



APPENDIX 23

Heritage
Assessment

Appendix 23

Heritage Assessment

Appendix 23 – Heritage Assessment

This appendix contains the following Heritage Assessment documentation in relation to Ravensworth Estate and the Ravensworth Homestead Complex:

- **Appendix 23a** – Heritage Analysis and Statement of Significance - Ravensworth Estate (Lucas Stapleton Johnson)
 - This Heritage Analysis and Statement of Significance provides a detailed analysis of the documentary and physical evidence of the (former) Ravensworth Estate and Ravensworth Homestead Complex including an assessment of the significance of all its elements. The report includes land ownership and tenure history, early conflict history between Aboriginal people and colonial settlers within and around Ravensworth Estate, an assessment of the homestead setting, outlook and visual catchment, an assessment of the homestead garden, details on the archaeological remains within and adjacent to the Ravensworth Homestead Complex, and an assessment of the architectural aspects of the buildings.
- **Appendix 23b** – Ravensworth Homestead Complex Measured and Conjectural Drawings (Lucas Stapleton Johnson)
 - Measured and conjectural drawings prepared by Lucas Stapleton Johnson for the Ravensworth Homestead Complex.
- **Appendix 23c** – Historic Archaeological Test Excavation Report and Impact Statement for the Core Estate Lands (Casey & Lowe)
 - This Historic Archaeological Test Excavation Report and Impact Statement for the Core Estate Lands details the outcomes of the historical archaeological test excavation program conducted within and around the Ravensworth Homestead Complex as well as an impact assessment for the archaeology including mitigation and management measures. Recommendations for further archaeological work including an Archaeological Research Design and Methodology are also provided.
- **Appendix 23d** – Statement of Heritage Impact (Lucas Stapleton Johnson)
 - The Statement of Heritage Impact assesses the impact of the Project on the heritage values of the former Ravensworth Estate lands and Ravensworth Homestead Complex, as well as the heritage values of the two proposed relocation option sites.
- **Appendix 23e** – Ravensworth Homestead Relocation Justification Report (Glencore)
 - The Ravensworth Homestead Relocation Justification Report provides justification for the relocation of the Homestead to a new recipient site. The justification is mainly the significant economic value of the Glendell Pit Extension and associated employment opportunities, whilst also providing a relocation proposal that provides substantial retention of heritage values.
- **Appendix 23f** – Ravensworth Homestead Relocation Option Identification and Assessment Report (Glencore) that includes:
 - A. Ravensworth Homestead Advisory Committee Meeting Minutes
 - B. Route Assessment (Mammoth Movers)
 - C. Recipient Site Assessment (Lucas Stapleton Johnson)
 - D. Planning Constraints Assessment (Umwelt)
 - E. Vegetation and Landscape Feature Relocation Schedule

- The Ravensworth Homestead Relocation Option Identification and Assessment Report contains details on the process undertaken in identifying and assessing options to relocate the Ravensworth Homestead including the workings of the Ravensworth Homestead Advisory Committee (RHAC), alternate move methodologies, assessment of options and selection of the preferred Ravensworth Homestead relocation options.
- **Appendix 23g – Ravensworth Farm Proposal.** This appendix includes a heritage analysis and statement of significance for the Ravensworth Farm recipient site, visualisation snapshots of the homestead at the recipient site including its post-mining setting and outlook, conceptual adaptation drawings and preliminary scope of works, conceptual landscape plans for homestead garden and immediate setting, preliminary earthworks plan for regrading of the recipient site to provide a similar landform to the current homestead site, preliminary footing design for the relocated buildings, a methodology prepared by the building mover for the intact relocation of the buildings, and an independent engineers statement regarding the intact move methodology.
 - A. Ravensworth Farm, Ravensworth – Heritage Analysis and Statement of Significance (Lucas Stapleton Johnson)
 - B. Ravensworth Farm Option - Visualisation (Truescape)
 - C. Conceptual adaptation drawings (Lucas Stapleton Johnson)
 - D. Preliminary scope of works (Lucas Stapleton Johnson)
 - E. Conceptual landscape plans (Geoffrey Britton)
 - F. Preliminary Earthworks Plan (WSP Engineering)
 - G. Preliminary Footing Design (Mott MacDonald)
 - H. Methodology for the Relocation of the Ravensworth Homestead Complex (Mammoth Movers)
 - I. Ravensworth Homestead Relocation – Structural Engineers Statement (Mott MacDonald)
- **Appendix 23h – Broke Village Proposal.** This appendix includes a heritage analysis and statement of significance for the McNamara Park (Broke) recipient site, Aboriginal due diligence report, ecological constraints assessment, conceptual adaptation drawings, conceptual landscape plan for the homestead garden, preliminary earthworks plan for filling of the site, and a methodology for the dismantle and rebuild of the buildings at the recipient site.
 - A. McNamara Park, Broke – Heritage Analysis and Statement of Significance (Lucas Stapleton Johnson)
 - B. Aboriginal Due Diligence Assessment Report – Proposed Relocation Area for Ravensworth Homestead, Lot 701 at Broke (OzArk)
 - C. Ecological Constraints Assessment – McNamara Park, Broke (Umwelt)
 - D. Masterplan Concept Document – Ravensworth Homestead, Adaptive Re-Use within Broke Town Centre (SHAC)
 - E. Conceptual landscape plan (Geoffrey Britton)
 - F. Preliminary earthworks plan (Glencore)
 - G. Project Methodology for Dismantle and Rebuild at Broke (HSR (Aust) Group)
 - H. Broke-Fordwich Wine and Tourism Economy (Broke-Fordwich Wine and Tourism Association)

- **Appendix 23i – Hebden Public School Preliminary Scope of Works**
 - Preliminary scope of works for the stabilisation of Hebden Public school including external works such as roof re-sheeting and replacement of weatherboards where required, painting and tidy up of surrounding yard.

Ravensworth Homestead Relocation

The Ravensworth Homestead Complex lies within the proposed Glendell Pit Extension mining footprint. It is proposed to relocate the buildings to a new recipient location to allow recovery of the underlying coal resource. This will provide substantial benefits to the local, regional and State economies. The need to relocate the Ravensworth Homestead Complex to enable open cut mining, and the identification, assessment and selection of the preferred relocation options has been the subject of extensive studies and investigations by specialist heritage consultants and contractors. The community has also been consulted regarding their values in relation to the Homestead and Glencore has established a community-based committee, the Ravensworth Homestead Advisory Committee (RHAC), to assist with the assessment of proposed relocation options. A summary of the elements that were taken into consideration when assessing and developing the Homestead relocation options is shown in **Figure 1**.

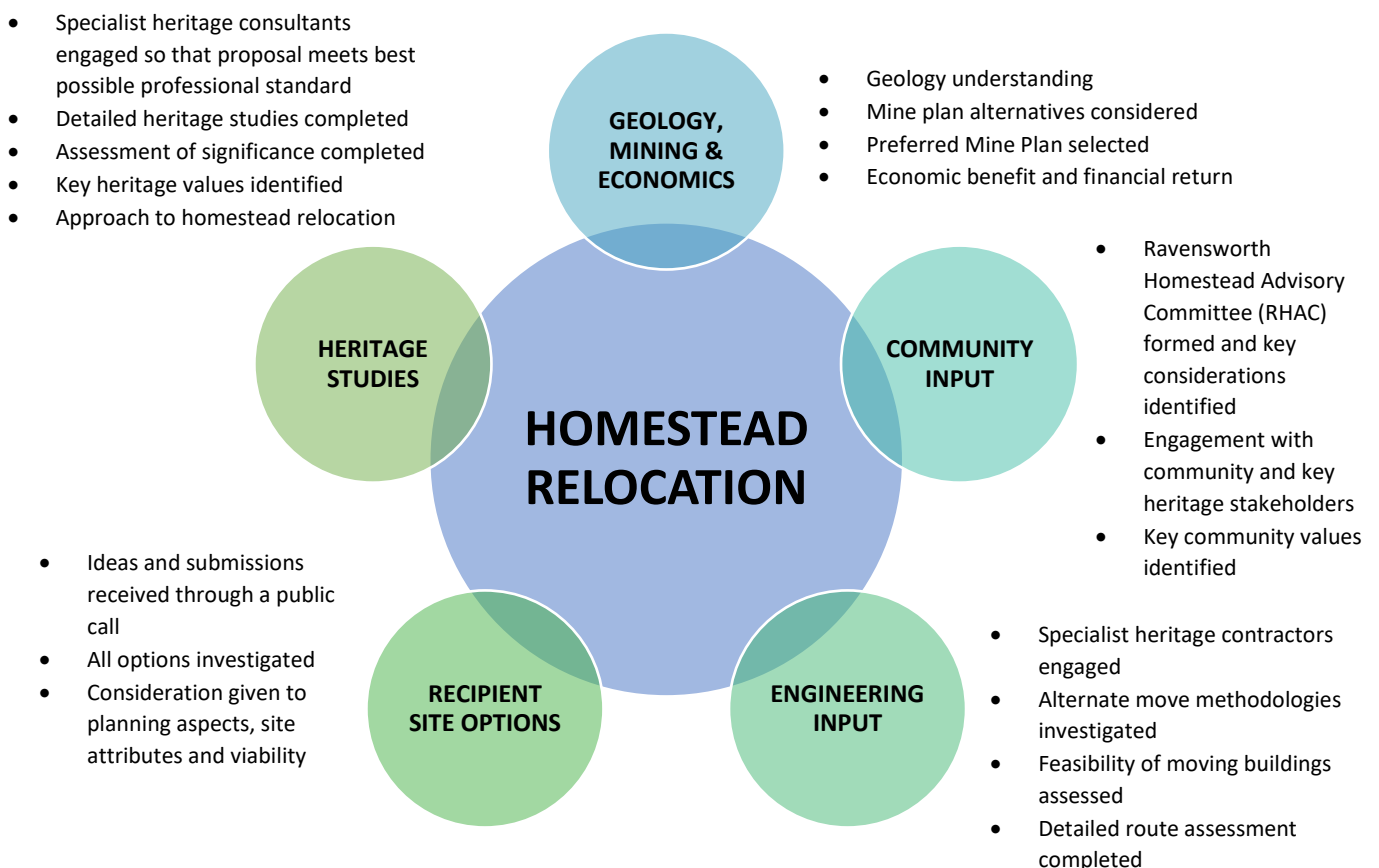


Figure 1: Key Considerations for relocation of Ravensworth Homestead Complex

Two alternate relocation options for the Homestead are proposed in the EIS, namely:

- Ravensworth Farm (Option 1) – involves the intact relocation of all buildings to a Glencore-owned site situated within the original Bowman '10,000 acre' land grant where they would be repurposed for use as an administration and training facility. This option focuses on preserving the heritage values of the buildings and positions them in a location with a similar setting and visual catchment. Conceptual adaptation drawings, landscape sketches and other documentation specific to the Ravensworth Farm option are provided in **Appendix 23g**.
- Broke Village (Option 2) – this is a proposal by members of the Broke-Fordwich community and involves relocation of the buildings to Broke where they would have multi-purpose usage and form the village square. This option requires the buildings to be dismantled and rebuilt at the new location and places a greater emphasis on placing the buildings in a publically accessible location where they can be adapted to suit the intended end use and fulfil a community need. The facility would be owned by the community with financial benefits generated by the facility used for funding local community initiatives. Conceptual adaptation drawings, landscape sketches and other documentation specific to the Broke Village option are provided in **Appendix 23h**.

Further discussion on the relocation options is provided in **Section 7.8** of the EIS Main Document.

Geology, Mining and Economics

Alternate mine plan options have been investigated as part of the development of the Project having regard to:

- The characteristics of the underlying geology within the Project area
- Extent of historic and existing mining operations within and surrounding the Project area
- Location of existing creek lines and other natural features
- Location of existing fixed infrastructure including roads, rail and transmission lines
- Economic benefits in the form of royalties to the State government.

The alternate mine plans considered included options to mine through the area of the Ravensworth Homestead Complex and options that left the Homestead in-situ and involved mining around or up to some offset distance. Further details on the mine planning options considered and the Preferred Mine Plan (Glendell Pit Extension) are provided in **Section 1.2.2** and **Section 3.1** of the EIS Main Document and the Mine Planning Options Report provided in **Appendix 1**.

The Glendell Pit Extension will deliver a significant net benefit of over \$1 billion (in net present value terms) to the State over the life of the Project, of which almost \$300 million (in net present value terms) will be royalties. Further details on the economic benefits of the Project are provided in **Section 7.17** of the EIS Main Document and the Economic Impact Assessment contained in **Appendix 31**.

A Ravensworth Homestead Relocation Justification Report has also been prepared having regard to the economic, social and environmental benefits of relocating the homestead, as well as the heritage impacts, and can be found in **Appendix 23e**.

Community Input

Glencore established the RHAC in late 2017 to assist with its investigations and decision-making in regard to the relocation and options for the future use of the Ravensworth Homestead Complex. The RHAC is a community-based committee, chaired by an independent facilitator, and consists of former owners, local landholders, members of the local business sector and representatives from the local heritage community. The RHAC have been involved in all aspects of the Project and further details on

their involvement and workings are provided in **Section 7.8.4** of the EIS Main Document and in the Ravensworth Homestead Option identification and Assessment Report (**Appendix 23f**).

As part of the consultation process for the Project, Glencore also engaged with the community and key stakeholder groups (including the RHAC) to understand their values in relation to Ravensworth Estate and the Ravensworth Homestead Complex. Key values identified were:

- Historical
 - People who lived at and visited Ravensworth Estate
 - Historic events that have taken place at Ravensworth Estate and the broader area including interactions between Aboriginal people and early European settlers
- Aesthetic
 - Design/style of the homestead as being representative of the early colonial period
 - Craftsmanship and technology of construction using handcrafted sandstone
 - Relationship of the homestead building group to its setting as a working agricultural complex
- Social
 - Sense of place within the Ravensworth environs and more broadly within Hebden area
 - Personal connection of local community with Ravensworth both through firsthand experiences and through stories handed down.

Further details on the outcomes of this engagement is provided in **Section 7.16** of the EIS Main Document and the Social Impact Assessment provided in **Appendix 30**.

In addition, as part of the workings of the RHAC, a list of key considerations were identified and developed in discussion with the Project heritage consultants and Glencore to assess relocation options and were:

- Singleton LGA – preference for the relocated homestead to remain within the Singleton LGA as it is a locally listed item on the Singleton Local Environmental Plan (2013).
- Retention of heritage fabric – preference for the relocation to involve all buildings in the complex in their current layout arrangement. Also considered a move methodology sensitive to the heritage significance of the buildings as being preferable (intact move), however the move methodology should not preclude the ability to relocate the buildings to a site where they have greater accessibility and potential for being economically viable.
- Sustainability and commercial viability – preference for the homestead relocation to be commercially viable to ensure its long term sustainability and avoid it becoming a stranded asset.
- Publically accessible – preference for an option that provides and promotes public access.
- Site verisimilitude – the authenticity and attributes of the recipient site were considered important by the RHAC, but not mandatory, particularly in instances where the recipient site was in a location of greater public access and higher tourist traffic.
- Ownership model – preference for a public ownership model where not on Glencore-owned land and consideration of its ability to operate and manage the asset.
- Provide a community benefit – preference for a relocation option that fulfils a community need.

Further detail on these key considerations is provided in **Section 7.8.4** of the EIS Main Document and the Ravensworth Homestead Relocation Option Identification and Assessment Report (**Appendix 23f**).

Heritage Studies

Throughout the Project Glencore has obtained input from specialist heritage consultants and completed detailed studies and assessments in order to understand the Ravensworth Estate and Ravensworth Homestead Complex in all of its elements and to ensure the relocation proposal meets the best possible professional standards. This included a statement of significance for Ravensworth Estate and the Ravensworth Homestead Complex, and a statement of heritage impact for the Project including the proposed relocation options. Heritage studies and assessments completed for the Project are summarised in **Table 1**.

Table 1: Summary of Heritage Studies Completed for the Project

Study	Document Title	Consultant	EIS Section	EIS Appendix
Historic landownership and tenure for Ravensworth, Ravensworth Farm and Broke	Heritage Analysis and Statement of Significance – Ravensworth Estate	Dr Terry Kass	Section 7.8.2.4	Appendix 23a
	Heritage Analysis and Statement of Significance – Ravensworth Farm		Section 7.8.2.4	Appendix 23g
	Heritage Analysis and Statement of Significance – McNamara Park, Broke		Section 7.8.2.4	Appendix 23h
Early conflict history between Aboriginal people and European settlers within and around Ravensworth Estate	Ravensworth: Contact History (contained in Aboriginal Cultural Heritage Assessment Report)	Dr Mark Dunn	Section 7.8.2.3	Appendix 22
	Heritage Analysis and Statement of Significance – Ravensworth Estate		Section 7.8.2.3	Appendix 23a
Aboriginal archaeology survey and test excavations	Aboriginal Archaeology Impact Assessment (contained in Aboriginal Cultural Heritage Assessment Report)	OzArk	Section 7.7	Appendix 22
Aboriginal cultural heritage assessment	Aboriginal Cultural Heritage Assessment Report	ACHM	Section 7.7	Appendix 22
Architectural assessment including preparation of measured and conjectural drawings of the homestead building group	Heritage Analysis and Statement of Significance – Ravensworth Estate	Lucas Stapleton Johnson	Section 7.8.3.3	Appendix 23a
	Ravensworth Homestead Complex Measured and Conjectural Drawings		Section 7.8.3.3	Appendix 23b
Historic archaeology test excavation within and adjacent to the Ravensworth Homestead Complex and Core Estate Lands	Historic Archaeological Test Excavation Report and Impact Statement for the Core Estate Lands	Casey & Lowe	Section 7.8.3.2	Appendix 23c
Landscape assessment of the homestead in its local settings and broader visual catchments	Heritage Analysis and Statement of Significance – Ravensworth Estate	Geoffrey Britton and Colleen Morris	Section 7.8.3.1	Appendix 23a

Study	Document Title	Consultant	EIS Section	EIS Appendix
Garden and vegetation assessment within the grounds of the Ravensworth Homestead Complex and immediate surrounds	Heritage Analysis and Statement of Significance – Ravensworth Estate	Geoffrey Britton and Colleen Morris	Section 7.8.3.1	Appendix 23a
Identification of plants, trees and landscape features within the ground of the Ravensworth Homestead Complex and immediate surrounds that should be salvaged and relocated to the recipient site	Landscape and Site Features Schedules (Appendix E in Ravensworth Homestead Relocation Option Identification and Assessment Report)	Geoffrey Britton	Section 7.8.3.1	Appendix 23f
Heritage analysis and statement of significance for Ravensworth Estate and Ravensworth Homestead Complex	Heritage Analysis and Statement of Significance – Ravensworth Estate	Lucas Stapleton Johnson	Section 7.8	Appendix 23a
Statement of Heritage Impact	Statement of Heritage Impact	Lucas Stapleton Johnson	Section 7.8	Appendix 23d

Recipient Site Options

A range of homestead relocation options have been identified and assessed as part of the Project and included a number of public calls in 2018 to gain ideas and submissions from the Singleton community. All proposed relocation options have been assessed in consultation with heritage specialists and the RHAC having regard to key matters such as planning aspects (land zoning, hazards etc), site attributes (setting, landform, visual catchment etc), retention of heritage fabric, accessibility, ownership and potential commercial viability. Further details on the option identification and assessment process is provided in **Section 6.6** of the EIS Main Document and the Ravensworth Homestead Relocation Option Identification and Assessment Report (**Appendix 23f**).

Engineering Input

Input has been sought from specialist consultants and contractors regarding the relocation of the Ravensworth Homestead Complex. Two alternate move methodologies have been considered, namely, move the buildings wholly intact (or in large intact sections) and dismantle and rebuild and further information is provided in **Section 7.8.10** of the EIS Main Document.

Specialist input using expertise from the USA was sought for the intact move that included an assessment of the suitability of moving the buildings using this methodology. The assessment by the mover confirmed that the buildings can be moved intact with the building mover also completing a detailed route assessment (refer **Appendix 23f**) that investigated the suitability of alternate routes for transporting the buildings. The route assessment confirmed that the buildings can only be relocated using the intact move methodology to sites within 2-5km of their existing location due to road network constraints (width, grade, fixed infrastructure etc). A move methodology report has also been prepared by the building mover for the Ravensworth Farm relocation option and is provided in **Appendix 23g**. Coupled with the work by the mover, a preliminary footing design has been completed along with a structural engineer's statement, which indicates that the buildings can be moved without damage (**Appendix 23g**).

For the dismantle and rebuild methodology, which is relevant to the Broke Village option, an Australian based heritage contractor was engaged to provide expertise and guidance around the process for relocating the buildings which included the preparation of a relocation methodology report (refer **Appendix 23h**).

Appendix 23a

Heritage Analysis and Statement of Significance - Ravensworth Estate

Heritage Analysis & Statement of Significance

Ravensthorpe Estate, Singleton, NSW



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Executive Summary

This report is a Heritage Analysis and Statement of Significance for the Ravensworth Estate, Singleton and has been commissioned by Glencore, Glendell Tenements Pty Ltd.

This report forms part of a proposal to extend the existing Glendell Mine, taking in a new area of land located to the north-west of the existing mine (Glendell Pit Extension) and to install associated mining infrastructure adjacent. The Glendell Mine forms part of the Mount Owen Complex located at Ravensworth in the Upper Hunter Valley of New South Wales.

The land into which the open cut coal mine is to be extended forms part of the former Ravensworth Estate, an historic pastoral property located in the Upper Hunter Valley of NSW established in 1824 by Dr. James Bowman, the colony's principal surgeon. The historic focus of the Ravensworth Estate lands is the c1832 homestead, the Ravensworth Homestead Complex.¹ In 1997 Glendell Tenements Pty Ltd acquired the homestead complex and surrounding lands.

The Ravensworth Homestead is listed as an item of local heritage in Schedule 5 of the *Singleton Local Environmental Plan* 2013 (Item No. I41).

As the current proposal involves not only the Ravensworth Homestead Complex but surrounding lands which contains historic and archaeological features and components of note and, in order to undertake an assessment of the potential impacts of the proposal on the heritage values of the broader historic Ravensworth Estate (see *Appendix 23f: Statement of Heritage Impact*), a comprehensive assessment of the significance of the place and its individual components is required.

This Heritage Analysis and Statement of Significance aims to provide a detailed analysis of the documentary and physical evidence of the Ravensworth Estate (the Place), leading to a considered assessment of the cultural significance of the whole of the Place and its individual components.

This draft version of the report has been issued as part of the Adequacy Submission to the Department of Planning, Industry & Environment, in response to the Secretary's Environmental Assessment Requirements (SEARs) for the State Significant Development (SSD) application SSD 9349.

Statement of Cultural Significance

As a result of the research and analysis undertaken in the preparation of this report, the following summary statement of cultural significance for the place has been developed:

The place forms part of the traditional lands of the Aboriginal people of the Hunter Valley, the Wonnarua, made more meaningful by the recorded reports of interactions and conflicts between the Wonnarua and the colonists in the Ravensworth locality.

The Ravensworth Estate is representative of the rapid colonisation of the Hunter region in the period 1820s to 1840s and the history of the place has led to the area of Ravensworth becoming a known locality in the state of NSW, with the Ravensworth Estate and homestead complex at its centre.

¹ It should be noted that the name Ravensworth applies to not only the former estate lands and the homestead, it is also the name of a parish, a former village, a former railway station, a mine and the general locality.

Established in 1824, the Ravensworth Estate is associated with a range of significant colonial places and people including Dr. James Bowman, principal surgeon of the colony of NSW, who established the estate and is one of only a few places where, under Edward Bowman, horticultural experimentation first started in Australia. The place retains tangible evidence of the colonial period including substantial archaeological remains, landscape features and cultural plantings and made more meaningful by the surviving c1832 homestead complex including its siting and configuration.

The Ravensworth homestead complex includes a rare, formally designed farmyard complex of colonial buildings including a good example of a colonial bungalow, with stonework and roof carpentry of note. As originally built, the “H” plan bungalow is a rare feature, indicating a design (potentially) by a gentleman architect.

Because of the relatively modest history of development throughout the 19th and 20th century, the place has the potential to provide information, by way of further study and archaeological investigation, into colonial building techniques, 19th century lifestyles, agricultural and horticultural practices and the working lives of convicts in a non-institutional setting, which is considered very rare.

Report Contributors

The following individuals and consultancies have contributed to the preparation of the Statement of Heritage Impact

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Aboriginal Contact History	Dr. Mark Dunn
Additional Historic Research	Ann Hardy and Victoria Grey
Historic Archaeology	Casey & Lowe Dr. Mary Casey and Kylie Seretis
Landscape Consultants	Geoffrey Britton and Colleen Morris
Aboriginal Archaeology	OzArk Environmental and Heritage Management Pty Ltd Ben Churcher
Aboriginal Cultural Values	ACHM Dr. Shaun Canning
Social Impact Assessment	Umwelt Dr Sheridan Coakes
Archival Recording	Archival Heritage Photos David Liddle
Client body and review	Glencore

Other reports relied on for the preparation of this report include the following:

- *Glendell Continued Operations Project: Aboriginal Cultural Heritage Assessment Report*, ACHM, 2019
- *Glendell Continued Operations Project: Aboriginal Archaeology Impact Assessment*, OzArk, 2019
- *Ravensworth Homestead Complex: Historical Archaeological Test Excavation Report and Impact Statement for the Core Estate Lands*, Casey & Lowe, 2019
- *Ravensworth Homestead Complex & Surrounds: Historical Archaeological Assessment and Archaeological Research Design*, Casey & Lowe, 2018

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1. Introduction

1.1. Background

This report is a Heritage Analysis and Statement of Significance for the (former) Ravensworth Estate, Singleton and has been commissioned by Glencore, Glendell Tenements Pty Ltd.

This report forms part of a proposal to extend the existing Glendell Mine, taking in a new area of land located to the north-west of the existing mine (Glendell Pit Extension) and to install associated mining infrastructure adjacent. The Glendell Mine forms part of the Mount Owen Complex located at Ravensworth in the Upper Hunter Valley of New South Wales.

The land into which the open cut coal mine is to be extended forms part of the former Ravensworth Estate, an historic pastoral property located in the Upper Hunter Valley of NSW established in 1824 by Dr. James Bowman, the colony's principal surgeon. The historic focus of the Ravensworth Estate lands is the c1832 homestead, the Ravensworth Homestead Complex.¹ In 1997 Glendell Tenements Pty Ltd acquired the homestead complex and surrounding lands.

The Ravensworth Homestead is listed as an item of local heritage in Schedule 5 of the *Singleton Local Environmental Plan* 2013 (Item No. I41).

This draft version of the report has been issued as part of the Adequacy Submission to the Department of Planning, Industry & Environment, in response to the Secretary's Environmental Assessment Requirements (SEARs) for the State Significant Development (SSD) application SSD 9349.

1.1.1. Methodology

The form and methodology of this report follows the general guidelines for assessing heritage significance outlined in the following documents:

- *Australia ICOMOS Charter for Places of Cultural Significance (The Burra Charter)*, Australia ICOMOS Inc. 2013
- *Assessing Heritage Significance*, NSW Heritage Office, 2001
- *NSW Heritage Manual*, NSW Heritage Office, 1996

1.1.2. Background to the Report

Since the late 1990s, the land surrounding the Ravensworth Homestead Complex has been progressively mined and rehabilitated by Glencore (or its subsidiaries). Necessarily, these projects (as part of the approvals process) have involved the production of various Historical Heritage Management Plans and similar documents addressing the history and significance of the Ravensworth Homestead Complex and select areas of the land comprising the (former) Ravensworth Estate.

¹ It should be noted that the name Ravensworth applies to not only the former estate lands and the homestead, it is also the name of a parish, a former village, a former railway station, a mine and the general locality.

The most thorough of these reports is the *Glendell Coal Joint Venture: Ravensworth Homestead and Farm Complex Structural and Material Condition Report*, prepared by EJE Architects in 1997. This report includes the only detailed history of the Ravensworth Homestead Complex undertaken to date, prepared by Cynthia Hunter (refer to Section 2 for further discussion).

As the current proposal involves not only the Ravensworth Homestead Complex but surrounding lands which contains historic and archaeological features and components of note and, in order to undertake an assessment of the potential impacts of the proposal on the heritage values of the broader historic Ravensworth Estate (see *Appendix 23d: Statement of Heritage Impact*), a comprehensive assessment of the significance of the place and its individual components is required.

This Heritage Analysis and Statement of Significance aims to provide a detailed analysis of the documentary and physical evidence of the (former) Ravensworth Estate (the Place), leading to a considered assessment of the cultural significance of the whole of the Place and its individual components.

1.1.3. Other Reports

Other reports relied on for the preparation of this report are as follows:

- *Glendell Continued Operations Project: Aboriginal Cultural Heritage Assessment Report*, ACHM, November 2019
- *Glendell Continued Operations Project: Aboriginal Archaeology Impact Assessment*, OzArk, November 2019
- *Ravensworth Homestead Complex: Historical Archaeological Test Excavation Report and Impact Statement for the Core Estate Lands*, Casey & Lowe, November 2019
- *Ravensworth Homestead Complex & Surrounds: Historical Archaeological Assessment and Archaeological Research Design*, Casey & Lowe, September 2018
- *Ravensworth: Contact History*, Dr. Mark Dunn, August 2019

1.1.4. Exclusions

This report does not include a detailed assessment of the ecological values of the place. Refer to the *Biodiversity Development Assessment Report*, Umwelt, dated 2019, accompanying the application (*Appendix 20*).

1.1.5. Author Identification

This report has been produced at Lucas Stapleton Johnson & Partners Pty Ltd and is the compilation of work by the following team:

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1.1.6. Acknowledgments

The authors wish to acknowledge the assistance of the following:

- Shane Scott, Bradly Snedden, Catherine Fenton of Glencore
- Bret Jenkins, Bridie McWhirter, Dr. Sheridan Coakes of Umwelt
- Mr. Geoffrey and Mrs. Jenny Marshall
- Tim Duddy

1.1.7. Copyright of Images

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1.2. The Place and its Principal Components

The former Ravensworth Estate is located within the Upper Hunter Valley, NSW, within the Parishes of Liddell and Vane, the County of Durham, in the local government area of Singleton Council.

The Ravensworth Homestead Complex is located to the north of the New England Highway and the Main Northern Railway, approximately 20 kilometres northwest of Singleton, 25 kilometres southeast of Muswellbrook, 6 kilometres north of the village of Camberwell and 7 kilometres east of Lake Liddell (Refer to Figure 1.1). Access to the homestead is via Hebden Road, running northward from the New England Highway.

At its largest extent the Ravensworth Estate comprised a series of land parcels stretching from Davis Creek and Rouchel Brook near Mount Scrumlo in the north to the Hunter River near the town of Camberwell in the south (refer to Section 2 for further detail), with the Ravensworth Homestead Complex at the centre of the pastoral operations of the property.

Today, due to the history of subdivision that has occurred since the late 19th century and the subsequent sale of portions of the original estate lands, the land that once comprised Ravensworth Estate is now owned by various individuals, corporations and government agencies and has been developed for a mix of purposes by current and past owners.

Given the former size of the Ravensworth Estate and in order to clearly identify and analyse the principal components of the estate lands, the area of land that forms the basis of this report has been broken into three components:

- the Place;
- the Core Estate Lands; and
- the Ravensworth Homestead Complex.

Refer to Sections 1.2.1, 1.2.2 and 1.2.3 below and Section 3 for further discussion of the definition of these key areas.

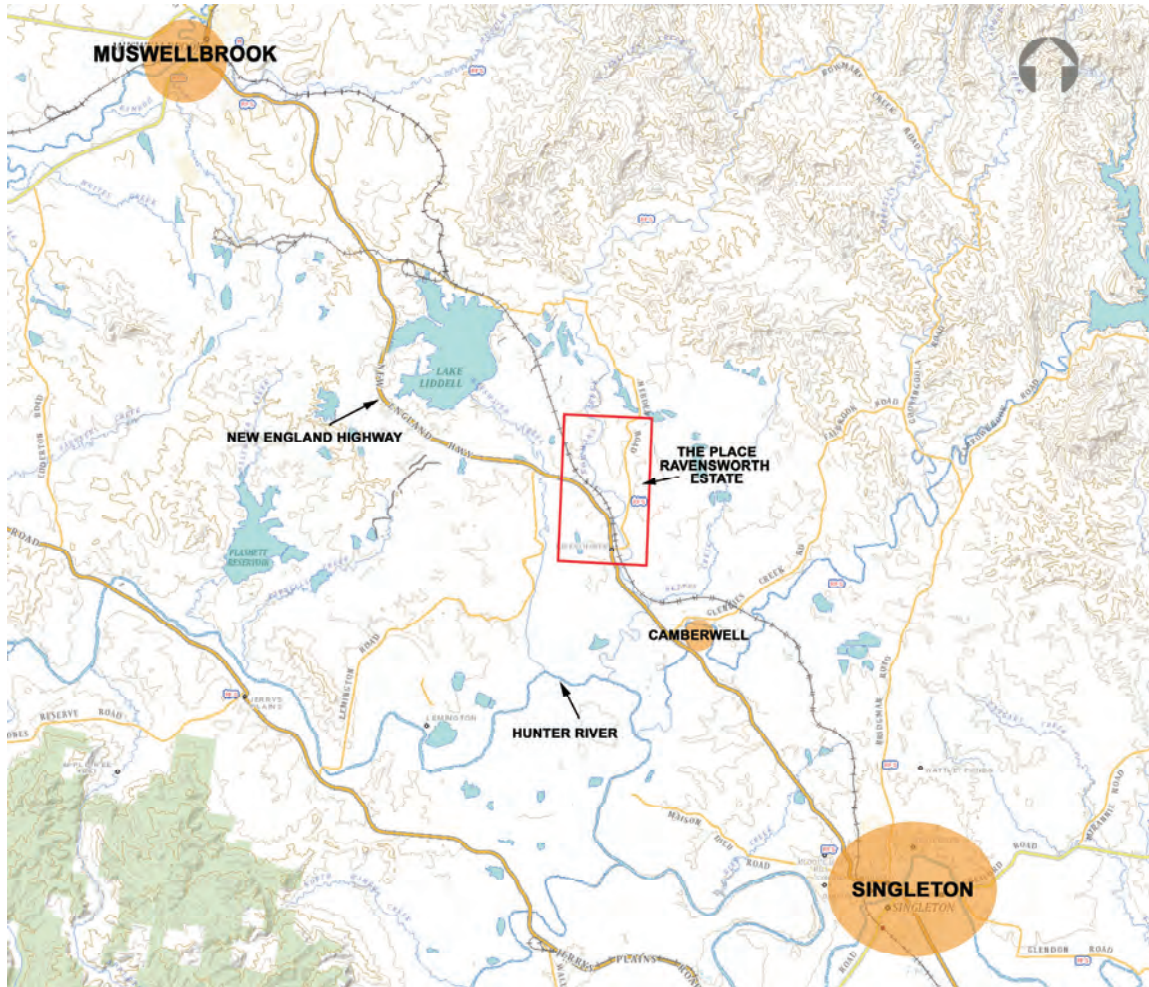


Figure 1. 1: Map of the locality showing the location of the place: the Ravensworth Estate in relation to Singleton and Muswellbrook. Source: NSW Spatial Services, SixMaps, 2018

1.2.1. Defining the Place

For the purposes of this report, the place has been defined as being all the land located within the historic boundaries of the three land grants forming the core of the Ravensworth Estate, that is Portions 149 and 150 of the Parish of Liddell and Portion 1 of the Parish of Vane (see Figure 1.2). Together this land comprises Dr. James Bowman's original "10,000" (10,439) acre land grants applied for under Governor Brisbane in 1824 (refer to Section 2 for further details).

Located throughout the place are a number of individual sites, features and components that relate to the history of development of the Ravensworth Estate. These include:

- Aboriginal archaeological sites;
- Historical archaeological sites relating to the early 19th century through to the early to mid-20th century;
- Historic landscape features and cultural plantings relating to the early 19th century through to the early to mid-20th century;
- Historic agricultural/pastoral features located throughout the place including other homesteads/farms as well as evidence of past pastoral uses, fence lines, dams and outbuildings etc.;

- Historic villages of Ravensworth and Hebden including surviving buildings and archaeological sites;
- Historic roads including Hebden Road, New England Highway, Old New England Highway, and the former location of the Great Northern Road;
- Historic railway lines: Main Northern Railway and associated infrastructure (rail bridges, signal boxes etc.);
- Mining operations and associated infrastructure (see also Figure 1.8 for areas excluded from the focus of study);
- Natural features including the landform, Bowmans Creek, Yorks Creek, Swamp Creek, Stringy Bark Creek and native vegetation communities; and
- Ravensworth Homestead Complex and associated landscape/agricultural features in the immediate vicinity.

Refer to *Section 3: Physical Evidence* for detailed identification of all principal components within the boundaries of the place.

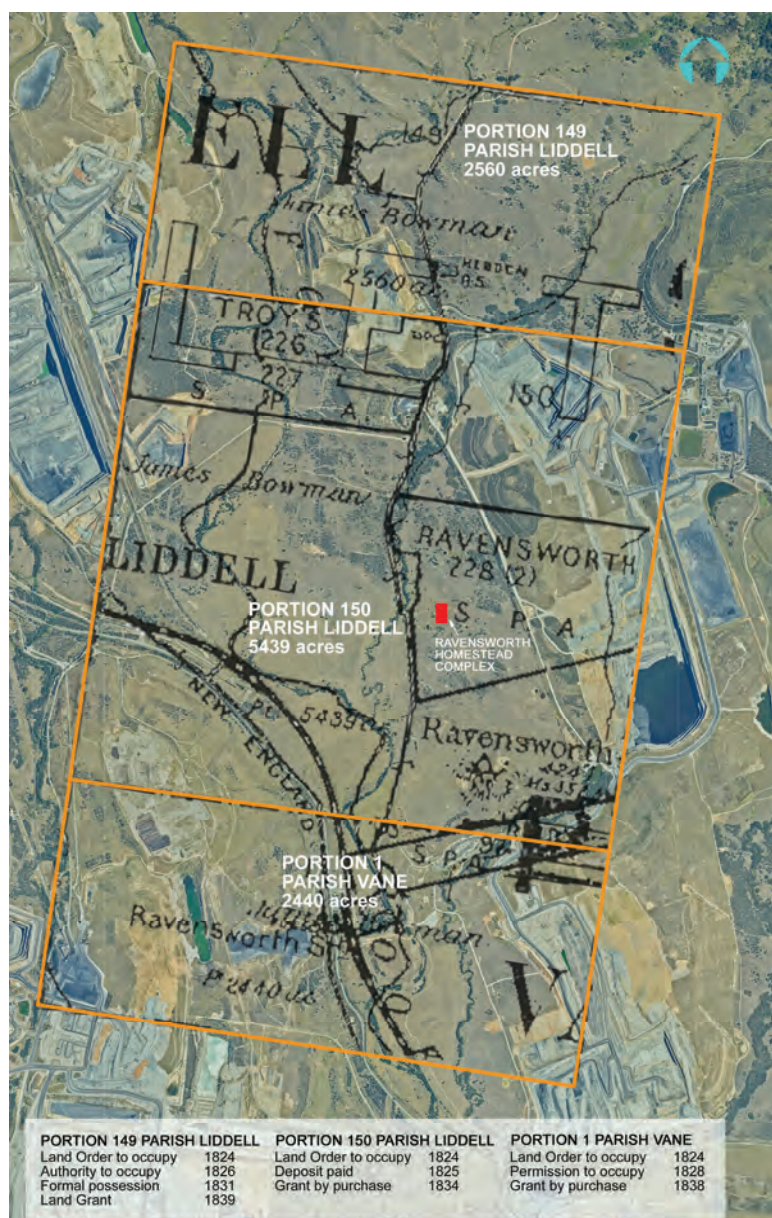


Figure 1. 2: Aerial view of the Ravensworth locality overlaid with the County of Durham plan indicating the location of the three original Parish Portions applied for by James Bowman in 1824. The boundaries of these three portions define the **boundaries of the Place** for the purposes of this report. Source: Base aerial courtesy of Glencore/Umwelt

1.2.2. Defining the Core Estate Lands

In the course of research and investigations undertaken for the production of this report, it became apparent that there was an extended area of land surrounding the Ravensworth Homestead Complex that retained physical evidence of the earliest period of European colonisation of the estate lands. Features of interest include the potential site of the first homestead at the Ravensworth Estate, cultural plantings, evidence of cultivation areas, stone lined dams and wells as well as a range of historical archaeological remains.

This area of land for the purposes of this Heritage Analysis and Statement of Significance has been identified as the “core estate lands” and is defined by the allotment containing the Ravensworth Homestead Complex together with the land to the west between Yorks Creek and Bowmans Creek (see Figure 1.5).

1.2.3. Defining the Ravensworth Homestead Complex

Although no longer functioning as the main homestead for a large pastoral property, the Ravensworth Homestead Complex nevertheless remains the historic focus of the locality and is the main surviving evidence of the establishment and subsequent development of the Ravensworth Estate.

Constructed in c1832, the complex consists of a symmetrical group of agricultural buildings with homestead and attached kitchen, located in a garden setting. The complex also contains a barn, stables, privy, men’s quarters building, yard areas, paddocks and associated site and landscape features dating from the early 19th century through to recent years. The complex is clearly delineated from its immediate setting and the broader Core Estate Lands by being contained within agricultural fencing (of varying forms and dates).

Refer to Figure 1.6 for site plan.

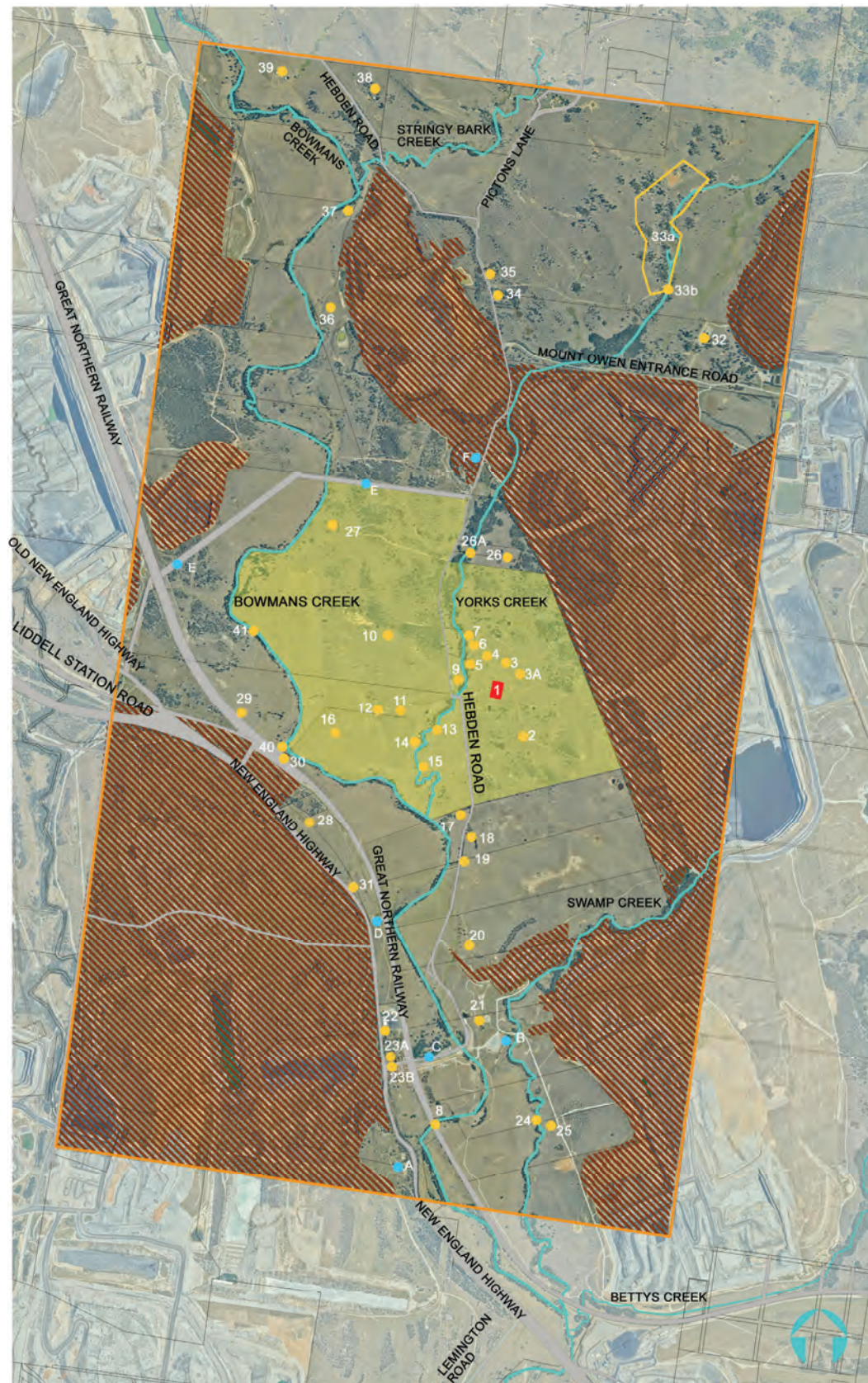


Figure 1. 3: Aerial view of the Place identifying the location of the principal components of the place, the Ravensworth Estate core remains and other sites within the boundaries of the place. See overleaf for legend.
Source: Base aerial and mapping information courtesy of Glencore/Umwelt, 2018



Figure 1. 4: Legend for Figure 1.3 (above).



LEGEND

Key Ravensworth Estate Sites/ Archaeological Test Areas

- 1 Ravensworth Homestead Complex (C&L Archaeological Test Areas 3 & 4)
- 2 Former Woolshed site
- 3 Housetank Hill: water tank and trig. station
- 3a Underground Silo site
- 4 Northwest Paddock (C&L Archaeological Test Area 5)
- 6 Brick-lined Well (C&L Archaeological Test Area 6)
- 9 Former farm site
- 10 Former farm site
- 11 (Potential) First Homestead site (C&L Archaeological Test Area 1)
- 12 Quarry (former)
- 13 Linear stone feature (C&L Archaeological Test Area 7)
- 27 Former farm site: Ravensworth Farm
- 27a Former dairy building: Ravensworth Farm

Potential Early Dams and Modified Early Dams (pre 1850s)

Note: Recent dams are not shown

- D1-D14 Potential Early Dams (pre 1850s)
- Dma-Dmf Potential Early Dams modified more recently
- D3, D4 & Dmd Yorks Creek Dams (C&L Archaeological Test Area 6)

Potential Early Cultivation Sites and Early Plantings (pre 1850s)

- VG1 Narrow-leafed Ironbark
- VG2 Kurrajong
- VG3 Black Locust
- VG4 African olive
- VG5 Black Locust windbreak (C&L Archaeological Test Area 2)
- VG6 Possible early cultivation area
- VG7 Oleander
- VG8 Black cypress pine
- VG9 Elm
- VG10 Possible early cultivation area
- VG11 Possible windbreak
- VG12 Former orchard (early 20th century)
- VG13 Former orchard (early 20th century)
- VG14 8 Acre Garden (C&L Archaeological Test Area 6)
- VG15 Copse of Black locusts
- VG16 Possible early cultivation area
- VG17 Channel leaf Orchid/Tiger Orchid (location unknown)
- VG18 Aleppo pine

For C&L Archaeological Test Areas see
Ravensworth Homestead Complex:
Historical Archaeological Test Excavation Report,
by Casey and Lowe, 2019

Figure 1. 5: Aerial view of the Core Estate Lands identifying the location of the Ravensworth Homestead Complex and other sites associated with the early development of the estate lands. Source: Base aerial and mapping information courtesy of Glencore/Umwelt, 2018

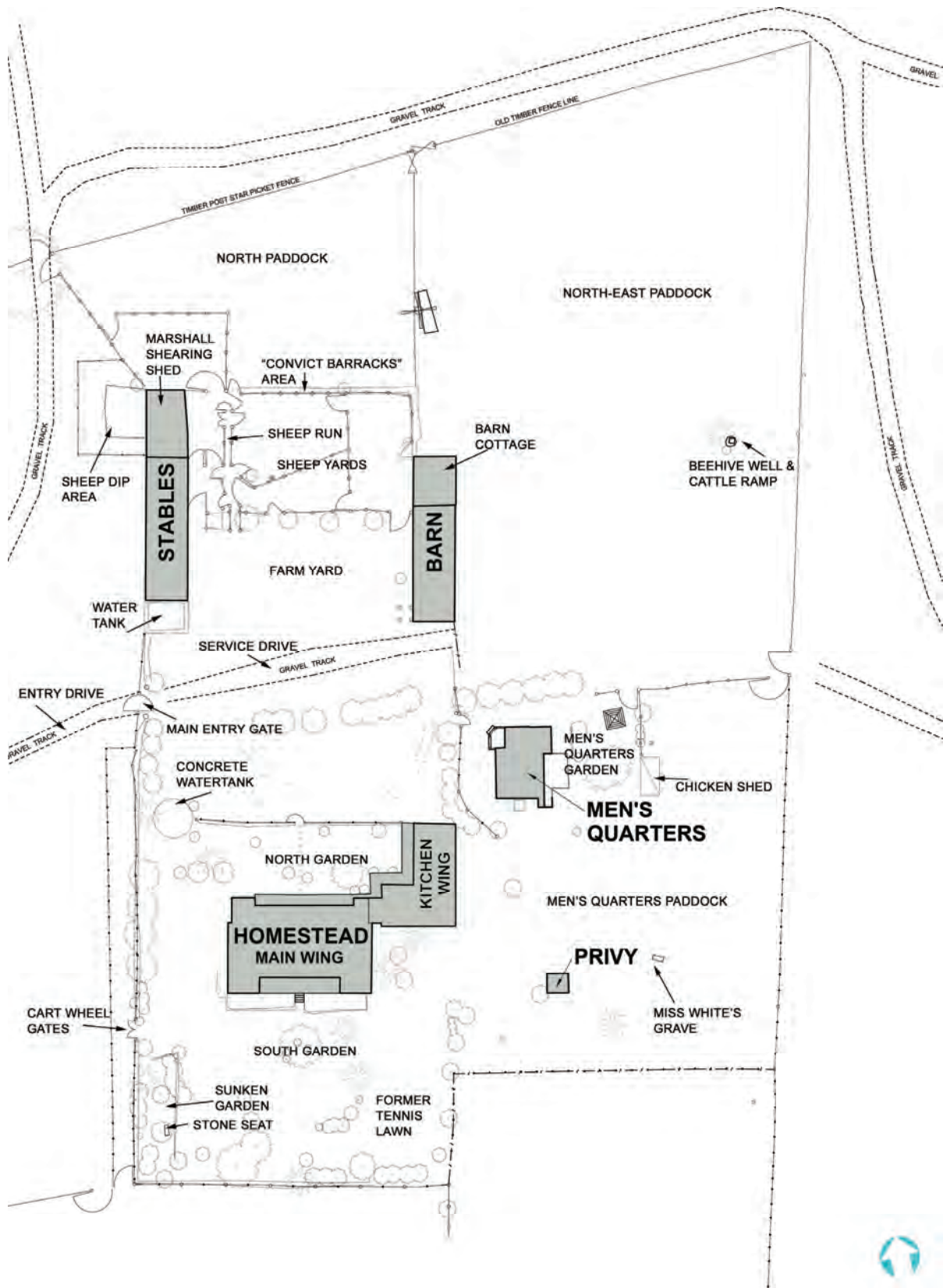


Figure 1. 6: Site plan of the Ravensworth Homestead Complex.

1.2.4. Land Ownership and Mining Leases

Land Ownership

Within the boundaries of the place, the majority of land is owned and managed by Glencore (or their subsidiaries), including the land containing the Ravensworth Homestead Complex (shaded light grey in Figure 1.7) as part of the Mount Owen Complex, comprising mining operations at the Mount Owen Mine (North Pit), the Ravensworth East Mine (Bayswater North Pit), and the Glendell Mine (see also Figure 1.8 below).

Other portions of land within the place are owned by private individuals (shaded orange in Figure 1.7), the Crown (shaded yellow in Figure 1.7) and a large portion of land in the southwest corner of the place is owned and managed by AGL Macquarie Generation, who operates the Liddell Power Station to the west (shaded pink in Figure 1.7). Small allotments of land within the place are owned by others (unidentified) (uncoloured/white in Figure 1.7).

Further details on land ownership are contained in the Glendell Continued Operations (GCO) Project Environmental Impact Statement (EIS).

Mining Leases

The whole of the land within the boundaries of the place is covered by various mining leases for mining operations and assessment as well as exploration licenses. Further details on mining tenements are contained in the GCO Project EIS.

Mining Operations within the Place

Mining operations at the Mount Owen Complex commenced at the Ravensworth East Mine (previously known as Swamp Creek Mine) and date back to the early 1960s, with expansion of the mining operations occurring over the subsequent decades. Refer to Figure 1.8 below.

1.2.5. Areas Excluded from Study

As can be seen in Figure 1.8 below, a large proportion of the land within the boundaries of the place has undergone substantial change due to mining operations. Along with the introduction of non-historic land uses (mining activities, coal processing and associated uses), the nature of open-cut mining operations necessarily negates all evidence of the history of use and the historic form and configuration of a landscape including buildings, fence-lines, roads and other cultural and natural features.

As such, for the purposes of this Heritage Analysis and Statement of Significance, those areas that have been or are currently in use for mining operations, have been excluded from the focus of study.

This approach is considered appropriate, as the mining operations throughout the place are of relatively recent date (post 1960) and are therefore considered to be of little historic significance.²

² Note: Associations with historic mining practices in the Hunter Valley and any relationship to the history of Ravensworth have been addressed as part of this report.

It should be noted that the areas of land that have received development consent for mining operations (shaded purple in Figure 1.8) are larger than the areas of actual open cut mining activities and cover areas of land that remain pastoral in character and retain historic features and sites that relate to the Ravensworth Estate and its subsequent development. Although these areas of land are related to mining operations (for example, for associated infrastructure or rehabilitation areas), as they have not been actively mined, they have been included in the focus of study.

All other lands within the boundaries of the place not covered by development consents for mining purposes are included in the focus of study.



Figure 1. 7: Current cadastral plan showing the individual allotments that comprise the place and current ownership of these allotments. Source: Base mapping information courtesy of Glencore/Umwelt

1.3. The Proposal

Refer also to *Appendix 23e: Statement of Heritage Impact*.

The Glendell Mine currently operates under development consent DA 80/952 (Glendell Consent). The Glendell Consent regulates the mining of coal from the Glendell Pit and the rehabilitation of the mining area. The processing of coal mined from the Glendell Pit is regulated by the development consent SSD-5850 (Mount Owen Continued Operations Consent) which also regulates mining at the Mount Owen and Ravensworth East Mines, and associated activities.

In May 2018, Glendell Tenements Pty Ltd submitted a request to the NSW Department of Planning & Environment for the Secretary's Environmental Assessment Requirements (SEARs) for State Significant Development (SSD) in accordance with Part 4 of the *Environmental Planning & Assessment Act 1979* for the proposed extension to Glendell Mine. The proposed development, known as "Glendell Continued Operations Project" (SSD 9349) involves (in brief) the following works:

- extension of open cut coal mining to the north of the existing Glendell Mine until approximately 2044;
- demolition of the existing Glendell Mine Infrastructure Area (MIA) and construction of a new MIA;
- progressive rehabilitation of the site including taking over the remaining rehabilitation obligations under DA 80/952;
- realignment of a section of Hebden Road;
- diversion of a section of Yorks Creek;
- relocation of Ravensworth Homestead (two options); and
- other ancillary infrastructure works such as the construction of a heavy vehicle access road and relocation of a pipeline and powerlines.

The SEARs were issued by the Department of Planning & Environment in June 2018 and included the following **key heritage issues** that are to be included within the EIS for the application:

- "an assessment of the potential impacts of the development on Aboriginal heritage (cultural and archaeological), including consultation with relevant Aboriginal communities/parties and documentation of the views of these stakeholders regarding the likely impact of the development on their cultural heritage;
- identification of historic heritage in the vicinity of the development and an assessment of the likelihood and significance of impacts on heritage items, having regard to the relevant policies and guidelines [listed in Attachment 1 to the SEARs]; and in relation to Ravensworth Homestead, the EIS must include:
 - a detailed heritage significance and historical archaeological assessment of the homestead, including consideration of its surrounding garden and landscape;
 - an analysis of all reasonable and feasible options to preserve the Homestead (including leaving in situ);
 - if relocation is selected as the preferred option, please include an analysis of all feasible relocation options and how the Ravensworth Homestead Advisory Committee was involved in the decision.

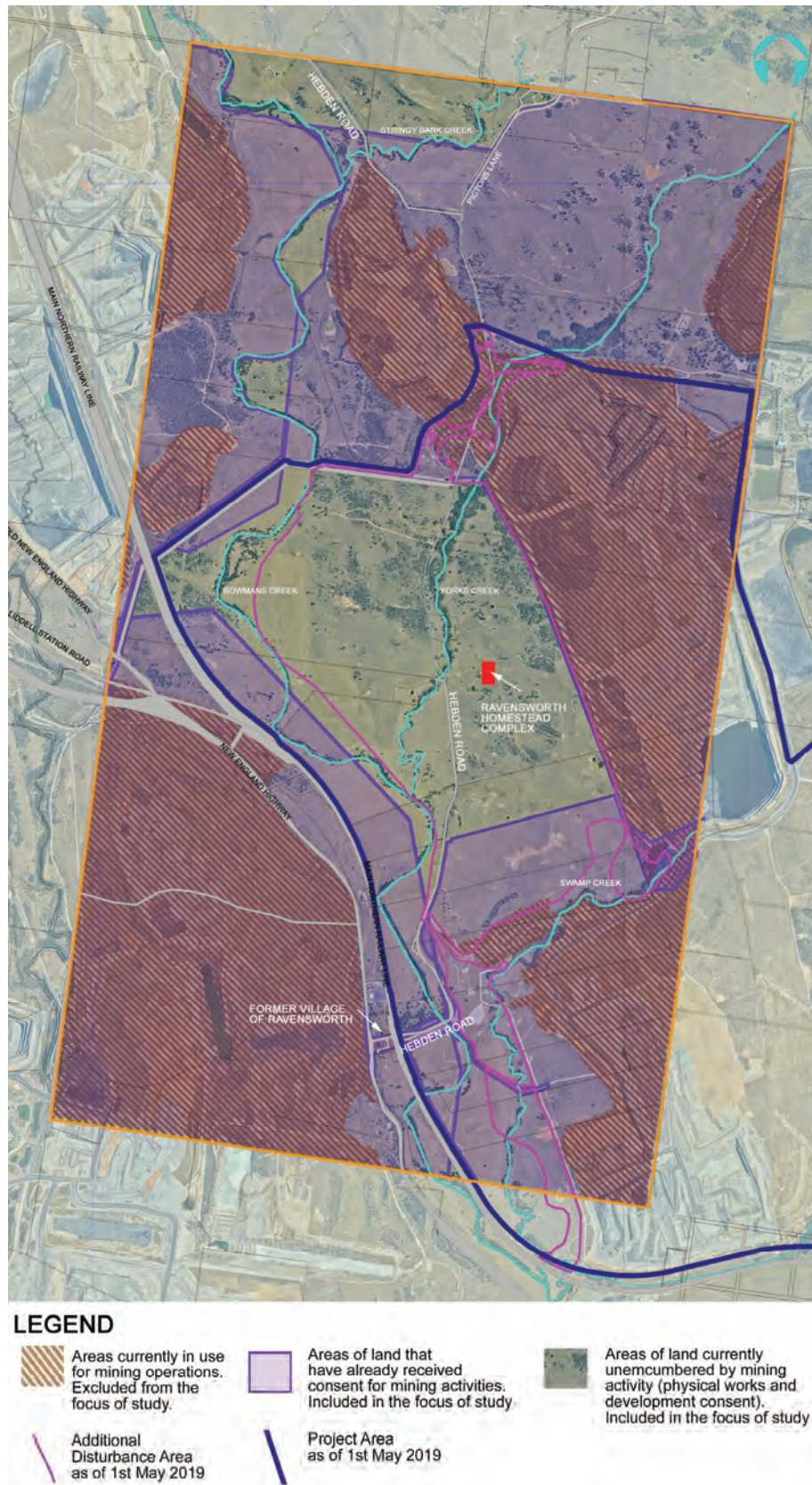


Figure 1.8: Current cadastral plan and aerial view of the place showing the extent of mining activity and existing consent boundaries within the boundaries of the place. Areas currently in use for mining operations have been excluded from the focus of study. The areas of land the subject of the current Proposal are outlined in pink and blue. Source: Base aerial and mapping information courtesy of Glencore/Umwelt, 2018

1.4. Terms, Abbreviations & Nomenclature

Terms

This report adheres to the use of terms as defined in the Australia ICOMOS *Burra Charter* 2013 together with the following definitions:

Archaeological Investigation/Excavation	The manual excavation of an archaeological site. This type of excavation on historic sites usually involves the stratigraphic excavation of open areas.
Aboriginal object	means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains (as per Clause 5 of the <i>National Parks and Wildlife Act</i> 1974).
Aboriginal place	means any place declared to be an Aboriginal place under section 84 of the <i>National Parks and Wildlife Act</i> 1974.
Archaeological potential	is here used and defined as a site's potential to contain archaeological relics which fall under the provisions of the Heritage Act 1977 (amended). This potential is identified through historical research and by judging whether current building or other activities have removed all evidence of known previous land use.
Archaeological Site/Item	A place that contains evidence of past human activity. Below ground sites include building foundations, occupation deposits, features and artefacts. Above-ground archaeological sites include buildings, works, industrial structures and relics that are intact or ruined.
Estate	a piece of landed property, especially one of large extent.
Historical Archaeology	<p>Historical (non-Indigenous/European) Archaeology (in NSW) is the study of the physical remains of the past, in association with historical documents, since the British occupation of NSW in 1788. As well as identifying these remains the study of this material can help elucidate the processes, historical and otherwise, which have created our present surroundings. Historical archaeology includes an examination of how the late 18th and 19th-century arrivals lived and coped with a new and alien environment, what they ate, where and how they lived, the consumer items they used and their trade relations, and how gender and cultural groups interacted. The material remains studied include:</p> <ul style="list-style-type: none"> • Archaeological Sites: <ul style="list-style-type: none"> ○ <i>below ground</i>: relics which include building foundations, occupation deposits, rubbish pits, cesspits, wells, other features, and artefacts. ○ <i>above ground</i>: buildings, works, agricultural and industrial structures, and relics that are intact or ruined. • cultural landscapes: major foreshore reclamation; • maritime sites: infrastructure and shipbuilding; • shipwrecks; and • structures associated with maritime activities.

Homestead	a parcel of land, originally one considered to be big enough to support a family; the main residence on a sheep or cattle station or large farm; of or relating to a building, settler, etc., on a homestead.
Pastoral	of or relating to the raising of stock, especially sheep or cattle, on rural properties; used for pasture, as land.
Place	means a geographically defined area that may include elements, objects, spaces and views. Place may have tangible and intangible dimensions. The term place is defined under the <i>Burra Charter</i> and is used to refer to sites and areas of cultural significance.
Research Design	A set of questions which can be investigated using archaeological evidence and a methodology for addressing them. An archaeological research design is intended to ensure that archaeological investigations focus on genuine research needs. It is an important tool that ensures that when archaeological resources are destroyed by excavation, their information content can be preserved and can contribute to current and relevant knowledge.
Research Potential	The ability of archaeological evidence, through analysis and interpretation, to provide information about a site that could not be derived from any other source and which contributes to the archaeological significance of that site and its 'relics'. NSW Heritage Branch 2009 <i>Assessing Significance for Historical Archaeological Sites and 'Relics'</i> , Heritage Branch, Department of Planning
Relic	Means any deposit, artefact, object or material evidence that (as defined under the <i>NSW Heritage Act 1977</i>): (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and (b) is of State or local heritage significance.

Abbreviations

ADB	Australian Dictionary of Biography
ANU	Australian National University
ATCJ	Australian Town and Country Journal
Bk	Book
BP	Before Present (years)
c	Circa
C&L	Casey & Lowe
CM	Colleen Morris
CSIL	Colonial Secretary, In Letters
CT	Certificate of Title
DECCW	(former) Department of Environment, Climate Change and Water, NSW
DP	Deposited Plan
DPIE	Department of Planning, Industry and Environment, NSW
EIS	Environmental Impact Statement
Fol.	Folio

GB	Geoffrey Britton
HRA	Historical Records of Australia
HRNSW	Historical Records of New South Wales
LEP	Local Environmental Plan
LRS	Land Registry Services, NSW (formerly Land & Property Information, NSW)
LS	Licensed Surveyor
LSJ	Lucas Stapleton Johnson & Partners
ML	Mitchell Library
NLA	National Library of Australia
No.	Number
NSWGG	New South Wales Government Gazette
NRS	State Record Series (State Archives of New South Wales)
NT	National Trust of Australia (NSW)
OEH	(former) Office of Environment and Heritage
OSD	Old System Deed, LRS, NSW
PAD	Potential archaeological deposit
RAP	Registered Aboriginal Party
RNE	Register of the National Estate
RPA	Real Property Application
SA	State Archives of New South Wales
SANSW	State Archives of New South Wales
SB	Surveyor's Book
SEARs	Secretary's Environmental Assessment Requirements
SHR	State Heritage Register
SLNSW	State Library NSW
SMH	Sydney Morning Herald
SOHI	Statement of Heritage Impact
SRNSW	State Archives and Records, NSW
Vol.	Volume

Nomenclature

The following list of names for the components of the Ravensworth Estate has been developed for the purposes of this report. Some of the names are historical and have been provided by past residents of the locality, while others have been selected specifically for this report for ease of identification.

Refer to Figures 1.3 and 1.5 for location of Site numbers.

Ravensworth Refers to the general locality that contains the Ravensworth Homestead Complex.

<i>Ravensworth Parish/ Parish of Ravensworth</i>	Parish of Ravensworth
<i>Ravensworth Estate The “10,000” acres The Place</i>	The 10,439 acres applied for by Bowman in 1824, being Portions 149 and 150 of the Parish of Liddell and Portion 1 of the Parish of Vane. Bowman himself referred to the area of land as being of 10,000 acres.
<i>Extended Ravensworth Estate lands</i>	Refers to the extensive former pastoral lands held by Dr. James Bowman and named Ravensworth by Dr. Bowman, including the “10,000” acres plus other lands to the south, north and northwest.
<i>Ravensworth Homestead Complex/ Homestead Complex</i>	Site 1 (C&L Archaeological Test Areas 3 & 4). Refers to the c1832 complex of buildings including the main house with attached kitchen wing, the stables, the barn, the men’s quarters, the privy, the gardens, farm yard and associated boundary fencing.
<i>“Ravensworth Farm”</i>	Site 27 and 27a. Refer to an early 20 th century farm allotment to the west of the Ravensworth Homestead Complex. The name of the farm was provided by G & J Marshall (former owners of the Ravensworth Homestead Complex) who lived there in the late 1960s- early 1970s.
<i>“First Homestead Site”</i>	Site 11 (C&L Archaeological Test Area 1). Potential location of the first homestead at Ravensworth based on Dangar’s 1828 map and Dixon’s 1833 road plan. No archaeological evidence uncovered.
<i>Core Estate Lands</i>	Area of land containing the Ravensworth Homestead Complex and land to the west comprising portions of other allotments owned by the extended Marshall family. The area contains standing structures, cultural plantings, cultivation sites and known archaeological sites associated with the Bowman period of occupation (1824-1842). Shaded yellow on the Place diagram.
<i>House Dam</i>	Dam located immediately to the south of the Homestead Complex and on axis with the complex.
<i>House Tank Hill</i>	Site 3 Site Small hill/rise to the northeast of the Homestead Complex with concrete water tank and trigonometry marker.
<i>“8 Acre Garden”</i>	Site VG14 (C&L Test Area 6) Area of land with evidence of early cultivation to the northwest of the Homestead Complex, on east side of Yorks Creek.
<i>Yorks Creek Dams</i>	Dams D3, D4 and Dmd (C&L Test Area 6) String of dams located on east and west sides of Yorks Creek within the vicinity of the Homestead Complex.
<i>North West Paddock</i>	C&L Archaeological Test Area 5.
<i>Underground Silo</i>	Site 3a Located to the east of Site 3 and northeast of the Ravensworth Homestead Complex containing an underground silo relating to the Bowman era.

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2. History of the Ravensworth Estate

2.1. Introduction

The following is a history of the Ravensworth Estate in the Hunter Valley, situated between Singleton and Muswellbrook in the parishes of Liddell and Vane.

European colonial history

The following history covers European arrival in the Hunter Valley, the initial European settlement of the Hunter River in the locality of Ravensworth and the detailed history of the development of the Ravensworth Estate from the early 1800s to c2000. This information has been prepared by Dr. Terry Kass.

Initially established in c1824 around four core land grants, the estate lands grew over the following decades until at its fullest extent the property stretched across multiple parishes in the County of Durham. The research undertaken for the European history of the place included a land title search for the property focusing upon the central core of the estate rather than the numerous small parcels around its periphery. Since some of the Old System title deeds dealing with the early history of the property have been withdrawn from the shelf at Land Registry Services for digitisation but are not yet available in a digitised form, a number of the deeds from 1860 to the mid 1870s are only noted briefly from summaries recorded in title schedules and other documents.

Aboriginal history

The history also addresses the interactions between the Aboriginal people of the region and the early European settlers in the Hunter Valley. This information has been prepared by Dr. Mark Dunn and concentrates on the documented conflict events in the locality of Ravensworth in the 1820s.

Both the European and Aboriginal histories completed for Lucas Stapleton Johnson & Partners for this report are based upon previous histories prepared for historical archaeological consultants, Casey and Lowe. Additional research by Dr. Terry Kass, Dr. Mark Dunn and the authors of this report has also been undertaken and included in this report.

Other Histories of the Place

In 1997 historian Cynthia Hunter¹ prepared a history of the Ravensworth estate that demonstrates a profound knowledge of the Hunter Valley and the context of its historical development and provides some significant oral information about the property obtained from the Marshall family who were the longest occupiers of the property. Her report places the history of the property into its historical context. However, apart from the collection of some oral information, and some very limited map research, it is almost completely based upon secondary sources. There appears to be no archival research undertaken for that report. This possibly derives from the nature of the brief to which she

¹ Hunter, C., 1997, "Ravensworth, A History", cited in *Glendale Coal Joint Venture: Ravensworth Homestead and Farm Complex- Structural and Material Condition Report*, prepared by EJE Architecture

was working. This report aims to build upon the firm foundation that Cynthia Hunter has provided with detailed map and archival research.

2.2. History of the Hunter Valley

2.2.1. Aboriginal Occupation of the Hunter Valley

Literature and research concerning the Wonnarua of the central Hunter Valley area is incomplete, largely as a result of omissions, silence and antiquated concepts of ethnology. In relation to New South Wales' Indigenous population, ethnohistoric attention has focused on coastal communities to the detriment and exclusion of those inland, thereby making the material about the Wonnarua patchy at best, but more commonly absent.² Research into the language group was further hampered by changing notions of significance. In considering the lack of historical and archaeological information about campsites, Koettig (1990)³ for example acknowledges that they were neglected as an important subject matter by her peers for many, many decades, because they were regarded as relatively unimportant, especially when compared to ceremonial sites. Even though they are now deemed to be of significance, the literature remains largely silent about them.

Nolan (2012)⁴ reminds her readers there was a popular concept during the colonial period that time (and therefore history) in the new colony of New South Wales began with the arrival and occupation of Europeans. Consequently, there was a lack of activity in recording the detailed lives of Indigenous people at the commencement of European settlement. This, however, began to change from the 1830s, yet by this time, these communities had already been adversely and irretrievably effected by disease, violence, displacement and dispossession and so the accounts were not a true reflection of how they once had lived (Umwelt, 2011).

Prior to White Settlement

The land of the Wonnarua was vast and stretched over much of the Hunter Valley. Tindale (1974)⁵ estimated that it covered over five thousand square kilometres. Its borders were somewhat vague and, as a result, often erroneously recorded in the literature, possibly because of the new settlers' lack of understanding of the complexity of Indigenous society and its association with land. Tindale defined Wonnarua country as being located on the "*upper Hunter River from a few miles above Maitland west to Dividing Range. The southern boundary with the Darkinjang is on the divide north of Wollombi*".⁶ The Wonnarua's neighbours were the Darkinung (to the south), the Awabakal (to the south east), the Worimi (to the east) and the Wiradjuri (to the west).⁷ They had close ceremonial ties to the Darkinung and Wiradjuri people.⁸

The population of the Wonnarua prior to European settlement is unknown, and approximations vary widely. Estimates vary and were most likely made well after populations had declined, so must be treated with caution. Discrepancies also arose partly because when official census were conducted, Indigenous people often went unseen by Europeans, either intentionally or unintentionally. When

² Brayshaw, 1987; p.74

³ Koettig, 1990; p.35

⁴ Nolan, 2012; p.78

⁵ Tindale, 1974; p.201

⁶ Ibid.

⁷ Horton, 1994

⁸ Macquarie University, 2009

travelling through the area in 1825, Cunningham observed that although no Aboriginal people had been seen 'their recent marks on the trees and fired country' showed that they had been in the area.⁹

2.2.2. Exploration of the Hunter Valley

Until the time of Governor Macquarie (1810-22) there was very little European settlement beyond the County of Cumberland, although a convict settlement had been formed at the mouth of the Hunter River (at the site later called Newcastle) in 1804, and escaped convicts were therefore amongst the first Europeans to make themselves familiar with the Hunter Valley landscape.

Formal exploration of the area however began as early as 1796 and in 1801 Governor Phillip Gidley King (1800-1806) sent an exploring party to the Hunter River, led by Lieutenant Grant and Lieutenant-Colonel Paterson (commandant of the NSW Corps). This expedition was followed in the same year by a second group led by Surveyor-General Charles Grimes and Francis Barrallier to examine the Hunter Valley in more detail.¹⁰

In 1818, John Oxley explored vast regions to the west and north of the Hunter Valley, journeying down the coastline from Port Macquarie to Newcastle and naming the Hastings River.¹¹ The interior of the valley was explored by John Howe, Chief Constable of Windsor, in 1819. Howe's party included George Loder Jnr. and John Milward, three convicts and an Aboriginal man named Myles whose home country is likely to have been around Windsor. This exploration party reached the Patrick's Plains (originally known by the Aboriginal name Coomery Roy).¹²

In November 1819, John Howe described the land he had found at Patrick's Plains near the site of Singleton:

*The land is very fine forest ground, thinly timbered, I think not exceeding from 4 to 6 trees to an acre, flooded though it does not appear high, generally about breast high and the highest place I saw (even on low ground) did not exceed 12 feet. In many places there is from 20 to 50 acres with not more than 20 to 30 trees on it. The flooded land continues from about ¾ to 1½ miles back from the river on each side (and more in places) and great parts of it equal Meddow [sic] land in England.*¹³

The next phase of exploration of the Hunter Region did not begin until 1822-23 when Surveyor Henry Dangar was instructed to survey the Hunter River and Allan Cunningham, botanist and explorer, approached the Goulburn River and Pages River, starting from Bathurst. Throughout the 1820s, other surveyors including James McBrien, Heneage Finch, J B Richards and George Boyle White were also busy in the valley.

⁹ Cunningham (1825) cited in Bradshaw 1987: 20

¹⁰ Perry, T. M., 1963, pp. 56-57.

¹¹ Wood, W. A., 1972, *Dawn in the Valley: the Story of Settlement in the Hunter Valley to 1833*, Wentworth Books, Sydney, p. 10

¹² Wood, A.W., 1972, p. 10

¹³ Howe to Macquarie, 17 Nov 1819, cited in T M Perry, *Australia's First Frontier: The Spread of Settlement in New South Wales 1788-1829*, p 55

2.2.3. Surveying the Hunter Valley

Under the direction of the Surveyor General, surveyors Henry Dangar, Robert Dixon and George Boyle White had divided the upper parts of the Hunter valley into a grid network of portions ready for alienation.¹⁴ This was in accordance with the directions received from Britain for laying out Crown land for alienation transmitted to Surveyor General John Oxley in 1822.¹⁵

Henry Dangar (1796-1861) had arrived in the colony as a 25-year-old settler on 2 April 1821. He was appointed as an assistant surveyor and was originally employed in the Counties of Argyle and Camden. On 1 March 1822, he was directed to survey the Hunter River District ready for settlement. He was required to divide the area into a grid of one mile squares (or 640 acres).¹⁶

Although the system of dividing land into grids continued in a modified form into the 1840s, it was eventually abandoned since it tended to ignore land quality and the pressing need to survey land in response to applications received from land seekers.¹⁷

Measuring virgin land as a grid tended to favour wealthy settlers who arrived early in the selection of land in any district. It also tended to ignore principles of equity when allotting land. It was a common practice to give all settlers a narrow frontage to a watercourse so all had the right to water. This was commonly seen in the positioning of grants in the County of Cumberland parishes such as the Parish of Castlereagh. Early and astute settlers in the Hunter Valley picked the blocks in the grid giving them a disproportionate length of river frontage.

Unusually, in James Bowman's case, his initial land grants (refer below for details) did not front the Hunter River, although his land did contain a number of creeks (Foy Brook (current name Bowmans Creek), Yorks Creek and Bettys Creek) to provide water. However, it was not until the 1830s when Bowman purchased Ashton Farm (Portion 70 of Parish Vane) that the Ravensworth estate obtained a Hunter River frontage.

On July 1824, Dangar named the Fal Brook (current name Glennies Creek) and Foy Brook and divided the land around the current Ravensworth property into squares ready for settlement,¹⁸ as well as naming the parish Ravensworth (and the adjacent parish Liddell).¹⁹

Dangar's enthusiastic reports about land in the district inspired a rush of recently arrived free settlers to take up land in the district. Along with a grid of allotments ready to be taken up by settlers, Dangar, in accordance with his instructions, selected Village sites and set aside land for the Church and School Corporation. On 31 March 1827 Dangar was dismissed from the service for using the information he had gained in his public capacity to enrich himself privately. Thereafter he returned to England and published what could rightly be called the "speculators guide" to land in the Hunter district and beyond: *Index and directory to map of the country bordering upon the River Hunter*, dated 1828.²⁰

¹⁴ Fieldbook indexes, SANSW

¹⁵ T M Perry, *Australia's First Frontier*, p 50

¹⁶ T M Perry, *Australia's First Frontier*, p 66

¹⁷ T Kass, *Sails to Satellites: The Surveyors General of NSW (1786-2007)*, NSW Dept of Lands, Bathurst, 2008

¹⁸ Wood, A. W., 1972, p 42

¹⁹ On the 17th July 1821 Sir Thomas Liddell (1775-1885), 6th Baronet was raised to the peerage as 1st Baron Ravensworth, of Ravensworth Castle in the County Palatine of Durham and of Eslington Park in the County of Northumberland. Given the timeliness of this event, it is assumed that Dangar named the parishes Ravensworth and Liddell after the new Baron.

²⁰ N Gray, 'Henry Dangar (1796-1861)', *ADB*, volume 1, p 280

In the publication he described different counties and parishes in the valley, outlining the topography, water supply and potential as well as identifying the landholders and grants in each. For the parish of Vane, he described it included:

*Some good country extending along the Fal-brook: the parish is generally elevated, but affording some good vallies [sic] and desirable pasturage.*²¹

He described the parish of Liddel [sic] thus:

This parish affords an excellent tract of open, sound, and deep loam up-land country; a most desirable tract for winter and spring sheep or cattle grazing, but owing to the waters being impregnated with saline matter, cannot be recommended to settle at.

*The Church and School Estate is fine land, and is watered by a pure stream – Foy-brook.*²²

The parish of Ravensworth, Dangar described as follows:

The lands of this parish are lightly timbered, well watered, and though (except the vallies [sic]) a thin iron stone gravelly soil, yield a healthy and good sheep pasture.

Dangar provided the following information about land already taken up in the parish of Ravensworth.²³

Table 2. 1: Information relating to land size and owners provided with Dangar's 1828 map of the Hunter River

No. on Map	Date of Order	Landholder	Acres Granted	Acres Purchased	Church & School Lands
1	-	Church & School Estate			2597
2	31 March 1821	Ebenezer Bunker	600		
3	5 July 1824	William Powditch	2000		
4	17 May 1825	William Powditch		500	
5	4 June 1824	Capt. John Brabyn JP	800		
6	4 June 1824	James Bowman JP	2560		
7	17 May 1825	James Bowman JP		5000	
8	17 May 1825	James Bowman JP	4600		

A key map indicated the location of each holding by a number linked to the table (see Figure 2.1). That map had only approximate boundaries for the parishes he described, the eventual parish boundaries differed from those he had shown.

The 1828 census showed 191 landholders lived in the Hunter Valley. Of those 91 landholders about half the number held large farms of more than 1000 acres, covering about 91% of the total area of the 191 holdings. All but eight were owned by immigrant settlers, of whom two-thirds had arrived in the

²¹ H Dangar, *Index and directory to map of the country bordering upon the River Hunter*, Joseph Cross, London, 1828, p 30

²² Ibid. p 31

²³ Ibid. p 30-31

colony since 1821. Of the eight, six were held by men born in NSW and only two by emancipists (ex-convicts).²⁴

The large farms concentrated on pastoralism right from the beginning, rather than cultivation, with the average size of a herd being 243 head and of a flock, 1,158; and initially cattle raising was more popular. Those large landholders were soon able to run even larger herds of sheep and cattle. In 1829, Crown lands, such as Church and School lands, were made available for lease. Using that opportunity, larger landholders acquired the exclusive use of large acreages to further enhance their wealth.²⁵ Significant areas had been reserved for the Church and School Estate in the parishes of Liddell, Ravensworth, and Vane. James Bowman and his successors in title through J.C.L. Measures often leased those lands. County maps show the location of these areas.



Figure 2. 1: Detail from Dangar's map to which the descriptions in his Index related. Numbers 6, 7 and 8 in the (then) Parish of Ravensworth are outlined in red. Source: Dangar, Henry, *Map of the River Hunter and its branches ...*, 1 Aug 1828, NLA Map NK 646

2.2.4. Settling the Hunter Valley

In 1804, a convict settlement had been formed at the mouth of the Hunter River (now the site of the city of Newcastle), as such convicts and their guards were the first settlers in the Hunter. Being the site of secondary punishment of convicts who had re-offended in the colony, the Newcastle area was largely closed to settlement.

The earliest settlement in the Hunter Valley was at Paterson's Plains (now Paterson) in 1812 and 1813 creating a dozen or so farms. Farms were also established at Wallis Plains, so by 1820 there were about 20 farms in the valley consisting of 12 at Paterson's Plains and 11 at Wallis Plains (Maitland

²⁴ T M Perry, *Australia's First Frontier*, p 77

²⁵ T M Perry, *Australia's First Frontier*, p 77

area).²⁶ They were joined in 1821 when settlers used the track (John Howe's track) from the Hawkesbury to settle in the Patrick's Plains (Singleton area).²⁷

As settlement grew around Maitland and Singleton, commercial activity and town settlement drifted to the central part of the valley around those towns away from Newcastle. Maitland grew to become the principal commercial centre, particularly around the private town of West Maitland which soon overtook the government town of East Maitland.

In 1823, Newcastle ceased to be a penal settlement and substantial settlement began from that time.

Government policy for the future use and settlement of land within the colony was governed by the principles associated with Royal Commissioner John Thomas Bigge (1780-1843), a former Chief Justice of Trinidad, who was appointed to review Governor Lachlan Macquarie's administration of the convict system. His reports, which were printed by the House of Commons as *The State of the Colony of New South Wales*, 19 June 1822; *The Judicial Establishments of New South Wales and of Van Diemen's Land*, 21 February 1823; and *The State of Agriculture and Trade in the Colony of New South Wales*, 13 March 1823 recommended a privatisation of the government penal system. Rather than use convicts sent to Australia to undertake public works, he recommended they be assigned to large landholders.

Reflecting his elitist background and experiences in the Caribbean, Bigge was certain that wealthy and respectable 'pillars of society' represented by people such as those who eventually settled the Upper Hunter would provide virtuous administration of a convict workforce driven by their religious and moral beliefs. His recommendations were soon enshrined in instructions issued to governors who succeeded Macquarie.

By the late 1820s, a significant number of retired naval and army officers and officials emigrated to New South Wales from Britain and India along with other parts of the empire encouraged by the recommendations made by John Thomas Bigge. Many of them had wealth. Others carried vouchers based upon their military service giving them the right to acquire large areas of land. Many brought both wealth and vouchers. The capital they possessed was correlated with the land that they would be granted. These both determined the number of convicts they were allotted to work their land. Often these wealthy settlers brought out their family and other relatives giving them the potential to amass large estates when they acquired land as well. The new settlers were entitled to receive 640 acres (one square mile) for each £500 they brought to colony in cash or goods.²⁸

Many selected land south-west of Sydney but a significant proportion were drawn to the Upper Hunter. The existence of a ready grid made it simple for new settlers to choose suitable land, which they could occupy quickly.

Buoyed up by their social position and wealth, the Hunter Valley elite was a distinctive social caste of recently arrived wealthy free settlers. Many were appointed as magistrates. They were often prime movers in innovation and the creation of community organisations, particularly those catering for the interests of large settlers.²⁹

²⁶ T M Perry, *Australia's First Frontier: The Spread of Settlement in New South Wales 1788-1829*, p 61

²⁷ T M Perry, *Australia's First Frontier*, p 64

²⁸ T M Perry, *Australia's First Frontier*, p 74

²⁹ CLSP, *Hunter Estates*, Volume 1, pp 12-13

2.3. Aboriginal Interactions with European Settlers

2.3.1. Initial Contact period in the Hunter Valley

As discussed above, Europeans first began to enter into the Hunter Valley from as early as the late 1790s as first escaping convicts from Sydney and then search parties came through what is now Newcastle harbour on their way north. Reports on the coal deposits seen in the cliffs around the harbour entrance and the stands of timber along the river that ran into it soon meant commercial traders from Sydney were also making trips to gather coal and timber. In 1801 a small convict camp was established to mine the coal, and although this was abandoned in 1802, by 1804 a permanent penal station had been established.

From 1804 onwards convict timber getters working out of the Newcastle penal station began to explore the reaches of the Hunter River looking for stands of timber to log. Between 1803 and 1821, the penal station and its outlying camps around Maitland were the only permanent settlements of Europeans in the Hunter, with the remainder off limits to European settlement. Despite this restriction, Europeans and Aboriginal people had early contact around Newcastle and at points inland around Maitland and Morpeth.

By 1810 convict timber camps were established along the river around what was known as Wallis Plains, close to present day Maitland. From here convicts ventured further inland in their search for timber.³⁰ Contact with Aboriginal people was reported around these camps and by those convicts working in the bush.

In July 1819 when Governor Macquarie toured the penal station and its camps, he noted that the cedar gang based at what is now Maitland had a “military guard of a Corporal and three privates to protect them from the natives”.³¹

2.3.2. Explorers of the Middle Hunter Valley 1819-1822

In November 1819, a party of eight men from Windsor on the Hawkesbury, being six Europeans led by John Howe and two Aboriginal guides, emerged from the Bulga Ranges on the southern edges of the Hunter Valley onto alluvial plains close to present day Jerry's Plains.

John Howe, a constable from Windsor, had set out to follow the paths of two previous parties who had attempted to get through the mountains to what they were hoping was an alternative route over the Blue Mountains to Bathurst. His party had left Windsor in late October and arrived at the Hunter River on 5th November. In reports to Governor Macquarie, Howe noted the potential for grazing in this new valley, noting that the country was thinly timbered, with twenty trees per fifty acres in some areas. Although apparently keen to explore further, the party came into contact with a number of Aboriginal men, some of whom appeared to be tailing the group and observing them as they moved along the river. Howe's two guides were alarmed at the group's appearance, to the point where they

³⁰ John Purcell to Colonial Secretary, 6 July 1810, Colonial Secretary's Correspondence, Special Bundles-Newcastle, SANSW, R6066 4/1804, p22.

³¹ Macquarie, L., Journal of a tour to and from Newcastle 27 July 1818–9 August 18, SLNSW, ML Manuscripts A781, CY303 p.13.

refused to continue. After one more night at their camp, the party turned back into the mountains and returned to Windsor.³²

On 6 March 1820, Howe set off for a second expedition, this time with a party of sixteen including two Aboriginal guides, at least one, named Myles, who had accompanied him on the first journey. The second man's name was Mullaboy.³³ The expedition reached the Hunter River on 15 March. This time they proceeded along the banks until they came across convict timber getters at Wallis Plains, confirming that they were, and had previously been, in the Hunter Valley. In a letter to Governor Macquarie, Howe reiterated the grazing potential of the land he had passed through, commenting that it was "as fine a country as imagination can form". Returning to Windsor, Howe blazed the trees along the path to mark the track he had taken. He was promised a grant of 700 acres at Patricks Plains (now Singleton) for his discoveries, with other members of his party also taking up land around the Singleton area.

The land promised to Howe marked the beginnings of European expansion into the middle valley, while his marked path made for an easy escape route for runaway convicts from the timber camps around Wallis Plains, ending the isolation that had been one of the penal stations main advantages and hastening its removal to Port Macquarie in 1823.

By August 1822 Howe was on his land at Patricks Plains (Redbournberry), with other settlers from Windsor also using his track to access the Valley. Some of these earliest forays were unofficial, with small farmers from Windsor trying to get onto land before large areas were alienated through grants. As numbers of settlers increased, the newly arrived governor Sir Thomas Brisbane instructed Surveyor General John Oxley to begin surveying land around Newcastle and along the Hunter River for partition into land grants. Oxley in turn instructed Assistant Surveyor Henry Dangar to undertake the survey, which he started on 14 March 1822. (Refer to Section 2.2 above for further detail.)

2.3.3. Interactions between Aboriginal people and New Settlers

Tensions between Aboriginal people and settlers had been apparent since the first grants were made in 1821-22, with attacks on isolated huts and raids into ripening maize crops recorded around Newcastle, Wallis Plains (Maitland) and Patricks Plains (Singleton) between 1822 and 1824. Although some assaults were alleged, most of the incidents were concerned with the taking of maize crops with direct contact and violence a rarity.³⁴ However, in late 1825 circumstances changed with the fatal attack on an isolated hut near present day Denman.

Attacks on Settlers: Greig, Pike and Forbes

In November 1825 it was reported that Robert Greig, cousin of the settler James Greig who had a farm on the banks of the Hunter River, had been attacked and killed in his hut and a stockman on the same property was missing, presumed dead.³⁵ As the details came to light, it became apparent that the attack was provoked by Greig, who had, according to his cousin James, taken an Aboriginal man at the property and beaten him, which had "irritated the tribe he belonged to, and caused Robert Greig's

³² John Howe to Governor Macquarie, 17 November 1819, Colonial Secretary's Correspondence, SANSW, Reel 6048 4/1743, p121.

³³ The second Aboriginal man is not named in Howe's first expedition; it may have been Mullaboy or someone else.

³⁴ Dunn, M., *Valley in a Valley: Colonial Struggles over land and resources in the Hunter Valley, NSW 1820-1850*, PhD Thesis UNSW 2015, pp196-201. See also John Connor, *The Australian Frontier: 1788-1838*, UNSW Press Sydney, 2005, pp 62-64.

³⁵ *The Australian*, 10 November 1825, p.3; James Greig letter to his brother, 11 November 1826, ML, Doc 2316.

untimely end”.³⁶ Further allegations that Greig had attempted to drive the Aboriginal people off the land were told to the missionary Reverend Lancelot Threlkeld and reinforced the likelihood that the attack was targeted and in response to bad treatment.³⁷

Soon after Greig was killed, two other unnamed stockmen were speared and another, the convict of Captain John Pike, saved only by the arrival of two other Europeans. Pike’s estate, Pickering, was on the Hunter River close to its junction with the Goulburn River to the west of Ravensworth and close to Greig. The killing of Greig was the first recorded in the area and prompted the then Commandant in Newcastle, Captain Allman to order a detachment of soldiers to proceed to the area in June 1826. Ten men accompanied by bush constables headed inland to apprehend the identified Aboriginal assailants. None were captured in this action.

While the soldiers were in the area, Edinglassie the estate of George Forbes just north of Pike’s on the river was also attacked and a shepherd speared. The shepherd recovered from the attack. In response, *The Australian* newspaper recommended that “such decisive measures to be adopted that will convince those sable depredators that they cannot attack the peaceable Settlers with impunity”.³⁸



Figure 2. 2: Detail from Dangar's 1828 map indicating the location of Edinglassie (circled in yellow) and Pickering (circled in blue). Source: NLA Map NK 646

Attacks on Settlers: Bowman, Chilcott and Ogilvie

On 18 June 1826 two convicts assigned to Bowman were killed by Aboriginal attack, one killed in the bush and another in a hut on the estate, the whereabouts of which was not reported.³⁹ Soon after, the hut of James Chilcott on Fal Brook (now known as Glennies Creek) was raided. Chilcott wrestled with one of the attackers, a man known as Cato, over a musket, and managed to drive the rest away with the assistance of other farm workers.⁴⁰

³⁶ James Greig letter to his brother, 11 November 1826, ML, Doc 2316.

³⁷ Dunn, M., *Valley in a Valley: Colonial Struggles over land and resources in the Hunter Valley, NSW 1820-1850*, PhD Thesis UNSW 2015, p203.

³⁸ *The Australian*, 17 June 1826, p.2.

³⁹ *The Australian*, 24 June 1826, p.3.

⁴⁰ Governor’s Despatches, ML Volume 8, A1197, pp. 342-343.

In the same period two of Bowman's men, working in the bush on the fences around Ravensworth were attacked, with both men severely wounded, one receiving seven spear wounds and being taken to the hospital in Newcastle.⁴¹ The wounded man was interviewed by Reverend Threlkeld in the hospital over the incident, saying he had been speared in the back while working, then chased and set upon with cudgels.⁴²



Figure 2. 3: Detail of County of Durham plan c1843, showing the locations of Bowman's Ravensworth estate, Glennie's property on Fal Brook (circled in blue) and Lethbridge's farm further along Fal brook (circled in yellow). The red arrow shows the bend in Fal brook where the huts of Chilcott and Alcorn were located. Source: 1843 Map of the County of Durham by W. Baker, NLA MAP RaA 8 Plate 3



Figure 2. 4: Copy of plan for Crown Plan 66-663 showing the position of Chilcott's and Alcorn's farms on a bend in Fal Brook surveyed by G.B. White dated 1833. Source: NLA, MAP F 392

With the violence now appearing to escalate, the soldiers who had been despatched in June were joined by a detachment of the newly formed Mounted Police under the command of Lieutenant Nathaniel Lowe. The Mounted Police were soldiers, not civilian police and remained on regimental pay, although the cost of the horses was borne by the colony. They had been established by Governor Brisbane to act against bushrangers as well as Aboriginal attackers, with half the detachment sent to Bathurst in November 1825 and the other half to Wallis Plains for action in the Hunter Valley.⁴³

⁴¹ Governor's Despatches, ML Volume 8, A1197, p. 343

⁴² Threlkeld to Attorney General, 21 August 1826, Supreme Court of NSW, 'Memoranda selected from 24 years of missionary engagements in the South Sea Islands and Australia by LE Threlkeld 1838', SRNSW, NRS 13705, COD 554, 5/1123, p. 46.

⁴³ Wood, op cit, p.103.

Bushranging in the Hunter Valley had emerged as an issue since a gang of runaway convicts known as Jacob's Mob had rampaged around present-day Lochinvar and the hills to the north in the first half of 1825. In August, Lieutenant Lowe's detachment, travelling with local settlers John Lanarch (former overseer at Ravensworth) from Patricks Plains and James Glennie, a neighbour of Bowman's, had come across and captured a number of Aboriginal men they suspected of having been involved in the attack at Chilcott's: first a single man, and then a group of at least seven men and one boy, including Cato. The captured group were tethered together and led by one of the mounted troopers to Chilcott's farm, where a number of them, including Cato, were identified as having been involved in the raids on Chilcott as well as the attack on Bowman's men, and then onto Lethbridge's, although here none were identified.⁴⁴ With the identification made, the three youngest were released and the rest restrained to be returned to Wallis Plains.

Of the Aboriginal men taken, five including Cato and the first unnamed man were killed in the bush, attempting to escape from custody according to Lowe and his men. One was shot close to James Glennie's hut on Fal Brook, with Glennie reporting hearing a shot soon after he left the party near his house. That is all the men reported captured, except the boys, were killed.⁴⁵

Despite an inquiry established by Governor Darling and his attorney general Saxe Bannister, it was not known where exactly all the killings had taken place as each man interviewed gave a slightly different version of events. In January 1827, Rev. Threlkeld wrote to Bannister with further details of the events as told to him by an unnamed witness in the presence of another settler John Cobb. The witness said that one of the Aboriginal men suspected of involvement in the wounding of Bowman's men was captured and brought to Bowman's hut. Here he was secured with a rope around his neck, and then under armed guard he was taken one mile from the hut into the forest, made to climb a tree and tie the rope to an extended branch, whereupon he was shot. Wounded by the Europeans he was let fall and left hanging.⁴⁶ Based on the date (1826) the hut referred to was the original Bowman homestead, on the ridge line above the creeks to the west of the later, and current, Ravensworth homestead complex, which was built c1832 (refer to details below).

As the details of the various actions emerged Lowe was put on trial not for the killings in the bush of the six men captured, but for the wilful murder of another Aboriginal man, Jackey-Jackey who had been returned under arrest to Wallis Plains in July and then allegedly executed on 1 August 1826. Jackey-Jackey, otherwise known as Commandant or as Jerry, was taken as a prisoner by the mounted police during July as one of those involved in the killing of Bowman's shepherds in June 1826. This was the first time a military officer had been brought before the courts for actions against Aboriginal people. Despite eye witness accounts of the shooting at Wallis Plains, Lowe was found not guilty in May 1827 and no further action was taken in relation to the other men captured and shot.⁴⁷

Lowe's incursion appeared to have quelled the violence and Darling ordered the mounted police withdrawn to Wallis Plains, although a small detachment remained stationed at James Glennie's property on Fal Brook.⁴⁸

⁴⁴ Deposition of John Lanarch; Report of Robert Scott, ML Government Despatches Vol.8, A1197, pp. 324

⁴⁵ Dunn, op cit, pp. 207-210. See Governor's Despatches, ML Volume 8, A1197, pp. 288-329.

⁴⁶ Gunson, Neil (ed), *Australian Reminiscences and Papers of LE Threlkeld: Missionary to the Aborigines 1824-1859, Vol I and II*, Australian Institute of Aboriginal Studies, Canberra, 1974, p.95.

⁴⁷ The King against Nathaniel Lowe, Depositions, SANSW T24A, SC27/56.

⁴⁸ Report of Magistrates Mr Scott and Mr McLeod, 3 October 1826, Governor's Despatches, ML Volume 8, A1197, p. 344.



Figure 2. 5: Detail from Baker's 1843 map of the County of Durham showing the location of Merton on the Hunter River (circled in orange). Source: NLA MAP RaA 8 Plate 3

In the last week of August at Merton, the property of William Ogilvie, a war party of upwards of 200 warriors suddenly appeared while William was away. The house was occupied by his wife Mary and children. The men had appeared in response to one of their own having been arrested by the mounted police at Merton. The police had enticed the men to Merton under the pretence of looking for guides to capture bushrangers. When they had approached, they had been seized. One of the men was named Jerry.

Although Mary convinced the mounted police that the men were not involved in any local violence, it was the second time this had happened in as many weeks, with two other men already taken to Newcastle. When the warriors approached, it was the released man Jerry who led them. Angry at his own treatment and suspicious as to why he had been released but the earlier two had not, Jerry had returned. But, confident in their friendship between them, Mary and her son William spoke to Jerry and the others in their own language reassuring them they had tried to help and were friends. Jerry in turn spoke to the assembled warriors and, telling Mary to tell the soldiers not to interfere with them, the party moved off with no further incident.⁴⁹

Attacks on Settlers: Richard Alcorn

On August 28th 1826 another group of approximately 15 Aboriginal men gathered at the hut of Richard Alcorn, overseer for Captain Robert Lethbridge on the Bridgman estate at Fal Brook (See Figure 2.3). The small hut stood just over 800 metres along the creek line of Fal Brook from Chilcott's property, and it was typical of the back country workers' huts of the period, with two rooms, one large outer room with a fireplace and a smaller inner room with a bed. There was a single entry door and three windows, two in the large and one in the small room. The doorway had no door and the windows no glass or shutters (See Figure 2.6).⁵⁰

⁴⁹ Mary Bundock Memoir, Papers of the Bundock Family of Wynagarie, Richmond River, ML A6939, p. 7.

⁵⁰ Deposition of John Woodbury, ML Government Despatches Vol.8, A1197, p. 357.

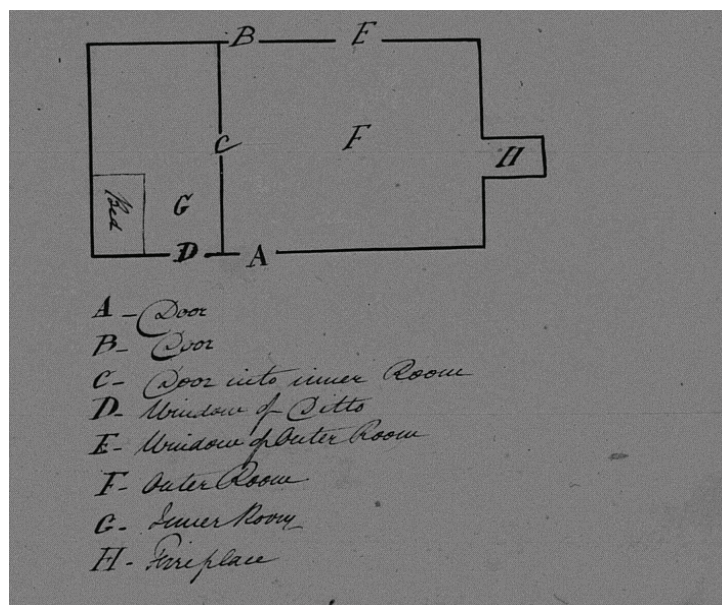


Figure 2. 6: The layout plan of Alcorn's hut as presented to the inquiry into Aboriginal violence in the Hunter Valley. The plan shows the various doors and windows where the action took place in August 1825. Source: SLNSW Government Despatches Vol. 8 A 1197

Around midday, John Woodbury, a servant to Thomas Cullen at Pitt Town, who was minding Cullen's cattle on agistment at Fal Brook, arrived at Alcorn's hut to find 15 Aboriginal men already there. Alcorn's wife Charlotte, her baby daughter Sarah Jane and young son Richard were inside. Woodbury sent the boy off to fetch two men working nearby, while Charlotte offered the assembled group some kangaroo to eat, which they took and roasted on a fire set for the purpose. Young Richard, who had been followed by one of the Aboriginal men, soon returned with the two men. Asking for bread and maize, a few of the gathered warriors came into the hut, but Woodbury reported they showed no signs of violence in word or action at this point.

At around 4pm, Richard Alcorn arrived at the hut and on recognising three men believed to have been involved in the raid on Chilcott's hut, decided with Woodbury that it was not safe having so many armed Aboriginal men around the huts and told them they had to go. Woodbury testified that at this point, the three men called out and those at the fire rose and advanced on the hut. The Europeans dashed for the inner room for their muskets, while Charlotte, the baby and Richard junior got under the bed for protection.

With no door and no shutters, the hut was particularly vulnerable to attack and soon enough spears were coming in through the openings. Before Woodbury could discharge his musket, he was struck with a spear in his hand, forcing him to drop the weapon while he dragged out the spear. Henry Cottle, one of the workers, was struck in the left side and fell dead. As Woodbury regathered his musket the second man, Morty Kernan was also hit with a spear while firing from the inner doorway. Spears continued to fly in through the doorway and the windows, as Woodbury and Alcorn fired back out. As the shot for the muskets was in the outer room, both men were firing only with powder, hoping to fool their attackers into thinking they had lethal weapons. With spears exhausted the Aboriginal raiders began throwing large stones, one of which struck the wounded Kernan in the head and killed him.

In desperation, Alcorn had tied a bayonet to a long pole and used this improvised pike to thrust out at the Aborigines now in the outer room, while Woodbury took a large wooden box to block the window. The box was soon smashed in with clubs and stones and Alcorn was knocked senseless. At this the attack began to break up, as a shepherd, alerted by the shooting, was observed by the attackers going to fetch the mounted troops who were stationed at Glennie's property nearby. The adjoining workers' huts were raided for bedding and blankets and the warriors retreated into the bush. Not realising that the troops had been alerted, Woodbury tried to raise the alarm by firing his musket twice more and

then once again sent young Richard Alcorn to Chilcott's farm. The mounted troops pursued the group but did not find them.⁵¹

Robert Scott (of Glendon Estate), the nearest magistrate, arrived the following day and saw broken spears lying all around the area, stones in the hut and the smashed box used in the defence. According to Scott, the warriors were not those involved in other incidents. Nevertheless, Woodbury identified four of them by name, including three from the attack on Chilcott's: Ball, Murray and Togy, another man named Brandy, and a boy captured and released on Glennie's farm nearby. The others he did not know well, although he felt he should.⁵²

The response to this attack was swift. Two days after the attack, Robert Scott gathered a party of men, including five mounted police, four settlers and four Aboriginal trackers from his estate at Glendon near Singleton to pursue the attackers. Three days later, on 2 September, Scott's party came across an Aboriginal camp approximately 20 miles (32 kilometres) from Alcorn's hut. Two versions as to what happened were subsequently reported. Scott, in his report, claimed that they came on the camp in the morning of the third day, whereupon a skirmish occurred, with one of the European's in his party was speared in the face, two Aborigines killed and an unknown number were wounded. Scott reported that he had been told this by an Aboriginal woman captured during the action.⁵³

The Australian newspaper however provided a more detailed account as reported to them: the pursuing group led by Scott came on the camp in the evening, guided in by the light of the camp fires. Two of the party, one European and one Aboriginal tracker, each with a musket, were sent forward to reconnoitre the site, but being seen they fired into the camp and then retreated behind trees to reload. The Aboriginal tracker was struck in the face with a spear, but was not killed, and the rest of the party rushed forward to join the fight. As each was armed with a musket, their firing resulted in the death of eighteen Aborigines and the capture of a man and a woman.⁵⁴ Roger Millis, in his book *Waterloo Creek* suggested that the discrepancies in the descriptions points to two separate incidents, one occurring in the morning and another in the afternoon.⁵⁵ There is no evidence to suggest two raids, as Scott makes no further reference. More likely is that Scott had played down the event in his original report, whereas *The Australian*, through other informants had reported a fuller version. The report describes the chaos that ensued during the raid, with close quarter fighting against a group surprised at their camp.

The fear of more attacks amongst the settlers grew and in September a petition, signed by eleven landholders calling for the replacement of the mounted police with others or the reversal of the order to recall them in order that the district might be safe from future rumoured attack. James Bowman of Ravensworth was the first signatory, followed by near neighbour Peter McIntyre of Segenhoe, John Cobb who had been present when Rev. Threlkeld learnt of the hanging at Ravensworth, William Ogilvie whose own farm Merton had been the scene of a threatened attack by 200 warriors, as well as other landholders from lower down the Valley around present day Singleton, Lochinvar and

⁵¹ Deposition of John Woodbury; Report of Robert Scott, ML Government Despatches Vol.8, A1197, pp. 352–357; p. 344.

⁵² Deposition of John Woodbury, ML Government Despatches Vol.8, A1197, p. 356.

⁵³ Report of Magistrates Mr Scott and Mr McLeod, 3 October 1826, Governor's Despatches, ML Volume 8, A1197, p. 344. It should be noted that the AHMIS site card for the Ravensworth Massacre is based on the account put forward by Roger Millis in his *Waterloo Creek The Australia Day Massacre of 1838, George Gipps and the British conquest of NSW*, McPhee Gribble, Melbourne, p58. Millis has used the report of Scott and the Australian newspaper 23 September 1826, p3.

⁵⁴ *The Australian*, 23 September 1826, p.3.

⁵⁵ Millis, R, *Waterloo Creek: The Australia Day Massacre of 1838, George Gipps and the British conquest of NSW*, McPhee Gribble, Melbourne, p.58.

Maitland.⁵⁶ Chilcott and Alcorn, the only ones at the time to have had direct contact with the violence were not signatories, nor was Glennie.

While the Attorney General Saxe Bannister advised Governor Darling to deploy the military as a sign of the Government's overwhelming force, Darling dismissed the settlers concerns and the petition, commenting that the threat was minor, with few Aboriginal people in comparison to the settlers. He also advised that if the petitioners were so worried then they should consider spending more time at their properties rather than in Sydney, where he understood most were during the recent attacks. Further, their presence on the estates would enable them to counsel their servants and prevent the 'irregularities' that he suspected was the root cause of much of the trouble. He did however declare that if settlers united to take vigorous measures in their defence, they would prove more effective than a military force in protecting themselves, and that they would receive every necessary support for their exertions.⁵⁷

Ongoing Clashes 1826-1827

Following Scott's attack on the camp site, one more serious incident was recorded in the area. In his summary of events in the Valley, Robert Scott reported to the Governor on 3 October 1826 that a body of warriors attacked some fencer's working on Bowman's estate, the third time Bowman's had been targeted. Five fencers were alerted by the barking of their dogs to the approaching warriors and managed to get to their weapons before the attack, wounding an Aboriginal man but sustaining no injuries themselves.⁵⁸

In late 1826 John Elliott, a blacksmith at Thomas Macqueen's Segenhoe estate (close to modern day Scone), avoided an ambush by Aboriginal men when warned by another, with whom he was friends about the plan. In November the child of John and Catherine Hunt at Patricks Plains was reportedly abducted by a man known to Europeans as Bit-O-Bread and to his own people as Byirybyrry. Hunt was a district constable at Patricks Plains. In March 1827 a large group of warriors surrounded the hut of convict George Claris at Redbournberry (John Howe's property near Singleton), including Byirybyrry who was seeking vengeance for the wrongful accusation of kidnapping. The arrival of two more Europeans at Claris's hut averted any attack. The Aboriginal men declared they would assemble 1000 warriors to attack the valley if Byirybyrry came to harm.⁵⁹

Three days after this event, on 28 March 1827, the last series of what did turn out to be the end of the violence occurred. Samuel Owen, an overseer for James Bowman was returning to Ravensworth having been searching for strayed cattle. At Fal Brook (Glennie's Creek), close to home, Owen was surrounded by a party of 15 Aboriginal men, one he recognised as Jackass (likely a man called Girrogran from Patricks Plains, identified by that name on the same blanket returns as Byirybyrry) who had caused 'so much mischief about Dr Bowman's. The men asked Owen if he was 'the big constable' and when he said yes, they surrounded him in a circle, with Jackass and Owen in the centre—Jackass flourishing a waddie (club) and Owen parrying with his musket. The contest was stopped by the arrival of a woman, Cobborn Mary, the wife of Byirybyrry, who spoke to the men and

⁵⁶ Petition to Governor Darling, 4 September 1826, ML, Governors Despatches, Volume 8, A1197, p. 219. The signatories to the petition were: Dr J Bowman (Ravensworth), Peter McIntyre (Segenhoe), A.B. Sparke (Ravensfield, Maitland), Leslie Duguid (Lochinvar), J Gaggin (Luskintyre), John Cobb (Minimbah), TW Winder (Windermere near Lochinvar), David Maziere (farm on site of Dalwood, Branxton), William Ogilvie (Merton), A Malcolm, John Brown (Bolwarra).

⁵⁷ Governor Darling—Response to petitioners, 5 September 1826, ML, GD Volume 8, A1197, p. 223.

⁵⁸ Report of Magistrates Mr Scott and Mr McLeod, 3 October 1826, Governor's Despatches, ML Volume 8, A1197, p. 345.

⁵⁹ George Claris, 25 March 1827, Supreme Court Miscellaneous Correspondence relating to Aborigines, SANSW, COD 294A, 5/1161, Items 378-867, p. 74.

convinced them to leave, likely saving Owen's life.⁶⁰ On the same day, Benjamin Singleton at Patricks Plains and James Glennie both reported cattle having been speared.

Although tensions remained high, Robert Scott advised that there was no point in pursuing or arresting any of the suspected Aboriginal men. Although convinced of their identity, Scott thought that with Aboriginal warriors showing increasing signs of hostility in the area, and travelling in large groups around the settlements, no arrests could be made without violence, bloodshed and possibly open warfare, requiring a considerable force to overcome.⁶¹ In the end there was no need, as reports of violence in the Hunter Valley declined, with few made after mid-1827.

Not all interactions in the middle Hunter during this period were violent. Many of the estates and farms also employed Aboriginal people in work, paying them with food, tobacco and blankets. Although there is no evidence of Bowman employing Aboriginal workers, Robert Scott did on his estate at Glendon, as did William Ogilvie at Merton, including some in permanent work as shepherds. In 1826 Peter Cunningham employed 50 Aboriginal workers to cut and collect his maize crop, George Wyndham employed Aboriginal workers in 1830 and 1833 to cut maize, while William Bell at his Lemington estate on the Hunter River close to Ravensworth employed Aboriginal men to build bark races for his sheep during shearing in 1833.⁶²

The years 1825-1827 cycled through a series of tit-for-tat attacks and retributions between Aboriginal people and Europeans in the middle Hunter Valley. A combination of increasing pressures on traditional food sources by the influx of settler's livestock, the locking off of land through fencing and farming, provocation by convicts against Aboriginal people all combined to create an atmosphere of tension and the potential for violence. A close reading of the available evidence, through newspapers, depositions and enquiries appears to show not a series of random attacks, or rampaging bands of warriors, but rather targeted attacks against individuals and isolated workers. Bowman's large estate was the site of three attacks resulting in two Europeans killed and two wounded, with one Aboriginal man wounded. His worker Samuel Owen was also confronted close to the estate.

But Ravensworth was not the only estate to be targeted. Violence spread across the Valley floor from Merton (Denman) in the west to Patricks Plains in the east, with a series of raids and attacks against mostly small, and isolated huts and outposts. The compounds that had been developed on the large estates, with the exception of Ogilvie's Merton, were rarely seriously threatened, with Aboriginal people probably aware of the danger in attacking these establishments, which were easily defended and often had sizable populations of convicts and workers around. Some however were used as temporary staging posts for the mounted police and district constables, such as James Glennie's property. It was from the property of James Glennie on Fal Brook (Glennie's Creek), not Ravensworth, which Robert Scott set out with his party to pursue the attackers on Alcorn's hut in late 1826. The attack by this party that was reported by *The Australian* occurred 20 miles (32 kilometres) from Alcorn's Hut and resulted in the death of 18 Aborigines. Even though the exact location of this event is unknown, the plotting of a 20 mile (32 kilometre) radius from Alcorn's Hut situates this event well beyond the Ravensworth Estate, which lies approximately 5 miles (8 kilometres) to the north-west.

⁶⁰ Samuel Owen, 28 March 1827, Supreme Court Miscellaneous Correspondence relating to Aborigines, SANSW COD 294A 5/1161, Items 378-867, p. 80.

⁶¹ Robert Scott to Alexander McLeay, 17 May 1827, 28 March 1827, Supreme Court Miscellaneous Correspondence relating to Aborigines, SRNSW COD 294A 5/1161, Items 378-867, p. 90.

⁶² Dunn, pp. 261-267.

2.4. History of the Ravensworth Estate

2.4.1. Locating Ravensworth

The original holder of Ravensworth was Dr James Bowman (1784-1846), the colonial surgeon in charge of the Sydney infirmary or hospital. James Bowman had been appointed an assistant naval surgeon in 1806 and promoted to surgeon in 1807. At the end of the Napoleonic wars, he was reduced to half pay in 1814. He worked for some time as the surgeon on ships bringing convicts to the colony. In 1817, whilst acting as surgeon on the *Lord Eldon*, he became acquainted with John Macarthur who was returning to New South Wales after eight years exile. In 1819 Bowman arrived in the colony of New South Wales as the successor for D'Arcy Wentworth as colonial surgeon. In a happy coincidence, during his voyage to take up the position in 1819, one of the other passengers on the *John Barry* was John Thomas Bigge, travelling to New South Wales to commence his inquiry into the administration of Governor Lachlan Macquarie.⁶³

Bowman was soon closely involved with the Macarthur family. On 4 November 1823, he married Mary Isabella Macarthur, the daughter of John and Elizabeth Macarthur. John Macarthur was the founder of the Australian Agricultural Company in England in 1824 with the aim of acquiring wealth through wool growing. Company representatives arrived in the colony with an order for a grant of 1,000,000 acres and acting on dubious advice, they chose land poorly suited for sheep at Port Stephens.

Mary's father gave her a dowry of 2,000 sheep and 200 cattle allowing James Bowman to apply for a land grant.⁶⁴ Using that initial gift of stock as his rationale for applying for land, on 4 June 1824 James Bowman received a Land Order for 12,160 acres as three portions. The land he chose was bounded by Foy Brook (Bowmans Creek) and Yorks Creek draining into the Hunter River in the parishes of Liddell and Vane, County Durham (although as shown on Dangar's map of 1828, the land originally fell within the boundaries of the parish of Ravensworth, see Figure 2.1 above).⁶⁵

On 22 September 1824, the Colonial Secretary Frederick Goulburn, wrote to Bowman informing him that the Governor had seen his memorial seeking land, and would allow him a ticket to occupy 6,000 acres.⁶⁶ Bowman commenced paying rent for the land he was to purchase for 5/- per acre amounting to £1,125 from that date.⁶⁷

Ravensworth was occupied on the basis of the land order and additional land was rented from the government. An overseer with convict workers would have been the first occupiers. Huts were probably built for their accommodation plus the earliest wool sheds. C. Hunter suggests there may be evidence of sheep washing facilities in the creeks.⁶⁸

⁶³ J F Campbell, 'The genesis of Rural Settlement on the Hunter', *JRAHS*, XII, 1926, pp 95-6; CSIL26/4590, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807; D Bairstow, *A Million Pounds, A Million Acres: The Pioneer Settlement of the Australian Agricultural Company*, Author, Cremorne, 2003, p 10

⁶⁴ J F Campbell, 'The genesis of Rural Settlement on the Hunter', *JRAHS*, XII, 1926, p 96; N Gray, 'James Bowman (1784-1846)', *ADB*, volume 1, pp 137-8

⁶⁵ J F Campbell, 'The genesis of Rural Settlement on the Hunter', *JRAHS*, XII, 1926

⁶⁶ Letter 22 Sept 1824, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁶⁷ CSIL31/7818, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁶⁸ Hunter, Ravensworth, p 28

On 17 May 1825, J. Ovens, private secretary to the Governor, reported that Bowman would be issued a grant of 2,000 acres and that he could purchase an additional 5,000 acres.⁶⁹

A deposit of £125 was paid on 1 October 1825 for 5,000 acres based on a warrant from Gov. Brisbane dated 17 May 1825.⁷⁰ This became the central part of the Ravensworth estate (Portion 150, Parish Liddell). (See Figure 2.1.)

In 1825, Peter Cunningham (1789-1864), a naval surgeon who published a popular account of his observations and experiences in the colony, described Ravensworth. He reported that Bowman's property was situated between two creeks, one of fresh water (Foy Brook/Bowman Creek) and the other brackish (Yorks Creek). According to him, Bowman had "extensive buildings for packing and sorting wool".⁷¹ This was the location of the first homestead at Ravensworth and is shown on Dangar's map of 1828 (see Figure 2.1).

James Bowman wrote to Governor Darling on 31 July 1826 in response to a government notice that occupiers of Crown land had to report on their entitlements. He stated that he held 6,000 acres on the basis of an order of 22 September 1824 in response to his memorial of 2 September 1824. In May 1825 he had bought an additional 5,000 acres of land. Though he stated he had purchased this land, this was a simplification since he had only obtained the right to purchase. He also noted that he owned many sheep and cattle, which were grazing under John Larnach with four freemen and 29 convicts.⁷² In February 1824, he had sent a memorial to Lord Bathurst in London seeking land and had heard that it had been approved but had not been officially notified. He still occupied his land on the Hunter. His workmen had cleared about 200 acres and he had spent money on building and fencing. He possessed available capital and referred to his service in the Navy and the colony.⁷³

Later that year, on 11 November 1826, Bowman returned a printed form for an additional grant without purchase. He held 5,000 acres by purchase and 6,000 acres by reserve (leased to him), of which 250 acres had been cleared, with his livestock totalling 270 cattle, 3,300 sheep, and 6 horses. He stated that he had erected "Sheep Sheds, Wool House, Stores, Cottage, Kitchen, huts for ten men etc, which cost me Two Hundred & Sixty Pounds". In addition, he had built a stout fence 3 miles long and had maintained 34 convicts.⁷⁴

On 18 November 1826, Darling authorised a primary grant of 2,560 acres to Bowman and Bowman took possession on 15 October 1831. It later became Portion 149, Parish Liddell.⁷⁵ It was advertised as number 295 in the notice of 18 May 1839.⁷⁶

In 1828, Bowman also held land at Bathurst and Baulkham Hills and his main place of residence was on Woolloomooloo Hill in Sydney.⁷⁷ The census of November 1828 listed the staff of James Bowman at Patrick's Plains, essentially based at Ravensworth. Nearly all were assigned convicts with a free superintendent John Alexander. There were 11 listed as shepherds plus another 19 listed as "labourer" as well as one listed as "stockman". There were four female convicts, most likely employed

⁶⁹ Letter 17 May 1825, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁷⁰ IntRev34/895 in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁷¹ P Cunningham, *Two Years in New South Wales*, Henry Colburn, London, 1827, p 154

⁷² B T Dowd and A R Fink, 'John Larnach (1805-1869)', *ADB*, Volume 2, p 86. He was later involved in the unlawful killing of Aborigines in 1826.

⁷³ CSIL26/4590, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁷⁴ CSIL26/7403, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁷⁵ CSIL39/3807, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁷⁶ NSWGG, 18 May 1839, p 602

⁷⁷ M R Sainty & K A Johnson, *Census of New South Wales: November 1828*, Library of Australian History, Sydney, 1980

as domestics plus another male listed simply as “servant”. John Tucky, a 28 year old convict who arrived in 1823 on the ship *Ocean* was overseer. There were two shoemakers. James Smith, a convict, was recorded as a “Tenant” of Bowman. Two blacksmiths supplied and repaired ironmongery. Building workers included two sawyers and two carpenters (George Delbridge, arrived on *Lord Sidmouth*, 1819⁷⁸ and John Wilday, 17 arrived on *Albion*, 1827). It is particularly notable that there were two stonemasons: James Burnett was 27 years old arriving on the *Marquis Huntley* in 1826 whilst Robert Jackson who arrived in 1825 on the *Speke* was only 19.⁷⁹

The main land use for this part of the Hunter was grazing: sheep, cattle or a mixture of both. In the Census of 1828 it was noted that Bowman had 500 acres cleared, 40 under cultivation, 2 horses, 362 cows and 3715 sheep, Alcorn had 12 of his 60 acres cleared, with 9 acres under cultivation, 1 horse and a herd of 90 cattle and Chilcott (with a total of 200 acres on different grants) had 40 cleared, 30 cultivated, 10 horses, 100 cattle and 400 sheep.⁸⁰

With convict servants and shepherds, one of the first tasks was to enclose the land or at least portions of it, for use as pens and to stop stock wandering into neighbouring properties. The building of fences and the restriction of access across the land impacted directly on local Aboriginal populations, particularly as the farms and estates grew both in size and in number (see Section 2.3 above). The numbers of Europeans, and more particularly their stock animals, had grown exponentially in the Hunter since the granting of the first estates in 1821-22. Analysis of stock numbers in musters and census data shows the enormous increase between 1821 and 1828. Refer to Table 2.2 outlining the increases.

Table 2. 2: Increases in the area of land granted, sheep and cattle in the Hunter Valley 1821-1828⁸¹

Year	Land granted in acres	Sheep	Cattle
1821	638	376	236
1825	67,798	8,919	4,495
1828	1,537,488	119,391	46,805

In 1829, James White left the employment of the Australian Agricultural Company to become sheep manager for Bowman at Ravensworth. He arrived at Ravensworth on 30 March 1829 and took charge of the establishment on 6 April 1829.⁸² White managed the property for ten years whilst acquiring his own land. His son, James White jnr., later became one of the major landholders of the colony establishing one of the most significant pastoral families of New South Wales. A later descendant was the author Patrick White.⁸³

⁷⁸ CSIL 36/8659, NRS 905, Colonial Secretary, Letters received, SANSW 4/2309. George Delbridge is more correctly identified as John George Delbridge. He had been convicted at Middlesex Gaol Delivery on 2 July 1817 for sacrilege for stealing pipes from a church organ. In December 1829, he received a Ticket of Leave allowing him to work for himself. On 7 April 1836, he was tried on a charge of stealing a pair of trousers but no conviction was recorded since there was no evidence to back the charge. On 4 October 1836, still based at Patricks Plains he applied for a Conditional Pardon, which was subsequently granted.

⁷⁹ M R Sainty & K A Johnson, *Census of New South Wales: November 1828*, Library of Australian History, Sydney, 1980

⁸⁰ Sainty, M. R., & K. A. Johnson, *Census of New South Wales: November 1828*, Library of Australian History, Sydney, 1980, A0167, B1862, C1029.

⁸¹ Perry, T.M., *Australia's First Frontier: The Spread of settlement in New South Wales 1788-1829*, Melbourne University Press, Melbourne, 1963, p. 132.

⁸² Letter, J White, 12 April 1829, in Macarthur Family Papers, Vol 78, Papers re Dr Bowman, 1829-1855, ML A2974

⁸³ E Webby. 'Patrick Victor Martindale White (1912-1990)', *ADB*, volume 18, pp 592--6

On 6 September 1831, the Colonial Secretary informed Bowman that he would be allowed a grant of 2,560 acres out of the 6,000 acres promised to him and that he could rent the remainder of the 3,440 acres of that promise ready for purchase at 20/- per 100 acres per annum. Approval was also given to purchase those 3,440 acres.⁸⁴ In response to that confirmation, on 12 September 1831, Bowman informed the Surveyor General T.L. Mitchell that he wanted his 2,560 acres to be part of Sections 3/4, 3/5, 3/6 and 4/4, 4/5 and 4/6. The Parish of Liddell had previously been divided into sections.⁸⁵

Further clarification of Bowman's entitlements was outlined in a letter of 12 September 1831 from the Colonial Secretary to the Surveyor General. Bowman had the following land orders from previous Governors: One of 22 September 1824 gave him permission to occupy 6,000 acres. Another order of 17 May 1825 permitted him to receive 2,000 acres by grant plus 5,000 acres by purchase. An order of 31 December 1825 instructed that instead of the grant of 2,000 acres Bowman would receive an area of 2,560 acres out of the land reserved for him on 22 September 1824 and he could rent the 3,440 acres with a view to purchase. This had not been done since Bowman had not described the land he required for the grant or arranged to pay the rent that was due for the remainder. The current Governor, Ralph Darling, would allow him to complete the purchase under a notice of 1 and 2 August 1831. In summary, the land to which Bowman was entitled was a 5,000 acre purchase allotted to him by Brisbane; the right to purchase and rent with a right to purchase 3,440 acres and a primary grant 2,560 acres. In all, the land totalled 11,000 acres.⁸⁶

Bowman informed the Surveyor General on 14 September 1831 that he wanted to take the 5,000 acres south of his primary grant and that an additional 3,440 acres would be taken of the 10,000 acres that he was due to receive.⁸⁷ Once this land was formally granted, it became part of the core of his Ravensworth property. What this land included is most clearly seen on the Crown Plan of those portions (see Figure 2.7 below).

Assistant Surveyor Robert Dixon arrived at Ravensworth on 2 May 1832 to carry out surveys and then went on to measure the Pages River. He returned to Ravensworth on 14 May. The next day, 15 May, he measured Bowman's Primary Grant of 2,560 acres. On 16 May, the Retained Purchase of 3,440 acres was measured but the 5,000 acres took longer occupying Dixon on 17 and 18 May. The following day, 19 May, Dixon drew the plan.⁸⁸

The Crown Plan was sent to the Surveyor General on 2 July 1832. It showed the boundaries of his grants with some topography, roads and tracks plus watercourses. Portion 149 Parish Liddell was Bowman's primary grant of 2,560 acres, with a paddock in its north-west corner. Portion 150 Parish Liddell was his 'Retained Purchase' of 5,439 acres whilst Portion 1 Parish Vane measuring 2440 acres was also his "Retained Purchase". He also showed a separate parcel of 1,000 acres to the north, "part of 3440 rent to pur", bisected by Foy Brook (later Portion 173, Parish Herschell). No buildings were shown on the plan.⁸⁹

⁸⁴ CSOL 6 Sept 1831, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

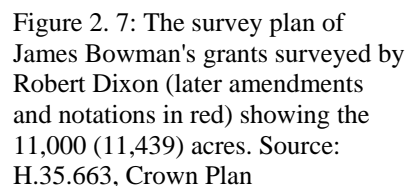
⁸⁵ CSIL31/567, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807; SA Map 2981

⁸⁶ Draft letter 12 Sept 1831, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁸⁷ CSIL31/8781, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁸⁸ NRS 13736. Surveyor General, Letters from Surveyors, R Dixon, SANSW 2/1531.2, p 131

⁸⁹ H.35.663, Crown Plan



⁹¹ Letter 27 Feb 1832, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

The Treasury reported on 31 May 1834 that it had received payment for 5,000 acres from James Bowman of £1,250. A deposit of £125 had been paid on 1 October 1825 based on a warrant from Brisbane dated 17 May 1825.⁹²

James Bowman was then granted 5,000 acres [Portion 150, Parish Liddell] on 24 September 1834. The warrant dated 17 May 1825 permitted him to purchase 5,000 acres at five shillings per acre. The land was in County Durham, parishes Ravensworth, Liddell and Vane. Beginning at the North West corner it was bounded on the north by Bowman's primary grant of 2,560 acres, 240 chains, on the east by a line 226 chains 66 links, on the south by James Bowman's purchase of 2,440 acres [Portion 1 Parish Vane] 240 chains, and on the west by a line 226 chains 66 links.⁹³ The area seems to have later been corrected to 5,439 acres. Although the central parcels of Ravensworth were not formally alienated from the Crown until the mid to late 1830s, Bowman was actively improving the land as the centre of his pastoral activity.

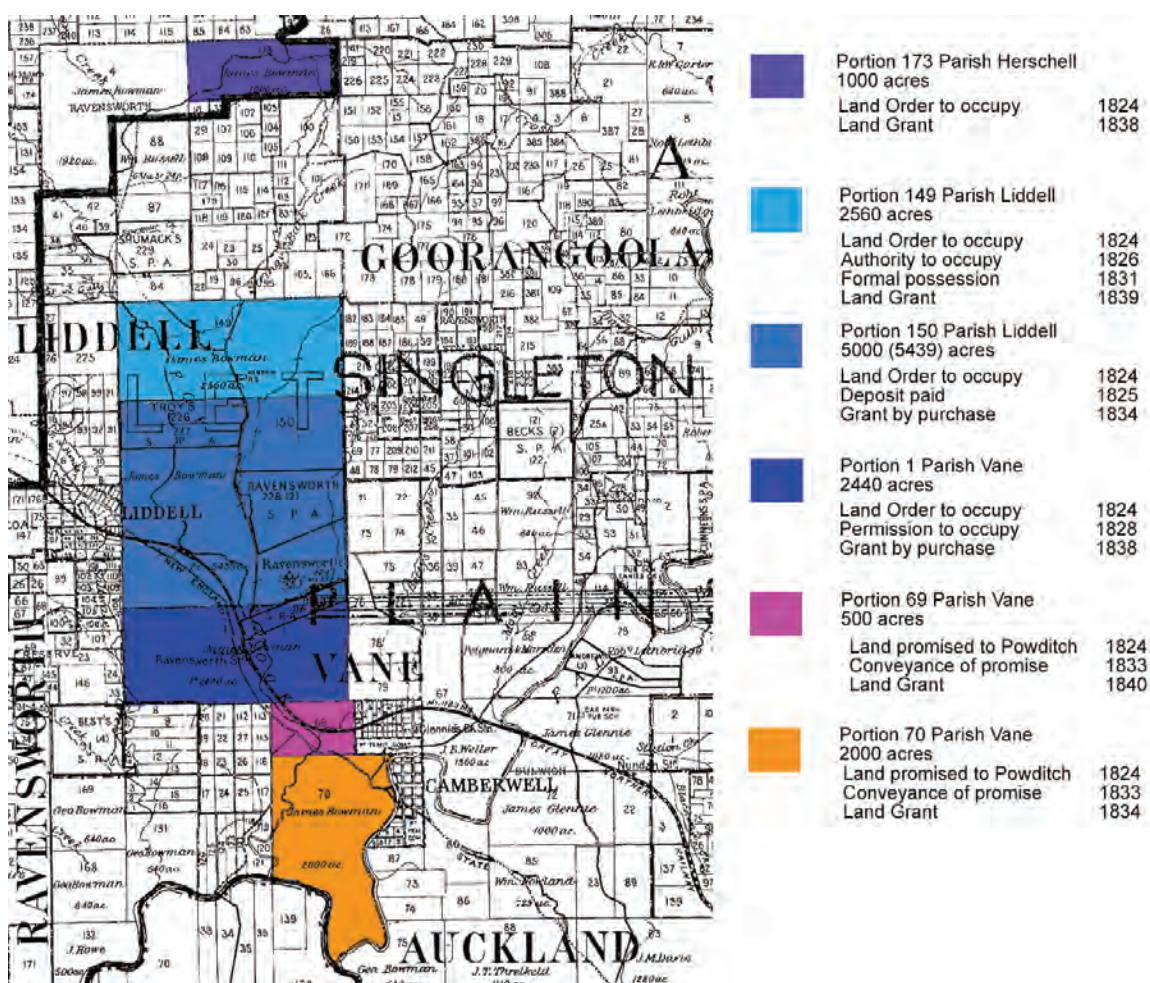


Figure 2. 8: County of Durham map showing the c1833 core lands forming the Ravensworth estate.

⁹² IntRev34/895 in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁹³ Grants, Volume 35 No 30

2.4.2. The Ravensworth Homestead

On 7 March 1832, Sir William Edward Parry (1790-1855) naval officer and Arctic explorer, who had been appointed as Commissioner of the Australian Agricultural Company, visited Ravensworth on his journey to Liverpool Plains, with Henry Dangar. Manager James White and his wife met him.

Parry was not impressed with the estate believing too much money had been spent clearing a large home paddock. White described the flat land near Foy Brook as not being good land. Higher land was thickly timbered with ironbark and would probably not be good land. Bowman was then building a substantial stone cottage for White. A garden of 8 acres with a paling fence and small stream through it was partly laid out in an ornamental fashion. Parry thought it too large for a private estate.⁹⁴ The garden mentioned by Parry was probably laid out on the estate in 1832. It was watered by a dam on Yorks Creek. A minor watercourse below the house had also been dammed for the “homestead dam” (which survives today).⁹⁵

The 1833 Post Office Directory recorded that at 140 Miles out from Newcastle the traveller would “Enter the estate of Dr Bowman - a tract of 11,000 acres, used principally as a sheep run. Cross several chains of ponds, branches of Foy Brook; Dr Bowman's farm buildings are to the right of the road.”⁹⁶

The Northern Road/New England Highway

Two major roads crossed the Bowman's estate. One followed the Hunter River towards Muswellbrook and split into two roads at Glennie's Creek, then passing through Ravensworth. One led from the Australian Agricultural Company's Booral Estate to the Hunter. Another road ran from the south across Fal Brook leading to the Liverpool Plains, the destination of stock that could not be fed on the Hunter.



Figure 2. 9: Detail from c1831 plan by Henry Dangar showing the “riding and driving track from Booral to the Hunters River road at Fal-brook”. The location of Ravensworth is circled. Source: ANU, 1-464

According to historian James Jervis, the Colonial Secretary began seeking a road from Wallis Plains (Maitland) to the Upper Hunter in 1828. Having received a report that the existing road was unsuitable, the Colonial Secretary sent Surveyor General Thomas L. Mitchell to the area in 1831 to enable settlers there to fix the boundaries on their properties. Mitchell marked the new line in 1833

⁹⁴ *Dungog Chronicle*, 18 Feb 1927, p 4

⁹⁵ Hunter, Ravensworth, p 18

⁹⁶ 1833 PO Directory, p 129

and instructed Surveyor G. B. White to map the details. Tenders for the road from Maitland to Muswellbrook were called in 1834.⁹⁷

A plan of the old and new Road from Muswellbrook to the Hunter River dated April 1833 by Assistant Surveyor Robert Dixon showed James Bowman's land near Foy Brook at Ravensworth with the house, barn and the new house shown. A paddock next to Foy Brook was marked as well as the line of fence. His area was shown as 10,439 acres, which tallies with the area of the three portions shown on the Crown Plan H.35.663.⁹⁸ The new road between Muswellbrook and the Hunter River crossed Ravensworth.



Figure 2. 10: Dixon's road plan of April 1833. Source: R.5.830, Crown Plan



Figure 2. 11: Part of Dixon's road plan showing buildings on Ravensworth including 'House', 'New house' and 'Barns' Source: R.5.830, Crown Plan

⁹⁷ James Jervis, 'The Hunter Valley. A Century of Its History', *RAHSJ* 1953, Vol 39, Part 3, pp 120-1, 144; Heritas, 2012; *Edinglassie Property Conservation Management Plan*, p. 9

⁹⁸ R.5.830, Crown Plan

Though Dixon failed to show the buildings on Ravensworth on his 1832 portion survey, their inclusion on the 1833 road plan would almost certainly be accurate since he had carried out both surveys.

The entire Northern Road (or Great Northern Road) was built between 1826 and 1835 by around 720 convicts under secondary punishment. It was the product of an extensive public works program designed to usher in harsher punishment for convicts in line with the findings of the Bigge Inquiry. A new network of 'Great Roads' using convict labour was also designed to expand the colony into new frontiers away from the main town of Sydney.⁹⁹

In 1826, *The Australian* newspaper reported that: "The Great North Road is to be commenced, we believed, this day- Mr. Oxley and Captain Dumeresque [sic] having left town, for the purpose of marking it out. It goes through Castle Hill to Wiseman's... The road, then, passes a hilly rocky country, for 30 miles, to the Wollombi Brook, along which it will wind its course as far as Patrick's Plain, on Hunter's River."¹⁰⁰

In 1833, Governor Richard Bourke introduced an Act (No. 11) for "making, altering and improving the Roads throughout the Colony of New South Wales...."¹⁰¹ Schedule A of the Act provided a list of sections of roads that were to be "kept in repair at the public expense" and this list included "The Road from Newcastle through Maitland and Patrick's Plains to the junction of the Great North road at Warkworth".¹⁰²

When the NSW main road system was reorganised in August 1928, the Great Northern Road was gazetted as part of state highway 9 and renamed the Great Northern Highway. State highway 9 stretched from Milsons Point, Sydney to Gosford then via Newcastle to Hexham, then to Tenterfield and onto the Queensland border. In 1933 the Great Northern Highway was renamed the New England Highway.¹⁰³

Church and School Lands

The Church and School Estate was set up by letters patent of 9 March 1826 to oversee land reserved to provide income for Anglican clergy, schools and church organisations. The Church and School Estate Corporation was dissolved on 4 February 1833. By the *Clergy and School Lands Act, 1834*, (5 Gul IV, No. 11) an agent was appointed to manage and dispose of the land and property of the Church and School Corporation. The scheme was largely unsuccessful. Large areas set aside for the Estate were distributed across the 19 counties. Until provision was made for selling the land, most of it was leased. Outside of the City of Sydney, most of the leases were for pastoral purposes.

Significant areas had been reserved for the Church and School Estate in the parishes of Liddell, Ravensworth, and Vane. James Bowman and his successors in title often leased those lands. County maps show the location of these areas. (See Figures 13 and 14) In 1835, James Bowman leased 5,512 acres (lots 67 to 73) of Church and School Estate land in the parishes of Liddell, Ravensworth, and Vane for 20/- per section from 1 July 1835 for one year.¹⁰⁴ When 2,552 acres in the parishes of

⁹⁹ Australian Government, 2008; *Australian Convict Sites: World Heritage Nomination*, p. 54

¹⁰⁰ *The Australian*, Wednesday 24th May 1826, p. 3

¹⁰¹ *NSW Government Gazette*, Wednesday 11th September 1833, No. 80, p.357

¹⁰² *Ibid.*

¹⁰³ www.ozroads.com.au

¹⁰⁴ *NSWGG*, 20 May 1835, p 316

Ravensworth, and Vane were advertised to let from 1 January 1840, James Bowman was shown as the current lessee.¹⁰⁵

A surviving record of Church and School lands rented in 1856 recorded that William Russell (a later owner of Ravensworth) leased 2,560 acres in the parish of Liddell, for a lease commencing on 1 January 1843, at the rent of £20 for the first period, £30 for the second period and £40 for the third period.¹⁰⁶ Though no period is specified in the register, most Church and School leases were for 21 years. Another ledger commencing on 1 January 1860 showed that William Russell of 'Ravensworth near Singleton' paid £30 for the second period until 1 January 1863, when the third period commenced at the rate of £40. That lease officially ended on 31 December 1868, but he continued to pay £40 per annum until the end of 1871. There is no evidence in the ledger about what happened afterwards.¹⁰⁷

2.4.3. James Bowman's Ravensworth Estate

In October or November 1835, Lieutenant George Pulteney Malcolm, who was travelling around the colony looking for suitable land to purchase visited Ravensworth. When he arrived at Ravensworth the sheep were being washed and shorn. The sheep were first washed in hot water and then in cold. After being kept warm for 2 to 3 days so that the yolk could rise in the wool, they were shorn. He noted that "Dr B's is the most complete establishment I have seen in the District." Apart from sheep, Bowman also ran cattle.¹⁰⁸ On Malcolm's return to Windsor on 22 November, he further noted that "The largest & best managed establishments I saw were Ravensworth, Dr Bowmans, they were busy shearing when I was there and his clip of wool this year was supposed to be worth 4,000£ [sic] clear of all expenses & Glendon, belonging to Mr Scott..."¹⁰⁹

Bowman's use of hot water for sheep-washing before shearing was an early innovation. He copied the practices of his Macarthur relatives who have been claimed as the first to use this technique.¹¹⁰ In 1827, James Macarthur recorded in his diary that the Australian Agricultural Company used a similar process, but the sheep were first driven into the river giving them a cold wash before they were soaked in tubs of hot water followed by a rinse in the Karuah River.¹¹¹

A road survey of 1835 by Assistant Surveyor G B White showed the land held by Bowman, plus an "Old House" north of the road. A "Burial Ground" near the VR (Village Reserve = Village of Camberwell) was also marked on the plan.¹¹²

¹⁰⁵ NSWGG, 20 Nov 1839, p 1307

¹⁰⁶ Church and School Estates, Rent roll of leases, SANSW 7/1271, p 10

¹⁰⁷ Church and School Estates, Rent Register 1860-80, SANSW 4/6875, p 24

¹⁰⁸ Lieutenant George Pulteney Malcolm, Journal, ML.MSS 5312, Item 2, p 5

¹⁰⁹ Lieutenant George Pulteney Malcolm, Journal, ML.MSS 5312, Journal p 129

¹¹⁰ G Raby, *Making Rural Australia: An economic history of technical and institutional creativity*, Oxford University Press, Melbourne, 1996, p 108

¹¹¹ D Bairstow, *A Million Pounds, A Million Acres*, p 70

¹¹² SA Map 5095 originally R.6.830; Copy not available as Crown Plan



Figure 2. 12: Detail from G.B. White's road survey showing "Old House" on James Bowman's land. Source: SA Map 5095 originally R.6.830

A sketch by G.B. White dated July 1835, showing roads in the vicinity sent to the Surveyor General showed Bowman's house plus the "burying ground" near the Fal Brook.¹¹³ It was almost certainly associated with the road survey above.



Figure 2. 13: Detail from G B White's sketch also showing a house owned by J Bowman. Source: Surveyor General, Sketch Book 3 f 16, SANSW

¹¹³ Surveyor General, Sketch Book 3 f 16, SANSW

Missionaries James Backhouse and George Washington Walker visited Ravensworth on 30 June 1836. During their approach, they noted that the land was covered with kangaroo grass a foot high whilst in other areas it was thickly forested. Before leaving on 1 July, they walked through the garden eating the oranges, which were ripe and “irrigated during the dry weather”. The garden also included a peach orchard and vineyard.¹¹⁴

Bowman paid for 3,440 acres on 30 June 1836 at 5/- per acre making a total of £860 plus rent on that land of £20/4/5 from 18 November 1826 to 21 July 1831. The deposit had been paid on 13 October 1831 as £86. That now completed the purchase.¹¹⁵

On 23 August 1838, the Land purchase by James Bowman was issued as a grant, on the basis of permission granted by Sir Ralph Darling on 1 December 1828, for £860. There were two portions of land described in the grant deed.

The first portion measuring 2,440 acres was situated in the parishes of Ravensworth and Vane. It was bounded on the north by James Bowman’s purchase of 5,000 acres 240 chains, on the east by 101 chains 67 links, on the south by William Powditch’s 500 acre purchase 240 chains, and on the west by 101 chains 67 links. (It was portion 1 Parish Vane.)

The second portion measuring 1,000 acres was in Parish Herschell. It was shown on the Crown plan of the proposed grants to Bowman as a separate parcel to the north. It was not part of the core area of Bowman’s Ravensworth.¹¹⁶ Later, on 5 March 1842, when the colonial administration was clarifying lands purchased by Bowman during the administration of Brisbane or Darling, the original order for 3,440 acres for £850, the Surveyor General reported had been granted on 23 August 1838.¹¹⁷

Bowman continued his process of acquiring the freehold of land adjoining Ravensworth. On 21 and 22 November 1838 by a deed of Lease and Release, James Bowman, Sydney, esquire purchased 2,560 acres at the corner of the Church Reserve from William Morgan, Sydney, merchant (Portion 7 Parish Liddell) for £1,600.¹¹⁸ This was originally recorded as Portion 89 to be granted to William Morgan at Saltwater Creek.

Cynthia Hunter suggests that the new house was built for James White in 1839 in the style of Elizabeth Farm, the family home of James Bowman’s wife, Mary Isabella (nee Macarthur).¹¹⁹ However, the plan of the old and new Road from Muswellbrook to the Hunter River dated April 1833 by Assistant Surveyor Robert Dixon showed the house, barn and the new house. The “new house” may be the current homestead as it is shown in the correct location.¹²⁰ When Sir Edward Parry visited Ravensworth in 1832, he noted that Bowman was building a substantial stone cottage for White.¹²¹

¹¹⁴ J Backhouse, *Extracts from the Letters of James Backhouse*, Part 3, Darton and Harvey, London, 1838, p 74

¹¹⁵ CSIL37/5560, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

¹¹⁶ Grants, Volume 67 No 35

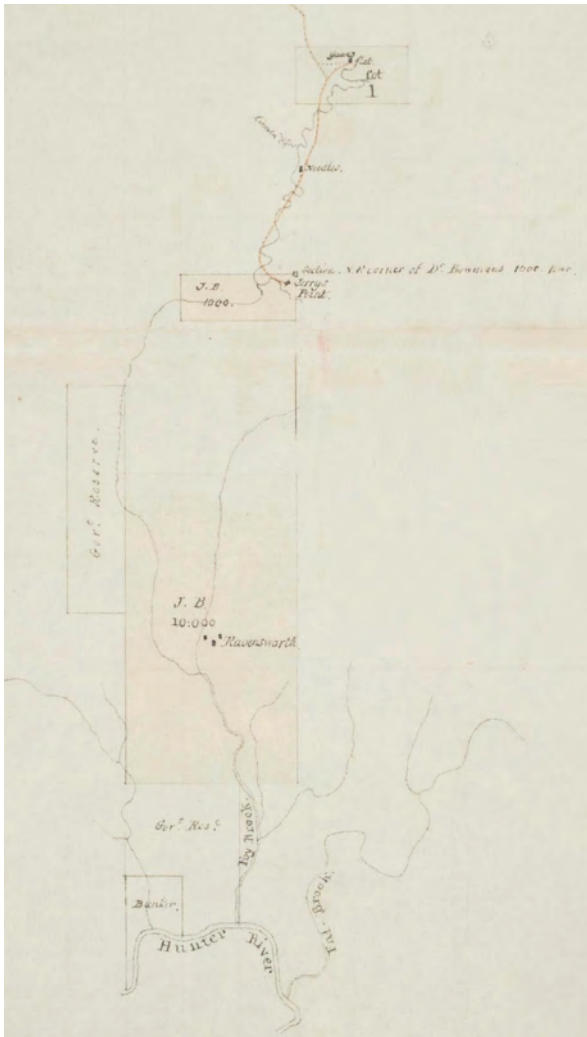
¹¹⁷ CSIL41/5799, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

¹¹⁸ OSD, No 999 Bk N

¹¹⁹ Hunter, Ravensworth, p 20

¹²⁰ R.5.830, Crown Plan

¹²¹ Hunter, Ravensworth, p 18



A sketch map from the 1830s with papers regarding a boundary dispute showed three buildings at Ravensworth. Since the map is only very approximate, it is probably unable to be accurately related to current cadastral boundaries.¹²²

Figure 2. 14: This rough undated sketch map from the 1830s showed three buildings on Ravensworth. Source: Macarthur Family Papers, Vol 78, Papers re Dr Bowman, 1829-1855, ML A2974

On 29 January 1840, Bowman was granted 500 acres in Parish Vane; that land became Portion 69.¹²³

The 1841 Census showed there were 87 people on Ravensworth including 76 men and 11 females. All the females were colonial born or had arrived free. The males included 32 assigned convicts and 13 others holding Tickets of Leave.¹²⁴ As well as sheep, Ravensworth raised Durham cattle. Advertisements offered Durham cows, heifers and bulls raised at Ravensworth for sale from 1846 onwards.¹²⁵

In 1828 Bowman had been made the first inspector of colonial hospitals, but in 1836 hospital administration was placed under military control and Bowman's services were no longer required. His official salary ceased in 1838, two years after his services were dispensed with, although he did receive his naval half-pay.¹²⁶ However, by 1842, Bowman had large debts to the Bank of Australasia and was threatened with foreclosure. Assistance from his brothers-in-law, William and James Macarthur, helped him weather this problem. The loss of his official position, his heavy expenses incurred in the construction of Lyndhurst his Sydney residence in Glebe (built 1833-37 to the design of John Verge) and the cost of liabilities regarding the acquisition of Segenhoe, a large estate on the

¹²² Macarthur Family Papers, Vol 78, Papers re Dr Bowman, 1829-1855, ML A2974

¹²³ RPA 17251; Grants, Vol 70

¹²⁴ NRS 1282, 1841 Census Abstracts of Returns, Patricks Plains, SANSW X949, p 21 No 14

¹²⁵ *Maitland Mercury*, 30 Dec 1846, p 3; 7 July 1847, p 3; 7 June 1848, p 1

¹²⁶ N Gray, 'James Bowman (1784-1846)', *ADB*, volume 1, pp 137-8

Pages River and the Waverley estate, another large property on the River Isis, meant that James Bowman was in a precarious financial position.

On 12 September 1842, James Bowman, Sydney, esquire and his wife Mary Isabella released various parcels of land at Ravensworth to James and William Macarthur of Camden, esquires, including 5,000 acres in the parishes of Liddell and Vane, 3,440 acres in the parishes of Ravensworth and Vane and 2,560 acres, in the Parish Liddell for £10,691.¹²⁷ This land comprised the core of the Ravensworth Estate as we know it today.

After selling various assets, James Bowman and his wife moved their permanent residence to Ravensworth in 1843.¹²⁸ By his will of 23 August 1843 James Bowman, Ravensworth, esquire appointed James and William Macarthur as the executors of his estate. One sixth of any income from his estate was left to his widow Mary Isabella Bowman.¹²⁹

James Bowman died at Ravensworth on 23 August 1846. His place of burial is unknown although C. Hunter suggests that it is possibly on Ravensworth or in the churchyard at Camberwell.¹³⁰ In 1851, St Clements Church, Camberwell, was completed on land donated in c.1840 by James Bowman adjoining the western side of the village of Camberwell (see Figure 2.16 below).¹³¹ It is possible he is buried there, although no evidence has been found to date.

In order to meet debts to the bank, on 28 August 1847, James Macarthur and his wife Emily (also known as Amelia) and brother William Macarthur conveyed Ravensworth to the Bank of Australasia to cover a debt of £45,897/10/9 to the Bank. The property was the land transferred to them by James Bowman in 1842. The purchase price paid by the bank was £58,186/0/10.¹³²



In 1848, under instruction by Edward Bowman, the contents of the Ravensworth house and remaining stock were advertised for sale by auction. Amongst the articles listed included “three handsome parlour grates, new; one large kitchen ditto with boiler and oven complete, new; one large Copper Boiler...”¹³³

Figure 2. 15: 1848 advertisement for the auction of the contents of Ravensworth. Source: *The Maitland Mercury and Hunter River General Advertiser*, Saturday 10th June 1848, p. 3

¹²⁷ OSD, No 155 Bk 2

¹²⁸ H King, *Elizabeth Macarthur and Her World*, Sydney University Press, Sydney, 1980, p 185-7

¹²⁹ NRS 13660, Supreme Court, Probate Packet, Series 1 No 1778, SANSW 14/3229

¹³⁰ Hunter, Ravensworth, p 9

¹³¹ Hunter, Ravensworth, p 28

¹³² OSD, No 460 Bk 13

¹³³ “Classified Advertising” *The Maitland Mercury and Hunter River General Advertiser*, Saturday 10th June 1848, p. 3

The Bank held the property for a number of years. By January 1851 Captain William Russell was occupying Ravensworth when he advertised that an employee had absconded.¹³⁴ On 20 January 1851, an inquest was held at Ravensworth on the body of Mary Stewart, a 15 year old girl who had drowned while swimming in a waterhole near the house. William Russell's son, William was one of those who vainly tried to rescue her.¹³⁵ William Russell senior became the next owner of Ravensworth.



Figure 2. 16: Detail from 1840 town plan of the village of Camberwell, located to the south of the Ravensworth estate. Note the location of the church site (circled) is to the west of the village and located on land purchased by James Bowman (Portion 69 of the Parish of Vane). Source: NSW Land Registry Services, Historical Land Records Viewer

2.4.4. Early Overseers at Ravensworth

According to T.M. Perry, in 1828 a total of 42% of estates in the Hunter Valley were managed by overseers for proprietors who lived elsewhere, usually in the County of Cumberland.¹³⁶ During Bowman's period, he employed a number of overseers to manage the land, stock and convicts at Ravensworth, including the following:

John Larnach was an early overseer for Bowman. The General Muster Lists for 1823 to 1825 identified him as overseer for Bowman in the Newcastle area.¹³⁷ Subsequently, he was a partner with James Mudie at Castle Forbes. He was later involved in the unlawful killing of Aborigines in 1826.¹³⁸

¹³⁴ *Maitland Mercury*, 22 Jan 1851, p 3

¹³⁵ *Maitland Mercury*, 24 Dec 1851, p 2

¹³⁶ T.M. Perry, 1963; *Australia's First Frontier: The Spread of Settlement in New South Wales 1788-1829*, Melbourne University Press, p. 75

¹³⁷ C J Baxter, *General Muster List of New South Wales: 1823, 1824, 1825*, ABGR, Sydney, 1999, No 29211

¹³⁸ B T Dowd and A R Fink, 'John Larnach (1805-1869)', *ADB*, Volume 2, p 86

The November 1828 census identified John Alexander, a free immigrant as the superintendent for James Bowman at Patrick's Plains. John Alexander drowned in the Fish River in October 1830 aged 25 whilst acting as overseer to Reverend Samuel Marsden. He was buried at All Saints Church of England Bathurst.¹³⁹

James White arrived in the colony in 1826 overseeing the transportation of the Australian Agricultural Company's sheep to New South Wales. After landing the sheep at Sydney, he took them to Parramatta and later to Port Stephens. From 1826 to 1829, he was sheep supervisor for the Company.¹⁴⁰ White arrived at Ravensworth on 30 March 1829 to take over from John Alexander. Alexander showed him over the estate whilst mustering cattle and viewing the flocks of sheep. White formally took charge on 6 April 1829.

From the time White took over as superintendent, a series of letters and reports about Ravensworth survive in the Macarthur papers and provide the following insights into life at Ravensworth:

The sheep were affected by lack of feed, and White expected there would be further difficulty if no rain fell soon. He noted that the stations ran up to the brook for 4 miles above the stockyard from Powditch's (Portion 69, Parish Vane). He found a run over the range 7 miles from the source of the brook that would feed 2,000 sheep and moved them there. Cattle had wandered as far as 35 miles from the head station. Wheat would be planted in two weeks' time but he would need to buy some since it was short. He also reported on construction work on the estate. The granary was "just above the first floor and no stuff out for the roof before this last week". He also noted 'The Barn about three parts shingled and no shingles split.' One of the convict sawyers named Baker was now free and would be paid wages from 1 April.¹⁴¹

White complained about the laxity of some of the shepherds. On 2 May 1829, he identified the only good shepherds as Thomas Light, who was then ill and might need to go to hospital and Fordam and May. He reported the sheep were doing well at the new station. He had found another run 25 miles away but it lacked water.¹⁴²

Tobacco was grown in the garden and was used for rations for the men whilst poorer quality leaf was used to treat scab on the sheep. A man named Gaggin had been engaged by Alexander to stump and burn off the land behind the garden at 32 shillings per acre. The work was ready to be valued by August 1829, but White was critical of the quality of the work since the stumps were "only burnt to the surface of the Earth and will require to be dug out". He noted that there were two sections of land about "6 Miles from Jerry's Point" where Bowman had taken his last two sections (see Figure 2.14 above). White wanted to make a sheep station, but Busby wanted it for a cattle station. White hoped to beat him to it by taking some of their lambs to that site. He would order Francis, one of the servants, to stop making fencing and make hurdles and a hut for that location. White commented "In the present distress of this part of the Country every Acre of Land where there is Grass and Water is valuable to preserve[.] It would be a good way to take a Ticket of occupation for two or three Thousand Acres."¹⁴³

On 21 January 1833, White informed Bowman that Colonel William Dumaesq had arrived at their outstation at Sandy Creek and ordered Bowman's men to leave and remove the stock since it was his station. He also reported that the convict Short was removed from the kitchen and was punished with 12 lashes and later with another 50 lashes for making "most malicious reports of my Family". Ward had received 50 lashes after being found by White's brother absent from his flock whilst Scott

¹³⁹ All Saints Church, Bathurst burial register, <http://www.bda-online.org>, accessed 20 August 2018

¹⁴⁰ J White, *The White Family of Belltrees: 150 Years in the Hunter Valley*, Sydney, 1981, p 29

¹⁴¹ Letter, 12 April 1829, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁴² Letter, 2 May 1829, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁴³ Letter, 2 Aug 1829, Papers re Dr Bowman, 1829-1855, ML A2974

received 25 lashes for the same offence. White reported there were many grapes on the vines at Ravensworth and hoped that Bowman could identify them if he sent some. Otherwise he was anxious for Bowman to visit. Peaches and nectarines were also plentiful.¹⁴⁴

Dumaresq wrote to Bowman from St Heliers on 17 January 1833, that he had found White had formed a sheep station on “St Heliers Brook” on his land. Dumaresq noted he had selected the station 25 miles from Ravensworth to avoid any problems. He asked Bowman to order White to remove the livestock. In passing he also mentioned that White “gave me good accounts of your House etc at Ravensworth. Whenever you visit your little dominion there, I hope that you will extend your ride as far as St Heliers”.¹⁴⁵

Bowman replied to Dumaresq from Ravensworth on 4 February 1833, disputing the location of the run. It was 15 miles from Ravensworth and it was a property occupied for four years, which he confirmed by looking at Dixon’s recent survey on that part of the Hunter. It was “only 15 miles from my cottage at Ravensworth” he claimed.¹⁴⁶ White sent apples to Bowman on 24 February 1833. Ploughing had commenced to grow wheat on Powditch’s land (Portion 69 and 70, Parish Vane) but the soil was so hard that only half an acre was completed in a day.¹⁴⁷

On 8 April 1835 Dumaresq wrote to Bowman from Port Stephens hoping that, “By this time, I hope you are comfortably fixed in your new and spacious dwelling.”¹⁴⁸ This appears to refer to Lyndhurst, Glebe, which was then under construction for Bowman. White sent lemons to Bowman on 9 June 1835. He also reported on punishments meted out to the convicts for various offences – Broden [??] 36 lashes for losing sheep (third punishment in a month); Hassel 25 for absence at night; Edwards 50 for disobedience; Cummings 25 for losing a wether; Millard to iron gang for 12 months for stealing and “George Bowman’s man” same for receiving.¹⁴⁹

On 4 July 1835, White reported Dwyer had left 170 sheep out one night, so White’s brother and several men searched all night. Five sheep were killed and four remained lost, so Dwyer received 50 lashes. White reported he had wheels and boxes made.¹⁵⁰ White informed Bowman in July 1835 he had planted vines and, “The piece of land under the Fence in the vineyard is now completed.” Additionally, “We have done nothing to the Building since the beginning of May.” The workmen were all ill. He named them as Ponting [?], Kenavey [?], Taylor and Lawton.¹⁵¹

In January 1836, White employed free servants – Dakin at £18 pa, tea and sugar; Lewis at £13 pa [possibly James Lewis, arrived 1835 on *Bengal Merchant*¹⁵²].¹⁵³ On 28 January 1836, White requested “a woman from the Factory [Female Factory, Parramatta] for a wife for Tom - Hayes’ wife was confined on Xmas Day and we have no one able to wash or do any thing”. He also informed Bowman, he would leave to look for land in about a fortnight and hoped to return before the lambing season.¹⁵⁴

¹⁴⁴ Letter, 21 Jan 1833, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁴⁵ Letter, 17 Jan 1833, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁴⁶ Letter, 4 Feb 1833, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁴⁷ Letter, 24 Feb 1833, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁴⁸ Letter, 8 April 1835, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁴⁹ Letter, 9 June 1835, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁵⁰ Letter, 4 July 1833, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁵¹ Letter, 27 July 1833, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁵² 1837 Muster, No. 15018

¹⁵³ Letter, 4 Jan 1836, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁵⁴ Letter, 28 Jan 1836, Papers re Dr Bowman, 1829-1855, ML A2974

James White left his position as superintendent in 1839 when he took up his own property Edinglassie (purchased from George Forbes). However, on 26 June 1840, P.C. Pagan of Dalmorton wrote to Bowman that he had collected a flock of ewes from Ravensworth from Mr Shepherd. James White endorsed the promissory notes.¹⁵⁵ Following White, other managers included Mr. Shepperd¹⁵⁶ and Mr. J. Burnett.¹⁵⁷

The following table lists all known managers and overseers from c1824 to 1920 working at Ravensworth Estate.

Table 2. 3: Overseers, managers and supervisors of Ravensworth Estate from 1824 to 1920

Owner	Dates	Occupier/Overseer	Dates
Dr. James Bowman	1824 – 1842	John Larnach, Overseer	1824 – c1827
		John Alexander, Superintendent John Tucky (convict), Overseer	1828
		James White, Overseer	1829 – c1839
		Mr. Shepperd (variously Shepherd) Superintendent	1840
James & William Macarthur	1842 – 1846	Dr. James Bowman and family	1843 – 1846 (death)
Bank of Australasia	1846 – 1853	E. M. Bowman	c1847
		Bernard Fox, Sheep Overseer ¹⁵⁸ John Carlyle, Storekeeper ¹⁵⁹	1847
		James Burnett, Superintendent ¹⁶⁰	1848 – 1849
Capt. William Russell	1853 – 1866	Capt. William Russell	1850 – 1854
		James E. Davys, Superintendent	1854 – 1864
		William Barton, Superintendent ¹⁶¹	1860
		George Wyndham Jnr.	1865 – 1866
Mrs. Eliza Russell	1866 – 1882	James E. Davys, Superintendent	1866 – 1882
		J. Hindmarsh, Overseer ¹⁶²	c1872
		John Moss, Overseer ¹⁶³	1878
Duncan Forbes Mackay	1882 – 1911	Duncan Forbes Mackay	1882 – 1889
		Robert A. Hill, Manager	1890 – c1911
Frank J. L. Measures	1911 – 1920	Mr Newman Manager ¹⁶⁴	1914
		Mr H. A. Swinney [Sweeney] Manager ¹⁶⁵	1917

¹⁵⁵ Letter, 26 June 1840, Papers re Dr Bowman, 1829-1855, ML A2974

¹⁵⁶ *Sydney Monitor and Commercial Advertiser*, Friday 8 May 1840, p. 3

¹⁵⁷ *Maitland Mercury and Hunter River General Advertiser*, Saturday 28 April 1849, p. 1

¹⁵⁸ Article: "Singleton Police Station", *The Sydney Morning Herald*, Tuesday 2nd November 1847, p. 32

¹⁵⁹ Article: "Singleton Police Station", *The Sydney Morning Herald*, Tuesday 2nd November 1847, p. 32

¹⁶⁰ Advertising; *Maitland Mercury and Hunter River General Advertiser*, Wednesday 2nd May 1849, p. 1 and *The Sydney Morning Herald*, Saturday 22nd November 1851, p. 2

¹⁶¹ Article: "Singleton", *The Maitland Mercury and Hunter River General Advertiser*, Thursday 25th October 1860, p. 2

¹⁶² Article: "Aberdeen", *The Scone Advocate*, Friday 4th November 1932, p. 2

¹⁶³ Article: "Death of an old shepherd", *The Singleton Argus and Upper Hunter General Advocate*, Wednesday 2nd October 1878, p. 2

¹⁶⁴ Advertisement: "Ravensworth Estate", *Singleton Argus*, Saturday 28th March 1914, p. 1

¹⁶⁵ Advertisement: "Ravensworth", *The Muswellbrook Chronicle*, Saturday 10th March 1917

2.4.5. Mapping Bowman's Lands

Robert Dixon's 1837 map of New South Wales showed grants distributed along the Hunter River. He depicted the area held by Dr James Bowman as 14,600 acres. (See Figure 2.17.)

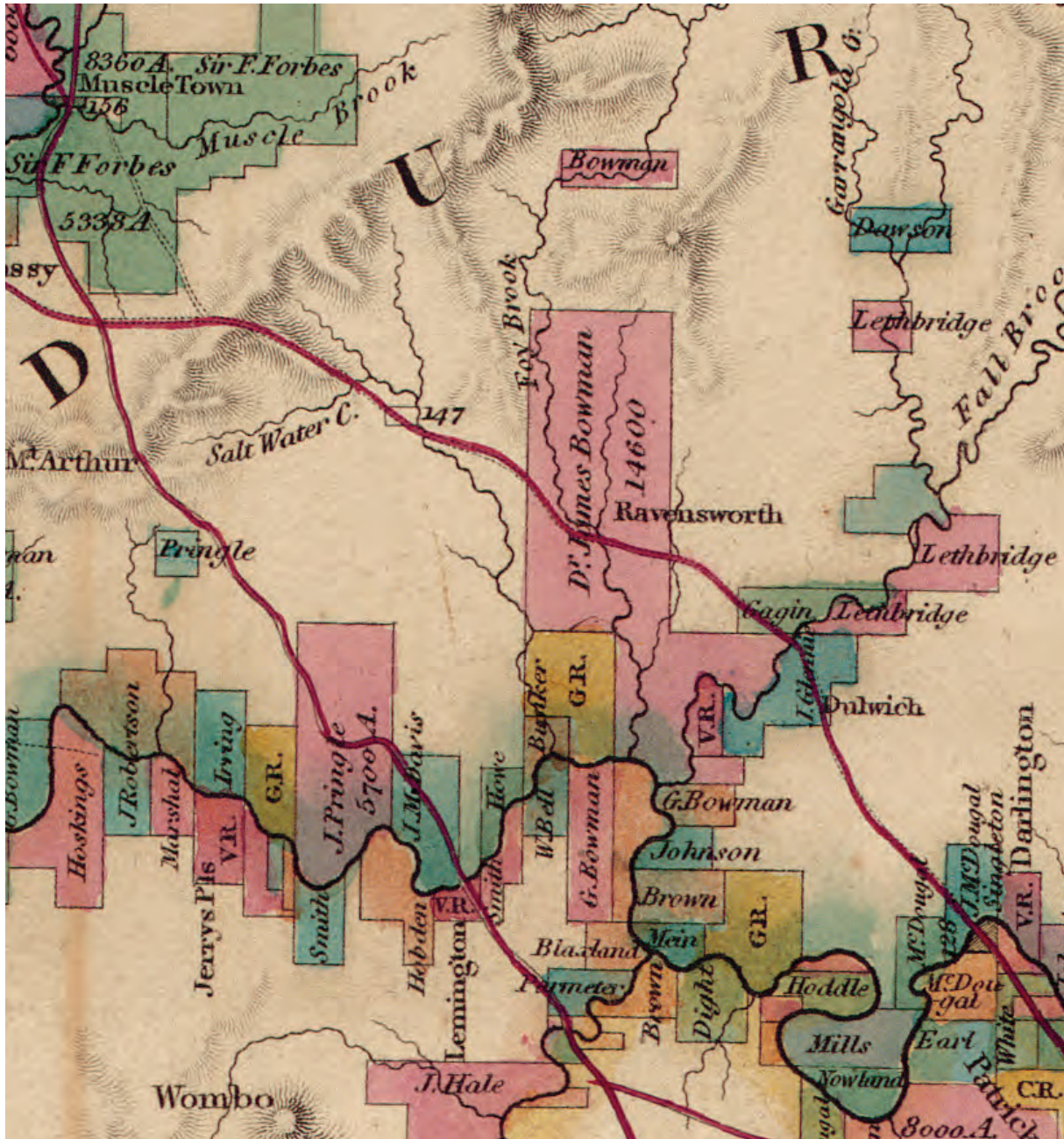


Figure 2. 17: Robert Dixon's 1837 map showed land at Ravensworth held by Dr James Bowman. Source: Dixon, Robert, This map of the colony of New South Wales, 20 July 1837, NLA Map F 891

G.B. White's survey sketches of the parishes in the County of Durham dated early 1830s shows the spread of land grants and purchases held by James Bowman reaching northwards from the parish of Vane to the parish of Tudor. (See Figure 2.18.)

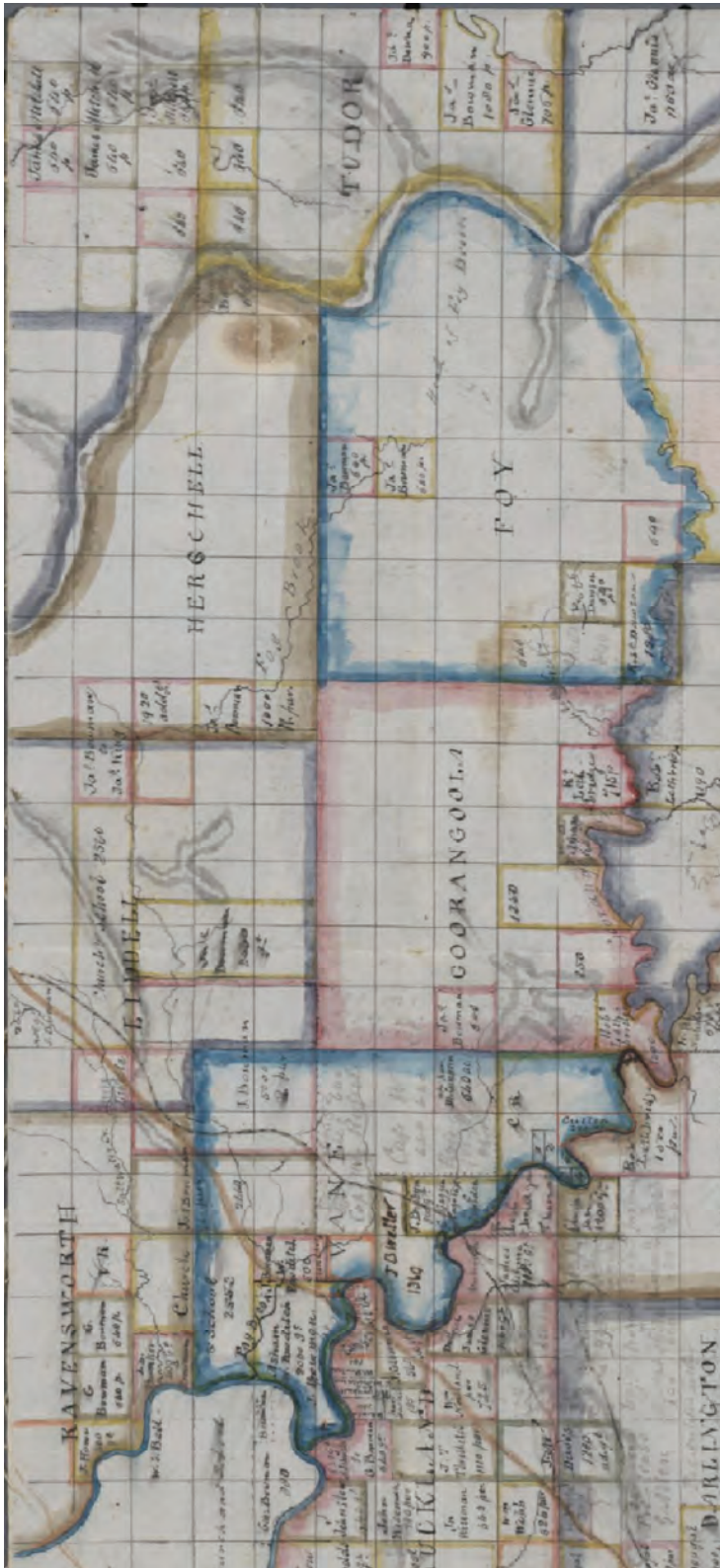


Figure 2. 18: Undated (1830s) map showing parishes in the Hunter River region. Note the various portions held by James Bowman stretching northwards from the core of the Ravensworth property in the parish of Vane and Liddell, including in the parishes of Herschell, Foy, Tudor and St. Aubins. Source: NLA, Map F436/F

A map of the County of Durham compiled in 1839 by draftsman William Henry Fernyhough showed the grants of James Bowman (see Figure 2.19 below). It was used as a charting map by the Surveyor General for some years so further information was added. This possibly includes some of the grants charted on the map. It appears to have not being used after 1846 since no grants to William Russell were shown. The map is rather dark and heavily used so some of the detail is unclear. It does depict a number of the grants that Bowman received after those that made up the core of his holding plus land to the south-east around Camberwell village.¹⁶⁶



Figure 2. 19: Fernyhough's 1839 map depicted the status of land held by various individuals. It is difficult to read and may have later information added to it. Source: County Durham, 1839, SA Map 2520

¹⁶⁶ County Durham, 1839, SA Map 2520

The 1850 map of the County of Durham (Figure 2.20) showed a further phase in the expansion of Ravensworth, particularly under William Russell. The map appears to have been updated until well into the 1870s since it plots a number of grants to William Russell that were not finalised until the late 1860s.¹⁶⁷

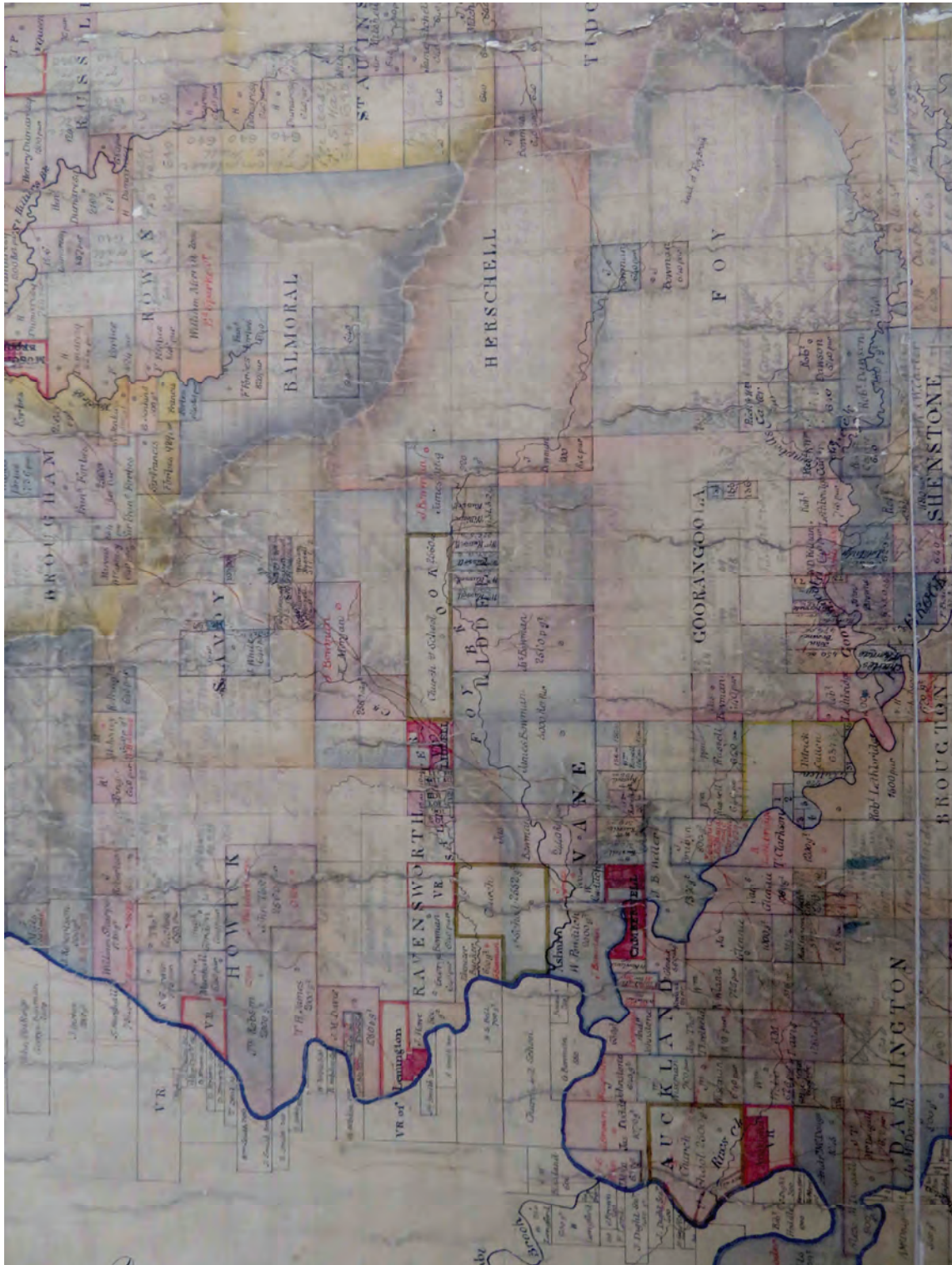


Figure 2. 20: The 1850 version of the map of the County of Durham showed Bowman's holdings and those of William Russell. It was used to chart additional information in later years. Source: County Durham, 1850, SA Map 252

¹⁶⁷ County Durham, 1850, SA Map 2521

[illegible]

¹⁶⁸ County Durham, 1857, SA Map 2522

Other Bowman Landholdings

In 1828, Bowman was also recorded as holding land at Bathurst and Baulkham Hills.¹⁶⁹ The land at Bathurst was probably a lease from the Crown. He later sold the Baulkham Hills land.

In 1838, Bowman purchased a number of Crown portions at auction, which were granted in 1839. They were situated in the County of Brisbane in the parishes of Isis and Timor. As with his other sheep runs, these later grants were scattered in various locations, so they did not make a consolidated holding,¹⁷⁰ although he did also purchase the large Waverley estate running northwards on the River Isis.



The Waverley estate had been granted to Sir Richard Hart Davis and purchased by T.P. Macquene in 1833. Macquene was also the owner of Segenhoe, another estate that Bowman purchased in the late 1830s.¹⁷¹ Bowman later sold some of the smaller portions in the County of Brisbane to his former overseer James White but the sale was not registered until after Bowman's death.¹⁷² White's son, James White jnr. went on to acquire considerable areas of land nearby, including the Waverley estate and the adjacent Belltrees.

Figure 2. 22: 1841 version of R. Dixon's map entitled "This map of the colony of New South Wales : exhibiting the situation and extent of the appropriated lands ... dedicated to Sir John Barrow ..." showing Bowman as owner of Segenhoe and Waverley in the County of Brisbane. Source: NLA MAP F 892

¹⁶⁹ M R Sainty & K A Johnson, *Census of New South Wales: November 1828*, Library of Australian History, Sydney, 1980

¹⁷⁰ Grants, Volume 68, No 125-126; 130-133

¹⁷¹ Pemberton, P.A, 1991; *The London Connection: The Formation and Early Years of the Australian Agricultural Company*, thesis submitted for the degree of Doctor of Philosophy, ANU, p. 69

¹⁷² OSD, No 453 Bk 20

England on 13 July 1866 and subsequently in NSW on 25 October 1866 with the value of his goods in New South Wales sworn at £18,000.¹⁷⁷ At that time, the value of real estate was not included in any valuation of assets of a deceased person.

From 1866, the title to Ravensworth (the 11,000 acres) was a continuous chain including the land acquired by William Russell in 1853 until 1911, according to F.H. King, the solicitor handling an application to convert the property to Torrens Title in 1911.¹⁷⁸ A number of deeds were signed, either as mortgages or changes in the identity of the trustees of the estate. Some of the more notable ones are recorded here.¹⁷⁹

Great Northern Railway

Before his death, William Russell had agreed to convey a strip of land to the Railway Commissioners that had been notified in December 1864 for the Great Northern Railway. Payment of £975 was agreed but Russell died before the transaction was completed. On 16 March 1867, his son, William Russell conveyed the land as the executor of the estate. Attached to the deed were the usual plans showing the land taken plus details of adjacent land including creeks, property boundaries and any buildings.¹⁸⁰

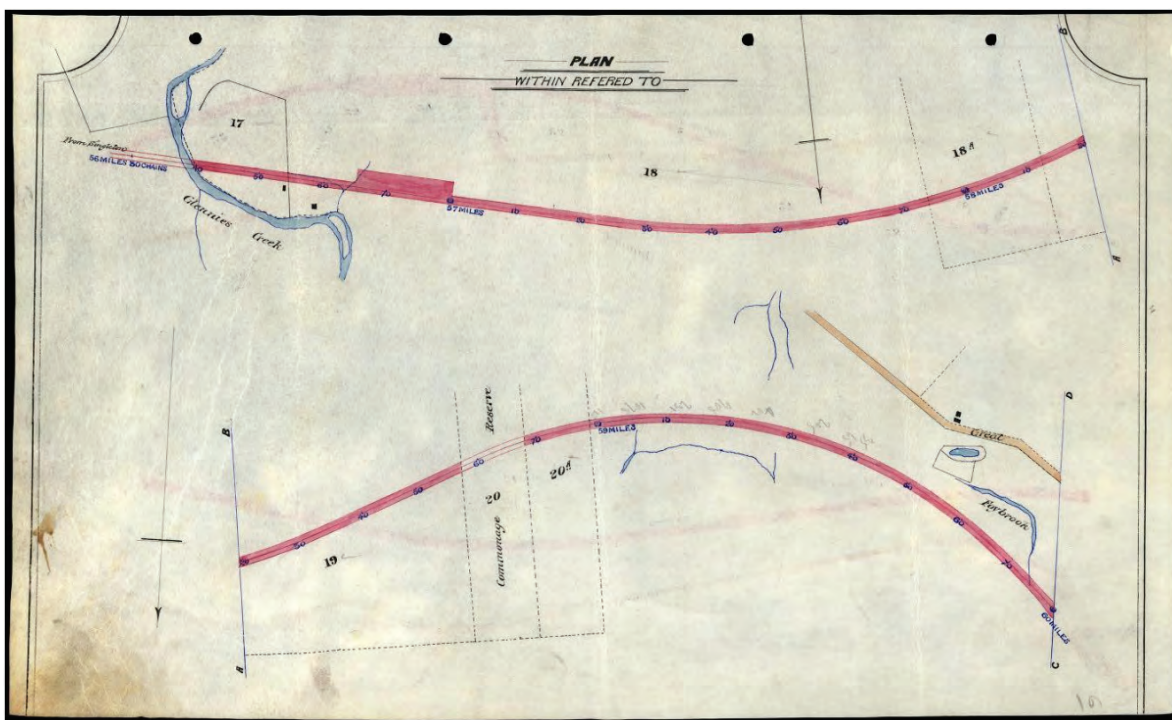


Figure 2. 24: One of the plans appended to the Deed (OSD No. 270 Bk 103) for the sale of a portion of land for the Great Northern Railway. Source: New South Wales Land Registry Services, Historical Land Records Viewer

¹⁷⁷ OSD, No 435 Bk 264; NRS 13660, Supreme Court, Probate Packet, Series 1 No 6981, SANSW 14/3398

¹⁷⁸ NRS 17513, Lands, Real Property Application Packet, RPA 17251

¹⁷⁹ As noted earlier, not all deeds could be examined, as they are involved in an ongoing digitisation project.

¹⁸⁰ OSD, No 270 Bk 103

On 22 June 1869, a Mortgage was signed with the following parties, 1st William James Russell, 2nd John William Russell, 3rd Maria Jane Russell, 4th Eliza Russell, 5th Thomas Bowyer Bower and Edmund Butler Edwards (mortgagees).¹⁸¹

The next day, a Settlement of the property was signed with the following parties, 1st Eliza Russell, 2nd William James Russell, 3rd Baker Creed Russell, 4th John William Russell, 5th Thomas Bowyer Bower and wife Bessie Ellice Bower, 6th Maria Jane Russell, 7th Henry Thomas Auley and wife Rachel Eliza, 8th George Brown Russell, 9th Sarah Justina Russell, 10th Frederick Love Russell, 11th Edmund Henry Somerset Russell, 12th George Frederick Smith, 13th William James Russell, Baker Creed Russell and John William Russell (trustees).¹⁸²

James Edmond Davys managed Ravensworth for William Russell as early as 1854.¹⁸³ After Russell's death, Davys was granted land in the parishes of Goorangoola, Herschell and Ravensworth as representative of the estate of William Russell.¹⁸⁴ In 1871, the Davys family returned to Britain. In 1876, they were back at Ravensworth, and Davys was delegated to sell the property; however, bushfires and drought prevented the sale at that time. His son later named Billy Ross and James Barden as the stockmen on the estate.¹⁸⁵

The Russell family stocked Ravensworth with Durham cattle.¹⁸⁶ On 13 August 1875, a re-conveyance of the mortgage of 22 June 1869 to the English mortgagees, Thomas Bowyer Bower, esquire and Edmund Butler Edwards to the Russells provided a somewhat generic description of the property. It was described as:

*All that freehold Estate known by the Name of Ravensworth situate for most part in the County of Durham in the Province of New South Wales but partly in the Adjacent Counties and bounded in part by Hunters river and which said Estate comprises about fifty thousand acres of Arable Meadow and Pasture Land and has been acquired as to part thereof by an original grant from the Crown and which was purchased by the said William Russell from the Representatives of one Doctor Bowman and as to the other part thereof by Deeds of Conveyance from the Government to the said William Russell or to the said E Russell and William James Russell or his Executors and Trustees Together with the Capital Messuage or Mansion House thereon and all Farm Houses Barns stables Sheepfolds and other buildings upon the same or every or any part thereof.*¹⁸⁷

On 14 March 1881, Eliza Russell died. There was no death duty file.¹⁸⁸ In the wake of that event, the family appears to have decided to sell the estate.

Ravensworth was subdivided and advertised for auction on 22 March 1882. Lot 1 included 2,200 acres. Lot 2 was 1,400 acres. Lot 3 measured 900 acres and Lot 4 measured 2000 acres. All were separated from the main estate by the New England Highway and the Great Northern Railway (see Figure 2.19).

¹⁸¹ OSD, No 751 Bk 122

¹⁸² OSD, No 750 Bk 122

¹⁸³ *Maitland Mercury*, 14 Oct 1854, p 3

¹⁸⁴ CT v 72 f 241, v85 f140, 141 and 142 and v90 f135

¹⁸⁵ *Maitland Daily Mercury*, 4 Feb 1933, p 4

¹⁸⁶ Harold M Mackenzie, 'Cheshunt and Ravensworth', *Maitland Weekly Mercury*, 7 Sept 1895, p 10

¹⁸⁷ OSD, No 241 Bk 250

¹⁸⁸ NRS 13340, Stamp Duties Office, Deceased Estate File, Eliza Russell, Piccadilly, England, died 14/3/1881, duty paid 8/5/1882 (no duty paid file), SANSW

The main property was described as the Ravensworth estate proper, with the homestead and buildings, measuring about 40,000 acres freehold land, 14,534 acres of land held under Conditional Purchase plus another 40,000 acres of land held as a pre-emptive lease. The livestock was also offered including 5,000 cattle, which included 1,200 fat bullocks, 20,600 merino sheep and 141 horses. The main buildings were described as being stone. The property had 70 paddocks with 250 miles of fencing. The presence of coal was also noted.¹⁸⁹ (See Figure 2.25.)

PRELIMINARY NOTICE.

Ravensworth Estate.

HUNTER RIVER DISTRICT.

GRIFFITHS & WEAVER are instructed by the Executors of the late Captain Russell, to sell by auction, at the Exchange, Sydney, on **WEDNESDAY, March 22, 1882, at Twelve o'clock,**

The Most Magnificent Fattening and Grazing Property, **RAVENSWORTH**, situated on the Great Northern Railway Line, about 60 miles north of Newcastle, which will be disposed of as follows:—

- Lot 1. Ashton, about 2200 acres of freehold land
- Lot 2. Weller's Flat, about 1400 acres freehold land
- Lot 3. Pike's Gully, about 900 acres freehold land
- Lot 4. Baywater, about 2000 acres freehold land

These portions are divided from the main estate by the railway and the Great Northern Road.

Lot 5. The **Ravensworth Estate proper** with homestead and buildings, with about 40,000 acres freehold land ditto, 14,534 acres transferable C. P. land ditto, 40,000 acres pre-leased land.

With the above lots will be sold the **WHOLE OF THE STOCK**, viz.:—About 5000 Highly-bred Cattle, including about 1200 Fat and Fattening bullocks

Ditto 20,600 Choice Merino Sheep
Ditto 141 horses.

This property is thoroughly improved, has extensive **STONE BUILDINGS**, in all perfect order; is fenced and divided into some 70 paddocks by upwards of 250 miles of substantial fencing, is thoroughly and permanently watered by the Hunter River, Foybrook, Falbrook, and numerous creeks and dams.

The land is of the best fattening description, well suited for agriculture, and turns out the best class of fat stock for Sydney and Maitland markets.

The estate also possesses a great prospective advantage in its large deposits of coal and other minerals, which are visible in many places.

The whole estate is well secured, and offers a rare chance to a capitalist of acquiring one of the finest grazing properties in the noted valley of the Hunter.

Plans and full particulars can be obtained from the Auctioneers.

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The land holding the Ravensworth Estate proper did not sell.

On 1 May 1882, William James Russell agreed to sell Ravensworth to Duncan Forbes Mackay at 30/- per acre. Some parcels were held under Conditional Purchase regulations and had not yet been granted, but arrangements were made to transfer them as well. The sale price was £85,197/7/11.¹⁹⁰

Figure 2. 25: Sale advertisement for the Ravensworth Estate. Source: *Maitland Mercury*, 21 March 1882, p 8

¹⁸⁹ *Maitland Mercury*, 21 March 1882, p 8

¹⁹⁰ Recited in OSD, No 435 Bk 264

The Bayswater Estate

In 1886, the eastern part of Portion 1 parish Vane (advertised as Lot 4 Bayswater) and the south-eastern corner of Portion 150 of the parish of Liddell (advertised as Lot 3 Pike's Gully) were conveyed to the Farmers Freehold Land Company by the Russells and then to the Mutual Provident Land Investing and Building Company soon afterwards. This was the first major subdivision of the original "10,000" acres of Bowman's 1824 land grants.



Figure 2. 26: Detail from Certificate of Title vol 961 fol 37 showing the land sold by the Russells in 1882.

In 1890, the land was once again advertised for sale as the "Bayswater Estate" and was described as adjoining the Ravensworth railway station being comprised of "over 4000 acres of first-class land, which has been subdivided into 66 farms... and 215 township blocks.... a portion of the land has been reserved for coal-mining purposes."¹⁹¹

In 1899, the land was transferred to Edgar Raby Moore and Arthur Barrington Moore, brothers from Strathfield. At the same time, the Moore brothers also purchased adjoining land to the south, also owned by the Mutual Provident Land Investing and Building Society Ltd, forming a large estate of land stretching down to the Hunter River.¹⁹²

In 1904, Arthur transferred his share of the land to Edgar and this land remained in the hands of Edgar and his descendants until 1947 when the majority of the land was transferred to Leslie Cowley and his wife Daisy, dairy farmers.¹⁹³ The Cowley's however, only had rights over the surface of the land; rights over "all coal, shale, metals and minerals in and under the land... with full power and authority

¹⁹¹ "Local and General", *Newcastle Morning Herald and Miners' Advocate*, Saturday 15th March 1890, p.5

¹⁹² CT 4591 f 93

¹⁹³ CT 4591 f 93

to work, mine, get and carry away the same” remained in the ownership of Edgar Raby Moore and his descendants. (Edgar Moore’s descendants include Geoff Marshall, a later owner of Ravensworth, whose mother Enid was Edgar’s daughter.) In 1969, the land was transferred to the Electricity Commission and in 1972 open cut mining commenced at the Ravensworth No. 2 mine.¹⁹⁴

2.5.2. Enlarging the Russell Property

Like James Bowman, the Russell family acquired the freehold of numerous parcels of land around Ravensworth, either by purchase at auction when the land was offered for sale or as Conditional Purchases.

Conditional Purchase of Lands

The *Crown Lands Alienation Act*, 1861 (25 Vic No 1) gave individuals the right to apply for a Conditional Purchase (CP) of 40 to 320 acres of land (later increased to 640 acres) that had previously not been alienated and was not reserved. Large pastoralists such as William Russell were threatened with the incremental or wholesale loss of lands they leased from the Crown. Most of them defended the land they leased, sometimes by requesting land be surveyed and offered at auction. Often, they also used the right of Conditional Purchase themselves or using members of their family. Once the rights to Conditional Purchase and for Additional Conditional Purchases for these individuals had been exhausted, many pastoralists used dummy selectors. Dummies would take land in their own name and after meeting the minimum requirements regarding residence and improvements transferred the right to the CP to the large landholder.

The large number of portions across a number of parishes that formed the Ravensworth run that were eventually alienated to William Russell, and the members of his family after his death as well as later holders of Ravensworth, testifies to the proactive use of this strategy by the owners of Ravensworth to protect their land holdings. Often runholders used their own employees as dummies when acquiring Conditional Purchases, once they had run out of suitable family members.

Immediately north of the core area of Ravensworth, the executors of the late William Russell applied for a survey ready for auction. In May 1869, Licensed Surveyor John Neill surveyed five portions of land north of Portion 149 in response to that application. No buildings were shown on the plan. His notes stated that the portions were only suitable for grazing lacking permanent water.¹⁹⁵ At the auction the Russell family only purchased one portion of 165 acres that later became Portion 165 Parish Liddell.¹⁹⁶ Other portions were acquired by other landholders, some as Conditional Purchases, including the following examples:

On 9 November 1865, Patrick Kelly applied for a Conditional Purchase of 40 acres for land in the Parish of Herschell at the Patricks Plains Lands Office (later Singleton). When Licensed Surveyor John Neill surveyed the land on 12 April 1866, Kelly had already erected the obligatory hut, completed some fencing and cleared some land which he was cultivating. On 14 April 1870, Kelly of ‘Camberwell’ transferred the Conditional Purchase to Eliza and William Russell. They later mortgaged it along with all the other Ravensworth land to Baker Creed Russell of England. He later transferred it along with numerous other parts of Ravensworth to Duncan Forbes Mackay, who completed the purchase and received a grant of that land as Portion X [10], parish of Herschell.¹⁹⁷

¹⁹⁴ Umwelt, 2010; *Ravensworth Operations Project Historical Heritage Assessment*, p. 3.15

¹⁹⁵ D.810.557, Crown Plan

¹⁹⁶ C T 104 f 205

¹⁹⁷ CS86/26869, NRS 8103, Conditional Sales Branch, Correspondence, SANSW 10/17377

On 1 July 1869, Matthew Hourigan of Bowmans Creek (originally Foy Brook), Camberwell selected 64 acres and 33 perches in the parish of Liddell. When Licensed Surveyor John Neill inspected the land on 11 December 1869, Hourigan was living on the land in a hut and had completed ringbarking to the value of £15. He transferred the land to William and Eliza Russell on 15 July 1872. It was finally granted to Duncan Forbes Mackay as Portion XXII [22], parish of Liddell.¹⁹⁸ Hourigan appears to have been quite co-operative. In September 1879, he transferred three selections, one measuring 100 acres and two measuring 50 acres to William and Eliza Russell.¹⁹⁹

Similar examples could be multiplied extensively to demonstrate how the Russell family, Duncan Forbes Mackay and his family used Conditional Purchases to secure the freehold of large numbers of portions throughout the County.

The Russell family also took advantage of Volunteer Land Orders (VLOs) to acquire freehold portions.

Volunteer Land Orders

Volunteers in the colonial volunteer military forces who had served for five years under the *Volunteer Force Regulation Act* of 1867 (31 Vic No 5) were entitled to a free grant of 50 acres of land. They almost always sold these Orders to squatters wanting to acquire land by avoiding existing controls on land selection. The Act was amended by Act 41 Vic No 15, which abolished these grants to volunteers in 1878.

On 11 November 1878, William and Eliza Russell applied to purchase two 50-acre portions in the Parish of Herschell. Joseph Stanton and Josiah Stanton of the Penrith Volunteer Rifles had sold their VLOs to James Davys (the Russell's overseer at Ravensworth) on 7 June 1878. He transferred the VLOs to William and Eliza Russell on 11 November 1878, the same day they applied for the grants. These portions became Portions 236 and 238 Parish of Herschell.²⁰⁰

The parish map of the Parish of Liddell testifies to a proactive policy of acquiring numerous parcels of land as freehold land. It was a policy initiated by Bowman, continued by William Russell and later his family and even further by their successors in title, Duncan Forbes Mackay and F.C.L Measures, all of whose names appear as grantees of portions on the Liddell Parish map.

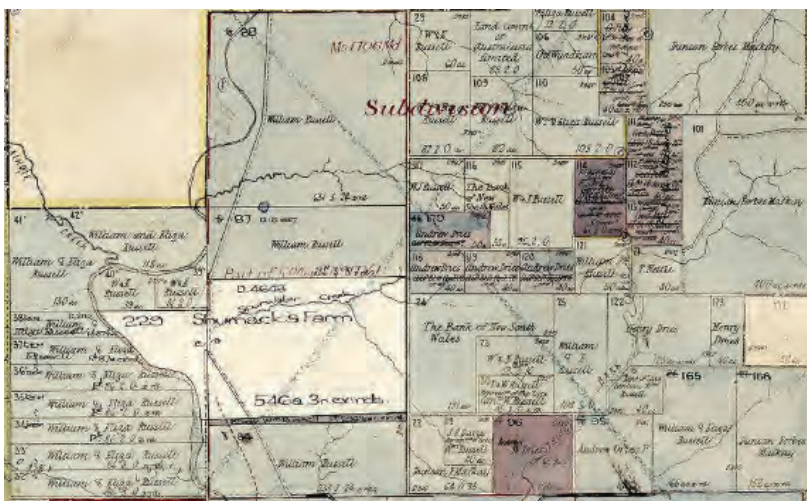


Figure 2. 27: Detail from c1906 parish map of the Parish of Liddell showing the various portions with grantees name as William and Eliza Russell and Duncan Forbes Mackay. Source: New South Wales Land Registry Services, Historical Land Records Viewer

¹⁹⁸ CS86/26875, NRS 8103, Conditional Sales Branch, Correspondence, SANSW 10/17377

¹⁹⁹ *Singleton Argus*, 3 Sept 1879, Supp., p 1

²⁰⁰ Aln80/2530, NRS 8022, Lands, Alienation Branch, Correspondence, SANSW 10/35154

On 3 April 1877, the Crown auctioned a large number of portions in the parishes of Liddell and Goorangoola on the "Ravensworth run". Most measured between 40 and 150 acres.²⁰¹

William and Eliza Russell purchased most of the portions in the parish of Liddell. The Land Corporation of Australasia Ltd purchased one portion, and F.J.L Measures who eventually purchased Ravensworth in 1911 also bought a number of others. William and Eliza Russell purchased a number of the portions in the parish of Goorangoola, but Duncan Forbes Mackay and William Hooke Mackay acquired others, probably as Conditional Purchases.²⁰²

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SALE AT THE POLICE OFFICE, SINGLETON,

On Tuesday, the 3rd day of April, 1877.

COUNTRY LOTS.

Lot.	No. of Portion.	Area.	Price per Acre.	County.	Parish.	Situation.	Remarks.
		a. r. p.	£ s. d.				
A	102	73 2 0	1 0 0	Durham	Liddell	Adjacent and near the southern boundary of Jas Bowman's 1,000 acres, and extending southerly nearly 1½ mile, and adjacent to the eastern boundary of W. Russell's 631 acres 3 roods 24 perches and 236 acres 3 roods 8 perches, and extending about 87 chains easterly, Ravensworth Run. 76-23,572; D. 983-2,083.	Exclusively of a road 1 chain wide.
B	107	88 2 0	1 0 0	do	do		
C	103	87 2 0	1 0 0	do	do		
D	109	82 0 0	1 0 0	do	do		
E	110	113 2 0	1 0 0	do	do		
F	114	67 2 0	1 0 0	do	do	Adjoining the southern boundaries of E Noble's conditional purchases Nos. 165 and 167, and R. Cooper's portions 94 and 95 and extending southerly 1½ mile, and adjoining and adjacent to the eastern boundary of G. Alcorn's conditional purchase No. 173, of 340 acres, and E. Noble's conditional purchase No. 174, and extending easterly thence 106 chains, Ravensworth Run. 76-23,573; D. 936-2,083.	Exclusively of two roads each 1 chain wide. Exclusively of a road 1 chain wide.
G	115	96 2 0	1 0 0	do	do		
H	116	103 0 0	1 0 0	do	do		
I	175	141 0 0	1 0 0	do	Goorangoola		
J	176	149 0 0	1 0 0	do	do		
K	177	156 0 0	1 0 0	do	do	Adjacent to the southern boundary of portions 173 and 178 to 181, and extending southerly 2½ miles, and at and near the eastern boundary of J. Bowman's 2,580 acres, and extending at intervals about 2½ miles easterly to portion 214, of 100 acres. Ravensworth Run. 76-26,607; 26,608; and 26,606; D. 937 to 939-2,083.	do do
L	178	133 0 0	1 0 0	do	do		
M	179	134 3 0	1 0 0	do	do		
N	180	104 2 0	1 0 0	do	do		
O	181	103 1 0	1 0 0	do	do		
P	182	52 0 0	1 0 0	do	do	Adjacent to the southern boundary of portions 173 and 178 to 181, and extending southerly 2½ miles, and at and near the eastern boundary of J. Bowman's 2,580 acres, and extending at intervals about 2½ miles easterly to portion 214, of 100 acres. Ravensworth Run. 76-26,607; 26,608; and 26,606; D. 937 to 939-2,083.	do do
Q	185	48 0 0	1 0 0	do	do		
R	186	60 0 0	1 0 0	do	do		
S	189	46 3 0	1 0 0	do	do		
T	190	68 0 0	1 0 0	do	do		
U	191	74 0 0	1 0 0	do	do	Adjacent to the southern boundary of portions 173 and 178 to 181, and extending southerly 2½ miles, and at and near the eastern boundary of J. Bowman's 2,580 acres, and extending at intervals about 2½ miles easterly to portion 214, of 100 acres. Ravensworth Run. 76-26,607; 26,608; and 26,606; D. 937 to 939-2,083.	do do
V	192	83 2 0	1 0 0	do	do		
W	193	46 0 0	1 0 0	do	do		
X	194	45 0 0	1 0 0	do	do		
Y	195	48 2 0	1 0 0	do	do		
Z	196	51 2 0	1 0 0	do	do	Adjacent to the southern boundary of portions 173 and 178 to 181, and extending southerly 2½ miles, and at and near the eastern boundary of J. Bowman's 2,580 acres, and extending at intervals about 2½ miles easterly to portion 214, of 100 acres. Ravensworth Run. 76-26,607; 26,608; and 26,606; D. 937 to 939-2,083.	do do
AA	197	66 0 0	1 0 0	do	do		
BB	198	71 2 0	1 0 0	do	do		
CC	199	60 0 0	1 0 0	do	do		
DD	200	57 1 0	1 0 0	do	do		
EE	201	51 3 0	1 0 0	do	do	Adjacent to the southern boundary of portions 173 and 178 to 181, and extending southerly 2½ miles, and at and near the eastern boundary of J. Bowman's 2,580 acres, and extending at intervals about 2½ miles easterly to portion 214, of 100 acres. Ravensworth Run. 76-26,607; 26,608; and 26,606; D. 937 to 939-2,083.	do do
FF	203	44 2 0	1 0 0	do	do		
GG	204	48 0 0	1 0 0	do	do		
HH	205	52 2 0	1 0 0	do	do		
II	206	90 0 0	1 0 0	do	do		
JJ	207	59 2 0	1 0 0	do	do	Adjacent to the southern boundary of portions 173 and 178 to 181, and extending southerly 2½ miles, and at and near the eastern boundary of J. Bowman's 2,580 acres, and extending at intervals about 2½ miles easterly to portion 214, of 100 acres. Ravensworth Run. 76-26,607; 26,608; and 26,606; D. 937 to 939-2,083.	do do
KK	208	71 0 0	1 0 0	do	do		
LL	209	43 1 0	1 0 0	do	do		
MM	210	44 2 0	1 0 0	do	do		
NN	211	47 1 0	1 0 0	do	do		
OO	212	40 1 0	1 0 0	do	do	Adjacent to the southern boundary of portions 173 and 178 to 181, and extending southerly 2½ miles, and at and near the eastern boundary of J. Bowman's 2,580 acres, and extending at intervals about 2½ miles easterly to portion 214, of 100 acres. Ravensworth Run. 76-26,607; 26,608; and 26,606; D. 937 to 939-2,083.	do do
PP	213	85 3 0	1 0 0	do	do		
QQ	214	66 0 0	1 0 0	do	do		
RR	217	106 1 0	1 0 0	do	do		
SS	218	101 0 0	1 0 0	do	do		

Figure 2. 28: The Crown land sale notice offering numerous portions on the Ravensworth estate for auction sale. Source: NSWGG, 27 Feb 1877, p 891

²⁰¹ NSWGG, 27 Feb 1877, p 891

²⁰² Parish maps, Parish Liddell and Goorangoola, LTO charting maps, LRS HLRV

2.5.3. Duncan Forbes Mackay

The Russell family sold Ravensworth in 1883. By a deed of Conveyance dated 9 February 1883, William James Russell, originally of Ravensworth but now of Sydney, esquire and Sir Baker Creed Russell, KCMGCB, Muttra, India, colonel in HM Regiment 13th Hussars sold the central part of Ravensworth to Duncan Forbes Mackay (1834-1887), of Dulcalmah, grazier for £35,603/2/6. Numerous parcels were involved in the transaction including the balance of 5,000 acres less the land cut off by the railway; part of 2,560 acres granted 21 March 1839 and 3,440 acres.²⁰³



Figure 2. 29: Advertisement for the private sale of the Ravensworth estate that Mackay purchased Source: *Australian Town and Country Journal*, Saturday 25th March 1882, p. 5

A number of other deeds conveyed the title for other parts of the estate. For example, a conveyance, with the same parties sold other parts for £2,880. These included 640 acres at the head of St Heliers Brook granted on 13 January 1838; another 640 acres ditto, granted on 13 January 1838 and another 640 acres ditto, granted on 13 January 1838.²⁰⁴ Simultaneously, transfers of other portions held under the *Real Property Act* 1862 were also registered.²⁰⁵

On 10 February 1883, the day after the transfers and conveyances, a mortgage from Duncan Forbes Mackay, Dulcalmah, grazier to William James Russell, originally of Ravensworth now of Sydney, esquire and Sir Baker Creed Russell, KCMGCB, Muttra, India, colonel in HM Regiment 13th Hussars covering the livestock, freehold land and Conditionally Purchased land of Ravensworth was signed for £65,898/0/11.²⁰⁶ That loan was paid off and the title reconveyed on 11 August 1886.²⁰⁷ There were a number of other mortgages and discharges over the following decades. There is no reason to list them since the property remained in the hands of Duncan Forbes Mackay and his successors in title until it was sold.

Duncan Forbes Mackay senior had been born in Sunderlandshire, Scotland in 1792. He went to Prince Edward Island with his parents in 1806 and was in Australia by 1826. George Mackay, his nephew, was born at Prince Edward Island in 1821 and later took over the Melbee property at Dungog.²⁰⁸ Duncan Forbes Mackay did not marry and had no children. In the 1830s, he had encouraged his brother John Mackay to come to Australia.²⁰⁹

²⁰³ OSD, No 434 Bk 264

²⁰⁴ OSD, No 435 Bk 264

²⁰⁵ See, for example, CT v 104 f 205

²⁰⁶ OSD, No 479 Bk 264

²⁰⁷ OSD, No 250 Bk 348

²⁰⁸ *Australian Men of Mark*, Vol 2, pp 161-3

²⁰⁹ Hunter, Ravensworth, p 12

John Kenneth Mackay, his wife Sybella and seven children, came to Melbee about 1839. Duncan Forbes Mackay Jnr (nephew to Duncan Forbes Mackay Snr) was the sixth child and fourth son of John and Sybella Mackay. By 1850, Duncan Forbes Mackay Snr had made over his estate to his brother's family.

During the Mackays' period of ownership, the Ravensworth property concentrated on merino wool production, cattle and general farming, dairying, maize, as well as maintaining its orchards. Mackay ringbarked much of the property to increase its grazing capacity.²¹⁰ The Stock Return of 31 December 1884 showed Ravensworth held by D.F. Mackay jnr., had an area of 47,032 acres, with 310 horses, 2,567 cattle, 22,000 sheep and 100 pigs.²¹¹

In 1884, Mackay engaged architect J. W. Pender to design and construct a new shearing shed, built by William Taylor and Sons. This shed was located to the south of the Ravensworth homestead complex (Site 2) and was demolished in the early 20th and the timber reused.²¹²

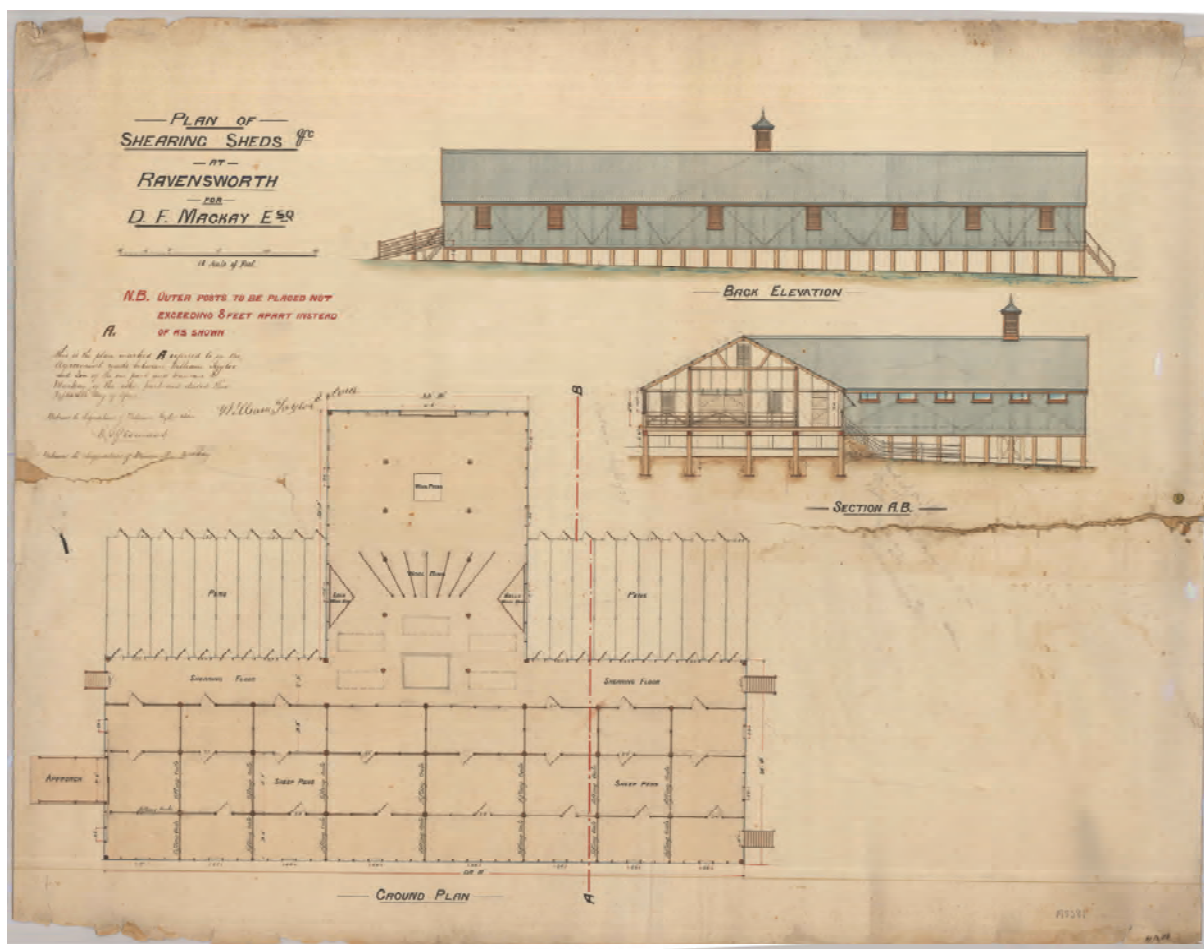


Figure 2. 30: Architectural plans by J.W. Pender of the shearing shed for D.F. Mackay at Ravensworth, dated 17th March 1884. Source: University of Newcastle, Living Histories, M5381

²¹⁰ *Sydney Mail*, 15 Feb 1902

²¹¹ 'Dept of Mines (Stock and Brands Branch), Report 31 Dec 1884', V & PLANSW, 1885 (2), Vol. III, p 359

²¹² *Pers comm.* G & J Marshall, February 2019

Duncan Forbes Mackay junior died at Minimbah aged 53 on 16 June 1887.²¹³ He was buried in the Presbyterian cemetery, Glenridding, Singleton.²¹⁴ A valuation of Duncan Forbes Mackay jnr.'s real estate dated 19 July 1887 by auctioneer O.K. Young, West Maitland noted that Ravensworth with improvements measured 62,651 acres and was worth £100,000. [cf 1884 Stock Return] His livestock were mustered and counted by Mr Hill, manager and valued by Mr Sparke. All were at Ravensworth. The stock on Ravensworth included 30,742 sheep, 3,528 cattle, 544 horses and 69 pigs. Amongst his debts were wages due to Ravensworth staff who were listed as R.A. Hill (see below), Sinderberry, Harrison, Dennis, Bates, George, Lister, Bradford, Black and Franks.²¹⁵

Other Properties Held by Duncan Forbes Mackay

On 11 January 1875, Duncan Forbes Mackay jnr. purchased a number of portions in the parishes of Whittingham and Ovingham, County Northumberland.²¹⁶ This became his Dulcalmah estate (later renamed Minimbah). The Gundabri Estate measuring 7,197 acres and was known as the 'Hall Estate' in the parishes of Hall and Wickham, County Brisbane were offered at auction in 1883 by auctioneers Brunker and Wolfe.²¹⁷ D F Mackay purchased it for £8,515/2/6.²¹⁸ When Duncan Forbes Mackay jnr. died in June 1887, his properties were described as:

Ravensworth Estate, 62,651 acres with improvements £100,000

Dulcalmah estate 9,343 acres with improvements £28,000

Gundabri Estate 8,654 acres with improvements £10,000

Denman property 1,000 acres with improvements £4,000

Lochinvar property 13 acres 1 rood 30 perches with improvements £200

Total £142,200²¹⁹

2.5.4. The Land Company of Australasia

In 1889, the Land Company of Australasia acquired an option to purchase Segenhoe estate of 24,000 acres in order to establish an irrigation scheme and subdivision. Segenhoe had been purchased by James Bowman in c1838 and was held together with the Ravensworth property, passing to Mackay when he purchased the estate lands (by this time the Waverley Estate was owned by the White family, the descendants of James White, former overseer of Ravensworth). The company negotiated with Mackay to purchase Ravensworth as part of that scheme.²²⁰

The Land Company of Australasia had been formed in 1885 to subdivide large estates and to settle British farmers in NSW. Its offices were located in Pitt and Bridge Street, Sydney.²²¹ The company claimed to have purchased 63,000 acres of the Ravensworth estate and parts of Ravensworth had been sold by the Company according to a press report.²²²

²¹³ *ATCJ*, 25 June 1887, p 1315

²¹⁴ *SMH*, 17 June 1887, p 12

²¹⁵ NRS 13340, Stamp Duties Office, Deceased Estate File, Duncan Forbes Mackay, duty paid 7/11/1887, SANSW 21/4

²¹⁶ For example, CT 192 f 108; CT 195 f 26

²¹⁷ *Maitland Mercury*, 18 Aug 1883, p 8

²¹⁸ *SMH*, 27 Sept 1883, p 6

²¹⁹ NRS 13340, Stamp Duties Office, Deceased Estate File, Duncan Forbes Mackay, duty paid 7/11/1887, SANSW 21/4

²²⁰ Hunter, Ravensworth, p 13-14

²²¹ *Illustrated Sydney News*, 5 Sept 1889, p 19

²²² *Illustrated Sydney News*, 5 Sept 1889, p 7

The Company later failed but Segenhoe was subdivided and sold. Ravensworth was also subdivided for sale but no final sales occurred. In 1888, possibly as part of the process of arranging the sale of the land, a portion survey plan was prepared in the Lands Head Office for Portion 69 Parish Vane.²²³

On 24 November 1888, Bruncker and Wolfe auctioned lots for the Land Company of Australasia. This was mainly a subdivision of the original Portion 89 of the parish of Liddell (located to the west of the core Ravensworth estate) and some surrounding land. A notation on a copy of the sale contract showed that the plan was registered at the LTO as 1550 (L).²²⁴ No transfers or conveyances of this land were registered at the Titles Office.

