload the logs, however the act of de-forestry the wildings along the slope will include work within the identified sluicings. Here the remains consist of a large partially eroded sluicing face. The forestry work is likely to further erode the remains to some extent, as this cannot be avoided when felling and clearing trees however it is not expected to fully erase such remains from the landscape, given the scale of the sluicings. In this location the loss of information can be mitigated through recording, helping to contribute to a greater understanding of the location.

Alternative Options

With a development of this nature, the incorporation and preservation of the site history and structures within the development is the desired outcome. Gibbons Co have prepared an approach to incorporate both Heritage and Archaeological consultants to identify features to maintain and enhance them as part of the new development. The preservation and restoration of the extant buildings, which contain the highest levels of archaeological values, values are considered a desirable outcome. While every attempt will be made to retain the Hawthorn hedges, poplar trees, water races and Steele's hut, the potential modification or removal of these features can be mitigated through recording of the remains and any associated features and subsequent interpretation of the site. This approach can also mitigate any impacts to the sluicing remains along the banks of the Kawarau or other gold mining features along Morven Hill.

Site Management

Site management at the current stage should include the undertaking of relevant Heritage and Archaeological advice in order to best preserve 19th century sites and mitigate potential loss of information. When all methods of development have been confirmed and finalised it is recommended that an Archaeological Management Plan be developed and distributed to all contractors on site in addition to briefings from an archaeologist as required under any subsequent archaeological authority.

Summary and Recommendations

Summary

This report provides an overview of the history and archaeology in the vicinity of 122 Morven Ferry Road, at the site known as Doonholme. It also offers an assessment of the site's archaeological potential and the areas in which future development are likely to impact archaeology. The highest concentration of known archaeological features is related to the 19th century farmstead and related outbuildings associated with David Jolly. Further areas of archaeology include Section 71, Block VIII, which contains the likely ruins of Steele's hut. Property immediately adjacent to the Kwarau River contains the likely remains of a large goldmining sluicing feature, while some evidence suggests that additional small-scale mining remains may be present in vegetated areas of Morvan Hill. Due to erosion, vegetation overgrowth and flooding over time however, these features have not yet been 100% confirmed.

Overall, the archaeological potential of 122 Morven Ferry Road is concentrated around the historic farmstead complex and the Steele hut site, with additional potential along the Kwarau River. The farm buildings still retain a significant amount of their original fabric, although in modified forms as seen with the stables and museum building. Other sections of the property are assessed as having low or moderate potential but should still be included in an overarching Archaeological Authority due to the long history of occupation and modification across the landscape and potential for small scale features to be present. Continued archaeological oversight will ensure that any archaeological values present within the Doonhome complex are appropriately managed and preserved.

Recommendations and Areas of Archaeological Potential

The following section discusses the areas of archaeological potential. These are broken down into four categories: Low Potential, Moderate Potential, High Potential and Archaeology Recorded. Each category is discussed in greater length below. The various property parcels have been coded based on their archaeological potential as derived from available historic information and the physical survey of the property. The property parcels designated as low risk are as follows: Section 24 Blk IX Shotover Survey District, Section 23, 64 Blk VIII Shotover Survey District. The parcels designated as moderate potential are as follows: Section 21, 22, 23 Blk IX Shotover Survey District, Lot 5 DP 300661, Lot 3 DP 529201. High potential areas are designated as follows: Section 1 SO 420327, Section 25 Blk IX Shotover Survey District, Lot 4 DP 300661, Lot 3 DP 300661, Lot 4 DP 529201, Lot 1 DP 411193. The parcels with recorded archaeology include Lot 2 DP 601937 and Section 71 Block VIII. It is however, recommended that all land parcels included in the proposed development be included in an Archaeological Authority application. Although archaeological potential in some areas of the project area is deemed to be low, there remains potential for subsurface features to be present due to continual activity in the area since the 1860s.

Areas with Recorded Archaeology: Legal Description: Lot 2 DP 601937 (Original parcels 21 and 24 Block 8), Lot 3 DP 529201 (Originally part of Section 24 Block VIII) and Section 71, Block VIII.

The recorded archaeological sites reference the 19th century farm buildings on Lot 2 DP 601937 (Original parcels 21 and 24 Block 8) and stone ruins in Section 71 Block VIII. While the entirety of the land parcel, namely to the south, were not encompassed within the original section which contains the farm buildings, this is still designated as having increased archaeological potential due to the proximity to the homestead. The wider adjacent areas to the historic buildings have the potential to contain features such as subsurface rubbish pits, post holes, or potentially remains of buildings that are no longer standing.

The Hawthorn hedge, located in Lot 3 DP 529201, stated to be planted by David Jolly, should also be considered as a recorded archaeological feature. This is as it is considered to be a 19th century fence associated with Jolly's farm complex, delineating different agricultural areas (Originally part of Section 24 Block VIII - Lot 3 DP 529201).

This feature should be mapped prior to works, with the Archsite boundary of F41/62 edited to include the entirety of Jolly's 19th century farm extent, and a supplementary document provided to demonstrate the alignment and extent of this fenceline.

Areas with High Archaeological Potential

The following areas/land parcels are considered to have high archaeological potential; Lot 3 DP 300661, Section 25 Blk IX Shotover Survey District, Lot 4 DP 300661 and Lot 3 DP 300661. These are designated as high risk due to the intensive mining that occurred along that Kawarau in the 19th and 20th centuries and the close proximity of adjacent mining site parcels to the current property boundaries. Six mining claims in the immediate area to the south, east and west of the project area have been located. From the observed likely sluiced features on the banks of the Kawarau in Section 25 Blk IX Shotover Survey District, it is considered that there is further potential for mining features to be present beneath the dense scrub areas.

Lot 4 DP 529201 and Lot 1 DP 411193 are also considered to be high risk. Situated directly to the west of the parcel associated with the existing farm buildings, these Lots were originally known as Section 20, Block 8, Shotover SD. This parcel was a part of the original area applied for as an agricultural lease by David Jolly in the 1860s, and due to its close proximity to the known 19th century farm buildings, there is the possibility that further buildings that are no longer standing have existing remnants below the surface. There is also the possibility for the section to contain refuse deposits or evidence of farming and occupation, post holes for example. While the physical survey of this area did not show any extant above ground features, the potential for subsurface features remains present.

Areas with Moderate Archaeological Potential

The areas deemed to have moderate potential are as follows; Section 21 Blk IX Shotover Survey District, Section 22 Blk IX Shotover Survey District, Section 23 Blk IX Shotover Survey District, and Lot 5 DP 300661. The areas adjacent to known occupied domestic land, but with no known or recorded sites could be locations for rubbish deposits as portions of these were within the original land parcel, Sections 21 and 24, Block 8. There is also the potential for areas such as these to have evidence of post holes or no longer standing buildings.

There remains moderate potential for ephemeral or subsurface features to exist in the Morven Hill land parcels (21, 22, 23 Block IX) not observed in the present survey, although it is understood these areas will be largely affected by 20th century quarrying, grazing and erosion.

Areas Considered Low Potential

The following areas are deemed as low risk for encountering archaeology in the context of possible future development of the project area; Section 24 Blk IX Shotover Survey District, Section 64 Blk VIII Shotover Survey District and Section 23 Blk VIII Shotover Survey District. Research for these areas has indicated that since the 1860's, they have been utilised solely or predominantly as agricultural land. This does not mean that human activity has not occurred in these areas, but indicated that due to the nature of utilisation, finding subsurface sites or features in these areas is less likely. 19th century features within the landscape may also have been modified or disturbed by grazing and farming over the years. From the results of the physical survey of the landscape and environment, features generally appeared to be nondescript and unable to be deemed archaeological in nature.

While these sections are low risk for archaeological features, this does not mean there is no risk of encountering archaeological evidence. As the entire project area has been utilised since the 1860s, there is the chance that archaeological material/features could be located anywhere throughout the project area. As such, caution should be undertaken by contractors operating anywhere within the project area. The aforementioned land parcels are likely associated predominantly with grazing land, and as such are considered to be lower risk for encountering archaeology. Historical research has not indicated that any buildings or known sites are present on the areas designated below, although no pre-1900s photographs of the project area have been located.