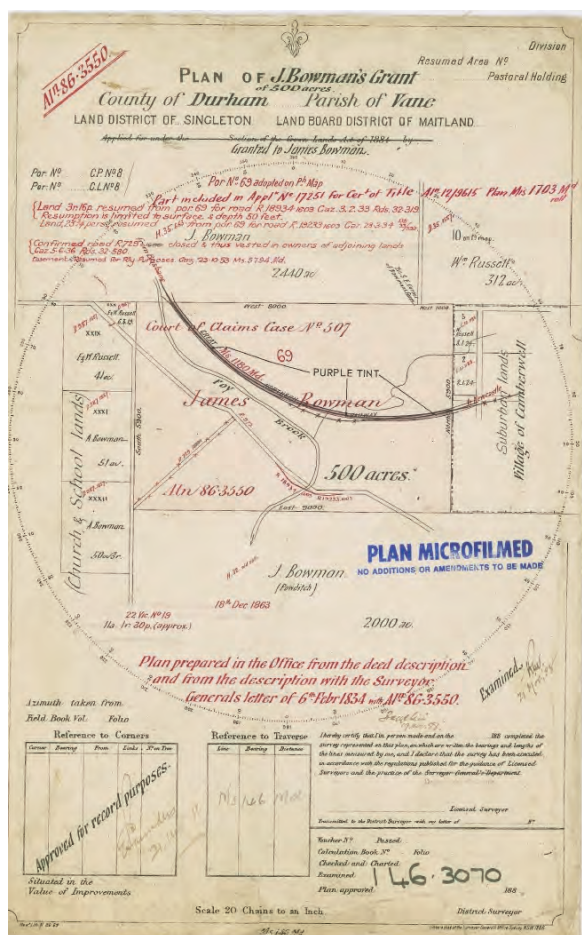


Figure 2. 31: Survey of Portion 69, Parish Vane.
Source: Ms.146.3070, Crown Plan



Figure 2. 32: Sales brochure for the Land Company subdivision of November 1888 by auctioneers Bruncker & Wolfe. Source NLA Map Folder 160 LFSP 2558

The fourth balance sheet of the Land Company of Australasia in August 1889 reported it was selling the Ravensworth estate of 3,632 acres less the mineral rights.²²⁵

An article on large estates in the Hunter valley published on 1 November 1890 described Ravensworth as having 65,000 acres. It claimed that Ravensworth was then owned by the Land Company of Australasia and it carried 40,000 sheep, 3,213 cattle and 354 horses. The manager was still R.A. Hill

²²³ Ms.146.3070, Crown Plan

²²⁴ County Durham, Subdivision Plans, ML, ZCP/D6/8, 9 & 9a

²²⁵ Australian Star, 5 Aug 1889, p 8

and that when Bowman held the property, it had “the best stocked garden of the north. The most choice fruits and flowers were grown there.”²²⁶

The Land Company of Australasia held a subdivision sale of the Ravensworth Estate on 31 March 1892. It was mainly the land on the northern part of the property.²²⁷ Since the estate was being purchased under an option and the company did not hold the title, this land was never registered in the name of the company. The sale advertisement provided some details of the land (see Figure 2.33 below). Portions in the following parishes were included – St Aubins, Tudor, Balmoral, Foy, Herschell and Russell.²²⁸

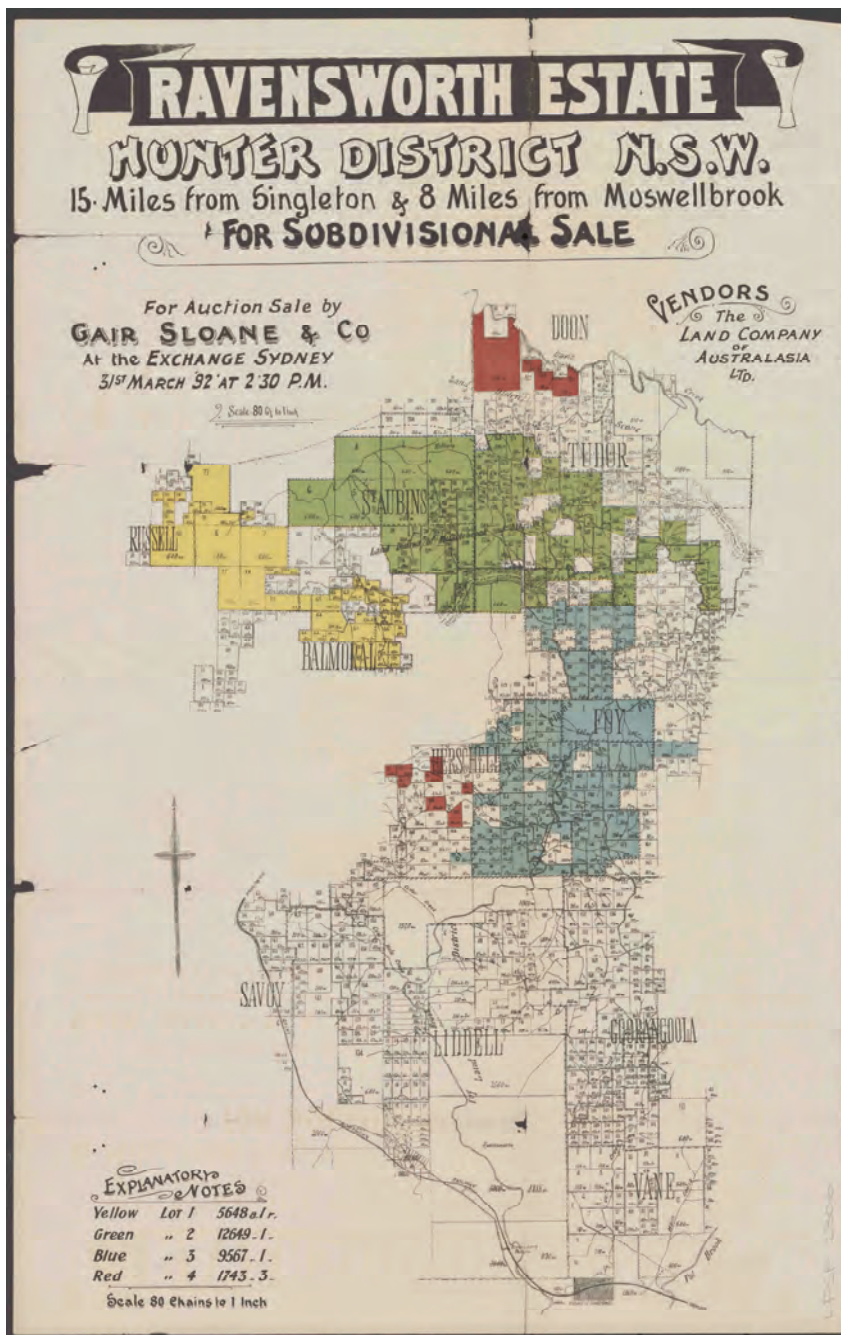


Figure 2. 33: The 1892 subdivision by the Land Company of Australasia was of the northern parts of the property. Source: NLA Map Folder 144 LFSP 2306

²²⁶ *Sydney Mail*, 1 Nov 1890, p 963

²²⁷ NLA Map Folder 144 LFSP 2306

²²⁸ *Sydney Mail*, 20 Feb 1892, p 411

IMPORTANT SUBDIVISIONAL SALE.

27,301 acres 3 roods of **FREEHOLD LAND**, being portion of the

Ravensworth Estate.

RAVENSWORTH ESTATE is situated on the Northern Railway, 15 miles from Singleton, 8 miles from Muswellbrook, and 2½ hours from Newcastle by rail.

GAIR, SLOANE, and CO. have received instructions from the Land Company of Australasia, Limited, to sell by auction at the Exchange, Sydney, on

THURSDAY, MARCH 24,

at 2.30 p.m.,
WITHOUT STOCK,
29,061 acres 2 roods
of the Famous **RAVENSWORTH ESTATE**,
comprising
some of the finest land for Grazing, Studbreeding, and
Dairying purposes in this famous district.

The soil is of a reddish and dark loam, much of it adapted for the growth of lucerne, cereals, and root crops, and is particularly well suited for orchard and vine-growing purposes. All kinds of fruits flourish here, even in the driest seasons, without irrigation, yielding profitable returns.

The country is chiefly undulating, running into hills, with long open slopes of lightly-timbered land.

The whole area is sound sheep-breeding, heavy stock-carrying, and fattening country, grazing over one sheep to each acre, in addition to a large number of cattle and horses. The flock ranks amongst the leading flocks of this celebrated wool-growing district, and will be found upon inspection to combine symmetry of frame and robustness of constitution, clipping heavy fleeces of great value.

The improvements are most complete, erected regardless of expense. The fencing is specially good, a large quantity being of split posts and 2 and 3 rails with wires, balance being of top rail and 5 wires, and some 6 and 7 wires without top rail, all of which is in a perfect state of repair.

The Estate is thoroughly and permanently watered in all parts by running creeks, and from its altitude and position has never suffered during the late droughts or disastrous floods.

The whole area has been judiciously ringbarked (free from suckers and undergrowth). Sufficient timber has been saved for shade and shelter for the stock, also a large number of pickled trees for fencing and building purposes.

The property is perfectly free from rabbits, marsupials, and vermin.

PORTION 1.—5674 acres. All rich, fattening country of volcanic and limestone formation. Fenced and divided into two paddocks; permanently watered by running creeks in every paddock. Cottage and horse paddock.

PORTION 2.—12,160 acres. Fenced into 10 paddocks. Permanently watered in all parts by running creeks. Improvements consist of a 4-roomed Cottage (iron roof), kitchen, and dining-room for men, newly-built 2-roomed Cottage, iron roof; horse paddock and garden.

PORTION 3.—9480 acres 3 roods. Fenced and divided into 5 paddocks.

PORTION 4.—1730 acres 3 roods (detached lots) will be offered in lots of 40 acres and upwards to suit purchasers.

TERMS:—One-quarter Cash; one-quarter at 12 months with 6 per cent. interest; balance in four years from day of sale, 6 per cent. interest.

TITLE WILL BE TORRENS.

INSPECTION INVITED.

Buyers will be punctually met on the arrival of the train at Ravensworth, and shown over the property.

Lithographed Plans and full particulars can be obtained from the agents.

GAIR, SLOANE, and CO.,
89 Pitt-street,
Sydney.

Figure 2. 34: The sale advertisement of March 1892.
Source: *Sydney Mail*, 20 Feb 1892, p 411

Auctions.

GAIR, SLOANE, and CO. have received instructions from the Trustees in the Estate of the late D. F. Mackay, Esq., to sell by auction, at the Chamber of Commerce Exchange, Sydney,

TUESDAY, 5th JUNE, 1894,
at half-past 2 o'clock,
the following

Pastoral Estates and Station Properties

FOR ABSOLUTE SALE:

RAVENSWORTH ESTATE,

HUNTER DISTRICT, NEW SOUTH WALES,

Having a frontage of 13 miles to the Great Northern Railway Line, 8 miles from Muswellbrook, 15 miles from Singleton, and 8 miles from the Aberdeen Meat Freezing and Export Works, 2½ hours from the shipping port of Newcastle, and 3 hours from Sydney by rail.

FOR SALE WITHOUT STOCK,
Containing
62,651 ACRES FREEHOLD LAND.
TITLE GUARANTEED.

Comprising some of the finest land for grazing either Sheep or Cattle, Laying, Farming, or Fruitgrowing in this District.

The Country is chiefly undulating, running into hills, with long open slopes of lightly timbered land and extensive flats.

The soil is of a reddish dark loam, and much of it is adapted for the growth of cereals, and root crops, and lucerne. It is particularly well suited for orchards and vine-growing purposes. All kinds of fruit flourish here, even in the driest seasons, without irrigation.

The whole area has been judiciously ringbarked, free from suckers and undergrowth. Sufficient timber has been saved for shade and shelter for the stock, also a large number of pickled trees for fencing and building purposes. The property is perfectly free from rabbits, marsupials, vermin, prickly pear, and burrs.

The improvements are most complete, erected regardless of expense.

Complete Homestead, Comfortable Family Residence, Kitchen, and all necessary out buildings, erected of stone, large Stable and Barn, Coach House, Men's Quarters, Overseer's Cottage, etc.

Also Out Home Station, Overseer's Cottage, Kitchen, Garden, Horse Paddock.

Fenced and divided into 63 sheep and cattle paddocks—sheep-proof. Fencing is specially good, large quantity being of split posts, 2 and 3 rails, with wire, balance being top rails and 5 wires, and some 6 and 7 wires, without top rail. All in splendid state of repair.

The Estate is thoroughly and permanently watered in all parts and in every paddock by running creeks, yielding a never-failing supply in the driest seasons.

From its altitude and position this Estate never suffered during the late droughts or disastrous floods.

(The above property will be sold at the risk of the Land Co. of Australasia, Ltd.)

TERMS: £25,000 Cash, balance 3 and 5 years at 5½ per cent.

Figure 2. 35: Notice for the unsuccessful attempt to sell Ravensworth. Source: *ATCJ*, 19 May 1894, p 3

In 1894, an auction of Ravensworth Estate in the estate of D.F. Mackay was advertised for 5 June of that year (see Figure 2.35 above). The property had been ringbarked. It included a complete homestead, making a comfortable family residence with kitchen and outbuildings built of stone. A large stable and barn, coach house, men's quarters and overseer's cottage were also at the home station. The outstation included an overseer's cottage, kitchen, garden and horse paddock. The whole property was subdivided into 63 paddocks suitable for cattle or sheep. The property would be sold at the risk of the Land Company of Australasia.²²⁹

The property did not sell and in c1895, William Mackay, a nephew of Duncan Forbes Mackay junior took a lease over Ravensworth with Robert A. Hill remaining as manager.²³⁰

In 1895, the *Maitland Weekly Mercury* reported the property was well suited for sheep with small enclosures in the home station. A fine woolshed with stands for 20 shearers was included. The bulk of the livestock were Merino sheep obtained from Dr Traill, Collaroy, Liverpool Plains and J.B. Bettington, Brindley Park. The Land Company of Australasia had later crossed them with Lincoln sheep to create stronger meat producers but there was high mortality due to worms. At this time 25,000 sheep and 2,000 cattle were on the property. William Mackay was then introducing Devon cattle to the station. Ravensworth was timbered with gum, ironbark and apple.²³¹

The homestead was described as a well-built cottage with slate roof. Stables had been erected by Duncan Forbes Mackay. The Land Company had promoted orchards, some of which were still in good condition. An excellent seam of coal had been discovered. It also noted that James Bowman had built a large wheat silo "to the left of the house on the hill". It was currently abandoned and the writer was of the opinion that it would be a useful water tank. The quality of workmanship in the silo was excellent.²³²

Another auction sale of Ravensworth estate was held on 14 November 1899. The property description was very similar to the 1894 advertisement.²³³ Yet another auction sale of Ravensworth estate was held on 12 March 1902 also with a description very similar to 1894 advertisement.²³⁴

Hunter noted that before 1900, the stone buildings had deteriorated, although this seems doubtful given that the property was in use by the Russells and the Hill family throughout the latter half of the 19th century. Hunter also notes that the rear wing of the house was dismantled, allowing the stone to be used elsewhere on the site.²³⁵ This is partially supported by the archaeology of a substantial northern wing and the large quantities of stone blocks and rubble located across the complex, although photographic evidence (see below) suggests that this structure was not demolished until the 1920s.

By 1900, the original tree cover had been so depleted that contractors renovating the Ravensworth School building had to search for 40 miles before they could find she-oaks (casuarinas) suitable to split 5,000 roofing shingles for the school roof.²³⁶

On 15 February 1902, the *Sydney Mail* published an article on Ravensworth. It claimed the property was the oldest in the Hunter.²³⁷ The walls of the house were of stone 3 feet thick with windows built

²²⁹ *ATCJ*, 19 May 1894, p 3

²³⁰ Harold M Mackenzie, 'Cheshunt and Ravensworth', *Maitland Weekly Mercury*, 7 Sept 1895, p 10

²³¹ Harold M Mackenzie, 'Cheshunt and Ravensworth', *Maitland Weekly Mercury*, 7 Sept 1895, p 10

²³² Harold M Mackenzie, 'Cheshunt and Ravensworth', *Maitland Weekly Mercury*, 7 Sept 1895, p 10

²³³ *Maitland Weekly Mercury*, 28 Oct 1899, p 8

²³⁴ *Maitland Weekly Mercury*, 1 March 1902, p 8

²³⁵ Hunter, Ravensworth, p 28

²³⁶ 1900/17762, NRS 3829, School file, Ravensworth, Part A SANSW 5/17442.1

to use as firing ports for rifles to defend the house (no physical evidence exists). It also noted that the grave of Miss White was close to the farm house. D F Mackay had carried out much ringbarking, built dams and 10 miles of fencing plus a large woolshed.²³⁸ Photographs published with the article included the house, the house dam and views across the landscape. The “Miss White” buried near the homestead (an unmarked grave is located adjacent to the homestead complex) may possibly be Jane White listed as James White’s 2 year-old daughter in the 1828 Census.



Figure 2. 36: Ravensworth House in 1902 as seen from the south with kitchen wing on the right. Source: *Sydney Mail*, 15 Feb 1902, pp 416-7 (original negative provided by Fairfax Newspapers)



Figure 2. 37: View towards Singleton from the Ravensworth Estate in 1902 showing the landscape following clearing. Source: *Sydney Mail*, 15 Feb 1902, pp 416-7

On 30 July 1902, John Kenneth Mackay, of Cangon, Dungog, grazier together with Edward Sparke, Maitland, auctioneer, and Henry Trenchard, originally West Maitland, now Sydney, stock and station agent, as trustees of the will of Duncan Forbes Mackay (who died on 7 June 1887) devised all the land of Ravensworth to William Hooke Mackay, Anambah, grazier.²³⁹ The same day he mortgaged Ravensworth to the Scottish Widows Fund and Life Assurance Society for £55,000.²⁴⁰

According to Hunter, alterations were made to Ravensworth house under the supervision of architect W Pender of Maitland in Federation style in 1906 that included a timber and iron workmen’s barrack of three rooms with a verandah.²⁴¹ Other than the 1884 shearing shed, documentary evidence of Pender’s involvement at Ravensworth house has not been uncovered at this time. However, it is known that architect James Warren Scobie undertook work at property, advertising for tenders for

²³⁷ Ravensworth was established when the Hunter Valley was first opened to settlement with a great influx of new settlers occurring from 1822 to 1828. Other early estates in the Upper Hunter include Skellator (c1822), Gostwyck and Cory Vale (c1824), Glendon (1822) and Segenhoe (1823).

²³⁸ *Sydney Mail*, 15 Feb 1902, pp 416-7

²³⁹ OSD, No 459 Bk 718

²⁴⁰ OSD, No 461 Bk 718

²⁴¹ Hunter, Ravensworth, p 27

“renovations to Ravensworth House for W.H. Mackay” in 1905.²⁴² Scobie had articulated with Pender in the 1880s, although by 1905 he was running his own architectural firm with Newcastle architect Arthur Lee. (See also Section 3.9.8 for analysis of the physical development of the homestead complex.)

The mortgage to the Scottish Widows Fund was discharged on 31 August 1907.²⁴³ A mortgage the same day to the Australian Mutual Provident (AMP) Society for £40,000 replaced it.²⁴⁴ On 17 September 1909 by a deed of Settlement, William Hooke Mackay, junior, Anambah, grazier settled property on Adelaide Ann Mackay, his wife and William Hooke Mackay, junior, Anambah, esquire as trustee. The land measured 6,065 acres 2 roods (except roads, public school and railway reserves) but once these were included it became 6,203 acres in the Parishes of Liddell and Vane.²⁴⁵ The same day, it was leased by Adelaide Ann Mackay and William Hooke Mackay, junior, Anambah, esquire to William Hooke Mackay, junior, Anambah, grazier for £450 pa.²⁴⁶ The mortgage to the AMP society was discharged on 31 March 1911 when the property was sold to its new owner.²⁴⁷

Hebden Road

In December 1906, Robert Ascot Hill, manager of the Ravensworth estate took adjoining landowners Andrew Dries and Frederick Dries to court for trespassing across the estate. Andrew Dries, who had been an adjoining landowner since 1865, asserted that he had always had the right to cross the property, including when he was going to church.²⁴⁸

Subsequently, an agreement was reached between the parties. On 8 May 1907, William Hooke Mackay, Anambah, grazier granted a Right of Way to Andrew Dries, farmer and grazier of Ravensworth. Dries was the owner of Portions 17, 24, 118, 119 and 120, Parish Liddell. Dries had later brought an action in the Supreme Court for his right of way across Mackay’s land. The matter had now been settled. The right of way was shown on a plan with the deed (see Figure 2.38) and basically followed the route of the current Hebden Road.²⁴⁹

The road follows the alignment that was surveyed in 1832 by Robert Dixon (see Figure 2.7) and aspects of the 1830s homestead group’s planning, siting, layout and detailing strongly suggest this as the traditional direction of approach to the homestead complex.

Given that Bowman also held land to the north of the core estate lands (including Portion 173 of the Parish of Herschell), which Bowman had the right to occupy from 1824, Hebden Road may have been established earlier than 1832, providing a road link between Bowman’s various portions of land.

The name Hebden Road does not appear in local newspaper articles until 1920.²⁵⁰

²⁴² “Advertising” The Maitland Daily Mercury, Saturday 9th December 1905, p. 8

²⁴³ OSD, No 710 Bk 837

²⁴⁴ OSD, No 711 Bk 837

²⁴⁵ OSD, No 379 Bk 892

²⁴⁶ OSD, No 381 Bk 892

²⁴⁷ OSD, No 929 Bk 932

²⁴⁸ *Singleton Argus*, 20 Dec 1906, p 4

²⁴⁹ OSD, No 133 Bk 828

²⁵⁰ “District News: Ravensworth”, *Singleton Argus*, Thursday 1st April 1920, p. 4

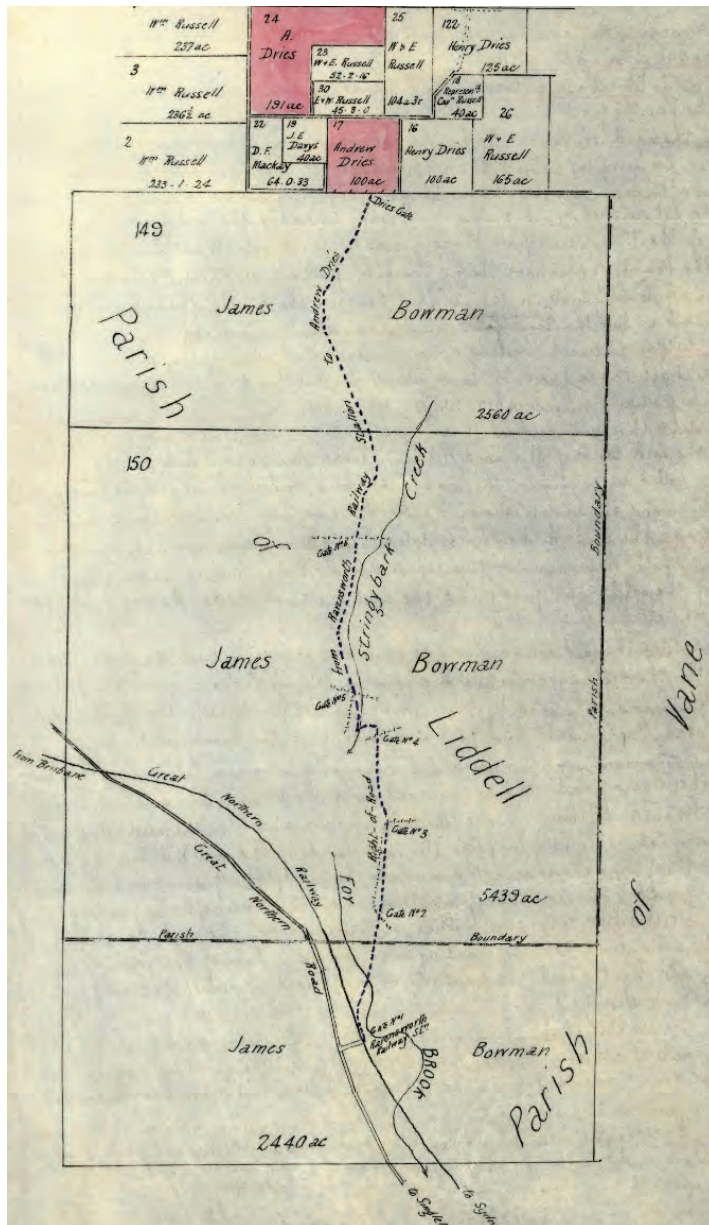


Figure 2. 38: Plan of the right of way granted to Andrew Dries in 1907. Source: OSD, No 133 Bk 828

The Hill Family

The homestead on Ravensworth was not used as Mackay's own residence, having purchased the Dulcamah estate in 1875 and constructed the grand house Minimbah there (to designs by architect Benjamin Backhouse). Rather, Robert Ascot Hill, who was related to the Mackay family by marriage, was manager of Ravensworth for many years. He was also ringmaster at the Singleton Show for many years and known as a breeder of excellent racehorses. Hill and his family resided at Ravensworth from c.1882 to 1911.

A photographer visited the family in the 1890s and again (assumed) in the early 20th century and a series of photographs of the homestead survive from the Hill family period. (See Figures 2.39 to 2.42 below).



Figure 2. 39: The earliest known photograph of the Ravensworth homestead showing the front (south) elevation of the main house with the kitchen wing to the right and the stables to the left. Another building forming the northern boundary of the complex is just visible to the right of the stables. This photograph appeared in *The Bulletin* as part of an article entitled “The Future of New South Wales: Mixed Farming”. Source: *The Bulletin*, Vol. 11 No. 579 (21 Mar 1891), p. 19



Figure 2. 40: Homestead and garden. Source: Marshall family photographs



Figure 2. 41: Ravensworth stables as seen from the northern side of the main house. Note the bell post with bell in centre frame. Source: Marshall family photographs



Figure 2. 42: Ravensworth verandah. Source: Marshall family photographs

2.5.5. Franklin Joseph Lappen Measures

On 1 April 1911, Adelaide Ann Mackay, wife of William Hooke Mackay senior, and William Hooke Mackay junior, conveyed the land to Frank Joseph Lappen Measures, Niagara Park, farmer, for £22,545. That land measured 5,829 acres in the Parishes of Liddell and Vane being grants of 5,000 acres Portion 150 and 2,440 acres, Portion 1, Parishes of Liddell and Vane, plus 197 acres 2 roods 34 perches, part of 500 acres, Portion 69 Parish Vane.²⁵¹ Additionally, the same day, William Hooke Mackay, senior, Anambah near Maitland, grazier conveyed other parcels to F.J.L. Measures for a further £41,064. These included numerous parcels in the Parishes of Liddell, Ravensworth, Vane, and Herschell and included Parcel 7 measuring 2,560 acres was Portion 149, in the Parish of Liddell, promised to James Bowman that he was authorised take possession on 15 October 1831 as a primary grant.²⁵²

F.J.L. Measures (1863-1936) was an American who arrived in Australia about 1899 having last been in the United States in 1893.²⁵³ He was born in Boston, Massachusetts in 1863 and had been part of a wheat syndicate in Milwaukee. Although married Measures had not brought his wife or three children to Australia. In Australia, Measures was a grazier and real estate dealer, who purchased a number of large estates on the Central Coast, the Hunter and Gunnedah to subdivide for sale.²⁵⁴

Measures bought Ravensworth measuring about 29,000 acres from Mackay for £108,000 in cash in partnership with Alexander C. Reid (see below for further detail). A loan of £70,000 was obtained from the Mutual Life and Citizens, plus £20,000 from the Australian Bank of Commerce, with the balance made up by Measures and Reid plus deposits of about £3,000 to £3,500 received from purchasers of land in the estate before he finalised the sale from Mackay. The land had to be subdivided to be put under the *Real Property Act*, which cost £1,100, and the cost of bringing the land under the Act was another £1,000. Additional costs were incurred in building houses, bails and dairies costing about £11,000, whilst fences cost about £4,000.²⁵⁵

The quality of the improvements made by Measures on the different parcels was shown by the description when R.T. Barratt acquired Allotment 12 Section B under the Closer Settlement legislation. When that land was assessed for acquisition under the legislation about April 1920, the report noted that the improvements on the land included:

House 32' x 32' weatherboard, iron roof, lined and ceiled, 6 rooms £300

Dairy 10' x 12' weatherboard, iron roof, 5' verandah all round, cement floor £25

1000 gallon tank at dairy £10

Barn 26' x 12' iron walls and roof no floor £20

4 cow bails 27' x 18' S T iron roof, cement floor £25

Two 1000 gallon tanks at house £20

One 3000 gallon tank at bails £20

*Hay shed 12' x 12' open, iron roof £8.*²⁵⁶

²⁵¹ OSD No 933 Bk 932

²⁵² OSD No 934 Bk 932

²⁵³ Minutes, 11 Sept 1916, NRS 13655, Bankruptcy File, A W A Farey, No 20921, SANSW 10/23820

²⁵⁴ Evidence, F J L Measures, 20 March 1917, NRS 13655, Bankruptcy File, F J L Measures, No 21010, SANSW 10/23827

²⁵⁵ Evidence, F J L Measures, 20 March 1917, NRS 13655, Bankruptcy File, F J L Measures, No 21010, SANSW 10/23827

²⁵⁶ NRS 8052 Closer Settlement Estate File, No 1794, Troy's (2) Estate, SANSW 10/13284

Licensed Surveyor Harold Clyde Manning completed the subdivision plan dated 12 May 1911 (see Figure 2.43). Lot 4 of Section B included the Ravensworth House (see Figure 2.44).²⁵⁷

F.J.L. Measures submitted his Real Property Application to convert the land to Torrens Title on 22 May 1911. However, the land had already been divided up with contracts for sale signed with a number of purchasers, and the process of subdivision was already well advanced in October 1911 when Mrs Amos Turnbull of “Oaklands”, Ravensworth (located to the southwest) wrote to the Department of Public Instruction appealing for a school to be established at Foy Brook. As well as commenting on the danger for children of crossing two waterways that were dangerous in heavy rain, she also stated:

*The Ravensworth subdivision is being cut up into dairy farms - houses are being built on it very quickly, and several families are now on their farms.*²⁵⁸

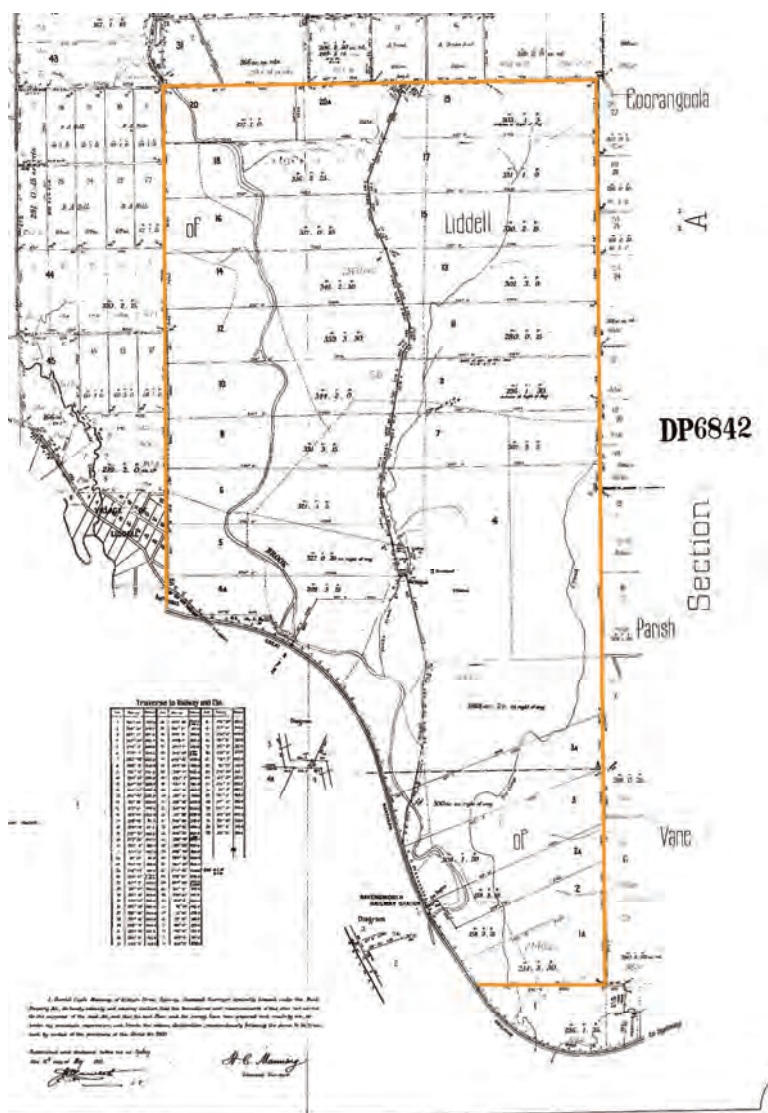


Figure 2.43: Detail from subdivision plan of Section B of DP 6842 dated 1911 showing the division of the land within the boundaries of the place (outlined in orange). These separate allotments were sold to individual farmers throughout the early 20th century. Ravensworth is located on Allotment 4 with homestead and woolshed shown. Source: DP 6842

²⁵⁷ DP 6842

²⁵⁸ 1911/73829, NRS 3829, School file, Ravensworth, Part A SANSW 5/17442.1

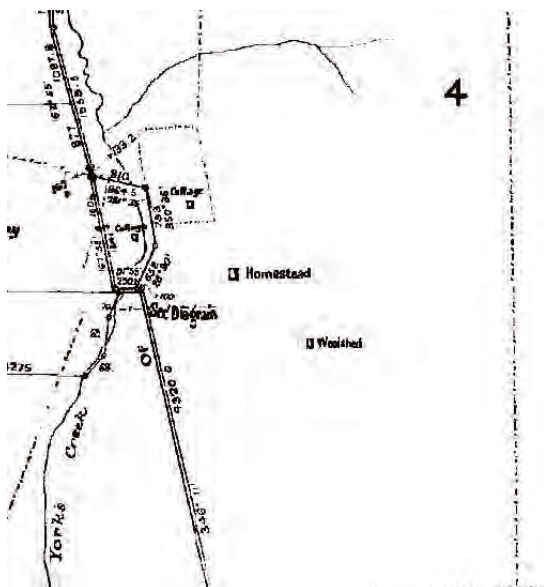


Figure 2.44: Close detail of allotment 4 showing homestead and woolshed. Note also a separate fenced cottage located to the north and another to the western side of Yorks Creek. Source: DP 6842

On 6 January 1912, a sale notice for the Ravensworth Estate by its owner F.J.L. Measures, Niagara Park was issued (see Figure 2.45).²⁵⁹ Various versions of the subdivision plan of Measures' Ravensworth Estate are held in the Mitchell Library and in files held at State Archives of NSW. One of them dated about 1911 showed the lots with some details of purchasers but only showed buildings on Lots 4 and 5. Some of the land was shown as sold (see Figures 2.46 to 2.49).

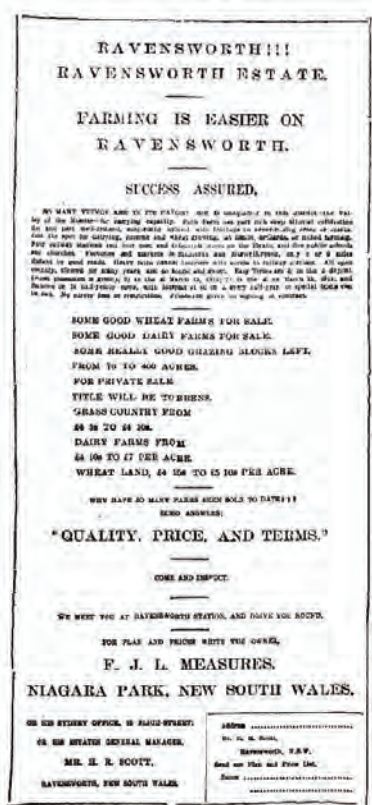


Figure 2.45: Early sale notice for Measures' Ravensworth estate. Source: Daily Telegraph, 6 Jan 1912, p 5



Figure 2.46: The original version of the Ravensworth subdivision plan. Source: NRS 3829, School file, Hebden, SANSW 5/16256.4

²⁵⁹ Daily Telegraph, 6 Jan 1912, p 5



Figure 2. 47: Enlargement of the original version of the Ravensworth subdivision plan. Note the wool shed and homestead are shown on Lot 4 with three creeklines traversing the property and Hebden Road cutting through the centre of the allotment. Source: NRS 3829, School file, Hebden, SANSW 5/16256.4

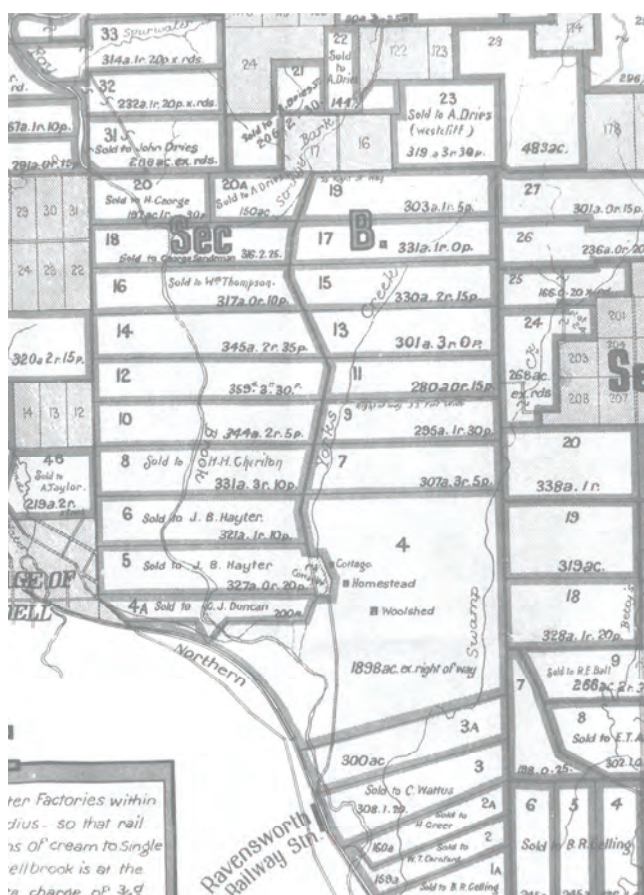


Figure 2. 48: Enlargement of the A version of the Ravensworth sale plan showing Lot 5 having been extended to the east to encompass Hebden Road and Lot 4A excised from Lot 4 plus an additional cottage on Lot 4, the Homestead block. Source: County Durham, Subdivision Plans, ML, ZCP/D6/34

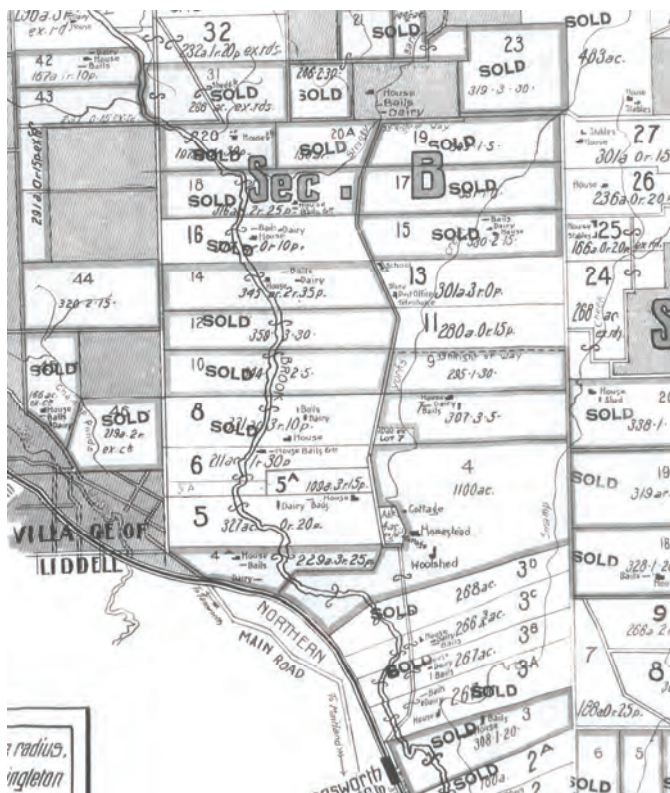


Figure 2. 49: Another version of the sale plan showed buildings on various lots, including houses, cow bails, dairies, plus the school and post office. No purchasers are named on the plan and those lots that had been sold had been stamped 'SOLD'.²⁶⁰ Note that Lot 4 has been further reduced to the south with the creation of Lots 3B, 3C and 3D. Source: County Durham, Subdivision Plans, ML, ZCP/D6/100

A damaged version of the subdivision plan with fewer details is held in the Document packet for the conversion of the land to Torrens title. A note on the plan states that "Many of the purchasers are in possession of the lots purchased by them." Lot 4 was sold to A.W. Farey (1,100 ac) and was occupied by him with homestead, cottage and woolshed shown. This plan had to be supplied to the Land Titles Office since a number of the certificates of titles for the individual allotments would be issued to the purchasers once the application was approved.

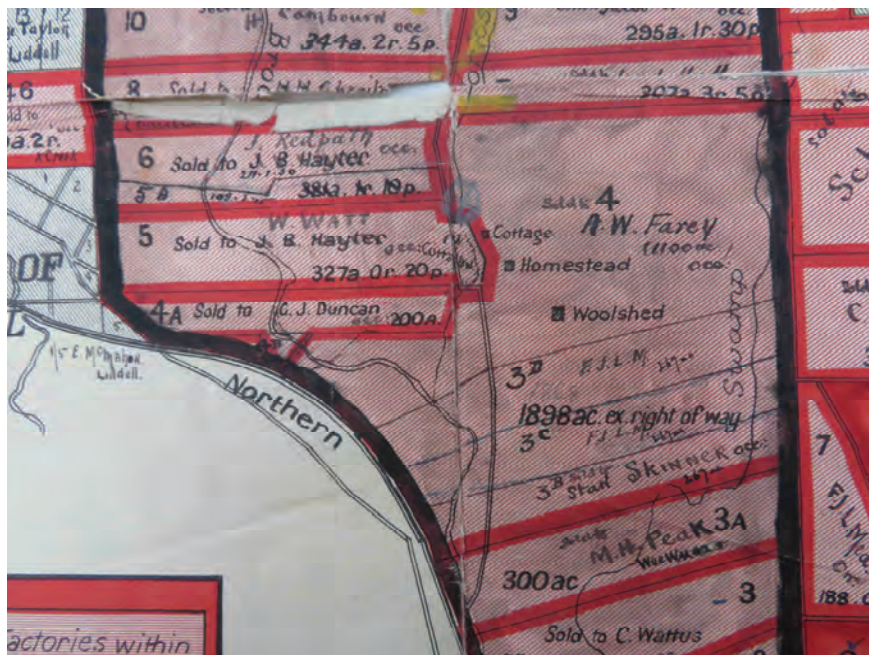


Figure 2. 50: Allotment 4 Section B as shown in the partial copy of the Ravensworth plan in the Real Property Application packet. Source: NRS 17513, Lands, Real Property Application Packet, RPA 17251

²⁶⁰ County Durham, Subdivision Plans, ML, ZCP/D6/100

After acceptance of the Real Property Application, a Certificate of Title was issued to Measures, for Portions 149 and 150 Parish Liddell and (rem) Portion 1 Parish Vane, with a combined area of 8,423 acres 1 rood 20 perches on 15 October 1912.²⁶¹ Other Certificates were issued for other parts of the estate. Two mortgages both dated 15 October 1912 were noted on the Title, the first one to the Mutual Life and Citizens Assurance Company Ltd and the other to the Australian Bank of Commerce Ltd. In November 1912, transfers of lots in the estate began to be noted on the title.²⁶²

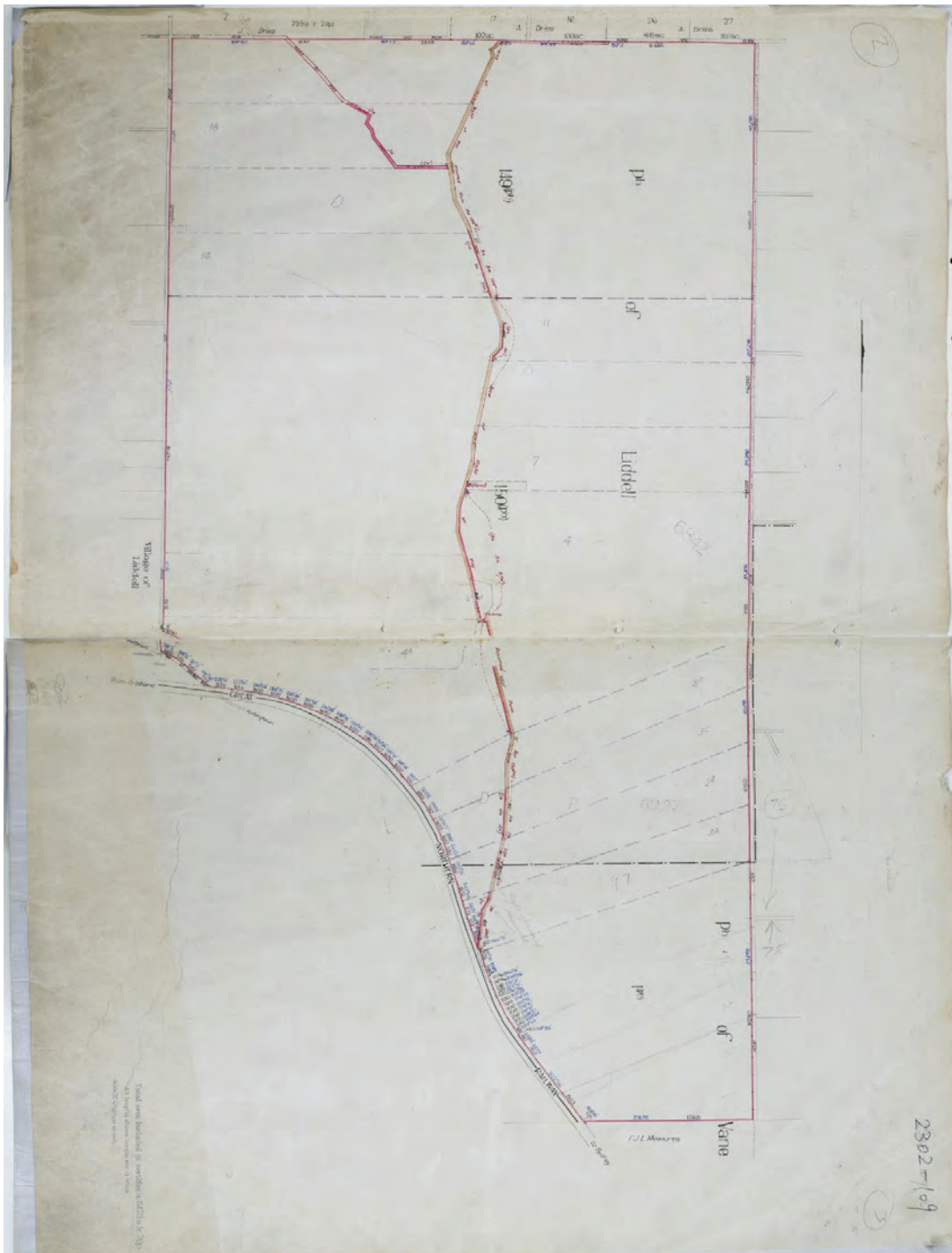


Figure 2. 51: Plan included with the certificate of title Vol. 2302 Folio 109 issued to F.J.L. Measures in 1912. Source: Source: New South Wales Land Registry Services, Historical Land Records Viewer

²⁶¹ CT 2302 f 109

²⁶² CT 2302 f 109

Hints of future trouble arose when Schools Inspector Lynch reported on the proposed school at Hebden on 30 September 1913 (refer below for further details). Some farmers had already left the farms they had purchased and there were attempts to get the government to take over the estate under the *Closer Settlement Act*, and “Unless this is done, the general opinion in the district was that the majority of the farmers must leave.”²⁶³

Ravensworth Farms

LIST OF THE PURCHASERS.

"Farmer and Settler" readers will be interested to know that the allotment of blocks on Ravensworth estate, Mr. F. J. L. Measures' private subdivision, is steadily proceeding. Everyone is acquainted with the high average quality of the Upper Hunter land, and many are aware that Ravensworth is one of the plums of that fertile region. The estate has been cut up into blocks of convenient size for orcharding, vine-growing, dairying, mixed farming, wheat-growing, and grazing, and the list herewith of new Ravensworth settlers shows how healthy is the demand for these fine farms. Ravensworth has all the social and commercial advantages of the most highly favored closer settlement areas; there are four railway stations; four post and telegraph offices; four schools and churches on the estate, with butter factories and local markets at the neighboring towns of Singleton and Muswellbrook. The rainfall is ample, there are beautiful creeks, good lucerne flats, heavily grassed pasture country, and all the requirements of the modern farmer.

Following is a list of purchasers:—

Name.	No. of Blocks.	Area in Acres.
Dries, Andrew, senr.	4	652
Turner, T. J. F.	1	328
McMahon, E. H.	3	850
Dries, A. D.	1	464
McDonnell, Peter	1	302
Dries, A. W.	1	91
Ball, John Allan	1	610
Horadam, Joseph	1	328
Zerk, John H. C.	2	112
Noble, Audley John	2	114
Beck, Herbert J.	1	265

Fattening Farm.

471 Acres, rich chocolate loam, heavily grassed and well watered, 300 acres cleared, balance useful timber, all sweet and good fattening country; large area now under cultivation. Stone house, 9 rooms, commodious outbuildings; in a healthy and pleasant district, 8 miles from large railway town of Maitland, 64 miles city; 4 miles from butter factory. Title, Terms, 20/100/- per acre; £1,000 cash, balance at...

Figure 2. 52: Advertisement appearing in *The Farmer and Settler* in 1912 outlining the initial purchasers of the Ravensworth Estate subdivision under F.J.L. Measures. A number of these initial purchasers did leave the district shortly thereafter. Source: *The Farmer and Settler*, Friday 15th March 1912, p. 2

Measures was in financial trouble. On 17 June 1915, the mortgage to the Mutual Life and Citizens Assurance Company Ltd was discharged only to be replaced by another to the company on 29 June 1915. The mortgage to the Australian Bank of Commerce Ltd was discharged on 7 September 1915. A new mortgage to Sydney Arthur Josephson, Sydney, engineer was registered on 30 August 1915. The residue of the land was transferred to Measures partner, Alexander Couchrian Reid, Sydney, grazier on 12 October 1916.²⁶⁴

A survey of a road (now Hebden Road) that had originally been the right of way to Dries property across Ravensworth by Licensed Surveyor Marcus Hyndes of 12 November 1917 showed fences, a church on Lot 12 plus the school site on Lot 13, as well as the names of those who had purchased some of the individual land parcels out of the Measures subdivision (see Figure 2.53).²⁶⁵

Measures was declared bankrupt on 11 December 1916.²⁶⁶ He later became an estate agent. In 1933, he was found guilty of fraud when he represented himself as the owner of a large estate at Narrabeen that he attempted to sell.²⁶⁷ He died in March 1936.²⁶⁸

²⁶³ 1913/78805, NRS 3829, School file, Hebden, SANSW 5/16256.4

²⁶⁴ CT 2302 f 109

²⁶⁵ R.13401.1603, Crown Plan

²⁶⁶ NRS 13655, Bankruptcy File, F J L Measures, No 21010, SANSW 10/23827

²⁶⁷ *Daily Examiner* (Grafton), 16 Dec 1933, p 5

²⁶⁸ BDM index and *SMH*, 11 March 1936, p 11

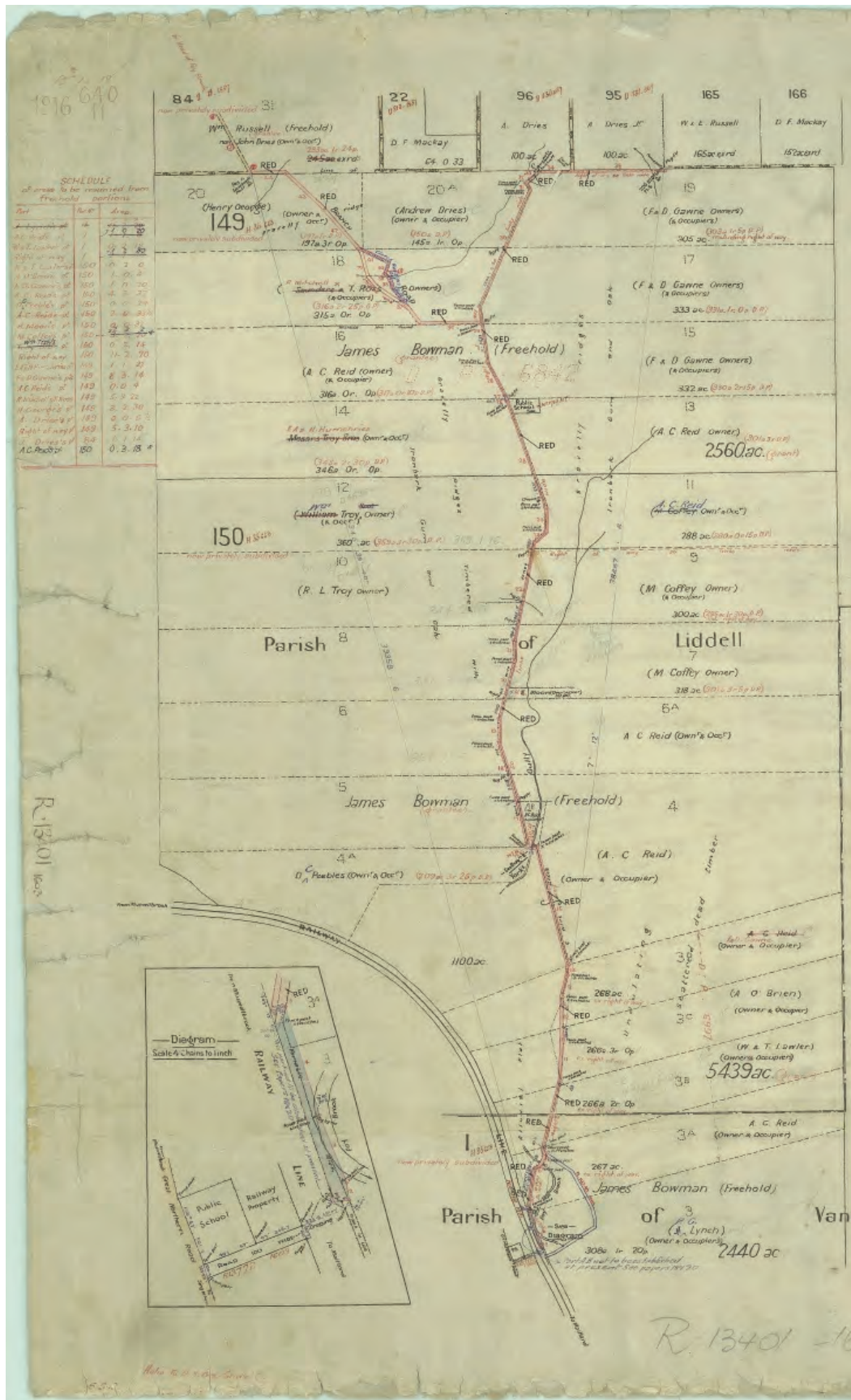


Figure 2. 53: Detail from survey of road across the Ravensworth estate in November 1917. Source: R.13401.1603, Crown Plan

2.5.6. Alfred Walter Albert Farey

Alfred Walter Albert Farey had signed a contract to purchase Allotment 4 Section B occupied by the homestead for £8,250 paying a deposit of £1,000 on 22 April 1912. He had previously been a wheat farmer at Peak Hill for 14 years, with £3,700 deposited in banks at Peak Hill and Camden.²⁶⁹ He was recorded as living at Ravensworth on 19 June 1912 on his marriage certificate.²⁷⁰

Alfred Walter Albert Farey was born on 5 May 1865, at Adelaide.²⁷¹ On 19 June 1912, he married Sarah Amelia Blackeby at Mosman, Sydney (known as Millie).²⁷² She had also been born in Adelaide and after the marriage, he settled £1,000 and real estate he owned in South Australia on her.²⁷³ The couple had a total of eight children born between April 1913 and May 1932.²⁷⁴

Farey refused to pay later instalments for the purchasing of Lot 4 so Measures took him to court. Farey argued that Measures had “made misrepresentations to him as to the land being in the valley of the Hunter River that it was thoroughly cleared and closely grassed, and of heavy carrying capacity and sweet, sound, and well and permanently watered.” The court found in favour of Measures.²⁷⁵

During his occupation of the land Farey spent about £250 on ringbarking, fencing and other matters, while growing wheat and raising sheep and cattle. He vacated the property in April 1916 leaving a man (name unknown) in charge and moving to Baulkham Hills.²⁷⁶

After losing the court case, Farey was financially ruined. He filed for bankruptcy on 11 September 1916. From his extensive experience growing wheat, Farey explained that the land was unsuitable for this crop being affected by red rust and the soil would not respond to treatment with superphosphate. About 50 others had similar experiences and lost their land to Measures.²⁷⁷

On 15 October 1917, Farey applied for a discharge from bankruptcy. Measures was the sole creditor claiming a total of £7,055/16/2. After deducting the value of the security he held over the property, Measures claimed a balance of £1,005/16/2.

On 6 October 1916, Farey described the improvements on the property measuring 1100 acres:

*Improvements – large Wool-shed – Shearers Quarters and Drafting Yards – Stone House and Kitchen adjoining, in all thirteen rooms – 2 Weatherboard Cottages, servants quarters, one containing 3 rooms and one two rooms - Stone Shed - Stone Stable and Harness Room - Wooden Hay Shed and four Stallion Stalls - Machine Shed – fencing enclosed and sub dividing with sheep proof - 150 acres clear, been under cultivation - Three hundred acres partly cleared – Balance ring barked – Watered by 3 Creeks and 2 dams.*²⁷⁸

²⁶⁹ Minutes, 16 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820

²⁷⁰ Marriage Certificate, NRS 13495, Divorce File, Farey v Farey 4438/1947, SANSW

²⁷¹ Ancestry, accessed 10 Aug 2018

²⁷² Marriage Certificate, NRS 13495, Divorce File, Farey v Farey 4438/1947, SANSW

²⁷³ Report, 24 Aug 1917, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820

²⁷⁴ NRS 13495, Divorce File, Farey v Farey 5141/1945, SANSW

²⁷⁵ SMH, 9 May 1916, p 5; 11 May 1916 p 4; Farey’s name was incorrectly recorded as Albert Walter Farey in those press reports

²⁷⁶ Minutes, 16 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820

²⁷⁷ Minutes, 16 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820

²⁷⁸ Description, 6 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820

Farey claimed that:

*I consider I was practically robbed by Measures. The manner in which he induced me to enter into this contract which was similar to that between 40 and 50 others who are forced to abandon their holdings convinced me that this Ravensworth affair was practically a swindle.*²⁷⁹

He claimed that he was not familiar with land nearer to the coast since most of his experience was in western New South Wales. Farey sought advice from two or three other people about the area and found they were paid commissions by Measures to encourage purchasers. He named some of the other 40 or 50 purchasers who had to abandon their holdings as Camboyne, Hull and Ritsen. Measures however went on to resell a number of those lots as many as 4 or 5 times.

Measures' success in selling the land at Ravensworth was confirmed by Farey, who was persuaded to purchase despite his own judgement.

*Many [purchasers] have the same opinion. They can't understand it, and think he has some hypnotic influence.*²⁸⁰

After losing his Ravensworth property, Farey moved around the state, living at Peak Hill, Moore Creek near Tamworth and Gosford.²⁸¹ In 1946, he wrote to his wife regretting that he had not purchased the property offered to him about 1912 at Peak Hill. Instead he had taken "that Ravensworth, as that was the place that ruined the early days of our Married life & I blamed you to a great extent for my misfortune in being there".²⁸² Farey died at Peak Hill on 30 November 1951 at Peak Hill District Hospital aged 86. He was buried in the Peak Hill Cemetery according to the rites of the Assembly of God.²⁸³

Following Farey's period of ownership of Lot 4, the homestead apparently remained vacant for eight years. It was later reported that the house was occupied by tramps in that period.²⁸⁴

²⁷⁹ NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820

²⁸⁰ Minutes, 16 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820

²⁸¹ NW Electoral Rolls

²⁸² Letter, 3 April 1946, A W A Farey to Millie', NRS 13495, Divorce File, Farey v Farey 5141/1945, SANSW

²⁸³ NRS 13660, Supreme Court, Probate Packet, Series 4 No 399384, SANSW

²⁸⁴ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 6240/9

2.5.7. Alexander Couchrian Reid

A new Certificate of Title was issued to Alexander Couchrian Reid, Sydney, grazier on 30 December 1920 for various lots in the Measures subdivision with a total area of 3,227 acres 1 rood 5 perches, including Allotment 4 Section B DP 6842, which held the Ravensworth homestead.



Figure 2.54: Detail from Certificate of Title of A.C. Reid's land showing the extent of Allotment 4 Section B DP 6842. Source: Vol. 3144 Fol. 148

A transfer had previously been made of the eastern half of Allotment 4 to His Majesty King George V for the purposes of Closer Settlement Acts and Settlement Purchases by Discharged Soldiers on 25 October 1920 and was noted on the new certificate.²⁸⁵ No new Certificate of Title for that lot was issued since the property had been acquired by the Crown again becoming Crown Land.

A portion survey of this land had previously been completed by Licensed Surveyor H C Manning on 20 September 1919 as a new Portion now numbered as 228 being (Ravensworth (2)) Clo Sett [Closer Settlement] of 820 acres 2 roods 13 ¾ perches. The homestead was shown on the plan.²⁸⁶

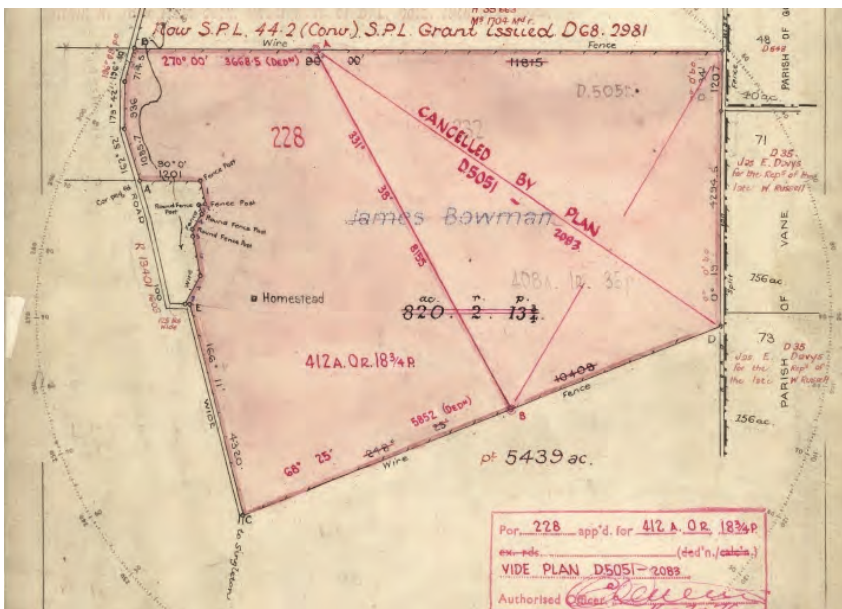


Figure 2.55: Detail from survey of September 1919 of the new Portion 228. Source: D.4642.2083, Crown Plan

²⁸⁵ CT 3144 f 148

²⁸⁶ D.4642.2083, Crown Plan

In June 1917, Reid advertised for tenders to purchase and remove the materials of the woolshed at Ravensworth. The woolshed was described as having an area of 800 square yards and was built of about 6 tons of 'Lysaght's best Corrugated Galvanised Iron' on a frame largely of spotted gum.²⁸⁷

When A.C. Reid died on 25 October 1925, he still held a number of allotments in the Ravensworth estate. The remainder of Reid's land passed to the Perpetual Trustee Company Ltd in 1927, who continued to sell the individual allotments, including Part Lot 4 Section B DP 6842 to Rev. James Marshall in 1927, the father of A.C Marshall the next owner of the Ravensworth homestead (Portion 228).²⁸⁸ (Refer to Section 2.6 below for further history of remainder of the estate lands.)

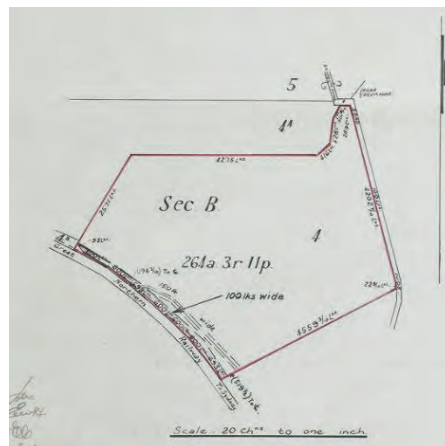


Figure 2. 56: Detail from Certificate of Title of James Marshall's land. Source: Vol. 4027 Fol. 211

Soldier Settlement

Soldier settlement commenced in 1916 after an Australia wide Premiers' conference in Adelaide. The scheme sought to place returned soldiers on the land in order to absorb them back into civil society. Concern that the returned men could become a dangerous force of under-employed men accustomed to violence coalesced with the mythic status of the pioneer settler, a potent element in the narrative of white settlement across Australia. The *Returned Soldiers' Settlement Act 1916* (Act No 21, 1916) gave returned men the right to apply to purchase land in areas set aside as Returned Soldiers Special Holding Areas. Men approved by local Repatriation Committees were allotted land in special schemes subdivided for them. All applicants were given a loan to purchase the land, with interest ranging from 3½% to a maximum of 5%. Applicants were given a minimal area of land, often too small to be viable.²⁸⁹

Most soldier settlement purchases were taken up as Settlement Purchases, continuing the practice that had originally been created by the 1904 *Closer Settlement Act* (Act No 37, 1904). They were similar to Conditional Purchases. Settlement Purchases were a purchase from the Crown with conditions that the applicant pay a deposit, pay annual instalments, reside on the land for 10 years, and carry out improvements to a quarter of the capital value of the land within 10 years. It differed from a Conditional Purchase in that a Settlement Purchase was for 'acquired lands', i.e. resumed land rather than Crown land. It was only available for land within a gazetted Settlement Purchase Area. Previous owners had usually improved the land so the purchase price might be higher in order to pay for the previous owner's improvements.

²⁸⁷ *SMH*, 20 June 1917, p 1

²⁸⁸ CT 3144 f 148, CT 4027 f 211

²⁸⁹ B Scates and M Oppenheimer, *The Last Battle: Soldier Settlement in Australia 1916-1939*, Cambridge University Press, Port Melbourne, 2016, pp 1-11

2.5.8. Augustine Campbell Marshall

In 1920, Augustine Campbell Marshall (1891-1983), a Light Horse veteran selected portion 228 with the homestead as a Settlement Purchase.

Marshall had enlisted on 18 October 1915 and embarked on 10 November 1915 for the Middle East where he was a member of the 6th Squadron, 2nd Remount Unit. He also served for a time with the camel section of the Remount Unit. He returned and was discharged on 24 October 1919.²⁹⁰

Augustine Campbell Marshall used the property for dairying and sheep. (Refer to Section 4 for further biographical information).

The land was gazetted on 1 October 1920, as an area of 820 acres 2 roods 13 $\frac{3}{4}$ perches surrendered to the Crown as part of portion 150, parish Liddell, that was taken up as Settlement Purchase 1920/7 Singleton by Augustine Campbell Marshall, becoming portion 228.²⁹¹

Settlement Purchases

Two other blocks in Measures Ravensworth Estate subdivision were taken by other veterans (Allotments 10 and 12 Section B DP 6842 by brothers William and Richard Troy).²⁹² All became Settlement Purchases. Settlement Purchases were a common form of acquiring land for soldier settlers, particularly under the settlement promotion scheme (see above). Any three or more persons could apply to acquire land after obtaining an agreement with the owner under the *Closer Settlement Promotion Act, 1910* (Act No 7, 1910). The *Closer Settlement (Amendment) Act, 1919* (Act No 46, 1919) liberalised the conditions so that only one or more discharged soldiers or sailors could take up land under such an arrangement.

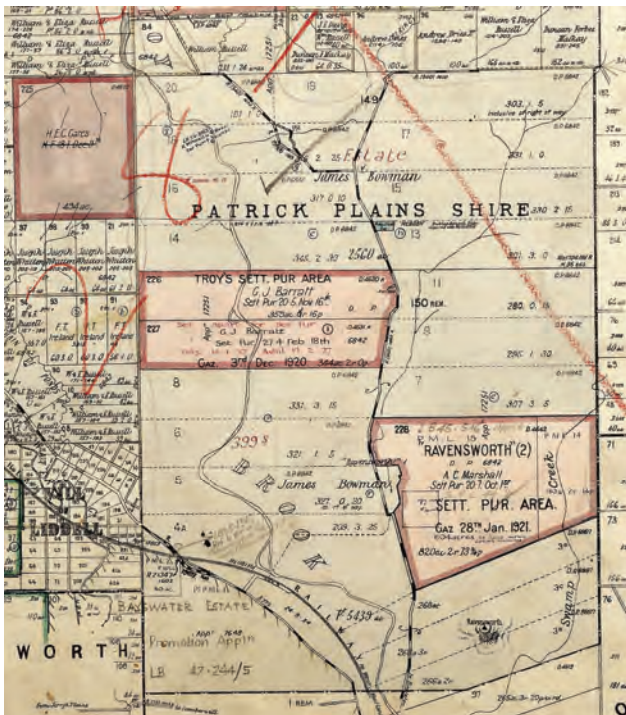


Figure 2. 57: Detail from c1927 parish map of the Parish of Liddell showing A.C Marshall's Settlement Purchase Area of Ravensworth. Note the other soldier settlement purchase area to the north, purchased by William and Richard Troy in 1915 (Vol. 2355 Fol. 158). Source: New South Wales Land Registry Services, Historical Land Records Viewer

²⁹⁰ B2455 World War One Army Personnel File, 1636, A C Marshall, Barcode 8218310, NAA

²⁹¹ NSWGG, 28 Jan 1921, p 528

²⁹² CT 2566 f 148.

As part of the regime of administering the land by the Department of Lands, the Marshall's property was regularly inspected, and any applications by Marshall regarding the land were reported on. On 22 October 1923, W.D. Hogarth inspected the property. His report provided a detailed summary of the improvements on the land both pre-existing and those undertaken by the holder. These included:

Repairs house £20

150 fruit trees planted near house £15

Erecting bails £20

Preparing part of fences £20

Stone house £500

Barn and dairy Stone £100

Stables and shed £100

Weather board cottage £70

Piggery and calf pen £40

820 acres burned off £820

Shed £50

Internal fencing and sheep pens

*Livestock 150 cattle; 10 horses; 200 sheep;
140 lambs.²⁹³*

On 1 June 1924, Marshall applied for a loan.²⁹⁴ As a result, in September 1924, a very detailed description of improvements on Marshall's land was completed.²⁹⁵

CLOSER SETTLEMENT PROMOTION	
Ravensworth (2) Estate	
IMPROVEMENTS	
C.S.P. 1926 O.S.C.	
Structural:	£. s. d.
Stone house, 42'x72' underlath ceiling 2 brick chimneys stonewalls front & back verandah, 7 rooms slate roof ...	300: 0: 0
Kitchen (stone) 50'x21' (breakfast room 20'x18') and six other rooms slate roof ...	150: 0: 0
Tanks 800 & 1000 gallon & 1000 gallon at man's quarters ...	25: 0: 0
Stables 20'x57' stone walls & floors, iron roof... ..	50: 0: 0
Man's quarters S.B. 12'x36' iron roof front verandah 3 rooms..	30: 0: 0
Shed, 36'x12' slabs, iron roof... ..	20: 0: 0
Stable, 25'x20' stone walls, and floor iron roof... ..	50: 0: 0
Shed 21'x42' sawn timber, iron roof... ..	15: 0: 0
Blacksmith's shop 15'x18' slabs, iron roof... ..	5: 0: 0
Slaughter house, 18'x15' round timber/iron roof ...	10: 0: 0
Underground tank 15' deep 10' diameter pump (cemented)..	40: 0: 0
Bells (2), 12' deep 4'x4' timbered	24: 0: 0
Sheep dip 60' cemented & yard cemented 56'x78'	25: 0: 0
Dams (2) 225 each	50: 0: 0
24 chs. 4 rail sheep yards @ 6/- per chain	7: 4: 0
102 " 7 plain wire S.Bdy. Pavilion	
55 " old 2 r. on E. " @ 15/- " " (H.V.)	38: 5: 0
95 " 5 & 6 w fence " @ 8/- " " (F.V.)	22: 4: 0
11 " 7 wire fence " @ 12/- " " do	57: 0: 0
292 " mixed fence in subdivision @ 15/- " " do	8: 5: 0
15 " 3r. & cap. & pt. 3 r. & crush stock yards @ 10/- " " do	146: 0: 0
117 " 7 w. fence on North Boundary @ £1	15: 0: 0
@ 15/- (H.V.)... ..	43: 17: 6
Total Structural Improvements:	£1131: 15: 6
Ground:	
817 acres partly cleared grassland @ 10/-... ..	408: 10: 0
Total Improvements:	£1540: 5: 6

Figure 2. 58: Description of assets and improvements on Portion 228 in September 1924. Source: NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155

²⁹³ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 21/20235

²⁹⁴ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 6240/2

²⁹⁵ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155

On 8 October 1924, Marshall had improvements valued at £1,540/5/6. These included:

<i>A stone house £300;</i>	<i>Slaughterhouse £10;</i>
<i>Stone kitchen £150;</i>	<i>Two wells £24;</i>
<i>Three tanks £25;</i>	<i>Two dams £50;</i>
<i>Man's quarters £30;</i>	<i>Sheep dip £25;</i>
<i>2 Stables £100;</i>	<i>Sheep yards £7/4/0;</i>
<i>Two sheds £35;</i>	<i>Fencing £330/11/6;</i>
<i>Black smith's shop £5;</i>	<i>817 acres partly cleared £408/10/0.²⁹⁶</i>
<i>Underground tank £40;</i>	

The loan was approved on 11 November 1924 and a mortgage to the Minister for Lands was noted in departmental records. It was not discharged until 25 July 1952.²⁹⁷



Figure 2. 59: Mid 20th century (?) photograph of sheep being brought into the homestead, with the main house and kitchen wing in the background. Source: courtesy of G & J Marshall

Another report by CP inspector A.H. Lawrence dated 25 January 1928 listed the improvements made by Marshall since his acquisition of the property. These included:

Repairing fence £50;
Guttering on house and shed - purchase and labour £10;
Purchase 1,000 gallon iron tank and erecting timber stand at house £8;
Making and building up stone and cement tank 20 feet x 16 feet x 4 feet cement bottom to catch water of stone stables at the end of stables £40;
Flooring timber and putting down in the dwelling, renewing skirting boards, papering walls of 11 rooms, painting house inside and partly outside £150;
Erecting stalls in milking shed £5.²⁹⁸

²⁹⁶ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 6240/9

²⁹⁷ NRS 18096, Tenure Cards, Settlement Purchase Lease, Singleton, 1944/2, SANSW

²⁹⁸ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155



Figure 2. 60: 1930s or 40s (?) photograph of A.C. Marshall (assumed) with Stables building in the background. Source: Courtesy of G & J Marshall



Figure 2. 61: 1930s or 40s (?) photograph of Rev. J. Marshall (assumed) with Stables building and kitchen wing in the background. Source: Courtesy of G & J Marshall



Figure 2. 62: Ravensworth homestead post renovation in c1906. Source: Courtesy of G & J Marshall

An undated report on his consolidation application that was stamped 15 February 1929 was compiled by an unnamed official. He stated he had been visiting the property and was familiar from earlier visits. It was an old improved property acquired by Marshall with an old stone homestead that he had renovated and “made into an excellent dwelling”. The stone stables and large stone shed were also renovated. A shed had been converted into a shelter for dairy cattle by adding stalls. A small mill and piping worth £30 had been added to the garden. The total of 27 chains of new 7 wire fencing had been added on the eastern boundary costing £30. No other improvements had been made since the acquisition.

When completing renovations Marshall had used materials already on the property. As a result, the assessor could not estimate the value of the work. The work had mostly been carried out by himself and his employees but it had been done well “and there are few better equipped properties of this size in the district”.

In general, the property was very efficiently managed, with fodder grown on the adjacent land by his father. It had dairy cattle and 8 to 900 sheep. Marshall was noted to be a prosperous settler.²⁹⁹

Inspector John Bonar made a report on 20 December 1930. Except for the weatherboard cottage, all buildings were stone and convict built. All were now in first class order. At one time the house had been occupied by tramps. It had a slate roof; Wunderlich ceilings; 10 rooms; stone dividing walls; kitchen and bath.³⁰⁰

The valuation of Patrick Plains Shire completed on 1 October 1933 by the Valuer General, described the improvements on the property as a stone homestead, 14 rooms, slate roof, men’s hut, cowshed, stone hayshed, stone cart shed, fencing and ringbarking. At an unspecified later date, the men’s hut, cow shed, stone hayshed and stone cart shed were altered to “WB/GI Ctge – Farm Bdgs” and “Water Supply” was added.³⁰¹

When Lands Inspector John Bonar reported on 31 August 1936, he noted that Marshall had recently improved a shed and had erected a 2 stand shearing plant and he was shearing with two men when Bonar visited.³⁰²



Figure 2. 63: Late 20th century photograph of the Marshall family (assumed) wool sorting in the Stables. Source: Courtesy of G & J Marshall

²⁹⁹ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155

³⁰⁰ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 6240/9

³⁰¹ NRS 14465, Valuer General, Valuation Roll, Patricks Plains, 1933-62, SANSW 19/12823, No 529/724

³⁰² NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155,

Marshall applied to convert his holding to a Settlement Purchase Lease. His application became 1944/2 Singleton. The Minister granted this request on 16 January 1946.³⁰³ An inspection of his property by G.A. Baillie on 30 July 1945 listed the following improvements:

Stone house 72 ft x 42 ft £300
Stone kitchen 50 ft x 21 ft £75
WB men's quarters 12 ft x 36 ft Verandah 5 ft x 36 ft £60
Stone shed 72 ft x 20 ft £75
Stone shed 84 ft x 20 ft (including dairy bails) £100
21 section feed stalls 60 ft x 10 ft £30
219 chains boundary fence – North and south £87/12/0
26 chains boundary fence £13
71 chains West boundary fence £42/12/0
40 chains West boundary fence £6
Two small wells, two small dams £95
Dip £60
*Underground tank 10 ft x 15 ft no value £25.*³⁰⁴

In 1946, following the death of his father, A.C Marshall inherited the land to the west which James Marshall had purchased in 1927. This was the land that had previously formed part of Allotment 4 within the Measures subdivision, and from 1946 to 1973 when the Electricity Commission purchased the western allotment, the two allotments were once again held under the one ownership, although they were not formally amalgamated.³⁰⁵



Figure 2. 64: Early 20th century photograph of the north (rear) elevation of the main house with various water tanks. Note the roof is slate by this time. Source: Courtesy of G & J Marshall.



Figure 2. 65: Late 20th century (1970s?) photograph of the north (rear) elevation of the main house. Source: Courtesy of G & J Marshall.

³⁰³ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at CS366/64

³⁰⁴ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155

³⁰⁵ CT 4027 f 211

Subdivision of Portion 228

On 20 August 1962, the mines and minerals under Allotment 4 Section B DP 6842 with an area of 820 acres 2 roods 14¾ perches were transferred to the Electricity Commission of New South Wales.³⁰⁶ A Perpetual Lease on Settlement Purchase Grant was issued to A.C. Campbell on 9 April 1969³⁰⁷ (as well as the adjoining allotments 5 & 6 of DP 6842).³⁰⁸

The eastern part of the land excluding the homestead was excised on 18 July 1973 to become the new Portion 232 (eastern portion). It was sold to the Electricity Commission of NSW.³⁰⁹

In 1974, the residue was converted to Settlement Purchase 74/3, approved on 12 September 1975.³¹⁰ The property continued to be held by Marshall.

Augustine Campbell Marshall died on 1 May 1983 aged 91.³¹¹ His widow Enid (nee Moore) died on 27 March 1993 aged 92.³¹² The property was transferred to their son Geoffrey Campbell Marshall in the 1980s.

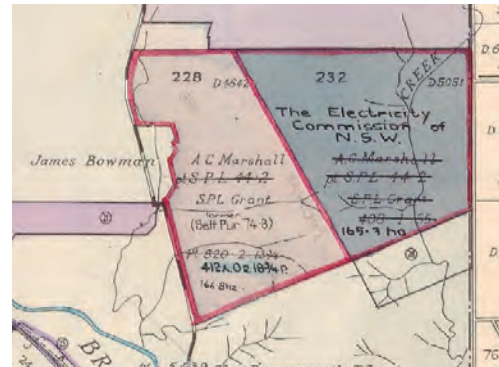


Figure 2. 66: The new boundaries after the eastern part was removed to become Portion 232 that was sold to the Electricity Commission. Source: Parish map, Parish Liddell, 1971 edition Status Branch. HLRV

2.5.9. Geoffrey and Jenny Marshall

In 1965, Geoffrey Campbell Marshall married Jennifer Anne Ward of Yackerboon, Denman. Following their marriage, they converted the Men's Quarter's cottage into a single residence and lived there as their first home together. In 1969, Geoff and Jenny relocated to a neighbouring property to the west (Lots 5 and 6 of DP 6842), previously owned by E & R Andrews. The Andrews had built a modern brick residence in the 1950s, and the Marshalls lived in this house until the 1980s. This property became known as the "Ravensworth Farm" by the Marshalls.

Following their return to the Ravensworth homestead, Geoff and Jenny remained at Ravensworth until 2000, following its purchase by Liddell Southern Tenements Pty Ltd (now part of Glencore Australia) in 1997.

Historian Cynthia Hunter collected oral information about the property in 1997 from the Marshall family. This information noted that there were several graves near the house, one marked with a stone slab. A bell near the first stone cottage was marked 1828 and had possibly been on the site for many years.³¹³ During the process of preparing this report, oral histories were once again collected from Geoff and Jenny Marshall, particularly in relation to the physical changes that Geoff Marshall and his father undertook at the homestead, the garden that Jenny Marshall established, as well as the history of the surrounding properties and the town of Hebden.

³⁰⁶ CT 3144 f 148

³⁰⁷ NRS 18096, Tenure Cards, Settlement Purchase Lease, Singleton, 1944/2, SANSW

³⁰⁸ Pers. comm. G & J Marshall, February 2019

³⁰⁹ NRS 18096, Tenure Cards, Settlement Purchase Lease, Singleton, 1944/2, SANSW

³¹⁰ NRS 18096, Tenure Cards, Settlement Purchase Lease, Singleton, 1944/2, SANSW

³¹¹ SMH, 5 May 1983

³¹² SMH, 31 March 1993

³¹³ Hunter, Ravensworth, p 27



Figure 2. 67: Geoff and Jenny Marshall with daughters Belinda and Louise recreating the 1890s photograph of the Hill family on the front verandah of the main house of Ravensworth. Source: Courtesy of G & J Marshall.

2.6 Later History of the Ravensworth “10,000” Acres

2.6.1 Subdivision of the Estate Lands

Although Bowman quickly amassed land to the north, south and west, the three central adjoining portions of land (Portions 149 and 150 of parish Liddel and Portion 1 of parish Vane) remained the focus of the estate lands as evidenced by the development undertaken beginning shortly after Bowman was provided access to the lands (the c1828 first homestead, the c1832 homestead complex and the dams, wells, gardens and areas of cultivation etc.). These three parish portions were held together in their original form (with additional land) from 1824 until the 1890s when the land to the southwest of the New England Highway and the Great Northern Railway was separated from the estate lands (the Bayswater Estate). In the early 20th century, the remainder of the estate lands were further subdivided and dissolved these large allotments.

As discussed above, from c1912 to c1927, during the period of ownership of the Ravensworth Estate by F.J.L. Measures, A.C Reid and the Perpetual Trust Co., the remainder of Bowman’s “10,000” acres was subdivided and sold as small farming allotments (typically between 200 and 350 acres in size).

RAVENSWORTH FARMS.
IN THE FAMOUS HUNTER RIVER VALLEY.

30,000 Acres cut into 100 Farm Blocks of from 60 Acres up to 2150 Acres.

DAIRY FARMS
MIXED FARMS
GRASS COUNTRY
VINEYARDS
ORCHARDS

FOR PRIVATE SALE
ON
REAL EASY TERMS

Farms that will Pay for Themselves on such Easy Terms!

RAVENSWORTH ESTATE is on the Main Northern Railway Line between the Big Market Towns of Muswellbrook and Singleton. There are Four Railway Stations on the Estate (Glennie's Creek, Ravensworth, Liddell, Antenna), Four Post Offices on the Estate, and Five Public Schools—and Several Butter Factories not far away (rail freight only 1/6d per Gallon).

PERMANENT WATER EVERYWHERE—RAINFALL 29 INCHES.

DAIRY FARMS ————— £4/10/- TO £8/10/- PER ACRE.
GRASS COUNTRY (for Dry and Young Stock) ————— £3 TO £4/10/- PER ACRE.

REAL EASY TERMS Vendor wants 10 per cent. down; 15 per cent. March 15, 1911; 5 per cent. March 15, 1912; 5 per cent. March 15, 1913; Balance in 14 equal half-yearly payments, with interest at 5 per cent. per annum, but Special Terms can be arranged. Buyers can pay up at any time before the term specified.

TITLE WILL BE TORRENS. NO SURVEY FEES

RAVENSWORTH has been cleared for many years, and is Sweet and Sound Country. . . . Rich Plains, Rolling Downs, and High-class Uplander . . . Large Areas ready for Plow, and some Portions under Crop. . . There are many miles of Good Fencing on the Estate, which will be of advantage to Purchasers.

SPECIAL FEATURES Purchasers of Dairy Farms on this Subdivision, should they so desire, will be able to supply their requirements from the Vendor's Herd of over 1500 Head, at satisfactory prices, and on terms extending over 12 months.

Further information from the Owner, F. J. L. MEASURES, Niagara Park, N.S.W., or from his Estates General Manager, H. R. SCOTT, Ravensworth.

TO INSPECT.—Post a line to MR H. R. SCOTT, Ravensworth, telling him when you will be at Ravensworth Railway Station. A Train leaves Sydney 9.45 a.m., Newcastle 12.50 a.m., and West Maitland 1.33 p.m., daily.

Any Agent introducing Buyer personally or by letter to MR SCOTT will be paid usual Commission of 5½ per cent.

Figure 2. 68: Advertisement for the farm blocks created following subdivision of the remainder of the three central parish portions.
Source: Singleton Argus Saturday 31 December 1910 p 6

By following the chain of title for the individual allotments through the first half of the 20th century, it appears that a number of the farm blocks were purchased by extended members of a few families such as the Coffeys, the Peebles, the Purvis, the Dries and the Marshall family. These blocks were subsequently passed down through the generations within those same families (see Table 2.4 below).

The familial connections across the former estate lands led necessarily to the development of a tight knit community that worked together to establish necessary services and facilities including a public school, general store, a church and postal services. This farming community was based around the small township of Hebden originally located to the north of the Ravensworth Homestead Complex on Hebden Road (refer below for further detail).

Hebden, established in the early 20th century, was the second community centre to be established in the locality. The village of Ravensworth located to the south west of the Ravensworth Homestead Complex on the New England Highway developed as a result of the introduction of the railway in the late 1860s (refer below for further detail). However, according to Geoff and Jenny Marshall, the town of Ravensworth serviced local railway workers and itinerant works who established camps along the railway line, while Hebden serviced the graziers and farmers in the district,³¹⁴ although certainly a number of local land owners were involved in the Ravensworth Progress Association established in the early 1900s.



Figure 2. 69: Detail from 1983 aerial photograph of the locality showing a scattering of smaller farms along Hebden Road and the railway line. The village of Ravensworth is located to the south (out of frame). Source: Courtesy of Glencore

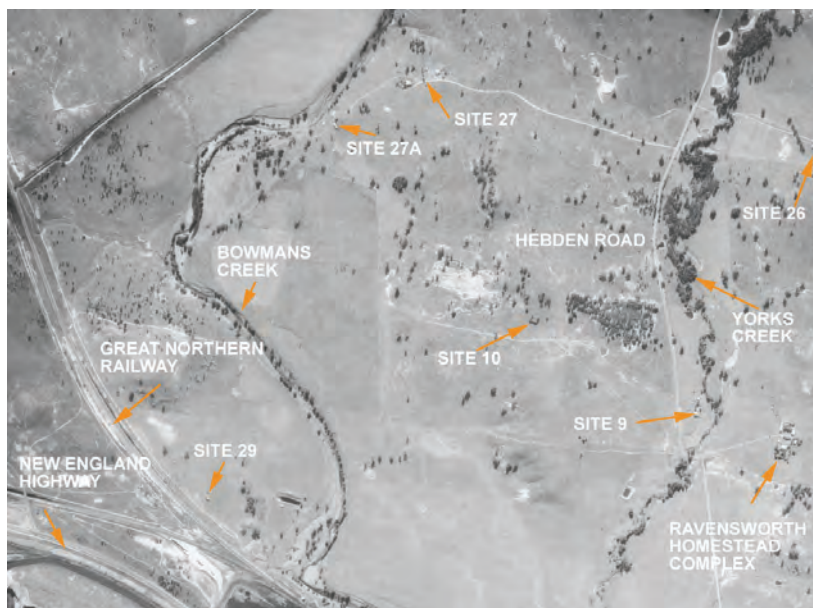


Figure 2. 70: Detail from 1953 aerial photograph of the locality showing smaller farms located to the west and north of the Ravensworth Homestead Complex. The farms identified as Sites 27 and 27a came under the ownership of the Marshall family in the latter half of the 20th century together with the Ravensworth Homestead. Source: Courtesy of Glencore

³¹⁴ Pers. comm. G & J Marshall, February 2019

Table 2. 4: First and second owners of the farm blocks created following subdivision of the remainder of the three central parish portions of the Ravensworth Estate.

LOT/ DP	1st OWNER (Vol. Fol.)	DATE	2nd OWNER (Vol. Fol.)	DATE
Portion 1 Parish of Vane				
Lot 1A/ B/DP 6842	Benjamin Richard Gelling (2340-124)	1912	A D McColman, grazier (2340-124)	1919
2/DP 6842	Robert Onebye Wynter, farmer (2667-86)	1916	T.H.M. & M.A. Purvis, graziers (3041-241/242)	1920
2A/DP 6842	Robert Onebye Wynter, farmer (2667-86)	1916	T.H.M. & M.A. Purvis, graziers (3041-241/242)	1920
3/B/DP 6842	P. G. Lynch, hotelkeeper (3179-249)	1921	A.J. Noble, grazier (3179-249)	1925
3/B/DP 6842 (Part)	C. G. Collard, storekeeper (Lease A933080, 3542-231)	1923	M.H. Hawkins, storekeeper (Lease B474801, 3542-231)	1927
Portion 150 Parish of Liddell				
3A/DP 6997	Perpetual Trust Co. (3641-126)	1927	Electricity Commission (3641-126)	1962
3B/DP 6997	W & T Lawler, graziers (2786-172/173)	1917	A.W.E. Lawler (6955-10)	1954
3C/DP 6997	A. P. O'Brien, farmer (3158-9)	1921	W & T Lawler, graziers (5439-216)	1944
3D/ DP 6997	Walter Gawne & others (2666-246)	1916	M. Coffey (3004-234)	1919
Lot 4/B/DP 6842	A.C. Marshall (Closer Settlement)	1920	G. Marshall	1980s
Lot 4/B/DP 6842 (Part)	Rev. James Marshall, clergyman (4027-211)	1927	A.C. Marshall, farmer and grazier (4027-211)	1946
Lot 4/B/DP 6842 (Part)	T. & M. Purvis, graziers (4023-20 & 21)	1927	J.V. Vine, grazier (4295-244)	1929
Lot 4A/B/DP 6842	I.T.V. and K.W.C Peebles, miners (2701-95)	1916	K.W.C Peebles, miner (2701-95)	1945
Lot 4B/B/DP 6842	I.T.V. and K.W.C Peebles (2701-95)	1916	K.W.C Peebles, miner (2701-95)	1945
Lot 5/B/DP 6842	G. Spendley, farmer (3793-169)	1925	T. & M. Purvis, graziers (3848/168-9)	1926
Lot 5/B/DP 6842 (Part)	T. & M. Purvis (4023/20-21)	1927	J.V. Vine, grazier (4295-244)	1929
Lot 6/B/DP 6842	T. & M. Purvis, graziers (4023/18-19)	1927	E.S & R.M Andrews, graziers (6348-27 & 28)	1951
Lot 7/B/DP 6842	M. Coffey, farmer (2707-34)	1916	J. N. Coffey (3319-20)	1960
Lot 7/B/DP 6842(Part)	P.J. Hurn, school teacher (3319-60)	1922	V I Knight, wife of farmer (3319-60)	1943
Lot 7/B/DP 6842(Part)	P.J. Hurn, school teacher (3160-174)	1921	M. Coffey, farmer (3318-247)	1922
Lot 8/B/DP 6842	R.J. Henwood, grazier (2302-109) (transferred to A.C. Reid in 1920)	1919	J H Harrison & F Cook, farmers (3062-21)	1923
Lot 9/B/DP 6842	M. Coffey, farmer (2707-34)	1916	J. N. Coffey, farmer (3319-20)	1960
Lot 10/B/DP 6842	Herbert Cambourn, farmer (2355-158) (transferred to F.J.L Measures in 1914)	1913	R. L. Troy, farmer (2566-149)	1915
Lot 11/ DP 6842	W and T Lawler, graziers (3772-149 & 150)	1925	M.E Andrews & L.A. Andrews, wives of farmers (3772-149 & 150)	1955
Lot 12/B/DP 6842	Herbert Cambourn, farmer (2355-158) (transferred to F.J.L Measures in 1914)	1913	W Troy, farmer (2566-148)	1915
Portion 149 Parish of Liddell				
Lot 13/B/DP 6842	A C Reid (3786-214)	1925	R.E. George, grazier (3786-214)	1938
Lot 13/B/DP 6842 (Part)	The Crown (Hebden School) (2372-237)	1913	Brian and Mary O'Brien, plant operator (2372-237)	1978

LOT/ DP	1st OWNER (Vol. Fol.)	DATE	2nd OWNER (Vol. Fol.)	DATE
Lot 14/B/DP 68942	J. M. Gates, grazier (3091-143)	1920	H.E.C Gates, retired farmer (3195-212)	1955
Lot 15/B/ DP 6842	Walter Gawne and others (2626-195)	1915	P. Belfield and others, graziers (3138-27, 28, 29)	1920
Lot 16/B/DP 6842	Albert Edward Gibbes, farmer (2652-179) (transferred to A.C. Reid in 1920)	1916	E.A. Dries, farmer (2652-179)	1925
Lot 17/B/ DP 6842	Walter Gawne and others (2626-195)	1915	P. Belfield and others, graziers (3138-27, 28, 29)	1920
Lot 18/B/DP 6842	R. Mitchell & T. Ross, farmers (3302-221, 222)	1923	C. Mitchell, farmer (3735- 77, 78, 79)	1947
Lot 19/B/ DP 6842	Walter Gawne and others (2626-195)	1915	P. Belfield and others, graziers (3138-27, 28, 29)	1920
Lot 19/B/DP 6842 (Part)	L W Easter, mechanic (6621-221) (Hebden Post Office and General Store)	1952	Remained in the hands of the Easter family until the late 20 th century	
Lot 20/B/DP 6842	Henry George, farmer (2359-15)	1913	Peter Bower, grazier (5136-7)	1940
Lot 20A/B/DP 6842	Andrew Dries Snr, farmer (2589-56) (passed down through the Dries family)	1915	B.J. Bower, wife of grazier (2589-56)	1965

2.6.2 Ravensworth Railway Station

The Great Northern Railway was built in part following the Great North Road in the 1850s to the 1870s, with the first section being constructed from Newcastle to Victoria Street, Maitland in 1857. It was then extended to Singleton (1863), Muswellbrook (1869), Murrurundi (1872), Werris Creek and west Tamworth (1878), Armidale (1883) and Wallangarra, Queensland in 1888.

On 19 May 1869, the railway from Singleton to Muswellbrook was constructed across Capt. Russell's land (the Ravensworth Estate) and the Ravensworth Railway Station, two sidings and by c1874 a station master's house were all built on the Ravensworth Estate lands. Originally named Camberwell Station, it was renamed Ravensworth in 1876.³¹⁵

In an orgy of purple prose, a local reporter described the landscape as it passed Ravensworth:

Presently we arrive at the commencement of the magnificent estate of Ravensworth, the property of Mrs Captain Russell. Ravensworth is remarkable alike for its extent, its fertility, and the beauty and varied nature of its scenery. In some places we note a park-like view; a verdant grassy sward, over which are dotted clumps of trees - here the primeval monarch of the forest with his massive trunk and gnarled limbs, leafless and bare, yet majestic in his gigantic stature and in his noble attitude - there we see the lofty sapling, literally straight as an arrow, with an airy globe of foliage twinkling in the sunshine as the leaflets tremble in the breeze - again, we notice the dark green hue of the native oaks, whose feathery leaves threw scarcely any shade upon the ground. Next we come to open pasture lands, where the carpet of verdure is studded with flocks of sheep, grazing peacefully over the alternating hill and dale. Anon we cross a creek, in whose bed the pebbles now lie idly shining in the sun, but whose waterworn banks show how forcibly the stream can run at times. In this locality the line is generally very straight, and we notice here, as well as along the whole of the extension, how neatly (to an unprofessional eye) the work of the contractor has been finished

³¹⁵ www.nswrail.net. Accessed 16 August 2018

*off. We observe too, in some places quite close to the line, the old Great Northern Road, on which the creeping bullock teams are quickly left behind.*³¹⁶

The railway station closed on 11 January 1975.³¹⁷ The station buildings and sidings were subsequently demolished in the early 21st century.



Figure 2. 71: 1902 photograph of the Ravensworth Railway Station. Source: The Sydney Mail and New South Wales Advertiser, Saturday 15th February 1902, p. 416

2.6.3 Village of Ravensworth

The Ravensworth village formed part of the original Ravensworth Estate, being located on portion 1 in the parish of Vane and followed the same line of ownership as the estate lands until c1885.

Regardless, the village was settled and developed without formal ownership of the town allotments from the late 1860s, as rather than being a surveyed government town, the village of Ravensworth appears to have grown organically following the establishment of the Ravensworth Railway Station in 1867. The village subsequently developed around the needs of railway worker as well as the itinerant and seasonal workers for the Ravensworth Estate and other neighbouring pastoral properties.³¹⁸

By 1876, a post office had been established³¹⁹ as well as a half-time school close by. However, in 1880, the Ravensworth Public School opened as a full-time school (refer below for further details), located on the corner of Hebden Road and the New England Highway, indicating the fairly rapid growth of the village.

In 1882, a substantial portion of land was conveyed to James Edmond Davys (Russell's superintendent at Ravensworth)³²⁰ and in 1885, 32 acres of Davys's land was conveyed to John Janz, farmer of Ashton near Singleton.³²¹

Janz established what was to become one of the principal buildings in the village of Ravensworth, the wine shop/saloon, which appears to have been in operation from the mid 1890s until the late 20th or early 21st century. In 1888 a notice appeared in the *Singleton Argus* commenting that John Janz had signalled the completion of his new residence at Ravensworth by holding "a grand ball to which upwards of fifty of his neighbours, etc, had been invited. A large company assembled, and dancing

³¹⁶ *Maitland Mercury*, 22 May 1869, p 4

³¹⁷ www.nswrail.net. Accessed 16 August 2018

³¹⁸ Umwelt (Australia) Pty Ltd, 2014; *Historic Heritage Assessment: Mount Owen Continued Operations Project*, p. 3.12

³¹⁹ *Maitland Mercury & Hunter River General Advertiser*, 25th January 1876

³²⁰ Bk. 251 No. 251

³²¹ Bk 323 No. 623

was indulged in from about 6.30 p.m. till broad daylight next morning.”³²² A month later, the *Australian Town and Country Journal* noted that John Janz was awarded a “colonial wine license for Ravensworth”.³²³ It appears that Janz ran the wine shop until his sudden death in 1896,³²⁴ at which time it was taken over by his son-in-law William Wolfgang who held it until his death in 1954³²⁵ when it passed to his daughter Johanna Wolfgang (variously spelt Johannah).

In 1911, William Wolfgang constructed a blacksmith’s shop and a call for a general store and additional cottage was made.³²⁶

In 1912, the Ravensworth Progress Association had been established and was requesting road repairs be undertaken by the Shire of Patrick’s Plains.³²⁷

In 1916, a storm at Ravensworth was described as damaging the post office, “lifting the roof off the verandah and sending the public telephone cabinet a distance of five yards, and through the verandah lattice work”.³²⁸ Other damage included the sheds of the wine cellars, Mr. Wolfgang’s stables and haysheds and a fettler’s hut as well as dwellings along Bowman’s Creek and the railway camp.³²⁹

In 1919, the Mutual Improvement Club was formed at a meeting held in the Ravensworth school room with Chairman Mr. W. I. Hartcher, Treasurer Mr. W. Wolfgang and Hon. Secretary Mr. K. Peebles (all local landowners).³³⁰ Meetings continued until at least 1927.

A meeting held in 1922 discussed the need for a School of Arts and assembly hall at Ravensworth and in 1931 the Ravensworth Memorial Hall was officially opened by Mr. M. Brown MLA with A.C. Marshall as chairman of the opening ceremony.³³¹ The land for the Memorial Hall had been purchased from William Wolfgang in 1927, and the allotment was owned by the ‘Trustees for a Memorial Hall’ until purchased by Glendell Tenements Pty Ltd.

Between 1939 and 1946 the Ravensworth Hall was used for community balls, the first recorded being the Church of England Ball.³³²

In 1945, the wine shop was described as: “the main wine shop in this area when the railway line construction was in progress....reputed to be the best kept of any situated on the route of the line of construction.”³³³

In 1946 when Johanna Wolfgang applied to extend her licence to also serve spirits (her application was refused), evidence in favour of granting the licence was provided by Hebden land owner and shire councillor Mr. G.D. Clydesdale who stated that Ravensworth was a “progressive little village, closely settled..”.³³⁴

³²² Article: “Ravensworth”, *Singleton Argus*, Saturday 9 June 1888, p. 2

³²³ *Australian Town and Country Journal*, Saturday 21 July 1888, p. 17

³²⁴ District News: Singleton, *The Maitland Daily Mercury*, Tuesday 10th March 1896, p. 7

³²⁵ Umwelt, 2014; p. 3.12

³²⁶ *Singleton Argus*, Thursday 22 June 1911, p. 4

³²⁷ *Singleton Argus*, Monday 11 November 1912, p. 8

³²⁸ *Singleton Argus*, Tuesday, 11 January 1916, p. 2

³²⁹ Ibid.

³³⁰ *Singleton Argus*, Saturday 12 July 1919, p. 1

³³¹ *Singleton Argus*, Monday 26 October 1931, p. 2

³³² *Singleton Argus* 25 August 1939 and 11 October 1946, cited in Umwelt, 2013, p. 3.14

³³³ *Singleton Argus*, Wednesday 27 June 1945, p. 2

³³⁴ Article: No Liquor Licence for Ravensworth, *Singleton Argus*, Monday 4th November 1946, p.2



Figure 2. 72: c1959 photograph of the Ravensworth General Store and Wine Shop/Saloon with adjacent Post Office indicated by the telephone box. Source: NAA, C4076/ HN6235

In 1949, Davies Construction, who were developing a local open cut coal mine (to the southwest), were intending to build homes for its employees at Ravensworth and were planning for the township to be further developed.³³⁵ The Council of the Shire of Patricks Plains (now Singleton Council) initially intended to have control of the proposed buildings and sub-divisions to avoid the “temporary hutments” that had previously occupied much of the village.³³⁶ However, Council did not obtain control and were instead asked to take over as trustees of Ravensworth Hall.³³⁷

Later newspaper articles concerning the village include reports of a caravan park at Ravensworth with poor sanitary conditions and an automatic telephone exchange with 22 subscribers.³³⁸

From the early 1950s, various allotments within the village were purchased from Johanna Wolfgang by the Hunter Strip Mining Co. Pty Ltd.³³⁹



Figure 2. 73: Detail from 1974 aerial view of the village of Ravensworth located between the New England Highway and the Great Northern Railway. The road leading off to the right is Hebden Road which provides access to the Ravensworth Estate lands. Source: courtesy of Glencore.

³³⁵ Singleton Argus 29 July 1949

³³⁶ Singleton Argus 26 August 1949

³³⁷ Singleton Argus 24 March 1950

³³⁸ Singleton Argus 28 March 1951 and Singleton Argus 16 October 1953, cited in OzArk Environmental & Heritage Management, *Historic Heritage Salvage Report: Ravensworth Village Site*, 2017, p. 10

³³⁹ Bk. 2239 NO. 168; Bk. 2322 No. 283

In 1953 Council the purchased Lots 4, 5, 6 and 21 DP38725, and a green space was declared and a small park created with play equipment and park facilities. In March 2006 Singleton Council stopped maintaining the park and removed the facilities, rezoning the land from community space to operational land, allowing for the sale of the land.

By 2002 the community hall has been demolished and by 2008 most other structures had also been demolished. The Ravensworth Public School buildings are the only standing structures surviving today at the former village of Ravensworth (see below for details).



Figure 2. 74: Ravensworth village in 1977. Source: *Newcastle Herald*, dated 31st May 2013

2.6.4 Ravensworth Public School

On 13 July 1876, John Moss, a Mormon, applied for a half-time school near the Ravensworth railway station to operate in conjunction with one already established at Chilcotts Plains. He was identified as a “station overseer”.

Half-time Schools were elementary schools established from 1867 to cater for children in areas of scattered population. The 1866 *Public Schools Act* provided for the appointment of itinerant teachers who, between 1867 and 1868, were in charge of up to seven “stations”. From 1869 each teacher visited only two stations, and thus the schools became truly Halftime. At least 20 children were required to attend the schools, in two groups of 10 or more. In 1898 the required attendance was reduced to 16, and by 1908 no fixed number was required.³⁴⁰

On 4 April 1878, the local residents applied for a formal public school for children of employees on the Ravensworth estate and railway workers, which was approved. The proposed site was near the stationmaster’s house.³⁴¹

Eliza and William Russell, trustees of the will of William Russell conveyed two acres at the corner of the Great North Road and the road to the railway station to the Council of Education for 10 shillings (see Figure 2.75).³⁴² The opening caused the closure of the half time school, which was 2 miles away. James Pritchard of West Maitland completed the buildings in 1880. Mr Edward Clarke was the first teacher at the newly constructed school.³⁴³

In 1912, when the school buildings were being repaired a site plan showed the position of the buildings and the configuration of the combined schoolhouse and residence (see Figure 2.76).³⁴⁴

³⁴⁰ Umwelt, 2014; p. 3.15

³⁴¹ NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1

³⁴² OSD, Bk 198 No 648

³⁴³ *NSW Government Gazette*, Tuesday 22nd June 1880 Issue No. 233 (Supplement) p. 3055

³⁴⁴ NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1

In the late 1960s, a new brick school building with office and separate toilets was constructed adjacent to the original building. The new Ravensworth Public School was opened 26th September 1971 as one teacher school for 24 pupils.³⁴⁵

The Ravensworth Public School closed in 1986.³⁴⁶ In May 2019 the vacant original school building was partially destroyed as a result of an arson attack.

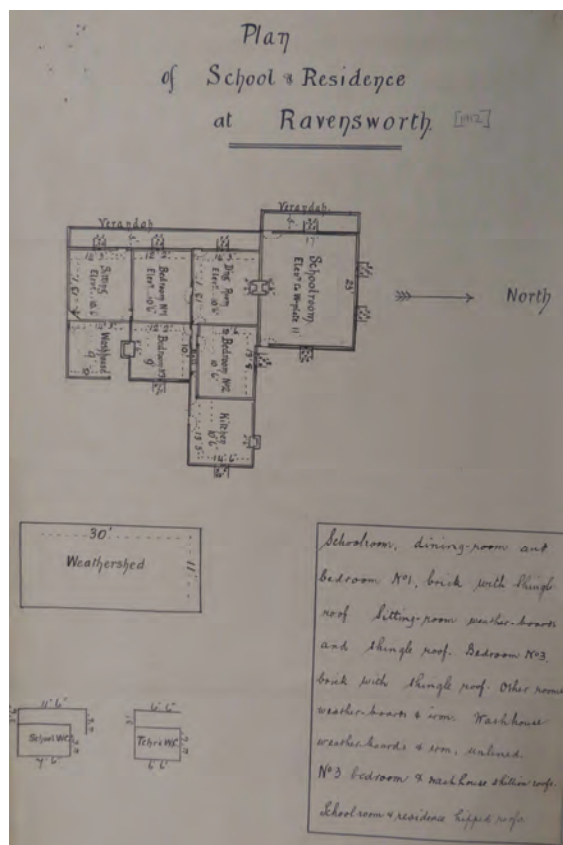


Figure 2.75: The layout of the public school site in 1912. Source: NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1



Figure 2.76: The site of Ravensworth school. Source: NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1

2.6.5 Hebden Village

The small village of Hebden appears to have been initially established by Mr. Harry Knowles, together with the small community of farmers who had purchased their land from F.J.L. Measures in 1912-1913. It also appears that Knowles was responsible for naming of the locality, following the construction of the public school.

In February 1912, negotiations were underway with F.J.L. Measures to acquire land to construct a school for children of the purchasers. Measures' representative F. Ireland called on the Department of Public Instruction proposing to establish a school on 5 acres, part of Lot 1, Section B (eventually constructed on part of Lot 13 Section B DP 6842). Measures suggested that any departmental representative should contact his Ravensworth Estates Manager, Harold R Scott, prior to visiting. He also offered to collect departmental representatives in his private car and accommodate them during

³⁴⁵ *Newcastle Morning Herald*, 22nd September 1971

³⁴⁶ Umwelt, 2014; p. 3.17

their stay at the homestead.³⁴⁷ When the department responded favourably to the proposed school, Measures noted he could ask some of the builders constructing houses and dairies on the estate. By that time a total of 30 houses, bails and dairies had been completed.³⁴⁸

Henry Knowles, proprietor of the “Hebden” Stores at Ravensworth, on the estate, identified Russell and Sandeman as the builders who had constructed his own house and “are generally considered the best workmen in this neighbourhood”.³⁴⁹ Knowles was the first postmaster at the Hebden post office established at his store from 15 October 1912 (located on Lot 13 Section B DP 6842), although it appears that Knowles did not stay long as by 1925 his land was owned by A.C. Dries.³⁵⁰

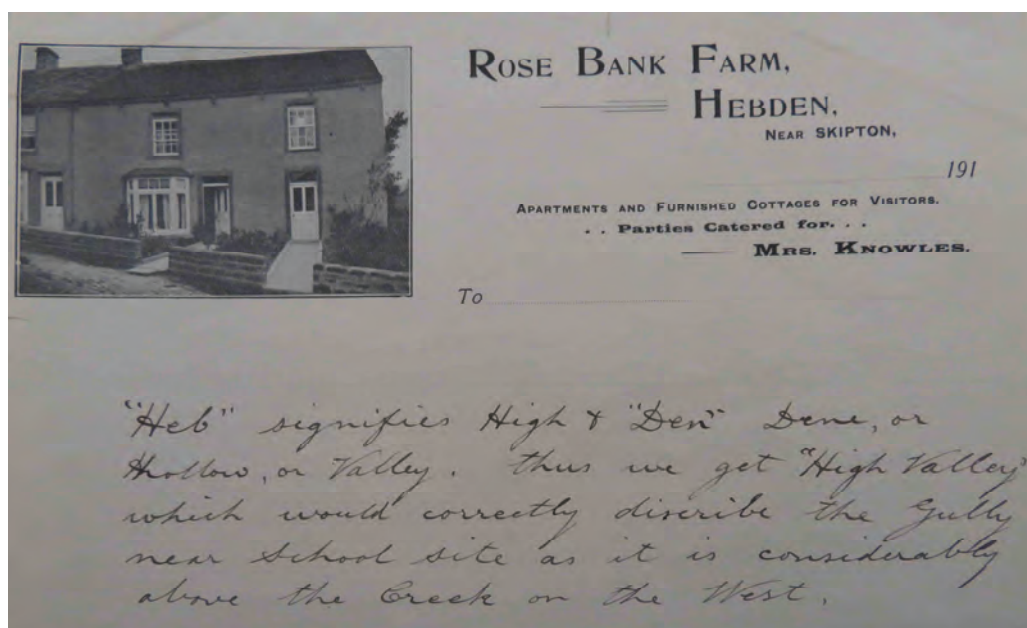


Figure 2. 77: The letter explaining the derivation of the name 'Hebden'. Source: NRS 3829, School file, Hebden, SANSW 5/16256.4

The former Hebden Public School was opened in October 1912 and closed in December 1973 (NSW Department of Education and Communities). A minimum attendance of twenty children was required at this public school until 1957 when the number was reduced to nine. Various records and registers are available relating to the school including the Register of Admission, Observation Books, Punishment Book and Visitors' Books. Visitors recorded in these records include the Bishop of Newcastle on 13 July 1927.³⁵¹

In 1914, a telephone line was established between the Ravensworth Railway Station and the Hebden Post Office.³⁵²

By 1918, it appears that a church had been established, initially referred to as being located at Ravensworth and later known as St. Peter's Church providing Anglican services fortnightly and services for the Uniting Church monthly.³⁵³

³⁴⁷ 1912/13401, NRS 3829, School file, Hebden, SANSW 5/16256.4

³⁴⁸ 1912/32496, NRS 3829, School file, Hebden, SANSW 5/16256.4

³⁴⁹ Loose letter 19/6/12, NRS 3829, School file, Hebden, SANSW 5/16256.4

³⁵⁰ A5037, in SP32/1 Post Office File, Hebden, 1912-17, (Barcode 435452), NAA

³⁵¹ Umwelt, 2014; Historic Heritage Assessment: Mount Owen Continued Operations, p. 4.10

³⁵² "What the Federal Member is Doing"; *Singleton Argus*, Tuesday 21st April 1914, p. 4

³⁵³ "Church of England Services", *Singleton Argus*, Saturday 12th October 1918, p. 2;

By the early 1920s, a hall had also been constructed at Hebden which became the social centre for the local community. According to former local resident David Williams, the hall was the centre of all social events, monthly dances, Christmases and birthday parties. In 1968, David Williams along with two long-term local residents, Doug Clydsdale and Geoffrey Marshall (from Ravensworth Homestead) were elected Trustees of the Hebden Hall.³⁵⁴ Originally the Hall was not located within the Hebden village area, being situated north of Singleton until in the 1970s it was relocated to a site opposite the Hebden Public School by the (then) Electricity Commission.³⁵⁵ The Hall continued to be used on a regular basis until more changes came to the district, principally the establishment of the Mount Owen mine to the northeast. With the change in the district and eventual expansion of mining, during the 1980s and 1990s, the local families left the area.³⁵⁶

In 2014, the hall building was relocated to the north of the former township near the intersection of Hebden Road and Scrumlo Road. At this time, the building was completely refurbished via a Voluntary Planning Agreement between Glencore and Singleton Council.³⁵⁷



Figure 2. 78: The 1942 Army Topographical map of Ravensworth. Source: Australia – Army, Topo Map 1:63360, Camberwell, Zone 8, No 378, 1942



Figure 2. 79: Detail from 1983 aerial photograph of the locality of Hebden. Source: Courtesy of Glencore

³⁵⁴ “Hebden Hall Hand-over”, *Singleton Argus*, 9th December 2014, <https://www.singletonargus.com.au/story/2749840/hebden-hall-handover/>

³⁵⁵ Ibid

³⁵⁶ Ibid.

³⁵⁷ Glencore, *Greater Ravensworth Community Newsletter 1*, 2015, p. 3

2.7 Coal Mining at Ravensworth

The presence of coal under Ravensworth had been public knowledge since October 1847 when noted amateur geologist Reverend William Branthwaite Clarke told a Select Committee of the Legislative Assembly that there was coal under much of the Hunter Valley and naming Ravensworth as one of its locations.³⁵⁸ He reiterated that claim in the paper he prepared for the catalogue of the *Natural and Industrial Products of New South Wales*, issued by the Australian Museum for the 1854 Paris Commission.³⁵⁹

Mining in the Ravensworth locality appears to have started in the 1880s, as the *Maitland Mercury* reported in 1886 that Messrs. Nowland had opened a “splendid seam of coal” on their Rosedale Estate between Rixs Creek and Glennies Creek (to the south of Ravensworth and Camberwell) under the management of Mr. Minto formerly of the Singleton Coal Company’s mine at Rix Creek.

In May 1890 the Diamond Drill Branch of the Department of Mines reported it had located coal seams at Ravensworth, which at the time was owned by the Land Company of Australasia Ltd.³⁶⁰ As a result, sinking for coal had been actively pursued on the Ravensworth Estate and the newspaper reported that “the perseverance of the promoters has been successful to such a degree that they intend to float the undertaking shortly into a company with equal capital of £50,000.”³⁶¹ It is uncertain whether any such scheme was pursued.

However, it was not until the mid-20th century that coal mining began to develop as the major industry in the Singleton area, taking over from grazing. By the 1950s, coal mining and electricity generation were the major industries in the area with the first wave of collieries being built at Liddell, Foybrook and Liddell State (located to the west and southwest of the Ravensworth homestead).

Since then coal mining operations have expanded over an area of land bounded by Singleton, Muswellbrook and Denman.

2.7.1 Coal Mining Around the Ravensworth Homestead Complex

The Liddell Power Station incorporating four 500 MW generators was commissioned between 1971 and 1973 and open cut coal mines at Ravensworth and nearby would supply it with coal.³⁶²

The first boiler/turbine unit at Liddell Power Station was commissioned in May 1971.³⁶³ In 1971, the open cut coal mines associated with Liddell supplied 6% of the 7,221,356 tons of coal supplied to Electricity Commission power stations.³⁶⁴ The mines associated with Liddell including the Swamp Creek and Ravensworth mines were operated on lease under the control of the Commission.³⁶⁵

³⁵⁸ *SMH*, 13 Oct 1847, p 3

³⁵⁹ *SMH*, 10 Aug 1858, p 8

³⁶⁰ *Maitland Mercury*, 1 May 1890, p 6

³⁶¹ “Singleton”, *Maitland Mercury*, Thursday 23rd September 1886, p. 7

³⁶² Electricity Commission of New South Wales, *Annual Report*, 1968, no pagination

³⁶³ Electricity Commission of New South Wales, *Annual Report*, 1971, p 6

³⁶⁴ Electricity Commission of New South Wales, *Annual Report*, 1971, p 8

³⁶⁵ Electricity Commission of New South Wales, *Annual Report*, 1972, p 7

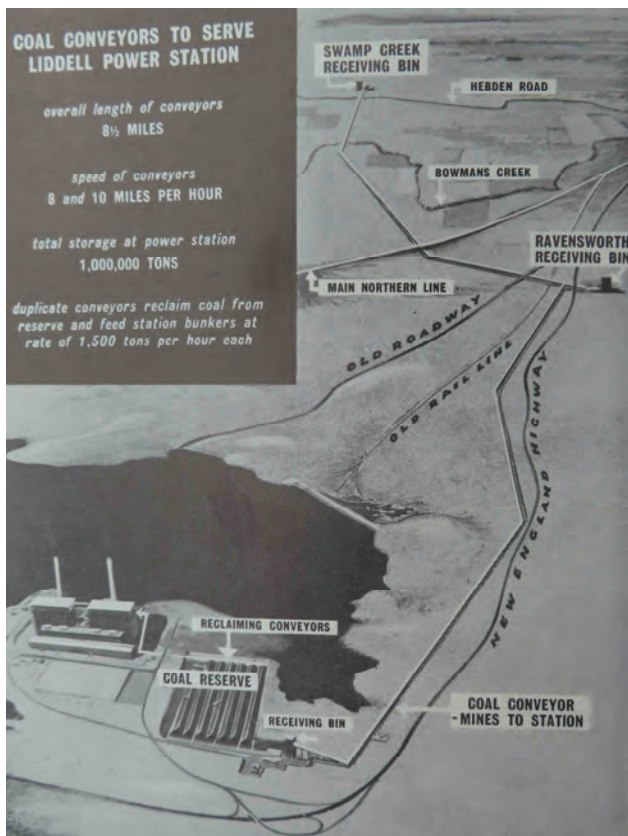


Figure 2. 80: Diagram outlining coal supply to Liddell power station. Source: Electricity Commission of New South Wales, *Annual Report*, 1968, no pagination



Figure 2. 81: Dragline at Ravensworth open cut mine. Source: Electricity Commission of New South Wales, *Annual Report*, 1972, 7

In the 1960s, the Swamp Creek Mine began operating and in 1997 a new mining lease was issued following a period of care and maintenance and the mine was renamed Ravensworth East Mine (located to the northeast of the Ravensworth Homestead Complex). In 1993, the Mount Owen Mine (located to the east of the Ravensworth Homestead Complex) commenced operations under the management of the Hunter Valley Coal Company.³⁶⁶

Coal mining commenced at Ravensworth No.2 Open Cut Mine in 1972 to supply coal under contract to Pacific Power (previously known as the Electricity Commission of NSW). Following completion of this contract in 1987, a second contract was awarded to mine the Ravensworth South area until the resource was exhausted in the year 2001.

A further coal contract was secured with Pacific Power in 1990 to provide 2 million tonnes per annum for 21 years from the Narama area. Mining at Narama began in 1991. This lease lies immediately to the south of Ravensworth South and forms part of the Ravensworth Mine Complex.

Cumnock No. 1 Colliery is the former Liddell State Coal Mine established in the 1950's by the State Mines Control Authority. In 1973 control of the mine was given to the Electricity Commission of NSW. Cumnock No. 1 Colliery, now a wholly owned subsidiary of Xstrata, acquired the mine in 1991.

Ravensworth West Mine began operating in the late 1990's prior to the exhaustion of Ravensworth South. Ravensworth Underground Mine (RUM), formerly known as Newpac No. 1 Colliery and Nardell Colliery, received development approval in 1996.³⁶⁷

Glencore (formerly Xstrata) has managed Mount Owen Mine, Ravensworth East and Glendell Mines as the Mount Owen Complex since 2004 with integrated coal handling and processing facilities, product transport, tailings disposal and water management systems. ROM coal extracted from the Glendell Pit is transported to the Mount Owen CHPP for processing. Product coal is transported from the Mount Owen Complex using the Mount Owen Rail Loop or to the Liddell or Bayswater Power stations by conveyor.

Thiess Pty Ltd currently operates the Mount Owen Mine (excluding the CHPP and associated infrastructure) under a contractual agreement with Mount Owen. Mount Owen operates the Mount Owen CHPP and associated infrastructure, and the Ravensworth East Mine (Bayswater North Pit) and the Glendell Mine (Glendell Pit).³⁶⁸

2.7.2 Ownership of Mineral Resources on Private Lands

In terms of ownership of the mineral resources in NSW, originally grants of land generally contained no reservation of minerals. However, by 1828 the government began to reserve gold and silver from future land grants, in 1831 this was expanded to include coal and in 1850, all reservations of coal made after 1830 were waived, except for those relating to land within any city, township or village.³⁶⁹

In 1861 under the *Crown Lands Alienation Act* 1861, two distinct types of conditional land purchases were provided for: those for the purpose of mining other than gold mining and those for non-mining purposes. A land purchase for the purpose of mining included private ownership of all minerals under

³⁶⁶ Umwelt, 2014; *Mount Owen Continued Operations Project: Historic Heritage Assessment*, p. 3.24

³⁶⁷ Glencore, 2017; *Ravensworth Open Cut: Plan for Heritage Management*, p. 21

³⁶⁸ Umwelt, 2018; *Glendell Continued Operations Project: Preliminary Environmental Assessment*, p. 9

³⁶⁹ "A history of mineral and petroleum ownership and royalties in NSW", *Issues Backgrounder*, NSW Parliamentary Research Service, No. 5/October 2012, p. 4

that land, except for gold and silver. This type of land purchase could be held separate to the owners of the land for non-mining purposes (e.g. grazing and pastoralism).

Such was the case with the Ravensworth estate lands, where following the subdivision of the estate in 1920 under A. C. Reid, much of the land for mining purposes was held by Norman Bramall Higgins, a company director from Sydney.³⁷⁰ This excluded Allotment 4 which held the Ravensworth homestead, as this land was already vested in the Crown for the purposes of Closer Settlements and Settlement Purchases Acts.

By 1884, all grants of land issued under the *Crown Lands Act* 1884 contained a reservation of all minerals to the Crown and in 1981 the *Coal Acquisition Act* was introduced and all coal in NSW became vested in the Crown. For the first time, the government became the owner of all unmined coal in the state and this enabled the government to tax the mining of coal, a situation it was not allowed to do when coal was privately owned.

2.7.3 Reunification of the Ravensworth Estate lands

Due to the presence of coal in and around the Ravensworth Estate, over time the individual allotments of land that were initially subdivided away from the estate lands in the early 20th century, have been purchased by companies and agencies involved in the mining and power generation industries. Initially, this was the Electricity Commission who began amassing land within the boundaries of the Place in the mid 1960s, including the eastern half of Portion 228 which held the Ravensworth Homestead Complex.³⁷¹

During the 1970s, other private companies began to purchase the farm allotments including Tealby Pty Ltd, Clutha Development Pty Ltd and Darel Investments Pty Ltd.³⁷² By the 1980s, Glendell Coal Ltd. and Peabody Resources Ltd. had both bought land around the Ravensworth Homestead Complex,³⁷³ followed by the Hunter Valley Coal Corporation in the mid-1990s, amongst others.³⁷⁴

However, by 1996-97, Glencore and its subsidiaries including Glendell Tenements Pty Ltd, Ravensworth Operations Pty Ltd and Mt. Owen Pty Ltd had purchased the majority of the allotments within the boundaries of the Place, including the Ravensworth Homestead property, but excluding the land that was excised from the original three land grants of the Ravensworth Estate in 1866 as the Bayswater Estate.

The outcome of this steady acquisition of the land by Glencore was the reunification under a single ownership (of sorts) of a substantial proportion of the land that originally comprised the three initial portions of land granted to Dr. James Bowman in the 1820s.

The diagrams below (refer to Figures 2.82 to 2.87) illustrate the pattern of land ownership pertaining to the three land grants forming the core of the Ravensworth Estate, that is Portions 149 and 150 of the Parish of Liddell and Portion 1 of the Parish of Vane.

³⁷⁰ CT 3209 f 124

³⁷¹ CT 3209 f 124

³⁷² CTs 3138 f 27 and 3209 f 124

³⁷³ CT 6446 f 129

³⁷⁴ CT 3786 f 214

The Ravensworth Estate three core land grants: Portion 149 and 150 of Parish Liddell and Portion 1 of Parish Vane were held in one ownership from 1824 to 1866, although under a number of different owners including James Bowman (1824-1842),

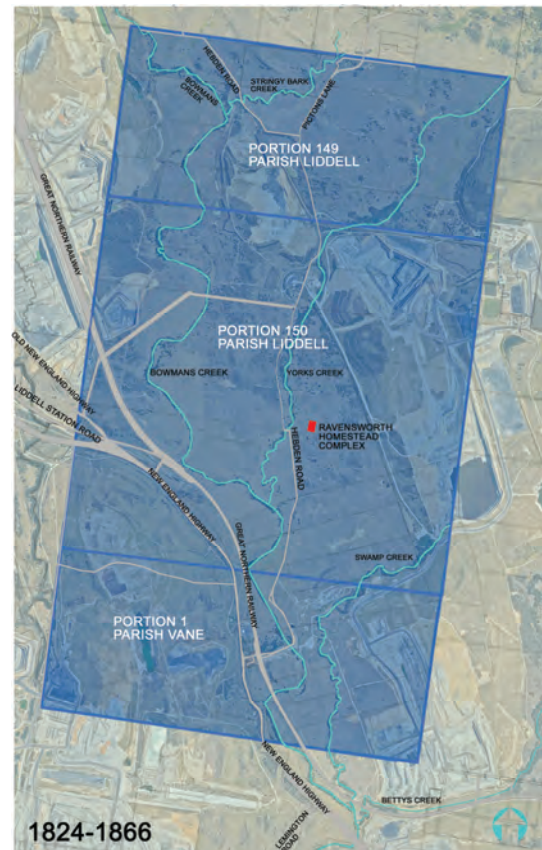


Figure 2. 82: Aerial view of the Place showing boundaries and shaded blue to indicate a single owner, with the focus of the property being the Ravensworth Homestead Complex.

The first subdivision of the estate lands occurred in 1866 when Captain Russell, the then owner of the estate, sold the southwestern portion of the core lands as the “Bayswater Estate”. This area of land remains in different ownership today and has never been reunited with the original land grants.

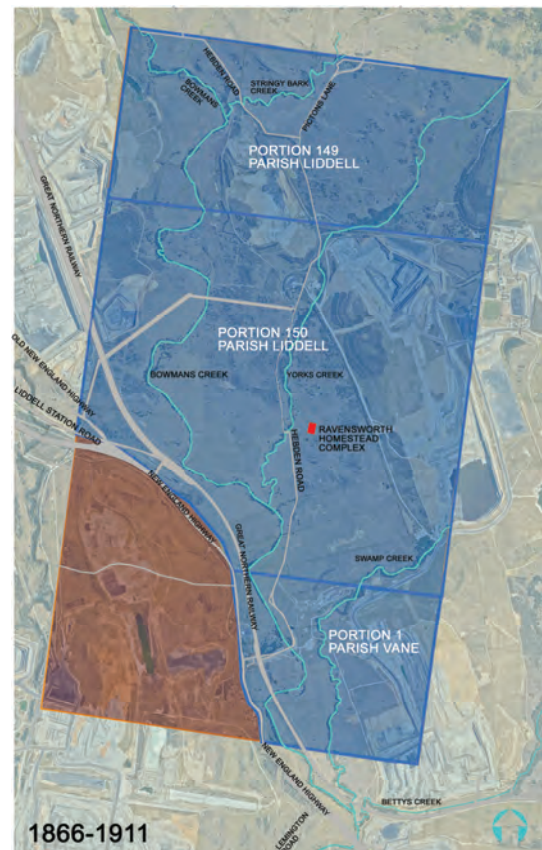


Figure 2. 83: Aerial view of the Place showing the boundaries of the Ravensworth Homestead Complex property as they were from 1866-1911 (shaded blue), following the first major subdivision of the estate lands in 1866 as the Bayswater Estate and from that time on held under separate ownership (shaded brown).

The subdivision period that commenced in c1912 under F.J.L. Measures resulted in the land to the north and south of the Ravensworth Homestead Complex being sold off as smaller farming allotments. At this time, although much reduced, the Ravensworth Homestead Complex remained on a fairly generous allotment of land.

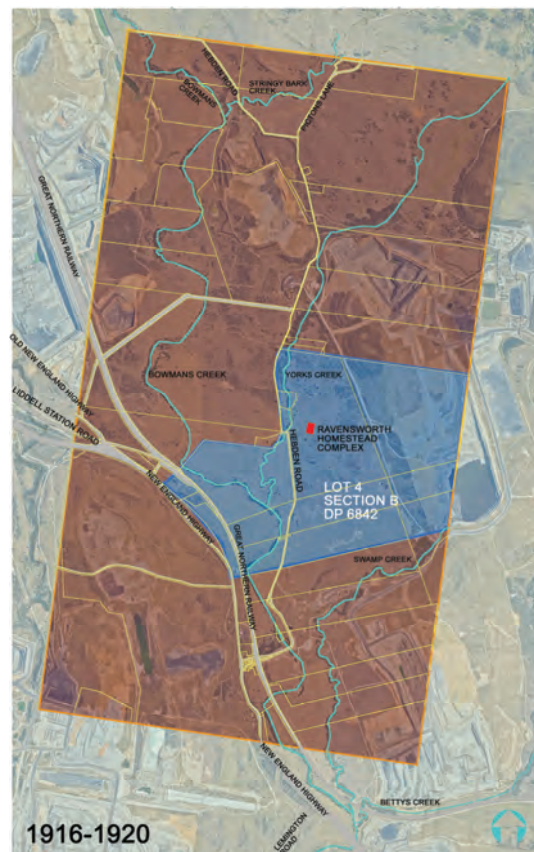


Figure 2. 84: Aerial view of the Place showing the boundaries of the Ravensworth Homestead Complex property as they were from 1916 to 1920 (shaded blue). The remainder of the land was owned by a variety of different, separate owners (shaded brown).

Following the sale of the Ravensworth Homestead Complex under the Closer Settlement Act to A.C. Marshall in 1921, further minor subdivisions continued to occur in the first half of the 20th century that further reduced the allotment of land, including the western portion of the land being sold to Rev. James Marshall, A.C. Marshall's father, in 1927.

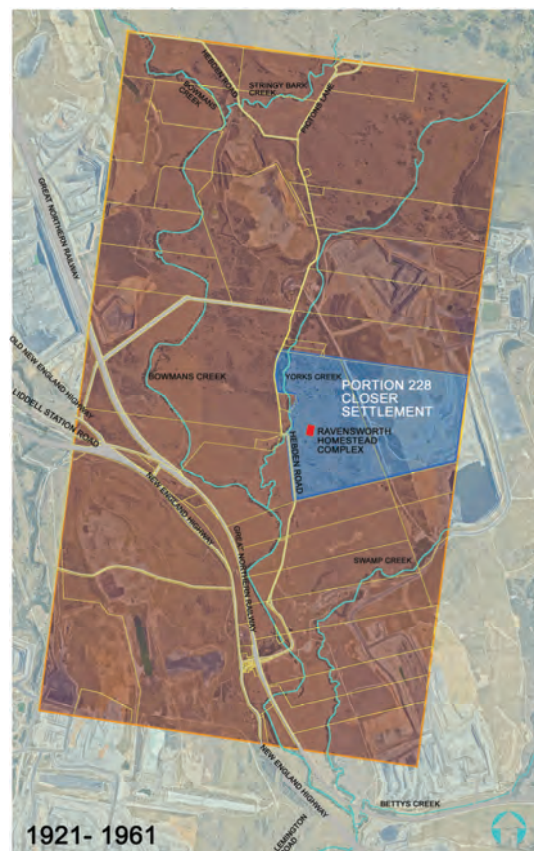


Figure 2. 85: Aerial view of the Place showing the boundaries of the Ravensworth Homestead Complex property as they were from 1921 to 1961 (shaded blue). The remainder of the land was owned by a variety of different, separate owners (shaded brown).

By 1996, the majority of the land surrounding the Ravensworth Homestead Complex had been purchased by Glencore and subsidiaries although the Marshall family remaining in the locality, although the eastern half of their property had been purchased by the Electricity Commission in 1962, followed by other private companies involved in coal mining including CNR Resources Ltd and Ravensworth Operations Pty Ltd in 2002.

Figure 2. 86: Aerial view of the Place showing the boundaries of the Ravensworth Homestead Complex property as they were from 1962 to 1996 (shaded blue). The remainder of the land by this time was owned by Glencore (shaded green) with only the former Bayswater Estate to the southwest and one or two small pockets of land owned by different, separate owners (shaded brown).



In 1997, the Marshall family sold the Ravensworth Homestead Complex allotment to Glencore subsidiary Liddell Southern Tenements Pty Ltd.

Figure 2. 87: Aerial view of the Place showing that the majority of the land by 1997 was owned by Glencore (shaded green) with only the former Bayswater Estate to the southwest and one or two small pockets of land owned by different, separate owners and by the Crown (shaded brown). Ravensworth Homestead Complex forms part of the mine owned lands. Refer also to Figure 1.7 for current owners.



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3. Physical Evidence

3.1. Introduction

The following descriptions of the built fabric, setting, views, landscape and site features and the archaeology (historical and Aboriginal) aim to summarise the physical composition of the place.

The Physical Evidence is examined from the macro to the micro level as per the following:

The Place	Core Estate Lands	Ravensworth Homestead Complex
Aboriginal archaeology	Aboriginal archaeology	Aboriginal archaeology
Cultural Landscape	Historical archaeology	Historical archaeology
Other Sites	Cultural Landscape	Cultural Landscape
	Other Sites	Ravensworth Homestead buildings and garden

Unless otherwise stated, the images used in this chapter have been produced by the authors of this report.

3.2. Methodologies

According to each discipline that contributed to the preparation of this report, the following methodologies were adopted to investigate and analyse the physical evidence:

Aboriginal Archaeology

The Aboriginal archaeology of the Core Estate Lands and other areas within the boundaries of the Place was assessed by OzArk Environment & Heritage Pty. Ltd. in 2018. The objectives for the assessment were as follows:

1. to undertake background research to formulate a predictive model for Aboriginal site location;
2. to identify and record objects or sites of scientific archaeological significance as well as any landforms likely to contain further archaeological deposits and
3. to assess the likely impacts of the Proposal on Aboriginal archaeological sites and/or deposits and provide management recommendations.

The fieldwork component of this assessment was undertaken by OzArk, Registered Aboriginal Parties (RAPs) and Wonnarua Knowledge Holders over the course of several weeks in April and September 2018.

The *Glendell Continued Operations Project: Aboriginal Archaeology Impact Assessment, Glendell Coal Mine, Ravensworth* prepared by OzArk Environment & Heritage Pty Ltd should be referred to in the first instance (*Appendix 22 of GCO Project EIS*).

Historical Archaeology

An historical archaeological assessment of the Ravensworth Homestead Complex and a portion of the Core Estate Lands was undertaken by Casey & Lowe in 2018 and 2019 (see Section 3.8). The assessment involved a review of archaeological investigations that had already occurred within the vicinity followed by an assessment of the archaeological potential and significance of any identified relics and/or sites in the area of study. This led to the development of an Archaeological Research Design for targeted archaeological excavation of potentially State-significant sites related to the Bowman era, including the Ravensworth Homestead complex, the surrounding cultivation areas, and the possible site of the nearby early house site (Site 11) to:

1. Determine the survival, extent and location of the potential archaeological resource.
2. Clarify the archaeological potential and significance of areas of potential state and/or local significance.
3. Inform the environmental assessment process and any options proposed as part of the project, including the potential to relocate the homestead.

The *Ravensworth Homestead Complex and Surrounds: Historical Archaeological Assessment & Archaeological Research Design* and the *Ravensworth Homestead Complex: Historical Archaeological Test Excavation Report and Impact Statement for the Core Estate Lands*, both prepared by Casey & Lowe should be referred to in the first instance (see Appendix 23c).

Cultural Landscape Elements and Built Fabric

The built fabric and landscape elements of the Place, including the Core Estate Lands and the Ravensworth Homestead Complex were visually inspected by Lucas, Stapleton, Johnson & Partners Pty Ltd in association with Geoffrey Britton and Colleen Morris throughout 2018 and 2019. No physical investigations of the landscape or the built fabric were undertaken as part of this study.

Prior to undertaking the physical survey, a number of earlier reports and histories were reviewed to form an understanding of the historic and current configuration of the Place, the Core Estate Lands and the Ravensworth Homestead Complex (see Appendix 2: Bibliography).

In addition, in August 2018 and February 2019, interviews were undertaken with the previous property owners Mr. Geoffrey and Mrs. Jenny Marshall who offered information regarding the physical changes made to the Ravensworth Homestead Complex and the historical development of other sites within the boundaries of the Place. For copies of notes relating to each interview, refer to Appendix 4.

For detailed fabric surveys of the built structures comprising the Ravensworth Homestead Complex, refer to Appendix 5.

3.3. General Description of the Place

3.3.1. The Locality

The Ravensworth Estate is located within the Upper Hunter Valley, NSW, within the Parishes of Liddell and Vane, the County of Durham, in the local government area of Singleton Council.

The Ravensworth Homestead Complex is located to the north of the New England Highway and the Main Northern Railway, approximately 20 kilometres northwest of Singleton, 25 kilometres southeast of Muswellbrook, 6 kilometres north of the village of Camberwell and 7 kilometres east of Lake Liddell. The Hunter River is directly to the south.

3.3.2. The Boundaries of the Place

As discussed in Section 1, for the purposes of this Heritage Analysis and Statement of Significance, the place has been defined as being the boundaries of the three land grants forming the historic core of the Ravensworth Estate, that is Portions 149 and 150 of the Parish of Liddell and Portion 1 of the Parish of Vane (see Figure 1.2). Together this land comprises Dr. James Bowman's original "10,000 [10,439] acre" land grants applied for under Governor Brisbane in 1824.

Bowman went on to control a much larger estate by virtue of various forms of lease from the Crown and the Church and School Lands Corporation. However, these lands, although historically forming part of the Ravensworth Estate, were only added to the Ravensworth property in a piecemeal and opportunistic fashion by Bowman as well as his later successors in title.

These surrounding lands form the broader pastoral lands of Bowman's sheep run of the 1820s to the 1840s and are not known (at this time) to contain tangible evidence directly relating to Bowman's period of use. For this reason, the remainder of the Ravensworth Estate lands have been excluded from the definition of the place, although they have been considered in this report as associated sites (see Section 4.6).

Principal Components of the Place

The place includes all allotments and part allotments, natural features (including creeks, landforms and vegetation), built features (including buildings, landscape features, railway lines and roads), archaeological sites and features (Aboriginal and historical), as well as mining operations and associated infrastructure located within the boundaries of the historic core of the Ravensworth Estate.

As also discussed in Section 1, those areas of land located within the boundaries of the place that are currently in use for mining activities (open-cut mining), have been excluded from the focus of study for this report.

The focus of study for this Heritage Analysis and Statement of Significance identified as the Place, is shown in Figure 3.1 below.

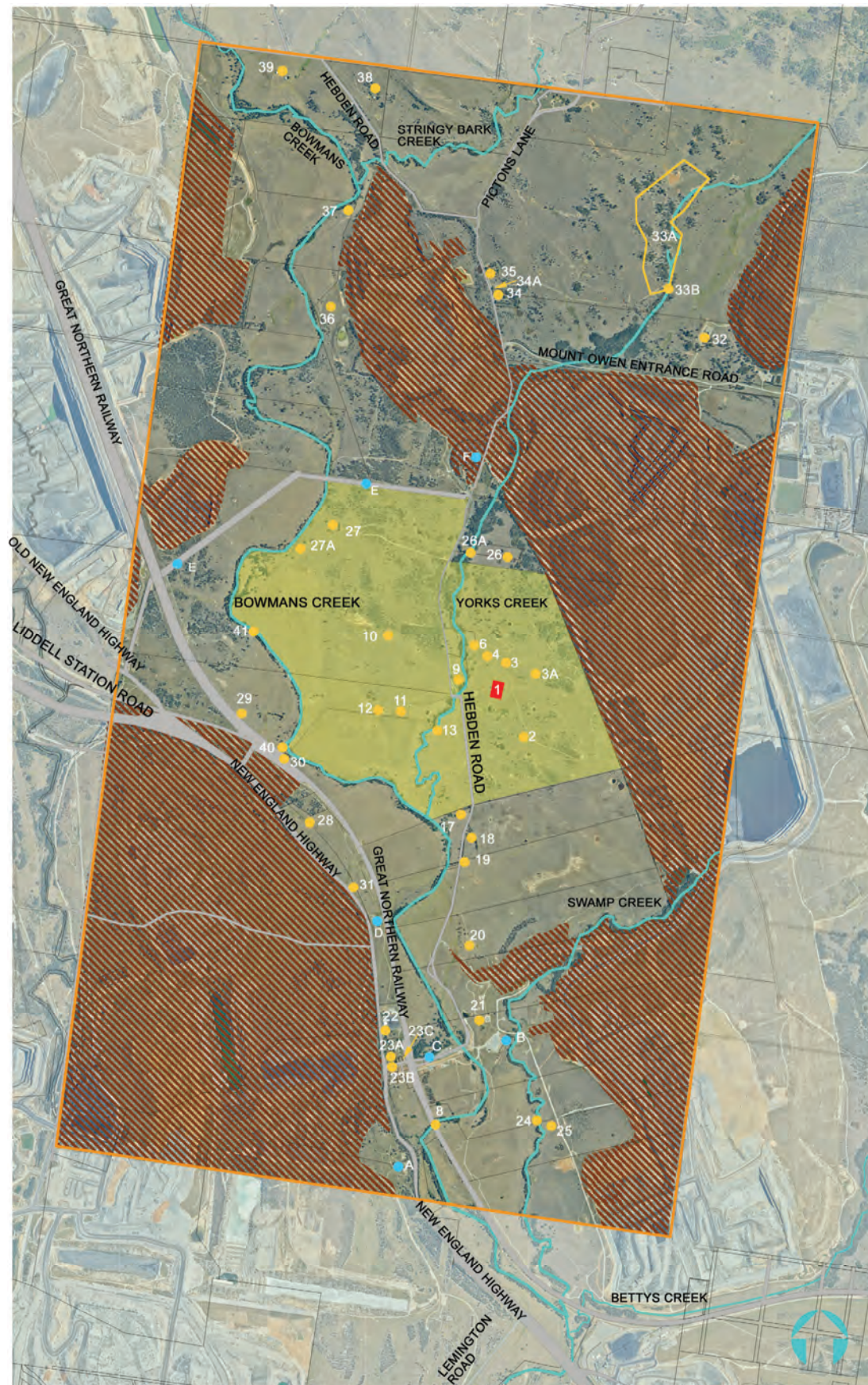


Figure 3. 1: Aerial view of the Place identifying key sites and the principal components including areas currently impacted on by mining activities (excluded from study).

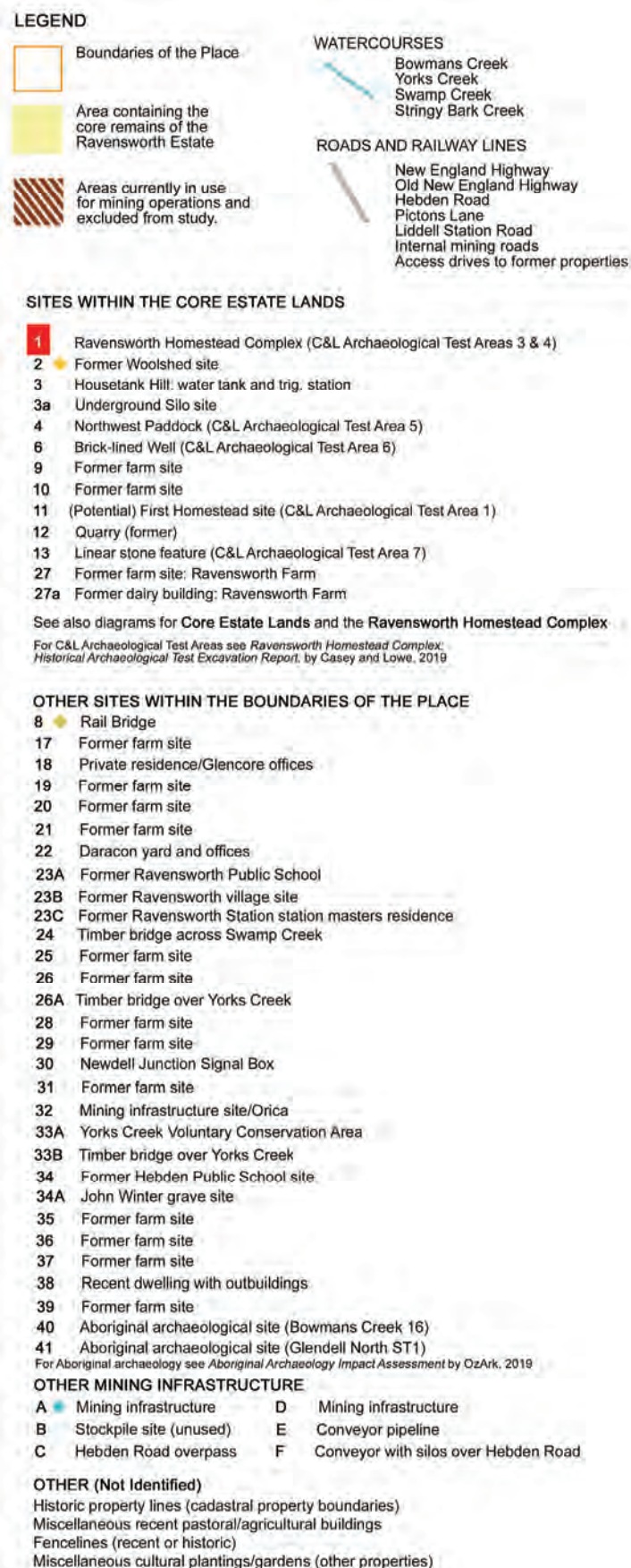


Figure 3. 2: Legend for Figure 3. 1 above identifying key features located across the place.

3.3.3. Land Uses of the Place

The area in which Ravensworth Estate is located is today dominated by mining operations. Glencore (the current owner of the Ravensworth Homestead Complex) operates the Mount Owen Complex, Integra Underground operations to the south-east, Liddell Coal Operations to the north-west and Ravensworth Surface Operations to the south-west. The Ashton Coal Mine (operated by Ashton Coal) is located directly to the south and Rix's Creek North (Bloomfield Collieries) is to the southeast (refer to Figure 3.1). The Liddell and Bayswater power stations are to the northwest. Open cut and underground mining dominate most of the land between Singleton in the southeast to Muswellbrook in the northwest, following the alignment of the Great Northern Railway.

The Upper Hunter region also supports a range of agricultural industries particularly cropping and grazing. Cropping within the place has historically been largely limited to the flatter alluvial terraces associated with Bowmans Creek. There has been limited cropping of alluvial terraces in recent years other than localised areas used for improved pastures for grazing. Areas away from alluvial terraces have largely been used for grazing.

Where not used for mining related activities, land owned by Glencore and its subsidiaries within and surrounding the Place is utilised for cattle grazing and rural residential leases (subject to environmental conditions). The cattle grazing operations are currently managed and operated by Colinta Holdings Pty Limited, a Glencore subsidiary. The small area of Crown land (Lot 4 DP 232149) is also occasionally leased for (generally) short term grazing uses.¹

The Ravensworth Homestead Complex is currently vacant (although it is maintained) and the surrounding land within the homestead allotment (Lot 288 DP 752470) is currently used for grazing.



Figure 3. 3: Aerial view of the locality of Ravensworth identifying the location of the homestead and mining operations in the vicinity. Source: GoogleMaps, 2018

¹ Umwelt, 2018; *Glendell Continued Operations Project Preliminary Environmental Assessment Final*, p. 79

3.4 Landscape of the Place

3.4.1 Landform

Generally, the landform of the place is typical of the Central Lowlands of the Hunter Valley, which is characterised by undulating low rolling hills formed on weak sedimentary rocks extending to lower areas associated with creek lines that traverse the locality (Bowmans Creek, Yorks Creek, Swamp Creek, Stringy Bark Creek and Bettys Creek) and feed into the Hunter River to the south.²

However, this natural topography has been substantially altered over the previous fifty years in many locations due to mining activities including open cut mining, the formation of overburden emplacement areas, creation of tailings dams and water management systems, construction of power/transmission lines, introduction of new roads or the realignment of existing roads and the diversion of creek lines. Regardless, there remains a substantial portion of the place that retains much of its natural landform, including the majority of the land surrounding the Ravensworth Homestead Complex. See Figure 3.4 below.

Approximately 18 km to the south of the Ravensworth Estate are the dissected sandstone plateaus of Wollemi and Yengo National Parks (Broken Back Range), while approximately 30 km to the north, the foothills of the Barrington Tops and Mount Royal Range adjoin the Hunter Valley floor. Other notable landforms within the visual catchment of the place are Mount Dyring and Mount Surprise to the northeast and the Liverpool Range to the west.

3.4.2 Geology

The Ravensworth property lies over numerous coal measures from the Late Permian period (older than 250 million years ago) with various occurrences of the Lemington seam closest to the homestead group. The homestead complex also lies just to the east of the crest of the Camberwell Anticline and south-east of the Block Fault Zone and Hunter Valley Dyke, which are the major geological features within the place. The folded coal seams comprising the anticline go down to almost 200m deep below the homestead. Seven seams with open cut potential exist within the Place from the Bayswater Seam to the Hebden Seam and range in depth to approximately 240m. Both the Block Fault Zone and the Hunter Valley Dyke run in a general north-east/south-west alignment.

Siltstone, lithic sandstone, shale and conglomerate rock types found on the Ravensworth property are typical of the Vane Subgroup of the Wittingham Coal Measures.³

Stones used for the low perimeter walls around the homestead appear to be lithic sandstone and this same type has also been used for the undressed walls of the buildings.⁴ The site's siltstone and shale rocks have wisely not been used as building materials – even for low garden walls – as these are prone to rapid degradation through weathering.

² Ibid. p. 64

³ Coal Assets Australia, Glencore, *Glendell Continued Operations (GCO) Project*, Chapter 8 – Geology and Mineral Resources, PFS report, undated (2018?)

⁴ Ben Kemp, Glencore geologist, pers. comm., 2018



Figure 3. 4: Aerial view and cadastral plan overlaid with topographic mapping showing the rolling hills, alluvial flats and open cut mining areas within the boundaries of the place. Source: Base information courtesy of Glencore/Umwelt

3.4.3 Native Vegetation of the Place

The lands of the Ravensworth Estate (unaffected by mining) have been predominantly cleared for agricultural/pastoral uses and today contain native and exotic grasslands with scattered patches of native regenerated vegetation. Intact mature vegetation occurs along the creeks and tributaries of the area including along Yorks Creek, Swamp Creek, Stringy Bark Creek and Bowmans Creek.⁵

The broad plant community types that are likely to occur within the boundaries of the place and its immediate surrounds include:

- Narrow-leaved Ironbark-Grey Box Grassy Woodland of the Central and Upper Hunter
- Spotted Gum – Narrow-leaved Ironbark Shrub – Grass Open Forest of the Central and Lower Hunter
- Bull Oak Grassy Woodland of the Central Hunter Valley
- River Oak Riparian Grassy Tall Woodland of the Western Hunter Valley
- Swamp Oak – Weeping Grass Grassy Riparian Forest of the Hunter Valley.

Three endangered flora populations listed under the NSW *Biodiversity Conservation Act* 2016 have been previously recorded in the vicinity of the Ravensworth Homestead Complex being:

- *Cymbidium canaliculatum* (channel leaf or tiger orchid) population in the Hunter Catchment
- *Eucalyptus camaldulensis* (river red gum) population in the Hunter Catchment
- *Acacia pendula* (weeping myall) population in the Hunter Catchment.⁶

Refer also to *Glendell Continued Operations Project: Biodiversity Development Assessment Report*, provided in *Appendix 20* of the GCO Project EIS for further details.

Historical Accounts of the Natural Landscape of the Place

From his mid-1820s visits to the region, Surveyor Henry Dangar was one of the first Europeans to document in some detail the Upper Hunter landscapes. Dangar's promising description of the Ravensworth homestead country (within the Parish of Liddell) as 'an excellent tract of open, sound, and deep loam upland country'⁷ was later tempered by more sobering descriptions such as that of experienced estate manager James White regarding the flats near Bowmans Creek as, in effect, less desirable land.⁸ However, Dangar's description of the country as 'open' (and 'lightly timbered' in the case of the Parish of Ravensworth) suggests that the vegetation was of a grassy woodland type. The relative density of vegetation noted by the earliest Europeans to the upper Hunter Valley may have also been influenced by the longstanding fire management practices of the local Aboriginal land custodians as noted by Gammage.⁹

In the mid-1840s, Dr James Bowman's son Edward, possessing an above average interest in botany, documented some of the indigenous plant species growing at the Ravensworth lands.¹⁰ (Refer to Section 4.4.2 for further details.) The list does not necessarily represent species wholly from the

⁵ Umwelt, 2018; p. 82

⁶ Umwelt, 2018; p. 82

⁷ H Dangar, *Index and directory to map of the country bordering upon the River Hunter*, Joseph Cross, London, 1828, p 31

⁸ This must be tempered, of course, with the context in which White made his assessment as the country may have been less desirable for some forms of agriculture as he suggested but better for others.

⁹ Bill Gammage, *The Biggest Estate on Earth: How Aborigines Made Australia*, Allen & Unwin, Sydney, 2011

¹⁰ Macarthur Papers ML SLNSW A4297 Edward Bowman Misc. Letters and papers 1843-1851

homestead site as several of the species appear to be from “Cedar Brush” (a colonial term for rainforest) at Ravensworth, that would have occurred in more sheltered sites with moister soils.

One of the plants noted by Bowman was “Beefwood” (possibly *Stenocarpus salignus*) – “very durable” and used for “hurdles and handles for tools”- growing on “dry gravelly hills”.¹¹ *Stenocarpus salignus* is often associated with moister soils including rainforest areas although it may have occurred in the vicinity of the Ravensworth lands on relatively poorer soils also as Bowman suggested. However, one of the former Bowman portions north of the core 1820s 10,000 acres (Portion 4 of the Parish of Herschell), envelopes Cedar Creek (a tributary of Bowmans Creek) where there is still residual rainforest and, to reinforce the creek’s eponymy, Red Cedar (*Toona ciliata*) can also still be found in the vicinity. To add to the confusion, *Grevillea striata* (also known as Beefwood) has also been recorded in this part of the Hunter Valley. In this case, it is too difficult to attribute a particular plant species with certainty to Bowman’s “Beefwood” description.

Edward Bowman lists five types of “Eucalyptus” with descriptions next to some – “Ironbark” possibly Narrow-leafed Ironbark (*Eucalyptus crebra*) and two noted as “Bastard Box” though with different heights. One of these is possibly Forest Red Gum (*E. tereticornis*) and the other may possibly be Grey Box (*E. moluccana*). The latter tree seems to be shown – as a copse - in a 1902 *Sydney Mail* photograph of the homestead dam (Figure 3.5). Narrow-leafed Ironbark and Grey Box still occur in the vicinity of the homestead area. E.M. Bowman also records a “Casuarina” (“Swamp Forest Oak”) with durable qualities growing at Ravensworth on variable soils. Both Swamp Oak (*Casuarina glauca*) and Bull Oak (*Allocasuarina luehmannii*) still occur within the vicinity of the Homestead Complex though Bowman’s description may actually refer to the former.



Figure 3. 5: The homestead dam in 1902. Source: *Sydney Mail*, 15 Feb 1902, p 416

The “Narrow-leafed Ironbark–Grey Box Grassy Woodland of the Central and Upper Hunter Valley” vegetation community appears to coincide with a type listed as an Endangered Ecological Community (EEC) under the *Biodiversity Conservation Act 2016* (BC Act) as “Central Hunter Grey Box-Ironbark

¹¹ As if to reinforce the confusion that often accompanies common names, apparently ‘Beefwood’ has also been used for River Oak (*Casuarina cunninghamiana*). However, given that Bowman specifically mentioned ‘Beefwood’ growing on ‘dry gravelly hills’ rather than close to, and along, creek lines (where River Oak normally grows), the term is unlikely to refer to *Casuarina cunninghamiana*.

Woodland in the NSW North Coast and Sydney Basin Bioregions”.¹² Both the *Cymbidium canaliculatum* and *Acacia pendula* are listed under the BC Act as comprising endangered flora populations in the Hunter Valley. The Hunter River valley populations of *Cymbidium canaliculatum* also represent the southern extremity of the considerable range of this species into northern Australia.

Additionally, Edward Macarthur Bowman lists the parasitic “Cherry Tree” or Native Cherry (*Exocarpus cupressiformis*) and several Acacias (one growing on “Alluvial or any rich soils” and one growing on “hills of ironstone gravels”) as being on the Ravensworth lands.¹³ The “alluvial” Acacia may refer to Weeping Myall (*Acacia pendula*), as a small population has been recorded to the south of the Ravensworth Homestead Complex.

Cultural Plantings

Cultural plantings are also found in pockets throughout the Place. Aside from the garden and plantings directly associated with the Ravensworth Homestead Complex, cultural plantings located throughout the place relate, in the main, to the later period of subdivision and small farming development that occurred from the early 20th century. These are addressed in Section 3.10 below.

3.4.4 The Creek Lines

Bowmans Creek

The principal watercourse traversing the Ravensworth Estate is Bowmans Creek (formerly Foy Brook). The headwaters of Bowmans Creek are located in the Mt. Royal Range to the north and the lower reaches meander through a broad alluvial flood plain that is up to 1 kilometre wide (the pastoral lands of the Ravensworth Estate).



Bowmans Creek has four major tributaries in the vicinity of Ravensworth, namely Stringybark Creek, Yorks Creek, Swamp Creek, and Bettys Creek. Although the catchment area of Bowmans Creek has been somewhat reduced by the existing mining operations and past agricultural activities, the creek has a sufficient contributing catchment to maintain flows under most climate conditions.¹⁴

Figure 3. 6: View of Bowmans Creek identified by the vegetation lining its banks, with alluvial flood plains within the Core Estate lands.

¹² An Endangered Ecological Community (EEC) is the middle of three categories of Threatened Ecological Communities (TEC) noted under the Commonwealth’s Environment Protection and Biodiversity Conservation Act 1999 – the others being Critically Endangered Ecological Community (CEEC) and Vulnerable Ecological Community (VEC).

¹³ Macarthur Papers ML SLNSW A4297 Edward Bowman Misc. Letters and papers 1843-1851

¹⁴ Umwelt, 2014, *Surface Water Assessment: Mount Owen Continued Operations Project*, p. 2.2

Yorks Creek

Yorks Creek is a tributary of Bowmans Creek branching off the eastern side of Bowmans Creek to the south of the Ravensworth Homestead Complex. Approximately 1.5km section of Yorks Creek has previously been diverted around the Ravensworth East Mine as part of the former Swamp Creek Mine/Ravensworth East mining operations. The upper catchment of Yorks Creek to the north of the Ravensworth Estate Complex has been significantly modified due to approved mining of Ravensworth East and Mount Owen.¹⁵



Figure 3. 7: View of Yorks Creek with alluvial flood plains within the core Ravensworth Estate area, looking east from an unnamed hill with the Ravensworth Homestead Complex in the middle ground. Mount Dyrning is visible in the background.

Stringybark Creek

Located within the northern portion of the Estate lands and is a tributary of Bowmans Creek. Stringybark Creek is an ephemeral waterway with a well-defined channel, varying from confined areas with a relatively narrow width to wider open sections. The wider sections have floodplain widths of typically up to 70 metres in extent and tend to be characterised by wooded vegetation.

Swamp Creek

Swamp Creek is a meandering creekline with adjacent low-lying floodplain areas located within the southern portion of the Ravensworth Estate. The creekline passes under the Great Northern Railway close to the confluence with Bowmans Creek and Bettys Creek. The upper reaches of Swamp Creek are located within the existing mining areas for Mount Owen Mine and Ravensworth East Mine.¹⁶

Swamp Creek is the location of Landscape Feature No. 24, a timber bridge crossing the creek and is protected by Glencore as “Heritage Site No. 1” and managed in accordance with the existing *Mount Owen Open Cut: Historic Heritage Management Plan* (document no. XMO SD PLN 0064), 2018, Glencore. (Refer to Section 3.6.2 below.)

¹⁵ Umwelt, 2018, p. 12

¹⁶ Umwelt, 2018, p. 12; Mount Owen Open Cut: Glencore, 2018; *MOC Creek Division Plan*, p. 12

3.4.5 The Roads

New and Old New England Highways

A portion of the New England Highway traverses the southwestern corner of the Core Estate lands as well as a small portion of the Old New England Highway. The New England Highway effectively separates the land owned, managed and mined by Glencore (north of the highway), from the adjacent mining operations of the former Electricity Commission's Ravensworth open cut mines and land owned by AGL Management (south of the highway).

Both these roadways have their origins in the early 19th century cart track which developed north from Newcastle to reach the prime wool growing areas of the New England region (the Liverpool Plains), settled by Europeans in the 1810s and 1820s. The original roadway was known as the Great North Road or Great Northern Road. (Refer to Section 2 for further details). Today, the New England Highway is a busy, four lane highway, while the Old New England Highway is a two-lane local road leading to Liddell Coal and covered by Lake Liddell to the north-west.

Hebden Road

Hebden Road is the principal road that traverses the core estate lands, travelling northwards from the New England Highway and the (former) Ravensworth Railway station through the centre of the property. Towards the northern boundary of the place, the road splits at a number of locations, continuing to the north-west around Lake Liddell and reconnecting to the New England Highway. The eastern road splits and become Pictons Lane and Scrumlo Road which continue to the north into farming lands and a quarry.

Originally surveyed in 1832 by Robert Dixon and formalised as a shared right of way in 1906, Hebden Road is today a formed, public roadway, which continues to follow (in the main) its original alignment through the Ravensworth Estate. Minor diversions and upgrades to the early road alignment have occurred in recent years to the east of the Ravensworth village site and the Bowmans Creek crossing in that locality. Regardless, the roadway is essentially the same alignment as it was in 1832. (Refer to Figure 2.7 and Section 2.4.1 for further details).

3.4.6 The Great Northern Railway

The Great Northern Railway was constructed across the Ravensworth Estate lands in 1869 and the land to the south of the railway line was sold off in the 1880s, forming part of the Bayswater Estate. The rail line runs through the Central Coast, Hunter and New England regions terminating at Armidale and was, and still is, part of the transportation system for the coal industry in the Hunter and Gunnedah coal basins.

Throughout both the north and south sides of the rail corridor remains evidence of past land uses in the form of cultural plantings, agricultural structures, archaeology, fence lines etc., including remnants of the Ravensworth Railway Station, the location of fettlers camps, as well as scattered farm buildings associated with the smaller farming allotments following the subdivision of the estate lands in the early 20th century.



Figure 3. 8: Coal train passing through the Ravensworth Estate lands with evidence of former land uses (abandoned machinery) in the foreground.



Figure 3. 9: View looking south from a ridgeline to the west of the Homestead Complex showing the New England Highway and the Great Northern Railway crossing the former Ravensworth Estate lands.



Figure 3. 10: View looking southeast from a ridgeline to the west of the Homestead Complex showing the two principal creeklines: Bowmans Creek and Yorks Creek and Hebden Road crossing the former Ravensworth Estate lands.

3.4.7 Fencelines/Paddocks

It is now difficult to determine the functional layout of the early Ravensworth Estate from the majority of fence lines within the Place. Most of those remaining intact are likely to be from the 20th century following the carving up of the estate lands into dairies and smaller farming allotments. Exceptions may include those enclosing the Hebden Road corridor and, possibly, those defining the immediate western and southern sides of the homestead group.

However, some important early fence lines remain that define the entire northern edge and sections of the western and eastern sides of Portion 149 of the Ravensworth estate that James Bowman was permitted to use from 1824 (see Figure 3.11). This is not to suggest that the existing fences are

necessarily old, but that the alignments preserved by the current fences denote parts of the boundaries of this early portion of the former estate.



Figure 3. 11: Fenceline (indicated with an arrow) visible crossing a rise as seen looking northwest from Pictons Lane. This fenceline follows the 1824 northern boundary alignment of Portion 149 of the parish of Liddell.

The length of the northern fence line (4.898 km), consistent with the length of the eventual Ravensworth grant Portions 149 (Liddell), 150 (Liddell) and 1 (Vane), is close to 3 imperial miles across and may coincide with some of the mile grid survey lines originally proposed by Henry Dangar in his 1820s survey of Hunter Valley lands for the purpose of grant allocation and administration by the colonial government.

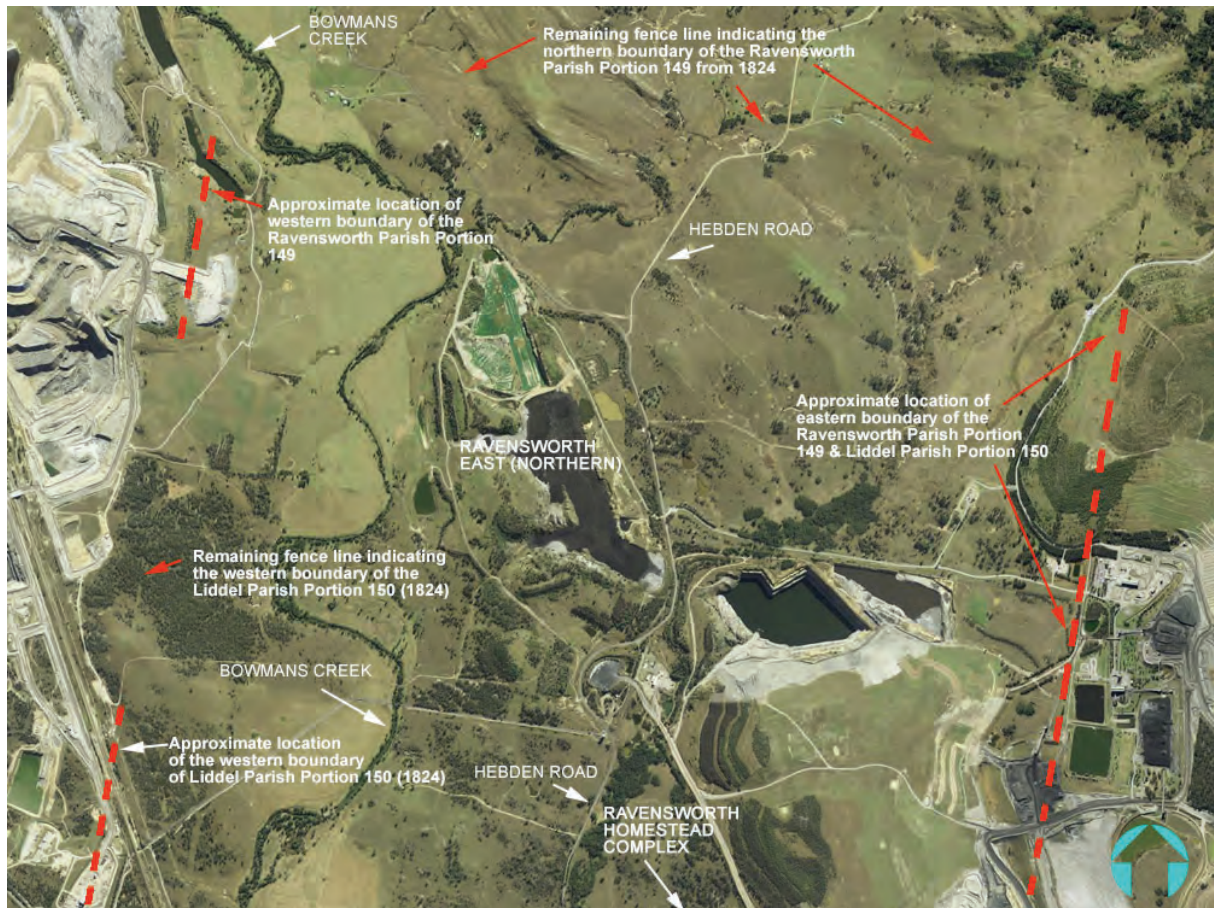


Figure 3. 12: Aerial view of the northern section of the Ravensworth Estate showing location of boundary lines of Portions 149 and 150 parish of Liddell. Some of these boundaries remain marked by existing fencelines. Source: G. Britton.

3.5 Aboriginal Archaeology

The following information regarding Aboriginal archaeology has been extracted from the *Aboriginal Archaeology Impact Assessment Glendell Continued Operations Project, Glendell Coal Mine, Ravensworth*, 2019, prepared by OzArk Environment & Heritage Pty Ltd. For detailed information relating to the methodology and results of investigations, the original report should be referred to in the first instance (refer to *Appendix 22* of GOC Project EIS).

The assessment undertaken by OzArk follows the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* (Code of Practice; DECCW 2010). Field assessment and reporting followed the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011). The consultation with Aboriginal stakeholders undertaken for this assessment followed the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010) including the identification of Registered Aboriginal Parties (RAPs) and the provision of both survey and test excavation methodologies for RAP review and comment.

Survey Area for Aboriginal Archaeology

The survey area covered approximately 1011 ha over the former Ravensworth Estate lands, covering only those areas covered by the proposed Glendell Coal Mine extension (the “Additional Disturbance Area”), including the Ravensworth Homestead Complex and surrounding lands. The majority of the land defined as the Core Estate Lands were investigated, although the investigations did not extend to cover all land within the boundaries of the Place. Refer to Figure 3.13 below.

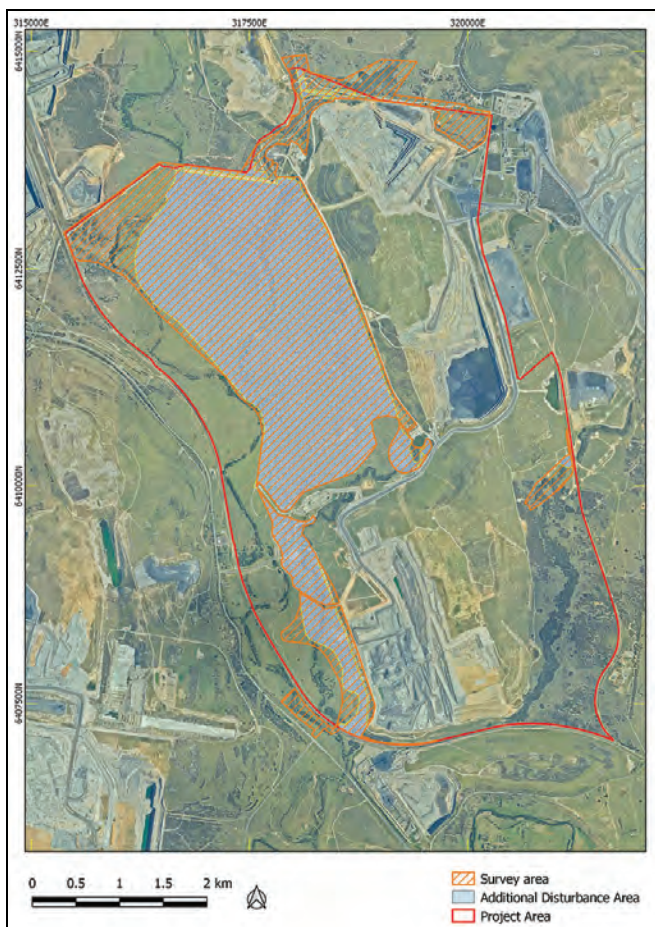


Figure 3. 13: Map of OzArk survey area for Aboriginal Archaeology. Source: OzArk, 2019, Figure 1-6, p. 9

3.5.1 Ethno-historic sources of regional Aboriginal culture

The Additional Disturbance Area is in the Wonnarua tribal area of the upper Hunter Valley.

The Aboriginal people in the region of the Additional Disturbance Area lived in an environment rich in food resources. Freshwater fish, shellfish, reptiles, mammals, birds and plant food provide a diverse diet. Brayshaw¹⁷ suggests that inland groups visited the coast during the summer when marine resources were plentiful, and coastal groups travelled inland to participate in the winter kangaroo hunts. Trade and/or exchange also occurred between the coastal and inland groups including visiting by coastal and inland groups for initiations and ceremonies seemed to occur. These were conducted within earthen circles. Carved trees were associated with these sites.¹⁸ Reed spears and shells were traded inland for possum skin rugs and fur cord.¹⁹

The only known ethnographic mentions of the use of stone artefacts relate to the use of stone hatchets as multi-purpose tools and of the attachment of quartz flakes as barbs on spears.²⁰ There is also little ethnographic evidence concerning the locations of regional Aboriginal camping places, however, the factors of proximity to fresh water and of elevation for visibility are mentioned as important considerations.²¹

3.5.2 Previously Recorded Aboriginal Heritage

Desktop Database Searches

A desktop search was conducted on the following databases to identify any potential previously-recorded heritage within the area of study (refer to Table 3.1 below). As per Table 3.1 [Table 4-2 in original report], it is noted that the wider region of the Additional Disturbance Area includes land currently subject to Native Title Claim NC2013/006 (NSD1680/2013, Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People). However, it is understood that there are no Crown parcels eligible for Native Title claim within the Additional Disturbance Area.

Four searches of the AHIMS database together returned 330 records for Aboriginal heritage sites within a 6.7 km by 8.7 km combined search area centred on the Additional Disturbance Area. Of these, 28 of the returned records relate to sites newly recorded during the current assessment which have since been registered.

The high sample size of the combined results for these searches allows for a representative understanding of the distribution of site types across the landscape surrounding the Additional Disturbance Area. Stone artefact sites (isolated finds, artefact scatters) are by far the most commonly recorded local site types, together representing 286 (95%) of the 302 sites returned in the AHIMS search area. The majority of these have been recorded in areas of high exposure, with the densest and most complex sites being recorded on distinct landforms in proximity to watercourses. The absence of modified trees conforms with the rarity of this site type for the region, likely related to the extensive clearance that has occurred historically.

¹⁷ Brayshaw, H. 1986. *Aborigines of the Hunter Valley: a study of colonial records*. Scone and Hunter Historical Society: Scone.; p. 82

¹⁸ Ibid. p. 86

¹⁹ Ibid. p. 41

²⁰ Ibid. p. 66, 68

²¹ Fawcett, J.W. 1898. Notes on the customs and dialects of the Wonnah-ruah tribe. *Science of Man and Australasian Anthropological Journal*. 1(8):180-181.

One site is currently listed on AHIMS as a restricted site. This site, Bowmans Creek Complex (37-3-1506) was registered on 25 September 2018. This site is registered as an Aboriginal resource and gathering site, a burial site and a conflict site. After the registration, AHIMS changed the site status to 'not a site' pending further information being provided to determine the veracity of the large site area. Although this site covers all the Additional Disturbance Area, it does not currently need to be considered as it has no statutory protection.²² However, should this change, and the site is reinstated on the AHIMS register, it would need to be re-examined.

Table 3. 1: Copy of Table 4-2 showing the results of the desktop database search by OzArk. Source: OzArk, 2019 p. 38

Name of Database Searched	Date of Search	Type of Search	Comment
Commonwealth Heritage Listings	30/10/18	Singleton LGA	No places listed on either the National or Commonwealth heritage lists are located within the Additional Disturbance Area.
National Native Title Claims Search	30/10/18	NSW	One registered Native Title claim encompasses the Additional Disturbance Area.
Department of Premier and Cabinet Aboriginal Heritage Information Management System (AHIMS)	05/11/18	GDA Zone 56 Eastings: 315100-321800; Northings: 6406400-6415100. Four searches totalling 6.7 by 8.7 km centred on the Additional Disturbance Area.	302 ²³ sites within the total search area. 39 sites are within the Additional Disturbance Area.
Local Environment Plan (LEP)	30/10/18	Singleton LEP of 2013	Ravensworth Homestead (I41) is located within the Additional Disturbance Area and a former public school (I42) is located 590 m to the west of the Additional Disturbance Area. However, none of the Aboriginal places noted in the LEP occur near the Additional Disturbance Area.

Table 3. 2: Copy of Table 4-3 of previously recorded AHIMS sites near the Additional Disturbance Area: site types and frequencies. Source: OzArk, 2019 p. 40

Site Type	Number	% Frequency (may not equal 100% due to rounding)
Isolated Find	42	14%
Artefact (number unspecified)	214	71%
Artefact Scatter	33	11%
Potential Archaeological Deposit (PAD)	2	<1%
Artefact scatter with PAD	7	2%
Artefact scatter with quarry and PAD	1	<1%
Conflict	1	<1%
Art ²⁴ (engraving)	1	<1%
Restricted	1	<1%
Total	302	

²² As the site is listed as 'not a site' on AHIMS, the site is not included as an AHIMS site within the Additional Disturbance Area for this report.

²³ 28 of the returned sites relate to newly recorded sites. These have not been included in the total.

²⁴ Two additional sites are listed on AHIMS as 'art' sites, however the site cards note the sites as being isolated finds.

Previous Archaeological Investigations

There have been numerous archaeological investigations in the local area with a significant number undertaken in the Additional Disturbance Area which includes the Ravensworth Homestead Complex and the majority of the Core Estate Lands (refer to OzArk report for further details).

Those archaeological sites in the Project disturbance area investigated revealed relatively sparse artefact concentrations in shallow and disturbed contexts. Archaeologically, all the places located and/or identified conform to the Australian Small Tool Tradition²⁵, and most likely date to no more than 2,000–3,000 BP.

Most of the disturbance area had been subjected to varying degrees of land clearing and mining since first settlement, destroying the primary context of much of the physical cultural material present, and irretrievably altering the landscape itself.

Given the nature and extent of the archaeological sites identified, there was little additional knowledge which could be added to the archaeological record from any further investigation of this material. There is little probability for the presence of undisturbed and deeply stratified archaeological sites within the disturbance area.

In general, the archaeological sites in the Additional Disturbance Area offered:

- Limited research potential regarding regional and/or localised subsistence and resource procurement activities;
- Limited research potential to address questions on stone tool technologies in the region;
- Limited potential for radiometric dating methods to be applied to the sites;
- Limited research potential to address questions about the timing of the first occupation of this region of the Hunter Valley;
- Limited research potential to address questions about the timing of the Aboriginal settlement history of the Hunter Valley; and
- Limited potential to reveal further unique spatiotemporal patterning which would add to the archaeological record.²⁶

Previously recorded sites within the Additional Disturbance Area

Because of these previous assessments, there are 39 valid Aboriginal sites that have been recorded within the Additional Disturbance Area at the time of the survey. Table 3.3 [Table 4-8 in the original report] displays the site characteristics of these previously recorded sites.

Site type	Frequency
Artefact scatter	24
Isolated find	15
Total	39

Table 3. 3: Copy of Table 4-8 showing site types of valid, previously recorded sites within the Additional Disturbance Area. Source: OzArk, 2019, p. 56

²⁵ The Australian Small Tool Tradition (also sometimes referred to as ‘Bondaian’) is a term applied to the Holocene period Aboriginal tool kit; distinguishing it from the earlier Australian Core Tool and Scraper Tradition generally dated to the Pleistocene period.

²⁶ OzArk, 2019; p. 47

Of the 39 sites, 41% (16) occur within 50 m of a watercourse. These sites are typically artefacts identified on eroding creek banks and spurs and elevated flat areas overlooking watercourses. There is a significant drop-off in site frequency between 50 m and 100 m from watercourses with only four sites identified within this zone. At distances greater than 200 m of watercourses there are five sites; three artefact scatters and two isolated finds. This constitutes 13% of the 39 sites in the Additional Disturbance Area. This is a low proportion and may be indicative of the historical disturbances that have occurred in the Additional Disturbance Area that may have moved artefacts within the landscape away from locations closer to waterways.

Refer to Figures 3.14 to 3.16 below for location of previously recorded sites. Refer also to Section 5.5.2 of this report for detailed list of recorded sites and significance assessment.

Predictive Model for Site Location

The review of the landscape and archaeological contexts of the Additional Disturbance Area enabled a predictive model for site location to be made. This model was based on a large amount of archaeological research that has occurred over 30 years within and adjacent to the Additional Disturbance Area. This research indicated that the landforms of the Additional Disturbance Area would likely contain sites with the following characteristics:

- Sites are commonly open artefact scatters or isolated finds;
- Sites are generally of low density;
- Most sites are situated close to drainage lines;
- Archaeological material is densest within 100 m of a creek edge but continues at a lower density away from a creek;
- The most common raw materials were indurated mudstone and silcrete with smaller quantities of chert, siltstone, quartzite and quartz also identified;
- Flakes and flaked pieces accounted for the bulk of assemblages. Proportions of cores and backed blades are low;
- There is evidence of heat-treated artefacts; and
- Many recorded artefacts are characteristic of Small Tool Tradition (Bondaian) of the late Holocene.

3.5.3 Aboriginal Archaeology Assessment

Standard archaeological field survey and recording methods were employed in this study (Burke & Smith 2004). Visual inspection of the survey area was conducted systematically according to pre-determined parallel transects spaced 100 m apart. Surveyors walked at even spacing sufficient to sample the entirety of each transect. RAPs, or their representatives, assisted the field effort by identifying objects/features of cultural interest and by placing flags at artefact locations to assist with the recording of artefact sites. Vehicles were only used for access between transects.

The survey area was divided into three landform units for recording purposes, with ground surface exposure (GSE) and ground surface visibility (GSV) noted for each, however, transects were not confined to these landform units but were organised spatially so that one transect could sample two or even three landscape units where applicable.

It should be noted that the aim of any archaeological survey was not to locate each artefact in a landscape but to undertake investigations so that the archaeological potential and archaeological

characteristics of all landforms within the survey area are known. Therefore, the aims of the survey were to:

- Reinspect the location of all 55²⁷ previously recorded sites within the survey area so that their current condition and scientific heritage values could be assessed;
- Conduct pedestrian transects across all landforms in the survey area so that their archaeological potential could be determined;
- Evaluate whether the predictive model is valid;
- Determine if any portions of the survey area require test excavation to understand the archaeological potential at a particular location; and
- Determine whether any previously recorded sites within 100 m of the survey area extend into areas where proposed impacts are to occur.

Test Excavation Program

The test excavation program followed an extensive program of surface survey across areas that will be potentially impacted by the Proposal. The survey identified 12 areas where test excavation would provide a clearer picture of the subsurface archaeological potential. The test excavation program was conducted at 12 select locations within the proposed disturbance area from 3 September to 19 September 2018. The 15 days of historical heritage test excavation was directed by Casey & Lowe; although an OzArk archaeologist and two RAP representatives (which included a representative from the PCWP) were present during the excavations to manage any Aboriginal cultural heritage finds.

The results of the test excavation program were surprisingly sparse. 152 0.5 m by 0.5 m excavation squares were excavated at 12 separate localities: a total of 38 square metres. From this area of excavation, 180 artefacts were recovered; an average of 4.7 artefacts per square metre or 1.18 artefacts per excavation square. This density of artefacts is extremely low and only two excavation squares recorded greater than 15 artefacts.

Historic heritage archaeological test excavation program

Over the course of three weeks, Casey & Lowe completed a historic heritage archaeological test excavation program at select locations within the Additional Disturbance Area with a primary focus around the Ravensworth Homestead (refer to Section 3.8 of this report and *Appendix 23c* of the GOC Project EIS). Prior to the use of the excavator, the OzArk archaeologist and RAPs walked proposed access routes to the trenches to inspect for surface artefacts. The OzArk archaeologist and RAPs also inspected the ground surface of the proposed trenches prior to any ground surface disturbance.

Five additional Aboriginal sites were identified during the historic test excavation program including three isolated finds and two artefact scatters (Glendell North IF27 to IF19 and Glendell North OS37 and 38).

Newly recorded sites

69 sites were recorded during this assessment consisting of:

- 39 artefact scatters;
- 29 isolated finds; and

²⁷ While there are 39 previously recorded sites in the Additional Disturbance Area, the survey area covered a larger area of land.

- One scarred tree.

Of the artefact scatters, 32 sites recorded less than 10 artefacts and no site contained more than 70 artefacts.

At nine locations it was assessed that there are subsurface deposits. One of these sites was determined to have a moderate artefact density (Glendell North OS6), however, none of the recorded sites was remarkable in its manifestation; either in terms of the types of artefacts recorded, the raw material the artefacts were manufactured from or the density and nature of the surface artefact manifestation.

The recorded sites are also very representative of artefact sites in the upper Hunter Valley both in terms of the types of artefacts recorded and the raw materials from which the artefacts were manufactured.

The exception to this is the recording of GN ST1—a scarred tree—which is a rare site type in the upper Hunter Valley due to the widespread vegetation clearing that has taken place.

No evidence of colonial conflict or skeletal remains was identified during the survey or test excavation programs. While the evidence of colonial conflict in the general area is known from written sources, nothing in the current archaeological assessment was able to corroborate or extend the scant information the written sources provide.

Refer to Figures 3.14 to 3.16 below for location of newly recorded sites. Refer also to Section 5.5.2 of this report for detailed list of recorded sites and significance assessment.

Discussion

The above results tend to support the view that the Additional Disturbance Area, being largely confined to flat or gentle gradient landforms, has undone considerable disturbance during the historic phase of land use leading to the dissipation or removal of archaeological sites across the area.

The average artefact density for sites within the Additional Disturbance Area is 3.6 artefacts per site (198 artefacts across 52 artefact sites). However, other sites, such as G12 (37-3-0688), located on the western bank of Bowmans Creek and just outside the Additional Disturbance Area, recorded 100s of artefacts. This would indicate that the area did support large sites in the past. However, because site G12 is located within a slope and bench landform where the terrain is unsuitable for cultivation, it may mean that remnants of this site have survived whereas potentially similar sites on the eastern, more-level, bank of Bowmans Creek within the Additional Disturbance Area have been removed/dissipated by agricultural activities.

The results of the current assessment agree in most instances with the regional archaeological context that has been established following 30 years of research. In brief, the following characteristics can be examined:

Distribution of sites: The regional model shows a strong correlation between site size and distance to reliable water with larger, more complex, sites being located near reliable water. The current assessment shows that the largest site recorded (GN OS6) was associated with Bowmans Creek. However, even this site, recording 67 artefacts from both surface and subsurface contexts, would not be regarded as a large or complex site. Similarly, GN OS34, located at the confluence of Yorks and Bowmans Creeks, only recorded 29 artefacts from surface and subsurface contexts; again, a relatively low artefact density. However, larger sites, such as G12, located outside of the Additional Disturbance Area, support the observation that large sites tend to be associated with more permanent water bodies,

in this case, Bowmans Creek. Remaining sites located away from water and were correspondently of a low artefact density and perhaps represent a single event rather than a site that has been used for camping and tool making in the long-term.

Site type: The regional and predictive model suggested that artefact scatters and isolated finds would be the most common site type recorded and this is supported by the survey results. As the Additional Disturbance Area was almost completely cleared in the past, scarred trees were not predicted to occur, however, one was recorded. Grinding groove sites were not predicted and none were identified. Further, the minor crests and ridges contained no evidence of ceremonial sites, and if these had consisted of stone arrangements, it is likely they have been removed due to past land use.

No evidence of any of Aboriginal resource sites, and/or burials, and/or conflict sites was noticed during the assessment. The distribution of sites does not indicate that a particular area was being exploited for its resources and the uniformly thin soils across much of the Additional Disturbance Area, and the lack of sandy soils, precludes the presence of burials. No evidence of colonial conflict sites was noted during the assessment.

Artefact density: As only low or low-moderate artefact densities were recorded; this result does not accord with the regional model that sites in landforms containing substantial lengths of creek lines will be of a higher density. This indicates that the long history of agricultural land use in the area has potentially removed evidence of high-density sites, dissipating them across the landscape or removing them entirely due to erosion and water movement. As previous researchers have suggested, areas such as Swamp, Yorks and Bettys Creeks could have been no more than seasonal foraging locations where trips rarely involved overnight stays. This would indicate that most of the stone tools would be also carried into but then, also, out of the Additional Disturbance Area to areas affording greater resources to support locations for larger base camps. It was assumed in the predictive model that Bowmans Creek may have supported more longer-term occupation and the location of sites such as G12 that recorded a moderate-high artefact density on the western bank of Bowmans Creek (outside of the Additional Disturbance Area) tends to support this theory. However, no such sites have been recorded in the Additional Disturbance Area where historic disturbances have been more intensive.

Types of raw material: Regional studies show that the majority of sites will have a dominance of mudstone artefacts and a sizable minority of silcrete artefacts. Generally, the survey results agree with this model.

Artefact type: Most artefacts recorded were unmodified flakes and this also accords with the regional model. While some backed blades, end scrapers and axe blanks were noted in the Additional Disturbance Area, their numbers were low, as was the frequency of cores and other specialist tools. Bearing in mind that many artefacts have been removed from the Additional Disturbance Area by, among other agencies, erosion, the sample remaining today is incomplete.

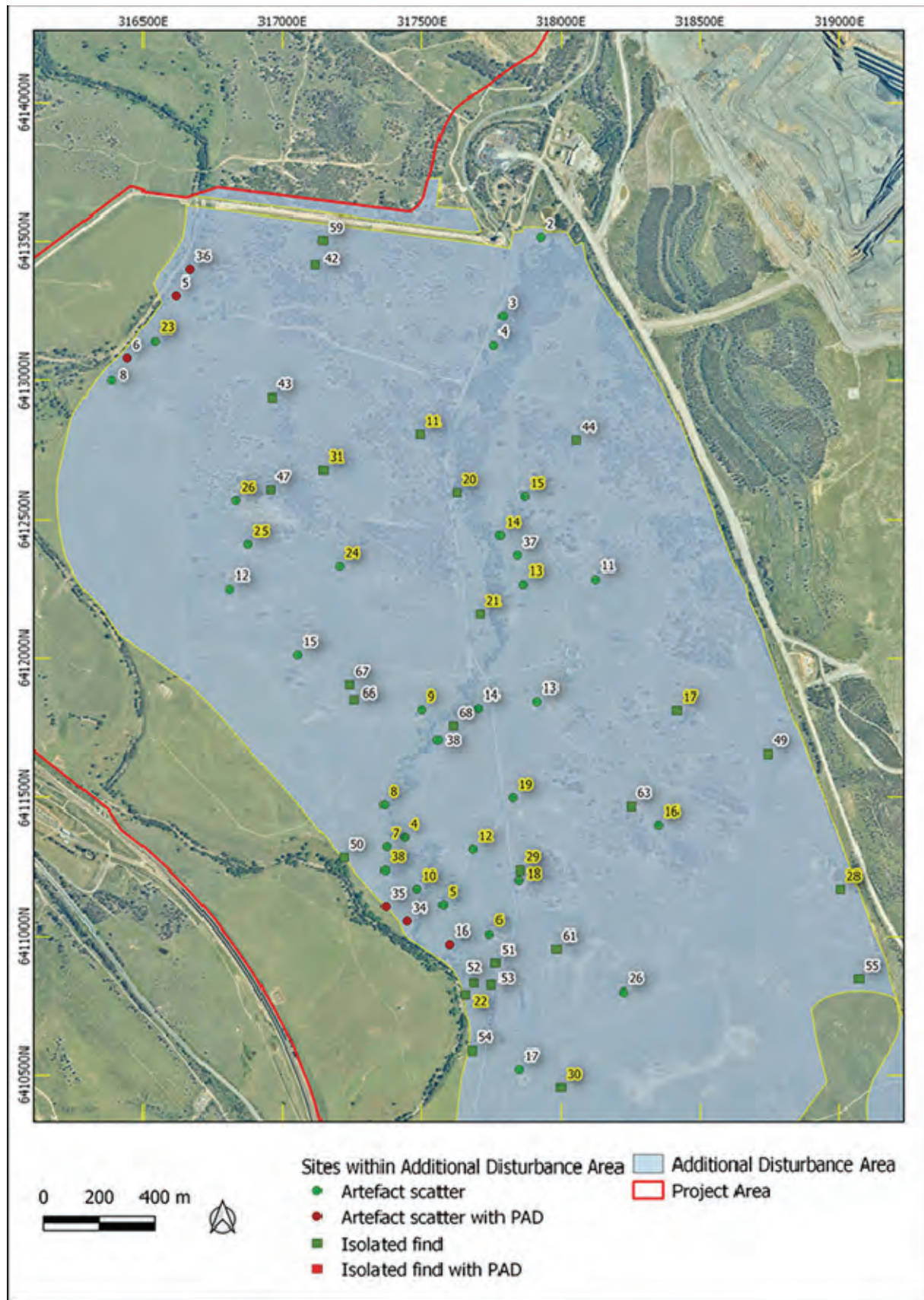


Figure 3. 14: Copy of Figure 8-4 showing location of Aboriginal archaeological sites in the northern portion of the Additional Disturbance Area. IDs with a yellow text buffer are newly recorded sites and IDs with a white text buffer are previously recorded sites. Source: OzArk, 2019, p. 349

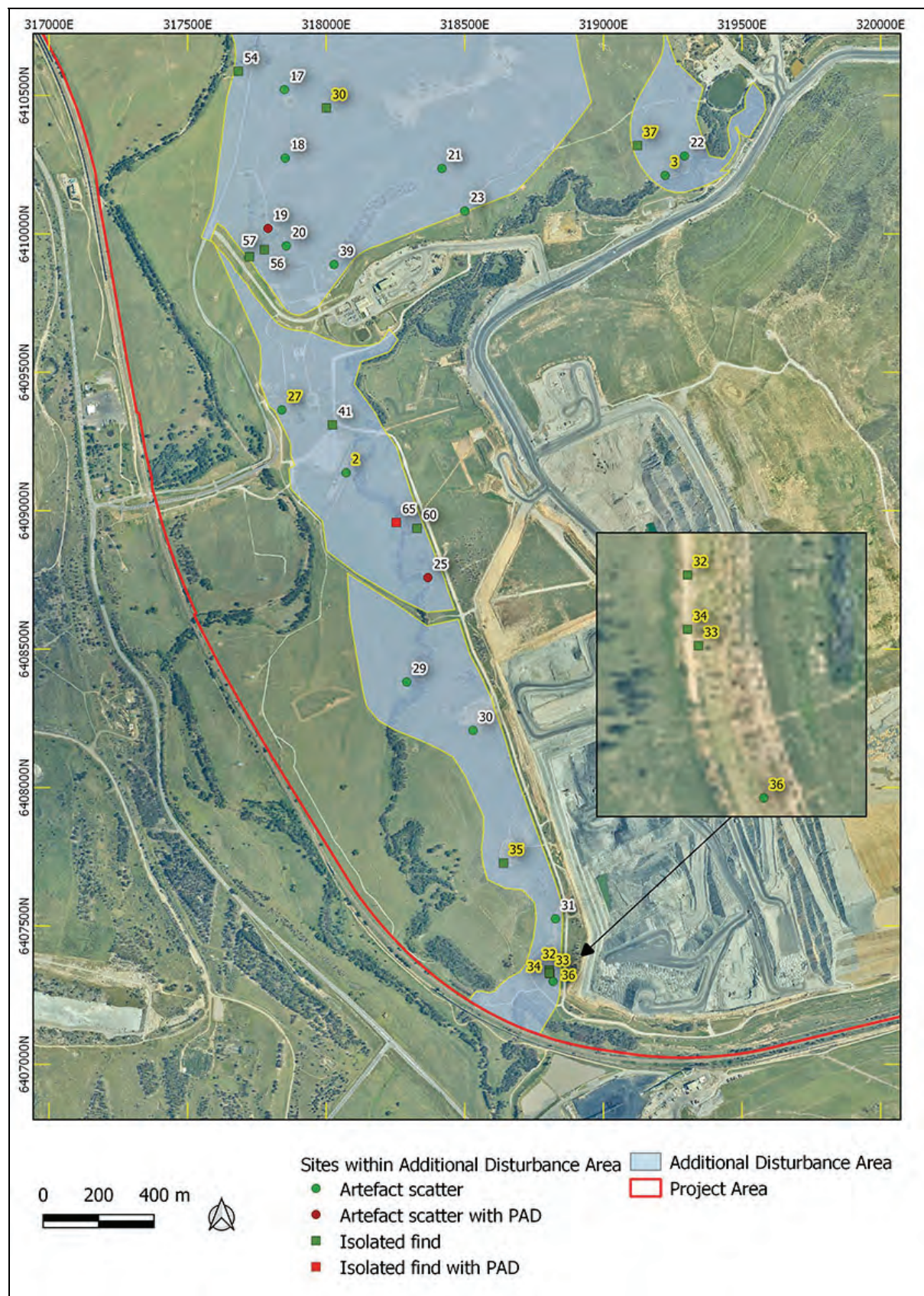


Figure 3. 15: Copy of Figure 8-4 showing location of Aboriginal archaeological sites in the southern portion of the Additional Disturbance Area. IDs with a yellow text buffer are newly recorded sites and IDs with a white text buffer are previously recorded sites. Source: OzArk, 2019, p. 350

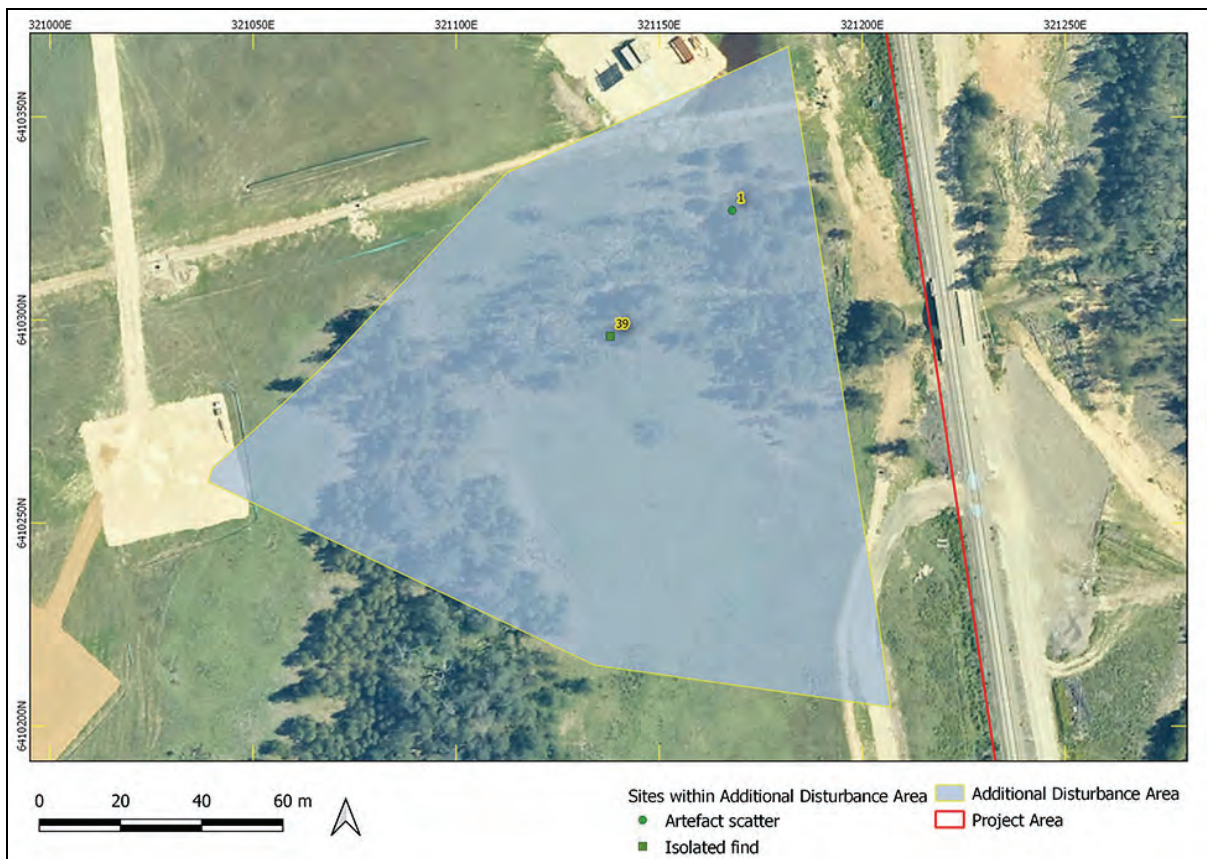


Figure 3. 16: Copy of Figure 8-4 showing location of Aboriginal archaeological sites in the eastern portion of the Additional Disturbance Area (outside of the Core Estate Lands). IDs with a yellow text buffer are newly recorded sites and IDs with a white text buffer are previously recorded sites. Source: OzArk, 2019, p. 351

3.6. Other Sites in the Place

In the late 19th century and early 20th century, the Ravensworth Estate underwent a series of subdivisions and is now comprised of a series of smaller allotments that have been developed for a mix of purposes by current and past owners. As a result of this history of subdivision and development, five main phases of European physical development are evident across the landscape of the Ravensworth Estate (see also Section 3.5: Aboriginal archaeology):

1. The Bowman period of development (1824 – 1847) comprising the Ravensworth Homestead Complex and historical archaeological evidence located throughout the immediately surrounding pastoral lands (Core Estate Lands). Other evidence also remains in the form of fence lines along the boundaries of the three original land grants (refer to Section 3.4.7) and Hebden Road, initially surveyed by Robert Dixon in c1832 (see Figure 2.7).
2. The Russell and Mackay periods (c1848 – 1911) have not left much of a mark on the landscape of the Ravensworth Estate in terms of agricultural/pastoral development, as it appears both owners used the property in much the same way as the Bowmans. However, it is during this period that the Great Northern Railway (1864) was introduced across the estate lands, the Ravensworth Railway Station opened (1869) and the first Ravensworth School opened (1876) signalling the beginnings of the village of Ravensworth.
3. The Measures/Reid subdivision period (1911 – c.1927) resulted in the comprehensive subdivision of the estate lands. Many of these early 20th century allotments remain in place today, including most of the boundaries of the 1919 allotment (Lot 228) that holds the Ravensworth Homestead group. The results of this period of subdivision was the establishment of numerous small farms (dairies and mixed farming) across the whole of the original estate lands which remained in operation until at least the 1960s. The increased population across the estate lands also led to the further development of the village of Ravensworth as well as the establishment of the small village of Hebden with school, church, post office and store (all c.1913). The agricultural landscape surviving across the estate lands today is, in the main, the result of this period of development.
4. The Marshall Period (1920- 2000) encompasses the Core Estate Lands and in particular the Ravensworth Homestead Complex, as the allotment containing the complex was first purchased by A.C. Marshall in 1920 and continued in the hands of his son, Geoffrey Marshall until 2000 (following its purchase by Glencore in 1997). The current configuration of the buildings and landscape of the Homestead Complex and its immediate surrounds within the Core Estate Lands is, for the most part, the result of the Marshall's family period of ownership.
5. The mining period (c.1961 to date) has resulted in two important factors in the development of the Ravensworth Estate lands; that is, the bringing together of the numerous smaller allotments created in the early 20th century under a single owner/land manager once again (namely Glencore) and the introduction of infrastructure, roads, buildings and structures as well as dramatic changes to the landform of the estate due to modern mining practices.

The following is a description of the principal features located within the boundaries of the Place that fall outside of the Core Estate Lands (see Figure 3.1). These features are representative of all five phases of development of the place.

3.6.1 Notable Sites and Features in the Estate Lands

The following sites and features retain substantial surviving evidence of the late 19th and early 20th century phases of development of the Ravensworth Estate lands and are considered to be historically and socially important to the former residents of the locality.

Site 23a: Ravensworth Public School and School Masters residence

Location: Lot 12 DP825902

Listed as a local heritage item on Schedule 5 of the *Singleton Local Environmental Plan 2013* (Item No. 142).

Located on the northern corner at the intersection between the New England Highway and Hebden Road, the former Ravensworth Public School consists of an Edwardian (c.1913) single storey hipped roofed face brick building with stone window sills and tucked pointed red brick window heads and brick chimney. An attached north wing with a single storey hipped roofed face brick on a sandstone base is assumed to be the original school master's residence. To the southern end and the rear of the main building are a number of skillion and gable roofed weatherboard additions on brick piers.

In May 2019, the school building was the victim of an arson attack and it is currently in very poor condition.

Other buildings and features on the site include a 1970s single storey face brick, gabled roof school building, face brick shed, concrete cisterns and evidence of previous concreted assembly areas.

The remainder of the allotment is undeveloped for the play grounds of the school and is clearly defined by tree plantings along the eastern and northern boundaries in a mix of native and introduced species including jacaranda, silky oak, black bean and banksia.

The former school master's residence was located adjoining the playgrounds to the northeast, however reportedly it was burnt to the ground in recent years. Evidence remains of its location by way of a concrete slab.

To the north of the school allotment is an orange orchard, formerly associated with the school master's residence, which continues to survive.



Figure 3. 16: Rear (east) and south wing of the Ravensworth Public School building following the recent fire.



Figure 3. 17: Front (west) elevation of the school building.



Figure 3. 18: North and east elevations of the school building.



Figure 3. 19: 1970s school building.



Figure 3. 20: View of play ground with defining row of trees along the northern boundary.



Figure 3. 21: Evidence of the location of the former school master's residence with orange orchard in background.

Site 23b: Former Ravensworth Village Site

Location: Various allotments, south of the Ravensworth Public School (Site 23a) (see Figure 3.22).

Former location of the main section of the village of Ravensworth adjacent to the Great Northern Railway line. Consists of an area of land showing evidence of recent construction and ground levelling works with some scattered fence lines, cultural plantings and ruined outbuildings.

The village site and any remaining buildings were razed c2013 to enable the consolidation of the Mount Owen and Ravensworth East mining operations.

In 2017, OzArk Environmental & Heritage Management Pty Ltd¹⁹ were engaged to undertake an archaeological salvage program at the site of the Ravensworth Village, in accordance with the recommendations contained in the *Mount Owen Open Cut: Historic Heritage Management Plan*, prepared by Glencore (2017).

This occurred in three areas containing potential archaeological deposits: the potential site of the Wolfgang wine shop, the former site of the community hall and a potential former house site.

¹⁹ OzArk Environmental & Heritage Management Pty Ltd, Sept. 2017; *Historical Heritage Salvage Report: Ravensworth Village Site*, prepared for Mt. Owen Pty Ltd.

The report concluded that no archaeological evidence of pre- WWII occupation was recorded that the potential for archaeological remains was considered to be low and any remains located would be of little significance.



Figure 3. 22: Aerial view of Ravensworth Village site with overlay of cadastral boundaries. Base photograph: courtesy of Glencore/Umwelt



Figure 3. 23: View of the site of the former Ravensworth Village looking southeast towards the railway line from Hebden Road.



Figure 3. 24: View of the site of the former Ravensworth Village looking south from Hebden Road with remnant fenced paddocks.

Site 34a: Former Hebden Public School

Location: Part Lot 1 DP925901

The former Hebden Public School building is a small 1912 weatherboard with gable roof two room building on timber piers with brick chimney and two pane timber framed sash windows. Entry to the building is at the rear (east) via a large opening with timber gate. Adjacent is a cement rendered water tank. Evidence of other structures are located across the site including concrete piers and slabs and pathways.

The site is relatively clear of established landscaping other than overgrown grasses and a few self-seeded eucalypts and banksia.

The site is identified in the *Mount Owen Complex Historic Heritage Management Plan* (HHMP) (Glencore Mount Owen, 2018), and has been enclosed by a constructed steel post and wire fence and labelled as: “Heritage Site: Former Hebden School Site”, in accordance with the management measures identified in the HHMP.



Figure 3. 25: Frontage (west) of Hebden Public School.



Figure 3. 26: Hebden Public School with water tank and scattered trees.



Figure 3. 27: Northern elevation of the school building with concrete path



Figure 3. 28: Rear (east) elevation of the school building with entry.

Site 34b: John Winter grave site

Location: Lot 2 DP730978

Located on the northern boundary of the Hebden Public School is a single grave comprising a granite slab and headstone with engraved terrazzo monument.

The grave is that of John Winter who arrived in Sydney in c.1855 and set off on foot for the interior eventually reaching Kentucky, New England (south of Armidale). He then worked his way south until he reached the area where Canberra is now located. In 1861, Winter selected 80 acres in the Parish of Goorooyarroo and called it Red Hill.²⁰ In 1915, the Federal Government resumed his property and Winter relocated to Hebden, residing with his daughter Sarah Shumack there until his death.²¹ No other graves appear to be located in the vicinity.



Figure 3. 29: John Winter's head stone. Source: Umwelt, 2014, p. 4.11

²⁰ Hall School Museum and Heritage Centre, <http://museum.hall.act.au/display/1939/place/2383/red-hill-gungaharra-homestead.html>

²¹ Umwelt, 2014; Historic Heritage Assessment Physical: Mount Owen Continued Operations Project, p 4.11

3.6.2 Other Sites and Features in the Estate Lands

The following sites and features relate in the main to the development of the Ravensworth Estate lands initially as a result of the Measures/Reid period of subdivision and the establishment of numerous smaller farming allotments across the former estate lands. Although some fabric survives from this period, most of the early 20th century farm houses and associated buildings have been demolished.

Other sites and features identified below also relate to the later development of the land (late 20th and early 21st century) relating to mining operations and infrastructure.

Site 8: Rail Bridge

Location: Lot 2 DP 6842

Recent concrete pier rail bridge crossing Bowmans Creek to the south of the village of Ravensworth. A plaque states:

*“Bowmans Creek No. 2
259.076 km
Year 2006”*

Adjacent to alluvial plains to the east and west, potentially used for former pastoral property. This portion of Bowmans Creek shows evidence of former farming establishments nearby with rows of Poplars still remaining in the landscape.



Figure 3. 30: Coal train crossing over Bowmans Creek No. 2 bridge



Figure 3. 31: Cultural plantings including poplars located adjacent to Bowmans Creek.

Site No. 17: Former Farm site

Location: Lot 310 DP848411

Archaeological remains of former early to mid 20th century farm house with associated farm structures including cattle ramp and yards, storage shed, tanks, fencing and timber footings. Cultural plantings located around building ruins and adjacent to Bowmans Creek including peppercorn.



Figure 3. 32: Ruins of former farmhouse with peppercorn tree adjacent.



Figure 3. 33: Ruins of sheep ramp with yards with peppercorn trees

Site 18: Private Residence/Glencore Offices

Location: Lot 311 DP848411

Late 20th century dwelling with fencing and garden, most recently used by Glencore as additional offices. Currently vacant.



Figure 3. 34: Recent dwelling formerly used as Glencore offices.

Site 19: Former Farm site

Location: Lot 11 DP592404

Archaeological site of former farm- long demolished. Evidence remains only in landform and capped services.



Figure 3. 35: Evidence in landform of location of former farmhouse.

Site 20: Former Farm site

Location: Lot 7 DP1077004

Remnant mid 20th century stables built of bush poles with corrugated iron cladding and adjacent cattle yards. The yards are still in use by Colinta Holdings who use the Ravensworth lands for cattle grazing.

Adjacent are archaeological remains of the former farmhouse and other farm structures including a cattle



Figure 3. 36: Ruins of former stables/cattle stalls and shed.

ramp, cistern, two dams and footings of other buildings.

Cultural plantings are located within the immediate vicinity including olive, peppercorn, palms, silky oaks and jacaranda.



Figure 3. 37: Cattle yards still in use by Colinta Holdings.

Site 21: Former Farm site

Location: Lot 5 DP1077004

Remains of former Hillview farmhouse and outbuildings, an early 20th century farm.

Footings and scattered remains of former house with cultural plantings including bougainvillea with adjacent sheep shed of bush pole and corrugated iron cladding. Other cultural plantings including orange, carob, willow and agave.



Figure 3. 38: Sheep shed with cultural plantings.

To west is a fenced area that is identified as an Aboriginal site (Site Name: MOCO OS-10, AHIMS Id: 37-3-1198).

Site 22: Daracon yard and offices

Location: Lot 1 DP124977

Offices and storage yards for infrastructure contracting firm. Appears to be located in a former farmhouse dating from the early 20th century.

Directly adjacent to the south is a large fenced allotment providing carparking and storage and containing demountable buildings and a half cylindrical metal clad shed. No access provided.



Figure 3. 39: Daracon offices with old timber fence posts.

Site 24: Timber bridge across Swamp Creek

Location: Lot 2A DP6842

Timber bridge on steel rails over creek, probably used for moving stock. Located near to former farm (see Site 25). Currently fenced with steel star picket and wire and identified as: "Heritage Site No. 1".

Previously assessed by Umwelt in 2007 as part of a modification of the Glendell Mine development consent (DA80/952) for the implementation of a revised conceptual mining plan and integration with the approved Mt Owen Complex operations in the Glendell area.²²



Figure 3. 40: Timber bridge over Swamp Creek.

Site 25: Former Farm site

Location: Lot 2 DP6842

Location of former farm evidenced by scattered building materials, some cultural plantings and mounds. No other evidence remains.



Figure 3. 41: Site of former farm with scattered building materials.

Site 26: Former Farm site

Location: Lot 1 DP135027 and Lot 1 DP303842

Located directly north of the Ravensworth Homestead, the site of former farm with scattered building materials, former telephone and electricity pole, evidence of stone walled garden beds with succulents, driveway and a dam.



Figure 3. 42: Site of former farmhouse with scattered building materials and evidence of stone walled garden beds.

²² Umwelt, 2007; *Historical Heritage Assessment for Modification of Glendell Mine Operations*, prepared for Xstrat Mt. Owen Pty Ltd.

Site 26a: Timber Bridge over Yorks Creek

Location: Lot 1 DP135027 and Lot 1 DP303842

Timber and bitumen covered bridge supported on timber posts. Possibly early 20th century. The bridge provides access over Yorks Creek to the west from Hebden Road and leads to Site 26 (see above).



Figure 3. 43: Timber and bitumen bridge.

Site 28: Former Farm site

Location: Lot 1 DP738417

Former hayshed of bush poles and corrugated iron cladding with timber cattle yards located between the New England Highway and the Great Northern Railway. Evidence of other associated former farm buildings in close proximity.



Figure 3. 44: Former hay barn with cattle yards.

Site 29: Former Farm site

Location: Lot 3 DP 232149

Located adjacent to the Great Northern Railway, remnants of former dairy including concrete foundations and parts of walls of dairy building with sluices, timber posts remain standing from other farm outbuilding, fence lines, scattered building materials and machinery and a hollowed-out log water trough.



Figure 3. 45: Remains of former dairy building.



Figure 3. 46: Timber log water trough.

Site 30: Newdell Junction signal box

Location: Railway siding

1960s red brick and tile elevated signal box with associated infrastructure and fenced in wire mesh and steel post fencing. Still in operation remotely.



Figure 3. 47: Newdell Junction signal box

Site 31: Former Farm site

Location: Lot 2 738417

Former farm building in poor condition adjacent to the New England Highway. Timber structure with corrugated metal roofing and fibrous cement wall cladding. Evidence of brick incinerator and concrete tank stand. Some cultural plantings including peppercorn and scattered machinery.



Figure 3. 48: Dilapidated farm building adjacent to the New England Highway.

Site 32: Mining infrastructure/Orica

Location: Lot 13 DP665120

Mining infrastructure site of recent construction. Located on the eastern alluvial plains of Yorks Creek adjacent to the Mt. Owen mine.



Figure 3. 49: Orica mining infrastructure site.

Site 33a: Yorks Creek Voluntary Conservation Area

Location: Lot 2 DP730978

The Yorks Creek Voluntary Conservation Area, which commenced in 1994, was the first voluntary conservation agreement in the Hunter Valley formalising the protection of significant Aboriginal sites. The area covers 28.5 hectares along Yorks Creek adjacent to the Mt Owen mine and contains artefact scatters and open camps sites and hearths. The local Aboriginal community has access to the site, which provides a significant area where learning about Aboriginal culture can take place. The area is fenced off from grazing stock and soil conservation works and substantial tree planting has been undertaken to protect eroding areas.²³



Figure 3. 50: Yorks Creek Voluntary Conservation Area

Site 33b: Timber Bridge over Yorks Creek

Location: Lot 2 DP730978

Located at the eastern end of the allotment adjacent to the Yorks Creek Voluntary Conservation Area and accessed via a dirt track leading eastwards from Hebden Road. An early 20th century timber bridge which it is assumed was used for moving stock. The creek is overgrown with regenerating she-oaks.



Figure 3. 51: Timber bridge over Yorks Creek.

Site 35: Former Farm site

Location: Lot 1 DP380676

Located on the eastern side of Hebden Road to the north of the Hebden School site (Site 34a), a remnant residential allotment with evidence of former dwelling and outbuildings including timber and wire shed (ruined), rubbish heap, dam, entry driveway gate and scatter building materials and footings. The site is fenced with timber post, star picket and barb wire. Cultural plantings throughout the allotment including bougainvillea, begonia, agave sp. silky oak and date palm.



Figure 3. 52: Ruins of a shed at southeast corner of allotment with cultural plantings.

²³ Glencore Factsheets: NSW Aboriginal Cultural Heritage; www.glencore.com.au/en/publications/factsheets/FactsheetsGCAA/NSW-Aboriginal-Cultural-Heritage.pdf

Site 36: Former Farm site

Location: Lot 352 DP867083

Located on the western side of the Ravensworth East (northern) emplacement area, the site of a former farm is situated on a natural rise looking over Bowmans Creek to the west.

The site contains the ruins of farmhouse with footings and building materials including stone piers and brick base for a laundry copper or chimney and adjacent evidence of farm buildings including timber posts and a series of small dams. Cultural plantings include oleander, passionfruit, aloe and Kurrajong.



Figure 3. 53: Former farmhouse site with scattered building materials and cultural plantings.

Site 37: Former Farm site

Location: Lot 81 DP607296

Former cattle yards with loading ramp adjacent to internal road on the western side of the Ravensworth East (northern) emplacement area. The confluence of Bowmans Creek and Stringy Bark Creek is directly to the north. The cattle yards appear to relate to a former farm located on the western side of Bowmans Creek which has since been demolished.



Figure 3. 54: Former cattle yards with ramp.

Site 38: Recent dwelling (vacant)

Location: Lot 202 DP848078

Located on the northern side of Hebden Road adjacent to the northern boundary of the “10,000” acres. The site is accessed via a long drive from Hebden Road, planted out with an avenue of conifers and leading to a recent dwelling with outbuildings.



Figure 3. 55: Recent dwelling with garden and outbuildings.