Recommendations:

Recorded Archaeology: Work in this area will necessitate the obtaining of an Archaeological Authority and submission of a full assessment. Although it has been implied that the buildings are to be retained, earthworks in the area have the potential to impact subsurface features associated with both domestic and farm utilisation. Retain and reuse features where possible, including 19th century landscape features such as the poplar plantings and Hawthorn hedges associated with the original owners.

High Archaeological Potential: Areas adjacent to the Kawarau River should be treated with high caution for development as the high level of activity and mining in the surrounding area, plus the likely sluicing area identified during survey, means there is a high potential for further features to be encountered. The land parcels adjacent to the west of the parcel should likewise be treated with high caution for development as subsurface deposits related to the farmstead, such as refuse pits, may be present. These areas should be included in any Archaeological Authority Application due to their high potential.

Moderate Archaeological Potential: There is potential for historic water races or other mining remains, and domestic adjacent deposits in the areas deemed to have moderate potential. It is recommended that the areas be included in an Archaeological Authority application, although remains might be ephemeral.

Low Archaeological Potential: Although these areas are deemed low risk, there is still potential for features such as remnants of no longer standing farm associated out-buildings (stables, sheds, etc), post holes, and water race remains for example. While no above ground remains in these areas have been conclusively identified as archaeological from historic research and site survey, the agricultural land use in the area from the 1860s onward mean there is potential for subsurface features to be present in the area. As such it is recommended that these areas be included in the Archaeological Authority application to ensure the mitigation of loss for potential subsurface remains.

Based on the currently understood proposed works, Origin Consultants make the following recommendations:

- As a first principle, every practical effort should be made to avoid damage to any archaeological site.
- An Archaeological Authority under section 44 of the Heritage New Zealand Pouhere Taonga Act (2014) must be obtained from HNZPT for works within the project area prior to any excavations proceeding that could damage any recorded archaeological sites. The Archaeological Authority should include the entirety of the project area to cover any potential for subsurface archaeological evidence that may be encountered during works.
- The excavation contractor(s) must be informed of the requirements of any Archaeological Authority issued and briefed by the archaeologist about the site's archaeological values and the possibility that archaeological material may be uncovered during excavation works.
- The area surrounding site F41/890 must be monitored for potential foundations or evidence of occupation.
- As is currently understood in the proposed development, it is recommended that development works avoid the areas below the flattened terrace adjacent to the Kawarau River, as there is a high likelihood for archaeological mining evidence to be present in these areas, although currently obscured by scrub and vegetation.
- If the works change in scope, for example, to include plantings in the Kawarau adjacent or Morven Hill areas, a more detailed pedestrian survey will need to be undertaken.
- Potential and known archaeological features must be marked for avoidance.
- All earthworks that may affect any archaeological evidence must be monitored by an archaeologist.
- Any archaeological features encountered during excavations must be recorded using appropriate archaeological standards by an archaeologist.
- If at any stage during site works Māori material is discovered, works must cease and manawhenua and HNZPT shall be consulted immediately about how to proceed.

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Lake County Press, Issue 35, 2 February 1872, Page 3