Site 39: Former Farm site

Location: Lot 201 DP848078

Former farm located on the western side of Hebden Road adjacent to the northern boundary of the “10,000” acres and directly north of Bowmans Creek. The site consists of the outbuildings only associated with the farm known as “Hazeldene” (the name remains on the entry gate). The house recently burnt down and has been cleared by Glencore, although its location remains discernible in the landscape by a grouping of cultural plantings including native frangipani, murraya, conifers, peppercorn, Cocos Island palms, pomegranate and plumbago.

Remains of the farm buildings include early 20th century timber dairy with attached men’s quarters, large corrugated iron clad shed with attached cattle yards, timber machinery shed, timber and corrugated iron clad barn. The paddocks on the alluvial flats to the north of the farm buildings leading to Bowmans Creek remain marked out with timber and wire fencing.



Figure 3. 56: Site of former farm house as indicated by grouping of cultural plantings.



Figure 3. 57: Timber dairy with yards and adjoining men’s quarters

3.7. Core Estate Lands

As discussed previously, as a result of the research and investigations undertaken for this report, it became apparent that there was an extended area of land surrounding the Ravensworth Homestead Complex that retained physical evidence of the earliest period of European colonisation of the estate lands. Features of interest include the potential site of the first homestead at the Ravensworth Estate (Site 11), cultural plantings, evidence of early cultivation areas, early stone lined dams as well as a range of historical archaeological remains and scattered agricultural features associated with the early development of the Ravensworth Estate.

This area of land for the purposes of this report has been identified as the “Core Estate Lands” and is defined by the allotment containing the Ravensworth Homestead Complex together with the land to the west between Yorks Creek and Bowmans Creek (see Figure 3.58 below).

The Core Estate Lands also comprise the majority of the land held by the Marshall family following the subdivision of the estate lands by Measures and Reid in the early 20th century, including:

- Lot 4 Section B DP 6842 containing the Ravensworth Homestead Complex and purchased by A.C. Marshall as a Settlement Purchase in 1920;
- Part of Lot 4 Section B DP 6842 purchased by A.C Marshall’s father Rev. James Marshall in 1927 and later transferred to A.C Marshall and reunited with the Ravensworth Homestead Complex allotment; and
- Lots 5 and 6 DP 6842 purchased by G. and J. Marshall following the subdivision and sale of the eastern half of the Ravensworth Homestead Complex allotment in c1969 to the Electricity Commission. Lots 5 and 6 were known as “Ravensworth Farm” by the Marshalls.

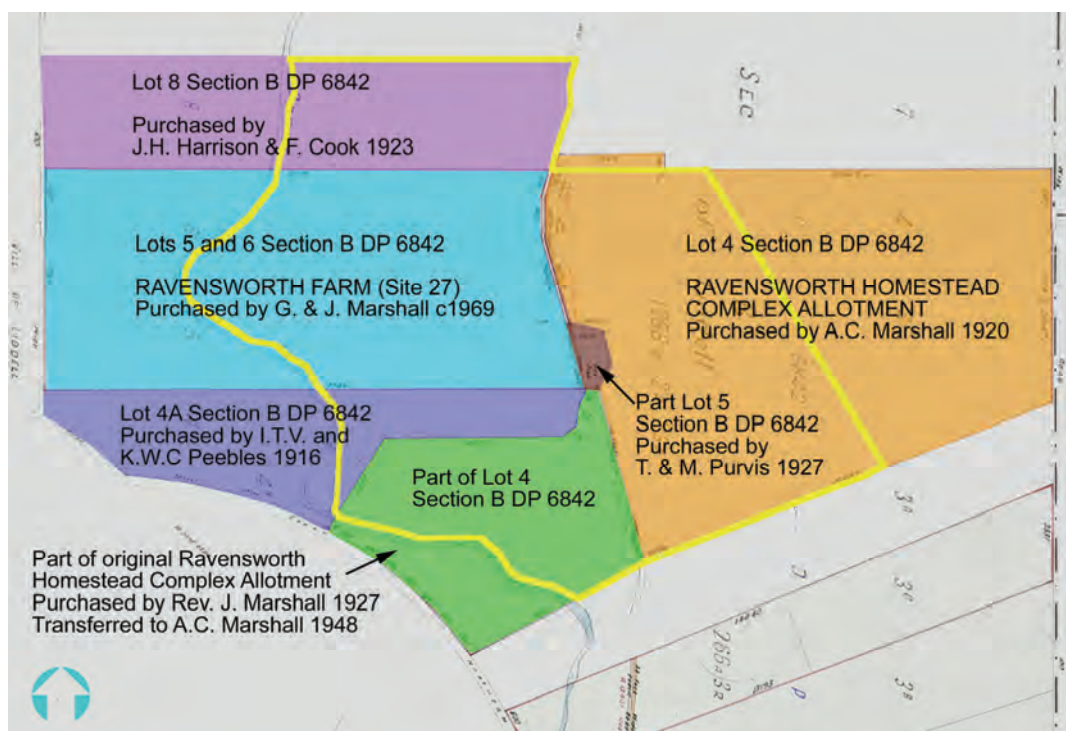


Figure 3. 58: Detail from Certificate of Title Vol. 3144 Fol. 148 showing the Marshalls land and other 20th century owners of the allotments that comprise the Core Estate Lands (outlined in yellow).



LEGEND

Key Ravensworth Estate Sites/ Archaeological Test Areas

- 1 • Ravensworth Homestead Complex (C&L Archaeological Test Areas 3 & 4)
- 2 • Former Woolshed site
- 3 • Housetank Hill: water tank and trig. station
- 3a • Underground Silo site
- 4 • Northwest Paddock (C&L Archaeological Test Area 5)
- 6 • Brick-lined Well (C&L Archaeological Test Area 6)
- 9 • Former farm site
- 10 • Former farm site
- 11 • (Potential) First Homestead site (C&L Archaeological Test Area 1)
- 12 • Quarry (former)
- 13 • Linear stone feature (C&L Archaeological Test Area 7)
- 27 • Former farm site: Ravensworth Farm
- 27a • Former dairy building: Ravensworth Farm

Potential Early Dams and Modified Early Dams (pre 1850s)

Note: Recent dams are not shown

- D1-D14 • Potential Early Dams (pre 1850s)
- Dma-Dmf • Potential Early Dams modified more recently
- D3, D4 & Dmd • Yorks Creek Dams (C&L Archaeological Test Area 6)

Potential Early Cultivation Sites and Early Plantings (pre 1850s)

- VG1 • Narrow- leaved Ironbark
- VG2 • Kurrajong
- VG3 • Black Locust
- VG4 • African olive
- VG5 • Black Locust windbreak (C&L Archaeological Test Area 2)
- VG6 • Possible early cultivation area
- VG7 • Oleander
- VG8 • Black cypress pine
- VG9 • Elm
- VG10 • Possible early cultivation area
- VG11 • Possible windbreak
- VG12 • Former orchard (early 20th century)
- VG13 • Former orchard (early 20th century)
- VG14 • 8 Acre Garden (C&L Archaeological Test Area 6)
- VG15 • Copse of Black locusts
- VG16 • Possible early cultivation area
- VG17 • Channel leaf Orchid/Tiger Orchid(location unknown)
- VG18 • Aleppo pine

For C&L Archaeological Test Areas see
Ravensworth Homestead Complex:
Historical Archaeological Test Excavation Report,
by Casey and Lowe, 2019

Figure 3. 59: Aerial view of the Core Estate Lands identifying the location of the Ravensworth Homestead Complex and other sites associated with the early development of the estate lands. Source: Base aerial and mapping information courtesy of Glencore/Umwelt, 2018

3.7.1. Landform of the Core Estate Lands

The local landscape of the Core Estate Lands is characterized by three generally north-south trending drainage lines – Bowmans Creek (formerly known as Foy Brook and a tributary of the Hunter River) in the west, Yorks Creek (a tributary of Bowmans Creek) centrally and the earlier course of Swamp Creek to the east (also a tributary of Bowmans Creek but now mostly subsumed by active open cut mine areas). Between each of these creeks are similarly north-south trending ridges that generally ascend to the north towards the much higher country linked to the Mount Royal ranges.

The earlier Ravensworth building development (Site 11: the potential original homestead site) occurred at the western end of these two ridge systems between Bowmans Creek and Yorks Creek while the present homestead complex lies over the western foothills of the ridge system east of Yorks Creek (see also Section 3.7.4 Siting of the Homestead Complex below). This latter ridge system is now partly reconfigured and dominated by the post-mining overburden emplacement formations from the adjacent active Ravensworth East mine.

3.7.2. Native Vegetation of the Core Estate Lands

Most of the area surrounding the Ravensworth Homestead Complex is a type of Derived Native Grassland. Where there remain woodland trees in the vicinity of the homestead these are either remnants, or recent regeneration, of a vegetation community defined as “Narrow-leafed Ironbark–Grey Box Grassy Woodland of the Central and Upper Hunter Valley”. Within the canopies of some of these trees – notably within the tributary feeding the Homestead Dam - the indigenous epiphytic orchid (*Cymbidium canaliculatum*) has been recorded. (*Cymbidium canaliculatum* is one of only three native Australian species of *Cymbidium*.)²⁴

A second vegetation community, representative of a “Swamp Oak Riparian Forest”, remains relatively intact along Yorks Creek.²⁵ As discussed above (Section 3.4.3), the presence of Swamp Oak on the Ravensworth property suggests possible saline soils and, in the case of Yorks Creek slightly brackish water. (That the streams of this locality were long known to be brackish was well attested by Henry Dangar in his published account from 1828.)²⁶

Other notable native tree species in the vicinity of Yorks Creek near the Ravensworth Homestead Complex include Black Cypress Pine (*Callitris endlicheri*) and Kurrajong (*Brachychiton populneus*).



Figure 3. 60: View of Yorks Creek identified by the line of mature trees as seen from Hebden Road. Photo: G. Britton, 2018

²⁴ Interestingly, a form of *Cymbidium* from Wide Bay (and presumed to be *C. canaliculatum*) was listed on the 1850s Camden Park plant catalogues of William Macarthur along with the other two endemic species *Cymbidium suave* and *C. madidum* (as *C. iridifolium*).

²⁵ Umwelt Pty Ltd, *Glendell Continued Operations Project, Preliminary Environmental Assessment*, Final report, May 2018

²⁶ H Dangar, 1828, p 31



Figure 3. 61: Black Cypress Pines and Kurrajong along Yorks Creek. Photo: G. Britton, 2018

3.7.3. Landscape Setting of the Homestead Complex

The current Ravensworth landscape around the homestead presents as tracts of largely open farmland with lines of riparian vegetation (mainly along Yorks Creek), a backdrop of denser woodland and clusters of more recent woodland regeneration.

Current perceptions of the overall landscape are also being shaped by the changing peripheral landforms as a result of continuing mine overburden emplacement formations on the neighbouring Ravensworth East property. These overburden emplacement landforms are generally long, broad ridges contrasting with the generally more finely articulated, undulating natural site topography. Overburden emplacements are largely open and grassy to the east with those to the north-east now dense plantations of woodland species. Over coming decades, it is expected that these large-scale overburden emplacements will eventually reconfigure, and dominate, this part of the regional Hunter Valley landscape. Further details of the final landform of the Project area post mining are provided in the GCO Project EIS.



Figure 3. 62: View of the Ravensworth Homestead Complex in its landscape setting, looking south with views of overburden emplacements in distance and Broken Back Range in the far distance.



Figure 3. 63: View looking west from the Ravensworth Homestead Complex across grassy tracks to the vegetated area of Yorks Creek. Liddell Power Station is seen in the far distance.

It is known that the Ravensworth lands were beginning to be cleared from the time they were first settled shortly after Henry Dangar wrote of them in 1824. For example, 250 acres are reported to have been cleared in 1826 along with the construction of the early cottage, huts to accommodate workmen, outbuildings and fencing.²⁷

The landscape continued to be cleared over subsequent decades with some particularly ambitious clearing during the ownership of Duncan Forbes Mackay being reported.²⁸ However, the early description of the Ravensworth lands by Dangar noted that the landscape already appeared open. It was not a continuous expanse of woodland or forest but had grassy tracts enough for Dangar to especially mention it. This is consistent too, with other early descriptions of this area and neighbouring Upper Hunter Valley landscapes as having a park-like appearance.

It is also consistent with the numerous landscape examples cited by Bill Gammage as indicative of a fire-managed landscape prior to interventions associated with European land selection and grants.²⁹ Gammage describes a sophisticated approach to land management by the pre-1788 Aboriginal people that involved deliberately managed grassy clearings with bordering woodland or forest (associations and templates). This may have been the landscape Dangar first described - not a natural landscape but an actively managed landscape as part of a vast indigenous “farming” estate. It also accords with records of a concentration of clashes at Ravensworth between settlers and the local Aboriginal people, supporting the local landscape’s importance to them as a good food source – an asset they were prepared to contest (see also Section 2.3).³⁰ Whatever the origins of cleared, grassy tracts throughout this overall area, an open, grassland character has importantly featured, more or less, to the present.

3.7.4. Siting of the Ravensworth Homestead Complex

The Homestead Complex is positioned conveniently close to local drainage lines for easy access to water while being carefully sited on a rise overlooking the creeks and away from potential flooding.

The Creek Lines

A consideration of the creek lines in the vicinity of the Ravensworth Homestead Complex, helps inform an understanding as to part of the rationale for siting the various key structures – both former and extant - associated with the Ravensworth estate. For the five contiguous land portions that James Bowman was permitted to use from 1824 the common riparian thread running through them was Bowmans Creek (formerly Foy Brook). Although the Hunter River (forming the southern boundary of the estate) would have been the most reliable permanent water source for the estate, Bowmans Creek and its principal tributaries (Yorks Creek and Swamp Creek) watered the majority of the central grant portions. The presence of Swamp Oak as a riparian species and the naming of a related tributary further north as Saltwater Creek, suggests that these local creeks carried brackish water, however it is not known to what extent the salinity levels were an issue in the early management of the estate. (Henry Dangar, as early as the mid-1820s, indicated that this may have weighed against permanent settlement.)

This local proximity to water sources partly explains the siting of the earliest farm group (Site 11- refer also to Section 3.8 Historical Archaeology in this report) in the 1820s over the southern end of a rise between Bowmans and Yorks Creeks as much as it does the siting of the current homestead group

²⁷ CSIL26/7403, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

²⁸ Note Figure 2.37 from 1902 showing many ring-barked trees at Ravensworth.

²⁹ Bill Gammage, *The Biggest Estate on Earth: How Aborigines Made Australia*, Allen & Unwin, Sydney, 2011

³⁰ Mark Dunn, *A Valley in a Valley: Colonial struggles over land and resources in the Hunter Valley, NSW 1820-1850*, PhD thesis, UNSW, June 2015, p. 228

adjacent Yorks Creek and one of its tributaries. The traditional siting of farm groups in relation to local water bodies fulfilled both functional and aesthetic purposes.



Figure 3. 64: Aerial view showing the Ravensworth Homestead Complex and the approximate site of the original homestead in relation to Bowmans Creek and Yorks Creek. (Base aerial: Umwelt 2018)

The Road Approach

On approach from the south along Hebden Road, the homestead is at first obscured by the dense vegetation in its front garden. From this perspective, only the sandstone stables block with its two-part gabled roof is immediately apparent.

Further along the road, the homestead emerges from its garden setting and the roofs of the barn behind also become apparent. Together, the dense concentration of plantings and the ensemble of buildings define the homestead group, which is perceived to sit within a gently undulating expanse of largely open grassland. So, when approached from the west and southwest – the traditional approach off Hebden Road - the homestead group is seen with a scenic backdrop of rising land to the east and northeast and appears nestled into its contextual landscape, as shown in Figure 3.83.

It is worth noting that at the Hebden Road entry point to Ravensworth homestead, there remain four large round timber posts.³¹ The inner gate posts (possibly ironbark) are clearly old with deep weathering and fissures present as well as various mortices. While the outer fence posts are also old, but more recent. See Figures 3.66 and 3.67 below.



Figure 3. 65: View of the Ravensworth Homestead Complex as seen from the approach drive from Hebden Road to the west. Photo: G. Britton, 2018

³¹ Similar large, fissured gate posts (painted white) mark the Hebden Road entry point to a 1900s farmhouse near Bowman's Creek on Glencore land just over one kilometre north from the Ravensworth entry gates.



Figure 3. 66: One of two old, heavily weathered gate posts at the main entry from Hebden Road. G. Britton, 2018



Figure 3. 67: A fence post and brace marking the main entry from Hebden Road. G. Britton, 2018

3.7.5. Views and Visual Catchment of the Homestead Complex

Refer to Table 3.4 and Figure 3.80 below for location of identified views.

From the various ridges between Bowmans Creek and the eastern edges of the Ravensworth property, it is possible to appreciate views back to the homestead group. The same views also allow an appreciation of the various contextual landscape features associated with the homestead group and their longstanding proximity to one another. Such features include the line of Hebden Road and the vegetated course of Yorks Creek through the local area as well as distinctive topographic landmarks beyond the immediate estate area.

It should also be noted however that in virtually every view there is visible mine rehabilitation and exposed overburden emplacements, usually in the middle to far distance.

Important views to the homestead group include those from the ridge to the west (where the first Ravensworth cottage was probably sited); from Hebden Road on approach to the homestead; from the ridge behind the homestead group to the northeast (House Tank Hill- Site 3); and from the existing dams and (presumed) former cultivation site along the tributary of Yorks Creek to the west. These are regarded as key views because of the historical importance of these places and their connection with the homestead from the earlier part of the 19th century. In many of these views, the vegetated, sinuous course of Yorks Creek is not only a dominant attribute of the local landscape, it also defines discrete landscape spaces.

Some historic parish maps (see Figure 2.57) also seem to emphasise the topographic form of the Ravensworth Trig Station hill to the southeast of the homestead and this may have also figured in local views to and from the homestead. However, copses of recent woodland regeneration have now obscured any such views (Figure 3.68).



Figure 3. 68: View from the southern garden within the Homestead Complex looking south across the House Dam in front of the homestead. The view is looking to the location of the former Ravensworth Trig. Station with the local rise now obscured by the dense copse of woodland vegetation (to the left of frame in the background).

Views to the homestead group from the western ridge (between Bowmans Creek and Hebden Road) (Figure 3.69) reveal the open, grassland character of the local landscape and enable an excellent appreciation of the compactness and discreteness of the homestead group within its landscape context. The partly forested landform in the middle ground, across most of the horizon, is rehabilitated mine overburden emplacement. This new landform has permanently changed the broader landscape setting for the homestead. Despite this, some distant landmarks are still visible such as the forested peak to the northeast within Mount Royal National Park, Mount Dyring³² to the east and more local hills either side of Hebden.



Figure 3. 69: View 1 looking eastwards from the western ridge on the western side of Yorks Creek and Hebden Road, showing mine rehabilitation with timbered vegetation from left to right. Photo: G. Britton, 2018



Figure 3. 70: Detail of the above with a clearer view of Mount Dyring in the background of mine rehabilitation. Photo: G. Britton, 2018

³² Mount Dyring is noted on Surveyor Dixon's 1837 plan of the region, though spelt 'Dyring'

With its lower elevation, views to the homestead from Hebden Road reveal less of the mine emplacement landforms on the horizon but do provide views of the distinctive Hebden hills – local reference points that would have been long appreciated since, at least, the 19th century (Figure 3.71).



Figure 3. 71: View 4 of the Ravensworth Homestead Complex as seen looking northeast from Hebden Road. Photo: G. Britton, 2018

Views looking south to the homestead group from the enclosing ridge to the northeast (Site 3 and 3a) (Figures 3.72 and 3.73) further reinforce the sense of the remnant estate buildings being nestled into their local landscape.



Figure 3. 72: View 3 of the Ravensworth Homestead Complex as seen looking southwest from the enclosing ridgeline adjacent to the water tank with mine overburden emplacements and rehabilitation in the middle distance. Photo: G. Britton, 2018



Figure 3. 73: View 3 of the Ravensworth Homestead Complex as seen looking southwest from the enclosing ridgeline adjacent to the underground silo site. Photo: G. Britton, 2018

Where the panoramic skyline would have been dominated by the extensive ranges of the Broken Back Range system in the past, the horizon to the south now features the long, mounded forms of mine overburden emplacements. Many of these are currently active emplacement areas and will be progressively rehabilitated.



Figure 3. 74: View looking south-west to distant Broken Back Range with overburden emplacements in middle distance. The Homestead Complex is right of frame.

Adding to the perception of a growing presence of industrial land uses within the upper Hunter Valley are views from these prospects of the Liddell Power Station site (see Figures 3.73 and 3.75). Again, these views emphasise the generally cleared nature of the landscape around the homestead group and, if not for the retained riparian vegetation, the overall local area would appear almost denuded of substantial tree cover. Views to the west past the Liddell Power Station site also feature Mount Arthur as a longstanding traditional scenic feature. (Mount Arthur is noted as such on Dangar's 1828 plan.)



Figure 3. 75: View of Liddell Power Station with Mount Arthur in far distance, as seen from the House Tank Hill (Site 3) to the north-east of the Homestead Complex. Yorks Creek is in the foreground. Also shows overburden emplacement in the distance on the left hand side.

Other important views relating to the Ravensworth homestead include those to the House Dam to the immediate south of the homestead complex and those to the west to the dams and (presumed) former cultivation area (Site VG14) along the tributary to Yorks Creek. Reciprocal views from the latter site back to the homestead would have been notable when the inner estate flourished in its earlier decades.

The view from the homestead's front verandah to the House Dam would have been appreciated in the 19th century as the dam was formed during the Bowman period. It is difficult to appreciate the view at present owing to the dense intervening garden vegetation and a prevailing drought resulting in little water within the dam (Figure 3.76).



Figure 3. 76: View 8 of the house dam with the homestead on the right, obscured by the dense plantings of the front (south) garden. Photo: G. Britton, 2018



Figure 3. 77: View 8 looking south from the front (south) garden, through vegetation towards the house dam and distant views.



Figure 3. 78: View 6 looking west towards Yorks Creek with adjacent dams from the service compound over the western boundary wall.



Figure 3. 79: View 6 looking east from Yorks Creek towards the homestead complex with dam in foreground.

Table 3. 4: Table of Identified Key Views to Ravensworth Homestead Complex within the Place. Refer to Figure 3.80 below for location of views.

View No.	Description	Direction
V1	Views east from rise at Site 10 of the Ravensworth Homestead Complex in its setting with broader landscape behind, including views of Mount Dyrning.	East
V2	Views east from rise at Site 11 (possible first homestead site) of the Ravensworth Homestead Complex in its setting with broader landscape behind, including views of Mount Dyrning.	East
V3	Views south from House Tank Hill (Site 3) across Homestead Complex to broader landscape.	South, South-East and South-West
V4	Views north west and west to Homestead Complex from Hebden Road.	North-West and West
V5	View east along entry driveway to Homestead Complex (traditional entry).	East
V6	Reciprocal views between the Homestead Complex and the cultivation areas, early dams and enclosing line of vegetation along the eastern side of Yorks Creek.	East - West
V7	Views south from the Homestead Complex to pastoral lands with Bowmans Creek and Yorks Creek and broader landscape behind.	South, South-East and South-West
V8	Axial view to House Dam from homestead.	North - South
V9	Views of enclosing lines of vegetation along Bowmans and Yorks Creeks from early cottage site.	West and South
V10	Views of Mount Arthur from assumed early cottage site.	West
V11	Views of Mount Royal National Park from assumed early cottage site.	North-East
V12	Views of Liddell Power Station from assumed early cottage site.	North-West

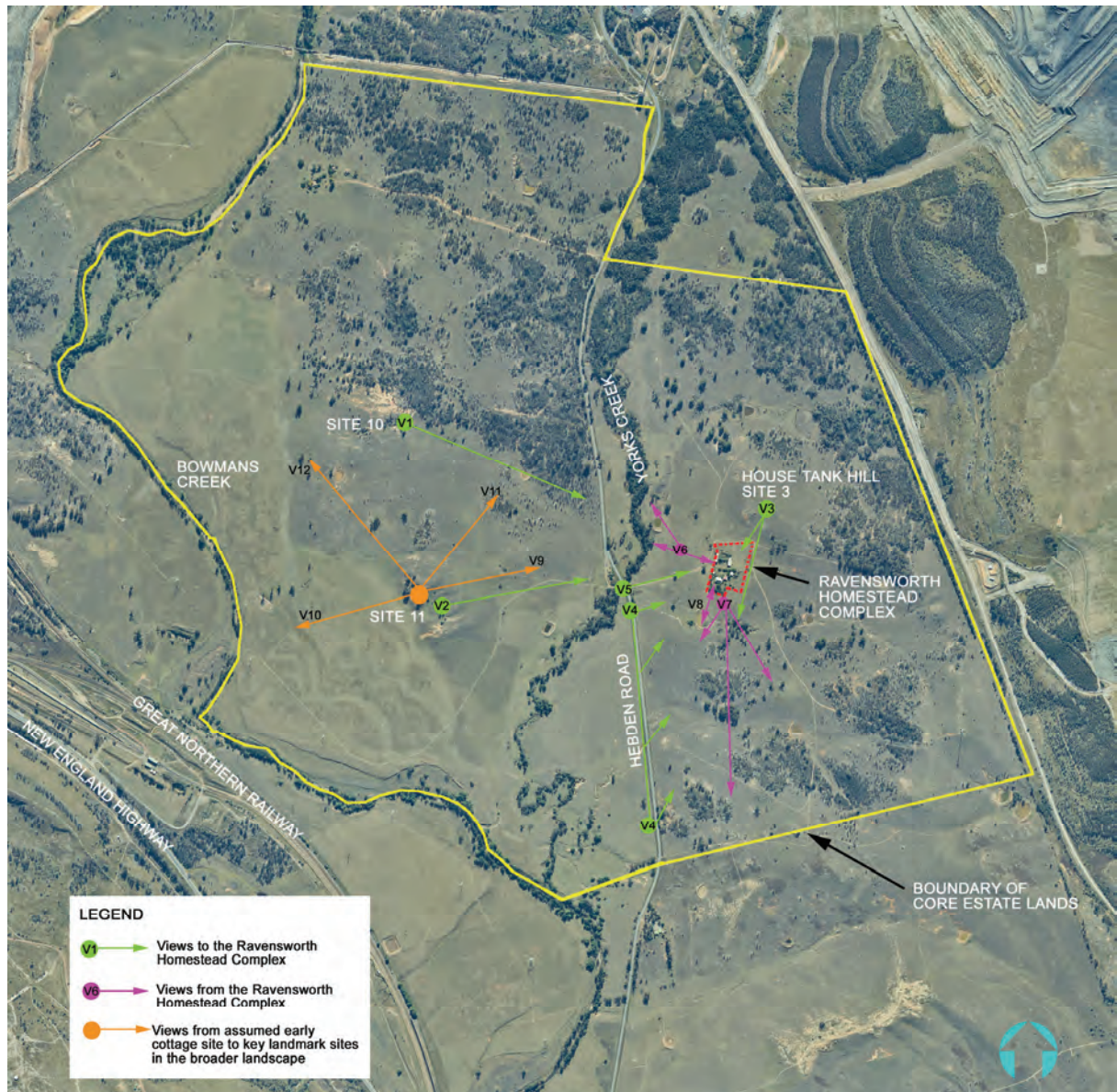


Figure 3. 80: Diagram identifying views to and from the Ravensworth Homestead Complex within the boundaries of the Core Estate Lands. Prepared by G. Britton

Viewshed

The following viewshed diagrams illustrate graphically the geographical areas visible from two key locations: firstly, from within the south garden of the Ravensworth Homestead Complex and secondly, from House Tank Hill (Site 3) to the north of the homestead complex. Both diagrams demonstrate that available views from the Ravensworth Homestead Complex are to the southwest, west and northwest. Views to the east, northeast and southeast are limited due to both natural and manmade landforms.

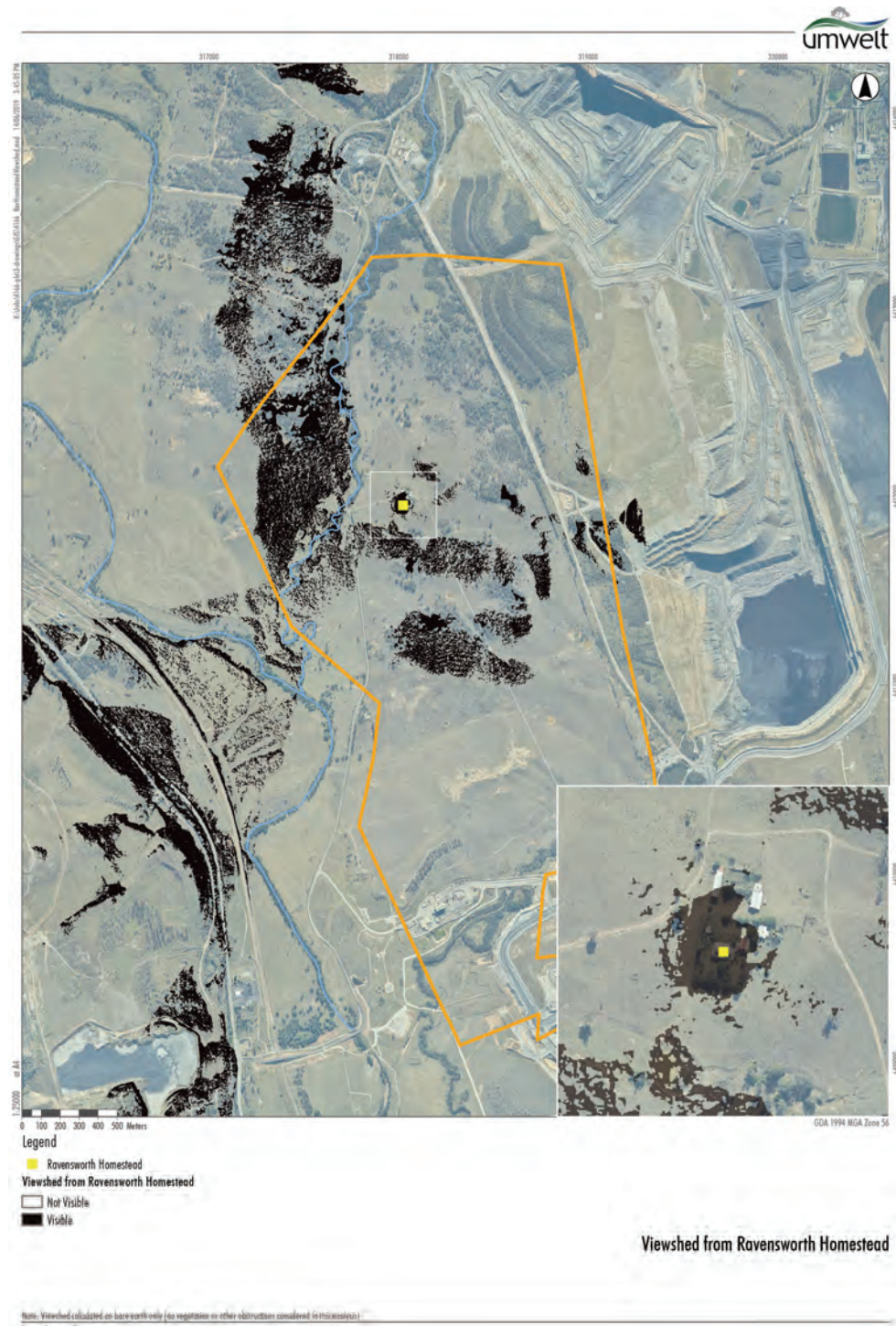


Figure 3. 81: Viewshed from the Ravensworth Homestead Complex. Source: Umwelt, 2019



Figure 3. 82: Viewshed from House Tank Hill (Site 3) to the north of the Ravensworth Homestead Complex.
 Source: Umwelt, 2018

3.7.6. Cultural Landscape Features of the Core Estate Lands

Refer to Table 3.5 and Figures 3.118 and 3.119 below for the location of potential historic cultural plantings.

In addition to the open grazing lands there are also numerous associated cultural landscape elements in particular in the area between Yorks Creek and Bowmans Creek that provide further insight into the extent of the early development of the Ravensworth Estate. These landscape elements comprise small, shallow dams; remnant plantings; possible cultivation areas; and numerous opportunistic escapees of introduced species along the enclosing creek lines.

Additionally, several old indigenous tree species (ironbark, kurrajong and cypress pine) along Yorks Creek and a line of large Forest Red Gums closer to Bowmans Creek, indicate that these trees were deliberately retained, perhaps as a source of shade for stock, where most others were likely removed by the latter half of the 19th century.



Figure 3. 83: Ironbark, Kurrajong and cypress pine along Yorks Creek. Photo by G. Britton, 2018



Figure 3. 84: Line of Forest Red Gums adjacent to possible early dam adjacent to Bowmans Creek. Photo by G. Britton, 2018

The majority of the surviving cultural vegetation, either planted or as progeny of earlier plantings, on the site of the Ravensworth Homestead Complex is located in close proximity to the homestead group.



Figure 3. 85: Remnant iron barks in the west paddock framing views of Ravensworth homestead from the south west. Photo: G. Britton, 2018

Cultural plantings further afield include a lone old Oleander cultivar (*Nerium oleander* cv. “Splendens”) on the western side of Yorks Creek and planted lines of old (mostly senescent) Black Locusts (*Robinia pseudoacacia*), an old elm (*Ulmus* sp.) with others suckering along the creek, a dead Crepe Myrtle (*Lagerstroemia indica*) and associated *Yucca* sp.



Figure 3. 86: Old oleander ‘Splendens’. Photo: G. Britton, 2018



Figure 3. 87: Dead Crepe Myrtle and *Yucca* sp. Photo: G. Britton, 2018



Figure 3. 88: Black Locusts along Yorks Creek. Photo: G. Britton, 2018



Figure 3. 89: Elms and Black Locusts along Yorks Creek. Photo: G. Britton, 2018

Although likely to be random, weedy opportunists, other larger exotic species present along Yorks Creek in the vicinity of Site 11 include *Celtis* sp., Briar Rose (*Rosa canina*), Peppercorn trees (*Schinus areira*), African Olive (*Olea Europaea* subsp. *cuspidata*) and African Boxthorn (*Lycium ferocissimum*).

Some remnant trees appear to be associated with the former cottage site (Site 11) between Yorks Creek and Hebden Road north of the entry gate to Ravensworth. In this case the surviving plantings include Peppercorn trees and two Norfolk Island Hibiscus (*Lagunaria patersonii*), patches of Common Prickly Pear (*Opuntia stricta*), a willow (*Salix* sp.) on an island within an old dam with more recent Aleppo Pines (*Pinus halepensis*) along Hebden Road.



Figure 3. 90: Briar rose. Photo: G. Britton, 2018



Figure 3. 91: Old Peppercorn. Photo: G. Britton, 2018



Figure 3. 92: Common Prickly Pear, patches of which are located across the place. Photo: G. Britton, 2018



Figure 3. 93: Willow on an island in old dam located on the eastern side of Yorks Creek, within proximity of the homestead complex. Photo: G. Britton, 2018

A lone Aleppo Pine at the Ravensworth entry gate was planted by Jenny Marshall in the second half of the 20th century.³³ Another, older, Aleppo Pine remains to the northeast of the homestead group in the vicinity of House Tank Hill (Site 3).



Figure 3. 94: Aleppo pines along Hebden Road. Photo: G. Britton, 2018



Figure 3. 95: The lone Aleppo Pine between the homestead group and House Tank Hill. Photo: G. Britton, 2018

3.7.7. Cultivation Areas

Refer to Table 3.5 and Figures 3.101 and 3.102 below for location of potential early cultivation areas.

While the dominant form of agriculture at Ravensworth, at least through the 20th century if not into the 19th century, appears to have been broad-acre grazing (cattle and sheep), there is evidence to suggest that there were also earlier phases of crop cultivation, intensive vegetable gardening and orcharding. Most of these latter forms of agriculture were restricted to the flood-labile flats and riparian terraces along Bowmans and Yorks Creeks, though an orchard (probably from the early 20th century) is known from Lidar analysis to have been planted to the south of the homestead grounds (refer also to Section 3.8 Historical Archaeology in this report).

To the west of the homestead group, and along the eastern side of Yorks Creek, a series of early dams provided the basis of sustaining areas of cultivation where, in some places, the closely spaced parallel furrows are still clearly visible across the surface. The cultivation lines are shown to have been fenced as there remains evidence of earlier fence alignments that are, in places, further reinforced by lines of sandstone and low mounding.



Figure 3. 96: Visible cultivation furrows across surface of land adjacent to Yorks Creek. Photo by G. Britton, 2018

³³ *Pers. Comm.* J. Marshall, 3rd August 2018



Figure 3.97: Old fence line with timber post and rail fencing together with later post and wire fencing. Photo by G. Britton, 2018



Figure 3.98: Old fence line west of early dams northwest of the homestead complex. Photo by G. Britton, 2018



Figure 3.99: Reverse view of fence line in previous image. Photo by G. Britton, 2018

Bowman's "8 Acre Garden"

According to the description of the Ravensworth Estate made by Sir W. E. Parry in 1832, a garden of 8 acres with a paling fence and small stream and partly laid out in an ornamental fashion existed in association with the homestead.³⁴

To the immediate west of the upper dam (D4) to the east of Yorks Creek is a brick lined well and a copse of Black Locust trees (see Figure 3.89). This area is also one of two possible locations for the site of the former 8-acre garden known from the Bowman period of ownership (refer to Section 4.4 of this report for further discussion).

Another potential location for this early 8 acre garden is on the western side of Yorks Creek where there still remain enclosing lines of planted Black Locust trees (though most of these are now senescent). The old trees form an L shape (and potential wind break) enclosing an area of riparian terrace that would have provided rich alluvial soil for a field of cultivation. Other similar riparian terraces along Bowmans Creek to the southwest may have done likewise.

The Black Locusts, along with other exotic species such as the lone *Nerium oleander* 'Splendens', elm, Briar Rose, *Celtis* sp., Peppercorn trees and *Yucca* sp. (see Figures 3.86 to 3.89 above) suggest some concerted gardening in this location, yet no such efforts seem likely during most, if not all, of the 20th century. This evidence therefore seems to point to an earlier date for such intensive efforts especially given that the otherwise very hardy, long-lived species such as the Black Locusts are now either dead or in advanced senescence. A small, and potentially early, dam (D12) also remains to the immediate south of the Black Locust windbreak along with a worked sandstone block.

Archival aerial photography (see Figure 3.100) also shows extensive cultivation furrows across the low-lying flats just north of Bowmans Creek and to the southwest of the earlier Ravensworth cottage site. It is not known how early these might be however they may be associated with the several small, and potentially early, dams in this locality.

³⁴ *Dungog Chronicle*, 18 Feb 1927, p 4

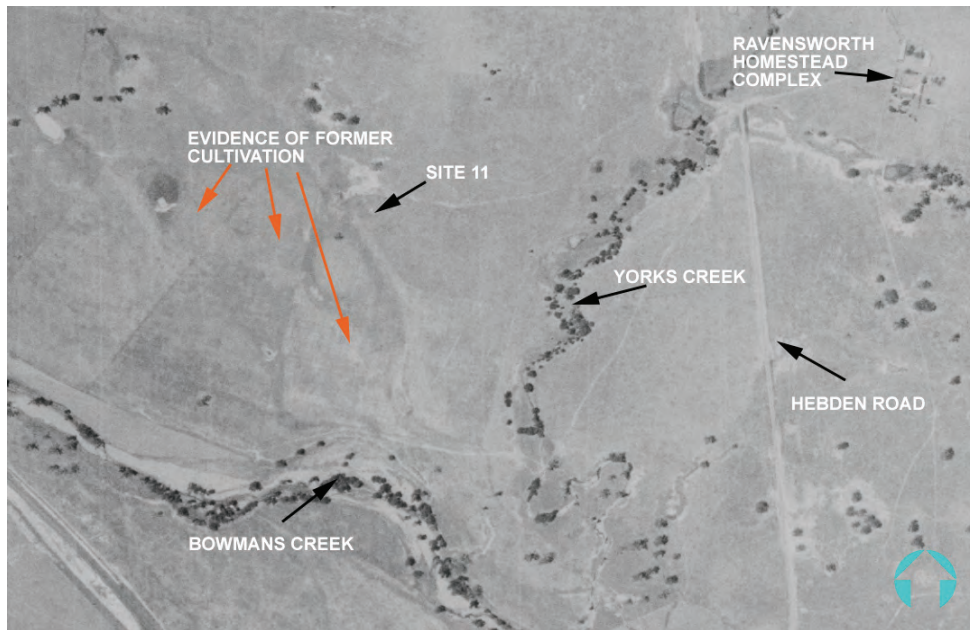


Figure 3. 100: Detail from 1958 aerial photograph showing evidence of former cultivation to the north of Bowmans Creek. Base photograph courtesy of Glencore

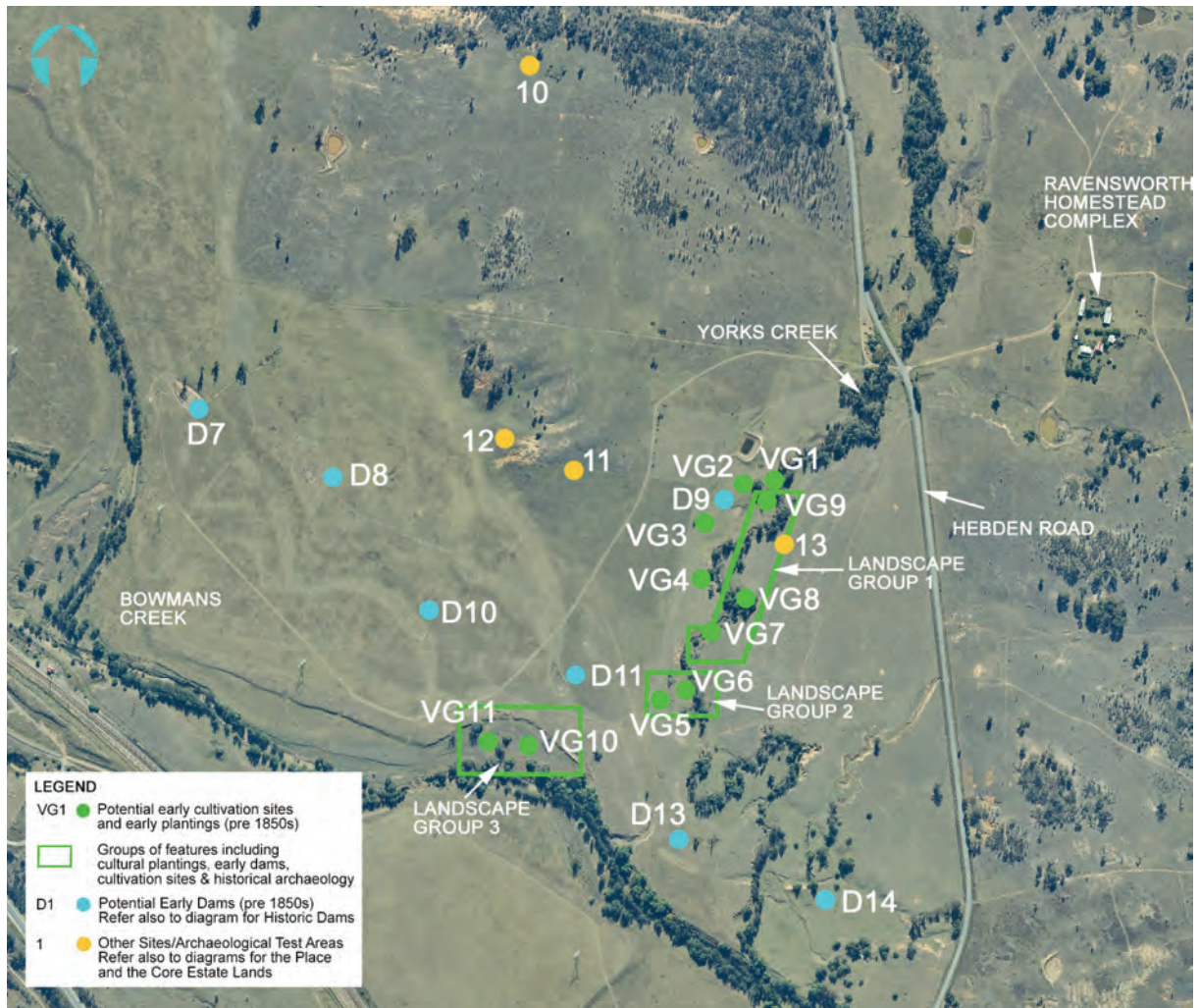


Figure 3. 101: Aerial view of the area west of Yorks Creek identifying potential early (Bowman period) landscape features. See also Figure 3.111 for historic dams. Prepared by G. Britton, 2018

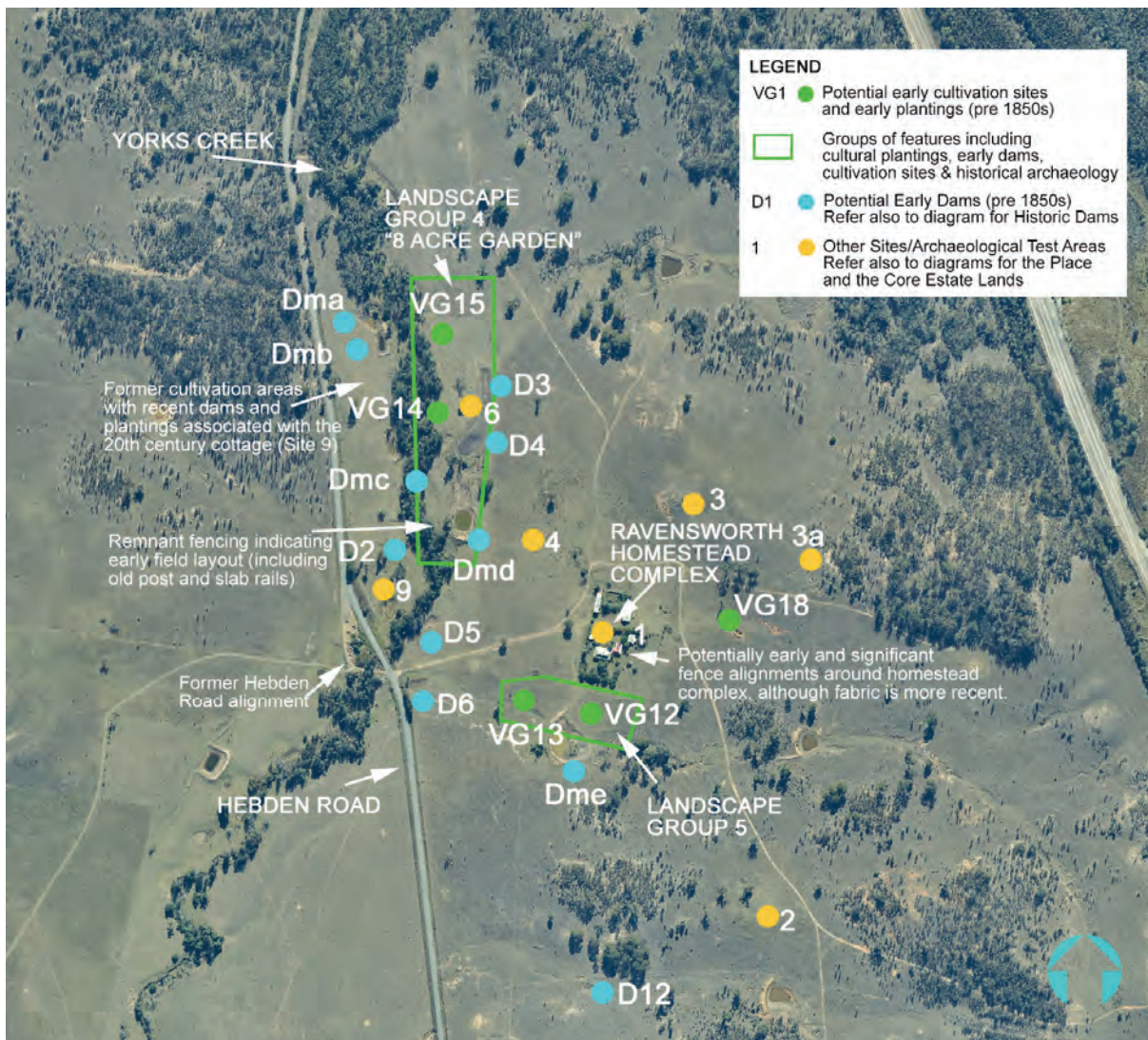


Figure 3. 102: Aerial view of the area east of Yorks Creek and around the Ravensworth Homestead Complex identifying potential early (Bowman period) landscape features. See also Figure 3.111 for historic dams.
Prepared by G. Britton, 2018

Table 3. 5: Table of cultural plantings and potential early cultivation sites within the vicinity of the Ravensworth Homestead Complex

Item No.	Plant Species	Common Name	Description/Comments
GENERALLY			
	<i>Brachychiton populneus</i>	Kurrajong	Occurring naturally
	<i>Casuarina glauca</i>	Swamp Oak	Occurring naturally
	<i>Eucalyptus spp.</i>	Indigenous Eucalypts	Creeks etc.
	<i>Robinia pseudoacacia</i>	Black Locust	As weeds
	<i>Schinus areira</i>	Peppercorn tree	Near Yorks Creek
	<i>Ulmus sp.</i>	Elm	Weeds in creeklines
	<i>Yucca sp.</i>	Yucca	West of Yorks Creek
WEST OF YORKS CREEK (in vicinity of Site 11)			
VG1	<i>Eucalyptus crebra</i>	Narrow-leafed Ironbark	Old example
VG2	<i>Brachychiton populneus</i>	Kurrajong	Old example
VG3	<i>Robinia pseudoacacia</i>	Black Locust	Old example
VG4	<i>Olea europaea</i> subsp. <i>Cuspidata</i>	African olive	
VG5	<i>Robinia pseudoacacia</i>	Black Locust	Lines of old black locusts (some now dead) with African boxthorn (<i>Lycium ferocissimum</i>) also present.
VG6			Possible area of early cultivation enclosed by windbreak of black locusts
VG7	<i>Nerium oleander</i> cv. 'Splendens'	Oleander	Old example
VG8	<i>Callitris endlicheri</i>	Black Cypress Pine	Old example
VG9	<i>Ulmus sp.</i>	Elm	Old example
VG10			Possible area of early cultivation within an alluvial terrace on north bank of Bowmans Creek
VG11	?	?	Potential windbreak for adjacent cultivation area on north bank of Bowmans Creek
EAST OF YORKS CREEK (in vicinity of Site 9 and the Ravensworth Homestead Complex)			
VG12			Former orchard (Liddar results confirm location) possibly from early 20 th century

Item No.	Plant Species	Common Name	Description/Comments
VG13			Former orchard (Liddar results confirm location) possibly from early 20 th century
VG14			Former cultivation area with closely spaced furrows still clearly visible on surface with early fencing partly remaining.
VG15	<i>Robinia pseudoacacia</i>	Black Locust	Copse of Black Locusts of mixed ages to the immediate west of old well
VG16			Former cultivation area with closely spaced furrows still clearly visible on surface with early fencing partly remaining.
VG17	<i>Cymbidium canaliculatum</i>	Channel leaf Orchid	House dam creek/Yorks Creek eastern channels- specific location unknown. ³⁵
VG18	<i>Pinus halepensis</i>	Aleppo Pine	
VG19	<i>Pinus halepensis</i>	Aleppo Pine	

3.7.8. The Dams

Refer to Figure 3.111 and Table 3.6 below for location of historic dams.

Colonial settlers in Australia with an investment in agriculture soon realised that the country was prone to periodical drought and that to safeguard against the loss of livestock and crops, dams or tanks needed to be constructed. The extensive Ravensworth estate was likely no exception to this – especially where the main creeks were noted in the 1820s as being brackish (Yorks Creek for example). With the availability of a free convict labour force during Ravensworth's formative years, it is likely that a number of farm dams would have been built.

Using archival and current aerial photography as well as ground checking, a number of dams in the vicinity of the first Ravensworth site and the current Ravensworth homestead were investigated. Many of these were immediately discounted as early dams as they were either not present or shown to be under construction in the archival photography or they were clearly constructed using modern mechanical equipment (identified as recent dams in Figure 3.111 below).

House Dam

Some dams may have been originally built in the 19th century but have been enlarged or otherwise modified more recently. One of these is the House Dam to the immediate south of the homestead.

Archival photography (see Figure 3.103) shows a dam in this location but with a headwall in line with the projection of the western buildings. Current photography shows a much larger dam with a headwall further to the west of this line and with a rectilinear-shaped island in the middle. The latter is actually part of the previous dam headwall that has been retained within the enlarged dam structure. A scatter of ironware artefact fragments (mostly with cobalt blue-fired transfer patterns) is evident on the more recent headwall (see Figures 3.105 and 3.106).

³⁵ The Channel-leaf orchid (or Tiger orchid) has been identified as being located along the eastern channels of Yorks Creek within the vicinity of the Ravensworth Homestead Complex, although the exact location is not noted. See *GOC Project: Preliminary Environmental Assessment*, Umwelt, May 2018, p. 82 and Figure 8.3



Figure 3. 103: Detail from 1958 aerial photograph of the Ravensworth Homestead Complex and surrounds showing the House Dam at that time, with head wall clearly visible. Base photograph courtesy of Glencore.



Figure 3. 104: Detail from recent aerial photograph of the Ravensworth Homestead Complex and surrounds showing the House Dam with adjusted head wall. Source: NSW Spatial Services, SixMaps, 2019



Figure 3. 105: Photograph of ironware artefact fragments at the house dam. Photo: G. Britton, 2018



Figure 3. 106: Photograph of ironware artefact fragments at the house dam. Photo: G. Britton, 2018

York Creek Dams

Those dams with the potential to demonstrate an earlier period of construction were generally small in scale, relatively shallow in depth with enclosing banks at a low angle of repose, had a distinctly elongated (oval or teardrop) form and they were mostly located in close proximity to the main creek lines rather than at the heads of tributaries.

In some cases, sandstone blocks were used in the construction of the dam headwall while in one case, the headwall featured sandstone coursing over ironbark logs.



Figure 3. 107: Tear drop shaped early dam. Photo: G. Britton, 2018



Figure 3. 108: Oval shaped early dam. Photo: G. Britton, 2018



Figure 3. 109: Sandstone block headwall to early dam.



Figure 3. 110: Sandstone blocks over ironbark logs forming head wall to early dam.

Using these characteristics as a guide, fourteen dams were identified either side of Yorks Creek with the potential to be convict-built structures during the Bowman period of ownership (see Figure 3.111). A further six dams were identified as having the potential of being early dams that had been more recently modified. In some cases, areas of potentially early cultivation were evident in the vicinity of some of these small dams.

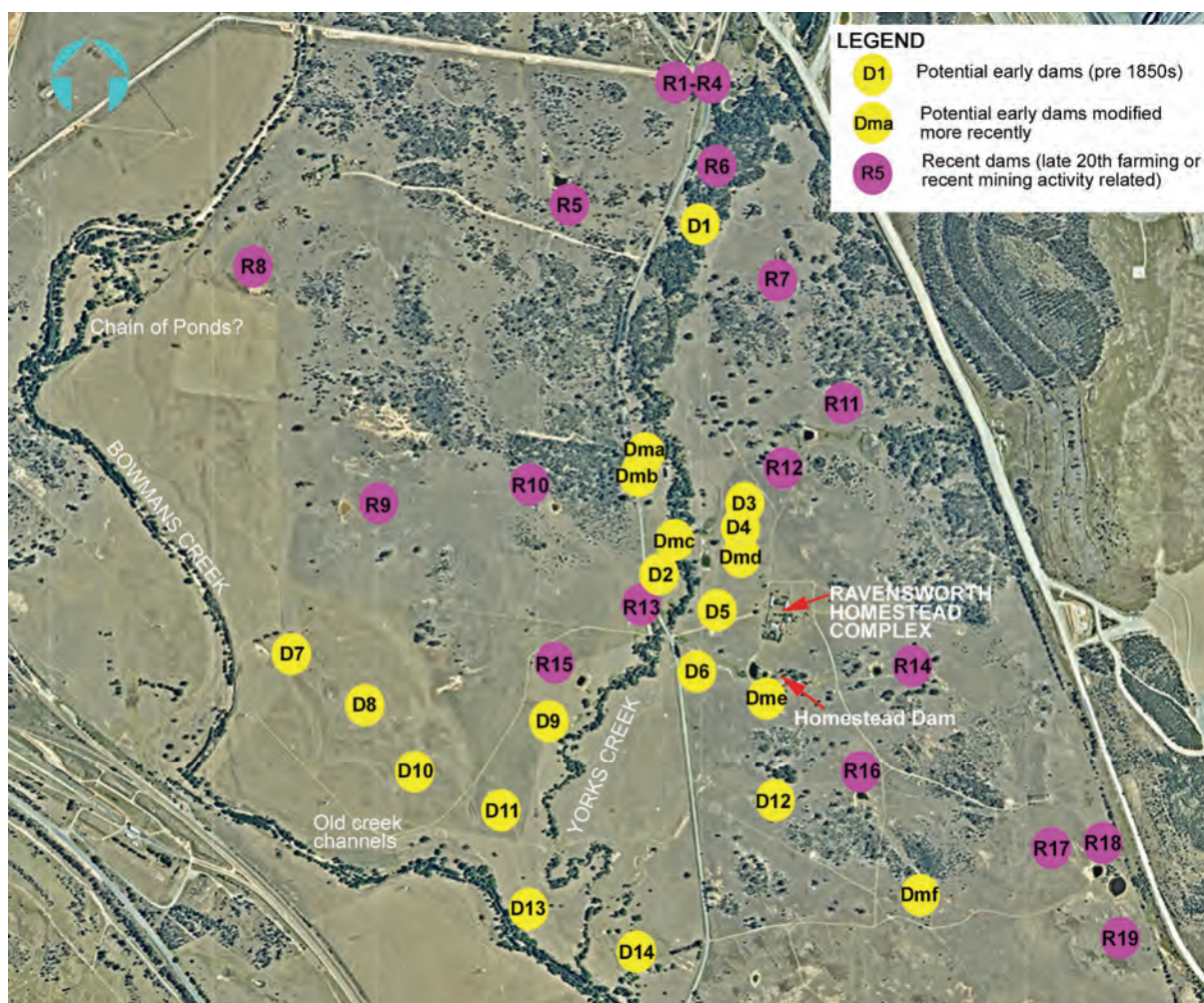


Figure 3. 111: Aerial view of the core remains of the Ravensworth Estate identifying the location of various dams, of which 15 appear to be early dams potentially dating from the Bowman period. Prepared by G. Britton, 2018

Table 3. 6: Table identifying potentially early dams, modified early dams and recent dams.

DAM NO.	DESCRIPTION
D1	Potentially early dam (pre-1850s) – more isolated
D2	Potentially early dam (pre-1850s) – bet. Hebden Rd/Yorks Ck
D3	Potentially early dam (pre-1850s) – North-West Paddock
D4	Potentially early dam (pre-1850s) – North-West Paddock with notable stone lining supported on hardwood logs.
D5	Potentially early dam (pre-1850s) – North-West Paddock
D6	Potentially early dam (pre-1850s) – North-West Paddock- a shallow dish dam with some stone around the head end.

DAM NO.	DESCRIPTION
D7	Potentially early dam (pre-1850s) – western area nr Bowmans Creek and near a line of old Forest Red Gums
D8	Potentially early dam (pre-1850s) – between Bowmans Creek and early cottage site
D9	Potentially early dam (pre-1850s) – between Bowmans Creek and early cottage site
D10	Potentially early dam (pre-1850s) – between Bowmans Creek and early cottage site
D11	Potentially early dam (pre-1850s) - between Bowmans and Yorks Creeks and early cottage site
D11a	Potentially early dam (pre-1850s) – very small dam near early cultivation site and remnant Black Locust windbreak plantings
D12	Potentially early dam (pre-1850s) – east of Hebden Road and south of homestead group
D13	Potentially early dam (pre-1850s) - between Bowmans and Yorks Creeks and south of early cottage site
D14	Potentially early dam (pre-1850s) – east of Hebden Road and south of homestead group
Dma	Potentially early dam (pre-1850s) – bet. Hebden Rd/Yorks Ck
Dmb	Potentially early dam (pre-1850s) – bet. Hebden Rd/Yorks Ck
Dmc	Potentially early dam (pre-1850s) – bet. Hebden Rd/Yorks Ck
Dmd	Enlarged early dam (pre-1850s) – in early garden area
Dme	Enlarged early dam (pre-1850s) – focus for homestead
Dmf	Modified early dam (pre-1850s) – east of Hebden Road and well south of homestead group
R1	Recent dam
R2	Recent dam
R3	Recent dam
R4	Recent dam
R5	Recent dam - (post 1970s)
R6	Recent dam
R7	Recent dam - (1950s?)
R8	Recent dam - (post 1960s) Note: to the southwest is potentially a chain of ponds that may be associated with colonial agricultural activity within the alluvial plains of Bowmans Creek.
R9	Recent dam - (1970s?)
R10	Recent dam - (1960s?)
R11	Recent dam (earlier dam enlarged?)
R12	Recent dam
R13	Recent dam
R14	Recent dam

DAM NO.	DESCRIPTION
R15	Recent dam
R16	Recent dam
R17	Recent dam
R18	Recent dam
R19	Recent dam

3.7.9. Other Sites and Agricultural Features in the Core Estate Lands

Located across the Core Estate Lands are other individual sites of interest that relate to the Bowman era (early 19th century), the Mackay era (late 19th century) and the Measures/Reid era (early 20th century) when the estate lands were subdivided into smaller farming allotments.

Site 2: Former Woolshed site

Location: Lot 228 DP 752470

Located to the south of the Ravensworth Homestead Complex and accessed from the homestead by a dirt track is the location of the former woolshed/shearing shed site. The shed was designed by J.W. Pender in 1884 for D.F. Mackay and demolished in c1917 (refer to Section 2 for further details), and evidence remains in the form of scattered stone, the base of chimneys and a concrete sheep dip.

Casey and Lowe surveyed the site (GC05) as part of the historical archaeological assessment³⁶ and the GIS analysis of the Lidar derived DEM revealed a number of clearly defined anomalies immediately to the east of the sheep dip including a curved depression which may indicate a “U” bugle sheep yard.



Figure 3. 112: Remains of brick and stone chimney bases



Figure 3. 113: Concrete sheep dip with surrounding stone

³⁶ *Ravensworth Homestead Complex and Surrounds: Historical Archaeological Assessment & Archaeological Research Design*, prepared by Archaeology & Heritage (Casey & Lowe), September 2018



Figure 3. 114: Remains of stone and concrete slabs



Figure 3. 115: Scattered stone indicating the location of former structures.

Site 3: Water tank and Trig Station

Location: Lot 228 DP 752470

Located to the north of the Ravensworth Homestead Complex on a natural rise is an early 20th century concrete water tank and stone trigonometrical marker. Both features appear to relate to the Marshall period of ownership.

Figure 3. 116: Early 20th century water tank

Figure 3. 117: Stone trigonometrical marker

Site 3a: Underground Silo

Location: Lot 228 DP 752470

Located to the north-east of the Ravensworth Homestead Complex on a natural rise is evidence of an underground silo. A depression in the ground covered over with scrap metal sheeting indicates its location, although further investigation is required to confirm the form, material and purpose of this feature. It has been assumed that the site consists of an underground silo based on the oral histories provided by Geoffrey Marshall (who reported that he and his father used it for a dump for household waste). In 1895, the *Maitland Weekly Mercury* reported that Bowman had built a large wheat silo “to the left of the house on the hill” and that at that time it was abandoned. The writer of the article was of the opinion that it would be useful “if it was converted into an underground tank”.³⁷

³⁷ “Among the Pastoralists and Producers”, *The Maitland Weekly Mercury*, Saturday 7th September 1895, p. 10



Figure 3. 118: Depression covered over with scrap metal indicating the location of the underground silo.



Figure 3. 119: Depression indicating location of underground silo

Site 9: Former Farm

Location: Lot 2 DP1089438

Archaeological remains of former early 20th century farmhouse. Remnants include fencing, gates, evidence of footing of buildings, driveway, cement fibre lined well, concrete slab and dam with island and willow.



Figure 3. 120: Archaeological site of former farmhouse with concrete slab and remnant footings.

Site No. 10: Site of Former Farm

Location: Lot 32 DP545601

Located on a small rise overlooking the alluvial plains of Bowmans Creek to the north. Archaeological remains consist of concrete slab of a farm house and other buildings, scattered building remains and the timber pier footings of a large-scale farm building (assumed shearing shed).



Figure 3. 121: Concrete slab of former farmhouse



Figure 3. 122: Timber pier footings of large farm building.

Site 27: Site of former “Ravensworth Farm”

Location: Lot 32/ 545601

Accessed via Hebden Road and located on higher ground overlooking Bowmans Creek to the west, this site consists of a collection of farm buildings dating from the early 20th to mid 20th century which together provide a good snap shot of the smaller farming enterprises that dominated the Ravensworth Estate lands throughout the 20th century. The collection of buildings includes:

1. Hay barn/shearing shed and store building of timber with bush pole support posts clad in corrugated metal sheets. The building is in very poor condition.
2. Original (c.1920) weatherboard two room farm house with gable roof and brick chimney, with enclosed verandah (west elevation) and car port (east elevation) and corrugated metal water tank. A windbreak of hawthorn protects the southern side of the house. The building is in very poor condition.
3. 1950s face brick with gable roof single storey residence set in a domestic garden with hills hoist, steel post and wire mesh fencing and planned garden beds. The building is in poor condition.
4. Double garage in fibro sheeting. The building is in poor condition.
5. Timber, corrugated metal and wire chicken shed in very poor condition.

The buildings are spread over a reasonably large distance running north to south following the alignment of Bowmans Creek. Numerous cultural plantings are located in the vicinity, including a substantial Moreton Bay fig, as well as scattered remnants of other farm structures e.g. fencing, building ruins, machinery and the like.



Figure 3. 123: West and north elevations of the original 1920s weatherboard farm house



Figure 3. 124: South and east elevations of the original 1920s weatherboard farm house with watertank.



Figure 3. 125: South elevation of the 1950s farm house with rear garden and hills hoist.



Figure 3. 126: Northern front garden of the 1950s farmhouse with fencing and cultural plantings including silky oak, roses and bougainvillea.



Figure 3. 127: Double garage associated with the 1950s residence.



Figure 3. 128: Chicken shed



Figure 3. 129: North elevation of haybarn/shearing shed.



Figure 3. 130: East elevation of haybarn/shearing shed.



Figure 3. 131: Old windmill to west of the 1950s residence adjacent to Bowmans Creek.



Figure 3. 132: Moreton Bay fig in the western paddock area.

Site 27a: Dairy of the former “Ravensworth Farm”

Location: Lot 32 DP 545601

Located to the south of the main farm site (Site 27) is the remains of a dairy building of timber with corrugated metal sheeting and weatherboard with attached cattle yards and ramp. The building is in very poor condition.



Figure 3. 133: Dairy with cattle yards and peppercorn tree.



Figure 3. 134: Cattle ramp with yards.

3.8. Historical Archaeology of the Core Estate Lands

The following information has been drawn from the *Ravensthorpe Homestead Complex and Surrounds: Historical Archaeological Assessment & Archaeological Research Design*, prepared by Archaeology & Heritage (Casey & Lowe), September 2018, and the *Ravensthorpe Homestead Complex: Historical Archaeological Test Excavation Report and Impact Statement for the Core Estate Lands*, prepared by Casey & Lowe, 2019.

For details regarding the methodology, analysis and recommendations, the original reports should be referred to in the first instance. See *Appendix 23c* of the GOC Project EIS.

3.8.1. Historical Archaeological Assessment and Research Design

In September 2018, the potential historical (non-Aboriginal) archaeological remains of the Ravensthorpe Estate, were assessed through an analysis of historical records, site inspection and comparative analysis.

The outcome of the Archaeological Assessment suggested that portions of the Core Estate Lands had the potential to contain significant archaeological remains (relics under the NSW *Heritage Act*, 1977), associated with the 19th and 20th-century pastoral and agricultural land-use of the site, including:

- Structural remains associated with the Ravensthorpe homestead complex.
- Evidence for changes in design, including demolished extensions, particularly within the homestead and associated outbuildings.
- Subfloor occupation deposits within the homestead main building.
- Artefact dumps or occupation deposits, including rubbish pits.
- Evidence for landscaping, including land clearance, ploughing, cultivation and irrigation works.
- Evidence of the (old) Great Northern Road.
- Structural remains of the (wheat) silo and associated artefact deposits.
- Structural remains of the late 19th-century wool shed and stable block (c1882-1887), situated to the southeast of Ravensthorpe Homestead.
- Structural remains of former huts, cottages, dairies, cattle yards and other features associated with the homestead and various farm complexes dating from the late 19th century and early 20th centuries.

Methodology

The archaeological survey focused primarily on the core of the Ravensthorpe Homestead Complex and its immediate surrounds. Potential sites of interest were shortlisted following a review and synthesis of historical sources, historical cartography and analysis of the topography of the Ravensthorpe estate using remote sensing data combined with cadastral and topographic data. This data was correlated and analysed using Geographical Information Systems (GIS).

A GIS project was created using QGIS. It provided a structure to correlate existing geospatial datasets, to map the landscape and topography of the Ravensthorpe Estate and to prospect for sites and earthworks of potential archaeological significance. All data was projected to the project coordinate system of GDA94 56.

Outcomes

The outcome of the archaeological survey identified a range of sites with potential historical archaeological remains within and surrounding the Ravensworth Homestead Complex. These are presented below (see Table 3.7 and Figure 3.135).

Several 20th century sites were identified as part of the survey however they have not been included in the following table. Specifically, those sites marked as a 'House' 'Dairy' and 'Bails' on a c1911 subdivision plan (see Figure 2.43), located on allotments 3a, 3b, 3c, Section B, DP 6997 and allotment 7, Section B, DP 6842. The remains of structures at two of the properties (Allotments 3a and 3b) are visible on modern aerials but were not visited as part of the site survey and there is no evidence of structural remains at the other two properties. (Refer to Section 3.6.1 and description of Site 20.)

Preliminary Archaeological Phasing

The archaeological assessment identified a number of broad archaeological phases and these are as follows:

- Phase 1:** 1820 to 1850: Bowman era.
- Phase 2:** 1850 to 1890: Subdivision, agricultural and pastoral activities.
- Phase 3:** 1890 to 1950s: Period of significant subdivision and multiple owners including the early Marshall period of ownership.
- Phase 4:** 1950s to Present: Multiple owners including the later Marshall period of ownership.

Table 3. 7: Identified historic archaeological items / sites within the study area, including the level of expected archaeological potential for each item. Note Site numbers used for this report are included below the Site ID. Source: Casey & Lowe, September 2018, see Table 5.1, pg. 110 (Note that no evidence from Phase II was identified).

HISTORIC ITEM	DATE	SITE ID	BRIEF DESCRIPTION	ARCHAEOLOGICAL POTENTIAL
PHASE I: Bowman's Estate (1824-1846) and PHASE II: The Russell Family (1842-1882)				
Huts, sheep sheds, wool sheds (various structures)	By 1826	GCO24	Several huts built on the property to accommodate overseers and a convict workforce of approximately 40 people, as well as 'extensive buildings for packing and sorting wool'. ¹ Bowman had apparently erected 'Sheep Sheds, Wool House, Stores, Cottage, Kitchen, huts for ten men etc.', in addition to a stout fence 3 miles long and maintained 34 convicts. ² Possible evidence of sheep washing facilities in the creeks.	The location of these structures is unknown. Buried remains could be situated in the vicinity of the homestead complex (current homestead or the old house site)
'Old house'	By 1828	GCO8 (Site 11)	No visible evidence of structure identified during preliminary survey.	Moderate (buried remains)
Early (?) Cultivation	unknown	GCO8 a & b	Floodplain lying between Bowmans Creek and Yorks Creek, several areas of linear features, indicating possibly historic agrarian landscapes (Lidar analyses). Possibly associated with early homestead.	Low (evidence of any early cultivation may have been obscured by later 19th and early 20th-century land use)

¹ P Cunningham, *Two Years in New South Wales*, Henry Colburn, London, 1827, p 144.

² CSIL26/7403, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

HISTORIC ITEM	DATE	SITE ID	BRIEF DESCRIPTION	ARCHAEOLOGICAL POTENTIAL
Ravensworth Homestead	c.1830s, with 1840s and 20th-century additions	GCO1 (Site 11)	Homestead is comprised of 5 extant structures (the main house, an ablutions building, two outbuildings and a 20th-century cottage). Sandstone perimeter wall, with several possible early non-extant returns visible at northern end. Drainage channel / ditch to the north of the complex, several 20th-century pipe fragments, sandstone blocks and machine-made bricks discarded here. Areas of possible cultivation observed in Lidar analyses south of the homestead.	High (largely still extant)
Great Northern Road	c.1820s	GCO17	Modified landform identified during preliminary survey. Potential curvilinear anomalies, distinct from the modern contour drains, observed in Lidar analyses. Old road likely crossed south of where Bowmans Creek divided into two separate watercourses. The creek banks are less steep at this point and general spreads of stones and cobbles are present in the creek. Topography on the east side of creek could account for the noticeable curve in the line of the road, as marked on the 1833 map.	Low (dirt track surveyed but not formally constructed, largely obscured by modern land-use)
Silo	1830s	GCO2	Brick-lined silo (likely filled in) with metal covering.	High (still extant)
Cultivation – “8 Acre Garden”	1830s	GCO9	‘...garden of 8 acres or thereabouts fenced with a paling fence, and has a little stream running through it...partly laid out in a...ornamental fashion’. ³ These gardens contained orange trees, a peach orchard and vineyard. ⁴ Several areas of linear features, indicating possibly historic agrarian landscapes, were identified in Lidar analyses and visible to a lesser extent during surface survey.	Low (evidence of any early cultivation may have been obscured by later 19th and early 20th-century land use)
‘Homestead Dam’	1830s	GCO18	A minor watercourse south of the homestead had been dammed for the ‘homestead dam’.	High (largely still extant)
Well	Potentially 1850s onwards	GCO4	Brick-lined well, with wooden superstructure and sandstone edging. Several dried-up dams near to here, with stone damming walls. Remnant timber post and rail fence lines.	High (still extant)
Dam – Yorks Creek	1830s	GCO19	A dam constructed on Yorks Creek within vicinity of 8 acre garden.	High (largely still extant)

³ *Dungog Chronical* 18 Feb 1927, p. 4.

⁴ Backhouse, J 1838, *Extracts from the Letters of James Backhouse*, Part 3, Darton and Harvey, London, p 74.

HISTORIC ITEM	DATE	SITE ID	BRIEF DESCRIPTION	ARCHAEOLOGICAL POTENTIAL
Linear Stone Feature (potential burial)	unknown	GCO6	Linear arrangement of stones (with possible return), close to creek bed and running up to / underneath tree.	Moderate (buried remains)
PHASE III: Subdivision and Early Coal Mining (c.1880s-1917)				
Wool Shed	1882-1887	GCO5	Timber foundations (posts), rendered sandstone sheep dip, fragments of cement flooring, scattered bricks and artefacts.	High (including potential buried remains)
Yards / Paddocks	Late 19th / early 20th century	GCO3 a & b	North and East of homestead. Timber corral with associated stable (and stone footings) partially collapsed. Scattered bricks, ditches / postholes, linear stone features and artefacts. Remnant timber post and rail fence lines. Areas of possible cultivation (Bowman's garden?).	High (including potential buried remains)
Yards and former dairy	late 19th / early 20th century	GCO11	Timber post and rail fence lines (delineating yards), fragments of cement floor and cast-iron sheeting. Some bottles.	High (including potential buried remains)
Quarrying	unknown	GCO10	Eroded surface near to site of 'old house'.	Moderate
Cottage	Pre-1911	GCO14	No apparent surface features identified during preliminary survey.	Low (marked on 1911 subdivision plan, not visible in early aerials)
Associated Cultivation Area	unknown	GCO15	Several areas of linear features, indicating possibly historic agrarian landscapes, were identified in Lidar analyses and visible to a lesser extent during surface survey.	Low (evidence of any early cultivation may have been obscured by later 19th and 20th-century land-use)
PHASE IV: Crown Land and the Marshalls (1917-Current)				
Former dwelling / yards and cattle-loading ramp	20th century	GCO7	Cattle-loading ramp (still extant), small corrugated iron / wooden outbuilding (still extant), discarded corrugated-iron sheeting, farm equipment. Bottle dump (ceramic and glass, apparently 20th century) and remnant timber post and rail fence lines closer to creek bed.	High (including potential buried remains)
Former dwellings and wool shed	20th century	GCO12	Several largely extant structures (a cottage, wool shed, and house) and associated yards.	High (still extant)
Former dairy	20th century	GCO13	Largely extant structure, discarded corrugated iron sheeting, timber fencing.	High (still extant)
Cultivation	unknown	GCO16	Large area of sub-rectangular anomalies visible in Lidar. Possibly raised garden beds.	Low (any evidence of early 20th-century cultivation may have been obscured by modern land-use)

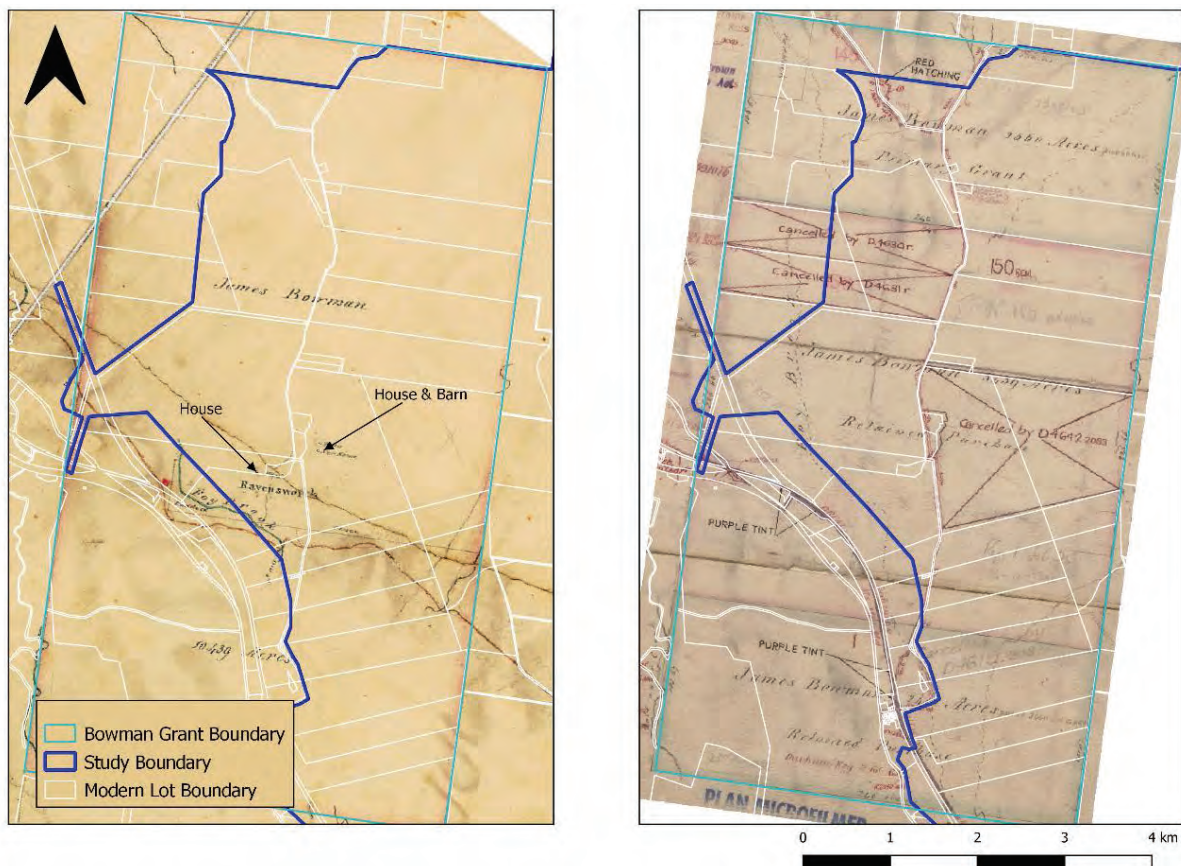


Figure 3. 136: Georeferenced maps (Crown Plan R.5.830, left, and Crown Plan H.35.663, right) showing Bowman's early grants in relation to the current lot boundaries. Source: Casey and Lowe, September 2018, Figure 5.1, pg. 105

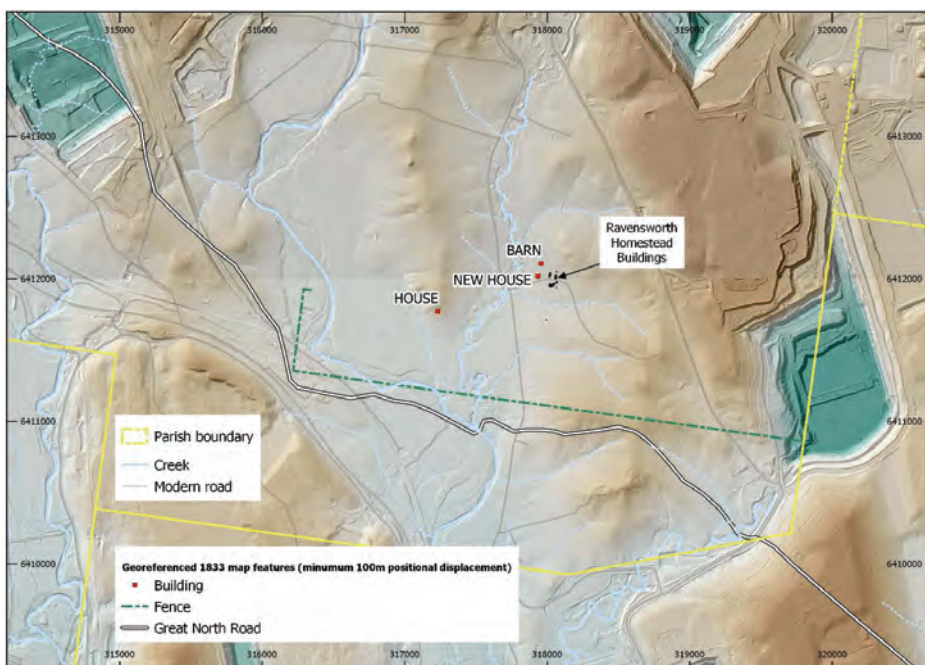


Figure 3. 137: Approximate location of 1833 features based on georeferenced map. Source: Casey and Lowe, September 2018, Figure 5.2, pg. 107

The Early House (GCO8) or First Homestead Site (Site 11)

An earlier building labelled 'House' and 'Old House' (GCO8/Site 11) is marked on three early historic maps (Dangar's map 1828; Dixon's map 1832 and White's map 1835). There is no obvious trace of the site on the ground and determining the precise location of the building remains a matter of informed consideration.

The historic maps were georeferenced using common lot boundaries. The lack of a network of easily identifiable features and discrepancies between the two maps mean that they should not be overinterpreted. Georeferencing Dixon's map using lot boundaries situates the house on the southern side of a prominent hill or ridge (Figure 154). The later homestead with barn (the existing Ravensworth Homestead Complex), which were also marked on the map, provide some degree of rudimentary control. The georeferenced Dixon map (1832) places them about 100m west of their actual locations. The two creek lines reflect their general situation, but they deviate variably by up to 100m from their current courses. However, there were no other features within the Bowman grant boundary with which to test the accuracy of the map. The margin for error is therefore at least 100m but it could be more and there is no way of testing the potential margin for error any further without fieldwork including excavation (refer to Section 3.8.3 below).

White's map was also georeferenced using the lot boundaries (Figure 154). That georeferenced map places the old house on the west bank of Yorks Creek, around 300m to the southeast of where it is located on Dixon's map. However, hachuring depicted around the house on that map suggests that the house was actually located on high ground, which suggest that Dixon's map provides a more accurate location.

Field inspection failed to reveal any obvious traces of the house, although it provided an opportunity to consider the topography and environs. The ridge is exposed and windswept and does not at first sight appear to be an ideal location for the house. However, it would place the house in an elevated and defensible position, while also providing for extensive views to the east, to the south and to the southwest as well as views to the 1830s Ravensworth Homestead. One potential location for the house is a terrace on the south-eastern corner of the ridge. It overlooks the modern farm track and is also adjacent to the later east-west running lot boundary.

It could be significant that mapping this lot boundary in conjunction with the early fence marked on the 1832 Dixon map would create a rectangular enclosure, possibly reflecting the early first homestead paddock.



Figure 3. 138: Part of Dixon's road plan showing buildings on Ravensworth including 'House', 'New house' and 'Barns' Source: R.5.830, Crown Plan

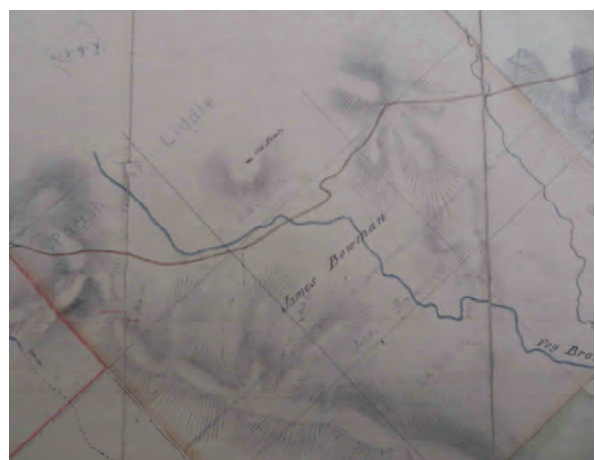


Figure 3. 139: Detail from G.B. White's road survey showing "Old House" on James Bowman's land. Source: SA Map 5095 originally R.6.830

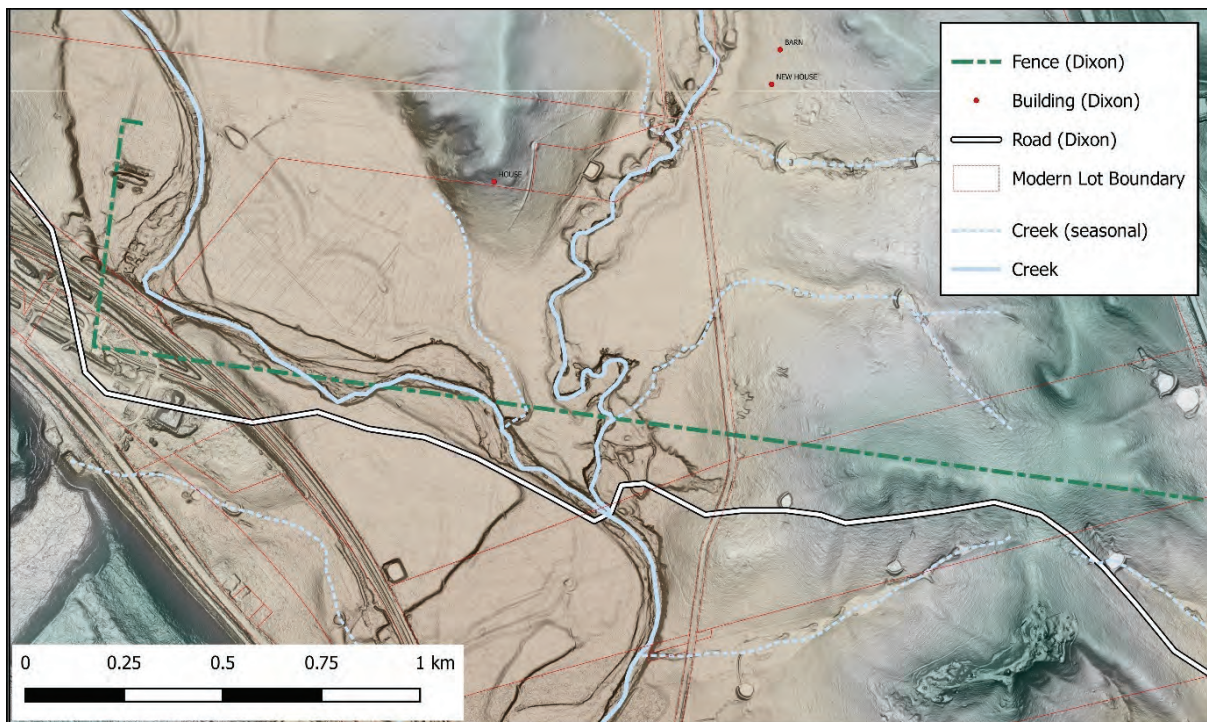


Figure 3.140: Early house location and associated features digitised from Dixon's map and superimposed on Lidar-derived slope model and compared with the depiction of the 'old house' location on White's map. Source: Casey and Lowe, September 2018, Figure 5.7, pg. 115

The Great Northern Road

As with the assessment undertaken in order to try and locate the site of the first homestead, White's 1835 map was georeferenced using the modern lot boundaries as a framework for locating the early alignment of the Great Northern Road (Figure 3.141). The historic and modern boundaries correspond with reasonable accuracy, but the historic creek lines deviate from their modern courses by a few hundred metres in places. In some instances, this deviation may reflect a shift in their course because potential palaeo-channels are present in those locations. In other cases, they could reflect original mapping errors. Regardless, it suggests that while the maps provide a good general indication of the route of the road there is a potential margin of error of up to several hundred metres.

The road meandered in a general southeast to northwest direction crossing Bowmans Creek (formerly Foy Brook). Potential curvilinear anomalies, distinct from the modern contour drains, were highlighted on the slope model of the Lidar-derived DEM (Figure 3.142). The anomalies were offset roughly 50m from the line of the road as indicated on the georeferenced map. These areas were investigated during the preliminary field visit but they could not be definitively identified. Nonetheless, the visit provided an opportunity to consider the general landscape topography and to consider where an early driveway was most likely to run. The first 800m stretch of road, starting at the south-eastern corner of the site, appears to have run along the mid-slope on the western side of the creek towards a point between the catchments of the two creeks. Following the line of the historic map suggests that it ran along the southern slopes of a ridge where there was another curvilinear anomaly. However, during the site visit it appeared that this route was quite undulating and less than ideal. Another possibility is that the route skirted the northern side of the ridge where the land was less undulating.

The creek was also investigated for the site of the crossing point. No obviously modified fording point or bridge structure were identified. However, it seems likely that the old road crossed just south of where the creek divided into two separate watercourses. The creek banks are less steep at this point and general spreads of stones and cobbles are present in the creek. Also, the team observed while

walking the east side of the creek that the topography there could account for the noticeable curve in the line of the road, as marked on the 1833 map.

It's also worth noting here that Grace Karskens (1985) has suggested the construction of the northern section of the road (within the Hunter Valley) may not have been fully completed, with original settlers' tracks taking precedence over Mitchell's surveyed lines.⁵

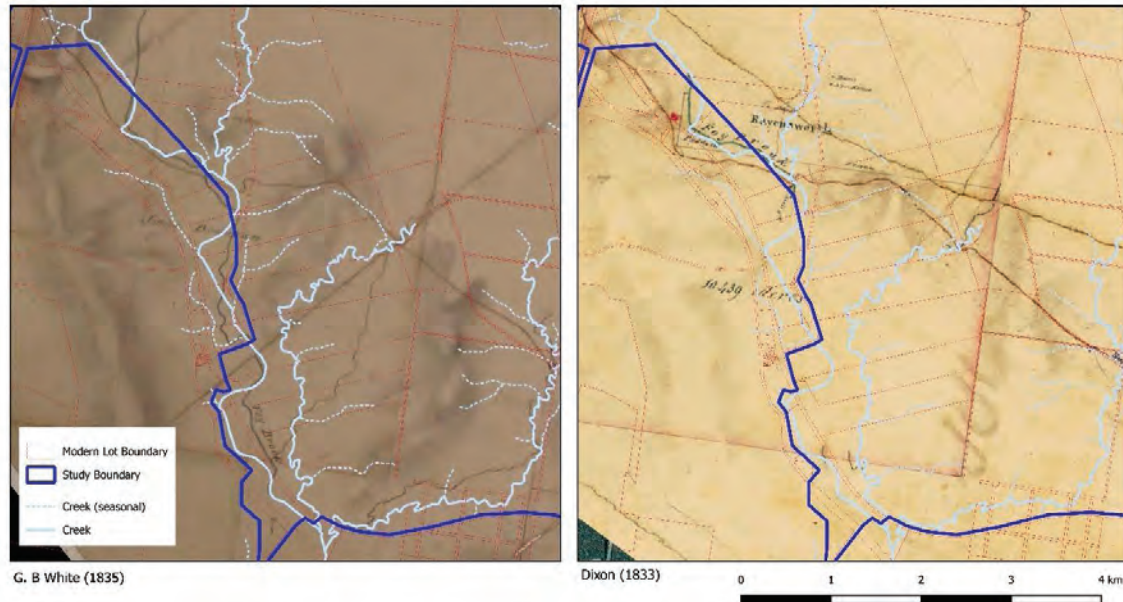


Figure 3. 141: Comparison of White's map (left) and Dixon's map (right) where both were georeferenced using the lot boundaries in locating the early alignment of the Great North Road. Source: Casey and Lowe, September 2018, Figure 5.34, p. 135

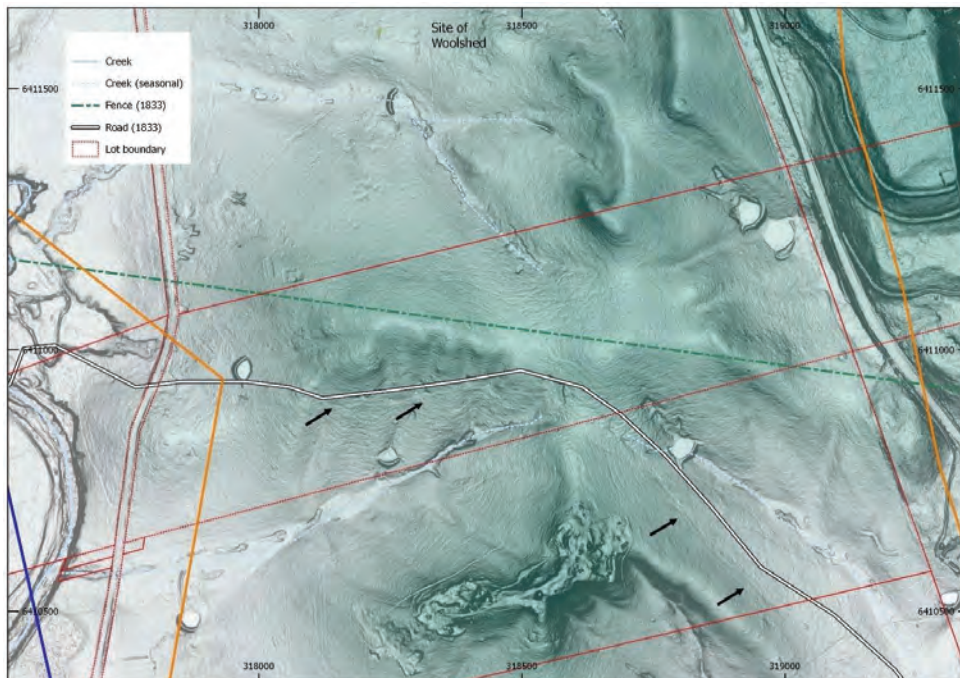


Figure 3. 142: Possible route of early road (indicated by black arrows) from georeferenced map and curvilinear anomalies visible in Lidar-derived slope model. Source: Casey and Lowe, September 2018, Figure 5.36, p. 136

⁵ Karskens, G., 1985; *"The Grandest Improvement in the Country": An Historical and Archaeological Study of the Great North Road, NSW, 1825-1836*. Unpublished Masters Thesis, University of Sydney, p. 125

3.8.3. Historical Archaeological Testing Program

During the later months of 2018 Casey & Lowe undertook a limited testing program at the Ravensworth Homestead complex and its immediate surrounds. The agreed testing and reporting methodologies were outlined in a previous report *Historical Archaeological Assessment & Archaeological Research Design* (HAA & ARD) prepared and discussed with the Heritage Division in September 2018.⁶ (Refer to above.)

The purpose of the testing program, given the large scale of the property, was to undertake targeted archaeological excavation of potentially State-significant sites related to the Bowman era, including the Ravensworth Homestead Complex, the surrounding cultivation areas, and the potential site of the early house (first homestead) to:

1. Determine the survival, extent and location of the potential archaeological resource.
2. Clarify the archaeological potential and significance of areas of potential state and/or local significance.
3. Inform the environmental assessment process and any options proposed as part of the project, including the potential to relocate the homestead.

A total of 29 trenches across seven test areas were archaeologically investigated. The location of each test area and the rationale for excavation is outlined below.

3.8.4. Test Areas

The following is a brief description of each of the Test Areas (TAs). The locations of the Test Areas in relation to each other can be seen below in Figure 3.143.

Potential Location of Early House (First Homestead Site): Test Area 1

This area is situated approximately 300m west of Yorks Creek, on the opposite side of Hebden Road to the homestead. Testing in this area was based upon evidence from the natural topography and the presence of a building marked “house” in or around this area on Dixon’s road plan and other historic plans. The area measured approximately 225m from north to south and up to 95m from east to west. The natural topography sloped off steeply to the south and west of this area. The area was sparsely covered in grass with occasional small bushes.

Potential Agricultural/ Garden Features: Test Area 2

Test Area 2 was situated immediately west of Yorks Creek southeast of Test Area 1. It covered an area of 100m from north to south by approximately 90m from east to west. Testing for agricultural and garden features in this area was based on evidence present in LiDAR and aerial photography. The ground here was relatively flat. The area was covered by grass and occasional small bushes.

Homestead Main Wing and Immediate Surrounds: Test Area 3

Located around the Ravensworth Homestead to the east of Hebden Road, this area covered approximately 140m from east to west and 160m from north to south. The area incorporated the domestic portion of the Ravensworth Homestead and an area of farmland to the south and east of the homestead buildings. The area contained the main wing and kitchen wing and its associated

⁶ Casey & Lowe 2018 *Ravensworth Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design*, report to Glencore (September 2018).

extensions, an array of garden features (walls, flower beds, etc.), a privy, garden trees, a later sandstone turning circle, and a dirt track running from east to west to the north of the main wing.

Potential Convict Barracks: Test Area 4

Situated to the north of the main wing, this area extends from between two extant outbuildings into the paddock to the north. The test area measured approximately 60m from north to south and 75m from east to west. The area was divided into two by an east-west running stone wall. The area south of the dividing wall was covered in grass and contained several stone walls apparently used to corral livestock. The north part of the area was in a paddock and displayed a linear depression running parallel with the wall. This part of the area was strewn with stone blocks, several of which were worked architectural pieces. Re-used architectural pieces were also identified in the stone wall which divided the area.

North Paddock Yards and Buildings: Test Area 5

Located immediately to the north of Test Area 4 and in the same paddock as the northern part of it, this area measured approximately 125m by 125m. The area was covered in grass with some stone and occasional timber building components visible on the surface. A dirt track traversed the west side of this area in a north-south direction.

North West Paddock Buildings, Potential “8 Acre Garden” and Agricultural Features: Test Area 6

This was the largest of the test areas. It was located along the east bank of Yorks Creek, to the north and west of Test Area 5. The area measured approximately 200m from east to west and 350m from north to south. It was generally flat with a slight slope in places towards the creek. It contained up to three linear-shaped dams, at least one of which held water at the time of the field work was still functioning. A patch of herringbone brick paving was observed in the east of the area. A partially covered brick well was observed in the west of the area, not far from the creek. One registered AHIMS artefact scatter Yorks Creek 10 (37-3-0753) is located within the test area and another, Yorks Creek 11 (37-3- 0754), borders the area to the north.

Potential Burial along Yorks Creek: Test Area 7

Located on the west side of Hebden Road, this area is adjacent to the east bank of Yorks Creek. Most of the area was flat with a notable, sharp drop off in the west, down to the creek. The area measured approximately 20m from east to west and 25m from north to south. The surface was covered with grass and a linear stone feature measuring approximately 9m from north to south was visible. This feature ran roughly parallel with the creek, close to where the land dropped off towards the east bank. Ground penetrating radar (GPR) data revealed the remains of a possible rectangular structure in the east of the area.

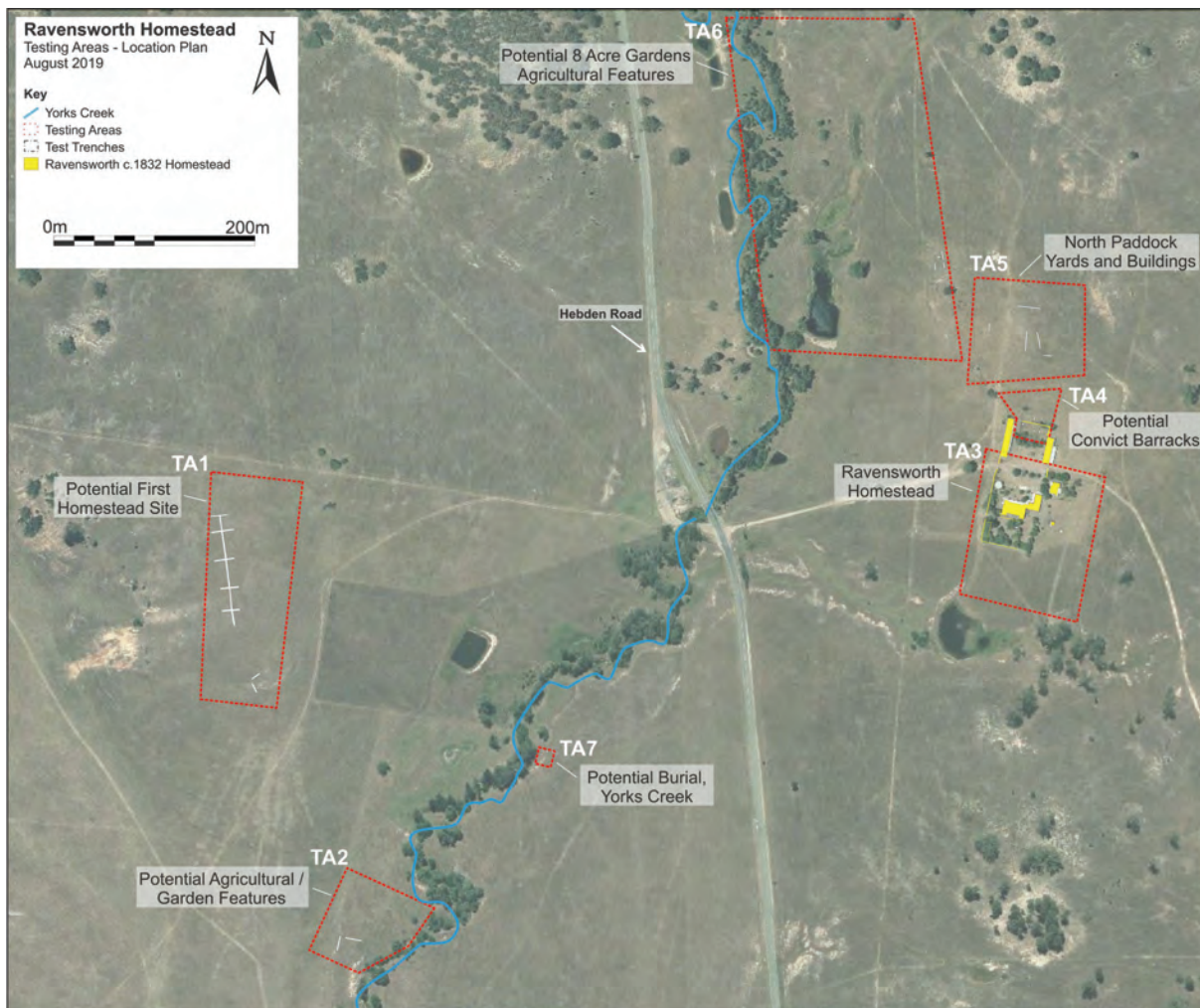


Figure 3.143: Location plan identifying the seven test areas for historical archaeological investigation for the Ravensworth Homestead. Source: Casey & Lowe, 2019, Figure 3.1, p. 14

3.8.5 Main Findings of Testing Program

The historical archaeological testing program has confirmed the survival of early and later 19th and early 20th century archaeological remains across the site with minimal impacts from later 19th century demolition and 20th century farming and land use.

The potential for intact remains across the Core Estate Lands from the late 1820s–1830s (Phase 2: 1824 to 1850: Bowman era) was assessed, in the HAA & ARD, as being low to high.

Testing in TAs 3, 4 and 5 across the Project Area confirmed the presence of intact Phase 2 (late 1820s–1850) archaeological remains (structures, paving and archaeological deposits), with minimal impacts from later activities including modern disturbance.

Results included:

- *In situ* archaeological remains of buildings / structures in the form of stone foundations, post holes, wall cuts and paths to the north / northwest of the main wing (Test Areas 4, 5 and 6), see Figure 3.143.
 - a) Archaeological foundations of a large partitioned structure or series of structures in the area identified as the potential convict barracks in Test Area 4.

- b) At least two structures (walls, postholes, floors), located in trenches (TA5 TT2- 4) to the north of the homestead complex. The artefacts associated with one structure (TT2) strongly indicating blacksmithing and horse farriering activities (large oval stone base, large pieces of unworked and worked iron for structures, vehicles, various horse and possibly oxen shoes and equipage, and a leather hole punch presumably for straps and belts).
- Excavation beside the main wing and immediate outbuildings (stables and barn) (TAs 3 and 4) revealed that the upper deposits and fills contained artefacts relating to the preparation, serving and consumption of food and drink.
 - Evidence of a previously unknown structure identified in TA7 potentially dated to Phase 2, given historically (based on maps and plans) there is no known development in this area.
 - Bricks with a wide shallow frog, used in association with sandstone masonry in some structures, were likely locally hand-made from the clays and gravels, most probably on the property somewhere along one of the creek lines. They provide a good comparison for recent studies of early brickmaking in Sydney, Parramatta, and Newcastle. The bricks were used in a large well in TA6 (Context 158), herringbone paving (Context 126), a chimney and other components of a multiroom structure investigated in TA6 TT7, TT8, and TT9. Future archaeological work may determine if they were used to construct structural elements of the original house and outbuildings.
 - Archaeological evidence of agricultural activity in various areas, including plough marks (TA2 and 6 and in one of the OzArk trenches).
 - The investigation also recorded scatters and dumps of similar ceramics and glassware in different parts of the property, including the wall of the main dam and in several paddocks.

The HAA & ARD identified the potential for intact remains across the Project Area for Phase 3, 4 and 5 as being low through to moderate and high. While not specifically targeted as part of the archaeological program, the physical evidence of subdivision (including properties and fence lines) survives today and it is likely that any related archaeological remains survive. The potential remains as low, moderate and high for these phases.

Historic material from Aboriginal archaeological Test Areas

In September 2018 OzArk undertook Aboriginal archaeological investigations for the Project, including a number of test pits near the Ravensworth Homestead (refer to Section 3.5 of this report). Casey & Lowe catalogued 17 historical ceramic and glass artefacts (28 fragments) discovered in various test trenches. While fragmentary, the ceramic vessels and glass bottles and window panes are consistent with items recovered by Casey & Lowe elsewhere within the Ravensworth Estate. They are particularly similar to artefacts from TAs 5 and 6 and observed in surface scatters in ploughed fields and beside the dam to the south and west of the homestead complex. These objects may indicate potential occupation or rubbish disposal, often in association with the deposition of 'nightsoil' from the cesspits to improve the soil of different paddocks on the property, often referred to as 'manuring'.

Photographs

The following photographs are examples of archaeological evidence uncovered during the testing program at the Ravensworth Homestead Complex and surrounds.

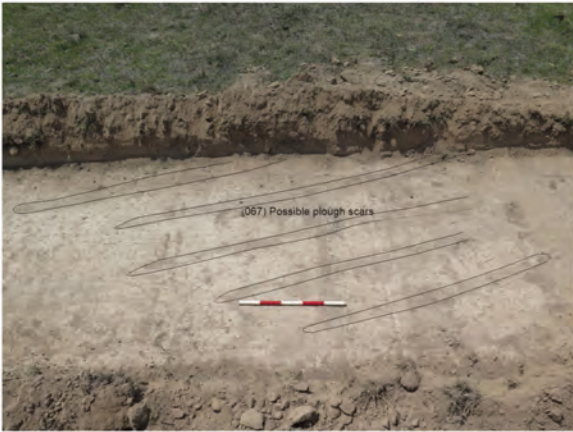


Figure 3. 144: Test Area 2 showing possible plough scars highlighted in black running NNW-SSE. Source: Casey & Lowe, 2019, Figure 3.8, p. 24



Figure 3. 145: Test Area 3: Post-excavation photo of TA3/TT6a showing the maximum exposed extent of the cistern pit and rubble contained within. Looking north. Source: Casey & Lowe, 2019, Figure 3.11, p. 27



Figure 3. 146: Test Area 4/TT4, foundation trench (047) running east-west, with finely dressed sandstone block with two cut sockets. View to south. Source: Casey & Lowe, 2019, Figure 3.20, p. 37



Figure 3. 147: Test Area 5/TT2, wall slot (083) and postholes. View to south. Source: Casey & Lowe, 2019, Figure 3.26, p. 45



Figure 3. 148: Test Area 6/TT7 with herringbone paving (126) clearly visible. View to north. Source: Casey & Lowe, 2019, Figure 3.37, p. 57



Figure 3. 149: Test Area 7/TT3 sandstone pieces. Source: Casey & Lowe, 2019, Figure 3.44, p. 66

3.8.6 Main Findings in relation to Artefacts

The following is an overview of the findings arising from the artefacts retrieved during the testing program at the site in October to November 2018.

The artefacts from each context within the Test Trenches (TTs) of the different Test Areas (TAs) were catalogued according to their shape and function. The animal bone was catalogued separately. No shell was recovered. Most classes of materials were kept, including a representative sample of bricks, tiles, mortar, plaster and structural metal. While all artefacts found during the excavation were recorded, the bulk of recent building materials were returned to the backfilled trenches.

No evidence of Aboriginal modified glass or ceramic was identified.

No evidence of graves, or human remains were uncovered during the testing program.

No evidence of early conflict between Aboriginal people and European settlers was uncovered during the testing program.

Although the testing program was designed to have no impact on potentially State significant deposits, the artefacts provide insight into the archaeological potential of each area. The main findings in relation to the artefacts are:

- The test trenches beside the main wing and immediate outbuildings (stables and barn) TAs 3-4 revealed artefacts relating to the preparation, serving and consumption of food and drink in the upper deposits and fills, some in disturbed contexts. There was less frequent evidence of small miscellaneous items worn on clothing or as decorative or ornamental objects. Some artefacts related specifically to clerical tasks and play, such as a glass marble in TA3 TT6A (context 101) that may have been lost by a child of the most recent family to reside in the homestead, the Marshalls. Further excavation in the area and underneath floors is likely to find artefacts in more secure contexts that will provide greater insight into the lives of the many occupants of the farm over time.
- The architectural items reveal that sandstock bricks used in association with sandstone masonry in some structures, were locally made from the clays and gravels, most probably on the property, somewhere along one of the creek lines. These hand-made sandstock bricks with wide shallow frog have not been previously recorded. As they were probably made by convicts or itinerant brickmakers for the original owner of the Ravensworth Homestead, James Bowman, they provide a significant contribution to our understanding of early construction in the region and this study provides a good comparison for recent studies of early brickmaking in Sydney and Parramatta,⁷ St Marys⁸ and Newcastle.⁹ Identification of the location and investigation of the possible kiln area would provide more information about manufacturing methods. These bricks were used in a large well, TA6 well (context 158); herringbone paving (context 126), chimney and other components of a multi-room structure investigated in TA6/TT7 and TT9. These bricks were also found in backfilled robbed walls of the potential convict barracks in TA4/TT3A behind the main wing, possibly used in upper walling, paving and chimneys. Other examples can be found scattered across the property (TA3 and TA7). Future work may determine if this type of brick was used to construct structural elements of the original house and outbuildings

⁷ Stocks 2008a and 2008b.

⁸ Casey & Lowe 2019.

⁹ See also bricks from a Singleton house Neotsfield built in 1827-1888 in the Newcastle Museum Reg: 1972/153 <https://collections.ncc.nsw.gov.au/>

- Examples of another sandstock brick with narrow rectangular frog were found in TA3 TT6A and TT6B (contexts 2 and 120) and probably relate to a later stage of local brick manufacture.
- The most recent sandstock brick from the same TT6A was made by Frank Turton from 1882-c.1900. Turton and his family operated a brick yard in East Maitland from 1882 until 1969.
- Blacksmithing and horse farriering activities are strongly indicated by artefacts found associated with structures to the north of the homestead complex TA5 TTs 2-4. These include large pieces of unworked and worked iron for structures, vehicles, various horse and possibly oxen shoes and equipage. A leather hole punch presumably for straps and belts was found in TA5 TT2 (context 76).
- Hand-forged nails and spikes probably made at the blacksmiths were found in great abundance within the rooms and on the brick paving of the demolished structure in TA6/TT7-9 (Context 133). The demolition debris also included fragments of lime mortar and white painted plaster, as well as window glass.
- Scattered within and around the various structures in TA3-6 were numerous fragments of ceramics and glassware used by the occupants over time. The table and tea wares were mostly imported from the UK. The glass represented a range of beverages and food. Consumption of food by the residents at the site were represented by small numbers of animal bone, mostly from sheep. Several of the examples had butchery marks and one was burnt (Figure 4.35). In the future these may assist in our understanding of slaughtering practices at Ravensworth Estate and what cuts of meat were preferred.
- The investigation also recorded scatters and dumps of similar ceramics and glassware in different parts of the property, including the wall of the main dam and in several paddocks. Some were recovered during the testing to the south of the house (TA3 TT9) and during the Aboriginal archaeological investigation by OzArk (TA8). Their presence across the site strongly suggests that they were dumped by residents and workers at the property over time as part of manuring practices. Further investigation of these scatters may reveal unexpected occupation or activity zones.

Photographs

The following photographs are examples of the range of archaeological finds sourced during the testing program at the Ravensworth Homestead and surrounds.



Figure 3.150: Selection of miscellaneous artefacts from the site, TAs 3, 4, 5, & 6. Top row from TA3 (l-r): TT6a glass marble and slate pencil; TT6A copper shoe tack; TT6B glazed ceramic doll head and celluloid comb; TTE spectacle lens; TT2 iron buckle. Middle row from TA4: iron buckles; glass bead; kaolin pipe stems; copper alloy button frame. Bottom row TA5: copper alloy stud, kaolin pipe stem, slate pencil, porcelain doll shoulder fragment; TA6: iron buckle, porcelain button. Source: Casey & Lowe, 2019, Figure 4.27, p. 105

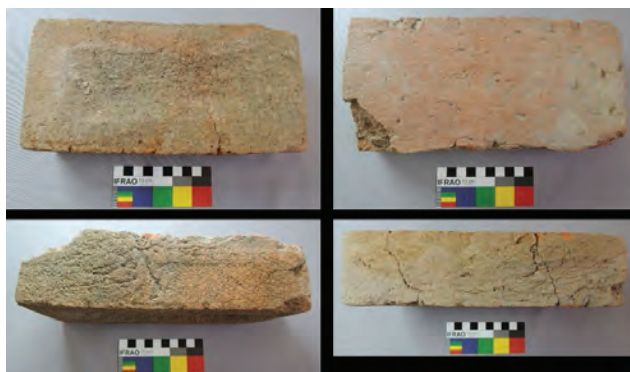


Figure 3. 151: Sandstock rectangular bricks from the TA6 Well. Top left: stockface with frog and fine saw marks on border from stockboard. Top right: strikeface with small ironstones. Lower left: side with low raised horizontal hackmark. Lower right: other side with white quartz pebble on lower right edge. Source: Casey & Lowe, 2019, Figure 4.28, p. 106



Figure 3. 152: Iron objects from TA5/TT2 relating to horse transport and leatherworking. L-r: borer for punching holes in leather, above toe of broken horseshoe; broken horseshoe with large nail holes in fullering groove. Source: Casey & Lowe, 2019, Figure 4.31, p. 108



Figure 3. 153: Ceramic fragments from TA3/TT9 context 11. L-r: salt glazed stoneware bottle; purple top plate. Source: Casey & Lowe, 2019, Figure 4.34, p. 109



Figure 3. 154: Selection of ceramics from OzArk testing September 2018, TA8. Top row: (l-r): 159 unid vessels with blue top 'Willow' and floral patterns and plain creamware glaze. Middle row: saucer with black flow decoration; context 163, Chinese porcelain bowl with hp design and unid white glazed porcelain vessel. Bottom row: context 164 blue banded porcelain saucers, green top plate, white glazed and blue top decorated unid vessels. Source: Casey & Lowe, 2019, Figure 4.26, p. 104

3.9. Built Components of the Homestead Complex

As stated above, the individual buildings that comprise the Homestead Complex at Ravensworth were visually inspected on a number of occasions in 2018. Detailed fabric surveys of each building were prepared and are provided within Appendix 5 of this report. In addition, an archival recording of each building has been prepared by David Liddle Archival Heritage photos in 2018.

The following provides a general description of the Homestead Complex and its individual built components.

3.9.1. Generally

The group of buildings that forms the Homestead Complex at Ravensworth consists of five stone buildings dating from c1830 and one timber building dating from c1900 organised around a farmyard square. All the buildings are single storey and have hipped or gabled pitched roof forms. Most roofs are sheeted in corrugated, galvanised steel with the main house roofed in Welsh slate.

Notably, the composition of the square is quite formal. There is evidence there was once a northern wing closing the north side of the farm yard (as evidenced by historical archaeology- refer to Section 3.8 above) and it is possible also there was a west wing to the house forming the south-west corner of the farm yard (not confirmed).

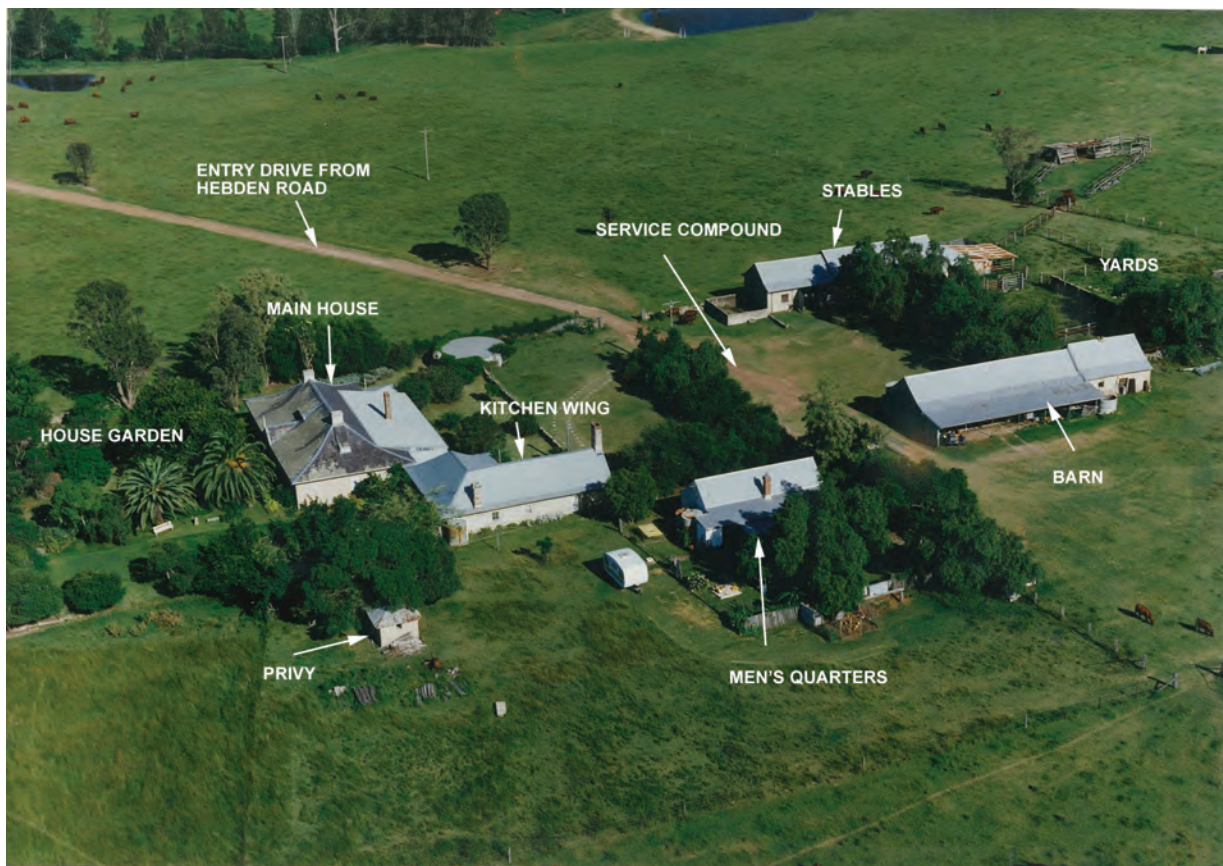


Figure 3. 155: Late 20th century aerial view of the Ravensworth Homestead Complex identifying the principal features. Source: Base photograph courtesy of G & J Marshall/Glencore

The Main Wing of the house is located along the south side of the farm yard facing out to the south. The Kitchen Wing of the house is located at the south-east corner facing inwards across a narrow verandah. The Barn building occupies the north-east corner of the farm yard and has a recent steel post and corrugated metal machinery lean-to structure constructed on its east side. The Stable building occupies the north-west corner of the farm yard. An early 20th century bush pole and corrugated metal shed is constructed on its north end and, at its south end, there is a large stone-built water tank built c1928. On the eastern side of the central service compound is located an early 20th century weatherboard Men's Quarters building (later converted to a single residence).

A stone privy containing a four-seat bench is located outside of the formal square to the southeast.

It is possible that the farm yard was enclosed by a stone wall or timber paling fence that has been replaced over the years by the present timber and wire agricultural fences.

The back of the house is divided from the rest of the farm yard by a low, partly demolished fence. At its western end, is now located a large, recent water tank.

Across the north end of the farm yard is constructed cattle yards, sheltered by a row of peppercorn trees and including a cattle/sheep loading ramp, all of relatively recent construction.

To the south of the house there is a remnant early 20th century garden including the formation of a tennis court and this is partly enclosed by low walls constructed of recycled stone.

This formality is emphasized and confirmed as a conscious design by the existence of quoins on all of the external angles of the buildings and that the northern sides of the Barn and Stable out buildings line up in a north-south direction.

Another notable feature is that the west side of the house and the west side of the Barn contain blank window recesses consciously designed to enhance the appearance of the buildings as they were approached from the west.



Figure 3. 156: Blank recess located in the west elevation of the Main House.



Figure 3. 157: The eastern portion of the south (front) elevation of the Main House showing the quoins.

Apart from the Men's Quarters, all the buildings have very thick walls built in two skins of stone with rubble core, usually 400-600mm thick with very fine workmanship exhibited on the external walls, particularly the front of the House and the Stable.

At each corner of the house and each external wall of all buildings, the stonemasons have originally provided very fine, dressed, projecting chamfered quoin stones in 12" courses. The quality of the face work generally diminishes towards the rear of each building. Usually 300mm courses, it breaks into 150mm courses on less important sides.

The Kitchen Wing and the Barn and Stable buildings have well-constructed hardwood framed bell-cast eaves, probably originally intended for lath and plaster linings. The House and Kitchen wings have timber framed roofs utilising regularly spaced, larger, king rafters (strengthened by collar ties) that support purlins that support the common rafters.



Figure 3. 158: North elevation of the Barn showing the bellcast eaves



Figure 3. 159: South and east elevations of the Stables with bellcast eaves and attached rubble stone water tank.

The Barn and Stable buildings have well-built king post trust roof framing supporting purlins supporting common rafters. The workmanship is of high quality for both the wall and roof construction.



Figure 3. 160: Roof structure of the Barn. Photo: D. Liddle, 2018



Figure 3. 161: Roof structure of the Stables. Photo: D. Liddle, 2018

3.9.2. The Main House

The House is in the form of a colonial bungalow where the hipped roof has a broken pitch on each side extending out over verandahs and notional box rooms. As originally constructed, the rooms were arranged in a 'H' plan this being only one room (single pile) thick at the centre section containing sitting room, dining room and entrance hall.

On the west side, two rooms form the western ear of the 'H' and on the eastern side, three rooms form the eastern ear of the 'H'.

Of note, on the north and south sides, there were originally deep recessed verandahs formed under the main hipped roof, the southern (front) verandah still being extant. Old photos show heavy tapered verandah posts.

About 1900 the rear verandah was enclosed and extended by two additional rooms and a hallway roofed by a single pitched skillion, set slightly above the original roof line and roofed in corrugated, galvanised steel.

The interior spaces almost consistently have 150mm x 25mm hardwood floor boards, tall timber moulded skirtings, plastered walls, all mostly original or simulating original, and pressed metal ceiling linings and cornices c.1920. The floor of the front verandah and front hall are flagged in stone. The windows are generally multi-pane, double hung, box frame type with timber louvred shutters and the doors are generally solid framed and 6-panelled, mostly original.

The northern addition has relocated original windows and simple 4-panel doors.

The roof has 400mm wide eaves possibly originally lined in lath and plaster but now fibre cement. The front verandah has a ceiling of pressed metal and Late 19th century cast iron columns that replaced the original tapered posts. The northern addition included a shallow, timber framed verandah with roof integral to the adjacent rooms and stone flagged floor, probably reusing in flagging from the original north verandah.

The roof, originally sheeted in shingles, was reroofed with the present slate c.1906. On three sides of the roof there is a non-original skillion-form roof vent roofed in slate, possibly of the same age.

There are two original stone chimneys with later render finish and the northern extension has a tall face-brick chimney.

At the north-west corner there is a much later rendered brick and corrugated metal bathroom addition (Figure 3.175).

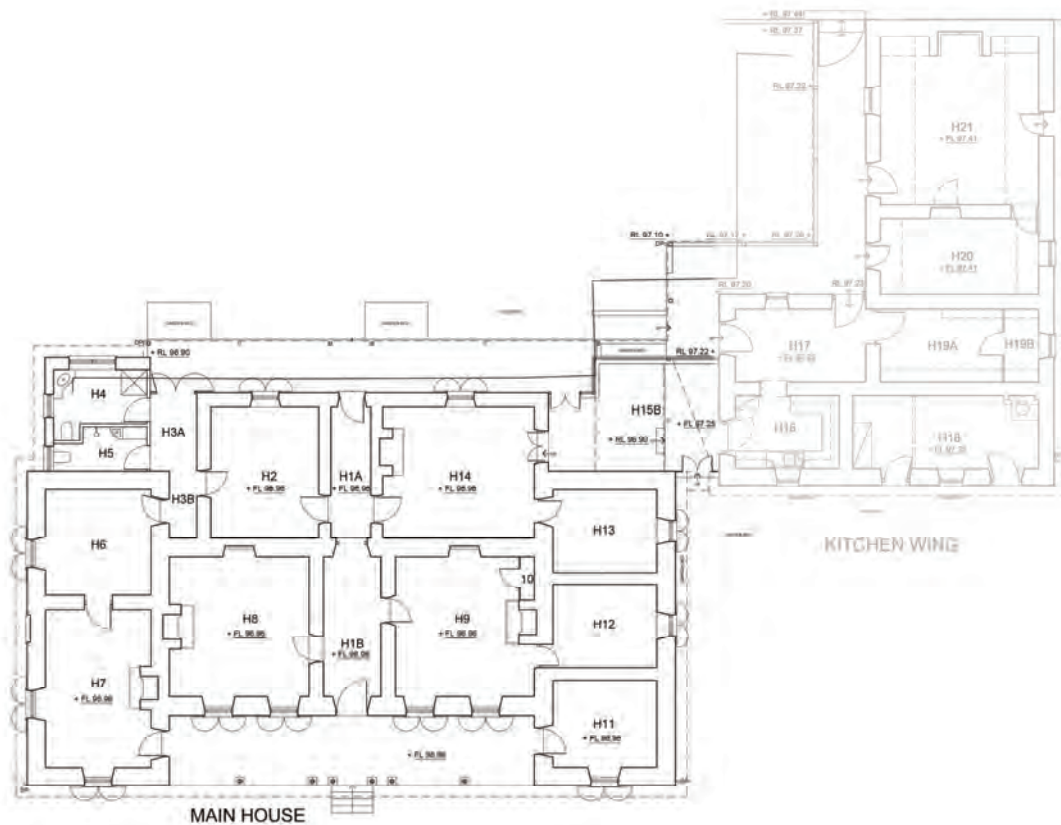


Figure 3. 162: Measured floor plan of the Main House. Source: LSJ Architects



Figure 3. 163: Front (south) elevation. Photo: David Liddle 2018



Figure 3. 164: Front elevation. Photo: David Liddle 2018



Figure 3. 165: West elevation. Photo: David Liddle 2018



Figure 3. 166: East elevation. Photo: David Liddle 2018



Figure 3. 167: Front verandah and front door. Photo: David Liddle 2018



Figure 3. 168: Stone flagging on south (front) verandah. Photo: David Liddle 2018



Figure 3. 169: Roof vent. Photo: David Liddle 2018



Figure 3. 170: Double columns to front (south) verandah. Photo: David Liddle 2018



Figure 3. 171: Six panel door leading off front verandah. Photo: David Liddle 2018



Figure 3. 172: Typical timber framed six pane double sash window with timber shutters. Photo: David Liddle 2018



Figure 3. 173: Rear (north) elevation. Photo: David Liddle 2018



Figure 3. 174: North facing verandah. Photo: David Liddle 2018



Figure 3. 175: Later bathroom addition to northwest corner of Main House. Photo: David Liddle 2018



Figure 3. 176: Later infill link between Main House and Kitchen Wing. Photo: David Liddle 2018



Figure 3. 177: Front hall. Photo: David Liddle 2018



Figure 3. 178: Interior view of back door. Photo: David Liddle 2018

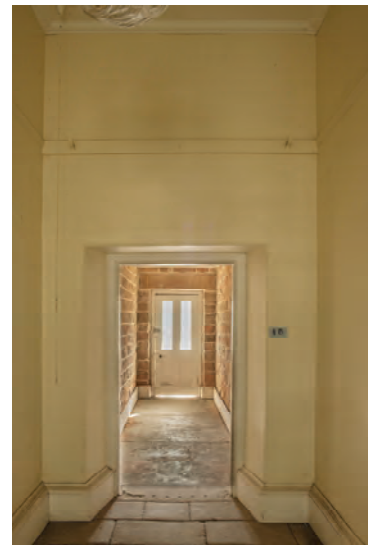


Figure 3. 179: View looking north from front hall to back hall. Photo: David Liddle 2018



Figure 3. 180: Southwest room with fireplace. Photo: D. Liddle, 2018



Figure 3. 181: Internal view of window in southwest room. Photo: D. Liddle, 2018



Figure 3. 182: Connection between bathroom addition and outer wall of the northwest room. Photo: David Liddle 2018



Figure 3. 183: Later addition bathroom. Photo: David Liddle 2018



Figure 3. 184: Entry into northwest room with quoins. Photo: David Liddle 2018



Figure 3. 185: Later fireplace in northeast room. Photo: D. Liddle, 2018



Figure 3. 186: Internal doors in northeast room. Photo: D. Liddle, 2018



Figure 3. 187: Infill link between Main House and Kitchen Wing. Photo: David Liddle 2018



Figure 3. 188: View looking into Kitchen Wing from the infill link. Photo: David Liddle 2018

3.9.3. The Kitchen Wing

The Kitchen wing is L-shaped in plan with a hipped roof facing the House and a gabled roof facing north. Along the inner side is a skillion form, timber framed, colonial-form verandah which once wrapped out and joined with the north (rear) verandah of the house.

The Kitchen contains a large kitchen space with large fireplace and part-timber/part stone flooring. It, and the room to the south, have a tent-form ceiling. The interior surfaces are mostly painted stone walls and parged-over solid floors. The ceiling linings have been replaced from time to time and vary considerably.

The remainder of the rooms are more non-descript in purpose. The south west room has been fitted out recently as a modern kitchen. The south east room has a fireplace which was converted c.1920 to a laundry copper. Another space (H19) was probably the original pantry storeroom and contains some rude shelving supported on timber brackets built into the stonework.

There are two stone chimneys much decayed.

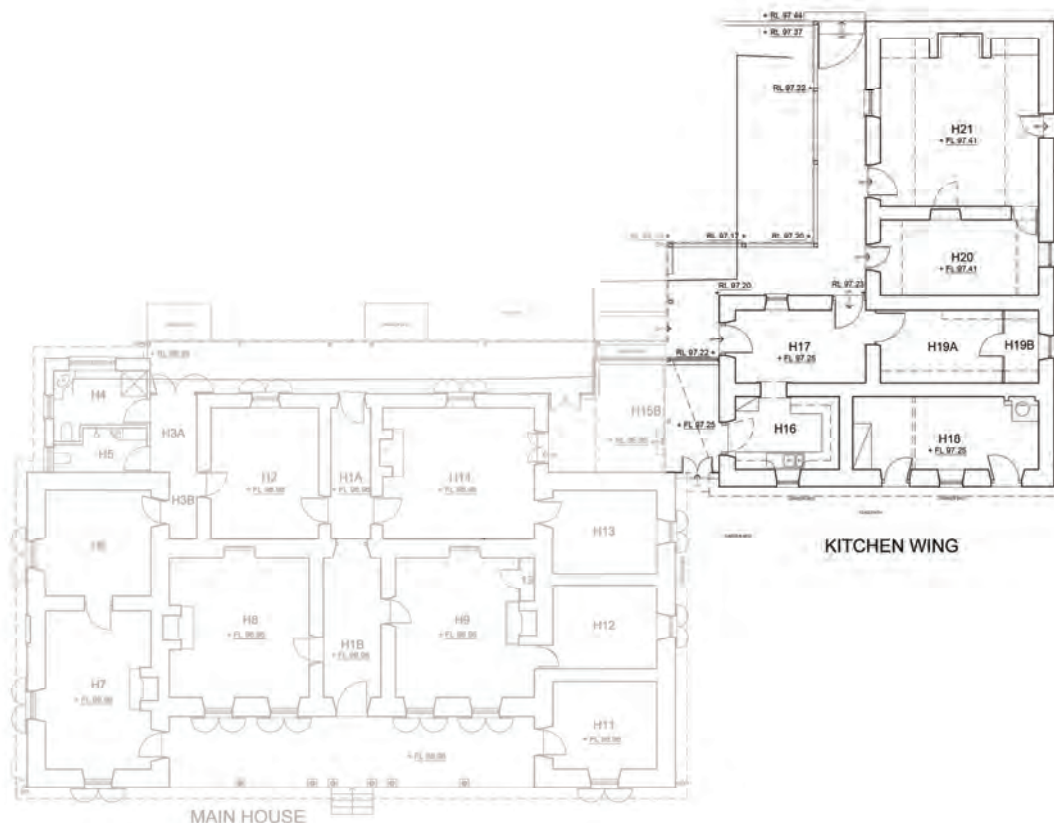


Figure 3. 189: Measured floor plan of Kitchen Wing. Source: LSJ Architects.



Figure 3. 190: South elevation. Photo: David Liddle 2018



Figure 3. 191: East elevation. Photo: David Liddle 2018



Figure 3. 192: North elevation. Photo: David Liddle 2018



Figure 3. 193: West elevation. Photo: David Liddle 2018



Figure 3. 194: Kitchen (Space H16). Photo: David Liddle 2018



Figure 3. 195: Kitchen. Photo: David Liddle 2018



Figure 3. 196: Centre room (Space H17). Photo: David Liddle 2018



Figure 3. 197: Centre room. Photo: David Liddle 2018



Figure 3. 198: Northern most room (Space H21). Photo: David Liddle 2018



Figure 3. 199: Northern most room. Photo: David Liddle 2018



Figure 3. 200: Pantry (Space H19B). Photo: David Liddle 2018



Figure 3. 201: Window in pantry. Photo: David Liddle 2018



Figure 3. 202: Southeast room accessed from south garden (Space H18). Photo: David Liddle 2018



Figure 3. 203: Old laundry copper in southeast room. Photo: David Liddle 2018

3.9.4. The Stables

The Stable has a rectangular, symmetrical plan form consisting of two stable spaces set either side of an arcaded recessed porch and tack room.

The building has a gabled roof which steps down once with the fall of the land to the south. The Stable spaces have an open ceiling, painted stone walls and very fine, flagged, stone floors including urine drains running north-south. Each originally had one eastern door with solid frame and boarded door leaf and a pair of adjustable louvred timber framed windows.

In the southern stable the door and northern window have been bashed out to form a rough garage door.

In the northern stable the northern window has been bashed out to form a doorway.

The northern stable has been converted in about 1940 to a shearing shed by the addition of a section of timber flooring, some sheep pens and some wool bins all out of salvaged and reused timbers including pieces from original horse stalls. The work included forming a low opening in the north wall and heavy timber framing along the east wall to support the shearing machinery drive shaft.

The stone arcading on the centre recessed bay is of particularly fine workmanship. The arcade has a lath and plaster ceiling, face stonework walls and a flagged floor.

The tack room has a lath and plaster ceiling, plastered walls (with some old graffiti) and a stone flag floor. On the east side is a timber framed, boarded door and 2 no. timber framed window openings which do not appear to have ever had any sashes.

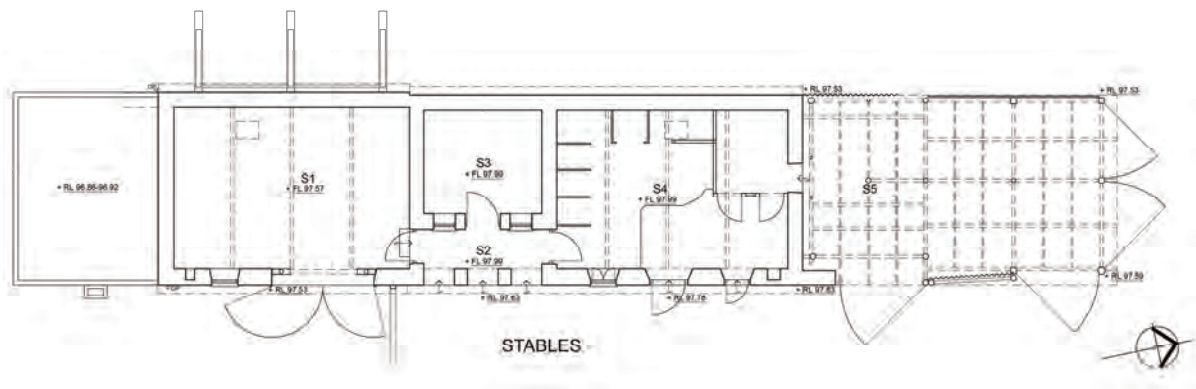


Figure 3. 204: Measured floor plan of Stables. Source: LSJ Architects.



Figure 3. 205: Eastern elevation. Photo: David Liddle 2018



Figure 3. 206: Arched columns on east elevation. Photo: David Liddle 2018



Figure 3. 207: West elevation with propping. Photo: David Liddle 2018



Figure 3. 208: South elevation with rubble stone water tank. Photo: David Liddle 2018



Figure 3. 209: North elevation with skillion addition and yards. Photo: David Liddle 2018



Figure 3. 210: Northern end of the east elevation. Photo: David Liddle 2018

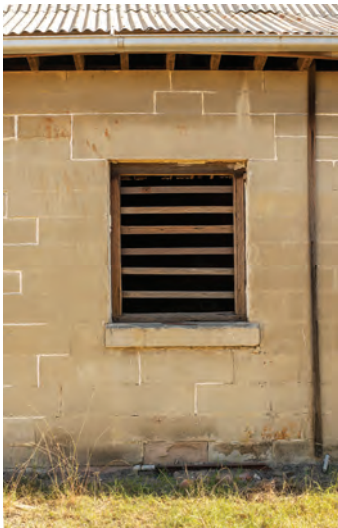


Figure 3. 211: Timber louvred window. Photo: D. Liddle, 2018



Figure 3. 212: Typical stable door. Photo: D. Liddle, 2018



Figure 3. 213: Makers mark scratched into soffit of door in Stables.



Figure 3. 214: Later garage doors inserted in southern portion of Stables.



Figure 3. 215: Southern space (Space S1). Photo: D. Liddle, 2018



Figure 3. 216: Southern space. Photo: D. Liddle, 2018



Figure 3. 217: Centre space (Space S3). Photo: D. Liddle, 2018



Figure 3. 218: Centre space. Photo: D. Liddle, 2018



Figure 3. 219: Northern space (Space S4). Photo: D. Liddle, 2018



Figure 3. 220: Northern space. Photo: D. Liddle, 2018



Figure 3. 221: Northern space. Photo: D. Liddle, 2018

3.9.5. The Barn

The Barn has a rectilinear plan form and has a gabled roof which steps down once as the land falls to the south. At the north end is a two-roomed section which has the appearance of a cottage complete with domestic-scale fireplace. This section once had a lath and plastered flat ceiling and has painted stone walls and the remains of timber floors. The windows and doors had solid timber frames and there are the remains of boarded doors and glazed, sash windows.

The southern part of the Barn is one big space with open roof and face-stone walls. There is no floor. Notably, whilst there is a framed gable end, there is no south wall, not even nibs. Another notable feature is timber plates built into the east and west walls at about 1500mm high acting as grounds for several (cut-off) bearers, the use of which is not known. There are the remains of shingles beneath the corrugated metal roofing.

Toward the north end one original blank recess window on the west elevation has been bashed out to form a doorway and another door has been bashed out at the north-east corner.

Note that due to structural issues Space B2 was not able to be accessed.

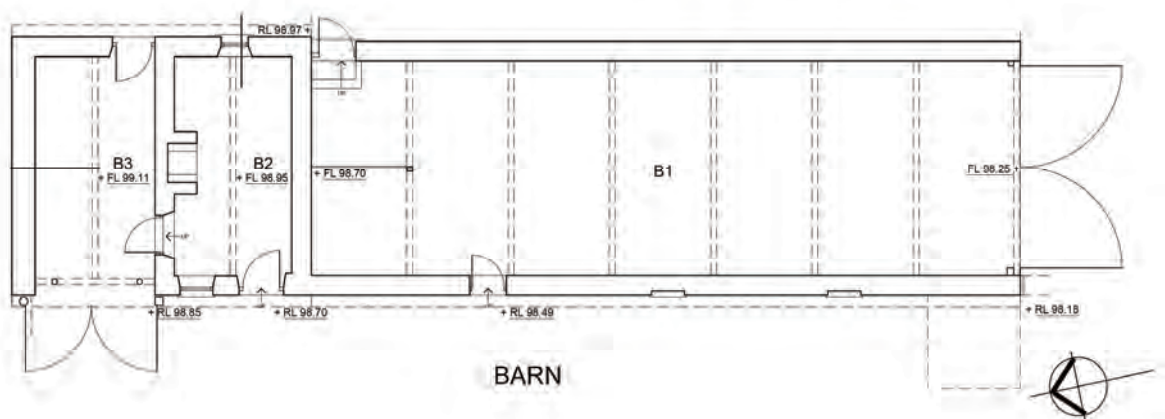


Figure 3. 222: Measured floor plan of Barn. Source: LSJ Architects.



Figure 3. 223: East elevation. Photo: D. Liddle, 2018



Figure 3. 224: South elevation. Photo: D. Liddle, 2018



Figure 3. 225: West elevation. Photo: D. Liddle, 2018



Figure 3. 226: Northern end of western elevation. Photo: D. Liddle, 2018



Figure 3. 227: East elevation. Photo: D. Liddle, 2018



Figure 3. 228: Northern end of east elevation. Photo: D. Liddle, 2018



Figure 3. 229: Fireplace in northern space (Space B3). Photo: D. Liddle, 2018



Figure 3. 230: Interior of northern space. Photo: D. Liddle, 2018



Figure 3. 231: Interior of northern space. Photo: D. Liddle, 2018



Figure 3. 232: Interior of east wall of main barn area (Space B1). Photo: D. Liddle, 2018



Figure 3. 233: Interior of west wall. Photo: D. Liddle, 2018

3.9.6. The Privy

The Privy has a small, almost square plan form and is roofed by an almost pyramidal hipped roof clad in corrugated metal with a 150mm overhang at the eaves. The interior has a lath and plaster ceiling and plastered walls (probably recent reconstructions) and a part-stone flagged/part-raised timber floor.

There are two small, louvred timber windows with mostly original joinery and the entrance door is a solid timber frame with 6-panel colonial door leaf. There is original timber lined recess on the west wall and there is a timber framed, 4 no. seat, thunder box, mostly original construction against the north wall. Outside there are the remains of a stone-lined pit, probably to give access to remove the lavatory pans.

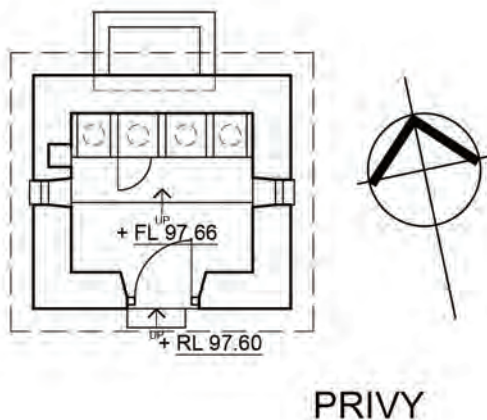


Figure 3. 234: Measured floor plan of Privy. Source: LSJ Architects.



Figure 3. 235: South elevation and entry door. Photo: D. Liddle, 2018



Figure 3. 236: East elevation with window. Photo: D. Liddle, 2018



Figure 3. 237: North elevation. Photo: D. Liddle, 2018



Figure 3. 238: Timber louvred window. Photo: D. Liddle, 2018



Figure 3. 239: Four seat bench.



Figure 3. 240: Interior of western wall with window and niche.

3.9.7. The Men's Quarters

The Men's Quarters was constructed as a rectilinear, timber framed, weatherboard-clad quarters building of two bedrooms and a central sitting room with fireplace. The structure sits on short stone piers. A narrow verandah was provided along the western side and the building roofed with a gable running north-south clad in corrugated metal. Internally the ceiling was lined in unpainted T&G boarding. Currently the internal walls are plasterboard and the flooring narrow T&G boarding. The original windows were 2-pane vertically sliding sashes and the doors 4-panel timber.

The building was converted to a cottage in about 1950. This work included constructing a Bedroom and Kitchen on the east side, clad in reused and matching weatherboards with glass louvre windows and the infilling most of the western verandah again with matching and reused weatherboards and reused sashes. At that time part of the verandah became the front porch and was paved in recycled stone.

On the east side there was also a timber-framed, weatherboard-clad, alcove and lavatory and a steel and corrugated metal carport-type skillion.

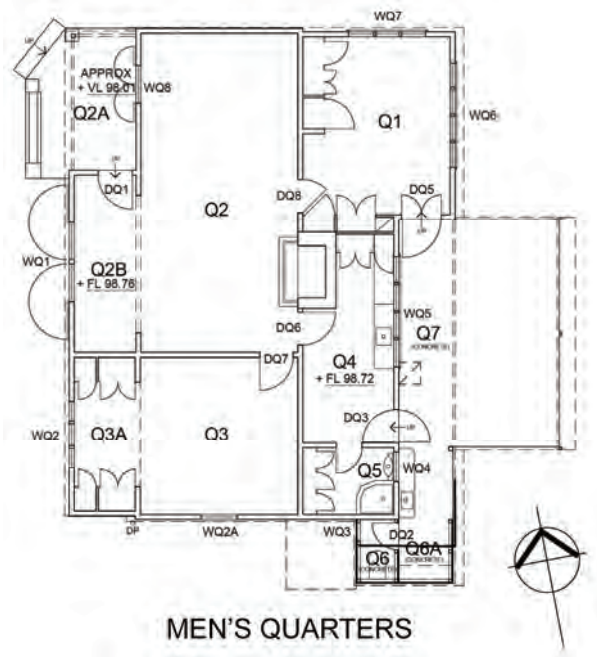


Figure 3. 241: Measured floor plan of Men's Quarters. Source: LSJ Architects.



Figure 3. 242: North-west corner
Source: David Liddell



Figure 3. 243: South elevation
Source: David Liddell



Figure 3. 244: East elevation Source: David Liddell



Figure 3. 245: Detail of front verandah (Space Q2A).
Source: David Liddell



Figure 3. 246: Entry lobby (Space Q2B). Source: David Liddell



Figure 3. 247: Entry lobby and main living area (Space Q2). Source: David Liddell



Figure 3. 248: Main living area. Source: David Liddell



Figure 3. 249: Fireplace in main living area. Source: David Liddell



Figure 3. 250: Bedroom (Space Q1). Source: David Liddell



Figure 3. 251: Bedroom (Space Q1). Source: David Liddell



Figure 3. 252: Bedroom. Source: David Liddell



Figure 3. 253: Bedroom. Source: David Liddell



Figure 3. 254: Kitchen area (Space Q4). Source: David Liddell



Figure 3. 255: Bathroom (Space Q5). Source: David Liddell



Figure 3. 256: Laundry (Space Q7). Source: David Liddell

3.9.8. Physical Development of the Ravensworth Homestead Complex

Based on the documentary and physical evidence, the following is an outline chronology of the physical development of the Ravensworth Homestead Complex.

Date	Type of Evidence	Comment
Owner: Dr. James Bowman 1824-1842		
4 June 1824	Documentary	Dr. James Bowman received a Land Order for 12,160 acres as three portions: portions 149 and 150 Parish Liddell and portion 1 Parish Vane.
1825	Documentary	Peter Cunningham, a naval surgeon, described Ravensworth: “extensive buildings for packing and sorting wool”. ⁴⁴ (This could be referring to buildings located adjacent to or within the vicinity of the first homestead site on the western side of Yorks Creek.)
31 July 1826	Documentary	James Bowman wrote to Governor Darling noting that his workmen had cleared about 200 acres and he had spent money on building and fencing. ⁴⁵ (Assumed first homestead site.)
11 November 1826	Documentary	Bowman returned a printed form for an additional grant without purchase. He stated that he had erected “Sheep Sheds, Wool House, Stores, Cottage, Kitchen, huts for ten men etc, which cost me Two Hundred & Sixty Pounds”. In addition, he had built a stout fence 3 miles long and had maintained 34 convicts. ⁴⁶ (Assumed first homestead site.)
1828	Documentary	The census of November 1828 listed the staff of James Bowman at Patrick’s Plains, essentially based at Ravensworth. Nearly all were assigned convicts with a free superintendent John Alexander. There were 11 listed as shepherds plus another 19 listed as “labourer” as well as one listed as “stockman”. There were four female convicts, most likely

⁴⁴ P Cunningham, *Two Years in New South Wales*, Henry Colburn, London, 1827, p 154

⁴⁵ CSIL26/4590, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

⁴⁶ CSIL26/7403, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807

Date	Type of Evidence	Comment
		employed as domestics plus another male listed simply as “servant”. John Tucky, a 28 year old convict was overseer. There were two shoemakers. James Smith, a convict, was recorded as a “Tenant” of Bowman. Two blacksmiths supplied and repaired ironmongery. Building workers included two sawyers and two carpenters. It is particularly notable that there were two stonemasons. ⁴⁷
12 April 1829	Documentary	Correspondence by Bowman noted the granary was “just above the first Floor and no stuff out for the roof before this last week”. He also noted “The Barn about three parts shingled and no shingles split.” ⁴⁸ Given that a barn is shown in the 1833 plan of the property (see below) located adjacent to the “New House”, it is assumed that the existing main house of Ravensworth was either well under construction or complete by this stage.
18 Feb 1830	Documentary	A James Bowman cheque butt records a payment made: “Mrs. Reynolds fountain for Hunters River”
7 March 1832	Documentary	Sir William Edward Parry, naval officer, Arctic explorer and Commissioner of the Australian Agricultural Company, visited Ravensworth. Bowman was then building a substantial stone cottage for James White (his manager). (The existing homestead complex?) A garden of 8 acres with a paling fence and small stream through it had been partly laid out in an ornamental fashion. Parry thought it too large for a private estate. ⁴⁹ A minor watercourse below the house had also been dammed for the “homestead dam” (which survives today). ⁵⁰
April 1833	Documentary	The plan of the old and new Road from Muswellbrook to the Hunter River by Assistant Surveyor Robert Dixon showed the house and the new house with adjacent barn. ⁵¹ Figure 3. 257 (right): Part of Dixon's road plan showing buildings on Ravensworth including ‘House’, ‘New house’ and ‘Barns’ Source: R.5.830, Crown Plan



⁴⁷ M R Sainty & K A Johnson, *Census of New South Wales: November 1828*, Library of Australian History, Sydney, 1980

⁴⁸ Letter, 12 April 1829, Papers re Dr Bowman, 1829-1855, ML A2974

⁴⁹ *Dungog Chronicle*, 18 Feb 1927, p 4


⁵⁰ Hunter, Ravensworth, p 18

⁵¹ R.5.830, Crown Plan

Date	Type of Evidence	Comment
1833	Documentary	The 1833 Post Office Directory recorded that at 140 Miles out from Newcastle the traveller would “Enter the estate of Dr Bowman - a tract of 11,000 acres, used principally as a sheep run. Cross several chains of ponds, branches of Foy Brook (Bowmans Creek); Dr Bowman's farm buildings are to the right of the road.” ⁵²
17 January 1833	Documentary	Dumaresq wrote to Bowman and mentioned that manager James White “gave me good accounts of your House etc at Ravensworth. Whenever you visit your little dominion there, I hope that you will extend your ride as far as St Heliers”. ⁵³
c1830	Physical	<p>General Description of the Homestead Complex as built:</p> <p>The present <u>Main Wing</u> included a single-pile form plan with recessed verandahs front and back, shingle roofing and lath and plaster ceilings. Possibly as part of the original construction, a cupboard with lath and plaster wall and door case was installed at the north-east corner of the south-east main room (Space H10).</p> <p>The stylistic features which support the 1830 date include: The single pile plan, the bell-cast eaves, the use of stone quoins. The most telling features which support this date are the door mouldings and the thickness of the skirtings.</p> <p>The present <u>Kitchen Wing</u>: The same construction date as the house is suggested by the roof framing matching the details of the house and the use of matching stone quoins.</p> <p>The Kitchen Wing possibly included the present Kitchen and western verandahs. The stylistic evidence for this is the heavily stop chamfered early verandah posts. The evidence against this is the way the verandah rafters fix up under the original eaves and the wasted effort in building the eaves.</p> <p>The <u>Barn and the Stables</u>: The same construction date as the house and kitchen. The stylistic evidence for this date is the use of eaves details and stone quoins matching the Kitchen.</p> <p>As constructed, the Stable was, in plan, symmetrical with one door and two windows arranged either side of the three bay arches in front of the Tack Room.</p> <p>As originally built, the Barn space had no doors except the open south end and three blank window recesses in the west wall facing west.</p> <p>The original construction of the Homestead probably included the present four-hole <u>Privy</u>. Stylistic evidence for this date is the quality of the stonework and joinery used, the construction of the thunder box, windows and doors together with the style of the mouldings on the windows and doors.</p>

⁵² 1833 PO Directory, p 129


⁵³ Letter, 17 Jan 1833, Papers re Dr Bowman, 1829-1855, ML A2974

Date	Type of Evidence	Comment
Unknown time, possibly 1830	Physical/ Archaeological	A part stone building was constructed along the north side of the compound between the Barn and the Stable buildings (since demolished). The evidence for this is a depression in the ground and the large quantities of stone lying around partly rebuilt into the inferior stone wall in that location.
Circa 1830	Physical	There is some evidence that the house had a West Wing balancing the existing Kitchen Wing. The evidence for this is the many fine stone quoins reused in the northern additions to the house, hold-fast locations in the north elevation at the west end suggesting a linking verandah and the amount of stone lying around the locality. Limited archaeological investigation has not confirmed a west wing.
Circa 1830	Physical	The original construction is likely to have included a cistern. A depression in the ground to the south of the Kitchen Wing (later the location of an in-ground spa with stone surround) may be an indication of its possible location.
1835	Documentary	In October or November 1835, Lieutenant George Pulteney Malcolm noted that "Dr B's is the most complete establishment I have seen in the District." ⁵⁴
1835	Documentary	<p>A road survey by Assistant Surveyor G B White showed the land held by Bowman, plus an "Old House" (the first homestead site) north of the road.⁵⁵</p> <p>Figure 3. 258 (right): Detail from G.B. White's road survey showing "Old House" on James Bowman's land. Source: SA Map 5095 originally R.6.830</p> 
1848	Documentary	Advertisement for the auction of the household contents of Ravensworth, under instruction of E.M. Bowman included "three handsome parlour grates, new; one large kitchen ditto with boiler and oven complete, new; one large Copper Boiler..." ⁵⁶
Unknown time, poss. pre 1839	Documentary/ Assumed	A stone capped grave was constructed to the east of the Kitchen Wing (James White's daughter?)

⁵⁴ Lieutenant George Pulteney Malcolm, Journal, ML.MSS 5312, Item 2, p 5




⁵⁵ SA Map 5095 originally R.6.830; Copy not available as Crown Plan

⁵⁶ "Classified Advertising" *The Maitland Mercury and Hunter River General Advertiser*, Saturday 10th June 1848, p. 3


Date	Type of Evidence	Comment
Owner: Mrs. Eliza Russell 1866-1882		
Unknown time, poss. 1870s	Physical/ Assumed	A large brick lined cistern was constructed up the hill to the east of the Barn. The evidence for this date is the use of a more standard 19th century brick in lieu of stone.
Owner: Duncan Forbes Mackay 1882-1911		
1884	Documentary	Mackay engaged Maitland architect J. W. Pender to design and construct a new shearing shed, built by William Taylor and Sons. This shed was originally located to the south of the Ravensworth homestead complex and relocated to Scrumlo Road, Hebden in the early 20 th century (c1917). The remainder was salvaged and reused elsewhere on the property.
1891	Photographic	<p>A photo shows a smaller gabled (?) roofed building at the southern end of the Stables and another building along the northern side of the farm yard.</p>  <p>Figure 3. 259: Detail from 1891 photo of Ravensworth showing the rear buildings including the stables and north wing. Source: <i>The Bulletin</i>, Vol. 11 No. 579 (21 Mar 1891), p. 19</p>
19 May 1894	Documentary	Advertisement for estate in the Australian Town and Country Journal included a description of the homestead complex: "Complete Homestead, Comfortable Family Residence, Kitchen, and all necessary out buildings, erected of stone, large Stable and Barn, Coach House, Men's Quarters, Overseer's Cottage, etc." ⁵⁷
7 Sept 1895	Documentary/ Photographic	Article described the homestead as a well-built cottage with slate roof. Stables had been erected by Duncan Forbes Mackay. It also noted that James Bowman had built a large wheat silo "to the left of the house on the hill". It was currently abandoned and the writer was of the opinion that it would be a useful water tank. The quality of workmanship in the silo was noted as being excellent. ⁵⁸

⁵⁷ ATCJ, 19 May 1894, p 3


⁵⁸ Harold M Mackenzie, 'Cheshunt and Ravensworth', *Maitland Weekly Mercury*, 7 Sept 1895, p 10

Date	Type of Evidence	Comment
1890-1911	Photographic	<p>Hill period photo shows tooting on the southern corners of the Stables where an addition has been removed. There was no stone water tank to south of Stables at this time. The photo also shows a bell on bell post and timber yards.</p>  <p>Figure 3. 260: Detail from photograph showing the stables as seen from the northern side of the main house. Source: Marshall family photographs</p>
1890-1911	Photographic	<p>Hill period photos shows original front verandah posts large tapered timber posts on the (surviving) stone bases.</p>  <p>Figure 3. 261 (right): Detail from photograph showing the front (south) verandah column. Source: Marshall family photographs</p>
15 February 1902	Documentary/ Photographic	<p>The <i>Sydney Mail</i> published an article on Ravensworth. Describing the homestead with the walls of the house were of stone 3 feet thick with windows built to use as firing ports for rifles to defend the house (no physical evidence exists). D F Mackay had carried out much ringbarking, built dams and 10 miles of fencing plus a large woolshed.⁵⁹</p> <p>The photograph accompanying the article shows the southern elevations of the main house and kitchen wing- both with slate roofing. A skillion link is seen between the house and the kitchen wing. Lattice awning with support posts over western window on south elevation of Kitchen wing.</p>  <p>Figure 3. 262: Ravensworth House in 1902 as seen from the south with kitchen wing on the right. Source: <i>Sydney Mail</i>, 15 Feb 1902, pp 416-7</p>

⁵⁹ *Sydney Mail*, 15 Feb 1902, pp 416-7

Date	Type of Evidence	Comment
7 Dec 1905	Documentary	Advertisement calling of tenders for “Renovations to Ravensworth House”, by architect J. Warren Scobie. The scope of works is not known at this time, although it is assumed based on physical evidence that this work included the addition of the pediment and dormer vents to the roof of the main house, replacement of the ceilings in the main house and the kitchen wing, possibly the replacement of the timber columns to the front (south) verandah with cast iron posts and the construction of the Men’s Quarters.
c1905	Photographic	<p>Undated photograph shows skillion dormer vents inserted in the east, west and north slopes of the main roof and the slated gable roof and pediment formed over the front verandah. At this time additional struts were probably installed in the roof to support the load of the slate. At this time also, the present cast iron columns were probably installed on the front verandah replacing the original tapered timber posts of which the stone bases were retained. Assumed the work of architect J. W. Scobie (see above).</p>  <p>Figure 3. 263: Undated (early 20th century) photograph of the main house following renovations. Source: <i>G & J Marshall</i></p>
Circa 1906	Physical/ Assumed	The Men’s Quarters were constructed (possibly part of the above renovations) in hardwood weatherboards and corrugated galvanised steel roof and consisted of three rooms and a verandah on the west side. The evidence for this date is the use of varnished boarded ceiling linings. Each room appears to have had a window and a door onto the verandah. The centre room had a large fireplace and probably had a door leading to the east side.
Owner: Alfred Walter Albert Farey 1912-c1917		
6 October 1916	Documentary	<p>Improvements on the property measuring 1100 acres involve:</p> <p><i>Improvements – large Wool-shed – Shearers Quarters and Drafting Yards – Stone House and Kitchen adjoining, in all thirteen rooms – 2 Weatherboard Cottages, servants quarters, one containing 3 rooms and one two rooms - Stone Shed - Stone Stable and Harness Room - Wooden Hay Shed and four Stallion Stalls - Machine Shed – fencing enclosed and subdividing with sheep proof - 150 acres clear, been under cultivation - Three hundred acres partly cleared – Balance ring barked – Watered by 3 Creeks and 2 dams.</i>⁶⁰</p>

⁶⁰ Description, 6 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820

Date	Type of Evidence	Comment										
June 1917	Documentary	A.C. Reid advertised for tenders to purchase and remove the materials of the woolshed at Ravensworth. The woolshed was described as having an area of 800 square yards and was built of about 6 tons of ‘Lysaght’s best Corrugated Galvanised Iron’ on a frame largely of spotted gum. ⁶¹										
Owner: A. C. Marshall and G. Marshall 1920-1997												
April 1920	Documentary	<p>The report for the land that was assessed for acquisition noted that the improvements on the land included:</p> <p><i>House 32’ x 32’: weatherboard, iron roof, lined and ceiled, 6 rooms £300</i></p> <p><i>Dairy 10’ x 12’: weatherboard, iron roof, 5’ verandah all round, cement floor £25</i></p> <p><i>1000 gallon tank at dairy £10</i></p> <p><i>Barn 26’ x 12’: iron walls and roof no floor £20</i></p> <p><i>4 cow bails 27’ x 18’: S T iron roof, cement floor £25</i></p> <p><i>Two 1000 gallon tanks at house £20</i></p> <p><i>One 3000 gallon tank at bails £20</i></p> <p><i>Hay shed 12’ x 12: open, iron roof £8.⁶²</i></p>										
Post 1920	Photographic	<p>West elevation of Barn showing door or window at far north end where corrugated garage doors are now. A rubble stone wall along the northern boundary of the farmyard is visible, it is assumed the stone used is from the former northern range.</p> <div></div> <p>Figure 3. 264: Undated (early 1920s) photograph showing the western elevation of the stables. Source: G & J Marshall</p>										
22 October 1923	Documentary	<p>W.D. Hogarth report provided a detailed summary of the improvements on the land both pre-existing and those undertaken by the holder. These included:</p> <table><tr><td><i>Repairs house £20</i></td><td><i>Weather board cottage £70</i></td></tr><tr><td><i>150 fruit trees planted near house £15</i></td><td><i>Piggery and calf pen £40</i></td></tr><tr><td><i>Erecting bails £20</i></td><td><i>820 acres burned off £820</i></td></tr><tr><td><i>Preparing part of fences £20</i></td><td><i>Shed £50</i></td></tr><tr><td><i>Stone house £500</i></td><td><i>Internal fencing and sheep pens</i></td></tr></table>	<i>Repairs house £20</i>	<i>Weather board cottage £70</i>	<i>150 fruit trees planted near house £15</i>	<i>Piggery and calf pen £40</i>	<i>Erecting bails £20</i>	<i>820 acres burned off £820</i>	<i>Preparing part of fences £20</i>	<i>Shed £50</i>	<i>Stone house £500</i>	<i>Internal fencing and sheep pens</i>
<i>Repairs house £20</i>	<i>Weather board cottage £70</i>											
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<i>Preparing part of fences £20</i>	<i>Shed £50</i>											
<i>Stone house £500</i>	<i>Internal fencing and sheep pens</i>											

⁶¹ SMH, 20 June 1917, p 1


⁶² NRS 8052 Closer Settlement Estate File, No 1794, Troy's (2) Estate, SANSW 10/13284

Date	Type of Evidence	Comment																
		<i>Barn and dairy Stone £100 Livestock 150 cattle; 10 horses; 200 sheep; 140 lambs.⁶³</i> <i>Stables and shed £100</i>																
Sept 1924	Documentary	Description of assets and improvements for a bank loan: <i>Stone house, 42' x 72', Wunderlich ceiling, 2 brick chimneys, stone walls, front & back verandah, 7 rooms, slate roof</i> <i>Kitchen (stone) 50 x 21' (breakfast room 20' x 18') and six other rooms slate roof</i> <i>Tanks 800 & 1000 gallon & 1000 gallons at man's quarters</i> <i>Stables 20' x 57' stone walls & floors, iron roof</i> <i>Man's quarters W.B 12' x 36' iron roof front verandah 3 rooms</i> <i>Shed 36' x 12' slabs iron roof</i> <i>Bricksmith's shop 15' x 18' slabs, iron roof</i> <i>Slaughter house, 18' x 15' round timber, iron roof</i> <i>Underground tank 15' deep 10' diameter pump (cemented)</i> <i>Wells (2), 12' deep 4' x 4' timbered</i> <i>Sheep dip 60' cemented & yard cemented 56' x 78'</i> <i>Dams (2)</i> <i>24 chs. 4 rail sheep yards</i> <i>15 chs. 3r. & cap. & pt. 3 r. & crush stock yards</i> <i>Plus fencing.⁶⁴</i>																
8 October 1924	Documentary	Marshall had improvements valued at £1,540/5/6. These included: <table><tr><td><i>A stone house £300;</i></td><td><i>Slaughterhouse £10;</i></td></tr><tr><td><i>Stone kitchen £150;</i></td><td><i>Two wells £24;</i></td></tr><tr><td><i>Three tanks £25;</i></td><td><i>Two dams £50;</i></td></tr><tr><td><i>Man's quarters £30;</i></td><td><i>Sheep dip £25;</i></td></tr><tr><td><i>2 Stables £100;</i></td><td><i>Sheep yards £7/4/0;</i></td></tr><tr><td><i>Two sheds £35;</i></td><td><i>Fencing £330/11/6;</i></td></tr><tr><td><i>Black smith's shop £5;</i></td><td><i>817 acres partly cleared £408/10/0.⁶⁵</i></td></tr><tr><td><i>Underground tank £40;</i></td><td></td></tr></table>	<i>A stone house £300;</i>	<i>Slaughterhouse £10;</i>	<i>Stone kitchen £150;</i>	<i>Two wells £24;</i>	<i>Three tanks £25;</i>	<i>Two dams £50;</i>	<i>Man's quarters £30;</i>	<i>Sheep dip £25;</i>	<i>2 Stables £100;</i>	<i>Sheep yards £7/4/0;</i>	<i>Two sheds £35;</i>	<i>Fencing £330/11/6;</i>	<i>Black smith's shop £5;</i>	<i>817 acres partly cleared £408/10/0.⁶⁵</i>	<i>Underground tank £40;</i>	
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<i>Black smith's shop £5;</i>	<i>817 acres partly cleared £408/10/0.⁶⁵</i>																	
<i>Underground tank £40;</i>																		



⁶³ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 21/20235

⁶⁴ Description of assets and improvements on Portion 228 in September 1924. Source: NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155

⁶⁵ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 6240/9

Date	Type of Evidence	Comment
Post 1924	Photographic	Kitchen wing roofed in corrugated metal. Rubble stone and timber post and rail western boundary fence between house and stables, with timber entry gates. The large timber gate posts survive today.
Post 1924	Photographic	Figure 3. 265: Undated (Late 1920s) photograph showing the western entry to farm yard with kitchen and main house in background. Source: G & J Marshall 
25 January 1928	Documentary	CP inspector A.H. Lawrence dated listed the improvements made by Marshall since his acquisition of the property. These included: <i>Repairing fence £50;</i> <i>Guttering on house and shed – purchase and labour £10;</i> <i>Purchase 1,000 gallon iron tank and erecting timber stand at house £8;</i> <i>Making and building up stone and cement tank 20 feet x 16 feet x 4 feet cement bottom to catch water off stone stables at the end of stables £40; (this is extant).</i> <i>Flooring timber and putting down in the dwelling, renewing skirting boards, papering walls of 11 rooms, painting house inside and partly outside £150;</i> <i>Erecting stalls in milking shed £5.</i> ⁶⁶
Between 1924 and 1928	Physical/ Documentary	The house was extended by the present two northern rooms, hallway and northern verandah incorporating original quoin stones possibly salvaged from the demolition of the suggested West Wing or the northern range. Evidence for this is based on the description of the main house as having either 6 or 7 rooms in records up to 1824 and in 1828 the house is described as consisting of 11 rooms. Physical evidence for this date is the style of the pressed metal ceilings and the chimney piece in north-east room. It is possible that these rooms were added earlier. The evidence for this is the remaining stop chamfered verandah beam and columns to the northern verandah which could be circa 1900. There is evidence that, when constructed, this verandah returned at the east and west ends and involved the demolition of an original northern (rear) verandah constructed outside (to the north of) the northern recessed verandah. At this time also, the ceiling of the Kitchen may have been replaced with the present sheet metal panels and the ceilings of the main house replaced in pressed metal.

⁶⁶ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155

Date	Type of Evidence	Comment
		<p>A brickwork copper structure was installed at the north-east corner of Space S18 indicating a laundry use and possibly an original timber partition dividing the southern door, D20, was removed.</p> <p>The window to S20 was installed or at least enlarged using a fireplace lintel and window sill salvaged from an original construction.</p> <p>A fly proof screen was installed at the east end of Space S19 in the Kitchen Wing to form Space 19B.</p>
1928	Photographic	<p>The rubble stone water tank at south end of stables is shown. This work is noted as occurring in January 1928 (see above). Western boundary fence is shown as timber post and rail.</p>  <p>Figure 3. 266: Undated (Late 1920s) photograph showing the western entry to farm yard with kitchen and main house in background. Source: G & J Marshall</p>
15 February 1929	Documentary	<p>An undated report by an unnamed official stated he had been visiting the property and was familiar from earlier visits. It was an old improved property acquired by Marshall with an old stone homestead that he had renovated and “made into an excellent dwelling”.</p> <p>The stone stables and large stone shed were also renovated.</p> <p>A shed had been converted into a shelter for dairy cattle by adding stalls.</p> <p>A small mill and piping worth £30 had been added to the garden.</p> <p>The total of 27 chains of new 7 wire fencing had been added on the eastern boundary costing £30.</p> <p>No other improvements had been made since the acquisition.</p>
1930s	Photographic	<p>At some stage, the southern window on the east elevation of the main house was converted into a door. Photographic evidence shows the door opening with shutters attached.</p>  <p>Figure 3. 267: 1930s photograph looking northwest to the front of the Main House showing a later addition door opening on the east elevation, still with window shutters. Source: Courtesy of T. Cameron</p>



Date	Type of Evidence	Comment
1 October 1933	Documentary	<p>The valuation of Patrick Plains Shire described the improvements on the property as a stone homestead, 14 rooms, slate roof, men's hut, cowshed, stone hayshed, stone cart shed, fencing and ringbarking.</p> <p>At an unspecified later date, the men's hut, cow shed, stone hayshed and stone cart shed were altered to "WB/GI Ctge – Farm Bdgs" and "Water Supply" was added.⁶⁷</p>
31 August 1936	Documentary	<p>When Lands Inspector John Boner noted that Marshall had recently improved a shed and had erected a 2 stand shearing plant and he was shearing with two men when Bonar visited.⁶⁸</p> <p>The stalls in the northern end of the Stable were dismantled and the space fitted out as a shearing shed including erection of heavy framing for the shearing machinery the conversion of one window to a door and the creation of an opening in the northern wall.</p>
Unknown time, poss. 20 th century	Physical	A machinery power-take-off was installed at the north end of the Barn, B1 (possibly for chaff making or similar).
Unknown time, possibly 20 th century	Physical	A rough doorway was formed in the east side of the Barn space and one blank window on the west side converted to a doorway. At this time also, the west wall of Space B3 in the Barn was knocked out to form a machinery shed door.
Unknown time, mid to late 20 th century	Physical/Oral history	At some stage, the privy was changed from a pit toilet to a thunderbox with the addition of hatches for the cans under the bench seat. ⁶⁹
c1965	Physical	<p>Roofing over the two added rear rooms of main house also replaced in corrugated zincalume.</p> <p>At the same time, the space between the Kitchen Wing and the Main Wing was enclosed to form the Sunroom involving partial demolition of both the original S17 and circa 1915 verandahs.</p> <p>Probably at this time the ceilings of H17 in the Kitchen Wing was replaced with fibro cement sheet.</p>
c1965	Physical/ Oral history	The Men's Quarters were converted to a cottage by the partial infilling of the western verandah and the construction of a skillion along the east side containing a bedroom, kitchen and outside lavatory. The original windows and doors were rearranged in this cottage. At this time the roofing may have been replaced in corrugated galvanised steel fixed with roofing screws. This work undertaken when Geoff and Jenny Marshall married and lived there as their first home. ⁷⁰

⁶⁷ NRS 14465, Valuer General, Valuation Roll, Patricks Plains, 1933-62, SANSW 19/12823, No 529/724

⁶⁸ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155,

⁶⁹ *Pers comm.* G & J Marshall, February 2019

⁷⁰ *Pers comm.* G & J Marshall, February 2019

Date	Type of Evidence	Comment
		Some of the interior walls of the Men's Quarters were relined in plasterboard and the eastern verandah extended with a pipe and galvanised steel lean-to verandah.
1960s	Photographic	<p>Lattice enclosure to west end of rear verandah with watertank on stand behind (as seen in 1920s photo)</p> <p>Timber pergola over rear entry path.</p> <p>North garden fenced with wire mesh and timber rail gate. The boundary fence is located closer to the house than the present rubble stone garden fence.</p> <p>Hearth stone still in place at foot of gate.</p> <p>Windmill seen to the west of homestead.</p> <p>Concrete watertank in place.</p> <p>Figure 3. 268: Undated (1960s?) photograph showing the rear house garden. Source: G & J Marshall</p> 
Unknown time, possibly 1970s	Physical	A doorway was formed between Space 16 and Space 17 (door opening D28) in the Kitchen Wing to facilitate internal circulation and a reported curved stone wall at the east end of S17 was removed for the same reason. The evidence for this respectively is a parged brickwork lining and the curious splayed wall end.
1977	Photographic	<p>At northern end of Kitchen wing is an attached skillion, corrugated iron garage with stone flagging wheel tracks.</p>  <p>Figure 3. 269: 1977 photograph showing the kitchen wing. Source: C. Lucas, LSJ archives</p>







Date	Type of Evidence	Comment
1977	Photographic	Shows an addition to northern end of west wing of Main house (replaced later with stone addition containing a bathroom) was a skillion with weatherboard cladding. Figure 3. 270: 1977 photograph showing the west elevation of the main house with rear skillion addition. Source: C. Lucas, LSJ archives
Circa 1980	Physical	The ceiling of Space S16 in the Kitchen Wing was replaced with plasterboard and the space fitted out as a modern kitchen.
Circa 1980	Physical	The present Bathrooms S5 and S6 were constructed at the north-west corner of Main Wing incorporating two original stone window sills on the west side.
Circa 1980	Photographic	Inground spa with stone flagging surround located on east of Main House, south of Kitchen Wing. This may be the location of the original house cistern (unconfirmed). 
1980s	Photographic	Garden stone wall to rear of house under construction with timber picket gate. Lattice enclosure to west end of rear verandah with watertank on stand behind (as seen in 1920s photo) Stone flagging wheel tracks Rear elevation of Main House (containing the two room addition) in stone, un-rendered and unpainted. Timber French doors to link (H15B). 

Figure 3. 271: 1980s (?) photo of the in-ground spa with stone surround to the south of the kitchen wing (since removed). Source: G & J Marshall

Figure 3. 272: 1980s (?) photo of the rear of the main house with rubble stone wall under construction. Source: G & J Marshall

Date	Type of Evidence	Comment
1980s	Photographic	<p>North garden stone wall built with steel posts and barbed wire</p> <p>Evidence of bread oven to north end of Kitchen.</p> <p>Bell on metal bell post located next to Kitchen wing verandah</p>  <p>Figure 3. 273: 1980s (?) photo Kitchen Wing. Source: G & J Marshall</p>
1980s	Photographic	<p>Timber tank stand with slab side to west elevation of Barn.</p> <p>Two corrugated metal tanks on stone base directly to north of other tank stand.</p> <p>Corrugated garage doors at far north end.</p>  <p>Figure 3. 274: 1980s (?) photo of west elevation of the Barn. Source: G & J Marshall</p>
1998	Photographic	<p>Stone west bathroom addition to west end of rear verandah, replacing the weatherboard skillion addition (see above).</p>  <p>Figure 3. 275: 1998 photo of the rear verandah showing the stone addition to western end (containing a bathroom). Stone is un-rendered. Source: G & J Marshall</p>
By 1998	Photographic	<p>The later door opening on the east elevation of the main house was restored as a window.</p>  <p>Figure 3. 276: 1998 photo of the east elevation of the main house showing the southern window opening restored with shutters. Source: G & J Marshall</p>

Date	Type of Evidence	Comment
Unknown time, possibly late 20 th century	Documentary/ Physical	The buildings were damaged by termite attack, in some places seriously.
About 2007-14	Documentary/ Physical	<p>Many repairs were made to the buildings listed separately. Notable works include:⁷¹</p> <p><i>Main House and Kitchen Wing</i></p> <ul style="list-style-type: none"> • Render the rear (west) elevation of the Main house. • repair and replace with new matching as necessary (timber threshold at kitchen entry door, timber windows, timber veranda beams and rafters; • replace corroded pressed metal ceiling in south-east corner of verandah with new matching ones) • remove previous hard cement-rich mortar repointing and repoint • remove previous hard cement-rich render coat to stone wall surfaces and repair any damaged stone faces. • repair any exfoliated damaged or spalling stone facework • timber floors: replace missing timber floor board sections with new ones to match existing (kitchen); repair as required • pressed metal ceilings: repair or supplement any inadequate or damaged ceiling framing. Provide additional support fixings if necessary <p><i>Stables</i></p> <ul style="list-style-type: none"> • new dressed hardwood timber barge board to north and south façade • repair any exfoliated damaged or spalling stone facework • rebuild stone door reveals to metal door • re-lay stones displaced from existing dry stone yard wall, as close as possible to original formation • external timber components: repair and replace with new matching ones as necessary • repair or replace damaged structural timber framing where necessary • repair or replace damaged timber components, elements or connections where necessary • install new plaster ceiling to existing lathes fixings (Room S2&3) <p><i>Barn</i></p> <ul style="list-style-type: none"> • replace damaged metal roof sheets with new matching ones where necessary

⁷¹ EJE Architecture, 2007; *Heritage Repair Package*, Rev.01

Date	Type of Evidence	Comment
		<ul style="list-style-type: none"> • stabilise displacement of stone wall sufficient to allow temporary bracing structures to be removed; stabilise the rebuilt collapsed stone chimney sufficient to avoid re-collapsing through expected movement, wind loadings and weathering • repair any exfoliated damaged or spalling stone facework • re-lay poorly bedded, detached or missing stone wall blocks; provide new matching ones if necessary • external timber components: repair and replace with new matching ones as necessary • internal stone face wall mortar joints: repoint where depth of joint is greater than the width • repair any exfoliated damaged or spalling stone facework • re-lay poorly bedded, detached or missing stone wall blocks; provide new matching ones if necessary • repair or replace damaged timber components, elements or connections where necessary <p><i>Mens Quarters</i></p> <ul style="list-style-type: none"> • replace damaged metal roofing with new matching ones where necessary • Re-lay stones displaced from existing dry stone sub-floor enclosure wall, as close as possible to original formation • external timber components: repair and replace with new matching ones as necessary • repaint all external painted timber surfaces including all weatherboard wall cladding • reinforce sagging fibro ceiling in room Q5, install new wet area plasterboard ceiling, paint finish <p><i>Privy</i></p> <ul style="list-style-type: none"> • Replace damaged metal roofing with new matching ones where necessary • install new plaster ceiling to existing lathes fixings

3.10. Landscape of the Ravensworth Homestead Complex

3.10.1. Landscape Character

The Ravensworth homestead complex typifies many older homestead sites in being distinctively highlighted in its cleared rural setting by its immediate planted vegetation, developed over numerous generations.



Figure 3. 277: Aerial view of the Ravensworth Homestead Complex showing the planned landscaped setting within the broader agricultural/pastoral landscape. Source: Glencore, 2018

The homestead group forms an orthogonal farm layout with the homestead and kitchen wing to the south and the stables and barn to the north. (The privy and men's quarters cottage are positioned outside this geometric layout.) (Refer to Figure 3.278.) Accordingly, the associated plantings range from those associated with the remnant pleasure grounds in the immediate vicinity of the homestead to gardens around the cottage to lines of Kei Apple (*Dovyalis caffra*) and Peppercorn trees towards the functional farm buildings to the north.

Within the homestead group, each area of the complex exhibits a slightly different landscape character, determined by the functions and range of plantings within each space. Landscape features within each area likewise further define the character of the garden spaces.

Refer to Figure 3.353 and Table 3.8 for identification of plant species located at the Ravensworth Homestead Complex.

Refer to Figure 3.354 and Table 3.9 below for identification of the landscape features at the Ravensworth Homestead Complex.



Figure 3. 278: Diagram showing the different landscaped areas of the Ravensworth Homestead Complex

3.10.2. The Homestead Garden

Given its predominant status within the homestead group, the garden associated with the main estate house is where the most substantial planted elements are to be found along with refinements of layout and sundry smaller structures.

South (Front) Garden

The house garden layout is based on a symmetrical organizing system of a large central stone-lined bed at the front of the main house featuring a fig tree on the principal house axis (Figure 3.279). Beyond this bed, a raised lawn defined by additional beds, is circumscribed by a looping pathway (and possibly a former carriage drive) with the fenced peripheral boundaries reinforced by a collection of ornamental species.

The entire southern elevation of the homestead features raised bedding areas (now covered in grass) retained by low sandstone walls (Figure 3.286).

The plantings within the homestead garden include an old Moreton Bay fig tree (*Ficus macrophylla*), located on the central axis of the main building, with a bed under containing *Raphiolepis indica*, *Abelia grandiflora*, succulents including *Aloe* sp. and *Crassula* sp. and a bromeliad in *Billbergia nutans*. Beyond this, there are Canary Island Date Palms (*Phoenix canariensis*) from the Interwar period, along with self-propagated progeny of these palms throughout the grounds; intermittent

hedges of Cape Leadwort (*Plumbago auriculata*), a young Jacaranda, a clump of *Epiphyllum* sp. and a Norfolk Island Hibiscus.

Along the western side of the homestead there are clumps of *Arundo donax*, *Aloe* sp., *Yucca flaccida*?, *Agave Americana*, *Crassula* sp., *Artemisia* sp., *Epiphyllum crenatum*, *Strelitzia reginae* and Oleanders. Throughout too, are many self-propagated opportunists such as African Olive (*Olea Europaea* subsp. *cuspidata*), Kei Apple, Kurrajong and Cats Claw Climber (*Macfadyena unguis-cati*). Notable also, are the stumps of two old Eucalypts to the southwest side of the homestead.



Figure 3. 279: The Moreton Bay fig tree within a raised bed in front of, and on axis with, the homestead. Photo: G. Britton, 2018



Figure 3. 280: A clump of *Agave Americana* at the western boundary of the homestead garden. Photo: G. Britton, 2018

Later additions to this southern area include a small tennis (or possibly croquet) lawn to the south-eastern side and a small sunken garden to the southwestern corner. A broken sandstone structure is located near the small tennis lawn and is presumed to be a former trig marker from the nearby Ravensworth Trigonometrical Station.

Small stone structures – possibly a pet grave and water trough – are located at the southwestern corner of the homestead. A stone seat is located in the sunken garden.

A cart-wheel gated entry point at the western boundary – and southwest of the homestead – may suggest an earlier carriage entry to the homestead (especially where this is linked to a possible carriage loop around the fig tree).

The division between the eastern paddock (which holds the privy) and the southern homestead garden is defined by a row of African olives, which also defines the eastern edge of the tennis court area.

Both western and southern house garden boundaries are fenced and reinforced by low, coursed rubble walls as well as wire and timber post or star picket fence lines.



Figure 3. 281: A view between two mature date palms of the lawn space for the tennis court or croquet lawn. Note the row of African olives along the eastern boundary. Photo: G. Britton, 2018



Figure 3. 282: Panorama of the homestead front grounds showing stone structures in the foreground (left) and the existing gateway (with cart wheels) at the western homestead grounds boundary (right). Also, in front of this gateway are logs from a fallen former eucalypt within the grounds, the stump of which remains. Photo: G. Britton, 2018



Figure 3. 283: The sunken garden in the southwest corner of the front garden.



Figure 3. 284: The central circular garden bed with fig on axis with the front door of the homestead



Figure 3. 285: The entry gate leading into the southern homestead garden, possibly indicating an earlier carriage drive.



Figure 3. 286: The raised garden beds along the frontage of the main wing of the homestead



Figure 3. 287: The stone seat in the sunken garden.



Figure 3. 288: The remnant stone pieces, possibly from the trigonometry station, now located in the southern garden area.



Figure 3. 289: Stone water trough located in the southern garden area.



Figure 3. 290: Barbed wire and timber post fencing along the southern boundary of the garden.

Northern (Rear) House Garden

The symmetrical layout around the homestead is further reinforced by a picketed gate and the stone axial entry path to the rear door. A low, random rubble wall separates the rear house garden from the service compound beyond to the north.

A large, modern water tank defines the northwest corner of the house garden.

The western boundary of the rear house garden from the service area also consists of a timber post and rail fence above the rubble stone wall.

Behind the homestead is an old rose along with *Chaenomeles japonica*, Maybush (*Spiraea* sp.) and more recent plantings of *Jacaranda*, *Callistemon* sp., *Crassula ovata*, *Abelia grandiflora*, *Clivia miniata*, *Geranium* cv. and Honeysuckle (*Lonicera japonica*).



Figure 3. 291: A panoramic view of the rear ground of the homestead, centred on the house axis (the picket gate in line with the back door) The tallest plant on the left is a *Callistemon* sp. with the rose behind the picket gate. On the right is a young Jacaranda with a line of oleanders behind. The Japonica is to the left of the water tank while common honeysuckle covers part of the tank. Photo: G. Britton, 2018



Figure 3. 292: Stone rubble wall defining the northern garden of the Homestead.



Figure 3. 293: Stone rubble wall with timber picket gate along the northern boundary of the northern garden with the Main House in the background.



Figure 3. 294: Concrete watertank located in north-western corner of the rear garden.



Figure 3. 295: Timber post and rail fence with stone rubble and steel post supports for plantings defining the western boundary of the rear garden.

3.10.3. The Farm Yard

The farm yard is entered from the west through massive timber posts and a gravel track leads through the yard to a gate south of the barn. Old gravel 'metalling' is still discernible over parts of the track. The area is defined by the principal farm buildings within the complex: Stables (on the west) and Barn (on the east).

The division between the rear (north) homestead garden and the service compound is defined by a row of Kei Apples. Scattered rubble stones form two-wheel lines leading from the service compound, around the hedging into the southern end of the Barn.

The northern section of the area is defined by sheep yards of a mix of timber post and rail and iron girders and wire mesh. Along the northern boundary of the complex is a rubble stone wall supported by iron girders, timber posts and wire mesh. This wall has been created from the scattered stone along the northern boundary of the service compound that indicates the presence of a former stone building (see also Historical Archaeology Test Area 4).

Within the service compound are some remnant plantings as well as many opportunistic weed species. The most conspicuous of the former are the line of Kei Apple separating the homestead from the farm outbuildings, the line of peppercorn trees between the stables and the barn, and the lone oleander next to the western wall of the barn. Within the line of Kei Apple between the homestead and its outbuildings there remains an old Pomegranate (*Punica granatum*) along with stone-edged beds of an *Aloe* sp.

Apart from a line of Peppercorn trees between the stables and barn and a lone Oleander (planted by Jenny Marshall⁷²) next to the barn, all of the cultural vegetation found near the outbuildings are of opportunistic species such as African Olive, Kei apple and Peppercorn trees.

The presence of very hardy African species such as African Olive, African Boxthorn and Kei Apple is consistent with the earlier 19th century introduction and use of these species as hedging and a form of fencing for livestock.



Figure 3. 296: Part of the line of Kei Apple between the homestead and the outbuilding group. The barn is visible in the background with an oleander, planted in the latter half of the 20th century, next to it. Photo: G, Britton, 2018



Figure 3. 297: The line of Peppercorn trees between the stables and the barn. Photo: G. Britton, 2018

⁷² *Pers comm.* J Marshall, 3rd August 2018



Figure 3. 298: View of the entry gate with steel posts into the service compound from the main driveway access to the west.



Figure 3. 299: Western entry gate with adjacent water tank and electricity pole as seen from within the Service Compound



Figure 3. 300: Eastern gateway and fencing between the Barn and the Men's Quarters cottage area.



Figure 3. 301: The row of Kei applies separating the service area from the main house area.



Figure 3. 302: Entry gate post to the Homestead Complex. G. Britton, 2018



Figure 3. 303: The southern-most of the two entry gate posts to the Homestead Complex. G. Britton, 2018



Figure 3. 304: Stone wheel lines located in the service compound



Figure 3. 305: Remnant gravel within the Homestead Complex yard indicating a former access track. G. Britton, 2018



Figure 3. 306: Timber post, wire and iron girder fencing with a row of peppercorns defining the yards from the open service areas.



Figure 3. 307: Timber post and rail fencing at the northern end of the service compound. The Stables is in the background.



Figure 3. 308: Sheep run.



Figure 3. 309: Mixed timber and steel fencing with gates forming sheep yards at the northern end of the service compound. The Barn is in the background.



Figure 3. 310: Sheep ramp with adjacent shelter and old stoves.



Figure 3. 311: Old cast iron stoves located within shelter in yard area.



Figure 3. 312: Northern wall of the Homestead Complex of rubble stone, timber posts, iron girders and steel mesh.



Figure 3. 313: Gates at north-western corner of yard area with adjacent north wall. Note archaeological site in foreground.

3.10.4. Men's Quarters Garden

Located on the eastern side of the Homestead Complex is located an early 20th century weatherboard Men's Quarters cottage that was converted to a single residence in the mid-20th century. Associated with the Men's Quarters cottage is a remnant domestic garden containing elements of an earlier layout and fencing along with various plantings and subsequent opportunistic weeds.

The Men's Quarters has various remnant plantings around it. These include stone-edged beds of *Aloe* sp., *Crassula* sp., *Crassula ovata*, *Eucomis* sp.? along with an Oleander, Peppercorn trees, a *Callistemon* sp., *Clivia miniata* and a *Bignonia* sp.? Kei Apple forms hedging – intended or otherwise - along fence lines around the cottage. A *Casuarina* sp. also remains though it is unclear if this was planted.



Figure 3. 314: Bed of massed *Crassula* sp. to the southwest of the Men's Quarters. Photo: G. Britton, 2018



Figure 3. 315: *Casuarina* sp. next to a gate to the Men's Quarters. Photo: G. Britton, 2018



Figure 3. 316: A bed of *Aloe* sp. to the northeast of the Men's Quarters with a peppercorn tree to the right and an African Olive and Kei Apple to the left. Photo: G. Britton, 2018



Figure 3. 317: Typical plantings in the front garden area of cottage consisting of *Aloe* sp. with a row of Oleander and Kei Apple defining the western boundary of the cottage garden.

The cottage is still defined by fencing to the north (now reinforced by a weedy Kei Apple hedge) and to the west (also reinforced by remnant plantings and weeds) that separates it from the service area beyond. Beyond the washing line to the east are panels of a timber slab-faced fence with various remnant plantings.

Organic-shaped, stone-edged bedding areas survive to the north and west of the cottage indicating a purposeful effort to embellish the cottage setting at least from the middle of the 20th century.

The front (west) garden of the cottage is also fence with timber post and wire mesh fencing with a timber picket gate providing access from the Service Compound and a metal pole and wire mesh gate leading from the northern side of the Kitchen Wing.

There are also the remains of a timber tank stand, a stone and concrete tank stand, a corrugated iron water tank on stone base and a chicken shed.



Figure 3. 318: View of the Men's Quarters from the paddock adjoining to the east.



Figure 3. 319: View of the Men's Quarters from the Service Compound to the west with the Barn adjacent.



Figure 3. 320: Timber picket entry gate with wire mesh and timber post fencing.



Figure 3. 321: Timber post and wire mesh fencing with old steel pole and mesh gate.



Figure 3. 322: General view of the rear garden area of the cottage with washing line and peppercorn tree.



Figure 3. 323: Remnant timber slab faced fencing with peppercorn tree.



Figure 3. 324: Old chicken shed to rear of cottage.



Figure 3. 325: Corrugate metal water tank on stone base.



Figure 3. 326: Timber tank stand on southern side of the cottage.



Figure 3. 327: Concrete and stone tank stand on southern side of the cottage.

3.10.5. Men's Quarters Paddock

The Men's Quarters cottage is located in the northwest corner of a paddock that adjoins the eastern side of the Kitchen Wing and extends southwards. The paddock is fenced along the northern, eastern and southern boundaries, while the western boundary is delineated from the southern Homestead garden by a change in ground levels. The fencing around the paddock consists of timber post and star pickets and wire.

Within the paddock is located the Privy and the unmarked grave site (assumed to be a member of the White family) that is distinguished by the simple, unadorned sandstone slab to the east of, and on axis with, the homestead. A relatively recent African Olive volunteer has self-propagated at the western wall of the privy and, if not removed, potentially poses a threat to the fabric and stability of the structure (see Figure 3.330).

Although mostly grassed the paddock contains a single palm, an oleander adjacent to the Privy and an African boxthorn next to a remnant timber fence post. Other small plantings have sprung up along the bordering fencelines to the south, east and north.



Figure 3. 328: View of the Men's Quarters paddock looking south with the Privy and grave to the right.



Figure 3. 329: View of the Men's Quarters paddock with the Homestead complex of buildings in the background.



Figure 3. 330: A more recent opportunistic olive has seeded next to the privy. Photo: G. Britton, 2018



Figure 3. 331: The stone grave located in the paddock.



Figure 3. 332: Typical fencing found along the eastern, southern and northern boundaries of the paddock.



Figure 3. 333: Typical fencing found along the eastern, southern and northern boundaries of the paddock.



Figure 3. 334: Remains of a fence line with timber post and African boxthorn.



Figure 3. 335: The palm located at the southern end of the paddock.



Figure 3. 336: Ground level change between the Homestead south garden (on the left) and the Men's Quarters paddock (on the right)

3.10.6. Landscape Features in the Immediate Surrounds

Other outlying structures and trees beyond the immediate homestead group include the former orchard to the south of the Homestead garden leading down to the Homestead Dam and the small creek upstream of the Homestead Dam now has dense thickets of Kei Apple.

Various access roads and tracks surround the Complex including the entry driveway from Hebden Road on the west with a younger Aleppo Pine near the front gate to the homestead group at Hebden Road (and next to a small stone-lined dam- Dam D6); a track leading north and another leading south-east to the former woolshed site (Site 2). The former southern approach to the homestead also remains discernible in the landscape on the western side of the Homestead Complex.

To the north of the complex is a fenced paddock with a lone Aleppo Pine between the homestead group and House Tank Hill (Site 3) and an underground brick-lined well with adjacent cattle or sheep ramp of stone and timber (Landscape Feature Nos. 64 and 65). The well site and cattle ramp are highlighted by a date palm seedling, and African Boxthorn (*Lycium ferocissimum*) and Tiger Pear (*Opuntia aurantiaca*).

Smaller features include a cistern on the western side of the homestead garden, a dog/pet burial site to the south of the homestead garden and indicated by a loose rectangle of sandstone pieces and a long stretch of scattered sandstone, the remains of a former building on the northern side of the Farm Yard.

There are also scattered remains of other farm features including a collapsed windmill (Landscape Feature No. 63) and on the eastern side of the Barn is a collapsed corrugated metal water tank and a skip bin.

On the western side of the Stables is a fenced off area which contains the collapsed remains of a former timber slab structure and sheep dip (Landscape Feature No. 55), with scattered stone and Oleander.



Figure 3. 337: Entry gate and protective fencing on the western side of the south garden of the Homestead Complex. The gate leads to the southern paddock, the former orchard and the Homestead Dam.



Figure 3. 338: The southern approach track from the southern paddock.



Figure 3. 339: Cistern located on the western side of the southern homestead garden with collapsed stone wall and star picket and wire fencing.



Figure 3. 340: The former orchards land to the south of the complex.



Figure 3. 341: Sandstone marking the former pet grave



Figure 3. 342: The western entry drive from Hebden

(?) to the south of the homestead garden (on the way to the House Dam). G. Britton, 2018

Road and crossing Yorks Creek.



Figure 3. 343: Gate with timber posts located to the northwest of the Homestead Complex.



Figure 3. 344: Track leading north.



Figure 3. 345: The Homestead Dam (Dme)



Figure 3. 346: The Homestead Dam (Dme)



Figure 3. 347: The underground well with palm with Aleppo pine in the background.



Figure 3. 348: Remnant cattle/sheep ramp.



Figure 3. 349: Skip bin and scattered building materials on the eastern side of the Barn.



Figure 3. 350: Collapsed water tank and building materials on the eastern side of the Barn.



Figure 3. 351: Fenced area on the western side of the Stables with ruins of former timber slab building.



Figure 3. 352: Collapsed windmill to the northeast of the complex, with rubble stone wall and Stables in the background.

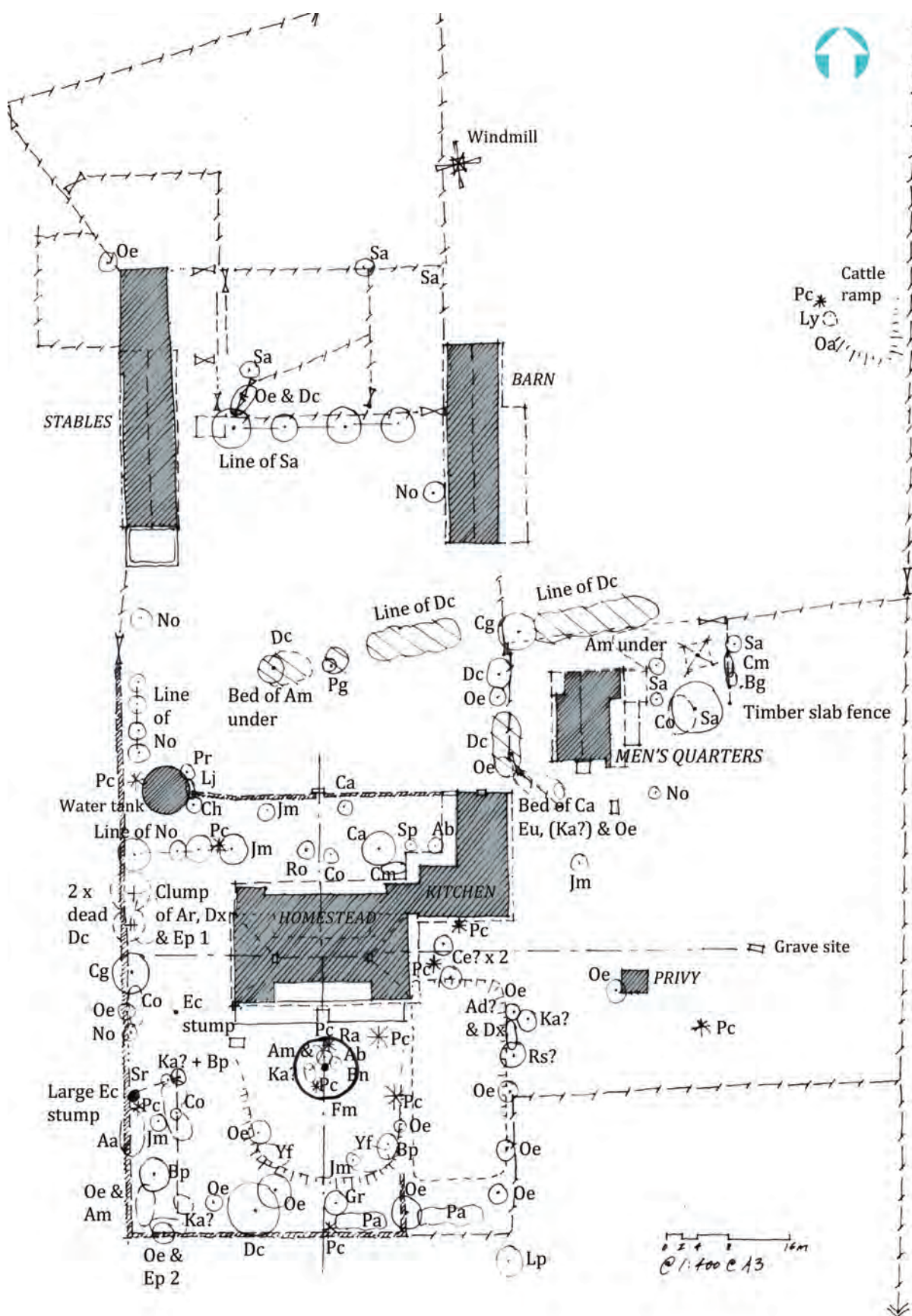


Figure 3. 353: Site plan of the Ravensworth Homestead Complex identifying the various plant species that make up the three different garden areas.

Table 3. 8: Species list for the Ravensworth Homestead Complex Gardens

Symbol	Plant species	Common Name	Notes
Ab	<i>Abelia grandiflora</i>		
Ag	<i>Agapanthus praecox</i>	Common Agapanthus, African lily	
Aa	<i>Agave americana</i>	Giant century plant	
Am	<i>Aloe maculata</i> (syn. <i>Aloe saponaria</i>)	Soap aloe	
Ar	<i>Artemisia absinthium</i>	Common wormwood	
Ad	<i>Arundo donax</i>	Giant reed, giant cane	
Bg	<i>Bignonia</i> sp.		
Bn	<i>Bilbergia nutans</i>	Queen's tears	
Ca	<i>Callistemon</i> sp. (possibly <i>C. citrinus</i>)	Bottlebrush	
Cg	<i>Casuarina glauca</i>	Swamp Oak	
Cr	<i>Catharanthus roseus</i> cv.	Madagascar periwinkle	white cultivar
Ce	<i>Cercis</i> sp.?		Sth. Kitchen wing
Ch	<i>Chaenomeles japonica</i>	Japonica (syn. <i>Pyrus japonica</i> flowering quince)	
Cm	<i>Clivea miniata</i> ?		
Ct	<i>Cotyledon orbiculata</i> var. <i>oblonga</i> ' <i>Macrantha</i> '	Pig's ear, paddle plant	
Co	<i>Crassula ovata</i>	Jade plant	small leaf cv.
Dx	<i>Dolichandra unguis-cati</i>	Cat's claw creeper	Noxious weed
Dc	<i>Dovyalis caffra</i>	Kei apple	Also in Homestead Dam creek
Ep 1	<i>Epiphyllum</i> sp.		Red flower
Ep 2	<i>Epiphyllum crenatum</i>	Crenate Orchid Cactus	SW corner
Ec	<i>Eucalyptus</i> sp.	Ironbark or Grey Box?	Stumps SW of homestead
Eu	<i>Eucomis</i> sp.		
Fm	<i>Ficus macrophylla</i>	Moreton Bay fig	
Gr	<i>Grevillea robusta</i>	Silky Oak	
Jm	<i>Jacaranda mimosifolia</i>	Jacaranda	
Ja	<i>Jasminum</i> sp.	Jasmine	
Ka	<i>Kalanchoe</i> sp.?		
Lp	<i>Lagunaria patersonii</i>	Norfolk Island hibiscus	Also at Site 9
Lj	<i>Lonicera japonica</i>	Common honeysuckle	
Ly	<i>Lycium ferocissimum</i>	African Boxthorn	Weed

Symbol	Plant species	Common Name	Notes
No	<i>Nerium oleander</i>	Oleander	Homestead site
Oe	<i>Olea europaea subsp. cuspidata</i> (syn. <i>Olea europaea subsp. africana</i>)	African Olive	
Oa	<i>Opuntia aurantiaca</i>	Tiger Pear	Noxious weed
Pc	<i>Phoenix canariensis</i>	Canary Island date palm	
Pa	<i>Plumbago auriculata</i>	Leadwort	
Pr	<i>Prunus sp. or cv.</i>		
Pg	<i>Punica granatum</i>	Pomegranate	
Ra	<i>Raphiolepis indica</i>	Indian Hawthorn	
Ro	<i>Rosa indica cv.</i>		
Sa	<i>Schinus areira</i> (syn. <i>S. molle</i>)	Peppercorn tree	
Sp	<i>Spiraea sp.</i>	Maybush	
Sr	<i>Strelitzia reginae</i>	Bird-of-Paradise	
Yf	<i>Yucca sp. [possibly Y. flaccida]</i>		

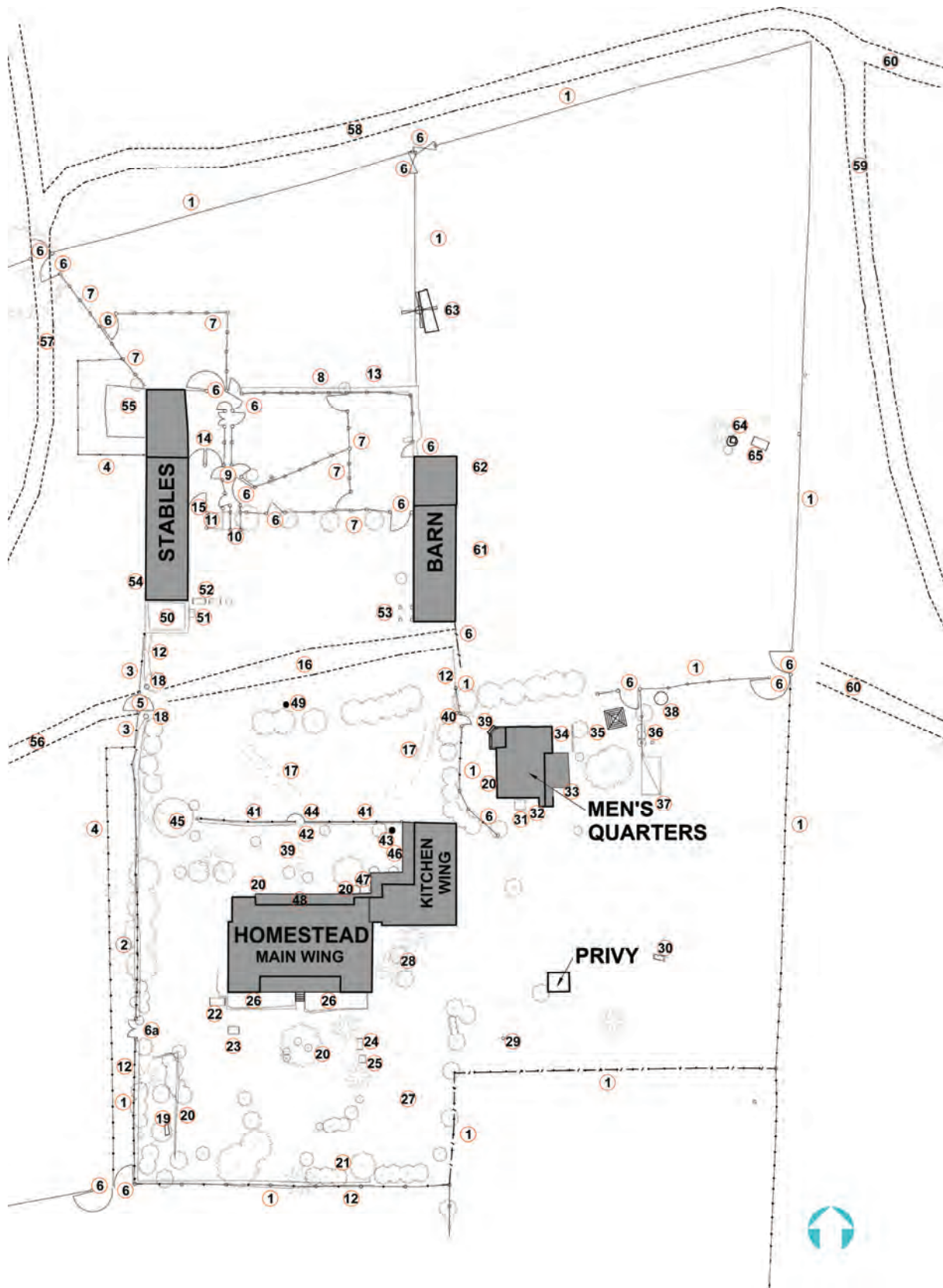


Figure 3. 354: Site plan of the Ravensworth Homestead Complex identifying the location of landscape features.

Time Periods:

O	=	Original
EA	=	Early addition
EN	=	Early 19th century (1820-1850)
MN	=	Mid 19th century (1851-1885)
LN	=	Late 19th century (1886-1900)
ET	=	Early 20th century (1901-1940)
MT	=	Mid 20th century (1941-1970)
LT	=	Late 20 th century (1971-2000)
MD	=	Modern (2001-date)
?	=	Date unclear

Table 3. 9: Landscape Features of the Ravensworth Homestead Complex

No.	Description	Date
1	Timber post and star picket with barbed wire or plain wire fencing	MT/LT
2	Timber post and rail and slab faced fence supported with steel posts and wire	MT/LT
3	Steel post and wire fencing	MD
4	Star picket and wire protective fencing	MD
5	Steel pole farm gate with wire mesh	MD
6	Steel pole farm gate with wire or wire mesh	MD
6a	Steel cart wheel gates on timber posts	MT
7	Yard fencing of timber post with wire mesh, steel girders and steel poles	MT/LT
8	Rubble stone wall supported with timber posts, steel girders, steel poles and wire mesh	MT/LT
9	Sheep run of timber posts with steel rails and wire mesh with stone flagging	MT/LT
10	Sheep ramp of timber with steel girders and steel poles supported on sandstone blocks	MT/LT
11	Makeshift shelter of timber with corrugated metal roofing containing two cast iron stoves (Fletcher & Sons, Oxford Street, Sydney- early 20 th century)	MT/LT
12	Sandstone rubble base to fence	MT/LT
13	Scattered stone (former building materials)	EN/MT
14	Timber post and rail fence with steel pole farm gate with wire mesh	MT/LT
15	Timber post and rail fence with timber post and rail gate	MT/LT
16	Gravel track	EN/MT
17	Stone flagging wheel tracks	LT
18	Timber entry gate posts	EN
19	Stone seat	EN/MT
20	Rubble stone garden bed surrounds	MT/LT
21	Stone block garden wall	MT/LT

No.	Description	Date
22	Stone water trough	EN
23	Stone water trough	EN
24	Stone block	EN
25	Ravensworth trig station stone marker (former)	LT?
26	Rubble stone garden retaining walls	MT/LT
27	Former tennis (crochet?) lawn area	LN/ET
28	Former location of inground spa	LT
29	Timber fence post with Kei Apple	MT
30	Stone grave (assumed James White's daughter)	EN
31	Stone block and concrete tank stand	MT
32	Timber tank stand (collapsed)	ET
33	Concrete laundry trough	MT
34	Rubble stone garden divider (?)	MT
35	"Drymaster" rotary clothes hoist (mid-20 th century)	MT
36	Timber post, rail and slab faced fence	LN/ET?
37	Timber and corrugated metal sheeting chicken shed	ET
38	Corrugated metal water tank on stone block stand	ET
39	Stone flagging path	ET/MT
40	Timber picket gate	ET
41	Stone rubble wall supported with steel posts and wire	ET/MT
42	Timber picket gate	MT
43	Timber pole with electricity box	MT
44	Hearth stone reused	EN/MT
45	Concrete water tank	MT
46	Stone edging to verandah	MT
47	Stone mantle support reused	EN/MT
48	Stone flagging to rear verandah	ET
49	Timber pole for electricity and telephone	LT
50	Rubble stone and cement render water tank (adjoining south end of Stables)	ET
51	Stone water trough	EN/MN
52	Stone blocks	EN/MN
53	Timber tank stand	ET?
54	Timber support struts (west elevation of Stables)	MD

No.	Description	Date
55	Timber slab faced wall (?) with timber and stone rubble building materials	ET/MT
56	Entry drive (gravel) from Hebden Road	EN
57	Gravel track leading north	ET/MT
58	Gravel track leading west	ET/MT
59	Gravel track leading south (on west side of complex)	ET/MT
60	Gravel track leading west from north-west paddock	ET/MT
61	Skip bin with remnant building materials	MD
62	Corrugated metal water tank on stone block base (collapsed)	MT
63	Steel windmill (collapsed)	ET
64	Brick and concrete beehive well with iron oven door reused	EN/MN?
65	Timber, rubble stone and corrugated metal cattle ramp (collapsed)	LN/ET

4. Analysis of the Evidence

4.1. Introduction

This section discusses the issues that have been considered in the course of developing a Statement of Cultural Significance for the place (Section 5).

The Australia ICOMOS *Burra Charter* (see Appendix 1) defines cultural significance as *aesthetic, historic, scientific, social or spiritual value for past, present or future generations*. Cultural significance is embodied in the *place* itself, its *fabric, setting, use, associations, meanings, records, related places and related objects*. Places may have a range of values for different individuals or groups. (*Burra Charter*, Article 1.2).

James Semple Kerr's *The Conservation Plan* (2013) notes that the purpose of assessing cultural significance is "to help identify and assess the attributes which make a place of value to us and to our society"¹ According to Kerr, a coordinated analysis may be presented in a variety of forms, but it should establish an understanding of the following (amongst other aspects):

- The past development and use of the place (including its content and setting), particularly in relation to its surviving fabric (refer to Sections 2 and 3);
- Comparison with contemporary developments (see Section 4.7: Comparative Analysis);
- Any other aspect, quality or association which will form a useful basis for the assessment of significance.²

The assessment of the significance of a place requires an evaluation of the fabric, uses, associations and meanings relating to the place, from which a detailed statement of significance can be formulated (Section 5).

Based on the historical chronology and analysis of the physical evidence, those aspects of significance of the Place, the Core Estate Lands and the Ravensworth Homestead Complex that require further analysis are the following:

- Aboriginal cultural values of the Place;
- Historical values of the cultural landscape and garden of the Ravensworth Homestead Complex;
- Historical associations with persons and places of note; and
- Aesthetic values of the lands of the Place;
- Aesthetic, historical and technical values of the architecture of the Ravensworth Homestead Complex.³

The following discussion of cultural significance therefore aims to examine the above aspects, qualities and associations which may contribute to the assessment of significance.

¹ Kerr, 2013 *The Conservation Plan*, p. 4.

² Kerr, 2013 *The Conservation Plan*, p. 9.

³ For a detailed discussion regarding the historical archaeology of the Place, refer to *Appendix 23c* of the GOC Project EIS.

4.2. Existing Heritage Listings

The Ravensworth Homestead Complex and the Place are recognised as places of, or containing items of, cultural significance as per the following:

4.2.1. Heritage Listings for items within the boundaries of the Place

The Place is located within the local government area of Singleton Council. Two local heritage items are located within the boundaries of the Place as identified in Schedule 5 of the *Singleton Local Environmental Plan 2013*:

- Item No. I41 Ravensworth Homestead, 463 Hebden Road, Ravensworth
- Item No. I42 Former Public School, Hebden Road, Ravensworth

It is noted that inventory sheets for the above properties have not been located during the preparation of this report.

No items included on the State Heritage Register under the *Heritage Act 1977* are located within the boundaries of the Place.

4.2.2. Non-Statutory Listings for the Ravensworth Homestead Complex

The Ravensworth Homestead Complex is also identified as being of cultural significance on several non-statutory heritage registers and in other relevant heritage studies. These include the following:

National Trust of Australia (NSW)

The Statement of Significance (reasons for listing) attributed to the place by the National Trust of Australia (NSW) is as follows:

Although altered, Ravensworth is a remarkably intact Colonial Georgian bungalow. It is a house which is associated with one of the colony's important early settlers and is therefore a building of considerable importance.⁴

Register of the National Estate

Ravensworth is included as an "Indicative Place" on the Register of the National Estate (non-statutory archive) and the Statement of Significance attributed to the place as follows:

Ravensworth is a Colonial Georgian bungalow all under the one bellcast hipped roof with generous eaves. It has a single pile plan with a central flagged hall. The verandahs back and front were in antis, which suggests Anglo Indian influence for the design. The house is built of stone and the roof is now slated. About 1907 the rear verandah was extended to form two further rooms with central hall. There is an original L shaped service wing to one side and at the rear, well back from the house, two symmetrically placed gabled outhouses which form a compound with the main building. The interior of the house is simply finished with staff mouldings to all openings, doors are 6

⁴ National Trust of Australia (NSW) listing sheet: *Ravensworth Homestead*, dated 1976

panelled. At the time the house was extended, ventilators would appear to have been placed in the roof, a gable placed over the entrance, and the verandah columns replaced in cast iron.

The original part of Ravensworth is thought to have been built for Dr. James Bowman, colonial surgeon, by about 1835. Later owners included Captain William Russell.⁵

Hunter Estates Comparative Heritage Study

The Statement of Significance attributed to the place in the *Hunter Estates Comparative Heritage Study* (2014) is as follows:

Ravensworth is of cultural significance as one of a group of surviving estates in the Hunter Region that continues to demonstrate the implementation of a colonial government policy for land ownership and the management of convicts introduced and implemented in the Hunter Region in the early 1820s and is an important aspect of the agricultural/pastoral history of NSW. This significance, together with the high level of significance in all other categories makes this place, in our view, of State significance.

The place is associated with noted the colony's principal surgeon, James Bowman who established the estate in 1824 and is known for his contributions to local affairs as well as healthcare in the colony 1818-1838, as well as Captain William Russell, MLA, MLC.

The picturesque setting of the homestead and landscape features of Ravensworth remain relatively intact including the siting of the homestead and its relationship to the nearby waterway, the colonial bungalow form of the homestead building, the complex of associated farm buildings including stone barns, stone store and privy, and the early garden setting of the main residence.

The known archaeology and written records relating to the post-colonisation Aboriginal history specific to this place is/are uncommon and of exceptional significance.

Ravensworth has high potential for archaeological evidence capable of providing further information on the colonial settlement and history of the place and the colonisation of the Hunter Region more generally.⁶

⁵ "Ravensworth Homestead", Register of the National Estate (non-statutory archive), Place ID 101927

⁶ Clive Lucas, Stapleton & Partners, 2014, p. 44

4.3. Aboriginal Cultural Values of the Place

4.3.1. Introduction

The following information has been extracted from the *Aboriginal Cultural Heritage Assessment Report* (ACHAR), 2019, prepared by Australian Cultural Heritage Management (ACHM). For detailed information relating to the methodology, results and recommendations of archaeological investigations undertaken at the Place, the original report should be referred to in the first instance (refer to *Appendix 22* of the GOC Project EIS).

The ACHAR was prepared in accordance with the requirements of the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment* (DEC 2005) the *Community Consultation guidelines of the current Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a), and the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011). It was also prepared in accordance with the intent, requirements and assessment methodologies outlined in the *Burra Charter* (2013).

The assessment of cultural significance contained in the ACHAR related primarily to the proposed Glendell Pit Extension (the Additional Disturbance Area) which contains the Ravensworth Homestead Complex, and a large portion of the land defined as the “Place” for the purposes of this Heritage Analysis and Statement of Significance. The ACHAR also includes commentary on the cultural significance of the wider region.

4.3.2. Methodology

Aboriginal people have rights and interests in the assessment and control of cultural heritage objects and places. In recognising these rights and interests, all parties concerned with identifying, conserving and managing cultural heritage should acknowledge, accept and act on the principles that Aboriginal people:

- are the primary source of information about the value of their heritage and how this is best protected and conserved;
- must have an active role in any Aboriginal cultural heritage planning process;
- must have early input into the assessment of the cultural significance of their heritage and its management so they can continue to fulfil their obligations towards their heritage; and
- must control the way in which cultural knowledge and other information relating specifically to their heritage is used, as this may be an integral aspect of its heritage value.

Consultation with Aboriginal people about cultural heritage places and the way those places should be managed is required under Part 6 of the *National Parks and Wildlife Act 1974*. The processes of consultation are specifically outlined in the Department of Environment, Climate Change and Water (DECCW) publication *Aboriginal cultural heritage consultation requirements for proponents* (2010).

When engaging in Aboriginal cultural heritage assessments within the Hunter Valley, members of the Aboriginal communities may choose to be part of representative bodies or to participate in cultural heritage assessments as individuals. The representative bodies for this assessment are known as “Knowledge Holder Groups”, and they were:

- Wonnarua Nation Aboriginal Corporation (WNAC)
- Plains Clan of the Wonnarua People (PCWP).

Individuals not involved in the consultation and reporting processes of the two knowledge holder groups but who registered as RAPs were consulted separately, and their values were reported on by ACHM in the original report. These individuals are referred to as the “Community RAPs”.

Glencore has engaged with the PCWP since the commencement of the Project. This has included numerous meetings and phone calls. At the time of writing, the PCWP had not provided a “Values and Recommendations Report” or “Statement for the Project”. The offer for inclusion of PCWP Values and Recommendations remains open through the assessment process. Whilst specific input has not been received, the engagement has raised the PCWP’s concerns regarding colonial frontier violence, and claims of a massacre of Aboriginal people. These aspects were also the focus of additional studies commissioned for this Project which are discussed in Section 2 of this report.

The steps employed in the cultural heritage assessment included:

- Workshop discussions with the Community RAPs and WNAC;
- Distribution of survey methodologies;
- Receiving comments and sharing of historic information including Project area land use information;
- Reference to OzArk archaeological reports to gain an understanding of other components of the Aboriginal cultural heritage assessment;
- Facilitation of RAPs consultation on the cultural values of the Project Area, and Walks on Country to discuss Aboriginal cultural heritage values;
- Archival investigation;
- Consultation with OEH; and
- Assessment of the key cultural heritage issues for the Project, considering relevant guidelines, policies and plans and input from RAPs including Traditional Owners and Knowledge Holders.

As an outcome of this process, the ACHAR presents a combined understanding of Aboriginal cultural heritage values of the Project Area, as identified by the RAPs, historical research and the Aboriginal archaeological assessment (refer to Section 3.5).

Spiritual Value

The Draft 2013 ICOMOS practice note *Understanding and Assessing Cultural Significance* defines “spiritual value” as the “intangible values and meanings embodied in or evoked by a place which give it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations and be expressed through cultural practices and related physical structures”.⁷

The physical qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place and purpose in the world, particularly in relation to the spiritual realm. Spiritual values may be interdependent on the social values and physical properties of a place and its surrounding landscape. A place may exhibit spiritual values if:

- The place contributes to the spiritual identity or belief system of a cultural group;

⁷ ICOMOS, 2013; *Practice Note: Understanding and Assessing Cultural Significance*, p. 1

- The place is a repository of knowledge, traditional art or lore related to spiritual practice of a cultural group;
- The place is important in maintaining the spiritual health and well-being of a culture or group;
- The physical attributes of the place play a role in recalling or awakening an understanding of an individual or group's higher purpose and place in relation to the spiritual realm; and
- The spiritual values of the place find expression in cultural practices or human-made structures or inspire creative works.

Outcomes

The ACHAR noted that the numerous Aboriginal stakeholders who participated in this cultural values assessment process hold values which relate to the wider Hunter Valley region generally, and less directly to the Additional Disturbance Area (specifically). There was very little information presented in any of the workshops, site visits or written material which relate specifically to the Additional Disturbance Area.

Summary Opinion

“Material presented or discussions with the participants often evoked the trauma of early European settlement and the lasting effects of frontier violence, dispossession and the importance of Wonnarua cultural survival through time. These effects are seen within the context of contemporary Aboriginal society, and the attempts by Aboriginal communities today to preserve remnants of cultural landscapes, places, lore, culture and belonging. This is in no way denying the bona fides of the individuals involved or their life experiences but is merely a comment on the events of the shared history of the Hunter Valley which has seen much of that rich past destroyed.

The material collected during the ACHAR process for this project clearly communicates a deep contemporary attachment to place, although in common with most of the more urbanised regions of Australia, the understanding of “*place*” and the cultural lore and traditions associated with it only exist in a fragmentary state.

There has been some discussion of connections to apical ancestors who originate from within Wonnarua country. Members of the different knowledge holder groups claim connection to some (or all) of these apical ancestors (e.g. *Sarah Madoo*). There is however, no evidence of any continuing traditional practices or observances of ritual or ceremony within the Additional Disturbance Area, which can be directly attributed to the post-European settlement disruption and dislocation of traditional Aboriginal culture throughout the Hunter Valley. Knowledge of some of these practices does still exist.

Much of the discussion surrounding the Additional Disturbance Area is descriptive and relates to generalised Aboriginal lifeways at the time of first settlement, and the historical impact of white settlement on Aboriginal people and is common to many Aboriginal groups throughout Australia and does not relate to any direct knowledge of the GCOP project area [Additional Disturbance Area].”⁸

⁸ ACHM, 2019; p. 57-58

4.4. Historical Values of the Place

4.4.1. State Historical Themes

Guidelines from the NSW Heritage Division emphasise the role of history in the heritage assessment process and a list of state historical themes has been developed by the NSW Heritage Council. In this case, the Place is associated with the following NSW State Historical Themes:

Australian Theme	NSW Theme	Historical Associations with the Place
2 Peopling Australia	Aboriginal cultures and interactions with other cultures	<p>The Place forms part of the land of the Wonnarua and physical evidence of the past lives of the Wonnarua people remains.</p> <p>The Place is located in a region that experienced a period of conflict between Aboriginal people and European settlers. The broader Ravensworth Estate was one of the known locations of violence, including attacks on 2 of Bowman's employees (which led to the unlawful hanging of an Aboriginal man at the first homestead at Ravensworth) and the capture of a local Aboriginal man Jackey-Jackey on the estate lands, whose execution (at Maitland) led to a military officer being brought before the courts for actions against Aboriginal people for the first time in 1827.</p>
	Convict	<p>Ravensworth Homestead Complex and the Ravensworth Estate generally are known to have been developed using convict labour during the Bowman era (1824-1842).</p> <p>The extensive surviving historical archaeology in and around the Ravensworth Homestead Complex has the potential to provide important information into the lives of convicts in a non-institutional setting.</p>
3 Developing local, regional and national economies	Agriculture	Established as a pastoral estate, the Core Estate Lands retain evidence of the colonial period of agricultural development including the surviving barn and stables at the complex, wells, cultural plantings, evidence of early cultivation, an irrigation scheme (dams), an underground silo and extensive historical archaeology located adjacent to the complex.
	Environment – cultural landscape	Evidence remains of an extensive irrigation system along Bowmans Creek and Yorks Creek including pre-1850s dams with stone and log weirs (on Yorks Creek).
	Mining	Ravensworth is one of the areas that was identified as early as the 1840s as one of the locations with a likely presence of coal in the Hunter Valley.
	Pastoralism	Established as a pastoral estate by Dr. James Bowman in 1824 which led to the development of the Ravensworth Homestead Complex. Bowman had important links to the Australian Agricultural Co.

Australian Theme	NSW Theme	Historical Associations with the Place
3 Developing local, regional and national economies cont.	Science	Edward Macarthur Bowman, eldest son of Dr. James Bowman was a botanical collector and botanist who participated in some of the first efforts at plant breeding in Australia, including some of the first experiments being carried out at Ravensworth.
	Transport	The Place retains evidence of several important transport routes connecting the Liverpool Plains with the Hunter Valley and Sydney, including the Great Northern Railway, the Great Northern Road and the New England Highway. Hebden Road is also a surviving early road (established in the 1820s) connecting Bowman's core land grants with his other lands to the north.
4 Building settlements, towns and cities	Towns, suburbs and villages	The introduction of the railway in the 1860s and the subdivision of the Ravensworth Estate lands in the early 20 th century led to the establishment of two rural villages: Ravensworth and Hebden, neither of which survive.
	Land tenure	The present-day cadastral boundaries within the Place can be traced back to the initial 1820s land grants made to Dr. James Bowman being Portions 149 and 150 parish Liddell and Portion 1 parish Vane and to the subsequent subdivision of the estate lands in the early 1900s. Physical evidence of all phases of land ownership survives throughout the lands of the former Ravensworth Estate.
	Accommodation	The Ravensworth Homestead Complex, constructed in c1832, is a fine example of a very rare, relatively intact "architecturally planned" group of colonial stone farm buildings located in its late 19 th century landscaped setting. The main homestead is a fine and exceptionally rare example of a colonial Georgian bungalow originally designed as a single pile "H" plan with porch in natis on the front and rear elevation all under one bellcast hipped roof.
7 Governing	Government and administration	The Ravensworth Estate is representative of the successful implementation of a significant government policy introduced in 1822 into the Hunter Region aimed at the economic and agricultural development of the colony through the management of land and convicts by private landowners. The Place is also a representative example of a large pastoral property subdivided in the early 20 th century under the <i>Closer Settlement (Amendment) Act 1904</i>
8 Developing Australia's cultural life	Domestic life	The surviving buildings of the Ravensworth Homestead Complex and the configuration of their internal spaces, together with the high potential for historical archaeology surviving in and around the complex has the ability to provide good and detailed information about the lives of the early colonists in the region.

Australian Theme	NSW Theme	Historical Associations with the Place
8 Developing Australia's cultural life cont.	Creative endeavour	The main homestead with kitchen wing and the surviving two balanced farm buildings (barn and stables) form a very rare, symmetrical compound composition of aesthetic appeal and consistent detailing. The group of buildings including the adjacent privy are significant for their fine dressed stonework, roof carpentry, simple architectural detailing and high-quality detailed design and execution and are likely to have been designed by an architect or gentleman architect of the 1820s and 1830s.
9 Marking the phases of life	Persons	<p>Ravensworth Homestead Complex has been the residence of a number of notable persons in NSW's and Australia's history including Dr. James Bowman, his wife Mary Bowman (daughter of John Macarthur), son Edward Macarthur Bowman and overseer James White (founder of the White dynasty).</p> <p>The Place is also associated with numerous other persons of historical note including other past owners and employees such as John Larnach, Captain William Russell, Duncan Forbes Mackay and A.C. Marshall.</p>

4.4.2. Historical Development of the Landscape of the Ravensworth Homestead Complex

The following discussion, prepared by Colleen Morris, landscape heritage consultant, provides an analysis of the surviving physical evidence of the original and early gardens, cultivation areas and landscape features of the Ravensworth Homestead Complex and immediate surrounds and their significance in terms of historical associations and rarity.

Dr. James Bowman 1824-1842

In 1832 Sir William Edward Parry (commissioner of the A.A. Co.) wrote that the garden at Ravensworth consisted of 8 acres fenced with palings with a little stream running through it.⁹ This garden, which is almost exactly the same size as the Lower Garden at Camden Park may have been to the west of Yorks Creek or possibly (more likely) to the northwest of the homestead where there is a watercourse which is fed by springs to the north of the homestead and which feeds into a dam with evidence of substantial stone edging on its southern end and adjacent to Yorks Creek (Dam D4).

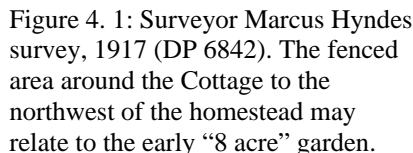
An early twentieth century plan indicates a cottage and fenced area near this area (Figure 4.1) and it is known that the Bowmans employed a gardener,¹⁰ although it is unclear to what extent the nurseryman Thomas Shepherd (of Darling Nursery), who died in 1835, may have advised Bowman. Shepherd is believed to have laid out the Lyndhurst Estate in Glebe (Dr. James Bowman's Sydney residence).¹¹

⁹ *Early Days of Port Stephens, Extracts from the diary of Sir Edward Parry...* Reprinted by Cambridge Press with permission from *The Dungog Chronicle*, 1926, pp.70-71.

¹⁰ James Bowman to Edward Bowman September 1845 Macarthur Papers *op. cit.* A4296 p.119 this letter pertains to a replacement gardener.

¹¹ From Shepherd's description of the landscape at Lyndhurst in his *Lectures on Landscape Gardening* published posthumously in 1836, it is considered that Shepherd undertook the work.

Further evidence that the “8 acre” garden was at a distance from the house is included in an undated letter from (son) Edward M. Bowman to his uncle William Macarthur. In 1845, when Edward’s mother was recuperating following a fall from the verandah of the Ravensworth homestead, breaking her leg, he reported that his mother “walked as far as the Garden on Sunday but I fear the walk is rather too long for her to venture there after.”¹³



At Lyndhurst, Glebe (Bowman's Sydney residence), the kitchen garden was in a valley well behind the house and stables (Figures 4.4 and 4.5). It was laid out in straight walks and planted with fruit trees.¹⁶ The house commanded a flat site about 200 yards (182.88 metres) from the river (Blackwattle Bay) with an unadorned mown grass lawn of a considerable extent to three fronts. In the conventions of picturesque landscape gardening the shrubbery and ornamental gardens were to each side of the

¹⁶ Thomas Shepherd Lecture Seven, in Victor Crittenden, *Landscape Gardening in Australia*, Thomas Shepherd, Mulin Press, Canberra, 2006, p.91

house. At Lyndhurst the land gradually rose up to the south behind the mansion and a similar siting is found at the Ravensworth Homestead Complex, with the land gradually rising to the north behind the group of buildings.



Figure 4. 2: Detail from 1847 plan indicating the rectangular Lower Garden at Camden Park (in red) located some distance from the mansion in its landscaped setting. The Camden Park garden, substantially completed by 1824 was close to a creek and was 8 acres and 30perches, providing James Bowman with a perfect example to follow. Source: *Plan of the Camden Estate in the county of Camden, the property of James & William Macarthur, Esq. showing the extent of agriculture*, SLNSW, M M Ser 4 000/1 A 3004/Map 4

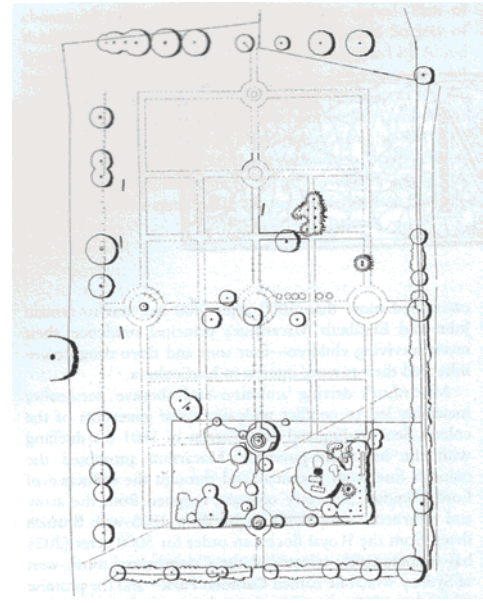


Figure 4. 3: A plan by Michael Lehany of the layout of the Lower Garden at Camden Park. Source: 'Macarthur, John' *Oxford Companion to Australian Gardens*, R. Aitkens, M. Looker & Australian Garden History Society, 2002



Figure 4. 4: A detail of the kitchen garden at Lyndhurst. Source: J. Armstrong 1849 Church Lands Petersham State Archives NSW AO Map 2247/ courtesy of Sydney Living Museums, Caroline Simpson Library and Research Collection



Figure 4. 5: Tracing from survey of Lyndhurst for deed for Bank of Australasia. Note the large kitchen garden behind the house. The offices at the back of the house were enclosed by a high wall. Source: J. Armstrong 1849 Church Lands Petersham State Archives NSW AO Map 2247/ courtesy of Sydney Living Museums, Caroline Simpson Library and Research Collection

At Ravensworth, it is likely that James Bowman adopted a similar approach with the homestead commanding a view of the Homestead Dam (Dam Dme) to its south (which was originally edged with stone, now modified), the dam forming the picturesque ideal of a view over a water body or lake. This would accord with the fact that the most significant period of building and forming the landscape setting was during the initial Bowman period, which appears to have also included a circular carriage loop to the front of the house and slight banking to either side of the loop as well as orientating the house toward the Homestead Dam.

It is also likely that the homestead has always been approached from the south-west and that a single drive diverged as one approached the homestead with one route leading to the service yard and stables and the other toward the carriage loop at the front of the homestead.

Despite the fact that Parry wrote about over expenditure on clearing trees and stumping at the property,¹⁷ it is likely that Bowman also left trees that would have enhanced the “prospect” from his house. However, it is known that later owner D.F. Mackay in the 19th century undertook a large-scale ringbarking program (see below for discussion). Parry was a critical visitor and his comments on Ravensworth must be seen within the context of his criticism of other properties; Glendon he thought was “not a pretty farm” and he didn’t like Dumaresq’s St Aubins. The only place he praised was Segenhoe, which he considered “most excellent and desirable.”¹⁸

¹⁷ *Early Days of Port Stephens*, op.cit.

¹⁸ *Early Days of Port Stephens, Extracts from the diary of Sir Edward Parry Appointed Commissioner for the Australian Agricultural Company in 1830*, Reprinted by Cambridge Press Pty Ltd with permission of the proprietors of *The Dungog Chronicle*.

Other contemporary written records including various travellers' accounts from the 1830s record an orangery, peach orchard and vineyard at Ravensworth. James White (overseer) wrote to Bowman of apples and tobacco and in the Hunter Valley, by 1833-34 almost every farmer was cultivating the latter.¹⁹ The broader landscape setting was considered "beautiful and park-like".²⁰ George Pulteney Malcolm considered it the "most complete establishment" in the district although unlike Parry, he thought the Scotts (of Glendon) had a "good garden" where surprisingly, he did not mention the garden at Ravensworth.²¹ However that is possibly because Bowman's sheep and wool production dominated.



Figure 4. 6: 1837 sketch of the original house with garden at Glendon, by A.E.R. Source: SLNSW< SSV1B / Sing D / 1

Later accounts of the property also indicate that Bowman constructed a silo on the top of a hill behind the house as one approached it and this performed both a practical function and acted as a picturesque "eye catcher" in the landscape (converted to underground water tank, Site 3a).²² The garden however, was sufficiently productive for Bowman to supply George Wyndham at Dalwood "McArthur's very fine" fig trees, apricot, cherry, "plumb" [sic] trees and "Dr Bowman's" apple for his orchard.²³

First Homestead Site Garden

Based on physical evidence, the first garden at Ravensworth was most likely to the west of Yorks Creek on the flats and within sight of the first homestead (assumed Site 11) and there is surviving evidence of cultural plantings along the creek on its western side, notably a large *Nerium oleander* cv. 'Splendens' (VG7), *Rosa canina*, lines of old robinias (VG5) and old elms (VG9).

¹⁹ For a discussion on Tobacco growing in the Hunter Valley see Clive Lucas Stapleton and Partners, *Hunter Estates Comparative Study*, p.52 Section 5.3.5

²⁰ Backhouse op. cit.

²¹ Lt. George Pulteney Malcolm (1814-1837) was the elder son of Admiral Sir Pulteney Malcolm who served with Nelson, in the war with the United States and as commander-in-chief at St Helena station. Malcolm spent over a year in New South Wales travelling extensively. George Pulteney Malcolm 1835 ML SLNSW MSS5312

²² Harold M Mackenzie, 'Cheshunt and Ravensworth', *Maitland Weekly Mercury*, 7 Sept 1895, p 10

²³ George Wyndham (attrib) Plans of Garden, Vineyard, and Orchard on Dalwood Estate, c.1832-1849.ML SLNSW A714,

Surviving Early Plant Species

The “Splendens” oleander is of interest as it was a 19th century cultivar, which was imported to Alexander Macleay’s Elizabeth Bay House garden in 1840 and listed on the Macarthur Camden Park Nursery Catalogue in 1843.²⁴ Edward Macarthur Bowman (son of James Bowman) had an involvement with hybridisation (refer to discussion below) and he may have planted this oleander at Ravensworth. As oleander is a tough, drought resistant species it has survived on the property.

Commonly planted as a hedge, windbreak or single tree in colonial gardens, *Robinia pseudoacacia* was propagated at Camden Park Estate and listed in the nursery catalogues from 1843 onwards. Lines of Black Locusts are found on both the east and west sides of Yorks Creek.

Rosa canina, the dog rose or briar rose, was introduced to Sydney before 1828 and was listed in the Camden Park Nursery Catalogue in 1850,²⁵ and an example of the plant is located in the vicinity of the assumed location of the first homestead site (Site 11).

Edward Bowman Period c1842-c1848

In the early 1840s Edward Macarthur Bowman (1826-1872), the eldest son of James and Mary Bowman, took on an active role in the garden at Ravensworth. While still a teenager Edward’s aptitude for botany was such that he became friends with John Carne Bidwill (1815-1853), a well-regarded botanist who introduced plant breeding to Australia and, in September 1847, the first botanist appointed to the position as Director at the Botanic Gardens, Sydney, albeit for a brief four months.²⁶ Bidwill was close to William Macarthur and visited Ravensworth where he hybridised gladioli,²⁷ which evidently continued to grow under Edward’s care.²⁸ With William Macarthur, Edward is cited as co-operating with Bidwill in the earliest plant breeding experiments in Australia.²⁹

Bidwill also corresponded with Edward when he sailed for England in 1843 with live specimens of *Araucaria bidwillii* (Bunya Bunya pine) and other plants, writing to him as a like-minded equal. Bidwill’s experimentation with crosses of the South African bulbs *Haemanthus* and *Crinum* were referred to and, as those on the boat had died, Bidwill hoped, he wrote to Edward “you will take especial care of the remainder of the family.”³⁰ Bidwill wrote to Edward that he “would be glad to know whether you managed to keep my Moreton Bay plants.”³¹

In 1844 Bidwill was complimentary about a list of the bulbs Edward was growing, commenting he was glad Edward had *Gladiolus viperatus*, although he questioned and commented on the accuracy of Edward’s identification of some species. Further correspondence during 1844 implies that Edward

²⁴ Colonial Plants Database, Sydney Living Museums, Caroline Simpson Library and Research Collection.

²⁵ Colonial Plants Database, Sydney Living Museums, Caroline Simpson Library and Research Collection., <http://hortuscamden.com/plants/view/rosa-canina-l.-var.-montezumae-humb.-bonpl>

²⁶ D.J. Mabberley ‘Plant introduction and hybridisation in colonial New South Wales: the work of John Carne Bidwill, Sydney’s first director’ *Telopea*, Royal Botanic Gardens, Sydney, Volume 6(4) 1996, pp.541-562; Richard Clough ‘Planting Breeding’ Aitken and Looker (eds.) *The Oxford Companion to Australian Gardens*, Oxford University Press, Melbourne, 2002, p. 477.

²⁷ Mabberley, op. cit. p.544.

²⁸ J C Bidwill to Edward Macarthur Bowman, Macarthur Papers ML A4297, Edward Bowman Misc Letters and papers 1843-1851 op. cit. 15

²⁹ Richard Clough, op.cit.

³⁰ J C Bidwill to Edward Macarthur Bowman March 1843, Macarthur Papers ML A4297 Edward Bowman Misc Letters and papers 1843-1851, op. cit. 7

³¹ J C Bidwill to Edward Macarthur Bowman, Macarthur Papers ML A4297, op. cit. 15.

was experimenting with hybridising bulbs at Ravensworth and sending any “spare” to Bidwill to fill orders Bidwill was supplying to a buyer in England.³²



Figure 4. 7: Catalogue drawing (1821-1860) of *Gladioli orchidiflorus* syn. *Gladioli viperatus*. Source: BM t.688/1803-RBGS; hortuscamden.com

William Sharp Macleay of Elizabeth Bay House was another correspondent who thanked Edward for the geological specimens he had sent and signalled his intention to send “a box”.³³ In May 1844, Macleay dispatched a box of plants to Edward in the care of A.W. Scott of Newcastle. It comprised *Habranthus*, *Nerine*, “and several other things of your desiderata”.

During 1844-45, Edward recorded the vegetation around Ravensworth with the common name, botanical name, native [Aboriginal] name, soil, durability, “purpose for which used”, when cut, stature and remarks (see Table 4.1). He also compiled a lengthy manuscript classification of plants.

³² Ibid, November 1844, p.31

³³ William Sharp Macleay to Edward Macarthur Bowman, 20 April, 1844, Macarthur Papers ML SLNSW A4297 Edward Bowman Misc Letters and papers 1843-1851 op cit. p 47.

Table 4. 1: Edward Bowman's recording of vegetation around Ravensworth.

No.	Name of Wood	Botanical name	Native name	Place of Growth	Soil	Durability	Purpose Used	When cut	Stature	Remarks
1	Cherry tree	Exocarpus	Gourange	Australia generally-cut at Ravensworth	Various			Jan 1845	15 to 20 ft	
2				Cedar brush Ravensworth	Rich [?] stones			Feb 1844		
3	Beefwood			Ravensworth	Dry gravelly hills	Very durable	Hurdles and handles for tools	Jan 1845	20 to 25 ft	Much used in the manufacture of Tunbridge ware
4	Swamp Forest Oak	Casuarina		Ravensworth	various	durable	Ditto	Jan 1845	20 to 40ft	Good for oars
5	Ironbark	Eucalyptus	Tuns	Ravensworth	various	durable	Fencing and general building purposes	Jan 1845	80 to 150ft	A most valuable timber for many purposes
6	Bastard? Box	Eucalyptus	Yarumin/yorumin	Ravensworth				Jan 1845	30 to 50ft	[E. tereticornis?]
7	Willow	Acacia		Banks of the Nepean, Camden	alluvial		Wood used for baskets	Feb 1845	20 to? ft	
8		Eucalyptus	Poondas	Ravensworth		durable		Jan 1845	50ft	
9	?	Eucalyptus		Ravensworth				Jan 1845	20 to 80ft	
10	Green Wattle	Acacia	Tanne	Ravensworth	Alluvial or any rich soil		Fit for baskets	Jan 1845	10 to 20ft	
11		Eucalyptus		Camden				Feb 1845	50 to 80 ft	
12		Acacia		Ravensworth	Hills of ironstone gravel			Jan 1845	6 to 10ft	
13	?	Prostanthera lasianthos		Camden	alluvial			Feb 1845	10 to 15ft	
14				Cedar brush Ravensworth				Feb 1844		
15				ditto				ditto		
16		? Petrophylla		? Taggerai Creek near Appin	sandy			Feb 1845	4 to 8ft	Too small to be useful
17				Cedra Brush Ravensworth	rich			Jan 1845		

A marked-up copy of James Busby's list of vines in NSW (1834), with a notation that Lyndhurst had two from Busby's list and Ravensworth six is also found with the Bowman papers. In July 1844, Busby's sister Isabella wrote to Edward from Camden Park: "I asked Uncle William what he thought of Ravensworth wine and he said he would write to you about it..."³⁴ William Macarthur's comments are not among the surviving letters.

In September 1846, the month after the death of his father, Edward Macarthur Bowman began weekly letters to his uncles, either James or William Macarthur, detailing the management of the estate. For two years NSW was in drought and lack of rain at Ravensworth was a perennial concern.³⁵ However, in September 1846 Edward reported that following rain the "Garden creek" had risen about three feet or more.

In Edward's correspondence he demonstrates a good knowledge of the terrain and country and, although the main business of the "establishment" was sheep, cattle and horses, as Edward was a botanist there are references to plants in the garden—the *Thunbergia* were shooting so it was too late to send cuttings to his horticulturist uncle William but he would strike a cutting of "each sort as soon as the wood is hard enough", the bulbs etc. had "come on very much since you left many of them are in full beauty now, also *Calendrina* which is certainly very pretty."³⁶ Some nursery catalogues used this misspelling for *Calandrinia* and *Calandrinia speciosa* [*Calandrinia ciliata* var *menziesii*] or Redmaids, a native of California, was listed in the Camden Park Nursery catalogues of 1843 and 1845.

This period was the high point for the garden and an article from 1890 emphasised that the garden's reputation under Bowman as one of the best stocked gardens of the north with the "most choice" fruit and flowers had endured.³⁷

Cropping in late 1846 was of wheat, corn and lucerne with Edward advising some of the wheat would be cut for hay.

In November 1846 William Macarthur twice wrote to John Carne Bidwill, who was in Tahiti, offering a wage of £200 per year to take charge of Ravensworth with Edward under him. Bidwill's reply is unrecorded and during 1847 and after he started at the Sydney Botanic Gardens Bidwill kept up a botanical correspondence with Edward Bowman.

On 10 June 1848, an auction notice for the household furniture of Ravensworth stated that E.M. Bowman Esq was "about to leave the district."³⁸ His mother Mary and the younger children went to live at Camden Park.

There has been no definitive evidence found for what may remain of Bowman's "8 acre garden" or how it was used under subsequent owners. However, many of the species on site such as epiphyllums, aloes, *Agave americana*, *Lagunaria patersonii* (Norfolk Island hibiscus), *Pinus halepensis* (Aleppo pine) and peppercorns (*Schinus areira*) are common to early colonial gardens. The thorny *Dovyalis caffra* (Kei apple) which appears to have been planted in a line to the north of the house in the farm yard are uncommon but a large hedge of it also remains at the former Dangar property Neotsfield near Whittingham and it was listed on William Macarthur's *Catalogue of plants cultivated at Camden* 1845.

³⁴ Isabella M. Bowman to Edward M. Bowman July 20, 1844, ML SLNS Macarthur Papers A4296

³⁵ Edward M Bowman to James Macarthur 19 September 1846 Macarthur Papers op. cit. A4296 p.119

³⁶ Edward Macarthur Bowman to William Macarthur 'Monday night' Macarthur Papers op. cit. A4296 pp.173-4

³⁷ Sydney Mail, 1 Nov 1890, p.963

³⁸ 'Sale by Auction-Ravensworth', *Maitland Mercury and Hunter River General Advertiser* Saturday June 10 1848, page 3

Table 4. 2: Correlation of species at Ravensworth with William Macarthur's Catalogue of plants cultivated at Camden. NB: most species not listed in the catalogues are omitted.

Species at Ravensworth	William Macarthur's <i>Catalogue of plants cultivated at Camden</i>
<i>Agapanthus umbellatus</i> (<i>Agapanthus praecox</i> subsp. <i>Orientalis</i>)	1843, 1845, 1850, 1857
<i>Agave americana</i>	First listed in the 1850 Catalogue after the Bowmans have left Ravensworth.
<i>Aloe maculata</i> (syn. <i>Aloe saponaria</i>)	No
<i>Chaenomeles japonica</i> (syn. <i>Pyrus japonica</i> flowering quince)	1843, 1845, 1850, 1857
<i>Dovyalis caffra</i>	1845
<i>Lagunaria patersonii</i>	1843, 1845
<i>Nerium oleander</i> 'Splendens'	1843, 1845, 1857
<i>Pinus halepensis</i>	1843, 1845, 1850, 1857
<i>Robinia pseudoacacia</i>	1843, 1845, 1850, 1857
<i>Rosa canina</i>	First listed in the 1850 Catalogue after the Bowmans have left Ravensworth. However, this rose was growing in Sydney Botanic Garden in 1828 and was described as growing elsewhere in colonial gardens.
<i>Schinus areira</i> (syn. <i>Schinus molle</i>)	1845, 1850
<i>Yucca flaccida</i>	No, although this particular yucca is found in old gardens.

Captain William Russell period 1851-1882

Captain Russell, a grazier from the 1840s with multiple estates and "runs" was also interested in horse racing and breeding and although Russell and his family owned Ravensworth for 30 years, they lived there for only short periods of time.

In 1859 there were 92 signatures from electors in the district of Patrick's Plains requesting that Russell become their candidate although Russell admitted he was a somewhat reluctant politician.³⁹ When Captain Russell accepted the call to be the candidate for Patrick's Plains he stated that he had been absent from the colony for over five years.⁴⁰ The implication is that the family travelled to England c.1854 to enlist two of their sons in Sandhurst Military Academy and it is unclear whether all of the family returned to Australia with Captain Russell in 1859.⁴¹

³⁹ *Northern Times*, Newcastle Sat 11 Jun 1859, p.4

⁴⁰ *Northern Times*, Newcastle Sat 11 Jun 1859, p.4

⁴¹ *SMH* Tue 5 Feb 1856, p.7

In 1861 the Russells' eldest daughter Bessie Alice was married in Dover to Thomas Bowyer Bower IV of a respected landed family and Russell with his manager James E. Davys travelled to the UK.⁴² By 1863 Russell had left Australia permanently and at his death in 1866 and for some years after the family lived in a house at Queens Gate Gardens, London.⁴³

In 1866, the same year as Captain Russell's death, his eldest son William James Russell, Ravensworth was gazetted a magistrate.⁴⁴ This seems to be the only reference associating William James with Ravensworth and in 1871 when his younger brother died William James was residing at Walingra, Warialda.⁴⁵ By 1876 the family had resolved to sell Ravensworth and overseer Davys, having returned to Ireland in 1871, travelled to Australia with directions to sell Ravensworth. However, Davys found that bushfires and drought had impacted the place to such an extent that he agreed to manage the estate and to sell it in five years.

Effectively, there is no tangible evidence of a contribution to the development of the landscape that can be identified from the Russell period of ownership. The Russell family resided at Ravensworth for such short periods of time, it is likely that there was little change to the structure and planting in the garden; although with drought, fire and absentee owners, it can be assumed that the garden planting gradually became simpler.

The Mackay family period and manager Robert Ascot Hill 1883-1911

Duncan Forbes Mackay was another absentee owner and by 1884 Robert Ascot Hill was his manager at Ravensworth. It is during the Hill family's time at the property that the earliest known photograph of Ravensworth homestead was published in *The Bulletin* in 1891. The Ravensworth Homestead was also photographed by the Hill family themselves, as well as being photographed in the early 20th century for the Sydney Mail. An analysis of the available photographs from this time provides a fuller understanding of the physical development of the front (south) garden of the complex.

The earliest photograph (dated 1891, see Figure 4.8) reveals that around the main house the little garden had survived from its earlier period. The Kitchen Wing to the east of the house is partially obscured by a frame supporting a climbing plant and the verandah of the house displays timber supports commonly used for climbers and vines in the colonial period. A raised garden bed with some low plantings had been constructed on the western side of the front verandah (still surviving). There is also evidence of the land modelling or benching from the earlier layout with a circular "bed" in the middle of (what appears to be) a grassed-over carriage loop. The changes in level indicate that there were traces of a path or drive coming from the west into the former carriage loop area.

A sturdy post and 3-rail fence is also seen dividing the northern farm yard or working area of the homestead complex from the front of the house. This fence extended further west than the current alignment of fencing at the property. A densely leaved tree was growing to the west of the house. The stumps of crudely felled trees highlight the air of a neglected garden setting, which is unfenced in the foreground. This implies that the views toward the dam to the south were more open in the early 19th century picturesque tradition, and a tree in the foreground which may have formerly framed the view had been removed.

⁴² *SMH* Mon 21 October, 1861 p.11

⁴³ <https://www.british-history.ac.uk/survey-london/vol38/pp357-364>, see also the will of William Russell, 1866.

⁴⁴ *The Maitland Mercury and Hunter River Advertiser* 19 Jul 1866, p.3

⁴⁵ Ecclesiastical Jurisdiction, will of John William Russell, NSW Government Gazette, Friday 26 May 1871, page 1129.



Figure 4. 8: Earliest known photograph of the Ravensworth Homestead showing the configuration of the buildings, front garden and other landscape features. Source: The Bulletin, Vol. 11, No. 579, 1891

R.A. Hill was the manager at Ravensworth until 1911 and he and his family lived at the homestead (refer to Section 2 for details). Photographic evidence from this period indicates that the Hill family fenced the area to the south of the house and established a more intimate garden setting.

A photograph (undated but assumed early 20th century) of the front of the Main House (see Figure 4. 9) shows that climbers had been grown up the frame on the verandah. The raised garden bed was made of wooden palings topped with a beam. Several succulent *Agave americana* and shrubs had been established in the raised bed. In the circular area in front of the house the Moreton Bay fig (*Ficus macrophylla*) had been planted on axis with the front door in a small circular bed which also sported a built-up section which may have been a rockery that is partially obscured by the woman and child. An oval garden bed with mounds of billowing shrubs or perennials was to the west of the central circular bed.



Figure 4. 9: Undated but possibly late 19th century photo of the Hill family at Ravensworth Homestead. Source: Hill family photograph courtesy of the Marshall family.

Another photograph of the Hill family group on the front (south) verandah in the late 19th century or early 20th century (prior to the replacement of the original timber verandah posts with cast iron columns in c1905) shows a post and 3-rail fence to the west of the house and garden (see Figure 4.10).



Figure 4. 10: Photograph of the front (south) verandah of the main house. Source: Hill family photograph courtesy of the Marshall family.

The 1902 photograph (Figure 4.11) that appeared in the *Sydney Mail* shows that the Moreton Bay fig had grown considerably and another tree, which was possibly an araucaria had been planted. A log pergola or gateway structure supported a climber at the south-eastern end of the house and a number of shrubs in the garden were well grown. The kitchen wing was excluded from the fenced garden area. One feature of these photos is the remnant eucalypts to the back of the house and the tree to the west of the house in the location of where a large *Casuarina* is today (refer to Section 3.10 for further details).



Figure 4. 11: Early photograph of Ravensworth published in the *Sydney Mail*, Saturday 15th February 1902, p. 416-417

A later photograph also believed to date from the Hill period and taken after the introduction of the roof vents and front gablet and the replacement of the verandah posts (c1905) shows that the *Ficus macrophylla* (Moreton Bay fig) had grown large (Figure 4.12). The *Agave americana* at the south west corner of the house were large and had expanded to form a huge clump. The location of a spike in the foreground of the photo indicates that there were additional plants of *Agave americana* on the western side of the garden and there are still plants of this species in that area. A path ran from the west to the central circular loop. The flowering plants at the front of the verandah give the impression of daisies. A large shrub in front of the house could be *Viburnum tinus* or a *Raphiolepis* (Indian hawthorn). The circular garden bed was edged with stone, which is the current edging for that bed (refer to Section 3.10). In the foreground a tree stump may relate to one of the eucalypts cut down

some years earlier (as seen in the 1891 photograph above) and a circular “bed” had been formed around it.



Figure 4. 12: A photo assumed from the later Hill period, which terminated in 1911, post-dates the alteration to the house believed to date from c1905. Source: Hill family photograph courtesy of the Marshall family.

The Hill family gardened at Ravensworth for a period of 16 years. They established the current boundaries of what is now considered to be the homestead garden although there was a change in the location of the fence to the north of the house in the 1960s-70s. It appears that the Hills used the pre-existing Bowman-era layout but transformed the earlier philosophy from a picturesque landscape setting to a garden setting that was more domestic in scale. It is unsurprising that the Hills desired a more protected, inward looking aspect from the homestead as Mackay’s ringbarking program had resulted in an unattractive sight (see Figure 2.37).

A number of the mature plantings in the garden today date or possibly date from the Hill era, in particular the *Ficus macrophylla* and *Agave Americana*, although the latter may have pre-existed elsewhere on the estate. The old China rose at the back of the house may have been planted by the Hills.



Figure 4. 13: Photograph of the rear (north) façade of the homestead in the 1930s. At the back of the house there was a wooden frame possibly to support the China rose. The rose survives in the same location. Source: Courtesy of the Marshall family

In 1907 when land suitable for purchase by the government under the *Closer Settlement Act* was debated in Singleton and Ravensworth was recommended to the Government, parts of the Ravensworth Estate were highlighted as suitable for grazing, dairying and orchards. A newspaper article at the time noted that in 1902, a drought year, “the Government offered prizes for orchards, and second prize was awarded to an orchard formerly comprising portion of the Ravensworth Estate.”⁴⁶ These successful orchards were on the creek flats and when interviewed in 2018, the last resident of Ravensworth, Geoffrey Marshall, recalled that orchards along the creek flats could be seen from the Ravensworth Homestead holding.

The Marshall Family period 1920-2000

When Augustine Campbell Marshall acquired the homestead and surrounding land, the homestead had reportedly been vacant for 8 years and it is said that sheep roamed through the house and garden. By 1923, A.C. Marshall had planted 150 fruit trees near the house. A.C. Marshall’s son Geoffrey Marshall recalled that the fruit trees were to the east of the house and garden but beyond an area which was level and used by the Marshalls for tennis, although it is more the size of a croquet lawn.⁴⁷

Lidar images and current aerial photographs of the property indicate a regular pattern relating to planting between the southern garden fence and the House Dam (Figure 414, VG 12 and 13). These may relate to an earlier era of cultivation but they may also indicate an additional area of the orchard planting from 1923, although Geoffrey Marshall did not recall any planting in that location during conversation in 2018. However, given that Geoffrey Marshall was born a considerable time after 1923, it is possible some of the 150 trees failed or were removed.



Figure 4. 14: Recent aerial view of the Ravensworth homestead complex showing evidence of former orchards between the southern garden and the homestead dam (indicated with an arrow). Source: GoogleMaps, imagery CNES, 2019

⁴⁶ ‘Closer Settlement, Ravensworth Estate favored’, *Singleton Argus*, Saturday Mar 1907, p.3.

⁴⁷ *Pers. comm.* Geoff Marshall, 2nd and 3rd August 2018

Under the Marshalls, the garden was maintained and additional planting undertaken. Oral, documentary and physical evidence indicates that the Marshalls utilised vast quantities of stone that was on the property, salvaged from demolished structures (Figure 4.15). Stone was used for garden bed edging and replaced the raised wooden edging in front of the south verandah of the Main House. Physical evidence indicates that the steps in front of the house were extended using stone. A stone trough was brought into the south garden as a decorative element as was the stone marker of the trig point from (it is assumed) the top of the hill behind the homestead (Site 3).



Figure 4. 15: This 1930s photograph shows how stone was used to infill the lower part of the post and rail fence along the western boundary of the homestead. Source: Courtesy of the Marshall family

Other features introduced by the Marshalls include a “tennis’ court” to the east of the front garden, which was partially surrounded by a tall wire fence. A rustic frame marked the change in level and a garden between the bench upon which the kitchen wing sits and the tennis area. The 1930s photo of the south garden pre-dates the planting of the Canary Island palms in the front garden (see Figure 4.16). The roughly rectangular stone prism in the photograph is from the trig. station.



Figure 4. 16: 1930s photograph looking northwest to the front of the Main House with the Kitchen Wing on the right. In the foreground, to the east of the front garden was the ‘tennis’ court. This photograph is taken at a direction as the 1902 photograph above (see Figure 4.11). Source: Courtesy of T. Cameron



Figure 4. 17: 1970s photograph indicating that the *Agave attenuata* had been planted in the circular bed around and on an old tree stump. In the foreground is the 'sunken' or 'fairy' garden, which Geoff Marshall recalls helping his parents to build (1940s-50s). The sunken garden includes a stone seat with a semi-circular back that Geoff Marshall stated came from the old blacksmith's shop on the property. It is located to the west and south of enormous jade plants. Source: Courtesy of the Marshall family



Figure 4. 18: Possibly 1980s photograph indicating that an *Epiphyllum* still on site once climbed an old tree, an ideal support for this species. The windmill in the background is no longer there. Source: Courtesy of T. Cameron



Figure 4. 19: The fence at the back dividing the house from the service yard was closer to the back of the house during the A.C. Marshall era. The large 'Splendens' oleander was beyond the fence and a frame supported a grape vine on the verandah edge and a rose at the back gate. The fence line was shifted further north and a wall constructed from recycled stone after Geoff and Jenny Marshall took over the main house. Source: Courtesy of T. Cameron



Figure 4. 20: Two Canary Island palms (*Phoenix canariensis*) were planted on the eastern side of the 'carriageloop' by the Marshalls and possibly date from the 1940s. A 1958 aerial photograph indicates that the palms were there and sufficiently grown to be visible. The plantings on the southern boundary and to either side of the homestead garden were not as numerous as they are now. The now massive jade plants on the western side of the garden appear as small dots on this photograph. Source: Courtesy of T. Cameron

Geoffrey and Jenny Marshall were married in 1965 and initially lived in the Men's Quarters (following its conversion into a single residence). After Jenny took over the garden, she planted a small vegetable garden and additional oleander along the western side of the garden. During the 1970s-80s a hot tub or spa was installed on the terraced section to the south of the kitchen wing.

In 2017, it was 20 years since Geoff and Jenny Marshall sold the Ravensworth property including the homestead complex. Regardless, many of the species in the garden have survived remarkably well, particularly as cattle have wandered through the garden at times and it is unwatered. Self-seeded plants have also taken hold in parts of the garden and landscape, particularly Kei apple, which now grows on the southern side of the garden and has colonised along the watercourse which feeds the homestead dam. What remains are the species that are often associated with surviving early colonial gardens although some like the pink flowering aloes are relatively unusual. A number of species were listed on William Macarthur's Camden Park Nursery catalogues or, like the Epiphyllums, are known to have been grown by William Macarthur.

Conclusion

Under Edward Macarthur Bowman the Ravensworth garden is among the few places along with Camden Park where the first experiments with hybridisation or plant breeding were carried out in Australia. This is of historical interest only and there are no surviving plants which relate to these endeavours on the site.

The landscape design from the Bowman era, which includes the siting of the homestead in its landscape setting backed by hills to the north and north-east, the ground modelling of the carriage loop and surrounding garden, the orientation of the homestead toward the homestead dam and the layout of the service yard formed the basis for everything that followed in the development of the garden and landscape setting. The "Splendens" oleander, a large bush of which grows to the west of Yorks Creek, the *Rosa canina*, old black locusts and elms are plants that it could be argued are likely from the Bowman period. Some species in the garden today may be the progeny of plants that remained in the Bowman's large 8-acre kitchen and ornamental garden or elsewhere on the estate. However, that cannot be stated with certainty despite that fact that there are many species which correlate well with what was grown at Camden Park.

The detail of the garden, its major plantings and garden beds, dates from the late nineteenth and early twentieth centuries and relates to Robert Ascot Hill and his wife and the Marshall family over two generations.

4.4.3. Historical Values of the Cultural Landscape

The following discussion, prepared by Geoffrey Britton, heritage consultant, provides an analysis of the surviving physical evidence of the broader colonial development of the Ravensworth Estate.

A review of physical evidence and its reconciliation with archival material indicates that numerous cultural landscape elements of the early Ravensworth Estate appear to remain within the present remnants of the former estate area (the Place). Of course, the main focus of the surviving estate elements centres on the extant principal building group as a designed ensemble comprising the homestead, stables and barn as well as extensive archaeological features (core estate lands).

Extending beyond the homestead group, and directly relating to it, are various landscape elements that, collectively, testify to a period of considerable investment and development of the agricultural estate by the Bowman family during the earlier part of the 19th century. Other features demonstrate changing agricultural emphases and continuing development of the estate, along with subdivisions, into the late 19th century and earlier 20th century. Many of the current landscape elements around the homestead group mark the long period of ownership of several generations of the Marshall family from the 1920s through to the late 1990s. Finally, more recent large-scale modifications to the broader Ravensworth landscape testify to the increasingly dominant visual effects of open-cut coal mining within the Hunter Valley.

Pervading these non-indigenous cultural influences on the Ravensworth landscape are the much older features of extensive drainage patterns across ancient landforms with a varied mosaic of associated persistent vegetation communities despite many decades of clearing. Other pre-European traces found within the Ravensworth landscape relate to the prolonged earlier period of occupation of this local country by countless generations of Aboriginal people (refer to Section 4.3 above).

Evidence of early European interventions within the Ravensworth landscape in proximity to, and directly associated with, the 1830s homestead complex include the following:

- the potential site of a large kitchen garden (VG 14, correlating with 8 acres) featuring integral dams (including sandstone and ironbark log headwalls, Dam D4) encompassing a tributary of Yorks Creek, a brick-lined well (Site 6) and other archaeological evidence of early structures (including a section of herringbone brick paving)(Historical archaeological Test Areas 5 and 6);
- remnant old hardwood (ironbark?) fencing partly defining the cultivation area above;
- the sub-surface remains of an early silo on the ridge behind the homestead to the northeast (Site 3a);
- archaeological evidence (Test Area 5) of a collection of earlier structures (including evidence of activities relating to farriers and blacksmiths) to the north of the homestead group;
- a potentially early dam (although enlarged and extended downstream much more recently) to the immediate south of the homestead and positioned along its main axis (Dam Dme);
- numerous other small dams (apparently demonstrating non-mechanised construction) along various tributaries of Yorks Creek;
- the entry point and access track (featuring large, old heavily weathered gate posts) off Hebden Road from the west to the homestead/outbuilding group as a likely candidate for the original entry; and
- the fenced alignment marking the compositional layout of the integral homestead/outbuilding group (in the form of a rectangle and indicated through the quoined detailing of the outer corners of the key buildings).

Refer to Figure 3.59 Landscape of the Core Estate Lands for location of the above components.

The former kitchen garden area (the “8 acre garden” Site VG 14) and silo site (Site 3a) are directly linked to the period of estate establishment and development by the first grantee, Dr James Bowman, while the other features have the potential to be similarly linked to the period of Bowman/Macarthur family ownership up to the middle of the 19th century.

Also likely associated with the earlier Ravensworth estate development, and possibly associated with the earliest Ravensworth homestead sited along the ridge system between Bowmans Creek and Yorks Creek (assumed Site 11), are cultural landscape elements located along alluvial terraces at the western side of Yorks Creek. These include:

- an ‘L-shaped’ windbreak of senescent Black Locust trees (VG5) enclosing a small area of cultivation (VG 6) where there is also a very small dam (Dam D9) and a linear stone feature (Site 13) (see also Historical archaeological Test Area 2);⁴⁸
- a large, old oleander cultivar (*Nerium oleander* cv. “Splendens”, VG7);
- a large elm (VG9); and
- numerous small dams associated with tributaries of Bowmans Creek.

There may also be associational links between some of the extant plant species within the former estate (such as the old oleander) and the Macarthur family (at least through James Bowman’s wife, Mary Macarthur) as there is consistency between many of these species and plants listed in the catalogues (from 1843) of the Camden Park nursery (as discussed above).

The Kei Apple (*Dovyalis caffra*), a conspicuous feature of the homestead precinct and nearby local creek tributaries, may also be an early introduction to the estate with links to the Bowmans, however it is also a major environmental nuisance.⁴⁹

4.5. Historical Associations with the Place

4.5.1. Persons of Note associated with the Place

The following provides a brief outline biography of notable persons with strong associations with the establishment and subsequent development of the Ravensworth Estate (the Place).

Dr. James Bowman (1784-1846)⁵⁰

James Bowman, the son of Edward and Ann Bowman of Carlisle, Cumberland, England, entered the navy as an assistant surgeon in 1806 and promoted to surgeon in 1807. In 1814 however, due to the impacts of the Napoleonic Wars, he was reduced to half-pay. The following year on the recommendation of William Redfern that naval surgeons be appointed to convict transports, Bowman sailed to New South Wales as surgeon and agent of the transport *Mary Anne*, arriving on 19 January

⁴⁸ Archaeological features (Test Area 7) found in close proximity to, and directly across Yorks Creek from, this area of cultivation may also relate to it.

⁴⁹ Kei Apple also occurs as hedging within the Neotsfield grounds at Whittingham.

⁵⁰ Nancy Gray, 'Bowman, James (1784–1846)', *Australian Dictionary of Biography*, National Centre of Biography, Australian National University, <http://adb.anu.edu.au/biography/bowman-james-1812/text2067>, published first in hardcopy 1966

1816. However, disappointed in his expectations of a colonial appointment he returned to England, strongly recommended by Governor Lachlan Macquarie for his “assiduous and humane attention” to the convicts and for his “mild, gentleman-like manners and accomplishments”.

In 1817, when surgeon of the transport *Lord Eldon*, Bowman first met John Macarthur, then returning to New South Wales after a long exile.

In 1819, having been appointed to succeed D'Arcy Wentworth as principal surgeon, Bowman returned to Sydney in the company of Commissioner John Thomas Bigge, and took up his duties in September. Bowman made many immediate improvements at Sydney Hospital (the Rum Hospital or General Hospital). Wards, nursing staff, the general dietary scheme and the system of rationing convict patients were all reorganized. A mortuary and dissecting-room were added, and arrangements made for adequate supplies of instruments.

In 1823 Bowman married Mary Isabella Macarthur, the second daughter of John and Elizabeth Macarthur. Together they went on to have five children: Edward Macarthur (1826-72), James (1829-71), William Macarthur (1831-78), Isabella Macarthur (1834-83) and Frederick Macarthur (1836-1915).

In 1824, Bowman was appointed a member of the local committee of the Australian Agricultural Co. and in this same year, Bowman applied to Governor Brisbane for land in the Upper Hunter Valley (Ravensworth Estate). When the mismanagement of the company's concerns became a public scandal, Bowman was deputed, as “the docile instrument of his father-in-law's [John Macarthur] policy”, to dismiss the agent Robert Dawson, and to appoint Macarthur to manage its affairs. Sir Edward Parry sent out by the London directors in 1829 to assume complete control, understandably “found the Company's affairs embarrassed with no common difficulties”.

Bowman was also an Appointed Member of the first Legislative Council from 1824 to 1843. The appointment was terminated by Royal Warrant dated 17 July 1825 and proclaimed on 20 December 1825. However, Bowman only sat in Council until 22 November 1825.

In 1828 Bowman became inspector of colonial hospitals, but after Sir George Arthur and Sir Richard Bourke had both complained of laxity in supervision, in 1836 hospital administration was placed under military control and Bowman's services were no longer required.

For the next ten years Bowman remained in Sydney, taking little part in public affairs, save briefly as a local director of the Bank of Australasia. He applied for, but was refused, a town allotment, so John Verge built Lyndhurst for him on purchased land adjoining Wentworth Park in Glebe. When his official salary ceased in 1838, two years after his services were dispensed with, he retired with his family to Ravensworth, but received once more his naval half-pay. Drought and depression, combined with ill-advised expenditure and inexperience, led inevitably to heavy financial losses. After Bowman's sudden death from apoplexy on 23 August 1846 at Ravensworth his invalid widow and five children welcomed the generous and necessary assistance of Mary's brother William Macarthur and relocated to Camden Park.

Edward Macarthur Bowman (1826-1872)⁵¹

Edward Macarthur Bowman was the eldest son of Dr James Bowman and Mary Macarthur. He lived with his family, first at the General Hospital in Sydney where his grandmother Elizabeth Macarthur lived with them for substantial periods, and at Lyndhurst in Glebe from 1836.⁵² He seems to have been particularly close to his grandmother who later wrote to him frequently. He also spent time at Camden Park with his uncles James and William Macarthur. Surviving manuscript records commenced in 1843 when it seems he was living at Ravensworth, the same year the Bowmans left Lyndhurst. Edward appears to have started to support his father in his management of Ravensworth by 1845 and from surviving letters he often acted as his agent in Sydney and Maitland.

As a youth Edward Bowman developed a strong interest in botany and befriended the botanist John Carne Bidwill. Bowman developed his skills in identification and hybridisation throughout his life, although during his time at Ravensworth, the management of the estate took precedence (refer to Section 4.4 regarding the historical development of the garden for further details).

In 1850 Edward was appointed to the district of Camden, Narellan, Picton and Campbelltown, to regulate the sale of Waste Lands of the Crown.⁵³ In 1851 he was appointed Assistant Commissioner of Crown Lands for the Gold District.⁵⁴ However by 1852 the ‘young commissioner’ was having difficulty asserting authority and while at Mudgee began to suffer from “fits” which it became apparent were drinking binges.⁵⁵ In 1853 he wrote that he would have a better chance of recovering “his character” if he could “obtain any employment in some other place...”⁵⁶

Edward steadily deteriorated; his uncles at Camden Park paid for his debts on more than one occasion and eventually wiped their hands of him. At his lowest ebb in 1854 he was turned off the diggings under the *Vagrancy Act* 1851 and a family friend brought Edward back to Parramatta in a “sad state of destitution” where his aunt Emmeline and her husband Henry Parker nursed him back to health before finding him work as a stockman near Yass in a situation that was far from temptation.

By 1860 Edward Bowman had returned to botany, was collecting plant specimens in the Lower Macquarie River area and from then onwards Bowman collected specimens in North East Australia for several botanists including Baron Ferdinand von Mueller, Government Botanist and Director of the Melbourne Botanic Gardens. Bowman is noted for collecting in central-eastern Queensland, particularly along the Fitzroy and Burdekin Rivers.⁵⁷ He is best-known for his discovery of *Ptychosperma alexandrae* (Alexandra palm) named for Alexandra, Princess of Wales and described by von Mueller c1865.⁵⁸ Although he collected a number of ferns, which von Mueller sent to Sir William Hooker, none were named after Bowman despite von Mueller’s request.⁵⁹

⁵¹ Research provided by Colleen Morris

⁵² Michelle Scott Tucker *Elizabeth Macarthur, A life at the edge of the world*, Text publishing, Melbourne, 2018.

⁵³ Bowman Papers ML SLNSW

⁵⁴ ‘Government Gazette Friday September 19, 1851’, The Maitland Mercury and Hunter River General Advertiser Wed September 24 1851, p.3

⁵⁵ *SMH*, ‘Assize Intelligence’ Mon March 1 1852, p.2; ML SLNSW Macarthur Papers.

⁵⁶ Macarthur Papers ML SLNSW, A4296 op.cit..

⁵⁷ Biographical entry *Encyclopedia of Australian Science* <http://www.eoas.info/biogs/P005202b.htm>

⁵⁸ http://vmcp.conaltuohy.com/Ferdinand_von_Mueller_correspondence_65.00.00i From Edward Bowman MEL516576, National Herbarium of Victoria, RBG Melbourne

⁵⁹ *Ibid*, 63.05.14 To William Hooker 14/5/63



The Victorian Government had an official botanical collector in Queensland and when the incumbent John Dallachy died in 1871 von Mueller was “most anxious to replace him” and proposed Bowman to the Victorian Under-Secretary for the position. He described Bowman as “a good Bushman and Horseman, who has likewise been trained to collecting and who is extensively acquainted with Australian plants”.⁶⁰

Figure 4. 21: Watercolour of *Ricinocarpos bowmanii*, NSW, 1921 by Adam Forster. Source: NLA PIC Drawer 3425 #R1438

Bowman died at Clermont Downs, Queensland in 1872. *Eucalyptus bowmanii* F.Muell was named in his honour. He is also commemorated in other species such as *Agaricus*, *Boronia*, *Cyperus*, *Dendrobium*, *Eremophila*, *Pimelea* and *Ricinocarpos*.⁶¹

John Larnach (1805-1869)⁶²

John Larnach was born at Auchingill, County Caithness, Scotland, the son of William Larnach, naval purser, and his wife Margaret, née Smith. In July 1823 he arrived at Sydney a free settler. He became overseer first to James Bowman at Ravensworth and then to James Mudie of Castle Forbes, Patrick's Plains, Hunter River. Later he became a partner of James Mudie and in 1827 at Newcastle married Emily, Mudie's eldest daughter. Larnach took up a near-by property, Rosemount (later purchased by the Dangars and renamed Barooka) and lived there with his wife.

Larnach spent more time than Mudie at Castle Forbes, where some twenty assigned servants worked on heavy clearing and cultivation and were kept under rigid discipline. In November 1833 some of the convicts revolted, took to the bush and returned to plunder the property for food, clothes, guns, ammunition and horses. Larnach, who at the time was washing sheep in a near-by stream, was shot at but not injured, and he took refuge at the neighbouring home of Henry Dangar (Neotsfield). A party of police and civilians including Larnach captured the absconders, six of whom were remanded to Sydney. After a dramatic trial in December 1833 three of the prisoners were executed in Sydney and two at Castle Forbes; the youngest was sent to Norfolk Island for life.

Accusations by the convicts at their trial caused such a public outcry that Governor (Sir) Richard Bourke ordered an inquiry by the solicitor-general, John Plunkett, and the police superintendent, Frederick Hely. They found that Mudie and Larnach had not been harsh or oppressive but considered Larnach “imprudent” in striking one convict and “reprehensible” in bringing another before the local bench twice on the same day for the same offence so as to obtain two sentences of

⁶⁰ http://vmcp.conaltuohy.com/Ferdinand_von_Mueller_correspondence_71.06.12_To_James_McCulloch_Melbourne_Botanic_Garden_Z71/7551_unit_576_VPRS_3991/P

⁶¹ <https://trove.nla.gov.au/people/1499582?c=people>

⁶² Bernard T. Dowd and Averil F. Fink, 'Larnach, John (1805–1869)', *Australian Dictionary of Biography*, National Centre of Biography, Australian National University, <http://adb.anu.edu.au/biography/larnach-john-2330/text3031>, published first in hardcopy 1967

fifty lashes each. This report angered Mudie and Larnach who prepared a joint protest and asked Bourke to send it to London. Bourke refused because of its improper form, so in September 1834 they printed *Vindication of James Mudie and John Larnach, From Certain Reflections on Their Conduct Contained in Letters Addressed to Them ... Relative to the Treatment by Them of Their Convict Servants*. They sent this pamphlet direct to the Colonial Office, where the governor's action was fully upheld.

Thereafter Larnach withdrew from public notice and after Castle Forbes was sold in 1836, he carried on his own agricultural and pastoral pursuits. He died at Rosemount on 10 February 1869, aged 64.

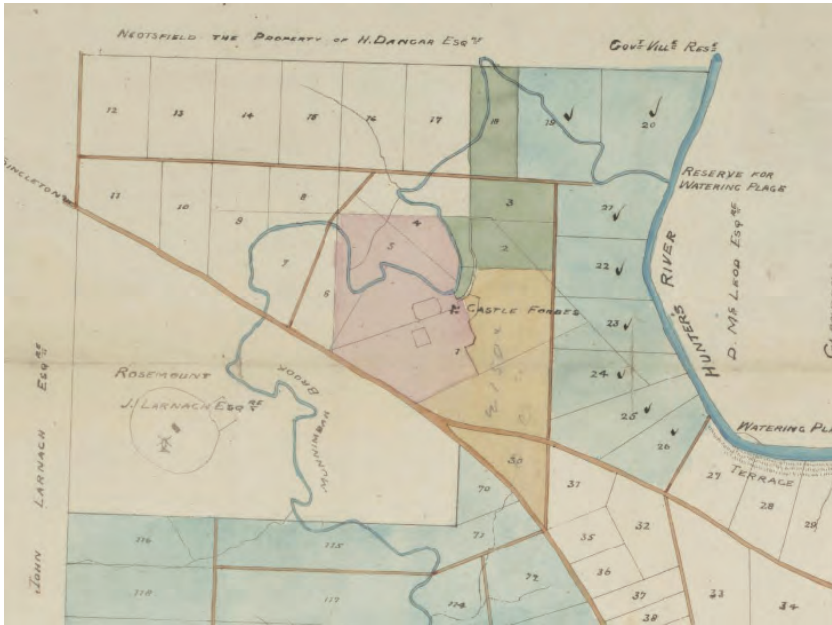


Figure 4. 22: Detail from 1840 auction plan by the Australian Auction Company, showing the location of Castle Forbes, Rosemound and Neotfield on the Hunter River. Source: NLA, MAP F 800

James White (1798?-1842)⁶³

James White from Heathfield in Somerset, England, arrived in Sydney in 1826 in the *Fairfield*, accompanying 79 French merino sheep for the Australian Agricultural Company. and served as an overseer until 1829 at the Gloucester Estate. While working for the A.A. Co., White was comparatively wealthy in his own right having arrived with £500 plus some livestock. By agreement with the company, during his period of employment White developed his own pastoral interests and he took possession of his primary grant of 1280 acres at the junction of the Isis and Pages Rivers, naming the property Broomfield.

From 1828 to 1839 White was employed as overseer at Ravensworth during which time eight of James's and his wife Sarah's (nee Crossman) children were born: James White Jr, Francis, George, William Edward, Frederick Robert, Henry Charles and Edward. The eldest daughter Jane, born at Gloucester Estate, drowned at the property and the Whites' last child born a number of years later was also named Jane. (The grave located at the homestead complex is assumed to be the resting place of Jane White.)

White rapidly expanded his land holdings once he left Ravensworth, purchasing Edinglassie near Muswellbrook from George Forbes in c1839 and Timor station on the Isis River (it appears) from James Bowman in c1840 and Boorrooma on the Barwon River.

⁶³ Binney, K.R., 2005; *Horsemen of the First Frontier (1788-1900) and the Serpent's Legacy*, Volcanic Productions, p. 421; *Free Settler or Felon?*; https://www.jenwilletts.com/james_white.htm

Following White's untimely death, his property was inherited equally by all his children and in 1848 James, Francis and George leased (and later purchased) the property Belltrees near Scone (owned by H.C. Semphill), purchased Plashett (owner Sir John Robertson) and Martindale (owner J.H. Bettington). These properties, together with acquisitions of the estates Waverly (another property associated with James Bowman and Richard Hart Davis, chairman of the Court of Directors of the A.A. Company) and Ellerston and much later Segenhoe (originally owned by Thomas Potter McQueen), consolidated the White pastoral dynasty in the Hunter region.

Captain William Russell (1807-1866)⁶⁴

Captain William Russell, born in Woodbridge, Suffolk, England, the son of Andrew Hamilton and Sarah Blundell, was a pastoralist and agriculturalist. Russell served in the 20th Regiment of Foot in the Napoleonic Wars and arrived in New South Wales in c1837. In 1841, Russell married Jane Rebecca Griffiths Jamison, the daughter of Sir John Jamison, in Penrith.

Russell acquired extensive freehold property in settled districts and in 1859 held 117,041 acres of adjacent land under the pre-emptive leases allowed big landowners. He also held 11,840 acres in settled districts under auction lease and squatted in the Gwydir district. His properties included Ravensworth, the 50,000-acre run "Eena" on the McIntyre, Blue Nobby and Wallangra, 'Glenridding' at Singleton and William Sim Bell's grant of Cheshunt Park on the Hunter River directly south of Ravensworth. Russell also made trips overseas to buy better merino rams and 4,000 grape vines a year old for planting at Cheshunt.

From 1861 to 1865, Russell represented Patricks Plains in the Legislative Council. Russell died in 1866 and is buried in St Stephen's Anglican Church Cemetery, Penrith. A memorial plaque to Russell and his son, Lieutenant J.W. Russell is located in St. James's Church, Sydney.

Duncan Forbes Mackay Jnr. (1834-1887)⁶⁵

Duncan Forbes Mackay junior was born at Prince Edward Island, North America, arriving in New South Wales with his father and grandparents in 1839. Duncan Forbes Mackay Jnr was the sixth child and fourth son of John and Sybella Mackay.

His uncle, Duncan Forbes Mackay Snr. had already arrived in Australia in 1826, being appointed Superintendent of Prison's and Public Works at Newcastle in 1827 and then the first Post Master at Newcastle in 1828. In the late 1820s, Duncan Snr. received a grant of 640 acres in the County of Durham on the Williams River, which became his Melbee estate. This was followed in 1829 by an additional 4,500 acres adjoining this land and including a Village Reserve- Dungog. The land to the south of Dungog was the Cangon estate, where his father William Mackay resided when he arrived in NSW.

Duncan Forbes Mackay Snr. did not marry and had no children but, in the 1830s, he encouraged his brother John to join him at his property. John, his wife Sybella and seven children, came to Melbee about 1839. By 1850, Duncan Forbes Mackay Snr. made over his estate to his brother's family.

⁶⁴ NSW Parliament, Members details: <https://www.parliament.nsw.gov.au/members/Pages/member-details>; Family History Society Singleton Inc.

⁶⁵ State Heritage Inventory: *Minimbah and Outbuildings*, database no. 14293; *Mackay Family History*, W. P. Howey, 2017, <http://sconevedynasty.com.au/mackay-family-history/>

During the latter half of the 19th century, the Mackays became one of the principal grazing and cattle breeding families in NSW, controlling vast pastoral leases in NSW and Queensland, with lavish residential establishments in the Hunter Valley.

In the 1860's and 1870's Duncan Forbes Mackay Jnr took up extensive cattle runs in the St George and Roma areas, in Queensland. He eventually became a large stockholder and held a number of stations breeding his stock at Tilpal station on the Gulf of Carpentaria and then shifting them to Ravensworth and Whittingham (Minimbah) for fattening.⁶⁶

By the 1870's Duncan Forbes Mackay and his wife had five children. Duncan bought land, formerly a 2000 acre grant made in October 1823 to John Cobb (Minimbah), who had previously used the land for sheep farming. The property became renowned for, among other attributes, the breeding of excellent horses. Mackay increased the size of the property to 30,000 acres and had a large mansion built to designs by architect Benjamin Backhouse.

Alexander Couchrian Reid (c1863-1925)

Born in Kiama to prominent business man Samuel Reid who ran the Beehive Store, Alexander Couchrian Reid followed in his father's footsteps by purchasing the business of Alexander McIntosh in Moree in 1907 and erecting a large general store (still standing) known as A.C. Reid & Co. Shortly thereafter, Reid built a similar emporium at Cowra (also still standing), known as Reid, Smith & Co.

Known more widely as a successful grazier, Reid owned Euroka Station in the Walgett district (site of the invention of the Wolseley Shearing Machine by former station owner Frederick Wolseley) and was a member of the Graziers' Association.⁶⁷

On his death, bachelor Reid left legacies to his extended family as well as to a range of charitable and public institutions including the Royal Hospital for Women, Paddington, Royal Alexandra Hospital for Children, Camperdown, the Bush Nursing Association, Cowra Public Hospital, and the building fund of the Cowra Presbyterian Church.⁶⁸

A.C. Reid took over the ownership of the Ravensworth Estate in c1916 and continued with the subdivision and sale of the land as smaller farming allotments, a process that had commenced under F.J.L. Measures.

A.C. Marshall (1891-1983)

Augustine Campbell Marshall better known to most as Campbell or "Cam" was born on September 20th 1891 in Cooma in the Monaro district. He was the son of Presbyterian Minister, the Reverend James Marshall and his wife Agnes nee Quinn. Campbell was one of five sons and three daughters. It would appear Campbell's first name Augustine was his father's younger brother's name who died in 1876 aged 14 years old. Campbell lived in various places due to his father's Ministries.

Campbell enlisted in WW1 aged 24 years on October 12th 1915, SERV No.1636. Serving in the Middle East in the 6th Squadron 2nd Australian Remount Unit he did not return to until the end of the war in 1919. His Remount Unit was a highly specialised unit responsible for the horses that were used

⁶⁶ *ATCJ*, 25 June 1887, p 1315

⁶⁷ "Ravensworth Estate", *Muswellbrook Chronicle*, Saturday 6th January 1917, p.7; "Graziers' Association Meeting of Members", *Sydney Stock and Station Journal*, Friday 12th July 1916, p. 5

⁶⁸ "Wills and Bequests"; *The Sydney Morning Herald*, Tuesday 16th February 1926, p. 7

to replace horses wounded or killed in action. The Unit helped break the horses in, train and look after them; getting them ready for war.

He returned and was discharged on 24 October 1919.⁶⁹

On September 15th 1924 at St Stephens in Sydney, Campbell married local girl Enid Raby Moore who was born on 16th October 1900. Enid was the daughter of Edgar Raby Moore and Margaret Alice nee Briggs. Enid grew up on the “Bayswater” property (formed from land excised from the Ravensworth Estate in the 1860s). Campbell and Enid had three children Ruth, Jane and Geoffrey who all received Campbell as their middle name.

In December 1938 Campbell was first elected to the former Patrick Plains Shire Council serving some 34 years in total. Receiving a leave of absence from his Council duties during WW2 Campbell joined the RAAF on January 23rd 1942, SERV No. 264468 and served in the capacity of Flight Lieutenant until July 1945 when he returned to life at Ravensworth and his family.

With the Electricity Commission requisitioning more than half of the Marshall holding for the Liddell Power Station in the late 1960s, Campbell secured the remainder of his soldier’s settlement grant (Ravensworth) outright and received clear title from the Crown.

A.C. Marshall’s son Geoffrey (Geoff) and his wife Jenny later ran Ravensworth which remained in the Marshall family until 1997. Geoff relayed that Campbell maintained a strong interest in all aspects of the property until his death at age 92 years. Campbell and Enid are interred at St Clements Camberwell having passed away on May 1st 1983 and March 27th 1993 respectively.⁷⁰

4.5.2. Other Places Associated with the Ravensworth Estate

Given the long history of the Ravensworth Estate and the known associations with persons of note throughout this history (see above), there are numerous other properties and sites historically associated with the place. Of particular note is the range of other homesteads/estates located throughout the Hunter Valley region that have some historic link to Ravensworth via past owners and overseers (see Figure 4.23 below). The following is a brief outline of other places associated with the history of the Ravensworth Estate.

The broader Ravensworth Estate lands

Although for the purposes of this report, the Place has been defined as the three land grants initially obtained by Dr. James Bowman in 1824, within the immediate vicinity Bowman was granted a number of other parish portions throughout the 1820s and 1830s as he gradually developed and expanded the Ravensworth Estate. These other land parcels are illustrated below (see Figure 4.23), however of particular note is Portion 70 of parish Vane which Bowman obtained in 1834.

⁶⁹ B2455 World War One Army Personnel File, 1636, A C Marshall, Barcode 8218310, NAA

⁷⁰ *The Patrick Plains Gazette* Newsletter of the Family History Society Singleton Inc. Volume 34/Number 3/2017

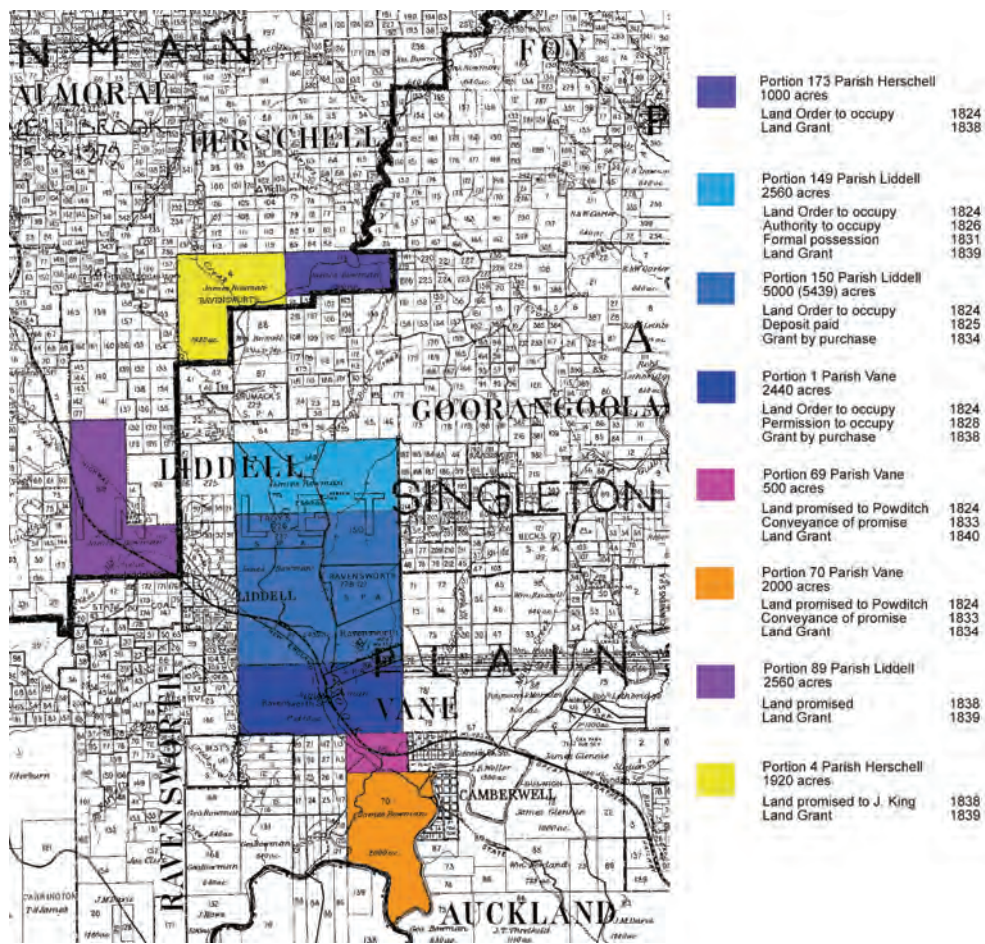


Figure 4. 23: County of Durham plan showing parish portions and coloured to indicate James Bowman's land grants of the 1820s and 1830s comprising the Ravensworth Estate and immediate surrounds. Source: NSW LPI-Historical Land Records Viewer

St. Clement's Church, Camberwell

Located to the south of the core estate lands of the Ravensworth Estate and to the west of Glennies Creek (formerly Falbrook Creek) is situated St Clement's Church and cemetery, Camberwell. Constructed between 1842 and 1851, the church and cemetery are situated on land that formed part of James Bowman's land, being Portions 69 and 70 of the Parish of Vane.

In 1840, the town of Camberwell was established and a portion of land, outside of the village boundaries, on the western bank of Glennies Creek was nominated as a church site. It is unclear whether or not Bowman donated the land or provided any funds towards the building of the church. Another church yard was also marked out further to the north, adjacent to Glennies Creek Road (formerly Powditch's Old Road), however, this church yard appears not to have been developed. (See Figure 4.24.)



Figure 4.24: Detail from 1892 Plan of the Village of Camberwell showing location of the church site and church yard. Source: NSW LPI- Historical Land Records Viewer



Figure 4.25: Detail from church records with photograph of St Clement's Church, Camberwell in 1920. Source: Anglican Diocese of Newcastle - Churches and Rectories album - A5352b, University of Newcastle

In September 1841, Dr. James Bowman and his wife donated 2 acres of land adjacent to the main road for a church and burial site.⁷¹ The foundation stone for the church was laid in the following year by Bishop Broughton, who visited the site again in 1843 to view the building progress. St Clement's Church was constructed between 1842 and 1851. Lack of funds delayed initial construction although by 1848/49 it was noted that work was once again underway with the contractor Mr. Kains having "made a beginning".⁷²

Based on "Marriage Notices" in newspapers of the time, it appears that the church was functioning by 1851⁷³ and in 1855 the church was consecrated by the first Anglican Bishop of Newcastle, Bishop William Tyrrell (1807-1879).

In 2008, the church was badly damaged by fire as a result of an act of vandalism and in 2013, the Newcastle Anglican diocese deconsecrated the church after 160+ years of service. The building is currently vacant. The church and cemetery are listed as local heritage items under Schedule 5 of the *Singleton Local Environmental Plan 2013* (Item No. I16).

⁷¹ Glencore, 2017; *Ravensworth Open Cut: Plan for Heritage Management*, p. 21; no documentary evidence of this assertion has been located, although given the church is located on land owned by James Bowman, it is likely that the family donated the land.

⁷² Article: "St. Clement's, Camberwell", *Singleton Argus*, Tuesday 5th April 1927, p. 2

⁷³ "Married", *The Sydney Morning Herald*, Monday 3rd February 1851, p. 3

Ashton Farm

The southern land portions of Ravensworth Estate, being Portions 69 and 70 in the Parish of Vane, were originally granted to Captain William Powditch in 1824. In c1834, both Portions were purchased by James Bowman and amalgamated into the Ravensworth Estate.

Known as Ashton Farm, Powditch's grant appears in Henry Dangar's 1828 "Index and directory to map of the country bordering upon the River Hunter" and the accompanying map indicates that a dwelling/building was located on the land at that time (see Figure 4.26 below). The property appears to have been principally used for the fattening of stock. A newspaper advertisement in 1827 offers the farm as grazing land for "persons having more stock than their respective runs can maintain....". Application could be made to a "Mr. Wm. Vivers, Bailiff, on the farm", ⁷⁴ indicating that Ashton Farm was under management and not Powditch's primary residence.

William Powditch (1795-1872) arrived in Australia as the commander of the Royal George that brought Thomas Brisbane, Governor of NSW, to Sydney in 1821. By the mid 1820s Powditch had settled in the Hunter Valley and together with Frederick Boucher had started a general warehouse at Newcastle for the supply of the new settlers in the area. The firm operated as "Powditch and Boucher". In 1831, while a trader in the Bay of Islands, he was appointed by the Postmaster General of NSW to receive and return mail, thus starting the first postal service between Australia and New Zealand. In 1845 he moved to Auckland and in 1853 was elected in the Pensioner Settlements electorate in the first election of the Auckland Provincial Council.⁷⁵

It does not appear that any early buildings survive in the area where the original farm building is indicated as being located, although the majority of the land forming Portion 70 appears to continue to be used for agricultural/pastoral purposes today (see Figures 4.27).



Figure 4. 26: Detail from Dangar's map showing Ashton Farm (parish portion 70 parish Vane).
Source: Dangar, Henry, *Map of the River Hunter and its branches...*, NLA Map NK 646

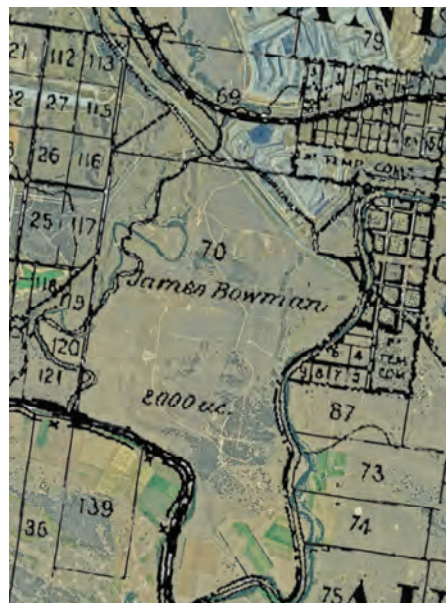


Figure 4. 27: Current aerial view of land to the southwest of the village of Camberwell overlaid with parish portion boundaries showing that former Ashton Farm land remain pastoral in character. Source: GoogleMaps, 2018

⁷⁴ Advertising: "Grazing", *The Australian*, Friday 9th November 1827, p. 2

⁷⁵ "William Powditch" https://en.wikipedia.org/wiki/William_Powditch

4.5.3. Other James Bowman Properties

James Bowman, the owner of the Ravensworth Estate from 1824 to 1846, is also associated with numerous other properties throughout N.S.W, including the following:

Lyndhurst, Glebe

Bowman's town residence built for him in 1833-1837 to designs by John Verge. The Bowmans resided there until c.1843 when James and his family relocated to Ravensworth. The house survives as a private residence, having been fully restored in the 1980s, and is listed as a State Heritage item (SHR No. 00158).



Figure 4. 28: Lyndhurst c1880. Source: SLNSW, SPF1027

General Hospital (Rum Hospital), Sydney

As Principal Surgeon of the colony from 1819-1823, Bowman was closely involved with the functions of the General Hospital, Macquarie Street, Sydney. Bowman was responsible for a number of improvements including reorganising the wards, nursing staff, the general dietary scheme and the system of rationing convict patients, the addition of a mortuary and dissecting-room, and arrangements made for the adequate supplies of instruments, all under Bowman's leadership.⁷⁶

In 1829, following the establishment of the Legislative Council in 1823 most of the northern wing of the General Hospital (built between 1811 and 1816) was taken over for meeting of the Council. The northern wing housed the Principal Surgeon (Bowman) and Assistant Surgeons of the hospital.⁷⁷ Initially, the Council had use of six of the eight rooms of the building, while the Principal Surgeon retained the ground and first floor rooms at the south end of the same building.⁷⁸ The whole of the north wing of the hospital now forms part of NSW Parliament House and is listed as a State Heritage item (SHR No. 1615).



Figure 4. 29: Old Sydney Hospital c1870 (now NSW Parliament House). Source: NAA A1200-11775028

Australian Agricultural Co. lands

As a member of the Colonial Committee of the A.A. Co. (1824-1830) and shareholder, Bowman is associated with the development and administration of the A.A. Co. lands throughout N.S.W. The A.A. Co. continues today, operating out of the Goonoo Goonoo Station on the Peel River in the Liverpool Plains (originally established in 1832 by Edward Parry), as well as in Queensland and the Northern Territory. The company now focuses on beef production.

⁷⁶ Nancy Gray, 'Bowman, James (1784–1846)', *Australian Dictionary of Biography*, National Centre of Biography, Australian National University, <http://adb.anu.edu.au/biography/bowman-james-1812/text2067>

⁷⁷ Cultural Resources Management [Wendy Thorp], 1980, *Archaeological and Archival Report, Parliament House, Macquarie Street, Sydney*, Vol I: Archival Report, n.p. (Sections I and II)

⁷⁸ Clive Lucas, Stapleton & Partners, 2012; *NSW Parliament House: Conservation Management Plan*, p. 13

Other Hunter Valley lands

James Bowman is also known to have amassed considerable areas of land throughout the Hunter Valley to support his pastoral enterprises. Other land holdings of note include:

- Waverley Station on the Isis River, was initially selected by Thomas Potter Macqueen in the name of Richard Hart Davis MP (Director of the Australian Agricultural Co.) in 1833.⁷⁹ The station was then purchased by Bowman in c1839 and later was purchased by James White Jnr. and was amalgamated in the Belltrees Estate. Waverley Station survives having been separated from the Belltrees Estate in the late 20th century.
- Segenhoe on the Pages River, originally granted to Thomas Potter Macqueen in 1826 and purchased by Bowman in the mid to late 1830s. Segenhoe survives today as a horse stud called Vinery Stud and the homestead with outbuildings are listed as local heritage items under Schedule 5 of the *Upper Hunter Local Environmental Plan 2013* (Item No. I61). The name 'Segenhoe' has been transferred to another horse stud to the north.
- Via family and business links with the Macarthur family, James Bowman is also associated with Macarthur family properties including Elizabeth Farm, Parramatta and Camden Park Estate and Belgenny Farm, Camden, both of which survive and are State Heritage items (SHR Nos. 00001, 00341 and 01697).
- Various other smaller allotments along the Isis River, Sandy Creek and Rouchel Brook to the north of Ravensworth, purchased by Bowman in the late 1830s. Current status of these lands has not been established.

Refer also to Figure 4.23 above.

4.5.4. John Larnach Associations

John Larnach was the overseer of the Ravensworth Estate from 1823 to c1827, and is associated with the following other properties:

Castle Mudie

James Mudie (1779-1852), officer of marines, landowner and author, arrived at Sydney in July 1822 with an order for a land grant and was given 2150 acres (870 ha) on the Hunter River, which he named Castle Forbes after his patron. Mudie acquired 2000 adjoining acres (809 ha) in 1825 and, with the assistance of many assigned convicts and his overseer, John Larnach, who became his son-in-law and partner, Castle Forbes was turned into one of the finest agricultural establishments in the colony, producing substantial quantities of wool, meat and wheat.⁸⁰ Larnach continued in this role until 1836 when Mudie sold Castle Forbes and returned to England.

The property remains with its original name, although whether the 1830s homestead survives is not known at this time.

⁷⁹ Pemberton, P.A.; 1991, *The London Connection: the Formation and Early Years of the Australian Agricultural Company*, ANU thesis, p. 69

⁸⁰ Bernard T. Dowd and Averil F. Fink, 'Mudie, James (1779–1852)', *Australian Dictionary of Biography*, National Centre of Biography, Australian National University, <http://adb.anu.edu.au/biography/mudie-james-2487/text3345>

Rosemount (Baroona)

Established in the early 1830s by John Larnach, Rosemount was located across the Great North Road to the west of Castle Forbes. The original house on the property, Rosemount, was built by John Larnach on a grant of 4000 acres and the Larnach windmill, a local landmark, stood on top of the hill. Following the sale of Castle Forbes in 1836, Larnach arrived on his agricultural and pastoral pursuits at Rosemount, where he died in 1869.

The property was then sold to Albert Dangar (son of Henry Dangar). Dangar employed the architect Benjamin Backhouse to renovate the existing house and build around it. It was renamed Baroona and survives today. The property is a local heritage item under Schedule 5 of the *Singleton Local Environmental Plan 2013* (Item I154).

4.5.5. James White Associations

James White was the overseer of the Ravensworth Estate from 1829 to c1839, and is associated with following other properties:

Stroud Estate, Port Stephens, A.A. Co.

As superintendent of the A.A. Co. and before his time at Ravensworth, James White and his wife Sarah lived on the A.A. Co estate at Stroud where their first son James was born in 1828. Stroud House was developed as a residence for the company's superintendents and notable guests. Constructed by convict labour in 1827 and extensively refurbished in 1832 by former convict Thomas Laman, Stroud House is a two storey residence with servants' quarters that is included on the State Heritage Register (SHR 01969).



Figure 4. 30: Recent photograph of Stroud House Source: Gloucester Advocate 2nd May 2016 www.gloucesteradvocate.com.au

Broomfield

In 1831 James White took possession of his primary grant of 1280 acres at the junction of the Isis and Pages Rivers, north of the town of Gundy, naming the property Broomfield after his Somerset home.⁸¹ The property adjoined the southern boundary of James Bowman's Waverly Estate (purchased in trust for Richard Hart Davis). The property was amalgamated into the Belltrees estate during the period of ownership by James White Jnr. Today, the property survives with the name Broomfield, although whether any original or early buildings survive is not known at this time.



Figure 4. 31: Detail from 1892 parish map of the Parish of Alma showing James White's 1280 acre property at the confluence of the Pages River and the Isis River, north of Gundy. Source: NSW LPI, HLRV

⁸¹ Binney, K. R., 2005; *Horsemen of the First Frontier (1788-1900) and the Serpent's Legacy*, Volcanic Productions, p. 421

Edinglassie

In 1836 James White purchased land originally granted to George Forbes (the brother of the Chief Justice Francis Forbes of NSW) in 1825 known as Edinglassie. A homestead (c1833) had already been constructed when White purchased the property and he noted that he was 'delighted with the purchase of his property and homestead at Edinglassie', according to the White family records. The property remained in the White family until 1959. The present house was built in two stages, c.1880 and 1895 to a design by J. Horbury Hunt. The property survives as a thoroughbred stud and is a State Heritage Item (SHR 00170).



Figure 4. 32: Edinglassie homestead built in the late 19th century to a design by Horbury Hunt. Source: www.edinglassie.net.au/history

Timor Station, Gundy

Timor Station on the Isis River was established by James White in 1839. The land once again was adjoining other Bowman property that (it is assumed) formed part of his pastoral lands. The dwelling and outbuildings at Timor Station date from the 1880s, the period when the property was managed by James White Jnr. and Frederick White. Timor Station still survives today as a cattle station and polo club and is listed as a local heritage item under Schedule 5 of the *Upper Hunter Local Environmental Plan 2013* (Item No. I210).



Figure 4. 33: Detail from 1882 parish map of the Parish of Timor showing James White's Timor Station purchase adjoining James Bowmans land on the Isis River. Source: NSW LPI, Historical Land Records Viewer

4.5.6. Captain William Russell Associations

Captain William Russell was the owner of the Ravensworth Estate from 1853 to 1866, and is associated with following other properties:

Cheshunt Park, Whittingham

William Simms Bell occupied land on the Hunter River as a stocking station from 1821 and was granted the land in 1825, known as Cheshunt Park. The property of 1000 acres, including a dwelling house, was purchased by Captain Russell in the late 1840s and was developed into a horse stud by the 1860s. A property noted as Cheshunt Park off Archerfield Road survives although whether any of the buildings relate to the Bell and/or Russell periods of ownership is unknown at this time.



Figure 4. 34: Detail from 1892 parish map of the Parish of Lemington showing William Bell's 1000 acre grant of Cheshunt Park. Source: NSW LPI, HLRV

Glenridding, Patrick's Plains

Granted to John Earl, a free settler, in 1823, the 1500 acres property was named Glenridding after a village in the Lakes District of England (where Earl came from). The land was purchased by Russell in the mid 1840s. Whether any of the buildings on the land today relate to the Earl and/or Russell periods of ownership is unknown at this time.



Figure 4. 35: Detail from 1921 parish map of the Parish of Whittingham showing John Earl's Glenridding Estate. Source: NSW LPI, HLRV

4.5.7. Duncan Forbes Mackay Associations

Duncan Forbes Mackay was the owner of the Ravensworth Estate from 1882-1911, and is associated with following other properties:

Melbee, Dungog

Duncan Forbes Mackay secured his first land grant in c1829 with a 640acres grant on the Williams River which he named Melbee. The original homestead, a single storey dwelling of local stone, was built at this time, later replaced in 1886, although the original kitchen and barn reportedly still survive.⁸² Duncan encouraged his brother John to join him and the family later purchased adjacent land to the south of Dungog, known as Cangon. This estate also survives as a horse stud and remains in the hands of the Mackay family. Both properties are listed as local heritage items under Schedule 5 of the Dungog Local Environmental Plan 20104 (Items Nos. I73 & I38).



Figure 4. 36: Detail from 1935 parish map of the Parish of Dungog showing the Mackay family properties: Melbee and Cangon. Source: NSW LPI, HLRV

Other Estates

In the 1850s, Duncan Forbes Mackay made over his estate to his brother John and his descendants. The Mackay family went on to become one of the most successful grazier families in N.S.W and via this family link, the following properties in the Hunter Valley region are also somewhat associated with the Ravensworth Estate:

- Anambah, Maitland
- Minimbah (Dulcalmah), Whittingham
- Melbee, Dungog
- Cangon, Dungog

⁸² Dungog Heritage Study, 1987, Inventory Sheet: "Melbee"

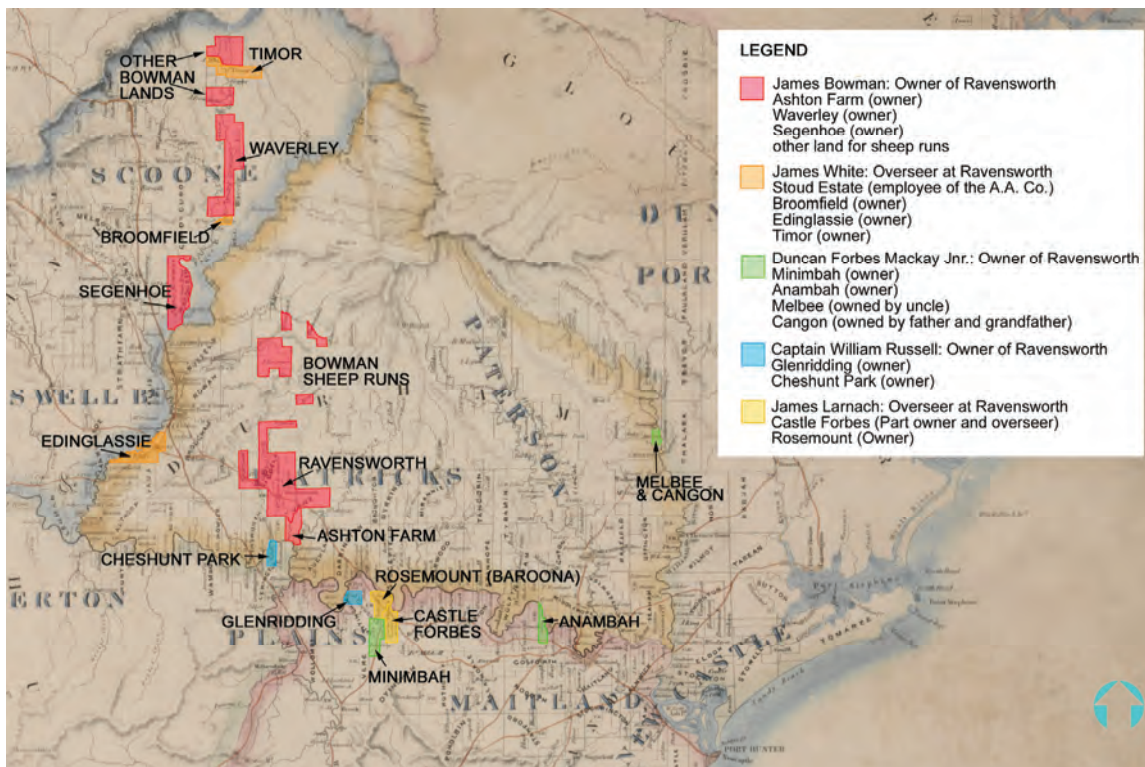


Figure 4. 37: Map showing the spread of properties and historic estate lands throughout the Hunter Valley region associated with the Ravensworth Estate. Base map: “This map of the colony of New South Wales...”, prepared by Robert Dixon, 2nd edition dated 1841. Source: NLA, Map F 892

4.6. Aesthetic & Technical Values of the Place

4.6.1. The Landscape Setting

The following analysis has been prepared by Geoffrey Britton, heritage consultant, addressing the aesthetic values of the landscape setting of the Ravensworth Homestead Complex.

The immediate setting of the homestead (when viewed from the homestead) appears to be generally consistent with that shown in archival photography from the early 1900s and probably remains similar in character to the estate landscape from the latter part of the 19th century at least. These views have high cultural value as a consistent pastoral setting and outlook from the homestead complex spanning a period of over 100 years.

The location of the homestead complex on a low rise (away from floodwaters), with ascending forested landforms to the northeast providing a pleasing backdrop, enables extensive view prospects across the adjoining open paddocks with a measure of visual enclosure provided by the riparian vegetation along Yorks Creek, ridges to the south and remnant woodland to the east. (Refer to Section 3.7 View Analysis.) It is still possible to appreciate part of the early planning of the homestead group

precinct with the location of an earlier dam (now modified and enlarged) to the immediate south of the homestead grounds and on axis with the homestead (the homestead dam, Dam Dme).⁸³



Figure 4. 38: View of the Ravensworth Homestead Complex in its immediate landscape setting as seen from adjacent ridgeline to the west. Mount Dyrning is seen in the background above rehabilitated former mining areas.

Originally, the estate landscape would have been further compositionally enhanced with the sentinel silo positioned picturesquely behind the homestead group on the nearby ridge (Site 3a), the impressive produce gardens spreading out to the northwest (the “8 acre garden”), a ‘village’ of smaller service structures and huts nearby (the Northwest Paddock) and, likely, more retained clumps of remnant woodland trees creating a more interesting and complex sequence of grassland spaces. With careful, selective revegetation the latter spatial character could be reinstated at Ravensworth.⁸⁴

It is also still possible to appreciate the homestead group within its immediate pastoral setting on approach from Hebden Road (after passing the last spur to the south). The homestead is at first obscured by the mature modern garden within the front grounds until almost to the west of the group. Generally, however, these sequential views upon approach to the homestead would likely mirror the same experience since the 1830s.

Within the front grounds there were detailed walks as there typically were for many homestead pleasure grounds from the 19th century (note the detailed grounds layout evident in 1900s archival photography and confirmed through the historical archaeological investigation [Test Area 3]). Although now not so apparent these important elements could be recovered. The layout of paths through the pleasure grounds demonstrates an aesthetic concern for the immediate house setting typical of the taste of the period.

While views from the homestead group are generally contained, views from the adjacent ridge to the northeast are much more expansive yet they are much more vulnerable to broad-scale industrial interventions. Even as late as the mid-20th century, there would be considerable scenic value attached to the Ravensworth setting when viewed from the elevated ridges near the homestead group. Since then the scenic prospect has been compromised by the cumulative effect of large-scale industrial structures (numerous mine overburden emplacement landforms and the Liddell Power Station) along the skyline. In the recent past these broader scenic views would have been regarded as Exceptional in

⁸³ This aesthetic device also makes sense if the original Ravensworth grounds layout resembled that of James Bowman’s Lyndhurst where flanking plantings framed views from the main house across open lawns to focal points beyond (such as Blackwattle Bay in the case of Lyndhurst).

⁸⁴ These spatial qualities were a hallmark of the estate planning of Lyndhurst according to Thomas Shepherd (who likely designed the grounds) and may well have also had some involvement with Ravensworth during its early planning and development.

terms of cultural significance however, with the continual encroachment of large-scale industrial structures this value has been compromised and therefore reduced.



Figure 4. 39: View of the Ravensworth Homestead Complex in its immediate landscape setting as seen from the adjacent ridge to the northeast. The Broken Back Range is seen in the background behind active mining overburden emplacement areas.

4.6.2. Architectural Significance of Homestead Group

The following analysis has been prepared by Ian Stapleton, heritage architect, providing an outline of the architectural significance of the built structures of the Ravensworth Homestead Complex and the rarity of the individual components.

The Main House

The Main House at the Ravensworth Homestead Complex is of cultural heritage interest as an example of an Australian colonial bungalow building. In this it is a good example as the fabric is relatively intact and it exhibits many of the typical features of an Australian colonial bungalow including single storey rectilinear plan form with broken back roof profile, recessed verandahs, symmetrical planning, multi-pane timber sash windows, 6-panelled doors and stone flagged verandahs. All these features are relatively intact and constructed in high quality workmanship.

Constructed, generally prior to 1840, this building type is relatively rare in Australia and indicative of Australian colonial building practise. Nevertheless, there are numerous surviving examples of buildings of this type, particularly around the oldest colonised areas of the country (refer to Section 4.7 below). This example is made more significant by the quality of the stonework and carpentry construction.

The homestead group is also of significance because it is made up by a number of buildings, the House Main wing, the House Kitchen wing, the Barn, the Stable and the Privy, all of similar age and construction. Whilst in other places, one of these elements may have survived, here at Ravensworth, they have all survived relatively intact, making the ensemble a good example of a colonial homestead establishment. Whilst many other such groups survive, they are rarer to find than single one-off examples of each building type (refer to Section 4.7 below).

The Main House is also of interest for containing some elements of individual note as follows:

- Shuttered, multi-paned, timber framed windows - good examples of their type;
- Solid framed, 6-panel timber doors - good examples of their type (the 2 no. doors facing the front verandah are particularly good examples);
- Carved stone mantel pieces - relatively rare and good examples of their type;
- Stone flagged verandahs and halls – good examples of their type;
- Timber framed roofs – good, possible rare, example of their type.



Figure 4. 40: Carved stone mantel piece. Photo: D. Liddle, 2018



Figure 4. 41: Roof framing.



Figure 4. 42: Stone flagging to rear hall. Photo: D. Liddle, 2018



Figure 4. 43: Six panelled internal door. Photo: D. Liddle, 2018



Figure 4. 44: Shuttered, multi-paned, timber framed windows. Photo: D. Liddle, 2018

Kitchen Wing

The Kitchen Wing at Ravensworth is a good example of a colonial Kitchen complex containing typical features such as:

- Large stone kitchen fireplace;
- Tent-form kitchen ceiling;
- Timber framed, boarded doors – good examples of their type;
- Multi-pane sliding sash windows - albeit some altered – good examples of their type;
- Solid floors (possibly stone flagged or composite);
- Colonial style verandahs - good examples of their type;
- Good, possibly rare, roof framing system; and
- Bell-cast eaves detailing – good example of its type.



Figure 4. 45: Bell-cast eave. Photo: D. Liddle, 2018



Figure 4. 46: Large stone kitchen fireplace and tent form kitchen ceiling. Photo: D. Liddle, 2018



Figure 4. 47: Multi-pane sliding sash window. Photo: D. Liddle, 2018



Figure 4. 48: Timber framed boarded doors. Photo: D. Liddle, 2018



Figure 4. 49: Colonial style verandah. Photo: D. Liddle, 2018

It is difficult to assess the rarity of the Kitchen Wing. However, it is made more significant by its attachment to the Main Wing of the House in the form of a Palladian-style wing (balanced side wings around a central axis). Should it be shown that there was once a balancing west wing to the house, this would become even more interesting.

The Barn

The Barn building at Ravensworth is significant for its good quality construction and for being part of an early intact group of colonial farm buildings. It contains elements of individual note including:

- Well-constructed truss roof – good example of its type;
- Blank window recesses on west wall (that contribute to the overall architectural character of the farm yard, see below); and
- Bell-cast eaves detailing- good example of its type.



Figure 4. 50: Barn roof framing. Photo: D. Liddle, 2018



Figure 4. 51: Bell-cast eave.



Figure 4. 52: Blank window recess.

The Stable

The Stable building at Ravensworth is of cultural heritage interest as a good example of a Colonial period stable building. In this it exhibits some of the typical features of this building type including:

- Symmetrical composition about an east-west axis;
- Central architectural feature – in this case a 3-arch arcade;
- Stone flagged stable spaces – good examples of their type albeit without any surviving stalls or loose boxes;

The building also contains features of individual interest including:

- Bell cast eaves construction – good example of its type;
- Heavy timber frame door assemblies – albeit many altered – good examples of their type; and
- Timber framed, adjustable louvred, window assemblies – albeit many altered – fair examples of their type.

The east elevation treatment of the building has led to the suggestion that John Verge, the noted early colonial Sydney architect, may have been the designer, as it is similar to an unbuilt design by Verge for Camden Park and to the existing stables complex at Wivenhoe.



Figure 4. 53: Details from Verge's designs for stables for Camden Park (not built). Source: *'Paper Houses': John Macarthur and the 30 year design process of Camden Park*; S. E. Hill, 2016, unpublished report, University of Sydney, Figure 9.43, p. 291



Figure 4. 54: c1984 photograph by Daphne Kingston of the stables and coach house complex at Wivenhoe, Cobbitty, completed in c1838 and attributed to John Verge. Source: Camden Council library, CHS1528

This has also led to the suggestion that Verge may have been the designer for the Main House and this is possible (see discussion below). However, many colonial period stables have a symmetrical composition around the centre feature and, due to the status of horses, stable buildings, are often more "architectural" in character than other farm out-buildings.

The Stable is also significant because it is a component of a good intact Homestead Group (see above).



Figure 4. 55: 3 arch arcade. Photo: D. Liddle, 2018



Figure 4. 56: Stone flagging. Photo: D. Liddle, 2018



Figure 4. 57: Bell-cast eave Photo: D. Liddle, 2018



Figure 4. 58: Timber framed louvered window. Photo: D. Liddle, 2018



Figure 4. 59: Heavy timber frame door. Photo: D. Liddle, 2018

The Privy

The Privy at Ravensworth is a very good example of Australian colonial, first class, privy. It is relatively intact and contains many of the features of this building type including:

- Masonry construction and pitched roof – good example of its type;
- Original door and window joinery – good examples of their type;
- Timber joinery thunder box – relatively intact and very good example of its type; and
- Stone flagged floor – good example of its type.

The Privy is made more significant because it is one of a group of early colonial buildings at Ravensworth (see above).



Figure 4. 60: Timber joinery thunder box with timber framed louvered window. Photo: D. Liddle, 2018



Figure 4. 61: Six panelled door with stone flagged floor. Photo: D. Liddle, 2018

Men's Quarters

The Men's Quarters at Ravensworth is an example of a c1900 jackaroos' or men's quarters. Although greatly altered, the original design is discernible, and this is indicative of Late Victorian Australian pastoral practices.

- The building is able to be reconstructed to its original form and could be made more indicative of its original use.
- In its present form it reflects the last lengthy ownership of the property as a farm by the Marshall family (they converted the building to a cottage c1965).
- The building is made more significant because it is part of the Homestead Group which is otherwise of considerable significance.

As an example of the timber framed Australian pastoral building it has only minor interest.

Possible Associations with Colonial Architects/Gentlemen Architects

Many Colonial bungalows feature a recessed front porch formed under the verandah between box rooms. A recessed porch or porch *in antis* is a common classical element of architecture and Colonial designers were able to achieve this easily in association with a bungalow verandah design.⁸⁵

To incorporate a recessed porch at both the front and the back in the bungalow form is, however, very rare (the "H" plan form). Clive Lucas, a Colonial architecture specialist, has identified only one other

⁸⁵ Broadbent, J., 1997; *The Australian Colonial House*, Hordern House, Sydney, Chapter 13

to that at Ravensworth, that is at Horsley, Horsley Park, NSW, where the fascinating design is thought to have been imported, together with building components, directly from British India.⁸⁶

Horsley, Horsley Park, c1832

Horsley is a substantially intact core of a colonial farm estate with its original 1830s bungalow, outbuildings, plantings, layout and entry. The single storey house is a direct copy of an Indian Bungalow, built of rendered brick made by convicts, with a high, hipped, shingled (later corrugated iron) roof. The walls are of stuccoed convict brick made on the property, strengthened by simple pilasters and between them are projecting panels with an arched recess in which the windows are set. The roof is over an almost square arrangement of bedrooms opening from central drawing room, sitting room and dining room, a classic Indian bungalow design, of the type built in Bengal. Pillared verandas at front and back were included under the main roof and enclosed at either end by corner rooms.⁸⁷



Figure 4. 62: Pencil drawing of Horsley by Hardy Wilson, dated 1916. Source: NLA, PIC R540 LOC1353 CON1580

Dr. James Broadbent, in the seminal book *The Australian Colonial House* (1997) discusses the double recessed porch, mainly in relation to the work of Henry Kitchen (c1793-1822) and links it directly to the designs of Palladio. Kitchen is known to have owned a copy of Palladio's *I quattro libri dell'architettura* (*The Four Books of Architecture*), 1570.



Plate 6.17 Villa for Francesco Valmarana at Lisiera, near Vicenza. From Andrea Palladio, *I Quattro Libri dell'Architettura*, Venice, 1570, Book II, pl. XLII. Detail.

Figure 4. 63: Plate 6.17 in *The Australian Colonial House* (1997) showing a floor plan for a "H" plan villa by Andrea Palladio. Source: Broadbent, J., 1997; *The Australian Colonial House*, Hordern House, p. 111

Although Kitchen was long dead by the time Ravensworth was being built, it is not impossible he was involved with the design through his work for John Macarthur, which involved proposed Greek Revival additions to Elizabeth Farm.⁸⁸ Bowman, having married Mary Macarthur in 1823 could certainly have interacted with Kitchen at an earlier time.⁸⁹

One of Kitchen's few surviving works is Glenlee at Menangle, NSW which interestingly contains recessed porches (front and back), a broken back roof profile and also heavily expressed quoin stones, all featured at Ravensworth.

⁸⁶ See Broadbent, Chapter 13

⁸⁷ State Heritage Inventory database no. 5045518, SHR No. 00030

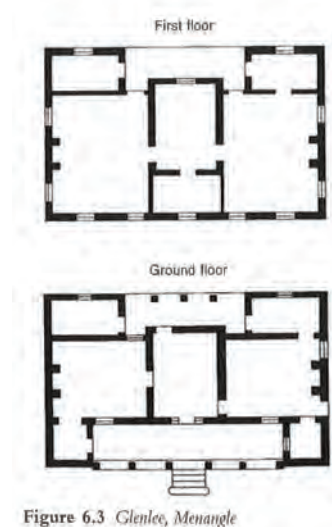
⁸⁸ See Broadbent, Chapter 6

⁸⁹ One can image Macarthur, Kitchen and Bowman sitting around a table at Elizabeth Farm sketching out ideal farmstead plans.

Glenlee, Menangle, c1823

Regency Colonial homestead, two storeys, of brick and sandstone, dated c1823. Very formal Palladian composition inspired more by Palladio's work and writing rather than by English Whig country architecture's usual interpretation of it. A single range building, with a substantial central stair hall projecting into the rear verandahs, one room to either side and box rooms at the corners in enclosed bays. Unusual recessed verandah on main facade. By recessing the ground floor verandah into the body of the house in the form of a portico or loggia (southwest face) the main rooms on the upper floor became disproportionately larger - by half as much again, than those on the ground floor.⁹⁰

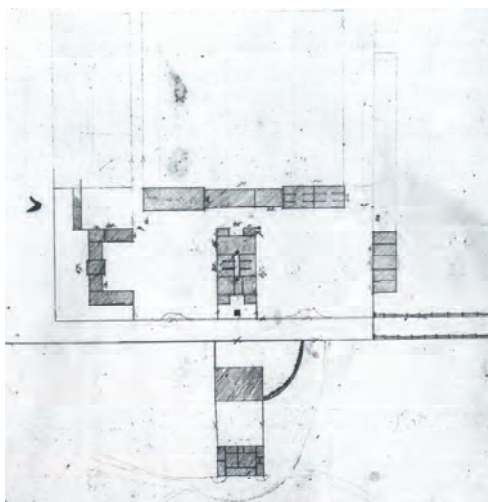
Figure 4. 64 (right): Plate 6.3 in *The Australian Colonial House* (1997) showing first and ground floor plans for Glenlee. Source: Broadbent, J., 1997; *The Australian Colonial House*, Hordern House, p. 110



Broadbent also discusses the designs of the Scott brothers, Robert and Helenus,⁹¹ and those illustrated demonstrate a preoccupation with creating recessed and return verandahs on bungalow verandah designs. The Scott brothers were notable gentlemen architects operating in the Hunter Region in the 1820s, notably at their property Glendon, Singleton (from 1824).

After arrival in Australia in 1822, the Scotts also became friends with John Macarthur and could have known Bowman as well. Recently research has established a direct commercial connection between Bowman and the Scotts at Ravensworth in 1828.⁹²

Broadbent also notes that the Scotts traced or redrew Kitchen's designs for the home farm/stables at Camden Park, NSW.⁹³



The Scott brothers undated symmetrical design for a house and farmyard illustrated in Broadbent⁹⁴ shows great similarity with the layout of Ravensworth farmyard, albeit the house, kitchen and farm building plans are individually different (refer to Section 4.7 below for further discussion).

Figure 4. 65: Plate 6.8 in *The Australian Colonial House* (1997) of a sketch design by Helenus Scott (attrib.) of the Home Farm, Camden, 1825. Source: Broadbent, J., 1997; *The Australian Colonial House*, Hordern House, p. 104

⁹⁰ State Heritage Inventory database no. 5045216, SHR No. 00009

⁹¹ See Broadbent, Chapter 12

⁹² J. Bowman cheque butts for 5th July 1828 notes payment to "Robert Scott for 193 bushels of wheat supplied to Hunters River".

⁹³ *Pers. Comm.* J. Broadbent

⁹⁴ See Broadbent, p 278

Other similarities of note: the end rooms of the Glendon addition (c1837) are broader than the front and back verandahs, a feature which also occurs at Ravensworth. Also, at Glendon and Thornthwaite, Scone, NSW, the Scotts used paired posts on the front verandahs which again, occurs at Ravensworth.



Figure 4. 66: Plate 12.12 in *The Australian Colonial House* (1997) of the elevation of Glendon by Robert or Helenus Scott, n.d. Source: Broadbent, J., 1997; *The Australian Colonial House*, Hordern House, p. 273



Figure 4. 67: Photograph of Thornthwaite from the Bingle family scrap album, 1856-1889. Source: SLNSW, PXA 941

From the above, it is really beyond doubt that an architect or gentleman architect, possibly the Scotts informed by Kitchen, designed the layouts at Ravensworth.

4.6.3. Technical Significance of the Ravensworth Homestead Complex

The following analysis has been prepared by Ian Stapleton, heritage architect, examining the quality of the built components of the Ravensworth Homestead Complex.

Quality of Stonework and Carpentry of the Homestead Group

Many of the numerous surviving colonial buildings in Australia are constructed of stone and have fine hardwood roof structures. However, in the experience of this firm, the stonework at Ravensworth, although now in some places damaged, is of exceptional quality workmanship.

The walls of the house are set out to be 10 no. 300mm courses high, terminated at each corner with raised chamfered quoins.

The adjacent Kitchen Wing has been set up with walls of 9 no. courses with similar quoins. The upper side of the top courses in both wings line up making the Kitchen floor level 300mm higher than the Main wing.

Exceptional care has been applied to the finishing and jointing of the stone work.



Figure 4. 68: Quoins to front verandah of Main House. Photo: D. Liddle, 2018



Figure 4. 69: Quoins to rear verandah of Main House. Photo: D. Liddle, 2018



Figure 4. 70: Quoins to Kitchen Wing. Photo: D. Liddle, 2018

At the Stable block, perhaps due to the status of horses in colonial times, the eastern elevation of the Stable is also constructed of very fine stonework where particular attention has been taken to the finishing and jointing of the stones. This building includes a 3 no. bay arcade of outstanding quality.

The buildings also contain very fine carpentry work in the roof framing.

The House and Kitchen wing are composed of a system of King rafters (almost trusses) supporting purlins that support the common rafters in an arrangement of exceptional quality (although now sometimes damaged by termite attack).

The Stable and Barn buildings have roofs framed with hardwood king post trusses of outstanding quality, again support purlins and common rafters in hardwood of very high quality workmanship.

4.7. Comparative Analysis

4.7.1. Introduction

Based on the history, the associations and the aesthetic and technical values of the Ravensworth Homestead Complex, the homestead can most usefully be compared with a range of aspects, including

- Other surviving pre 1850s Hunter Valley pastoral estates;
- Other colonial bungalows;
- Other colonial farmsteads;
- Other surviving colonial gardens and landscapes.

4.7.2. Pre 1850s Hunter Valley Estates

In 2013, this firm undertook a comprehensive comparative heritage study of pre 1850s homestead complexes located throughout the Hunter Region for the NSW Heritage Division. The study aimed to contextualise the homestead complexes found throughout the region and included a preliminary examination of the historical context of Ravensworth.

The study, by examining the history, configuration, associations and uses of over 200 known pre 1850s estates, established that as the Hunter Valley was opened up to European colonisation for a particular purpose (based on Commissioner Bigge's principles for the better management of convicts by private landowners on large pastoral estates), there is a consistency in the types of people who settled the region, a consistency in their purpose for settling and a consistency in the use and subsequent development of the estates.

In this case, established in 1824 on 10,000 + acres of land granted to Dr. James Bowman, the Ravensworth Estate displays the majority of the defining characteristics of the initial colonisation period of the Hunter Region and is therefore typical of the period. These characteristics include:

- Initial land grants made to a notable, influential and wealthy person in Australian society;
- Initial grants were 1000+ acres (at Ravensworth land grants amounted to 10,000 acres plus in separate parcels);
- A first house was constructed shortly after the granting of the land (since demolished at Ravensworth);
- The second house became the principal homestead and was typically a more substantial build than the first, and typically lived in for the majority of the time by a superintendent or overseer;
- The second house was constructed pre-1835 and often still survives, although also often subsumed by later additions (still surviving highly intact at Ravensworth); and
- A collection of colonial outbuildings in association with the homestead also surviving, (at Ravensworth they remain highly intact to their colonial configuration and were still in use well into the 20th century).

A selection of comparable examples includes:

Table 4. 3: Selection of comparable pre-1850s Hunter Region estates.⁹⁵

Place	Grantee	Initial Land Grants (acres)	Description
Segenhoe, Scone	Thomas Potter Macqueen, politician	10,000	Granted in 1823, the homestead dates from c1832 and was probably built by H.C. Sempill (original owner of Belltrees), Potter's overseer from 1830. The main homestead is highly significant for the intact architectural quality of the archetype colonial house. The full complement of outbuildings (of varying ages) continues to be "village like".
Negoa, Muswellbrook	William Cox Snr., road-maker	4000	The initial land grant was made to William Cox Snr. in 1825, while his son William Cox Jnr received an equal area of land in the same year. Cox Snr. sold his land to his son and the 8000a estate of Negoa was formed. The main house built in two sections (c1836) survives with a collection of later, timber outbuildings.
Closebourne, Morpeth	Lt. Edward Close, Engineer of Public Works Newcastle	2600	Initially granted to Close by Gov. Macquarie in about 1821. Close chose a dominating site to establish his 'manor estate' of Closebourne and laid out the private township and port of Morpeth on the lower ridge adjacent. Both Morpeth House (c1856) and Closebourne House (1829) survive and the estate now functions as a retirement village.
Gostwyck, Paterson	Edward Gostwyck Cory, land owner and known as "King of Paterson"	2030	Granted in c1823, the c1836 homestead survives with a small number of early outbuildings. Cory went on to become an extensive landowner throughout the Hunter and Northern Tablelands and founded the route over the Moonbi Ranges.
Duninald, Paterson	Capt. William Dun, founding member of the Agricultural Society of NSW	1300	Granted in c1821, Dun located his estate on the opposite bank of the Paterson River from James Webber's Tocal. Although little of the original complex remains, both the first and second homesteads survive.

⁹⁵ Clive Lucas, Stapleton & Partners, 2013; *Hunter Estates: A Comparative Heritage Study of pre 1850s Homestead Complexes in the Hunter Region*, Vol. II

4.7.3. The Colonial Bungalow house form

The bungalow in early colonial New South Wales may be defined as a single-storey cottage, usually low to the ground, with a symmetrical dominant hipped roof fully encompassing both the house and encircling verandahs which may be open or partially enclosed to form minor rooms, particularly at the sides and back. In its most sophisticated form the roof is pitched in one plane from the verandah line, but it is commonly double pitched, the verandah rafters joining those of the main roof on the outer wall plate or resting on them along their span.

By 1810 a bungalow form appears to have evolved in the colony independently, although not necessarily exclusively, of influence from other colonies. Regardless, the integration of the verandah into domestic architecture of NSW is one of the most important indigenous adaptations. Much has been written about the origins of the bungalow with verandahs. It seems to be the product of several sources (North America, India, West Indies and England).⁹⁶

In their simplest, purest form colonial bungalows in NSW were single storeyed, single-ranged or single-piled houses with encircling verandahs and minor rooms under one roof.

The roof form is one clue as to the evolution of the verandahed bungalow and there are three main types:

- Single pitch type: single pitched roof incorporating verandah, the oldest form usually of single-pile plan
- Brokenback roof type: roof tilted up at a shallower angle over verandah (Such as is seen at Ravensworth)
- Separate roof over verandah, tending to be more architecturally self-conscious.

The brokenback roof type, of which Ravensworth is an example, was widely used as a vernacular form for “farmhouses, free-standing houses (particularly in country towns), inns and homesteads alike”.⁹⁷

Given that the Hunter Region was opened to European colonisation in the early 1820s, the prevalence of the bungalow form for surviving early homesteads is to be expected. Along with other locales in NSW and Tasmania which were settled in the early colonial period and in particular in those areas that have remained rural, the colonial bungalow house form remains a dominant architectural style.

Throughout the Hunter Region, the colonial bungalow is the predominant form for surviving early homesteads (dating from the 1820s and 1830s) and many of these display the brokenback roof type, similar in form to the Ravensworth homestead.





However, as discussed above, what distinguishes Ravensworth from all of its contemporaries in the region is the “H” plan form of the bungalow with porch *in antis* to both the front and rear elevations, making Ravensworth a very rare example of the colonial bungalow house type.


Comparable examples of other colonial Bungalows in the Hunter Region include the following:

⁹⁶ Broadbent, J. 1997; *The Australian Colonial House*, Hordern House, Sydney, Chapter 13

⁹⁷ Ibid. p.314.

Table 4. 4: Comparative examples of other Colonial Bungalows in NSW

Name & Description	Image
<p><i>Laguna House, Cessnock, 1828-1831</i></p> <p>Built for Heneage Finch, assistant Surveyor working on the construction of the Great North Road. Laguna House is a Georgian, single storey dwelling of dressed stone with timber classical columned verandah, and brokenback hipped roof with French windows and six panel doors. Skillion rooms to the rear of the house and a separate hipped and gabled kitchen wing of field stone.</p>	 <p>Figure 4. 71: Laguna House (undated). Source: Photograph from the Anglican Diocese of Newcastle Archives A6198_vii, University Archives, University of Newcastle</p>
<p><i>Booral House, Port Stephens, 1831</i></p> <p>‘Booral House’ is the oldest surviving outstation built by the A. A. Company. The house was built in 1831 under Thomas Laman's supervision as a company residence of the A.A. Co. and was first occupied by James Ebsworth.</p> <p>The house is a Bungalow built in 1831. It is under a single hipped roof, the verandah on the main front being recessed. The balancing back rooms were originally separated by a hall.</p>	 <p>Figure 4. 72: Booral House c.1970, photograph by Wes Stacey. Source: NLA, PIC Cold Store Row A2/3/2 #PIC/14196/1781</p>
<p><i>Alderley House, Booral, 1831</i></p> <p>Built in 1831 for the Australian Agricultural Company using convict labour, for the AA Co's farrier and his family under the direction of Sir Edward Parry for use as a station for breeding horses. The rendered brick building has verandahs front and back, timber columns, multi-paned windows and a hipped roof. The original structure comprises bedroom, central living room, kitchen and a lean to annex. It is presumed that the kitchen and other offices were originally located in a separate wing to the rear.</p>	 <p>Figure 4. 73: Recent (2012) photograph of Alderley House. Source: R and R Property</p>
<p><i>Terragong, Merriwa, c1839</i></p> <p>Terragong is located on land initially established by Henry Pelerine Dutton, merchant who purchased Terragong in 1835. The place is also associated with Robert and Helenus Scott (of Glendon), who are attributed to the design of the original homestead. The house is of an unusual design with separate entrance front and three-sided verandah to garden front. Brokenback verandah roof with French doors. Later additions at the side, which culminate in a billiard room and office are by J.W. Pender of Maitland.</p>	 <p>Figure 4. 74: 20th century photograph of Terragong. Source GC Waller, http://www.gcwaller.com.au/projects</p>

Name & Description	Image
<p>Lewinsbrook, Gresford, c1839</p> <p>Located on Alexander Park's estate, granted in 1826 and used as a vineyard from the 1830s. Lewinsbrook was constructed in c.1839. It is a large brick homestead with brokenback roof, verandahed on three sides with tapered timber columns, shuttered French windows and shuttered 12 paned windows. Built of random rubble stonework and has undergone restoration and reconstruction works. Outbuildings no longer surviving.</p>	 <p>Figure 4. 75: 1992 photograph of Lewinsbrook by Jack Sullivan. Source Hunter Photo bank, accession No. 147 000133, NCC Collections</p>

4.7.4. The Farmstead or Homestead Complex

J. M. Freeland in his introduction to the publication *Historic Homesteads of Australia* (1969) notes that the Australian homestead “all went through the same stages of growth which faithfully reflect the changing economic and social fortunes of the family...Homesteads grew organically over a period which ranged from ten years upwards...”⁹⁸ Freeland continues on to note that typically the homestead began with a small, temporary shelter to be replaced by a more substantial house and over the years, as fortunes improved, additional buildings were added.

A similar concept of the gradual development of the homestead is reiterated by Dr. James Broadbent, in *The Australian Colonial House* (1997). Broadbent notes that colonial farmers “generally had a laissez-faire attitude to farm planning, perhaps a response to a climate which did not necessitate a diversity of outbuildings in which to feed and house stock.”⁹⁹

However, an exception to this general approach is identified as existing in the (unrealised) designs for the “Home Farm” or Camden cottage at Camden (today known as Belgenny Farm). As discussed above, a surviving sketch plan of the farmstead layout made by Helenus Scott (attrib.) dating from 1825 is assumed to be a copy of the plan for the farm made earlier by Henry Kitchen (see Figure 4.65 above). Broadbent makes the point that in the design, Camden cottage was neither isolated from its farm buildings nor casually related to them as was usual in the colony. Rather the cottage was part of a complete, carefully designed farmstead, a concept advocated earlier by Isaac Ware in his *A Complete Body of Architecture* (1766), a book Henry Kitchen owned.¹⁰⁰

Ware advocated that the house should be set centrally between, but forward of, the barn and the stable, which should be joined on the further side by a wall, and that the total width should be five times the front of the house.¹⁰¹

The 1820s designs for Belgenny Farm show the original and second homestead located forward of a service track that separates the residential area from the agricultural/service area which is enclosed on three sides of a courtyard, with another block centrally placed, thus effectively dividing the area into two smaller yards. In actuality, only a portion of this plan came to fruition during the colonial period,

⁹⁸ Australian Council of National Trusts, 1969; *Historic Homesteads of Australia*, p. ii

⁹⁹ Broadbent, J., 1997; p. 105

¹⁰⁰ Broadbent, J., 1997; p. 105

¹⁰¹ Ibid.





with the Belgenny cottages set forward of the main service courtyard, which was enclosed on two sides by the stables and the creamery in the 1820s.

At Ravensworth, the symmetrically planned arrangement for the complex of buildings is in place and remains clearly readable today. The main homestead and attached kitchen wing are located forward of the service courtyard which is enclosed on two (originally three) sides and the two halves of the complex are separated by a service track. The compact, symmetrical layout of the complex is further reinforced by the consistency in building materials and the repetition of architectural detailing across the house, kitchen, barn, stables and privy, indicating that the complex of buildings was designed and constructed as one.





When comparing other colonial homesteads to Ravensworth, a fully or partially enclosed farm yard area to the rear of the main house is unusual, given that most homesteads tended to develop either in a scattered manner or along linear alignments forming streets of agricultural outbuildings. Regardless, a number of comparable examples do exist in both NSW and Tasmania, although none appear to be the consciously designed ensemble of buildings that is found at Ravensworth.

Comparable examples of other colonial homestead complexes with a symmetrical farmstead layout include the following:

Table 4. 5: Comparative examples of colonial homestead complexes with a symmetrical farmstead layout.

Name & Description	Layout	Image
<p><i>Belgenny Farm, Camden est. 1805</i></p> <p>Belgenny Farm was the headquarters for what is now the Camden Park Estate. The Belgenny group comprises an important collection of tenant cottages and timber farm buildings consisting of the stables c. 1826, the creamery (originally built as a coach house c. 1820s then operated as a creamery between 1900 and 1928), the slaughterhouse, the carpenters' building from the 1840s and the blacksmith's shop c.1930s.</p>	 <p>Figure 4. 76: Aerial view of Belgenny Farm showing the enclosed farmyard to the rear of the main house. Source: GoogleEarth, 2019</p>	 <p>Figure 4. 77: The stables at Belgenny Farm. Source: Camden Council library, CHS 0040</p>
<p><i>Denbigh, Cobbitty 1810s</i></p> <p>Denbigh is of State significance as an intact example of a continuously functioning early farm complex on its original 1812 land grant. It contains a rare and remarkable group of buildings including a homestead, early farm buildings and associated plantings with characteristics of the Loudon model of homestead siting. The present farm buildings are located conveniently near the house which include slab-built sheds and an old barn with thick rubblestone walls.</p>	 <p>Figure 4. 78: Aerial view of Denbigh showing the symmetrical farm layout to the rear of the main house. Source: GoogleEarth, 2019</p>	 <p>Figure 4. 79: 1920s photograph of the farm buildings around a central yard area at Denbigh. Source: Camden Council library, CHS3019</p>

Name & Description	Layout	Image
<p><i>Kelvin (The Retreat), Bringelly 1820s</i></p> <p>Kelvin (or Kelvin Park), formerly known as Cottage-ville or The Retreat, is able to demonstrate the pastoral development of Bringelly from 1818. The group consists of: the main homestead, the former Kitchen and dairy block -attached via a covered walkway to the rear of the house, the former servants wing- a free-standing rendered masonry building to the rear of the main house, the former coach house, two slab sheds, site landscaping - including gardens, driveways and fences and various relics/other works including a cistern, early tank-stand and horse works.</p>	 <p>Figure 4. 80: Aerial view of Kevin showing the enclosed farmyard to the rear of the main homestead. Source: GoogleEarth, 2019</p>	 <p>Figure 4. 81: One early of the outbuildings at Kelvin. Source: www.realestate.com.au</p>
<p><i>Malahide, Fingal, Tasmania 1820s-1830s</i></p> <p>Established in 1824 by William Talbot, the youngest son of Richard Talbot of Malahide castle, Ireland. Malahide consists of a two storey stone Georgian house of seven bays with one storey verandah (late 1830s, the second homestead), a two storey stone coach house and stables near house. In addition to the homestead, the complex also included a manager's house, workers' cottages and farm sheds.</p>	 <p>Figure 4. 82: Aerial view of homestead complex at Malahide with farmyard on the northern side enclosed by stables and coach house. Source: GoogleEarth, 2019</p>	 <p>Figure 4. 83: Driveway view looking into the farmyard area of Malahide. Source: Libraries Tasmania, PH30/1/3969</p>
<p><i>Rosedale, Campbell Town, Tasmania 1820s</i></p> <p>Established in 1823 by John Leake, who established his family on this property, Rosedale, and left its management to his eldest son William, while he acted as accountant in the Derwent Bank in Hobart. By May 1828 he had a hundred Saxon sheep, another highly improved flock of 1500, a nine-roomed stone and brick house, barns and other improvements. In 1856 Leake retired to Rosedale, which had been restyled in the 1840s by James Blackburn into a stately Italian villa. The house with its walled courtyard is well complemented by fine stone outbuildings forming court at the rear of house.</p>	 <p>Figure 4. 84: Aerial view of Rosedale with large farmyard/courtyard at the rear enclosed by outbuildings and walls. Source: GoogleEarth, 2019</p>	 <p>Figure 4. 85: Stone barn at Rosedale. Source: Register of the National Estate, rp03750a</p>

Name & Description	Layout	Image
<p><i>Lansdowne, Goulburn 1830s</i></p> <p>Lansdowne is of considerable interest for the way it illustrates an early homestead and outbuildings, including barn and stables. Lansdowne house is a good example of a timber, old Colonial Georgian style homestead. The single storey house is built of slabs which have been covered with weatherboards and lined internally with plaster. To the rear are two separate brick wings, one of which was originally the kitchen. The main outbuildings, a stable and barn, are constructed of coursed random stone.</p>	 <p>Figure 4. 86: Aerial view of Lansdowne with enclosed farmyard to rear of main house. Source: GoogleEarth, 2019</p>	 <p>Figure 4. 87: The stable and barn buildings forming two sides of the farmyard to the rear of the main house at Lansdowne. Source: www.allhomes.com.au/news/historic-lansdowne-park-in-goulburn</p>
<p><i>Killymoon, St Marys, Tasmania 1840s</i></p> <p>Established by Frederick Lewis von Stieglitz on a 2000 acre grant in 1829. The main homestead was built in 1842 in a design that is picturesque and neoclassical. At the rear of the house, a stone wall encloses the garden. Behind the wall is a large farmyard, enclosed by the coach house and a long building at right angles providing a granary and stable.</p>	 <p>Figure 4. 88: Aerial view of Killymoon with large partially enclosed farmyard to the south of the main homestead. Source: GoogleEarth, 2019</p>	 <p>Figure 4. 89: c1960 photograph of the Killymoon coach house with granary and stables. Source: National Trust of Australia (Tas), TSO00017900</p>
<p><i>Dundullimal, Dubbo, 1840s</i></p> <p>Built around 1840 as the head station of a 6,500-hectare (16,000-acre) squatting run, the Dundullimal homestead is believed to be the oldest surviving slab hut house in Australia. The first recorded occupants were brothers Charles Campbell and Dalmahoy Campbell in the late 1830s.</p> <p>The homestead is built on the same axis as its stone stables and coach house. The homestead group of outbuildings comprise stone stables, a coach house / outbuilding, located south-west of the homestead and stables, the site of the former kitchen, located east of homestead, and the site of the former privy.</p>	 <p>Figure 4. 90: Aerial view of Dundullimal with house and stables and coach house on axis. Source: GoogleEarth, 2019</p>	 <p>Figure 4. 91: The stables and coach house at Dundullimal with the homestead in the background. Source: www.touristplaces.com.au/dubbo</p>

4.7.5. The Garden and Landscape of the Ravensworth Homestead Complex

The siting and setting of the Ravensworth Homestead group is largely consistent with the characteristics of other Hunter estates as identified in *Hunter Estates, A Comparative Heritage Study of pre-1850s Homestead Complexes in the Hunter Region* (2013) by Clive Lucas Stapleton and Partners. These were:

- Located within close proximity to a watercourse with the homestead facing the watercourse
- Outbuildings (both domestic and agricultural) are located within the immediate vicinity of the homestead
- Located within an agricultural/pastoral landscape (cleared lands with fenced paddocks, pastures, crops and grazing);

The exception to other homesteads is that usually marker trees, such as araucarias, are found within or adjacent to the homestead complex. These are not found at Ravensworth although its mature garden serves as a marker in the pastoral landscape.

The study noted few colonial gardens survive in the Hunter Region. Fig trees were often planted next to the main residence and Ravensworth shares this characteristic with other estates. Aberglassyn near Maitland, a house of a similar age to Ravensworth, has several old fig trees which are the remnants of its early garden as does Tocal, Paterson.



Figure 4. 92: Aberglassyn, Maitland with large fig tree. Source: Maitland Mercury, 7th November 2016



Figure 4. 93: View of Tocal homestead surrounded by fig trees. Source: www.tocalhomestead.com.au

In general, it is the broader cultural landscapes of the Hunter Estates that is significant rather than the gardens, with some exceptions such as Neotsfield and Baroona, the latter a later garden. Neotsfield, Singleton retains its carriage loop and has a central axis with avenue plantings, mature specimen trees including araucarias and its *Dovyalis caffra* (kei apple) hedge.

One of the most sophisticated colonial gardens laid out in the 1840s in the Hunter region was at Kinross, situated on a 'bench' overlooking the Hunter River at Raymond Terrace and although the garden layout is gone, mature trees remain. Kinross had an extensive vineyard, which endured in the late 19th century whereas it is unknown whether vines survived at Ravensworth after the Bowman period.



Figure 4. 94: Neotsfield, Singleton in c1890 with front garden including circular garden bed. Source: John Turner Collection; Living Histories, University of Newcastle



Figure 4. 95: Kinross, Raymond Terrace, undated (mid-20th century) showing the main homestead located on a benching overlooking the Hunter River. Source: Newcastle Library, Hunter Photo Bank, 163 001455

Typically, the gardens that survive around pre-1850s homesteads contain a palette of plants that can survive difficult conditions with additions to the garden's layout and planting over time. Intensive planting was often confined to a small number of garden areas. Frequent periods of drought –from early accounts Ravensworth for example suffered drought in the 1840s and the 1870s generally led to the 'survival of the fittest' of plant species that characterises many colonial gardens. From records for Australia, the "Federation drought" of 1902-1903 and then 1911-1915 and 1918-1920 almost certainly took a toll on all country gardens.

Lyndhurst in Glebe, also built by Bowman, was subdivided in the 19th century and the main house sits within a small curtilage. It has a garden reconstructed to be sympathetic to the house with gravel paths to emulate a section of the original carriage loop.

In comparison with remnant colonial gardens in western Sydney, it cannot compare with Camden Park, Denbigh or Brownlow Hill, which have had long periods of continuous occupation by members of the same family and which boast more complex gardens around the homesteads. At Camden Park the large lower garden has disappeared although, unlike the garden at Ravensworth, its former location is known. Other early houses such as Glenmore have had more recent changes and now reflect late 20th century trends of a beautiful ideal colonial style garden; and Harrington Park, the centre of a suburban development has a fine collection of mature trees.



Figure 4. 96: Camden Park house and garden, c1920. Source: NLA, Herbert Fishwick, PIC/15611



Figure 4. 97: Denbigh, Cobbitty with garden (undated). Source: Camden Historical Society

One comparative example is at Ellensville, Camden where the garden was remodelled in the 1890s following the expansion of the house. Since then, there have been no substantial changes to the garden. Ellensville has large clumps of two types of epiphyllum growing, old roses and other shrubs and a spare layout.

Figure 4. 98 (right): Ellensville, 1920s with circular drive and garden beds. Source: www.wikitree.com/Ellensville



The garden at Ravensworth has been effectively mothballed since 1997. What remains is a good representative example of a late nineteenth century Australian country garden planted with long-surviving species, the importance of which is amplified by its 1830s-40s layout, which is still legible. Examples such as the garden at Ravensworth are increasingly unusual as the pressure of development encroaches upon many early houses and in other examples ambitions for more fashionable garden plantings and features have radically changed the old garden.

5. Statement of Cultural Significance

The Australia ICOMOS *Burra Charter* (see Appendix 1) defines cultural significance as *aesthetic, historic, scientific, social or spiritual value for past, present or future generations*. Cultural significance is embodied in the *place* itself, its *fabric, setting, use, associations, meanings*, records, *related places* and *related objects*. Places may have a range of values for different individuals or groups. (*Burra Charter*, Article 1.2).

5.1. NSW Heritage Assessment Criteria

The assessment of the significance of a place requires an evaluation of the fabric, uses, associations and meanings relating to the place, from which a detailed statement of significance can be formulated.

The following statement of significance has been prepared in accordance with the guidelines set out in the NSW Heritage Office and Planning NSW's publication, *Assessing Heritage Significance* (2002). Refer also to Section 5.5 for Statement of Aboriginal Cultural Significance and Section 5.6 for Statement of Historical Archaeological Significance.

5.2. Statement of Cultural Significance

Considering the discussions and analysis included above in Sections 2, 3 and 4 of this report, an appropriate statement of significance for the place is as follows:

5.2.1. Criterion (a) Historical Significance

An item is important in the course, or pattern, of NSW's (or the local area's) cultural or natural history.

The land on which the Ravensworth Estate is located is of historical significance on a Local level as forming part of the land of the Wonnarua, which was vast and stretched over much of the Hunter Valley. Regardless of the history of European colonisation, agricultural development and mining uses, the Ravensworth Estate retains physical evidence of the past lives of the Wonnarua people.

The history of Aboriginal dispossession in the locality sits alongside the colonial history of the place, with reports of interactions between Aboriginal people and convicts and colonists dating from the early 1800s. The estate lands are of historical significance on a Local level for being located in a district that underwent a turbulent period between 1825-1827 involving a series of attacks and retributions between Aboriginal people and the newly arrived Europeans in the central Hunter Valley. The Ravensworth Estate was one of the known locations of violence being the site of three attacks resulting in two Europeans killed and two wounded, and with one Aboriginal man killed.

The land that forms the Ravensworth Estate today is also of historical significance on a Local level for being the substantial remnants of an early (1824) pastoral estate in the Upper Hunter region of NSW.

The place is of historical significance on a Local level for being one of a surviving group of pastoral estates established shortly after the opening up of the Hunter Region to European colonisation in the early 1820s by Governor Brisbane and Commissioner Bigge, and evidence of this important historical period remains in the property boundaries, the road alignments, remnant landscape features (including the alignment of fence lines, vegetation modification, early dams and evidence of early cultivation), historical archaeological sites (including the potential for a convict barracks, the underground silo together with evidence of an extensive range of former outbuildings) and the surviving c1832 homestead complex including its configuration and landscape setting.

The Ravensworth homestead garden is also of historical significance on a State level as being, along with Camden Park, Camden, NSW, among the few places where the first experiments with plant breeding were carried out in Australia. Edward Macarthur Bowman and William Macarthur undertook this early work at the place in coordination with John Carne Bidwill.

The Ravensworth Estate is historically significant on a Local level for being located along an important regional transport corridor (that remains in place today), connecting the city of Sydney with the agricultural regions of the Hunter Valley and the Liverpool Plains (and beyond) as evidenced by the remnants of the early (1820s and 1830s) roads located across the estate lands. The strategic location of the estate led to the place being known as a destination point and a place of note to the broader community from the 1820s onwards, as evidenced by early written accounts of the estate lands and the numerous well-known persons who visited the estate in the 1820s and 30s, including surveyor Henry Dangar, A.A. Co. commissioner Sir Edward Parry, pastoralists Robert and Helenus Scott and missionaries James Backhouse and George Washington Walker. The importance of the location led to Ravensworth becoming a known locality in the district and across NSW, with the Ravensworth Estate and homestead complex at its centre.

The later history of the Ravensworth Estate is of some historical significance on a Local level for demonstrating a pattern of development that is found throughout the central Hunter Region and NSW. From being a large pastoral estate for sheep fattening for most of the 19th century, from the late 19th century onwards the estate underwent speculative subdivision, eventually being used for smaller allotment mixed farming including dairying throughout the 20th century, until the 1960s when large portions of the former lands of the Ravensworth Estate were developed for open-cut coal mining. The allotment that contains the Ravensworth Homestead Complex is also of historical significance for being the remnants of a soldier's settlement purchase taken up by A.C. Marshall in 1920.

The estate lands are of some historical significance on a Local level for being identified as early as the 1840s as one of the locations in the Hunter Valley with a likely presence of coal, and for being the location of early drilling expeditions and subsequent underground coal mining from the 1890s.

5.2.2. Criterion (b) Historical Associational Significance

An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's (or the local area's) cultural or natural history.

The Ravensworth Estate is of significance on both a State and local level for its associations with a number of people of historical note and places of historical note located throughout NSW. The richness of these historic associations provides further evidence of the significance of the history of the Ravensworth Estate.

Historical associations with notable persons include:

- Dr James Bowman (1784-1846), principal surgeon of the colony and inspector of colonial hospitals and local committee member of the Australian Agricultural Co. (A.A. Co.), who was granted the land, established and expanded the property as a sheep run and named the property Ravensworth. He is said to be buried on the property (location unknown).
- Mary Bowman (1795-1852), daughter of John Macarthur, whose dowry of 2000 sheep and 200 cattle allowed James Bowman to apply for the initial land grant that became the Ravensworth Estate.
- John Macarthur (1767?-1834), entrepreneur, pastoralist and founder of the A.A Co. the oldest continuously operating company in Australia, and his sons James Macarthur (1798-1867) politician, and William Macarthur (1800-1882) an influential horticulturalist, who financially assisted the Bowmans with the management of the estate lands throughout its early history.
- Edward Macarthur Bowman (1826-1872), eldest son of Dr James and Mary Bowman was a botanical collector and botanist who lived at and managed Ravensworth from 1843 to 1848. In cooperation with his friend botanist John Carne Bidwill, Edward participated in some of the first efforts at plant breeding in Australia including the hybridisation of gladioli being among the experiments carried out at Ravensworth. Edward Bowman became a botanical collector in north-east Australia and he is best-known for his discovery of *Ptychosperma alexandrae* (Alexandra palm) named for Alexandra, Princess of Wales.
- James White (1801-1842), former employee of the A.A. Co. and founder of the White pastoral dynasty (other White family estates in the Hunter region include Edinglassie, Belltrees, Merton, Martindale and Waverley), who was an early overseer at Ravensworth and for whom the homestead was constructed.
- John Larnach (1805-1869), partner of James Mudie at Castle Mudie and joint author *Vindication of James Mudie and John Larnach, From Certain Reflections on Their Conduct Contained in Letters Addressed to Them ... Relative to the Treatment by Them of Their Convict Servants* in 1834, and who was an early overseer at Ravensworth.
- Jackey-Jackey (d.1827), a local Aboriginal man, who following his capture for an attack on James Bowman's men on the Ravensworth Estate lands was executed without trial at Wallis Plains by Lieutenant Nathaniel Lowe of the Mounted Police, this led to a military officer being brought before the courts for actions against Aboriginal people for the first time in 1827.
- Later owners including Captain William Russell (1807-1866), pastoralist who also owned Cheshunt Park and substantial squatting properties; Duncan Forbes Mackay Jnr. (1834-1887), successful horse breeder and owner of the Anambah and Minimbah properties and Tilpil Station (amongst others); both of whom continued running the Ravensworth Estate as a pastoral property.
- F.J.L Measures (1863-1936) and A.C. Reid (c1863-1925), developers, who subdivided the estate lands into smaller agricultural parcels in the early 20th century.
- Later owner Augustine Campbell Marshall (1891-1983), a Light Horse veteran who obtained a portion of the original estate lands (Portion 228) containing the homestead complex under the *Closer Settlement Scheme* in 1920; and his descendant, son Geoffrey and his wife Jenny Marshall who took over the property and held the land until 1997. The Marshall family are notable for being the owners of the homestead for the longest continuous period.
- Noted NSW architect J.W. Pender who designed the 1880s woolshed (no longer surviving) and local architect James Warren Scobie, who undertook renovations at the homestead in the early 1900s.

Historic places of significance associated with the history of the Ravensworth Estate include:

- Lyndhurst, Glebe, Bowman's Sydney residence, designed by John Verge in c1835.
- The General Hospital (Rum Hospital), Sydney where Bowman was Principal Surgeon of the colony from 1819-1823.
- Numerous other parcels of land throughout the Hunter Valley owned by Bowman and forming part of the extended Ravensworth Estate lands, including Ashton Farm and at one time Segenhoe and the Waverley Estate.
- The Australian Agricultural Company lands throughout NSW, where Bowman formed part of the Colonial Committee for the company.
- The former Ravensworth village and the Ravensworth Public School, and the former Hebden village including the Hebden Public School, Hebden Community Hall (relocated) and Hebden Church (relocated).
- The former Bayswater Estate, owned by Edgar Raby Moore (grandfather of former owner of the Ravensworth homestead, Geoffrey Marshall), which formed part of Bowman's original "10,000" acres until the 1880s.
- St. Clement's Anglican Church, Camberwell (deconsecrated), constructed on land donated by Bowman, out of the extended Ravensworth Estate lands.
- Numerous other smaller farming allotments located across the estate lands resulting from the subdivision of the estate lands in the early 20th century under F.J.L. Measures and A.C. Reid.
- Numerous other Hunter Valley pastoral stations owned by early overseers (John Lanarch and James White) and later owners.
- Other works by noted NSW architect J.W. Pender, including Anambah homestead, Gosforth and Saumarez homestead, Armidale.
- Other works by Maitland architect J.W. Scobie, including Maitland Town Hall, Maitland and Langford homestead, Walcha.

5.2.3. Criteria (c) Aesthetic and/or Technical Significance

An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or in local area).

The Place, containing the remnants of the Ravensworth Estate, is of some aesthetic significance on a Local level as a representational example of a Hunter Valley landscape. The rural landscape of the place including scattered remains of early 20th century farms is punctuated by the two main creek lines, Bowmans Creek and Yorks Creek, pockets of lightly forested lands and gentle rises in the landform that provide expansive views of the floodplains and grazing lands leading southwards down to the Hunter River. The various isolated historic buildings, cultural plantings, landscape and agricultural features located across the landscape, are of some aesthetic significance, being indicative of the 20th century agricultural and community-driven development of the broader locality.

The Place retains its historic visual catchment, most clearly viewed from highpoints between Bowmans and Yorks Creek and these district views to the south-east, south-west, north-west and south towards the Hunter River, in the past would have attached considerable scenic value to the setting of the Ravensworth Homestead Complex. Today however, these views and the aesthetic values of the rural landscape are somewhat reduced by the encroachment of large-scale industrial structures and modified landforms associated with open cut mining along the skyline to the south, east and west.

The homestead complex of the Ravensworth Estate constructed in c1832, is of aesthetic significance on a State level as a fine example of a very rare, relatively intact “architecturally planned” group of colonial farm buildings located in its late 19th century landscaped setting. The group of early buildings is complemented by a late Victorian Men’s Quarters.

The main homestead with kitchen wing and the surviving two balanced farm buildings (barn and stables) form a very rare, symmetrical compound composition of aesthetic appeal and consistent detailing, comparable with Glenrock, Marulan; the ruins of the Lake Innes House, Port Macquarie; Malahide, Tasmania and Rosedale, Tasmania and very few others. The symmetrical composition of the group of colonial stone buildings is of aesthetic and technical significance on a State level.

The conscious design of the symmetrical compound is reinforced by the inclusion of stone decorative quoins at the outer extremities of the group and inclusion of blank window recesses on the western elevations of the main homestead and the barn, suggesting that the building group was designed to be approached and viewed from the west. The formality of composition of the complex of buildings is further reinforced by surviving evidence of the early planning of the broader homestead precinct with an early dam (albeit modified) to the south of the homestead complex, placed on axis with the main house and the 1830s stone grave located to the east placed along the longitudinal axis of the main house.

The group of buildings comprising the complex and including the adjacent privy are of aesthetic significance on a State level for their fine dressed stonework and finely made roof carpentry, simple architectural detailing and high-quality detailed design and execution; the group was likely designed, possibly informally, by an architect or gentlemen architect of the 1820s and 1830s (unconfirmed at this time).

The main house is a fine and relatively rare example of a colonial Georgian bungalow with relatively intact internal configuration and finishes (albeit partially reconstructed after termite attack). As originally designed, the single pile “H” plan with central flagged hall, and porch *in antis* on the front and rear elevations all under one bellcast hipped roof (albeit altered) is extremely rare and comparable with very few other colonial period houses, aside from Horsley, Horsley Park; Glenlee, Menangle and Glendon (1837 extension), Singleton. This form is of note for being of Palladian stylistic derivation.

The main homestead contains a number of other colonial architectural features of note including the stone quoins, stone flagging, stone mantelpieces, blank window recesses and six panelled colonial doors and twelve-pane colonial windows.

The complement of outbuildings, the stables, barn and privy are all of high-quality stonework and the stables in particular is of architectural interest with its symmetrical layout and arcaded recessed porch to the tack room, all similar in style to the stables at Wivenhoe, Narellan and the stables at Camden Park (not built), both designed by John Verge. The barn, although simple in style and character is of architectural interest and relatively rare being stone built (usually timber built in NSW).

The garden of the main homestead provides the immediate landscape setting for the house and is of some aesthetic significance on a Local level being a remnant of a late 19th/early 20th century garden planted within an 1830s-40s layout. A profusion of discarded stones from demolished structures creates an evocative historical rural atmosphere.

5.2.4. Criterion (d) Social, Cultural or Spiritual Significance

An item has strong or special association with a particular community or cultural group in NSW (or local area) for social, cultural or spiritual reasons.

The region of the Upper Hunter, in which the Ravensworth Estate is located, holds high cultural significance (including cultural, historic and aesthetic values) for many Wonnarua people, and the wider landscape of the Hunter Valley is deeply imbued with meaning for Wonnarua people.

Forming part of the broader locality of Ravensworth, the Ravensworth Estate is of social significance on a State level for providing the historical name of the place and for being the tangible focus of the Ravensworth locality, an area with a strong sense of place for past residents of the Hebden area, the village of Ravensworth and the surrounding agricultural lands, many of whom continue to live in the Upper Hunter region. The homestead complex, together with other markers across the broader landscape, including Ravensworth Public School, Hebden School as well as the scattered remains of agricultural buildings and other features, provide physical markers of the history of the locality of Ravensworth and are reminders of the late 19th and early 20th century history of a distinct community living in the area.

More generally, as one of a group of surviving colonial pastoral estates of the Hunter Region, Ravensworth Estate is held in high esteem by portions of the local community as well as the broader NSW community as indicated by the statutory and non-statutory heritage listings existing for the area and its components, together with the wealth of research, books, images, heritage studies, published and unpublished histories, memoirs, family archives and other documentation relating specifically to the agricultural development of the region and its people, from the early 19th century to date.

5.2.5. Criterion (e) Research Potential

An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).

The place has moderate to high potential for retaining physical evidence of the history of use of the land by the Wonnarua people, although evidence examined thus far indicates that many sites have low scientific significance.

The place also has moderate to high potential for retaining physical evidence of the history of agricultural uses dating from the mid-1820s to date, particularly in those areas relatively undisturbed by mining activity such as adjacent to the creek lines and within the flood plains between. With an accumulation of fence lines, tracks, timber bridges, cattle ramps, timber yards and other agricultural structures and features, as well as the remains of the Ravensworth and Hebden villages, together with the historical archaeology, all have the potential to provide further information regarding colonial farming practices, 19th century sheep runs, early 20th century soldier settlements and smaller scale farming and dairying and late 19th and early 20th century small rural villages.

The homestead complex and its immediate surrounds have moderate to high potential to provide further information of significance in relation to colonial building practices and architecture, agriculture and horticultural practices as well as the use of convicts in a non-institutional setting and modes of living dating from the early 19th century through to the early to mid 20th century.

The group of surviving c1832 homestead buildings have a high potential to provide further information regarding colonial building practices and architecture in the early to mid 19th century in NSW (although recent recording work has lessened this potential in some areas). Of particular note is

the configuration of the complex and the timber roof framing of the homestead complex buildings. Underfloor areas and building cavities of the group of buildings have moderate to high potential to reveal items of material culture relating to the long history of domestic and agricultural use. An archaeological feature of note is the evidence of a large stone building that once enclosed the northern side of the farmyard, anecdotally referred to by former owners as the “convict barracks”.

The landform of the garden and farmyard of the homestead complex is evidence of the Bowman period and the vegetation is remnant of the Hill family period (late 19th to early 20th century). Features of note include the stone seat and historic plant species including *Ficus macrophylla* (Moreton Bay fig), aloes, *Dovyalis caffra* (Kei apple), cactus or epiphyllum, *Phoenix canariensis* (Canary Island palms), *Nerium oleander* Splendens, *Pinus halepensis* (Aleppo pine) and *Rosa* cv. Although recently partly recorded, the documentary and archaeological evidence relating to the front (south) garden and the immediate landscape setting of the homestead complex, has the potential to (via further study including archaeological investigation) provide further information into colonial lifestyles and horticultural practices as well as the aesthetic concerns of James and Mary Bowman and their early managers/overseers.

The other surviving colonial-built agricultural features in the surrounds of the homestead complex also have a moderate to high potential to yield important information regarding colonial building practices and 19th and early 20th century agricultural practices (via further study including archaeological investigation). Features and archaeological sites of note include the brick beehive cistern, the brick lined well, the underground silo, the stone lined dams, footings of former buildings and other structures immediately to the north of the homestead complex, cultural plantings forming wind breaks, the former woolshed and sheep dip, the configuration of paddocks and their fencing and evidence of early cultivation.

The 1830s stone grave (Miss White’s) has the potential to provide some further information of importance into colonial burial practices at (what was) an isolated, rural establishment.

Because the subsequent development of the homestead complex and its surrounds was modest, there exists a relatively large and undisturbed (though weathered) archaeological record relating to the colonial period of the homestead complex and together with documentary evidence, there is potential for the homestead locality to provide good, and potentially rare, evidence of the use and treatment of convicts in a non-institutional setting from the early 1820s to the late 1830s.

The research potential of the place for European settlement phases is rare and of high historic significance on a State and local level.

5.2.6. Criterion (f) Rarity

An item possesses uncommon, rare or endangered aspects of NSW’s cultural or natural history (or the cultural or natural history of the local area).

The Ravensworth Homestead Complex and adjacent landscape and features are relatively rare on a Local level, as the substantial remnants of an early colonial pastoral estate.

The Ravensworth Estate also contains the following relatively rare components:

- The finely built (stone and timber), architecturally planned group of colonial farm buildings configured symmetrically around a farmyard compound.
- The original colonial Georgian bungalow style house of single pile “H” plan with porch *in antis* on the front and rear elevations, all under one bellcast hipped roof.

- The form of the stables with an arcaded recessed porch to the tack room.
- The stone-built barn.
- The breadth of the historical archaeological evidence at the place, which survives intact (although weathered), is an important, relatively undisturbed record of the workings of an early 19th century pastoral property that relied on convict labour for its establishment and initial growth.
- Individual historical archaeological sites and landscape features of note dating from the 1820s and 1830s including:
 - The remains of a substantial, stone building enclosing the northern side of the farmyard;
 - The underground silo (Site 3a);
 - Remains of an extensive early outbuilding group north-west of the house complex;
 - The site of an extensive kitchen/produce garden with evidence of early associated structures (including evidence of herringbone brick paving) in proximity to the homestead complex (the “8 acre garden” and the Northwest Paddock);
 - The dam adjacent to Yorks Creek with log and stone wall (Dam D4);
 - An extensive network of remnant early dams as evidence of concerted efforts to drought proof the property;
 - Surviving evidence of the layout and planning of the estate core (e.g. the deliberate address of the homestead southwards to the house dam and westwards to the approach road and the location of the stone grave); and
 - Rare surviving evidence of early alluvial terrace cultivation (defined by the senescent Black Locust trees).
- The place is also rare for being one of only a few places, along with Camden Park, Camden, NSW where the first experiments in plant breeding were carried out in Australia.

The Ravensworth Homestead Complex and its immediate surrounds are rare on a State and local level.

5.2.7. Criterion (g) Representativeness

An item is important in demonstrating the principal characteristics of a class of NSW’s cultural or natural places or environments (or a class of the local area’s cultural or natural places or environments).

The place is a representative example of a large pastoral property subdivided in the early 20th century under the *Closer Settlement (Amendment) Act* 1904, instigated by the government to encourage agricultural development of smaller rural allotments by ex-service personnel and migrants. Evidence of this period of development survives in the current cadastral property boundaries located across the estate lands and in the form of boundary fencing, former farms and dairies and other associated buildings and agricultural features.

The place also contains Aboriginal archaeological sites that are representative of artefact sites located throughout the upper Hunter Valley, both in terms of the types of artefacts recorded and the raw materials from which the artefacts were manufactured.

Ravensworth Estate, established in 1824, is representative of the implementation of a new and highly significant government policy introduced in 1822 by Governor Brisbane and Commissioner Bigge in the Hunter Region aimed at the economic and agricultural development of the colony through the management of land and convicts by private landowners. This policy resulted in the rapid colonisation of the region in the period 1820s to 1840s and the Ravensworth Estate is one of a number of surviving

former pastoral estates which together form the foundational layer of the European settlement of the Hunter Region.

The later history of the Ravensworth Estate is also representative of the history of changing land uses in the Hunter Valley, when from the mid to late 20th century former pastoral estate lands and smaller farming allotments began to be mined for coal. From this period onwards, the Ravensworth Estate entered a new phase of consolidation and development, a pattern of land use that is found in relatively large pockets of land throughout the Upper and Central Hunter Valley today.

The principal characteristics of Ravensworth Estate including its associations with important persons in the development of the colony (Dr. James Bowman and the Macarthur family), the establishment of the property as a sheep run, the c1832 homestead buildings, garden and associated agricultural features located adjacent to a water course (Yorks Creek and Bowman Creek), and the use of overseers/managers with assigned servants in the establishment of the estate, are all representative of a significant pattern of colonisation and history of development that occurred throughout the Hunter Valley and other parts of NSW in the 1820s and 1830s.

5.3. Summary Statement of Significance

The place forms part of the traditional lands of the Aboriginal people of the Hunter Valley, the Wonnarua, made more meaningful by the recorded reports of interactions and conflicts between the Wonnarua and the colonists in the Ravensworth locality.

The Ravensworth Estate is representative of the rapid colonisation of the Hunter region in the period 1820s to 1840s and the history of the place has led to the area of Ravensworth becoming a known locality in the state of NSW, with the Ravensworth Estate and homestead complex at its centre.

Established in 1824, the Ravensworth Estate is associated with a range of significant colonial places and people including Dr. James Bowman, principal surgeon of the colony of NSW, who established the estate and is one of only a few places where, under Edward Bowman, horticultural experimentation first started in Australia. The place retains tangible evidence of the colonial period including substantial archaeological remains, landscape features and cultural plantings and made more meaningful by the surviving c1832 homestead complex including its siting and configuration.

The Ravensworth homestead complex includes a rare, formally designed farmyard complex of colonial buildings including a good example of a colonial bungalow, with stonework and roof carpentry of note. As originally built, the “H” plan bungalow is a rare feature, indicating a design (potentially) by a gentleman architect.

Because of the relatively modest history of development throughout the 19th and 20th century, the place has the potential to provide information, by way of further study and archaeological investigation, into colonial building techniques, 19th century lifestyles, agricultural and horticultural practices and the working lives of convicts in a non-institutional setting, which is considered very rare.

5.4. Grading the Significance

The components of the place can be ranked in accordance with their relative significance as a tool to planning. The publication *Heritage Assessments* (NSW Heritage Branch, 2000) identifies the following grades of significance:

Grade	Justification	Status
Exceptional	Rare or outstanding element directly contributing to an item's local and State significance.	Fulfils criteria for local or state listing.
High	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance.	Fulfils criteria for local or state listing.
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfils criteria for local or state listing.
Little	Alterations detract from significance. Difficult to interpret.	Does not fulfil criteria for local or state listing.
Intrusive	Damaging to the item's heritage significance	Does not fulfil criteria for local or state listing.

5.4.1. Methodology for Grading of Significance

The significance of the Ravensworth Estate is complex. This arises because the area defined for the purposes of this report as the Place (the "10,000 acres") is extensive and contains a number of buildings, sites and landscape features of various ages. These features may have individual significance, significance as part of a group, a precinct/locality or as a linear feature (such as an axis or view), as well as contributing to the significance of the whole of the place.

Another dimension to this complexity is the range of values: aesthetic, historic, scientific and social. Within each of these values, each feature may have differing expression of the value as well as level of value. In some instances, the values relate to the core Ravensworth Estate story and significance, in other cases there are other stories and values (such as the villages of Ravensworth and Hebden and the early 20th century farms and dairies).

Given the complexity of the Place and the diversity of the components that comprise the Ravensworth Estate, the principal elements and features of the Place have been grouped together and graded below in relation to their contribution to the Place's overall cultural significance.

Grading of Historical Archaeology

Heritage significance is distinct from archaeological potential. The assessment of archaeological potential considers the probability of physical evidence from previous human activity to still exist on a site. Assessment of heritage significance for archaeological features considers the cultural values associated with those remains.

For an assessment of significance of the historical archaeology in accordance with *Assessing Significance for Historical Archaeological Sites and Relics* (Heritage Branch, 2009), refer to Section 5.6 below.

For an assessment of significance of the Aboriginal archaeology, including gradings of all newly recorded sites and previously recorded sites within the Core Estate Lands, refer to Section 5.5.3 below.

It should be noted that the Aboriginal archaeology has been assessed for its scientific values (Criterion e) only and is discussed further in Section 5.5.

For the grading of significance of the individual components of the built structures at the Ravensworth Homestead Complex, drawn from the detailed fabric surveys, refer to Appendix 5.

5.4.2. Applying the Grades of Significance

Generally, the grades of significance applied relate to the historical phases of development of the Place, the contribution individual components or groups of components make to the overall cultural significance of the Place and/or their rarity, as per the following:

Exceptional (E)

- Original and early components (Bowman era 1824-1842) valued under a number of criteria at once, that are key aspects of the history or character of the place, that are held in high regard for their aesthetic and/or social significance and are considered rare.

High (H)

- Other original and early components that directly reflect key aspects of the history or character of the place, and/or are held in high regard for their aesthetic values, scientific values or for their historic associations but are not considered rare.
- Other components that directly reflect key aspects of the later (post Bowman era) history.
- Other components that are held in high regard for their aesthetic values, scientific values and/or their historic associations but are not considered rare.

Moderate (M)

- Original, early and later components that contribute to the significance of the place as a whole or to specific precincts/localities or groups of components without having high significance in their own right. The contributory significance might be that the component adds to the understanding of the historical, aesthetic or social heritage values of the place, while not being essential to that understanding (including later owners from 1842 through to early Marshall period (up to c1940)).
- Reconstructions of original and early components (Bowman era components 1824-1842).
- Later components sympathetic to the original period and historic character of the place.

Little (L)

- Components that relate to aspects of the significance of the place, without being critical to the understanding of that significance. Individual components might also have some association with components, precincts/localities or groups of greater significance.
- Other components that may have historical associations with the place as a whole while not having heritage values in themselves (e.g. later Marshall period (c1940-2000))

Intrusive (I)

- Features that detract from the significance or appreciation of the place.

5.4.3. Grading the Components of the Place

The following gradings of significance for the individual components of the Place apply. Refer to Figure 5.1 below for the location of individual components.

Table 5. 1: Grading of Significance for the components of the Place

COMPONENT TYPE	COMPONENT/FEATURE	GRADE OF SIGNIFICANCE
THE PLACE (THE “10,000” ACRES)		
Nomenclature	The name of the Place, the Homestead Complex, the parish and the general locality: Ravensworth (in place since the 1820s)	Exceptional
	The name of Bowmans Creek (named for Dr. James Bowman)	High
Cadastral evidence	Documentary evidence of the original boundaries of Bowman’s 1824 land grants (Portions 149 and 150 parish of Liddell and Portion 1 of parish of Vane).	High
	Physical evidence including fencelines defining the location of the original 1820s land grant boundaries.	Moderate/Little
	Cadastral property boundaries relating to the Measures and Reid subdivisions of the early 20th century and the soldier settlements.	Moderate
	Fencelines and fabric defining location of 20 th century subdivision boundaries	Little
Views and Setting <i>Refer also Table 5.3 Grading of Views below.</i>	Identified available views throughout the original “10,000 acres” including former pastoral lands with scattered agricultural buildings and areas of natural vegetation, flood plains and natural land forms.	Moderate
	Broader landscape setting of the Place taking in Mt. Dyring, Mt. Arthur, the Broken Back Range, Mount Royal National Park and the Liddell Power Station.	Moderate
Aboriginal Archaeology <i>Refer to Section 5.5.3 Grading of Aboriginal Archaeology below.</i>	Known Aboriginal sites including the following registered sites: <ul style="list-style-type: none"> • Site 40 (Bowmans Creek 16) • Site 41 (Glendell North ST1) • Site 33a Yorks Creek Voluntary Conservation Area 	High/Moderate (scientific)
Historical Archaeology <i>Refer also to Section 5.6 Historical Archaeological Significance below.</i>	(If any) surviving historical archaeology directly relating to convict era features and buildings.	Exceptional to Moderate

COMPONENT TYPE	COMPONENT/FEATURE	GRADE OF SIGNIFICANCE
Roads and Rail	The alignment of Hebden Road.	High
	The alignment of the New England Highway	Little
	The alignment of the Great Northern Railway	Moderate
Built Structures and Landscape Features	<p>Evidence of former 20th century farms and dairies and agricultural buildings and features scattered across the landscape including footings of buildings, garden layouts and remnant cultural plantings, fence lines, wells, sheep/cattle yards, water troughs, dairies, barns and the like, including:</p> <ul style="list-style-type: none"> • Site 17 • Site 20 • Site 21 • Site 28 • Site 29 • Site 35 • Site 39 	Moderate
	<p>Evidence of former 20th century farms and dairies and agricultural buildings and features scattered across the landscape including footings of buildings, garden layouts and remnant cultural plantings, fence lines, wells, sheep/cattle yards, water troughs, dairies, barns and the like, including:</p> <ul style="list-style-type: none"> • Site 19 • Site 24 • Site 25 • Site 26 • Site 26a • Site 31 • Site 33b • Site 36 • Site 37 	Little
Ravensworth Village	The 19th century Ravensworth School building remains with playground, adjacent orchard and archaeological remains of the School Masters residence (Site 23a)	Moderate
	(If any) surviving historical archaeology of the Ravensworth Station Master's residence (Site 23c).	Little
	(If any) surviving historical archaeological remains of the village of Ravensworth (Site 23b).	Little
Hebden Village	20th century Hebden School building with playground (Site 34)	Moderate

COMPONENT TYPE	COMPONENT/FEATURE	GRADE OF SIGNIFICANCE
	John Winters's grave site (Site 34a)	Moderate
	(If any) surviving historical archaeological remains of the Hebden village site (Sites 34 and 35).	Little
Recent Built Structures and Landscape Features	Recent (late 20 th century) buildings, structures, site and landscape features including: <ul style="list-style-type: none"> • Site 8 • Site 18 • Site 22 • Site 30 • Site 38 	Little
Infrastructure- other	Recent services and facilities including transmission lines, recent roadworks, later plantings, later fence lines, later internal private roads and tracks and areas of rehabilitation (20 th and 21 st century components).	Little
Mining activities and Infrastructure	Evidence of mining activities including overburdens and pits and associated infrastructure (including Sites A, B, C, D, E, F and Site 32)	Intrusive

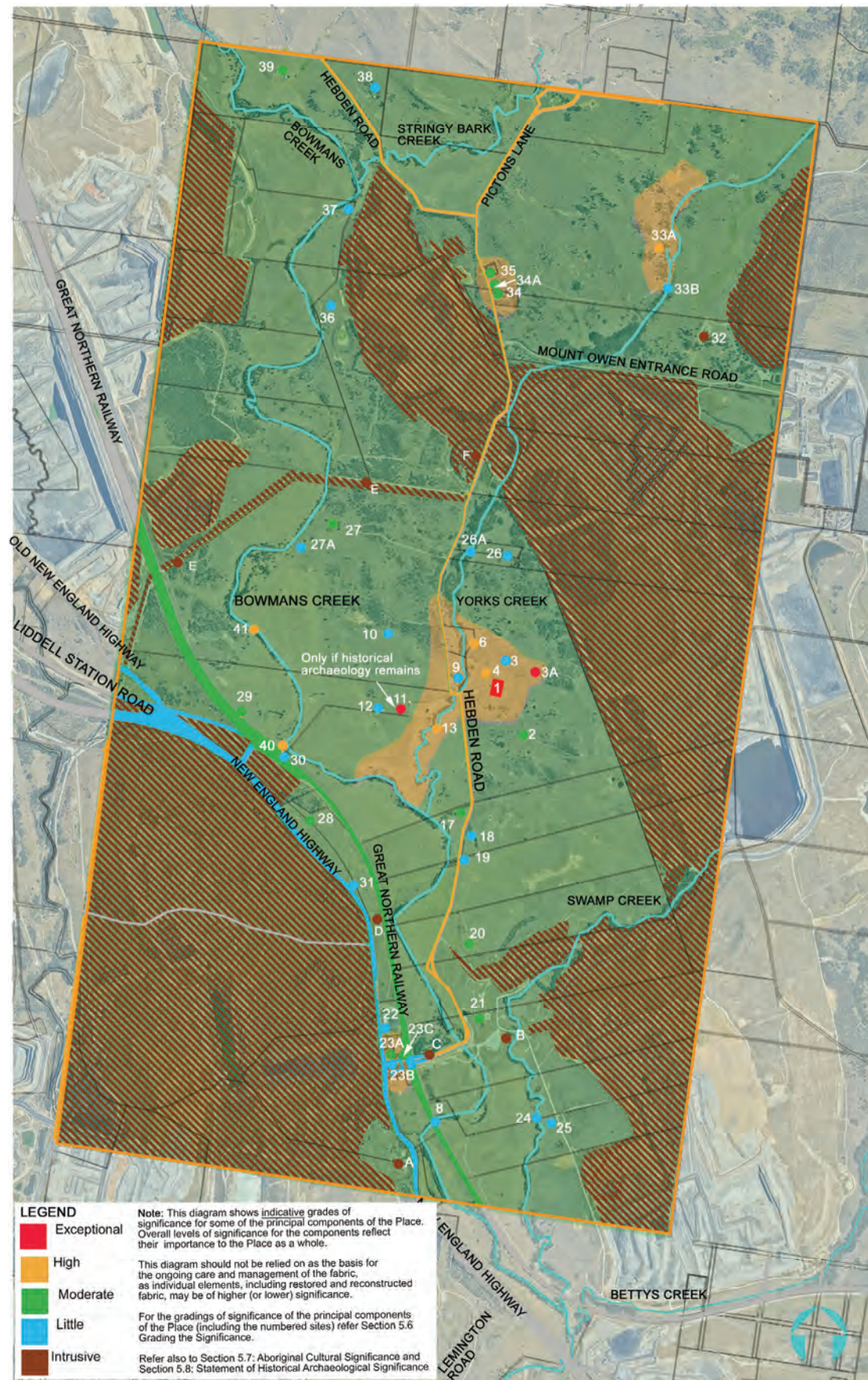


Figure 5. 1: Diagram of the Place showing indicative grades of significance for the principal components.

5.4.4. Grading the Components of the Core Estate Lands

The following gradings for the components of the Core Estate Lands apply. Refer also to Figure 5.1 above and 5.2 below for the location of the individual components.

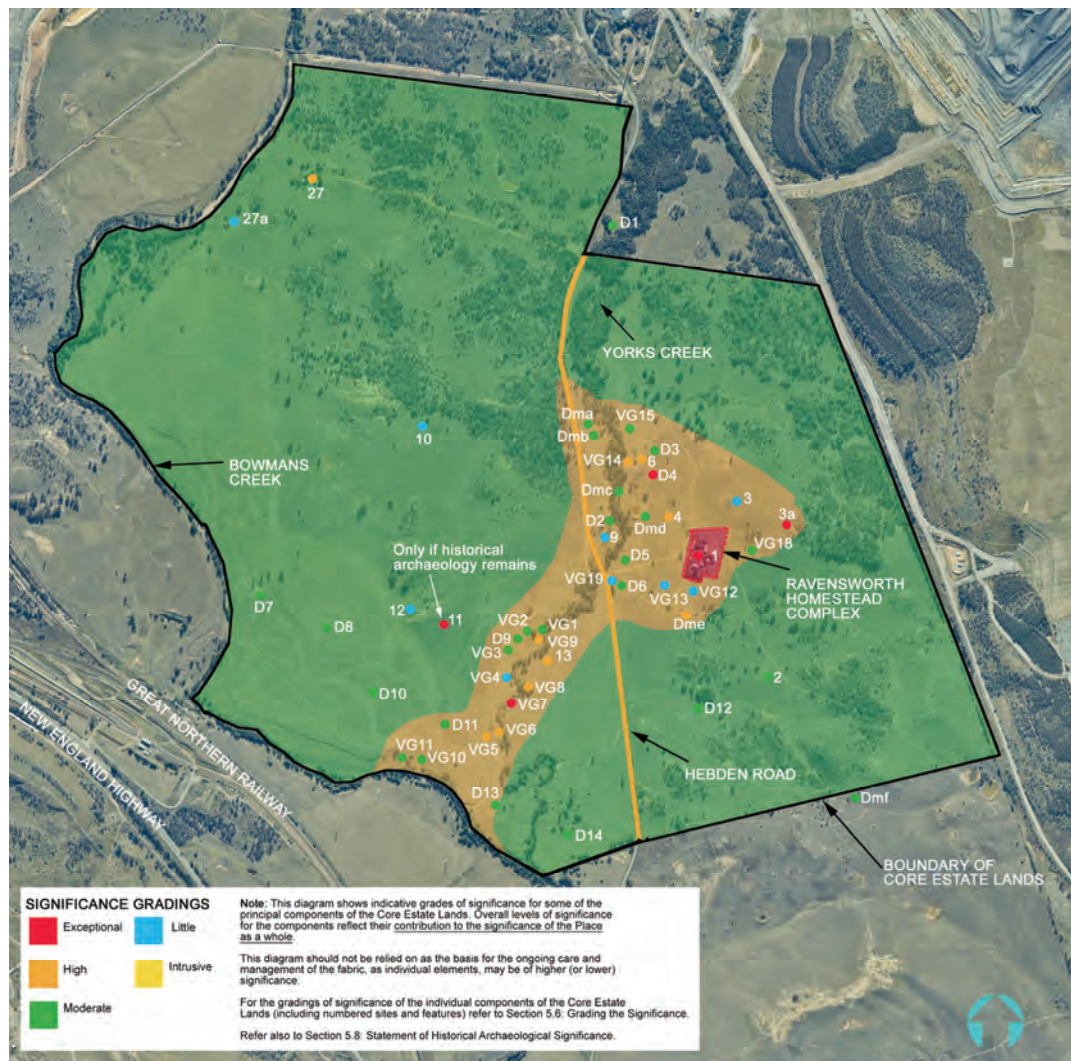
Table 5. 2: Grading of Significance for the components of the Core Estate Lands

COMPONENT TYPE	COMPONENT/FEATURE	GRADE OF SIGNIFICANCE
CORE ESTATE LANDS		
Aboriginal Archaeology <i>Refer to Section 5.5 Grading of Aboriginal Archaeology below.</i>	Surviving Aboriginal relics located across the land	Moderate/Little (scientific)
Setting of the Ravensworth Homestead Complex <i>See also Table 5.3 Grading of Views below</i>	Surviving natural topography including the House Tank Hill (Sites 3 and 3a) to the north of the Ravensworth Homestead Complex and the ridgeline to the west of Yorks Creek (containing Sites 10, 11 and 12) with alluvial plains between Yorks Creek and Bowmans Creek to the south and south west.	Moderate
	The spatial and visual relationship between the Homestead Complex and Yorks Creek.	High
Irrigation Scheme <i>Refer to Figure 3.129.</i>	Surviving evidence of the remnant colonial irrigation scheme involving dams and chains of ponds interlinked with the natural catchment/flood zone of Bowmans Creek and Yorks Creek, including:	High
	• Early dams (pre-1850s) along Yorks Creek, with surviving stone and/or log walls including Dam D4	Exceptional
	• The house dam: Dme	High
	• Other potentially early dams (pre-1850s) located along Yorks Creek including Dams D1, D2, D3, D5, D6 and D12	Moderate
	• Other potentially early dams (pre-1850s) located along Bowmans Creek including Dams D7, D8, D10, D11, D13 and D14	Moderate
	• Other potentially early but modified dams: Dma, Dmb, Dmc, Dmd and Dmf.	Moderate
Landscape Group 1 <i>Refer to Figures 3.119 and 3.120</i>	Recent dams (20 th century or recent mining activity related): R1 to R19	Little
	Group of old cultural plantings along Yorks Creek that appear to relate to the colonial agricultural development known to have occurred in Landscape Group 4 (Site 4, the Northwest Paddock) and further north along Yorks Creek, including:	Exceptional (the group)
	• VG7 <i>Nerium oleander</i> cv. 'Splendens' (Oleander)	Exceptional
	• VG8 <i>Callitris endlicheri</i> (Black Cypress pine)	High

COMPONENT TYPE	COMPONENT/FEATURE	GRADE OF SIGNIFICANCE
CORE ESTATE LANDS		
Landscape Group 1 cont. <i>Refer to Figures 3.119 and 3.120</i>	<ul style="list-style-type: none"> VG9 <i>Ulmus</i> sp. (Elm) Historical archaeological area Site 13 (Archaeological Test Area 7) is in the vicinity indicating the possibility of an early stone structure associated with the cultural landscape features. (Refer also to Section 5.6 Historical Archaeological Significance below) 	High High
Landscape Group 2 <i>Refer to Figures 3.119 and 3.120</i>	Group of features which together form an area of historical and archaeological interest, including: <i>Robinia pseudoacacia</i> (VG5) lines of Black Locust with African boxthorn (<i>Lycium ferocissimum</i>) forming windbreaks around a possible area of early cultivation (VG6).	Exceptional
Landscape Group 3 <i>Refer to Figures 3.119 and 3.120</i>	Group of features on Bowmans Creek which together appear to be a continuation of the agricultural development of the alluvial lands along Yorks Creek to the north, including: <ul style="list-style-type: none"> a potential windbreak (species not recorded) (VG11); adjacent early cultivation area (VG10) on north bank of Bowmans Creek. 	High Moderate Moderate
Landscape Group 4 <i>Refer to Figures 3.119 and 3.120</i>	The “8 acre Garden” consisting of a group of features associated with the colonial agricultural development in the vicinity of Ravensworth Homestead Complex. Features include: <ul style="list-style-type: none"> Copse of Black Locusts (<i>Robinia pseudoacacia</i>) (VG15) Former cultivation areas with closely spaced furrows still clearly visible on surface with early fencing partly remaining (VG14/Archaeological Test Area 6). Brick lined well (Site 6) The grouping also contains a number of historic dams including D3 and D4 and Dmd as well as remnant fencing indicating early field layouts (also see above). (Refer also to Section 5.6 Historical Archaeological Significance below)	Exceptional Moderate High High
Landscape Group 5 <i>Refer to Figures 3.119 and 3.120</i>	Former orchards (VG12 and VG13) between Homestead Complex and House Dam and to the southwest of Homestead Complex (Lidar results confirm location) possibly from early 20 th century	Little
Other Plantings generally	Kurrajong (<i>Brachychiton populneus</i>), occurring naturally but possibly preserved selectively, including VG2.	Moderate

COMPONENT TYPE	COMPONENT/FEATURE	GRADE OF SIGNIFICANCE
CORE ESTATE LANDS		
Refer to Figures 3.119 and 3.120	Swamp Oak (<i>Casuarina glauca</i>), occurring naturally but possibly preserved selectively.	Moderate
	Indigenous Eucalypts (<i>Eucalyptus</i> spp.), found along creek lines etc. but possibly preserved selectively, including VG1.	Moderate
	Old examples of Black locusts (<i>Robinia pseudoacacia</i>), possibly preserved selectively, including VG3.	Moderate
	Old example of Aleppo pine to east of Ravensworth Homestead Complex (VG18)	Moderate
	Aleppo pine to west of Ravensworth Homestead Complex adjacent to Hebden Road entry (VG19)	Little
	African Olives (<i>Olea europaea</i> subsp. <i>Cuspidate</i>) occurring as weeds, including VG4.	Little
	Black locusts (<i>Robinia pseudoacacia</i>), occurring as weeds	Little/Intrusive
	Peppercorn tree (<i>Schinus areira</i>) near Yorks Creek	Little
	Elm (<i>Ulmus</i> sp.), occurring as weeds in creeklines	Little/Intrusive
	Yucca (<i>Yucca</i> sp.) located west of Yorks Creek	Little/Intrusive
	Kei Apple (<i>Dovyalis caffra</i>) occurring as weeds	Little/Intrusive
Other Landscape Features generally Refer to Figures 3.119 and 3.120	Evidence of former cultivation areas along the Bowmans Creek and Yorks Creek flood plains dating from the late 19 th century and early 20 th century.	Little
	Later (20 th century) cultural plantings including windbreaks along the Bowmans Creek and Yorks Creek flood plains.	Little
Other Built Structures associated with the Ravensworth Homestead Complex Refer also to Section 5.6 Historical Archaeological Significance below	(If any) surviving archaeological evidence of the first homestead site (Site 11/Archaeological Test Area 1).	Exceptional
	Evidence of the former Woolshed with fireplace base and sheep dip (Site 2).	Moderate
	The underground silo (Site 3a)	Exceptional
	Water tank and Trig. station at House Tank Hill (Site 3).	Little
	Surviving historical archaeological evidence in the Northwest Paddock including stone footings, herringbone paving, former blacksmiths etc. (Site 4/ Archaeological Test Area 5)	High
	Site of Quarry (Site 12)	Little

COMPONENT TYPE	COMPONENT/FEATURE	GRADE OF SIGNIFICANCE
CORE ESTATE LANDS		
Other Built Structures and Landscape Features	<p>Evidence of former 20th century farms and dairies and somewhat intact agricultural buildings and features scattered across the landscape including footings of buildings, stone edged garden beds, remnant cultural plantings, fence lines, sheep yards, water troughs, dairies, barns and the like, including:</p> <ul style="list-style-type: none"> • Site 9 • Site 10 • Site 27 (Ravensworth Farm) • Site 27a (Ravensworth Farm dairy) 	<p>Moderate/Little</p> <p>Little</p> <p>Little</p> <p>Moderate</p> <p>Little</p>
Roads	The alignment of the driveway access from Hebden Road to the Homestead Complex.	High
Infrastructure- other	Recent services and facilities including transmission lines, recent roadworks, later plantings, later fence lines, later internal private roads and tracks and areas of rehabilitation.	Little/Intrusive



LEGEND

Key Ravensworth Estate Sites/ Archaeological Test Areas

- 1 Ravensworth Homestead Complex (C&L Archaeological Test Areas 3 & 4)
- 2 Former Woolshed site
- 3 Housetank Hill: water tank and trig. station
- 3a Underground Silo site
- 4 Northwest Paddock (C&L Archaeological Test Area 5)
- 6 Brick-lined Well (C&L Archaeological Test Area 6)
- 9 Former farm site
- 10 Former farm site
- 11 (Potential) First Homestead site (C&L Archaeological Test Area 1)
- 12 Quarry (former)
- 13 Linear stone feature (C&L Archaeological Test Area 7)
- 27 Former farm site: Ravensworth Farm
- 27a Former dairy building: Ravensworth Farm

Potential Early Dams and Modified Early Dams (pre 1850s)

Note: Recent dams are not shown

- D1-D14 Potential Early Dams (pre 1850s)
- Dma-Dmf Potential Early Dams modified more recently
- D3, D4 & Dmd Yorks Creek Dams (C&L Archaeological Test Area 6)

Potential Early Cultivation Sites and Early Plantings (pre 1850s)

- VG1 Narrow- leafed Ironbark
- VG2 Kurrajong
- VG3 Black Locust
- VG4 African olive
- VG5 Black Locust windbreak (C&L Archaeological Test Area 2)
- VG6 Possible early cultivation area
- VG7 Oleander
- VG8 Black cypress pine
- VG9 Elm
- VG10 Possible early cultivation area
- VG11 Possible windbreak
- VG12 Former orchard (early 20th century)
- VG13 Former orchard (early 20th century)
- VG14 8 Acre Garden (C&L Archaeological Test Area 6)
- VG15 Copse of Black locusts
- VG16 Possible early cultivation area
- VG17 Channel leaf Orchid/Tiger Orchid(location unknown)
- VG18 Aleppo pine

For C&L Archaeological Test Areas see
Ravensworth Homestead Complex:
Historical Archaeological Test Excavation Report,
by Casey and Lowe, 2019

Figure 5. 2: Diagram of the Core Estate Lands showing indicative grades of significance for the principal components.

Table 5. 3: Grading of Significance for Views in the Core Estate Lands

VIEW NO.	DESCRIPTION	GRADE OF SIGNIFICANCE
VIEWS OF THE PLACE <i>Refer to Figure 3.98 for location of views</i>		
V1	Views from the New England Highway corridor to the south and west to the Place	Moderate
V2	Views up and down Hebden Road throughout the Place	Moderate
VIEWS THROUGHOUT THE CORE ESTATE LANDS <i>Refer to Figure 3.98 for location of views</i>		
V3	Views from the east (Site 11) to the Ravensworth Homestead Complex in its setting with broader landscape behind, including views of Mount Dyring	Moderate
V4	Views from House Tank Hill (Site 3) over the Ravensworth Homestead Complex to the broader landscape (looking south/south-west).	High
V5	Views from Hebden Road (north east and east) to the Ravensworth Homestead Complex.	High
V6	View from entry driveway (east) to the Ravensworth Homestead Complex (traditional entry).	High
V7	Reciprocal views between the Ravensworth Homestead Complex and the cultivation areas, early dams and enclosing line of vegetation along the eastern side of Yorks Creek (east and northeast).	Moderate
V8	Views the Ravensworth Homestead Complex to pastoral lands with Bowmans Creek and Yorks Creek and broader landscape behind (south and south-west).	High
V9	Reciprocal axial views between the south garden of the Ravensworth Homestead Complex and the House Dam (Dme).	High
V10	View from Yorks Creek channel to Homestead Dam (looking east). (Historic view published in <i>Sydney Mail and NSW Advertiser</i> , Saturday 5 th February 1902, see Figure 3.5).	Moderate

5.4.5. Grading the Components of the Ravensworth Homestead Complex

The following gradings for the components of the Ravensworth Homestead Complex apply. Refer to Figure 5.3 for the location of the individual components.

Table 5. 4: Grading of Significance for the built components of the Ravensworth Homestead Complex

COMPONENT TYPE	COMPONENT/FEATURE	GRADE OF SIGNIFICANCE
RAVENSWORTH HOMESTEAD COMPLEX BUILT FEATURES		
Aboriginal Archaeology	(If any) surviving Aboriginal archaeology, although none located at this time (refer to <i>Section 3.8.3 Historical Archaeological Testing Program</i>).	Little (scientific)
Historical Archaeology	Archaeological remains of the former northern wing/(possible) convict accommodation building (Archaeological Test Area 4)	Exceptional
	(If any) surviving archaeology directly relating to convict era features and buildings.	Exceptional
	(If any) surviving archaeology and physical evidence relating to the Russell and Mackay periods (c1848-1911, in consequential ownership periods).	Little
	Surviving evidence relating to the Marshall period (1920 to 2000).	Little
Configuration	Formal arrangement of the Ravensworth Homestead Complex as an architecturally planned, group of colonial farm buildings.	Exceptional
	Alignment of perimeter fences and walls forming the rectangle around the Ravensworth Homestead Complex garden and farm yard (layout only not fabric).	High
	Axial alignment of “Miss White’s” grave (eastern side) in relation to the Homestead.	High
Built Structures <i>Refer also to Appendix 5 for detailed fabric surveys of the buildings.</i>	The complementary group of colonial farm buildings including the stables, barn, main house, kitchen wing and privy.	High
	The main house including the “H” plan, stone work, roof carpentry.	Exceptional
	20 th century changes to Main House	Moderate
	The other individual buildings: Kitchen, Barn, Stables and Privy	High
	Reconstructed and restored fabric to Main House, Kitchen, Barn, Stables and Privy generally based on authentic form and detailing and using appropriate material selection.	Moderate
	Later additions to the Stables buildings (including the Marshall’s shearing shed and sheep dip, c1936).	Moderate

COMPONENT TYPE	COMPONENT/FEATURE	GRADE OF SIGNIFICANCE
RAVENSWORTH HOMESTEAD COMPLEX BUILT FEATURES		
	Mid to late 20 th century changes to Men's Quarters building.	Little
	Later fabric sympathetic to the aesthetic and historic significance of the original fabric.	Moderate

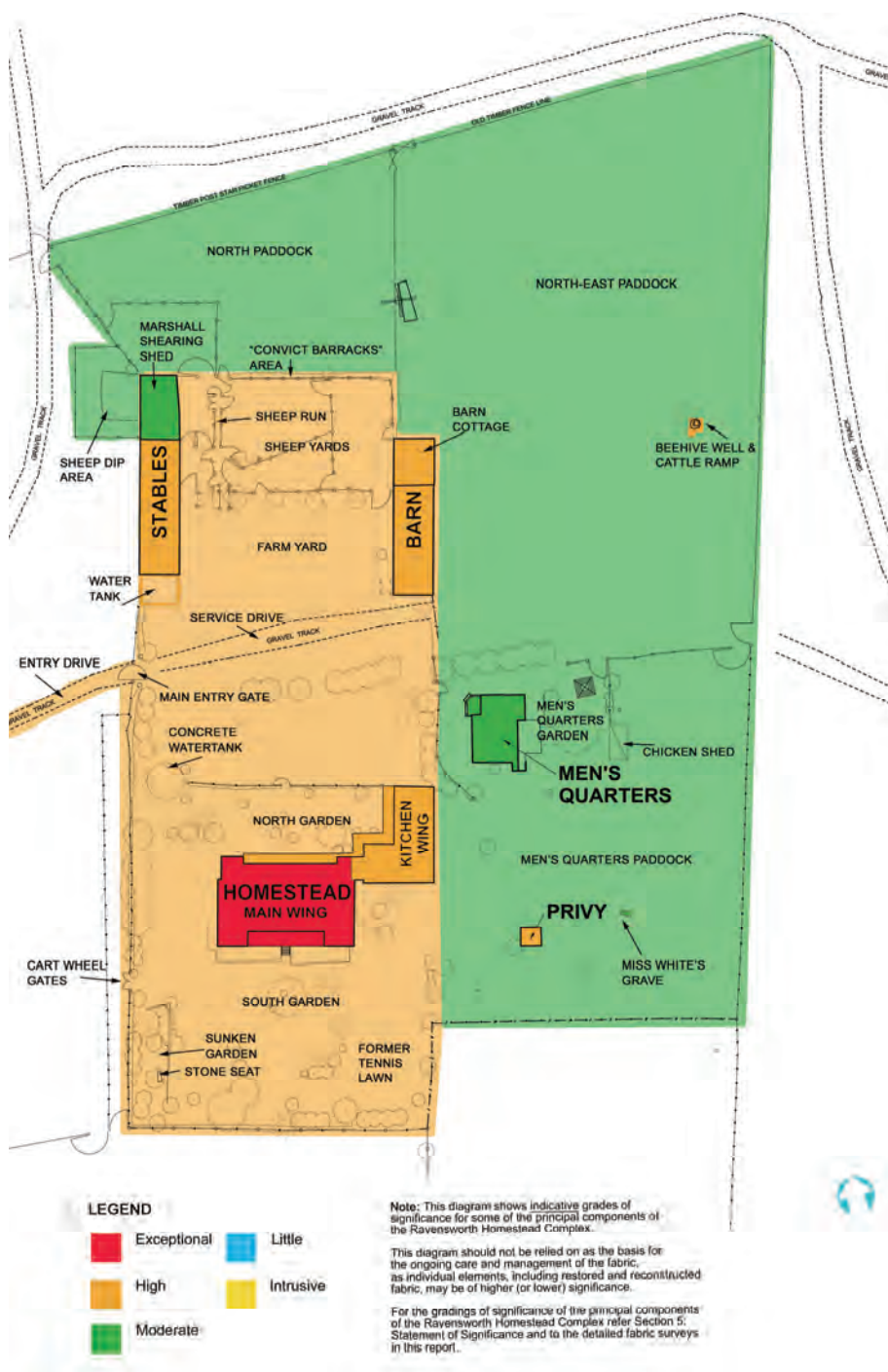


Figure 5. 3: Site plan of the Ravensworth Homestead Complex showing indicative grades of significance for the principal components.

Table 5. 5: Grading of Significance for the Plant Species at the Ravensworth Homestead Complex

SYMBOL	PLANT SPECIES	COMMON NAME	GRADE OF SIGNIFICANCE
RAVENSWORTH HOMESTEAD COMPLEX PLANT SPECIES (<i>see Figure 3.353</i>)			
Ab	<i>Abelia grandiflora</i>		Little
Ag	<i>Agapanthus praecox</i>	Common Agapanthus, African lily	Little
Aa	<i>Agave americana</i>	Giant century plant	High
Am	<i>Aloe maculata</i>	Soap aloe	Moderate
Ar	<i>Artemisia absinthium</i>	Common wormwood	Moderate
Ad	<i>Arundo donax</i>	Giant reed, giant cane	Little
Bg	<i>Bignonia sp.</i>		Little
Bn	<i>Bilbergia nutans</i>	Queen's tears	Little
Bp	<i>Brachychiton populneus</i>	Kurragone (recruits)	Little
Ca	<i>Callistemon sp.</i>	Bottlebrush	Little
Cg	<i>Casuarina glauca</i>	Swamp Oak	Little
Cr	<i>Catharanthus roseus cv.</i>	Madagascar periwinkle	Little
Ce	<i>Cercis sp.?</i>		Little
Ch	<i>Chaenomeles japonica</i>	Japonica (syn. <i>Pyrus japonica</i> flowering quince)	Little
Cm	<i>Clivea miniata?</i>		Little
Ct	<i>Cotyledon orbiculata var. oblonga</i> 'Macrantha'	Pig's ear, paddle plant	Little
Co	<i>Crassula ovata</i>	Jade plant	Little
Dx	<i>Dolichandra unguis-cati</i>	Cat's claw creeper	Moderate
Dc	<i>Dovyalis caffra</i>	Kei apple (line of plants in farm yard)	Moderate
Dc	<i>Dovyalis caffra</i>	Kei apple (as weeds)	Little
Ep 1	<i>Epiphyllum sp.</i>		Moderate
Ep 2	<i>Epiphyllum crenatum</i>	Crenate Orchid Cactus	Moderate
Ec	<i>Eucalyptus sp.</i>	Ironbark or Grey Box? Stumps only	Little
Eu	<i>Eucomis sp.</i>		Little
Fm	<i>Ficus macrophylla</i>	Moreton Bay fig	High
Gr	<i>Grevillea robusta</i>	Silky Oak	Little
Jm	<i>Jacaranda mimosifolia</i>	Jacaranda	Little
Ja	<i>Jasminum sp.</i>	Jasmine	Little
Ka	<i>Kalanchoe sp.?</i>		Little

SYMBOL	PLANT SPECIES	COMMON NAME	GRADE OF SIGNIFICANCE
RAVENSWORTH HOMESTEAD COMPLEX PLANT SPECIES (see Figure 3.353)			
Lp	<i>Lagunaria patersonii</i>	Norfolk Island hibiscus	Little
Lj	<i>Lonicera japonica</i>	Common honeysuckle	Little
Ly	<i>Lycium ferocissimum</i>	African Boxthorn	Little
No	<i>Nerium oleander</i>	Oleander	Moderate
Oe	<i>Olea europaea subsp. cuspidata</i> (syn. <i>Olea europaea subsp. africana</i>)	African Olive	Moderate
Oa	<i>Opuntia aurantiaca</i>	Tiger Pear	Little
Pc	<i>Phoenix canariensis</i>	Canary Island date palm	Moderate
Pa	<i>Plumbago auriculata</i>	Leadwort	Little
Pr	<i>Prunus sp. or cv.</i>		Little
Pg	<i>Punica granatum</i>	Pomegranate	Little
Ra	<i>Raphiolepis indica</i>	Indian Hawthorn	Little
Ro	<i>Rosa cv.</i>		Little
Sa	<i>Schinus areira</i> (syn. <i>S. molle</i>)	Peppercorn tree	Little
Sp	<i>Spiraea sp.</i>	Maybush	Little
Sr	<i>Strelitzia reginae</i>	Bird-of-Paradise	Little
Yf	<i>Yucca sp.</i> [possibly <i>Y. flaccida</i>]		Moderate

Table 5. 6: Grading of Significance for the Landscape Features of the Ravensworth Homestead Complex

ITEM NO.	DESCRIPTION	GRADE OF SIGNIFICANCE
RAVENSWORTH HOMESTEAD COMPLEX LANDSCAPE FEATURES (see Figure 3.354)		
South Garden	Island bed (featuring fig tree) on axis to homestead in front grounds	Moderate
	Terracing adjacent to the front verandah now surrounded by stone (19 th century)	Moderate
	Circular access loop within the front grounds	Little
	Sunken area (Marshall period) at western end of front grounds	Little
	Tennis/croquet court	Moderate
1	Timber post and star picket with barbed wire or plain wire fencing	Little
2	Timber post and rail and slab faced fence with steel posts and wire	Little
3	Steel post and wire fencing	Little
4	Star picket and wire protective fencing	Little

ITEM NO.	DESCRIPTION	GRADE OF SIGNIFICANCE
RAVENSWORTH HOMESTEAD COMPLEX LANDSCAPE FEATURES (<i>see Figure 3.354</i>)		
5	Steel pole farm gate with wire mesh.	Little
6	Steel pole farm gate with wire or wire mesh as markers for location of stock yards.	Moderate
6a	Steel cart wheel gates on timber posts.	Little
7	Yard fencing of timber post with wire mesh, steel girders and steel poles as markers for location of stock yards.	Moderate
8a	Rubble stone wall supported with timber posts, steel girders, steel poles and wire mesh	Little
8b	Built stone walls located below rubble stone wall (remains of northern wing).	High
9	Sheep run of timber posts with steel rails and wire mesh with stone flagging	Little
10	Sheep ramp of timber with steel girders and steel poles supported on sandstone blocks	Little
11a	Makeshift shelter of timber with corrugated metal roofing	Little
11b	Two cast iron stoves (Fletcher & Sons, Oxford Street, Sydney-early 20 th century) (probably originally from Kitchen Wing).	Moderate
12	Sandstone rubble base to fence as marker to traditional garden boundaries	Moderate
13	Scattered stone (former building materials)	Moderate
14	Timber post and rail fence with steel pole farm gate with wire mesh	Little
15	Timber post and rail fence with timber post and rail gate	Little
16	Gravel track	Little
17	Stone flagging wheel tracks as markers for traditional approach to Main House.	Moderate
18	Timber entry gate posts (early surviving markers of traditional entry)	High
19	Stone seat	Little
20	Rubble stone garden bed surrounds	Little
21	Stone block garden wall	Little
22	Stone water trough (probably early)	Moderate
23	Stone water trough (probably early)	Moderate
24	Stone block (use unclear)	Moderate
25	Ravensthurst trig station stone marker (former, date unknown)	Moderate
26	Rubble stone garden retaining walls	Moderate

ITEM NO.	DESCRIPTION	GRADE OF SIGNIFICANCE
RAVENSWORTH HOMESTEAD COMPLEX LANDSCAPE FEATURES (see Figure 3.354)		
27	Former tennis (croquet?) lawn area	Moderate
28	Former location of inground spa (possible location for original cistern)	Little (High)
29	Timber fence post with Kei Apple	Little
30	“Miss White’s” stone grave	Moderate
31	Stone and concrete tank stand as marker of earlier tanks	Little
32	Timber tank stand (collapsed)	Little
33	Concrete laundry trough	Little
34	Rubble stone garden divider (?)	Little
35	“Drymaster” rotary clothes hoist (mid-20 th century)	Little
36	Timber post, rail and slab faced fence as marker of earlier fences	Little
37	Timber and corrugated metal sheeting chicken shed	Little
38	Corrugated metal water tank on stone block stand	Little
39	Stone flagging path	Moderate
40	Timber picket gate	Moderate
41	Stone rubble wall supported with steel posts and wire (division between the farm yard and north homestead garden)	Moderate
42	Timber picket gate	Moderate
43	Timber pole with electricity box	Little
44	Hearth stone reused	High
45	Concrete water tank	Little
46	Stone edging to verandah	High
47	Stone mantel corbel (loose)	High
48	Stone flagging (original or early relocated)	High
49	Timber pole for electricity and telephone	Little
50	Rubble stone and cement render water tank adjoining south end of Stables (c1928)	Moderate
51	Stone water trough (original or early relocated)	High
52	Stone blocks including lintel from Stable door	High
53	Timber tank stand	Moderate
54	Timber support struts (west elevation of Stables)	Little
55	Timber slab faced wall (?) with timber and stone rubble building materials (part of Marshall’s shearing shed and sheep dip)	Moderate
56	Entry drive from Hebden Road	Little

ITEM NO.	DESCRIPTION	GRADE OF SIGNIFICANCE
RAVENSWORTH HOMESTEAD COMPLEX LANDSCAPE FEATURES (<i>see Figure 3.354</i>)		
	Alignment of entry drive from Hebden Road	Exceptional
57	Gravel track leading north	Little
58	Gravel track leading west	Little
59	Gravel track leading south (on west side of complex)	Little
60	Gravel track leading west from north-west paddock	Little
61	Skip bin with remnant building materials	Little
62	Corrugated metal water tank on stone block base (collapsed)	Little
63	Steel windmill (collapsed)	Little
64	Brick and concrete beehive well (mid Victorian era)	Moderate
64a	Iron bread oven door used as covering for well (relocated from Kitchen Wing)	High
65	Timber, rubble stone and corrugated metal cattle ramp (collapsed)	Little

5.5. Aboriginal Cultural Significance

5.5.1. Aboriginal Cultural Heritage Significance

The following information has been extracted from the *Aboriginal Cultural Heritage Assessment Report* (ACHAR) prepared by Australian Cultural Heritage Management (ACHM), 2019. For detailed information relating to the methodology, results and recommendations, the original report should be referred to in the first instance (see *Appendix 22* of the GOC Project EIS).

Significance Assessment

The ACHAR (ACHM, 2019) ascertained that there are no traditional cultural values associated with the GCOP Project Area (directly and specifically) held by the participants in the ACHAR process (and this would include the Ravensworth Homestead and immediate surrounds). By “traditional” cultural values, the report refers to these in the Native Title sense as an inherited and cohesive body of “traditional” knowledge, laws and customs that are still observed and maintained by a group. However, in common with many urbanised communities, strong contemporary cultural values exist in almost universal claims of 'connection' to the land in question, and a sense of anguish and/or anger at having been 'disconnected' from the land in question by historical circumstances.

The ACHAR concludes that the Additional Disturbance Area has undergone considerable modification since European settlement. Traditional Aboriginal lifeways and customs began to disappear in the early days of contact with Europeans and had largely disappeared before the turn of the 19th century. Much of the natural landscape no longer exists in any cohesive manner, as the long history of agriculture in the area has irreversibly altered the landscape. Combining the historical disconnection of people from place with the extensive landscape modification since settlement means that the Additional Disturbance Area has a relatively low cultural significance when compared to other places within the wider region. This conclusion is consistent with the archaeological assessment, which has determined that most of the archaeological sites are of **low scientific significance** (see Section 5.5.4 below).

5.5.2. Aboriginal Archaeological Significance

The following information regarding the assessment of archaeological/scientific values of the Aboriginal archaeology known to exist at Ravensworth has been extracted from the *Aboriginal Archaeology Impact Assessment Glendell Continued Operations Project, Glendell Coal Mine, Ravensworth*, 2019 prepared by OzArk Environment & Heritage Pty Ltd. For detailed information relating to the methodology, results and recommendations, the original report should be referred to in the first instance (see *Appendix 22* of the GOC Project EIS).

Archaeological/Scientific Value

The appropriate management of cultural heritage items is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed development. Social (cultural), scientific (archaeological), aesthetic and historical significance are identified as baseline elements of significance assessment, and it is through the combination of these elements that the overall cultural heritage values of a site, place or area are resolved.

For the Aboriginal archaeology, only the scientific values of the Additional Disturbance Area/Core Estate Lands have been considered. This is not to say that the author is unaware of possible social / cultural, aesthetic and historical values at a particular location, but the assessment here is of the scientific values alone while the other values will be examined in the ACHAR (see *Appendix 22* of the GOC Project EIS).

Assessing a site in this context involves placing it into a broader regional framework, as well as assessing the site's individual merits in view of current archaeological discourse. This type of value relates to the ability of a site to answer current research questions and is also based on a site's condition (integrity), content and representativeness.

The overriding aim of cultural heritage management is to preserve a representative sample of the archaeological resource. This will ensure that future research within the discipline can be based on a valid sample of the past. Establishing whether a site can contribute to current research also involves defining 'research potential' and 'representativeness'. Questions regularly asked when determining significance are: can this site contribute information that no other site can? Is this site representative of other sites in the region?

5.5.3. Grading the Aboriginal Archaeology

This assessment will use the following terms where appropriate:

- High scientific significance or high archaeological values;
- Moderate scientific significance or moderate archaeological values; and
- Low scientific significance or low archaeological values.

This hierarchy is used to categorise the archaeological landscape of the Additional Disturbance Area based, in this report, on the assessed scientific or archaeological values at a particular location.

In terms of scientific significance, locations will primarily be assessed on their ability to add reliable archaeological information which can further our understanding of the archaeology at a local and regional level or a site type's rarity within the landscape. This assessment has been informed through surface observations/survey, subsurface archaeological testing and review of previous site-specific reports.

Considerations taken in this scientific assessment include an understanding that a part of the archaeological value of a place is the general community's association to that place. This is often distinct from the social, aesthetic and historical criteria used to assess heritage significance as it relates to a person's relationship to the archaeology of the place. For the Aboriginal participants on the survey, for example, an archaeological site was appreciated as much for its archaeological values as it was for its cultural values. A site displaying either many artefacts or a number of interesting artefacts would engender fascination and discussion on purely archaeological grounds (Where did people live / eat? How did they live? How did they use the artefact and what does it tell us about the people who made it?).

It is therefore understood that many Aboriginal people, or people generally interested in pre-history, would see the sites recorded in this assessment to have higher archaeological values than may be given in this assessment. However, this assessment has attempted to distinguish between an artefact scatter with potential to yield further information (moderate-high scientific significance) and an artefact scatter in an eroded context that would yield little meaningful further information (low scientific significance).

Incorporating research on the rarity, representativeness and integrity or condition of a site, along with the considerations outlined above, this assessment defines the following categories when assessing scientific significance:

High scientific significance

Locations displaying this value would include one or more of the following features:

- The location would contain known areas of undisturbed archaeological deposits that are likely to add significantly to our knowledge concerning Aboriginal archaeology in the region;
- The site would contain archaeological information to address complex research questions about the region;
- The site contains outstanding features that can be appreciated by non-specialists / enthusiasts; and
- The site type is rare in the region and / or in danger of becoming unrepresented in the region.

Moderate scientific significance

Locations displaying this value would include one or more of the following features:

- The location would contain areas of archaeological deposits, sometimes disturbed, that are likely to add to our knowledge about the Aboriginal archaeology of the local area only;
- The site would contain archaeological information to address general research questions about the region;
- The site contains features that would be appreciated by a specialist / enthusiast; and
- Portions of the site have been lost due to erosion or the landscape context of the site has been impacted.

Low scientific significance

Locations displaying this value would include one or more of the following features:

- The location may contain areas of archaeological deposits, but they are likely to be disturbed and any information gained would only address limited research questions;
- The site is largely displaced by erosion;
- The landscape context of the site has been heavily modified;
- The site exists in areas where A-Horizon soil loss is extensive; and
- The site contains features that would be difficult to interpret in a meaningful way.

5.5.4. Grading the Recorded Aboriginal Archaeological Sites

Newly Recorded Sites

69 new sites were recorded during the survey consisting of 39 artefact scatters, 29 isolated finds and one scarred tree. For the location of the newly recorded sites refer to Figures 3.14, 3.15 and 3.16 in this report.

Of the artefact scatters, 32 sites recorded less than 10 artefacts and no site contained more than 70 artefacts.

At nine locations it was assessed that there are subsurface deposits: Glendell North OS5, Glendell North OS6, Glendell North OS16, Glendell North OS19, Glendell North OS25, Glendell North OS34, Glendell North OS35, Glendell North OS36 and Glendell North IF26. Only one of these sites was determined to have a moderate artefact density (Glendell North OS6).

None of the recorded sites was remarkable in its manifestation; either in terms of the types of artefacts recorded, the raw material the artefacts were manufactured from or the density and nature of the surface artefact manifestation. The recorded sites are also very representative of artefact sites in the upper Hunter Valley both in terms of the types of artefacts recorded and the raw materials from which the artefacts were manufactured.

As a result, most newly recorded sites have a low scientific significance as they generally have:

- A low artefact density;
- No associated subsurface deposits;
- No remarkable features and are generally representative of other artefact sites in the upper Hunter Valley;
- A high likelihood of being in a secondary context; and
- A limited ability to inform on the nature and spatial extent of past Aboriginal occupation in the Additional Disturbance Area.

Table 5. 7: Copy of Table 8-1 which lists the newly recorded sites and their associated scientific significance and provides a justification for the significance assessment. Sites outside of the Additional Disturbance Area are shown with a blue shade. Source: OzArk, 2019; p. 337

ID	AHIMS ID	Site name	Site type	Potential for subsurface deposits	Scientific significance	Justification
1	37-3-1560	Glendell North OS1	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
2	37-3-1559	Glendell North OS2	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
3	37-3-1558	Glendell North OS3	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
4	37-3-1557	Glendell North OS4	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
5	37-3-1569	Glendell North OS5	Artefact scatter	Yes (low density)	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research questions

ID	AHIMS ID	Site name	Site type	Potential for subsurface deposits	Scientific significance	Justification
6	37-3-1571	Glendell North OS6	Artefact scatter	Yes (moderate density)	Moderate	Moderate artefact density and high probability of further subsurface deposits present
7	37-3-1536	Glendell North OS7	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
8	37-3-1549	Glendell North OS8	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
9	37-3-1556	Glendell North OS9	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
10	37-3-1555	Glendell North OS10	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
11	37-3-1554	Glendell North OS11	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
12	37-3-1553	Glendell North OS12	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
13	37-3-1552	Glendell North OS13	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
14	37-3-1551	Glendell North OS14	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
15	37-3-1550	Glendell North OS15	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
16	37-3-1573	Glendell North OS16	Artefact scatter	Yes (low density)	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research questions

ID	AHIMS ID	Site name	Site type	Potential for subsurface deposits	Scientific significance	Justification
17	37-3-1542	Glendell North OS17	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
18	37-3-1541	Glendell North OS18	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
19	37-3-1572	Glendell North OS19	Artefact scatter	Yes (low density)	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research questions
20	37-3-1540	Glendell North OS20	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
21	37-3-1539	Glendell North OS21	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
22	37-3-1538	Glendell North OS22	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
23	37-3-1537	Glendell North OS23	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
24	37-3-1510	Glendell North OS24	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
25	37-3-1570	Glendell North OS25	Artefact scatter	Yes (low density)	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research questions
26	37-3-1548	Glendell North OS26	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
27	37-3-1509	Glendell North OS27	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context

ID	AHIMS ID	Site name	Site type	Potential for subsurface deposits	Scientific significance	Justification
28	37-3-1508	Glendell North OS28	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
29	37-3-1547	Glendell North OS29	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
30	37-3-1546	Glendell North OS30	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
31	37-3-1545	Glendell North OS31	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
32	37-3-1544	Glendell North OS32	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
33	37-3-1543	Glendell North OS33	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
34	37-3-1574	Glendell North OS34	Artefact scatter	Yes (low density)	Moderate	Low density with known subsurface deposits
35	37-3-1567	Glendell North OS35	Artefact scatter	Yes (low density)	Low-moderate	Low density with low density subsurface deposits
36	37-3-1568	Glendell North OS36	Artefact scatter	Yes (low density)	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research questions
37	37-3-1562	Glendell North OS37	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
38	37-3-1565	Glendell North OS38	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
39	37-3-1576	Glendell North OS39	Artefact scatter	Nil	Low	Low artefact density; lack of associated subsurface deposits as no A-Horizon present

ID	AHIMS ID	Site name	Site type	Potential for subsurface deposits	Scientific significance	Justification
40	37-3-1535	Glendell North IF1	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
41	37-3-1534	Glendell North IF2	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
42	37-3-1533	Glendell North IF3	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
43	37-3-1532	Glendell North IF4	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
44	37-3-1531	Glendell North IF5	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
45	37-3-1530	Glendell North IF6	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
46	37-3-1529	Glendell North IF7	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
47	37-3-1528	Glendell North IF8	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
48	37-3-1527	Glendell North IF9	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
49	37-3-1526	Glendell North IF10	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context

ID	AHIMS ID	Site name	Site type	Potential for subsurface deposits	Scientific significance	Justification
50	37-3-1525	Glendell North IF11	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
51	37-3-1524	Glendell North IF12	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
52	37-3-1523	Glendell North IF13	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
53	37-3-1522	Glendell North IF14	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
54	37-3-1521	Glendell North IF15	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
55	37-3-1520	Glendell North IF16	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
56	37-3-1519	Glendell North IF17	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
57	37-3-1518	Glendell North IF18	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
58	37-3-1517	Glendell North IF19	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
59	37-3-1515	Glendell North IF20	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context

ID	AHIMS ID	Site name	Site type	Potential for subsurface deposits	Scientific significance	Justification
60	37-3-1514	Glendell North IF21	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
61	37-3-1516	Glendell North IF22	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
62	37-3-1513	Glendell North IF23	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
63	37-3-1512	Glendell North IF24	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
64	37-3-1511	Glendell North IF25	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
65	37-3-1566	Glendell North IF26	Isolated find	Yes (low density)	Low	Isolated subsurface artefact formerly present but now excavated during the test excavation program. Any information gained would only address limited research questions
66	37-3-1564	Glendell North IF27	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
67	37-3-1563	Glendell North IF28	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
68	37-3-1575	Glendell North IF29	Isolated find	Nil	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context

ID	AHIMS ID	Site name	Site type	Potential for subsurface deposits	Scientific significance	Justification
69	37-3-1561	Glendell North ST1	Scarred tree	Nil	Moderate	Relatively rare site type within the Hunter Valley region

Previously recorded sites

There are 39 previously recorded sites within the Additional Disturbance Area and all were re-assessed during the 2018 survey to determine their current condition and significance. For the location of the previously recorded sites refer to Figures 3.14, 3.15 and 3.16 in this report.