Lake County Press, Volume VI, Issue 340, 27 December 1877, Page 2

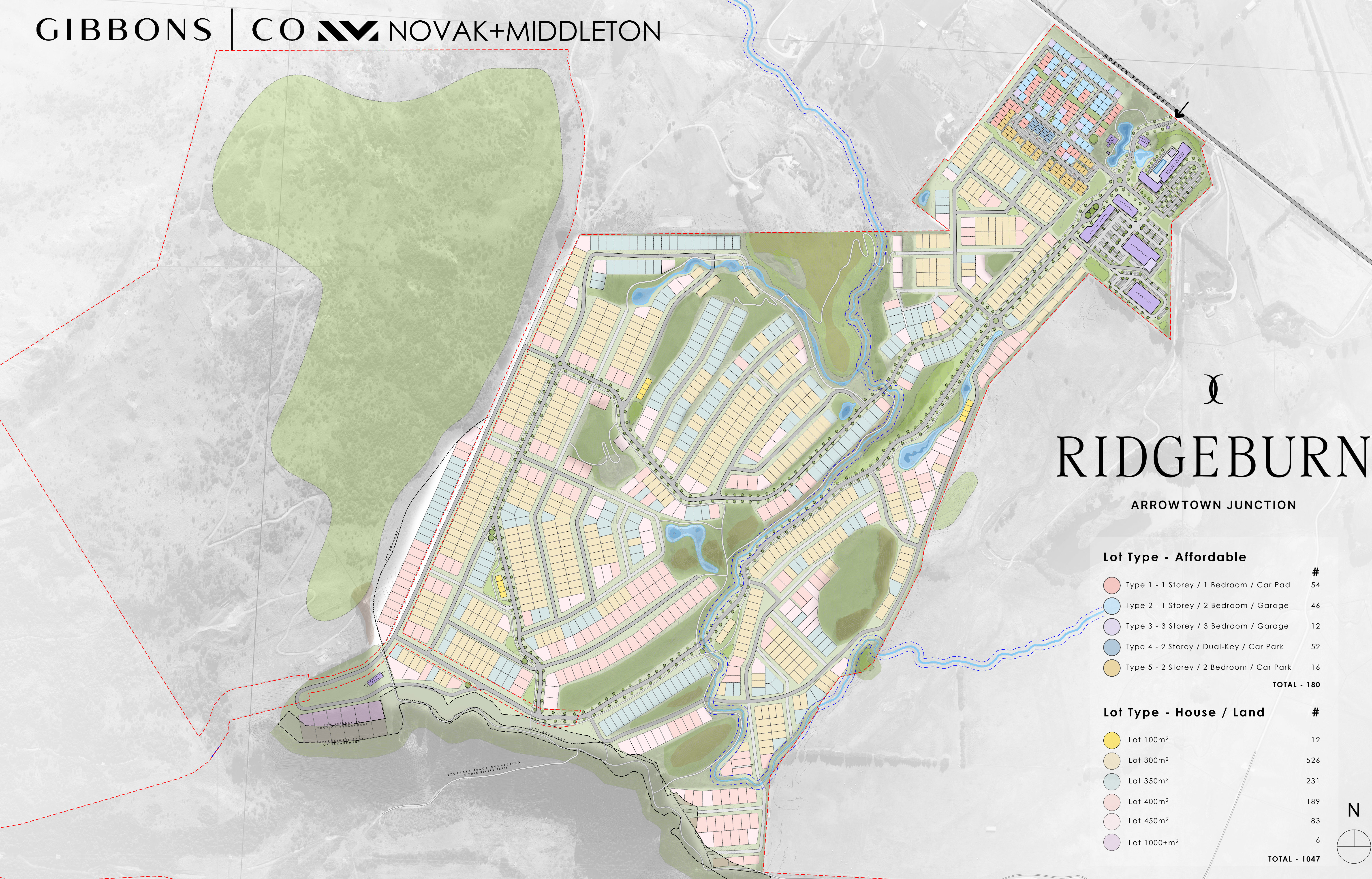
Lake County Press, Volume VIII, Issue 430, 7 August 1879, Page 3