Table 5. 8: Copy of Table 8-2 which lists the previously recorded sites in the Additional Disturbance Area and their associated scientific significance and provides a justification for the significance assessment. Source: OzArk, 2019; p. 342

ID	AHIMS	Site name	Site type	Scientific significance	Justification
70	37-3-0294	Site 2; (MORL2)	Artefact scatter	Low	Artefacts unable to be located
73	37-3-0469	Bowmans/Swamp Creek Trench 1	Artefact scatter	Moderate	Moderate artefact density and high probability of associated subsurface deposits however these will be in a disturbed context
75	37-3-0521	MO-IF1	Isolated find	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
76	37-3-0612	Bettys Creek 22	Isolated find	Low	Artefacts unable to be located
79	37-3-0689	G11 Glendell	Artefact scatter	Low	Low artefact density with low potential for further subsurface deposits
81	37-3-0744	York Creek 1	Artefact scatter	Low	Low artefact density; low potential for associated subsurface deposits; disturbed context
82	37-3-0745	York Creek 2	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; secondary context
83	37-3-0746	York Creek 3	Artefact scatter	Low	Low artefact density; low potential for associated subsurface deposits; disturbed context
84	37-3-0747	York Creek 4	Artefact scatter	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research

ID	AHIMS	Site name	Site type	Scientific significance	Justification
					questions
85	37-3-0748	York Creek 5	Artefact scatter	Low	Low artefact density; low potential for associated subsurface deposits; disturbed context
86	37-3-0749	York Creek 6	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
87	37-3-0750	York Creek 7	Low-moderate	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research questions
88	37-3-0751	York Creek 8	Isolated find	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
89	37-3-0752	York Creek 9	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; secondary context
90	37-3-0753	York Creek 10	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
91	37-3-0754	York Creek 11	Artefact scatter	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research questions
92	37-3-0755	York Creek 12	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
93	37-3-0756	York Creek 13	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
94	37-3-0757	York Creek 14	Isolated find	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
95	37-3-0758	York Creek 15	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; likely in secondary context

ID	AHIMS	Site name	Site type	Scientific significance	Justification
96	37-3-0759	York Creek 16	Artefact scatter	Low	Low artefact density and lack of associated subsurface deposits
97	37-3-0760	York Creek 17	Isolated find	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
98	37-3-0761	York Creek 18	Artefact scatter	Low-moderate	Low density subsurface deposits present. Any information gained would only address limited research questions
99	37-3-0762	Bowmans Ck 6	Artefact scatter	Low	Low artefact density and lack of associated subsurface deposits
100	37-3-0763	Bowmans Ck 7	Artefact scatter	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research questions
101	37-3-0764	Bowmans Ck 8	Artefact scatter	Low	Artefacts unable to be located
102	37-3-0765	Bowmans Ck 9	Artefact scatter	Low	Low density scatter without associated subsurface deposits. Likely in a secondary context
103	37-3-0766	Bowmans Ck 10	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; secondary context
107	37-3-0773	Swamp Ck 10	Isolated find	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
109	37-3-1155	MT OWEN ISOLATED FIND2	Isolated find	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
110	37-3-1156	MT OWEN ISOLATED FIND1	Isolated find	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
111	37-3-1158	RPS DLW IF1	Isolated find	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context

ID	AHIMS	Site name	Site type	Scientific significance	Justification
114	37-3-1198	MOCO OS-10	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; disturbed context. Partially destroyed
115	37-3-1490	Swamp Creek IF-4	Isolated find	Low	Isolated find in a secondary context
116	37-3-1492	Swamp Creek IF-2	Isolated find	Low	Isolated find in a secondary context
117	37-3-1493	Swamp Creek IF-3	Isolated find	Low	Isolated find in a secondary context
118	37-3-1494	Swamp Creek IF-1	Isolated find	Low	Isolated artefact without associated subsurface deposits. Likely in a secondary context
122	37-3-1499	Swamp Creek-OS1	Artefact scatter	Low	Low artefact density; lack of associated subsurface deposits; disturbed context
124	37-3-1503	Yorks Creek 19	Artefact scatter	Low-moderate	Low density with known subsurface deposits. Any information gained would only address limited research questions

5.6. Statement of Historical Archaeological Significance

The following statement of significance for the Historical Archaeology of the place has been extracted from the *Ravensthorpe Homestead Complex Historical Archaeological Test Excavation Report and Impact Statement for the Core Estate Lands*, 2019, prepared by Casey & Lowe. For detailed information relating to the methodology, results and recommendations, the original report should be referred to in the first instance (see *Appendix 23c* of the GOC Project EIS).

5.6.1. Introduction

This assessment of significance for archaeology within the Ravensthorpe Homestead Complex is in accordance with the Heritage Branch 2009 guidelines: *Assessing significance for historical archaeological sites and relics*. Apart from NSW State guidelines, the nationally recognised Australia ICOMOS Charter for the Conservation of Places of Significance (*The Burra Charter* 2013) also defines ‘cultural significance’ as meaning:

“aesthetic, historic, scientific and social value for past, present and future generations.”

Significance is therefore an expression of the cultural value afforded a place, site or item.

5.6.2. Levels of Significance

To be assessed as having heritage significance an item must:

- meet at least one of the one of the seven significance criteria; and
- retain the integrity of its key attributes.

If an item is to be considered to be of State significance it should meet more than one criterion, namely in the case of relics, its research potential.¹ Archaeological Significance:

“may be linked to other significance categories especially where sites were created as a result of a specific historic event or decision, or when sites have been the actual location of particular incidents, events or occupancies.

Other relevant factors may be comparative values related to the intactness and rarity of individual items. The rarity of individual site types is an important factor, which should inform management decisions.”²

Relics must also be ranked according to their heritage significance as having:

- Local Significance; and/or
- State Significance.

If a potential relic is not considered to reach the local or State significance threshold, then it is not a relic under the *NSW Heritage Act 1977*.

¹ NSW Heritage Branch 2009, p 9.

² NSW Heritage Branch 2009, p 9.

Section 4A of the NSW *Heritage Act 1977* defines the two levels of heritage significance as:

'State heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

'Local heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.³

The 2018 Testing Program (see Section 3.8 of this report) was designed to inform the integrity of the archaeology within the study area and provide clarification on the significance of the archaeology. The following discussion of significance is based on the results of the Testing Program, and the historical research undertaken for the 2018 HAA & ARD.

5.6.3. Statement of Significance for the Historical Archaeology

This significance discussion relates to the site's archaeological values which include a range of evidence, such as, relics and works, remains of structures, the archaeological landscape of pastoralism and convict assignment, buried structures and grave sites, evidence of past activities found across this landscape and how they help us investigate the research values of the Place and the way in which they make Ravensworth Estate and its surrounds a significant place in the heritage of the Upper Hunter Valley and NSW.

The following discussion should be read in conjunction with the above Statement of Cultural Significance (Section 5.2 of this report).

5.6.4. Criterion (a): Historic Significance – (evolution)

An item is important in the course, or pattern, of NSW's (or the local area's) cultural or natural history.

The land that forms the Ravensworth Estate today is of historical significance for being the substantial remnants of an early (1824) pastoral estate in the Upper Hunter region of NSW and was at the frontier of British expansion into Aboriginal lands.

The Place is one of a surviving group of pastoral properties established shortly after the opening up of the Hunter Region to settlement in the early 1820s initiated by Governor Brisbane and Commissioner Bigge, to encourage the economic and agricultural development of the colony through the private management of land (rather than public farming) and assignment of convicts to private landowners. Evidence of this important historical period remains in the property boundaries, the road alignments, remnant landscape features, including timber fencing and fence lines, tree plantings, early dams and evidence of early cultivation, historical archaeological sites including the original house site, potential convict barracks, the underground silo together with an extensive range of former outbuildings; and the surviving c.1832 homestead complex including its configuration and landscape setting.

A key element of its establishment was the use of convict labour in the opening up of the valley and clearing of the land, early sheep pastoralism and wool production, agricultural production and the

³ NSW Heritage Branch 2009, p 6.

running of the property. This type of private commercial activity was the purpose of the reorganisation of the convict system, to shift the focus from public farming to private farming and allowing private people to take on the responsibility of managing and feeding convicts. Documentary evidence provides that a substantial number of convicts (up to 87 by the 1841 census) were assigned to the Ravensworth Estate and convict labour was likely to have been used for the construction of a number of buildings and site features, including (it is assumed) the homestead complex.

Ravensworth Estate is one of a number of identified places that demonstrate the early interactions and tensions over land between Aboriginal people and the British government and the colonists settling in the Hunter Valley. This new stage of expansion into the Hunter Valley in the 1820s saw a number of raids, both by the military and/or settlers and by Aboriginal groups. Three separate Aboriginal raids on the Ravensworth Estate saw the deaths of Bowman's men while working on the estate. Further details on these events is contained in the Ravensworth Contact History Report prepared by Dr Mark Dunn, included as an appendix to the Aboriginal Cultural Heritage Assessment Report for the Project EIS, prepared by Australian Cultural Heritage Management.⁴

The presence of early (1820s and 1830s) roads across the estate lands, including a section of the Old Northern Road, provided access northwards and westwards to the Liverpool Plains is historically significant on a State level for locating the Ravensworth Estate along an important regional transport corridor (that remains in place today). The Place also contains a portion of the Great Northern Railway, established in the 1860s when the line was extended to Muswellbrook. The importance of the location led to Ravensworth becoming a known locality in the district and across NSW, with the Ravensworth Estate and homestead complex at its centre. These transport systems were critical to the economic success of pastoralism and agriculture in the Hunter Valley.

The later history of the Ravensworth Estate follows a pattern of development that is found throughout the central Hunter Region (and indeed other regions of NSW). From being a large pastoral estate for sheep fattening for most of the 19th century, from the late 19th century onwards the estate underwent speculative subdivision, eventually being used for smaller allotment mixed farming including dairying throughout the 20th century, until the 1960s when large portions of the former lands of the Ravensworth Estate were developed for open-cut coal mining. The allotment that contains the Ravensworth Homestead Complex is also of historical significance for being the remnants of a soldier's settlement purchase taken up by A.C. Marshall in 1920.

The significance of Bowman's occupation under Criterion (a) is associated with his grant being one of the earliest / largest in the Upper Hunter Valley. Archaeological evidence of State significance under Criterion (a) for the Complex would need to relate to one or some of the following:

- Evidence for the use of convict labour.
- Demonstrate the working and private lives of convicts (accommodation, reform, management/treatment).
- Demonstrate adaptive farming methods and cropping practices and choices that were made concerning the uncleared and uncultivated landform (such as evidence for organising space including huts, outbuildings, and landscaping, including land clearance, ploughing, cultivation and irrigation works).
- Evidence of contact/interaction with Aboriginal people.

⁴ Australian Cultural Heritage Management, 2019; *Glendell Continued Operations Project Aboriginal Cultural Heritage Assessment Report*, prepared for Umwelt Environmental & Social Consultants (see Appendix 22 of the GOC Project EIS).

The archaeology of the Ravensworth Estate has the potential to satisfy Criterion (a) as it offers opportunities to investigate choices made by Bowman, and his overseers, concerning the layout of his grant, including the location of the garden, convict accommodation, work areas etc., his relationship to it, the use of convict labour in its construction and operation. The consideration of these choices would be of State significance because they would demonstrate a response to land, authority, and society

that was just beginning to be developed and played out in the Hunter Valley, including the alienation of Aboriginal people from their traditional lands. The Ravensworth Homestead and Estate already demonstrates that those choices had long lasting effects on the layout and the development / interpretation of the wider landscape over the 19th and early 20th century into the present.

The results of the archaeological survey and testing identified a number of structures (not previously known) that have started to help us to better understand Bowman's use of the land. The testing has shown that there is likely to be considerable evidence for demolished structures in Test Area 4, possibly associated with convict accommodation.

These historic values are likely to be significant at a State and local level.

5.6.5. Criterion (b): Associative Significance – (association)

An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's (or the local area's) cultural or natural history.

The Ravensworth Estate is of significance on both a State and local level for its associations with a number of people of historical note and places of historical note located throughout NSW. The richness of the associations provides further evidence of the significance of the history of the Ravensworth Estate.

The estate is associated with the highly significant convict-labour system which allowed for the spread of British settlement and the removal of Aboriginal people from their traditional lands within this part of the Hunter Valley.

Historical associations with notable persons include:

- The Bowman family including:
 - a) James Bowman (1784-1846), principal surgeon of the colony (1823-1828) and inspector of colonial hospitals and local committee member of the Australian Agricultural Co. (A.A. Co.), who was granted the land.
 - b) Mary Bowman (1795-1852), daughter of John Macarthur, whose dowry of 2000 sheep and 200 cattle allowed James Bowman to apply for the initial land grant.
 - c) Edward Macarthur Bowman (1826-1872), eldest son of James and Mary Bowman was a botanical collector and botanist who lived at and managed Ravensworth Estate from 1843 to 1848 and participated in some of the first efforts at plant breeding in Australia including the hybridisation of gladioli being among the experiments carried out at Ravensworth Estate.
- Overseers at Ravensworth Estate including:
 - a) James White (1801-1842), former employee of the A.A. Co. and founder of the White pastoral dynasty (other White family estates in the Hunter region include Edinglassie, Belltrees, Merton, Martindale and Waverley), for whom the homestead was constructed.

b) John Larnach (1805-1869), partner of James Mudie at Castle Mudie.

- Jackey-Jackey (d.1826), a local Aboriginal man, who following his capture for an attack on James Bowman's men on the Estate was executed without trial at Wallis Plains by the Mounted Police, this led to a military officer being brought before the courts for actions against Aboriginal people for the first time in 1827.
- Later owners including Captain William Russell (1807-1866), pastoralist who also owned Cheshunt Park and substantial squatting properties; Duncan Forbes Mackay (1834-1887), Superintendent of Prison's and Public Works at Newcastle (1827) and the first Post Master at Newcastle (1828) and owner of the Melbee, Cangon and Minimbah properties, and who established the town of Dungog; both of whom continued running the Ravensworth Estate as a pastoral property.
- Later owner Augustine Campbell Marshall (1891-1983), a Light Horse veteran who obtained a portion of the original estate lands (Portion 228) containing the homestead complex under the Closer Settlement Scheme in 1920; and his descendant, son Geoffrey and his wife Jenny Marshall who took over the property and held the land until 1997.

The significance of the Ravensworth Estate under Criterion (b) is based on its association with the Bowman's, James and Mary, and James White and John Lanarch (overseers), all of whom had lived at the house. It is also associated with the convict system and the convict labour which allowed for the development and occupation of this estate. The assigned convicts would have undertaken most of the key labour on the site: quarrying stone, brickmaking, building of the house (including the original Ravensworth hut) and all other outbuildings and convict barracks, as well as agricultural practices and work on the estate. Archaeological evidence of State significance under Criteria (a) and (b) for the house / landscape would need to:

- Include substantive archaeological remains of the Bowman era and associated artefact deposits.
- Exhibit a demonstrable connection to the Bowman's, James White and John Lanarch.
- Contain material evidence that can contribute to our knowledge of the day-to-day lives of the site's early residents.
- Nature of convict life, labour and their management within the estate.

Archaeological excavation of the homestead may be able to be interpreted and attributed to periods corresponding to the occupation of the Bowman's, White's or Lanarch's. In addition, underfloor deposits within the floor cavity are likely to be present in some rooms, surviving beneath original or later flooring. These deposits have the potential to tell us about the status of the household and the use of spaces, although they may not be directly attributable to the Bowman era or to later ownership.

These associative values are likely to be significant at a State and local level.

5.6.6. Criterion (c): Aesthetic Significance – (scenic qualities / creative accomplishments)

An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or in local area).

The Place, containing the remnants of the Ravensworth Estate, is of some aesthetic significance on a local level as a representational example of a Hunter Valley landscape.

The rural landscape of the Place with scattered remains of early 20th century farms is punctuated by the two main creeklines, Bowmans Creek and Yorks Creek, pockets of lightly forested lands and

gentle rises in the landform that provide expansive views of the floodplains and grazing lands leading southwards down to the Hunter River. The various isolated historic buildings, cultural plantings, landscape and agricultural features located across the landscape, are of some aesthetic significance, being indicative of the 20th century agricultural and community-driven development of the broader locality.

The homestead complex of the Ravensworth Estate constructed in c.1832, is of aesthetic significance on a State level as a fine example of a very rare, relatively intact “architecturally planned” group of colonial farm buildings located in its late 19th century landscaped setting including surviving evidence of the early planning of the broader homestead precinct with an early dam (albeit modified) to the south of the homestead complex, placed on axis with the main wing and the 1830s stone grave located to the east placed along the longitudinal axis of the main wing.

The group of early buildings are complimented by a collection of typical homestead features including a late Victorian men’s quarters, and later vernacular timber and iron structures, timber yards, tank stands, dams, sheep dip, timber and wire fencing, rebuilt rubble stone walls. A profusion of discarded stones from demolished structures creates an evocative historical rural atmosphere.

The garden of the homestead provides the immediate landscape setting for the house and is of some aesthetic significance on a Local level being a remnant of a late 19th/early 20th century garden planted within an 1830s-40s layout.

The group of early buildings are complemented by a collection of typical homestead features (material culture) including yards, tank stands, wells, house dams, sheep dip, timber and wire fencing, stone walls and a profusion of discarded stones that create an evocative historic atmosphere. Notable features include the stone-edged house dams, the surviving grave of Miss White on the cross axis of the house, reused stone from former (now demolished) buildings, and archaeological evidence of former buildings (such as the foundations to the north of the homestead), including dips and rises in the landscape, the brick-lined cistern and well. It is possible that aspects of the pastoral activity associated with wool production may be important examples of developing approaches to this important economic activity of 19th-century Australia.

The aesthetic values of the archaeological resource are likely to be significant at a local level.

5.6.7. Criterion (d): Social Significance – (contemporary community esteem)

An item has strong or special association with a particular community or cultural group in NSW (or local area) for social, cultural or spiritual reasons.

Forming part of the broader locality of Ravensworth, the Ravensworth Estate is of social significance on a Local level for providing a tangible focus for the strong sense of place held by past and current residents of the Hebden area, the village of Ravensworth and the surrounding agricultural lands, many of whom continue to live in the Upper Hunter region. The homestead complex, together with other markers across the broader landscape, including Ravensworth Public School, Hebden School as well as the scattered remains of agricultural buildings and other features, provide physical markers of the history of the locality of Ravensworth and are reminders of the 20th century history of a distinct community living in the area.

More generally, as one of a group of surviving colonial pastoral estates of the Hunter Region, Ravensworth Estate is held in high esteem by portions of the local community as well as the broader

NSW community as indicated by the statutory and non-statutory heritage listings existing for the area and its components, together with the wealth of research, books, images, heritage studies, published and unpublished histories, memoirs, family archives and other documentation relating specifically to the agricultural development of the region and its people, from the early 19th century to date.

Work undertaken with the local community for the Social Impact Assessment⁵ identified a wide range of community values including:

- *Aesthetic* (style and design) as well as craftsmanship and technology.
- *Historical* values particularly the connection of the homestead with notable people (Bowman, Macarthur and Russell families and more recently the Marshall family (since the 1930s)) and the events or movements around the homestead in a local, regional or national context.
- *Scientific* values raised related to the stories of evidence of past activity associated with the homestead (use of convict labour through to changes in agricultural production from sheep to cattle) and the existence and detail of original buildings and the interaction between the homestead and other buildings.
- Stories and memories, many local community members consulted had personal stories, or stories handed down in their families, about events and people's lives at the homestead. Memories included working on the homestead, playing tennis on the grassed area, social functions (weddings, parties), stories about potential graves located around the homestead. The site/locality also has significance to the Aboriginal community; with views expressed that it was a site of violence, conflict and murder of local Aboriginal people.
- *Comparative* value of the homestead and its complex, and its standing in relation to other local, regional and state homesteads of its kind, was also noted as important to assess and document.

Ravensthorpe is held in high regard by the local community of Singleton and surrounds as well as groups interested in the history of the colonial settlement and development of the Upper Hunter, colonial architecture, historical archaeology, convict genealogy and history, and the Aboriginal community. Of particular note, the Marshalls as long-term residents of Ravensthorpe Homestead remain well known in the broader community with continued family connections in the area, dating back to A.C. Marshall, former President of the Shire who played an important role in community development.

These social significance values are likely to be significant at a local level.

⁵ Umwelt Pty Ltd. 2018 *Glendell Continued Operations Project Social Impact Assessment Scoping Report*, May 2018. Prepared for Glencore.

5.6.8. Criterion (e): Technical/Research Significance – (archaeological, educational, research potential and scientific values)

An item has potential to yield information that will contribute to an understanding of NSW's (or the local area's) cultural or natural history.

The archaeology of the homestead complex and its immediate surrounds have moderate to high potential to provide further information of significance in relation to colonial building practices and architecture, agriculture and horticultural practices, the treatment and use of convict labour and the lives of convicts in a non-institutional setting, as well as the lives of families who lived on the estate from the early 19th century through to the early to mid-20th century.

- The group of surviving 1830s homestead buildings and other surviving colonial-built agricultural features (including the brick beehive cistern and underground silo) have a high potential to provide further information regarding colonial architecture and building practices.
- Information relating to the use of assigned convicts, a newly-established assignment system, implemented by the British government, in the development of the pastoral estates in early to mid-19th-century NSW. The archaeology of this place may also provide information on the lives of individual convicts within the much harsher assignment system and longer penalties of imprisonment imposed by the British courts.
- Early transport systems, roads and railway lines that provide information regarding the gradual spread of colonial settlement through the northwest of NSW during the early to mid-19th century.
- Early frontier life and the nature of contact and conflict between British settlers and Aboriginal people and their traditional practices.

The extant buildings, as well as the survival of wall foundations and some flooring from demolished structures, indicates that there may be potential for a cellar to also survive in good condition. The location and function of outbuildings and evidence of use of the courtyard may also tell us about the day-to-day experience of living in the house. As the construction of the house is attributable to the Bowman era, the choices about position, layout, size and configuration of the original spaces (including the wider landscape) are likely to be able to contribute substantially to our knowledge of how the Bowman family managed their land and treated free and convict labourers and workforce.

The testing program indicates the presence of structures and stratigraphic deposits across the site, along with some truncation as a result of ongoing environmental processes. The testing program identified intact archaeological remains including:

- The foundations of a large partitioned structure/ building (the potential convict barracks in TA 4).
- Intact archaeological remains of buildings / structures in the form of stone foundations, post holes, wall cuts and paths to the north / northwest of the main wing (in TAs 5 and 6)
- Evidence of a previously unknown structure/s (in TA 7).
- Archaeological evidence of agricultural activity in various areas, including plough marks (TA 2, 6 and the OzArk excavations).
- Presence of artefacts in a number of areas which relate to occupation of the site and evidence of local brickmaking.

The testing program has demonstrated that the archaeological record survives and is relatively intact, confirming the moderate to high potential for the archaeological resource within the Ravensworth Estate to provide information that is unavailable from other resources.

The technical or research value of Ravensworth Homestead Complex lies in its potential to contribute to our understanding of a range of research themes, including but not limited to:

- environment, climate, agriculture & water
- aboriginal and colonial peoples (convict & free) & colonial landscapes
- investigating historical/European burials

Where it survives, historical archaeology relating to the former Ravensworth Estate has the potential to provide information on:

Bowman Period (1824-1846)

- The lives of Aboriginal people and the nature of interaction with the British arrivals in the Contact period when they were dislocated from their lands and how this was expressed in the landscape and built environment.
- The establishment of the estate would have involved an initial phase of temporary structures and accommodation for the overseer ('old house') and for the assigned convicts. These were replaced by the surviving homestead and the demolished convict barracks, the location of which is potentially the significant foundations located at the rear of the homestead complex. There is also likely to have been accommodation for free men or families who worked on the estate. While their location is uncertain, it is likely to be some of the building sites identified in the paddocks north of the homestead complex.
- The level of fortification of the homestead complex, if any, for a newly-established estate on a frontier.
- Evidence for how convicts were managed or treated in this isolated place, including attitudes to punishment in a non-institutional or non-military setting, and segregation of male and female convicts.
- The differences between free and convict residents and how they operated on the estate.
- Evidence for habitation and living in this remote environment, such as the nature of diet (faunal material and fossil pollen evidence for possible vegetables grown in the gardens), and the possible modification of scarce material culture resources, such as tools (how they were reused, adapted, modified, stolen, hidden and general resistance to control and enforced labouring on the property).
- Material culture of the main household which may be associated with the Bowman family and how it expresses their status in the colony.
- The layout of the house, understanding phases of its construction, potential alterations and the uses of rooms. These may be able to be interpreted and attributed to periods corresponding to the occupation of the Bowmans, Whites or Lanarchs. In addition, underfloor deposits within the floor cavity are likely to be present in some rooms, surviving beneath original or later flooring. These deposits have the potential to tell us about the status of the household and the use of spaces, although they may not be directly attributable to the Bowman era or to later ownership.
- Changes made to the estate once the Bowman family relocated to this site following their financial collapse and sale of Lyndhurst.
- Nature of early pastoral and agricultural practices and how this is represented and amended in the landscape.

Generally

- The construction, modification and subsequent use of the homestead complex and associated lands through the later 19th and 20th centuries.

- Material culture of lives of families who lived on the estate during later years.
- Evolving nature of the archaeological landscape over time (from the Bowman era through to that of the Marshall family) as people and practices changed and different requirements were placed on the landscape to support economic requirements.

The archaeological significance of Bowman's occupation under Criterion (e) is associated with the research potential contained within the archaeological evidence of the period of occupation during Bowman's ownership and White's management. In particular with respect to expressions of individual identity in the early years of the colony, of Bowman and his overseers, as well as the evidence for convict lives, including personal expression through material goods and through the patterning of space. It is also important in relation to the changing nature of contact and interaction with Aboriginal people. Archaeological evidence of State significance under Criterion (e) would need to:

- Exhibit a moderate to high degree of integrity and demonstrable association with Bowman, his overseers and/or convicts.
- Demonstrate interaction or contemporary use of the land by Bowman, his overseer and/or convicts and Aboriginal people.
- Ability to respond to some of the main research themes identified in Criterion (e):
 - a) Agricultural and Water Management
 - b) Colonial Landscapes
 - c) Convict and Free Life in the Upper Hunter Valley
 - d) Life in the various Residential Households.

Where substantial archaeological remains survive of the Bowman era the potential research significance of the archaeological remains at Ravensworth Homestead Complex are likely to be significant at both a State and local level.

5.6.9. Criterion (f): Rarity

An item possesses uncommon, rare or endangered aspects of NSW's (or the local area's) cultural or natural history.

The Ravensworth Estate contains the fine, architecturally planned group of colonial farm buildings configured symmetrically around a farmyard compound. As much of what is known of the convict system in Australia is based on government / institutional sites, archaeological remains associated with the lives, accommodation, treatment, working and private lives in a non-institutional setting would be rare and is unlikely to be representative.

Investigation of the existing homestead building will contribute to an understanding of the skills available during its construction. Underfloor deposits within the floor cavity are likely to be present in some rooms, surviving beneath original or later flooring. These deposits, alongside the archaeology identified in the surrounding landscape, realised through the testing program, have the potential to tell us about the occupants of the household, including convicts, and the division and use of space. The construction and function of outbuildings and evidence of use of the courtyard may also tell us about the day-to-day experience of building and living on the estate.

To date, and after significant research, no plans are known of the homestead making them archaeology of the homestead critical to understanding how the estate was laid out and operated. As the construction of the house is attributable to the Bowman era, the choices about position, layout, size and configuration of the original spaces (including the wider landscape) are likely to contribute

substantially to our knowledge of how the convict workforce were treated on the Bowman Estate over time and by various overseers.

The known and potential rarity of the archaeological remains within the study area are significant at a State and local level.

5.6.10. Criterion (g): Representativeness

An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's) cultural or natural places or environments.

The Place also contains Aboriginal archaeological sites that are representative of artefact sites located throughout the upper Hunter Valley, both in terms of the types of artefacts recorded and the raw materials from which the artefacts were manufactured.

Ravensthorpe Estate, established in 1824, is representative of the successful implementation of a new and highly significant government policy introduced in 1822 by Governor Brisbane and Commissioner Bigge in the Hunter Region aimed at the economic and agricultural development of the colony through the management of land and convicts by private landowners. This policy resulted in the rapid colonisation of the region in the period 1820s to 1840s and the Ravensthorpe Estate is one of a number of surviving former pastoral estates which together form the foundational layer of the European settlement of the Hunter Region.

The principal characteristics of Ravensthorpe Estate including its associations with important persons in the development of the colony (James Bowman and the Macarthur family), the establishment of the property as a sheep run, the c1832 homestead buildings, garden and associated agricultural features located adjacent to a permanent water course (Yorks Creek and Bowman Creek), and the use of overseers/managers with assigned convicts in the establishment of the estate, are all representative of a significant pattern of colonisation and history of development that occurred throughout the Hunter Valley and other parts of NSW in the 1820s and 1830s.

The Place is a representative example of a large pastoral property subdivided in the early 20th century under the Closer Settlement (Amendment) Act 1904, instigated by the government to encourage agricultural development of smaller rural allotments by ex-service personnel and migrants. Evidence of this period of development survives in the current cadastral property boundaries located across the estate lands and in the form of boundary fencing, former farms and dairies and other associated buildings and agricultural features.

The later history of the Ravensthorpe Estate is also representative of the history of changing land uses in the Hunter Valley, when from the mid to late 20th century former pastoral estate lands and smaller farming allotments began to be mined for coal. From this period onwards, the Ravensthorpe Estate entered a new phase of consolidation and development, a pattern of land use that is found in relatively large pockets of land throughout the Upper and Central Hunter Valley today.

The archaeological remains of the Ravensthorpe Estate are representative of the pattern of British settlement in the Hunter region during the 19th and 20th centuries. The material remains across the Ravensthorpe Estate are representative of the changing pattern and development of large pastoral properties across NSW throughout the 19th century from the initial creation of colonial estates through to the initial subdivision of the estate lands and the later amalgamation (for use as outstations).

Based on the outcomes of historical research and historical archaeological surveys, the known and potential representativeness of the archaeological remains within the study area are significant at a State and local level.

5.6.11. Summary Statement of Significance for the Historical Archaeology

The Ravensworth Homestead Complex and surrounds is an important 1820s/ 1830s archaeological landscape containing an 1830s colonial house, stables, barn (all extant) and the potential archaeological remains of an early house site, potential convict barracks, other 19th-century farm buildings, a silo, a brick well, and evidence of gardens, landscape features and agricultural use of the land. The intactness of the site's structures and their landscape settings enhances its role as a site of archaeological and scientific importance. It was established at the frontier of British expansion into the northern Hunter Valley.

The archaeology of the Place is associated with a number of prominent individuals: James Bowman, Mary Bowman (née Macarthur), overseers James White and John Larnach, as well as later owners Captain William Russell. The homestead's research significance relates to its ability to demonstrate people's way of life, including tastes, customs and functions in a rural context through the 19th to early 20th centuries.

From its establishment, the site is a good example of a colonial rural estate built on convict labour. The Place has the potential to provide information, by way of further study and archaeological investigation, into colonial building techniques, 19th-century lifestyles, evidence of technical achievements associated with an evolving pastoral activity, notably early wool production as well as local brickmaking, agricultural and horticultural practices, the lives of convicts in a non-institutional setting, and contact-period with Aboriginal people. All of these are rare.

The material remains across the Ravensworth Estate from the 1820s through to the 20th century is likely to demonstrate, archaeologically, the changing pattern of occupation and development of large pastoral properties across NSW from the initial creation of colonial estates through to the initial subdivision of the estate lands and the later amalgamation (for use as outstations).

Key research themes relate to the nature of lives on a newly-established frontier and contact with Aboriginal people, material culture and lives of significant colonial people, convict lives and the assignment system and how it is implemented within this landscape, use of technology and management of water, changing transportation and economics and how they shaped life on the estate.

Aspects of these archaeological values will be important to community groups, notably evidence of the material culture and rural technology of the residents, the main families, lives of convicts and free persons.

The archaeological landscape, sites and material culture of the Place are of State and local significance.

5.6.12. Grading of the Historical Archaeology of the Core Estate Lands

As discussed in Section 3.8, the archaeological test excavation program undertaken in the Core Estate Lands confirmed the survival of early and later nineteenth and early twentieth-century archaeological remains across the site. Testing confirmed the presence of intact archaeological remains dating to between 1830-1890s (as well as archaeological remains dating from the 20th century) and has shown

that their integrity is medium to high. The date and context of these remains means they are considered to be of State and local heritage significance.

The following table provides a grading of the archaeological remains revealed during the test excavation program within the Core Estate Lands and for the other sites identified within the boundaries of the Place.

The gradings applied are in accordance with Section 4A of the NSW *Heritage Act 1977* which defines the two levels of heritage significance as:

‘State heritage significance’, in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

‘Local heritage significance’, in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.⁶

In some instances, the archaeology has also been noted as being “Contributory”, that is, whether the archaeology has the potential to contribute to the understanding of a range of research questions pertinent to the history, development and use of the Place, the Core Estate Lands and the Ravensworth Homestead Complex.

The dating of the archaeology and other sites is as per the broad archaeological phases identified as a result of the archaeological assessment of the Place:

Phase 1:	1820 to 1850:	Bowman era.
Phase 2:	1850 to 1890:	Subdivision, agricultural and pastoral activities.
Phase 3:	1890 to 1950s:	Period of significant subdivision and multiple owners including the early Marshall period of ownership.
Phase 4:	1950s to Present:	Multiple owners including the later Marshall period of ownership.

Table 5. 9: Identified historical archaeological items and sites within the Core Estate Land and the Place, graded as to their likely significance (to be confirmed following further research).

SITE NO.	ID/ TEST AREA	HISTORIC ITEM / ARCHAEOLOGICAL REMAINS	ARCHAEOLOGICAL PHASE	LIKELY SIGNIFICANCE
CORE ESTATE LANDS				
Site 1	GCO1 Test Area 3	Ravensworth Homestead Complex	Phases 1, 3 and 4	State and Local, Contributory
Site 2	GC05	Former Wool Shed	Phase 2	Local
Site 3a	GC02	Silo (1830s)	Phase 1	State and Local
Site 4	GC03 A & B Test Area 5	Yards – associated with homestead complex, unknown date (Northwest Paddock)	Phases 3 & 4	State and Local

⁶ NSW Heritage Branch 2009, p 6.

SITE NO.	ID/ TEST AREA	HISTORIC ITEM / ARCHAEOLOGICAL REMAINS	ARCHAEOLOGICAL PHASE	LIKELY SIGNIFICANCE
Site 6	GC04 Test Area 6	Brick lined Well – associated with homestead complex	Phase 1	State and Local
Site 9	GC14 & GC15	Former Farm Site with adjacent cultivation area	Phase 3	Local, Contributory
Site 10	GC011	Former Farm Site	Phase 3	Local, Contributory
Site 11	GC08 Test Area 1	Assumed location of first homestead site	Phase 1	State?
Site 12	GC10	Quarrying	Phase 3	Local, Contributory
Site 13	GC06 Test Area 7	Linear Stone and archaeological feature	Unknown date	Local
Site 27	GC12	Former Farm Site: Ravensworth Farm	Phase 3 and 4	Local, Contributory
Dams: D3, D4, D5 and Dma-Dmd	GC19 Test Area 6	“Yorks Creek Dams”	Phase 1 and later	State? and Local
Dam: Dme	GC18 Test Area 3	Homestead Dam	Phase 1 and later	State and Local
VG15	GC09 Test Area 6	“8 Acre Garden”	Phase 1	State and Local
Site 27a	GC13	Former dairy (20th century)	Phase 3 and 4	Contributory?
VG12 and 13	GC1a	Cultivation Area	Phase 3	Contributory?
VG6	GC08 A & B	Early Cultivation Areas	Phase 1?	Local, Contributory
-	GC16	Cultivation Area (adjacent to Bowmans Creek and Dam D8)	Phase 1?	Local, Contributory
THE PLACE (“10,000” acres)				
Site 8		Rail Bridge	Phase 4	Nil
Site 17	GC07	Former Farm Site	Phase 3	Local, Contributory
Site 18		Private residence/Glencore Offices	Phase 4	Nil
Site 19		Former Farm Site	Phase 3	Local, Contributory
Site 20		Former Farm Site	Phase 3	Local, Contributory
Site 21		Former Farm Site	Phase 3	Local, Contributory
Site 22		Daracon Yard and Offices	Phase 4	Nil
Site 23a		Ravensworth Public School	Phase 3	Local, Contributory
Site 23b		Ravensworth Village	Phase 3	Local
Site 24		Timber bridge over Swamp Creek	Phase 3	Local, Contributory
Site 25		Former Farm Site	Phase 3	Local, Contributory

SITE NO.	ID/ TEST AREA	HISTORIC ITEM / ARCHAEOLOGICAL REMAINS	ARCHAEOLOGICAL PHASE	LIKELY SIGNIFICANCE
Site 26a		Former Farm Site	Phase 3	Contributory
Site 26b		Timber Bridge over Yorks Creek	Phase 3	Contributory
Site 28		Former Farm Site	Phase 3	Local, Contributory
Site 29		Former Farm Site	Phase 3	Contributory?
Site 30		Newdell Junction signal box	Phase 4	Nil
Site 31		Former Farm Site	Phase 3	Local
Site 32		Mining Infrastructure / Orica	Phase 4	Contributory?
Site 33a		Yorks Creek Voluntary Conservation Area	-	<i>Refer to Aboriginal archaeological significance above.</i>
Site 33b		Timber Bridge over Yorks Creek	Phase 3	Local, Contributory
Site 34		Former Hebden Public School	Phase 3	Local
Site 34a		John Winter Grave Site	Phase 3	Local
Site 35		Former Farm Site	Phase 3	Contributory?
Site 36		Former Farm Site	Phase 3	Local, Contributory
Site 37		Former Farm Site	Phase 3	Contributory?
Site 38		Recent dwelling with outbuildings	Phase 4	Nil
Site 39		Former Farm Site	Phase 3	Contributory?
Site 40	-	Aboriginal archaeological site (Bowmans Creek 16)	-	<i>Refer to Aboriginal archaeological significance above.</i>
Site 41	-	Aboriginal archaeological site (Glendell North ST1)	-	<i>Refer to Aboriginal archaeological significance above.</i>
-	GC17	(old) Great Northern Road (c.1820s)	Phase 1?	State?

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Appendix 1

Australia ICOMOS Charter for Places of Cultural Significance

The Burra Charter

Considering the International Charter for the Conservation and Restoration of Monuments and Sites (Venice 1964), and the Resolutions of the 5th General Assembly of the International Council on Monuments and Sites (ICOMOS) (Moscow 1978), the Burra Charter was adopted by Australia; ICOMOS (the Australian National Committee of ICOMOS) on 19 August 1979 at Burra, South Australia. Revisions were adopted on 23 February 1981, 23 April 1988, 26 November 1999 and 31st October 2013.

The Burra Charter provides guidance for the conservation and management of places of cultural significance (cultural heritage places) and is based on the knowledge and experience of Australia ICOMOS members.

Articles

Article 1. Definitions

For the purposes of this Charter:

1.1 *Place* means a geographically defined area. It may include elements, objects, spaces and views. Place may have tangible and intangible dimensions.

1.2 *Cultural significance* means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the *place* itself, its *fabric, setting, use, associations, meanings, records, related places* and *related objects*.

Places may have a range of values for different individuals or groups.

1.3 *Fabric* means all the physical material of the *place* including elements, fixtures, contents, and objects.

1.4 *Conservation* means all the processes of looking after a *place* so as to retain its cultural *significance*.

1.5 *Maintenance* means the continuous protective care of a *place*, and its *setting*.

Maintenance is to be distinguished from repair which involves *restoration* or *reconstruction*.

1.6 *Preservation* means maintaining a *place* in its existing state and retarding deterioration.

1.7 *Restoration* means returning a *place* to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

1.8 *Reconstruction* means returning a *place* to a known earlier state and is distinguished from *restoration* by the introduction of new material.

1.9 *Adaptation* means changing a *place* to suit the existing *use* or a proposed use.

1.10 *Use* means the functions of a *place*, including the activities and traditional and customary practices that may occur at the place or are dependent on the place.

1.11 *Compatible use* means a *use* which respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.

1.12 *Setting* means the immediate and extended environment of a *place* that is part of or contributes to its *cultural significance* and distinctive character.

1.13 *Related place* means a *place* that contributes to the *cultural significance* of another place.

1.14 *Related object* means an object that contributes to the *cultural significance* of a *place* but is not at the place.

1.15 *Associations* mean the connections that exist between people and a *place*.

1.16 *Meanings* denote what a *place* signifies, indicates, evokes or expresses to people.

1.17 *Interpretation* means all the ways of presenting the *cultural significance* of a *place*.

Conservation Principles

Article 2. Conservation and management

- 2.1 *Places of cultural significance* should be conserved.
- 2.2 The aim of *conservation* is to retain the *cultural significance* of a *place*.
- 2.3 *Conservation* is an integral part of good management of *places of cultural significance*.
- 2.4 *Places of cultural significance* should be safeguarded and not put at risk or left in a vulnerable state.

Article 3. Cautious approach

- 3.1 *Conservation* is based on a respect for the existing *fabric, use, associations and meanings*. It requires a cautious approach of changing as much as necessary but as little as possible.
- 3.2 Changes to a *place* should not distort the physical or other evidence it provides, nor be based on conjecture.

Article 4. Knowledge, skills and techniques

- 4.1 *Conservation* should make use of all the knowledge, skills and disciplines which can contribute to the study and care of the *place*.
- 4.2 Traditional techniques and materials are preferred for the *conservation* of significant *fabric*. In some circumstances modern techniques and materials which offer substantial conservation benefits may be appropriate.

Article 5. Values

- 5.1 *Conservation* of a *place* should identify and take into consideration all aspects of cultural and natural significance without unwarranted emphasis on any one value at the expense of others.
- 5.2 Relative degrees of *cultural significance* may lead to different *conservation* actions at a place.

Article 6. Burra Charter Process

- 6.1 The *cultural significance* of a *place* and other issues affecting its future are best understood by a sequence of collecting and analysing information before making decisions. Understanding cultural significance comes first, then development of policy and finally management of the place in accordance with the policy. This is the Burra Charter Process.
- 6.2 Policy for managing a *place* must be based on an understanding of its *cultural significance*.
- 6.3 Policy development should also include consideration of other factors affecting the future of a *place* such as the owner's needs, resources, external constraints and its physical condition.
- 6.4 In developing an effective policy, different ways to retain *cultural significance* and address other factors may need to be explored.
- 6.5 Changes in circumstances, or new information or perspectives, may require reiteration of part or all of the Burra Charter Process.

Article 7. Use

- 7.1 Where the *use* of a *place* is of *cultural significance* it should be retained.
- 7.2 A *place* should have a *compatible use*.

Article 8. Setting

Conservation requires the retention of an appropriate *setting*. This includes retention of the visual and sensory setting, as well as the retention of spiritual and other cultural relationships that contribute to the *cultural significance* of the *place*.

New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate.

Article 9. Location

9.1 The physical location of a *place* is part of its *cultural significance*. A building, work or other component of a place should remain in its historical location. Relocation is generally unacceptable unless this is the sole practical means of ensuring its survival.

9.2 Some buildings, works or other components of *places* were designed to be readily removable or already have a history of relocation. Provided such buildings, works or other components do not have significant links with their present location, removal may be appropriate.

9.3 If any building, work or other component is moved, it should be moved to an appropriate location and given an appropriate use. Such action should not be to the detriment of any *place* of *cultural significance*.

Article 10. Contents

Contents, fixtures and objects which contribute to the *cultural significance* of a *place* should be retained at that place. Their removal is unacceptable unless it is: the sole means of ensuring their security and *preservation*; on a temporary basis for treatment or exhibition; for cultural reasons; for health and safety; or to protect the place. Such contents, fixtures and objects should be returned where circumstances permit, and it is culturally appropriate.

Article 11. Related places and objects

The contribution which *related places* and *related objects* make to the *cultural significance* of the *place* should be retained.

Article 12. Participation

Conservation, *interpretation* and management of a *place* should provide for the participation of people for whom the place has special *associations* and *meanings*, or who have social, spiritual or other cultural responsibilities for the place.

Article 13. Co-existence of cultural values

Co-existence of cultural values should be recognised, respected and encouraged, especially in cases where they conflict.

Conservation Processes

Article 14. Conservation processes

Conservation may, according to circumstance, include the processes of: retention or reintroduction of a *use*; retention of *associations* and *meanings*; *maintenance*, *preservation*, *restoration*, *reconstruction*, *adaptation* and *interpretation*; and will commonly include a combination of more than one of these. Conservation may also include retention of the contribution that related places and related objects make to the *cultural significance* of a *place*.

Article 15. Change

15.1 Change may be necessary to retain *cultural significance* but is undesirable where it reduces cultural significance. The amount of change to a *place* and its *use* should be guided by the *cultural significance* of the place and its appropriate *interpretation*.

15.2 Changes which reduce *cultural significance* should be reversible and be reversed when circumstances permit.

15.3 Demolition of significant *fabric* of a *place* is generally not acceptable. However, in some cases minor demolition may be appropriate as part of *conservation*. Removed significant fabric should be reinstated when circumstances permit.

15.4 The contributions of all aspects of *cultural significance* of a *place* should be respected. If a place includes *fabric*, *uses*, *associations* or *meanings* of different periods, or different aspects of cultural significance, emphasising or interpreting one period or aspect at the expense of another can only be justified when what is left out, removed or diminished is of slight cultural significance and that which is emphasised or interpreted is of much greater cultural significance.

Article 16. Maintenance

Maintenance is fundamental to *conservation*. Maintenance should be undertaken where *fabric* is of *cultural significance* and its *maintenance* is necessary to retain that *cultural significance*.

Article 17. Preservation

Preservation is appropriate where the existing *fabric* or its condition constitutes evidence of *cultural significance*, or where insufficient evidence is available to allow other *conservation* processes to be carried out.

Article 18. Restoration and reconstruction

Restoration and *reconstruction* should reveal culturally significant aspects of the *place*.

Article 19. Restoration

Restoration is appropriate only if there is sufficient evidence of an earlier state of the *fabric*.

Article 20. Reconstruction

20.1 *Reconstruction* is appropriate only where a *place* is incomplete through damage or alteration, and only where there is sufficient evidence to reproduce an earlier state of the *fabric*. In some cases, reconstruction may also be appropriate as part of a *use* or practice that retains the *cultural significance* of the place.

20.2 *Reconstruction* should be identifiable on close inspection or through additional *interpretation*.

Article 21. Adaptation

21.1 *Adaptation* is acceptable only where the adaptation has minimal impact on the *cultural significance* of the *place*.

21.2 *Adaptation* should involve minimal change to significant *fabric*, achieved only after considering alternatives.

Article 22. New work

22.1 New work such as additions or other changes to the *place* may be acceptable where it respects and does not distort or obscure the *cultural significance* of the place or detract from its *interpretation* and appreciation.

22.2 New work should be readily identifiable as such but must report and respect and have minimal impact on the *cultural significance* of the *place*.

Article 23. Conserving use

Retaining, modifying or reintroducing a significant *use* may be appropriate and preferred forms of *conservation*.

Article 24. Retaining associations and meanings

24.1 Significant *associations* between people and a *place* should be respected, retained and not obscured. Opportunities for the *interpretation*, commemoration and celebration of these associations should be investigated and implemented.

24.2 Significant *meanings*, including spiritual values, of a *place* should be respected. Opportunities for the continuation or revival of these meanings should be investigated and implemented.

Article 25. Interpretation

The *cultural significance* of many *places* is not readily apparent and should be explained by *interpretation*. Interpretation should enhance understanding and engagement and be culturally appropriate.

Conservation Practice

Article 26. Applying the Burra Charter process

26.1 Work on a *place* should be preceded by studies to understand the place which should include analysis of physical, documentary, oral and other evidence, drawing on appropriate knowledge, skills and disciplines.

26.2 Written statements of *cultural significance* and policy for the *place* should be prepared, justified and accompanied by supporting evidence. The statements of significance and policy should be incorporated into a management plan for the place.

26.3 Groups and individuals with *associations* with a *place* as well as those involved in its management should be provided with opportunities to contribute to and participate in understanding the *cultural significance* of the place. Where appropriate they should also have opportunities to participate in its *conservation* and management.

Article 27. Managing change

27.1 The impact of proposed changes, including incremental changes, on the *cultural significance* of a *place* should be assessed with reference to the statement of significance and the policy for managing the place. It may be necessary to modify proposed changes to better retain cultural significance.

27.2 Existing *fabric*, *use*, *associations* and *meanings* should be adequately recorded before any changes are made to the *place*.

Article 28. Disturbance of fabric

28.1 Disturbance of significant *fabric* for study, or to obtain evidence, should be minimised. Study of a *place* by any disturbance of the fabric, including archaeological excavation, should only be undertaken to provide data essential for decisions on the *conservation* of the place, or to obtain important evidence about to be lost or made inaccessible.

28.2 Investigation of a *place* which requires disturbance of the *fabric*, apart from that necessary to make decisions, may be appropriate provided that it is consistent with the policy for the place. Such investigation should be based on important research questions which have potential to substantially add to knowledge, which cannot be answered in other ways and which minimises disturbance of significant fabric.

Article 29. Responsibility for decisions

The organisations and individuals responsible for management decisions should be named and specific responsibility taken for each such decision.

Article 30. Direction, supervision and implementation

Competent direction and supervision should be maintained at all stages, and any changes should be implemented by people with appropriate knowledge and skills.

Article 31. Keeping a log

New evidence may come to light while implementing policy or a plan for a *place*. Other factors may arise and require new decisions. A log of new evidence and additional decisions should be kept.

Article 32. Records

32.1 The records associated with the *conservation* of a *place* should be placed in a permanent archive and made publicly available, subject to requirements of security and privacy, and where this is culturally appropriate.

32.2 Records about the history of a *place* should be protected and made publicly available, subject to requirements of security and privacy, and where this is culturally appropriate.

Article 33. Removed fabric

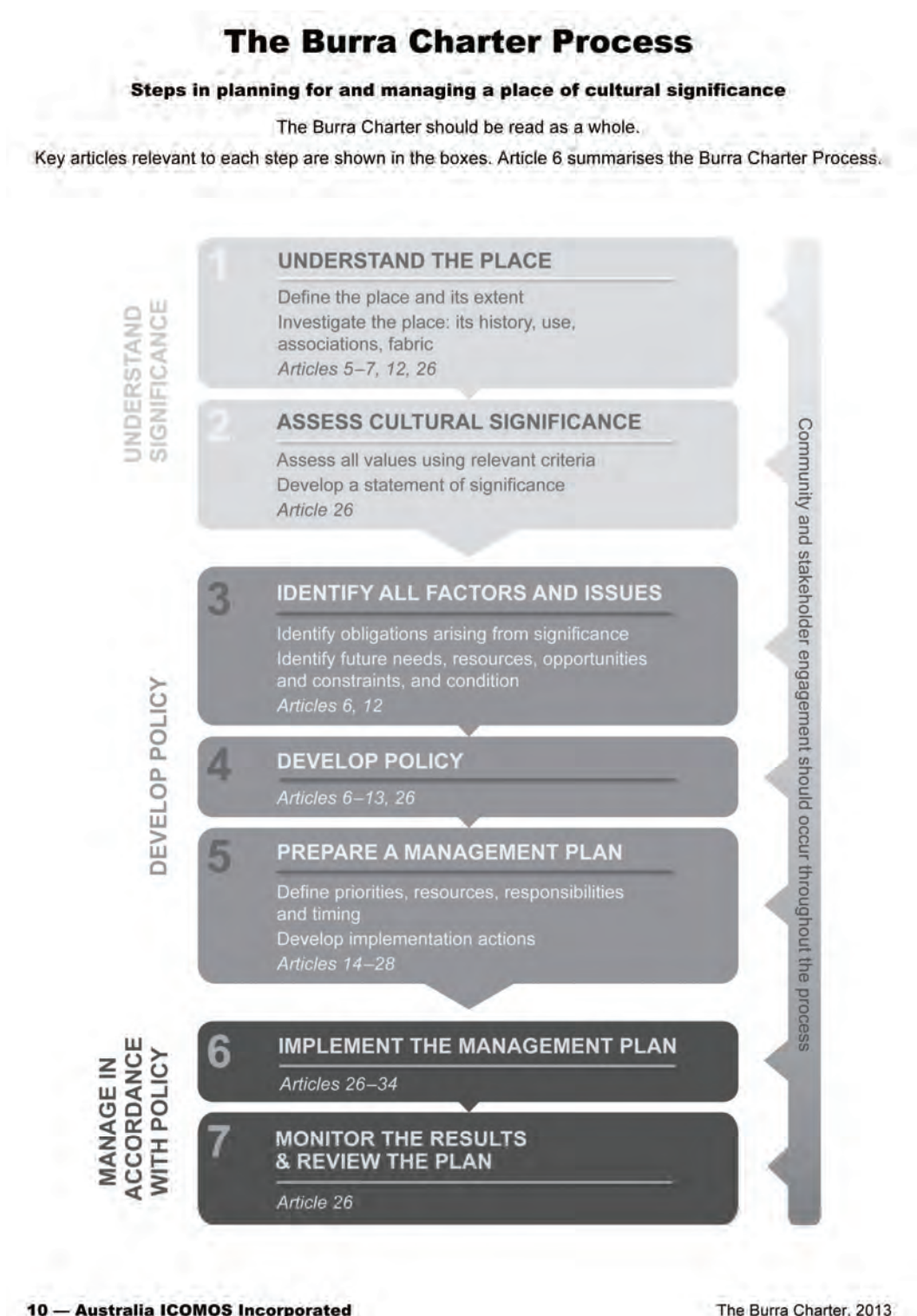
Significant *fabric* which has been removed from a *place* including contents, fixtures and objects, should be catalogued, and protected in accordance with its *cultural significance*.

Where possible and culturally appropriate, removed significant fabric including contents, fixtures and objects, should be kept at the place.

Article 34. Resources

Adequate resources should be provided for *conservation*.

Words in italics are defined in Article 1.



Appendix 2

Bibliography

The following sources were consulted in the preparation of this report. See also the captions to the figures included in this report.

Maps and Plans

NSW State Records

- (H.32.or) SA Map 2949
- (H.130) SA Map 2965
- (H.365) SA Map 2981
- (H.365) SA Map 2982
- (H.1.376) SA Map 2983
- (H.3.418) SA Map 2990A
- (H.6.830) SA Map 5095 (original seen at SANSW)

Crown Plans

- D.431.1557
- D.810.1557
- D.211.2083
- D.4619.2083
- D.4630.2083
- D.4631.2083
- D.4642.2083
- D.4643.2083
- D.5051.2083
- H.35.663
- Ms.146.3070
- Ms.352.3070
- Ms.1714.3070 (School site)
- R.962.R (not available – not at SANSW)
- R.1330.1603
- R.13401.1603
- R.19906.1603

National Library of Australia

Ravensworth Estate, 1892, Map Folder 144, LFSP 2306

Mitchell Library (NSW State Library)

Australia – Army, Topo Map 1:63360, M Ser 3 804 3: Camberwell, Zone 8, No 378, 1942

Central Mapping Authority, Topographic Map 1:25,000, M Ser 4 810 9: Camberwell, 9133-III-S, 1977

County Durham, Subdivision Plans, ZCP/D6/1-110

NSW Land Registry Services

Certificates of Title, 1863 onwards

Deeds Registers

Grants Registers

Plans (Parish and County)

Manuscript Sources

National Archives of Australia

B2455 World War One Army Personnel Files: 1636, A C Marshall (Barcode 8218310)

NSW State Records

NRS 907, Col Sec, Correspondence re Land

- Bowman, James, 1829-41, 2/7807
- Bowman, James, 1829-32, 2/7808 (nothing relevant)

NRS 8052 Closer Settlement Estate Files

- No 1794, Troy's (2) Estate 10/13284

NRS 8058, Soldier Settlement Loan Files

- No 6240, A C Marshall, Ravensworth, 12/7155
- No 6503, R T Barratt, Troys Estate, 12/7172

NRS 13011, Lands, Real Property Applications

- RPA 7648 (adjacent land) 6/10111
- RPA 13863 (adjacent land) 6/10173
- RPA 17251 (Ravensworth) 6/10207

NRS 13736. Surveyor General, Letters from Surveyors

- Dixon, Robert, 2/1531.2

NRS 17513, Lands, Real Property Application Packets

- RPA 7648 (adjacent land)
- RPA 13863 (adjacent land)
- RPA 17251 (Ravensworth)

NRS 13011

- Documents relating to Primary Applications
- RPA 7648 (adjacent land) 10/26644

NRS 13340, Stamp Duties Office, Deceased Estate Files

- Mackay, Duncan Forbes, Dulcalmah, died 16/6/1887, duty paid 7/11/1887, 21/4
- Reid, Alexander Couchrian, died 26 Oct 1926, pre A 16735, 20/1078
- Russell, Eliza, Piccadilly. England, died 14/3/1881, duty paid 8/5/1882 (no duty paid file)

NRS 13660, Supreme Court, Probate Packets

- Bowman, James, died 23/8/1846, Series 1 No 1778, 14/3229
- Russell, John William, Series 1 No 8981, 14/3459
- Russell, William, Series 1 No 6981, 14/3398

NRS 13655, Bankruptcy Files

- Measures, F J L, 11/12/1916, No 21010, 10/23827

NRS 13889, Surveyor General, Surveyors Fieldbooks

- No 384, Dixon, 1832, 2/5012 (nothing relevant)

NRS 14465, Valuer General, Valuation Rolls

- Patrick Plains, 1933-62 19/12822
- Patrick Plains, 1933-62 19/12823

NRS 18096, Tenure Cards

- Settlement Purchase Lease, Singleton, 1944/1 – 1946/1
- Surveyor General, Sketch Books

John Purcell to Colonial Secretary, 6 July 1810, Colonial Secretary's Correspondence, Special Bundles-Newcastle, SANSW, R6066 4/1804

John Howe to Governor Macquarie, 17 November 1819, Colonial Secretary's Correspondence, SANSW, Reel 6048 4/1743

Threlkeld to Attorney General, 21 August, 1826, Supreme Court of NSW, 'Memoranda selected from 24 years of missionary engagements in the South Sea Islands and Australia by LE Threlkeld 1838', SRNSW, NRS 13705, COD 554, 5/1123

The King against Nathaniel Lowe, Depositions, SANSW T24A, SC27/56

Supreme Court Miscellaneous Correspondence relating to Aborigines, SANSW, COD 294A, 5/1161

Mitchell Library (NSW State Library)

Macarthur Family Papers, Vol 78, Papers re Dr Bowman, 1829-1855, A2974

Malcolm, Lieutenant George Pulteney, Journal 17 Aug 1834 – 15 July 1837, ML.MSS 5312

Macquarie, L., Journal of a tour to and from Newcastle 27 July 1818–9 August 18, SLNSW, ML Manuscripts A781, CY303

James Greig letter to his brother, 11 November 1826, ML, Doc 2316

Governor's Despatches, ML Volume 8, A1197

Mary Bundock Memoir, Papers of the Bundock Family of Wynagarie, Richmond River, ML A6939,

Votes and Proceedings Legislative Assembly of NSW

'Dept of Mines (Stock and Brands Branch), Report 31 Dec 1884', *V & P L A N S W*, 1885 (2), volume III, pages 435-457 (of volume)

Newspapers

Australian Star

Australian Town and Country Journal

Daily Examiner

Daily Telegraph

Dungog Chronicle

Illustrated Sydney News

Maitland Mercury

Singleton Argus

Sydney Mail

Sydney Morning Herald

Primary Sources

Printed Books and Articles

Aldine Centennial History of New South Wales, Sydney, 1888

Australian Men of Mark, Volume 2, C F Maxwell, Sydney, 1889

Backhouse, James, *Extracts from the Letters of James Backhouse*, Part 3, Darton and Harvey, London, 1838

Cunningham, Peter, *Two Years in New South Wales*, Henry Colburn, London, 1827

New South Wales Government Gazette

Secondary Sources

Australian Dictionary of Biography, Melbourne University Press, Melbourne, 1966

Bairstow, D. *A Million Pounds, A Million Acres: The Pioneer Settlement of the Australian Agricultural Company*, Cremorne, 2003

Broadbent, James, Ian Evans, Clive Lucas, *The Golden Decade of Australian Architecture: The Work of John Verge*, David Ell, Sydney, 1978

Campbell, John Fauna, 'The genesis of Rural Settlement on the Hunter', *JRAHS*, XII, 1926, pp 73-112

Gunson, Neil (ed), *Australian Reminiscences and Papers of LE Threlkeld: Missionary to the Aborigines 1824-1859*, Vol I and II, Australian Institute of Aboriginal Studies, Canberra, 1974

Connor, John, *The Australian Frontier: 1788-1838*, UNSW Press Sydney, 2005

Cunningham, P. *Two Years in New South Wales*, Henry Colburn, London, 1827

Dangar, Henry, *Index and directory to map of the country bordering upon the River Hunter*, Joseph Cross, London, 1828

Electricity Commission of New South Wales, Annual Reports, 1968-1972

Jervis, James, 'The Hunter Valley. A Century of Its History', *RAHSJ* 1953, Vol 39, Part 3

Jeans, D N, *An Historical Geography of New South Wales to 1901*, Reed, Artarmon, 1972

Kass, Terry, *Sails to Satellites: The Surveyors General of NSW (1786-2007)*, NSW Dept of Lands, Bathurst, 2008

King, H, Elizabeth Macarthur and Her World, Sydney University Press, Sydney, 1980, p 185-7

Millis, R, *Waterloo Creek: The Australia Day Massacre of 1838, George Gipps and the British conquest of NSW*, McPhee Gribble, Melbourne

NSW Parliamentary Research Service, "A history of mineral and petroleum ownership and royalties in NSW", Issues Backgrounder, No. 5/October 2012

Perry, T M, *Australia's First Frontier: The spread of settlement in New South Wales, 1788-1829*, Melbourne University Press, Melbourne, 1963

Raby, G., *Making Rural Australia: An economic history of technical and institutional creativity*, Oxford University Press, Melbourne, 1996

Sainty M. R. & K A Johnson, *Census of New South Wales: November 1828*, Library of Australian History, Sydney, 1980

Scates B and Oppenheimer M, *The Last Battle: Soldier Settlement in Australia 1916-1939*, Cambridge University Press, Port Melbourne, 2016

White, J, *The White Family of Belltrees: 150 Years in the Hunter Valley*, Sydney, 1981

Wood, W. A., *Dawn in the Valley: the Story of Settlement in the Hunter Valley to 1833*, Wentworth Books, Sydney, 1972

Unpublished Reports

Dunn, M., *Valley in a Valley: Colonial Struggles over land and resources in the Hunter Valley, NSW 1820-1850*, PhD Thesis UNSW 2015, pp196-201.

Glencore, Greater Ravensworth Community Newsletter 1, 2015

Glencore; *Ravensworth Open Cut: Plan for Heritage Management*, 2017

Heritas; *Edinglassie Property Conservation Management Plan*, 2012

Hunter, Cynthia, Ravensworth Homestead Historical Text, in EJE Architecture, Glendell Coal Joint Venture – *Ravensworth Homestead and Farm Complex – Structural and Material Condition Report*, August 1997

Pemberton, P.A; *The London Connection: The Formation and Early Years of the Australian Agricultural Company*, thesis submitted for the degree of Doctor of Philosophy, ANU, 1991

Umwelt; *Ravensworth Operations Project Historical Heritage Assessment*, 2010

Umwelt; *Historic Heritage Assessment: Mount Owen Continued Operations Project*, 2014

Umwelt; *Glendell Continued Operations Project: Preliminary Environmental Assessment*, 2018

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Appendix 3

Copies of Heritage Listings

1. “Ravensworth Homestead”, State Heritage Inventory, database no. 1530089
2. “Ravensworth Homestead”, National Trust of Australia (NSW) listing card
3. “Ravensworth Homestead”, Australian Heritage Database, Place Id. 101927
4. “Ravensworth”, extract from *Hunter Estates: A Comparative Heritage Study of pre 1850s Homestead Complexes in the Hunter Region*, Vol. 2, Clive Lucas, Stapleton & Partners, 2013



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Ravensthorpe Homestead

Item details

Name of item:	Ravensthorpe Homestead
Type of item:	Built
Primary address:	463 Hebden Road, Ravensthorpe, NSW 2330
Local govt. area:	Singleton

All addresses

Street Address	Suburb/town	LGA	Parish	County	Type
463 Hebden Road	Ravensthorpe	Singleton			Primary Address

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Local Environmental Plan	Singleton LEP 2013	141	06 Sep 13	524	
Local Environmental Plan	Singleton LEP 1996	1996	05 Jul 96	081	3907

References, internet links & images

None

Note: internet links may be to web pages, documents or images.

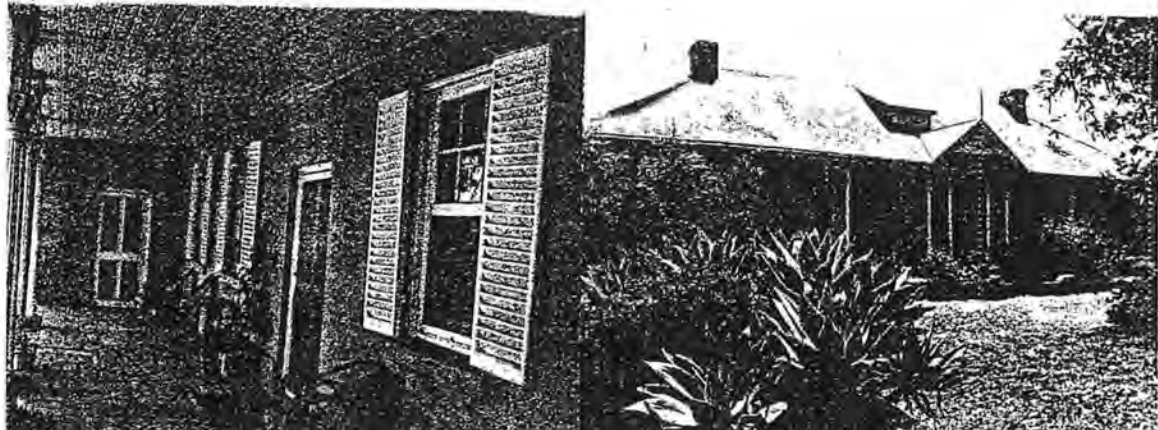
Data source

The information for this entry comes from the following source:

Name:	Local Government
Database number:	1530089

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Every effort has been made to ensure that information contained in the State Heritage Inventory is correct. If you find any errors or omissions please send your comments to the [Database Manager](#).

RAVENSWORTH	RAVENSWORTH HOMESTEAD	Near Singleton
(Town or District)		
Post Code 2415 Singleton		
Local Govt Area Shire Ccl		
Author of Proposal C. Lucas		
Date of Proposal November, 1977	(Name or Identification of Listing)	(Address or Location)
Suggested Listing Category CLASSIFIED	Bibliography	Owner and Address
Committee (Trust Use) HBC	Griffiths, N., Some Northern Homes of N.S.W.	Mr. G.C. Marshall
Council (Trust Use) APPROVED CL. 5/7/76	Ravensthorpe Accounts in Mitchell Library	advised 21/8/78
<p>Description Briefly cover the points on the following check list where they are relevant and within your knowledge.</p> <p>Style Ravensworth is a Colonial Georgian bungalow all under the one bellcast hipped roof with generous eaves. It has a single pile plan with a central flagged hall. The verandahs back and front were in antis, which suggests Anglo Indian influence for the design. The house is built of stone and the roof is now slated. About 1907 the rear verandah was extended to form two further rooms with central hall. There is an original L shaped service wing to one side and at the rear, well back from the house, two symmetrically placed gabled outhouses which form a compound with the main building. The interior of the house is simply finished with staff mouldings to all openings, doors are 6 panelled. At the time the house was extended, ventilators would appear to have been placed in the roof, a gable placed over the entrance, and the verandah columns replaced in cast iron.</p> <p>Construction</p> <p>Use</p> <p>Architect/s</p> <p>Builder/s</p> <p>Date of Construction</p> <p>Present Condition</p> <p>History</p> <p>Owners</p> <p>Boundaries of proposed listing</p> <p>The original part of Ravensworth is thought to have been built for Dr. James Bowman, colonial surgeon, by about 1835. Later owners included Captain William Russell.</p>		
<p>Reasons for listing</p> <p>Although altered, Ravensworth is a remarkably intact Colonial Georgian bungalow. It is a house which is associated with one of the colony's important early settlers and is therefore a building of considerable importance.</p>		
<p>Sketch plan and photos Attach additional photos if any.</p>		
		

30/07/2019

Australian Heritage Database

Place Details

[Send Feedback](#)

Ravensworth Homestead, Hebden Rd, Ravensworth, NSW, Australia

Photographs	None
List	Register of the National Estate (Non-statutory archive)
Class	Historic
Legal Status	Indicative Place
Place ID	101927
Place File No	1/09/077/0025

Nominator's Statement of Significance

Although altered, Ravensworth is a remarkably intact Colonial Georgian bungalow. It is a house which is associated with one of the colony's important early settlers and is therefore a building of considerable importance.

Official Values Not Available

Description

Ravensworth is a Colonial Georgian bungalow all under the one bellcast hipped roof with generous eaves. It has a single pile plan with a central flagged hall. The verandahs back and front were in antis, which suggests Anglo Indian influence for the design. The house is built of stone and the roof is now slated. About 1907 the rear verandah was extended to form two further rooms with central hall. There is an original L shaped service wing to one side and at the rear, well back from the house, two symmetrically placed gabled outhouses which form a compound with the main building. The interior of the house is simply finished with staff mouldings to all openings, doors are 6 panelled. At the time the house was extended, ventilators would appear to have been placed in the roof, a gable placed over the entrance, and the verandah columns replaced in cast iron.

The original part of Ravensworth is thought to have been built for Dr. James Bowman, colonial surgeon, by about 1835. Later owners included Captain William Russell.

History Not Available

Condition and Integrity Not Available

Location

Hebden Road, 3km north-north-east of Ravensworth.

Bibliography Not Available

Report Produced Tue Jul 30 13:23:00 2019

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www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;search=place_name%3DRAVENSWORTH%3Blist_code%3DRNE%3Bkeyw... 1/1

Hunter Region 19th Homestead Complexes State Heritage Inventory		SHI Number 2820012 Study Number
<div style="border: 1px solid black; padding: 5px;"> <p>Item Name: Ravensworth</p> <p>Location: Hebden Road, Ravensworth [Singleton]</p> </div>		
<p>Address: Hebden Road</p> <p>Suburb / Nearest Town: Ravensworth</p> <p>Local Govt Area: Singleton</p> <p>State: NSW</p> <p>Other/Former Names:</p> <p>Area/Group/Complex:</p> <p>Aboriginal Area: Wanaruah</p> <p>Curtilage/Boundary:</p>	<p>Planning: Hunter & Central Coast</p> <p>Historic Region: Upper Hunter</p> <p>Parish: Vane</p> <p>County: Durham</p> <p>Group ID:</p>	
<p>Item Type: Complex / Group</p> <p>Owner: Private - Individual</p> <p>Admin Codes:</p> <p>Current Use:</p> <p>Former Uses:</p>	<p>Group: Landscape - Cultural Category: Homestead Complex</p> <p>Code 2: Code 3:</p>	
<p>Assessed Significance: State Endorsed Significance:</p>		
<p>Statement of Significance: Ravensworth is of cultural significance as one of a group of surviving estates in the Hunter Region that continues to demonstrate the implementation of a colonial government policy for land ownership and the management of convicts introduced and implemented in the Hunter Region in the early 1820s and is an important aspect of the agricultural/pastoral history of NSW.</p> <p>The place is associated with the colony's principal surgeon, James Bowman who established the estate in 1824 and is known for his contributions to local affairs as well as health care in the colony, as well as Captain William Russell, MLA, MLC.</p> <p>The picturesque setting of the homestead and landscape features of Ravensworth remain relatively intact including the siting of the homestead and its relationship to the nearby waterway, the colonial bungalow form of the homestead building, the complex of associated farm buildings including stone barns, stone store and privy, and the early garden setting of the main residence.</p> <p>Its rare architectural planned 'farmstead' complex of archetypal bungalow with verandahs in antis and two balanced farm buildings forming a Palladian compound composition at the back, all built as one in c1835.</p> <p>Its probable associations with architect John Verge (1782-1861), also designer of Lyndhurst, Bowman's Sydney residence.</p> <p>The known archaeology and written records relating to the post-colonisation Aboriginal</p>		
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Hunter Region 19th Homestead Complexes		SHI Number 2820012
State Heritage Inventory		Study Number
Item Name:	Ravensworth	
Location:	Hebden Road, Ravensworth [Singleton]	
	<p>history specific to this place are uncommon and of exceptional significance.</p> <p>Ravensworth has high potential for archaeological evidence capable of providing further information on the colonial settlement and history of the place and the colonisation of the Hunter Region more generally.</p> <p>The high level of significance in all categories makes this place, in our view, of State significance.</p> <p>Historical Notes or Provenance: FIRST OWNER (ORIGINAL GRANTEE/S): James Bowman (1784-1846), surgeon and pastoralist, from Cumberland, England, entered the navy as an assistant surgeon in 1806, and was promoted to surgeon the following year. In consequence of the recommendation of William Redfern that naval surgeons be appointed to convict transports, Bowman sailed to New South Wales arriving in 1816. Disappointed in his expectations of a colonial appointment he returned to England.</p> <p>Two years later, having been appointed to succeed D'Arcy Wentworth as principal surgeon, he came out to Australia in company with John Thomas Bigge. He made many immediate improvements at Sydney Hospital. Wards, nursing staff, the general dietary scheme and the system of rationing convict patients were all reorganized. A mortuary and dissecting-room were added and arrangements made for adequate supplies of instruments.</p> <p>In 1823 he had married Mary, the second daughter of John and Elizabeth Macarthur, whose dowry included 2000 merino sheep and more than 200 head of cattle. His request for land commensurate with his fortune was granted in 1824 and with additional purchases his estate, Ravensworth, exceeded 12,000 acres (4856 ha).</p> <p>He was on the local committee of the Australian Agricultural Company from 1824 until 1829. Other members of the committee were James Macarthur, Hannibal Macarthur, and Captain King.</p> <p>The Ravensworth Estate was worked by overseers, including his son Edward Bowman and James White Snr. (from Edinglassie) and assigned convicts.</p> <p>For the next ten years Bowman remained in Sydney, taking little part in public affairs, save briefly as a local director of the Bank of Australasia. When his official salary ceased in 1838, two years after his services were dispensed with, he retired with his family to Ravensworth. Drought and depression, combined with ill-advised expenditure and inexperience, led inevitably to heavy financial losses.</p> <p>He became involved in community affairs in the district and held the position of President of the Singleton Benevolent Society and donated land for a church near Camberwell.</p> <p>The infamous bushrangers the Jewboy Gang robbed nine drays near his estate around this time.</p> <p>Bowman died suddenly in 1846.</p>	
<p>Clive Lucas Stapleton and Partners Pty Ltd 2013</p> <p>Date: 21/03/2013 Full Report with Images Page 110</p> <p><small>This report was produced using the Heritage Database Software provided by the Heritage Branch, NSW Department of Planning</small></p>		

Hunter Region 19th Homestead Complexes**State Heritage Inventory**

SHI Number

2820012

Study Number

Item Name: **Ravensthorpe**Location: **Hebden Road, Ravensthorpe [Singleton]****SECOND OWNER:**

Captain William Russell (1807-1866), born in England, and retired from the 20th Reg., arrived in the colony in 1837 with his wife and son and became a pastoralist and agriculturalist. He may have been a military officer or a ships captain. Member of the NSW Legislative Assembly 1859-60 as the member for Patrick's Plains and member of the NSW Legislative Council 1861-1865. William Russell died in England in 1866.

Ravensthorpe was subdivided in 1882 and part of the estate was eventually purchased by Duncan Forbes Mackay.

In 1875, the Ravensthorpe estate was advertised for sale: at the homestead there is a proprietors residence of 10 apartments, besides kitchen, servants' apartments, pantry, cellar, store and dairy together with large wool shed, wood-rooms, coach-house, stables, store, granary etc. all of which are built of cut stone. The other improvements comprise good cottages and huts for the overseers and men, also convenient slaughter house, forge etc. etc. (Sydney Morning Herald, 9th October 1875).

OTHER LANDS:

Bowman- Lyndhurst, Glebe (house by John Verge)

Russell- Acquired other property including 50,000 acre run "Eena" on the McIntyre from the bankrupt Ben Singleton, Glenridding near Singleton, Waverley and Cheshunt Park and extensive freehold property in settled districts and in 1859 held 117,041 acres of adjacent land under the pre-emptive leases allowed big landowners. Also held 11,840 acres in settled districts under auction lease and was a squatter in Gwydir district.

ABORIGINAL HISTORY:

In 1824, Bowman's Ravensthorpe property was 'the highest on Hunter's River' and exceeded 12,000 acres of land that lay near the frontier between people of three Aboriginal language groups; the Wonnarua, Darkinjung and Kamilaroi. A number of escalating episodes of violence occurred on, or were associated with, the Estate from 1825. These included initial Aboriginal raids and 'plunder' of crops and attacks on convict workers and robberies of travellers and their drays, the murder of an unnamed hut-keeper on the property in June 1826, and these led up to what is colloquially referred to as the 'Ravensthorpe massacre'. Between two and eighteen Aboriginal people are reported to have been killed by a party of Mounted Police, convicts, and 'volunteers' led by Robert Scott in August 1826. Although the precise location of the massacre may not have been within the lands first granted to Bowman, the event itself in particular, and the climate of conflict in the early nineteenth century in the Upper Hunter during which it occurred in general, is an important part of the Aboriginal history of the area.

In the late 1830s James White, who managed the Ravensthorpe property for James Bowman, continued to feel it necessary to construct a 'stockade-like' arrangement on Ravensthorpe, although this may have been as much for protection against bushrangers as it was for protection against attack from Aboriginal people. The architectural 'defence slit' highlighted by the RNE listing for Ravensthorpe are reflective of this important aspect of the homesteads history.

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Location:	Hebden Road, Ravensthorch [Singleton]																																																	
<p>A significant number of Aboriginal archaeological campsites, along with some scarred trees and engravings, have been recorded as a result of EIS work associated with the ongoing Ravensthorch mining operations to the east and west of the Homestead. It is probable that prehistoric and historic-period Aboriginal archaeological evidence remains as yet undetected nearby to the House.</p> <p>FOUNDATION INDUSTRY: Sheep stud and grazing</p> <p>CURRENT USE: Mining</p> <p>ARCHIVES: Bowman family papers held at State Library of NSW</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Themes:</th> <th style="text-align: left; padding: 5px;">National Theme</th> <th style="text-align: left; padding: 5px;">State Theme</th> <th style="text-align: left; padding: 5px;">Local Theme</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">2. Peopling</td> <td style="padding: 5px;">Aboriginal cultures and inte</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">2. Peopling</td> <td style="padding: 5px;">Convict</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">2. Peopling</td> <td style="padding: 5px;">Migration</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">3. Economy</td> <td style="padding: 5px;">Agriculture</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">3. Economy</td> <td style="padding: 5px;">Environment - cultural land</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">3. Economy</td> <td style="padding: 5px;">Pastoralism</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">4. Settlement</td> <td style="padding: 5px;">Accommodation (Housing)</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">4. Settlement</td> <td style="padding: 5px;">Land tenure</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">4. Settlement</td> <td style="padding: 5px;">Towns, suburbs and village</td> <td style="padding: 5px;">Private Village Town</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">5. Working</td> <td style="padding: 5px;">Labour</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">9. Phases of Life</td> <td style="padding: 5px;">Persons</td> <td style="padding: 5px;">(none)</td> <td style="padding: 5px;"></td> </tr> </tbody> </table>			Themes:	National Theme	State Theme	Local Theme	2. Peopling	Aboriginal cultures and inte	(none)		2. Peopling	Convict	(none)		2. Peopling	Migration	(none)		3. Economy	Agriculture	(none)		3. Economy	Environment - cultural land	(none)		3. Economy	Pastoralism	(none)		4. Settlement	Accommodation (Housing)	(none)		4. Settlement	Land tenure	(none)		4. Settlement	Towns, suburbs and village	Private Village Town		5. Working	Labour	(none)		9. Phases of Life	Persons	(none)	
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<p>Designer:</p> <p>Maker / Builder:</p> <p>Year Started: 1824 Year Completed: Circa: No</p> <p>Physical Description: Located adjacent to Yorkes Creek, a small complex of buildings accessed via Hebden Road, with driveway arriving at the rear of the complex. A uniform arrangement of buildings with remnant garden to the front of the main homestead. Surrounding lands are open cut mines.</p> <p>Ravensthorch constructed c. 1835, is a colonial Georgian bungalow all under the one bellcast hipped roof. Single pile plan with central flagged hall. The verandahs back and front were in antis, suggesting anglo indian influence for the design. Built of stone and the roof is now slated.</p>																																																		
Clive Lucas Stapleton and Partners Pty Ltd 2013 <div style="display: flex; justify-content: space-between;"> Date: 21/03/2013 Full Report with Images Page 112 </div> <small>This report was produced using the Heritage Database Software provided by the Heritage Branch, NSW Department of Planning</small>																																																		

Hunter Region 19th Homestead Complexes State Heritage Inventory		SHI Number 2820012 Study Number									
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Item Name: Ravensworth Location: Hebden Road, Ravensworth [Singleton] </div> <p>About 1907, the rear verandah extended to form two further rooms with central hall. Original L shaped service wing to one side and at the rear, well back from the house, two symmetrically placed gabled outhouses which form a compound. The interior is simply finished with staff mouldings to all openings, doors are 6 panelled.</p> <p>Outbuildings surviving include stables, privy, woodshed and stockyards.</p> <p>Some alterations although remarkably intact.</p> <p>Physical Condition:</p> <p>Modification Dates:</p> <p>Recommended Management:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Management:</td> <td style="width: 35%;">Statutory Instrument</td> <td style="width: 35%;">Nominate for State Heritage Register (SHR)</td> </tr> <tr> <td></td> <td>Recommended Management</td> <td>Consult with owner and/or community</td> </tr> <tr> <td></td> <td>Recommended Management</td> <td>Produce a Conservation Management Plan (CMP)</td> </tr> </table> <p>Further Comments:</p> <p>Criteria a) Ravensworth, established as a sheep property in 1824, is representative of the successful implementation of a new and highly significant government policy introduced in the early 1820s by Governor Brisbane and Lt. Bigge in the Hunter Region aimed at the economic and agricultural development of the colony through the management of land and convicts by private landowners. This policy resulted in the rapid settlement of the region in the period 1820s to 1840s and Ravensworth is one of a number of surviving pastoral estates which together form the foundational layer of the colonisation of the Hunter Region.</p> <p>Criteria b) The settlement of the Hunter Region is associated with a large number of people of influence and ambition who arrived in Australia as new, free immigrants in order to take up land and who made considerable contributions to Australian society, founded the agricultural and pastoral industries in the region and formed part of the establishment of the judicial and political systems in NSW.</p> <p>Ravensworth is associated with James Bowman (1784-1846), noted as the principal surgeon in the colony from September 1820. Bowman married Mary, second daughter of John and Elizabeth Macarthur, and her dowry of 2000 merino sheep and 200 head of cattle led to his establishing Ravensworth on 12,000 acres in 1824. Bowman was active in local affairs, serving on the local committee of the Australian Agricultural Company 1824-1829, donating land for a church near Camberwell, and holding the position of President of the Singleton Benevolent Society.</p> <p>Ravensworth is also associated with architect John Verge (1782-1861), design of the homestead complex, as well as Bowman's house Lyndhurst, Glebe.</p> <p>Ravensworth is also associated with subsequent owners of note including Captain William Russell (1807-1866), who was elected MLA in 1859-60 and was MLC 1861-65.</p>			Management:	Statutory Instrument	Nominate for State Heritage Register (SHR)		Recommended Management	Consult with owner and/or community		Recommended Management	Produce a Conservation Management Plan (CMP)
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Hunter Region 19th Homestead Complexes		SHI Number 2820012
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Location:	Hebden Road, Ravensworth [Singleton]	
Criteria c)	<p>Located picturesquely in the landscape and responding to the particular topography of the Hunter Region with its river valleys and alluvial plains, the siting of the surviving homestead complexes together with the surrounding pastures and paddocks form a distinctive colonial landscape. Although currently flanked by industrial development Ravensworth continues to display many of the characteristics of the typical pre-1850s Hunter Estate, including:</p> <ul style="list-style-type: none"> •the siting of the homestead adjacent to Yorks Creek •the original (c1835) homestead (albeit altered) •the surviving complex of outbuildings including the stone barns, stone store and privy •the remnant 19th century garden surrounding the homestead •the surrounding agricultural lands associated visually or otherwise with the homestead complex. <p>Ravensworth is a rare architectural planned 'farmstead' complex of archetypal bungalow with verandahs in antis and two balanced farm buildings forming a Palladian compound composition at the back, all built as one c1835. Most probably designed by John Verge, stables of a similar design are found at Wivenhoe, Narellan as well as the unbuilt stables he designed for the Macarthurs at Camden Park.</p>	
Criteria d)	<p>As one of a group and individually, the estates of the Hunter Region are held in high esteem by the local community as well as the broader NSW community as indicated by the number of statutory and non-statutory heritage listings existing for the area, together with the great wealth of research, books, images, heritage studies, memoirs, family archives and other documentation relating specifically to the history of the region, its people, industries, buildings and the estates.</p> <p>The strength of opposition displayed to threats to the survival of the early Hunter Region properties and their homestead complexes further demonstrates the strong associations held by the Hunter Region community with those properties.</p>	
Criteria e)	<p>The archaeology of the Hunter Estates is an important key to the further understanding of the emerging Aboriginal history of this region of NSW and provides insights into the complex network of connections, interactions, shared experiences and shared land use that occurred between Aboriginal people, the settlers, their workers and the estate lands.</p> <p>Archaeology and written records exist for Ravensworth relating to the Aboriginal history specific to this place. Evidence includes the colloquially-known 'Ravensworth Massacre' in 1826 and the physical evidence of the 'stockade-like' arrangement on Ravensworth (although this may have been as much for protection against bushrangers as it was for protection against attack from Aboriginal people).</p> <p>A significant number of Aboriginal archaeological campsites, along with some scarred trees and engravings, have been recorded as a result of work associated with the ongoing Ravensworth mining operations to the east and west of the homestead. It is probable that prehistoric and historic period Aboriginal archaeological evidence remains as yet undetected nearby to the house.</p> <p>The archaeology of the place has the potential to tell us more about this important place and about the colonial settlement of the Hunter Region more generally.</p>	
<p>Clive Lucas Stapleton and Partners Pty Ltd 2013</p> <p>Date: 21/03/2013 Full Report with Images Page 114</p> <p><small>This report was produced using the Heritage Database Software provided by the Heritage Branch, NSW Department of Planning</small></p>		

Hunter Region 19th Homestead Complexes		SHI Number 2820012
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Location: Hebden Road, Ravensthorpe [Singleton]		

The archaeology of the place also has the potential to provide further information into the known chains of settlements and various settlement types that existed throughout the region as well as the use of convict labour and tenant farming, associated with the Hunter Estates.

Criteria f) The process of settlement of the Hunter Region, reflected by the group of surviving pre-1850s estates including Ravensthorpe, which is rare in NSW for being instigated under a new government policy implemented specifically to advance the economic and agricultural development of the colony and to place the management of convicts into the hands of the private landholder.

The known/documentary reliance on convict labour in large numbers by private landowners throughout the district in the establishment and development of the estates, including Ravensthorpe, is rare in NSW and a highly significant aspect of the history of colonial settlement of NSW.

The known archaeology and written records existing for Ravensthorpe relating to the Aboriginal history specific to this place is an uncommon and highly significant aspect of the place.

Ravensthorpe is an extraordinarily rare farmstead both because of the family who built it and the architect who most probably designed it.

Criteria g) The principal characteristics of Ravensthorpe including its associations with James Bowman and Captain William Russell, its physical characteristics, including the 1830s homestead building as well as the associated outbuildings and garden, the use of assigned servants and its known associations with the local Aboriginal people are representative of a significant pattern of settlement and history of development that occurred in the Hunter Region and one that is still able to be experienced today.

Integrity / Intactness: Good

References:	Author	Title	Year
	Gray, N.	'Bowman, James (1784-1846)'	1966
	Willett, J.	'Free Settler or Felon'	2013
	Wood, W. A.	Dawn in the Valley :The Early History of the Hunter Valley Settlement	1972

Studies:	Author	Title	Number	Year
	Clive Lucas, Stapleton & Partners	Hunter Region 19th Century Rural Homesteads Study		2012
	Meredith Walker	Hunter Region Heritage Study: Interim list of heritage items prepared for DEP		1989
	National Trust of Australia (NSW)	Listing and research files		

Parcels:	Parcel Code	Lot Number	Section	Plan Code	Plan Number
	LOT	228		DP	752470

Hunter Region 19th Homestead Complexes		SHI Number 2820012	
State Heritage Inventory		Study Number	
Item Name: Ravensworth			
Location: Hebden Road, Ravensworth [Singleton]			
Latitude: 32.415° S		Longitude: 151.065° E	
Location validity:		Spatial Accuracy:	
Map Name: Camberwell		Map Scale: 1:25000	
AMG Zone:	Easting:	Northing:	
Listings:	Name:	Title:	Number: Date:
	Regional Environmental Plan		
	Local Environmental Plan		
	National Trust of Australia Register		
	Register of the National Estate		
Site info:			
CustomField 2:			
CustomField 3:			
CustomField 4:			
CustomField 5:			
CustomField 6:			
Data Entry:	Date First Entered: 17/10/2012	Date Updated: 19/03/2013	Status: Completed

Hunter Region 19th Homestead Complexes

State Heritage Inventory

SHI Number

2820012

Study Number

Item Name: **Ravensthorch**Location: **Hebden Road, Ravensthorch [Singleton]**

Image:



Caption: Ravensthorch: cadastral

Copyright: LPI NSW

Image by: SIX Viewer

Image Date: 4/03/2013

Image Number:

Image Path:

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Date: 21/03/2013

Full Report with Images

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Hunter Region 19th Homestead Complexes

State Heritage Inventory

SHI Number

2820012

Study Number

Item Name: **Ravensworth**Location: **Hebden Road, Ravensworth [Singleton]**

Image:



Caption: Ravensworth: aerial view

Copyright: 2013 Google

Image by: Google Earth

Image Date: 4/03/2013

Image Number:

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Appendix 4

Records of Oral Histories

Notes from conversation held between Michael Gunn of Lucas Stapleton Johnson and Partners and Geoff and Jenny Marshall on site at the Ravensworth Homestead Complex on 3rd August 2018

Answers to architectural questions from Geoff & Jenny Marshall in blue. To be read with attached photo & plans.

Note:

- Geoff Marshall couldn't recall many precise dates.
- Some changes noted as GMs father time.
- Significant new info as at 8/8/18 (according to IS).

COMPOUND GENERALLY

Were the outbuildings ever linked to the homestead with stone walls? **No.**

Was there a stone building enclosing the north side of the compound (between the Barn & Stables)? **Yes – Convict Quarters (common knowledge)**

Was there a west wing to the Homestead balancing the east Kitchen Wing? **No.**

Was there a cistern south of the Kitchen Wing (depression in ground)? **Not discussed. There is an in-ground small pool shown in Marshalls photos including stone surround.**

When were shingle roofs to Kitchen Wing, Barn & Stables replaced with corrugated iron? **Not discussed.**

MAIN WING

When did cast iron columns replace timber posts at the south verandah? **GM didn't know.**

When was the lean-to extension added to the north – Rms 2 & 14? **GM said '20s. JM later said 1906?**

When was the roof framing repaired to this lean-to? **Not discussed.**

When were Bathrooms 4 & 5 added to the north-west corner? **GM said c1960s.**

When was the linking sunroom Rm15B (between the rear of the main house & kitchen wing) added? **GM said c1960s.**

Did the rear veranda ever return at the east (at the current sunroom) and west (at the current bathrooms)? **Yes. See attached floor plan and photo ***

KITCHEN WING

Did the Kitchen Wing always have the L-shaped verandah? GM thought yes.

When was the copper installed in Rm 18? GM said his father installed this *

When was the partition removed in Rm 18 beside D20? GM said there were two partitions * (refer to plan) but could not confirm date they were removed.

Was there a curved stone wall at the east end of Rm 17? Yes along with cupboard now on west wall of R18* If so when was this removed? GM could not confirm date removed.

When was D28 formed between Rms 16 & 17? By GMs father.

STABLES

When was the above ground water tank built at the south end? By GMs father.

When was the carriage door DS1 introduced? Door opening by GMs father*. Steel framed doors by GM*.

When was the north end adapted to a shearing shed with window modified to form DS6 and low opening DS7 formed? When GM was a child*. He remembers helping his father adapt the north stables for shearing*.

When was the timber and CI shelter/shed added to the north? When GM was a child*. See above.

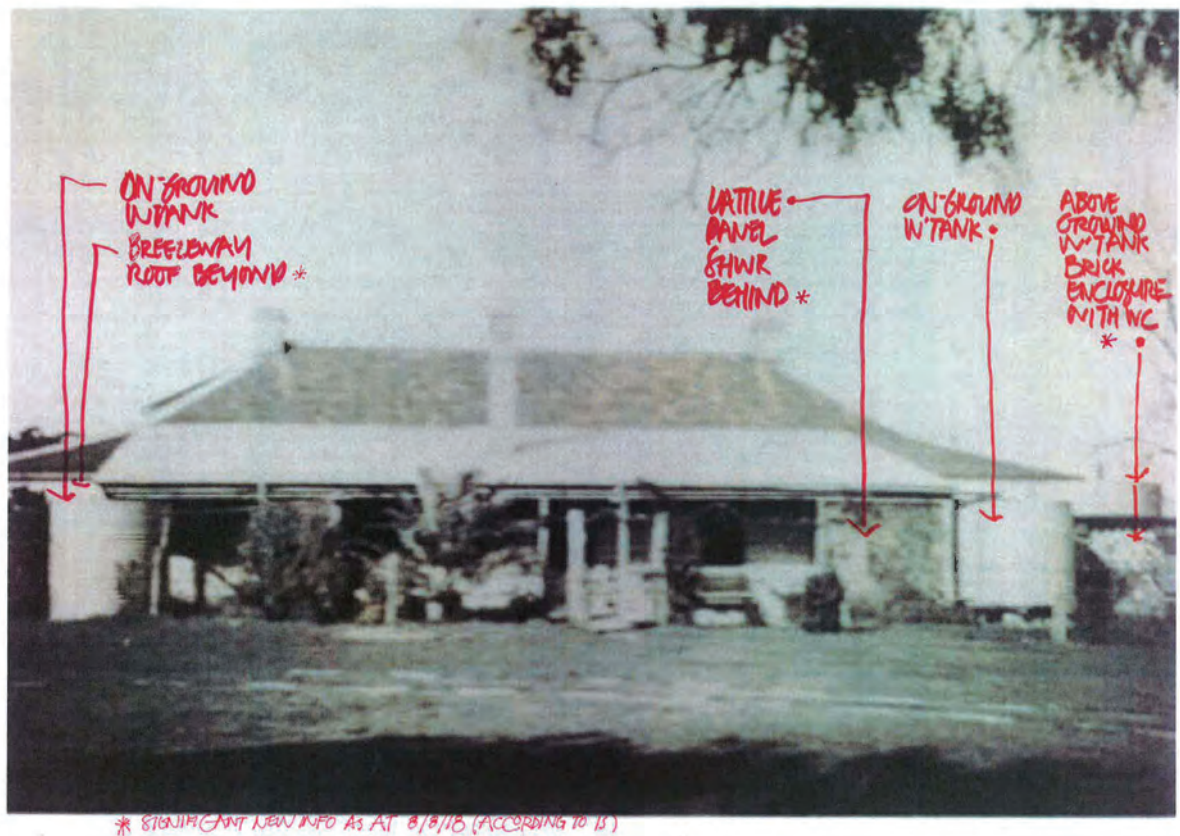
BARN

What were the timber rails on the inside of B1 used for? Hanging harnesses associated with Carriage Shed.

When was the rough doorway DB3 formed on the east side of B1? By GMs father*.

When was one of the blank windows modified to form a doorway DB2? Before GM's time / doesn't know if his father did this.

When was the wide opening for double machinery doors DB5 formed on the west side of B3? By GMs father *.





MB SITE NOTES 3rd AUG '18

- Geoff + Jenny Marshall
* Significant new info as at 8/8/18 (according to IS)

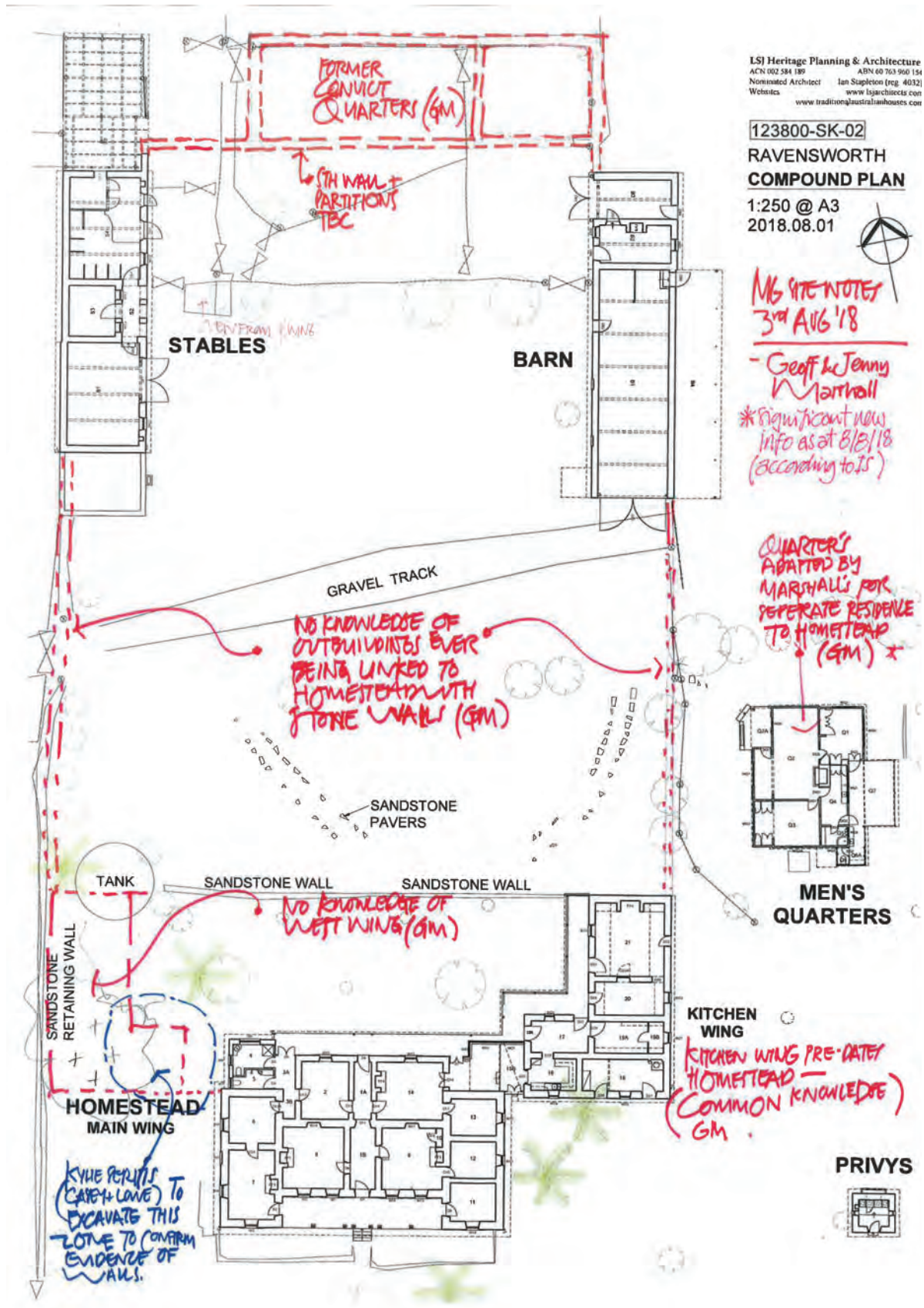


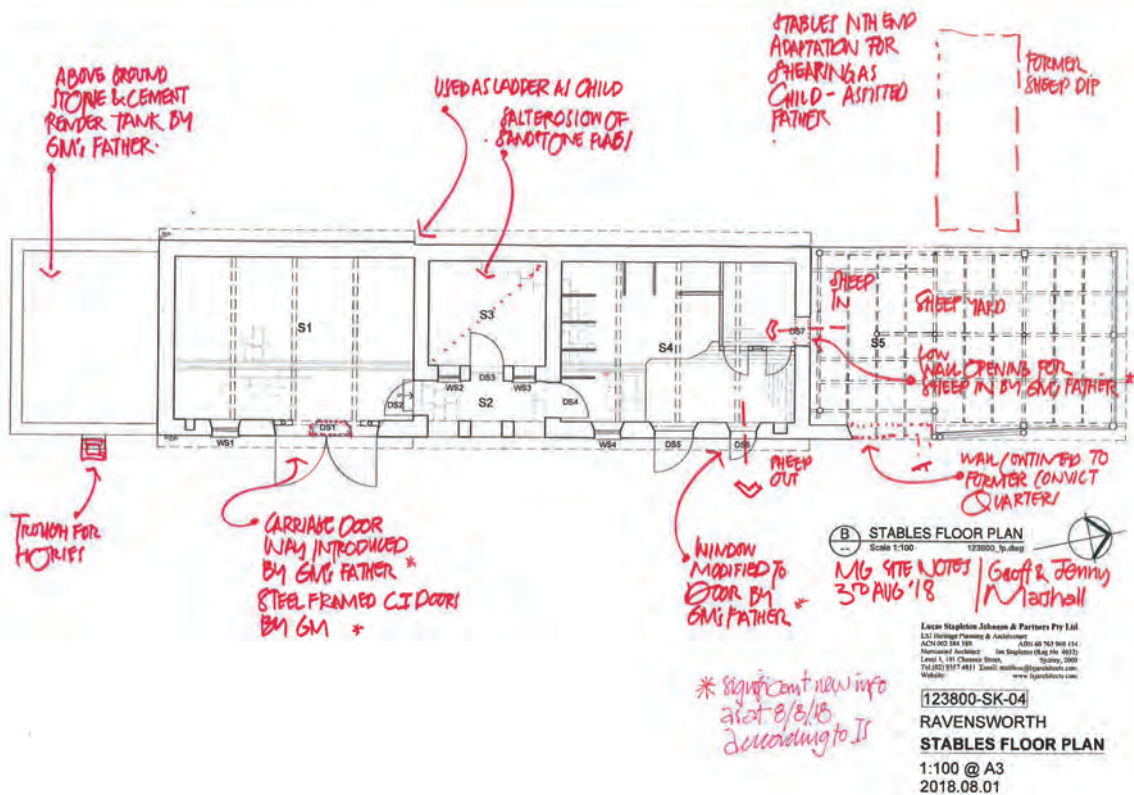
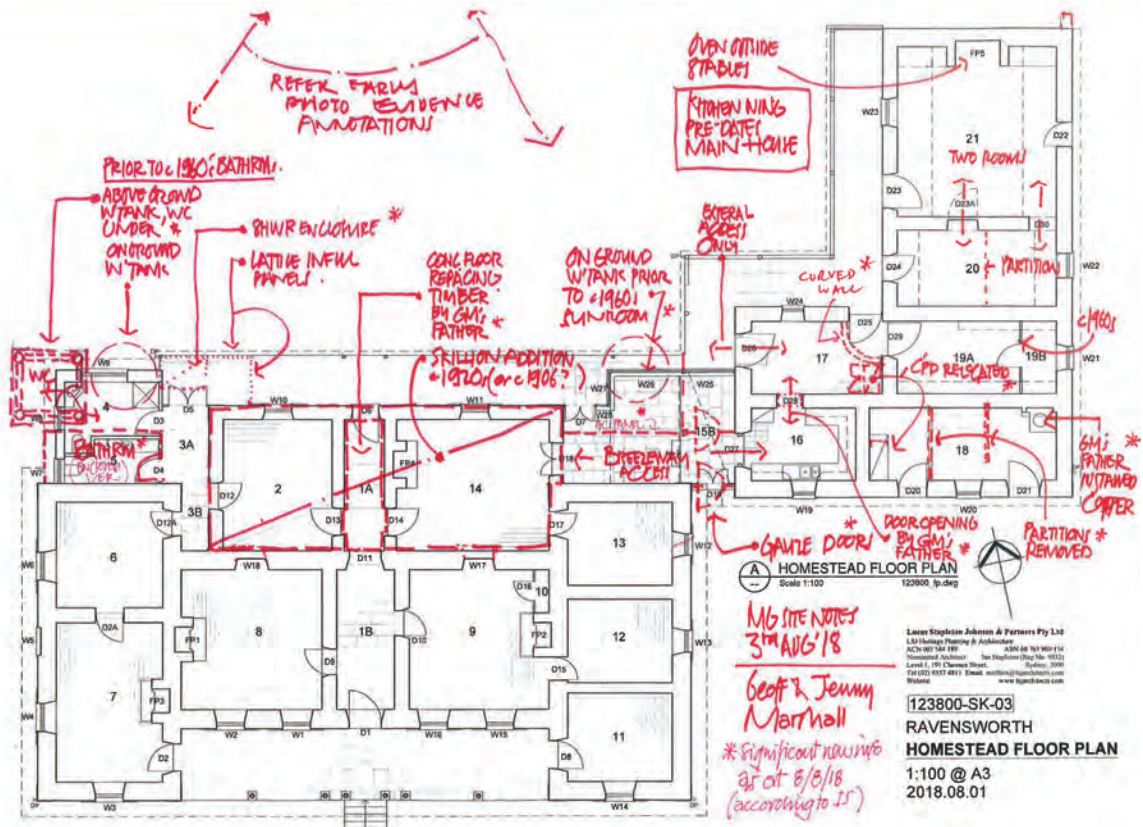
Lucas Stapleton Johnson & Partners Pty Ltd
LSJ Heritage Planning & Architecture
ACN 002 584 189 ABN 50 763 960 154
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Level 1, 191 Clarence Street, Sydney, 2000
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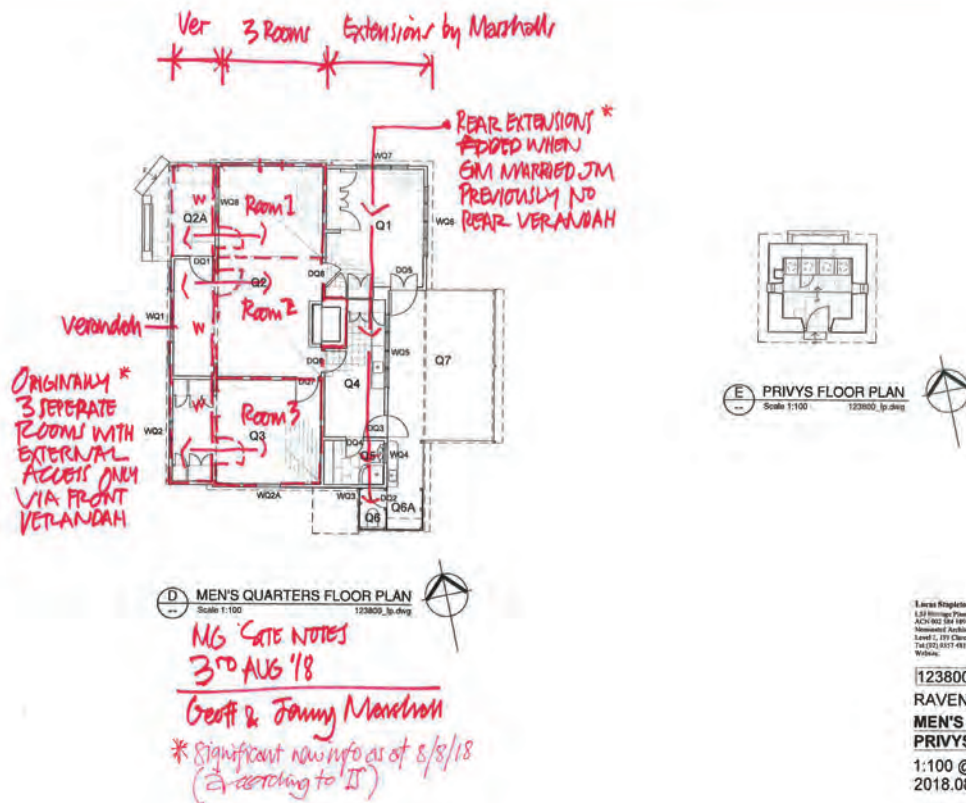
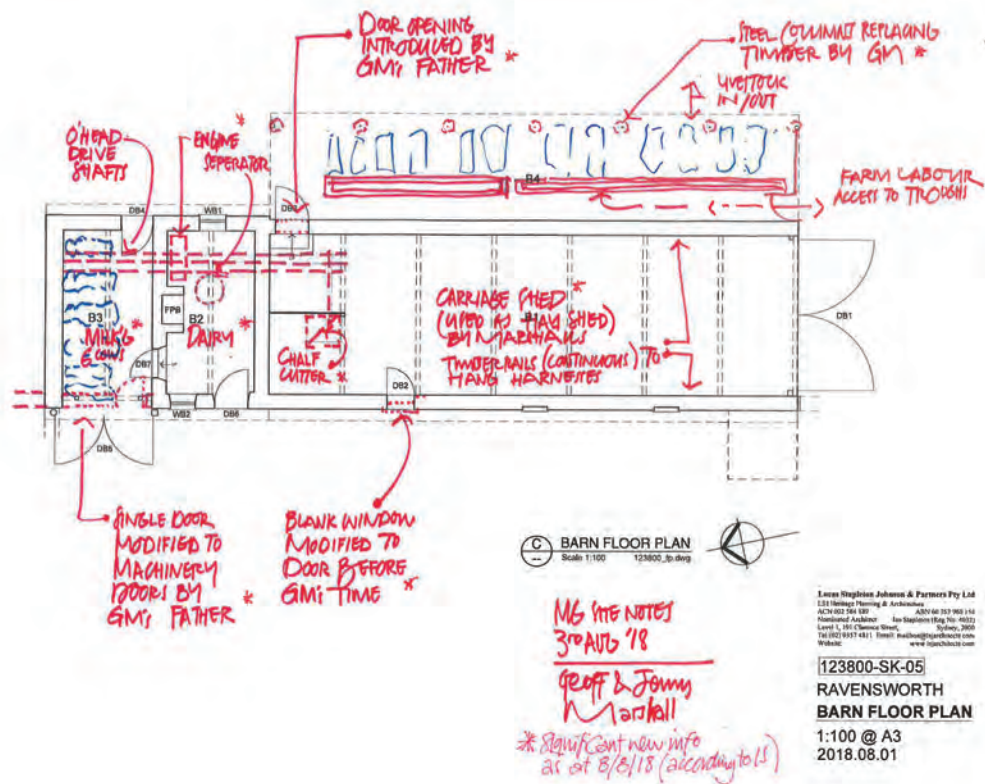
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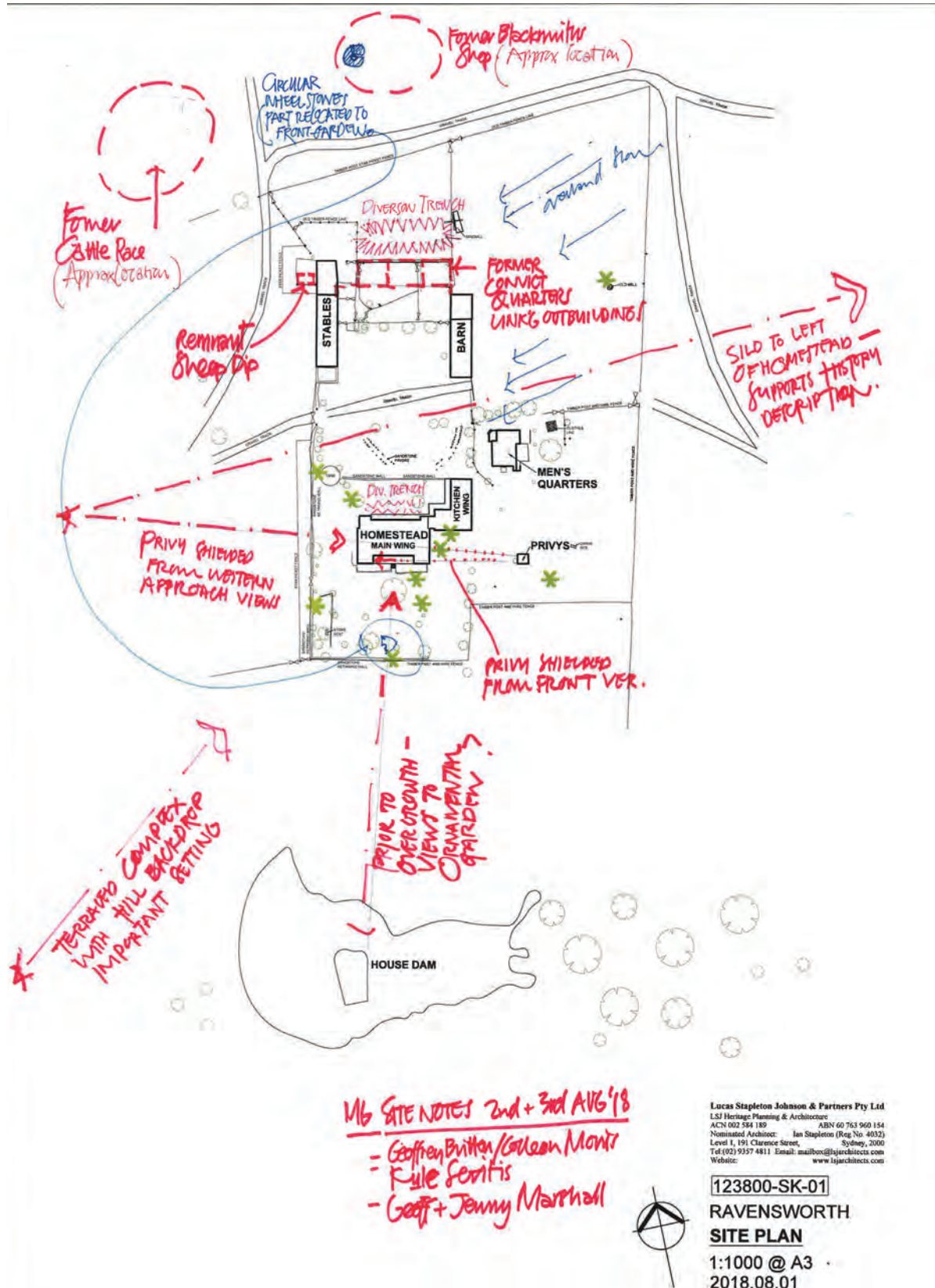
**RAVENSWORTH
SITE PLAN**

1:1000 @ A3
2018.08.01









Notes from conversation held between Kate Denny of Lucas Stapleton Johnson and Partners and Geoff and Jenny Marshall, Singleton on 21st February 2019

1965: G & J Marshall married and renovated the Men's Quarters for single residential use.

Jenny came from Denman, her paternal father was in the rag trade and had four sons. When the business began to drop off he decided to buy a dairy so that his sons would have a living.

Geoff and Jenny met at a B&S ball.

Site 27 (Lots 5 & 6) were purchased by A.C Marshall c1967-referred to by G & J Marshall as "Ravensworth Farm"

1969: G & J Marshall moved to Site 27 1950s house.

The Marshalls sold Ravensworth based on a suggest proposal that a haul road was going to be located to the south of the homestead and would be visible in their view catchment.

In the year 2000- Marshalls vacated Ravensworth.

Geoff Marshall's maternal grandfather Edgar Raby Moore owned the land to the southwest of the railway line- part of the Bayswater Estate (originally part of Ravensworth estate lands). His daughter Enid married A. C. Marshall. (See TK list of past owners).

Lots 5 & 6 were owned by E & R Andrews who built the 1950s house (Site 27)

First house site for Lots 5 & 6 was Site 10.

Lot 4A was owned by Peebles and included Site 29.

Site 37 was owned by Clive Thompson.

Site 33 was part of Mount Owen, a large cattle property extending north. Owned by Bill Tanner Snr. and Jnr.

Site 17 was lived in by the Coffey's until they relocated to Site 19.

Site 39 was lived in by Tim and Jan Harrison. It was owned by Clutha Development- Liddell mine.

Site 21- Noble family

Site 24/25- Noble family

Site 26A- Hearn the school teacher

Site 9- the Knights- long-time residents

Hebden was the centre for the graziers/property owners across the Ravensworth lands. Centred around a church, school and post office.

Meldra Easter delivered mail via horse.

Jenny Marshall played the organ in the Hebden Church. A minister visited the church and the school once a month.

The Hebden Church was relocated to the Fairview Wines, Eldersleigh Road, Branxton and was being used as a B&B accommodation.

Jenny Marshall also played the organ in the Camberwell Church. Four generations of Marshalls, including Geoff's mother, were christened at the Camberwell Church.

Geoff went to the Hebden Public School, later to Mowbray House and Kings. Geoff rode his horse to school along with the other children in the area. There were 12 horses in paddock behind the school during school hours. The Scrivens and George children took a sulky each to school.

Dairy farms started to peter out in the 1940s or 1950s. Alf George who lived to the north of the Ravensworth lands drove the milk lorry and collected the milk cans from the dairies every day. At the same time, he would take orders for the various farmers and would drop off the shopping on his way home through the Ravensworth lands.

The graziers did not go to Ravensworth village as it was seen as being more for the railway workers.

Itinerant railway workers and farm hands camped on smaller allotments across the Ravensworth lands- not viewed as being permanent or settled.

There were small acreages between the railway line and the highway.

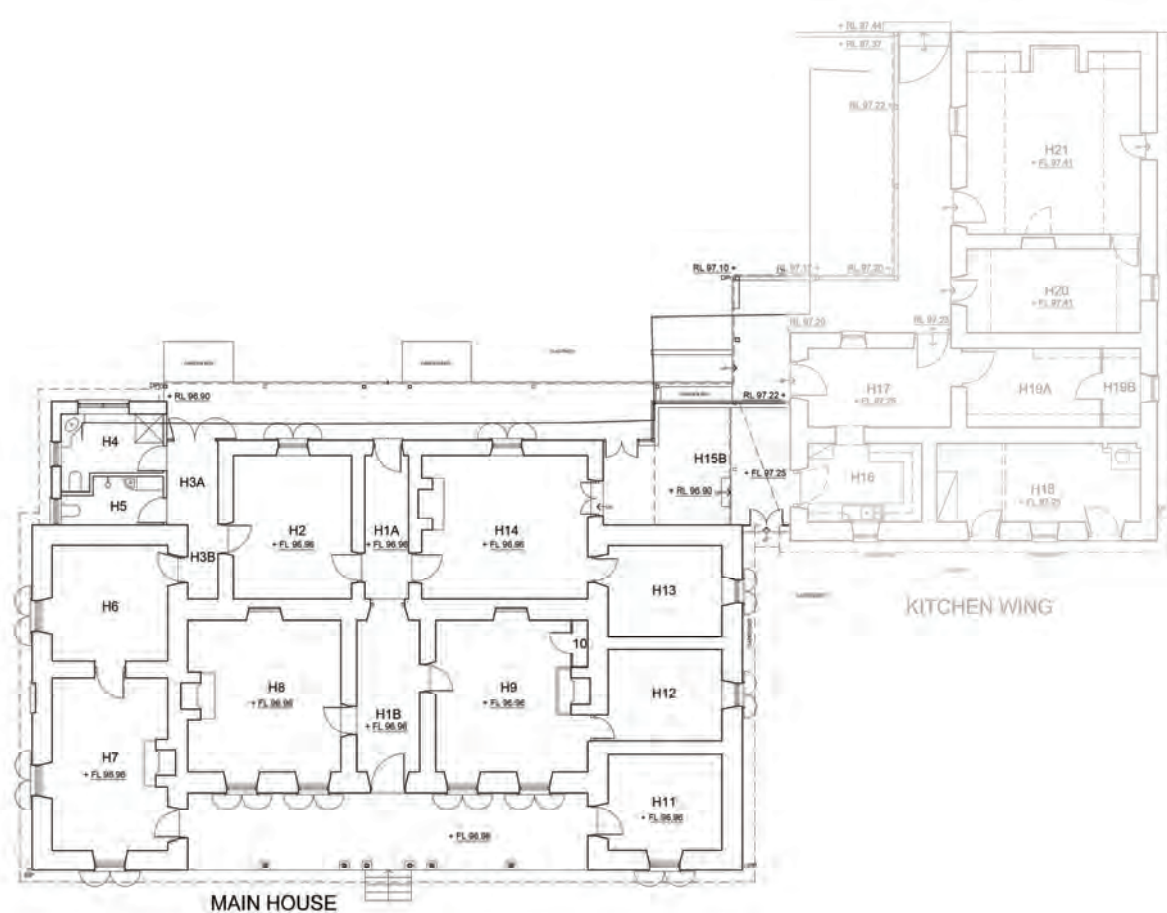
Appendix 5

Fabric Surveys of the Built Components of the Ravensworth Homestead Complex

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MAIN HOUSE & KITCHEN WING INTERIOR

FABRIC SURVEY AS OF 22nd May 2018



Note: This schedule was completed on the basis that Spaces H1A, H2 and H14 were added in ET period and pressed ceilings were added in ET period.

Time Periods:

O	=	Original
EA	=	Early addition
EN	=	Early 19 th century (1820-1850)
MN	=	Mid 19 th century (1851-1885)
LN	=	Late 19 th century (1886-1900)
ET	=	Early 20 th century (1901-1940)
MT	=	Mid 20 th century (1941-1970)
LT	=	Late 20 th century (1971-2000)
M	=	Modern (2001-date)
?	=	Date unclear

Grades of Significance:

E	=	Exceptional
H	=	High
M	=	Moderate
L	=	Little
I	=	Intrusive

Interior

Item No.	Description	Date	Significance Ranking
Space 1A			
Ceiling	Pressed metal	ET	L
Cornice	Large pressed metal	ET	L
Walls	Face stone	ET	L
	Repointed	M	L
	Plaster stripped recently	M	L
Skirting	250mm moulded timber	ET	L
Floor	Concrete over?	ET, O?	L, M?
Other	38mm timber mould under cornice (where plaster removed).	M	L
	Original lintel over D6	O	M
	Reused	ET	L
Door D13	Frame: solid	ET	L
	With quadrant mould on east and west sides.	Possibly ET	L
	Door leaf: 4 no. panel, possibly revised	ET	L
	Hardware: Carpenter type rim lock and keeper and small brass furniture, relocated	M	L
Door D14	As for D13		
Door D6	Frame: solid	ET	L
	With quad mould on south side	Possibly ET	L?
	Small architrave on north side	Possibly ET	L?
	Evidence of screen door	Possibly MT	L
	Door leaf: 4 no. panel	Possibly M	L?
	With top 2 no. panels fitted with etched glass, possibly all reconstruction	Possibly M	L?
	Hardware: Carpenter type rim lock and keeper and small brass furniture, possibly relocated	Possibly M	L
Space 1B			
Ceiling	Pressed metal	ET	M
Cornice	Pressed metal	ET	M
Walls	Plastered,	O	H
	Staff moulds and plastered reveals at doorways	O	H
Skirting	Thick moulded timber	O	H
	Painted		
Floor	Sandstone flags, running east west	O	H
Other	Picture rail on south, east, west walls	Possibly ET	L
	On north wall chamfered rail, with 2 no. metal portier rail brackets, about 75mm dia.	Possibly LN	M

Item No.	Description	Date	Significance Ranking
Door D1	Solid frame	O	H
	With internal mould and external small architrave		
	Door leaf: 6 no. panel with flush 2 no. bottom panels	O	H
	Etched glass to 4 no. panels	LN	M
	Carpenter type rim lock, small brass furniture and escutcheon, relocated	M	L
	Evidence of larger rim lock, now missing	O	H
	Dead rim lock	LT	L
Door D9	Frame: solid frame	O	H
	with moulding to east side	O	H
	and stepped cover piece to west side	Possibly M	L
	Door leaf: 6 no. panel with different mouldings front and back	O	H
	Hardware: Carpenter type rim lock and keeper, small brass furniture, relocated	Possibly M	L
	Evidence of earlier rim lock	O	H
Door D10	Frame: solid frame	O	H
	With storm mouldings east and west sides	Possibly O	H?
	Door Leaf: 6 no. panel with differing mouldings on each side	O	H
	Hardware: Carpenter type rim lock, keeper, small brass furniture, relocated	Possibly M	L
	Evidence of earlier rim lock	O	H
Door D11	Frame: solid frame	O	H
	With storm mould either side, partly reconstructed	M	H?
	Door leaf: missing		
Space 2			
Ceiling	Pressed metal	ET	L
Cornice	Pressed metal	ET	L
Walls	Plastered	Possibly ET	L
Skirting	250mm moulded timber, possibly copy of ET	M?	L
Floor	150 x 25mm shot hardwood, to match original part of house	Probably ET	L?
Other	Wall vents in north wall	Possibly ET	L
Door D12	Solid frame	ET	L
	With small architrave west side	ET?	L?
	And quad mould inside	M?	L
	Door leaf: 6 no. panel door	O	M
	Relocated	ET	L
	Hardware: Carpenter type rim lock, keeper, small brass furniture	Possibly M	L
	Evidence of earlier mortice lock	O?	H?

Item No.	Description	Date	Significance Ranking
Window W10	Frame: solid frame	O	H
	Relocated	ET	L
	Internal moulding	ET	L
	Sashes: pair 6 no. pane sashes	O	H
	Relocated	ET	H
	Shutters: shutter lining and pair deep bladed timber shutters	O	H
	Relocated	ET	L
	Hardware: 2 no. pair small parliament hinges.	Possibly ET	L?
	Evidence of earlier larger parliament hinges	O	H
	2 no. sash drops	O	H
	Relocated	ET	L
	Spiral metal sash catch	MT	L
	Evidence of sash pin	O	H
Space 3A			
Ceiling	As for Space 3B		
Cornice	-		
Walls	South wall, dressed stone and quoins	O	H
	West wall: part bagged brickwork	ET	L
	Part fibro sheeted timber	ET	L
	North wall: fibro sheeted timber	LT	L
	East wall: render	M?	L
	Over coursed stone	ET	L
Skirting	-		
Floor	Sandstone flagging	Possibly O	H?
Other	Dressed quoins at north east corner	O	H
	Relocated	ET	L
	Terra cotta sub-floor vent	ET	L
Door D4	Lining, west architrave (small moulded)	Prob LT	L
	Door leaf, 4 no. panel, relocated	Possibly LT	L?
	Hardware: Carpenter type rim lock, keeper, relocated	Possibly M	L
	Small brass furniture, relocated	Possibly M	L
Door D3	As for Door D4		
Door D5	Frame and internal architrave	LT	L
	Door leaf: pair wide French doors with boarded lower panels	LT	L
	Hardware: 125mm barrel bolt, spring hold open, rebated mortice lock	All LT	L
	Brass furniture	Date?	L?
	Relocated	LT	L
Space 3B			
Ceiling	Underside of roofing, zincalume	M	L

Item No.	Description	Date	Significance Ranking
	One rafter 150 x 50mm, another rafter 150 x 75mm	Probably ET	L
Cornice	-		
Walls	South wall: part drafted stone	O	H
	Part built up in coursed stone	ET	L
	West wall: part dressed stone	O	H
	Part upper level timber framed and corrugated metal clad	Probably ET	L?
	Render over coursed stone	ET	L
Skirting	Part raised dressed stone of original building	O	H
Floor	Sandstone flagging running east west	O	H
Other	Raised stone quoins at north west corner	O	H
	Particle board cupboard	LT	L
Space 4			
Ceiling	Fibre cement or hardboard	LT	L
	Over timber	LT	L
Cornice	25mm timber	LT	L
Walls	South: bagged brickwork	LT	L
	Remainder fibre cement or hard-board sheeting over brickwork	LT	L
Skirting	-		L
Floor	Split slate tiles	LT	L
	Over concrete	LT	L
Other	Bathroom fit-out	LT	L
Window W9	Solid frame	LT	L
	Internal reveal linings	LT	L
	Architrave	LT	L
	Sill board	LT	L
	Sashes: 2 no. pair fixed pane sashes.	LT	L
	Hardware: 2 no. pressed metal style/spiral catches	LT	L
	Possibly reused		
Window W8	Solid frame	LT	L
	Internal reveal lining	LT	L
	Architrave	LT	L
	Sill board	LT	L
	Sashes: pair 6 no. pane sashes.	LT	L
	Hardware: pressed metal spiral catch	LT	L
Space 5			
Ceiling	Cement fibreboard or masonite	LT	L
Cornice	32mm timber	LT	L
Walls	South wall: dressed stone, painted.	O	H

Item No.	Description	Date	Significance Ranking
	West, north and east walls: bagged brickwork	LT	L
Skirting	-		
Floor	Split slate	LT	L
	Over concrete	LT	L
Other	Bathroom fit-out	LT	
Window W7	Solid frame	LT	L
	Sill board	LT	L
	Sashes: pair 6 no. pane sashes.	LT	L
	Hardware: pressed metal spiral catch	LT	L
Space 6			
Ceiling	Pressed metal	ET	M
Cornice	50mm finished timber quad	ET	M
Walls	Plastered, possibly reconstructed	Possibly M	M
	Remaining staff moulds to window and door reveals	O	H
Skirting	225mm moulded timber, possibly reconstruction	O?	H?
Floor	150 x 25mm shot H/W boards, copy of O	M	L
Other	Stone threshold at door D12A	O	H
Door D12A	Frame: solid frame with moulding both sides	O	H
	Door leaf: 6 no. panel doors with mouldings both sides	O	H
	Hardware: Carpenter type rim lock, keeper, small brass furniture, relocated	M	L
	Evidence of earlier lock	O	H
Window W6	Frame: solid frame	O	H
	Moulding on inside	O	H
	Sashes: pair 6 no. pane sashes	O	H
	Shutters: shutter lining	Possibly M	M?
	Pair broad timber shutters	O	H
	Hardware: pressed metal sash catch	MT	L
	Evidence of sash screw	O	H
	2 pair brass parliament hinges	O	H
Space 7			
Ceiling	Pressed metal	ET	M
Cornice	50mm finished timber scotia	Possibly ET	M?
Walls	Plastered, possibly reconstruction	Possibly M	M?
	Signs of some staff moulds to chimney breast and windows remaining	O	H

Item No.	Description	Date	Significance Ranking
Skirting	225mm broad timber moulded	O	H
Floor	150 x 25mm, possibly T&G	Date ?	M?
Other	Stone outer hearth	O	H
	Stone lined fire place	O	H
	Curved stone hobs to fireplace	Possibly O	H?
	Brick hobs to fireplace	Possibly EA	H?
	Carved stone mantel shelf	O	H
Door D2	Frame: solid frame with mouldings both sides	O	H
	Door leaf: 6 no. panel door with flush panels at bottom and 4 no. fielded panels	O	H
	Hardware: Carpenter type rim lock keeper, small brass furniture, relocated	M	L
	Rim dead-latch	M	L
Window W3	Solid frame and moulding inside	O	H
	Sashes: pair 6 no. pain sashes	O	H
	Shutters: shutter lining, possibly reconstruction	M?	H?
	Pair broad timber louvre shutters	O	H
	Hardware: pressed metal spiral sash catch	MT	L
	Evidence of sash screw	O	H
	2 no. pair brass parliament hinges	O	H
Window W4	Solid frame and internal moulding	O	H
	Sashes: pair 6 no. pane sashes	O	H
	Shutters: shutter lining, possibly reconstruction	M?	H?
	Pair broad timber louvred shutters	O	H
Hardware	Pressed metal, sash fastener	MT	L
	Evidence of sash screw	O	H
	2 no. pair brass parliament hinges	O	H
Space 8			
Ceiling	Pressed metal	ET	M
Cornice	Pressed metal	ET	M
Walls	Plastered	O	H
	Staff moulds and reveals to windows and doors	O	H
Skirting	Broad 300mm timber, moulded	O	H
Floor	150 x 25mm shot hardwood	O	H
Other	Sandstone hearthstone	O	H
	Fireplace with plastered interior.	O	H
	Fireplace hobs in brickwork and curved stone.	Possibly O	H?
	Carved stone mantel shelf.	O	H
	Recess of former window in north wall	O	H

Item No.	Description	Date	Significance Ranking
	Partly blocked up	ET	L
	Staff moulds	O	H
	Plastered reveals to former window on north wall	O	H
Window W1	Frame solid	O	H
	With 12mm diameter bead on inside face	O	H
	Beaded sill board	O	H
	Pair 6 no. pane sashes	O	H
	Shutters: shutter lining	O	H
	Pair deep bladed timber shutters	O	H
	External 12mm diameter storm mould	O	H
	125 x 150mm brass parliament hinges,	Possibly O	H?
	Pressed metal spiral catch	MT	L
	Evidence of sash screw	O	H
	1 no. sash drop	O	H
	Pair shutter flaps	Possibly O	H?
Window W2	As for W1 (but external shutters do not match W1)		
Space 9			
Ceiling	Pressed metal	ET	M
Cornice	Pressed metal	ET	M
Walls	Plastered	O	H
	Staff moulds and reveals to windows and doors.	O	H
	Section of wall adjacent D16, lath and plaster	O or EA	H
Skirting	Broad 300mm timber moulded skirting	O	H
Floor	150 x 25mm shot hardwood	O	H
Other	Sandstone hearthstone	O	H
	Small timber margin	O	H
	Moulded stone mantel shelf	O	H
	Stone fireplace	O	H
	Plastered	O	H
	Curved stone hobs to fireplace	O	H
	Loose brickwork to fireplace	Possibly O, M	H?, L
	Staff moulds	O	H
	Plastered reveals to former window on north wall	O	H
	Recess of former window in north wall	O	H
	Blocked	ET	L
Door D15	Solid frame	O or EA	H
	Storm moulds either side, part copy of O	M	L
	Door leaf 6 no. panel with inset moulds	O or EA	H

Item No.	Description	Date	Significance Ranking
	on west side		
	Hardware: Vaughan-type rim lock and keeper, relocated	M	L
	Small brass furniture, relocated	M	L
Door D16	Single rebate lining	O or EA	H
	Mitred architrave on west side	O or EA	H
	Door leaf: 6 no. panel with inset moulds west side (different thickness to door D15)	O or EA	H
	Hardware: small cupboard lock and small brass furniture	ET	L
	Evidence of earlier rim lock 125 x 80mm	O or EA	H
Windows W15 & W16	As for W1		
Space 10			
Ceiling	Hardwood planks, possibly supporting masonry	O or EA	H
Cornice	-		
Walls	North, south, east walls: plastered	O	H
	West wall: lath and plaster and timber	Possibly O O or EA	H
	Some concrete to above	M	L
Space 11			
Ceiling	Pressed metal	ET	M
Cornice	-		
Walls	Plastered	O	H
	Staff mould	O	H
	Plastered reveals to window	O	H
Skirting	Broad 225mm moulded timber	O	H
Floor	150 x 25mm shot hardwood	O	H
Other			
Door D8	Solid frame with small architrave on east and west sides.	O	H
	Door leaf: 6 no. panels with flush panels on bottom 2 no. panels and fielded panels to upper 4 no. panels.	O	H
	Hardware: Carpenter type rim lock and keeper, small brass furniture, relocated	M	L
	Evidence of earlier lock	O	H
Window W14	Frame: solid frame	O	H
	Moulding on inside	Part O	
	Sashes: pair 6 no. pane sashes	O	H
	Part copy of O	M	M
	Shutter: linings	O	H
	External 12mm bead	O	H

Item No.	Description	Date	Significance Ranking
	Pair broad timber louvred shutters	O	H
	Hardware: sash drop	O	H
	Evidence of sash screw	O	H
	2 no. pair brass parliament hinges	O	H
Space 12			
Ceiling	Pressed metal	ET	M
Cornice	-		
Walls	Plastered	O	H
	Staff moulds	O	H
	Plastered reveals to D15	O	H
	Plaster to reveals of W13	O	H
	Reconstruction	Possibly M	M?
Skirting	150mm moulded timber	Possibly ET	L
Floor	150 x 25mm shot hardwood boards	O	H
Window W13	Frame: solid frame	Possibly O	H?
	Added moulds	Possibly M	L?
	Sashes: pair 6 no. pane sashes, bad copy of O	M	L
	Shutter: linings and moulding to same	Possibly O	H?
	Pair timber louvred shutters, copy of O	M	M
	Hardware: pressed metal spiral catch	MT	L
	2 no. pair parliament hinges	Possibly M	L?
Space 13			
Ceiling	Pressed metal	ET	M
Cornice	-		
Walls	Plastered	O	H
	Staff mould and plastered reveals to Door D17 and Window W12	O	H
Skirting	150mm moulded timber	Date ?	H?
Floor	150 x 25mm shot hardwood	O	H
Door D17	Frame: solid frame with mouldings both sides	O	H
	Door leaf: 6 no. panel door, mouldings both sides	O	H
Hardware	Carpenter type rim lock keeper and small brass furniture, relocated	M	L
Window W12	Solid frame with moulding on inside	O	H
	Sashes: pair, 6 no. pane sashes, copy of O	M	M
	Shutters: shutter lining and moulding	Possibly O	H?
	Shutters: pair timber louvred shutters, copy of O	M	M
Hardware	Pressed metal spiral sash catch	MT	L
	2 pair parliament hinges	Probably M	L?
Other	Stone threshold at Door D17	O	H

Item No.	Description	Date	Significance Ranking
Space 14			
Ceiling	Pressed metal	ET	L
Cornice	Large pressed metal	ET	L
Wall	South wall: plaster	ET	L
	Over stone	O	H
	North and west wall: plaster	ET	L
	Over stone	ET	L
	East wall: Part O	O	H
	Plastered	ET	L
	Part ET	ET	L
	Plastered	ET	L
	Skirting 300mm moulded timber	ET	L
	Partly reconstructed	M	L
Floor	150 x 25mm shot hardwood, possibly copy of O	Possibly ET	L?
Other	Stone hearth	Possibly ET	L?
	Timber chimney piece (stripped of paint)	c.1905	M
	Possibly relocated	Possibly M	L?
	Rendered brick in-fill	Possibly LT	L
	Remains of gas heater box	LT	L
	2 no. vents to north wall, plaster	ET	L
Window W11	Solid frame	O	H
	Relocated	ET	L
	Quad storm mould to same	Possibly M	L?
	Sashes: top sash 6 no. pane	O	H
	Bottom sash 6 no. pane, copy of O	Possibly ET or M	M
	Shutters: shutter lining	O	H
	Relocated	ET	L
	Pair deep timber louvred shutters	O	H
	Relocated	ET	L
Hardware	Pressed metal spiral catch	MT	L
	2 no. pair brass parliament hinges	Possibly O	H?
Door D18	Frame: solid frame	Probably ET	L
	Small architrave on each side	ET	L
	Door leaves: pair single pane French doors with boarded panels externally and inset mould internally	ET	L
	Hardware: Carpenter type rim lock and keeper, small brass furniture, relocated	M	L
	150mm flush bolt at top	ET	L
	Pair 200mm barrel bolts at base	Date?	L
Space 15A			
Ceiling	Corrugated steel, exposed	LT	L
	Supported by 100 x 50mm hardwood framing	Possibly ET	L
	Additional 150 x 38mm rafters	Possibly LT or M	L

Item No.	Description	Date	Significance Ranking
	Fixed to plate on south wall	LT or M	L
Cornice	-		
Walls	South: dressed stone work	O	H
	East: dressed stone work in 150mm courses	O	H
	North: timber framing and window assemblies for W26, 27, 28	LT	L
	Over stone dwarf wall	LT	L
Skirting	Original base course to east and south walls	O	H
Floor	Stone flagging running in various directions incorporating change in level and step	Varies (O & ET)	H & L
Windows W26, W27, W28	Frame: solid frame	LT	L
	2 no. pair multi-pane sliding sashes and 2 no. fixed multi-pane sashes	LT	L
Other	On south wall metal holdfasts for verandah roof wall plate	O	H
Space 15B			
Ceiling	Exposed zincalume	M	L
	Supported on battens and 150 x 50mm rafters	Possibly ET	L
Cornice	-		
Walls	South: dressed stone	O	H
	West: stone	ET	L
	Rendered	ET	L
	North: timber framed	LT	L
	Stone dwarf wall incorporating Window W25	LT	L
Skirting	-		
Floor	A stone flagging running east-west and beginning of margin stone running east-west associated with Space 15A	Varies (O & LT)	H & L
Door D19	Frame: solid timber	Possibly LT	L
	Door leafs: pair wide French doors with boarded lower panels	Probably LT	L
	Hardware: 60mm barrel bolt spring hold open	Probably LT	L
	Security bolt	Probably LT	L
	Rebated mortise lock, small brass furniture	LT	L
	Relocated	M?	L
Other	Mortise in stone in south wall suggesting return verandah beam (50 x 150mm)	ET?	M
	Protrusions of original stone quoins at south-west corner	O	H
	Raised stone base course on south wall	O	H

Item No.	Description	Date	Significance Ranking
Space 16			
Ceiling	Plaster board	LT	L
Cornice	38mm scotia, possibly reused	LT	L
Walls	Painted rubble stone	O	H
Skirting	-		
Floor	Vinyl tiles	LT	L
	Over solid	Probably O	H?
Other	Heavy hardwood lintels over doors	O	H
	Pressed metal lining to head of Door D28	ET	L
	Possibly reused	M	L
Door D27	Frame: heavy hardwood frame 150 x 100mm approx	O	H
	Door leaf: missing (Evidence of thumb latch north side)	O	H
Door D28	Opening in stone wall	Possibly LT	L
	Bagged brickwork lining to opening	Possibly LT	L
Window W19	Frame: solid frame	O	H
	Sashes: pair 6 no. pane sashes, copy of O	M	M
	Hardware: pressed metal sash catch and spiral balance	Possibly LT	L
Other	Kitchen fit-out	LT	L
Space 17			
Ceiling	Cement fibre board	LT?	L
Cornice	75mm plasterboard	LT	L
Walls	Painted course stone	O	H
Skirting	-		
Floor	Vinyl	LT	L
	Over solid	Probably O	H?
Other	Heavy hardwood plates in wall over doors and windows	O	H
	On south wall projecting rendered nibs of brickwork indicating Door D28 not original	Possibly LT	L
Door D25	Frame: heavy hardwood frame with heavy stop	O	H
	Door leaf: ledged and boarded door as for Door D26	O	H
	Hardware: pair of heavy strap and gudgeon hinges, stock lock and thumb latch	O	H
Door D26	Frame: solid frame and heavy beaded stop (dropped)	O	H
	Door leaf: large, ledged and boarded door consisting of approx. 125mm beaded boards with 150mm beaded ledges	O	H

Item No.	Description	Date	Significance Ranking
	Hardware: 4 no. large 'T' hinges	O	H
	Thumb latch	Possibly O	H?
	Keeper for stock lock and evidence of stock lock	O	H
Door D29	Frame: 100 x 50mm hardwood on edge	Date ?	M?
	Door leaf: 2 no. leafs forming stable door, constructed of 150mm beaded T&G boarding with 150 x 25mm ledges	Possibly LT	L?
	Hardware: 2 no. 400mm T-hinges and 2 no. butt hinges.	Possibly LT	L
	125mm barrel bolts, relocated	LT	L
	Gimcrack barrel bolt made out of metal rod	Possibly LT	L
Space 18			
Ceiling	Plasterboard	LT	L
	Over hardwood joists	O	H
Cornice	-		
Walls	Coursed stone, limewashed	O	H
Skirting	-		
Floor	Stone flagging running north south	O	H
Other	Evidence of partitions at 3 rd points	O?	H
	Step down in ceiling levels at line of west partition	O	H
	Cupboard on west wall	O	H
	Possibly relocated	LT	L
	Possible fireplace behind.	O?	H?
	Original fireplace with stone corbels and lintel	O	H
	Former timber mantel missing	O	H
	Brick-built laundry copper structure built in fireplace	LN or ET	M
Space 19A			
Ceiling	Fibre cement lining	M	L
	On recent joisting	M	L
Cornice	-		
Walls	Painted, coursed stone	O	H
	Evidence of rising damp remedial action	Possibly M	L
Skirting	-		
Floor	Cement parged	Possibly ET	L
	Over stone?	O?	H?
Other	Heavy plank crudely built shelving supported on shaped timbers, cantilevering out from stone work	Possibly O	H
	Boarded infill and sliding sashes to portion of above	Date ?	M?
	Timber framed and gauzed screen to Space 19B – infilled with sheet metal	Possibly ET	L?

Item No.	Description	Date	Significance Ranking
Space 19B			
Ceiling	Pressed metal	Possibly ET	L?
Walls and Floor	As for Space 19A		
Window W21	Frame: 100 x 75mm hardwood	Date ?	M?
	Splayed timber reveals	Possibly M	M?
	Sash: cut down Edwardian sash	ET, possibly LT	L?
	Hardware: pair 100mm T-hinges	LT	L
	Custom spiral catch, relocated	LT	L
Space 20			
Ceiling	Fibre cement or hardboard sheeting	Possibly MT	L
Cornice	Lower side of roof framing	O	H
Walls	Painted coursed stone work	O	H
	Evidence of rising damp		
	Heavy hardwood, plates inserted in walls over windows and doors	O	H
Skirting	-		
Floor	112mm cypress pine T&G flooring	Possibly MT or LT	L
Door D24	Frame: 100 x 50mm hardwood with beaded front corner	MT?	L
	Door leaf: ledged, braced and sheeted timber made up of 112mm V-jointed T&G and 150 x 25mm ledges and braces	MT	L
	Hardware: 1920s style rim lock and pressed metal furniture	MT	L
	Rim deadlock	M	L
Door D30	Frame: 100 x 75mm hardwood with quad mould on north side	Possibly ET	M?
	Door leaf: ledged and sheeted door constructed from 125mm beaded T&G boards and 150mm beaded ledges	Possibly O	H?
	Relocated	ET	L
Window W22	Frame: solid timber frame	Possibly O	H?
	Sashes: pair 6 no. pane sashes, copy of original	M	M
	Hardware: pressed metal spiral sash catch	MT	L
Space 21			
Ceiling	Sheet metal	Possibly MT	L
	Over timber ceiling joists	O	H
Cornice	-		
Walls	Painted, coursed	O	H
	Stone work with heavy hardwood lintels over windows and doors	O	H

Item No.	Description	Date	Significance Ranking
	Evidence of rising damp		L
Skirting	-		
Floor	Along north side: cement	Possibly ET	L
	Parged stone	Possibly O	H?
	Remainder of floor 150 x 25mm T&G	Possibly ET	L
	Part repaired	M	L
Other	Large kitchen fireplace with tooled stone interior	O	H
	Brick linings and inner hearth	Date ?	M?
	Wrought iron lintels	O	H
	Beneath stone lintel	O	H
	Shelving on each side of fireplace, rough timber	Date ?	L?
Door D22	Frame: 150 x 75mm hardwood	Possibly EA	H
	Door leaf: pair ledged and boarded doors forming stable doors made out of 200 x 25mm beaded boarding fixed to 150 x 25mm ledges, gimcrack construction	Date ?	L?
	Hardware: 300mm barrel bolt relocated;	ET	L
	100mm barrel bolt relocated	ET	L
Door D23	Frame: heavy hardwood	O	H
	Door leaf: cross-boarded door made out of 150 x 25mm beaded timbers running vertically on outside and horizontally on inside	O	H
	Hardware: 3 no. strap and gudgeon hinges	Probably O	H?
	Thumb latch, part original	O	H
	Wrought iron bracket to allow timber cross bar	O	H
Window W23	Frame: solid timber	O	H
	Hardware: repaired	MT	L
	Sashes: pair 6 no. pane, copy of O	M	L
Kitchen Verandah			
Ceiling	Exposed, galvanised, corrugated roofing, possibly reused	Possibly LT	M
	Supporting on 90 x 40mm hardwood rafters, birdsmouthed over verandah plate and nailed to top of wall plate	Possibly O or EA	H
Cornice	-		
Walls	Painted/lime-washed, coursed stone	O	H
Skirting	Stone plinth, originally drafted tooling	O	H
Floor	Stone flagging running north-south	O	H
Other	125 x 75mm verandah plate on flat	O	H
	125 x 125mm heavy stop chamfered columns, part O	O	H

Item No.	Description	Date	Significance Ranking
	Part copy of O	M	M
Verandah North Side of Space 17			
Ceiling	Exposed, galvanised, corrugated steel roofing	LT	M
	Possibly reused	EA?	H
	Supported on battens		
	90 x 50mm hardwood rafters, possibly reused but repaired recently	O or EA, M	H, L
Cornice	-		
Walls	Painted coursed stone	O	H
Skirting	Stone base course	O	H
Floor	Stone flagging running north-south	O	H
Other	100 x 75mm verandah plate, bad copy of O	M	L
	125 x 125mm heavy stop chamfered posts, bad copy of O	M	L
Verandah West Side of Space 17	Similar to Space 17 Verandah above		
Front Verandah			
Ceiling	Pressed metal	ET	M
	Exposed timber plates to accept top of columns	ET	M
Cornice	-		
Walls	Very fine drafted stone with raised base course and raised quoins at south-east and south-west corners	O	H
Skirting	As above	O	H
Floor	Stone flagging running north south with margin stone along south edge	O	H
Other	Very fine drafted stone window sills	O	H
	2 no. terra cotta wall vents	ET	L
	6 no. cast iron part-fluted columns, makers name "R. Gibson, Maker, Newcastle",	LN or ET	M
	Sitting on chamfered stone bases	O	H
	D1 stone threshold	O	H
Rear (North) Verandah			
Ceiling	Underside of Zincalume roofing	LT	L
	Battens	ET	L
	Large, square sectional joists (150 x	ET	L

Item No.	Description	Date	Significance Ranking
	50mm approx.)		
Cornice	Infill timbers between joists above south wall	ET	L
Walls	South: render	M?	L
	Over stone	ET	L
Skirting	-		
Floor	Stone flagging, possibly O	O?	H?
	Relocated	ET	L
Other	Stone quoins, sills	O	L
	Relocated	ET	L
	Terra-cotta wall vents	ET	L

MAIN HOUSE & KITCHEN WING EXTERIOR

BUILDING FABRIC SURVEY AS OF 24th MAY 2018

Time Periods:

O	=	Original
EA	=	Early addition
EN	=	Early 19 th century (1820-1850)
MN	=	Mid 19 th century (1851-1885)
LN	=	Late 19 th century (1886-1900)
ET	=	Early 20 th century (1901-1940)
MT	=	Mid 20 th century (1941-1970)
LT	=	Late 20 th century (1971-2000)
M	=	Modern (2001-date)
?	=	Date unclear

Grades of Significance:

E	=	Exceptional
H	=	High
M	=	Moderate
L	=	Little
I	=	Intrusive

Exteriors

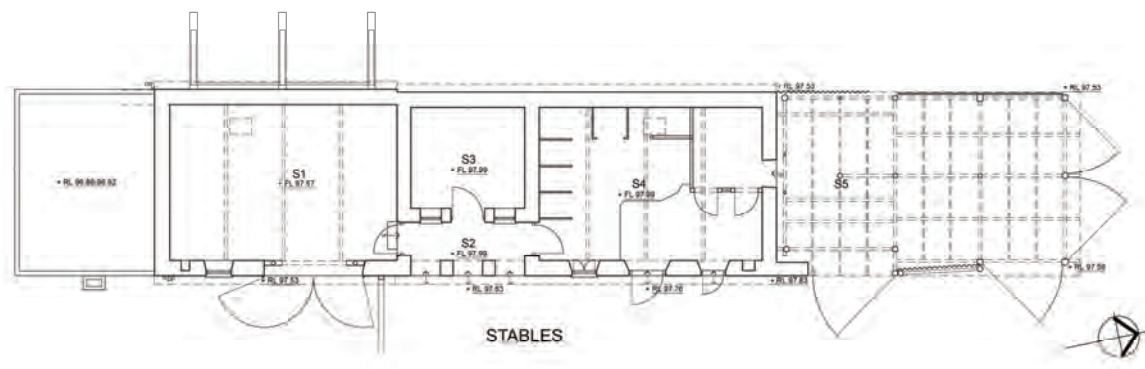
Item No.	Description	Date	Significance Ranking
Main Wing - Roof	Broken backed, hipped roof form.	O	H
	Sheeted in slate	LN	M
	With sheet metal ridging and valleys.	?	?
	At end of ridge, 2 no. stone chimneys	O	H
	Rendered finish	LN	M
	Lead flashings to same	Possibly LN	M?
	On east, south and west pitches, skillion form, timber framed, louvred roof vent	ET	M
	Cladding to above in timber and in fibre cement	ET?	M?
	On south side, central gabled roof feature with slated roof	ET	M
	Metal ridge and barge flashings to above	ET	M
	Decorative stop chamfered collar tie and finial to above	ET	M
	Pieced metalwork, tympanum	ET	M
	To eaves of roof on south, east and west side, beaded fascia board	ET	L?
	To eaves soffit of roof, adjacent stone walls, fibre cement lining over timber framing	Possibly LT or M	L
	To eaves, galvanised steel and zinalume quadrant pattern gutters	LT & M	L
	Zinalume downpipes	M	L
	Along north side, long skillion roof form addition	ET	L
	Sheeted to above in zinalume with metal barge flashings	LT or M	L
	Sides of above skillion, sheeted with corrugated, galvanised steel	Probably ET	L
	At edge of this skillion, quadrant pattern, gutters in zinalume with zinalume downpipes	M	L
	Brickwork chimney from Space 14, unpainted	ET	L

Item No.	Description	Date	Significance Ranking
	Lead flashings to same	ET	L
Walls	To south, east and west sides, tooled stone in 300mm courses	O	E
	With raised tooled stone base-course	O	E
	Also see interior schedules for front and rear verandahs		
	To window heads, tooled stone lintels	O	E
	To window sills, tooled stone, haunched sills	O	E
	To walls below verandah level, tooled stone in approximately 150mm courses	O	H
	To west elevation blank window recess	O	H
	At each salient corner, raised, drafted, chamfered, quoins	O	E
	To north-side walls, rendered finish	LT or M	L
	With raised quoins stones, probably original	O	H
	Relocated	ET	M
	Beneath windows 10 and 11, drafted stone sills, probably original	O	H
	Relocated	ET	M
	Also see interior schedule for rear verandah.		
West Bathroom Addition (Spaces 4 & 5) Roof	Two pitch skillion	LT	L
	Sheeted with corrugated, galvanised steel or zincalume	LT or M	L
	Galvanised steel ridge, hip flashing	LT or M	L
	Eaves with exposed 75mm x 50mm rafters and bull-nose fascia board	LT	L
	Quadrant pattern gutter in zincalume	LT or M	L
	Downpipe in zincalume	LT or M	L
Walls	Walls rendered brickwork	LT	L
	Incorporating original sandstone sills on west side	O	M
	Relocated	LT	M
Kitchen Wing - Roof	Broken backed, hipped form	O	H
	Gable end roof form at north end	O	H
	Sheeted in part-corrugated, galvanised steel (possibly reused) with galvanised steel ridge and hip flashings, part-zincalume	Pos LT, M	M
	Chimneys of smooth dressed stone	O	H
	Now strapped with mild steel	Possibly LT	I
	Kitchen chimney topped with brick courses	?	L
	Kitchen chimney rendered at base	?	L
	Lead flashings to chimneys	Possibly LN	M?
	At eaves on south and east sides, beaded timber	Possibly ET	L?

Item No.	Description	Date	Significance Ranking
	fascia		
	On west side, square timber fascia	?	L?
	Around eaves, zinalume quadrant gutter	LT or M	L
	And zinalume downpipes	LT or M	L
	To north elevation kitchen, galvanised steel barge flashings	LT	L
	Over timber barge boards	O	H
Walls	See also interior schedules for verandahs		
	On north side, render	M	L
	Over stone	O	H
	To east side, sparrow picked, squared stone work in 8 no. 200mm and 150mm courses	O	H
	Evidence that Window 22 is introduced or enlarged with relocated 300mm original beaded lintel from fireplace and relocated stone window sill.	Date?	M?
	To south side, dressed and drafted stone work in 150mm courses over raised, drafted base course	O	E
	At corners, raised chamfered, drafted quoin stones	O	E
	To door and window heads fine tooled, lintels	O	E
	To windows fine tooled, stone sills	O	E
Kitchen Verandah - Roof	Skillion roof form	O or EA	H
	Sheeted in corrugated, galvanised steel (possibly reused)	Probably LT	M
	At junction between kitchen fascia and roofing, lead flashing	Possibly LN	M?
	At eaves, beaded fascia board	Possibly LN	L?
	At edge of verandah, zinalume quadrant gutter	LT or M	L
S17 Verandah	As for Kitchen Verandah		
Link Structure (S15A & S15B)			
Roof	Skillion roof form	Possibly ET	L
	Sheeted in corrugated, galvanised steel	Possibly ET	L
	At east side beaded fascia board, copy of ET, supported on 150mm x 25mm rafters	Probably LT	L
Walls	Walls above infill windows, timber frame sheeted in fibre cement	LT	L
	Stone dwarf walls below windows	Probably LT	L
	Laid on early verandah paving	O	H

STABLE INTERIOR & EXTERIOR

FABRIC SURVEY AS OF 22nd May 2018



Time Periods:

O	=	Original
EA	=	Early addition
EN	=	Early 19 th century (1820-1850)
MN	=	Mid 19 th century (1851-1885)
LN	=	Late 19 th century (1886-1900)
ET	=	Early 20 th century (1901-1940)
MT	=	Mid 20 th century (1941-1970)
LT	=	Late 20 th century (1971-2000)
M	=	Modern (2001-date)
?	=	Date unclear

Grades of Significance:

E	=	Exceptional
H	=	High
M	=	Moderate
L	=	Little
I	=	Intrusive

Interior

Item No.	Description	Date	Significance Ranking
S1 Stable			
Ceiling	Open truss roof in 4 no. bays	O	H
	Hardwood trusses	O	H
	100 x 100mm hardwood purlins	O	H
	90 x 55mm rafters at 300mm centres	O	H
	Hardwood shingle battens	Possibly EA	H
	Timber shingle roofing	Possibly EA	H
	Under existing iron	LT	M
Cornice	-		
Walls	Squared sandstone, mostly in about 200mm courses	O	H
	Repair pointing in white lime mortar	M	L
Skirting	-		
Floor	Sandstone flaggings running east-west on west side and north-south on east side	O	H
	Stone dish drain	O	H
	Evidence of stall posts beneath north and south but not centre truss	O	H
	Evidence on east wall of former symmetrical arrangement of windows and stable door	O	H
Other	Metal holdfasts and spikes in walls about 1.8m	Varies	H

Item No.	Description	Date	Significance Ranking
	level		
Window WS1	Frame: 90 x 45mm hardwood with evidence of pivoting louvres	O	H
Door DS1	Masonry opening only, enlarged for carriage door	ET	I
Door DS2	Frame: 150 x 75mm solid frame with integral stop	O	H
	Door leaf: ledged and boarded door made up of 125mm beaded hardwood T&G boards fixed to 150 x 25mm beaded ledges	O	H
	Hardware: pair 500mm T-hinges	O	H
	Remains of 300mm barrel bolt	Possibly O	H?
	Staple and chain latch (no evidence of thumb latch)	Possibly O	H?
S2 Porch			
Ceiling	Plastered, reconstruction	M	M
Cornice	-		
Walls	Squared dressed stone in 150mm courses with 300mm string on north, south and west sides forming lintels to windows and doors	O	E
	On east side, 3 no. stone arched openings formed by 2 no. columns using approximately 150mm courses of dressed stone and segmental voussoirs	All O	E
Skirting	-		
Floor	Stone flagging running east-west	O	H
Other	Between archway columns, stone flagging	O	H
Window WS2	75 x 75mm hardwood frame	O	H
	10mm beaded stop leaving rebate for sash	O	H
	Sashes: no evidence		
Window WS3	As for Window WS2		
Door DS3	150 x 100mm hardwood frame with integral stop	O	H
	Door leaf: ledged and boarded door made up of 150mm T&G boarding and 150 x 25mm chamfered ledges	Possibly ET	M
	Hardware: 2 no. 300mm metal T-hinges	Possibly ET	L
	Chain latch	?	L
Door DS4	150 x 100mm hardwood frame with integral stop	O	H
	Door leaf: ledged and boarded door made up of 150 x 25mm T&G boards and 150 x 25mm chamfered ledges	Possibly ET	M
	Hardware: 2 no. 350mm metal T-hinges	Possibly ET	L
	Gimcrack metal twist latch	?	L
S3 Tack Room			
Ceiling	Plastered, reconstructed	M	M
Cornice	-		

Item No.	Description	Date	Significance Ranking
Walls	Plastered over stone	O, O	H
Skirting	-		
Floor	Sandstone flagging running east-west		H
Other	Various metal spikes in wall at about 2m,	Varies	H
	Some graffiti on original plaster work	?	
S4 Stable			
Ceiling	As for S1		
	Trimming for skylight on west side.	?	M?
Walls	As for S1		
Floor	Paved in sandstone, western section running east-west and eastern section running east-west	O	H
	Stone dish-drain	O	H
Other	Salvage timber used to create stalls for sorting wool and sheep pens	ET	L
	Various reused timber components	O	H
	Including possible stall posts and rails	LT	L
	Slatted floor installed in north-west corner	ET	L
	Heavy timber framing fixed to east wall to provide mounting for sheep shearing equipment	ET	L
	Over north-east section of floor, raised timber floor constructed from 150 x 25mm boarding as sheep board	ET	L
Window WS4	Frame: 90 x 55mm hardwood with evidence of adjustable louvres	O	H
	Sashes: pair of ledged flaps made from beaded boards, possibly the remains of a ledge door	?	M?
	Hardware: 2 no. pair 350mm metal T-hinges and gimcrack metal latch	?	L
Door DS5	150 x 100mm hardwood with integral stop	O	H
	Door leaf: rough ledged and boarded door made from 170mm T&G boards fixed to 150 x 125mm ledges	?	M?
	Hardware: pair 500mm T-hinges	?	M?
	Gimcrack metal latch	?	L
	Evidence of various metal work fixed into frame	?	H
Door DS6	Frame: remains of original hardwood window frame	O	H
	Additional framing added to form door	?	L
	Door leaf: ledged and boarded door made from 150mm beaded T&G boards and 170 x 25mm ledges	?	M?
	Hardware: pair 350mm T-hinges	?	M?
	Gimcrack metal latch	?	L

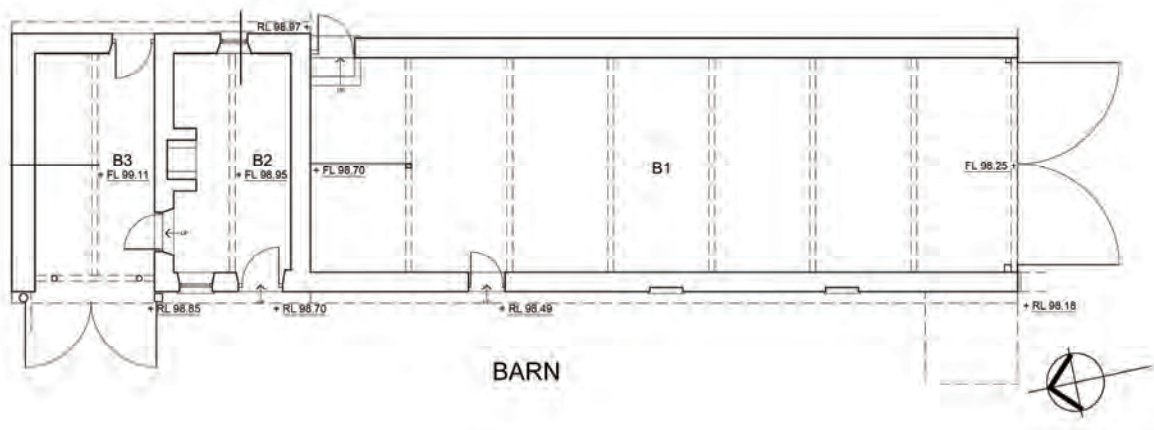
Exterior

Item No.	Description	Date	Significance Ranking
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Item No.	Description	Date	Significance Ranking
Roof	Bell-cast profile gable form framed roof in 2 no. sections	O	H
	Sheeted in corrugated, galvanised steel	Possibly ET	M
	Over timber shingles	EA	H
	Galvanised steel, ridge flashing	Possibly ET	M
	Zincalume barge flashings	M	L
	On east and west sides timber framed eaves	O	H
	On east side no fascia board		
	On west side no fascia board		
	On both sides, zincalume quadrant gutter and downpipes	M	L
	At change in roof height and at north and south gable ends, square-section timber barge boards, unpainted.	M	L
	A change in level, lead step flashings	?	M?
Walls	Walls constructed in fine dressed sandstone in courses of about 170mm with raised 300mm drafted, sandstone plinth.	O, O	E
	At northern corner west, drafted and chamfered quoins	O	E
	West walls at south end, shored up with timber work	M	I
	On east side, eastern wall appears continuous extending to north beyond the northern gable end	O	E
	At arches A1 to A3 raised keystone at top of arch	O	E

BARN BUILDING INTERIOR & EXTERIOR

FABRIC SURVEY AS OF 22nd May 2018



Time Periods:

O	=	Original
EA	=	Early addition
EN	=	Early 19 th century (1820-1850)
MN	=	Mid 19 th century (1851-1885)
LN	=	Late 19 th century (1886-1900)
ET	=	Early 20 th century (1901-1940)
MT	=	Mid 20 th century (1941-1970)
LT	=	Late 20 th century (1971-2000)
M	=	Modern (2001-date)
?	=	Date unclear

Grades of Significance:

E	=	Exceptional
H	=	High
M	=	Moderate
L	=	Little
I	=	Intrusive

Interior

Item No.	Description	Date	Significance Ranking
Space B1			
Ceiling	Gable roof form in 6 no. truss bays	O	H
	Roof formed by 6 no. hardwood trusses supporting 100 x 100mm approx hardwood purlins supporting 90 x 55mm approx. rafters	All O	H
	75 x 25mm shingle battens	Possibly O or EA	H
Cornice	-		
Walls	Coursed, squared, stone incorporating 150mm hardwood plate at mid-level	O, O	H
	At south end, heavily framed timber gable roof	O	H
	End sheeted in corrugated steel	Possibly MT	M?
Skirting	-		
Floor	Dirt and cow manure	-	
Other	At north end, plate in wall on west side has 6 no. 30mm diameter holes drilled out, possibly for pegs	O or EA	H
	Some truss members missing for unknown reason.	?	

Item No.	Description	Date	Significance Ranking
	At north end remains of overhead drive and pulley system	Possibly ET	L?
	At north end collection of loose machinery and timber	?	L
	Loose at north end, section of 150 x 150mm heavy stop chamfered posts, possibly column from house or stable	O	H
Door DB1	Frame: At east and west sides approx. 150mm diameter bush poles	Possibly MT or LT	L
	Door leafs: pair pipe framed corrugated galvanised steel-clad gates	Possibly MT	L
Door DB2	Frame: original blank recess	Possibly O	H
	Converted to door. 100 x 75mm solid frame with 25mm outside linings	LN	M?
	Door leaf: ledged door constructed from 150 x 25mm T&G boards fixed to 150 x 25mm ledges.	Possibly LN	M?
	1 no. 300mm T-hinge	?	M?
	1 no. 250mm T-hinge	?	M?
	Gimcrack timber latch	?	L
Door DB3	Frame: non-original doorway	O	H
	Using old sill as threshold.	ET	L
	Frame on north side 125 x 75mm jamb with 100 x 55mm additional jamb added	?	L
	Door leaf: ledge and boarded door made from 150mm T&G pine boards fixed to 4 no. 110 x 25mm ledges	Possibly ET	L
	Hardware: pair 500mm metal T-hinges	M	L
Space B2			
Ceiling	Generally as for Space B1 Remains of timber shingles above battens	O	H
Cornice	-		
Walls	Painted, coursed, sandstone	O	H
	With hardwood plates built in above windows and doors	O	H
Skirting	-		
Floor	Cement parging	?	L
	Over solid	O	H
Other	Stone fireplace	O	H
	With rendered repairs to nibs	M	L
	Parged stone hobs to fireplace	?	H?
	Evidence of ceiling joists entering walls on south side and fixed to plates and on top of chimney breast on north side	O	H
	Heavy timber lintel loose on ground	O	H
	Timber shingles loose on ground	O or EA	L
	Remains of metal overhead power drive on east	Possibly ET	L

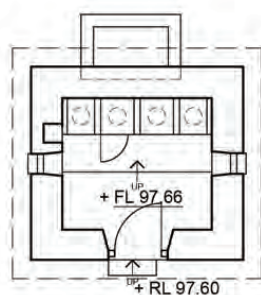
Item No.	Description	Date	Significance Ranking
	side		
Window WB1	Frame: 60 x 60mm hardwood	O	H
	Sashes: wired timber sash	Possibly LT	M?
	Hardware: pair 75mm metal hinges	Possibly O	H
	Revised	ET	L
	Timber turn catch	Possibly O	H
Window WB2	Frame: 100 x 75mm hardwood	O	H
	Sashes: missing		
	Hardware: 3 no. 20mm diameter wrought iron bars screwed to frame for security	?	M?
Door DB6	Frame: 150 x 100mm hardwood frame	O	H
	Door leaf: framed and braced consisting of 110 x 35mm stiles, 125 x 25mm braces, 150 x 25mm beaded boarding	Possibly O	H
	Hardware: pair cast butts	Possibly O	H
	Evidence of rim locks	Possibly O	H
	Evidence of barrel bolt	?	M?
Door DB7	Frame: 75 x 75mm hardwood with 10mm beaded stop	O	H
	Door leaf: framed and boarded, consisting of 100 x 30mm stiles sheeted in 150 x 25mm T&G boards	Possibly O	H
	Ledged flap inserted above lock rail	?	M?
	Hardware: pair 60mm butts	Possibly O	H
	Evidence of rim locks	O	H
Space B3			
Ceiling	Generally as for Space B2		
	Additionally modern timbers added to repair roof	M	L
Cornice	-		
Walls	Coursed, squared, painted stonework	O	H
	Evidence of ceiling joists set into walls and fixed to plates in walls	O	H
	Heavy timber lintel over east door	O	H
Skirting	-		
Floor	Cement parging	?	L
	Over solid	O	H
Door DB4	Frame: 125 x 100mm hardwood	Possibly O	H?
	Door leaf: rough boarded door	?	L
	Hardware: pair 150mm T-hinges	M	L
Door DB5	Frame: 150mm diameter treated pine poles inserted as frame	M	L
	Fixed to original top plate	O	H
	Additional 250 x 250mm post, possibly old	O?	M?
	Bush pole wired and bracketed to eaves to support gate	M	L
	Door leaf: pipe framed, corrugated metal clad gates	Possibly LT, similar to DB1	L

Exterior

Item No.	Description	Date	Significance Ranking
Roof			
	Bell-cast gable roof profile in 2 sections	O	H
	Roof sheeted in corrugated, galvanised steel	Possibly LN	M?
	Traditional galvanised steel ridge flashing	Possibly LN	M?
	At ends and change in level, barge flashing	Probably M	L?
	At end gables and change in level, square-section timber barge boards, possibly reconstructions	Probably M	L
	At change in level, step lead flashings	?	M?
	At north end rendered chimney	?	L
	Possibly over stone	O	H?
	Lead flashings to chimney	LN	M?
	At eaves, framed timber eaves in hardwood	O	H
	Metal quadrant gutters in zincalume	M	L
Walls	To north elevation, coursed, squared, rough dressed stone	O	H
	At north-east corner, fine dressed, raised chamfered quoins	O	E
	On east elevation, rough dressed squared, stone, approx. 200mm courses	O	H
	Lintels above original windows and doors, fine dressed stone	O	H
	Along east side, pipe framed, zincalume roofed, lean-to shed	MT or LT	L
	Pile of loose timbers	Varies	L?
	At south end, reused ledged door constructed from 175 x 25mm T&G boarding fixed to 150 x 25mm ledges	Possibly LN	M?
	With pair non-matching T-hinges relocated	?	M?
	At south end, east and west stone walls terminate differently. On the east side, termination is fine dressing stones with no nib for door DB1.	O	H
	On west side, wall below 2m appears to be demolished	O	H
	Remnant parged over	?	L
	On west wall, coursed, squared, stone of finer finish than east side, approx. 200mm courses	O	E
	2 no. blank recessed windows with fine dressed stone, lintels and sills	O	E
	Door DB2 may have been another blank recess	O	H
	Or a real window	LN?	M?
	Lintels to original windows and doors, fine dressed stone	O	E
	Sill to WB2, fine dressed stone	O	E
	At north-west corner wall is roughly repaired, may have extended further to north or east	M	I

PRIVY INTERNAL & EXTERNAL

FABRIC SURVEY AS OF 22nd MAY 2018



PRIVY

Time Periods:

O	=	Original
EA	=	Early addition
EN	=	Early 19 th century (1820-1850)
MN	=	Mid 19 th century (1851-1885)
LN	=	Late 19 th century (1886-1900)
ET	=	Early 20 th century (1901-1940)
MT	=	Mid 20 th century (1941-1970)
LT	=	Late 20 th century (1971-2000)
M	=	Modern (2001-date)
?	=	Date unclear

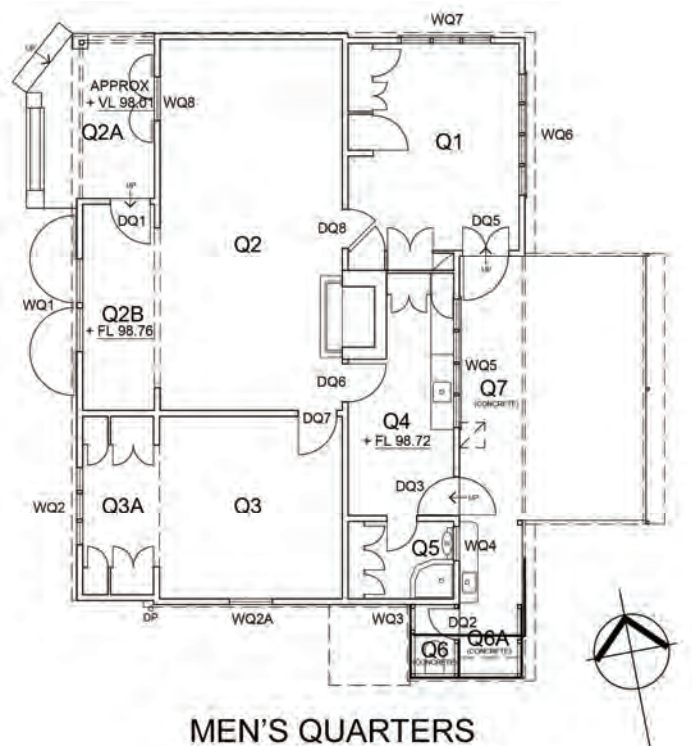
Grades of

Significance:

E	=	Exceptional
H	=	High
M	=	Moderate
L	=	Little
I	=	Intrusive

Item No.	Description	Date	Significance Ranking
Interior			
Ceiling	Lime plaster, reconstruction	M	M
Cornice	-		
Walls	Lime plaster including plastered window reveals and staff moulds	O	H
Skirting	-		
Floor	Part stone flagging (running north south).	O	H
	Part 150 x 25mm raised timber flooring.	ET?	M
Other	4-seat timber thunderbox	O	H
	Adapted for pans	ET?	M
	Recess on west wall	O	H
Windows	Frame: solid timber	O	H
	Small mouldings	O	H
	Sashes: timber louvred	O	H
Door	Frame: solid timber with bull-nosed stops	O	H
	Door leaf: timber 6-panel	O	H
	Possibly relocated	ET?	M
Exterior			
Roofing	Corrugated metal	ET?	M?
	With traditional hip and ridge metal flashings	M	L
	Relocated over repaired structure	M	H?
Walls	Coursed, squared stone	O	H
Other	Evidence of former pit action on north wall including stone retaining wall and lintel in wall	O	H

MEN'S QUARTERS

FABRIC SURVEY AS AT 17th August 2018

Time Periods:

O	=	Original
EA	=	Early addition
EN	=	Early 19 th century (1820-1850)
MN	=	Mid 19 th century (1851-1885)
LN	=	Late 19 th century (1886-1900)
ET	=	Early 20 th century (1901-1940)
MT	=	Mid 20 th century (1941-1970)
LT	=	Late 20 th century (1971-2000)
M	=	Modern (2001-date)
?	=	Date unclear

Grades of Significance:

E	=	Exceptional
H	=	High
M	=	Moderate
L	=	Little
I	=	Intrusive

Interior

Item No.	Description	Date	Significance Ranking
Room			
Space Q1			
Ceiling	Cane fibreboard (Canite) joined with timber cover strips	MT	L
Cornice	38mm timber scotia	MT	L
Walls	Hardboard	MT	L
Skirting	50mm timber quad	MT	L
Floor	150mm T&G pine	MT	L
Other	Exposed hardwood rafters	MT	L
	Fibre cement and hardboard wardrobes	MT	L

Item No.	Description	Date	Significance Ranking
Door DQ5			
Frame	Solid frame	MT	L
Architraves	North side moulded timber	MT	L
Door leaf	Pair timber multi-pane glazed doors, probably relocated	MT	L
Window WQ6	3 panels of metal and glass louvres	MT	L
	Internal architraves and sill board	MT	L
Window WQ7	3 panels of metal and glass louvres	MT	L
	Internal architraves and sill board	MT	L
Space Q2			
Ceiling	175 x 19mm beaded boarded linings, varnish finish	ET	H
Cornice	38mm timber scotia	Possibly MT	M?
Walls	Plasterboard	MT	L
Skirting	150mm moulded timber	MT	L
Floor	150 x 25mm hardwood boards, possibly salvaged	ET	M
Other	Large brick-built fireplace	ET	M
	Polished timber chimneypiece in Queensland maple, copy of LN	Probably MT	M?
	Brick paved hearths	Possibly LT	M?
	Metal fender, relocated	Possibly O or EA	H
	Pressed metal wall vents to east wall	ET	M
Door DQ6			
Frame	Solid frame	ET	M
	Architrave east side	ET	M
	Architrave west wide	ET	M
Door leaf	4 panel door, possibly salvaged	ET	L
Door DQ7			
Frame	Solid frame	Possibly MT	M?
	Architraves	MT	L
Door leaf	4 panel door	LN	M
	Possibly salvaged	ET	L
	Relocated	MT	L
Door DQ8			
Frame	Solid frame and moulded timber architraves	MT	L
Door leaf	4 panel door, possibly salvaged	ET	H
	Relocated	MT	L
Window WQ8			
Frame	Solid frame	ET	H
	Architraves	ET	H
Sashes	Pair 2-pane sashes	ET	H
Shutters	Pair timber louvred	MT	L
Hardware	2 pair 100mm steel hinges	MT	L
Space Q2A Verandah			

Item No.	Description	Date	Significance Ranking
Ceiling	Soffit of galvanised steel roofing	Possibly MT	M?
	Supported on 75 x 50mm hardwood rafters	ET	M
Cornice	Wall plate for verandah	ET	M
Walls	175 x 25mm hardwood siding	ET	M
Skirting	-		
Floor	Stone flagging, relocated	MT	L
Other	175 x 50mm hardwood verandah beam	ET	M
	125 x 50mm return beam at end of verandah	ET	M
	Beaded vertical boarding infill	ET	M
Space Q2B			
Ceiling	Plasterboard	MT	L
Cornice	38mm timber scotia	MT	L
Walls	Plasterboard	MT	L
Skirting	50mm timber quad, possibly refixed	MT	M?
Floor	112mm T&G pine	MT	L
Other	Timber lining and opening to Space Q2	MT	L
Door DQ1			
Frame	Solid frame	MT	L
	Outside beading	MT	L
	Inside architrave, moulded timber	MT	L
Door leaf	Feature front door, 4 panels, possibly relocated	MT	
Window WQ1			
Frame	Solid frame, architraves and sill board	MT	L
Sashes	2 pair 2 pane sashes	ET	H
	Relocated	MT	L
Shutters	Pair broad timber louvre shutters	MT	L
Hardware	2 pair 100mm steel butts	MT	L
Space Q3			
Ceiling	175 x 19mm beaded boarded linings, varnish finish	ET	H
Cornice	38mm timber scotia	Possibly MT	H?
Walls	Plasterboard	MT	L
Skirting	150mm moulded timber	MT	L
Floor	150 x 25mm hardwood boards, possibly salvaged	ET	M
Space Q3A			
Ceiling	Plasterboard	MT	L
Cornice	38mm timber scotia	MT	L
Walls	Plasterboard	MT	L
Skirting	50mm timber quad	ET	M?
	Possibly relocated	MT	L
Floor	150 x 25mm T&G pine	MT	L
Other	Pair of fibre cement and hardboard wardrobes	MT	L

Item No.	Description	Date	Significance Ranking
Window WQ2A	Timber highlight sash and frame	MT	L
Other	Pressed metal wall vents to east wall	ET	M
Window WQ2	3 sash assembly and casements stays, possibly made up from different windows	MT	L
Space Q4 Kitchen			
Ceiling	Generally as for Q1, exposed rafters are painted	MT	L
Floor	Vinyl tiles	MT	L
	Over solid	MT	L
Other	Back of brick fireplace, painted	ET	M
	Fibre cement and hardboard wall cupboards	MT	L
	Kitchen fit out	MT	L
Door DQ3			
Frame	Solid frame	ET?	M?
	Possibly relocated	MT	L
	Architrave west side	ET	M
	Relocated	MT	L
Door leaf	4 panel	ET	M
	Relocated	MT	L
Door DQ4			
Frame	Solid frame	MT	L
	Architraves both side	ET	M
	Relocated	MT	L
Door leaf	Ledged and boarded door	MT	L
Window WQ5	4 panels of metal and glass louvre windows	MT	L
Space Q5			
Ceiling	Fibre cement with metal joining strips	LT	L
Cornice	50mm timber scotia	LT	L
Walls	Hardboard	MT	L
Skirting	-		
Floor	Ceramic floor tiles	LT	L
	Over solid	MT	L
Other	Hand basin, broken	ET	M?
	Relocated	MT	L
	Tile shower hobs	LT	L
	Fibre cement and hardboard built-in cupboards	MT	L
Window WQ4	Originally 2 panels of metal and glass louvres	MT	L
	Lower assembly replaced by fixed spotswood glass	LT	L
Space Q6 Lavatory			
Ceiling	Soffit of galvanised steel roofing	Possibly MT	L
Cornice	-		
Walls	Hardwood framing and back of hardwood siding	MT	L

Item No.	Description	Date	Significance Ranking
Skirting	Hardwood bottom plate	MT	L
Floor	Concrete	MT	L
Window WQ3	Fixed timber sash, salvaged	MT	L
Space Q6A			
Ceiling	Soffit of galvanised steel roofing	Possibly MT	L
	Supported on 100 x 50mm hardwood rafters at 1.5 centres	MT	L
Cornice	-		
Walls	Hardwood framing at back of weatherboards forming screen to lavatory	MT	L
Skirting	-		
Floor	Concrete	MT	L
Other	Cupboard with panelled doors	Possibly MN or O	M
	Relocated	MT	L
Space Q7 East Verandah			
Ceiling	Soffit of galvanised steel roofing	Possibly MT	M?
	Supported on 100 x 50mm hardwood rafters at 1.5 centres	MT	M?
Cornice	-		
Walls	175 x 25mm splayed hardwood	ET	M
	Copy of ET or ET salvaged	MT	L
Skirting	-		
Floor	Concrete	MT	L
Other	Gimcrack kitchen bench, cupboard and sink	?	L

Exterior

Item No.	Description	Date	Significance Ranking
Main Wing Roof			
Roofing	Corrugated galvanised steel fixed with roofing screws and lead washers.	Possibly MT	M
	Galvanised steel ridge flashing	Possibly MT	M
	At eaves roofing rolled into barge roll	Possibly MT	M
	At north end, double 75 x 25mm rafters forming 75mm eaves	ET	M
	At south end, double 75 x 25mm rafter forming 75mm eaves	ET	M
West Verandah Roof			
Roofing	Corrugated galvanised steel fixed with screws and lead washers	Possibly MT	M

Item No.	Description	Date	Significance Ranking
	At north and south ends, roofing rolled into barge roll	Possibly MT	M
	At junction with Main Wing galvanised steel apron flashing	Possibly MT	M?
	At eaves 125mm galvanised steel D pattern gutter	M	L
East Skillion Roof			
Roofing	Corrugated galvanised steel fixed with roofing screws and lead washers	Possibly MT	M?
	At north and south ends, roofing rolled into barge rolls	Possibly MT	M?
	At junction with main roof flashing, not sighted. At eastern eaves, 125mm galvanised steel D pattern gutter	M	M?
Other	2 brick by 2 brick face brick chimney with cobbled top	ET	M
	Metal flashings to chimney	Possibly MT	M?
West Elevation			
Walls	Part 175 x 25mm hardwood siding with 90 x 25mm hardwood corner stops	ET	M
	Part 175 x 25mm hardwood weatherboards	ET	M
	Probably relocated	MT	
	At eaves, exposed 75 x 50mm hardwood rafters at approximately 1.2m	ET	M
	At subfloor, approximately 225 x 225mm sandstone piers supporting floor structure	ET	M
	Infilled with salvaged stone	MT	M?
	At north end, terrace formed from salvaged stone with additional concrete	Probably MT	L
North Elevation			
	At west side, 175 x 25mm hardwood weatherboards	ET	M
	Exposed top plates to north-south running walls forming purlins	ET	M
	Subfloor includes sandstone piers supporting floor	ET	M
	Infill sandstone	MT	M?
	At east side, 175 x 25mm hardwood weatherboards	ET?	M?
	Relocated from Main Wing or copies of Main Wing	MT	L
East Elevation			
Walls	Walls sheeted in 125 x 25mm hardwood siding	ET?	M

Item No.	Description	Date	Significance Ranking
	Either salvaged from Main Wing or copy of Main Wing	MT	L
	Walls resting on concrete plinth	MT	L
	At eaves, 100 x 50mm hardwood projecting rafters at approximately 1500 c/c	MT	L
	See also schedule of interior spaces		
Other	Timber and pipe awning roofed in corrugated galvanised steel, added	c1970	L
South Elevation			
Walls	Western panel as for West Elevation		
	Main Wing panel as for Northern Elevation, Main Wing		
	Eastern section sheeted in 175 x 25mm splayed hardwood weatherboards salvaged from or copy of Main Wing	MT	L
	Walls supported on concrete slab	MT	L
	At eaves of lavatory extension, galvanised steel barge flashing	MT	L

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Appendix 23b

Ravensthorpe Homestead Complex Measured and Conjectural Drawings

RAVENSWORTH HOMESTEAD COMPLEX
HEBDEN ROAD, RAVENSWORTH NSW

LUCAS STAPLETON JOHNSON & PARTNERS DRAWINGS

MEASURED DRAWINGS AND CONJECTURAL DRAWINGS



PREPARED FOR:
GLENCORE
GLENDELL TENEMENTS PTY LTD

PREPARED BY
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DATE:
OCTOBER 2019

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PARTNERS PTY LTD, 2019

Contents

MEASURED DRAWINGS

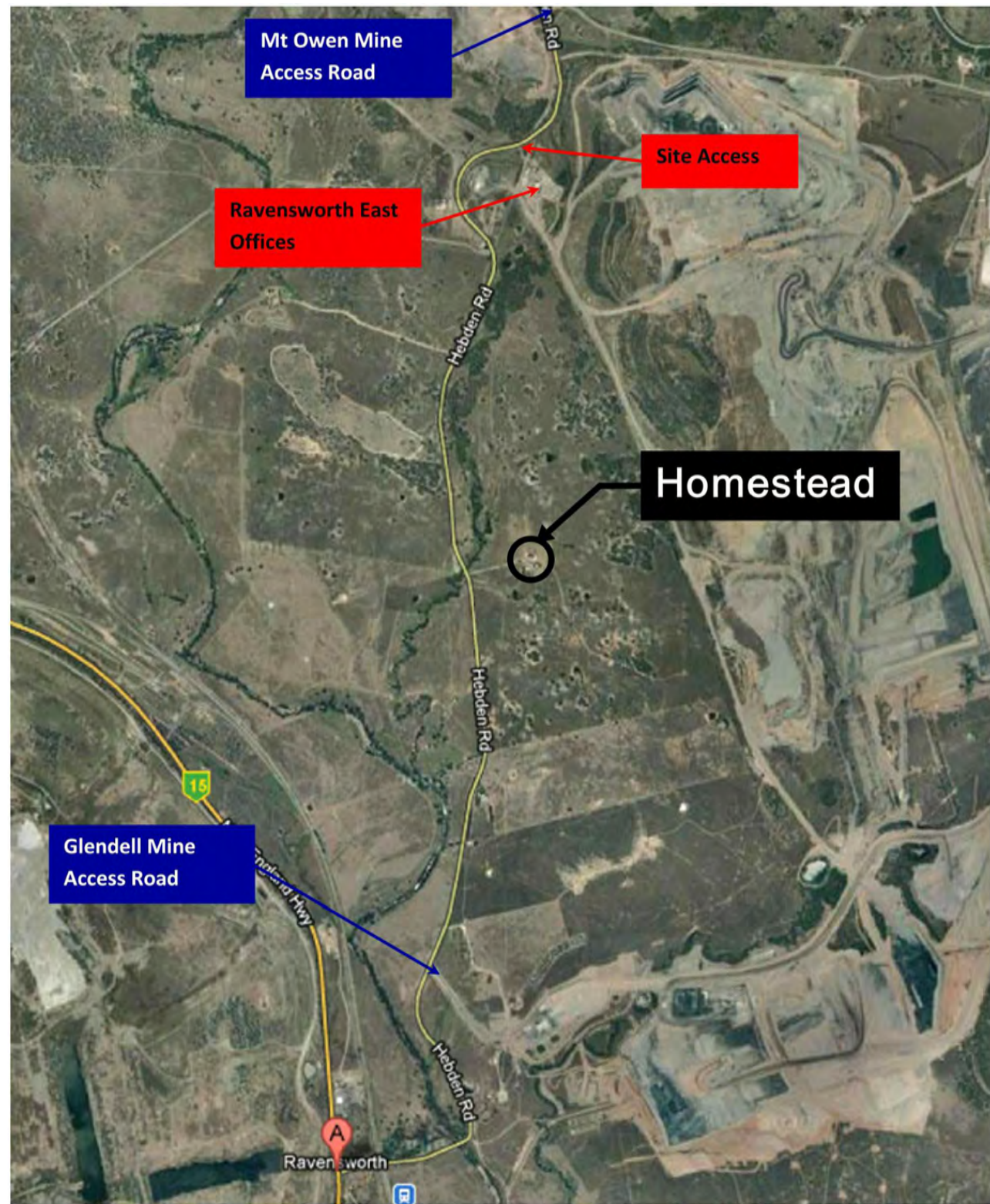
- 123800 /01/B LOCALITY MAP, SITE PLAN & PLAN OF COMPOUND
- 123800 /02/B HOMESTEAD MAIN & KITCHEN WINGS - DIMENSIONED FLOOR PLAN
- 123800 /03/B HOMESTEAD MAIN & KITCHEN. WINGS - ELEVATIONS & SECTIONS
- 123800 /04/C STABLES - FLOOR & ROOF PLANS, ELEVATIONS & SECTIONS
- 123800 /05/C BARN - FLOOR & ROOF PLANS, ELEVATIONS & SECTIONS
- 123800 /06/C MEN'S QUARTERS - FLOOR & ROOF PLANS, ELEVATIONS & SECTIONS
- 123800 /07 PRIVY - FLOOR & ROOF PLANS, ELEVATIONS & SECTIONS
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- 123800 /104 AS BUILT - DOOR D1 & D9 ROOM 1B
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- 123800 /106 AS BUILT – DOOR 23 KITCHEN SH 21
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- 123800 /108 AS BUILT - WINDOW W1,W2,W15,W16
- 123800 /109 AS BUILT - WINDOW 24 KITCHEN WING WINDOW H17
- 123800 /110 AS BUILT - WINDOW S1 (SPACE S1) LOUVRED
- 123800 /111 AS BUILT - DOOR 21 AS BUILT - KITCHEN WING
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- 123800 /113 AS BUILT - TYPICAL DOOR (ORIGINAL) - MEN’S QUARTERS
- 123800 /114 AS BUILT - DOOR S5 - STABLES
- 123800 /115 AS BUILT - DOOR S3 - STABLES, TACK ROOM
- 123800 /116 AS BUILT - WINDOW 23 & 24 - KITCHEN
- 123800 /117 AS BUILT - WINDOW TYPICAL (ORIGINAL) - MEN’S QUARTERS
- 123800 /119 AS BUILT - WINDOW S2 - STABLES
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- 123800 /201 AS BUILT - FRONT VERANDAH - MAIN WING
- 123800 /202 AS BUILT - SECTION REAR VERANDAH HOMESTEAD - MAIN WING KITCHEN VERANDAH
- 123800 /203 AS BUILT - SECTION TYPICAL TRUSS - STABLES
- 123800 /204 AS BUILT - SECTION TYPICAL TRUSS – BARN

➤ CONJECTURAL RECONSTRUCTION DRAWINGS

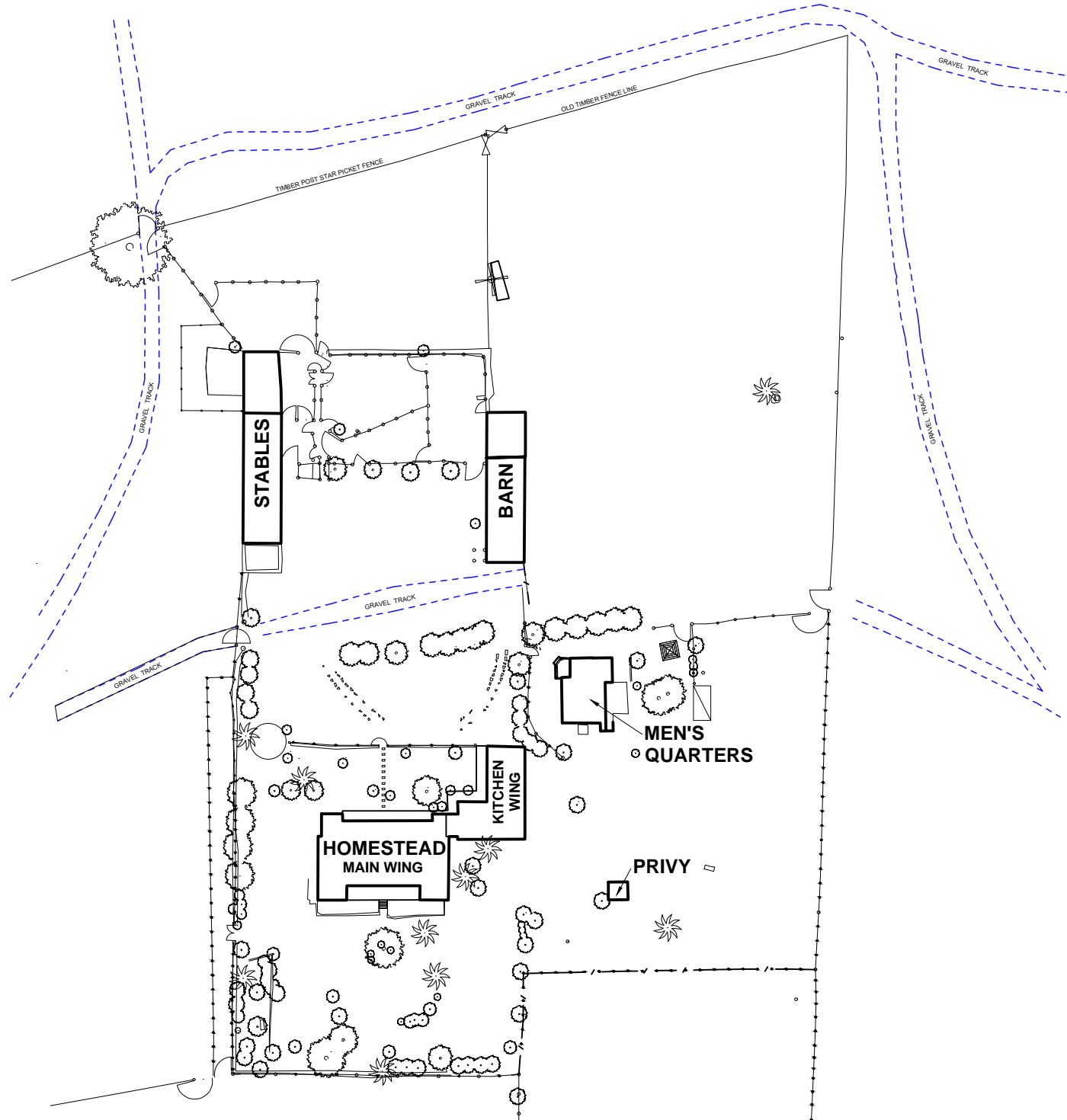
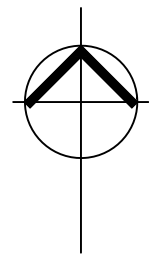
➤ 123800 /CJ01/D	CONJECTURAL - SITE PLAN
➤ 123800 /CJ02/C	CONJECTURAL - HOMESTEAD MAIN & KITCHEN WINGS - PLAN & ELEVATIONS
➤ 123800 /CJ03/C	CONJECTURAL - STABLES & BARN - PLAN & ELEVATIONS
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➤ 123800 /CJ06	CONJECTURAL - BUGGY SHED & ARBOUR - PLANS & ELEVATIONS
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➤ 123800 /CJ22/B	CONJECTURAL - CONJECTURAL SKETCHUP MODEL - VIEW FROM SOUTH-WEST -APPROX. VIEWPOINT OF 1891 PHOTO (THE BULLETIN)
➤ 123800 /CJ23/A	CONJECTURAL - CONJECTURAL SKETCHUP MODEL - VIEW FROM SOUTH-EAST - APPROX. VIEWPOINT OF 1902 PHOTO (SYDNEY MAIL)
➤ 123800 /CJ2A/A	CONJECTURAL - CONJECTURAL SKETCHUP MODEL - VIEW FROM NORTH-EAST TO KITCHEN WING & MAIN WING
➤ 123800 /CJ25/B	CONJECTURAL - CONJECTURAL SKETCHUP MODEL - VIEW FROM NORTH-WEST TO HOMESTEAD
➤ 123800 /CJ26/C	CONJECTURAL - CONJECTURAL SKETCHUP MODEL - VIEW FROM NORTH GARDEN TO FARMYARD

Note: To fit drawings on page same might not be exactly to the scale numbered

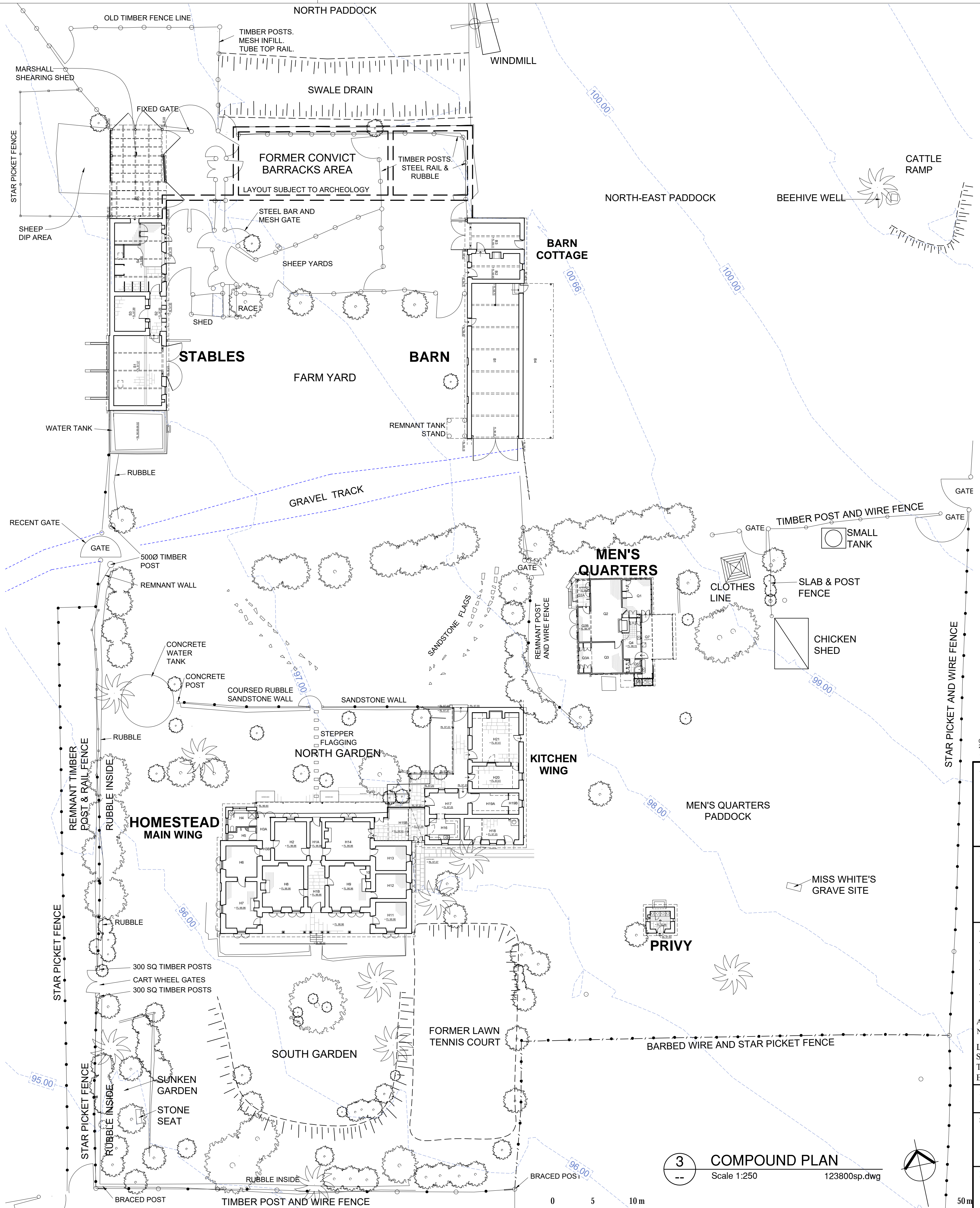
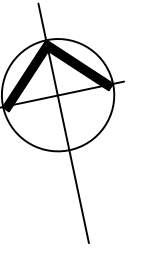
MEASURED DRAWINGS



1 LOCALITY MAP
NTS
123800sp.dwg



2 SITE PLAN
Scale 1:1000
123800sp.dwg



LEGEND	
	Timber Post Fence
	Star Picket Fence w/ Barbed Wire
	Star Picket Fence
	Gate w/ Timber Posts
	Timber Fence Post
	Braced Timber Fence Post
	Star Picket
	Square Timber Fence Post
	Concrete Fence Post

Job	for:
RAVENSWORTH HOMESTEAD HEBDEN ROAD, RAVENSWORTH	MT OWEN PTY LTD

Dwg.	for:
LOCALITY MAP, SITE PLAN & MEASURED DRAWING PLAN OF COMPOUND	MT OWEN PTY LTD

Dwg.	for:
LOCALITY MAP, SITE PLAN & MEASURED DRAWING PLAN OF COMPOUND	MT OWEN PTY LTD

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Ian Stapleton

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Email: mailbox@lsjarchitects.com

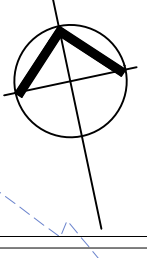
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Drawn YC, WM
Checked MG

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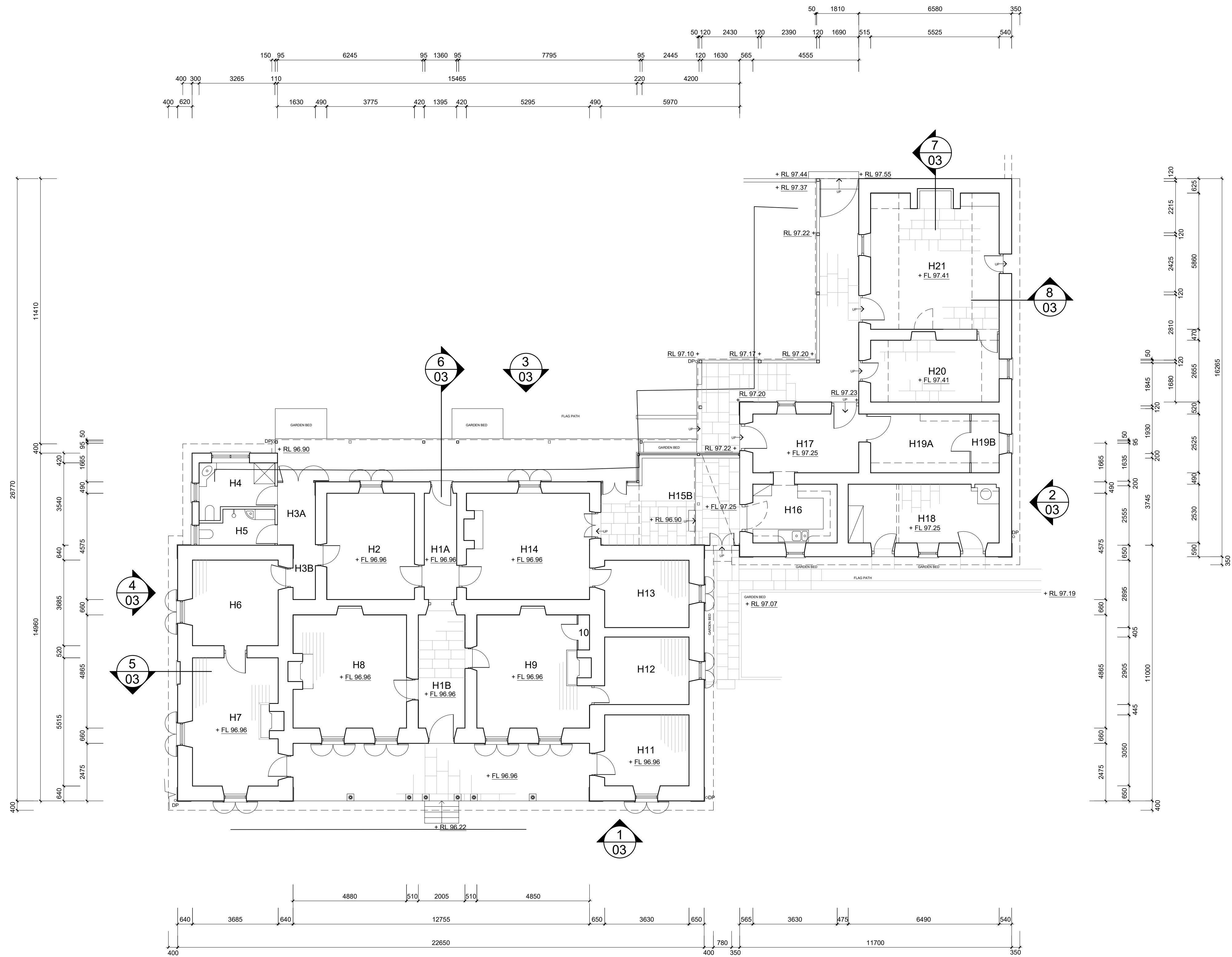
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taken in preference to scale
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Dwg. No.
123800 / 01 / B

3 COMPOUND PLAN
Scale 1:250
123800sp.dwg



0 5 10 m



1
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HOMESTEAD MAIN & KIT. WINGS FLOOR PLAN

Scale 1:100

123800fp.dwg



29-10-18
12-10-18
Date

B
A
No.