Lake County Press, Volume XI, Issue 594, 26 October 1882, Page 1

Otago Daily Times, Issue 4099, 8 April 1875, Page 3

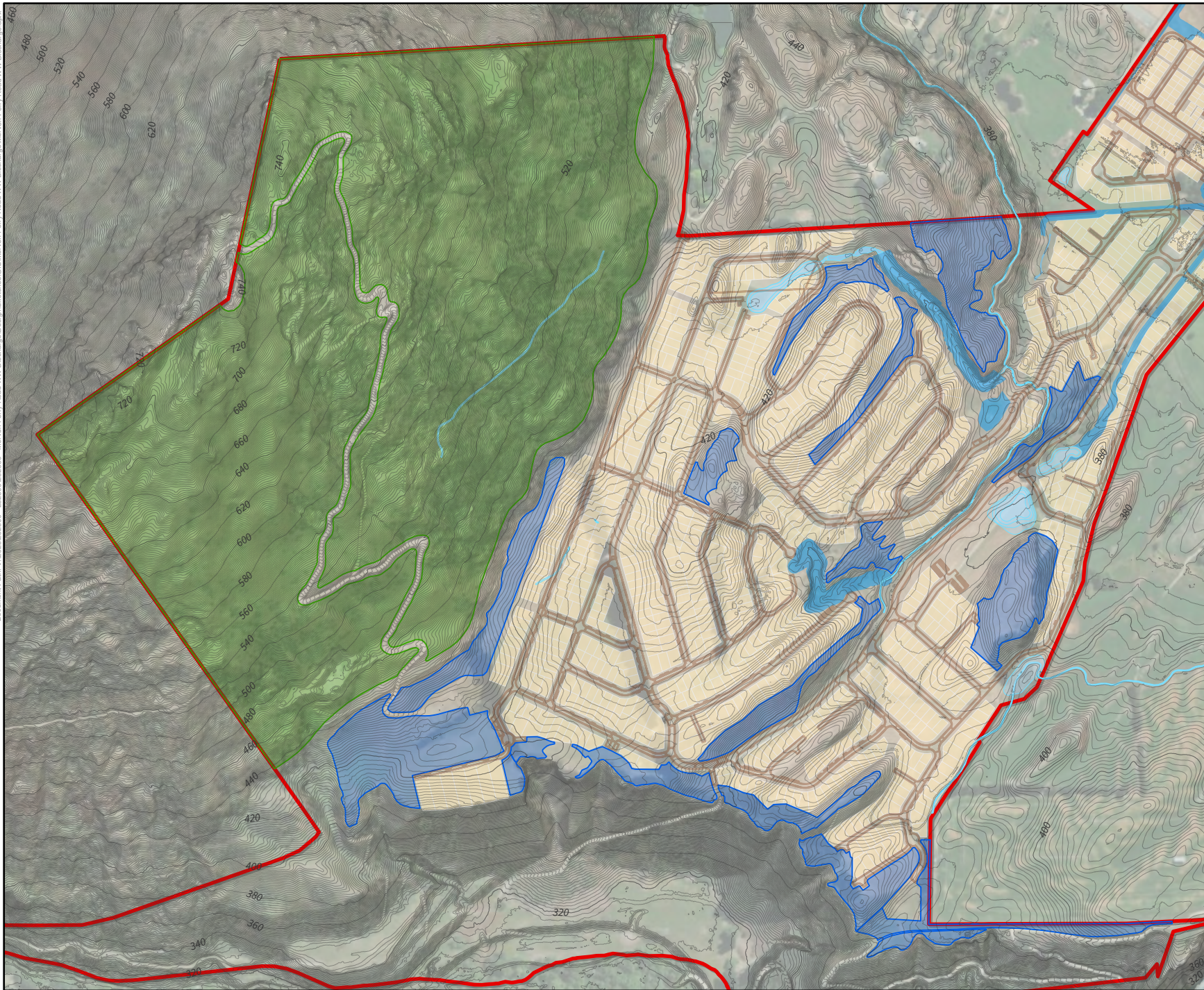
Otago Daily Times, Issue 12449, 4 September 1902, Page 6

Appendix A – Client Plans



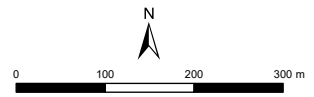
Ridgeburn - Arrowtown Junction

at 122 Morven Ferry Road for Ridgeburn Ltd



LEGEND

- Roads
- 1m Elevation Contours
- Lot Boundary
- Dripline Areas
- Spray Areas
- Proposed Watercourse
- Wetlands
- Water
- Site Boundary

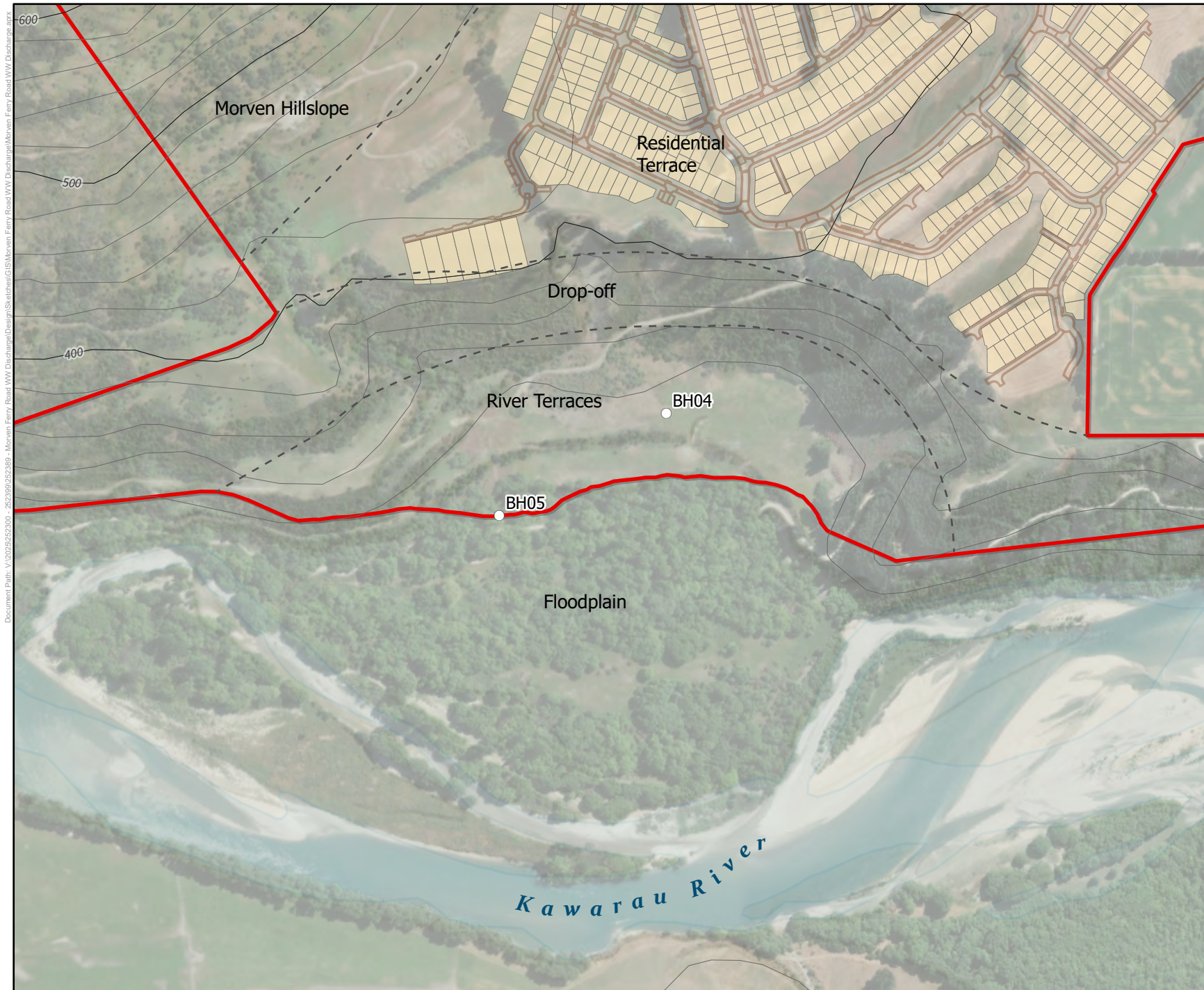


Coordinate System: NZGD 2000 New Zealand Transverse Mercator

WGA

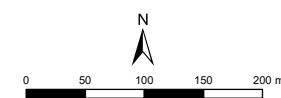
Figure 7
Disposal Areas on
Morven Hill and the
Residential Terrace
(Stage 1)

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Any reliance placed on such information shall be at the risk of the user.
Note: The information shown on this map is a copyright of WGA 2025.



LEGEND

- Water Supply Trail Bore
- Contours
- Roads
- Lot Boundary
- ▬ Site Boundary
- - - Landscape Feature Boundaries



Scale 1:6,400 @ A4

Coordinate System: NZGD 2000 New Zealand Transverse Mercator

WGA

Figure 4

Water Supply Investigation Bore Location Map

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Any relevance placed on such information shall be at the risk of the user.

Note: The information shown on this map is a copyright of WGA 2026