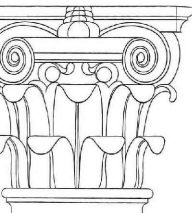
REVISION
REVISION
Amendment

Job
**RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH**

for:
MT OWEN PTY LTD

Dwg.
**HOMESTEAD MAIN & KIT. WINGS -
MEASURED DRAWING
DIMENSIONED FLOOR PLAN**

**LUCAS
STAPLETON
JOHNSON**



LSJ Heritage Planning & Architecture

ACN 002 584 189
Nominated Architect:

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Suite 101, 191 Clarence Street, Sydney, NSW 2000

Telephone: (02) 9357 4811
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Date
05/09/18

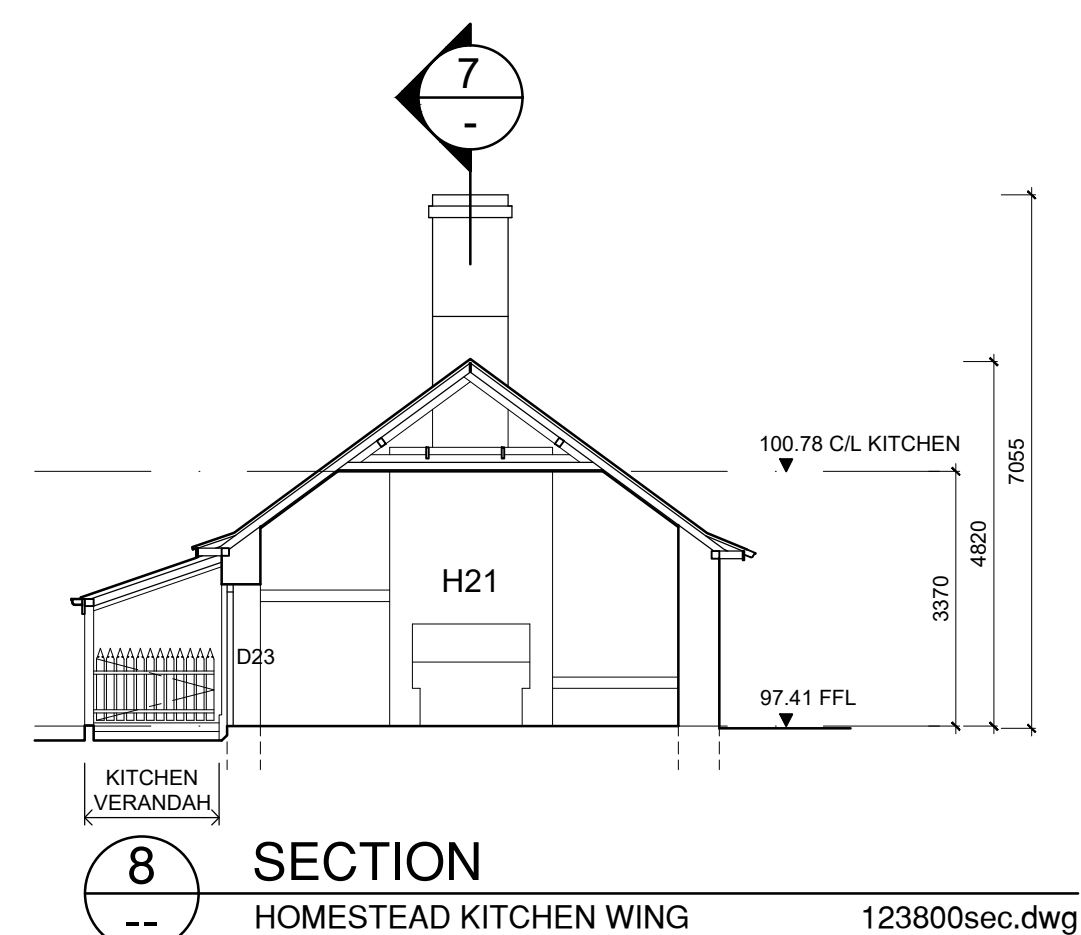
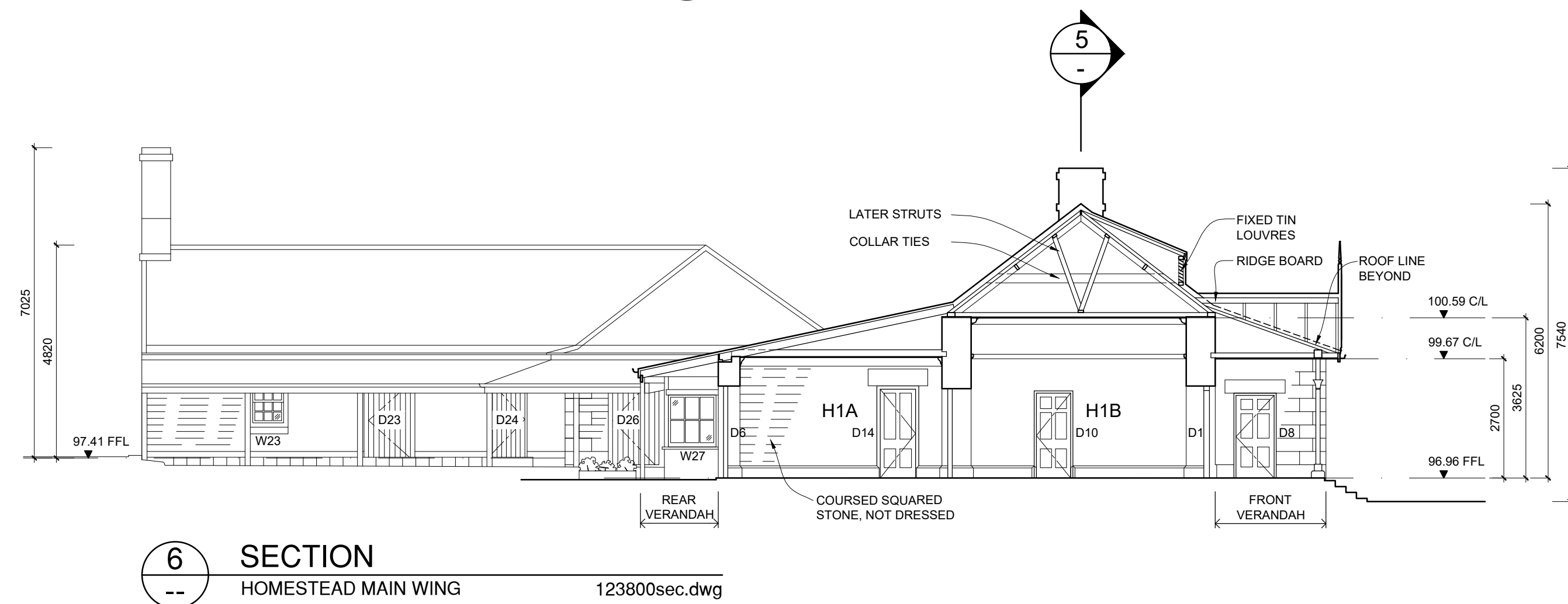
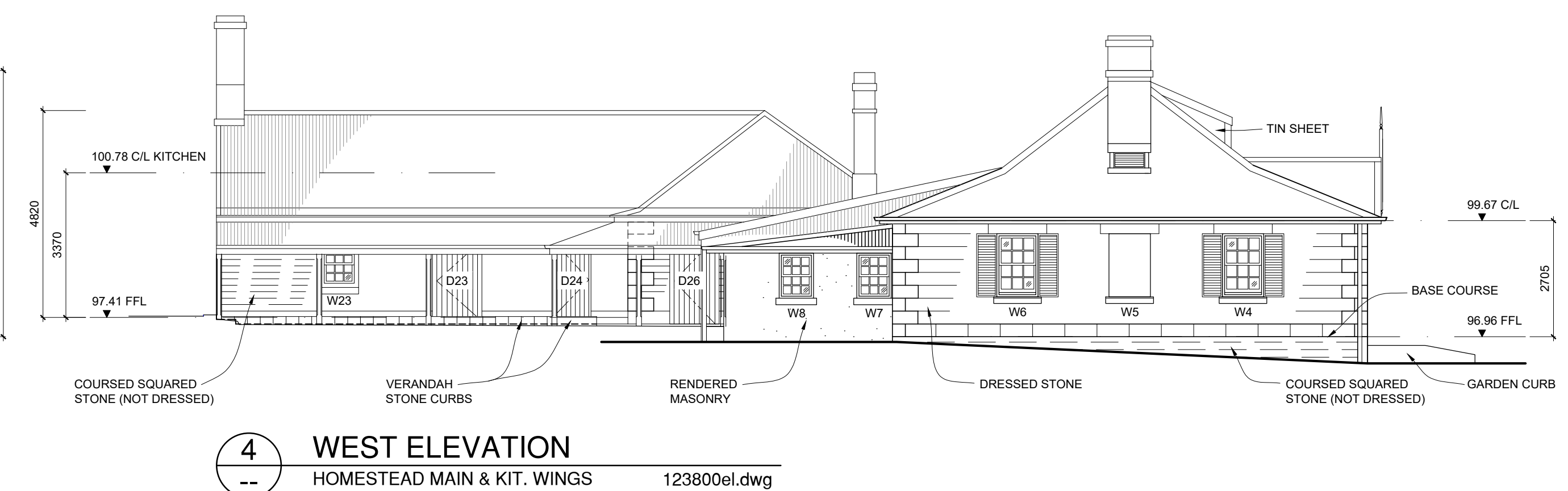
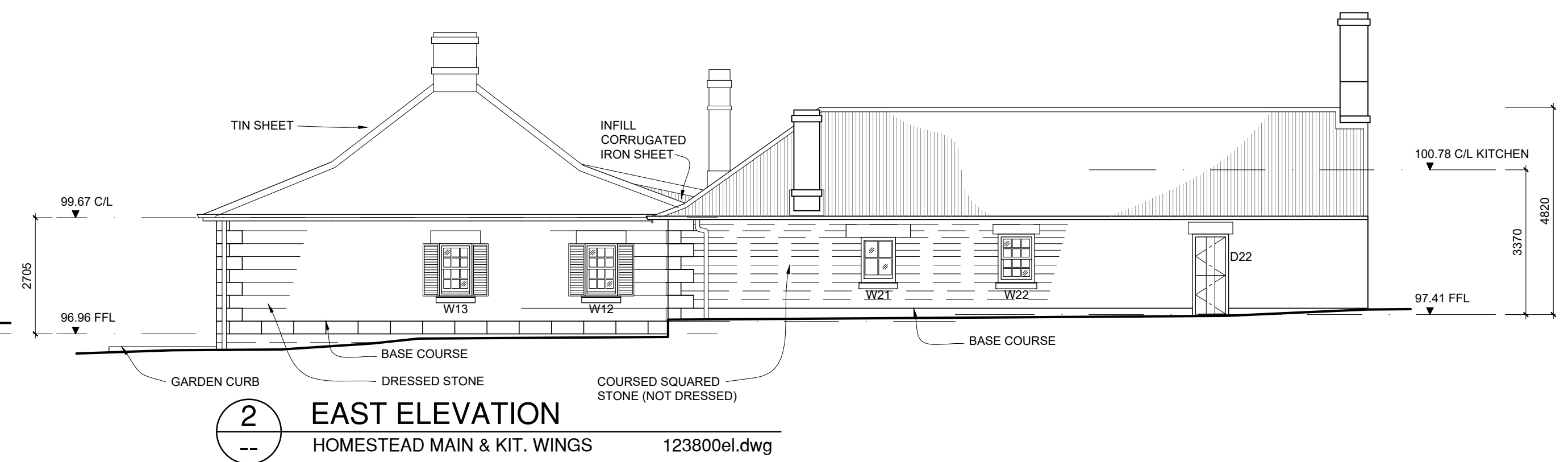
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YC

Checked
MG

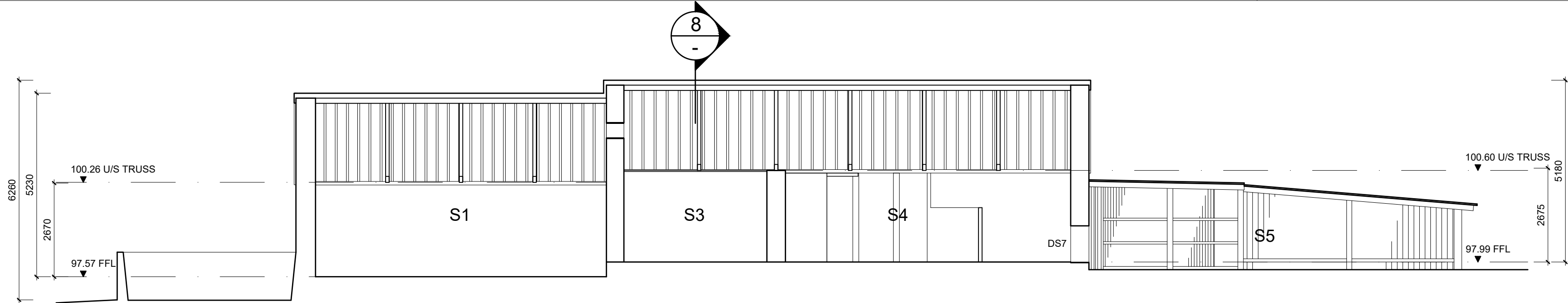
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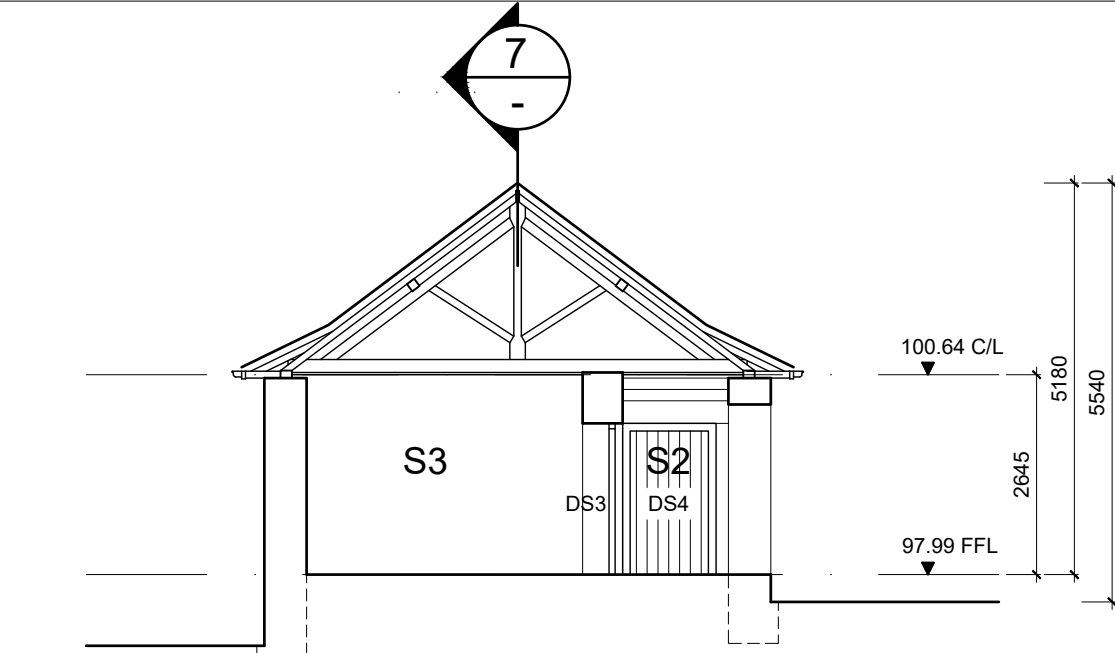
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123800 / 02 / B



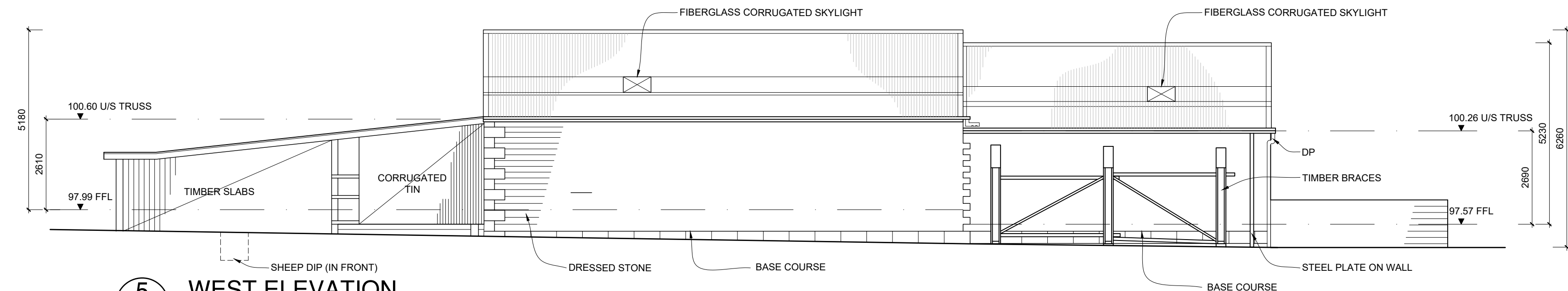
01-11-18 Date	B A No.	REVISION REVISION Amendment
Job		
RAVENSWORTH HOMESTEAD HEBDEN ROAD, RAVENSWORTH		
for: MT OWEN PTY LTD		
Dwg. HOMESTEAD MAIN & KIT. WINGS - MEASURED DRAWINGS ELEVATIONS & SECTIONS		
LUCAS STAPLETON JOHNSON		
LSJ Heritage Planning & Architecture		
ACN 002 584 189 Nominated Architect:		ABN 60 763 960 154 Ian Stapleton
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, 191 Clarence Street, Sydney, NSW 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date 05/09/18	Drawn YC	Checked MG
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Dwg. No. 213800 / 03 / B		



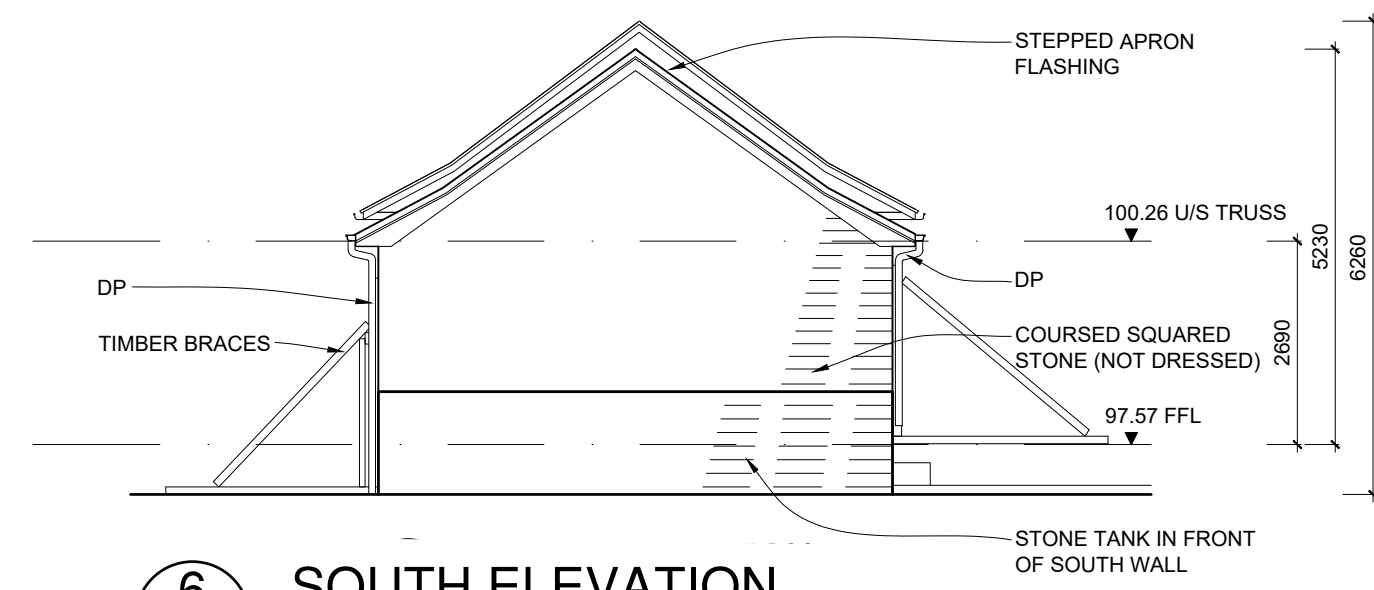
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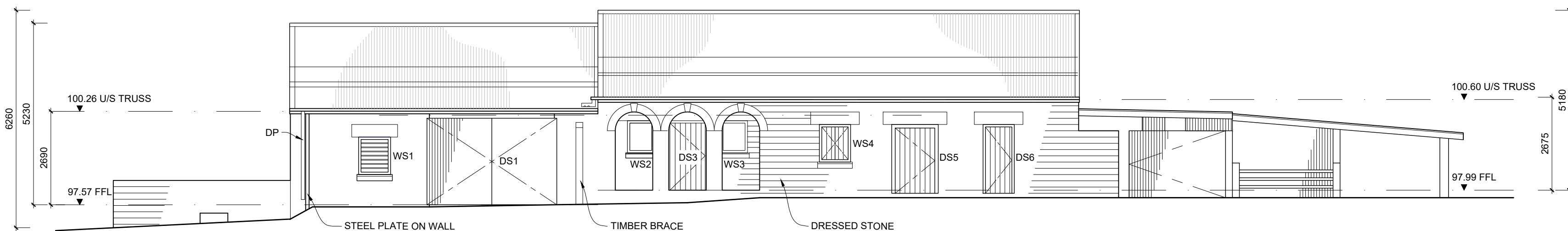
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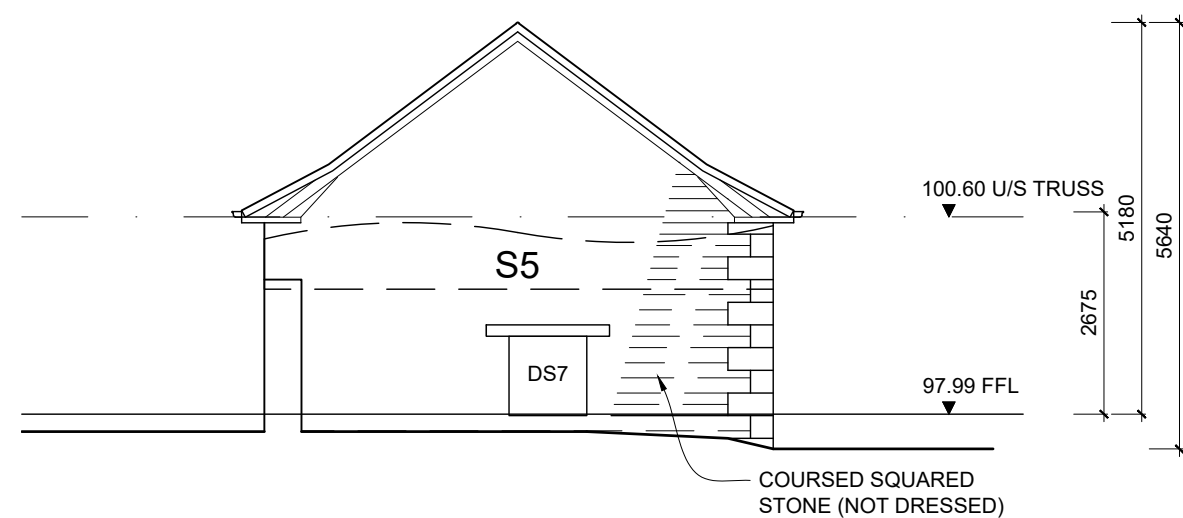
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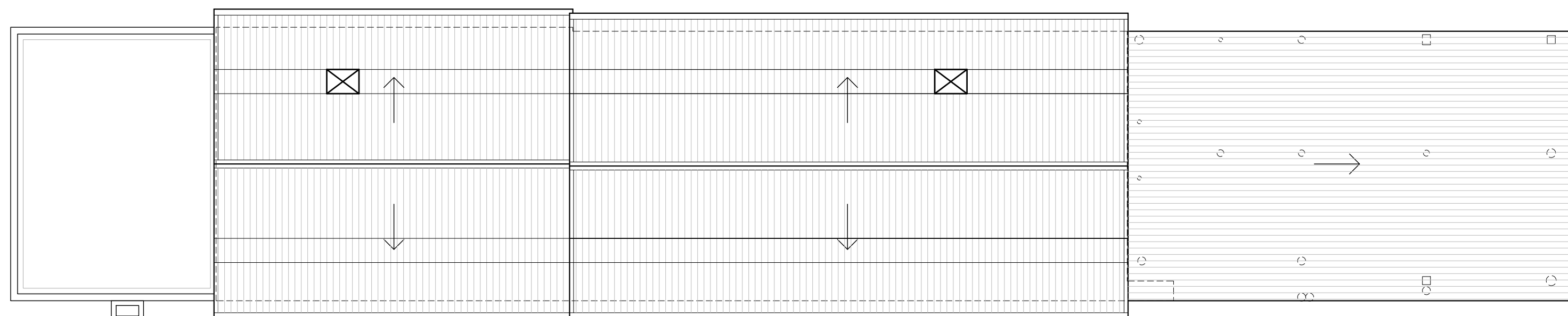
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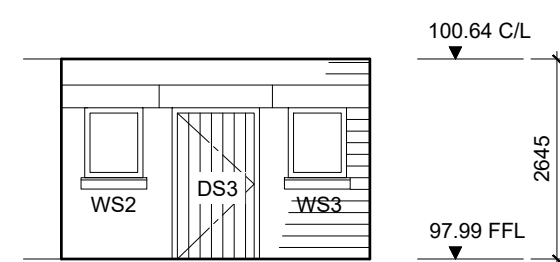
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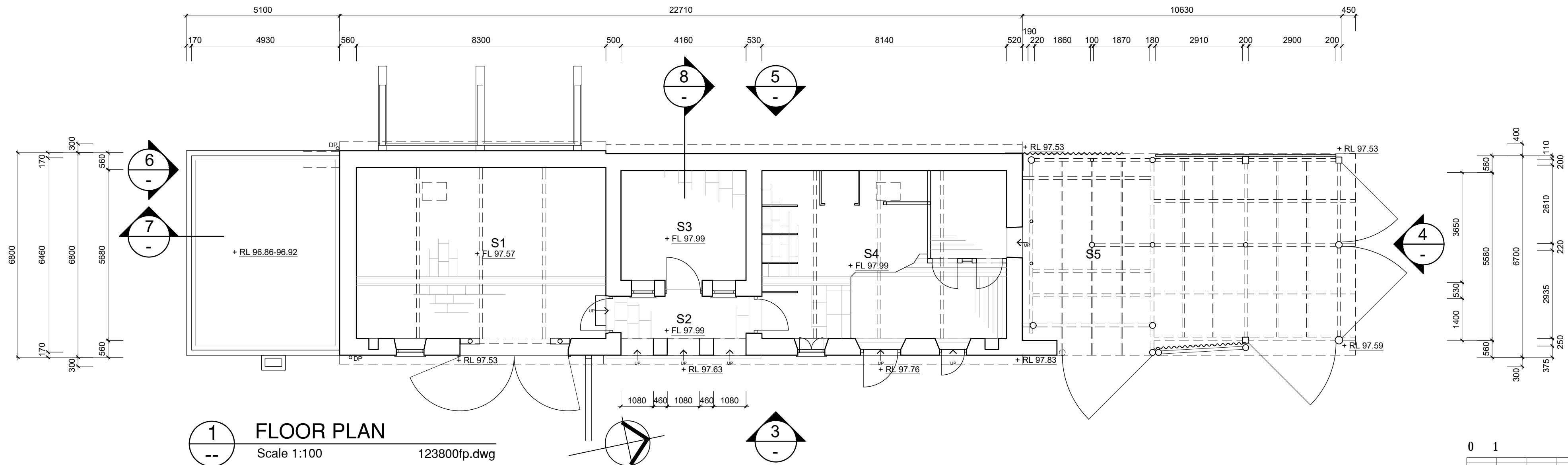
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Scale 1:100 123800el.dwg



2 ROOF PLAN
Scale 1:100 123800fp.dwg



9 S2 - WEST WALL
Scale 1:100 123800el.dwg



1 FLOOR PLAN
Scale 1:100 123800fp.dwg

02-11-18 C REVISION
29-10-18 B REVISION
12-10-18 A REVISION
Date No. Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
STABLES -
MEASURED DRAWINGS
FLOOR & ROOF PLANS,
ELEVATIONS & SECTIONS

**LUCAS
STAPLETON
JOHNSON**
LSJ Heritage Planning & Architecture

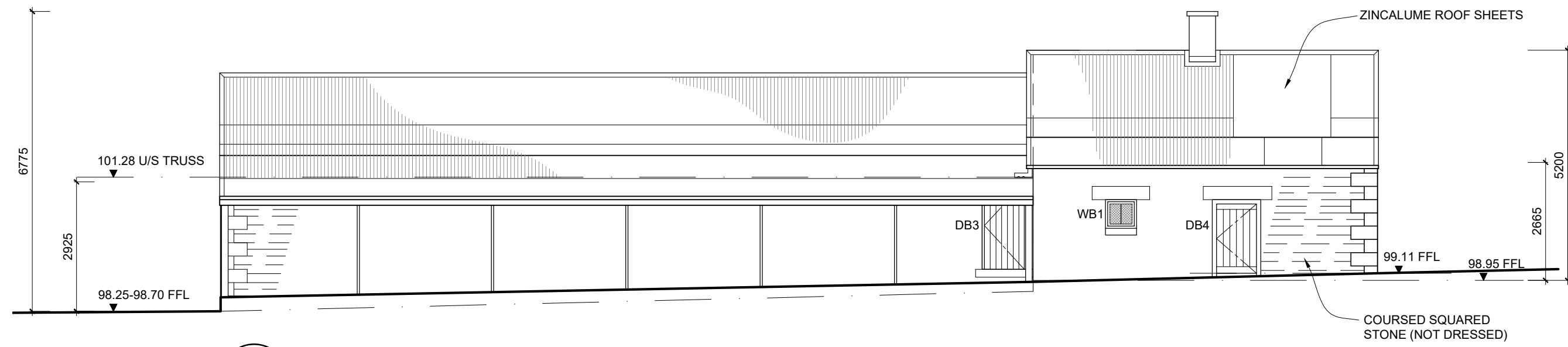
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton
Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

Date 05/09/18 Drawn YC Checked MG

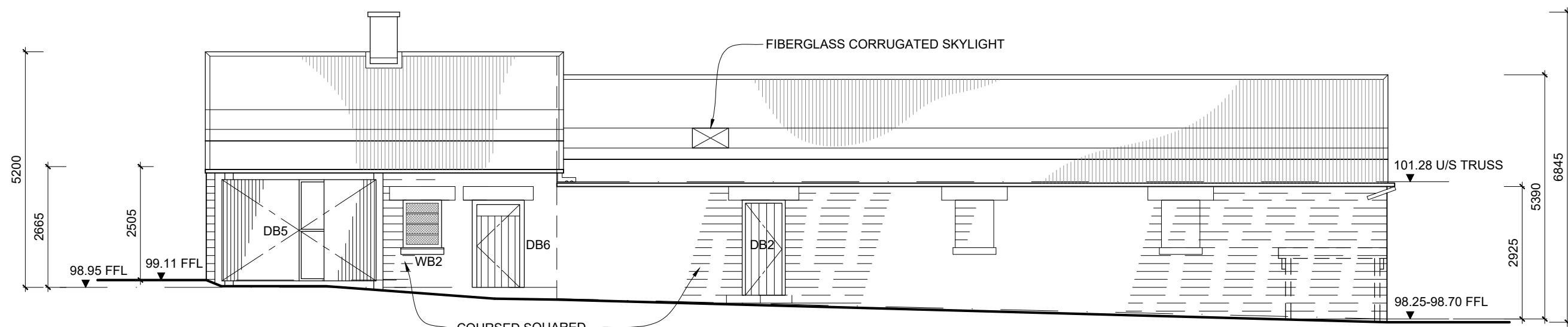
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Dwg. No.
123800 / 04 / C

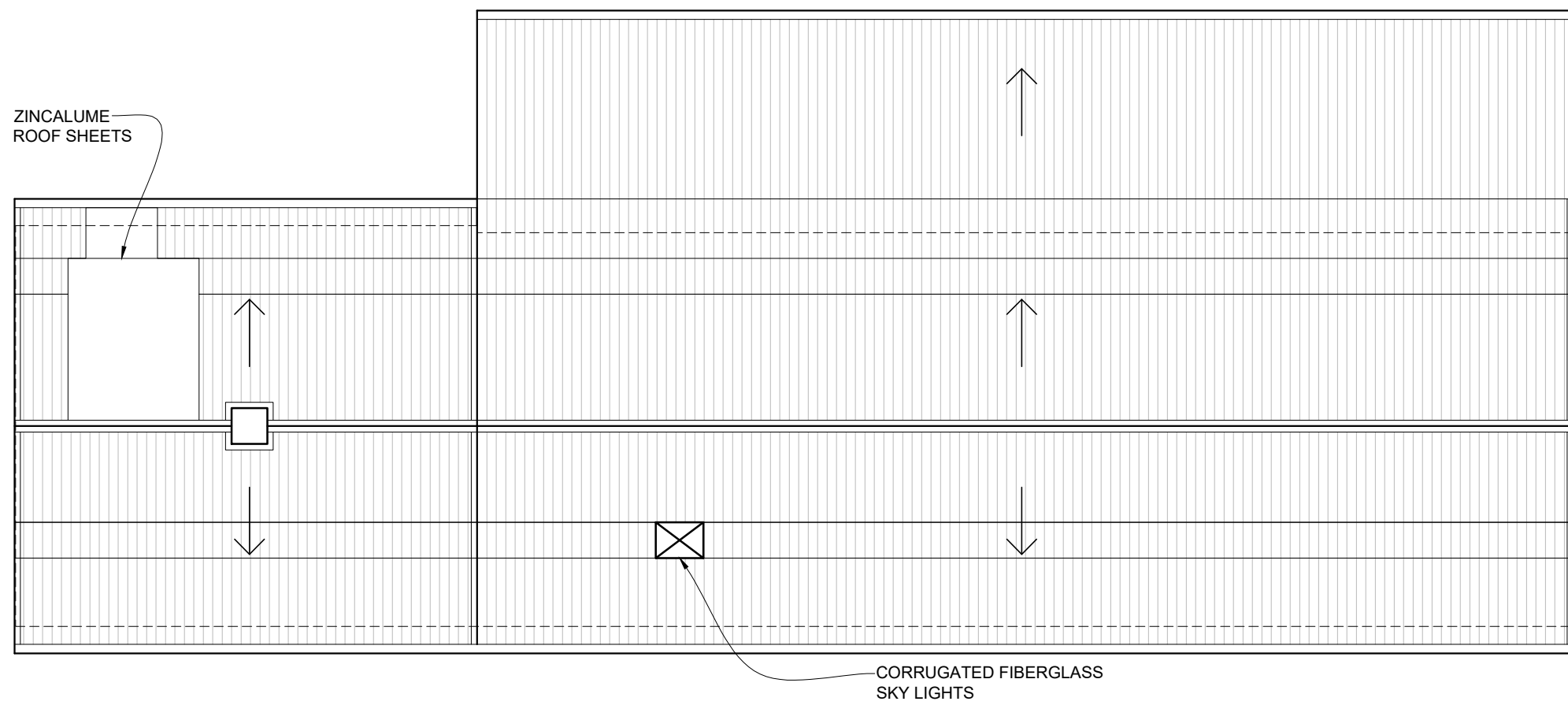
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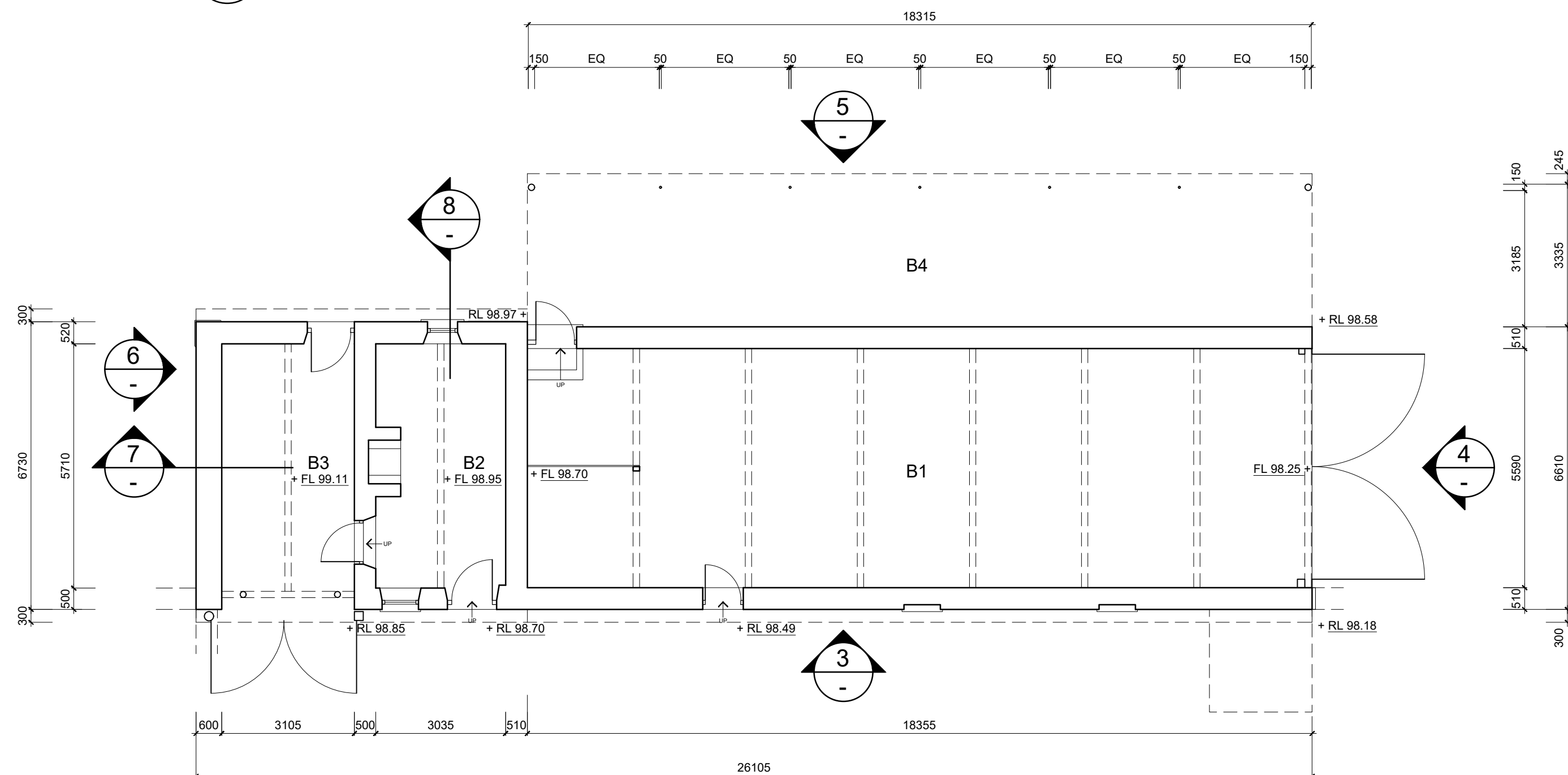
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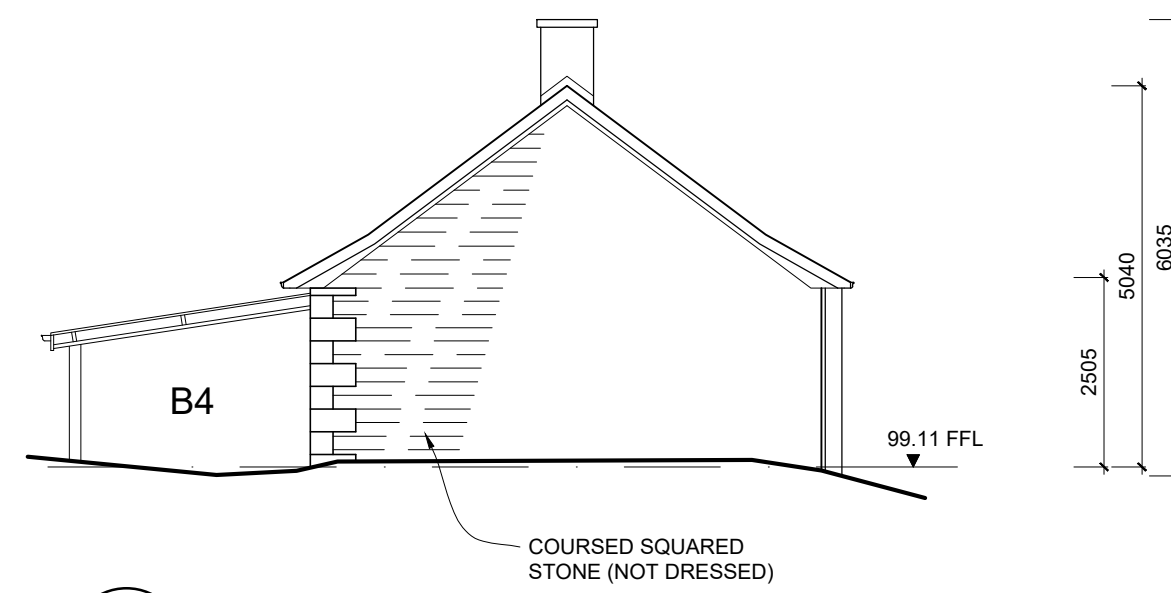
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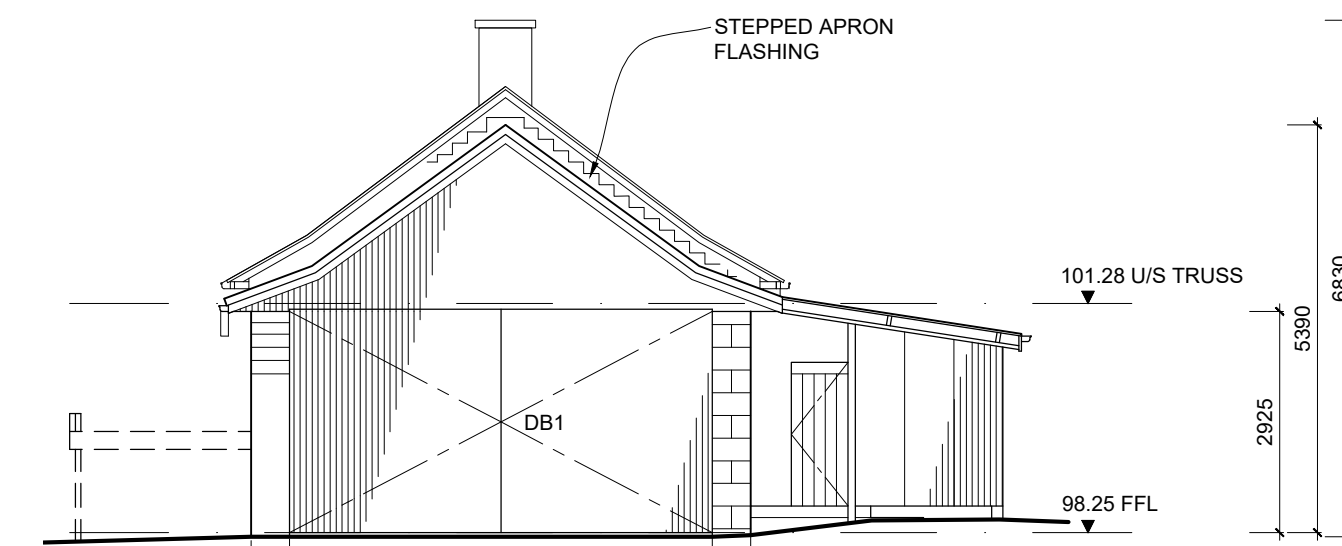
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Scale 1:100 123800fp.dwg



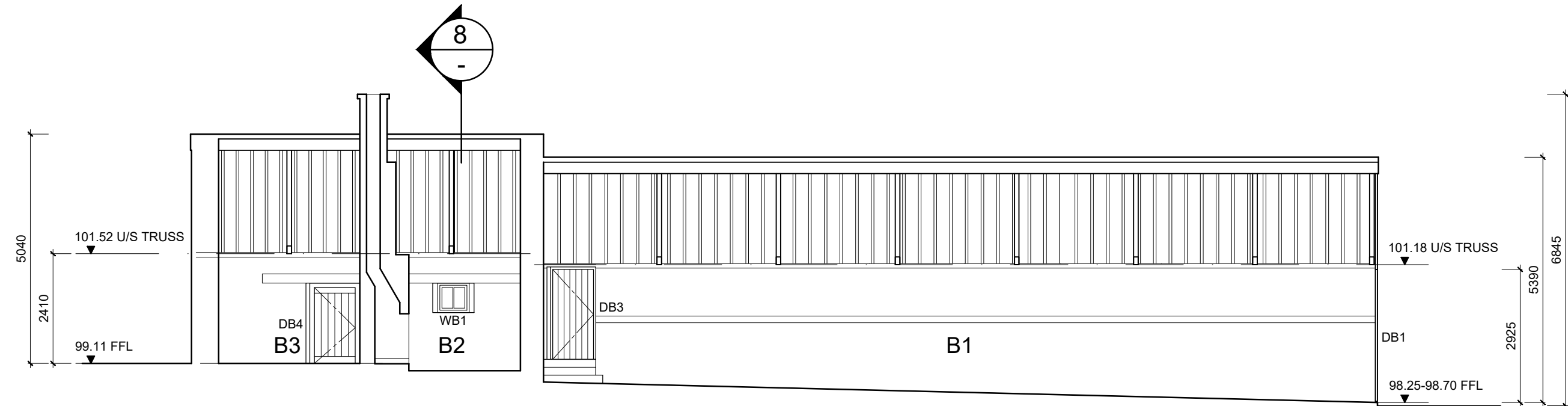
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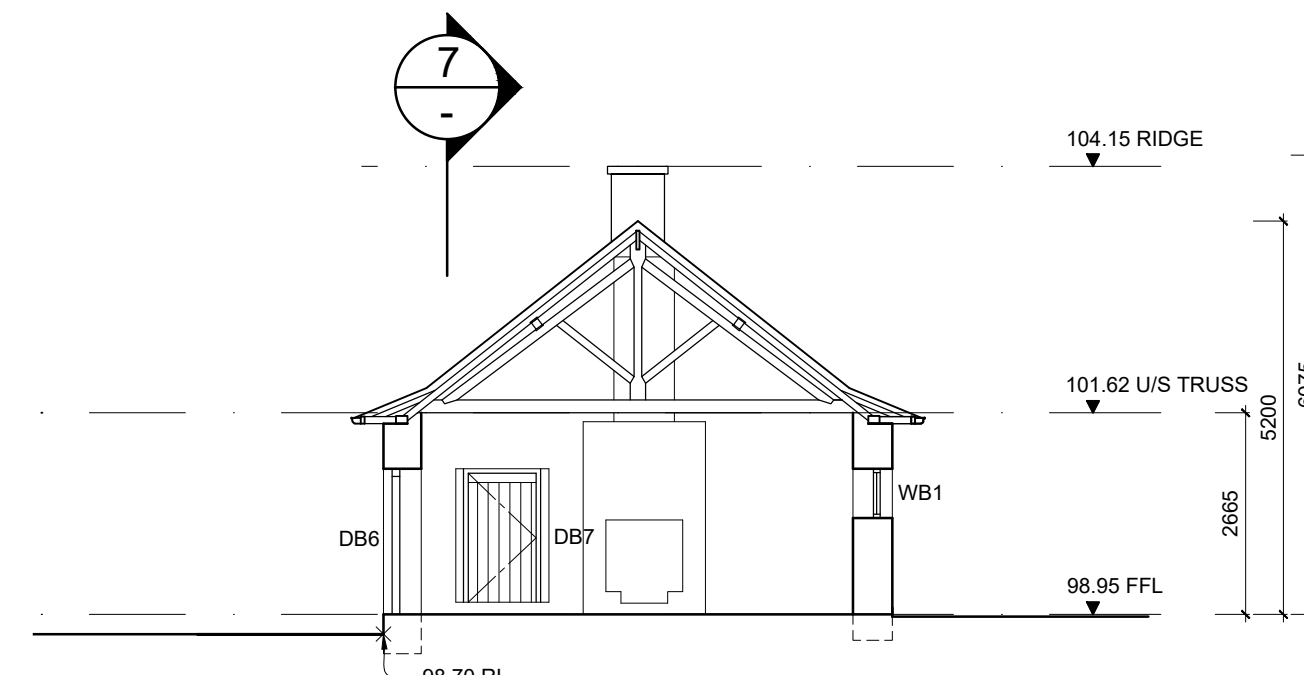
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Scale 1:100 123800el.dwg



4 SOUTH ELEVATION
Scale 1:100 123800el.dwg



7 SECTION
Scale 1:100 123800sec.dwg



8 SECTION
Scale 1:100 123800sec.dwg

09-05-19	C	REVISION
28-10-18	B	REVISION
12-10-18	A	REVISION
Date	No.	Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
BARN -
MEASURED DRAWINGS
FLOOR & ROOF PLANS,
ELEVATIONS & SECTIONS

**LUCAS
STAPLETON
JOHNSON**

LSJ Heritage Planning & Architecture

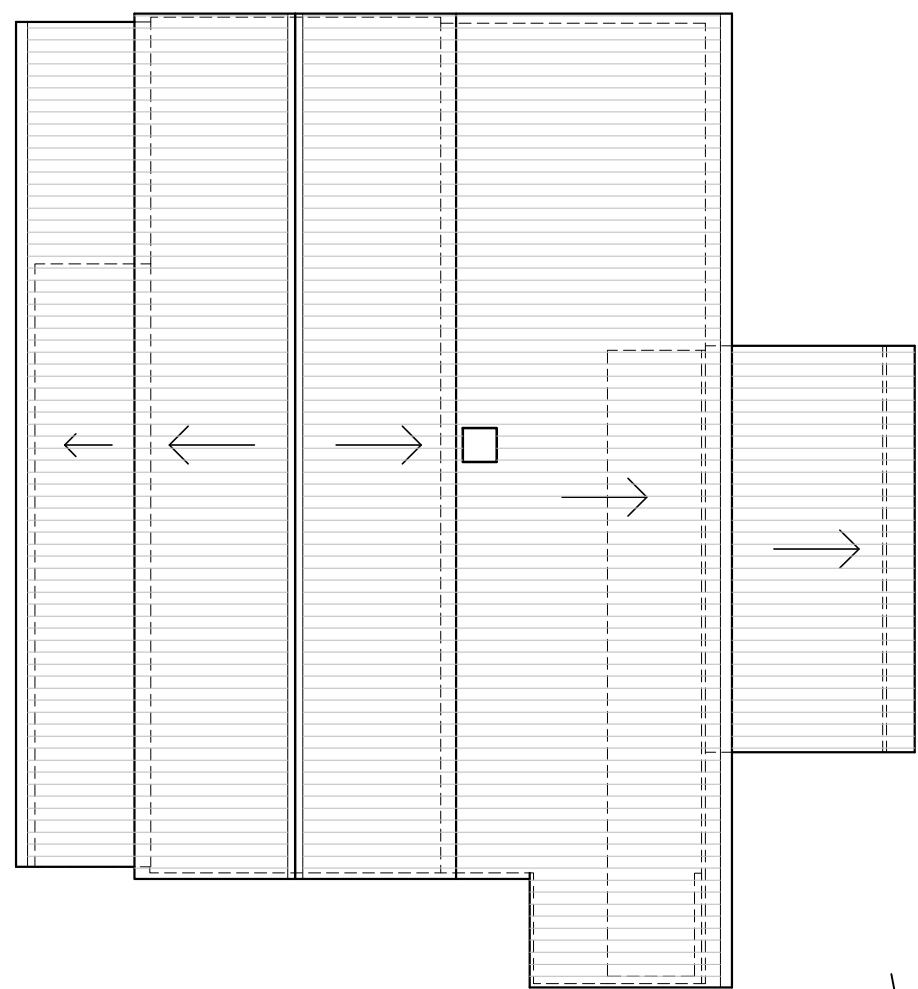
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton

Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
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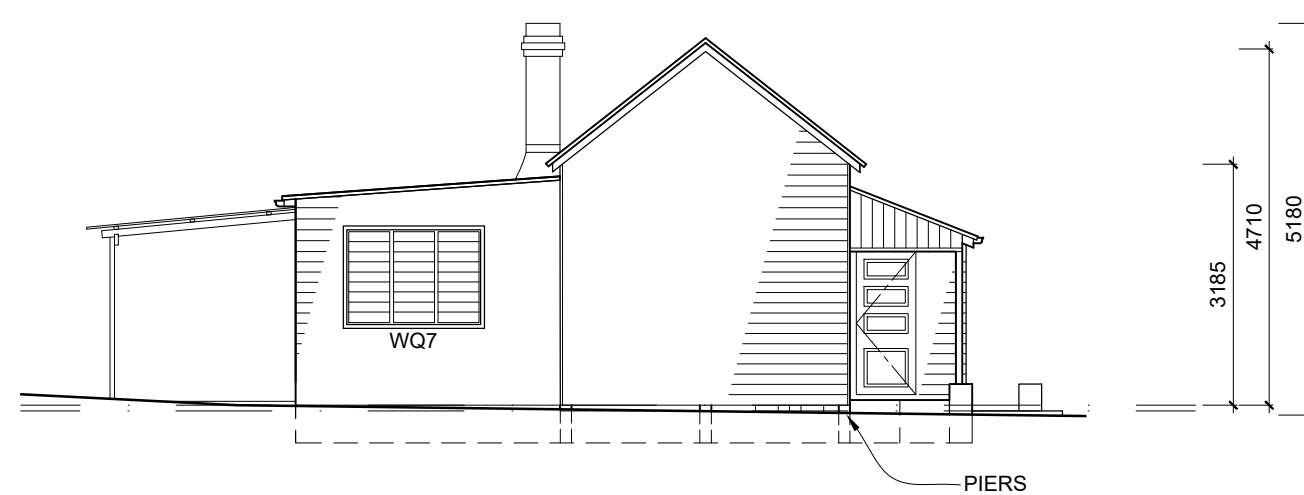
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05/09/18	YC	MG

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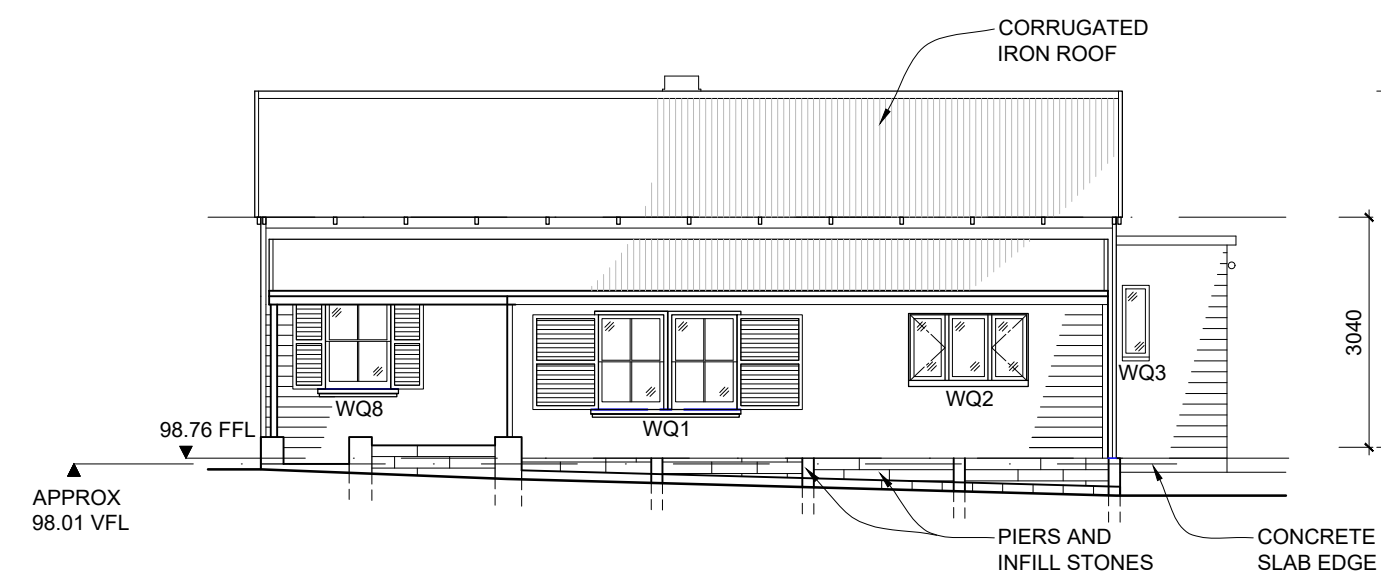
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123800 / 05 / C



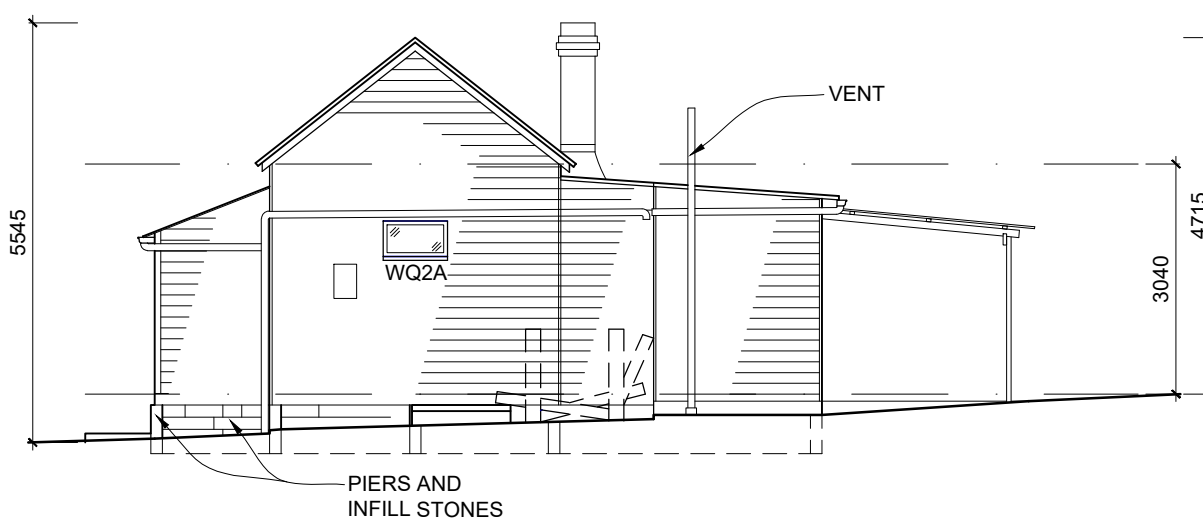
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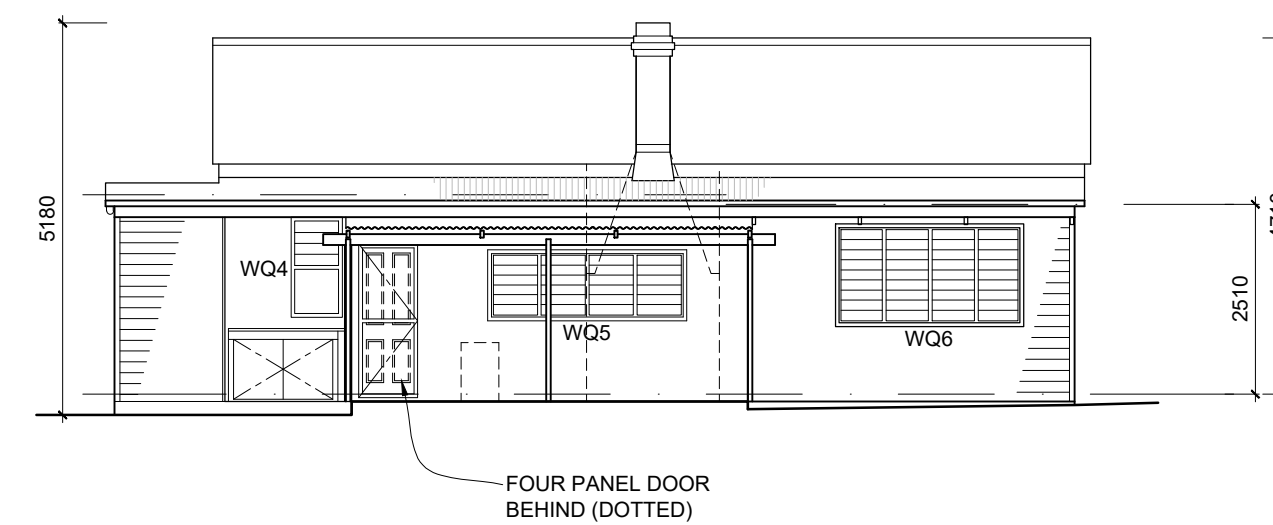
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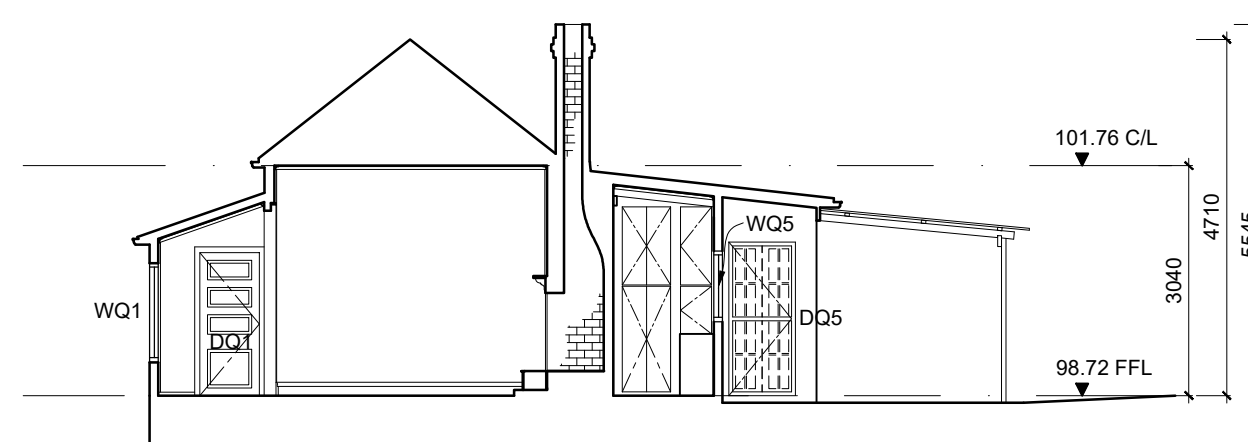
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3 SOUTH ELEVATION
MEN'S QUARTERS 123800el.dwg



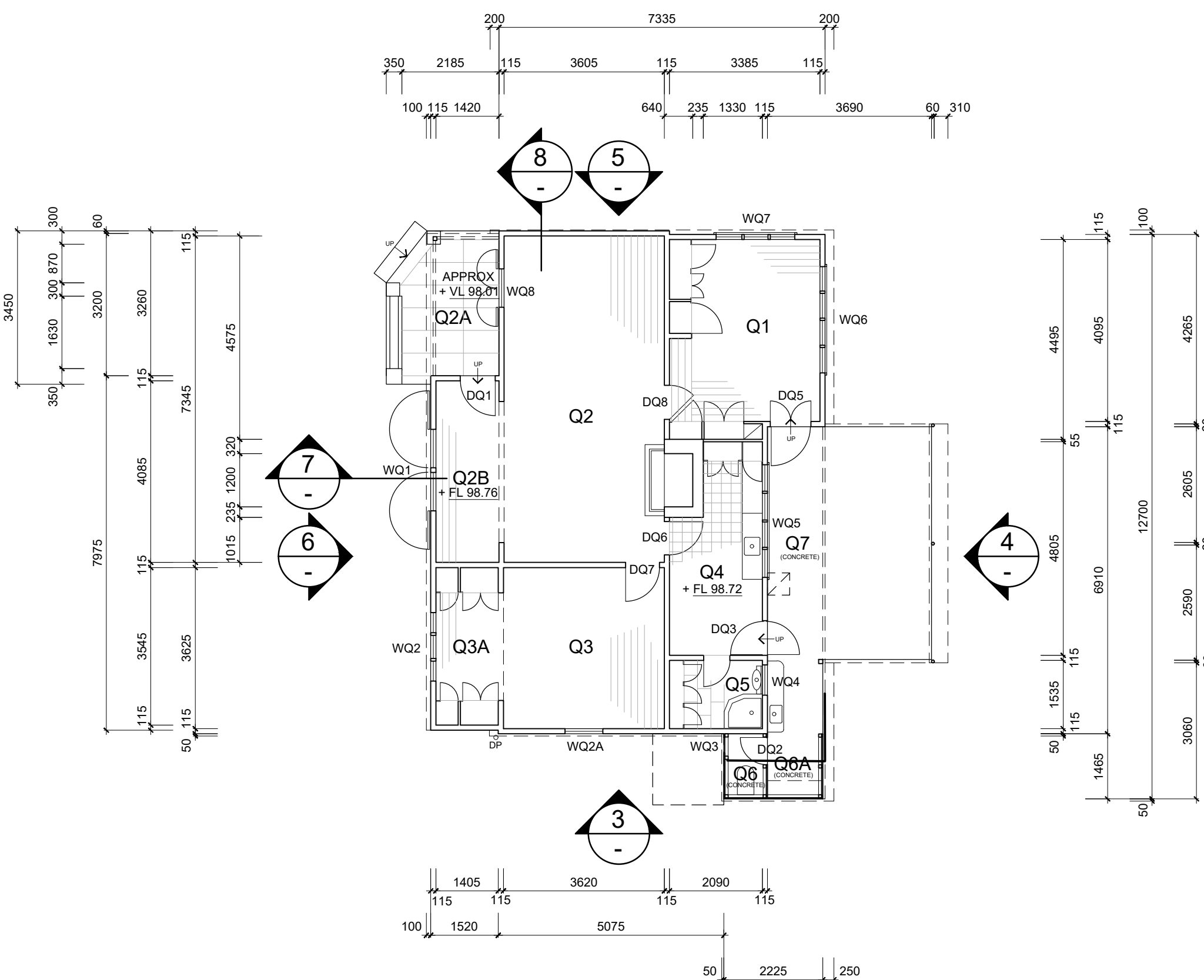
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MEN'S QUARTERS 123800el.dwg



7 SECTION
MEN'S QUARTERS 123800el.dwg



8 SECTION
MEN'S QUARTERS 123800el.dwg



1 FLOOR PLAN
MEN'S QUARTERS 123800fp.dwg

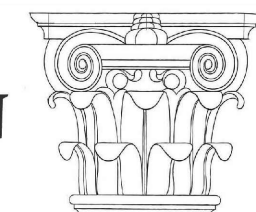
08-05-19 C REVISION
28-10-18 B REVISION
12-10-18 A REVISION
Date No. Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
MEN'S QUARTERS -
FLOOR & ROOF PLANS,
ELEVATIONS & SECTIONS

LUCAS
STAPLETON
JOHNSON

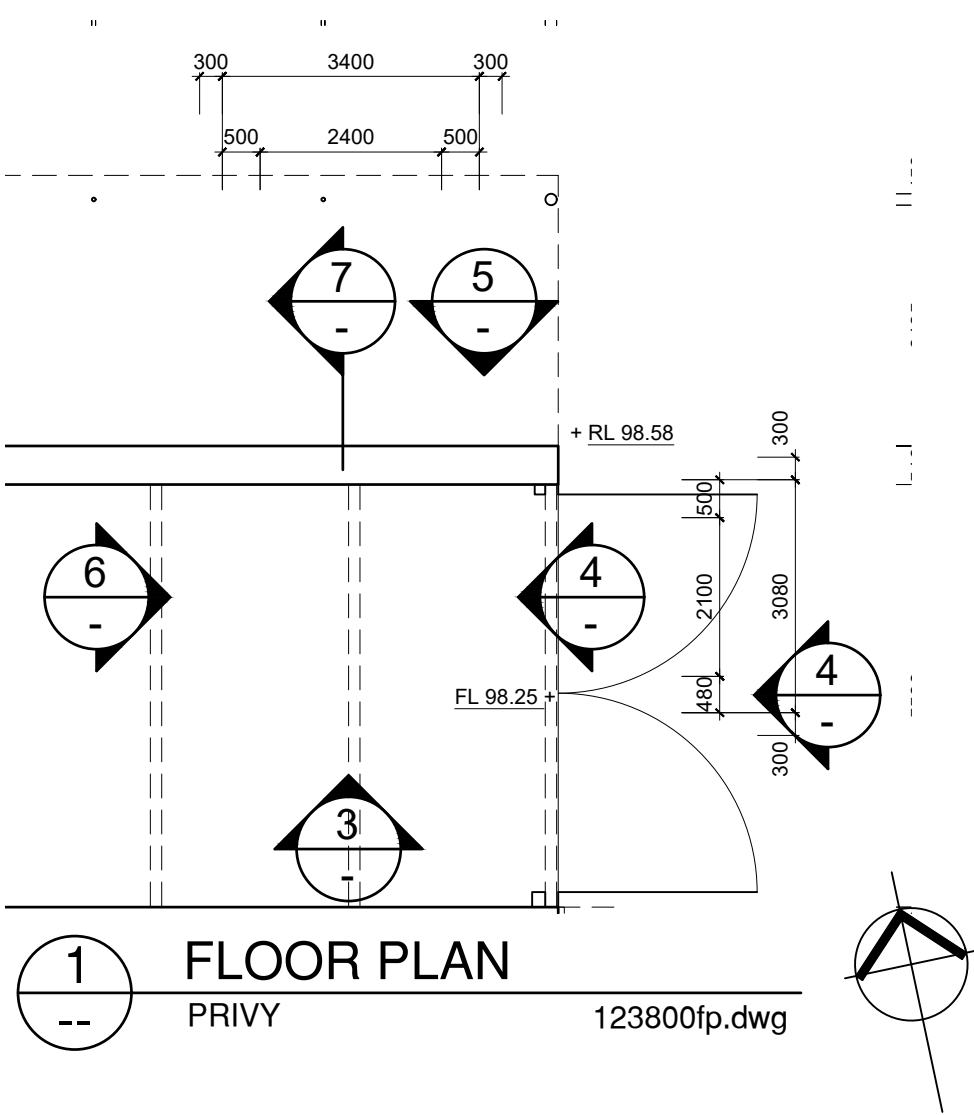
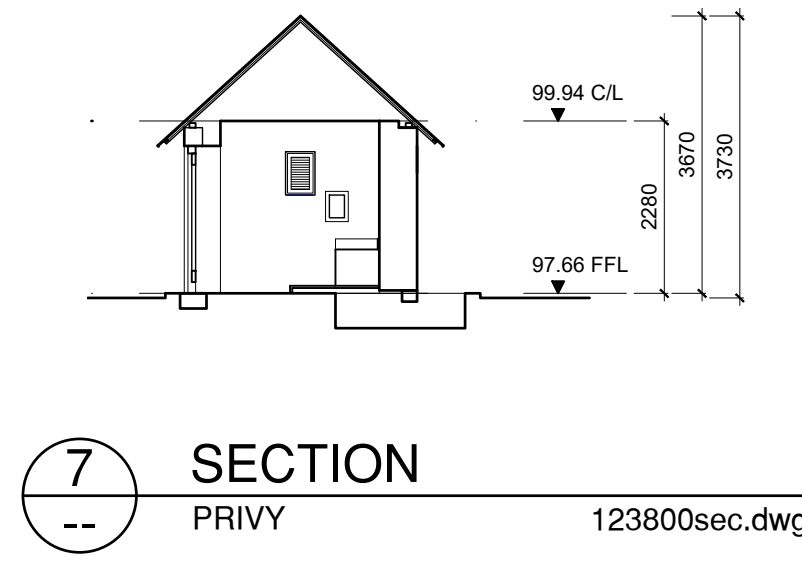
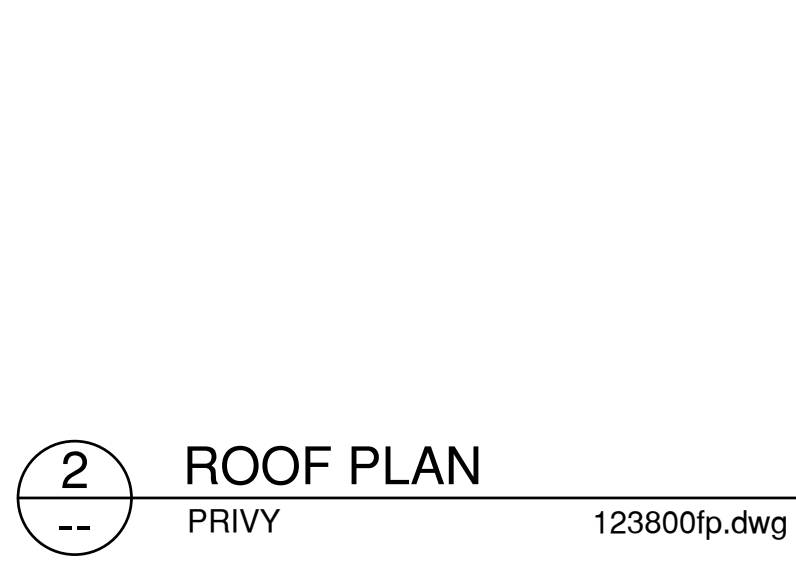
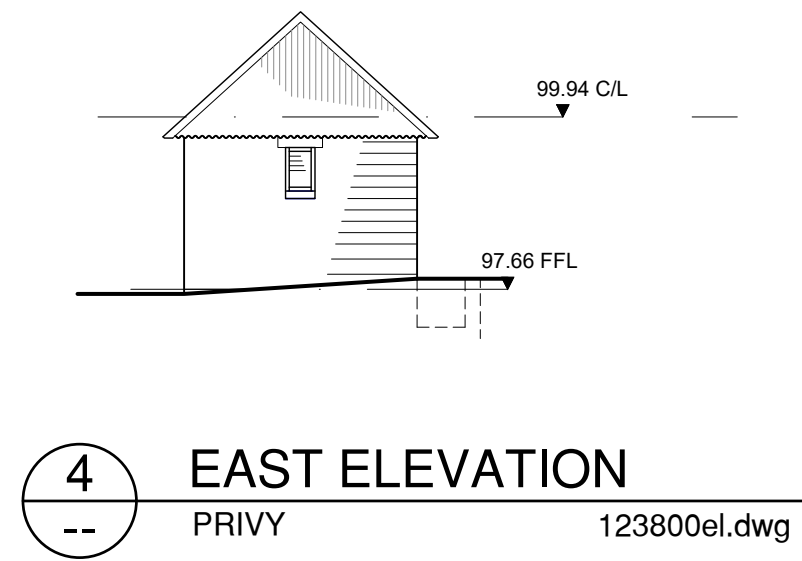
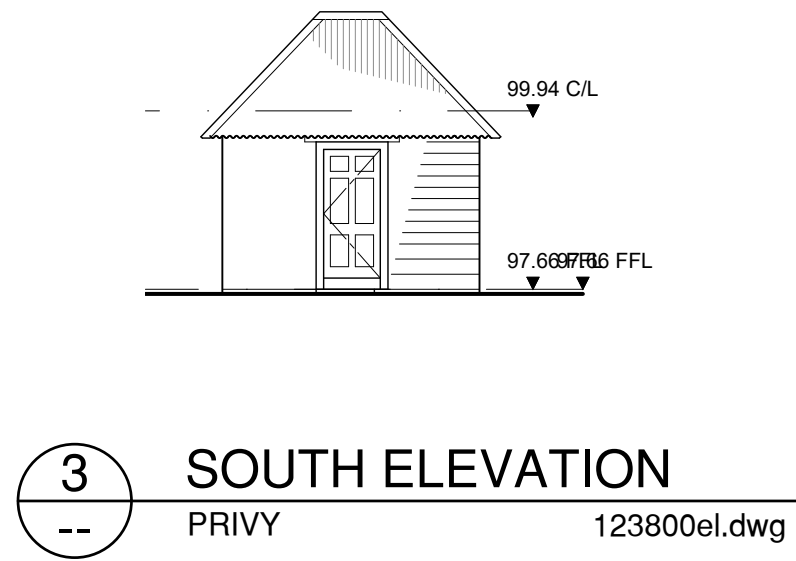
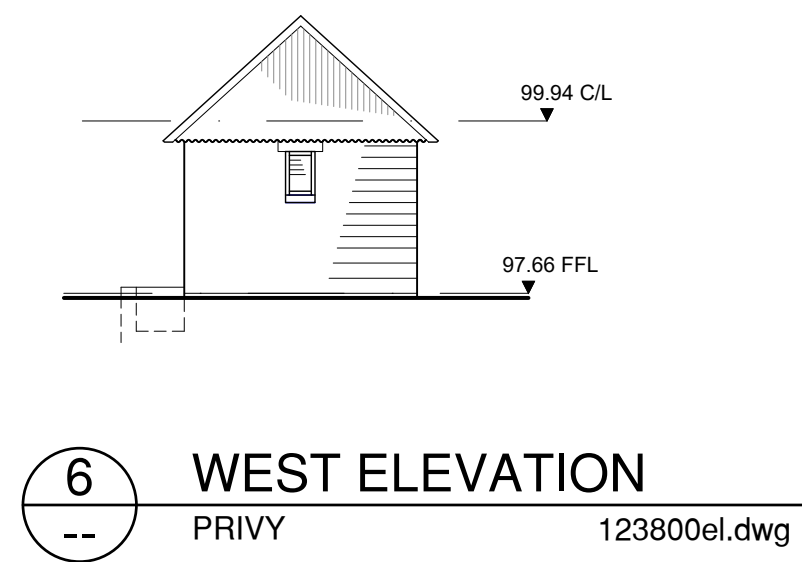
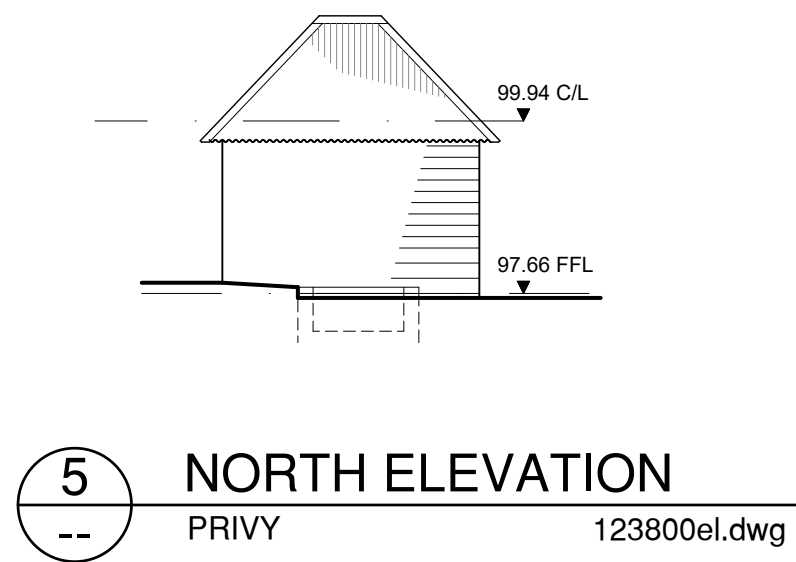


LSJ Heritage Planning & Architecture
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton
Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

Date 11/09/18 Drawn YC Checked MG

Scale (at A1)
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Check all dimensions
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Dwg. No.
123800 / 06 / C



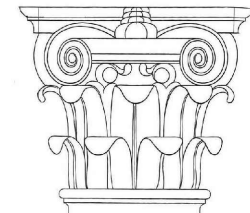
Date No. Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
PRIVY -
FLOOR & ROOF PLANS,
ELEVATIONS & SECTIONS

LUCAS
STAPLETON
JOHNSON



LSJ Heritage Planning & Architecture

ACN 002 584 189 ABN 60 763 960 154
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Email: mailbox@lsjarchitects.com

Date	Drawn	Checked
29/10/18	YC	MG

Scale (at A1)	Check all dimensions Figured dimensions to be taken in preference to scale
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Dwg. No.
123800 / 07 /



MW.01



MW.02



MW.03



MW.04



MW.05



MW.06



MW.07

MEMBER SCHEDULE

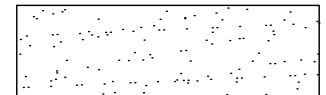
HOMESTEAD MAIN WING ROOF FRAME

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CR1	75x55 COMMON RAFTER @900 CRS
CT1	200x65 COLLAR TIE
DPL	100x70 DORMER TOP & BOTTOM PLATE
DR	80x55 DORMER RAFTER @425 CRS
H1	UNSIZE HIP RAFTER
KR1	200x65 KING RAFTER W/ CT1 BELOW
R1	70x55 RAFTERS @360 CRS
R2	100x50 RAFTERS @600 CRS
R3	75x60 RAFTER @360 CRS
R4	175x50 RAFTERS @920 CRS & AS SHOWN
R5	100x50 RAFTERS @300 CRS
RB1	100x25 RIDGE BOARD
RB2	100x25 RIDGE BOARD
P1	125x65 PURLIN
P2	50x100 PURLIN (LATER)
P3	110x55 PURLIN
S1	95x45 STRUT
S2	95x45 STRUT
S3	95x45 STRUT
SP1	STEEL POST (CAST IRON)
SR1	50x100 SPREADER TO CEILING JOISTS
SR2	50x100 SPREADER TO CEILING JOISTS
SR3	100x35 SPREADER TO CEILING JOISTS
SR4	120x55 SPREADER TO CEILING JOISTS
SR5	150x75 SPREADER TO CEILING JOISTS
T	100x50 TIE
TP1	110x55 POST
TP2	75x175 POST
TP3	100x165 POST
TP4	100x100 TIMBER POST
V1	UNSIZE VALLEY RAFTER
V2	100x50 VALLEY RAFTER
VP1	175sq. VERANDAH PLATE
VP2	200x50 VERANDAH PLATE
VP3	ORIGINAL VERANDAH PLATE LOCATION
WP1	100x175 WALL PLATE
WP2	70x - WALL PLATE
WP3	50x100 WALL PLATE
WP4	175x50 WALL PLATE
WP5	100x75 WALL PLATE

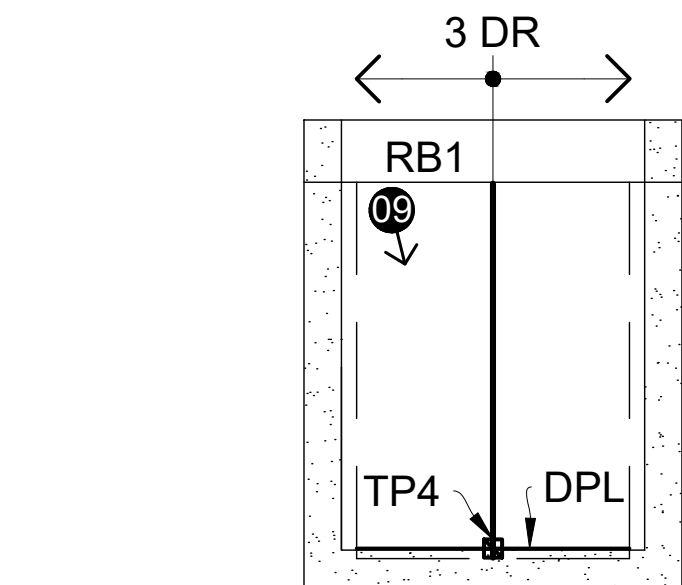
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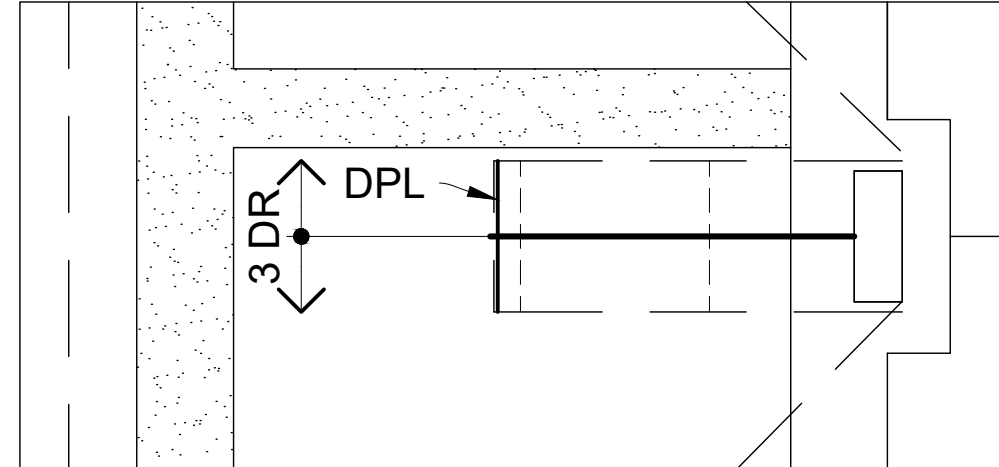
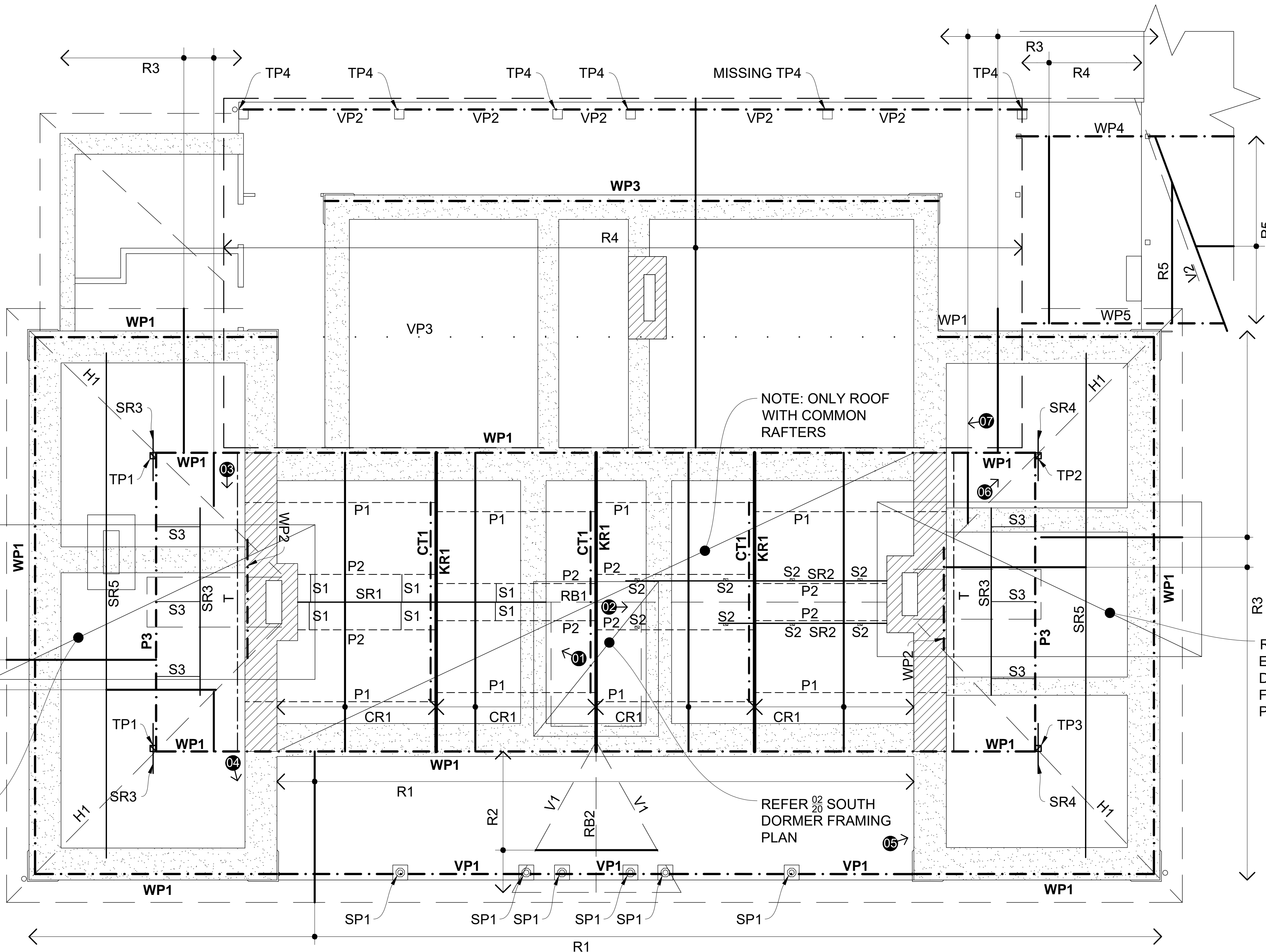
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WALLS CEASE AT CEILING

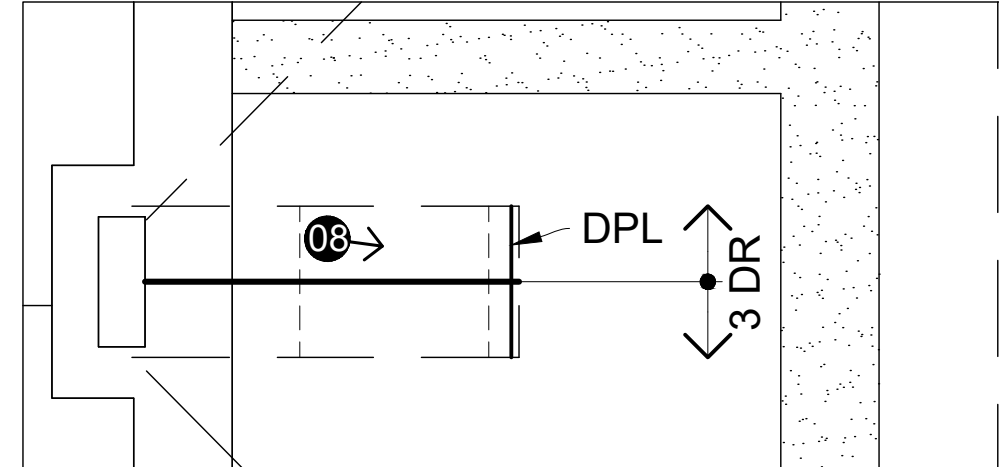


2 SOUTH DORMER FRAMING PLAN
Scale 1:50
123800prf.dwg



3 WEST DORMER FRAMING PLAN
Scale 1:50
123800prf.dwg

1 HOMESTEAD MAIN WING ROOF FRAMING PLAN
Scale 1:50
123800prf.dwg



4 EAST DORMER FRAMING PLAN
Scale 1:50
123800prf.dwg



MW.08



MW.09

REFER DWG 123800_22

REFER 04
EAST
DORMER
FRAMING
PLAN

5
03

31-10-18
Date
A No.
Revision
Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
HOMESTEAD WING ROOF
FRAMING PLANS

LUCAS
STAPLETON
JOHNSON

LSJ Heritage Planning & Architecture

ACN 002 584 189
Nominated Architect:
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Email: mailbox@lsjarchitects.com

Date
12/10/18
Drawn
WM
Checked
MG

Scale (at A1)
1:50
Check all dimensions
Figured dimensions to be
taken in preference to scale
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Dwg. No.
123800 / 20 / A



MW.01



MW.02



MW.03



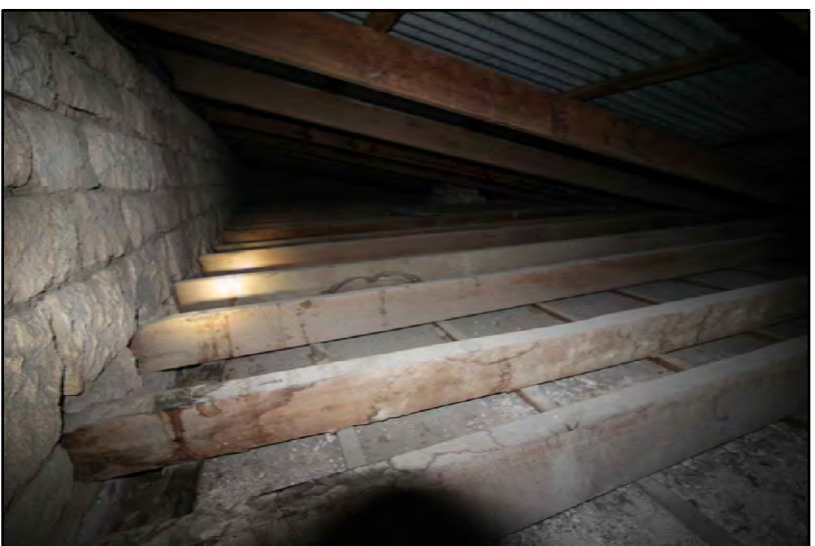
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MW.05



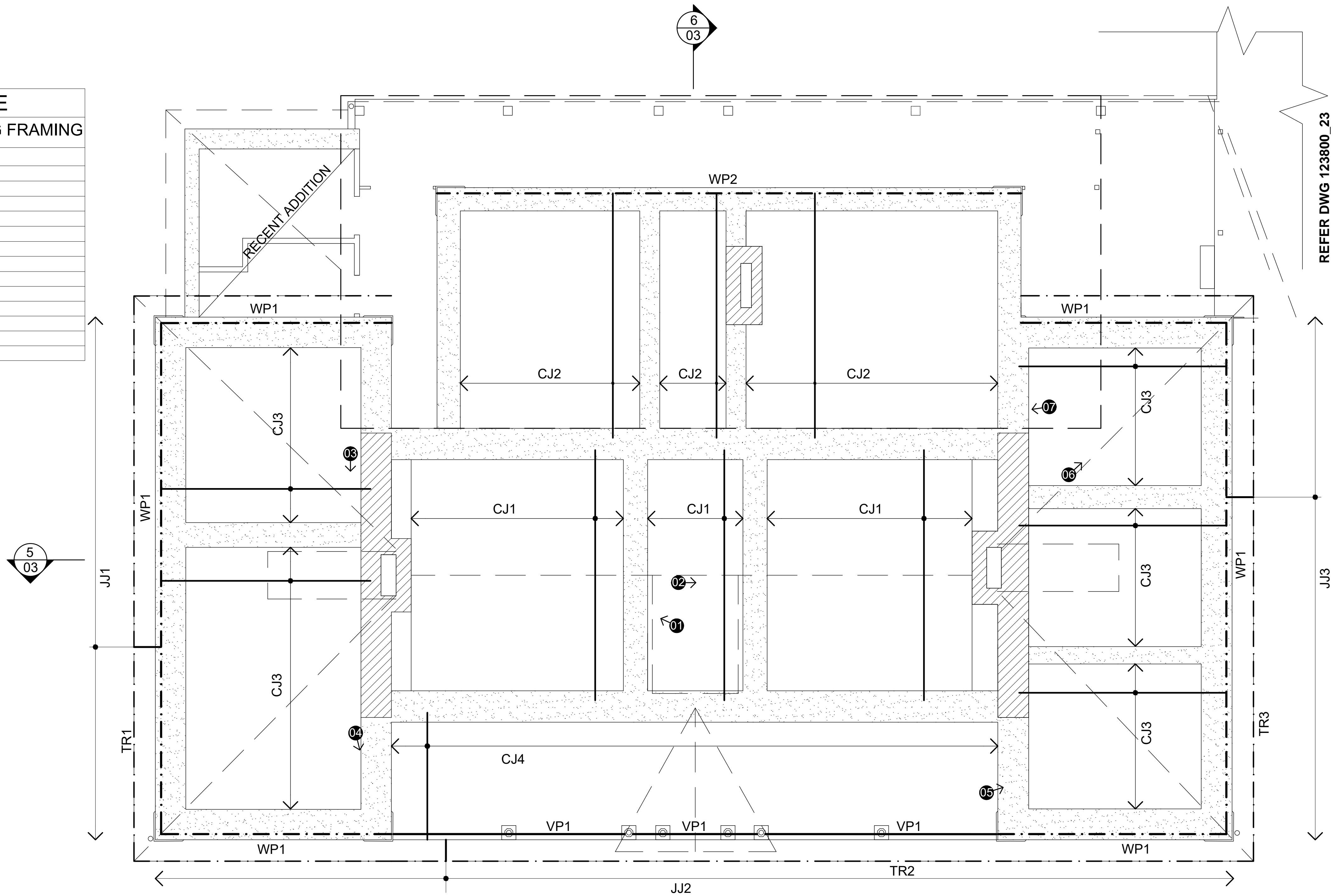
MW.06



MW.07

MEMBER SCHEDULE	
HOMESTEAD MAIN WING CEILING FRAMING	
TAG	DESCRIPTION/ MEMBER
CJ1	100x65 CEILING JOIST @400 CRS (Nominal)
CJ2	150x38 CEILING JOIST @450 CRS (Nominal)
CJ3	100x50 CEILING JOIST @360 CRS (Nominal)
CJ4	110x55 CEILING JOIST @ 360 CRS (Nominal)
JJ1	100x55 JACK JOIST @360 CRS
JJ2	110x55 JACK JOIST @360 CRS
JJ3	100x55 JACK JOISTS @360 CRS
TR1	100x50 TRIMMER
TR2	100x50 TRIMMER
TR3	100x50 TRIMMER
V2	100x50 VALLEY RAFTER
WP1	100x175 WALL PLATE
WP2	50x100 WALL PLATE

LEGEND	
	WALLS CONTINUE TO UNDERSIDE OF ROOF FRAMING
	WALLS CEASE AT CEILING



1 HOMESTEAD MAIN WING CEILING FRAMING PLAN
Scale 1:50 123800prf.dwg

31-10-18 Date	A No.	REVISION Amendment
Job RAVENSWORTH HOMESTEAD HEBDEN ROAD, RAVENSWORTH		
for: MT OWEN PTY LTD		
Dwg. HOMESTEAD MAIN WING CEILING FRAMING PLAN		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 Nominated Architect: Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, 191 Clarence Street, Sydney, NSW 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date 12/10/18	Drawn WM	Checked MG
Scale (at A1) 1:50		
Check all dimensions Figured dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.		
Dwg. No. 123800 / 21 / A		



KW.01



KW.02



KW.03



KW.04



KW.05



KW.06



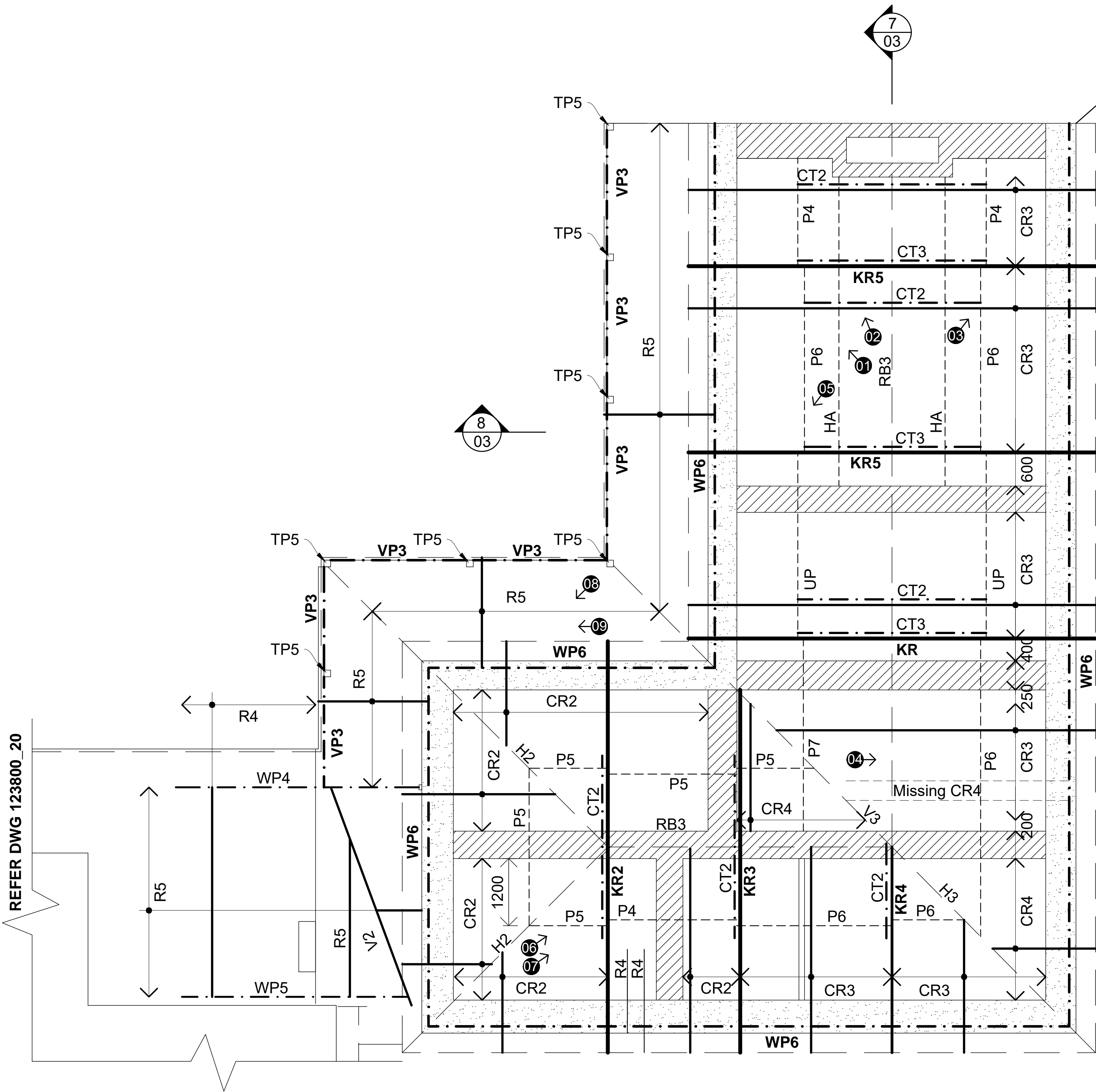
KW.07



KW.08



KW.09



MEMBER SCHEDULE

HOMESTEAD KITCHEN WING ROOF FRAME

TAG	DESCRIPTION/ MEMBER
CR	UNSIZE COMMON RAFTER
CR2	100x50 COMMON RAFTER @ 400 CRS
CR3	90x60 COMMON RAFTER
CR4	75x50 COMMON RAFTER
CT2	100x50 COLLAR TIE
CT3	200x60 COLLAR TIE
H2	100x50 HIP RAFTER
H3	175x50 HIP RAFTER
HA	150x25 HANGER (ABOVE CT3)
KR	UNSIZE KING RAFTER
KR2	190x50 KING RAFTER W/ CT2 BELOW
KR3	100x50 KING RAFTER W/ CT2 BELOW
KR4	150x60 KING RAFTER W/ CT2 BELOW
KR5	200x60 KING RAFTER W/ CT3 BELOW
R3	175x50 RAFTER
R4	100x50 RAFTER @ 300 CRS
R5	75x50 VERANDAH RAFTER
RB3	90x22 RIDGE BOARD
TP5	120x120 TIMBER POST
UP	UNSIZE PURLIN
P4	90x120 PURLIN
P5	100x50 PURLIN
P6	90x75 PURLIN
P7	125x75 PURLIN
V2	100x50 VALLEY RAFTER
V3	170x55 VALLEY RAFTER
VP3	120x100 VERANDAH PLATE
WP4	175x50 WALL PLATE
WP5	100x75 WALL PLATE
WP6	120sq. WALL PLATE

LEGEND

	WALLS CONTINUE TO UNDERSIDE OF ROOF FRAMING
	WALLS CEASE AT CEILING



KW.01



KW.02



KW.03



KW.04



KW.05



KW.06



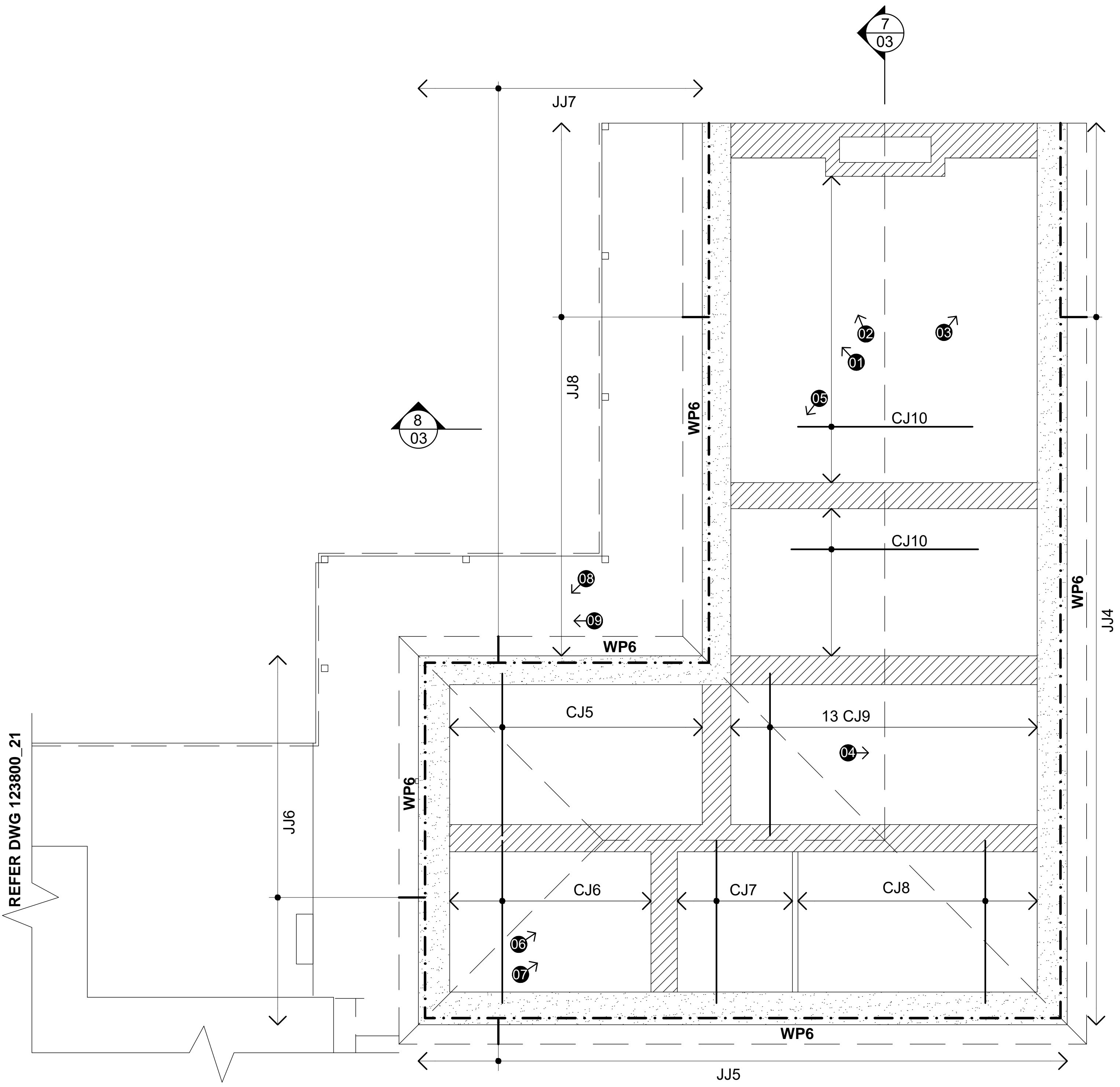
KW.07



KW.08



KW.09



MEMBER SCHEDULE	
HOMESTEAD KITCHEN WING CEILING	
TAG	DESCRIPTION/ MEMBER
CR3	90x60 COMMON RAFTER (NOT SHOWN)
CT	UNSIZE COLLAR TIE
CJ5	100x50 CEILING JOIST @360 CRS (Nom.)
CJ6	95x50 CEILING JOIST @400 CRS (Nom.)
CJ7	100x75 CEILING JOIST @300 CRS (Nom.)
CJ8	100x50 CEILING JOIST @475 CRS (Nom.)
CJ9	75x50 CEILING JOIST @460 CRS (Nom.)
CJ10	100x60 COLLAR TIE @ EACH CR3*
JJ4	75x50 JACK JOIST AT SAME CRS AS RAFTERS
JJ5	75x50 JACK JOIST AT SAME CRS AS RAFTERS
JJ6	75x50 JACK JOIST AT SAME CRS AS RAFTERS
JJ7	75x50 JACK JOIST AT SAME CRS AS RAFTERS
JJ8	75x50 JACK JOIST AT SAME CRS AS RAFTERS
WP6	120sq WALL PLATE

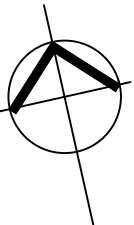
*Refer DWG 123800_22

LEGEND

	WALLS CONTINUE TO UNDERSIDE OF ROOF FRAMING
	WALLS CEASE AT CEILING

1
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HOMESTEAD KITCHEN WING CEILING FRAMING PLAN
Scale 1:50
123800prf.dwg



31-10-18
Date

A
No.

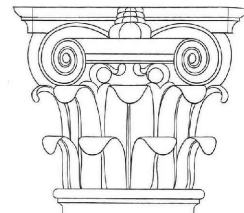
REVISION
Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
HOMESTEAD KITCHEN WING
CEILING FRAMING PLAN

LUCAS
STAPLETON
JOHNSON



LSJ Heritage Planning & Architecture

ACN 002 584 189
Nominated Architect:

ABN 60 763 960 154
Ian Stapleton

Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

Date	Drawn	Checked
12/10/18	WM	MG

Scale (at A1)	Check all dimensions Figured dimensions to be taken in preference to scale
1:50	© COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.

Dwg. No.
123800 / 23 / A



ST.01



ST.02



ST.03



ST.04



ST.05



ST.06

MEMBER SCHEDULE

STABLES ROOF FRAME

TAG	DESCRIPTION/ MEMBER
CR1	80 - 95 x 60 COMMON RAFTER @ 350/360 CRS
CR2	80 - 95 x 60 COMMON RAFTER @ 350/360 CRS
P1	100 x 100 PURLIN
P2	100 x 100 PURLIN
P3	100 x 100 PURLIN
P4	100 x 100 PURLIN
RB1	RIDGE BOARD (NOT SIZED)
RB2	RIDGE BOARD (NOT SIZED)
T1	TRUSS 1 - TOP CHORD 125? x 100, BOTTOM CHORD 170 x 100, KING POST 220 x 100, STRUT 100 x 100
T2	TRUSS 2 - TOP CHORD 125? x 100, BOTTOM CHORD 170 x 100, KING POST 220 x 100, STRUT 100 x 100
T3	TRUSS 3 - TOP CHORD 125? x 100, BOTTOM CHORD 170 x 100, KING POST 220 x 100, STRUT 100 x 100
T4	TRUSS 4 - TOP CHORD 125? x 100, BOTTOM CHORD 170 x 100, KING POST 220 x 100, STRUT 100 x 100
T5	TRUSS 5 - TOP CHORD 125? x 100, BOTTOM CHORD 170 x 100, KING POST 220 x 100, STRUT 100 x 100
T6	TRUSS 6 - TOP CHORD 125? x 100, BOTTOM CHORD 170 x 100, KING POST 220 x 100, STRUT 100 x 100
T7	TRUSS 7 - TOP CHORD 125? x 100, BOTTOM CHORD 170 x 100, KING POST 220 x 100, STRUT 100 x 100
T8	TRUSS 8 - TOP CHORD 125? x 100, BOTTOM CHORD 170 x 100, KING POST 220 x 100, STRUT 100 x 100
WP1	100 x 150 WALL PLATE
WP2	100 x 150 WALL PLATE
WP3	100 x 150 WALL PLATE
WP4	100 x 150 WALL PLATE
TR1	95 x 55 TRIMMER
TR2	95 x 55 TRIMMER

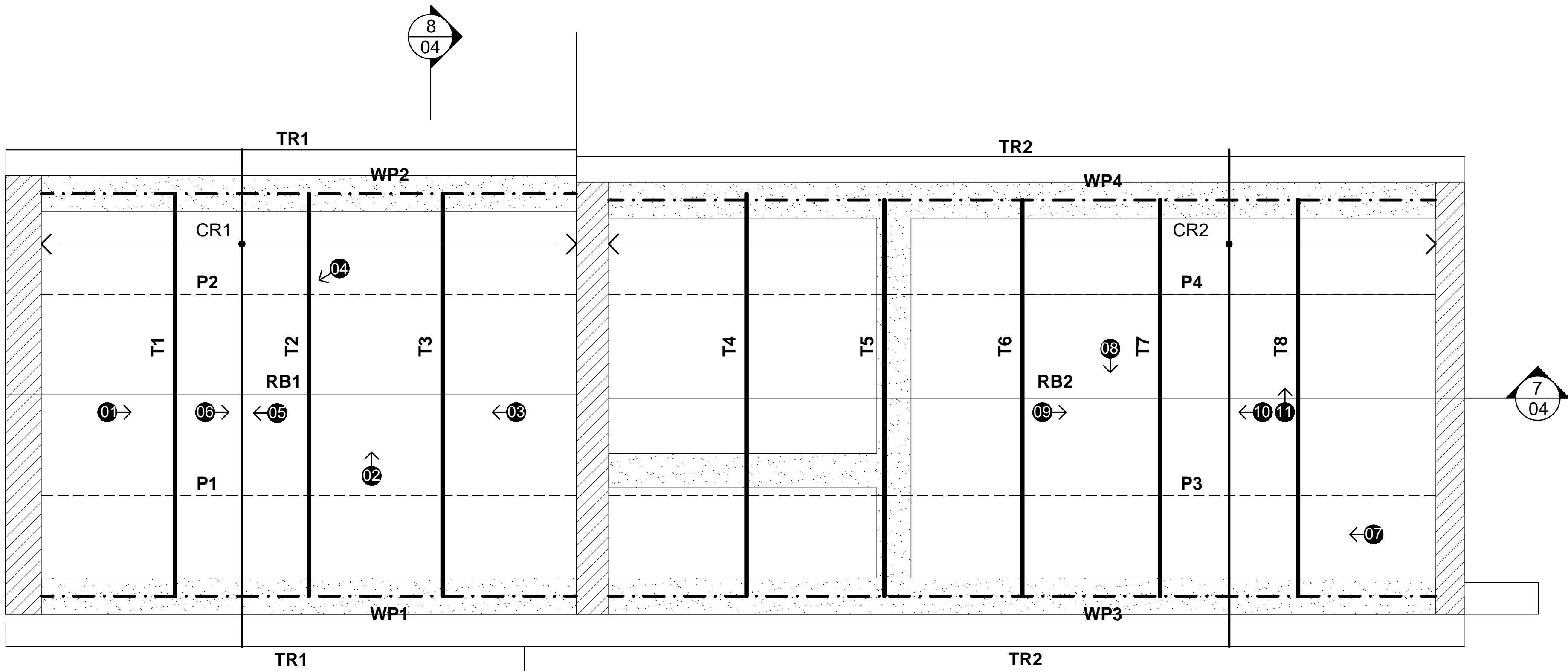
LEGEND



WALLS CONTINUE
TO UNDERSIDE OF
ROOF FRAMING

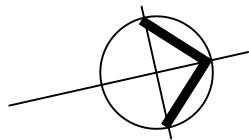


WALLS CEASE
AT UNDERSIDE OF
WALL PLATE



1 STABLES ROOF FRAMING PLAN
Scale 1:50@A1

123800prf.dwg



ST.07



ST.08



ST.09



ST.10



ST.11

IMAGES BY
ARCHIVAL HERITAGEPHOTOS

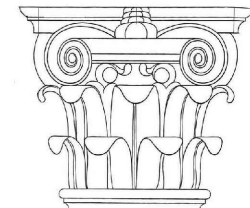
Date No. Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
STABLES
ROOF FRAMING PLANS

LUCAS
STAPLETON
JOHNSON



LSJ Heritage Planning & Architecture

ACN 002 584 189 Nominated Architect: Ian Stapleton

Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

Date	Drawn	Checked
27/11/18	EC	MG

Scale (at A1)	Check all dimensions Figured dimensions to be taken in preference to scale
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Dwg. No.
123800 / 24 /

0 1m 5m 10m



BR.01



BR.02



BR.03



BR.04



BR.05

MEMBER SCHEDULE

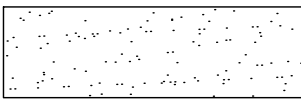
BARN ROOF FRAME

TAG	DESCRIPTION/ MEMBER
BR	BRACE approx. 55 x 90
CR1	90 x 55 COMMON RAFTER @ 350/360 CRS
CR2	90 x 55 COMMON RAFTER @ 350/360 CRS
RB1	RIDGE BOARD (NOT SIZED)
RB2	RIDGE BOARD (NOT SIZED)
FA	FASCIA
PR	PIPE RAFTERS
P1	100 x 100 PURLIN
P2	100 x 100 PURLIN
P3	100 x 100 PURLIN
P4	100 x 100 PURLIN
T1	TRUSS 1 - TOP CHORD 150 x 100, BOTTOM CHORD 140 x 90, KING POST 200 x 100, STRUT 100 x 100
T2	TRUSS 2 - TOP CHORD 150 x 100, BOTTOM CHORD 140 x 90, KING POST 200 x 100, STRUT 100 x 100
T3	TRUSS 3 - TOP CHORD 150 x 100, BOTTOM CHORD 140 x 90, KING POST 200 x 100, STRUT 100 x 100
T4	TRUSS 4 - TOP CHORD 150 x 100, BOTTOM CHORD 140 x 90, KING POST 200 x 100
T5	TRUSS 5 - TOP CHORD 150 x 100, BOTTOM CHORD 140 x 90, KING POST 200 x 100
T6	TRUSS 6 - TOP CHORD 150 x 100, BOTTOM CHORD 140 x 90, KING POST 200 x 100
T7	TRUSS 7 - TOP CHORD 150 x 100, BOTTOM CHORD 140 x 90, KING POST 200 x 100
T8	TRUSS 8 - TOP CHORD 150 x 100, BOTTOM CHORD 140 x 90, KING POST 200 x 100
T9	TRUSS 9 - TOP CHORD 150 x 100, BOTTOM CHORD 140 x 90, KING POST 200 x 100
WP1	100 x 150 WALL PLATE
WP2	100 x 150 WALL PLATE
WP3	100 x 150 WALL PLATE
WP4	100 x 150 WALL PLATE

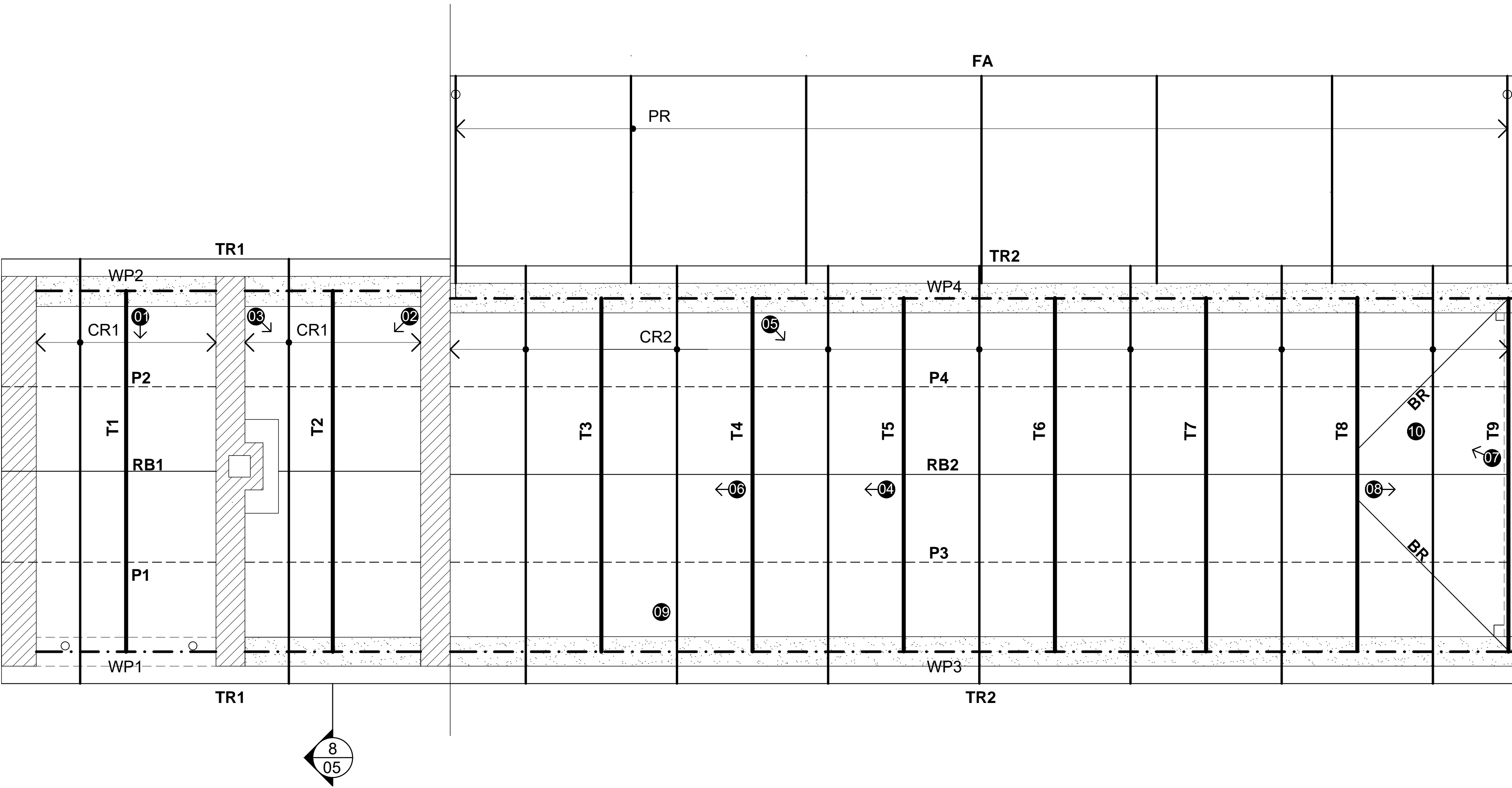
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WALLS CONTINUE TO UNDERSIDE OF ROOF FRAMING

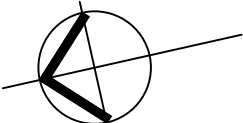


WALLS CEASE AT UNDERSIDE OF WALL PLATE



1 BARN ROOF FRAMING PLAN
Scale 1:50@A1

123800prf.dwg



BR.06



BR.07



BR.08



BR.09



BR.10

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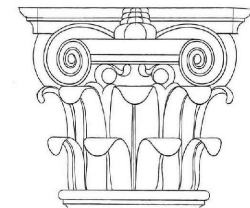
Date No. Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
BARN
ROOF FRAMING PLANS

LUCAS
STAPLETON
JOHNSON



LSJ Heritage Planning & Architecture

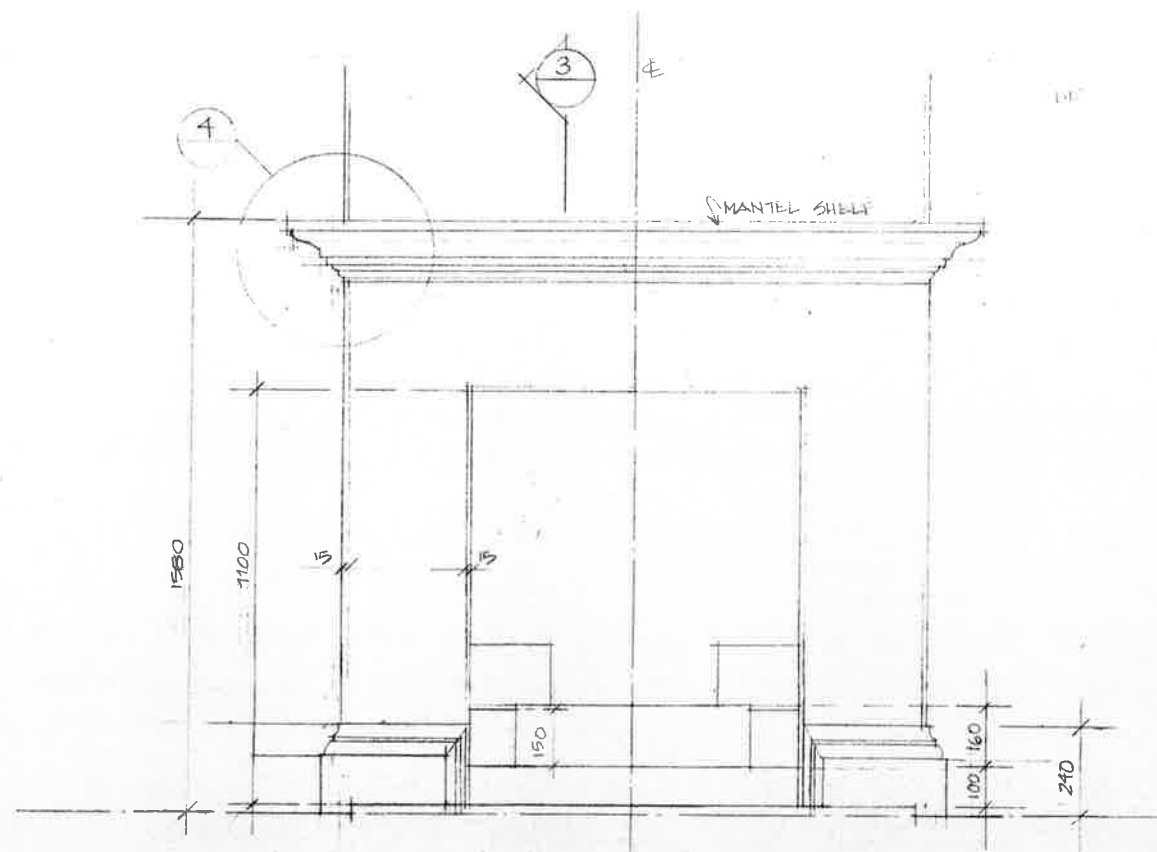
ACN 002 584 189 Nominated Architect: Ian Stapleton

Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

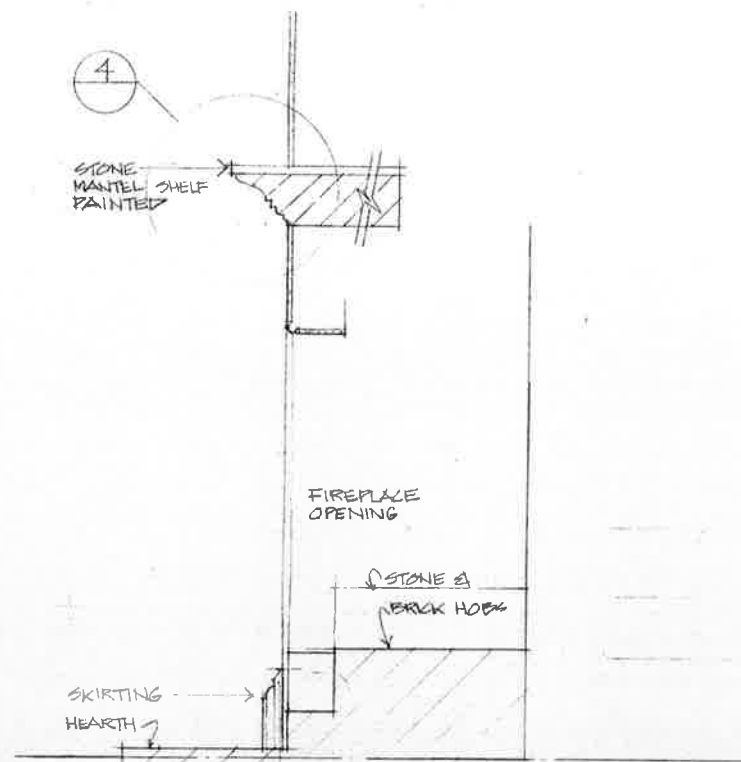
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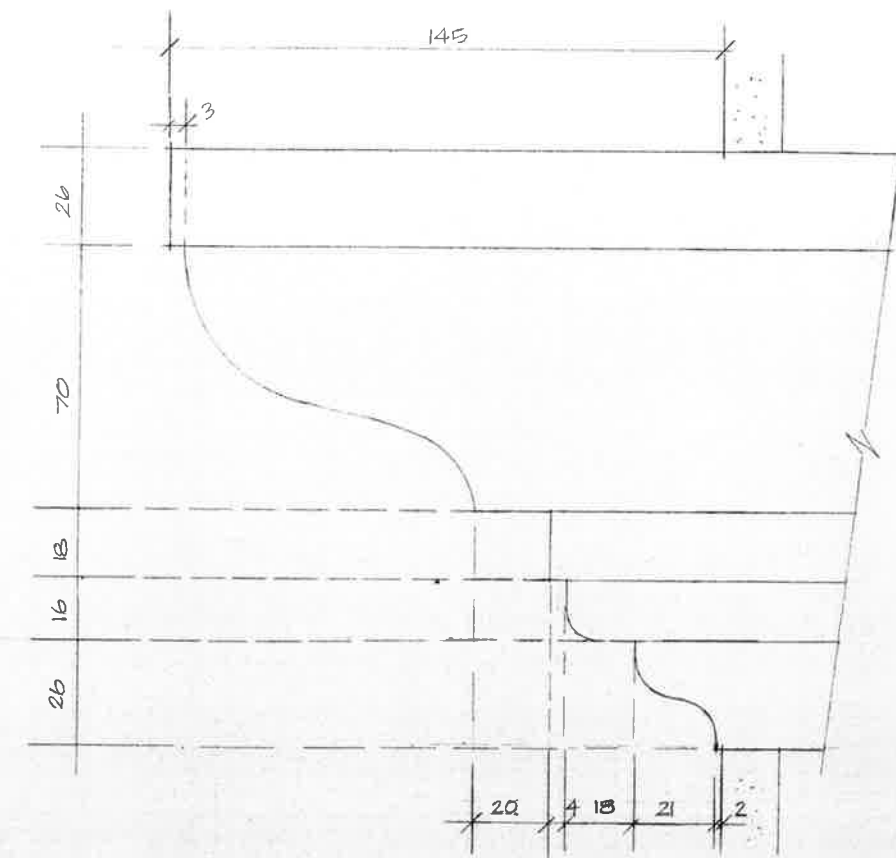
Dwg. No.
123800 / 25 /



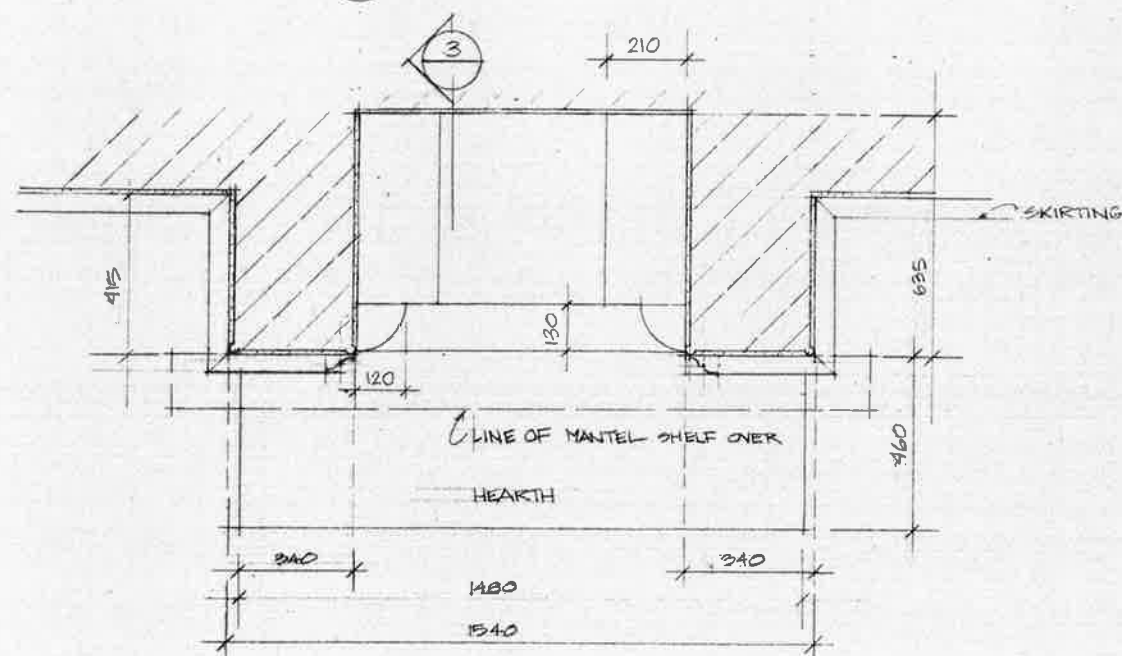
2 ELEVATION SCALE 1:10



3 SECTION A SCALE 1:10

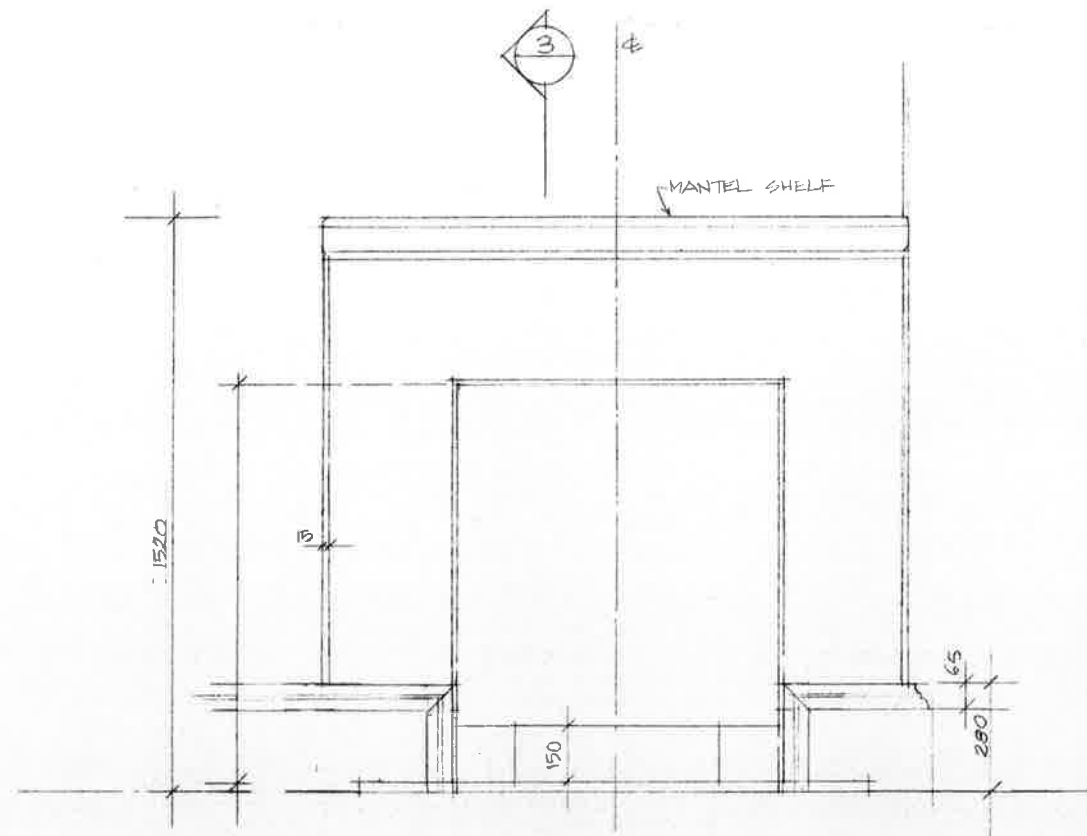


4 DETAIL ELEVATION B SCALE 1:1

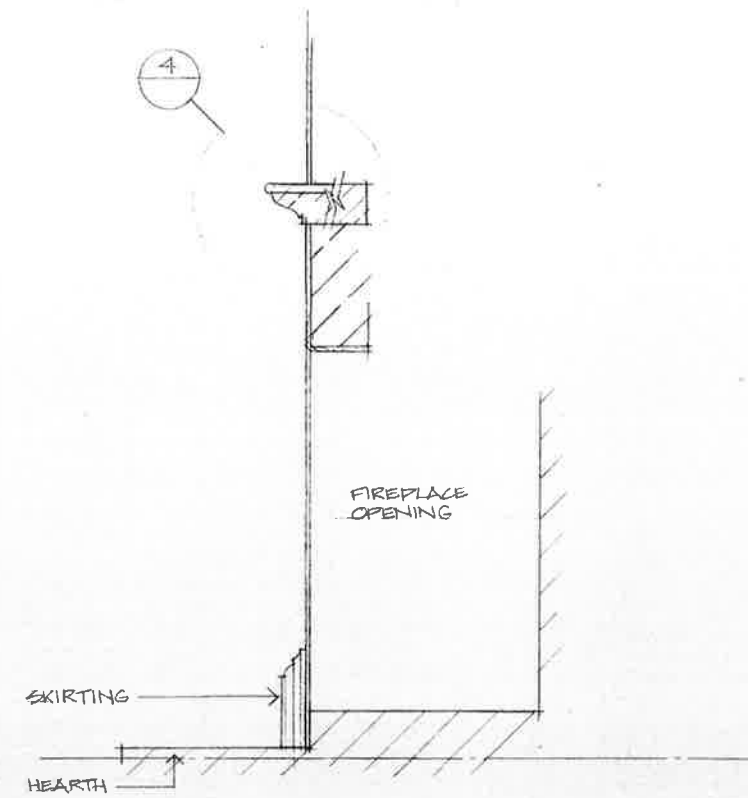


1 PLAN SCALE 1:10

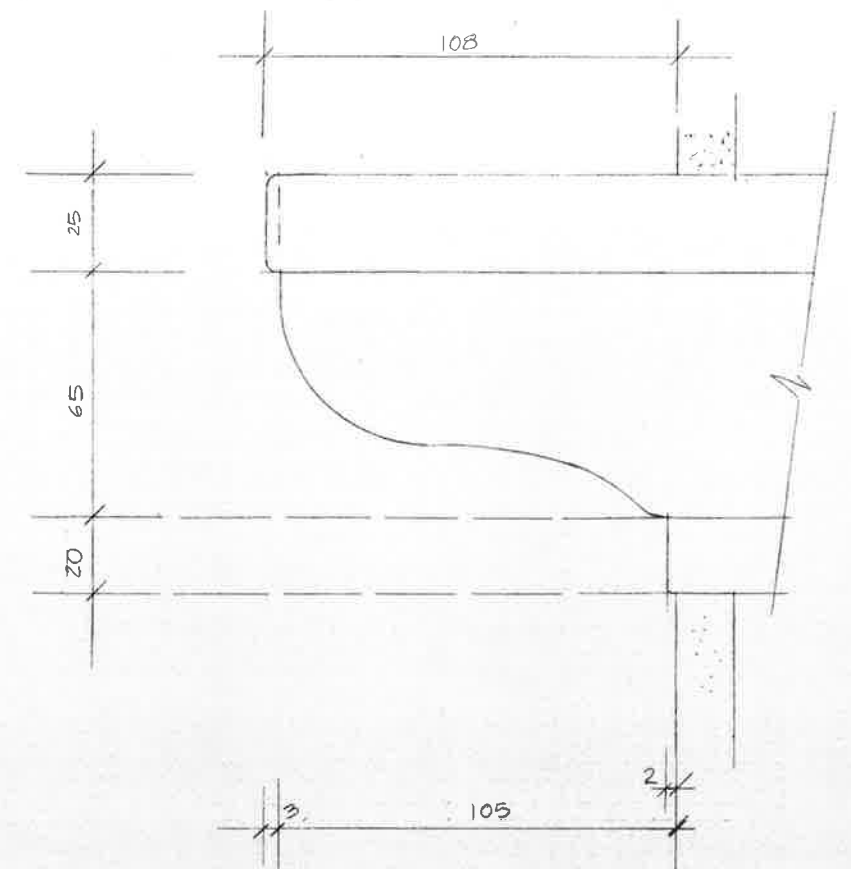
Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEBDEN ROAD RAVENSWORTH NSW for MT OWEN PTY LTD		
Dwg. AS BUILT FIREPLACE FP.1		
LUCAS STAPLETON JOHNSON  LSJ Heritage Planning & Architecture ACN 002 584 189 ABN 60 763 960 154 Nominated Architect: Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 481 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
18-07-2013	DD	LS
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Dwg. No. 123 800 / 101 /		



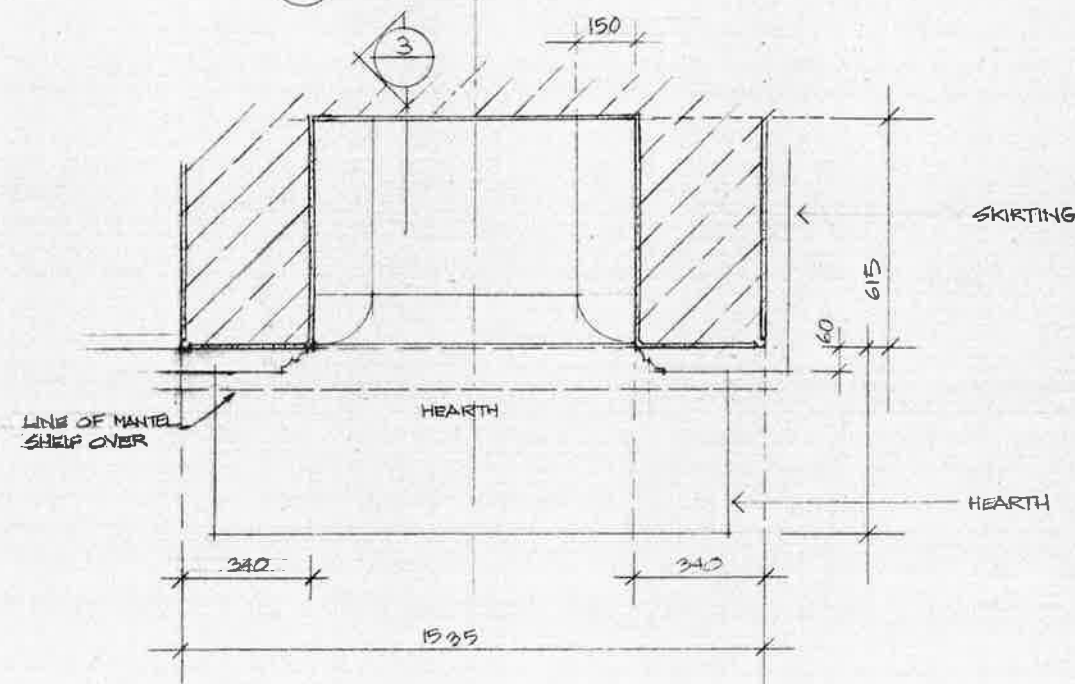
2 ELEVATION SCALE 1:10



3 SECTION SCALE 1:10



4 DETAIL SECTION 'B' SCALE 1:1



1 PLAN SCALE 1:10

Date No. Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEH ROAD
RAVENSWORTH NSW
for:
MT OWEN PTY LTD

Dwg.
AS BUILT FIREPLACE FPZ

LUCAS
STAPLETON
JOHNSON

LSJ Heritage Planning & Architecture

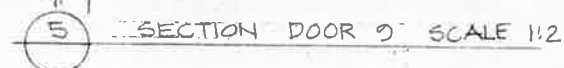
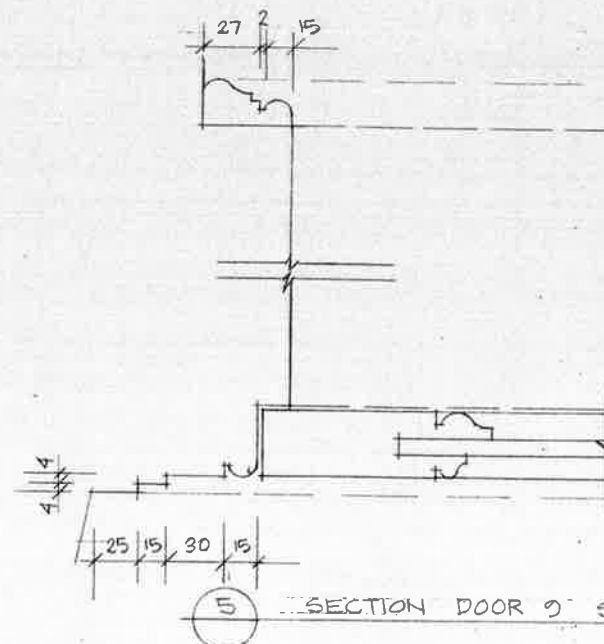
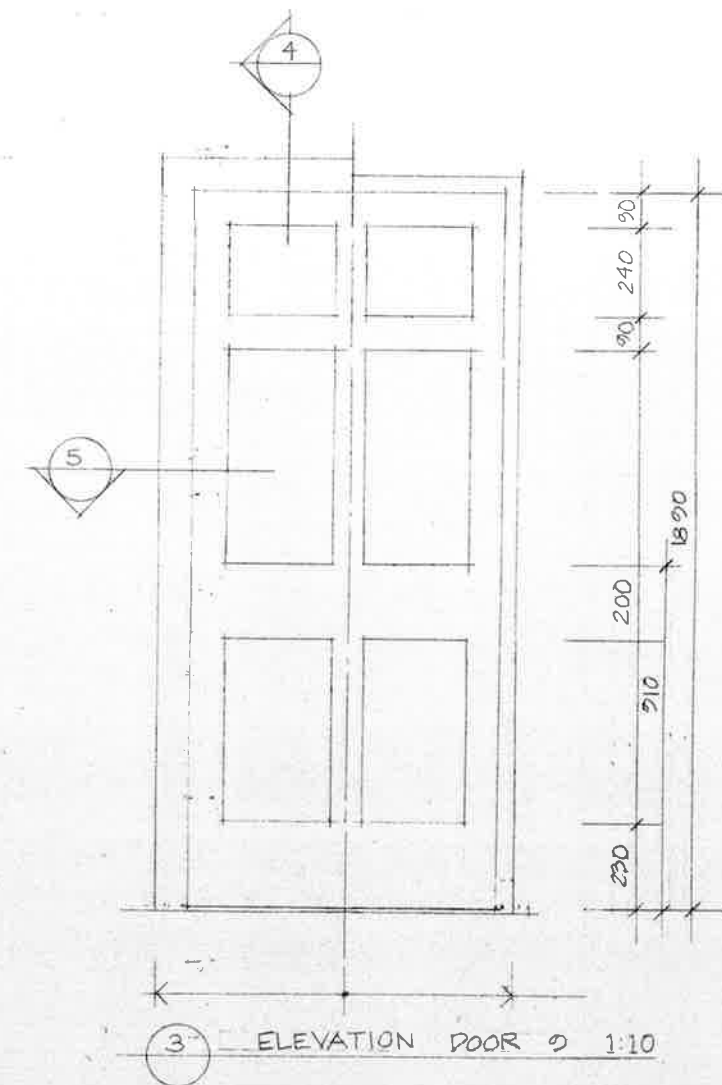
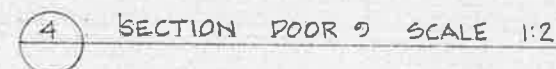
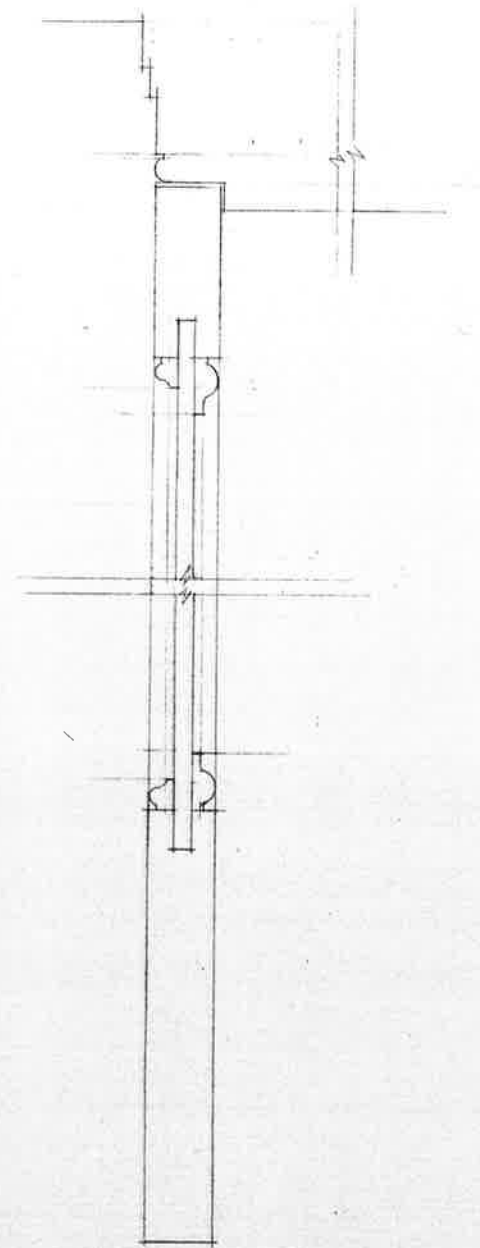
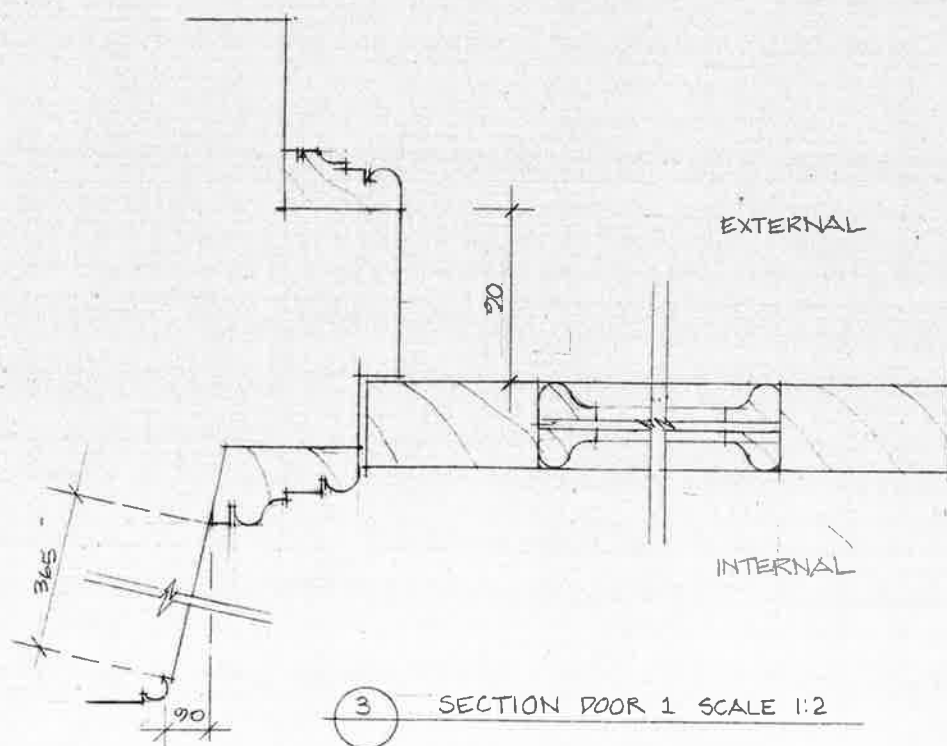
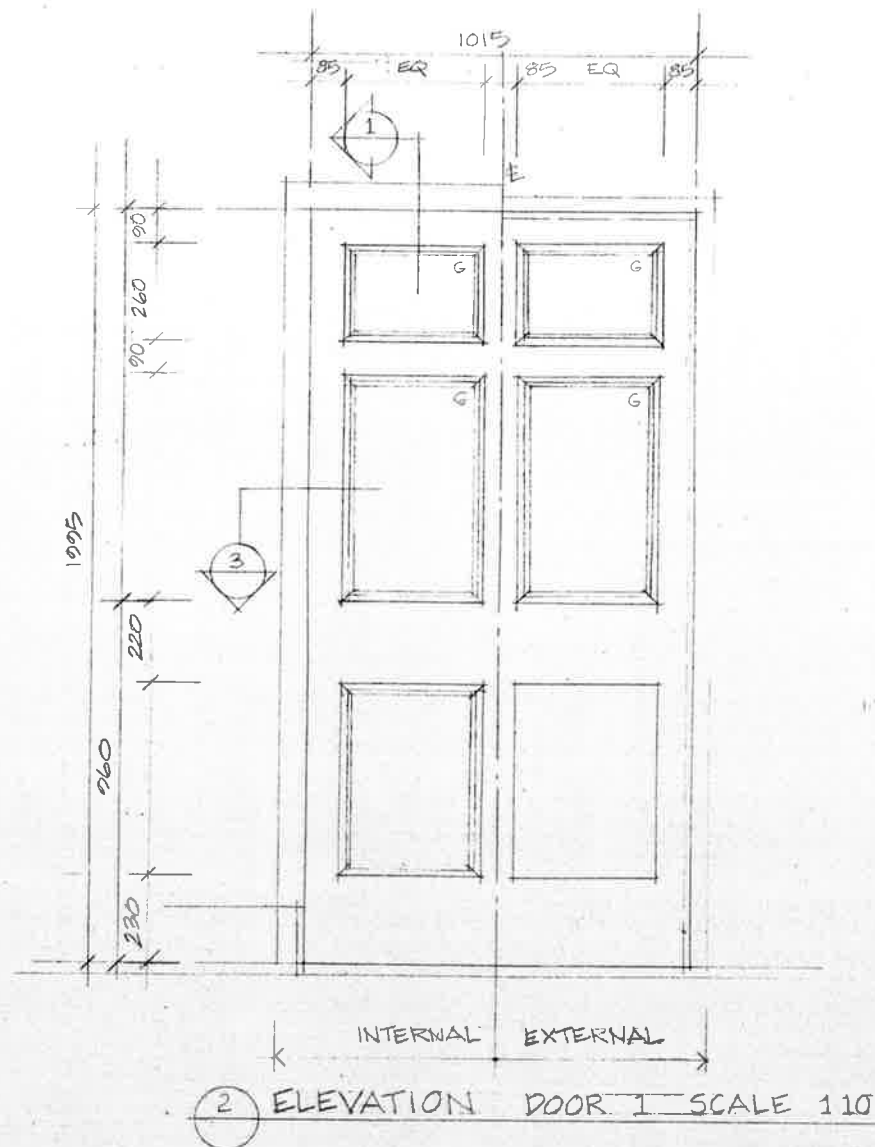
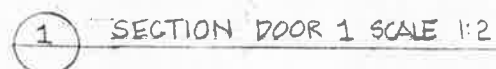
ACN 002 584 189 ABN 60 763 960 15
Nominated Architect: Ian Stapleton (reg. 4032)

Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, Level 1, 191 Clarence Street
Sydney, NSW, 2000 Telephone: (02) 9357 481
Email: mailbox@lsjarchitects.com

Date Drawn Checked
18-07-2018 DP LS

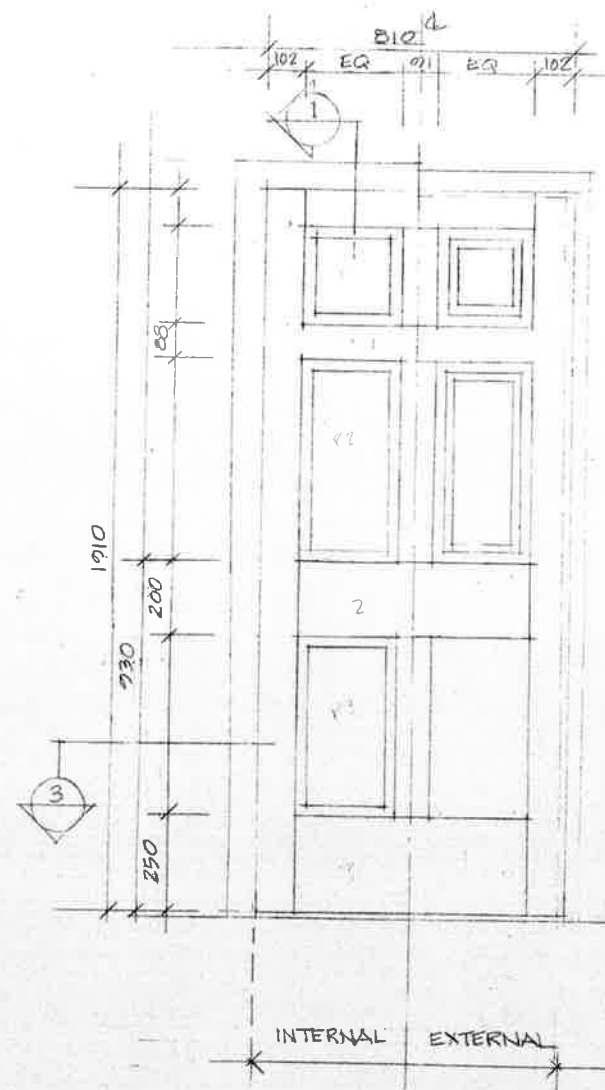
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Dwg. No.
123800 / 102 /

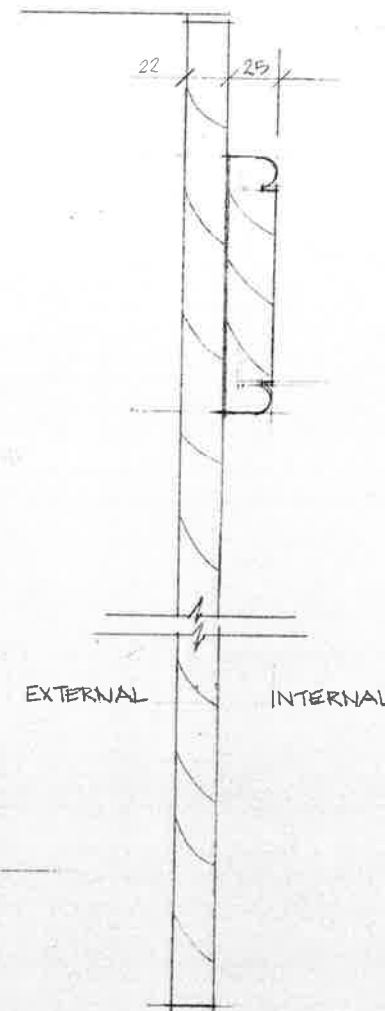


Date	No.	Amendment
Job		
RAVENSWORTH HOMESTEAD HEEDEN ROAD RAVENSWORTH NSW		
For:		
MT OWEN PTY LTD		
Dwg.		
AS BUILT DOOR D1, D9 ROOM 1 B		
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: left;"> <h1 style="margin: 0;">LUCAS STAPLETON JOHNSON</h1> <p style="margin: 10px 0;">LSJ Heritage Planning & Architecture</p> <p style="margin: 0;">ACN 002 586 189 Nominating Architect:</p> <p style="margin: 0;">Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000</p> <p style="margin: 0;">Email:</p> </div> <div style="text-align: center;">  </div> <div style="text-align: right;"> <p style="margin: 0;">ABN 60 763 960 154 Ian Stapleton (reg. 4032)</p> <p style="margin: 0;">Tel: (02) 9357 4811 mailto:mailbox@lsjarchitects.com</p> </div> </div>		
Date	Drawn	Checked
24.07.2018	DD	
Scale (at A1)	Check all dimensions	
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1:10	© COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
Dwg. No.		
123 800 / 104 /		

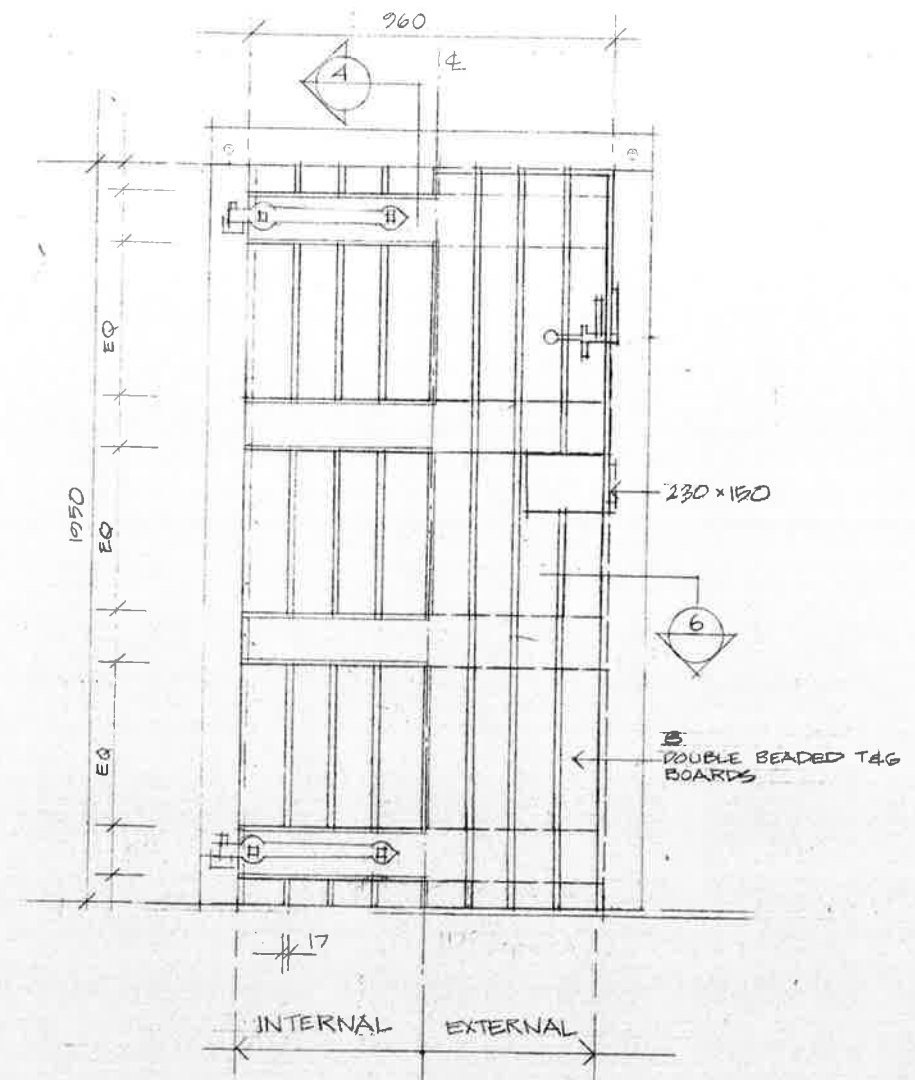
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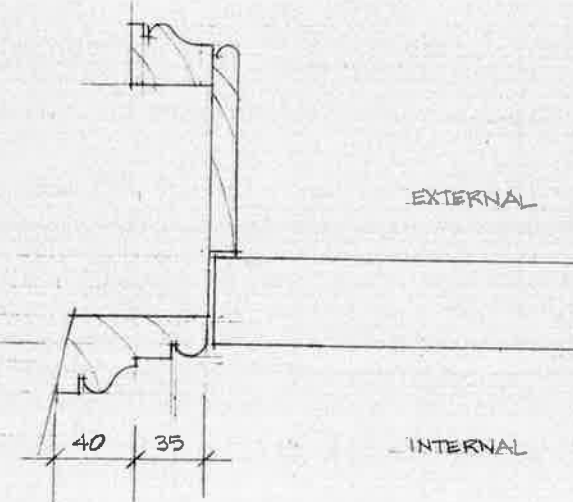
2 ELEVATION DOOR D8 SCALE 1:10



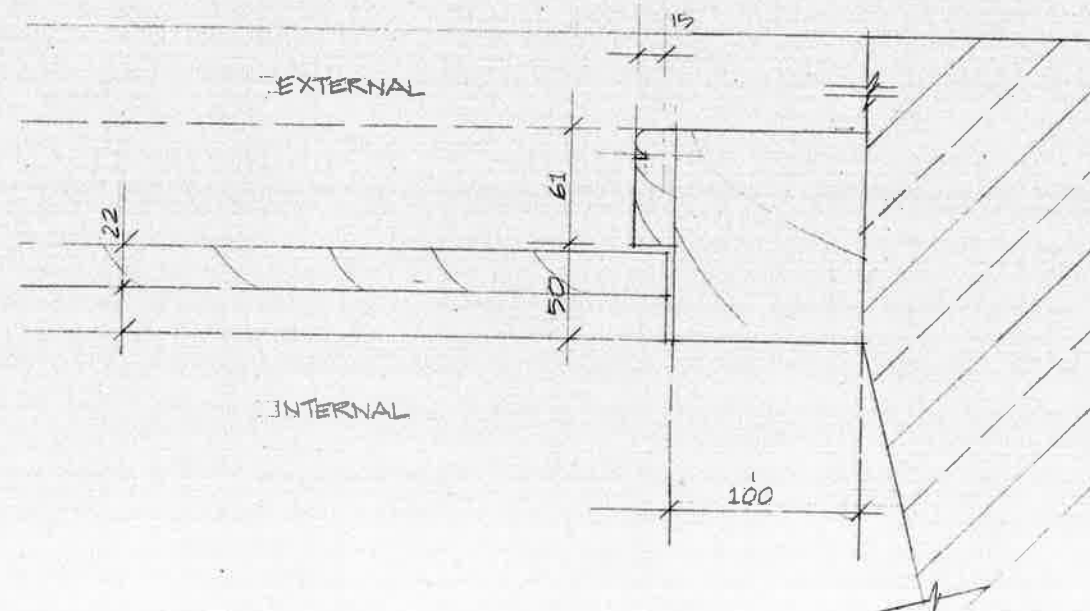
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5 ELEVATION DOOR D25 SCALE 1:10



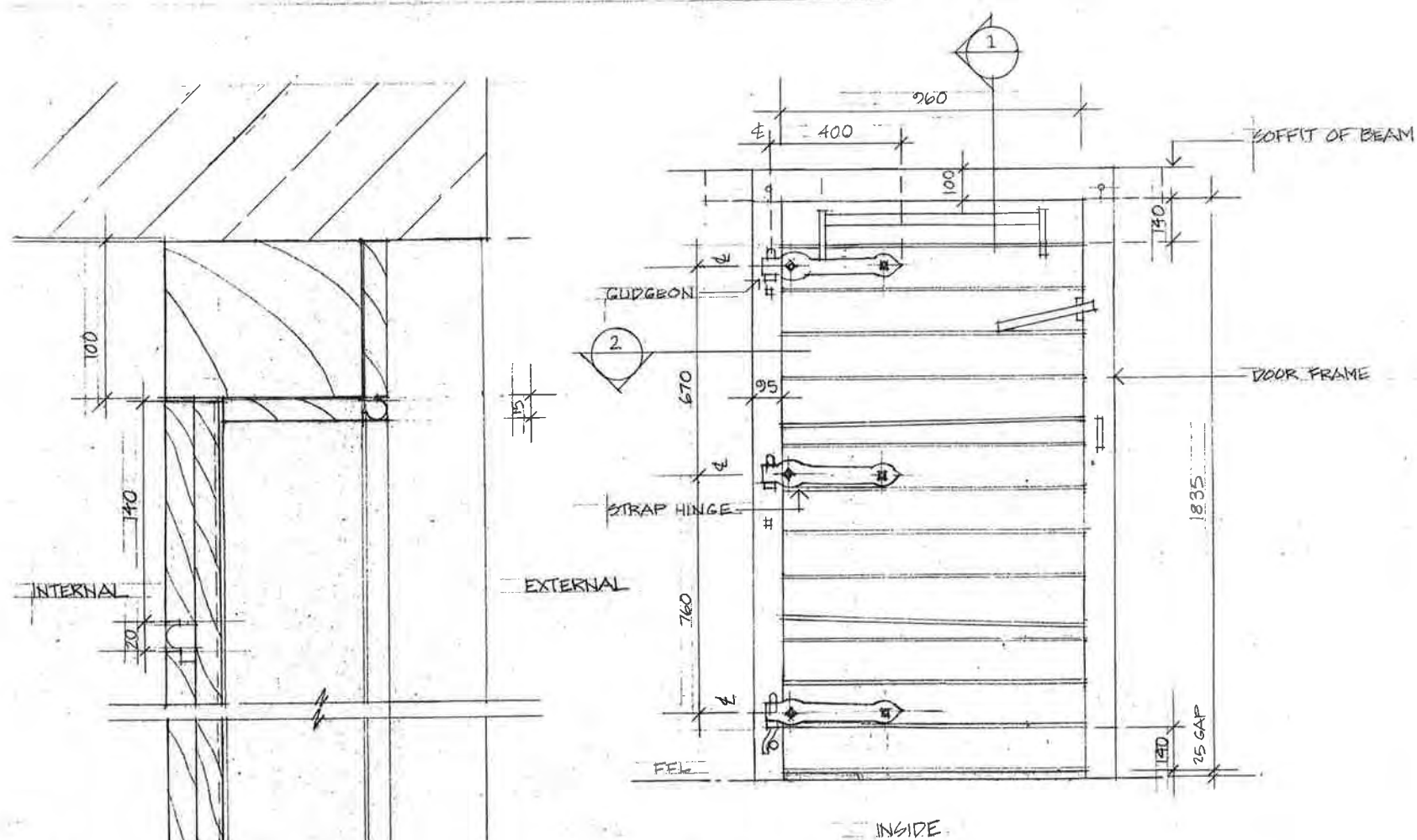
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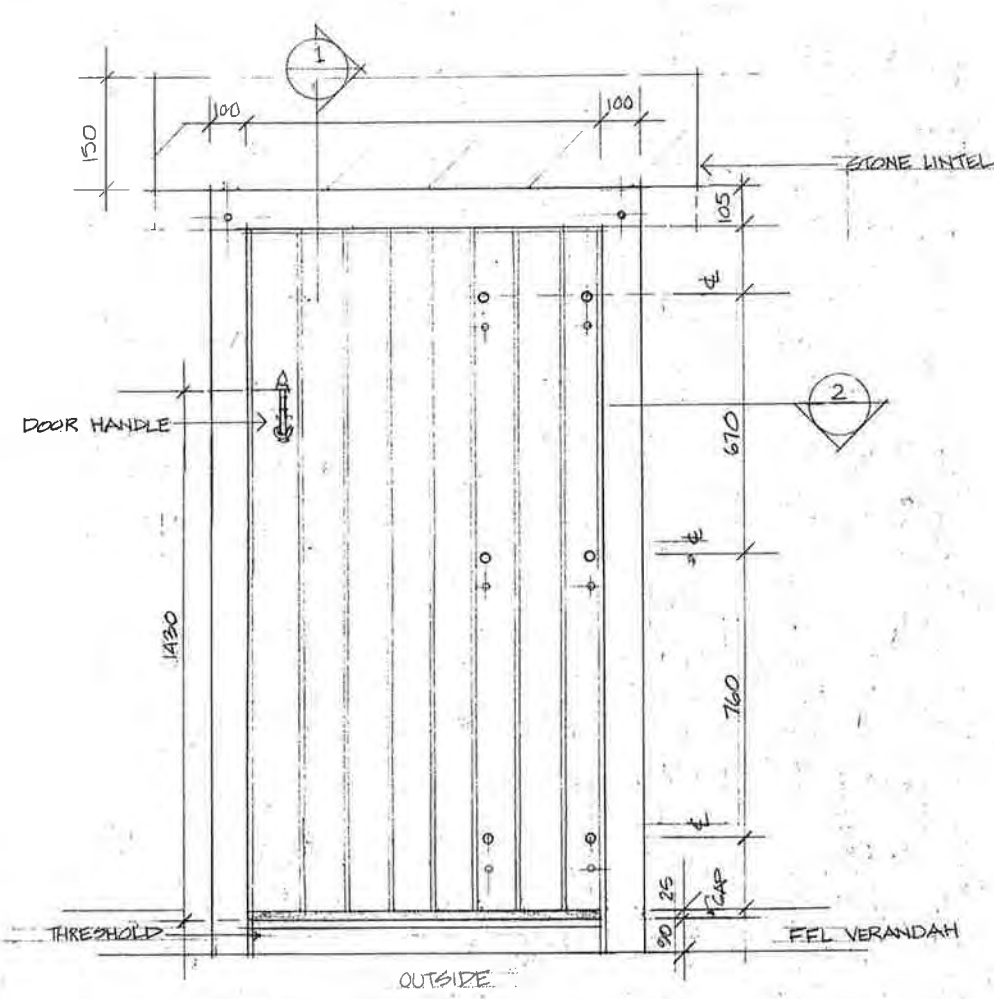
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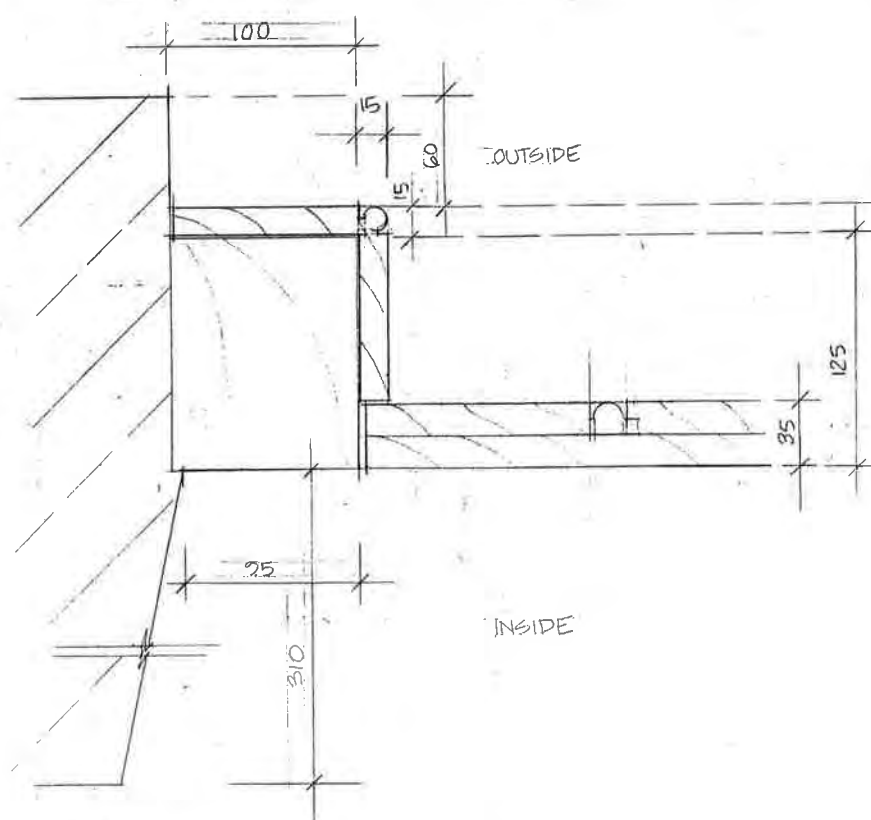
Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEBBER ROAD RAVENSWORTH NSW For MT OWEN PTY LTD		
Dwg. AS BUILT DOORS D8 (FRONT VERANDAH) & D25 (S17)		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 ABN 60 763 960 154 Nominated Architect Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
24.07.2015	DP	
Scale (or A1)	Check all dimensions Figured dimensions to be taken in preference to scale	
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Dwg. No.	123 800 / 105 /	



3 ELEVATION DOOR 23 SCALE 1:10



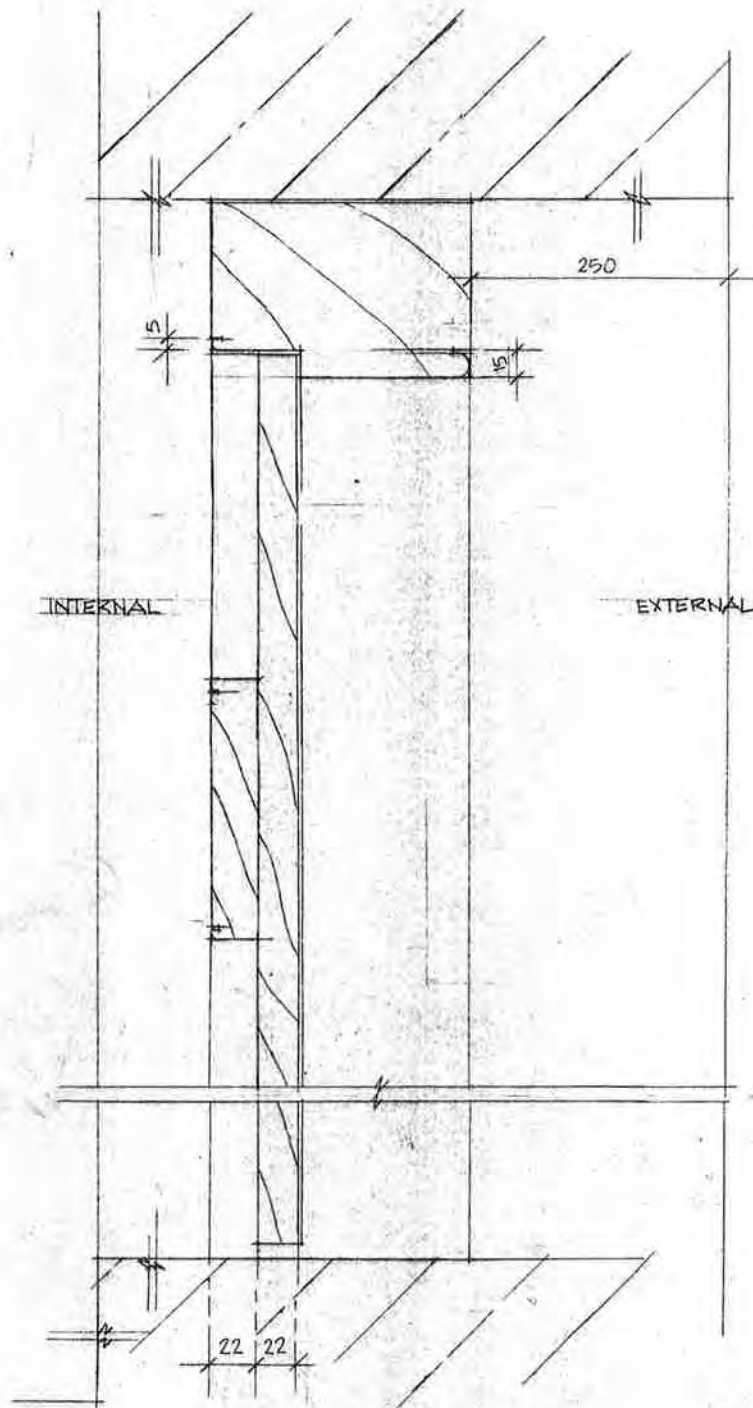
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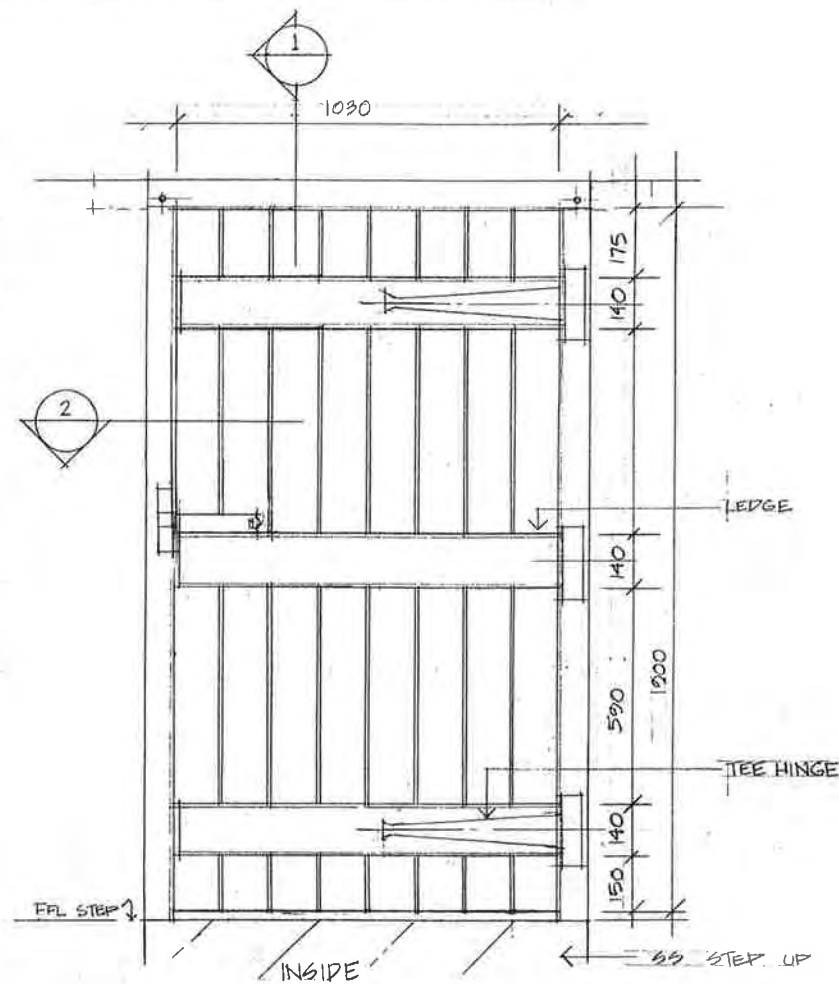
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1 SECTION DOOR 23 SCALE 1:2

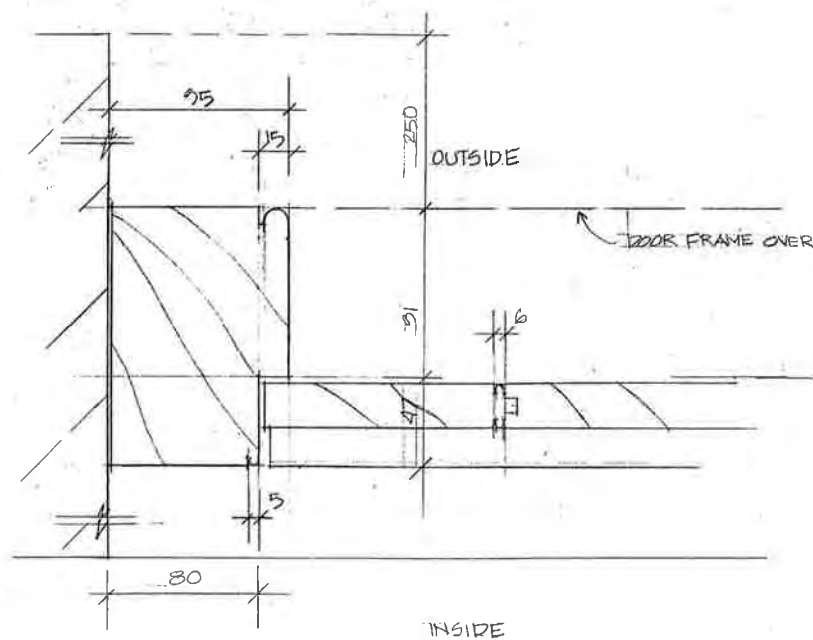
Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEBBERN ROAD RAVENSWORTH NSW for MT OWEN PTY LTD		
Dwg. AS BUILT DOOR 23 KITCHEN (2H.21)		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 ABN 60 763 960 154 Nominated Architect: Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4814 Email: mailbox@lsjarchitects.com		
Date 23-08-2013	Drawn D.V.	Checked
Scale (at A1) 1:10 1:2 Check all dimensions Figure dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.		
Dwg. No. 123 800 / 106 /		



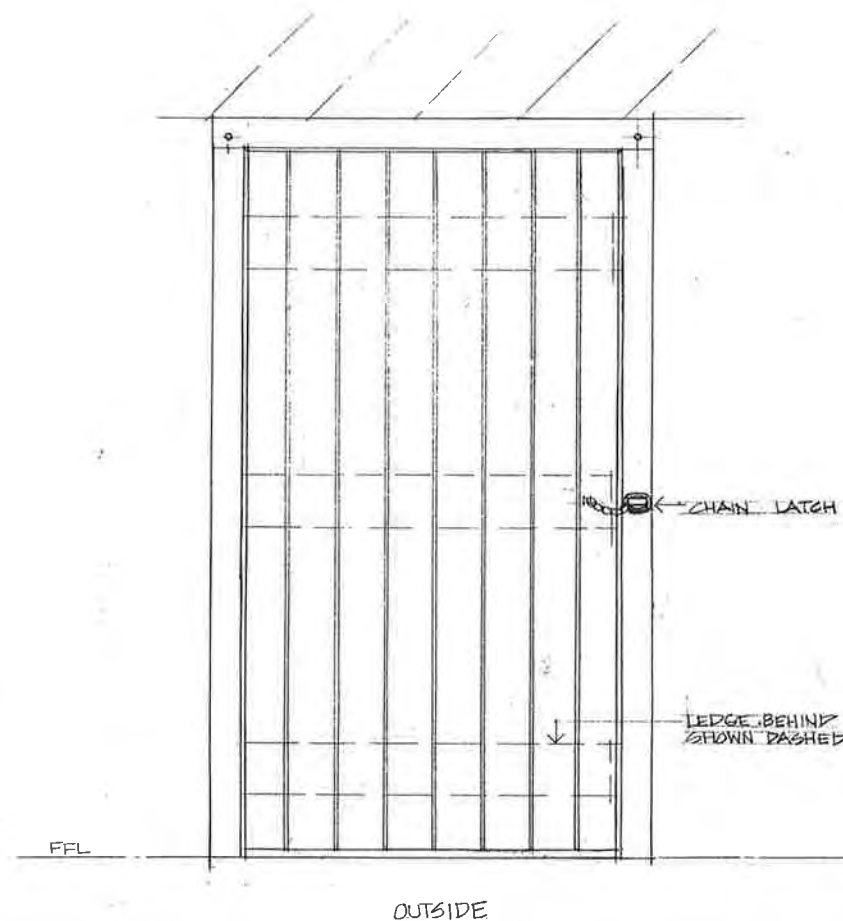
1 SECTION DOOR S2 SCALE 1:2



2 SECTION DOOR S2 SCALE 1:2

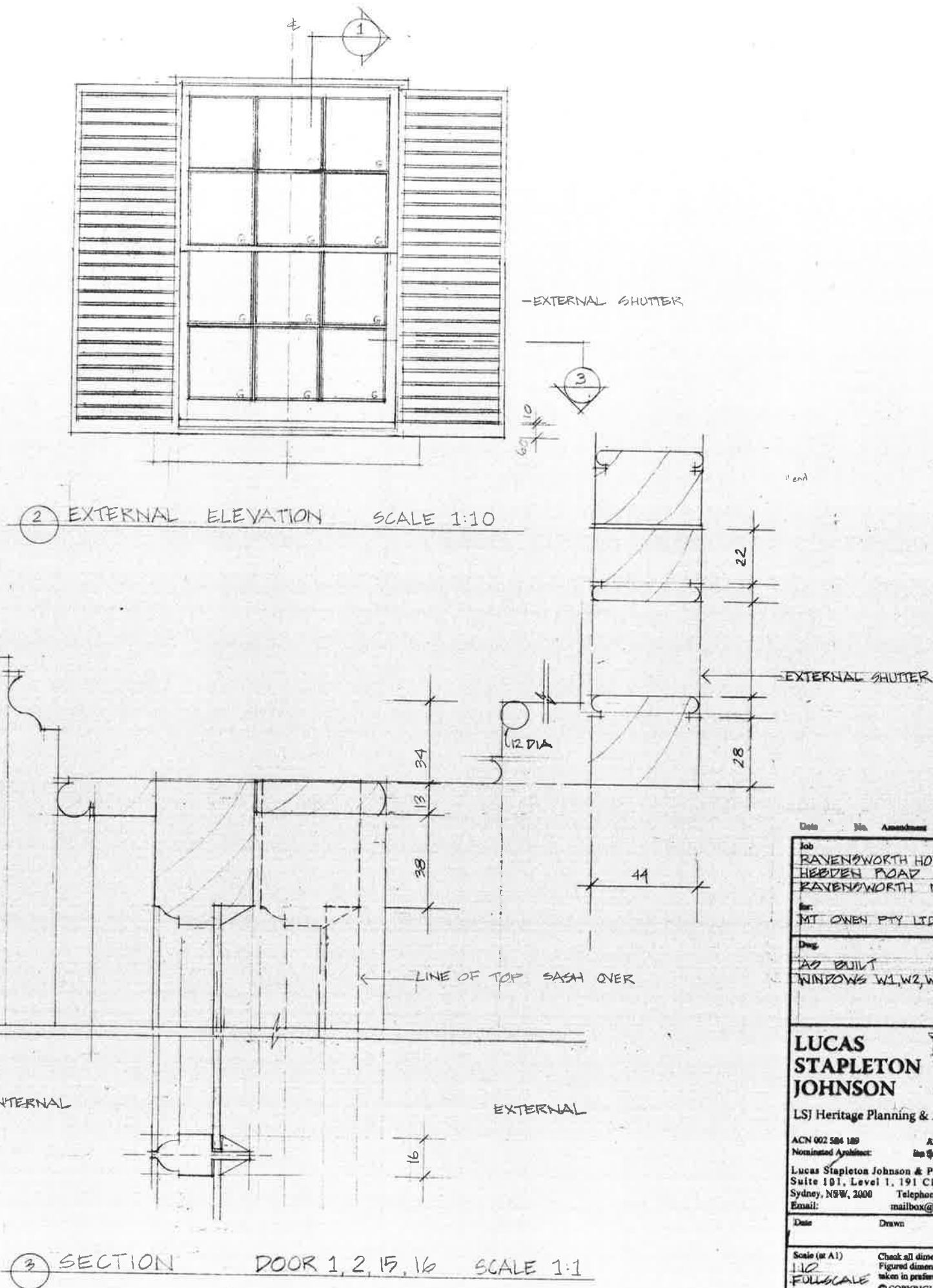
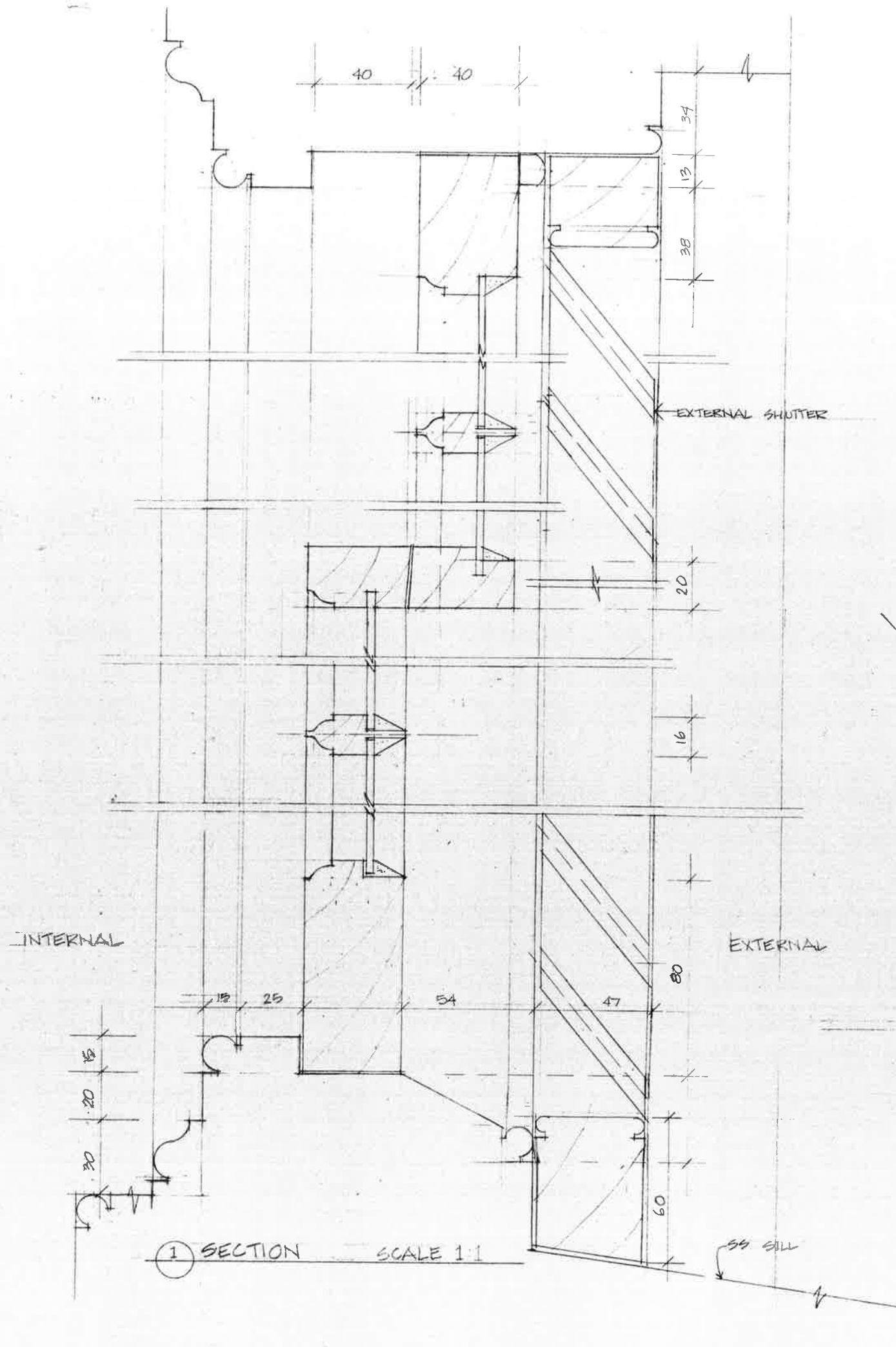


3 ELEVATION DOOR S2 SCALE 1:10

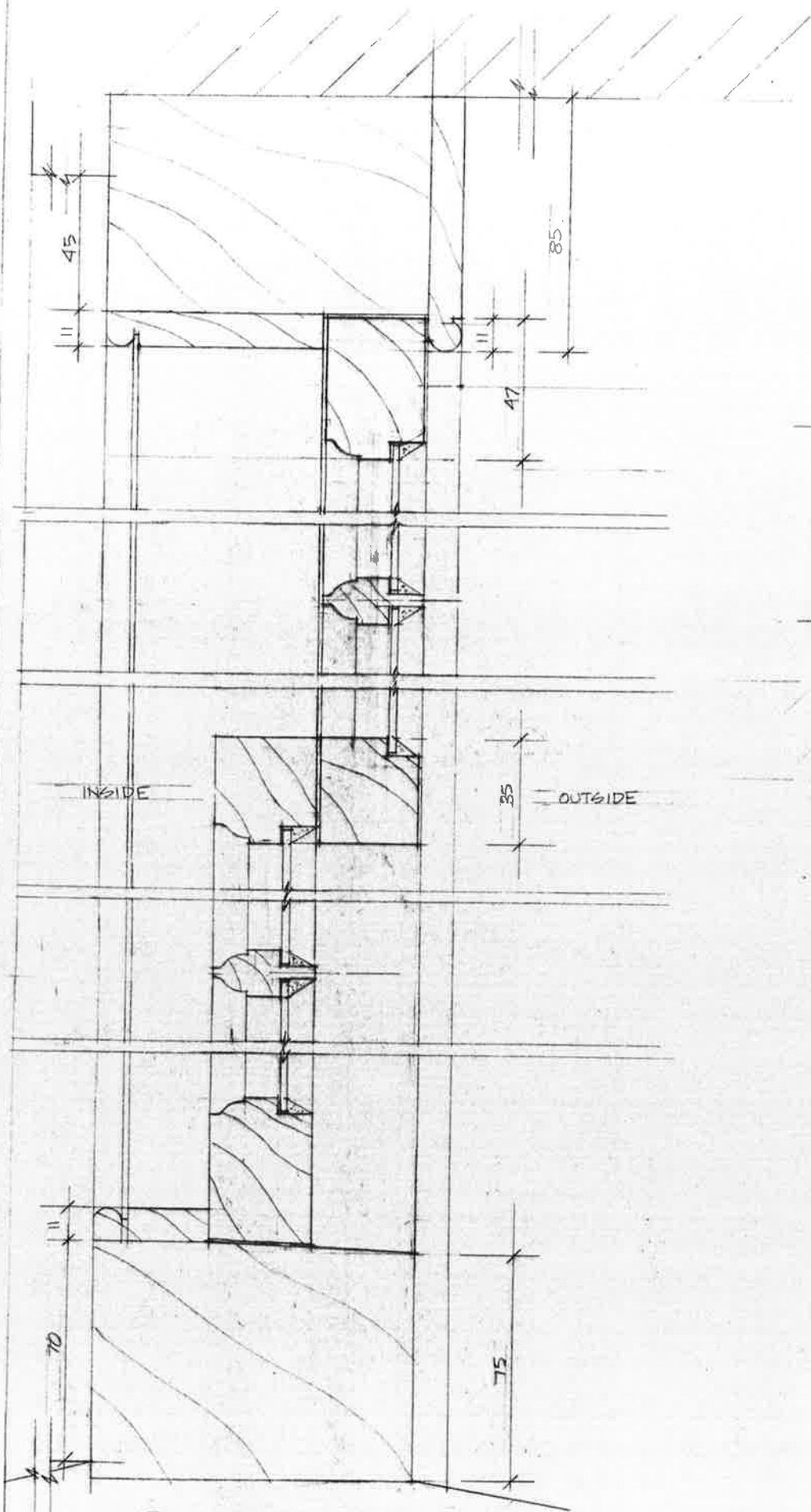


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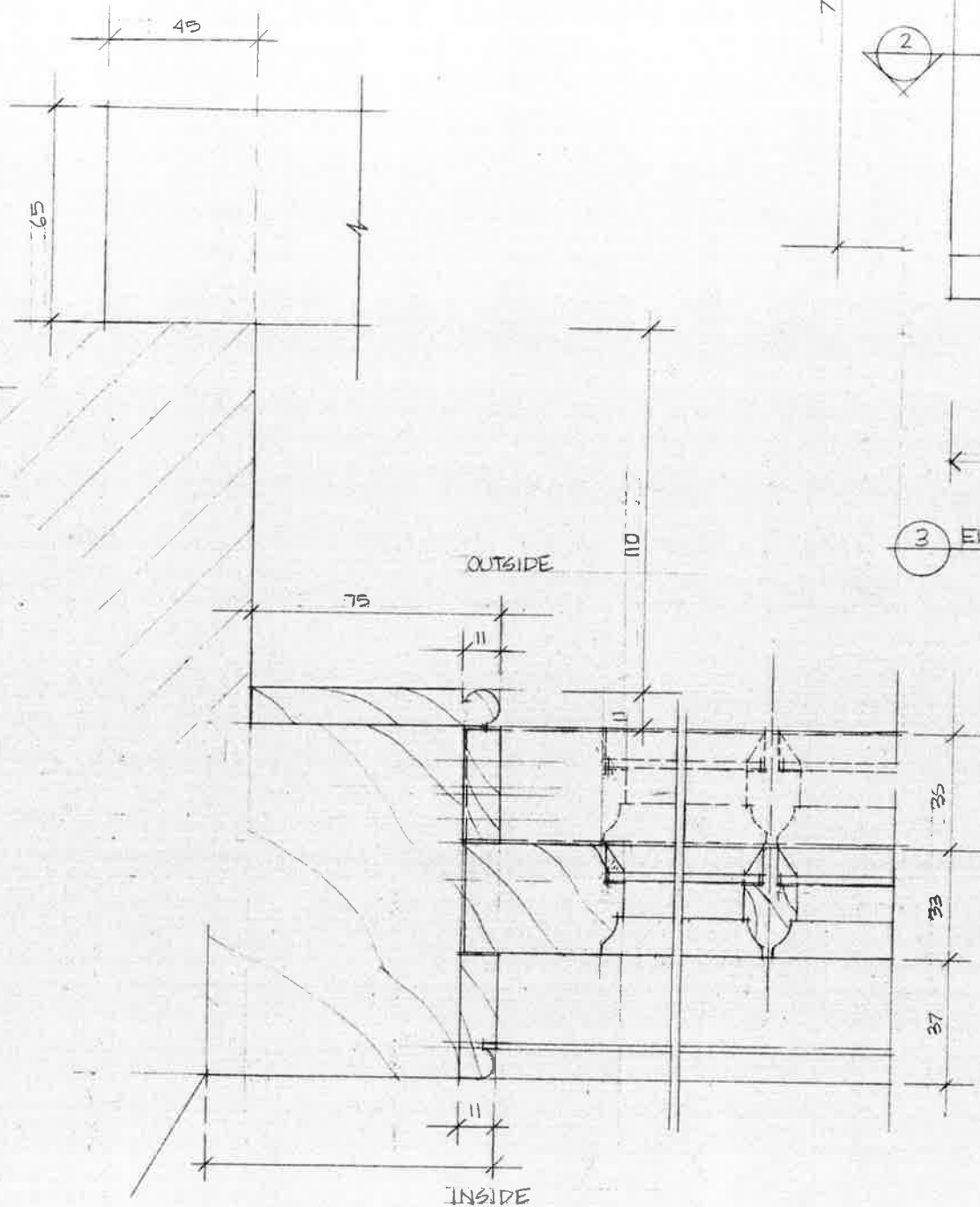
Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEBDEN ROAD RAVENSWORTH NSW For: MT OWEN PTY LTD		
Dwg. AS BUILT DOOR S2 STABLE (SPACE S1)		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 ABN 60 763 960 154 Nominated Architect Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
27-08-2018	D.P.	
Scale (of A1)	Check all dimensions Figured dimensions to be taken in preference to scale	
1:2	© COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
1:10		
Dwg. No.	123 800 / 107 /	



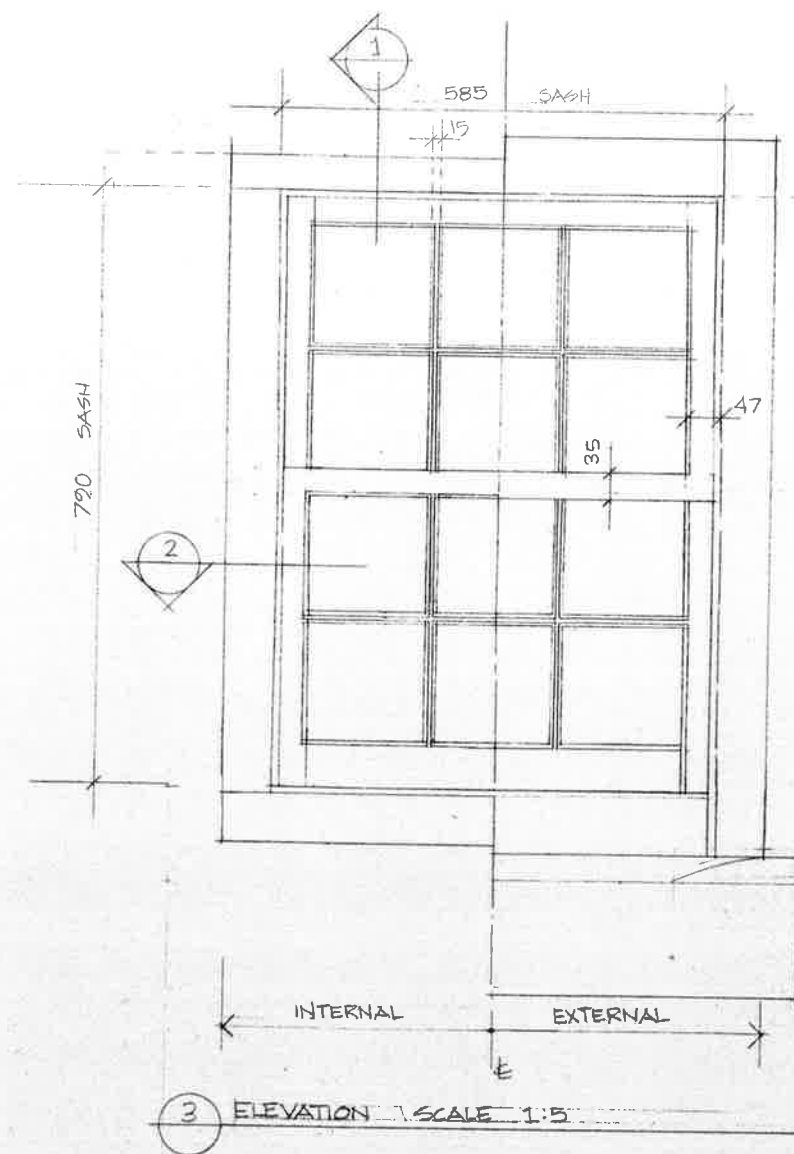
Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEBBER ROAD RAVENSWORTH NSW		
For JMT OWEN PTY LTD		
Dwg. AS BUILT WINDOWS W1, W2, W15, W16		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 Nominated Architect ABN 60 763 960 154 Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
Scale (at A1) 1:10 FULLSCALE Check all dimensions Figured dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.		
Dwg. No. 123 800 / 108 /		



1 SECTION SCALE 1:1

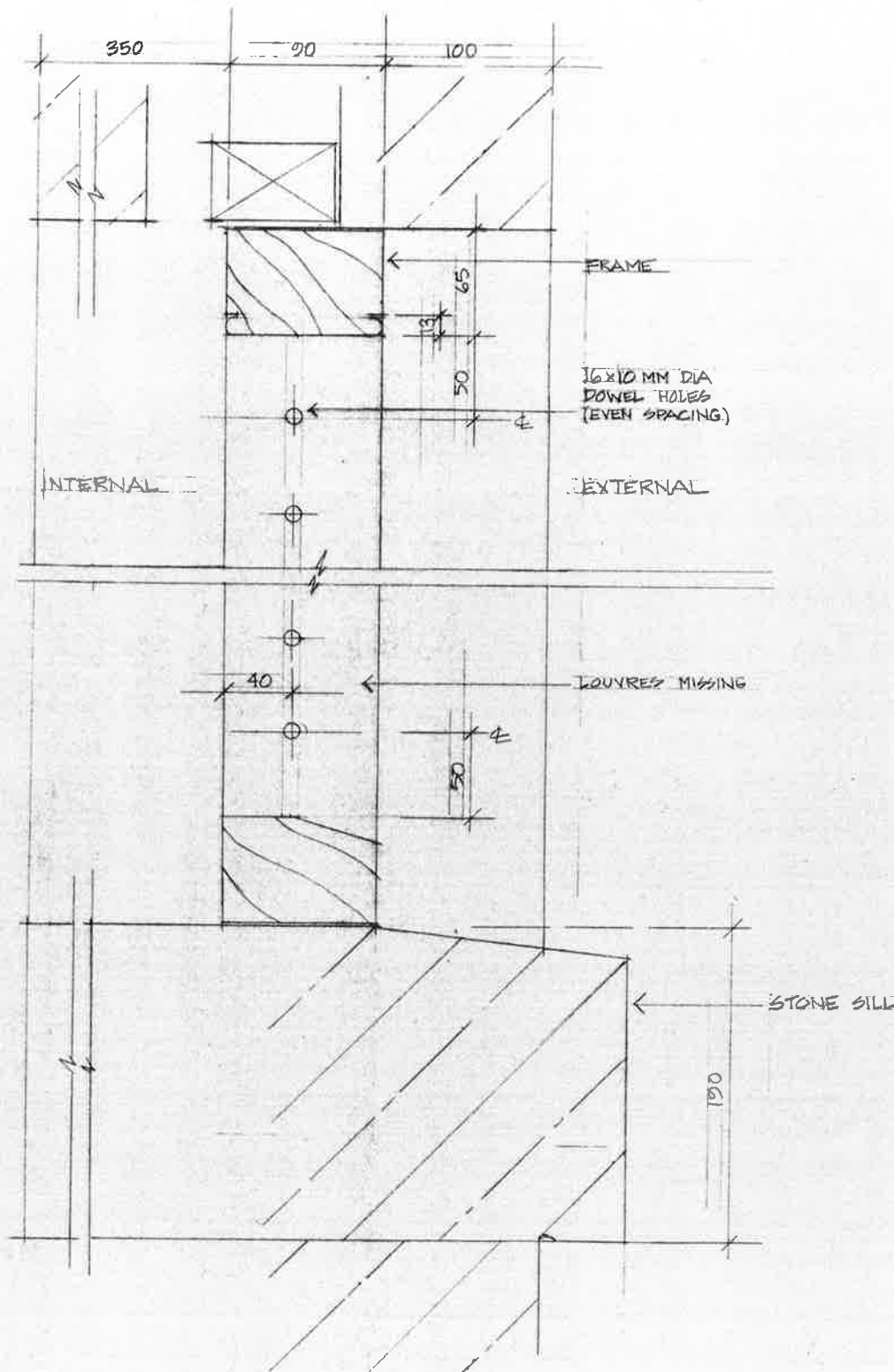


2 SECTION SCALE 1:1

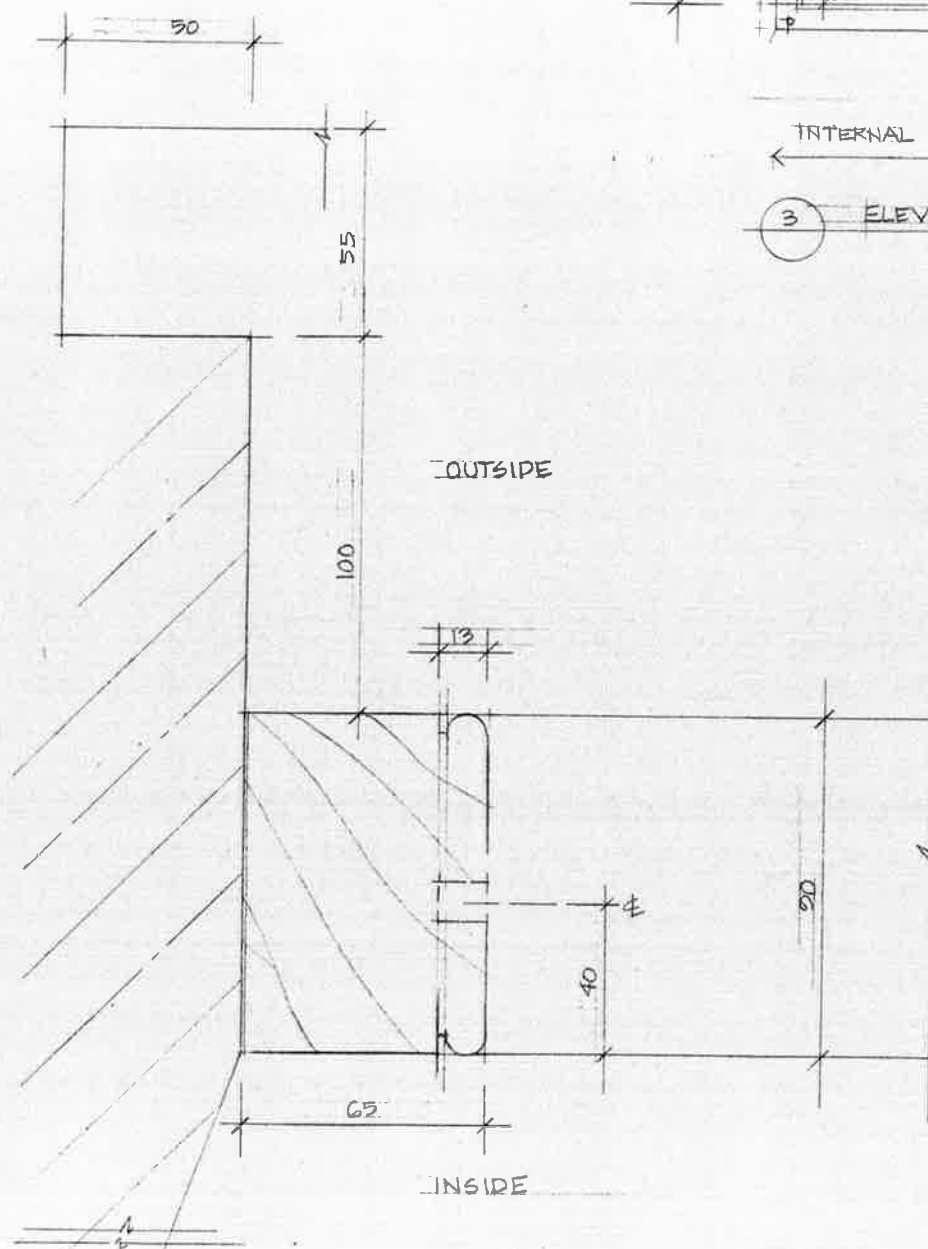


3 ELEVATION SCALE 1:5

Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEBBER ROAD RAVENSWORTH NSW		
For MT OWEN PTY LTD		
Desc. AS BUILT WINDOW 24 KITCHEN WING WINDOW H17		
LUCAS STAPLETON JOHNSON L&J Heritage Planning & Architecture ACN 002 584 189 Nominated Architect:		
ABRN 00 763 060 156 Ben Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
27.08.2018	P.D.	
Scale (at A1)		Check all dimensions
1:1		Figured dimensions to be
1:5		taken in preference to scale
© COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.		
Desc. No.		
123 800 / 100 /		



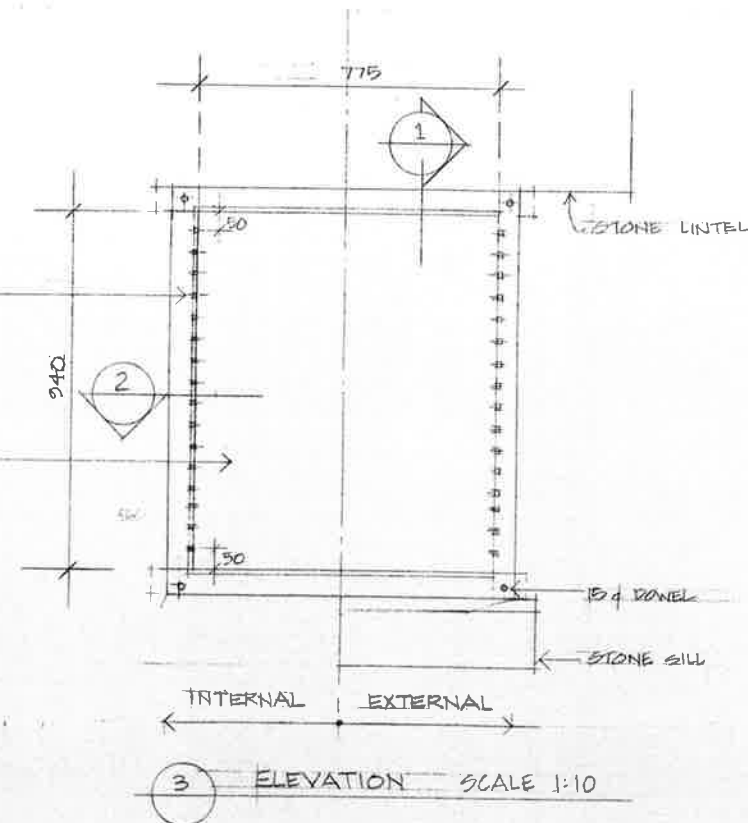
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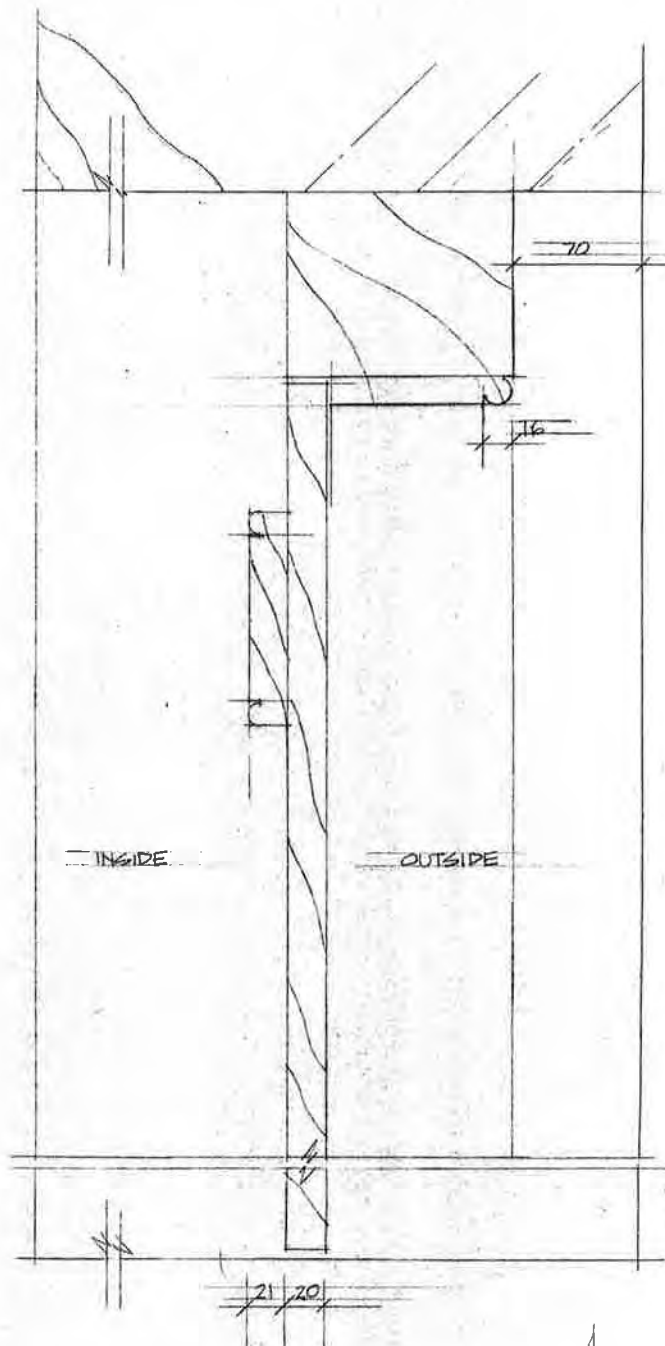
2 SECTION SCALE 1:1

16x10 MM DIA DOWEL HOLES EVEN SPACING SHOWN DASHED

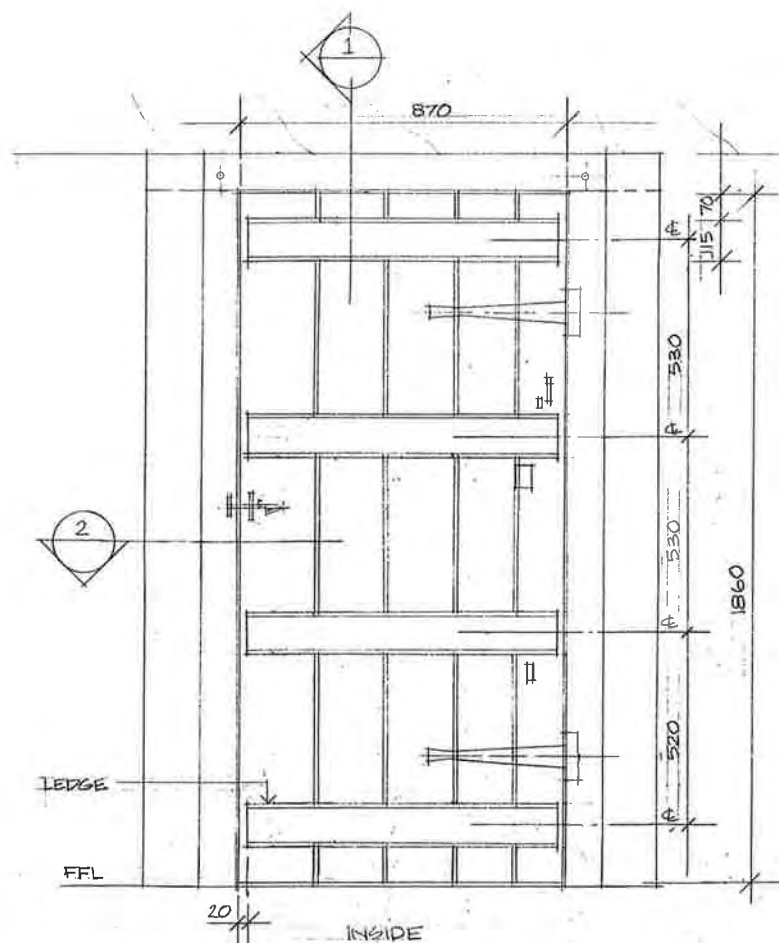
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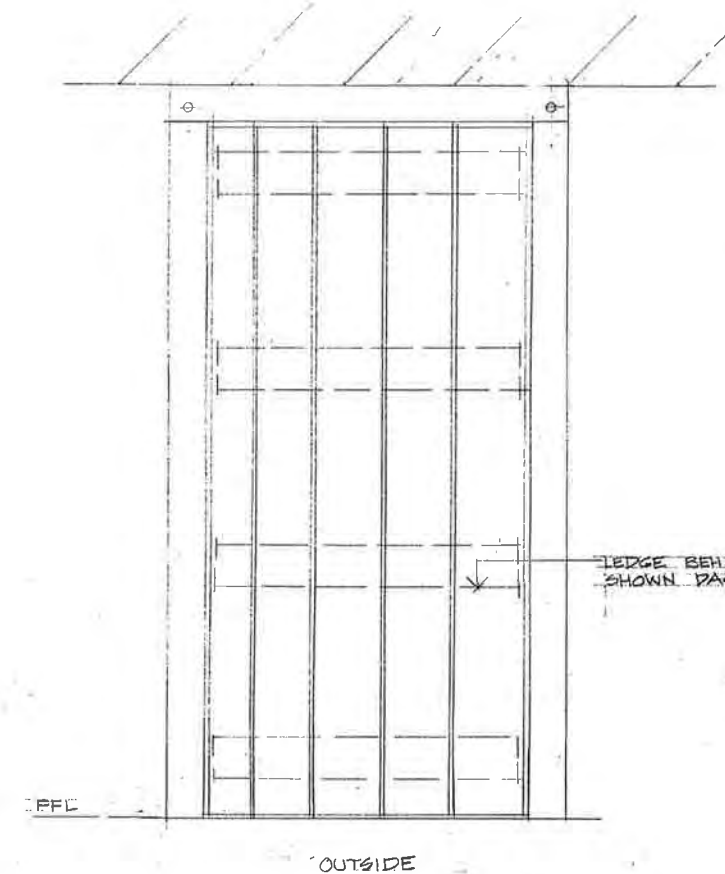
Date	No.	Amendment
Job		
RAVENSWORTH HOMESTEAD		
HEBBER ROAD		
RAVENSWORTH NSW		
for:		
MT OWEN PTY LTD		
Dwg.		
AS BUILT		
WINDOW 51		
(SPACE 51) LOUVRED		
LUCAS STAPLETON JOHNSON		
LSJ Heritage Planning & Architecture		
ACN 002 584 189 ABN 60 763 960 154		
Nominated Architect: Ian Stapleton (reg. 4032)		
Lucas Stapleton Johnson & Partners Pty Ltd		
Suite 101, Level 1, 191 Clarence Street		
Sydney, NSW, 2000 Telephone: (02) 9357 4811		
Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
28-08-2018	DP	
Scale (at A1)	Check all dimensions	
1:1	Figured dimensions to be taken in preference to scale	
1:10	© COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
1:2		
Dwg. No.		
123 800	/ 110 /	



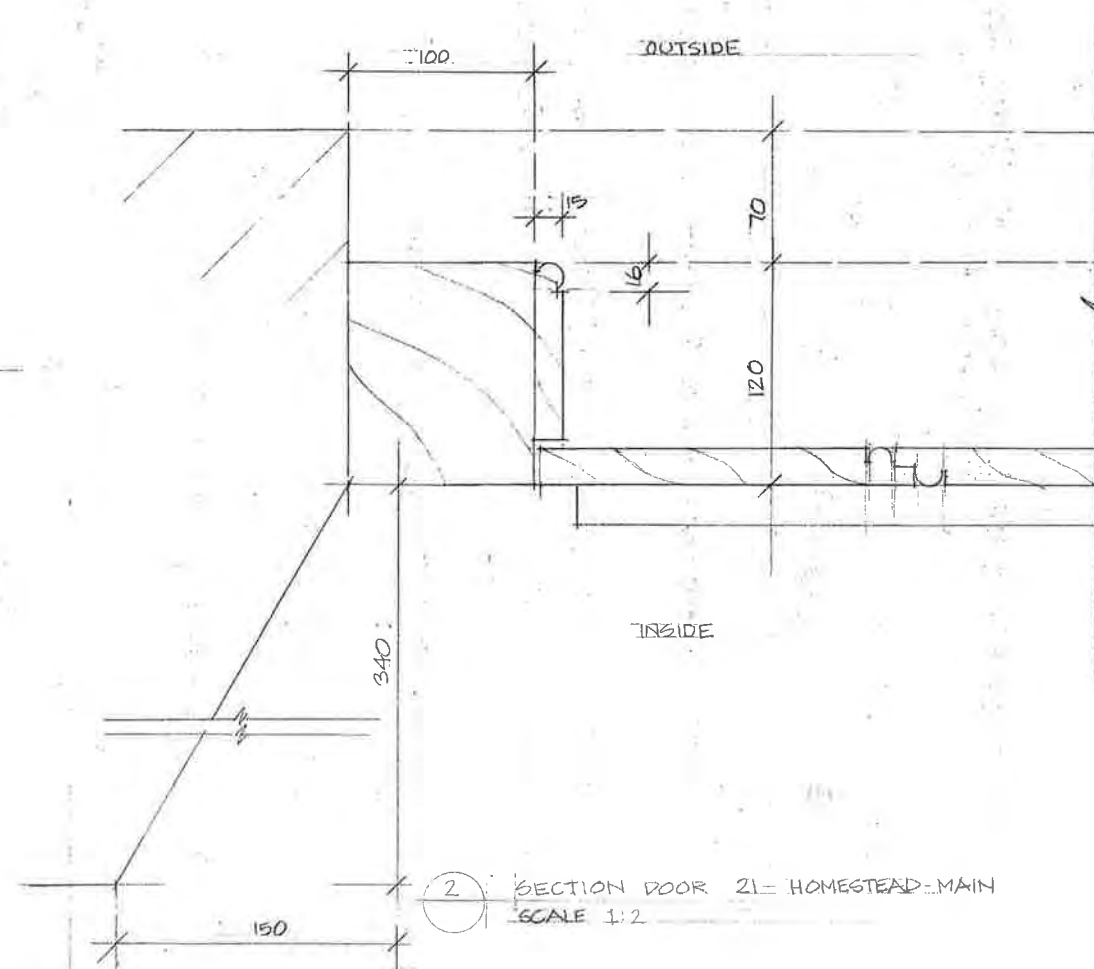
1 SECTION DOOR 21 - HOMESTEAD MAIN
SCALE 1:2



3 ELEVATION DOOR 21 - HOMESTEAD MAIN
SCALE 1:10

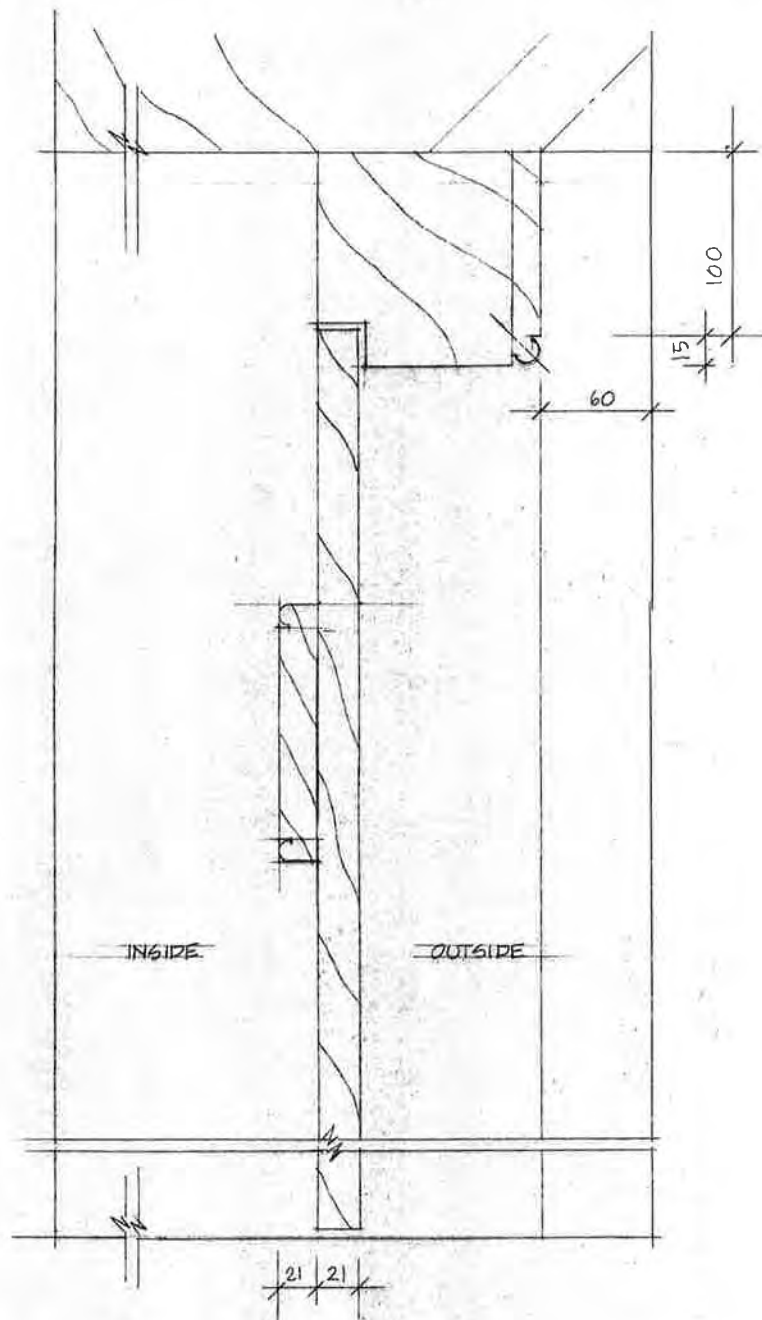


4 ELEVATION DOOR 21 - HOMESTEAD MAIN
SCALE 1:10

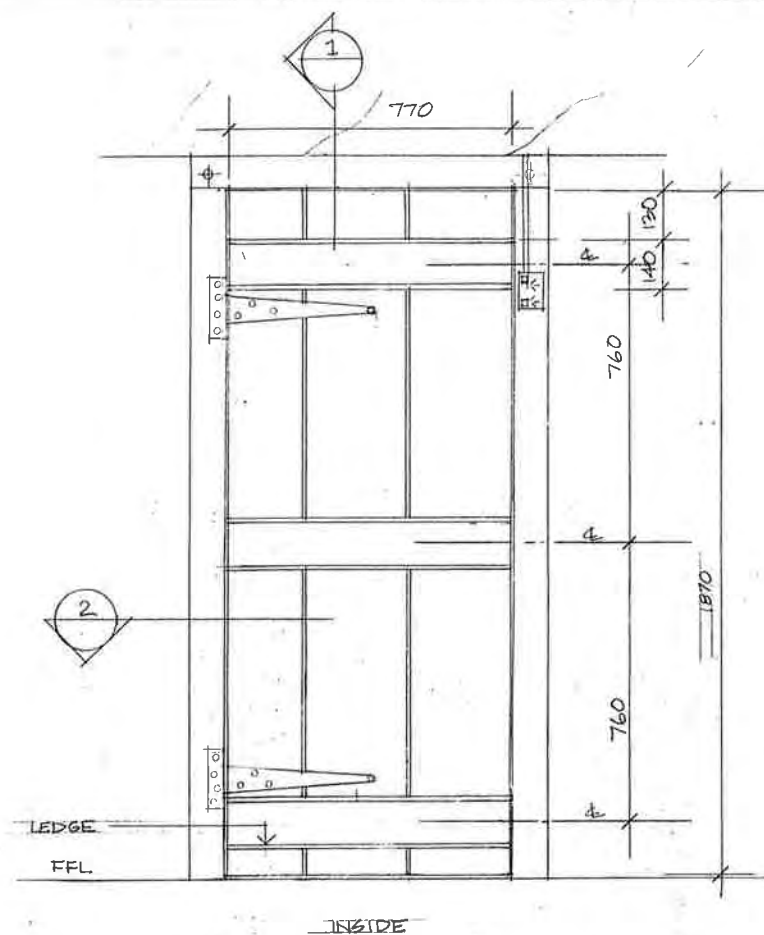


2 SECTION DOOR 21 - HOMESTEAD MAIN
SCALE 1:2

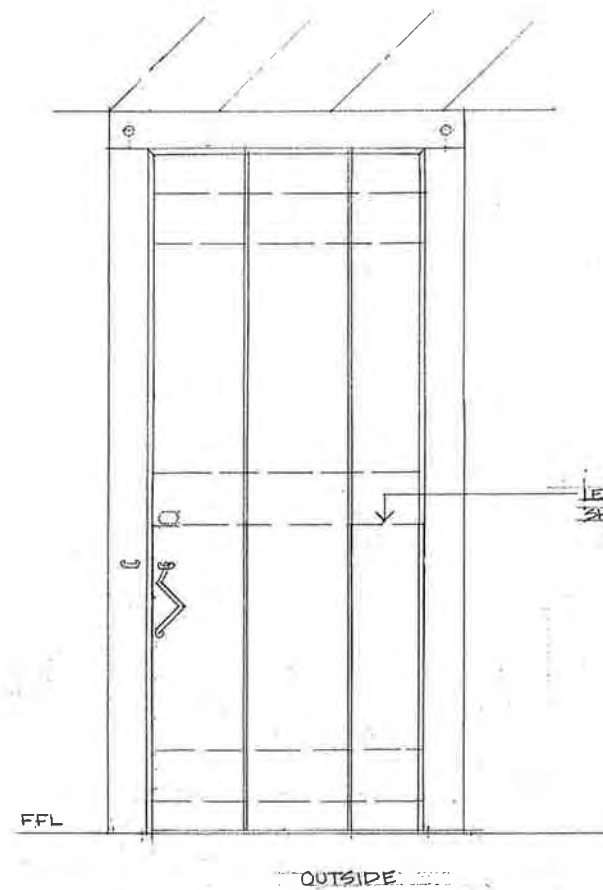
Date	No.	Amendment
Job RAYENSWORTH HOMESTEAD HEBBERN ROAD RAYENSWORTH NSW for MT OWEN PTY LTD		
Dwg. AS BUILT DOOR 21 - KITCHEN WING		
LUCAS STAPLETON JOHNSON  LSJ Heritage Planning & Architecture ACN 002 584 189 ABN 60 763 960 154 Nominated Architect Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9337 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
24.09.2018	12	
Scale (at A1) 1:2 1:10	Check all dimensions Figure dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
Dwg. No. 123 800 / III /		



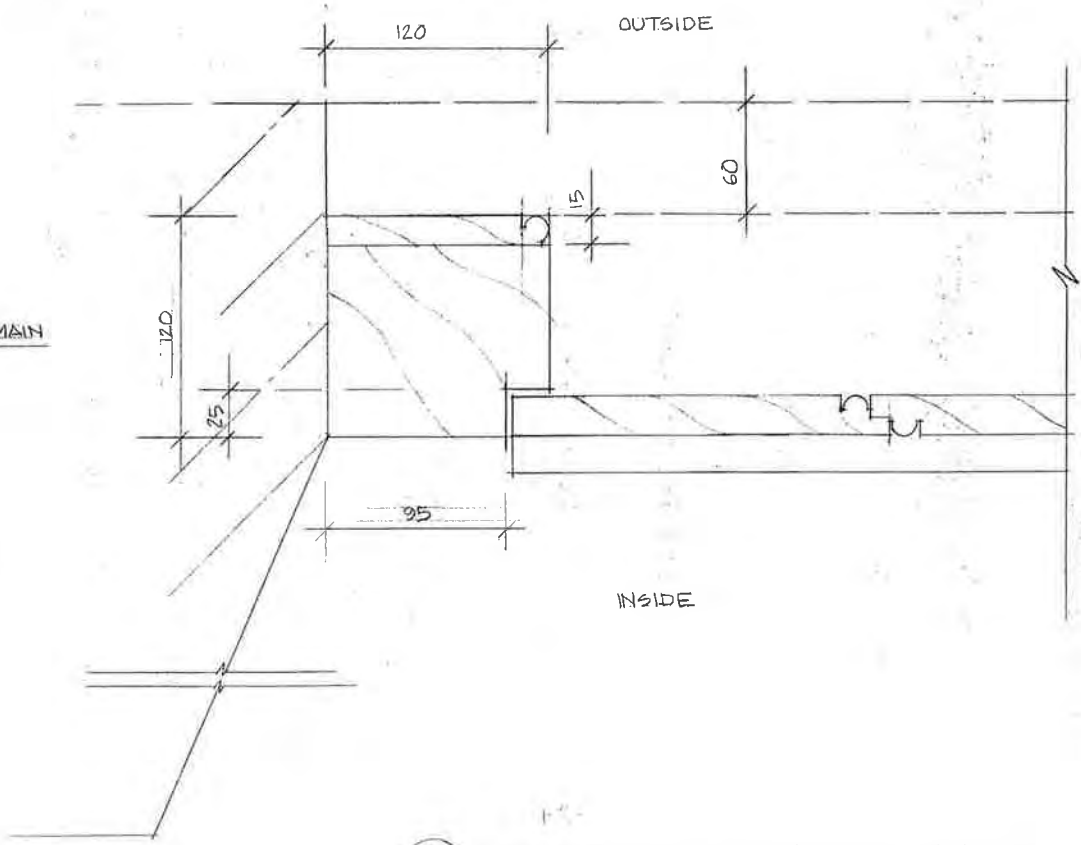
1 SECTION DOOR 20 - KITCHEN - HOMESTEAD MAIN
SCALE 1:2



3 ELEVATION DOOR 20 - HOMESTEAD MAIN
SCALE 1:10

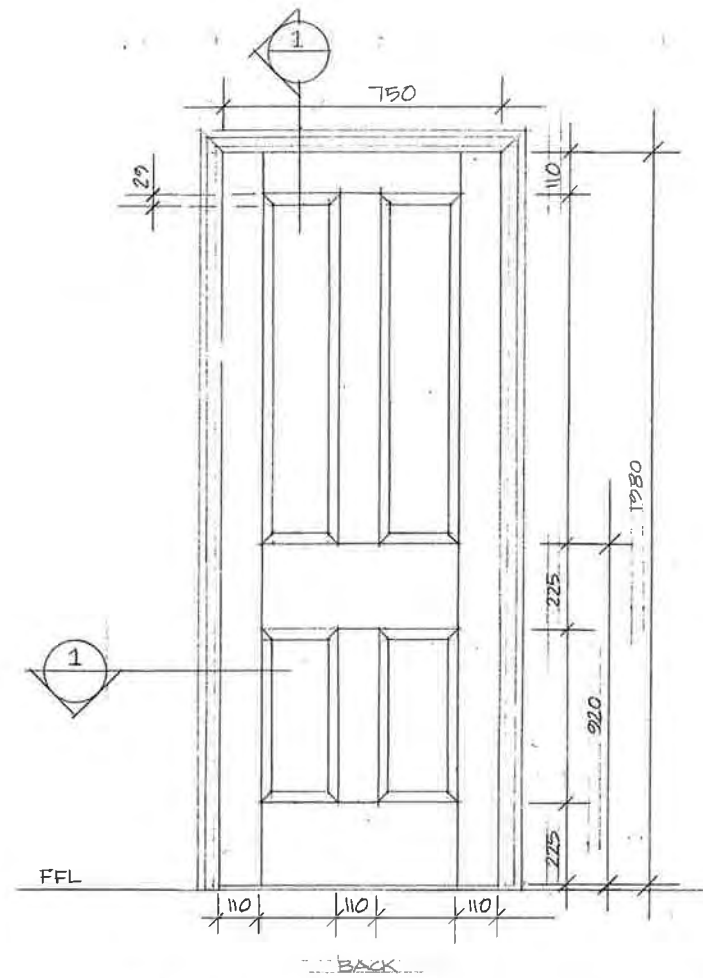


4 ELEVATION DOOR 20 - HOMESTEAD MAIN
SCALE 1:10

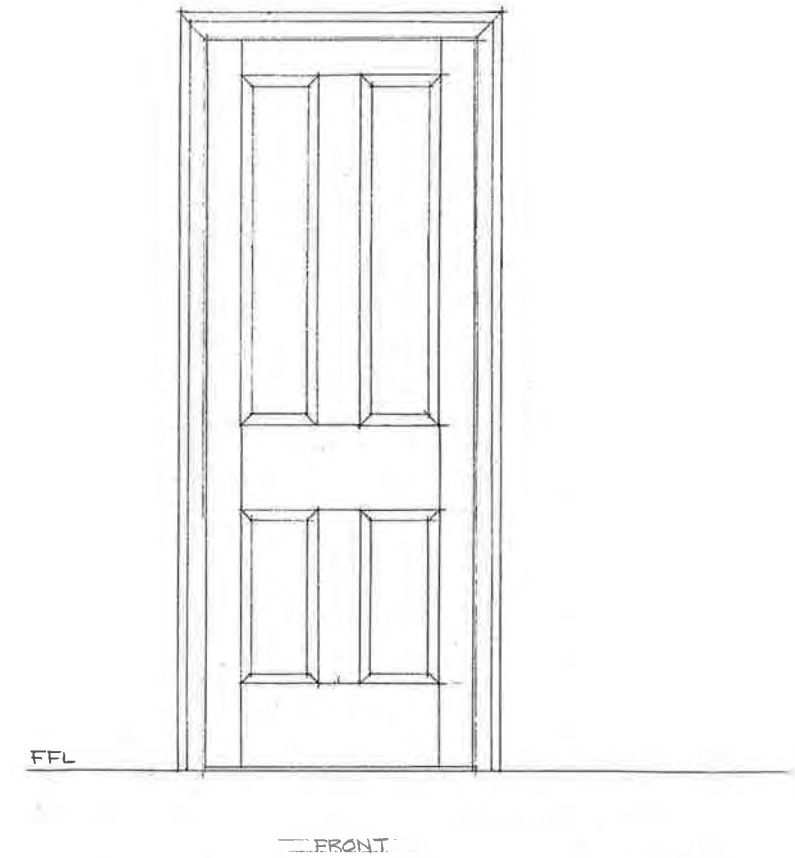


2 SECTION DOOR 20 - HOMESTEAD MAIN
SCALE 1:2

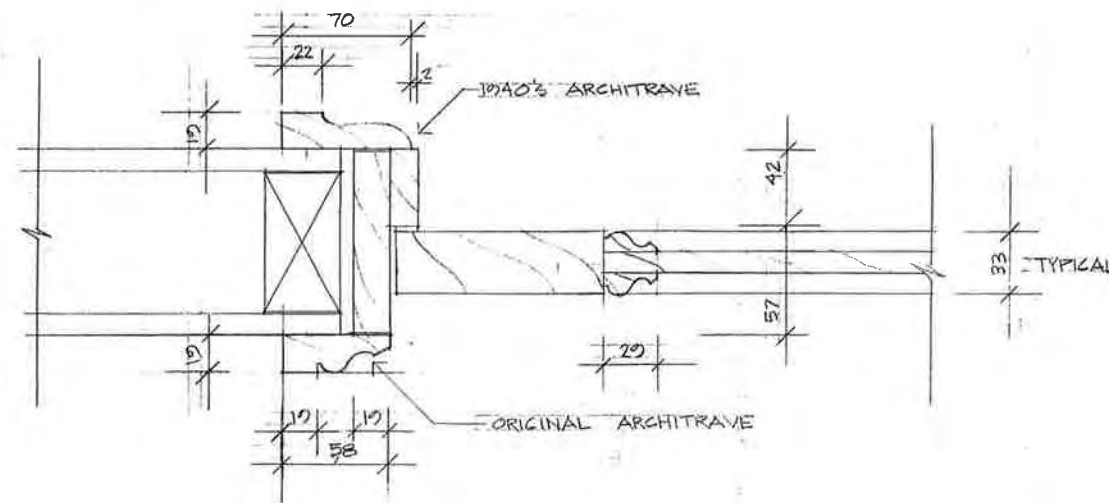
Date	No.	Amendment
Job		
RAVENSWORTH HOMESTEAD		
HEBIDEN ROAD		
RAVENSWORTH NSW		
for		
MT OWEN PTY LTD		
Dwg.		
AS BUILT		
DOOR 20 - KITCHEN - WING		
LUCAS STAPLETON JOHNSON		
LSJ Heritage Planning & Architecture		
ACN 002 584 189		
Nominated Architect:		
ABN 60 763 960 154		
Ian Stapleton (reg. 4032)		
Lucas Stapleton Johnson & Partners Pty Ltd		
Suite 101, Level 1, 191 Clarence Street		
Sydney, NSW, 2000		
Telephone: (02) 9357 4811		
Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
24.09.2018	DD	
Scale (at A1)	Check all dimensions	
1:2	Figured dimensions to be	
1:10	taken in preference to scale	
© COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.		
Dwg. No.		
123 800 / 112 /		



2 ELEVATION DOOR-TYPICAL MEN'S QUARTERS
SCALE 1:10

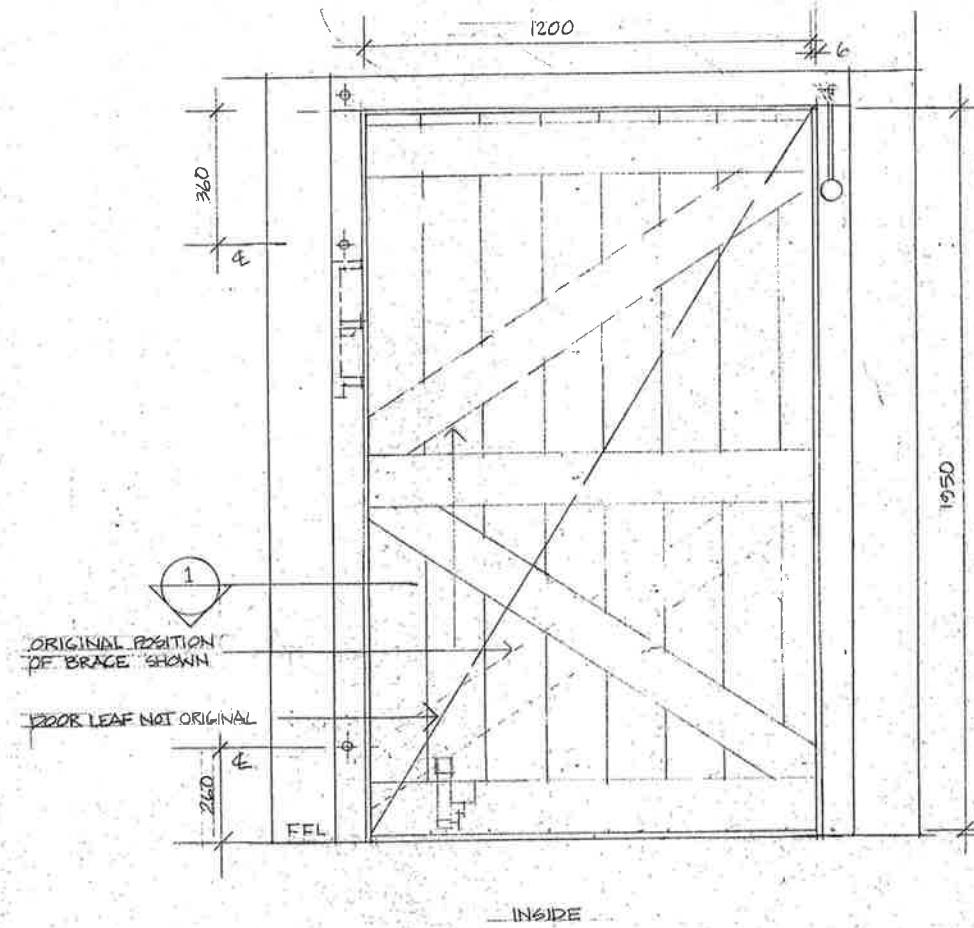


3 ELEVATION DOOR-TYPICAL MEN'S QUARTERS
SCALE 1:10

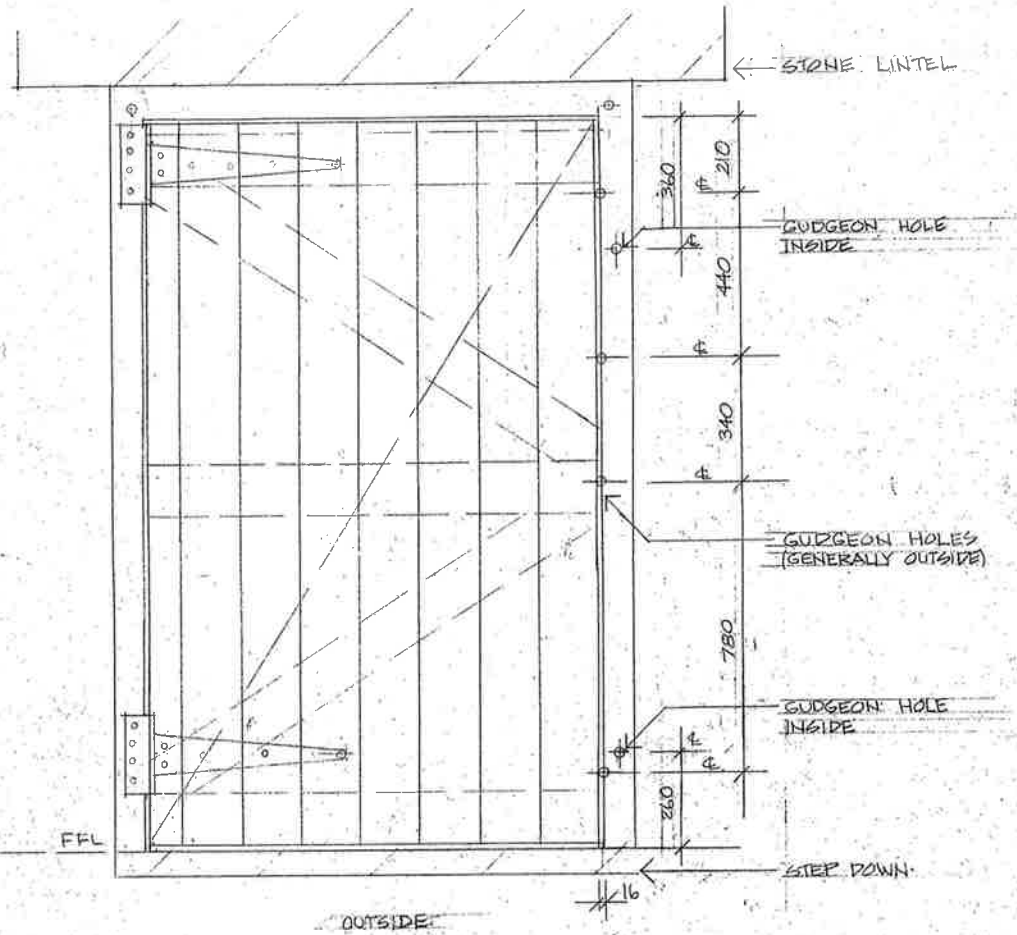


1 SECTION DOOR-TYPICAL MEN'S QUARTERS
SCALE 1:2

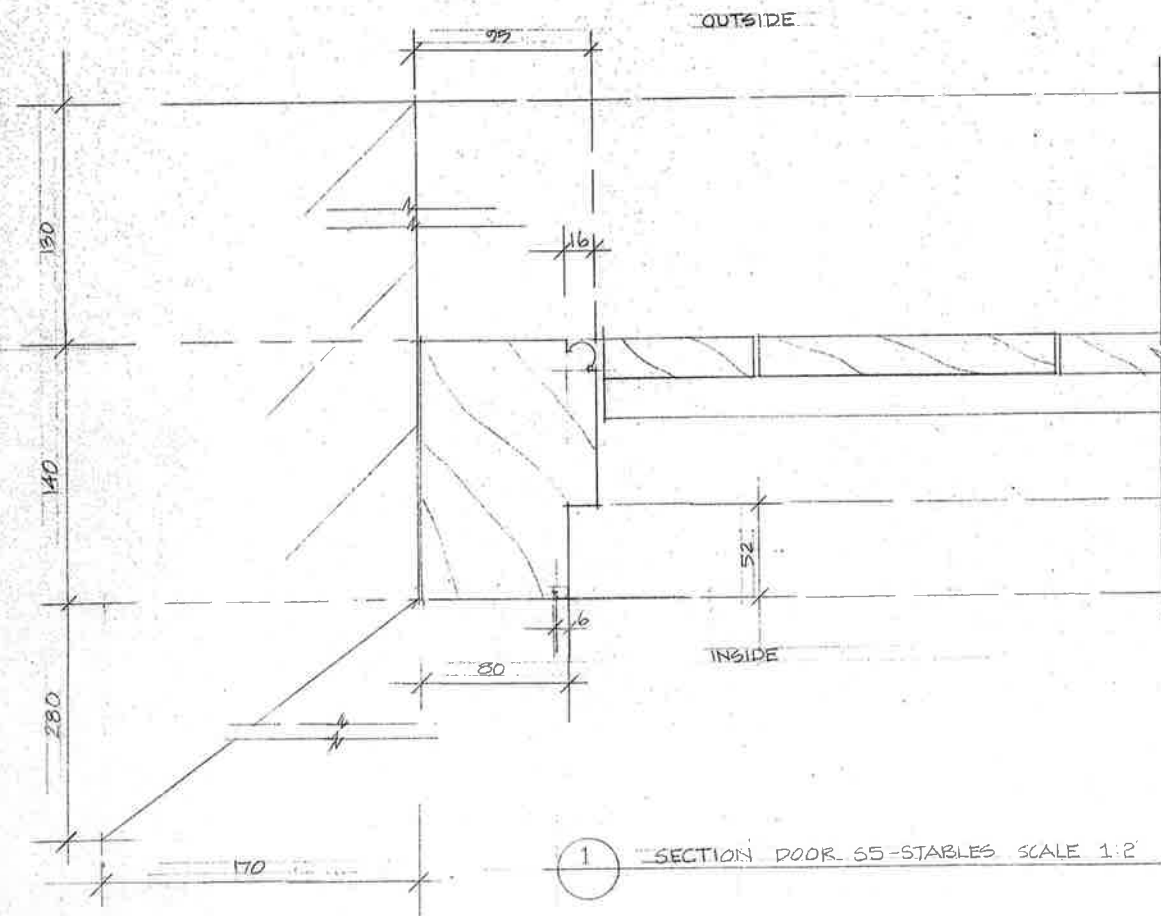
Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD REDDEN ROAD RAVENSWORTH NSW For: MT OWEN PTY LTD Dwg. AS BUILT TYPICAL DOOR (ORIGINAL) MEN'S QUARTERS		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 ABN 60 763 960 154 Nominated Architect: Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
25.09.2018	DP	
Scale (at A1)	Check all dimensions Figured dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
1:2		
1:10		
Dwg. No. 123 800 / 113 /		



2 ELEVATION DOOR 55-STABLES SCALE 1:10



3 ELEVATION DOOR 55-STABLES 1:10



1 SECTION DOOR 55-STABLES SCALE 1:2

Date No. Amendment

Job
RAVENSWORTH HOMESTEAD
HEBBER ROAD
RAVENSWORTH NSW

for:
MT OWEN PTY LTD

Dwg.
AS BUILT
DOOR 55 - STABLES

**LUCAS
STAPLETON
JOHNSON**



LSJ Heritage Planning & Architecture

ACN 002 584 189
Nominated Architect

ABN 60 763 960 154
Ian Stapleton (reg. 4032)

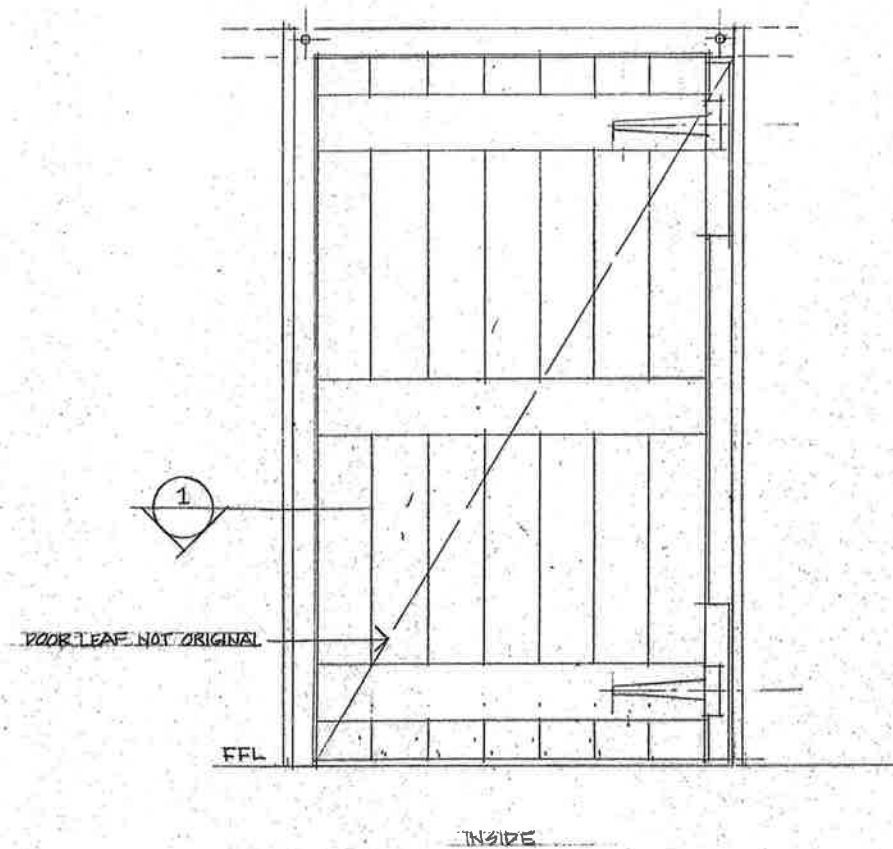
Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, Level 1, 191 Clarence Street
Sydney, NSW, 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

Date 26.09.2018 Drawn DP Checked

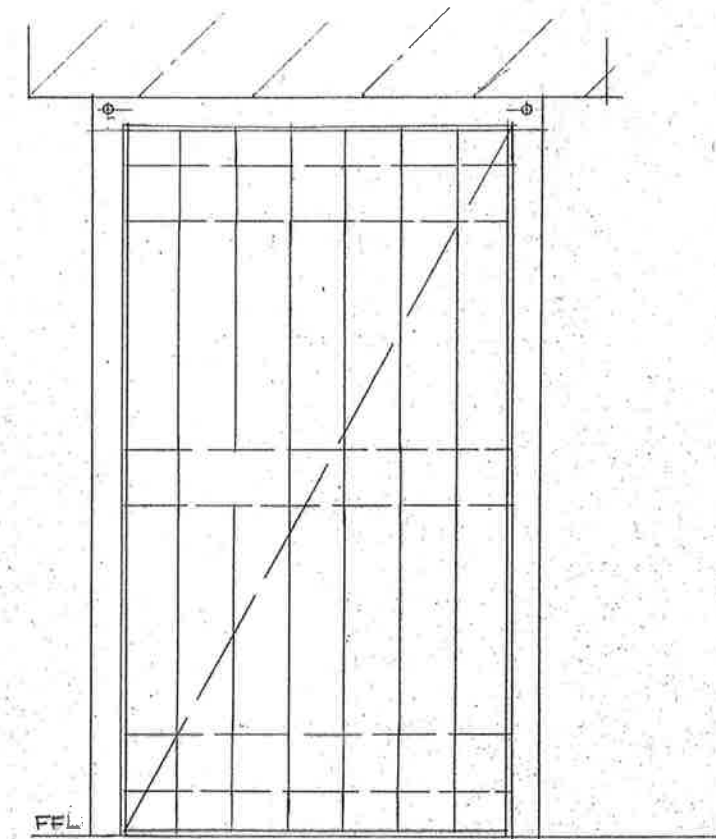
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Johnson & Partners Pty. Ltd.

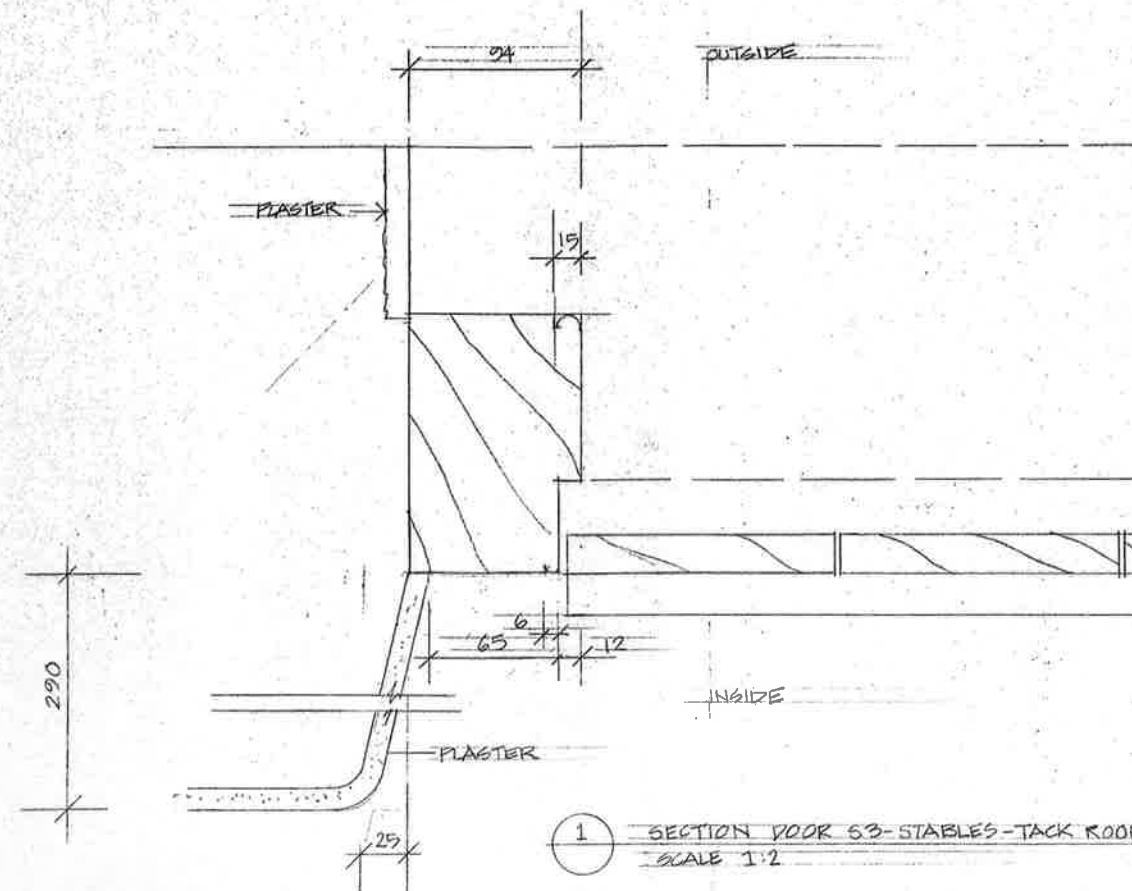
Dwg. No.
123 800 / 114 /



2 ELEVATION DOOR 53-STABLES-JACK ROOM
SCALE 1:10



3 ELEVATION DOOR 53-STABLES-JACK ROOM
SCALE 1:10



1 SECTION DOOR 53-STABLES-JACK ROOM
SCALE 1:2

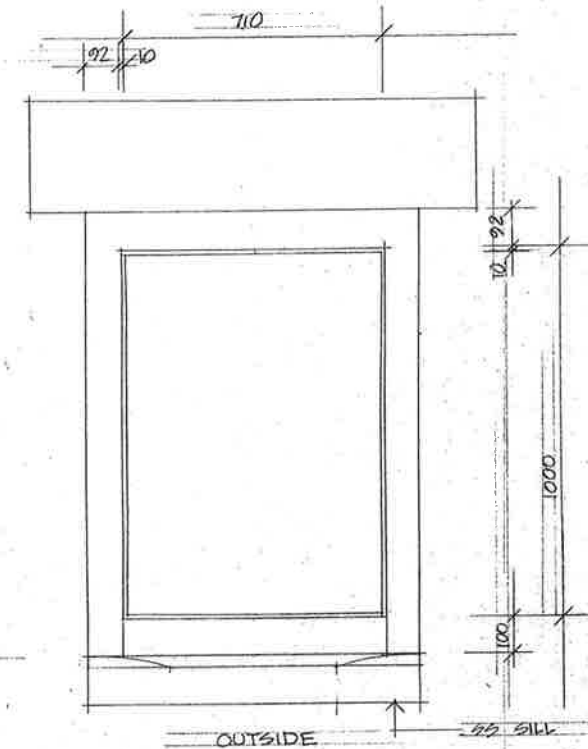
Date:	No.	Amendment
Job		
RAYNSWORTH HOMESTEAD		
HERSCHEL ROAD		
RAYNSWORTH, NSW		
for		
MT OWEN PTY LTD		
Dwg.		
AS BUILT		
DOOR 53-STABLES-JACK ROOM		
LUCAS STAPLETON JOHNSON		
LSJ Heritage Planning & Architecture		
ACN 002 584 189	ABN 60 763 960 154	
Nominated Architect	Jan Stapleton (reg. 4032)	
Lucas Stapleton Johnson & Partners Pty Ltd		
Suite 101, Level 1, 191 Clarence Street		
Sydney, NSW, 2000		
Telephone: (02) 9357 4811		
Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
26-09-2018	DP	
Scale (at A1)	Check all dimensions	
1:2	Figured dimensions to be	
1:10	taken in preference to scale	
©COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.		
Dwg. No.		
123 800	/ 115 /	

MODERN SASHES



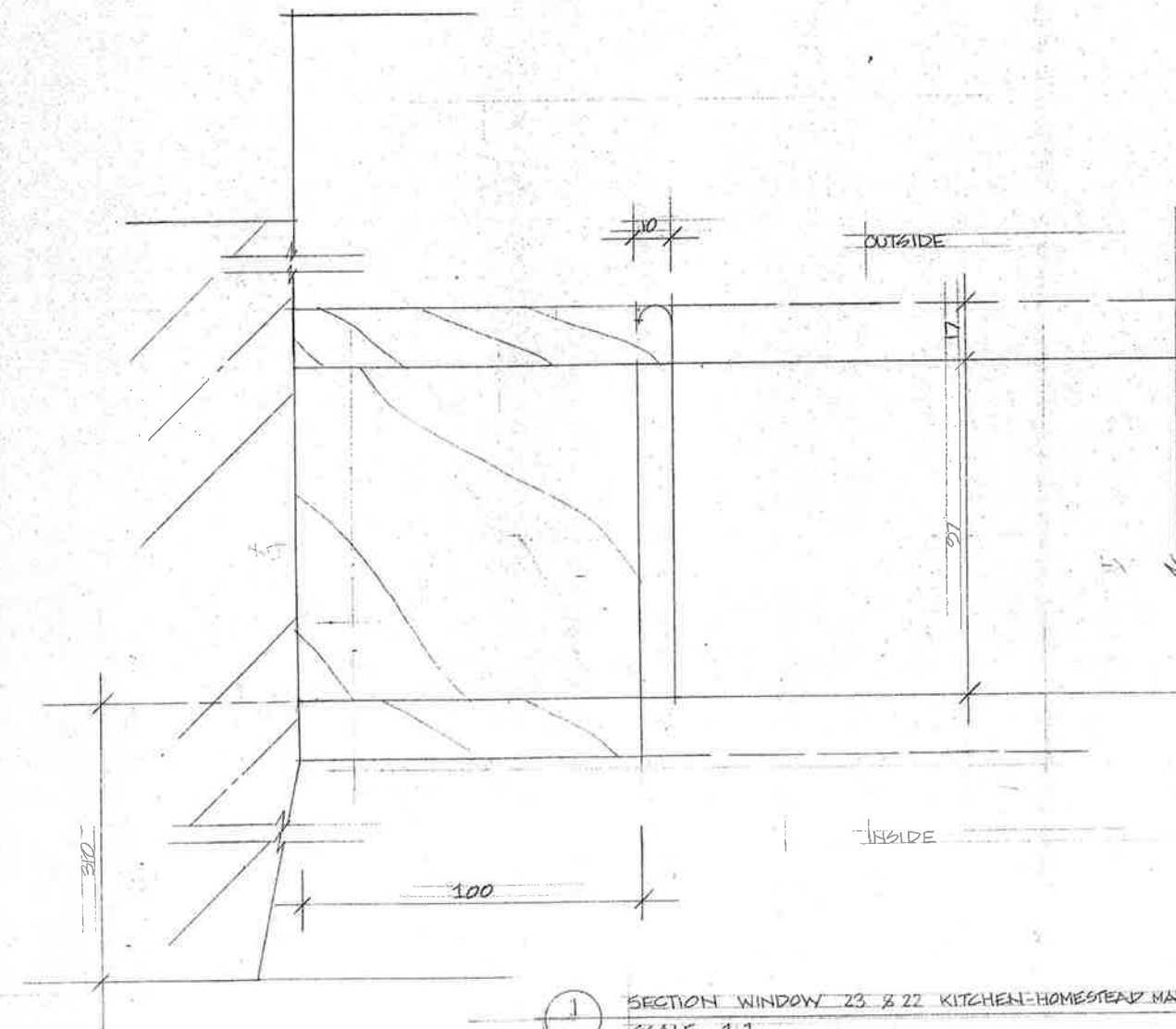
INSIDE

2 ELEVATION WINDOW 23 & 22 KITCHEN-HOMESTEAD MAIN
SCALE 1:10



OUTSIDE

3 ELEVATION WINDOW 23 & 22 KITCHEN-HOMESTEAD MAIN
SCALE 1:10

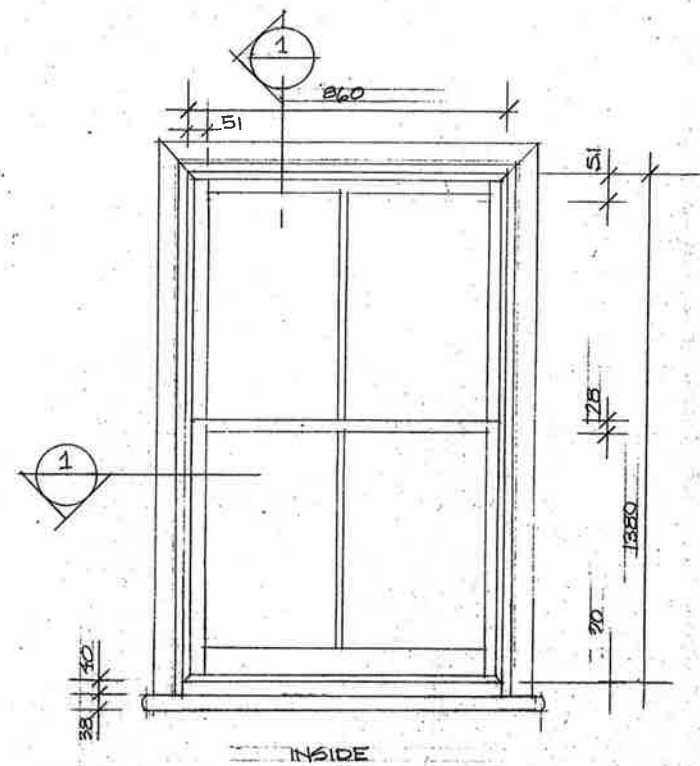


OUTSIDE

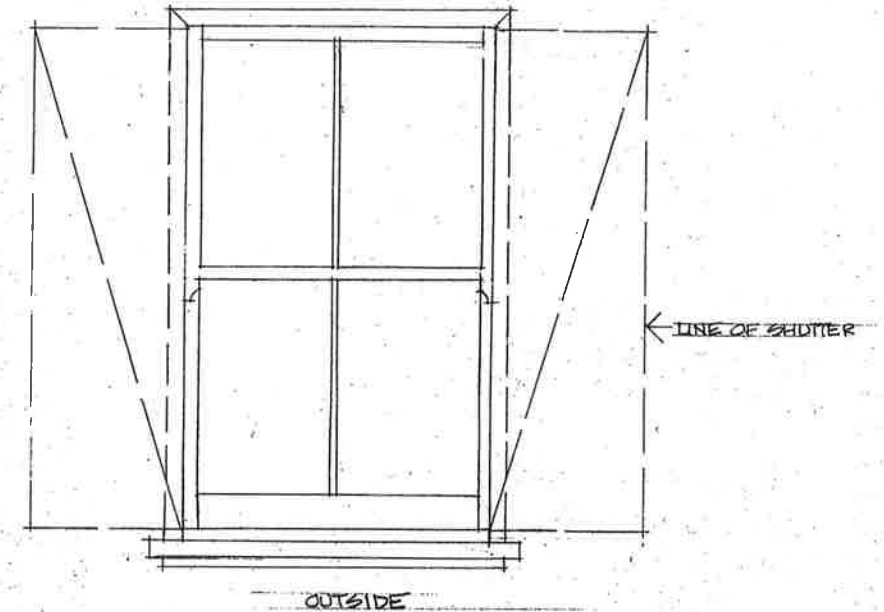
INSIDE

1 SECTION WINDOW 23 & 22 KITCHEN-HOMESTEAD MAIN
SCALE 1:1

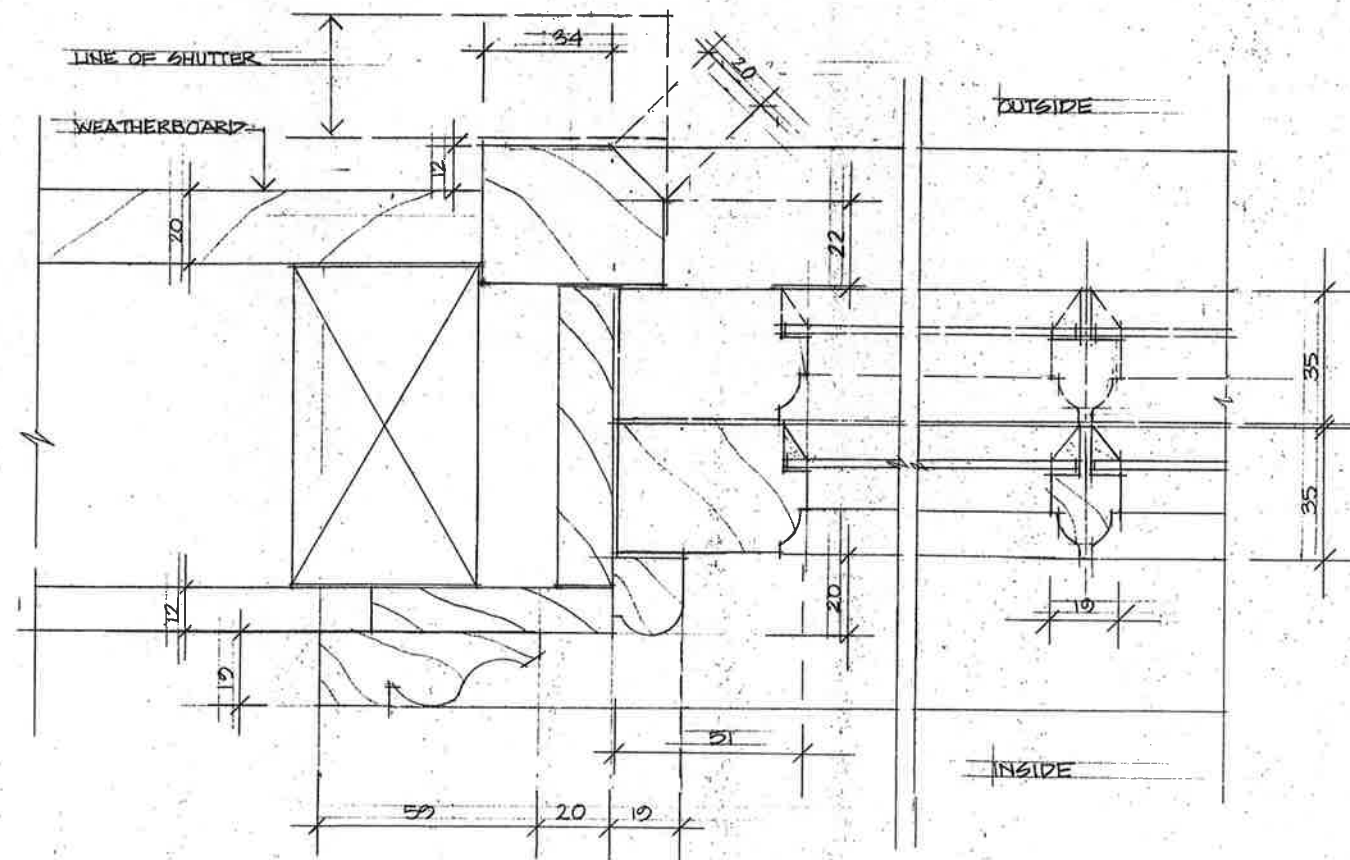
Date	No.	Amendment
Job: RAVENSWORTH HOMESTEAD HERBERT ROAD RAVENSWORTH NSW for: MT OWEN PTY LTD		
Dwg. AS BUILT WINDOW 23 & 24-KITCHEN		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 ABN 60 763 960 154 Nominated Architect: J. van Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 1.01, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
27-09-2018	P.P.	P.P.
Scale (at A1) Check all dimensions Figured dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.		
Dwg. No. 123 800 / 116 /		



2 ELEVATION WINDOW-TYPICAL - MEN'S QUARTERS
SCALE 1:10

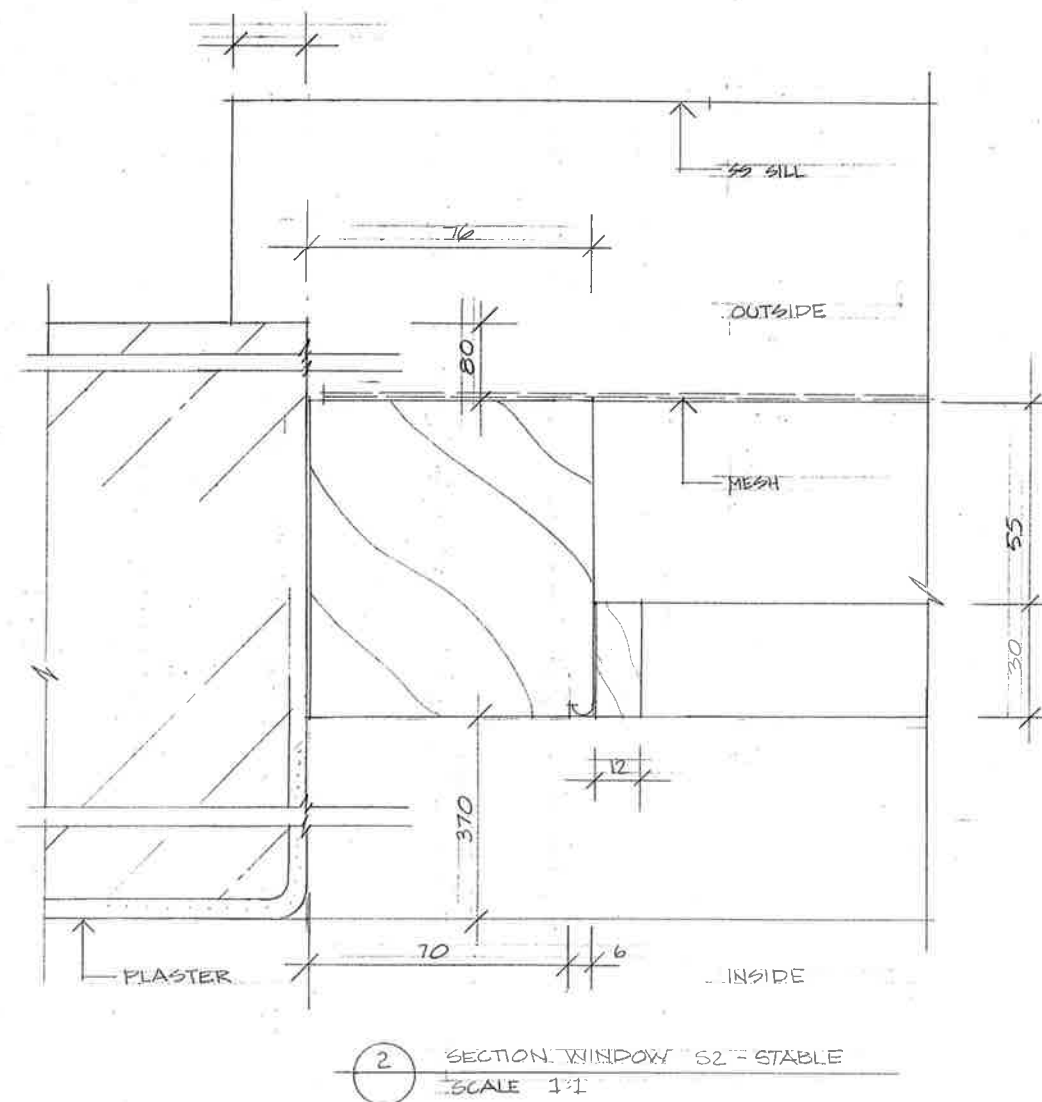
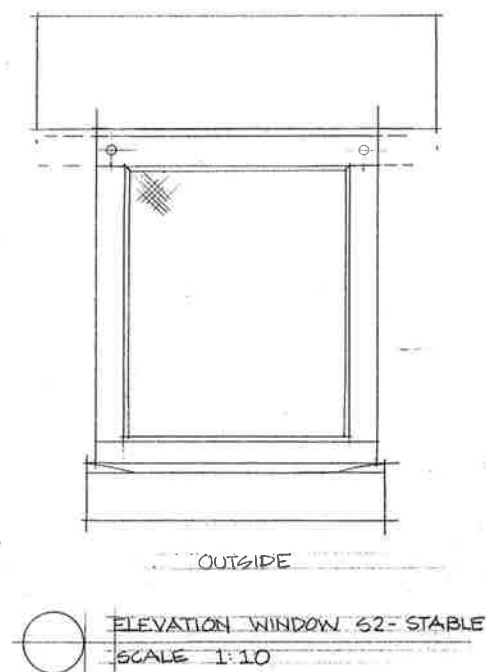
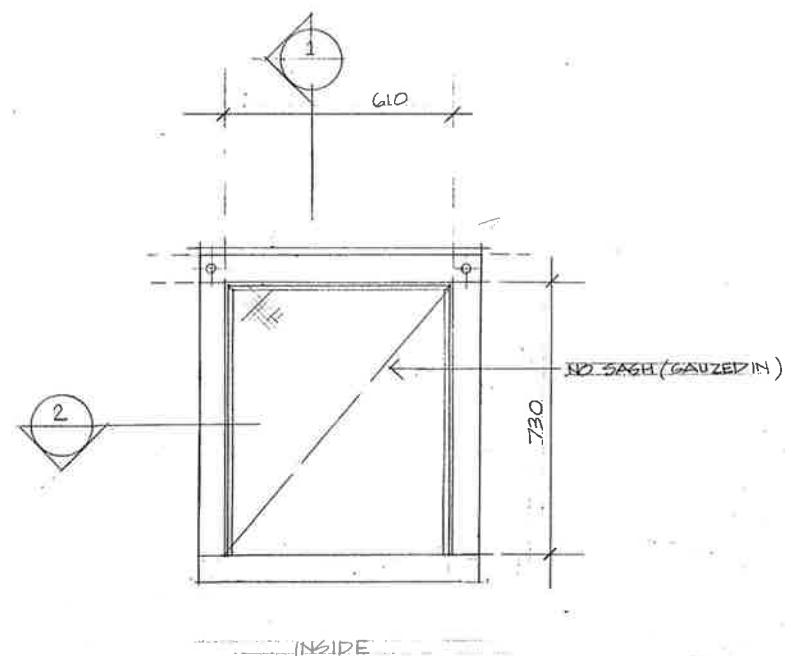
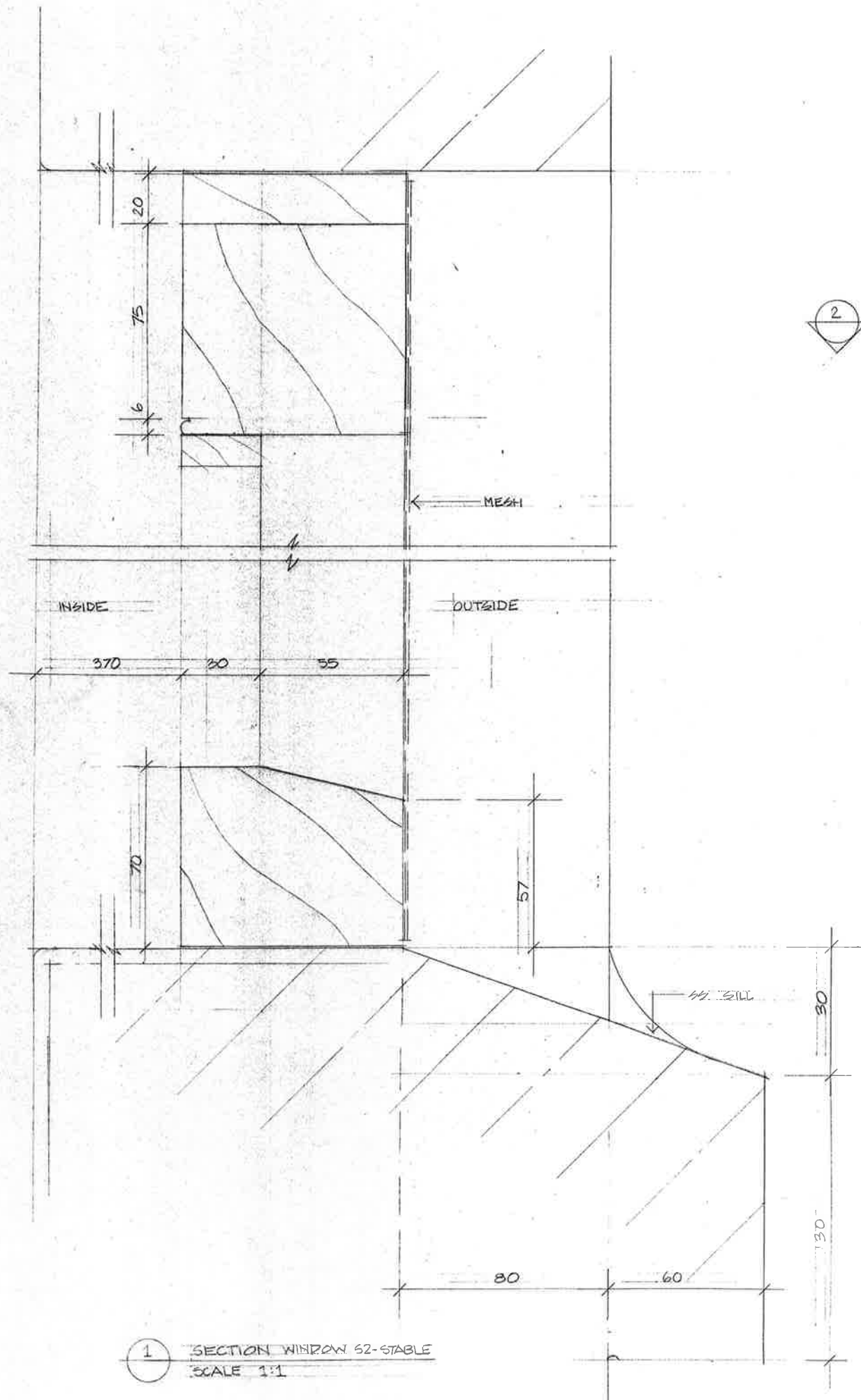


3 ELEVATION WINDOW-TYPICAL - MEN'S QUARTERS
SCALE 1:10

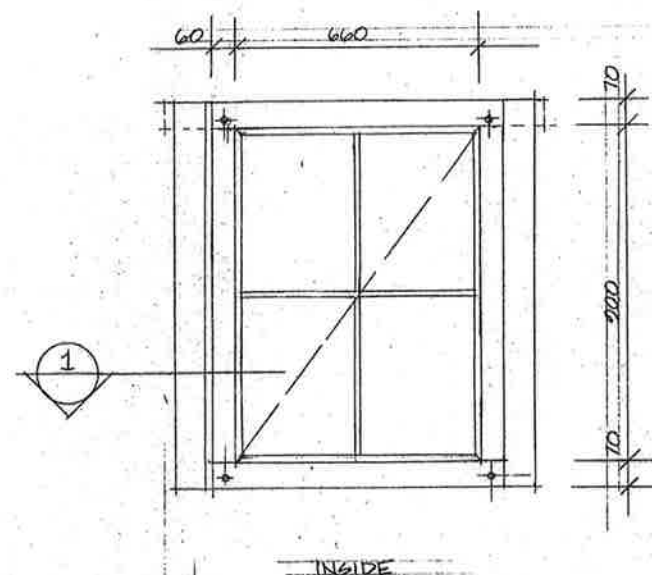


1 SECTION 1-WINDOW-JAMB & HEAD - MEN'S QUARTERS
SCALE 1:1

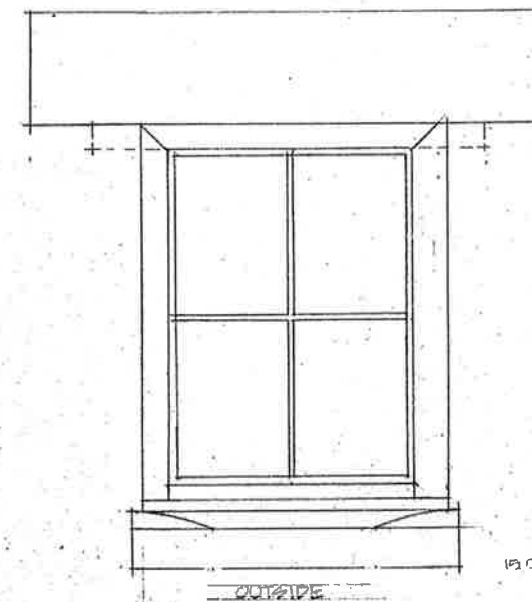
Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEBEN ROAD RAVENSWORTH NSW		
By MT OWEN PTY LTD		
Dwg AS BUILT WINDOW-TYPICAL - ORIGINAL MEN'S QUARTERS		
LUCAS STAPLETON JOHNSON [Logo] [SJ] Heritage Planning & Architecture ACN 002 584 189 ABN 60 763 960 154 Nominated Architect Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
27-09-2018	DD	
Scale (at A1)	Check all dimensions Figured dimensions to be taken in preference to scale	
1:1	© COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
1:10		
Dwg. No.		
123 800	/ 117 /	



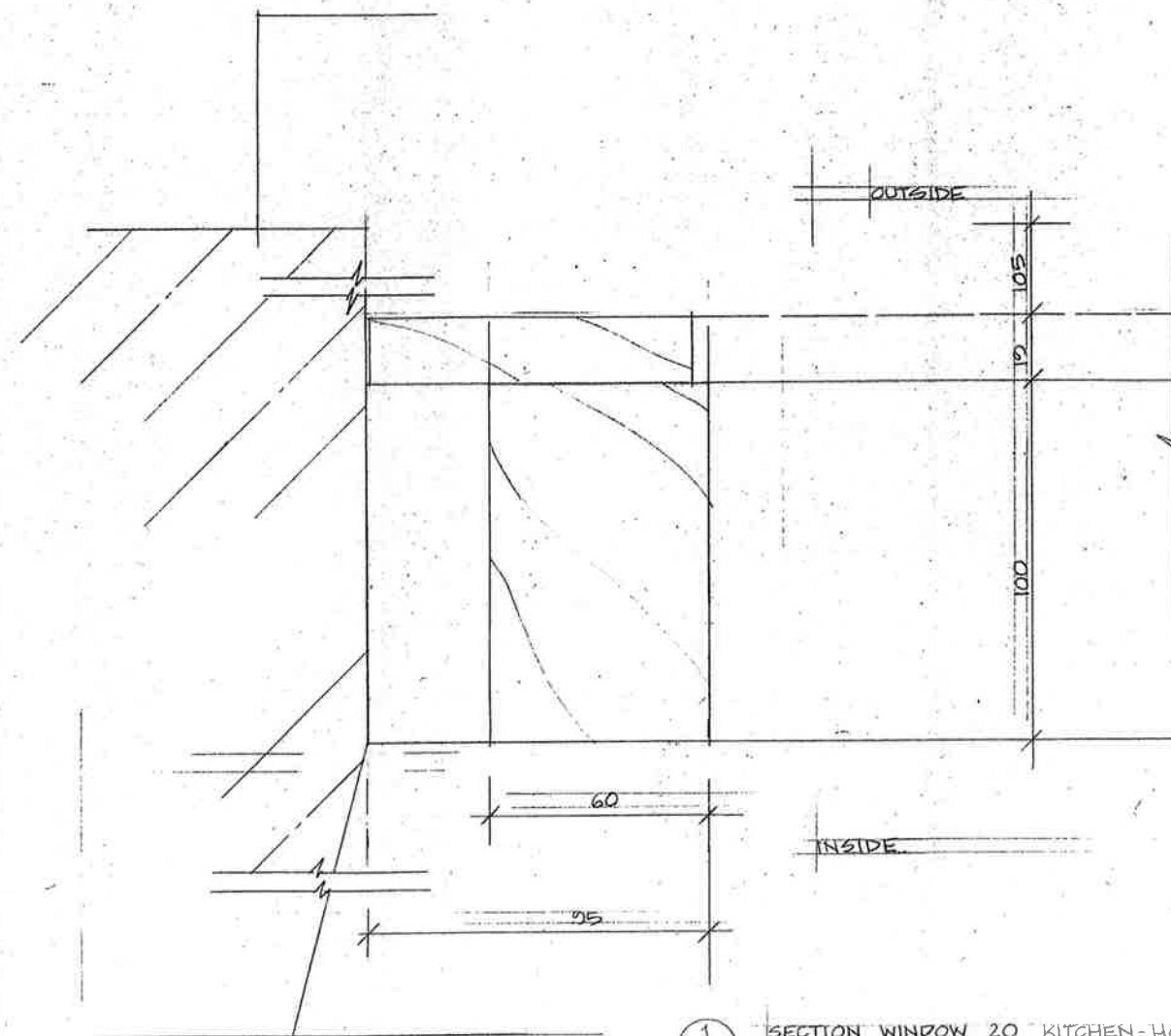
Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEIDEN ROAD RAVENSWORTH NSW for: MT OWEN PTY LTD		
Dwg. AS BUILT WINDOW S2 - STABLE		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 ABN 60 763 960 154 Nominated Architect: Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
27-09-2018	DJ	
Scale (at A1) 1:1 1:10	Check all dimensions Figured dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
Dwg. No. 123.800 / 112 /		



2 ELEVATION WINDOW 20-KITCHEN-HOMESTEAD MAIN
SCALE 1:10

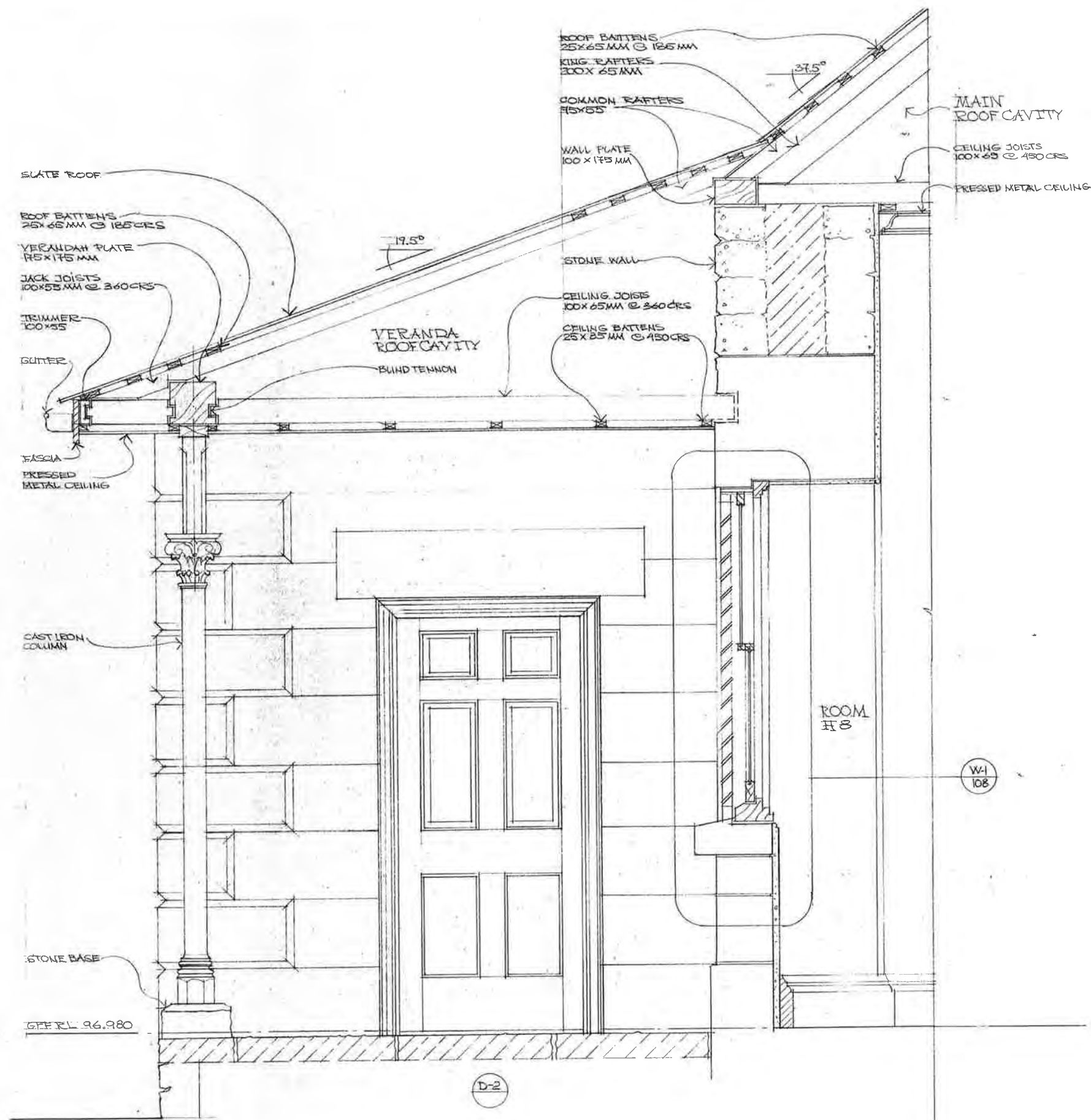


3 ELEVATION WINDOW 20-KITCHEN-HOMESTEAD MAIN
SCALE 1:10



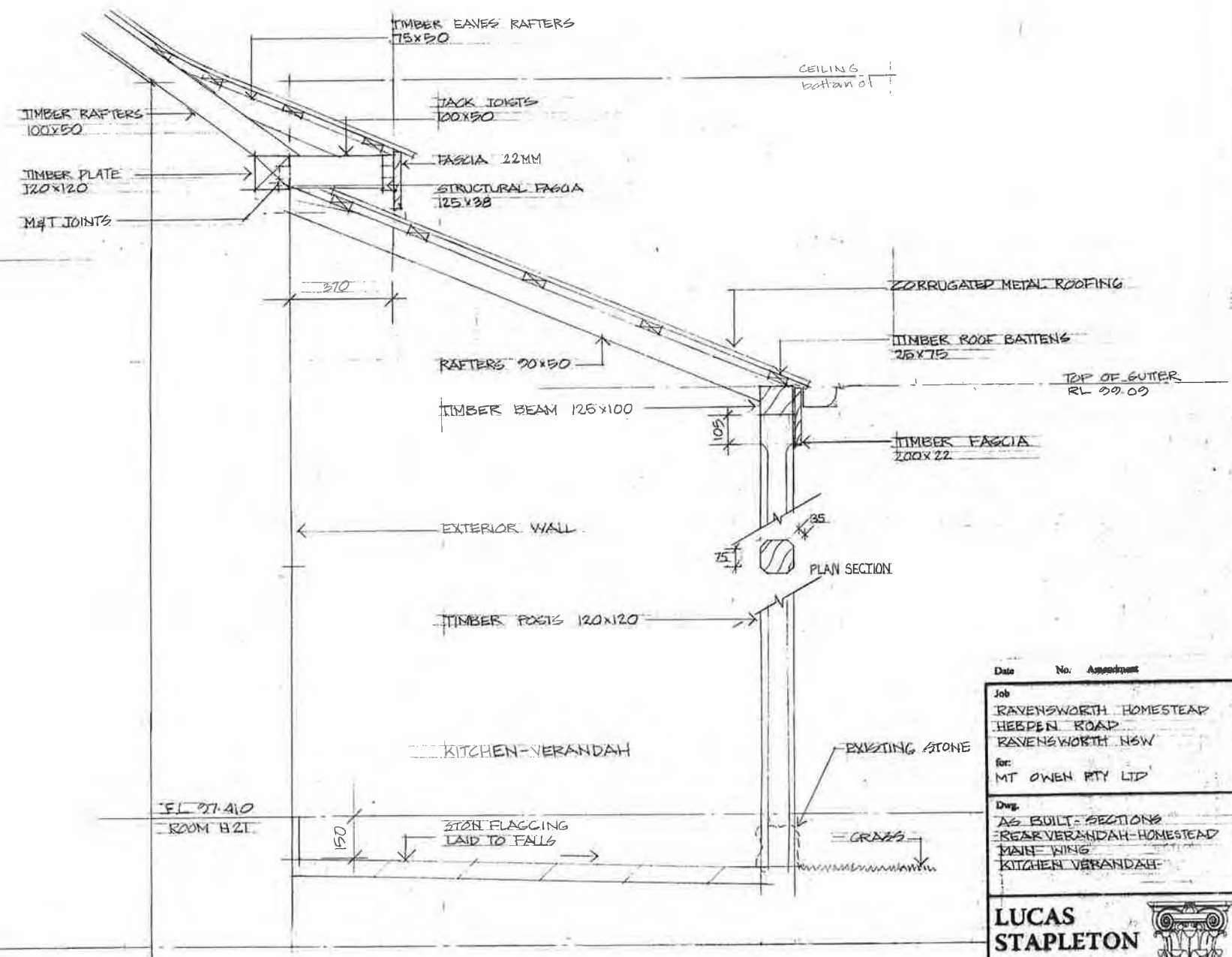
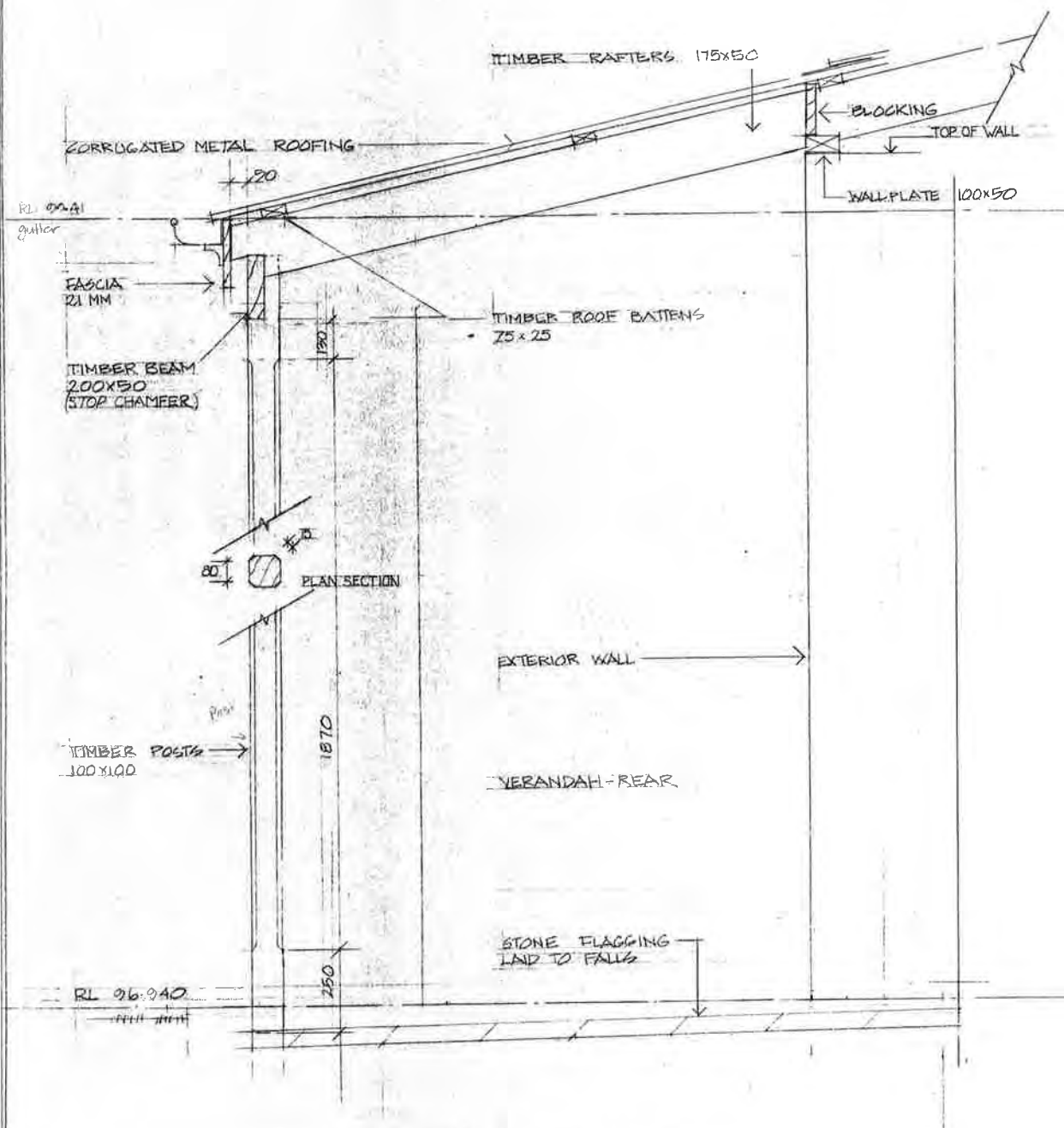
1 SECTION WINDOW 20 KITCHEN-HOMESTEAD MAIN
SCALE 1:1

Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HESDEN ROAD RAVENSWORTH NSW for: MT OWEN PTY LTD		
Dwg. AS BUILT WINDOW 20 - KITCHEN HOMESTEAD - MAIN		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 Nominated Architect: Ian Stapleton (reg. 4032) ABN 60 763 960 154 Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
2.10.2018	DP	
Scale (at A1) Check all dimensions Figured dimensions to be taken in preference to scale ©COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.		
Dwg. No. 123 800 / 120 /		

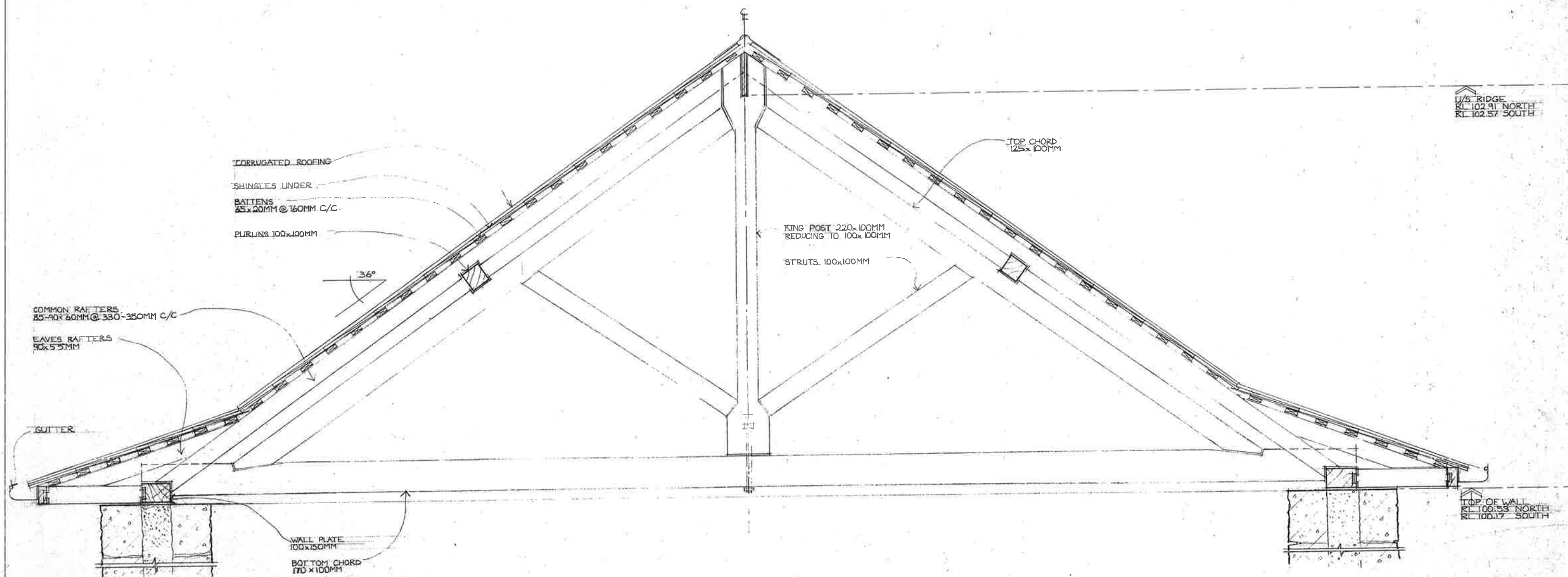


1 SECTION - FRONT VERANDAH
SCALE 1:10

Date	No.	Amendment
Job RAWENSWORTH HOMESTEAD HEBDEN ROAD RAWENSWORTH for: MT OWEN PTY LTD		
Dwg. AS BUILT FRONT VERANDAH - MAIN WING		
LUCAS STAPLETON JOHNSON		
LSJ Heritage Planning & Architecture		
ACN 002 584 189 Nominated Architect:	ABN 60 763 960 154 lawstapleton (reg. 4032)	
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
05.12.2018	AK	MG
Scale (at A1)	Check all dimensions Figured dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty Ltd	
1:10		
Dwg. No. 123800 / 201 /		

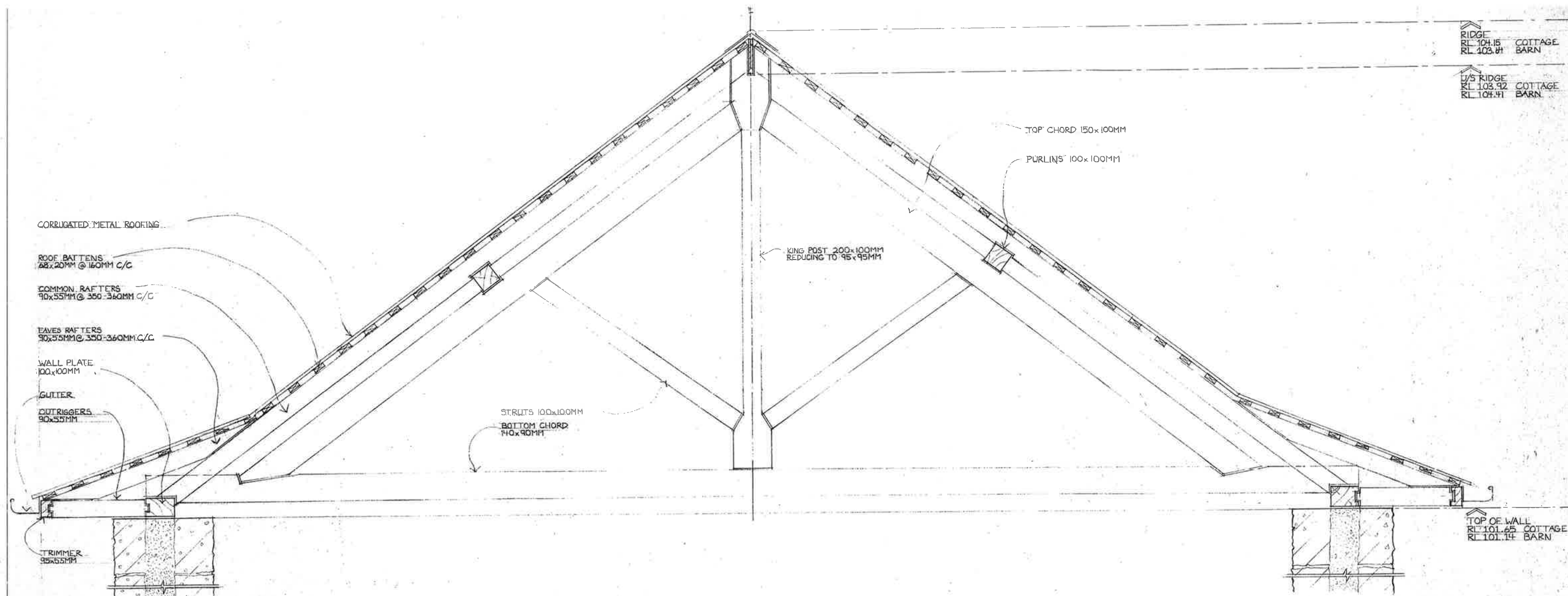


Date	No.	Amendment
Job	RAVENSWORTH HOMESTEAD HEBBER ROAD RAVENSWORTH NSW	
for:	MT OWEN PTY LTD	
Dwg.	AS BUILT SECTIONS REAR VERANDAH-HOMESTEAD MAIN WING KITCHEN VERANDAH	
<div>LUCAS STAPLETON JOHNSON</div> <div>LSJ Heritage Planning & Architecture</div> <div>ACN 002 584 189 Nominated Architect</div> <div>ABN 60 763 960 154 (an Stapleton reg. 4032)</div> <div>Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com</div> <div></div>		
Date	Drawn	Checked
10-10-2018	DD	
Scale (at A1)	Check all dimensions Figured dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
Dwg. No.	123 800 / 202 /	



1 SECTION TYPICAL TRUSS - STABLES
SCALE - 1:10

Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEBDEN ROAD RAVENSWORTH		
for: MT OWEN PTY LTD		
Dwg. AS-BUILT SECTION TYPICAL TRUSS STABLES		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 Nominated Architect: Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
15/12/18	AK	MG
Scale (at A1)	Check all dimensions Figured dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
Dwg. No.	123800 / 203 /	



1 SECTION TYPICAL TRUSS - BARN
SCALE - 1:10

Date	No.	Amendment
Job RAVENSWORTH HOMESTEAD HEBDEN ROAD RAVENSWORTH for: MT OWEN PTY LTD		
Dwg. AS BUILT SECTION TYPICAL TRUSS BARN		
LUCAS STAPLETON JOHNSON LSJ Heritage Planning & Architecture ACN 002 584 189 Nominated Architect: Ian Stapleton (reg. 4032) ABN 60 763 960 154 Ian Stapleton (reg. 4032) Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Telephone: (02) 9357 4811 Email: mailbox@lsjarchitects.com		
Date	Drawn	Checked
5/12/18	AK	MG
Scale (at A1)	Check all dimensions Figured dimensions to be taken in preference to scale © COPYRIGHT Lucas Stapleton Johnson & Partners Pty. Ltd.	
1:10		
Dwg. No.		
123800	/ 204 /	

CONJECTURAL PLANS, ELEVATIONS & PERSPECTIVES



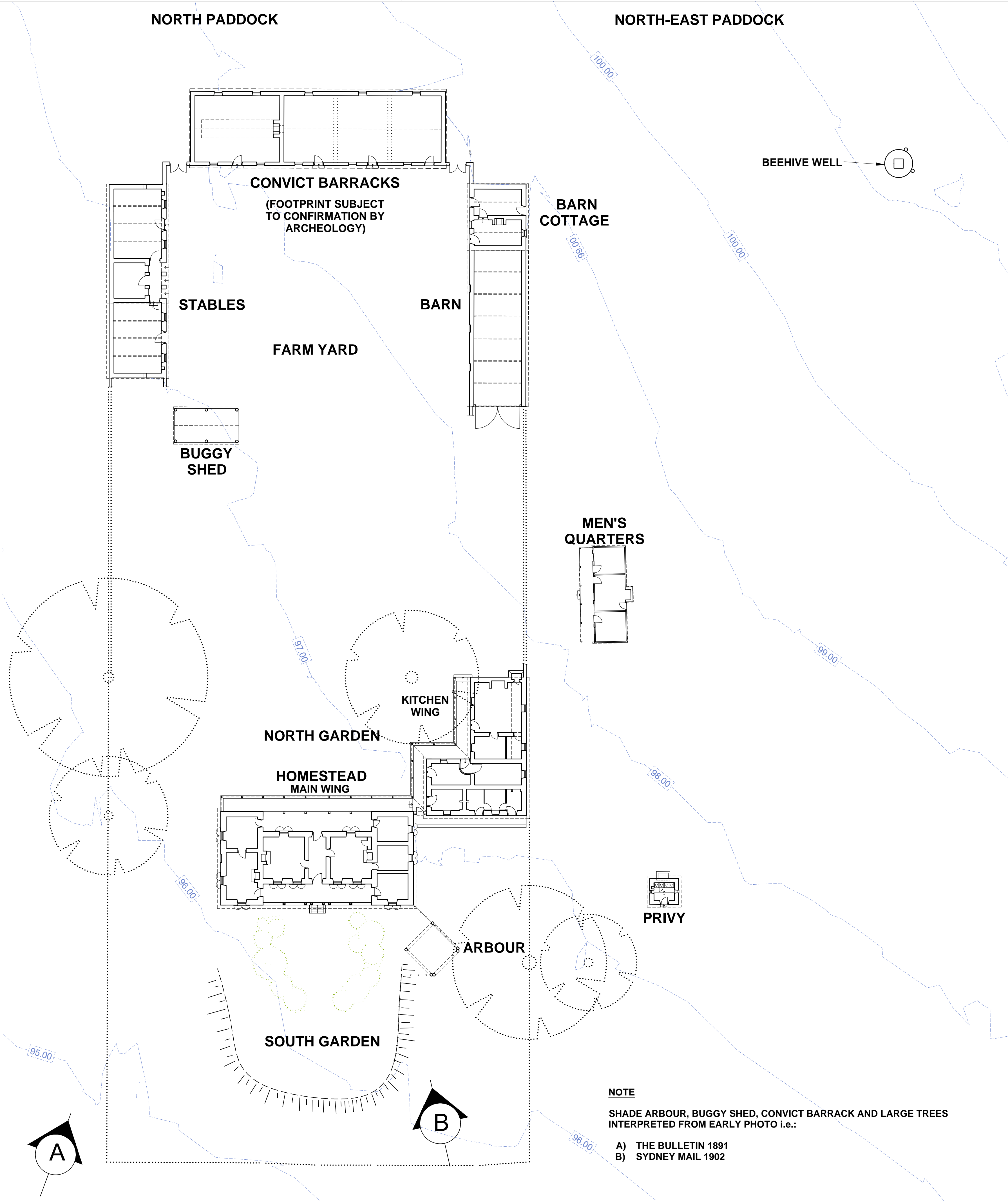
3 VIEW A
-- Image source: The Bulletin late 19th C



2 VIEW B
-- Image source: Sydney Mail early 20th C

1 CONJECTURAL SITE PLAN
-- Scale 1:250 123800spcj.dwg

0 5 10 m 50 m



NOTE
SHADE ARBOUR, BUGGY SHED, CONVICT BARRACK AND LARGE TREES
INTERPRETED FROM EARLY PHOTO i.e.:
A) THE BULLETIN 1891
B) SYDNEY MAIL 1902

01-07-19	D	REVISED
14-06-19	C	REVISED
30-04-19	B	REVISED
20-02-19	A	REVISED
Date	No.	Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
CONJECTURAL
SITE PLAN

**LUCAS
STAPLETON
JOHNSON**

LSJ Heritage Planning & Architecture

ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton

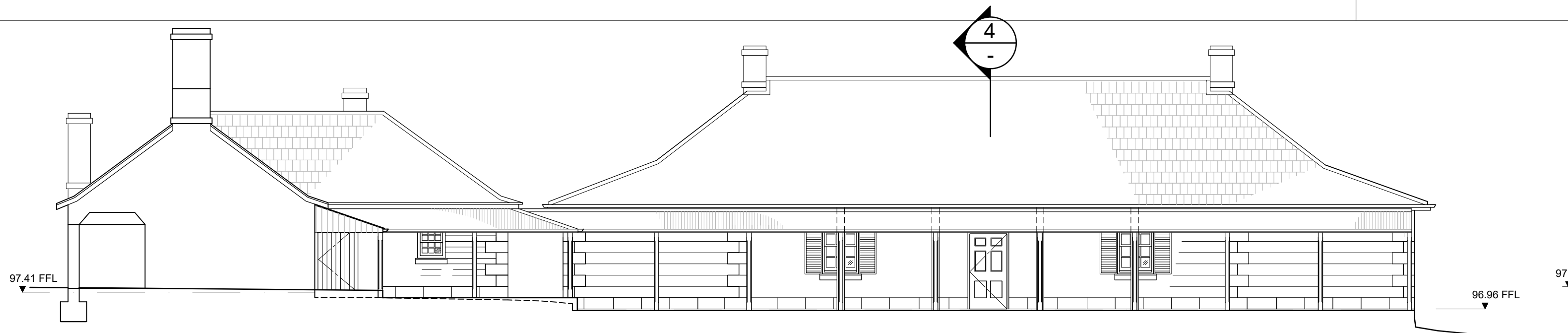
Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

Date	Drawn	Checked
10/01/19	YC-EC-AJ	IS-MG

Scale (at A1)
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Dwg. No.
123800 /CJ01/D



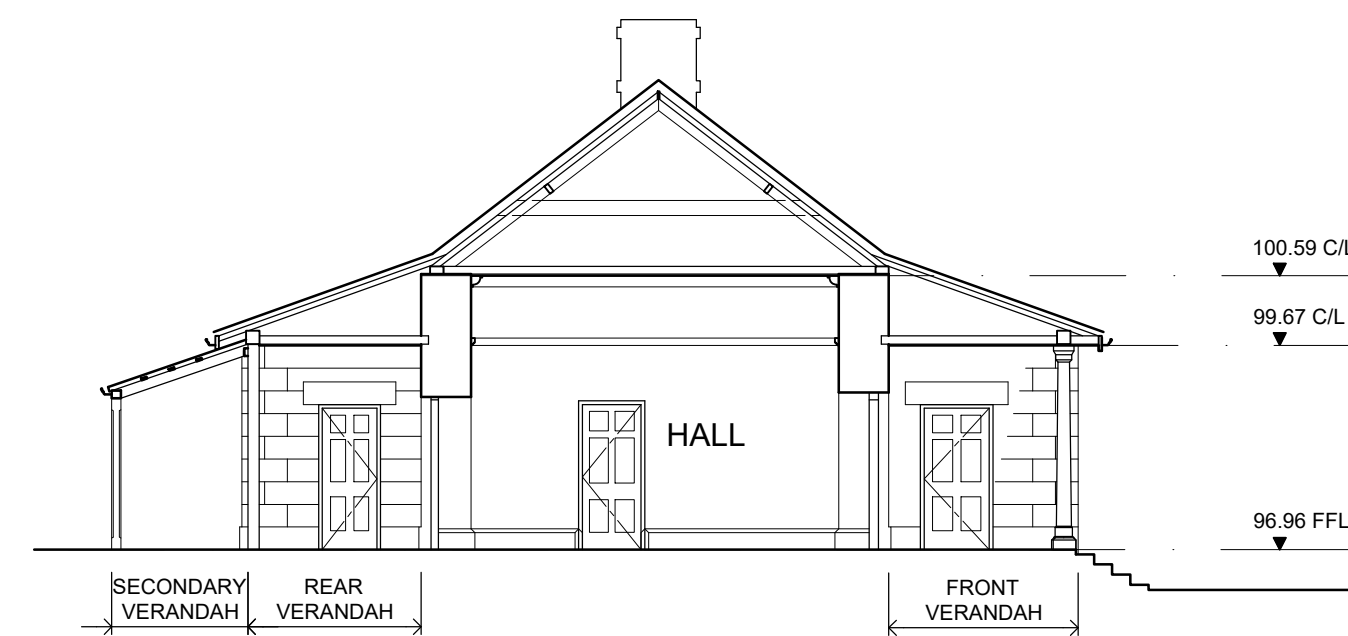
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HOMESTEAD MAIN & KIT. WINGS 123800el.dwg



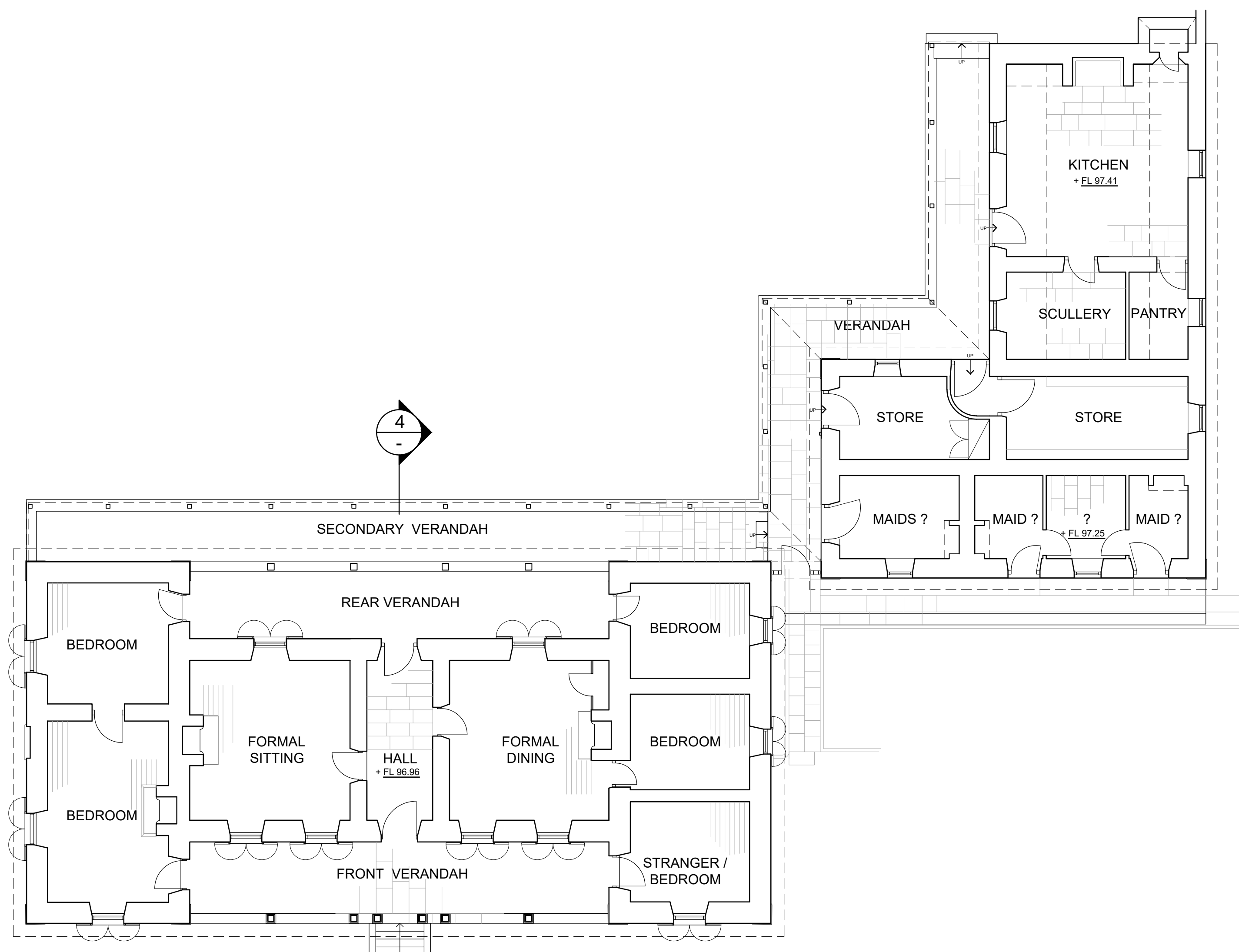
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HOMESTEAD MAIN & KIT. WINGS 123800el.dwg



3 NORTH ELEVATION
HOMESTEAD MAIN & KIT. WINGS 123800el.dwg



4 SECTION
HOMESTEAD MAIN & KIT. WINGS 123800sec.dwg



5 HOMESTEAD MAIN & KIT. WINGS CONJECTURAL FLOOR PLAN
Scale 1:100 123800fp.dwg

01-07-19	C	REVISION
30-04-19	B	REVISION
13-03-19	A	REVISION
Date	No.	Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
CONJECTURAL
HOMESTEAD MAIN & KIT. WINGS
PLAN & ELEVATIONS

**LUCAS
STAPLETON
JOHNSON**
LSJ Heritage Planning & Architecture

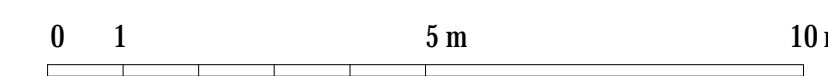
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Nominated Architect: Ian Stapleton

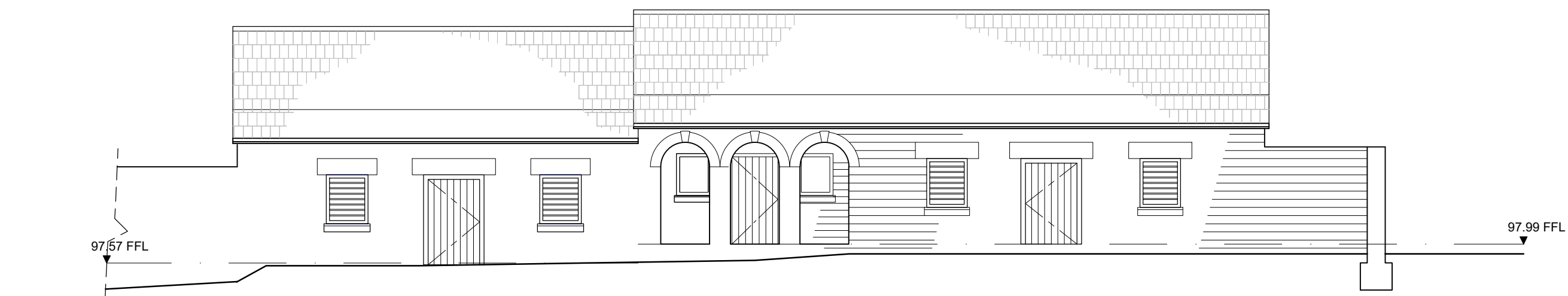
Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

Date	Drawn	Checked
10/01/19	YC-AJ-EC	IS-MG

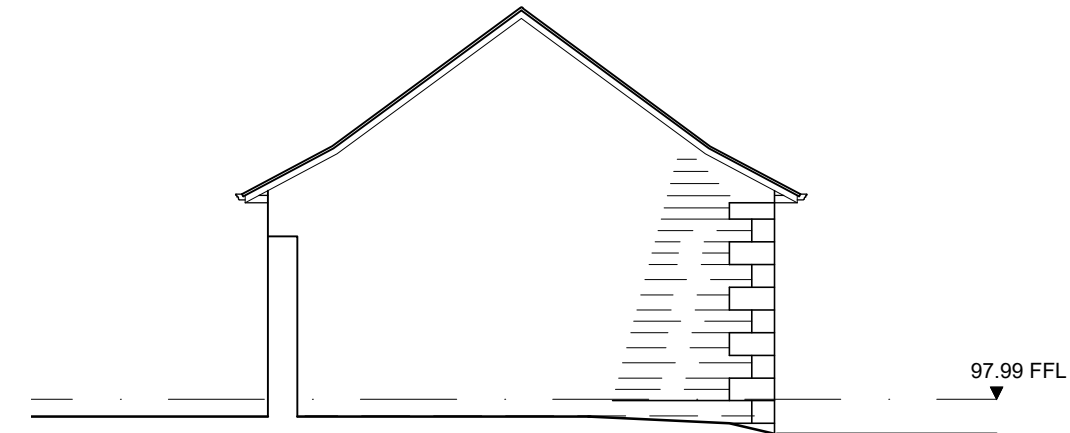
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Dwg. No.
123800 /CJ02/ C

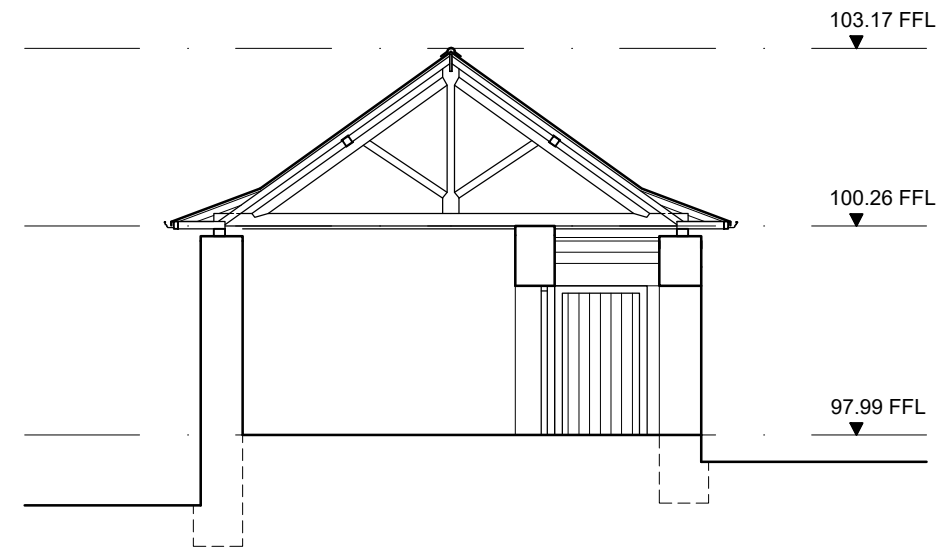




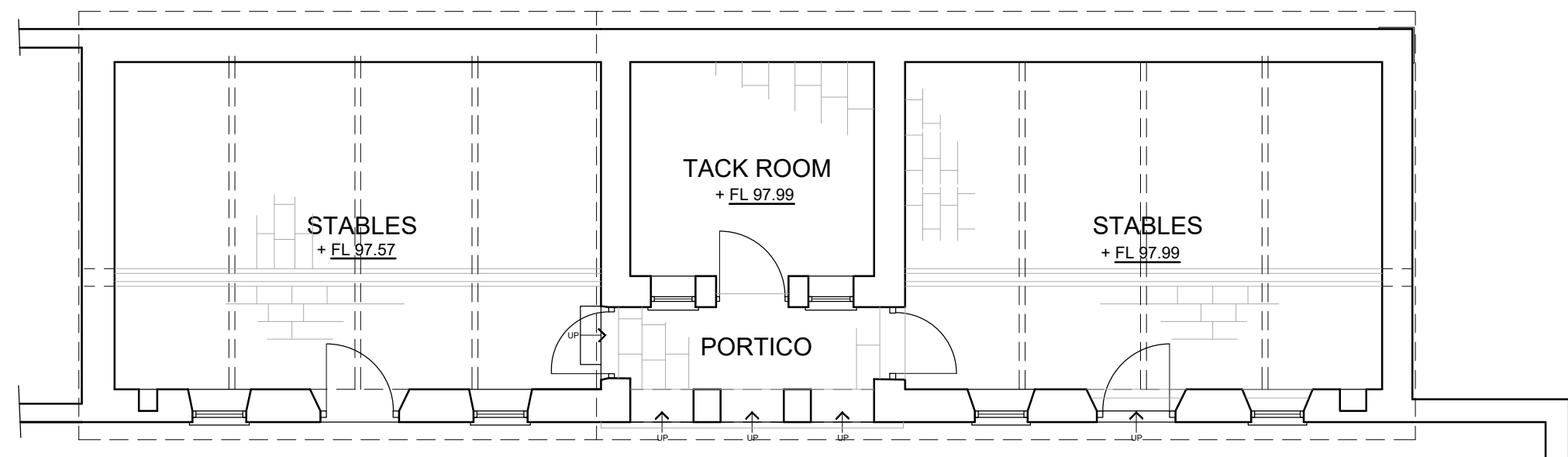
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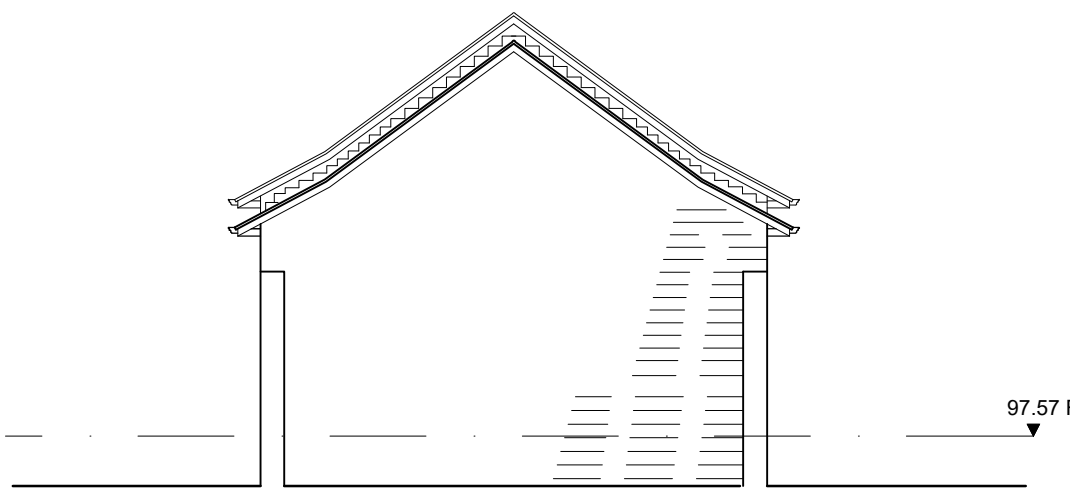
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Scale 1:100 123800el.dwg



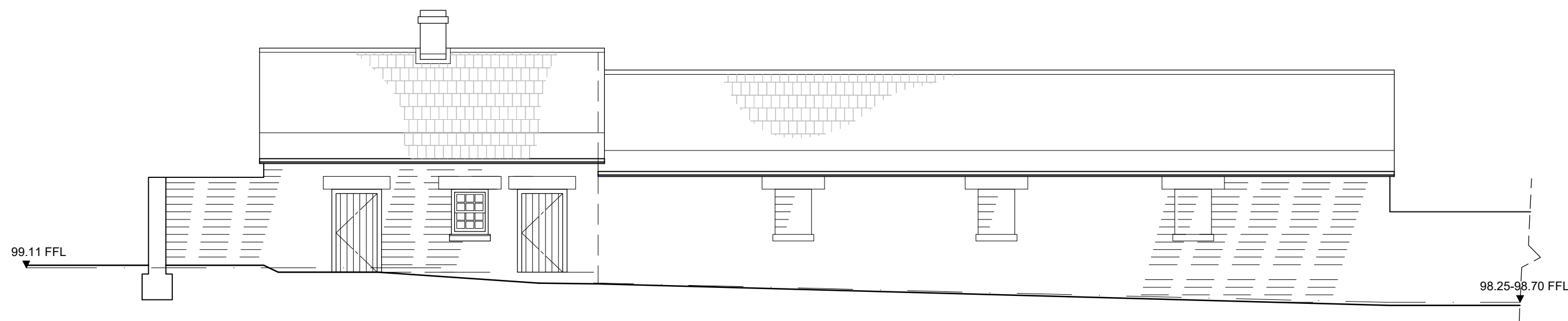
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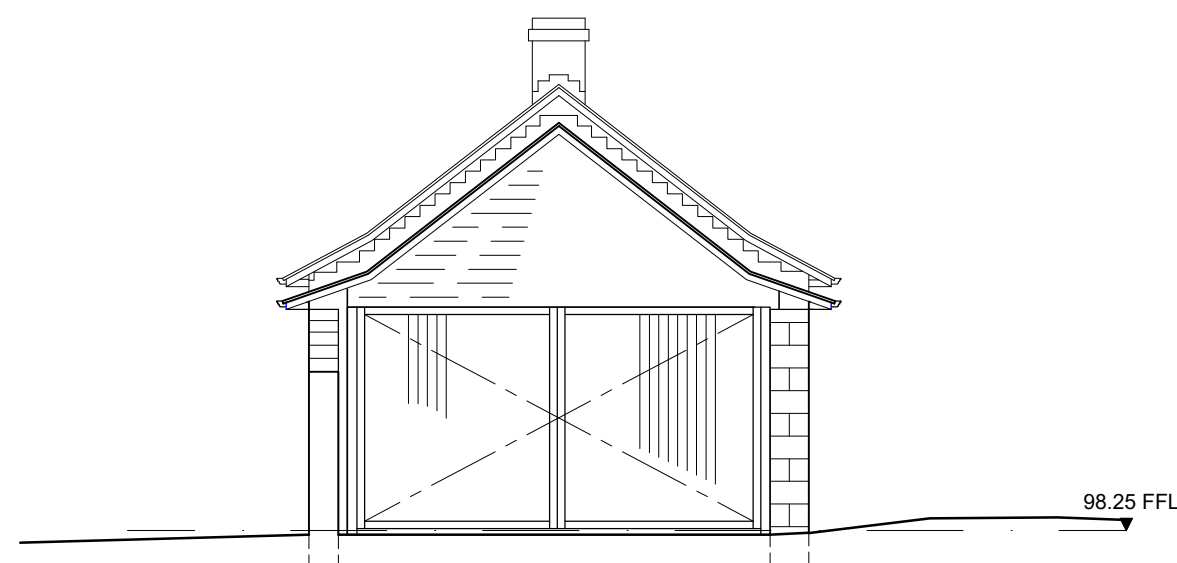
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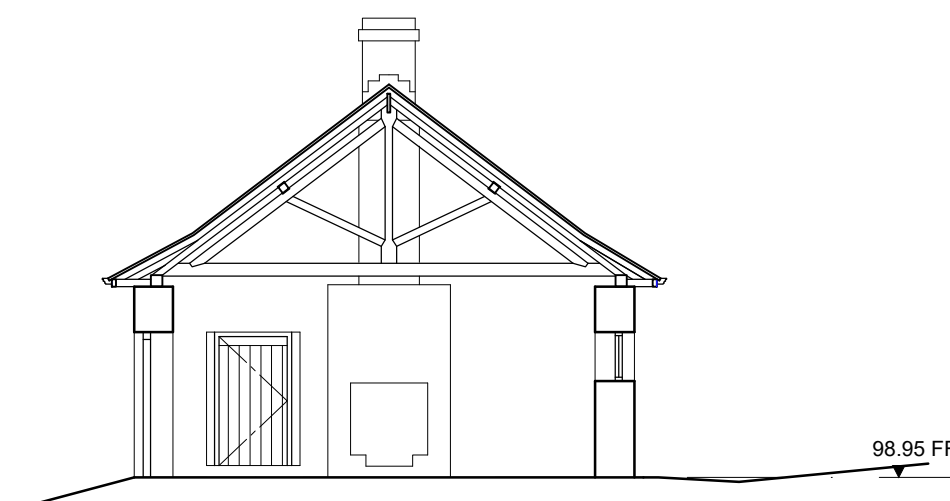
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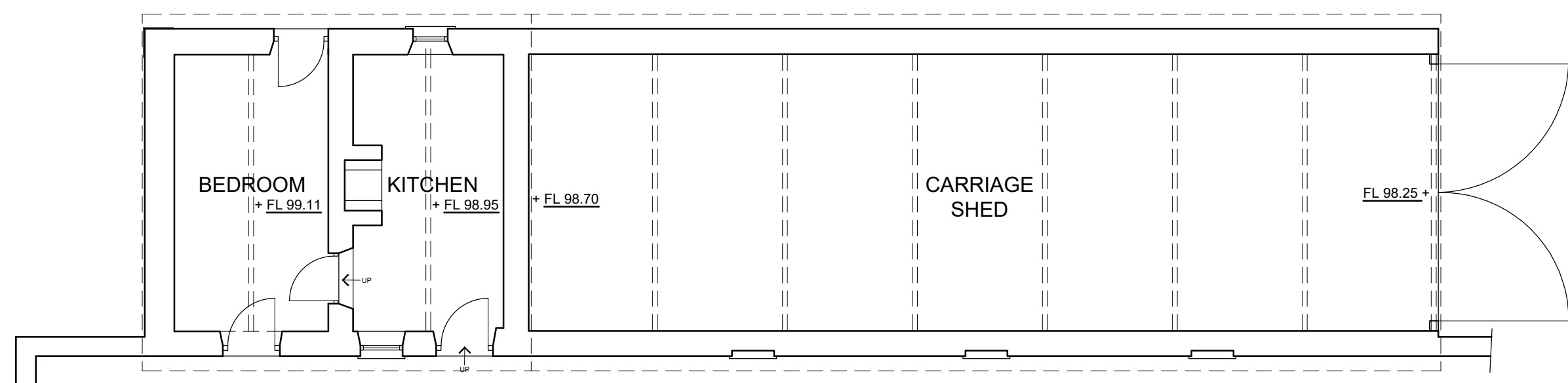
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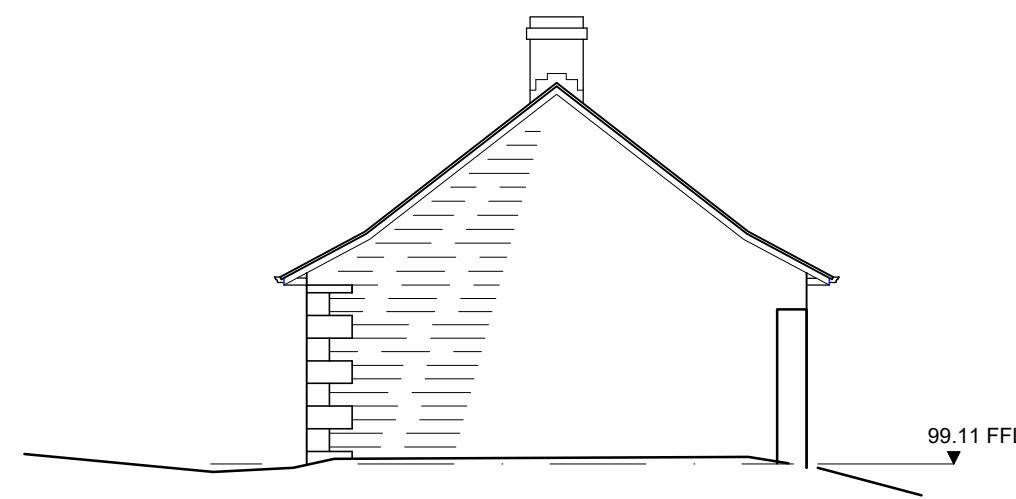
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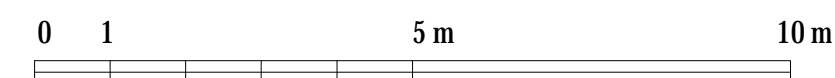
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7 BARN - FLOOR PLAN
Scale 1:100 123800fp.dwg



9 BARN - NORTH ELEVATION
Scale 1:100 123800el.dwg



01-07-19	C	REVISION
30-04-19	B	REVISION
13-03-19	A	REVISION
Date	No.	Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
CONJECTURAL
STABLES & BARN
PLANS & ELEVATIONS

**LUCAS
STAPLETON
JOHNSON**
LSJ Heritage Planning & Architecture

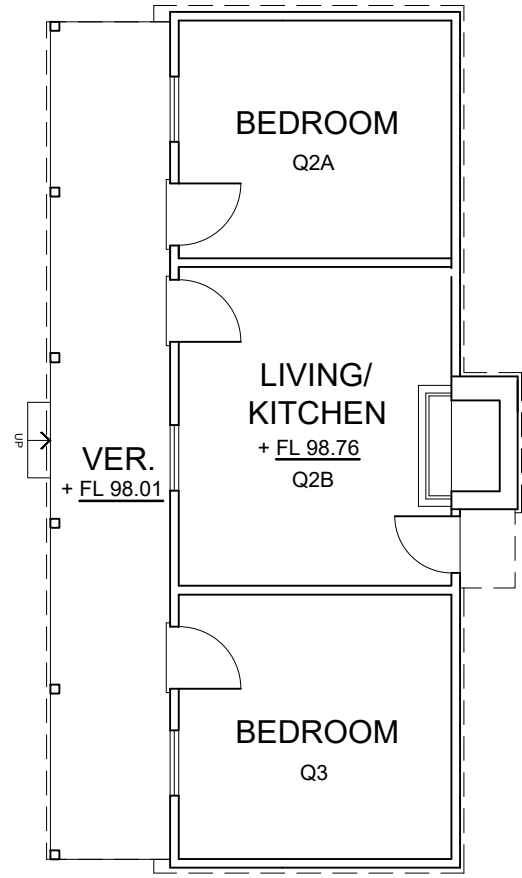
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton

Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

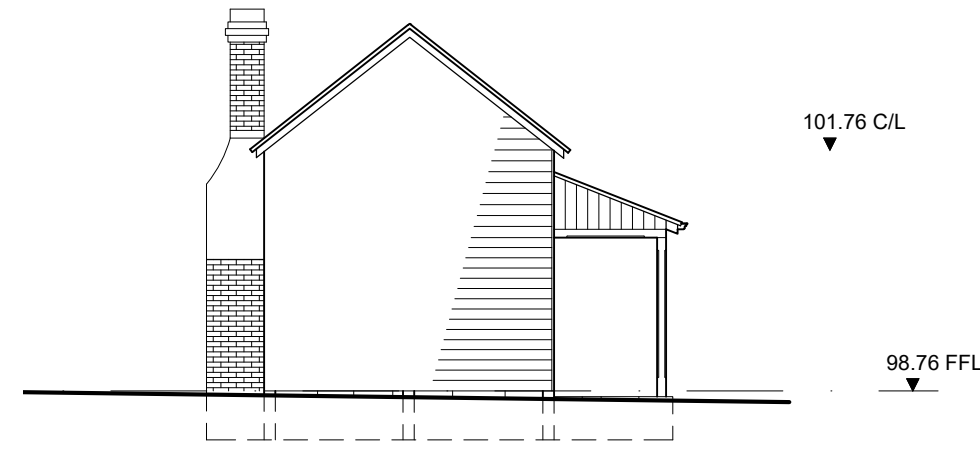
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01-10-19	YC-AJ-EC	IS-MG

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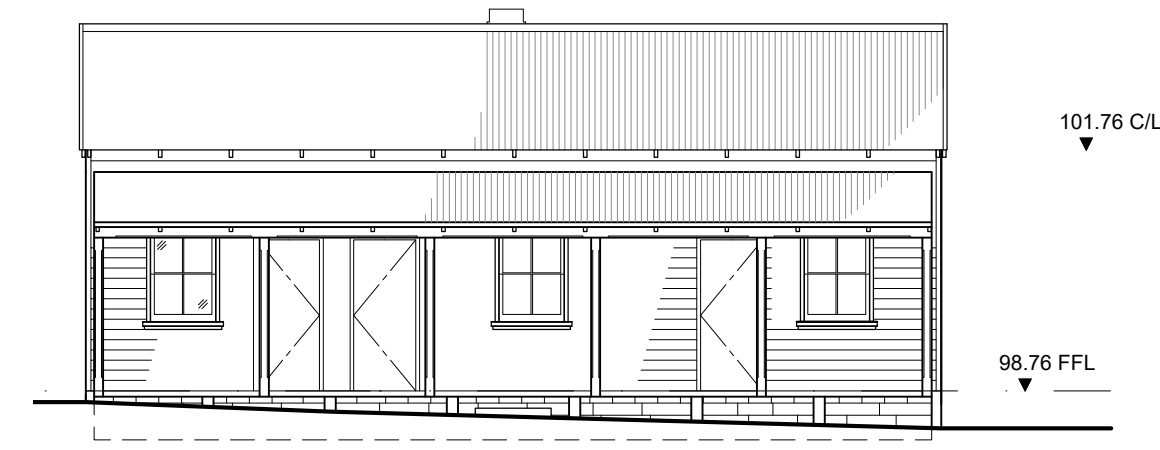
Dwg. No.
123800 /CJ03/ C



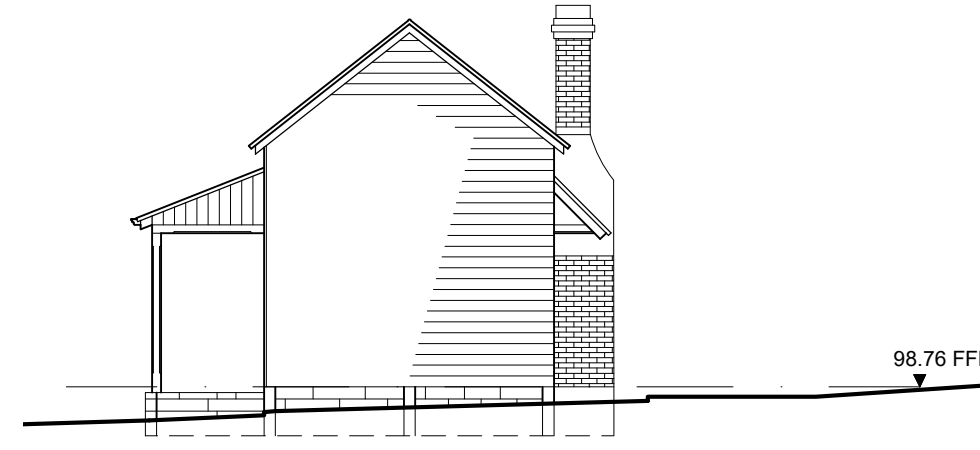
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Scale 1:100 123800fp.dwg



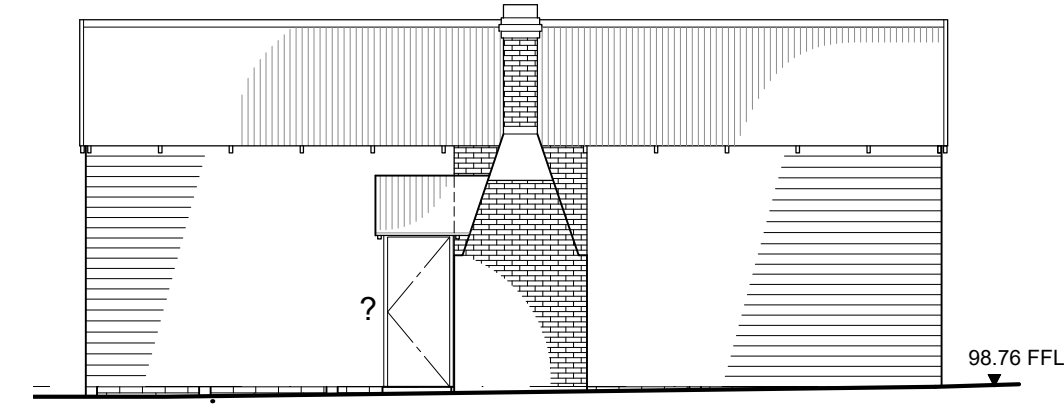
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Scale 1:100 123800el.dwg



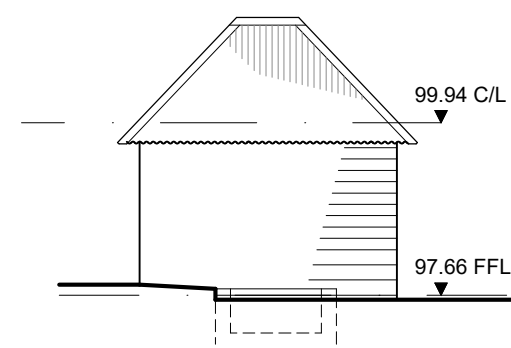
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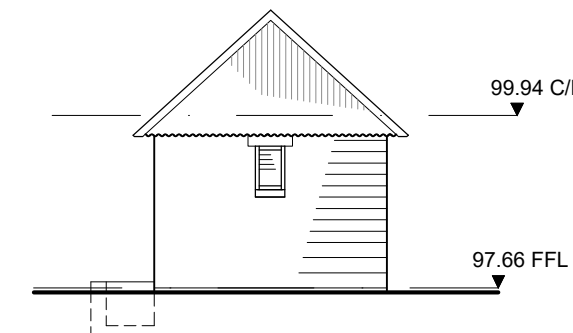
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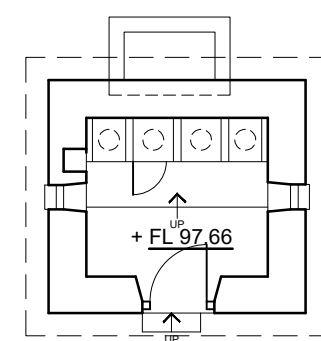
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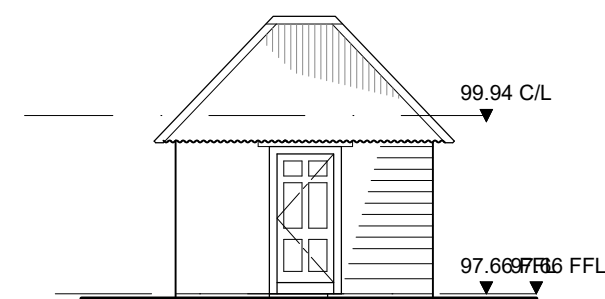
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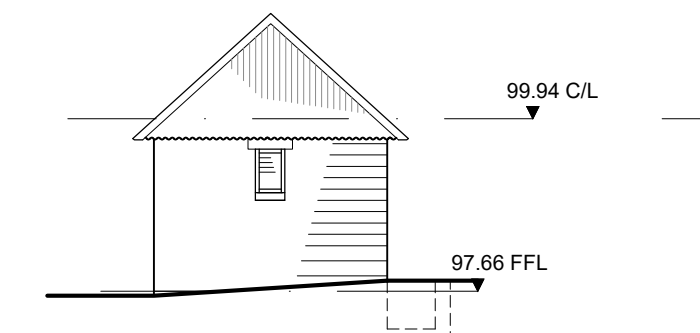
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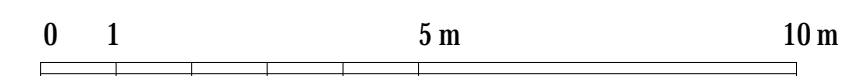
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9 PRIVY - SOUTH ELEVATION
Scale 1:100 123800el.dwg



10 PRIVY - EAST ELEVATION
Scale 1:100 123800el.dwg



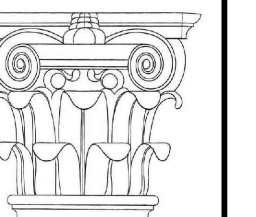
01-07-19	C	REVISION
30-04-19	B	REVISION
13-03-19	A	REVISION
Date	No.	Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
CONJECTURAL
MEN'S QUARTERS & PRIVY
PLANS & ELEVATIONS

**LUCAS
STAPLETON
JOHNSON**



LSJ Heritage Planning & Architecture

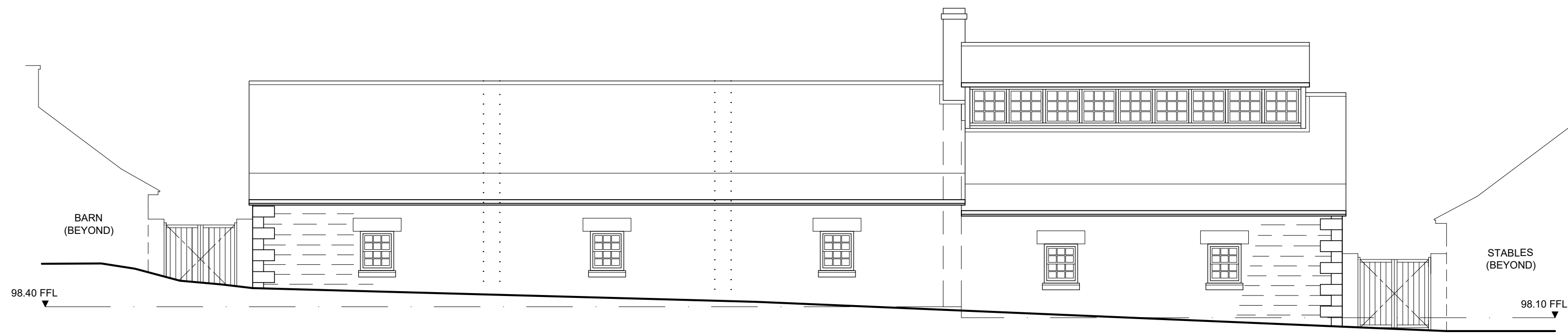
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton

Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

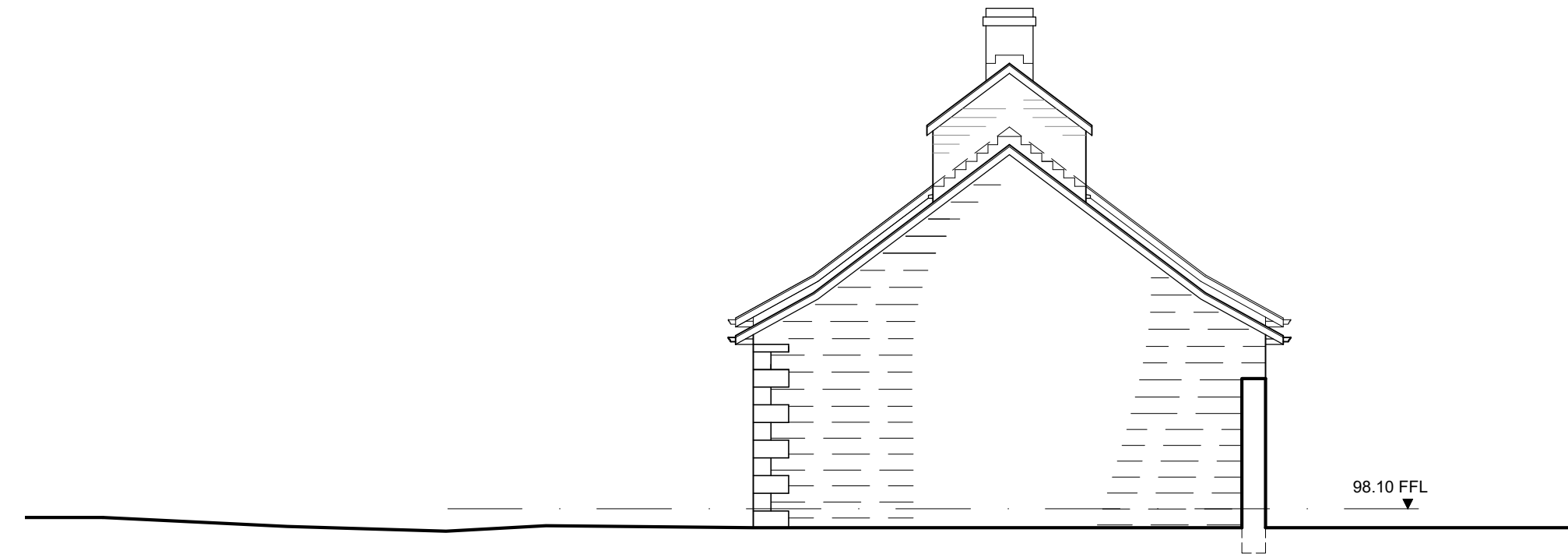
Date	Drawn	Checked
10/01/19	YC-EC-AJ	IS-MG

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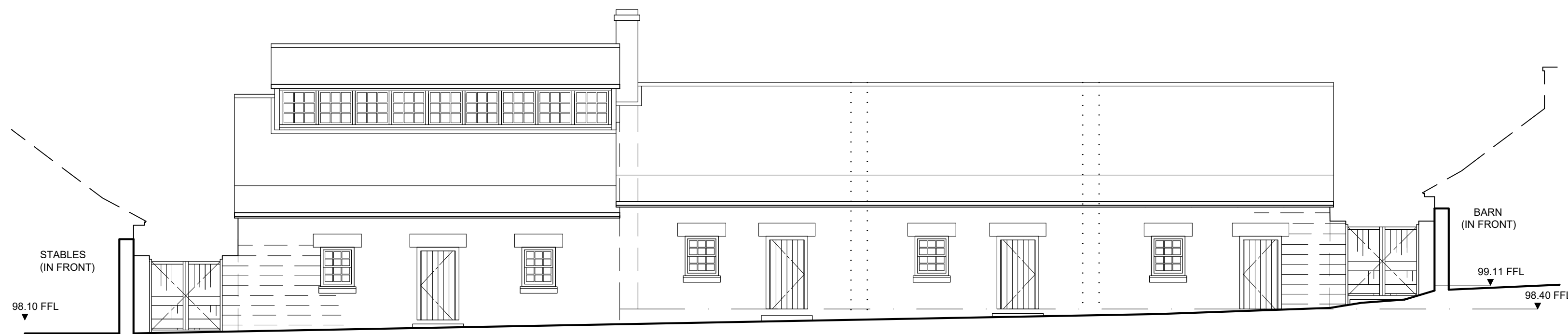
Dwg. No.
123800 /CJ04/ C



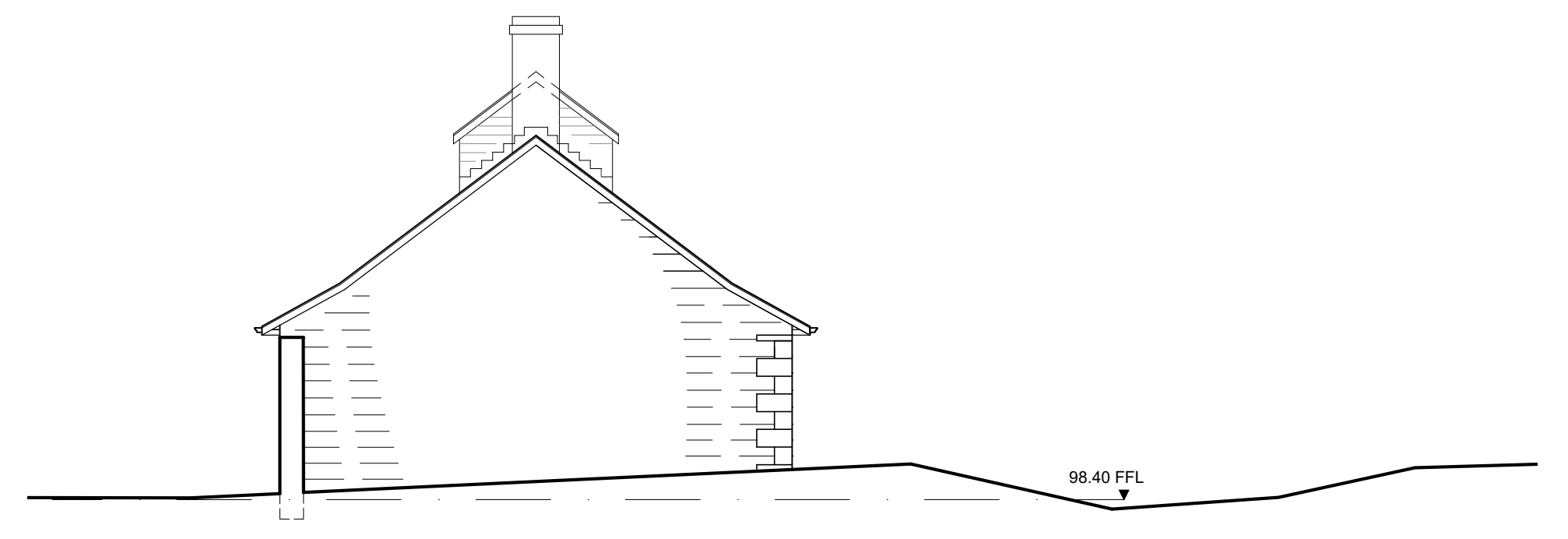
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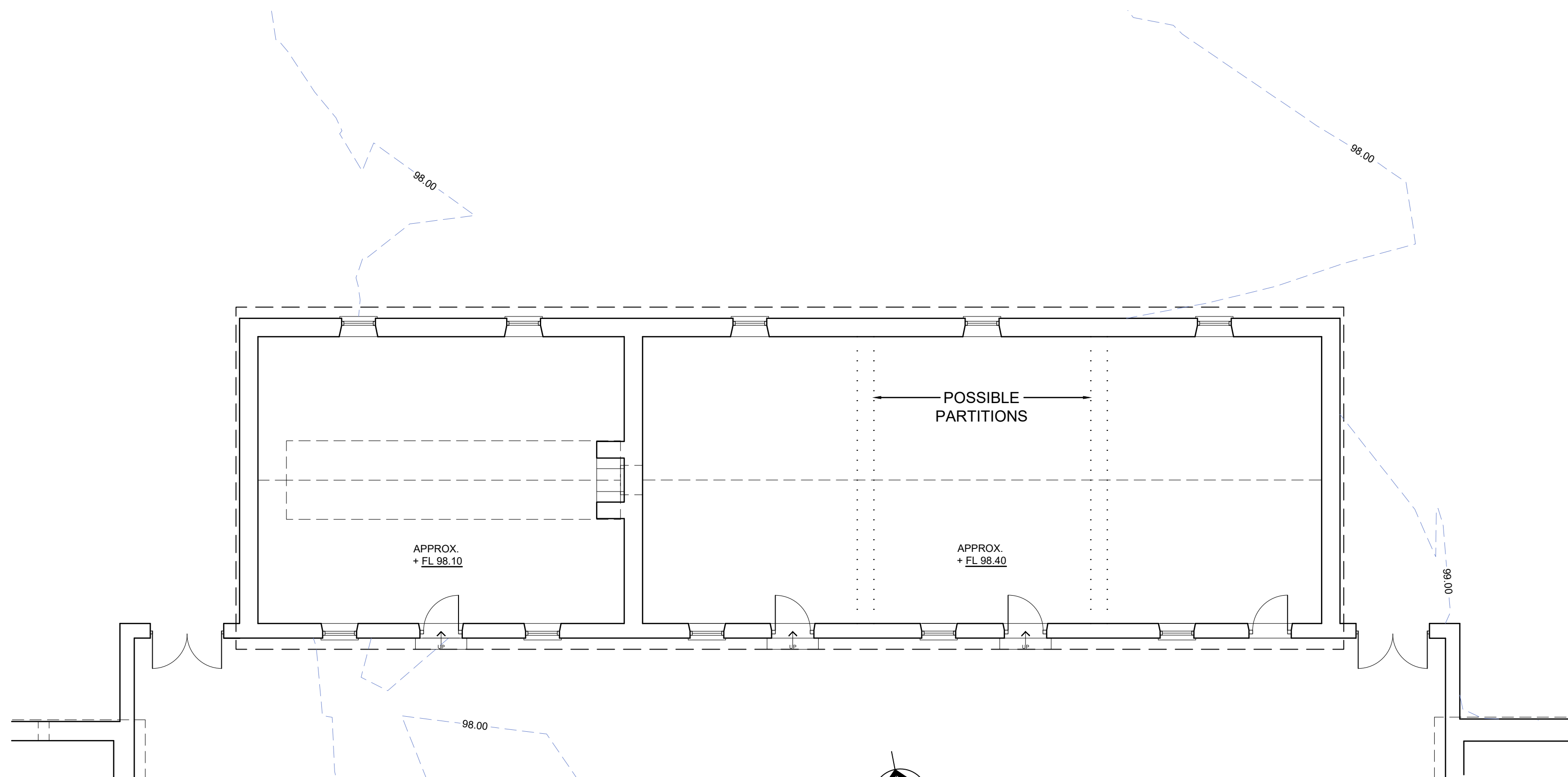
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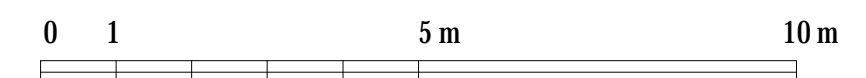
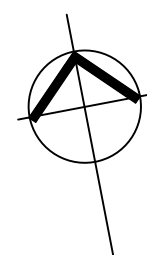
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3 CONVICT BARRACKS - EAST ELEVATION
Scale 1:100 123800el.dwg



1 CONVICT BARRACKS - FLOOR PLAN
Scale 1:100 123800fp.dwg



02-07-19
Date

A
No.

REVISION
Amendment

Job
RAVENSWORTH HOMESTEAD
HEBDEN ROAD, RAVENSWORTH

for:
MT OWEN PTY LTD

Dwg.
CONJECTURAL ORIGINAL
CONVICT BARRACKS
PLAN & ELEVATIONS

LUCAS
STAPLETON
JOHNSON
LSJ Heritage Planning & Architecture

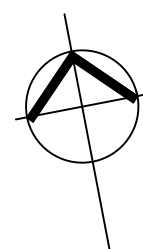
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton

Lucas Stapleton Johnson & Partners Pty Ltd
Suite 101, 191 Clarence Street, Sydney, NSW 2000
Telephone: (02) 9357 4811
Email: mailbox@lsjarchitects.com

Date 16/04/19 Drawn AJ Checked YC/ MG

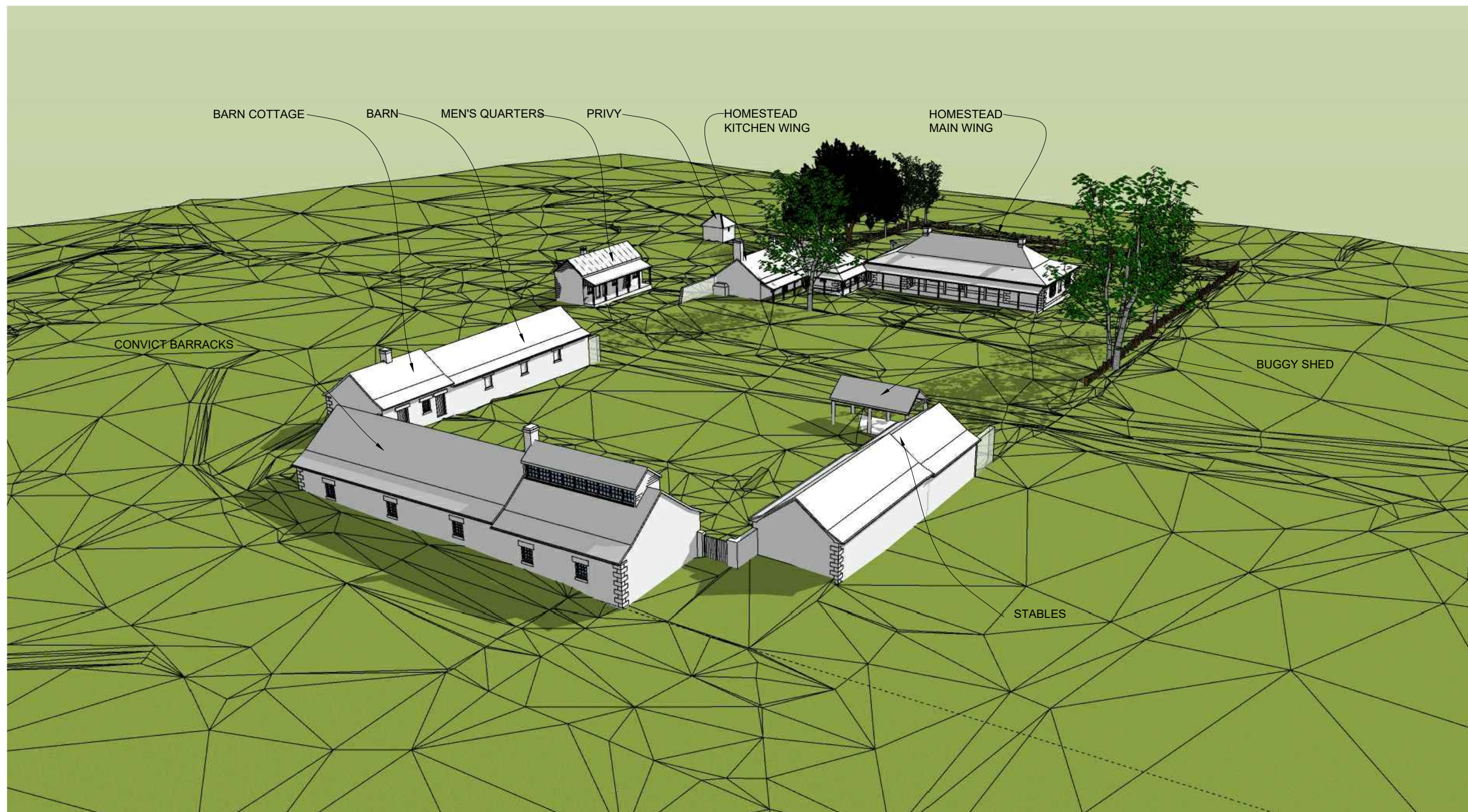
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Dwg. No.
123800 /CJ05/ A

 FENCE

A horizontal number line with tick marks at 0, 1, 5 m, and 10 m.

Date	No.	Amendment
Job		
RAVENSWORTH HOMESTEAD HEBDEN ROAD, RAVENSWORTH		
for:		
MT OWEN PTY LTD		
Dwg.		
CONJECTURAL BUGGY SHED & ARBOUR PLANS AND ELEVATIONS		
LUCAS STAPLETON JOHNSON		
L.SJ Heritage Planning & Architecture		
ACN 202 584 189	ABN 60 763 960 154	
Nominated Architect:	Ian Stapleton	
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, 191 Clarence Street, Sydney, NSW 2000		
Telephone:	(02) 9357 4811	
Email:	mailto:box@lsjarchitects.com	
Date	Drawn	Checked
15/04/19	AJ	YC-MG
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23800 /CJ06/		



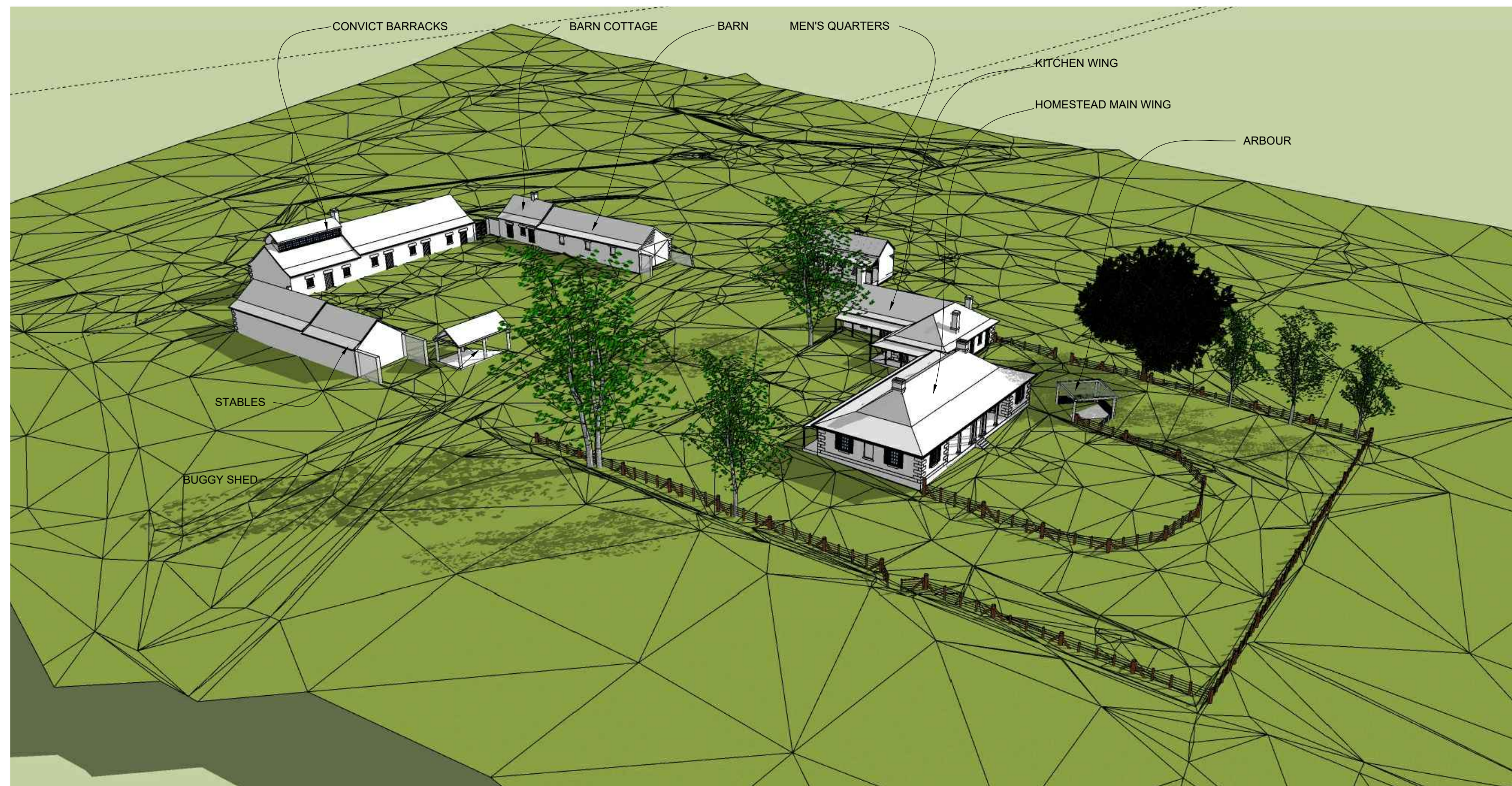
1 AERIAL VIEW FROM NORTH WEST
123800_SP.SK

17/07/19	B	AMENDED
04/07/19	A	AMENDED
Date	No.	Amendment

**LUCAS
STAPLETON
JOHNSON**

LSJ Heritage Planning & Architecture
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton (reg. 4032)
Websites: www.lsjarchitects.com
www.traditionalaustrianhouses.com

Date 28/05/19	Scale (at A3) NTS	Drawn YC/AJ/EC	Job RAVENSWORTH HOMESTEAD, HEBDEN RD,
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Australia Telephone: (02) 93574811 Email: mailbox@lsjarchitects.com			Dwg. CONJECTURAL SKETCH UP MODEL
© Lucas Stapleton Johnson & Partners Pty Ltd Check all dimensions. Figured dimensions to be taken in preference to scale.			Dwg. No. 123800 / CJ20/B



1 AERIAL VIEW FROM SOUTH WEST
123800_SP.SK

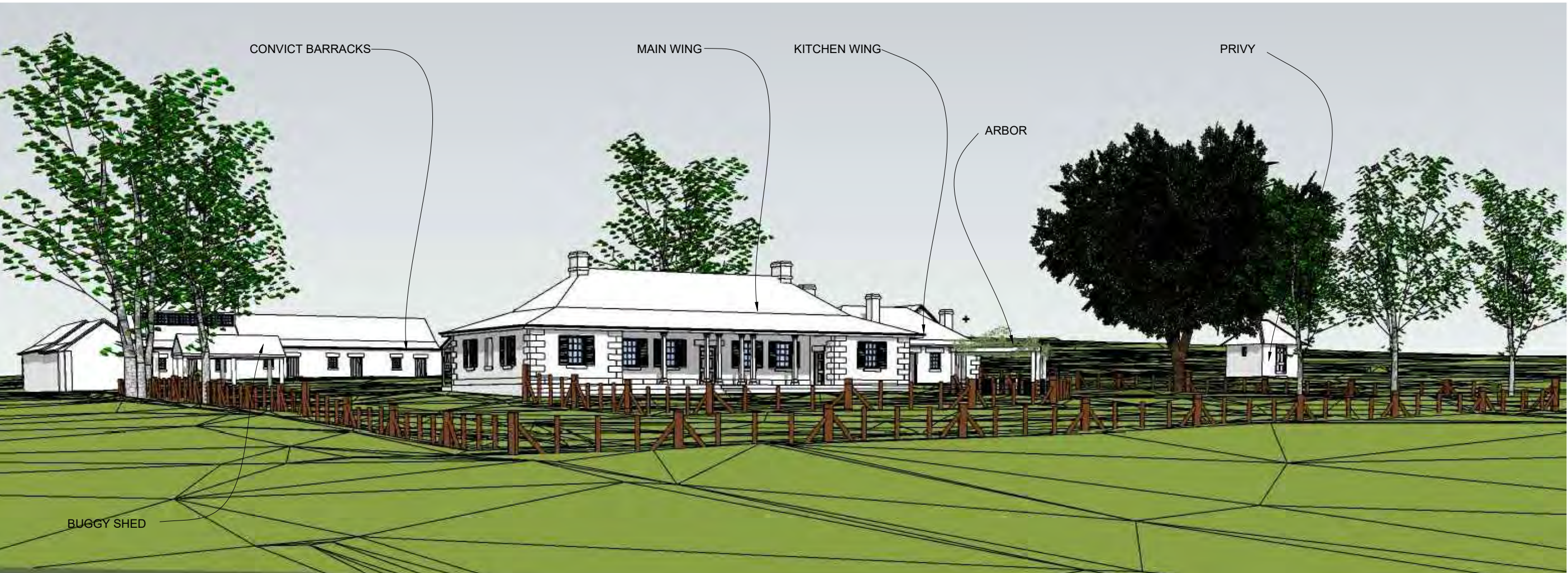
23/07/19	C	AMENDED
18/07/19	B	AMENDED
04/07/19	A	AMENDED
Date	No.	Amendment

**LUCAS
STAPLETON
JOHNSON**

LSJ Heritage Planning & Architecture
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton (reg. 4032)
Websites: www.lsjarchitects.com
www.traditionalaustralianhouses.com

Date 28/05/19	Scale (at A3) NTS	Drawn YC/AJ/EC	Job RAVENSWORTH HOMESTEAD, HEBDEN RD,
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Australia Telephone: (02) 93574811 Email: mailbox@lsjarchitects.com			Dwg. CONJECTURAL SKETCH UP MODEL
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VIEW FROM SOUTH WEST - APPROXIMATING
VIEWPOINT OF 1891 PHOTO (THE BULLETIN)

123800_SP.SK

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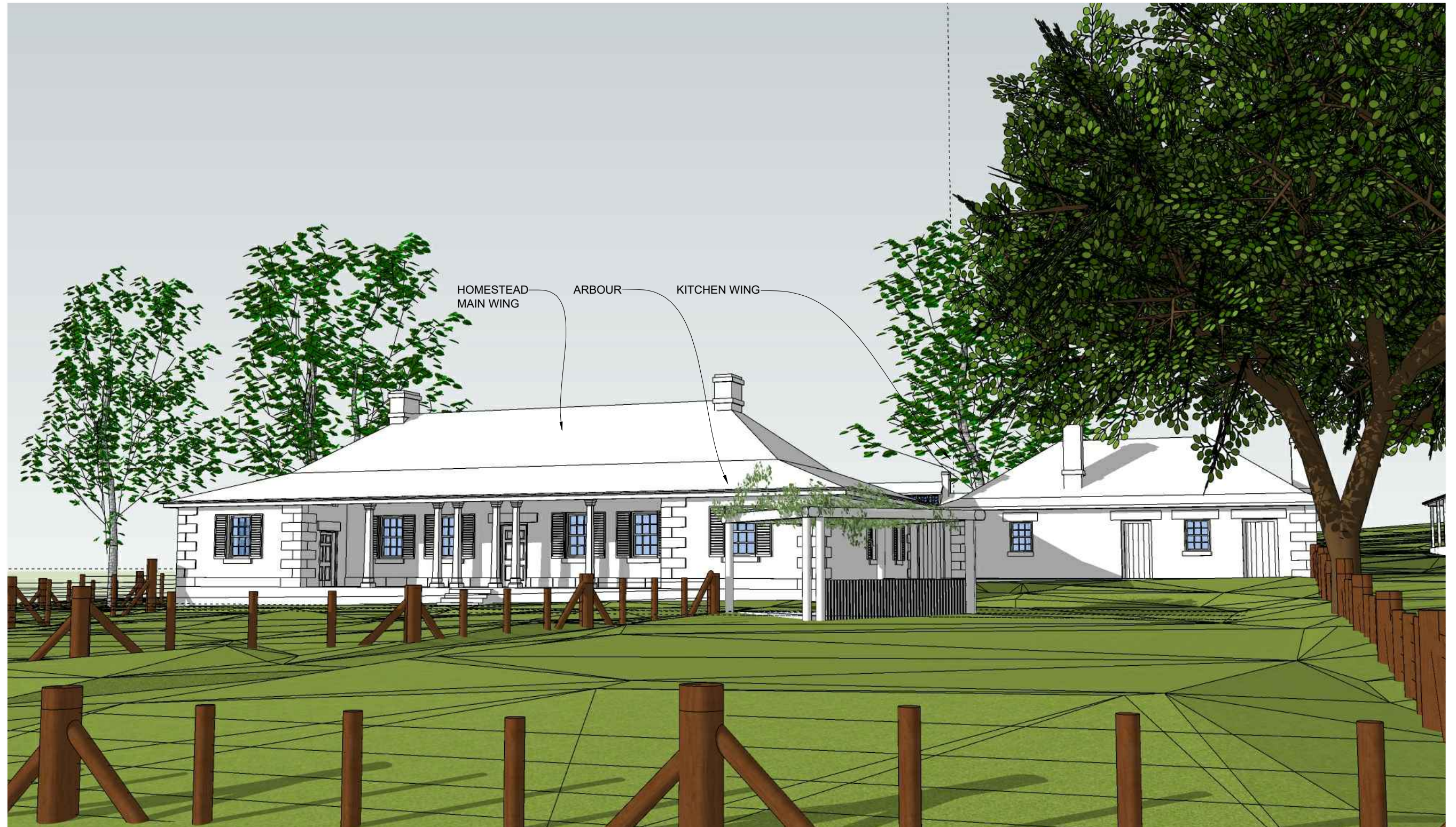
18/07/19	B	AMENDED
04/07/19	A	AMENDED
Date	No.	Amendment

**LUCAS
STAPLETON
JOHNSON**

LSJ Heritage Planning & Architecture
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton (reg. 4032)
Websites: www.lsjarchitects.com
www.traditionalaustralianhouses.com

Date 28/05/19	Scale (at A3) NTS	Drawn YC/AJ/EC	Job RAVENSWORTH HOMESTEAD, HEBDEN RD, RAVENSWORTH
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Australia Telephone: (02) 93574811 Email: mailbox@lsjarchitects.com			Dwg. CONJECTURAL SKETCH UP MODEL
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VIEW FROM SOUTH EAST - APPROXIMATING
VIEWPOINT OF 1902 PHOTO (SYDNEY MAIL)

123800_SP.SK

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04/07/19 A AMENDED
Date No. Amendment

**LUCAS
STAPLETON
JOHNSON**

LSJ Heritage Planning & Architecture
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton (reg. 4032)
Websites: www.lsjarchitects.com
www.traditionalaustralianhouses.com

Date 28/05/19	Scale (at A3) NTS	Drawn YC/AJ/EC	Job RAVENSWORTH HOMESTEAD, HEBDEN RD,
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Australia Telephone: (02) 93574811 Email: mailbox@lsjarchitects.com			Dwg. CONJECTURAL SKETCH UP MODEL
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0 10 20 30 40 50 100mm



1
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VIEW FROM NORTH-EAST TO KITCHEN WING AND MAIN WING
123800_SP.SK

04/07/19 A AMENDED
Date No. Amendment

**LUCAS
STAPLETON
JOHNSON**

LSJ Heritage Planning & Architecture
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton (reg. 4032)
Websites: www.lsjarchitects.com
www.traditionalaustralianhouses.com

Date 28/05/19	Scale (at A3) NTS	Drawn YC/AJ/EC	Job RAVENSWORTH HOMESTEAD, HEBDEN RD, RAVENSWORTH
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Australia Telephone: (02) 93574811 Email: mailbox@lsjarchitects.com			Dwg. CONJECTURAL SKETCH UP MODEL
©Lucas Stapleton Johnson & Partners Pty Ltd Check all dimensions. Figured dimensions to be taken in preference to scale.			Dwg. No. 123800 / CJ24/A

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VIEW FROM NORTH-WEST TO HOMESTEAD
123800_SP.SK

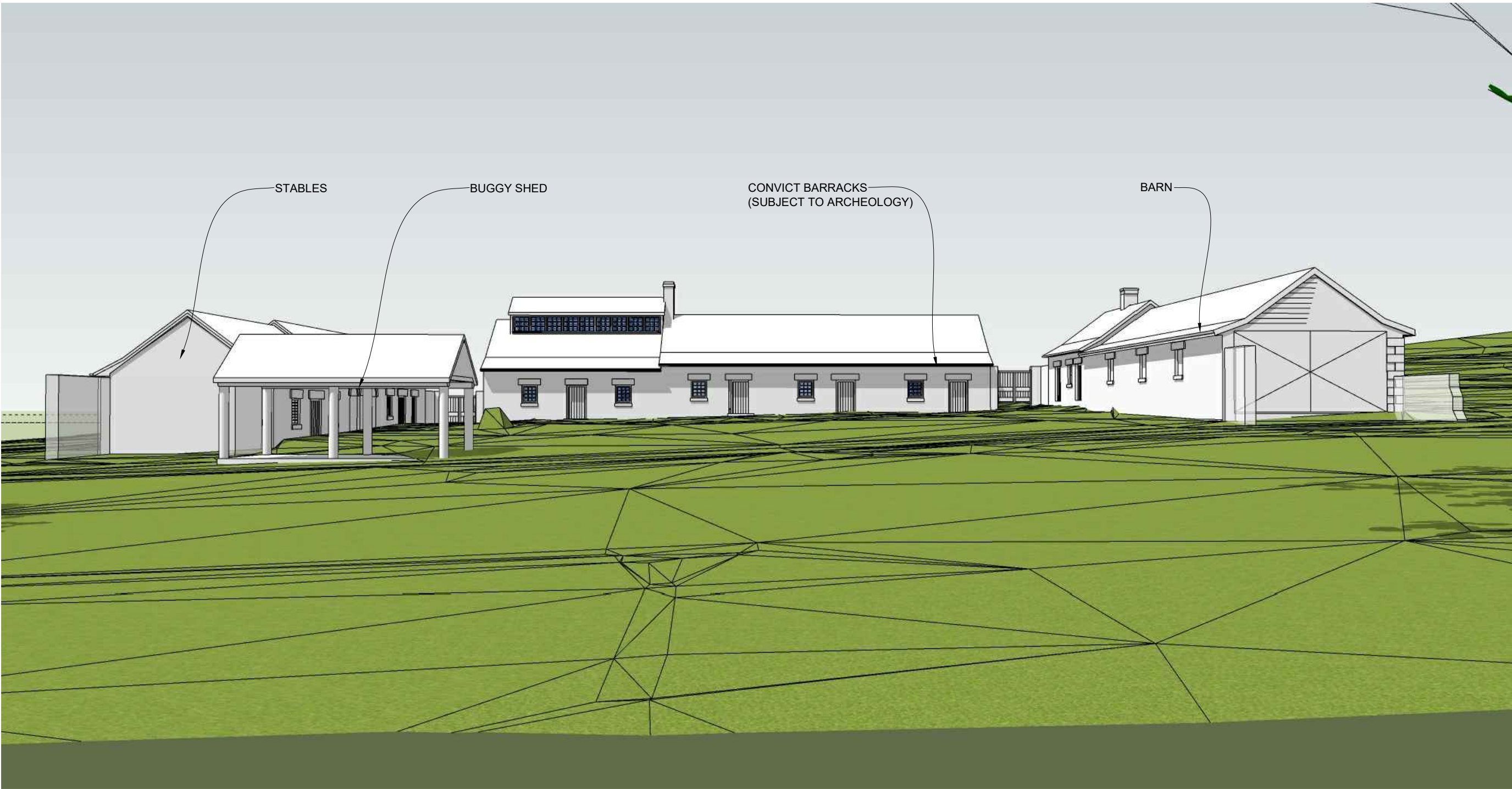
18/07/19 B AMENDED
04/07/19 A AMENDED
Date No. Amendment

**LUCAS
STAPLETON
JOHNSON**

LSJ Heritage Planning & Architecture
ACN 002 584 189 ABN 60 763 960 154
Nominated Architect: Ian Stapleton (reg. 4032)
Websites: www.lsjarchitects.com
www.traditionalaustrianhouses.com

Date 28/05/19	Scale (at A3) NTS	Drawn YC/AJ/EC	Job RAVENSWORTH HOMESTEAD, HEBDEN RD, RAVENSWORTH
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Australia Telephone: (02) 93574811 Email: mailbox@lsjarchitects.com			Dwg. CONJECTURAL SKETCH UP MODEL
©Lucas Stapleton Johnson & Partners Pty Ltd Check all dimensions. Figured dimensions to be taken in preference to scale.			Dwg. No. 123800 / CJ25/B

0 10 20 30 40 50 100mm



1
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VIEW FROM NORTH GARDEN TO FARM YARD

123800_SP.SK

22/07/19	C	AMENDED
18/07/19	B	AMENDED
04/07/19	A	AMENDED
Date	No.	Amendment

**LUCAS
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Date 28/05/19	Scale (at A3) NTS	Drawn YC/AJ/EC	Job RAVENSWORTH HOMESTEAD, HEBDEN RD, RAVENSWORTH
Lucas Stapleton Johnson & Partners Pty Ltd Suite 101, Level 1, 191 Clarence Street Sydney, NSW, 2000 Australia Telephone: (02) 93574811 Email: mailbox@lsjarchitects.com			Dwg. CONJECTURAL SKETCH UP MODEL
© Lucas Stapleton Johnson & Partners Pty Ltd Check all dimensions. Figured dimensions to be taken in preference to scale.			Dwg. No. 123800 / CJ26/C

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Appendix 23c

Historic Archaeological Test Excavation Report and Impact Statement for the Core Estate Lands

RAVENSWORTH HOMESTEAD COMPLEX

GLENDALL CONTINUED OPERATIONS PROJECT SSD 9349

HISTORICAL ARCHAEOLOGICAL TEST EXCAVATION REPORT AND IMPACT STATEMENT FOR THE CORE ESTATE LANDS

NOVEMBER 2019



Top Left and Right: Remains of foundation walls relating to the 1830s building identified as potential convict accommodation (TA4, TT4 and TT6). *Bottom Left:* Herringbone Paving (TA6, TT7). *Bottom Right:* Linear feature and postholes, part of larger unexcavated structure (TA5, TT2).

FINAL REPORT | Report to Mt Owen Pty Ltd, Glencore



**CASEY &
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ARCHAEOLOGY &
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EXECUTIVE SUMMARY

BACKGROUND

This report considers the historical (non-Aboriginal) archaeological remains of the Ravensworth Estate within Core Estate Lands and has been prepared as part of an Environmental Impact Statement (EIS) required under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act), in preparation for the proposed Glendell Continued Operations Project (the Project). The Glendell Mine forms part of the Mount Owen Complex (MOC) (Figure 1.1) and is situated within the original 1824 land grant to James Bowman.

The Project is a State Significant Development (SSD 9349) under the *Environmental Planning and Assessment 1978* (EP&A Act). Secretary's Environmental Assessment Requirements (SEARs) were issued by the Department of Planning and Environment on 07/06/2018 and revised SEARS issued on 11/07/2018.

The purpose of this report is to provide:

- Outcomes of the historical archaeological testing program outlined in the Historical Archaeological Assessment & Archaeological Research Design (HAA & ARD) prepared and discussed with the Heritage Division in September 2018 and undertaken under the SEARs.¹
- An impact assessment for the archaeology contained within Core Estate Lands (Section 6.0) including mitigation and management measures.
- Recommendations for further archaeological work within Core Estate Lands, including an Archaeological Research Design and Methodology (Section 7.0) should the project be approved.

RESULTS

The historical archaeological test excavation program at the Ravensworth Homestead Complex and surrounds has confirmed the survival of early and later 19th and early 20th-century archaeological remains across the site. Testing confirmed the presence of intact archaeological remains dating between 1830-1880s and has shown that their integrity is medium to high. The date and context of these remains means they are likely to be of State heritage significance. One area of testing outside of the homestead revealed other potential structures (TA7).

The main historical archaeological testing results included:

- *In situ* archaeological remains of buildings / structures in the form of stone foundations, post holes, wall cuts and paths to the north / northwest of the homestead main wing (Test Areas 4, 5 and 6), see Figure 3.1.
 - *In situ* archaeological foundations of a large partitioned structure or series of structures in the area identified as the convict barracks in Test Area 4, (see Figure 3.1, Figure 3.15).
 - At least two structures (walls, postholes, floors), located in trenches (TA5 TT2-4) to the north of the homestead complex (Figure 3.23). The artefacts associated with one structure (TT2) strongly indicating blacksmithing and horse farriering activities (large oval stone base, large pieces of unworked and worked

¹ Casey & Lowe 2018 *Ravensworth Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design*, report to Glencore (September 2018) – Appendix 4.

iron for structures, vehicles, various horse and possibly oxen shoes and equipage, and a leather hole punch presumably for straps and belts).

- Excavation beside the homestead main wing and immediate outbuildings (stables and barn) (TAs 3 and 4) revealed that the upper deposits and fills contained artefacts relating to the preparation, serving and consumption of food and drink.
- Evidence of a previously unknown structure identified in TA7 potentially dated to the Bowman era (1824-1850), given historically (based on maps and plans) there is no known development in this area (Figure 3.41).
- Bricks with a wide shallow frog, used in association with sandstone masonry in some structures, were probably locally hand-made from the clays and gravels, most probably on the property somewhere along one of the creek lines. They provide a good comparison for recent studies of early brickmaking in Sydney, Parramatta, and Newcastle. The bricks were used in a large well in TA6 (context 158), herringbone paving (Context 126), a chimney and other components of a multiroom structure investigated in TA6 TT7, TT8, and TT9. Future archaeological work may determine if they were used to construct structural elements of the original house and outbuildings.
- Archaeological evidence of agricultural activity in various areas, including plough marks (TA2 and 6 and in one of the Ozark trenches) - see Section 3.9.
- The investigation also recorded scatters and dumps of similar ceramics and glassware in different parts of the property, including the wall of the main dam and in several paddocks.

The HAA & ARD identified the potential for intact remains across the Project Area dating from the 1850's onwards as being low through to moderate and high.² While not specifically targeted as part of the archaeological program, the physical evidence of subdivision (including properties and fence lines) survives today and it is likely that any related archaeological remains survive. The potential remains are low, moderate and high for these phases.

RECOMMENDATIONS

If the Project is approved, a Heritage Management Plan should be developed, as approved by DPIE, to incorporate the archaeological mitigation measures provided in Table 6.2, and incorporating the following:

1. The archaeological remains identified within the impact area should be subject to a program of archaeological excavation *prior* to any impacts, including earthworks or excavation or civil works associated with mining, for the Project. This shall be undertaken by a suitably qualified historical archaeologist and directed by an historical archaeologist who fulfils the Excavation Director criteria of the Heritage Council of NSW at the State significance level.
2. Archaeological works should be undertaken in accordance with the Archaeological Methodology and Archaeological Research Design provided in Section 7.0 of this report. Section 7.0 provides an archaeological program for the archaeological work including:
 - a) Identification of the locations for further work and a methodology for the archaeological excavation covering testing, salvage, monitoring and burials.

² This is provided in detail in section 5.3 of Casey & Lowe 2018 *Ravensthorpe Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design*, report to Glencore (September 2018).

- b) An updated Archaeological Research Design³ provides for:
 - i. Archaeological salvage of the site including underfloor deposits, the well and cistern not subject to the archaeological testing program and any locally significant sites identified as needing archaeological salvage as part of the Statement of Heritage Impact.
 - ii. Detailed recording of the site through open area stratigraphic excavation and planning, photography, survey and photogrammetry.
 - iii. Cataloguing of all artefacts recovered from the site including a database for the artefact catalogue and analysis and reporting on artefact categories.
 - c) Final archaeological reporting including the identification of a secure storage location for the relics recovered during the excavation.
 - d) Allows for a Public Open Day(s), to be held at an appropriate time during the archaeological program, and provision of information about the archaeological program.
 - e) A plan for the interpretation and public dissemination of the results of the archaeological program.
3. The final Archaeological Investigation Report will be supplied within two years of the completion of the archaeological program to the Department of Planning, Industry and Environment; the Heritage Council of NSW; Singleton Historical Society; Singleton Council and Hunter Living Histories, University of Newcastle.
 4. Given the presence of Aboriginal objects across the wider landscape, the archaeological program for historical archaeology will need to be managed and undertaken alongside the archaeological program for Aboriginal archaeology, particularly the potential for evidence of Aboriginal / European interactions.
 5. The Proponent, as owner of the relics, will provide permanent storage for historic artefacts recovered from the site or find an appropriate body prepared to take permanent ownership of the material (in consultation with the Heritage Council of NSW).
 6. Development of an unexpected finds protocol to manage the unexpected discovery of potential relics during initial ground disturbance. This should include details of what constitutes an archaeological relic for the Project, stop work procedures, procedures for contacting a suitably qualified archaeologist to assess the find, and processes for notification and consultation with the Heritage Council of NSW.
 7. An historical archaeological induction for the site must occur for all personnel undertaking work across the site that will involve surface disturbance activities. The induction should include a brief history of the site, provide and discuss a copy of the heritage / archaeological exclusion zones (where applicable) and details of how to deal with unexpected finds.
 8. All archaeological work will be undertaken in accordance with any Project specific conditions of approval, the Archaeological Research Design, relevant Heritage Council of NSW and Heritage Division guidelines, and archaeological best practice.

³ Updated from that provided in Casey & Lowe 2018 *Ravensthorpe Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design*, report to Glencore (September 2018):

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RAVENSWORTH HOMESTEAD COMPLEX

HISTORICAL ARCHAEOLOGICAL TEST EXCAVATION REPORT AND IMPACT STATEMENT FOR THE CORE ESTATE LANDS

1.0 INTRODUCTION

1.1 BACKGROUND

Ravensthworth Estate is situated in the Upper Hunter Valley, NSW, approximately 20 km northwest of Singleton and 24 km southeast of Muswellbrook, in the parish of Liddell. 'Ravensthworth' was the estate name given to the parcel of land granted to James Bowman in 1824.⁴ The estate comprised several historic features, including:

- The Ravensthworth Homestead Complex (extant) and farm complex (the earliest phases constructed across the late 1820s / early 1830s) including:
 - a) A wheat silo, located on House Tank Hill, constructed in the late 1830s.
 - b) A wool shed and stable, erected c.1882-1887 and demolished in the early 20th century.
 - c) Several former huts and cottages, as well as other structures associated with the homestead complex, probably demolished in the early 20th century.
- An earlier, mid-1820s house (First Homestead Site).

Also located on the Estate lands were:

- A section of the (old) Great Northern Road, c.1820s.
- A section of Great Northern Railway dating to the 1860s, including Ravensthworth station (located within the Ravensthworth Estate, but outside the study area).
- Several (likely) 20th-century dairies, cattle yards and dwellings.

The Ravensthworth Homestead Complex comprises five buildings, the main homestead wing (c.1832, with later 1840s and 20th-century additions), a privy (c.1832), two outbuildings – the Stables and Barn (c.1830s), and a 20th-century cottage – the Men's Quarters (c.1900).

Casey & Lowe, Archaeology & Heritage, were engaged by Mt Owen Pty Ltd (Glencore) to undertake an Archaeological Assessment which recommended the need for archaeological test excavations on the Ravensthworth Estate, in preparation for the proposed extension of coal mining operations at Glendell Mine, situated within the original 1824 Ravensthworth Estate land grant. Glendell Mine is an open-cut mine and forms part of the Mount Owen Complex, located within the Hunter Coalfields, NSW (Figure 1.1). The following report has been prepared in order to establish the historical archaeological potential and archaeological significance of the Ravensthworth Estate, to inform the Environmental Impact Statement (EIS) for the Project.

⁴ H.35.663, Crown Plan in Casey & Lowe 2018 Ravensthworth Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design, report to Glencore (September 2018): p. 22.

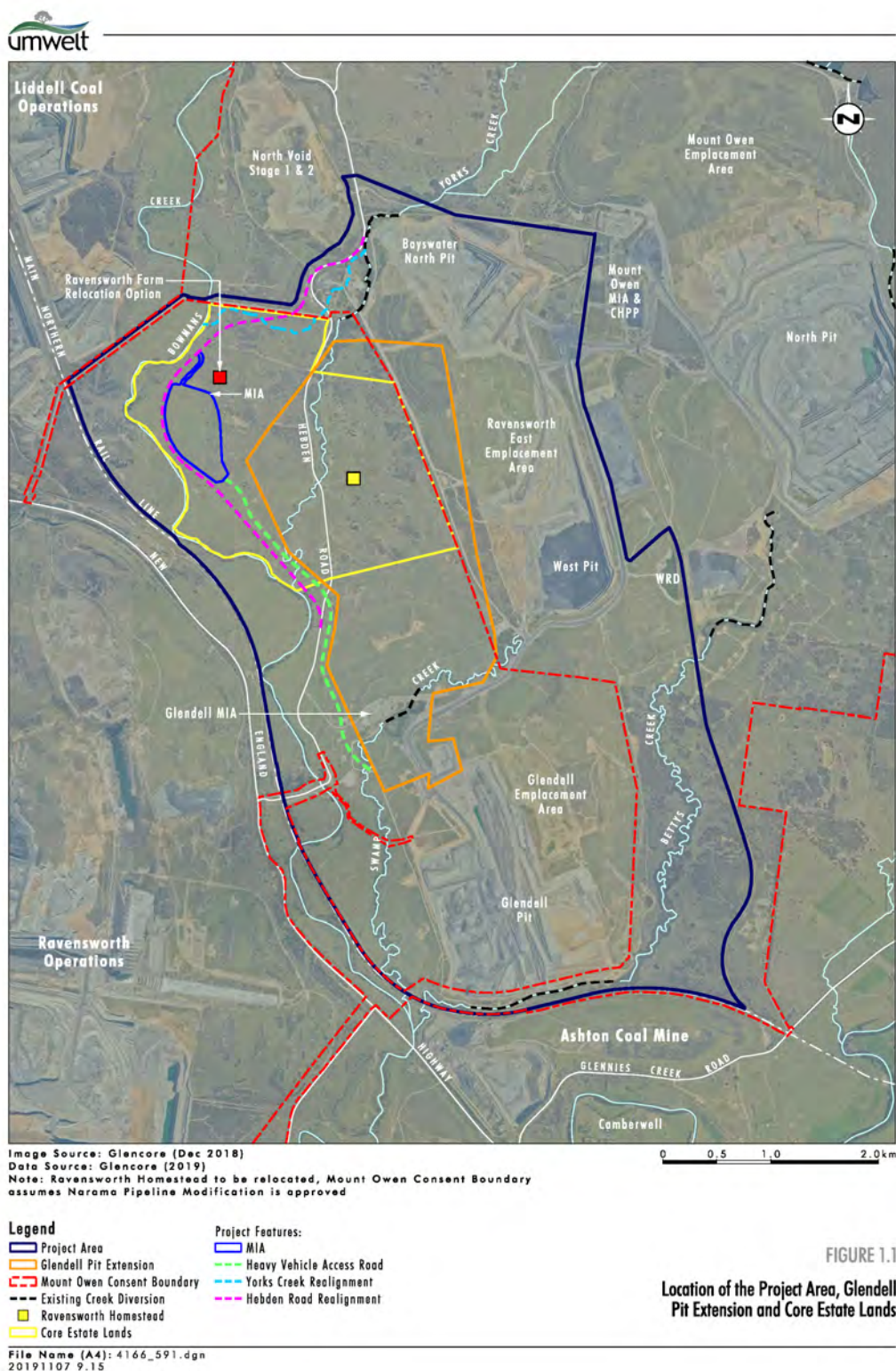


Figure 1.1: Location of the Project Area, Glendell Pit Extension and Core Estate Lands. Source: Umwelt.

1.2 THE PROJECT

The Glendell Mine forms part of the Mount Owen Complex in the Hunter Region of New South Wales (NSW) and is owned and operated by subsidiaries of Glencore Coal Pty Limited (Glencore). The site is part of the Hunter Valley Coalfields and is located approximately 20km northwest of Singleton in the Singleton Local Government Area. The Mount Owen Complex also includes Mount Owen Mine, Ravensworth East Mine, a coal handling and preparation plant (CHPP) and coal transport infrastructure.

The Glendell Continued Operations Project (the Project) is an extension of open cut mining operations immediately to the north of the existing Glendell Mine (refer to Figure 6.1). The Project would extend the life of the Glendell Mine to approximately 2044 and allow for the recovery of approximately 135 million tonnes of ROM coal and provide ongoing employment for existing Mount Owen Complex workforce.

The Project is a State Significant Development (SSD 9349) under the *Environmental Planning and Assessment 1978* (EP&A Act). Revised Secretary's Environmental Assessment Requirements (SEARs) were issued by the Department of Planning and Environment on 11/07/2018.

In relation to heritage, the SEARs for the Project requires:

- an assessment of the potential impacts of the development on Aboriginal heritage (cultural and archaeological), including consultation with relevant Aboriginal communities/parties and documentation of the views of these stakeholders regarding the likely impact of the development on their cultural heritage;
- identification of historic heritage in the vicinity of the development and an assessment of the likelihood and significance of impacts on heritage items, having regard to the relevant policies and guidelines listed in Attachment 1⁵; and
- in relation to Ravensworth Homestead, the EIS must include:
 - a) a detailed heritage significance and historical archaeological assessment of the homestead, including consideration of its surrounding garden and landscape;
 - b) an analysis of all reasonable and feasible options to preserve the Homestead (including leaving in situ);
 - c) if relocation is selected as the preferred option, please include an analysis of all feasible relocation options and how the Ravensworth Homestead Advisory Committee was involved in the decision.

1.3 TESTING METHODOLOGY

The agreed testing and reporting methodology were designed to respond to the SEARs and is outlined in the Historical Archaeological Assessment & Archaeological Research Design (HAA & ARD), prepared and discussed with the Heritage Division in September 2018, provided in Appendix 4.⁶

The purpose of the testing program, given the large scale of the property, was to undertake targeted archaeological excavation of potentially State-significant sites related to the Bowman era, including the Ravensworth Homestead Complex, the surrounding cultivation areas (along Yorks Creek), and the site of the nearby First Homestead Site (potential) to:

⁵ See Section 2.1.2 of the Casey & Lowe 2018 *Ravensworth Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design*, report to Glencore (September 2018) for the guidelines referred to in the SEARs.

⁶ Casey & Lowe 2018.

1. Determine the survival, extent and location of the potential archaeological resource.
2. Clarify the archaeological potential and significance of areas of potential State and/or local significance.
3. Inform the environmental assessment process and any options proposed as part of the Project, including the potential to relocate the homestead.

Fieldwork occurred between 29 October and 16 November, 2018. A total of 29 trenches across seven Test Areas (see Figure 3.1) were archaeologically investigated. The size and scale of the proposed test trenches varied to take into account ground conditions. Where trenches were excavated and no features or relics were encountered, this result was confirmed by extending some of the trenches. The weather was hot for the majority of the excavation period, therefore where trenches encountered material of an ephemeral or fragile nature, they were quickly recorded and covered to minimise the risk to the archaeology. The ground was heavily compacted and difficult to excavate by hand. This was managed, where possible, by wetting and covering the ground the night before.

The trenches were cleaned by hand using tools such as trowels and hoes. This exposed and clarified the deposits and features. Some of the archaeological deposits and fills were tested by hand to aid dating and interpretation; this involved the excavation of a small sondage or section using a trowel or spade. The trenches were then photographed and planned to scale. The archaeological features and deposits were recorded on context sheets (context numbers 001 to 153). A representative sample of artefacts was collected by context from the mixed fills or demolition material removed mechanically from each trench, and also from the cleaning or testing of the archaeological deposits and features. These artefacts have been catalogued as per the HAA & ARD. This report serves as the detailed stratigraphic description and analysis of the archaeology uncovered during the testing program.

1.4 AUTHORSHIP AND EXCAVATION TEAM

Tony Lowe was the Excavation Director for the testing program, assisted by Kylie Seretis (Site Director), and Ronan McEleney (Trench Supervisor). The excavation team consisted of Maggie Butcher, Sandra Kuiters, Dr Gary Marriner, Dr Bernadette McCall, Dr Iona Kat McRae, Adam Pietrzak, Alexandra Seifertova, and Robyn Stocks.

As stated in the HAA & ARD, members from the Registered Aboriginal Parties (Gomery Cultural Consultants, Hunter Valley Aboriginal Corporation, Plains Clans of the Wonnarua People, Ungooroo Aboriginal Corporation, Ungooroo Cultural & Community Services, Wallagan Cultural Services, Wanaruah Local Aboriginal Land Council, Wonnarua Nation Aboriginal Corporation) alongside OzArk Environment & Heritage (OzArk) staff, were present during the excavations.

This report was prepared by Kylie Seretis, Director, and Ronan Mc Eleney, Senior Archaeologist, with contributions by Dr Gary Marriner, Robyn Stocks and Jane Rooke (all Casey & Lowe). The report was reviewed by Tony Lowe, Kylie Seretis and Dr Mary Casey.

1.5 ACKNOWLEDGEMENTS

This report has benefited from information and data provided by, and discussions with:

- the Project team including: Shane Scott, Bradly Snedden, Catherine Fenton, Ben Kemp and Guy French (all Glencore), Bret Jenkins, David Holmes and Bridie McWhirter (all Umwelt), Ian Stapleton, Kate Denny, Michael Gunn (all LSJ Heritage Planning & Architecture), Tim Duddy, Colleen Morris, Geoffrey Britton, Dr Terry

Kass, Dr Mark Dunn, Simon Wiltshier (Mott MacDonald), Dr Alyce Cameron, Ben Churcher, Stephanie Rusden, Philippa Sokol (all OzArk EHM) and Ann Hardy and Victoria Grey (both University of Newcastle).

- The Registered Aboriginal Parties present during the field work program - Georgina Berry, Kirsten Berry David Horton, Clifford Johnson, Allen Paget, Tracey Skene, Donna Swan, Steven Verey, Rhonda Ward, Maree Waugh.
- Geoff and Jenny Marshall, former owners of Ravensworth Homestead.
- Felicity Barry, Dr Siobhan Lavelle, James Quoyale, and Katrina Stankowski, Heritage Division OEH.

1.6 LIMITATIONS

This report is based on information recorded during the archaeological excavation, historical research, and maps and plans from the period. The purpose of the testing program, given the large scale of the property, was to undertake targeted archaeological excavation of potentially State-significant sites related to the Bowman era.

During the excavation program a number of Aboriginal objects were located across Test Area 6 in the vicinity of proposed test trenches 1, 2, 3 and 4 (and between two registered AHIMS artefact scatters 37-3-0753 and 37-3-0754). The objects were recorded by OzArk as Glendell North OS37 (37-3-1562) as a low-density artefact scatter comprising three flakes, one of which is broken into two pieces, and a mudstone core fragment (OzArk 2019). After discussions with OzArk, Glencore, and the onsite Registered Aboriginal Parties about the finds it was decided not to undertake work on the four trenches within this area.

1.7 ABBREVIATIONS

ARD	Archaeological Research Design
c.	circa
CSIL	Colonial Secretary, In Letters (SANSW)
EP&A Act	Environmental Planning and Assessment Act 1979
GPR	Ground Penetrating Radar
HAA	Historical Archaeological Assessment
LEP	Local Environment Plan
LRS	Land Registry Services
MIC	Minimum Item Count
TA	Test Area
TT	Test Trench

1.8 GLOSSARY

HISTORICAL ARCHAEOLOGY (NON-INDIGENOUS/EUROPEAN)

Historical Archaeology (in NSW) is the study of the physical remains of the past, in association with historical documents, since the British occupation of NSW in 1788. As well as identifying these remains the study of this material can help elucidate the processes, historical and otherwise, which have created our present surroundings. Historical archaeology includes an examination of how the late 18th and 19th-century arrivals lived and coped with a new and alien environment, what they ate, where and how they lived, the consumer items they used and their trade relations, and how gender and cultural groups interacted. The material remains studied include:

- Archaeological Sites:
 - below ground: relics which include building foundations, occupation deposits, rubbish pits, cesspits, wells, other features, and artefacts.

- above ground: buildings, works, agricultural and industrial structures, and relics that are intact or ruined.
- cultural landscapes: major foreshore reclamation
- maritime sites: infrastructure and shipbuilding
- shipwrecks
- structures associated with maritime activities.

ARCHAEOLOGICAL POTENTIAL

Archaeological potential is here used and defined as a site's potential to contain archaeological relics which fall under the provisions of the *Heritage Act 1977* (amended). This potential is identified through historical research and by judging whether current building or other activities have removed all evidence of known previous land use.

ARCHAEOLOGICAL SITE / ITEM

A place that contains evidence of past human activity. Below ground sites include building foundations, occupation deposits, features and artefacts. Above-ground archaeological sites include buildings, works, industrial structures and relics that are intact or ruined.

ARCHAEOLOGICAL INVESTIGATION OR EXCAVATION

The manual excavation of an archaeological site. This type of excavation on historic sites usually involves the stratigraphic excavation of open areas.

CORE ESTATE LANDS

Area of land containing the Ravensworth Homestead Complex and immediate surrounds with standing structures and known archaeological sites associated with the Bowman-period of occupation (Phase 1: 1824-1842), identified on Figure 6.2 (yellow outline).

RESEARCH DESIGN

A set of questions which can be investigated using archaeological evidence and a methodology for addressing them. An archaeological research design is intended to ensure that archaeological investigations focus on genuine research needs. It is an important tool that ensures that when archaeological resources are destroyed by excavation, their information content can be preserved and can contribute to current and relevant knowledge.

RESEARCH POTENTIAL

The ability of archaeological evidence, through analysis and interpretation, to provide information about a site that could not be derived from any other source and which contributes to the archaeological significance of that site and its 'relics'.⁷

THE PLACE

Refers to the 10,000 acre grant and former pastoral lands held by James Bowman and named Ravensworth.⁸

⁷ Taken from NSW Heritage Branch 2009 *Assessing Significance for Historical Archaeological Sites and 'Relics'*, Heritage Branch, Department of Planning [Sydney], p 11.

⁸ See Figure 3.2 in Casey & Lowe 2018 *Ravensworth Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design*, report to Glencore (September 2018).

2.0 STATUTORY CONTEXT

The following section provides advice regarding the primary statutory controls protecting the historical archaeological heritage of the study area, as well as relevant approvals processes for the Project.

2.1 ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979, PART 4 AND PART 5 (EP&A ACT)

The Environmental Planning and Assessment Act 1979 (EP&A Act) provides the statutory basis for planning and environmental assessment in NSW. The EP&A Act provides the framework for environmental planning and development approvals and includes provisions to ensure that the potential environmental impacts of a development or activity are assessed and considered in the decision-making process. The Minister for Planning, statutory authorities and local councils are responsible for implementing the EP&A Act.

The EP&A Act contains three parts that enforce requirements for planning approval. These are generally as follows:

- Part 4 provides for the assessment of State Significant Development (SSD) – Division 4.7 of the EP&A Act regulates the granting of development consent for SSD, as well as the regulation of local development that requires development consent from the local Council.
- Part 5 provides for:
 - Subdivision 5.1 – regulation of ‘activities’ that do not require approval or development consent under Part 4.
 - Subdivision 5.2 regulation of State Significant Infrastructure (SSI).

The need or otherwise for development consent is set out in environmental planning instruments – State Environmental Planning Policies (SEPPs) or Local Environmental Plans (LEPs).

The EP&A Act establishes the framework for cultural heritage values to be formally assessed in the land-use planning, development assessment and environmental impact assessment processes.

2.1.1 DIVISION 4.7 STATE SIGNIFICANT DEVELOPMENT

Clause 8(1)(b) and clause 5(1)(a) of Schedule 1 of State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) prescribe that development for the purposes of ‘coal mining’ is State Significant Development (SSD). As such the consent authority under Part 4, Section 4.5 of the EP&A Act is the Minister for Planning or the Independent Planning Commission (if the development is of a kind for which the Commission is declared the consent authority by an environmental planning instrument). Clause 8A of the SRD SEPP prescribes the Independent Planning Commission as the consent authority.

An Environmental Impact Statement (EIS) is being prepared to assess the impacts of the Project, in accordance with environmental assessment requirements issued by the Secretary (SEARs) of the Department of Planning, Industry and Environment (DPIE) in July 2018.

2.1.2 S4.41 APPROVALS ETC – LEGISLATION THAT DOES NOT APPLY

Section 4.41 (Part 4 Division 4.7) of the EP&A Act removes the need for approvals under s139 or s57 of the *Heritage Act 1977* and s90 of the NP&W Act. The Minister for Planning (or delegate) or, where relevant, the Independent Planning Commission may be the

consent authority for impacts to heritage items, relics and Aboriginal objects and Aboriginal places under the EP&A Act.

Additionally, Section 4.41 (3) of the EP&A Act, provides that approvals under the *Heritage Act 1977* (Heritage Act) are not required for 'any investigative or other activities that are required to be carried out for the purpose of complying with any environmental assessment requirements under this Part in connection with a development application for any such development'.

DPIE may consult with:

- the Heritage Council of NSW,
- Heritage, Community Engagement, Department of Premier and Cabinet
- the Regional Operations Group, DPIE for Aboriginal heritage

Assessments, recommendations and reporting need to be generally consistent with the relevant heritage guidelines.

Section 4.41 does not exempt developers from the obligation to notify the discovery of relics under s146 of the Heritage Act, or the discovery of Aboriginal objects under s89 of the NP&W Act.

2.1.3 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

The Secretary's environmental assessment requirements (SEARs) were issued, under delegation, by the Department of Planning and Environment on 7 June, 2018.

In relation to historic heritage and historical archaeology, the SEARs for the Project require:

- identification of historic heritage in the vicinity of the development and an assessment of the likelihood and significance of impacts on heritage items, having regard to the relevant policies and guidelines listed in Attachment 1 (listed below); and
- in relation to Ravensworth Homestead, the EIS must include:
 - o a detailed heritage significance and historical archaeological assessment of the homestead, including consideration of its surrounding garden and landscape;
 - o an analysis of all reasonable and feasible options to preserve the Homestead (including leaving in situ);
 - o if relocation is selected as the preferred option, please include an analysis of all feasible relocation options and how the Ravensworth Homestead Advisory Committee was involved in the decision.

Attachment 1 of the SEARs includes the following guidelines under Heritage:

- o The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
- o Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH)
- o Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH)
- o Assessing Significance for Historical Archaeological Sites and Relics (OEH)
- o Archaeological Assessments Guidelines (OEH)
- o NSW Heritage Manual (OEH)
- o Statements of Heritage Impact (OEH)
- o Hunter Regional Environmental Plan 1989 (Heritage)

2.2 HERITAGE ACT 1977 (NSW)

The Heritage Act is the main legislation that protects heritage and manages archaeological remains including relics.

Section 4A of the NSW *Heritage Act 1977* defines the two levels of heritage significance as:

'State heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

'Local heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.⁹

2.2.1 DIVISION 9: SECTION 139, 140-146 - RELICS PROVISIONS

The main heritage legislative managing archaeological remains is the *Heritage Act 1977*. A 'relic' is an item of 'environmental heritage' which is defined by the *Heritage Act 1977* as:

...those places, buildings, works, relics, moveable objects, and precincts, of State or local heritage significance.

A relic as further defined by the Act as:

... any deposit, object or material evidence that:

relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement; and

is of State or local heritage significance.

Under Section 4.41 (Part 4 Division 4.7) of the EP&A Act an excavation permit under s139 and/or an exception under s139 (4) of the *Heritage Act 1977* are not required for this project, once approved. However, Section 146 of the Heritage Act 1977 – the notification of discovery of relic – still applies.

Section 4.41 (3) of the EP&A Act allows for 'any investigative or other activities that are required to be carried out for the purpose of complying with any environmental assessment requirements under this Part in connection with a development application for any such development' to be undertaken without approvals under the *Heritage Act*. The test excavations outlined in this document have been developed in response to the SEARs.

2.3 NATIONAL PARKS AND WILDLIFE ACT 1974: MANAGEMENT OF ABORIGINAL OBJECTS AND ABORIGINAL PLACES

The main legislation governing Aboriginal objects is the *National Parks & Wildlife Act 1974* (NPW Act). This Act provides statutory protection to all Aboriginal objects and places within New South Wales. The DPIE is the State Government agency responsible for the implementation and management of the NPW Act.

Part 6 of the NPW Act provides provision for the protection of all 'Aboriginal objects', which are defined as:

...any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of...New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

An Aboriginal place is any place declared to be an Aboriginal place by the Minister for the Environment, under Section 84 of the Act. It is an offence to disturb Aboriginal objects or places without a permit (Aboriginal Heritage Impact Permit – AHIP) authorised by the Chief

⁹ NSW Heritage Branch 2009, p 6.

Executive, OEH (or delegate). In addition, anyone who discovers an Aboriginal object is obliged to report the discovery to the Chief Executive, OEH.

Under Section 4.41 (Part 4 Division 4.7) of the EP&A Act a permit under the *National Parks and Wildlife Act 1974* (NPW Act) is not required for this project, once approved.

Section 4.41 (3) of the EP&A Act allows for 'any investigative or other activities that are required to be carried out for the purpose of complying with any environmental assessment requirements under this Part in connection with a development application for any such development' to be undertaken without approvals under the *National Parks and Wildlife Act*. The test excavations outlined in this document have been developed and are proposed to be undertaken in response to the SEARs.

2.4 PUBLIC HEALTH ACT 2010 AND PUBLIC HEALTH REGULATION 2012

Division 4 of the *Public Health Regulation 2012* (Public Health regulations) provides specific regulation for the exhumation of bodies.

Under the Public Health regulation exhumations can only be ordered by a coroner or approved by the Secretary (NSW Health). An application is required and applications can be made by:

- a) an executor of the estate of the dead person, or
- b) the nearest surviving relative of the dead person, or
- c) if there is no such executor or relative available to make the application—a person who, in the opinion of the Secretary, is a proper person in all the circumstances to make the application.

Further, once approved, exhumation is not to take place unless an authorised officer or a member of staff of NSW Health is present at the exhumation (the grave may be excavated to the lid of the coffin but nothing must be disturbed until the arrival of the authorised officer) (Clause 72).

Further detail on the requirements can be found in the *Exhumation of Human Remains Policy Directive*, 5 December 2013.¹⁰

2.5 HERITAGE LISTINGS

2.5.1 SINGLETON LOCAL ENVIRONMENT PLAN (LEP), 2013

Ravensworth Homestead is listed on the Singleton Local Environment Plan (LEP) 2013 as an item of local heritage significance (LEP I41). The provisions of the LEP are primarily geared for built heritage items, it also includes a range of requirements, including conservation objectives, relevant to archaeological heritage (see below) and development applications to Local Council.

5.10 Heritage conservation

(1) Objectives

The objectives of this clause are:

.....

- (c) to conserve archaeological sites.

¹⁰ https://www1.health.nsw.gov.au/pds/ActivePDSDocuments/PD2013_046.pdf

2.5.2 NON-STATUTORY HERITAGE LEGISLATION

Ravensworth Estate is listed in the (archived) Register of the National Estate (RNE Place ID 101927). The RNE is a non-statutory heritage register and provides no statutory protection, however, these listings are typically considered to be a sign of recognition of the heritage values of a site.

2.6 ARCHAEOLOGICAL GUIDELINES

2.6.1 BURRA CHARTER

The *Australia ICOMOS Burra Charter 2013* (The Burra Charter) is widely acknowledged as the principal guiding document for managing places of cultural significance. The Burra Charter defines the basic principles and procedures that should be followed in the conservation of places of heritage significance. The Burra Charter has been adopted as the standard for best practice conservation of heritage places in Australia.

The management of heritage sites in NSW should conform to the requirements of The Burra Charter. Many of the following guidelines provide for best practice conservation approaches and can be used to inform all the management of the archaeological remains.

2.6.2 ARCHAEOLOGICAL GUIDELINES

There are a range of archaeological guidelines which inform the management of the Place:

- *Archaeological Assessment Guidelines*, NSW Heritage Office, Department of Urban Affairs & Planning, 1996.
- *Assessing Significance for Archaeological Sites and 'Relics'*, Heritage Branch, Department of Planning, 2009.
- *NSW Heritage Manual*, NSW Heritage Office, Department of Urban Affairs & Planning, 1996.
- *Historical Archaeological Investigations: A Code of Practice*, NSW Department of Planning, 2006.
- *Historical Archaeological Sites, Investigation and Conservation Guidelines*, Department of Planning and NSW Heritage Council, 1993.
- *Skeletal Remains; Guidelines for the Management of Human Skeletal Remains under the Heritage Act 1977*. NSW Heritage Office, 1998.
- *Excavation Director's Assessment Criteria*, NSW Heritage Office.
- *ICHAM Charter, The ICOMOS Charter for the Protection and Management of Archaeological Heritage*, ICOMOS International, 1990.
- *Practice Note - The Burra Charter and Archaeological Practice*, Australia ICOMOS 2013.
- *Recommendation on International Principles Applicable to Archaeological Excavations*, UNESCO, 1956.
- *Heritage Interpretation Policy and Guidelines*, Heritage Information Series, NSW Heritage Office, August 2005.
- *Photographic Recording of Heritage Items*, Heritage Information Series, NSW Heritage Office, 2006.

3.0 ARCHAEOLOGICAL TESTING PROGRAM

3.1 OVERVIEW

The HAA & ARD identified seven key areas for testing (Figure 3.1). Three of these were located to the west of Hebden Road and four were located to the east of it, where the current homestead is situated. The following is a brief description of each of the Test Areas.

3.1.1 POTENTIAL LOCATION OF EARLY HOUSE (FIRST HOMESTEAD SITE): TEST AREA 1

This area is situated approximately 300m west of Yorks Creek, on the opposite side of Hebden Road to the homestead. Testing in this area was based upon evidence from the natural topography and the presence of a building marked “house” in or around this area on Dixon’s road plan and other historic plans.¹¹ The area measured approximately 225m from north to south and up to 95m from east to west. The natural topography sloped off steeply to the south and west of this area. The area was sparsely covered in grass with occasional small bushes.

3.1.2 POTENTIAL AGRICULTURAL/ GARDEN FEATURES: TEST AREA 2

Test Area 2 was situated immediately west of Yorks Creek southeast of Test Area 1. It covered an area of 100m from north to south by approximately 90m from east to west. Testing for agricultural and garden features in this area was based on evidence present in LiDAR and aerial photography. The ground here was relatively flat. The area was covered by grass and occasional small bushes.

3.1.3 HOMESTEAD MAIN WING AND IMMEDIATE SURROUNDS: TEST AREA 3

Located around the Ravensworth Homestead to the east of Hebden Road, this area covered approximately 140m from east to west and 160m from north to south. The area incorporated the domestic portion of the Ravensworth Homestead and an area of farmland to the south and east of the homestead buildings. The area contained the main wing and kitchen wing and its associated extensions, an array of garden features (walls, flower beds, etc.), a privy, garden trees, a later sandstone turning circle, and a dirt track running from east to west to the north of the main wing.

3.1.4 POTENTIAL CONVICT BARRACKS: TEST AREA 4

Situated to the north of the main wing, this area extends from between two extant outbuildings into the paddock to the north. The test area measured approximately 60m from north to south and 75m from east to west. The area was divided into two by an east-west running stone wall. The area south of the dividing wall was covered in grass and contained several stone walls apparently used to corral livestock. The north part of the area was in a paddock and displayed a linear depression running parallel with the wall. This part of the area was strewn with stone blocks, several of which were worked architectural pieces. Re-used architectural pieces were also identified in the stone wall which divided the area.

3.1.5 NORTH Paddock YARDS AND BUILDINGS: TEST AREA 5

Located immediately to the north of Test Area 4 and in the same paddock as the northern part of it, this area measured approximately 125m by 125m. The area was covered in grass with some stone and occasional timber building components visible on the surface. A dirt track traversed the west side of this area in a north-south direction.

¹¹ Casey & Lowe 2018, p. 114ff.

3.1.6 NORTH WEST PADDOCK BUILDINGS, POTENTIAL 8 ACRE GARDENS AND AGRICULTURAL FEATURES: TEST AREA 6

This was the largest of the test areas. It was located along the east bank of Yorks Creek, to the north and west of Test Area 5. The area measured approximately 200m from east to west and 350m from north to south. It was generally flat with a slight slope in places towards the creek. It contained up to three linear-shaped dams, at least one of which held water at the time of the field work was still functioning. A patch of herringbone brick paving was observed in the east of the area. A partially covered brick well was observed in the west of the area, not far from the creek. One registered AHIMS artefact scatter Yorks Creek 10 (37-3-0753) is located within the test area and another, Yorks Creek 11 (37-3-0754), borders the area to the north.

3.1.7 POTENTIAL BURIAL ALONG YORKS CREEK: TEST AREA 7

Located on the west side of Hebden Road, this area is adjacent to the east bank of Yorks Creek. Most of the area was flat with a notable, sharp drop off in the west, down to the creek. The area measured approximately 20m from east to west and 25m from north to south. The surface was covered with grass and a linear stone feature measuring approximately 9m from north to south was visible. This feature ran roughly parallel with the creek, close to where the land dropped off towards the east bank. Ground penetrating radar (GPR) data revealed the remains of a possible rectangular structure in the east of the area.

The locations of the Test Areas in relation to each other can be seen below in Figure 3.1.

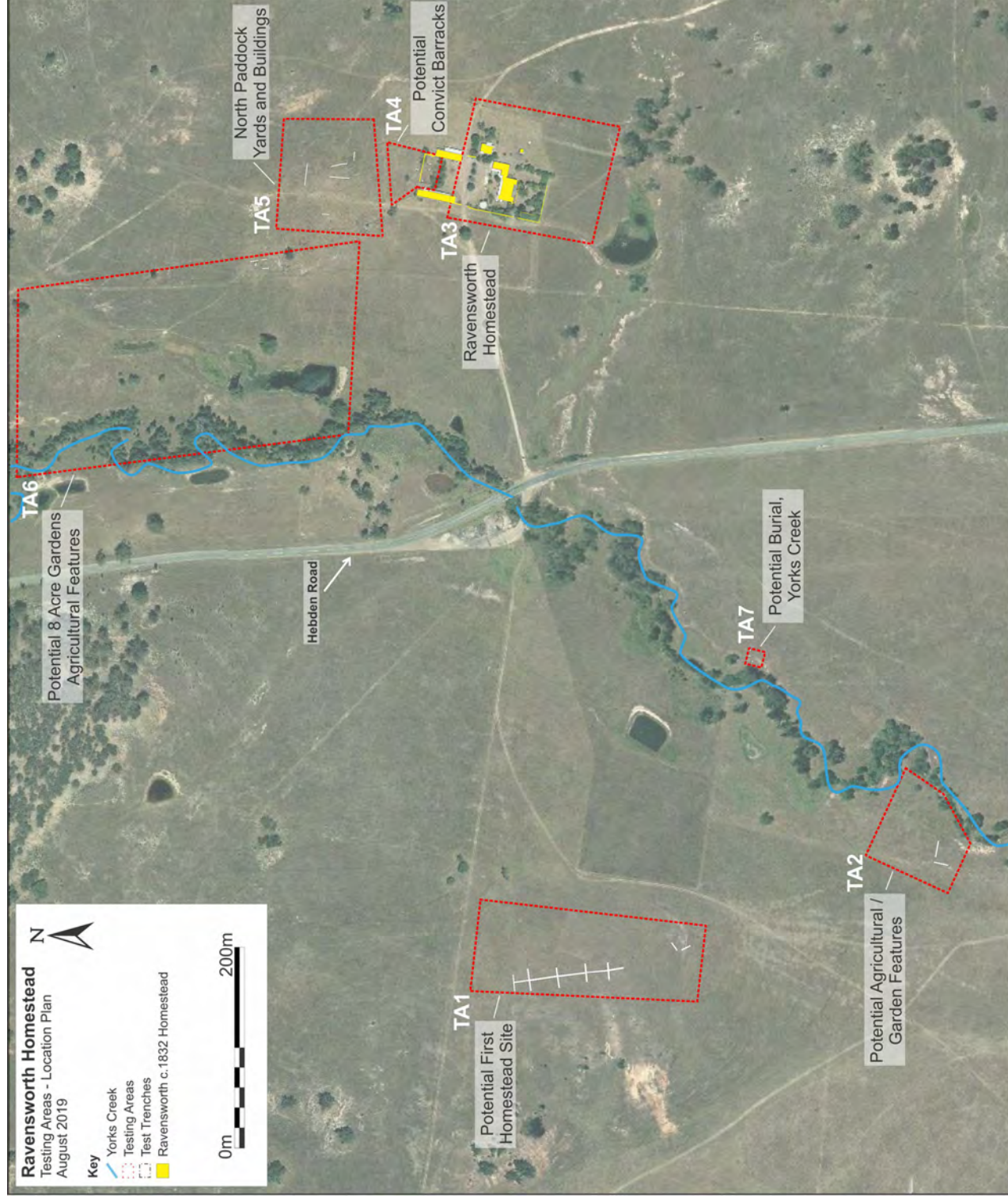


Figure 3.1: Locations of the seven test areas within the main study area

3.2 GROUND PENETRATING RADAR

In addition to the HAA & ARD a ground penetrating radar (GPR) survey was undertaken across a number of areas.¹² The areas for the GPR survey were located to address the nature and the extent of early occupation at the Ravensworth Homestead Complex, including the probable location of the earlier homestead (Figure 3.2). A copy of the survey is appended to this report (Appendix 1). The GPR results were taken into account in the archaeological testing methodology and are discussed in the relevant sections of TA1, TA2, TA4, TA5 and TA7 below.

Use of the John Deere ride-on utility vehicle allowed for covering a good amount of area in a reasonable time frame, however it also had a number of limitations in relation to suitable surfaces. Surfaces needed to be flat, not too much slope, negligible ground cover, no vegetation such as bushes, stones, bricks and other material. Glencore organised for Area 01 (GPR01) to be slashed and Casey & Lowe staff removed any obstacles not considered to be *in situ* structural material (stones, bricks and other material). These limitations decreased the number of areas we could cover with GPR, which was less than originally proposed for GPR survey.

Table 3.1: GPR Survey location and rationale.

Archaeological Test Area	GPR Survey Areas	Reason for GPR	Comments
TA 1	GPR03, GPR04, GPR05	In 1826 Bowman stated that he had erected 'Sheep Sheds, Wool House, Stores, Cottage, Kitchen, huts for ten men etc, which cost me Two Hundred & Sixty Pounds' and maintained 34 convicts. ¹³ The location of these items is generally understood from a series of early maps ¹⁴ and archaeological survey over the area did not provide any further indication of the location. This early site is located in a paddock on a windswept hillside. It is bounded to the south by a fence and to the east by a fence and a trackway.	GPR05 was located to the southeast and outside of TA1.
TA4 and area to east of TA4 and Barn	GPR02	Fenced area immediately northeast of Ravensworth Homestead. Mostly flat ground, some slight rises. There are some earthworks, large sandstone blocks on the surface (from buildings), and undulations	Area was decreased in size due to ground conditions (large sandstone blocks, loose wire fencing in TA 4).

¹² MALA 2018 *Geophysical Survey, Ravensworth Homestead, Ravensworth NSW*.

¹³ CSIL26/7403, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

¹⁴ Dangar 1828, 1833 road map, GB White 1835.

Archaeological Test Area	GPR Survey Areas	Reason for GPR	Comments
TA 5	GPR01	Area located to the north of the homestead. The southern boundary is marked by a fence. The area is covered in grass. There are some obstructions such as trees, large stones and isolated fence posts. The ground is generally undulating with some discrete earthworks and mounds that relate to earlier occupation. The land rises sharply to the east.	Area was decreased in size due to ground conditions (trees, mounds, wooden posts and structures) and timing.
TA 7	GPR06	Area suggested to be the grave of James Bowman. This survey block was located adjacent to the creek line (elevated from the creek line). Large tree to west of the square with a potential 4m sandstone 'wall' located in front of it (partly obscured by roots and vegetation).	



Figure 3.2: Locations of GPR coverage (in yellow). Source: MALA 2018.

3.3 THE POTENTIAL OLD HOUSE SITE (FIRST HOMESTEAD SITE) AND AGRICULTURAL/ GARDEN FEATURES

3.3.1 TEST AREA 1: POTENTIAL OLD HOUSE SITE

Test excavations in Test Area 1 (TA1) were undertaken in order to locate the old house site. The test area corresponds to the ridge between Bowmans Creek (originally known as Foy Brook) and Yorks Creek, which is shown on several plans (Dangar 1828, Dixon 1833, White 1835) as the location of the original house site – see Figures 5.6 and 5.7 in the HAA & ARD.¹⁵ The location of the test trenches can be seen in Figure 3.3. All trenches in the area (Table 3.2) were machine excavated, supervised by a senior archaeologist. RAPs and an OzArk archaeologist were also present.

GPR was undertaken in two locations across Test Area 1, one area (GPR03) across the top of the ridge (the western half of the TA1) and then to the southeast corner on a smaller flat area (GPR04). Test trenches (TT) 1, 2 and 3 were located to test anomalies located in GPR04. The presence of a single anomaly was identified in GPR04 suggestive of sub surface foundation or similar in the southeast corner (Appendix 1).¹⁶ TT 7 and TT8 were located across this area.

However, no structural evidence or historical archaeological material was revealed in any of the trenches during testing and only two natural sedimentary profiles were observed.

¹⁵ Casey & Lowe 2018, p. 114-115.

¹⁶ MALA 2018: p. 14-15.

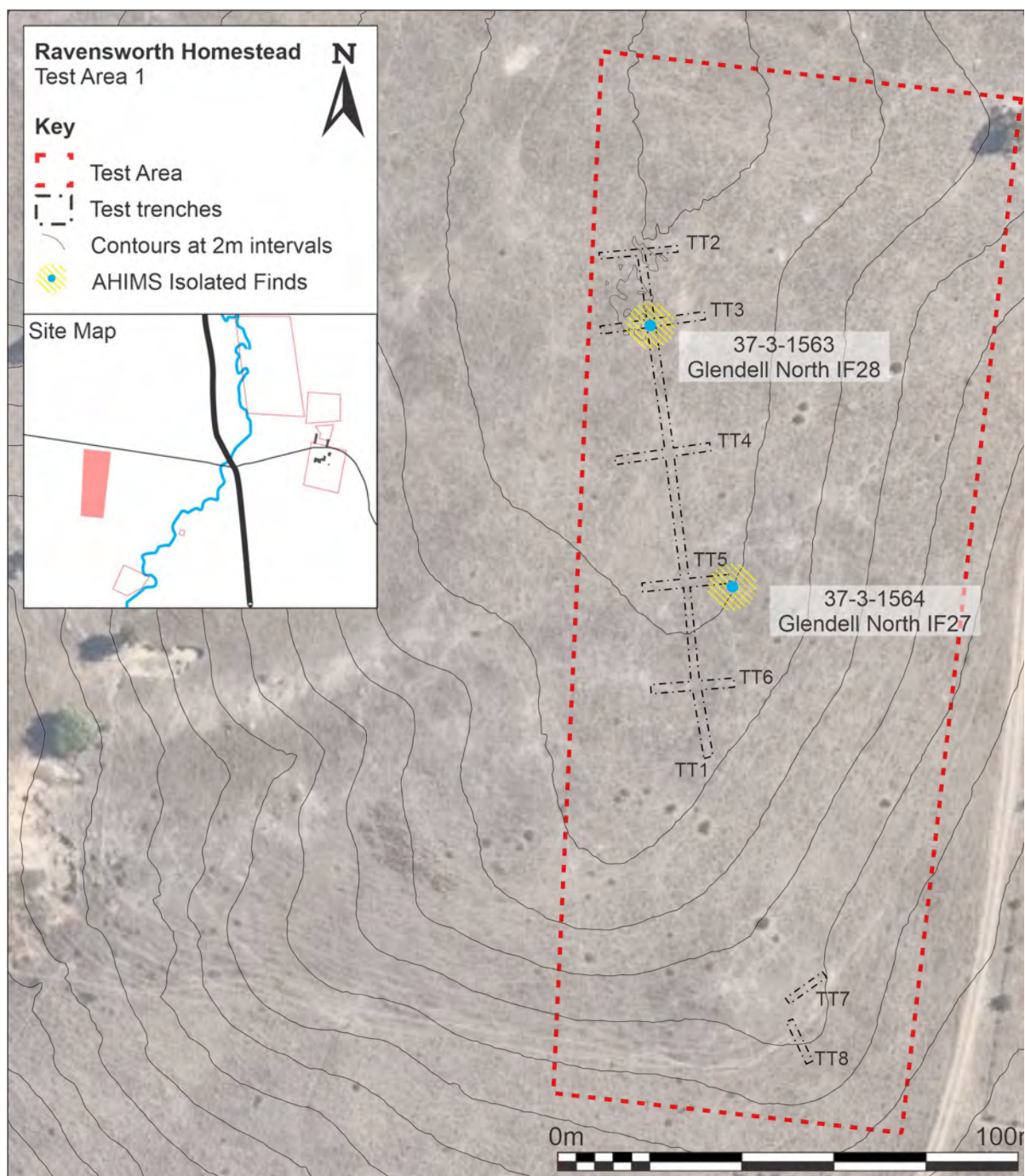


Figure 3.3: Test Area 1, showing test trench locations and the natural topography, and the locations of Glendell North IF 27 and IF28.

Table 3.2: Summary of Test Trenches in TA1.

Test Trench	Location	Size	Aim
TA1 TT1	Hill to the west of Hebden Road; north-south aligned.	104 x 1-1.50m	Locate old house and assess other features.
TA1 TT2	Perpendicular to the northern end of TT1; east-west aligned.	19 x 1.5m	Locate old house and assess other features.
TA1 TT3	15m south of TT2.	23.5 x 1.5m	Locate old house and assess other features.
TA1 TT4	27m south of TT3.	21 x 1.5m	Locate old house and assess other features.
TA1 TT5	26m south of TT4.	20 x 1.5m	Locate old house and assess other features.
TA1 TT6	20m south of TT5.	19 x 1.5m	Locate old house and assess other features.
TA1 TT7	50m south east of southern end of TT1.	9.5 x 1.0m	Locate old house and assess other features.
TA1 TT8	65m south east of southern end of TT1, perpendicular with TT7.	8.5 x 1.0m	Locate old house and assess other features.

The first soil profile was found in TT 1 to 6 and consists of a firm mid-brown sandy silt topsoil varying in depth between 100-150mm (069). Beneath this a firm light grey to brown compact silt with occasional ironstone inclusions, which varied in thickness from 190-260mm. The lowest layer was a firmly compacted white grey gravel silt (071) (Figure 3.4). The only exception to this was the western end of TT4 where occasional pockets of light brown clay were found within context 071 and sandstone bedrock was exposed.

The sedimentary profile was found in TT 7 and 8, where the topsoil was a loose dark to light brown sandy silt with grass (148). Beneath the topsoil a compact white sandy silty clay with occasional 10-30 mm sandstone pieces was found (149). In the eastern end of TT7, a hard, dense light orange yellow clayey silt band was found spanning the trench (151) (Figure 3.6). The moderately compact orange clay, a possible paleo channel, is the likely source of GPR anomaly in TT8. Table 3.3 provides a summary of the contexts in TA1.

Two Aboriginal objects, Glendell North IF 27 and IF 28 were identified after test excavation and backfilling in this area.¹⁷ The adjacent historical archaeological investigations, monitored by an OzArk archaeologist and a Registered Aboriginal Party, did not uncover further subsurface Aboriginal archaeological deposits. OzArk assessed the potential for the presence of further, intact, subsurface archaeological deposits at Glendell North IF 27 and IF28 as negligible.¹⁸

¹⁷ These objects were managed in accordance with existing protocols – left on site and fenced.

¹⁸ OzArk 2019 *Aboriginal Archaeology Impact Assessment, Glendell Continued Operations Project, Glendell Coal Mine, Ravensworth, NSW, July 2019*. Report to Umwelt Environmental & Social Consultants on behalf of Glendell Tenements Pty Ltd.

Table 3.3: Summary of the natural soil contexts from TA1 (across test trenches).

Context	Description	Thickness
069	Firm mid brown sandy silt with grass roots – top soil.	100-150mm
070	Compact light grey to brown compact silt with occasional iron stones. Colour lightens with depth from the context about (069) to that below (071).	190-260mm
071	Firm gravel silt – sub soil.	Unexcavated
072	Sandstone bedrock.	Unexcavated
148	Loose dark to light brown sandy silt modern topsoil. Same as (069)	40-60mm
149	Compact white sandy silty clay with occasional 10-30 mm sandstone pieces.	Unexcavated
150	Compact light orange-yellow to white clayey silt.	Unexcavated
151	Moderately compact orange clay, possible paleo channel (likely source of GPR anomaly).	Unexcavated



Figure 3.4: TA1/TT1 facing south showing the consistency in the natural deposit across the area. TT2 runs east-west in the foreground and TT3 is in the background marked by the east-west spoil piles. Looking south, scale 500mm.



Figure 3.5: TA1/TT8 facing north showing the consistency in the natural deposit across the area. Looking north, scale 2m.

3.3.2 TEST AREA 2: POTENTIAL AGRICULTURAL / GARDEN FEATURES

Test Area 2 (TA2) was investigated to reveal evidence of any garden or cultivation features related to the early (pre-1850) Ravensworth Estate. The test area is located approximately 700m southwest of the main homestead on the west bank of Yorks Creek. The LiDAR survey of the area highlighted potential agricultural features. Two trenches, TT1 and TT2, were machine excavated in the area (Figure 3.6).

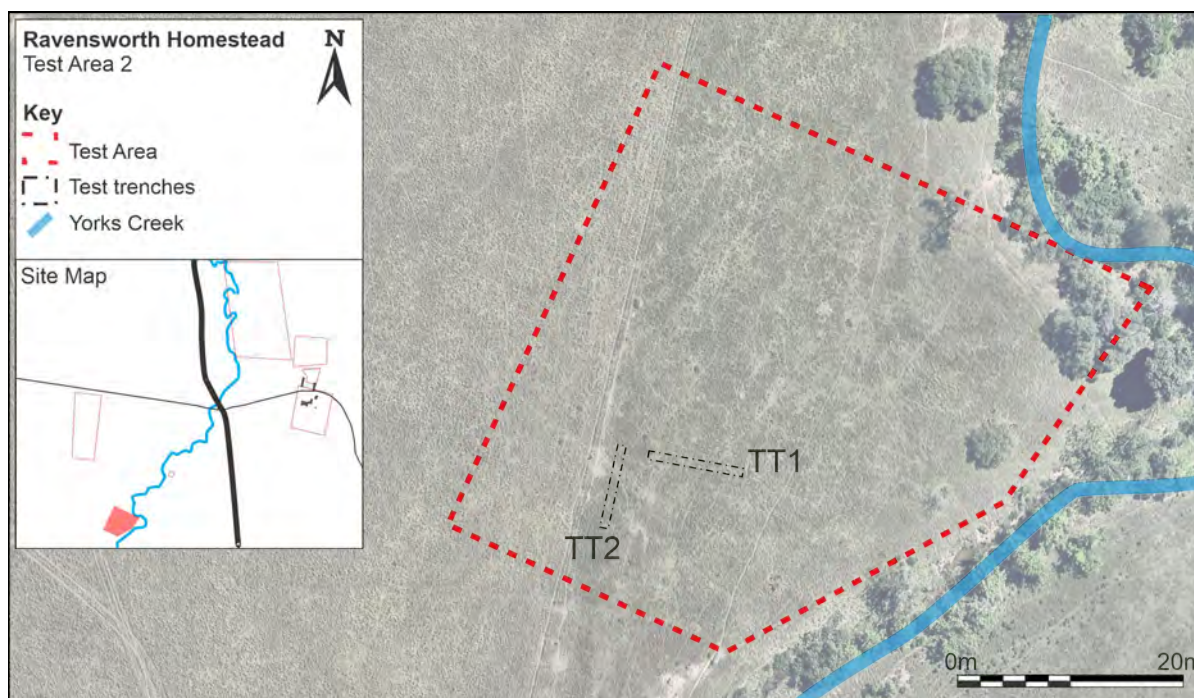


Figure 3.6: Location of the test trenches in Test Area 2 in relation to Yorks Creek, indicated in blue.

Table 3.4: Summary of Test Trenches in TA2.

Test Trench	Location	Size	Aim
TT1	East-west aligned	17 x 1.6m	Agricultural/garden features
TT2	North-south aligned	15 x 1.6m	Agricultural/garden features

3.3.3 SUMMARY OF RESULTS

No evidence of archaeological features was found in TA2/TT1, however, in TA2/TT2 multiple features were revealed including possible plough scars and a field drain.

3.3.3.1 TA2/TT1

No features were found in TT1 although the natural sediment profile was recorded. The topsoil (O64) consisted of a light brown silt, beneath which the subsoil was found to be a mid-white clay (O65). This modern soil was found above an orange clay which was interpreted to be natural (O66). A summary of the contexts from TA2/TT1 is provided in Table 3.5.

Table 3.5: Summary of the contexts found in TA2/TT1 and TA2/TT2.

Context	Description	Thickness
O64	Light brown silt topsoil.	300mm
O65	Mid white clay subsoil.	400mm
O66	Mid orange clay.	<100mm
O67	Shallow linear 110 mm wide cuts – possible plough scars.	30mm
O68	1.1m wide linear cut running east to west – possible field drain.	unexcavated

3.3.3.2 TA2/TT2

A similar sedimentary natural soil profile to TA2/TT1 was recorded in this trench, which also contained archaeological features (Table 3.5). An 1100mm wide east-west aligned linear cut (O68) filled with a light brown silt was interpreted as a field drain (Figure 3.7). To the north of the field drain, five possible plough scars (Figure 3.8) were noted running NNW-SSE, 110mm wide, 30mm deep and spread at 160mm intervals across a 1.8m area (O67). Soil samples were recovered from both contexts O67 and O68. The westernmost 3m of the test trench was excavated to a depth of 0.8m and showed that context O66, a mid-orange clay underlaid the subsoil (O65).



Figure 3.7: TA2/TT2 facing north showing the light brown silt (O68) interpreted as being a field drain. TT2, visible on the left, runs north-south in the background. Looking north, scale 500mm



Figure 3.8: TA2/TT2 facing north showing possible plough scars highlighted in black running NNW-SSE. Scale 500mm.

3.4 RAVENSWORTH HOMESTEAD

3.4.1 TEST AREA 3: MAIN HOMESTEAD AND IMMEDIATE SURROUNDS

Excavations in Test Area 3 (TA3) were undertaken to locate any remains that related to modifications or additions to the extant Ravensworth Homestead, including the presence of a west wing, possible fortification, the presence of a cistern, and features in the front garden including a turning circle (Table 3.6). The location of the TTs is shown on Figure 3.9.

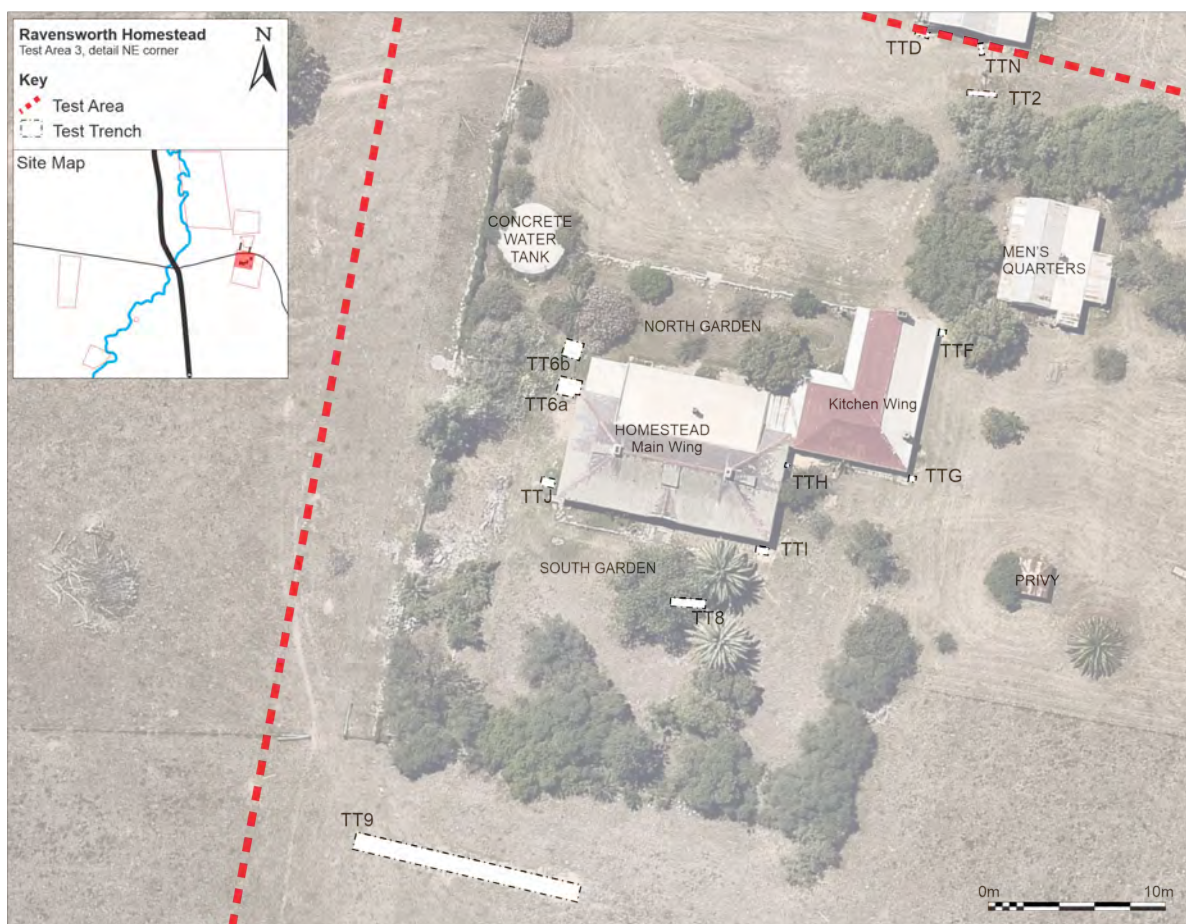


Figure 3.9: Test Trenches in Test Area 3 shown in relation to the Homestead and immediate surrounds.

Table 3.6: Summary of Test Trenches in Test Area 3, main homestead.

Test Trench	Location	Size	Aim
TT2	South of the Barn.	6 x 1.2m	Fortification of homestead
TT6a	Abutting northwest corner of Homestead – main wing.	2.6 x 2m	West wing
TT6b	Northwest corner of Homestead – main wing.	2 x 2m	West wing
TT8	South of Homestead – main wing within south garden.	4 x 1m	Garden features/ coach turning circle
TT9	South of Homestead Complex.	13.8 x 1.2m	Garden/ Agricultural features

3.4.2 SUMMARY OF RESULTS

Evidence was found of a possible path in the front garden in TT8. Only later 20th-century features were found in TT6a, however, TT6b revealed part of a brick-built structure with salt-glazed pipes. TT2 had evidence of an unknown demolished structure outside of the homestead compound. TT9 contained a small artefact assemblage but was located in the plough zone, hence the artefacts are likely to be disturbed rather than *in situ*.

No structural evidence was found to support that the homestead was fortified with walling.

3.4.2.1 TA3/TT2

TA3/TT2 was excavated by machine on either side of a fence which abuts the barn and located north of the men's quarters. The maximum dimensions of the trench were 6m long and 1.2m wide, excavated to a maximum depth of 330mm from a surface height of RL 98.25m. The trench revealed a sandstone fence foundation, running north to south, on the same alignment as the barn. The eastern portion of the trench (outside of the complex) showed a compact silty clay deposit with very frequent sandstone fragments and roof slate, and occasional grey plaster and red sandstock bricks (O13) between modern topsoil (O12) and a natural pebble gravel (O14). This fill was not present in the western portion of the trench within the Homestead complex where the modern topsoil (O12) was directly above the same natural pebble gravel (O14). Table 3.7 lists the archaeological contexts in TA3/TT2.

Table 3.7: Archaeological contexts in TA3/TT2.

Context	Description	Thickness
O12	Modern grey clay topsoil.	200mm
O13	Compact rubbly greyish brown silty clay.	110mm
O14	Natural pebble stratum.	80mm



Figure 3.10: TA3/ TT2 crosses the Homestead complex eastern boundary fence. Looking west.
Scale 1100mm

3.4.2.2 TA3/TT6A

TA3/TT6 was located immediately adjacent to the northwest bathroom extension to the original homestead, constructed in the 1980s by the Marshalls, with the southeast corner of the trench abutting the northwest corner of the homestead building (Figure 3.9, Figure 3.11). The trench aimed to establish the location of the demolished west wing of the homestead. It had a maximum length (north to south) of 2m and width of 2.6m and was excavated to a depth of 1.01m (RL 95.73m).

Three archaeological features were identified in the trench: a shallow gully (007), a sandstone-lined packing deposit relating to the 1980s extension (003), and a steep-sided square pit (005) later identified from oral testimony as the location of the former septic tank. The septic tank cut was the earliest feature found within the TT. During the 1980s extension to the building, the septic tank was removed and the cut infilled with contexts 010, 009, 109, and 002 (Table 3.8). Towards the base of the cut, bricks and sandstone blocks were also found as part of the fill (Figure 3.11). The packing material, contexts 107, 106 and 004, with the latter context supporting the walls of the 1980s extension, were also likely laid down at this point, hence the eastern cut of context 005 was not clear in the upper part of the trench. The archaeological contexts from TA3/TT6a are listed in Table 3.8.



Figure 3.11: Post-excitation photo of TA3/TT6a showing the maximum exposed extent of the cistern pit and rubble contained within. Looking north. Scale 1200mm.

Table 3.8: Archaeological contexts in TA3/TT6a.

Context	Description	Thickness
001	Current topsoil.	140-190mm
002	Greyish yellow clay upper fill of 005.	>200mm
003	Interface between 002 and 004.	>100mm
004	Compacted grey clay.	140mm
005	Square steep-sided cut.	650mm
006	Darky greyish brown sandy silty clay natural subsoil.	unexcavated
007	Shallow gully cut.	220mm
008	Dark greyish brown clayey silt filling 007.	220mm
009	Dark brown sandy silty clay with ferrous sheet fragments fill of 005.	210mm
010	Brownish grey clay fill of 005.	170mm
106	Grey sandy clay with sandstone fragments.	100mm
107	Black silty clay.	120mm
108	Compact grey clay.	300mm
109	Brownish grey clay.	620mm

3.4.2.3 TA3/TT6B

Due to the later 20th-century disturbance in TA3/TT6a, TA3/TT6b was excavated immediately to the northwest of TA3/TT6a, parallel to the extant east wing, to further investigate the presence of a potential west wing of the homestead. The trench was excavated as a 2m x 2m square to a maximum depth of 300mm equivalent to RL 96.39m (Figure 3.12). Following the removal of the topsoil (001), a 1.14m long section of a north to south running sandstock brick wall (120) was revealed in the eastern part of the trench, continuing into the southern section. To the west of the wall, two salt-glazed ceramic downpipes (diameter 100mm) were found, 700mm apart (121). The sediment surrounding the pipes and abutting the eastern edge of the wall consisted of a mid to dark brown slightly sandy silt which overlies the potential natural deposit, a light grey silty clay (123). The archaeological contexts from TA3/TT6b are listed in Table 3.9.

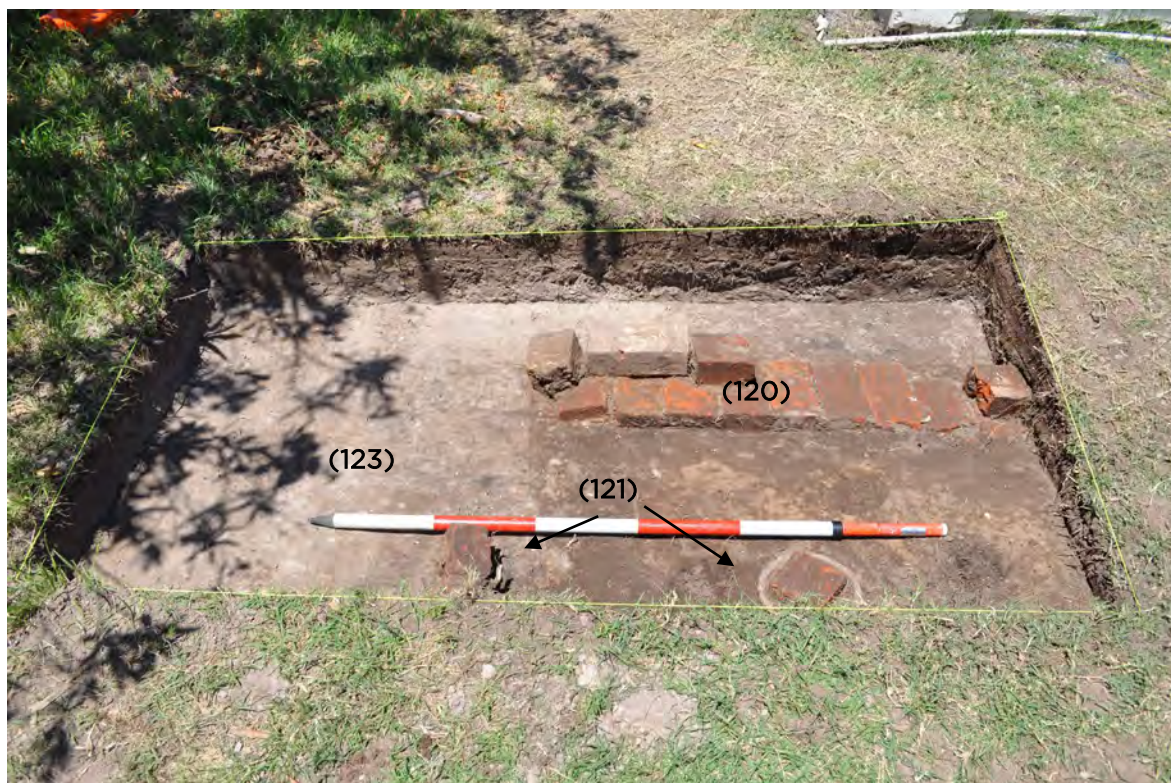


Figure 3.12: Facing east of TA3/TT6b showing the brick wall foundation (120) and multiple salt-glazed pipes (121). Looking east. Scale 1200mm.

Table 3.9: Archaeological contexts in TA3/TT6b.

Context	Description	Thickness/dimensions
001	Modern topsoil.	140-190mm
120	North-south brick wall.	>1.14m long, 240mm wide
121	Salt-glazed stoneware downpipes.	>200mm
122	Interface between 002 and 004.	-
123	Compacted grey clay.	140mm
124	Square steep sided cut.	650mm

3.4.2.4 TA3/TT8

TA3/TT8 was excavated within the garden area south of the homestead to assess the potential of remaining garden features including a horse-drawn vehicle turning circle. It was on an approximate east to west alignment measuring 4 x 1m and excavated to a depth of between 30 and 80mm (Figure 3.9, Figure 3.13). Beneath the modern topsoil (016) a 1.1m wide linear strip of compact dark grey to brown silty sandy clay with small stones and rubble inclusions was found (018) indicating a possible pathway, with a grey stony silt (019) on each side. The natural subsoil was found to the east of this linear feature (017). The archaeological contexts from TA3/TT8 are listed in Table 3.10. TT8 did not find evidence of a turning circle but did find a possible pathway (018).

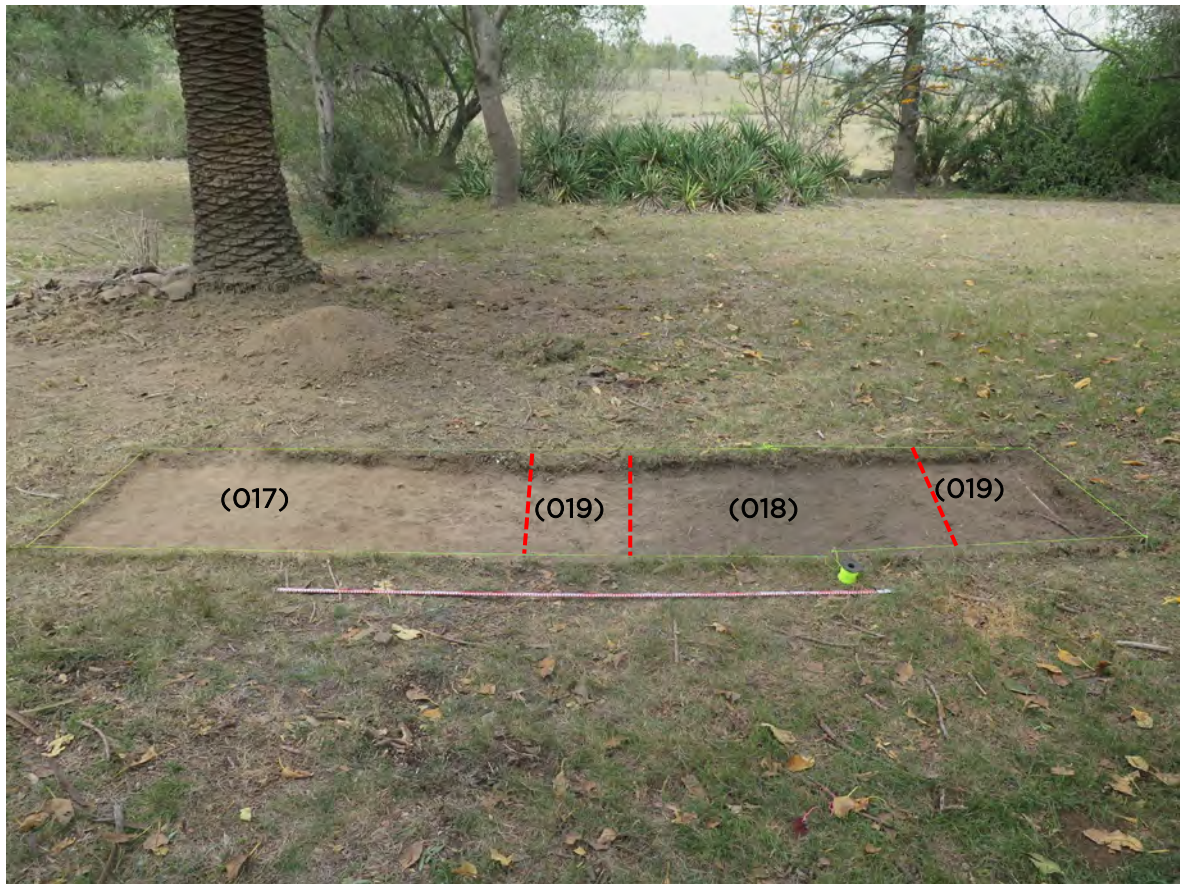


Figure 3.13: South-facing view of TA3/TT8. The possible garden path (018) is arrowed in the right half of the trench with the two bands of light grey brown silty sandy clay (019) on either side. Looking south. Scale 2m.

Table 3.10: Archaeological contexts in TA3/TT8.

Context	Description	Thickness
016	Current topsoil	>40mm
017	Light grey silty clay	Unexcavated
018	Dark brown grey sandy silty clay, possible garden pathway	>10mm
019	Light grey brown silty sandy clay	>10mm

3.4.2.5 TA3/TT9

TA3/TT9 was excavated to the south of the Homestead and south garden to assess the potential of remaining garden features, including plantings or plough lines. It was on an approximate east to west alignment measuring 13 x 1.2m and excavated to a maximum depth of 300mm (Figure 3.14). There was no modern topsoil in this location, with the machine excavating a compact light brown-tan and darker brown clay with small ironstone flecking (011). TT9 contained a small artefact assemblage but was located in the plough zone, hence the artefacts are unlikely to be *in situ*. The archaeological contexts from TA3/TT8 are listed in Table 3.10. No garden features, plantings or plough lines were found.

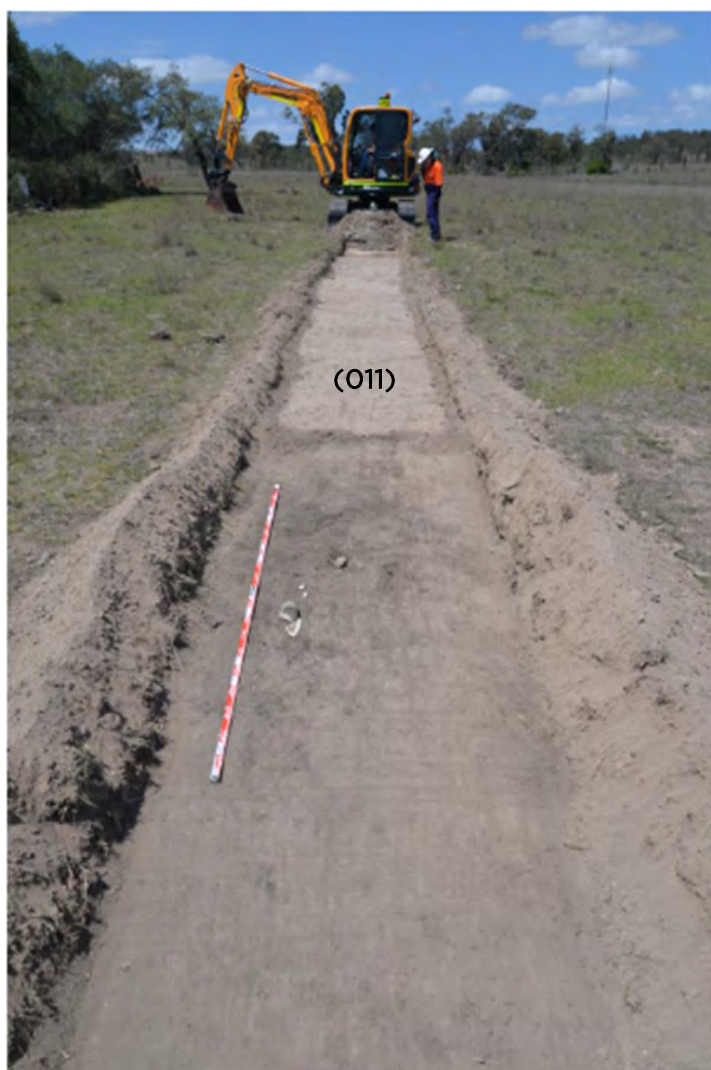


Figure 3.14: East-facing view of TA3/TT9 showing small artefact assemblage located in the plough zone. Scale 2m.

Table 3.11: Archaeological contexts in TA3/TT9.

Context	Description	Thickness
011	Compact light brown-tan and darker brown clay.	300mm

3.4.3 TEST AREA 4: POTENTIAL CONVICT BARRACKS

Test Area 4 (TA4) was located immediately north of the homestead, in the potential convict barracks and north paddock, and incorporates various outbuildings and walls (Figure 3.15). The primary interest in this area is the possible accommodation for convicts. The area could also contain evidence of farming practices including barns and stables. There are no known historic plans or photographs for the potential convict barracks within Area 4.

3.4.4 SUMMARY OF RESULTS

Evidence of structural remains were found in all test trenches except one, some had robber cuts, revealing the foundations of a single large structure or several smaller structures, across the full extent of the space between the northern ends of the Stables and the Barn (Figure 3.16; Figure 3.15). TT3a, TT4, and TT6 all found evidence of a 560-580mm wide sandstone wall, recorded as contexts 022, 119 and 047. A cut for the construction of the wall was found in TT4 and recorded as context 048. A return for the wall was found in TT5 where a 570-580mm wide, north-south running sandstone wall was found, which had been demolished and later robbed out to foundation level. Further evidence of wall returns and

in situ walling (Figure 3.21), in the lower courses of the extant rubble wall, was also recorded. Few artefacts were recovered from this structure and no evidence was found to confirm this was a convict barracks but the excavation was not designed to excavate into potentially state-significant deposits.

Located outside of the area of the potential building, but in an area covered with sandstone blocks (some dressed), no direct evidence of a building was found in TA4/TT1 although a variety of archaeological materials were recorded. The location of the trenches are shown on Figure 3.15. A summary of the trenches in TA4 is contained in Table 3.12. All trenches in this test area were hand excavated.

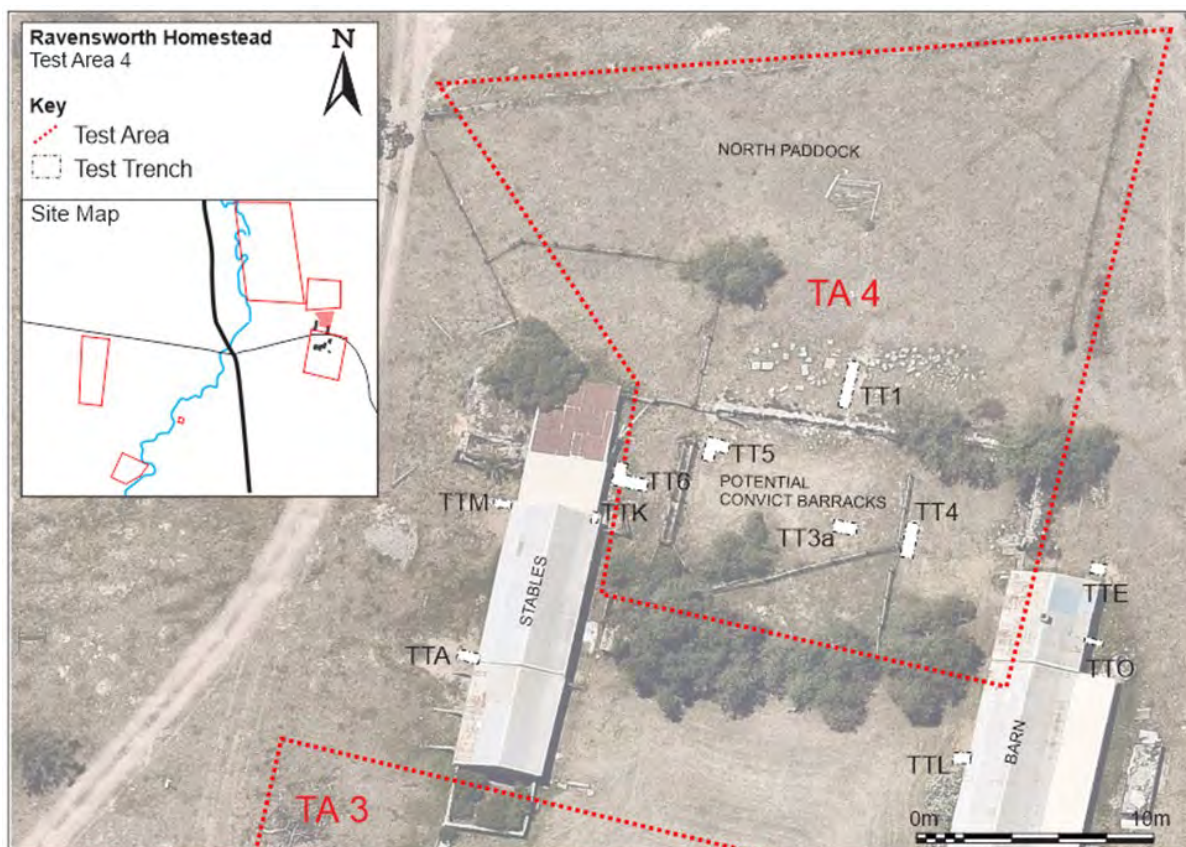


Figure 3.15: Location of test trenches in Test Area 4, shown with outbuildings and farm walls.

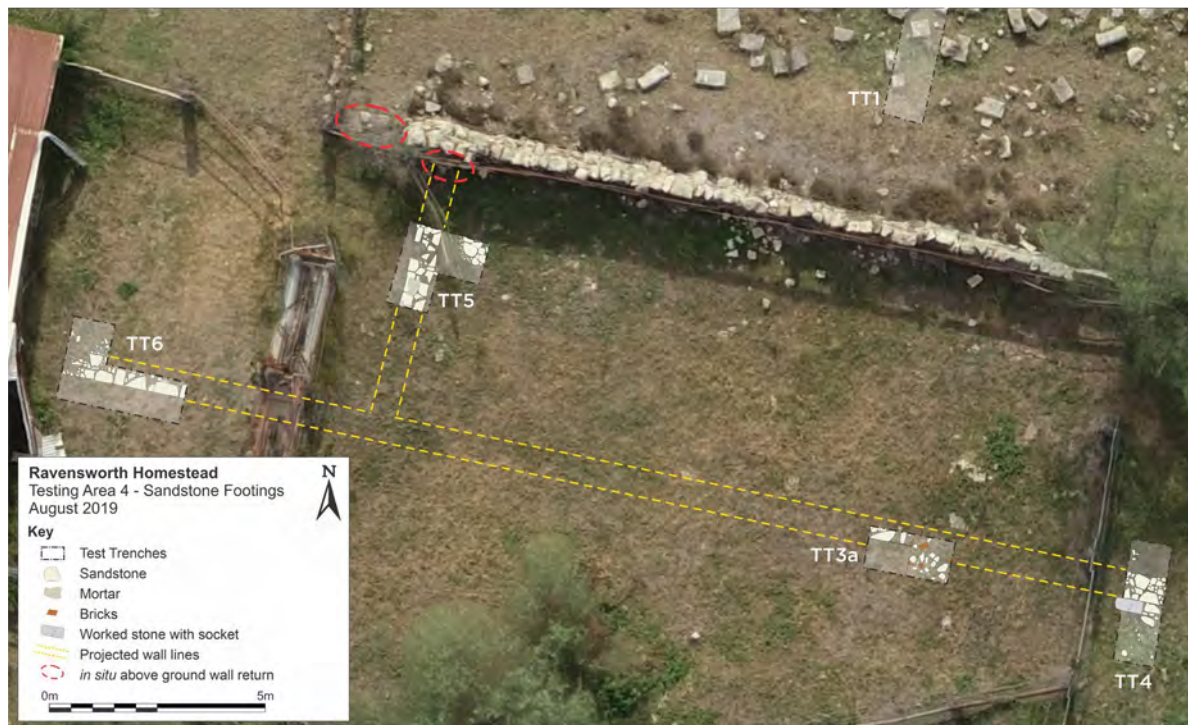


Figure 3.16: TA 4 showing foundations/ cuts uncovered in TT 6, 5,3a and 4 with projected wall lines and area where *in situ* above ground wall returns was identified (red hashed line).

Table 3.12: Summary of Test Trenches in TA4.

Test Trench	Location	Size/orientation	Aim
TT1	Immediately north of potential convict barracks.	4 x 1m; north-south	Convict barracks
TT3a	Centre of potential convict barracks.	2 x 1m; east-west	Convict barracks
TT4	East portion of potential convict barracks, west of Barn.	2 x 1m; north-south	Convict barracks
TT5	Northwest portion of potential convict barracks.	'L' 2 x 1m north-south	Convict barracks
TT6	West portion of potential convict barracks.	'L' 3 x 1m east-west	Convict barracks

3.4.4.1 TA4/TT1

This trench was located immediately north of the northern yard across a possible drainage ditch which ran in an approximate east-west direction (Figure 3.17, Figure 3.18). Several large dressed stones, machine-made bricks and glazed pipes were present on the surface in the immediate vicinity. To the west of the trench was a square concrete block assumed to be a sump lid. Excavations revealed that under the modern topsoil (O52) and subsoil (O53) is a compacted stony layer (O57). To the south and centre of the trench, natural accumulations of gravel were found (south O56, centre O58) beneath which was the natural clay (O60). A sondage in the northern end of the trench found a linear feature (cut O63, fill O59) cut into the natural clay from which fragments of iron nails were recovered. Beneath the cut (O63) a layer of gravel clay (O62) was revealed, sitting on top of the natural clay (O60).

Table 3.13: Archaeological contexts in TA4/TT1.

Context	Description	Thickness/dimensions
052	Very loose mid to dark brown silty sand with rare <2 mm stones – topsoil.	20mm
053	Loose light brown silty clay with rare <2 mm stones – subsoil.	50mm
057	Compact light brown silty clay with 50-100 mm sub-angular irregular stones.	120mm
058	Compact reddish-brown clayey silt with occasional sub-angular stones and occasional small pebbles (c. 2 mm) – mixed gravel layer.	50mm
059	Loose stained reddish-brown silty clay with rare small sub-angular stones (c.2 mm) and several larger sub-angular stones (c.50-150 mm).	180mm
060	Indurated yellow clay with occasional red stones.	Unexcavated
062	Firm reddish mid brown with yellow flecking clay with occasional angular stones (<20 mm) and rare small stones (<2 mm).	20mm
063	1m wide linear feature with gradual concave sides, filled by context 059.	200mm

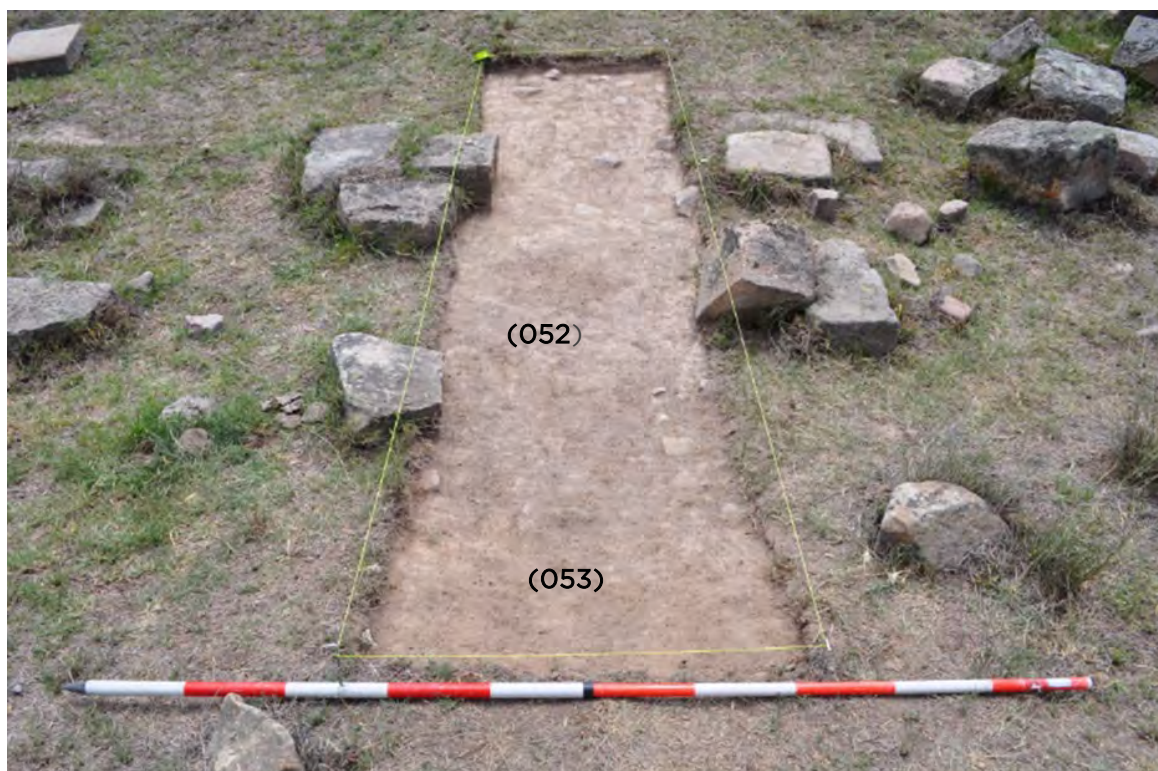


Figure 3.17: Excavation in TA4/TT1 of very loose mid to dark brown silty sand (052), down to loose light brown silty clay (053), showing that stones across this area sat on the surface with some embedded 30-40mm into the silty sand layer. View to north. Scale: 2m.



Figure 3.18: Sondage in TA4/TT1 through loose light brown silty clay (053) through compact light brown silty clay (057), compact reddish-brown clayey silt (059) and indurated yellow clay (060). View to south. Scale: 500mm.

3.4.4.2TA4/TT3A

TA4/TT3a was located in the centre of the north yard, 3m west of a threshold stone, investigated in TA4/TT4 (see Section 3.4.4.3). Beneath the loose brown silty sand topsoil (050) and a lightly compacted light brown silty sand subsoil (051), an arrangement of partially dressed sandstone pieces and degraded sandstock brick was found on an approximate east to west alignment (055), (Figure 3.19). Excavation in the western side of TA4/TT3a found a remnant historic topsoil (116), through which a robber trench (context 118) had been cut to recover and reuse the stones from an earlier wall. The fill (117) of the wall trench (118) is the same material as context 055, suggesting this deposit was infilled into the robber trench after the removal of the wall stones and backfill. Excavation of the trench fill (117) exposed the remains of the original wall footing (119). A summary of the contexts in TA4/TT3a is contained in Table 3.14.

Table 3.14: Archaeological contexts in TA4/TT3a.

Context	Description	Thickness/dimensions
50	Very loose mid to dark brown silty sand with rare sub-angular <5 mm pebbles – modern topsoil.	20mm
51	Lightly compacted light brown silty sand with rare c.2 mm angular pebbles and 10-50 mm sub-angular stones, increasing in frequency with depth – subsoil.	40-80mm
55	East to west aligned line of partially dressed triangular and wedged sandstone rubble and decomposing sandstock brick.	150mm
116	Compact to loose dark brown clayey silt with remnant flecks of sandstone mortar and rubble pressed in from above – historic topsoil.	160-220mm

Context	Description	Thickness/dimensions
117	Compact to loose dark brown clayey silt with angular worked stone fragments (80-100mm long; 30-60 mm wide) – same as context 055.	150mm
118	Linear cut aligned east to west with near vertical sides – robber trench.	280-300mm wide, 140-210mm deep where exposed.
119	Linear wall footing exposed in context 118; sandstone blocks (500-560 mm long).	280-300mm wide, minimum length of 1m.



Figure 3.19: TA4/TT3a, foundation trench (118) for sandstone wall footing (119) in bottom left corner of trench running east-west. View to east. Scale: 2000 mm.

3.4.4.3TA4/TT4

TA4/TT4 was a 3m long x 1m wide trench, aligned north-south, which was hand excavated. The trench was placed to investigate a dressed sandstone block (042) visible on the surface, and to establish the potential for the presence of archaeological remains relating to the 1830s potential convict barracks (Figure 3.20).

The removal of the topsoil across the trench (040) exposed a light brown clayey silt with frequent sub-angular sandstone rubble throughout (041). The sandstone rubble in this deposit may represent material from the demolition of a structure. This deposit was removed to reveal a compacted clay gravel fill (047), which may represent an interior surface. This fill was cut by five features, four of which were recorded, but not excavated (see Appendix 2 for site plan). Contexts 110 and 111 were sub-oval cuts of undetermined function, context 112 was a rounded cut packed with sandstone fragments which may

represent an internal posthole (based on the location of the threshold stone), and 113 was an amorphous, diffuse feature probably the result of bioturbation.

One of the features (049) was a linear robber trench backfilled with loose sandstone rubble and silt (061). The fill of the robber trench was excavated, exposing an intact sandstone rubble wall foundation 570-580mm wide and orientated east-west (047). This was constructed from unbonded rubble stone to large roughly hewn sub-angular white and yellow sandstone fragments, which appeared to be set into a foundation trench (048). The upper courses of the wall foundation were removed by the demolition associated with the excavation for the robber trench (049) but below this it remained intact (Figure 3.20).

Set directly onto the B horizon clay immediately south of the wall foundation was a large rectangular dressed sandstone block (042). The upper face of the block was heavily worn and weathered, but broad chisel marks were still discernible in a chevron pattern on its face. The upper face had two sockets neatly cut into it: a square socket positioned in the near centre, and a rectangular socket to the south of this. These may have held a door or gate post. A firm clay silt had been packed between the dressed stone and the wall foundation which may be of contemporaneous construction.

Immediately south of the dressed stone block (042) was a dark silty clay fill with sandstone rubble pressed into its surface (043). A sondage excavated into this deposit revealed that although it may have been deposited directly on the B horizon clay, these contexts were separated by a loose grey sand (44), probably formed by bioturbation. Context 043 may represent an external yard fill and historic surface, into which demolition material was trampled. A ferrous padlock and key handle were found pressed into the surface of this fill, immediately south of the dressed stone.

A summary of the contexts from TA4/TT4 is contained in Table 3.15.

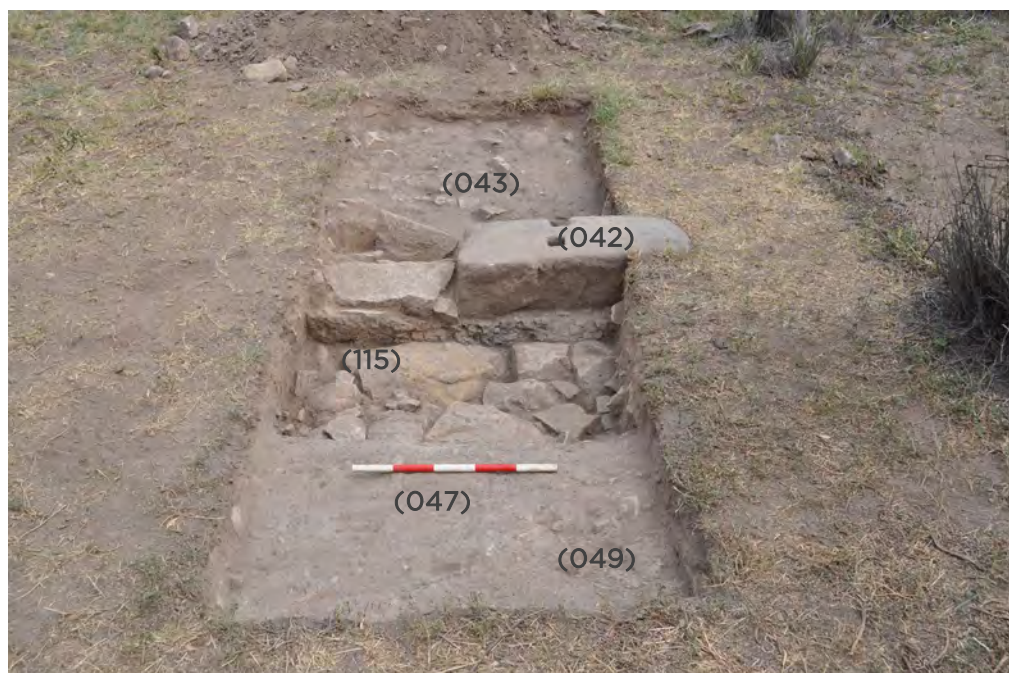


Figure 3.20: TA4/TT4, foundation trench (047) running east-west, with finely dressed sandstone block with two cut sockets (042). View to south. Scale: 500mm

Table 3.15: Archaeological contexts from TA4/TT4.

Context	Description	Thickness/dimensions
40	Soft mid brown silty topsoil.	90mm thick
41	Compact light brown clayey silt with frequent subangular sandstone fragments (c.100 x 100mm). Demolition deposit.	45-70mm thick
42	Finely dressed sandstone block with two cut sockets.	730 x 370 x 380mm
43	Compact mid grey brown silty clay with occasional sub-angular <100mm sandstone fragments. Possible yard fill/surface.	95-100mm thick
44	Loose grey brown silty sand encountered in sondage. Likely the result of bioturbation.	125mm thick
45	Indurated orange yellow B horizon clay.	Unexcavated
46	Indurated grey-white clay fill with gravel aggregate comprising sub-angular sandstone fragments <10mm and rounded volcanic pebbles, with yellow orange redeposited natural clay. Possible interior surface.	110mm thick
47	Sandstone rubble wall foundation orientated east-west. Constructed from unbonded roughly hewn sub-angular medium to large yellow sandstone fragments, of size ranging from <100 to 500mm.	570 to 580mm wide, extends across the width of trench (1m); depth not established.
48	Linear foundation trench orientated east-west, containing wall (047).	570 to 580mm wide, extends across the width of the trench (1m); depth not established.
49	Linear robber cut into wall foundation (047), filled with (061).	720mm wide, 100-160mm deep. Extends across the width of the trench (1m).
61	Loose greyish brown silt with common subangular white sandstone fragments, 20-80mm in size. Fill of robber cut (047).	
110	Unexcavated sub-oval feature cut into (046).	Unexcavated
111	Unexcavated rounded feature cut into (046).	Unexcavated
112	Unexcavated rounded feature filled with sub-angular sandstone fragments, cut into (046). May represent an internal posthole.	Unexcavated
113	Unexcavated amorphous feature with diffuse edges, observed cut into (046). Likely bioturbation.	Unexcavated
114	Sub-circular feature cutting (041). Likely a garden planting cut.	Unexcavated
115	Compact brown grey silty clay with orange clay mottling. Potential packing deposit between dressed stone (042) and wall foundation (047).	Unexcavated

3.4.4.4TA4/TT5

TA4/TT5 was excavated as a north-south aligned 2 x 1m trench and later extended by a further 1 x 1m to the northeast forming an inverted 'L' shape (Figure 3.22, Appendix 2 plan). The trench was aligned to encompass the return of a surviving portion of sandstone wall at the base of the north wall of the north yard (Figure 3.21 and Figure 3.22). A thin but highly compact topsoil was present across the entire trench (O30). Beneath it was a compact stone yard surface dating from the final use of the yard (O31). A north-south running c590mm-wide robber trench (O33) was found beneath filled with a charcoal rich firm clayey sand (O32). Upon removal of the robber trench fill, remains of the original sandstone wall were revealed (O35), to the east of which collapsed remains of the wall were found (O34) – see Figure 3.22. Beneath this a series of modified potential yard surfaces were noted (O36, O37, O38). A summary of the contexts from TA4/TT5 is in Table 3.16.

Table 3.16: Archaeological contexts from TA4/TT5.

Context	Description	Thickness/dimensions
30	Compact brown sandy silt with frequent small pebbles – topsoil.	20-30mm
31	Very compact brown sandy silt with frequent sandstone fragments and chips – yard surface.	40-50mm
32	Firm clayey sand with frequent charcoal flecks, frequent sandstone fragments(<100mm), occasional larger (<200mm) sandstone pieces, rare sandstock brick fragments.	40-120mm
33	560-590mm wide, north-south running, vertical sided cut – robber trench.	560-590mm wide, 40-120mm deep, minimum length of 2m
34	Very compact dark brown sandy silt with sandstone wall stones and grey mud mortar – demolition.	100-300mm
35	Two rows of north-south aligned lightly dressed rectangular to sub-rectangular sandstone blocks with smaller stone infill – wall footing.	570-580mm wide, unknown depth, minimum length of 2m
36	Firm light grey to brown gritty silty sandy clay with frequent clay lumps (<30mm), common sandstone fragments (<80mm).	
37	Light grey brown sandy gritty mortar spread.	
38	Firm to soft dark grey brown clayey silt with frequent charcoal flecks and frequent sandstone fragments and chips.	



Figure 3.21: Surviving portion of sandstone wall (running north-south) at the base of the north wall (running east-west) in the north yard. TT4/TT5 was aligned to test the reading that the sandstone blocks were *in situ*. Looking north. No scale.

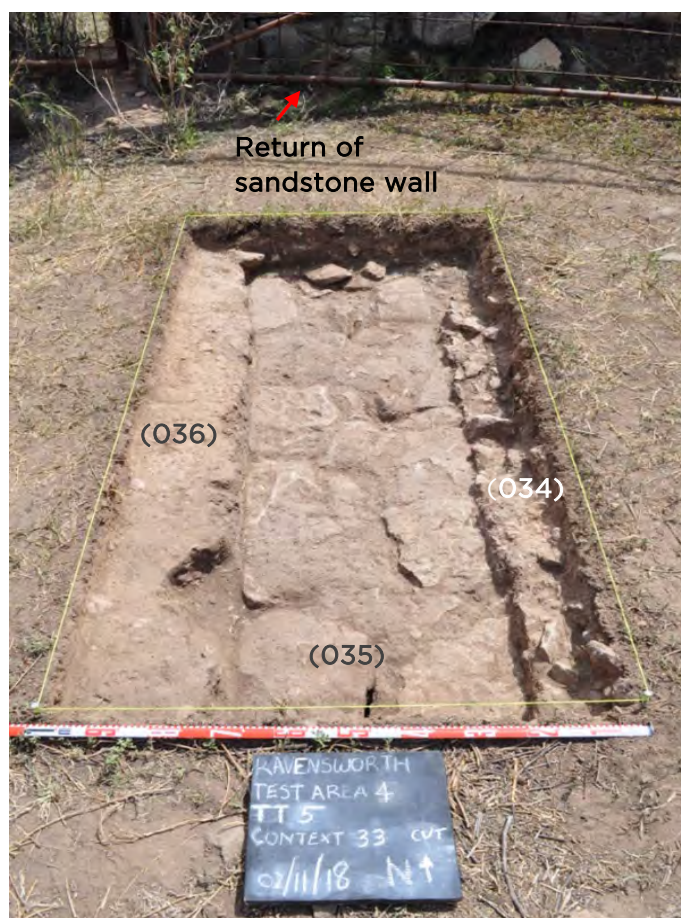


Figure 3.22: TA4/TT5, sandstone footing (035) running east-west and robber trench (033), indicating location of the return of surviving *in situ* sandstone wall. View to north. Scale: 1m.

3.4.4.5TA4/TT6

TA4/TT6 was excavated to determine whether a roughly east-west alignment of dressed stones, partially visible on the surface, are associated with a structure (Figure 3.23). The trench was initially opened as an east-west aligned 2 x 1m and later extended to 3 x 1m 'L'-shape. Beneath a friable silty clay topsoil (O20) an east-west aligned sandstone wall was exposed (O22) with the full surviving width visible at the western end of the trench. To the south of the wall a yellow brown subsurface clay (O28) was found, with remains of a possible occupation surface (O24) abutting it. To the north of the wall, a sandy clay surface (O27) was found with a possible drainage channel extending from the wall heading northwest (O26). A summary of the archaeological contexts is contained in Table 3.17 below.

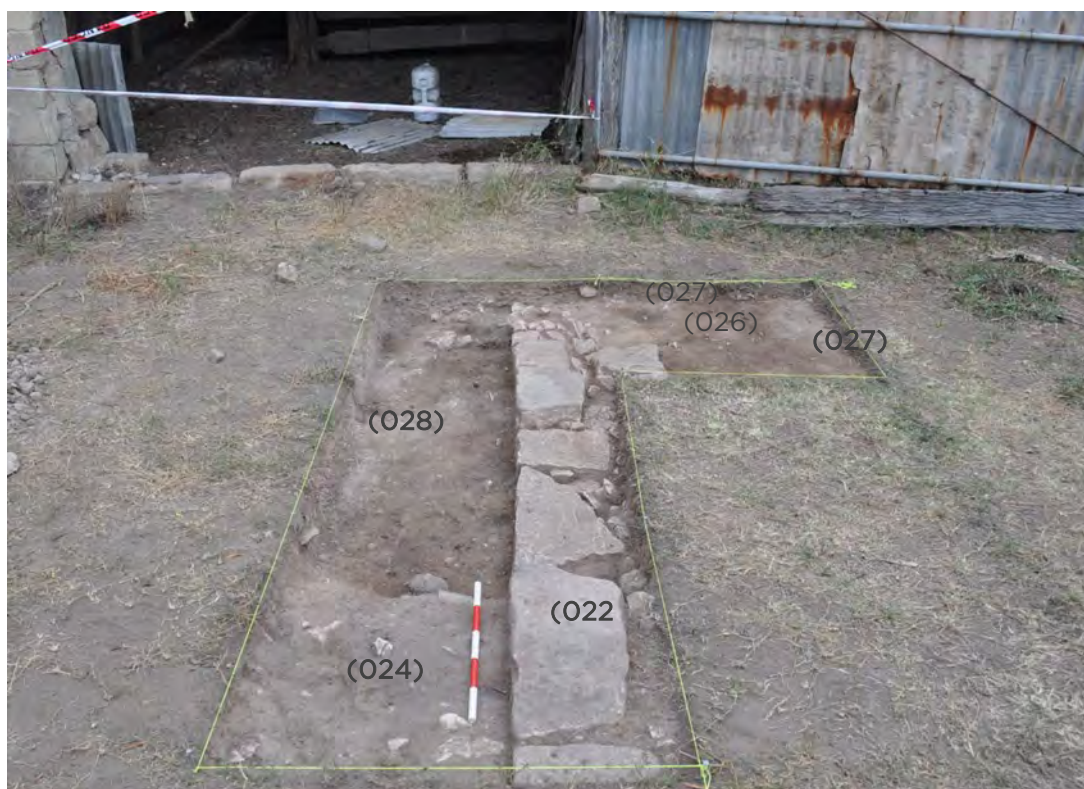


Figure 3.23: TA4/TT6, dressed sandstone footing (O22) running east-west. View to west. Scale: 500mm.

Table 3.17: Archaeological contexts from TA4/TT6.

Context	Description	Thickness
20	Friable light grey brown silty clay – topsoil.	50-70mm
21	Compact light brown silty clay with frequent sub-angular sandstone (up to 120mm) and occasional small rounded pebbles.	
22	East-west aligned roughly dressed rectangular and triangular sandstone blocks in two parallel rows with small sandstone packing between – wall.	560-580mm wide, 120-240mm deep, minimum length of 3m.
23	Compacted whiteish brown gravely silty clay with occasional to frequent small worn sandstone pebbles and 20-60mm sandstone chips.	30-120mm

Context	Description	Thickness
24	Compact light brown silty clay with occasional chipped sandstone fragments (c. 80-mm).	250mm
25	Compact light brown clayey silt with sandstone fragments.	200-270mm
26	Compact light brown clayey silt with patches of yellow brown clay and abundant sandstone rubble fragments and gravel.	Unexcavated
27	Light greyish brown sandy clay surface.	Unexcavated
28	Yellow-brown clay subsurface level.	Unexcavated

3.5 NORTH Paddock YARDS, BUILDINGS, GARDEN AND AGRICULTURAL FEATURES

3.5.1 TEST AREA 5: YARDS AND BUILDINGS

Test Area 5 (TA5) is located to the north of the homestead complex, north of TA4 and east of TA6 (Figure 3.1, Figure 3.24). The primary aim of this test area was to better understand if any historic construction occurred in this area including: potential convict huts/accommodation, blacksmiths workshop, a slaughterhouse, a cottage, gardens and other farming-related buildings. A total of five machine-excavated trenches were dug in the area, each monitored, cleaned and recorded by archaeologists, along with a single hand-excavated trench (TA5/TT6). The test trenches in TA5 are summarised in Table 3.18 and their locations can be seen in Figure 3.24.

GPR was undertaken in diagonal direction across TA5 (GPR01). A large square anomaly was identified in the northern part of TA5 and identified as suggestive of sub-surface foundation. TT3 was located to test this anomaly and identified a range of features including postholes, sandstone rubble and decaying timber indicative of structures in this area. A rectangular feature was identified to the southeast of the previous anomaly but the GPR survey offered no interpretation. TT2 was located across this anomaly (which at the time of excavation, as a result of recent rainfall, was clearly visible as a green grassy depression on the ground). TT2 revealed a second structure with postholes.

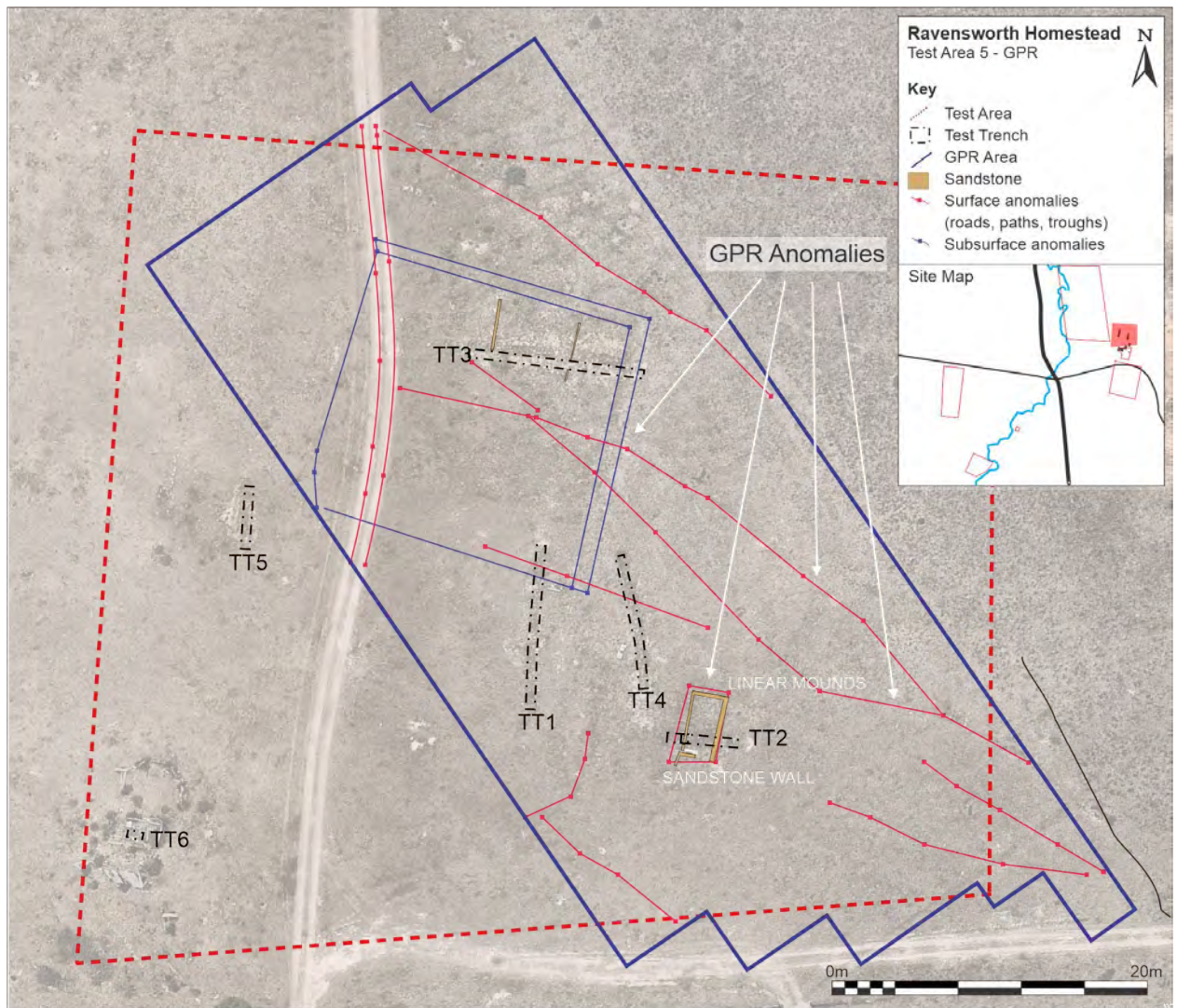


Figure 3.24: Test Area 5 showing trench locations, track ways and topography, with area of GPR survey overlaid and GPR anomalies (thin blue and red lines) based on data provided by MALA GPR.

Table 3.18: Summary of test trenches in TA5.

Test Trench	Location	Size	Aim
TT1	East of the north-south running track, north of the homestead.	21 x 2.1m	Potential structure
TT2	East of TT1.	9 x 1m	Blacksmiths
TT3	Perpendicular and north of TT1 and TT4.	22.6 x 1m	Potential structure
TT4	East of TT1 and north of TT2.	17 x 1.2	Blacksmiths
TT5	West of TT1 on the western side of the north-south running track.	6.95 x 1.2m	Cultivation area
TT6	Within wooden animal corral northwest of homestead.	2 x 1m (hand excavated)	Relationship between extant wooden structure and possible stone structure.

3.5.2 SUMMARY OF RESULTS

3.5.2.1 TA5/TT1

A machine-excavated 21m long north-south aligned trench (Figure 3.25) was placed to investigate several stony features visible on the surface which may relate to the site of the blacksmiths and /or other structures across this area (Figure 3.24). Following the partial removal of the silty sand topsoil (098), two underlying deposits were noted in the centre of the trench. A heaped patchy rubble (132) was revealed with patches of chalky gravel (129) to the north and south which may be fills of a paleo channel. A summary of the archaeological contexts is contained in Table 3.19 below.

Table 3.19: Archaeological contexts in TA5/TT1.

Context	Description	Thickness
98	Compact bark brown grey silty sand - topsoil.	
129	Loose, friable light to dark grey silty sandy clay with frequent gravel.	Unexcavated
132	Loose light brown yellow silty sand with 100-200mm sandstone rocks and smaller (c. 100mm) rubble.	50mm

3.5.2.2 TA5/TT2

Machine excavated trench 9m long and east-west orientated. It was intended to assess a large (8.7 x 5.7m) rectangular feature visible in the topography of the modern topsoil and identified but not interpreted by the GPR survey (Figure 3.24). The trench was excavated over the southern parts of the north-south running linear features. The loose dark brown sandy silt topsoil (073) contained a number of anthropogenic features that could be interpreted as relating to metal processing. Once the loose topsoil was removed, a potential historic topsoil or levelling fill (076) was revealed between the two linear depressions. To the east historic topsoil remained (074) with an unexcavated soot and ash-filled pit cut into it. To the west an industrial waste deposit (075) was revealed with two potential postholes cut into it; a patch of context 074 was also present overlying 075 (see Appendix 2 for plans).

To better understand the nature of the linear depressions, a hand-excavated sondage was dug through the eastern depression. It showed that the depression corresponded to a linear feature (083) with near vertical 170mm deep sides and a flat 170mm wide base. This is thought to be a wall or slot trench for a timber post structure. A post hole (084) was found within the dark brown sandy silt fill (080) of the slot trench (Figure 3.26). A summary of the contexts from TA5/TT2 is contained in Table 3.20.

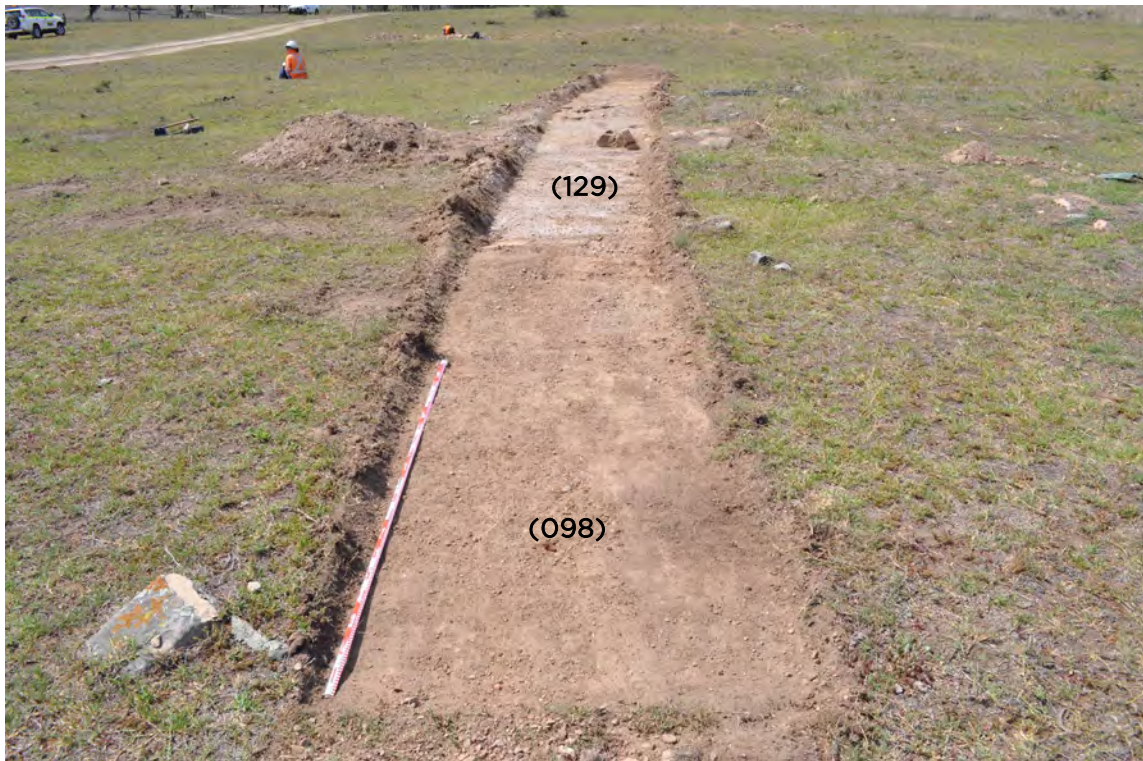


Figure 3.25: TA5/ TT1. View to north. Scale: 2m.



Figure 3.26: TA5/TT2, wall slot (083) and postholes. View to south. Scale: 1.1m.

Table 3.20: Archaeological contexts from TA5/TT2.

Context	Description	Thickness
073	Humic loose dark brown sandy silt with occasional ironstone, river pebbles and charcoal – modified topsoil.	70-120mm
074	Firm pale brown sandy silt with frequent charcoal fragments (10-20mm), occasional fragments of crushed sandstock brick (<15mm), occasional smooth quartz pebbles and infrequent corroded ferric objects – historic topsoil.	Unexcavated
075	Loose black sooty sand with industrial waste.	Unexcavated
076	Firm yellow grey clayey silt – possible internal surface of post hole structure.	Unexcavated
079	Very compact yellow patchy clay mixed with friable grey silty clay.	
080	Humic compacted dark brown sandy silt with frequent charcoal flecks and frequent pebbles in the base of the deposit, fill within wall slot 083.	
083	Linear north-south orientated cut corresponding to depression in modern surface – wall slot.	150-200mm wide, 160-200mm deep, at least 1.2m long
084	Ovoid post hole with an uneven base.	200mm wide, 240mm long, 130-180mm deep
085	Fill of posthole – soft dark brown humic sandy silt with charcoal flecks	Unexcavated.

3.5.2.3 TA5/TT3

TT3 was located to investigate a series of linear hollows visible on the surface and the results of the GPR survey (GPR01). Following the removal of the brown grey silty topsoil (091), multiple north-south orientated linear features were revealed in addition to a concentration of sandstone rubble (Appendix 2 plan). To the east of the trench a line of decaying timber (087) corresponds exactly to a topographic hollow visible on the surface. Immediately adjacent and to the west, a parallel shallow cut (089) filled with a loose brown silty sand (090) was revealed (Figure 3.27). A rectangular posthole was found approximately 600mm to the west of context 087. In the approximate centre of the trench a possible robber trench (096) was noted orientated north-south. From here the topography slopes downhill to the west and a concentration of sandstone pieces (094), potentially remains of a collapsed building, was discovered, at the point the ground levels out (Figure 3.28). A 1.8 x 0.6m east-west orientated, hand excavated sondage into this deposit showed a possible robber cut (103). A summary of the contexts in TA5/TT3 is contained in Table 3.21.

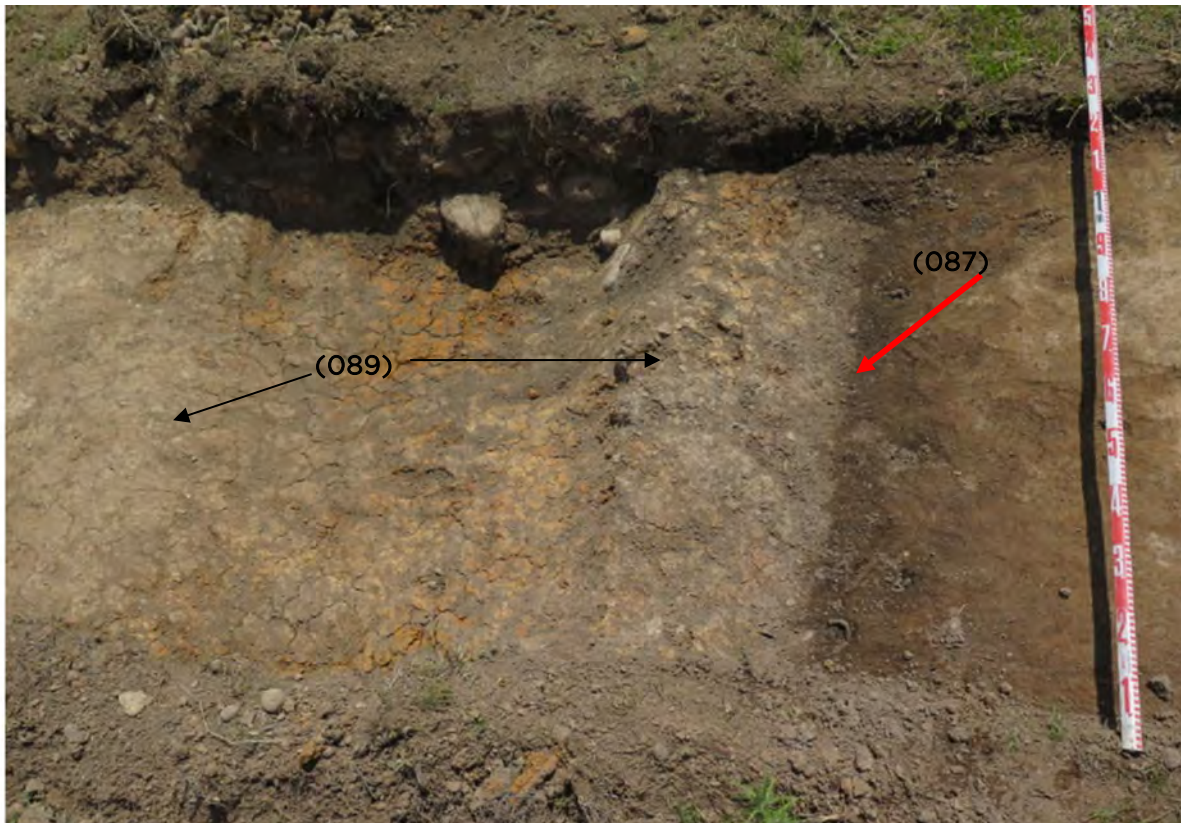


Figure 3.27: TTA5/TT3, line of decaying timber to east (red arrow) with shallow north-south trench (089). View to north. Scale 1.5m.



Figure 3.28: Concentration of sandstone pieces (094), potentially remains of a collapsed building, at the point the ground levels out. Scale 1.2m.

Table 3.21: Archaeological deposits from TA5/TT3.

Context	Description	Thickness
087	North-south orientated heavily decayed linear timber. Missing timber characterised by a moderately compact humic material.	n/a
088	Rectangular post hole with a sub-circular post pipe.	Unexcavated
089	North-south orientated linear cut parallel to 087 to the east, with moderate steeply sloping sides and irregular edges.	900-1200mm wide, 140mm deep, at least 1.2m long
090	Loose brown silty sand with rounded river pebbles within 089.	160mm
091	Moderately compacted brown grey silt with small pebbles – topsoil.	8-20mm
092	Light to mid grey silt – possible historic topsoil.	10-20mm
093	Moderate to loose light brown sandy silt with crushed and broken sandstone.	
094	Concentration of sandstone pieces in western area of trench.	n/a
095	Natural clay	Unexcavated
096	Mixed linear deposit of broken sandstone in a brown silt parallel to (087) to the west – possible robber trench.	Unexcavated
102	Decayed structural timber characterized by a moderately compacted dark grey brown humic silt.	n/a
103	North-south orientated 1m wide cut – robber trench presumably to remove stone pieces.	1m wide, 30mm deep, at least 600mm long

3.5.2.4 TA5/TT4

Trench excavated to investigate a sub-circular feature visible on the GPR survey and any other features that may relate to the blacksmiths and other potential structures (Figure 3.24). TT4 was a machine excavated north-south aligned 17 x 1.2m trench with a slight westward shift at the northern end. During the removal of the topsoil a large iron ring was found towards the centre of the trench. To the south a distinct circular deposit (082) was revealed consisting of a grey silty sand beneath which a c.3.5m long chalky gravel layer was found (Figure 3.29). A summary of the contexts in TA5/TT4 are listed in Table 3.22. A number of artefacts were retrieved from this trench, indicating it may have been an outdoor space between structures/ enclosures.

Table 3.22: Archaeological contexts from TA5/TT4.

Context	Description	Thickness
081	Loose light to dark brown silty sand – topsoil.	50mm
082	Loose dark grey silty sand with occasional sub-angular pebbles.	80-120mm
095	Natural clay.	Unexcavated



Figure 3.29: TA5/TT4 showing loose dark grey silty sand (082). View to south. Scale 2m.

3.5.2.5 TA5/TT5

TT5 was a machine excavated 7 x 1.20m north-south orientated trench located to search for evidence of possible cultivation north of the homestead (Figure 3.24). Beneath the compact clayey silt topsoil, three distinct underlying deposits were revealed (Figure 3.30). In the southern part of the trench a grey silty sandy clay (101), similar to that seen in TA5/TT1 (129) and TA05/TT4 (076), was found. This is potentially a paleo channel. In the centre of the TT5 a highly disturbed fill (100) was present which may indicate a collapsed wall. To the east natural subsoil (099) was noted. A summary of the contexts in TA5/TT5 is contained in Table 3.23.

Table 3.23: Archaeological contexts from TA5/TT5.

Context	Description	Thickness
099	Loose light brown silty fine sand with various inclusions including metal, wood and stones.	Unexcavated
100	Friable light yellow to light brown sandy silt with mixed sandstone fragments (30-200mm).	Unexcavated
101	Friable pale whiteish grey silty sandy clay.	Unexcavated
135	Compact light grey to brown clayey silt - topsoil.	110mm

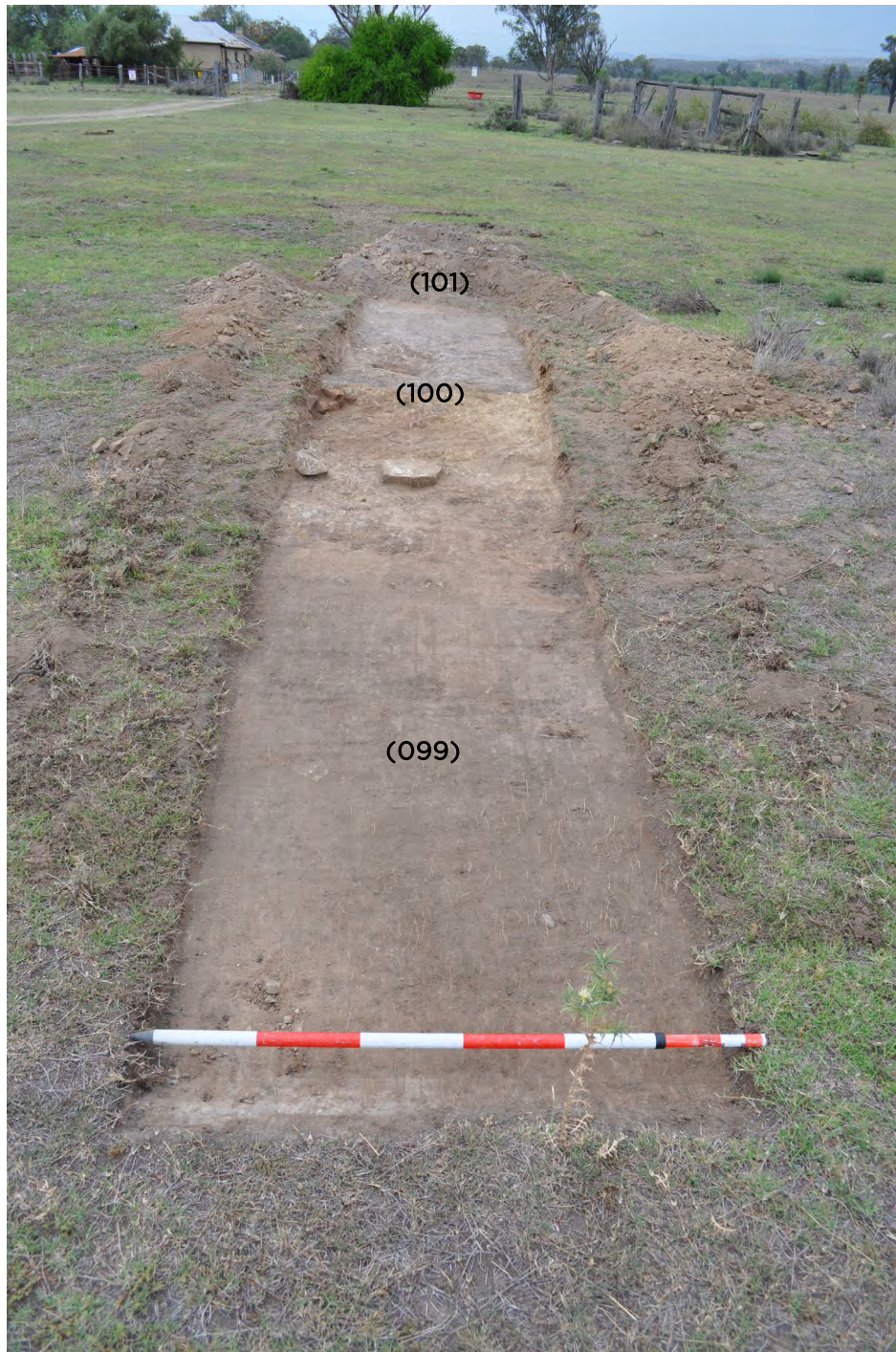


Figure 3.30: TA5/TT5 (looking south) showing loose light brown silty fine sand (099) at the southern of the trench, friable light yellow to light brown sandy silt with mixed sandstone fragments (100) in the centre and friable pale whiteish grey silty sandy clay (101) to the south of the trench. Scale: 1200mm.

3.5.2.6 TA5/TT6

An east-west orientated 2 x 1m hand excavated trench located to examine a stone arrangement within extant wooden structure (Figure 3.24, Figure 3.31). Following the removal of the topsoil (029) and subsoil (142) an arrangement of stones running approximately north-south was exposed (039). A 1 x 0.5m sondage at the east end of the trench showed that context 039 consisted of a single course of reused blocks (Appendix 2 plan). A summary of the contexts in TA5/TT6 is contained in Table 3.24.

Table 3.24: Archaeological contexts from TA5/TT6.

Context	Description	Thickness
29	Humic loose light brown silt – topsoil.	40-70mm
142	Friable light brown fine silty clay.	Not excavated
39	North-south orientated sandstone arrangement consisting of irregular-sized rectangular dressed blocks – wall.	n/a

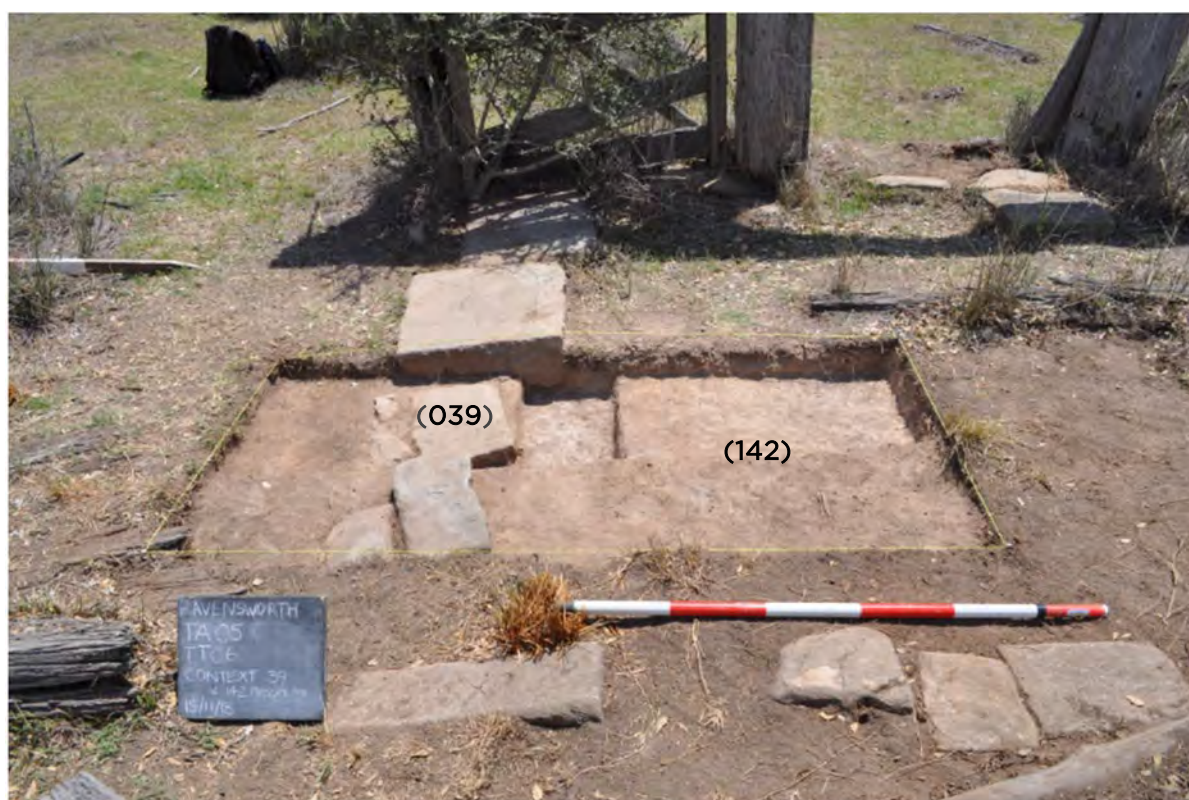


Figure 3.31: TA5/ TT6 showing a single course of reused sandstone blocks consistent with other areas across the site. Scale 1.2m.

3.6 NORTH WEST Paddock BUILDINGS, POTENTIAL 8 ACRE GARDEN AND AGRICULTURAL FEATURES

3.6.1 TEST AREA 6

The largest of the test areas, Test Area 6 (TA6) contained a chain of three dams, only the southernmost of which contained water at the time of the historical archaeological excavations (Figure 3.1). In the northern part of the area, agricultural furrows could be seen on the surface, running in an east-west direction. A further patch of agricultural features, was observed to the south of this, located between the dams and the creek with the well located within it, where the faint remains of furrows could be seen running east-west.¹⁹ This suggests either two separate phases of agricultural activity or that the paddock had previously been divided into a different field configuration which is no longer apparent.

As discussed in Section 1.6, two registered AHIMS sites, Yorks Creek 10 (37-3-0753) and Yorks Creek 11 (37-3-0754), are located within TA6. Prior to commencing any archaeological excavation in TA6 a number of Aboriginal objects were located in the vicinity of TT1 to TT4. The objects were recorded by OzArk as Glendell North OS37 (37-3-1562) as a low-density artefact scatter comprising three flakes, one of which is broken into two pieces, and a mudstone core fragment (OzArk 2019). Figure 3.32 shows the location of the proposed historical archaeological test trenches in relation to the Aboriginal objects/AHIMS sites. After discussions with OzArk, Glencore and the onsite Registered Aboriginal Parties about the objects, it was determined not to undertake work on TT1 to TT4.

On the east side of Yorks Creek a sandstone feature was visible on the exposed inner bank. This was investigated as TT5. Four trenches, TT7, TT8a, TT8b and TT9, were excavated in the eastern part of TA6 to investigate the herringbone brick paving and surrounds. A summary of the work carried out is below and the test trench locations can be seen in Figure 3.33 and Figure 3.34.

¹⁹ Section 7.0. in Casey & Lowe 2018 *Ravensthorpe Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design*, report to Glencore (September 2018).

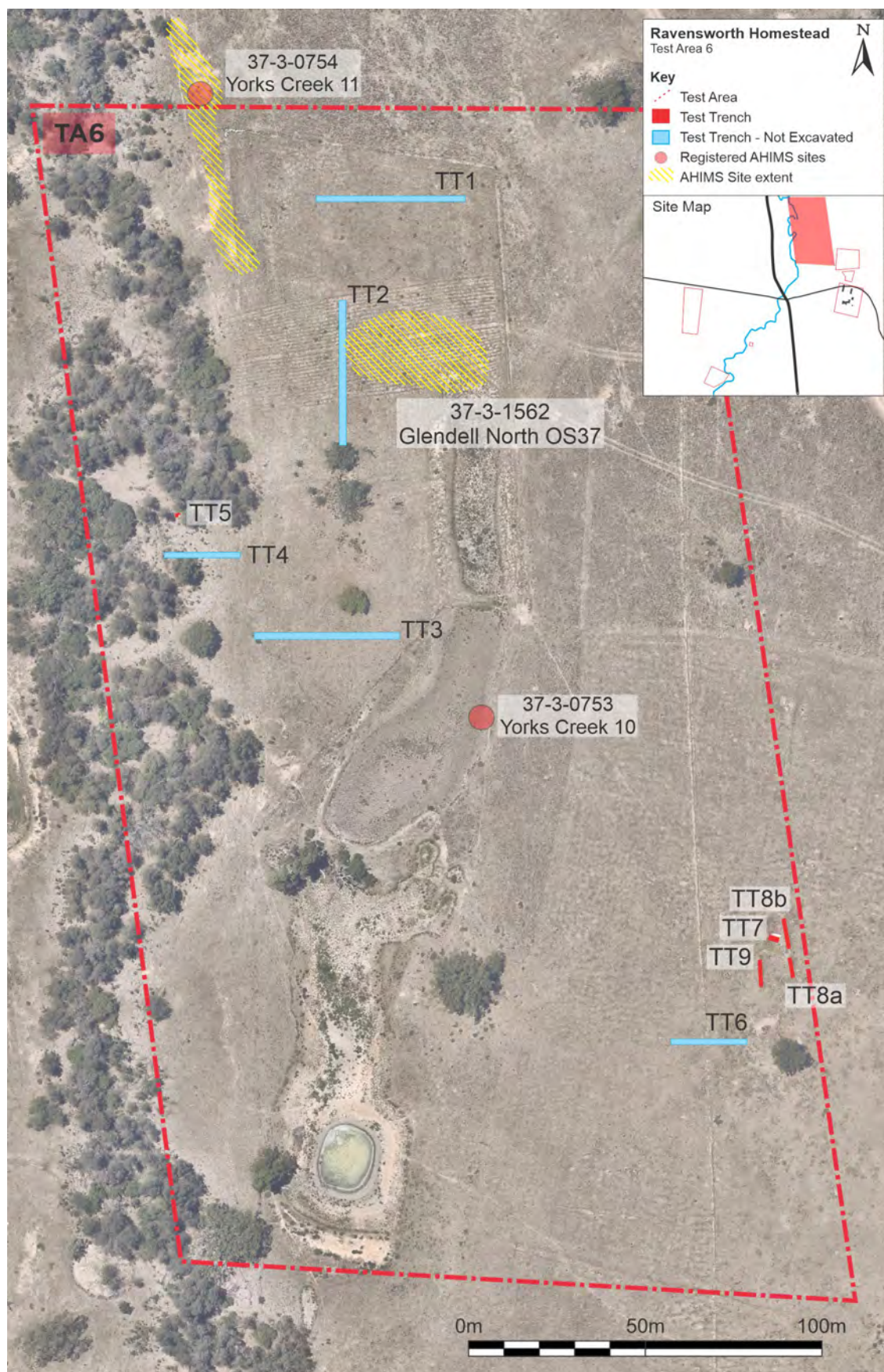


Figure 3.32: The location of the proposed historical archaeological test trenches in relation to the Aboriginal objects

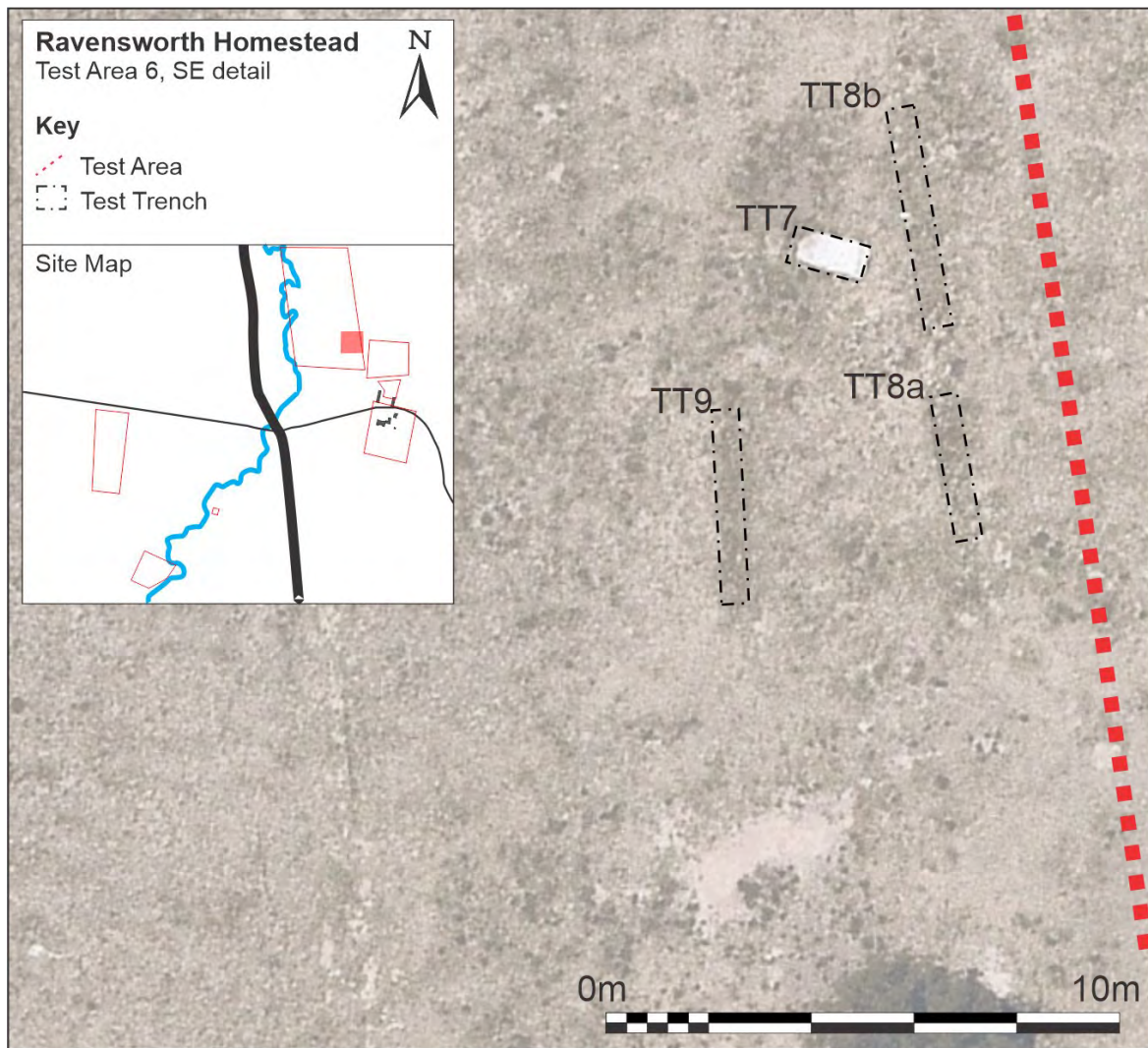


Figure 3.33: Test Area 6 showing trench locations.

Table 3.25: Summary of Test Trenches excavated in Test Area 6.

Test Trench	Location	Size	Aim
TT1 -TT4	Not excavated as mentioned above		Investigate agricultural/ garden features
TT5	East bank of Yorks Creek	2.7m x 1.6m	Investigate sandstone feature.
TT6	East side of Test Area, not excavated as replaced by TT9		
TT7	East side of Test Area	1.5m x 3m	Expose herringbone paving
TT8a	East side of Test Area	6.0m x 0.9m	Possible structure related to small mound.
TT8b	East side of Test Area	8.5m x 0.9m	Possible structure related to small mound.
TT9	East side of Test Area	7.50m x 1.0m	Possible structure related to small mound.

3.6.1.1 TA6/TT5

During survey work undertaken in this test area, several pieces of cut sandstone, appearing to form part of a structure, were observed protruding from the eastern bank of Yorks Creek (Figure 3.34, Figure 3.35).

TT5 was excavated at the surface level of the bank along the alignment of the sandstone blocks, in the direction of an overgrown, open circular cut (Figure 3.36). Up to 40mm of topsoil and grass roots (137) were removed revealing a pale orange/grey sandy silt with frequent charcoal flecking (138). Context 138 is believed to have been deposited by flooding events which had occurred since the construction of the sandstone block feature (139). The sandstone blocks are roughly rectangular in shape and ranged in size from 170mm x 80mm x 80mm (length x width x height) to 270mm x 250mm x 140mm. The overall feature measured 2.7m from east-west and consisted of up to two courses. Some of the stone showed evidence of re-use of stone from an older structure, though differences in the finish of the stone and the attachment of lime mortar was found only on isolated blocks. The structure also included five rectangular narrow sandstock bricks on its south side. The circular cut (140) at the west end of the stone feature had a diameter of 1.5m with a depth of up to 0.75m. A small tree was growing in the centre of the cut and grass was growing along the internal sides.

The overall impression was of water being channelled from the creek into the circular cut via the sandstone feature. Possible uses for this may have been as a laundry area or as a dry well used to syphon floodwater away from a garden or agricultural area. Blocks which had likely been removed / fallen from the feature through erosion were visible in the creek bed. This may have acted as a channel that directed water into a storage reservoir.



Figure 3.34: Test Area 6 showing TT5 adjacent to the banks of Yorks Creek.



Figure 3.35: TA5/TT5, cut sandstone blocks protruding from the east bank of Yorks Creek, close to a bend in the creek. View to south. Scale: 300mm



Figure 3.36: TA6/TT5, sandstone feature (139) and circular cut (140, containing tree) to the left of the photograph, outlined in blue. View to north. Scale: 300mm.

Table 3.26: Summary of contexts in TA6/TT5.

Context	Description	Thickness
137	Dark brown silty sand.	40mm
138	Charcoal flecked, pale orange mottled grey, sandy silt.	180-330mm
139	Linear sandstone block feature.	n/a
140	Unfilled circular cut containing tree.	750mm

3.6.1.2 TA6/TT7

TT7 in TA 6 was excavated to investigate a patch of visible herringbone, brick paving in the east of the area (Figure 3.33, Figure 3.37). Loose brown silty topsoil (125) was removed by hand. The topsoil (125) was particularly shallow above the pavers, with a maximum depth of 25mm to the east and west of the paved patch. The paving (126) was undulating and contained hollows and cracks, probably the result of impacts from sustained agricultural activity and erosion. A disturbed row of sandstock bricks along the east side of the paved patch appears to have represented the original edge of the paving. On the southwest corner of the paving, some smaller brick fragments had been used to create a straight edge, possibly where the paving abutted a structure. Beneath the topsoil (125) to the east of the paving was a dark sandy, ash spread (128). This material contained plaster fragments and occasional small metal objects, such as corroded nails. This was similar to context 133 in TT8b to the east. The material beneath the topsoil on the west side of the paved patch, (127) was a light brown silty clay, it was noticeably different. Corroded iron and broken window glass fragments were retrieved from this context.



Figure 3.37: TA6/TT7 with herringbone paving (126) clearly visible. View to north. Scale: 1.1m.

Table 3.27: Summary of contexts in TA6/TT7.

Context	Description	Thickness
125	Loosely compact brown silt - topsoil.	25mm
126	Sandstock brick paving.	Single course.
127	Light brown silty clay.	Unexcavated.
128	Dark grey sandy ash spread.	Unexcavated.

3.6.1.3 TA6/TT8A & 8B

TT 8a and 8b were machine excavated immediately to the north and south of an overgrown mound of sandstone rubble (Figure 3.33, Figure 3.38). The main purpose of these trenches was to establish if further remains of a building were present in the immediate vicinity. The mound itself was roughly circular with a diameter of 2.5m. TT8a extended 6m south from the mound and was 900mm wide. TT8b extended 8.5m north from the mound and was a similar width to TT8a. Both trenches had approximately 100mm of light brown silty topsoil (130) which contained grass roots. In TT8a there was a layer of reddish-brown silty sand (131), containing occasional brick fragments, beneath the topsoil. This material was up to 80mm deep. Beneath context 131 in the north of TT8a was a deposit of sandstone and sandstock brick rubble extended from the mound (where it was recorded as context 134), and directly beneath the topsoil in the south of Trench 8b (where it was recorded as context 136). The deposit of sandstone and sandstock brick rubble remained unexcavated between TT8a and b.

This rubble building materials deposit was compact and contained crushed plaster, broken brick fragments and pieces of broken, and cut sandstone blocks. This material was resting on top of a mortar and dark silty sand material (133) in TT8b. Context 133 was similar in colour, compaction and composition to context 128 in TT7. The overall impression was that the rubble and other demolition material encountered in TT 8a, 8b and 7 and the rubble from the built-up mound originated from a building located to the immediate east of the herringbone paving in TT7 and north of the rubble mound.



Figure 3.38: TA6, rubble at north end of TT8a with TT8b extending northwards from the other side of the mound. View to north. Scale: 500mm.

Table 3.28: Summary of contexts in TA6/TT8a & b

Context	Description	Thickness
130	Light brown silt - topsoil.	100mm
131	Reddish brown silty sand.	80mm
133	White/light grey silty sand and mortar.	Unexcavated
134	Sandstock brick and sandstone block rubble in brown silt - same as 131.	Unexcavated
136	Sandstock brick and sandstone block rubble in brown silt - same as 131.	Unexcavated

3.6.1.4 TA6/TT9

TT9 was excavated to investigate potential agricultural or structural features in the south part of Test Area 6 (Figure 3.33, Figure 3.39). The trench measured 7.5m north-south and 1m wide. The topsoil (105) in this area was removed by machine to a depth of 50mm. No archaeological features or deposits were encountered although artefacts including broken glass, ceramics and metal objects (mostly nails) were recovered from the topsoil. This is not surprising given the proximity of TT9 to the structural remains found in TT8a, 8b and 7.



Figure 3.39: TT9 in TA6. View to the south. Scale: Scale: 1200mm.

Table 3.29: Summary of contexts in TA6/TT9

Context	Description	Thickness
105	Light brown silt - topsoil.	50mm

3.7 POTENTIAL GRAVE SITE

3.7.1 TEST AREA 7

Test Area 7 (TA7) is located on the eastern bank of Yorks Creek, 500m southwest of Ravensworth Homestead and 190m west of Hebden Road (Figure 3.1, Figure 3.40). The area was surveyed as part of the GPR survey (GCO6) due to the local oral tradition that the area contained the grave of James Bowman.

GPR was undertaken across Test Area 7 (GPR06) and showed two rectangular anomalies of interest: the first measured c.2 x 2.5m and was situated on flat ground to the east of the creek, while the second was larger (c.3 x 9m) and approximately 6m east of the first. Additionally, a line of sandstone blocks running parallel to the creek were found on the surface 3m to west of the first anomaly. To investigate and assess the archaeological potential of these features, three trenches were hand excavated in TA7. The Test Trench locations can be seen in Figure 3.40. A summary of the work undertaken is contained in Table 3.30.

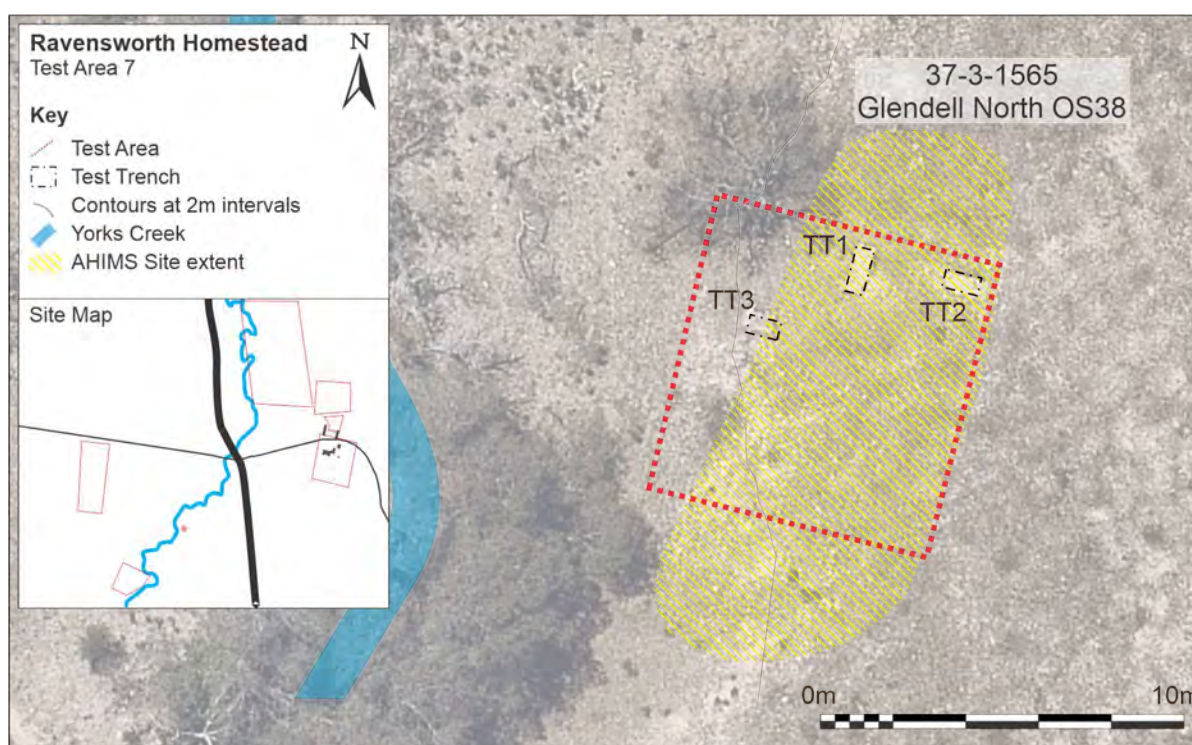


Figure 3.40: TA7 showing location of TT1 to 3, with Yorks Creek to the west, and AHIMS site Glendell North OS38 (37-3-1565) located across the TA.

Table 3.30: Summary of the Test Trenches in TA7.

Test Trench	Location	Size	Aim
TT1	4m west and 0.5m south of the northeast corner marker of TA7.	2.5 x 1m	Suggested grave site
TT2	1m west and 1m south of the northeast corner marker of TA7.	2 x 1m	Larger rectangular anomaly
TT3	7m west and 5m south of the northeast corner marker of TA7.	1.75 x 1m	Line of sandstone parallel to the creek.

3.7.2 SUMMARY OF RESULTS

No evidence of a grave was found in TA7. TT1 had evidence of a demolished structure. A larger anomaly was confirmed in TT2 along with a posthole suggesting a second structure in the area. The line of stones along the creek was confirmed as anthropogenic in TT3 and may have acted as a retaining wall to shore up the land to the east where the structures were located.

Two Aboriginal objects, Glendell North OS38 and IF29, were identified during the testing program.²⁰ Glendell North IF29, an isolated find, was located on the surface between Hebden Road and TA7. Glendell North OS38 is a low-density artefact scatter comprising two flakes, one of which is broken into three pieces. The flakes are manufactured from mudstone and silcrete. One of the artefacts was found at a depth of 150mm during a historic heritage test excavation program (in TA7/ TT1), while the other was located near TA7 (Figure 3.40).

The historical archaeological investigations, monitored by an OzArk archaeologist and a Registered Aboriginal Party, did not uncover further subsurface Aboriginal archaeological deposits. OzArk has assessed the potential for the presence of further, intact, subsurface archaeological deposits at both Glendell North IF29 and OS38 as negligible.²¹

3.7.2.1 TA7/TT1

TT1 was hand excavated in order to investigate the smaller rectangular anomaly identified on the GPR survey that was suggested to be Dr Bowman's grave (Figure 3.41). The trench was initially excavated as a north-south aligned 2 x 1m and later extended by a further 0.5m to the north, to a maximum depth of 150mm. TT1 was located over the northeast corner of the anomaly. Following the removal of the modern alluvial brown fine clayey silt topsoil five distinct sedimentary deposits were noted. Contexts B, C and E all correspond to natural or modified natural deposits with anthropogenic inclusions likely as a result of *in situ* pedogenesis and bioturbation. Context D, in plan, was a 380mm-wide band that extended the full width of the trench and corresponded to the anomaly seen in the GPR - (Figure 3.40).²² Alongside context A, these suggest a demolished and burnt building. None of the archaeological features were indicative of a grave with no evidence of a grave cut.

Table 3.31: Archaeological contexts from TA7/TT1.

Context	Description	Thickness
A	Friable when wet brown silt with frequent rounded 5-25mm burnt mortar fragments, occasional charcoal flecks and rare 5-20mm rounded brick rubble.	Unexcavated
B	Friable when wet, compact when dry brown silt with rare 40-50mm sub-angular brick rubble and sub-angular 30-40mm sandstone pieces – remnant historic subsoil.	Unexcavated
C	Compact brownish grey fine silt mottled brown with patches of yellowish-brown clay and rare 5-10mm brick and sandstone pieces.	Unexcavated
D	Dark brown crumbly silt with frequent sub-angular 20-50mm brick pieces, occasional sub-angular 20-30mm sandstone pieces, occasional charcoal flecks and occasional heavily degraded wood.	Unexcavated

²⁰ IF 29 was left on site and OS38 was retained by OzArk.

²¹ OzArk 2019 *Aboriginal Archaeology Impact Assessment, Glendell Continued Operations Project, Glendell Coal Mine, Ravensworth, NSW, July 2019*. Report to Umwelt Environmental & Social Consultants on behalf of Glendell Tenements Pty Ltd.

²² MALA 2018 Geophysical Survey, Ravensworth Homestead, Ravensworth NSW.

Figure 3.42: TA7/TT1, looking South. Scale 2m.

3.7.2.2 TA7/TT2

TA7/TT2 was located in the northeast corner of the test area and composed of an east-west orientated 2 x 1m trench over the western side of the anomaly (Figure 3.43). It was excavated to a maximum depth of 50mm. A dark brown linear feature was found which extended across the entire width of the trench beneath the modern topsoil. To the east of this was a posthole with a 390mm diameter, both appeared to be cut into a modified historic topsoil (context A). The dark brown feature (B) was not excavated but on the surface contained rare charcoal flecks. The posthole (C) was roughly rectangular and extended into the western trench edge which masked its full extent. The packing was highly compacted and contained occasional heavily degraded ferric material (C). A 140 x 100mm ovoid-shaped postpipe containing compacted mid-brown to buff sandy silt was noted. Context B probably corresponds to the rectangular feature identified on the GPR survey with the posthole being located within the area.

Table 3.32: Archaeological contexts from TA7/TT2.

Context	Description	Thickness
A	Firm mid brown sandy silt with infrequent bright orange burnt clay flecks, occasional <5mm quartz fragments, and occasional charcoal flecks.	Unexcavated
B	Firm dark brown clayey silt with very infrequent charcoal flecks	Unexcavated
C	Highly compacted mottled dark and light brown clayey silt with infrequent highly degraded ferric material	Unexcavated
D	Moderately compacted mid brown-buff sandy silt	Unexcavated



Figure 3.43: TA7/TT2 showing possible linear feature (B) running north-south and a potential post hole (C). View to south. Scale: 2m.

3.7.2.3 TA7/TT3

TA7/TT3 was located across the line of sandstone pieces embedded in the ground that respect the east bank of Yorks Creek (Figure 3.40, Figure 3.44). It measured 1 x 1.75m on an east-west alignment incorporating a section of the sandstone feature and was excavated to a maximum depth of 50mm. Following the removal of the modern topsoil a clear edge to the stonework facing the creek became visible with a second row of stones, more indiscriminately laid than the first, immediately to the east. The width of the two rows of laid stones was 500mm. The feature continued to both the north and south and formed a definitive edge to the creek bank especially compared to adjacent areas where the bank was more gently sloping, hence its interpretation as remnants of a retaining wall.



Figure 3.44: TA7/TT3 looking northeast. Scale 2m.

3.8 ARCHITECTURAL TEST PITS AND AUGER BOREHOLES

During the archaeological program sixteen test pits were excavated to inform building conservation works and the relocation methodology for the Ravensworth Homestead Complex. Four auger boreholes were also proposed (but not undertaken during the archaeological program). The location of the test pits and auger boreholes are shown in Figure 3.46.

3.8.1 ARCHITECTURAL TEST PITS

The test pits showed that the main wing and kitchen wing had significant sturdy footings of up to four courses in depth (Figure 3.45). The footings for the stables, while only two to three courses in depth, were of similar sturdy construction (Figure 3.47). The footings for the barn varied and in many places were more rubble-like than the shaped stones of the stables or the main wing (Figure 3.48).

Almost all footings were dug into a bed of indurated (hard) clay. The solidity of this clay necessitated, in some cases, the use of pneumatic/ hydraulic shovel and small machine with a flat bucket (400mm wide) to remove it. The machine work was monitored by an archaeologist at all times and the machine was not allowed within 300mm of the structures. The results are summarised in Table 3.33 below.



Figure 3.45: Footings for main wing showing four courses of footings. Architectural Test Pit 1, west-facing wall. Scale: 1.4m



Figure 3.46: Location of architectural test pits.



Figure 3.47: Footings for stable building, three courses deep. Test Pit A, west-facing wall. Scale: 900mm.



Figure 3.48: Footings for barn building. Test Pit Q, west-facing wall. Scale: 1m.

Table 3.33: Test pit and auger locations for building relocation methodology.

Test Pit	Location	Field Observation	Orientation/ Trench size
TP. A	Stable west-facing wall	Two layers of sandstone footing courses to depth of 750mm. Lower course of stone stepped back. Top layer good quality, finished stone. Footing cut into natural clay. Cut for footing trench not clear/ visible. No difference in clay deposits in and around stone.	E-W c. 800mm by 850mm excavated to depth 850mm.
TP. B	Stable east facing wall (southern end)		E-W c. 600mm by 800mm excavated to a depth of 600mm
TP. L	Stable west-facing wall (northern end)	Sandstone footing, three courses (stepped out) to depth of 500mm. Footing cut into mixed clay layer over indurated mid brown clay. Cut for footing trench not clear/ visible.	E-W c. 600mm by 1500mm excavated to a depth of 900mm
TP. M	Stable east facing wall (southern end) - located where there is a repaired join in the wall.	Excavation discontinued due to presence of two large rough sandstone blocks (may have been placed to reinforce corner of buildings). There is also a wooden support in this location. Two layers of sandstone footing courses to depth of 450mm (150mm of first course was already exposed). Lower course of stone stepped back. Top layer good quality, finished stone. Footing cut into mixed clay layer over indurated mid brown clay. Cut for footing trench not clear/ visible.	E-W c. 800mm by 2000mm excavated to a depth of 450mm
TP. C	Barn west-facing wall	Excavation discontinued due to concerns re building/ wall stability. Only first sandstone footing uncovered. Concern that deeper excavation may undermine the structure and see the wall collapse. Replacement - Trench Q	E-W c. 1000mm by 600mm excavated to a depth of 200mm
TP. D	Barn south-facing wall/ entrance	Rubble footing layer to depth of 250mm. Footing cut into natural clay (light brown high pebble content) overlaid (later) with layer of concrete. Concrete, and clay very hard, use of jackhammer. No cut for footing trench clear/ visible.	E-W c. 1200mm by 1000mm (at greatest extent) excavated to a depth of 700mm
TP. E	Barn north-facing wall, (eastern end)	Wall subsided and repaired in the past. One course of sandstone footing to depth of 200mm. Footing cut into indurated clay, surface overlaid (later) with layer of white sandy deposit (possibly mortar).	E-W c. 600mm by 800mm excavated to a depth of 700mm

Test Pit	Location	Field Observation	Orientation/ Trench size
TP. N	Barn south-facing wall (east end adjacent to gate)	One large cornerstone block, sitting on indurated clay.	E-W c. 400mm by 1100mm excavated to a depth of 500mm
TP. O	Barn east-facing wall, (middle)	Sandstone footing, two courses, to depth of 400mm. Footing cut into indurated clay, mid brown-yellow with small stone inclusions	E-W c. 400mm by 1400mm excavated to a depth of 700mm
TP. Q	Barn west-facing wall	Sandstone footing, two courses, to depth of 400mm. Footing cut into indurated clay, mid brown-yellow with small stone inclusions.	E-W c. 600mm by 800mm excavated to a depth of 700mm
TP. F	Kitchen Wing east-facing wall	Footing is a large dressed stone slab overlaying sandstone stone rubble base to depth of 540mm. Footing cut into indurated clay, mid brown-yellow with small stone inclusions.	E-W c. 700mm by 600mm, excavated to a depth of 550mm
TP. G	Kitchen Wing east-facing wall	Two courses of large sandstone rubble. Footing cut into layer of dark silty clay (c.300mm) followed by a layer of indurated clay, mid brown-yellow with small stone inclusions (c.340mm).	E-W c. 700mm by 740mm excavated to a depth of 640mm
TP. H	Main Wing east-facing wall	Two courses of sandstone footing to depth of 450mm. Footing cut into layer of dark silty soil (garden bed - c.100mm) followed by indurated clay, mid brown-yellow with small stone inclusions.	E-W c. 1150mm by 530mm excavated to a depth of 700mm
TP. I	Main Wing south-facing wall (slightly repositioned to avoid down pipes)	Sandstone footing, two courses to depth of 450mm. Footing cut into raised garden bed (dark silty soil - c.350-400mm) followed by indurated clay, mid brown-yellow with small stone inclusions	E-W c. 600mm by 800mm excavated to a depth of 650mm
TP. J	Main Wing west-facing wall (southern end)	Sandstone footing, four courses to depth of 1000mm. First three courses dressed, last course rough faced. Section consists of modern raised garden bed (dark silty soil - c.350-400mm). Lower two footing stones cut into indurated clay, mid brown-yellow with small stone inclusions	E-W c. 800mm by 1200mm excavated to a depth of 120mm
TP. K	Main Wing west-facing wall (northern end)	Was excavated archaeologically (see TA3 TT6a above). Sandstone footing, four courses to depth of 1000mm. All four courses dressed.	E-W c. 2000mm by 2000mm excavated to a depth of 1100mm

3.8.2 AUGER BOREHOLES

The location and number of auger boreholes were revised, as a result of the soil conditions. Eight auger boreholes (HO1-8) were undertaken in February 2019 to assess the subsurface soil and groundwater conditions across the site and provide information on the depth and strength of soil overlying the 'top' of rock (Figure 3.49).²³

The auger boreholes had a 300mm diameter. The depth of the auger bore holes, across the site ranged from 0.5m (HO3) to 2.3m (HO8). Table 3.34 provides a summary of the surface conditions. These are generally consistent with depths of clay and rock encountered through the architectural test pits.

Table 3.34: Summary of subsurface conditions. Source: Douglas Partners 2019.

Bore ID	HO1	HO2	HO3	HO4	HO5	HO6	HO7	HO8
Topsoil/ filling	Depth to Base of Layer (m)							
	0.20	0.25	0.25	0.30	0.40	0.28	0.05	0.30
Residual clay	0.80	0.55	0.50	0.90	1.00	0.70	1.30	2.30
Auger refusal on weathered rock inferred 'top' of rock	Depth to Top of Rock (m)							
	0.80	0.55	0.50	0.90	1.00	0.70	1.30	Not encountered

²³ Douglas Partners 2019 *Data Report on Geotechnical Investigation, Ravensworth Homestead, Hebden Road, Mt Owen*. Prepared for Jacobs Group (Australia) Pty Ltd April 2019.

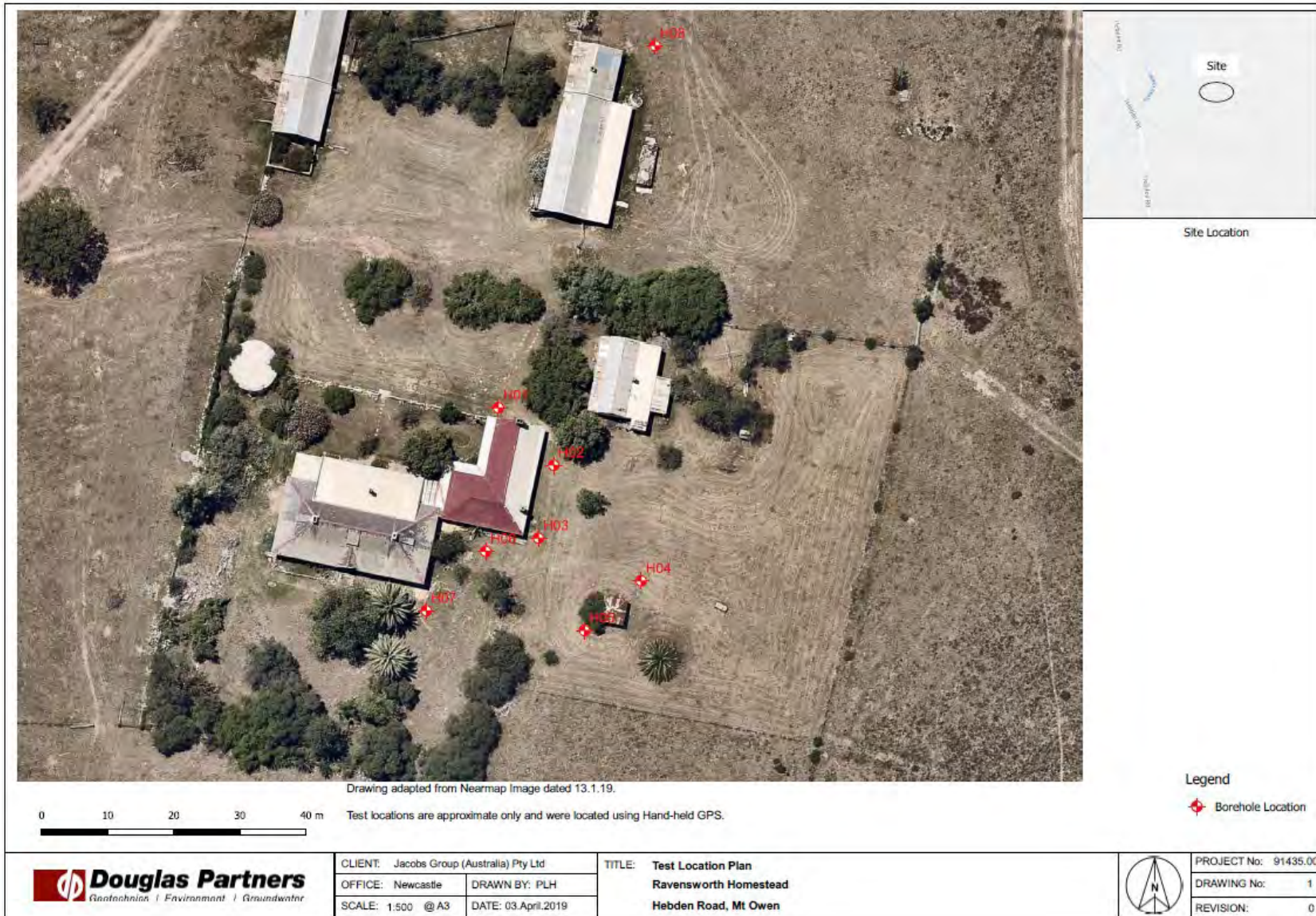


Figure 3.49: Location of auger holes. Source: Douglas Partners 2019.

3.9 HISTORIC MATERIAL RECOVERED DURING ABORIGINAL TEST EXCAVATION PROGRAM

The following information was provided by OzArk to Casey & Lowe (these have been referred to as Test Area 8 for the purpose of artefact analysis).

3.9.1 ABORIGINAL TEST PITS: AREA 2

Four transects were excavated with six 0.5m x 0.5m excavation squares per transect. Two transects sampled the lower slope landform to the north of the east-west access track from Hebden Road to the homestead and two transects sampled to the south (Figure 3.50). No Aboriginal objects were recovered from any of the 24 excavation squares. Some small fragments of ceramic and glass were recovered from some squares in Transect 3 (retained and passed on to Casey & Lowe) but no historic features or deposits were noted. Soils were shallow loams over an unforgiving decomposed conglomerate. The thickness of the conglomerate varied considerably but, when encountered, it was rock-hard and difficult to dig. 'Soil' depths were as deep as 300mm but most squares were arbitrarily halted when it was established the conglomerate had been reached. Some squares showed evidence of past ploughing activities.

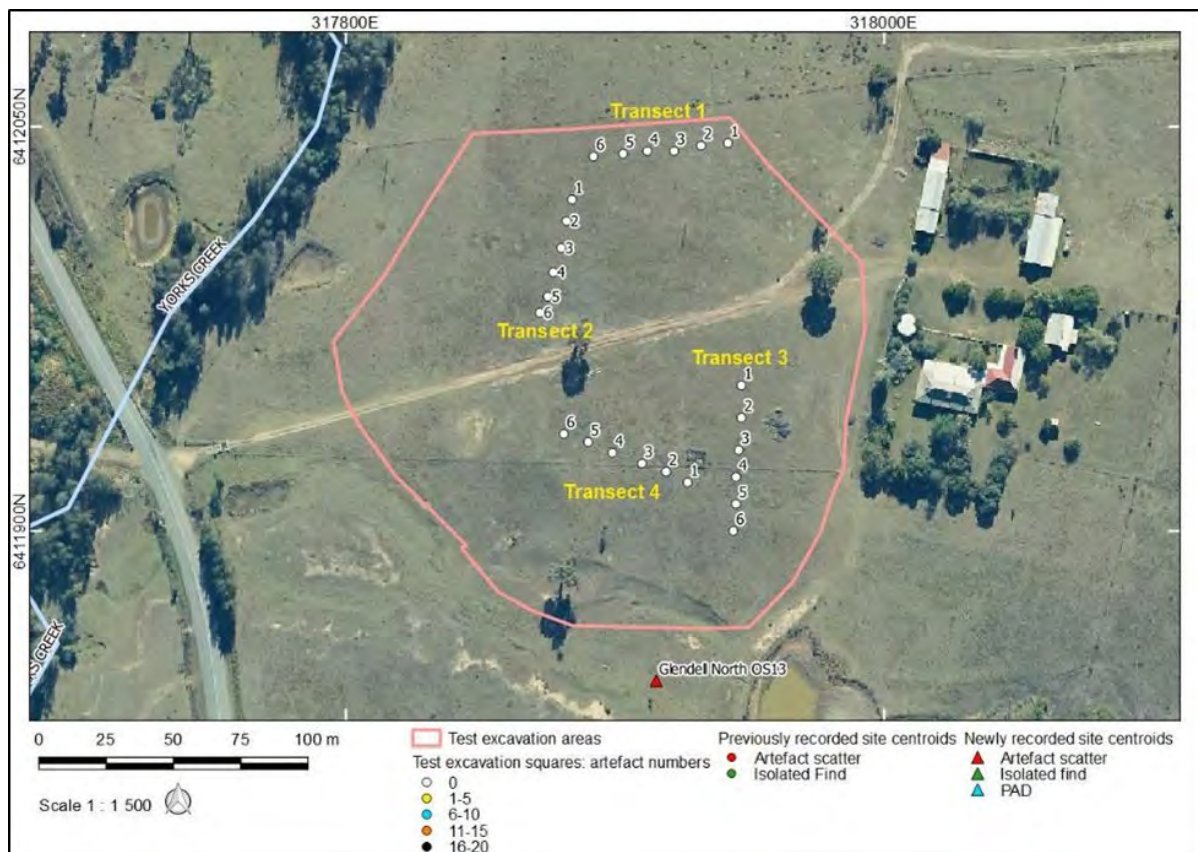


Figure 3.50: Location of Aboriginal Test Pits: Area 2. Source: OzArk 2019.

3.9.2 ABORIGINAL TEST PITS: AREA 12

One transect with six excavation squares were excavated in Area 12 (Figure 3.51). A small number of Aboriginal artefacts were recovered. Some historic items, ceramic and glass were present (retained and passed on to Casey & Lowe) and evidence of general European disturbance in the area (small sandstone footings, a lot of general rubbish and some iron fragments in a 'cut' within one of the excavation squares). Soil depths ranged from 150-250mm.



Figure 3.51: Location of Aboriginal Test Pits: Area 12. Source: OzArk 2019.

Casey & Lowe catalogued the material recovered and the results are incorporated into the artefact analysis presented in Section 3.10 below.

3.10 SUMMARY OF ARCHAEOLOGICAL TESTING RESULTS

The test excavations, in accordance with the SEARs, were targeted to cover the potentially State-significant sites related to the Bowman era, including the Ravensworth Homestead Complex, the surrounding cultivation areas, and the nearby early house site, and were designed to:

1. Determine the survival, extent and location of the potential archaeological resource.
2. Clarify the archaeological potential and significance of areas of potential State and/or local significance.
3. Inform the environmental assessment process and any options proposed as part of the Project, including the potential to relocate the homestead.

3.10.1 PRELIMINARY ARCHAEOLOGICAL PHASING

The Historical Archaeological Assessment of this site identified a number of broad archaeological phases²⁴ and these have been revised as follows:

Phase 1: Natural and Aboriginal cultural landscape pre-1820s

Phase 2: 1824 to 1850: Bowman era.

Phase 3: 1850 to 1890: Subdivision, agricultural and pastoral activities.

Phase 4: 1890 to 1950s: Period of significant subdivision and multiple owners including the Marshall family.

Phase 5: 1950s to Present: Multiple owners including the Marshall family and Glencore.

3.10.2 POTENTIAL FOR SURVIVAL OF ARCHAEOLOGICAL REMAINS

The historical archaeological testing program has confirmed the survival of early and later 19th and early 20th-century archaeological remains across the site with minimal impacts from later 19th-century demolition and 20th-century farming and land-use.

The Aboriginal archaeological testing program identified 69 new Aboriginal sites during the survey consisting of 39 artefact scatters, 29 isolated finds, and one scarred tree.²⁵ Aboriginal archaeological test trenches across the Project Area were generally devoid of historical material, with the exception of test trenches located to the northwest and west of the homestead buildings (between the buildings and Hebden Road). These trenches appear to mostly contain artefacts associated with manuring of the soil.

The potential for intact remains across the Core Estate Lands from the c. late 1820s–1830s (Phase 2: 1824 to 1850: Bowman era) was assessed, in the HAA & ARD, as being low to high. Testing in TAs 3, 4 and 5 across the Project Area confirmed the presence of intact Phase 2 (late 1820s–1850) archaeological remains (structures, paving and archaeological deposits), with minimal impacts from later activities including modern disturbance.

Results included:

- *In situ* archaeological remains of buildings / structures in the form of stone foundations, post holes, wall cuts and paths to the north / northwest of the main wing (Test Areas 4, 5 and 6), see Figure 3.1.

²⁴ Identified as Phase I: Bowman's Estate (1824–1846), Phase II: The Russell Family (1842–1882) and Phase III: Subdivision and Early Coal Mining (c.1880s–1917) Phase III: Subdivision and Early Coal Mining (c.1880s–1917 and Phase IV: Crown Land and the Marshalls (1917–Current) in the HAA & ARD- Casey & Lowe 2018.

²⁵ OzArk EHM P/L 2019

- a) Archaeological foundations of a large partitioned structure or series of structures in the area identified as the potential convict barracks in Test Area 4, (Figure 3.1, Figure 3.15).
- b) At least two structures (walls, postholes, floors), located in trenches (TA5 TT2-4) to the north of the homestead complex (Figure 3.24). The artefacts associated with one structure (TT2) strongly indicating blacksmithing and horse farriering activities (large oval stone base, large pieces of unworked and worked iron for structures, vehicles, various horse and possibly oxen shoes and equipage, and a leather hole punch presumably for straps and belts).
- Excavation beside the main wing and immediate outbuildings (stables and barn) (TAs 3 and 4) revealed that the upper deposits and fills contained artefacts relating to the preparation, serving and consumption of food and drink.
- Evidence of a previously unknown structure identified in TA7 potentially dated to Phase 2, given historically (based on maps and plans) there is no known development in this area (Figure 3.41).
- Bricks with a wide shallow frog, used in association with sandstone masonry in some structures, were likely locally hand-made from the clays and gravels, most probably on the property somewhere along one of the creek lines. They provide a good comparison for recent studies of early brickmaking in Sydney, Parramatta, and Newcastle. The bricks were used in a large well in TA6 (context 158), herringbone paving (Context 126), a chimney and other components of a multiroom structure investigated in TA6 TT7, TT8, and TT9. Future archaeological work may determine if they were used to construct structural elements of the original house and outbuildings.
- Archaeological evidence of agricultural activity in various areas, including plough marks (TA2 and 6 and in one of the OzArk trenches) – see Section 3.9.
- The investigation also recorded scatters and dumps of similar ceramics and glassware in different parts of the property, including the wall of the main dam and in several paddocks.

The HAA & ARD identified the potential for intact remains across the Project Area for Phase 3, 4 and 5 as being low through to moderate and high.²⁶ While not specifically targeted as part of the archaeological program, the physical evidence of subdivision (including properties and fence lines) survives today and it is likely that any related archaeological remains survive. The potential remains as low, moderate and high for these phases.

²⁶ This is provided in detail in section 5.3 of HAA & ARD.

4.0 ARTEFACT OVERVIEW

4.1 INTRODUCTION

This section provides an overview of the findings arising from the artefacts retrieved during the testing program at the site in October to November 2018.

4.2 METHODOLOGY

The methodology used to catalogue the historical archaeological artefacts other than bone and shell was developed by Dr Mary Casey.²⁷ The assemblage was catalogued by Robyn Stocks, Jane Rooke and Sandra Kuiters, all artefact specialists at Casey & Lowe. The artefact catalogue is provided in Appendix 3 and includes a comprehensive list of abbreviations used by the specialists.

The artefacts were initially sorted by material category, such as bone, ceramics, glass, and then by Test Area, Trench and Context (Figure 4.1). An individual catalogue number was given to each artefact that was entered into a Microsoft Access database. Also recorded were the area and context number where the item was found; the shape of the item (e.g. button); the general function (e.g. personal); specific function (e.g. clothing); fabric (e.g. bone); portion (percentage or component of artefact); country of manufacture; manufacturer; producer or retailer; mark; age and gender associations; dimensions (in mm) and where appropriate rim diameter; joins (context/catalogue number); weight (in grams); brief description (includes mark description); from and to dates (of manufacture); number of fragments; minimum item count (MIC); and the box number (final storage location).

Where items of a particular shape were undiagnostic or very fragmentary, they were grouped together as a single catalogue entry and counted as at least one item (1 MIC) or a greater MIC estimate given where warranted. Conjoined fragments across the site are numbered as one item. Some artefacts could not be identified beyond their fabric. When discussing any of the artefacts in this report all numbers refer to the minimum item count (MIC) unless stated otherwise. In this report context numbers are referred to in brackets. Conjoined fragments across the site are numbered as one item, with the largest generally listed as the item, the other fragments as zero items.

During the cataloguing process, artefacts were divided into groups according to their function and shape. This is common practice in Australian historical archaeology.²⁸ These groups help to identify the types of activities undertaken at the site and assist in understanding how a site was used. It should, however, be noted that the function and shape refer to the original intended use only, and it was not uncommon for items such as bottles to be reused in different ways.²⁹ Where reuse is able to be visually determined, such as modification of tobacco pipe stems or reshaping of marbles, then it is marked in the Reuse Field in the catalogue. In many cases, such as with ceramics and glass, this reuse is often difficult, if not impossible, to identify.

It should also be noted that it is sometimes impossible to know the intended or predominant function of items which may have served multiple purposes. For example, we generally regard ceramic tableware such as plates as a utilitarian item, however, these were often used for display purposes instead of, or concurrently with, their use in the consumption of food.³⁰ Artefacts have been catalogued and will be discussed under the

²⁷ Casey 2004.

²⁸ Brooks 2005: 7; Casey 2004.

²⁹ Boow 1991: 24.

³⁰ Brooks 2005: 18.

assumption that they have been used for the most obvious purpose, however, these possible additional or alternate uses should not be discounted. Finally, artefacts for which the function is not known or cannot be determined have been catalogued as 'unidentified'; this mainly applies to those in fragmentary or poor condition.

Table 4.1: General and Specific Functions of the artefacts from the testing program.

Gen Function	Specific Function	Fragments	MIC
architectural	door	0	1
	finish	7	4
	fitting	0	2
	floor	12	12
	non-structural	82	33
	roof	23	23
	structural	68	122
	structural/floor	4	4
	structural/non-structural	0	4
	structural	1	1
	window	31	15
architectural/household	non-structural/furniture	3	3
architectural/industrial	structural/machine	0	1
architectural/trans	structural/horse	2	2
beverage	alcohol	20	15
	aerated water	2	2
	beer	10	3
	beer/wine	53	15
	dairy	1	1
	ginger/schnapps	20	6
	schnapps	3	1
	unidentified	84	14
	wine	59	8
Clerical	writing	3	3
	unidentified	3	2
food	condiment	3	3
	oil/vinegar	5	4
	prep/ Tableware	2	1
	serve	6	2
	store	1	1
	tableware	21	19
	tableware /serve	12	10
	tea	28	25
	tea/tableware	26	14
food/pharmaceutical	condiment/medicine	2	2
household	cooking	0	1
	electricity	1	1
	furniture/fitting	1	1
	ornament	1	1
	Security	0	1
industrial	by-product	5	2
industrial/transport	machine/vehicle	0	1
personal	clothing	3	5
	groom	2	2
	health	1	1
	jewellery	0	1
personal/pharmacy	groom/medicine	5	5
personal/trans	cloth/horse	5	4
pharmacy	container	2	1
	medicine	3	3
	poison	1	1
	unidentified	1	1
pharmacy/personal	container	3	2
Recreation	smoking	3	3
	toy	3	4
Service	drainage	2	1
	lamp	1	1
transport	horse	16	12
	oxen	2	1
transport/agricultural	vehicle/machine	0	1

Gen Function	Specific Function	Fragments	MIC
trans/industrial	vehicle/machine	0	1
unidentified	container	31	21
	Security	7	3
	unidentified	34	29
work	geological	4	3
	leatherworking	1	1
	tool	7	4
yard	garden	1	1
TOTAL		743	499

The artefacts from each context within the Test Trenches (TTs) of the different Test Areas (TAs) were catalogued according to their shape and function (**Table 4.1**). The animal bone was catalogued separately (see Appendix 2). No shell was recovered. Most classes of materials were kept, including a representative sample of bricks, tiles, mortar, plaster and structural metal. While all artefacts found during the excavation were recorded, the bulk of recent building materials were returned to the backfilled trenches.

No evidence of Aboriginal modified glass or ceramic was identified.

No evidence of graves, or human remains were uncovered during the testing program.

No evidence of early conflict between Aboriginal people and European settlers was uncovered during the testing program.



Figure 4.1: Glass artefacts sorted and catalogued prior to bagging and boxing.

4.3 TEST AREAS

During the testing program seven TAs, TA 1-7, were excavated by hand and/or machine (Figure 3.1). In addition, 17 historical items retrieved in September 2018, during the Aboriginal archaeological investigations by OzArk, were also catalogued and assigned a new Test Area - TA 8 (Section 4.3.6) to allow the assemblage to be entered into the database. The assemblage comprised a minimum total of 499 items (MIC), which included 743 fragments. There were also 12 fragments of animal bone. The majority came from TAs 3-6 (Table 4.2). No historical artefacts were recovered from TA 1 and TA2.

Table 4.2: Total numbers of artefacts and animal bone fragments from each Test Area.

Test Area	Minimum Item Count (mic)	Fragments	Bone Fragments
TA3	154	247	12
TA4	134	191	2
TA5	100	124	2
TA6	88	67	3
TA7	6	84	0
TA8	17	30	0
TOTAL	499	743	19

4.3.1 TEST AREA 3

Five archaeological test trenches were opened in TA3 during the project as well as a number of test pits for the relocation of the buildings. Some 154 (MIC) artefacts were retrieved from eight trenches/ test pits (Table 4.3, Table 4.4). The trenches/ test pits were located beside the walls of the main wing, kitchen wing and adjacent outbuildings (stables and barn) and the northeast cottage (men's quarters), as well as in the north courtyard, south garden, and just outside the house complex fence in the western and southern paddocks (see Figure 3.9). Most of the trenches/ test pits were small and the artefacts found in them relate to a long period of occupation of the property. Only the more diagnostic items were retained and catalogued, others were recorded and photographed on site. In addition, 12 animal bone fragments, mostly identified as sheep, were found in TT2 (10), 6 (1) and D (1). These probably represent meals of mutton and lamb (Figure 4.34).

Table 4.3: Artefacts (not bone) from TA3 Test Trenches 2, 3, 8, 9, D and E.

Test Trench	General Function	Specific Function	Shape	From	To	Frgs	MIC
2	architectural	finish	render	1840		1	1
				1880		3	2
		non-structural	brad flashing slate wire hook	1788		0	2
				1840		6 4 0	1 2 3
						2 1	6 1
		roof	nail slate	1840			
	structural	brick	nail	1840		1	1
				1788	1890	2	2
		nail		1815	1870	1	1
				1820	1870	1	5
3	architectural/industrial personal/transport	structural/machine clothing/horse	bolt & nut buckle			2	2
						1	1
	unidentified	container	bottle	1830	1930	1	1
						1	1
	unidentified	unidentified	handle strap wire loop			1 1 0	1 1 2
	clerical	writing	slate pencil		1960	1	1
8	Architectural	roof	screw	1880		0	1
		structural	brick	1830		3	1
	beverage	beer	bottle	1928		2	1
		dairy	milk bottle	1900		1	1
		unidentified	bottle			1	1
	food	tableware	plate	1830		1	1
		tea	cup	1780		2	2
				1800		1	1
				1830		1	1
		unidentified	unidentified	1835	1870	1	1
9	household pharm unidentified	electricity medicine	light bulb poison bottle	1922		1	1
						2	1
		unidentified	unidentified	1780		1	1
				1830		2	2
				1850		1	1
9	food	tableware	plate	1830		1	1

Test Trench	General Function	Specific Function	Shape	From	To	Frag	MIC
D		tea/tableware	plate			1	1
	unidentified	container	bottle	1830	1930	4	1
				1830		2	1
	architectural	door	catch	1840		0	1
		roof	slate			1	1
E	beverage	beer/wine	bottle			6	1
	food	condiment	stopper			1	1
	Personal	cloth	shoe/boot	1862		1	1
	transport	horse	horseshoe			0	1
E	architectural	window	flat		1850	1	1
	beverage	wine	bottle			3	1
	food	condiment	bottle	1850		1	1
			stopper			1	1
		tea/tableware	unidentified	1830		1	1
	pers	health	spectacle lens			1	1
	pers/pharm	groom/med	bottle			1	1
	unidentified	container	bottle	1835		1	1
TOTAL						76	73

TT2 was located across the southeast fence of the barn and among the disturbed topsoil and fills was a range of structural material reflecting continual building work at the property. The metal hardware and fastenings indicate that some were probably used in the earliest phase of construction, being hand-forged or cut types, while others were made using technology developed towards the end of the 19th century.³¹

While there were some small fragments of sandstock brick in the rubble (not sampled), the most notable items were the ceiling and wall renders (Figure 4.2). Several were from a white-painted lath and plaster ceiling, and others from sandstone or brick walling.³² Although the mortars and renders of the original structures at the property have not yet been fully investigated, these items provide some evidence for changing finishes of the main wing and kitchen wing or nearby outbuildings (stables and barn) (see also Section 4.3.2).³³ The plaster for both was made of rock lime, generally dated from c.1840, with the walling examples having a thick set coat of lime cement that was probably applied slightly later, perhaps from the 1880s. If the ceiling plaster came from the original construction of the house in the late 1820s then it is likely that the lime was shipped from Newcastle or overland from Sydney.



Figure 4.2: White to light grey render fragments from modified topsoil in TA3 TT2. Left: surface of two-coat lime plaster ceiling render #301 with slightly rough surface and two-coat wall render of harder smooth concrete set coat above lime plaster scratch/float coat. Right: underside of same fragments showing impressions of timber laths and wide joints of sandstone or brick masonry. Scale: 100mm. Photos: DSCN9855 and 9857.

³¹ Varman 1993.

³² Capon 1991 and 1993.

³³ Changing architectural styles and colours see Evans, Lucas & Stapleton 1994.

The use of rock lime for mortar, made from limestone and not shells, is interesting and may indicate a later phase of construction or the use of a locally available materials. Until c.1880 most above-ground structures along the NSW coast and in the whole Sydney region including Parramatta, Windsor, Richmond and Liverpool, were bonded or plastered with mortar made with crushed and burnt shells gathered from natural shell beds, and sometimes Aboriginal middens, along shores and creeks.³⁴ In Newcastle, oyster beds beside the Coal River were exploited for lime and sold in Sydney by 1819.³⁵ Shell lime was manufactured at Limeburners Bay, north of Stockton on the Hunter River from 1816. From 1823 this product was made by free settlers who sold to nearby squatters until at least 1838.³⁶

Small quantities of rock lime were shipped to NSW in the early decades of settlement, such as on the First Fleet or from Van Diemen's land (Tasmania) from 1804.³⁷ More was imported from New Zealand and America, and from the 1830s from Victoria.³⁸ Although rock lime was burnt in kilns southwest of Sydney at Picton and Argyle in the 1840s, it did not become the predominant source for construction until the railway was established over the Blue Mountains in the late 1870s connecting the city with limestone quarries at Portland.³⁹

Scattered ceramic and glass fragments in the topsoil and cinders spread over a path at the front (south side) of the main wing included part of an unusual grey-green moulded stoneware jug or vase embossed with vine scrolls made in the UK from c.1835-c.1870 (Figure 4.3).⁴⁰



Figure 4.3: Grey-green moulded stoneware vessel (jug?) body fragment with moulded vine scroll from TA3 TT8 18/#12. Scale: 100mm. Photo: DSCN9919.

³⁴ Lewis 2018: Section 7.01.02 for full references.

³⁵ W C Wentworth, 1819, p 56.

³⁶ Windross & Ralston, *Historical Records of Newcastle, 1797-1897* (Newcastle 1897), cited in [James Tucker] 'Giacomo de Rosenberg' [ed Colin Roderick], *Ralph Rashleigh, or the Life of an Exile* (Sydney 1952 [1929]), p 242.

³⁷ Lewis 2018: 7.01.

³⁸ Capon 1991:10-11.

³⁹ Gemmell 1986:5.

⁴⁰ Brooks 2005.

The trenches often revealed iron objects typically used on a farm. These included hand-forged hardware from farm buildings and agricultural machinery and horseshoes and equipage (Figure 4.4).⁴¹

TT6 located beside the west wall of the main wing was opened in two stages, 6a and 6b (Figure 3.9).

Among the 81 artefacts found in various late fill contexts (Table 4.4) were an array of ceramics and glass used by different families at the homestead from the mid-19th century until recent times. As yet no glass tableware has been found.⁴² The 81 artefacts included table and tea wares that were mostly imported from Britain (Figure 4.5) although due to the small sample no matching sets were able to be discerned.⁴³ In general, the shapes and decorative patterns were typical of middle-income households seen at other historic sites in Sydney and Newcastle. Perhaps notable is the broken base of a footed soup tureen with modest blue banded decoration that would have been suitable to serve a series of economical and nourishing meals for a large family. The fragments from glass containers (Figure 4.6) show that a wide range of beverages, including milk, beer, wine and gin or schnapps consumed by the residents.⁴⁴ Other containers held a variety of pharmaceutical, grooming and household-cleaning products.⁴⁵



Figure 4.4: Hand-forged iron objects from modified topsoil in TA3 TTD and TTE. *Left:* door catch 155/#272. *Right:* horseshoe with worn toe and bent nail remaining in fullering 156/#273. Scale: 100mm. Photo: DSCN9884.

⁴¹ Blacksmithing, horseshoe forms, harness, saddle and horse collar making see Seymour 1984:76-77; 122-129. See also Muir 1999, 2011; Stringer 1980.

⁴² For shapes and dating see Jones 2000.

⁴³ Brooks 2005; Coysh 1970; Coysh & Henrywood 1982 and 1990; Ford 1995.

⁴⁴ Boow 1991; Davies 2004; Dumbrell 1992; Jones 1986; Jones et al 1985; Kendrick 1966; Toulouse 1971; White 1978.

⁴⁵ Baldwin 1975; Fike 1987; Zumwalt 1980.



Figure 4.5: Selection of ceramics from TA3. *Top row* tea and table wares (l-r): from TT6A context 1, blue tp plate #001, gilded saucer #002 (3) and 'sprig' #003; from TT6B, blue tp 1/#004; TT6A geometric black (2/#005). *Bottom row*: from TT6A, salt-glazed stoneware bottle 9/#006; large footed soup tureen with banded decoration 109/#007. Scale: 100mm. Photo: DSCN9906.



Figure 4.6: Selection of glass bottles and window pane fragments from TA3. *Top row bottles (l-r)*: Lamont aerated water TT6A 2/#505; blue pharmaceutical TT6 10/#515; embossed ammonia and milk TT8 18/#531-#532. *Middle row from TT6A*: window glass 9/#513 and schnapps bottle 109/#519. *Bottom row bottles*: TT6A beverage 9/#514; TT8 beer 1928 manufacture 18/#530; TT6A beer-wine 2/#503. Scale: 100mm. Photo: DSCN9939.

The assemblage included items such as a slate pencil (Figure 4.27) that were used by children until c.1960 when learning how to write and do sums.⁴⁶ The broken doll's head and glass marble relate to children's play that in the 19th century were often engendered activities.⁴⁷ Children could have played in the house or in the garden where TT6 was located.⁴⁸ Other artefacts possibly used by other members of the family were the celluloid comb, made after 1869,⁴⁹ and the machine-made shoe nail.⁵⁰

While the structural and service remains in TT6 were used in the creation of the later toilet block, several of the bricks had been reused from demolished earlier buildings or elements. These have informed our understanding of how two types of sandstock bricks were made

⁴⁶ Davies 2005.

⁴⁷ Baumann 2004; Chan 2012; Gartley & Carskadden 1998; Goodfellow 1993; Opie & Opie 1997; Randall 1971.

⁴⁸ The fairly modern blue and white glass marble could have been lost by the Marshall Family, as the children loved to play with them (pers. Com Jenny Marshall).

⁴⁹ Katz 1986:19-22.

⁵⁰ Anderson 1968; Stevens & Ordoñez 2005.

at the site, such as the methods of hand-moulding, stacking and kiln-firing (Figure 4.7).⁵¹ The bricks with wide shallow frog (Sandstock rectangular shallow Rav) have been found in all areas of the Ravensworth Estate and were used in the early structures, including paving in TA5 TT7 and the large well in TA6.

Table 4.4: Artefacts (not bone) from TA3 TT6A and 6B.

Test Trench	General Function	Specific Function	Shape	From	To	Frag	MIC
06A	architectural	floor	brad	1788 1805	1890	2 1	4 1
			tile	1960		6	5
		non-structural	sheet slate	1840		52 1	2 1
			roof			0	1
		structural	nail slate	1840		14	4
			brad/nail	1805		1	1
			brick	1830 1882	1900	4 0	4 1
			brick & mortar lime	1840 1840		0 0	1 1
			nail	1788 1820	1890 1870	1 1	2 2
				1840	1870	0	1
				1853	1940	0	1
				1870	1940	1	2
			structural/non-structural window	1870 1850	1940	0 19	1 5
	beverage	alcohol aerated water	bottle bottle	1875	1910	1 1	1 1
		beer/wine	bottle	1820	1920	7	1
		schnapps	bottle	1848		3	1
		unidentified	bottle			2	1
				1900	1915	6	1
	food	serve tableware	soup tureen plate	1860 1830		5 1	1 1
		tea	saucer unidentified	1850 1830	1920	3 1	1 1
		tea/ tableware	unidentified	1800 1830	1870	1 1	1 1
	personal	clothing grooming	shoe nail bottle	1862 1851	1920	0 1	1 1
	pharmaceutical	container unidentified	bottle bottle			2 1	1 1
	recreation service	toy drainage	marble pipe	1901 1865	1926	0 2	1 1
	unidentified	container	bottle	1830	1930	1	1
						2	2
		security unidentified	container wire bar	1880		3 6 0	1 2 0
06B	architectural	non-structural	brad	1788	1890	0	1
		structural	brick & mortar nail	1840 1870	1940	0 0	1 1
			wall plug	1960		1	1
		structural					
	beverage	alcohol	bottle			2	2
		beer/wine	bottle			1	1
		unidentified	bottle			1	1
	personal pharmaceutical/personal recreation	grooming	comb	1869		1	1
		container	bottle			1	1
		toy	doll	1860		1	1
	unidentified	container unidentified	bottle basin/bowl			2 2	2 1
TOTAL						171	81

⁵¹ Brickmaking see Dobson 1850; Gemmell 1986; Varman 1993; Ringer 2008.



Figure 4.7: Sandstock rectangular shallow Ravensworth (Rav) brick from TA3/TT6A, 9/#354, three-quarter fragment. Top left: stockface with frog. Top right: strikeface with dragged angled hackmark. Lower left: side with grey vitrified crossed kiln marks relating to the positioning of stacked bricks during firing. Scale 100mm. Photos: DSCN9967, 9973 and 9983.

Another type of sandstock brick (Sandstock rectangular narrow Rav) found in TA3 (Figure 4.8) was used to build a narrow toilet block wall and occasionally for other purposes. Having a deeper narrower rectangular frog, it was hand-moulded in a similar manner to the wider frogged bricks although they were generally better-made with the surfaces being flatter and less sandy. However, the clays show that they came from a similar source, with the ironstones and rarer white quartz pebble inclusions usually being better crushed and mixed. Inconsistent removal of the larger stones during puddling resulted in some bricks becoming distorted and cracked during firing. Other examples of this type of brick were found in a narrow wall or channel beside the creek in TA6 TT1 (Section O).

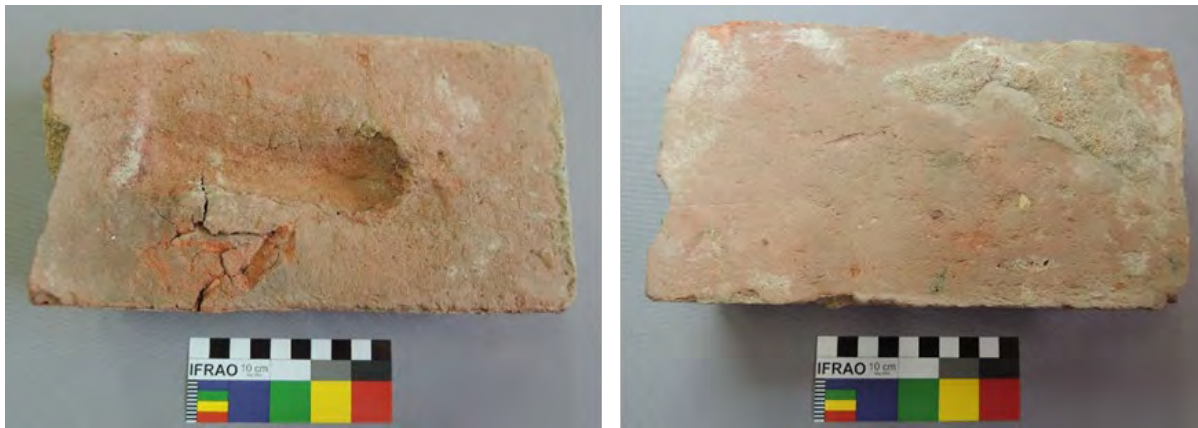


Figure 4.8: Sandstock rectangular narrow Rav brick from TA3 TT6A, 2/#311, three-quarter fragment. Top left: stockface with expanded clay beside large ironstone causing warping below frog. Top right: fairly smooth strikeface with red-brown ironstones and cream quartz. Lower left: one side with light grey-brown sandy lime mortar. Scale: 100mm. Photos: DSCN9814, 9785 and 9783.



Figure 4.9: Sandstock rectangular Turton brick from TA3 TT6A, 2/#313 with stockface with 'TURTON' mark in rectangular frog, strikeface higher fired at right end, side with horizontal hackmark impressed during drying prior to firing. Scale: 100mm. Photos: DSCN9817, 9797, 9795 and 9802.

Another brick type was found in TT3A (Figure 4.9) that can be attributed to the brickmaker Frank Turton who operated from his yard in Maitland from 1882-c.1914.⁵² He was a son of Robert Turton who with his family made bricks in Newcastle from 1851-1976.⁵³ The yard at Maitland only produced hand-moulded bricks. This type of brick was well-made using different clays to the other two varieties of sandstock bricks found at Ravensworth Estate, although the kiln firing was also uneven in temperature and oxygen distribution causing distortion and discolouration. Interestingly, the narrow hackmark impression along one side is very similar to those occasionally seen on the bricks with narrow rectangular frogs. Only one other possible fragmentary example of a Turton brick was found at the site at TA4/TT4 (59/#322).

At one time the roof of at least one building, probably the main wing, was roofed in slate, and other thicker pieces were used in damp-proofing of footings. Slate was fashionable from c.1840 and the example from TT3A had holes for fixing slate tiles to battens using small cut nails with shanks that were rectangular in section (Figure 4.10).⁵⁴ In contrast the modern brown-glazed floor or wall tiles in TT3A relate more to recent modernisation of the bathroom or laundry. They could have been used in the toilet block where the test trench was located that was serviced by salt-glazed pipes made after c.1865.⁵⁵



Figure 4.10: Other building materials from TA3 TT06A. Left: Broken slate roofing tile with two small rectangular nail holes 1/#307. Right: modern brown glazed floor or wall tiles 1/#309. Scale: 100mm. Photos: DSCN9864 and 9860.

⁵² Gemmell 1986:79, Plate 44.

⁵³ Ford 1995:61-64; Gemmell 1986:77-78.

⁵⁴ Evans, Lucas & Stapleton 1994.

⁵⁵ Pers comm the Marshalls. Tiles see Riley 1987. Pipes see Varman.

4.3.2 TEST AREA 4

Six test trenches were opened in TA4 as well as three test pits for the relocation of the buildings. Some 71 (MIC) artefacts (Table 4.5) were found in TT3A-6 in the vicinity of the potential convict barracks at the north end of the courtyard, to the north of the main wing. A further 63 (MIC) were recovered from TT1 and TTC located beyond the northern courtyard wall and beside the barn (Table 4.6). In addition, two small animal bone fragments of unidentified species were found in TT1 (Figure 4.35).

Table 4.5: Artefacts from TA4 Test Trenches 3A, 4, 5 and 6.

Test Trench	Gen Function	Spec Function	Shape	From	To	Frgs	MIC
3A	architectural	structural	brick	1830		10	8
			brick & mortar	1840		1	1
			mortar			1	1
			screw	1850	0	1	
		structural/floor	brick	1830		4	4
	beverage	alcohol	bottle	1920	5	1	
		beer	bottle		6	1	
		beer/wine	bottle		5	1	
		unidentified	bottle		1	1	
	service	lamp	chimney			1	1
unidentified	container	bottle	1850		1	1	
	unidentified	vessel			1	1	
4	architectural	structural	brick	1830	1900	2	2
				1882		1	1
		window	flat	1850		1	1
	beverage	wine	bottle	1850	1920	16	1
		cleric	writing	1820	1920	1	1
		food	oil/vinegar	bottle		1	1
	household	cooking	hook	1840		0	1
		security	padlock		0	1	
	personal/transport	cloth/horse	buckle			1	1
		unidentified	unidentified	bar		2	2
	work	tool	chisel			1	1
			tool			1	1
5	architectural	roof	screw	1860		0	1
		structural	mortar	1788	1890	3	3
			nail			1	1
		window	flat		1850	1	1
	beverage	beer/wine	bottle			3	2
		gin/schnapps	bottle			1	1
		unidentified	bottle			1	1
	personal/pharmaceuticals	groom/medicine	bottle	1860		2	2
recreation		pipe	1		1		
6	architectural	non-structural	wire	1870	1890	8	1
		roof	screw & washer	1860		0	1
		structural	nail	1853		1	2
		window	flat	1850		1	1
	beverage	alcohol	bottle			5	5
		unidentified	bottle			1	1
		wine	bottle			1	1
	food	tableware	plate	1800	1870	1	1
		tea	saucer	1780		1	1
	food/pharm	condiment/med	bottle			1	1
		recreation	pipe			1	1
	unidentified	container	bottle	1880	1914	1	1
						1	1
		unidentified	unidentified	1780		1	1
			1835		2	1	
	work	geological	bore core			2	2
TOTAL						104	71

In TT3A several worn sandstock bricks were found in close proximity in the robbed wall footings and disturbed topsoil/fill. They may have been used to construct the upper walling or chimney of the potential convict barracks. A few small fragments of similar bricks were also found in the other trenches in TA4 within the footprint of the building. The bricks had a shallow rectangular frog (Sandstock rect shallow Rav) and were probably

made during the first years of occupation of the homestead and outbuildings. They were identical to ones used as paving in TA5 TT7 (126) and the well structure in TA6. The variances in clamp firing are evident in the colours, sizes, shapes of bricks. Some had surface features from stacking in the drying (hacking) yard (Figure 4.11). One brick (55/#330) had remnant sandy light grey-brown lime mortar attached (Figure 4.12).



Figure 4.11: Worn sandstock rect shallow Rav bricks with fairly homogenous clay from TA4 TT03A, 55/#332 above 117/#335. Top left: stockface with frog. Top right: Strikeface with angled hackmarks to left. Lower left: side with lower 117/#335 having a slightly raised horizontal hackmark. Scale: 100mm. Photos: DSCN9754, 9759 and 9755.



Figure 4.12: Sandstock rect shallow Rav brick with slightly warped shape, from TA4 TT03A, 55/#330 stockface with frog and with sandy light grey-brown lime mortar. Scale: 100mm. Photo: DSCN9764

The sandstone footings of the potential convict barracks in TA4 appear to have been bonded in dark brown mud mortar (Figure 4.13), presumably redeposited topsoil. This remained *in situ* in TT5 below the robber trench and in fill above the footings in TT3A. Walling below ground-level can be stable without the use of lime in mortar due to the inherent stability of the surrounding soil or bedrock. There was limited evidence for lime mortar or plaster finishes for the superstructure with some bricks in mixed demolition and topsoil fill TT3A having a light grey-brown sandy lime mortar (Figure 4.12). The lime was derived from crushed and burned limestone that would have been brought to the homestead. However, the thick demolition rubble in TT5 appeared to be resting on a thin crumbly horizontal deposit that continued to the east and may be degraded mortar or plaster, or part of a worn rammed mortar surface.



Figure 4.13: Dark grey-brown mud mortar samples from sandstone footings of potential convict barracks in Area 4. Left: TT3A 117/#339 (BM Sample 8). Right: TT5 35/#341 (BM Sample 5). Scale: 100mm. Photo: DSCN9849.

A limited number of other artefacts were found in mixed demolition and surface deposits in the northern part of TA4. Most were fragmentary and could have been dumped in the vicinity over many years of occupation. However, some may have originally been used in the early decades of occupation at Ravensworth Estate and suggest that other artefacts remain to be discovered in the archaeological record that may be more directly associated with the early structures of this area. These included how the building was lit over time, represented by a single lamp chimney fragment.⁵⁶ While some of the metal had been discarded or fallen from more recent structures, particularly in TT6, a concentration of iron objects were found in TT4 (Figure 4.14) in close proximity to the sandstone footings of the convict barracks.⁵⁷ Many had been used to construct or secure buildings, notably the large padlock (43/#185) with copper alloy key escutcheon and pivoting cover. This type of padlock was made in Britain from c.1840 and was suitable for a stable or other substantial door.⁵⁸ Its date of manufacture suggest that it may not have been in use when convict labour was at Ravensworth Estate.

⁵⁶ Everleigh 1985; Gledhill 1999; Jean 1991; Woodhead, Sullivan & Gusset 1984.

⁵⁷ Light 2000; Varman 1993.

⁵⁸ Priess 2000:81, Fig. 34e; Noël Hume 1970:250-251.



Figure 4.14: Metal objects from TA4 TT4 in demolition and yard surface fills on the south side of wall 047. L-r: chisel and eyebolt 41/#183-#184; padlock, S-hook and bar 43/#185-#187. Scale: 100mm. Photo: DSCN9879.

Table 4.6: Artefacts from TA4 Test Trenches 1 and Test pit C.

Test Trench	Gen Function	Spec Function	Shape	From	To	Frgs	MIC	
1	architectural	non-structural	screw slate	1850 1840		0 2	1 2	
		roof	screw sheet	1880		1 1	1 1	
		structural	brad/nail brick	1830		3 1	3 1	
			nail	1788 1820 1890 1940	1890 1870	7 0 0 0	9 1 1 1	
				nail/spike spike	1788 1788 1914 1914	1 1	1 1	
				flat	1850		3 2	
			beverage	alcohol aerated water	bottle bottle		1900	4 1
		beer/wine		bottle	1870		2 18	1 2
		gin/schnapps wine		bottle bottle			7 1	1 1
		container		unidentified	bottle	1850		2
		food	serve tea	ladle saucer	1860 1800		1 2	1 1
			tea/tableware	plate, small	1830		3	1
				unidentified	1800 1830 1850		2 1 1	1 1 1
	personal			clothing jewellery	button bead	1841		1 0
	personal/pharmaceutical		groom/medicine	bottle jar	1920		1 1	1 1
	personal/transport pharmaceutical pharm/pers	clothing/horse medicine container	buckle bottle bottle	1913	1968	2 0 2	1 1 1	
			transport	horse	buckle		1	1
	unidentified	container security	bottle wire			1 1	1 1	
			unidentified	strap			1	1
		unidentified		1830 1850		2 1	1 1	
		work		geological	bore core			2
		C	architectural	structural structural/non-structural	nail nail	1853 1890	1940 1940	1 0
	food		tableware	plate	1830 1830	1865	2 1	2 1
			tea/tableware	mug	1830		1	1
	yard		garden	pot	1790		1	1
	TOTAL						87	63

A range of artefacts, including clothing fastenings, tobacco pipes and a glass bead were found in other test trenches in TA4 that were dug to investigate the footings of the main wing, kitchen wing and nearby outbuildings (stables and barn).⁵⁹ Although the items were once used by the occupants to construct and live in these buildings, many were fragmentary and after discard had been moved by subsequent activities. The variety of manufacturing dates, particularly for metal hardware, shows these artefacts represent events across a long span of time. The majority of the items were ceramics (Figure 4.15) and glass (Figure 4.16) used by the residents to prepare, serve and consume food and beverages. The ceramic table and teawares tended to be plainly glazed or with transfer printed designs.⁶⁰ Most were imported from the UK from the mid-19th century. One moulded ladle made after c.1860 had a purple transfer cable-helix pattern (53/#28) and would have been used to serve soups or stews. Several fragments represent ceramic bottles that typically contained beverages. The glass bottles mostly held alcohol, including beer and wine, while several others were for pharmaceuticals and other products.⁶¹ One was a rim fragment from a small ink bottle (43/#562).⁶² Many of the products they contained were probably purchased within Australia.



Figure 4.15: Selection of ceramics from TA4. *Top row from TT1 (l-r):* context 53, white-glazed saucer #21, unidentified shapes #23 and #25 with gilding, and plate with moulded pattern #26; from context 59, unidentified shape with red tp and gilding over underglaze blue design #27, and ladle with purple tp cable-helix pattern #28. *Bottom row from TT6:* unidentified shapes with white glaze 20/#29 and Bristol glazed stoneware 21/#30; blue floral tp pearlware plate 21/#31; stoneware with Bristol glaze 25/#32 and white glazed saucer 25/#33. Scale: 100mm. Photo: DSCN9916.

⁵⁹ Uses and types of beads see Clabburn 1980; Karklins 1985; Kidd & Kidd 1970.

⁶⁰ Brooks 2005; Coysh 1970; Coysh & Henrywood 1982 and 1990.

⁶¹ Boow 1991; Davies 2004.

⁶² For clerical history and objects see Early Office Museum 2000-2018 www.officemuseum.com



Figure 4.16: Selection of glass from TA4. Top row from TT1 (l-r): unidentified bottle, ointment jar, pharmaceutical bottles and window pane fragments 53/#534, #537-#540. Middle row bottles: TT1 Lamont aerated water and beer-wine 59/#547, #549; TT5 beer-wine 31/#579; TT6 condiment or medicine 21/#566; TT6 solarised unidentified 25/#573. Bottom row bottles: TT4 oil-vinegar 41/#560 and ink 43/#562; TT3A beer 117/#557; TT4 wine 41/#559. Scale: 100mm. Photo: DSCN9943.

4.3.3 TEST AREA 5

Six test trenches were opened in TA5 (see Figure 3.24) and a total of 100 (MIC) artefacts were retrieved (Table 4.7). Most of the items, including two mammal bone fragments (Figure 4.35), found in modified topsoil in and around the remains of farm buildings historically associated with a blacksmith and slaughterhouse. Another small structure investigated in TT6 resulted in only five structural fastenings made after 1850 and part of a glass bottle being recovered.

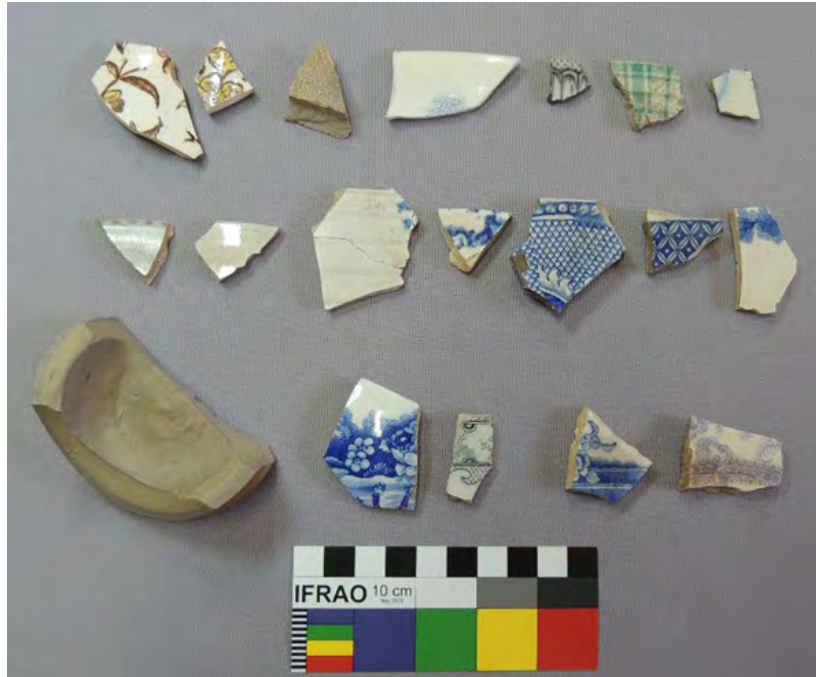


Figure 4.17: Selection of ceramics from TA5. *Top row from TT2 (l-r):* context 73 hp tp jug #45 and salt-glazed stoneware bottle #47; context 75 sprigged plate #48, black, green and blue tp patterned vessels #49-#51. *Middle row from TT4 context 73:* plates with black tp, sponge and spatter designs #35-#38; blue tp 'Willow' pattern #41 and #43, and blue tp florals #44. *Bottom row:* TT2 salt-glazed stoneware bottle 73/#34; TT3 blue and black tp cups 91/#53 and 98/#54; blue tp vessel and purple tp Gem pattern plate 97/#55, #57. Scale: 100mm. Photo: DSCN9928.



Figure 4.18: Selection of glass from TA5. *Top row from TT2 bottles (l-r):* cobalt blue poison, wine and unid 75/#583-#585, Whybrow oil-vinegar 76/#586. *Middle row bottles:* TT3 beer-wine and beverage 98/#589-#590; TT4 beverage 73/#597. *Bottom row from TT4:* Whybrow oil-vinegar and window pane 97/#593, #595, beer-wine, beverage and wine 73/#596, #599-#600 and clear fluted tumbler base #601. Scale: 100mm. Photo: DSCN9947.

Table 4.7: Artefacts (not bone) from TA5 Test Trenches 2, 3, 4 and 6.

Test Trench	General Function	Specific Function	Shape	From	To	Frag	MIC
2	architectural	non-structural	hasp			0	1
			rod			3	4
			staple			1	1
		roof	washer			0	2
		structural	nail	1853	1890	0	1
						1	1
	architectural/trans	structural/horse	nail	1805		2	2
	beverage	alcohol beer/wine wine	bottle			3	2
			bottle			1	1
			bottle			3	1
	container	unidentified	bottle	1830	1930	1	1
	food	oil/vinegar prep/tableware tableware/serve	bottle	1825	1899	1	1
			jug	1830		2	1
			plate	1830		1	1
		tea	plate	1780	1920	1	1
				1830		0	0
		unidentified	unidentified	1830		2	2
	industrial personal pharm	by-prod clothing poison	slag			5	2
			stud			1	1
			bottle			1	1
	transport	horse	chain			1	1
			horseshoe			8	6
	trans/industrial	vehicle/machine	handle			0	1
	unidentified	container	bottle	1830	1930	1	1
		unidentified	bar strap			3	2
	work	leatherworking tool	borer			0	1
			chisel			1	1
			punch			4	1
3	architectural	non-structural	screw	1850		0	1
			screw & washer	1850		0	1
		structural	nail	1820	1870	1	2
			spike	1870	1890	0	3
	beverage	beer/wine unidentified	bottle			0	1
			bottle			9	1
	cleric food	writing tea	slate pencil cup	1830	1960	1	1
	personal unidentified	clothing unidentified	button ferrule	1840	1930	2	2
4	architectural	non-structural	rivet & washer			0	1
			wire			2	1
	beverage	window	flat	1850		1	1
		beer/wine gin/schnapps	bottle			1	1
			bottle			7	2
	food	unidentified wine	bottle			10	2
			bottle			1	1
		oil/vinegar tableware	bottle	1825	1899	1	1
			plate	1780	1930	2	2
				1840		1	1
				1851		1	1
				1865		1	1
		tableware/serve	tumbler			3	1
			plate	1785	1860	1	1
				1810	1930	2	2
			plate/platter	1840		2	1
	industrial/trans	tea		1810		1	1
			plate	1810		1	1
	recreation	smoking toy	split pin	1912		0	1
			pipe doll	1846 1840	1867 1920	1 2	1 2
	trans	horse oxen	horseshoe			6	3
			yoke	1788		2	1
	trans/agricultural	vehicle/machine	bolt			0	1
	unidentified	container	bottle	1830	1930	1	1
		unidentified	unidentified			3	2
		unidentified	unidentified	1830	1940	1	1

Test Trench	General Function	Specific Function	Shape	From	To	Frgs	MIC
				1830		1	1
6	architectural	non-structural	nail & washer			2	2
		roof	washer			1	1
		structural	nail	1853	1940	0	2
	beverage	unidentified	bottle			1	1
TOTAL						124	100

In TA5 the most varied assemblages came from TT2 and TT4 with a small range of ceramic and glass vessels comparable to those found closer to the main wing. The tableware was manufactured in the UK over a long period of time, with some decorative types made from 1780, while others from 1865.⁶³ Although there were also a few small items dating to the 19th century (Figure 4.27), such as a porcelain button and copper alloy stud,⁶⁴ clay tobacco pipe⁶⁵ and a doll,⁶⁶ many objects show a clear association with blacksmithing and leatherworking (Figure 4.31). These activities are part of the continual maintenance of farm structures, equipment for haulage animals, vehicles and agricultural machinery. Just below the surface of TT4 was a large oxen yoke (97/#233, Figure 4.19).⁶⁷ Several damaged horse shoes and other large metal items (Figure 4.20) were found scattered within disturbed topsoil in and around the structures.⁶⁸



Figure 4.19: Iron oxen yoke ring and bars 97/#233 from surface modified topsoil in TA5 TT4. Scale: 100mm. Photo: DSCN9903. [Insert caption]

⁶³ Brooks 2005; Coysh 1970; Coysh & Henrywood 1982 and 1990.

⁶⁴ Eckstein & Firkins 1987; Fletcher 1984; Lindbergh 1999; Olsen 1963; Peacock 1978; South 1964; Sprague 2002.

⁶⁵ Ayto 1994; Bradley 2000; Davey (ed.) 1987; Duco 2004; Gojak & Stuart 1999; Jack 1986; Oswald 1975; Walker 1983; Wilson 1999.

⁶⁶ Coleman & Coleman n.d.; Goodfellow 1993.

⁶⁷ For comparable oxen yoke see <http://www.antiques.com/classified/Antiques/Antiques/Antique-Antique-Oxen-Harness---All-Original-Hardware-#>

⁶⁸ Blacksmithing, horseshoe forms, harness, saddle and horse collar making see Seymour 1984:76-77; 122-129. See also Meadows 2000; Muir 1999, 2011; Stringer 1980.



Figure 4.20: Iron objects from modified topsoil 73 in TA5 TT4 associated with horse transport and equipment. Top rows (l-r): damaged and used horseshoes, #232 above #231 and #23. Bottom: bolt #229. Scale: 100 mm. Photo: DSCN9892.

4.3.4 TEST AREA 6

Five test trenches were opened in TA6 (see Figure 4.25). A total of 88 (MIC) artefacts were recovered (Table 4.8). While the non-structural objects included a buckle and furniture handle (Figure 4.25), many more related to preparation, serving and consumption of food. These included a variety of ceramic tea and tablewares (Figure 4.21) and glass bottles (Figure 4.22) for alcoholic and non-alcoholic beverages, as well as condiments and other products. The decorative ceramic patterns were slightly different from those found in TA3 and TA4 although they were roughly contemporary. Most were manufactured in the UK from the 1830s, with the Rockingham glazed teapot (130/#60), common in 19th century Australian households (1796-c.1900). There was a helix-cable pattern plate (TT8A) which is the sake patten on the handle of a ladle in TA4 (Figure 4.15). Food or other merchandise was stored in a large stoneware demijohn bottle (105/#70). The three animal bone fragments found in TT8A, including a broken sheep's tooth, may be the remains of meat cuts eaten by the occupants (Figure 4.35).

Table 4.8: Artefacts (not bone) from TA6 Test Trenches 7, 8A, 8A/B, 8B, 9 and Well.

Test Trench	General Function	Specific Function	Shape	From	To	Frgs	MIC
07	architectural	floor	brick	1830		3	2
		non-structural	brad	1788	1890	1	1
		structural	nail	1788	1890	2	1
		structural/non-structural	nail	1788	1890	0	1
	architectural/household beverage food	non-structural/furniture wine tableware	brad/nail bottle plate	1788 1830	1890	3 4 1	3 1 1
08A	architectural	roof	slate	1840		2	1
		structural	nail	1805		1	1
		window	flat		1850	1	1
	beverage	gin/schnapps	bottle			3	1
		unidentified	bottle			1	1
	food	oil/vinegar	bottle	1825	1899	1	1
		tea	cup	1830		2	2
			saucer	1830		1	1
08A/8B	unidentified	unidentified	unidentified	1860	1884	1	1
	architectural	non-structural	sheet	1860		0	2
		structural	nail	1820 1853 1788	1870 1940 1890	1 0 0	3 3 1
	food	tableware	plate	1860		1	1
		tea	saucer	1860		1	1
		tea	teapot	1796	1900	1	1
		tea/ tableware	unidentified	1830		1	1

	unidentified	unidentified	bottle unidentified	1830		1 1	1 0
08B	architectural	finish	render & set	1840		3	1
		fitting	hook	1788 1840	1890 1900	0 0	2 1
		non-structural	tack	1788	1890	0	3
		structural	nail	1788 1820	1890 1870	4 0	12 13
				1853	1940	0	1
09	architectural	structural	nail	1788 1850 1853	1890	1 0 0	2 1 1
					1850	1	1
		window	flat				
	beverage	gin/schnapps	bottle			2	1
	food	store	demijohn	1835		1	1
		tableware	bowl	1860		1	1
			plate	1830		1	1
		tableware /serve	bowl			1	1
			lid	1830		1	1
		tea	saucer	1800	1870	1	1
		tea/ tableware	plate, small	1860		1	1
	food/pharm household personal/transport	condiment/medication furnishing/fitting cloth/horse	bottle brad buckle	1805	1890	1 1 1	1 1 1
	unidentified	container	bottle			3	1
		unidentified	handle unidentified	1788 1830		0 7	1 2
WELL	architectural	structural	brick	1830		0	1
TOTAL						64	88



Figure 4.21: Selection of ceramics from TA6. *Top row (l-r):* TT7 white glazed cup and moulded plate 125/#75-#76; TT8A context 134, large vessel with blue tp 'Corsina' pattern #72, green tp cup #73 and blue tp saucer #74. *Middle row from TT8A/B:* context 130, blue tp unid vessel #58, red banded saucer #59, brown Rockingham glazed teapot #60 and purple tp 'Cable-helix' pattern plate #61; blue and white glazed moulded unid vessel 131/#71. *Bottom row from TT9* context 105: blue tp 'Willow' pattern plate #62, blue and white glazed unid vessel #63, blue tp pearlware saucer #64, red banded bowl #65, blue banded plate #66, white moulded lid #67, white glazed base frags #68 and #69 (burnt). Scale: 100mm. Photo: DSCN9930.



Figure 4.22: Selection of glass bottles & window pane fragments. Top row (l-r): TT8A Whybrow oil-vinegar 134/#604-#605 and window #608; TT7 wine-champagne 125/#609. Bottom row from TT9: gin-schnapps, condiment-medicine 105/#610-#611 and window #613. Scale: 100mm. Photo: DSCN9950.

The artefacts used to construct the ruined building in this part of TA6 were found in every test trench (TT7, 8A, 8B and 9) and generally in good condition. They included chiselled sandstone blocks and sandstock bricks, the latter of which were mainly laid in a herringbone design to form a path or paved space (Figure 3.37). The bricks were the same type (sandstock rect shallow Rav) as found in other areas of the property (Figure 4.28). In the paving, the side facing upward was worn over time, perhaps mainly by the trampling of sheep or cattle rather than humans (Figure 4.23). Numerous hand-forged and cut varieties of iron tacks, nails and hooks (Figure 4.25) were scattered in the topsoil and demolition fills, as well as in gaps in the brick paving. The sampled fragments show that part of the building was finished in a white-painted lime plaster render and set (Figure 4.24), and the windows glazed in Crown glass made until c.1850 (Figure 4.22).



Figure 4.23: Sandstock rect shallow Rav bricks from TA6 TT7. Left: 126/#346 strikeface above 125/#345 stockface with the top sides worn from being laid on-edge in herringbone paving. Right: footworn side 126/#346. Scale: 100mm. Photos: DSCN9803 and 9809.



Figure 4.24: White-painted grey lime plaster render and set fragments from demolition rubble 133/#348 in TT8B in TA6. Scale: 100mm. Photo: DSCN9852.



Figure 4.25: Forged large iron handle 105/#268 from modified topsoil in TA6 TT9. Scale: 100mm. Photo: DSCN9882.

A large well located along the western portion of TA6, in the vicinity of the creek, was constructed of the same shallow-frogged sandstock bricks as the paving found in Test Trench 7. One was sampled from the surface (Figure 4.28).

4.3.5 TEST AREA 7

Among the three test trenches opened in TA 7 (Figure 3.40), only TT1 contained artefacts (Table 4.9). A total of 6 (MIC) artefacts were retrieved from TT1 (Table 3.7). The 79 shattered glass fragments represent two different beverage bottles, probably of the late 19th to mid-20th century. The worn fragments of sandstock bricks appear to have been dislodged from the structure or associated fill. More bricks remained *in situ* in the base of the north end of TT1 after testing was finished. All the brick fragments were very similar in texture and colour to those with the shallow rectangular frog found in various parts of Ravensworth Estate. In addition, a broken brick of this frog type was noted downslope of TT3 in TA7 (not sampled). Such bricks were probably made nearby on the property, their method of manufacture strongly indicating a date from c.1830 (see TA4 Section 4.3.2, also TA6 paving 126 and well 158 Section 3.6.1.2).

Table 4.9: Artefacts (not bone) from TA7 Test Trench 1.

Test Trench	General Function	Specific Function	Shape	From	To	Frag	MIC
01	architectural	structural	brick	1830		5	4
	beverage	unidentified wine	bottle			49	1
			bottle			30	1
TOTAL						84	6

4.3.6 HISTORIC MATERIAL FROM ABORIGINAL ARCHAEOLOGICAL TEST AREAS

In September 2018 OzArk undertook Aboriginal archaeological investigations for the Project, including a number of test pits near the Ravensworth Homestead.⁶⁹ Casey & Lowe catalogued 17 historical ceramic and glass artefacts (28 fragments) discovered in various test trenches. The contexts with artefacts were assigned numbers (159 to 164) within the separate TA8 (Table 4.10). While fragmentary, the ceramic vessels and glass bottles and window panes (Table 4.11) are consistent with items recovered by Casey & Lowe elsewhere within the Ravensworth Estate. They are particularly similar to artefacts from TAs 5 and 6, and observed in surface scatters in ploughed fields and beside the dam to the south and west of the homestead complex. These objects may indicate potential occupation or rubbish disposal, often in association with the deposition of 'nightsoil' from the cesspits to improve the soil of different paddocks on the property, often referred to as 'manuring'.

Table 4.10: OzArk historical artefacts recovered during Aboriginal testing September 2018.

Transect	Zone	Trench	Square	Spit	Cm	Date	C&L Context	Temp TA
1	Area 2	3	3	1	4	13/09/2018	159	8
		3	4	1	5	13/09/2018	160	8
	Area 11	-	5	1	0-5	14/09/2018	161	8
	Area 12	1	2	2	10-20	14/09/2018	162	8
		1	4	various	0-25	14/09/2018	163	8
		-	5	1	0-10	14/09/2018	164	8

Table 4.11: Artefacts from TA8 OzArk Test Trenches.

Context	General Function	Specific Function	Shape	From	To	Frag	MIC
159	food	tableware /serve	unidentified	1780	1840	2	1
				1830		1	1
		tea/ tableware	unidentified	1830		1	1
160	food	tableware	stemware			1	1
161	food	tableware	stemware			1	1
162	food	tea	saucer	1830	1930	1	1
163	architectural	window	flat	1850		2	1
	food	tea	unidentified	1800		1	1
		tea/ tableware	bowl	1790		5	1
	personal/ pharmaceutical	groom/medicine	bottle			1	1
164	beverage	beer/wine	bottle			3	1
	food	tea	saucer	1800		1	2
		tea/ tableware	plate	1830		6	1
	household	ornament	bowl/dish	1820		1	1

⁶⁹ OzArk EHM P/L 2019 *Aboriginal Archaeology Impact Assessment, Glendell Continued Operations Project, Glendell Coal Mine, Ravensworth, NSW, July 2019*. Report to Umwelt Environmental & Social Consultants on behalf of Glendell Tenements Pty Ltd.

	unidentified	unidentified	unidentified	1830		1	2
TOTAL						28	17



Figure 4.26: Selection of ceramics from OzArk testing September 2018, TA8. *Top row:* (l-r): 159 unid vessels with blue tp 'Willow' and floral patterns #77-#78 and plain creamware glaze #79. *Middle row:* saucer with black flow decoration 162/#80; context 163, Chinese porcelain bowl with hp design #81 and unid white glazed porcelain vessel #82. *Bottom row:* context 164 blue banded porcelain saucers #83-#84, green tp plate #85, white glazed and blue tp decorated unid vessels #86-#87. Scale: 100mm. Photo: DSCN9936

4.4 MAIN FINDINGS

Although the testing program was designed to have no impact on potentially State significant deposits, the artefacts provide insight into the archaeological potential of each area. The main findings in relation to the artefacts are:

- The test trenches beside the main wing and immediate outbuildings (stables and barn) TAs 3-4 revealed artefacts relating to the preparation, serving and consumption of food and drink in the upper deposits and fills, some in disturbed contexts. There was less frequent evidence of small miscellaneous items worn on clothing or as decorative or ornamental objects (Figure 4.27). Some artefacts related specifically to clerical tasks and play, such as a glass marble in TA3 TT6A (context 101) that may have been lost by a child of the most recent family to reside in the homestead, the Marshalls. Further excavation in the area and underneath floors is likely to find artefacts in more secure contexts that will provide greater insight into the lives of the many occupants of the farm over time.



Figure 4.27: Selection of miscellaneous artefacts from the site, TAs 3, 4, 5, & 6. *Top row from TA3 (l-r):* TT6a glass marble and slate pencil 1/#101-#102; TT6A copper shoe tack 8/#103; TT6B glazed ceramic doll head and celluloid comb 122/#104-#105; TTE spectacle lens 156/#98; TT2 iron buckle 12/#119. *Middle row from TA4:* iron buckles TT1 53/#109, 59/#110, TT4 41/#111; TT1 glass bead 53/#108; kaolin pipe stems TT5 32/#112 and TT6 21/#113; TT1 copper alloy button frame 58/#120. *Bottom row TA5:* copper alloy stud TT2 75/#99, kaolin pipe stem TT4 73/#114, slate pencil TT3 98/#116, porcelain doll shoulder fragment TT4 97/#118; TA6: iron buckle TT9 105/#100, porcelain button TT8A/B 131/#117. Scale: 100mm. Photo: DSCN9955.

- The architectural items reveal that sandstock bricks used in association with sandstone masonry in some structures, were locally made from the clays and gravels, most probably on the property, somewhere along one of the creek lines (Figure 4.28, Figure 4.29). These hand-made sandstock bricks with wide shallow frog have not been previously recorded. As they were probably made by convict or itinerant brickmakers for the original owner of the Ravensworth Homestead, James Bowman, they provide a significant contribution to our understanding of early construction in the region and this study provides a good comparison for

recent studies of early brickmaking in Sydney and Parramatta,⁷⁰ St Marys⁷¹ and Newcastle.⁷² Identification of the location and investigation of the possible kiln area would provide more information about manufacturing methods. These bricks were used in a large well, TA6 well (context 158); herringbone paving (context 126), chimney and other components of a multi-room structure investigated in TA6/TT7 and TT9. These bricks were also found in backfilled robbed walls of the potential convict barracks in TA4/TT3A behind the main wing, possibly used in upper walling, paving and chimneys. Other examples can be found scattered across the property (TA3 and TA7). Future work may determine if this type of brick was used to construct structural elements of the original house and outbuildings.

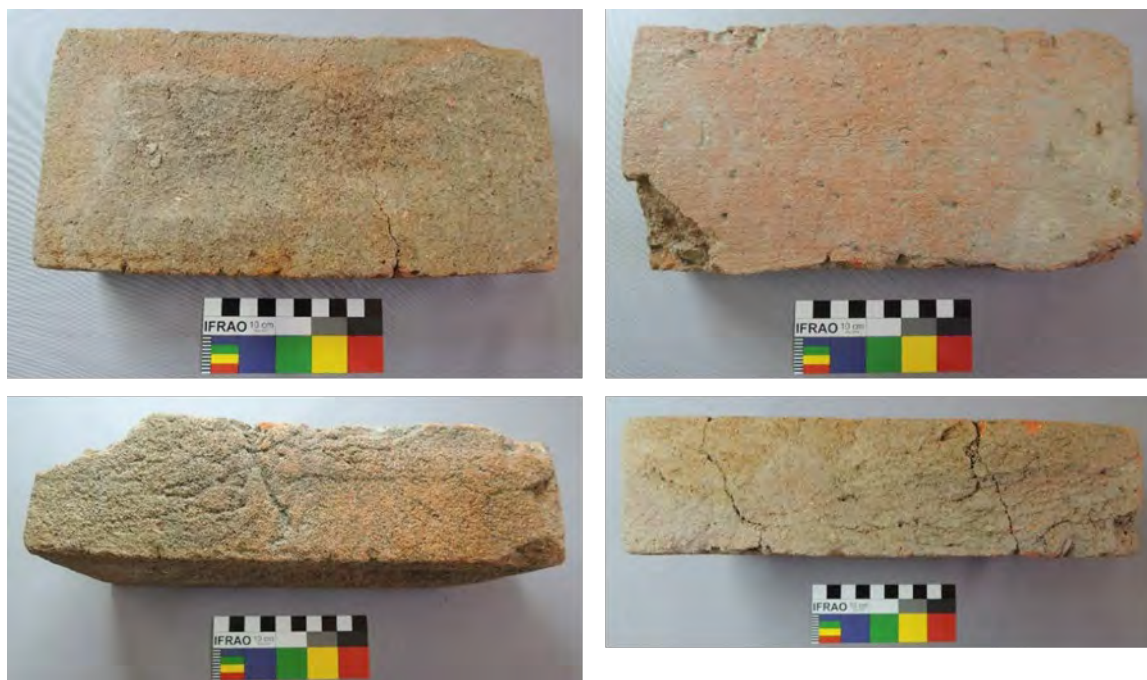


Figure 4.28: Sandstock rect shallow Rav brick from TA6 Well, 158/#349 with crack and remnant grey-brown silt. *Top left*: stockface with frog and fine saw marks on border from stockboard. *Top right*: strikeface with small ironstones. *Lower left*: side with low raised horizontal hackmark. *Lower right*: other side with white quartz pebble on lower right edge. Scale: 100mm. Photos: DSCN9818, 9826, 9828 and 9821.

⁷⁰ Stocks 2008a and 2008b.

⁷¹ Casey & Lowe 2019.

⁷² See also bricks from a Singleton house Neotsfield built in 1827-1888 in the Newcastle Museum Reg: [1972/153](https://collections.ncc.nsw.gov.au/keemu/pages/nrm/Display.php?irn=306&QueryPage=%2Fkeemu%2Fpages%2Fnm%2FQuery.php)
<https://collections.ncc.nsw.gov.au/keemu/pages/nrm/Display.php?irn=306&QueryPage=%2Fkeemu%2Fpages%2Fnm%2FQuery.php>



Figure 4.29: Clay fabric detail of sandstock rect shallow Rav bricks from TAs 4 and 6. Left: fired to a fairly homogenous deep red with grey ironstones and rare white quartz pebbles 126/#346. Right: fired to pink and white with red-brown ironstones and cracked white quartz pebbles 55/#328. Scale: 100mm. Photos: DSCN9844 and 9841.

- Examples of another sandstock brick with narrow rectangular frog were found in TA3 TT6A and TT6B (contexts 2 and 120) and probably relate to a later stage of local brick manufacture (Figure 4.30).

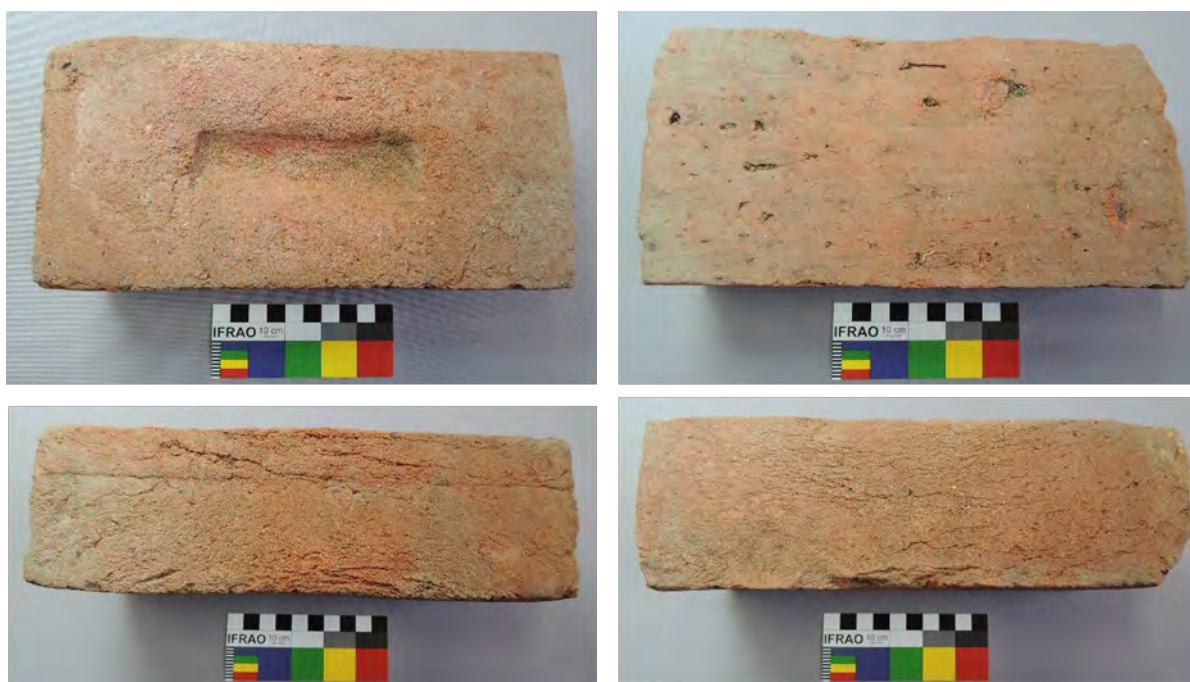


Figure 4.30: Sandstock rect narrow Rav brick from TA3 TT6B, 120/#355 with colour changes and slight warping from firing. Top left: stockface with frog. Top right: strikeface with divots where stones removed. Lower left: side with impressed horizontal hackmark. Lower right: other side with smooth flat surface. Scale: 100mm. Photos: DSCN9977, 9980, 9979 and 9981.

- The most recent sandstock brick from the same TT6A was made by Frank Turton from 1882-c.1900 (Figure 4.9). Turton and his family operated a brick yard in East Maitland from 1882 until 1969.

- Blacksmithing and horse farriering activities are strongly indicated by artefacts found associated with structures to the north of the homestead complex TA5 TTs 2-4. These include large pieces of unworked and worked iron for structures, vehicles, various horse and possibly oxen shoes and equipage (Figure 4.31). A leather hole punch presumably for straps and belts was found in TA5 TT2 (context 76).



Figure 4.31: Iron objects from TA5/TT2 relating to horse transport and leatherworking. L-r: borer 76/#212 for punching holes in leather, above toe of broken horseshoe 78/#217; broken horseshoe 78/#216 with large nail holes in fullering groove. 100mm scale. Photo: DSCN9898.



Figure 4.32: Iron padlock with brass keyhole escutcheon and pivoting cover 43/#185 from yard surface/fill on the south side of wall 047 in TA4/TT4. Angled view. Scale: 100mm. Photo: DSCN9870.

- Hand-forged nails and spikes probably made at the blacksmiths were found in great abundance within the rooms and on the brick paving of the demolished structure in TA6/TT7-9 (Context 133). The demolition debris also included fragments of lime mortar and white painted plaster, as well as window glass.



Figure 4.33: Iron tacks, nails and hooks from demolition rubble 133 in TA6 TT8B. *Top row (l-r):* hand-forged tacks #249, #250 (4), #251 and #252 (3); machine-wrought and hand-forged nails bent into hooks #253, #254 and #255. *Bottom row:* hand-forged nails #243, #244, #245, #246 (3) and #247; cut/wrought nails #248 (12). Scale: 100mm. Photo: DSCN9889.

- Scattered within and around the various structures in TA3-6 were numerous fragments of ceramics and glassware used by the occupants over time. The table and tea wares were mostly imported from the UK (Figure 4.5, Figure 4.15, Figure 4.17, Figure 4.34). The glass represented a range of beverages and food, various pharmaceuticals and other products (Figure 4.6, Figure 4.16, Figure 4.18).



Figure 4.34: Ceramic fragments from TA3 TT9 context 11. L-r: salt glazed stoneware bottle #17; purple top plate #19 and white glazed bottle #20. Scale: 100mm. Photos: DSCN9911, 9913.

- Consumption of food by the residents at the site were represented by small numbers of animal bone, mostly from sheep. Several of the examples had butchery marks and one was burnt (Figure 4.35). In the future these may assist in our understanding of slaughtering practices at Ravensworth Estate and what cuts of meat were preferred.



Figure 4.35: Selection of animal bones some with butchery marks from TA3, TA4 and TA6. *Top Row* from TA6 TT8A (l-r): burnt 133/#288; teeth 134/#286. *Middle Row*: TA3 TTD 155/#289, TT2 12/#275; TA4 TT1 58/#283. *Bottom row* from TA3, with butchery marks: TT2 12/#276, 13/#279; TT6 10/#281. Scale: 100mm. Photo: DSCN9960.

- The investigation also recorded scatters and dumps of similar ceramics and glassware in different parts of the property, including the wall of the main dam and in several paddocks. Some were recovered during our testing to the south of the house (TA3 TT9) and during the Aboriginal archaeological investigation by OzArk (TA8). Their presence across the site strongly suggests that they were dumped by residents and workers at the property over time as part of manuring practices. Further investigation of these scatters may reveal unexpected occupation or activity zones.

5.0 UPDATED HISTORICAL ARCHAEOLOGICAL SIGNIFICANCE

5.1 SIGNIFICANCE ASSESSMENT

This assessment of significance for archaeology within the Ravensworth Homestead Complex is in accordance with the Heritage Branch 2009 guidelines: *Assessing significance for historical archaeological sites and relics*. Apart from NSW State guidelines, the nationally recognised Australia International Council On Monuments and Sites (ICOMOS) Charter for the Conservation of Places of Significance (*The Burra Charter* 2013) also defines 'cultural significance' as meaning:

'aesthetic, historic, scientific and social value for past, present and future generations'.

Significance is therefore an expression of the cultural value afforded a place, site or item.

Understanding what is meant by value in a heritage sense is fundamental, since any society will only make an effort to conserve things it values. In terms of built heritage, what we have inherited from the past are usually places that have been continuously cared for. Conversely, many archaeological sites will comprise places which, for whatever reason, have not been cared for until the relatively recent period.

Our society considers that many places and items we have inherited from the past have heritage significance because they embody, demonstrate, represent or are tangible expressions of values society recognises and supports. Our future heritage will be what we keep from our inheritance to pass on to the following generations.⁷³

Heritage places can have multiple overlapping values. A place can be assessed as significant at National, State and local levels for the same, and different, reasons.

5.1.1 LEVEL OF SIGNIFICANCE

To be assessed as having heritage significance (state or local) an item must:

- meet at least one of the seven significance criteria
- retain the integrity of its key attributes

If an item is to be considered to be of State significance it should meet more than one criterion, namely in the case of relics, its research potential.⁷⁴ Archaeological Significance:

may be linked to other significance categories especially where sites were created as a result of a specific historic event or decision, or when sites have been the actual location of particular incidents, events or occupancies.

Other relevant factors may be comparative values related to the intactness and rarity of individual items. The rarity of individual site types is an important factor, which should inform management decisions.

Relics must also be ranked according to their heritage significance as having:

- Local Significance
- State Significance

If a potential relic is not considered to reach the local or State significance threshold, then it is not a relic under the NSW *Heritage Act 1977*.

⁷³ This section is an extract based on the NSW Heritage Office *Assessing significance for historical archaeological sites*, 2009: 1.

⁷⁴ NSW Heritage Branch 2009, p 9.

Section 4A of the NSW *Heritage Act 1977* defines the two levels of heritage significance as:

‘State heritage significance’, in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

‘Local heritage significance’, in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.⁷⁵

5.2 DISCUSSION OF HERITAGE SIGNIFICANCE

The testing program was designed to inform the integrity of the archaeology within the study area and provide clarification on the significance of the archaeology. The following discussion of significance is based on the results of the testing program, and the historical research undertaken for the HAA & ARD.

This significance discussion relates to the site’s archaeological values which include a range of evidence, such as, relics and works, remains of structures, the archaeological landscape of pastoralism and convict assignment, buried structures and grave sites, evidence of past activities found across this landscape and how they help us investigate the research values of the Place and the way in which they make Ravensworth Estate and its surrounds a significant place in the heritage of the Upper Hunter Valley and NSW. The Statement of Heritage Impact (SoHI) for the Project EIS prepared by Lucas, Stapleton and Johnson (LSJ) provides a discussion and Statement of significance which addresses other values of the site and also includes the values identified in this report. The following discussion has considered and adapted the assessment against criteria in the statement of significance prepared by LSJ as part of the SoHI⁷⁶ where relevant and should be read in conjunction with the SoHI.

CRITERION (A): HISTORIC SIGNIFICANCE – (EVOLUTION)

an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area);

The land that forms the Ravensworth Estate today is of historical significance for being the substantial remnants of an early (1824) pastoral estate in the Upper Hunter region of NSW and was at the frontier of British expansion into Aboriginal lands.

The Place is one of a surviving group of pastoral properties established shortly after the opening up of the Hunter Region to settlement in the early 1820s initiated by Governor Brisbane and Commissioner Bigge, to encourage the economic and agricultural development of the colony through the private management of land (rather than public farming) and assignment of convicts to private landowners. Evidence of this important historical period remains in the property boundaries, the road alignments, remnant landscape features, including timber fencing and fence lines, tree plantings, early dams and evidence of early cultivation, historical archaeological sites including the original house site, potential convict barracks, the underground silo together with an extensive range of former outbuildings; and the surviving c.1832 homestead complex including its configuration and landscape setting.

⁷⁵ NSW Heritage Branch 2009, p 6.

⁷⁶ Lucas Stapleton Johnson & Partners Pty Ltd 2019 *Ravensworth Estate, 463 Hebden Road, Ravensworth NSW, 2330 Statement of Heritage Impact*, prepared for Mt Owen Pty Ltd. August 2019.

A key element of its establishment was the use of convict labour in the opening up of the valley and clearing of the land, early sheep pastoralism and wool production, agricultural production and the running of the property. This type of private commercial activity was the purpose of the reorganisation of the convict system, to shift the focus from public farming to private farming and allowing private people to take on the responsibility of managing and feeding convicts. Documentary evidence provides that around 87 people lived on the Ravensworth Estate, with a substantial number of convicts (32 by the 1841 census) assigned to the Ravensworth Estate and convict labour was likely to have been used for the construction of a number of buildings and site features, including (it is assumed) the homestead complex.

Ravensworth Estate is one of a number of identified places that demonstrate the early interactions and tensions over land between Aboriginal people and the British government and the colonists settling in the Hunter Valley. This new stage of expansion into the Hunter Valley in the 1820s saw a number of raids, both by the military and/or settlers and by Aboriginal groups. Three separate Aboriginal raids on the Ravensworth Estate saw the deaths of Bowman's men while working on the estate. Further details on these events is contained in the Ravensworth Contact History Report prepared by Dr Mark Dunn, included as an appendix to the Aboriginal Cultural Heritage Assessment Report for the Project EIS, prepared by Australian Cultural Heritage Management.⁷⁷

The presence of early (1820s and 1830s) roads across the estate lands, including a section of the Old Northern Road, provided access northwards and westwards to the Liverpool Plains is historically significant on a State level for locating the Ravensworth Estate along an important regional transport corridor (that remains in place today). The Place also contains a portion of the Great Northern Railway, established in the 1860s when the line was extended to Muswellbrook. The importance of the location led to Ravensworth becoming a known locality in the district and across NSW, with the Ravensworth Estate and homestead complex at its centre. These transport systems were critical to the economic success of pastoralism and agriculture in the Hunter Valley.

The later history of the Ravensworth Estate follows a pattern of development that is found throughout the central Hunter Region (and indeed other regions of NSW). From being a large pastoral estate for sheep fattening for most of the 19th century, from the late 19th century onwards the estate underwent speculative subdivision, eventually being used for smaller allotment mixed farming including dairying throughout the 20th century, until the 1960s when large portions of the former lands of the Ravensworth Estate were developed for open-cut coal mining. The allotment that contains the Ravensworth Homestead Complex is also of historical significance for being the remnants of a soldier's settlement purchase taken up by A.C. Marshall in 1920.

The significance of Bowman's occupation under Criterion (a) is associated with his grant being one of the earliest / largest in the Upper Hunter Valley. Archaeological evidence of State significance under Criterion (a) for the Complex would need to relate to one or some of the following:

- Evidence for the use of convict labour.
- Demonstrate the working and private lives of convicts (accommodation, reform, management / treatment).
- Demonstrate adaptive farming methods and cropping practices and choices that were made concerning the uncleared and uncultivated landform (such as evidence

⁷⁷ Australian Cultural Heritage Management 2019 *Glendell Continued Operations Project Aboriginal Cultural Heritage Assessment Report*, prepared for Umwelt Environmental & Social Consultants. August 2019

for organising space including huts, outbuildings, and landscaping, including land clearance, ploughing, cultivation and irrigation works).

- Evidence of contact / interaction with Aboriginal people.

The archaeology of the Ravensworth Estate has the potential to satisfy Criterion (a) as it offers opportunities to investigate choices made by Bowman, and his overseers, concerning the layout of his grant, including the location of the garden, convict accommodation, work areas etc., his relationship to it, the use of convict labour in its construction and operation. The consideration of these choices would be of State significance because they would demonstrate a response to land, authority, and society that was just beginning to be developed and played out in the Hunter Valley, including the alienation of Aboriginal people from their traditional lands. The Ravensworth Homestead and Estate already demonstrates that those choices had long lasting effects on the layout and the development / interpretation of the wider landscape over the 19th and early 20th century into the present.

The results of the archaeological survey and testing identified a number of structures (not previously known) that have started to help us to better understand Bowman's use of the land. The testing has shown that there is likely to be considerable evidence for demolished structures in Area 4, possibly associated with convict accommodation.

These historic values are likely to be significant at a **State** and **local** level.

CRITERION (B): ASSOCIATIVE SIGNIFICANCE - (ASSOCIATION)

an item has strong or special association with the life or works of a person, or group of persons, or importance in NSW's cultural or natural history (or the cultural or natural history of the local area);

The Ravensworth Estate is of significance on both a State and local level for its associations with a number of people of historical note and places of historical note located throughout NSW. The richness of the associations provides further evidence of the significance of the history of the Ravensworth Estate.

The estate is associated with the highly significant convict-labour system which allowed for the spread of British settlement and the removal of Aboriginal people from their traditional lands within this part of the Hunter Valley.

Historical associations with notable persons include:

- The Bowman family including
 - a) James Bowman (1784-1846), principal surgeon of the colony (1823-1828) and inspector of colonial hospitals and local committee member of the Australian Agricultural Co. (A.A. Co.), who was granted the land.
 - b) Mary Bowman (1795-1852), daughter of John Macarthur, whose dowry of 2000 sheep and 200 cattle allowed James Bowman to apply for the initial land grant.
 - c) Edward Macarthur Bowman (1826-1872), eldest son of James and Mary Bowman was a botanical collector and botanist who lived at and managed Ravensworth Estate from 1843 to 1848 and participated in some of the first efforts at plant breeding in Australia including the hybridisation of gladioli being among the experiments carried out at Ravensworth Estate.
- Overseers at Ravensworth Estate including:
 - a) James White (1801-1842), former employee of the A.A. Co. and founder of the White pastoral dynasty (other White family estates in the Hunter region include

Edinglassie, Belltrees, Merton, Martindale and Waverley), for whom the homestead was constructed.

b) John Larnach (1805-1869), partner of James Mudie at Castle Mudie.

- Jackey-Jackey (d.1826), a local Aboriginal man, who following his capture for an attack on James Bowman's men on the Estate was executed without trial at Wallis Plains by the Mounted Police, this led to a military officer being brought before the courts for actions against Aboriginal people for the first time in 1827.
- Later owners including Captain William Russell (1807-1866), pastoralist who also owned Cheshunt Park and substantial squatting properties; Duncan Forbes Mackay (1792-1860), Superintendent of Prison's and Public Works at Newcastle (1827) and the first Post Master at Newcastle (1828) and owner of the Melbee, Cangon and Minimbah properties, and who established the town of Dungog; both of whom continued running the Ravensworth Estate as a pastoral property.
- Later owner Augustine Campbell Marshall (1891-1983), a Light Horse veteran who obtained a portion of the original estate lands (Portion 228) containing the homestead complex under the Closer Settlement Scheme in 1920; and his descendant, son Geoffrey and his wife Jenny Marshall who took over the property and held the land until 1997.

The significance of the Ravensworth Estate under Criterion (b) is based on its association with the Bowman's, James and Mary, and James White and John Lanarch (overseers), all of whom had lived at the house. It is also associated with the convict system and the convict labour which allowed for the development and occupation of this estate. The assigned convicts would have undertaken most of the key labour on the site: quarrying stone, brickmaking, building of the house (including the original Ravensworth hut) and all other outbuildings and convict barracks, as well as agricultural practices and work on the estate. Archaeological evidence of State significance under Criteria (a) and (b) for the house / landscape would need to:

- Include substantive archaeological remains of the Bowman era and associated artefact deposits.
- Exhibit a demonstrable connection to the Bowman's, James White and John Lanarch.
- Contain material evidence that can contribute to our knowledge of the day-to-day lives of the site's early residents.
- Nature of convict life, labour and their management within the estate.

Archaeological excavation of the homestead may be able to be interpreted and attributed to periods corresponding to the occupation of the Bowman's, White's or Lanarch's. In addition, underfloor deposits within the floor cavity are likely to be present in some rooms, surviving beneath original or later flooring. These deposits have the potential to tell us about the status of the household and the use of spaces, although they may not be directly attributable to the Bowman era or to later ownership.

These associative values are likely to be significant at a **State** and **local** level.

CRITERION (C): AESTHETIC SIGNIFICANCE – (SCENIC QUALITIES / CREATIVE ACCOMPLISHMENTS)

an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the cultural or natural history of the local area);

The Place, containing the remnants of the Ravensworth Estate, is of some aesthetic significance on a local level as a representational example of a Hunter Valley landscape. The rural landscape of the Place with scattered remains of early 20th century farms is punctuated by the two main creeklines, Bowmans Creek and Yorks Creek, pockets of lightly forested lands and gentle rises in the landform that provide expansive views of the floodplains and grazing lands leading southwards down to the Hunter River. The various isolated historic buildings, cultural plantings, landscape and agricultural features located across the landscape, are of some aesthetic significance, being indicative of the 20th century agricultural and community-driven development of the broader locality.

The homestead complex of the Ravensworth Estate constructed in c.1832, is of aesthetic significance on a State level as a fine example of a very rare, relatively intact “architecturally planned” group of colonial farm buildings located in its late 19th-century landscaped setting including surviving evidence of the early planning of the broader homestead precinct with an early dam (albeit modified) to the south of the homestead complex, placed on axis with the main wing and the 1830s stone grave located to the east placed along the longitudinal axis of the main wing.

The group of early buildings are complimented by a collection of typical homestead features including a late Victorian men’s quarters, and later vernacular timber and iron structures, timber yards, tank stands, dams, sheep dip, timber and wire fencing, rebuilt rubble stone walls. A profusion of discarded stones from demolished structures creates an evocative historical rural atmosphere.

The garden of the homestead provides the immediate landscape setting for the house and is of some aesthetic significance on a Local level being a remnant of a late 19th/early 20th century garden planted within an 1830s-40s layout.

The group of early buildings are complemented by a collection of typical homestead features (material culture) including yards, tank stands, wells, house dams, sheep dip, timber and wire fencing, stone walls and a profusion of discarded stones that create an evocative historic atmosphere. Notable features include the stone-edged house dams, the surviving grave of Miss White on the cross axis of the house, reused stone from former (now demolished) buildings, and archaeological evidence of former buildings (such as the foundations to the north of the homestead), including dips and rises in the landscape, the brick-lined cistern and well. It is possible that aspects of the pastoral activity associated with wool production may be important examples of developing approaches to this important economic activity of 19th-century Australia.

The aesthetic values of the archaeological resource are likely to be significant at a local level.

CRITERION (D): SOCIAL SIGNIFICANCE – (CONTEMPORARY COMMUNITY ESTEEM)

an item has a strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the cultural or natural history of the local area);

Forming part of the broader locality of Ravensworth, the Ravensworth Estate is of social significance on a Local level for providing a tangible focus for the strong sense of place held by past and current residents of the Hebden area, the village of Ravensworth and the surrounding agricultural lands, many of whom continue to live in the Upper Hunter region. The homestead complex, together with other markers across the broader landscape,

including Ravensworth Public School, Hebden School as well as the scattered remains of agricultural buildings and other features, provide physical markers of the history of the locality of Ravensworth and are reminders of the 20th century history of a distinct community living in the area.

More generally, as one of a group of surviving colonial pastoral estates of the Hunter Region, Ravensworth Estate is held in high esteem by portions of the local community as well as the broader NSW community as indicated by the statutory and non-statutory heritage listings existing for the area and its components, together with the wealth of research, books, images, heritage studies, published and unpublished histories, memoirs, family archives and other documentation relating specifically to the agricultural development of the region and its people, from the early 19th century to date.

Work undertaken with the local community for the Social Impact Assessment⁷⁸ identified a wide range of community values including:

- *Aesthetic* (style and design) as well as craftsmanship and technology.
- *Historical* values particularly the connection of the homestead with notable people (Bowman, Macarthur and Russell families and more recently the Marshall family (since the 1930s)) and the events or movements around the homestead in a local, regional or national context.
- *Scientific* values raised related to the stories of evidence of past activity associated with the homestead (use of convict labour through to changes in agricultural production from sheep to cattle) and the existence and detail of original buildings and the interaction between the homestead and other buildings.
- Stories and memories, many local community members consulted had personal stories, or stories handed down in their families, about events and people's lives at the homestead. Memories included working on the homestead, playing tennis on the grassed area, social functions (weddings, parties), stories about potential graves located around the homestead. The site/locality also has significance to the Aboriginal community; with views expressed that it was a site of violence, conflict and murder of local Aboriginal people.
- *Comparative* value of the homestead and its complex, and its standing in relation to other local, regional and state homesteads of its kind, was also noted as important to assess and document.

Ravensworth is held in high regard by the local community of Singleton and surrounds as well as groups interested in the history of the colonial settlement and development of the Upper Hunter, colonial architecture, historical archaeology, convict genealogy and history, and the Aboriginal community. Of particular note, the Marshalls as long-term residents of Ravensworth Homestead remain well known in the broader community with continued family connections in the area, dating back to A.C. Marshall, former President of the Shire who played an important role in community development.

These social significance values are likely to be significant at a local level.

CRITERION (E): TECHNICAL/RESEARCH SIGNIFICANCE - (ARCHAEOLOGICAL, EDUCATIONAL, RESEARCH POTENTIAL AND SCIENTIFIC VALUES)

⁷⁸ Umwelt Pty Ltd. 2018 *Glendell Continued Operations Project Social Impact Assessment Scoping Report*, May 2018. Prepared for Glencore.

an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);

The archaeology of the homestead complex and its immediate surrounds have moderate to high potential to provide further information of significance in relation to colonial building practices and architecture, agriculture and horticultural practices, the treatment and use of convict labour and the lives of convicts in a non-institutional setting, as well as the lives of families who lived on the estate from the early 19th century through to the early to mid-20th century.

- The group of surviving 1830s homestead buildings and other surviving colonial-built agricultural features (including the brick beehive cistern and underground silo) have a high potential to provide further information regarding colonial architecture and building practices.
- Information relating to the use of assigned convicts, a newly-established assignment system, implemented by the British government, in the development of the pastoral estates in early to mid-19th-century NSW. The archaeology of this place may also provide information on the lives of individual convicts within the much harsher assignment system and longer penalties of imprisonment imposed by the British courts.
- Early transport systems, roads and railway lines that provide information regarding the gradual spread of colonial settlement through the northwest of NSW during the early to mid-19th century.
- Early frontier life and the nature of contact and conflict between British settlers and Aboriginal people and their traditional practices.

The extant buildings, as well as the survival of wall foundations and some flooring from demolished structures, indicates that there may be potential for a cellar to also survive in good condition. The location and function of outbuildings and evidence of use of the courtyard may also tell us about the day-to-day experience of living in the house. As the construction of the house is attributable to the Bowman era, the choices about position, layout, size and configuration of the original spaces (including the wider landscape) are likely to be able to contribute substantially to our knowledge of how the Bowman family managed their land and treated free and convict labourers and workforce.

The testing program indicates the presence of structures and stratigraphic deposits across the site, along with some truncation as a result of ongoing environmental processes. The testing program identified intact archaeological remains including:

- The foundations of a large partitioned structure/ building (the potential convict barracks in TA 4, see Figure 3.16).
- Intact archaeological remains of buildings / structures in the form of stone foundations, post holes, wall cuts and paths to the north / northwest of the main wing (in TAs 5 and 6, see Section 3.5 and 3.6).
- Evidence of a previously unknown structure/s (in TA 7).
- Archaeological evidence of agricultural activity in various areas, including plough marks (TA 2, 6 and the OzArk excavations – see Section 3.3.2, 3.6.1 and 3.9).
- Presence of artefacts in a number of areas which relate to occupation of the site and evidence of local brickmaking.

The testing program has demonstrated that the archaeological record survives and is relatively intact, confirming the moderate to high potential for the archaeological resource within the Ravensworth Estate to provide information that is unavailable from other resources (see Section 3.0 and 3.10).

The technical or research value of Ravensworth Homestead Complex lies in its potential to contribute to our understanding of a range of research themes, including but not limited to:

- environment, climate, agriculture & water
- aboriginal and colonial peoples (convict & free) & colonial landscapes
- investigating historical/European burials

Where it survives, historical archaeology relating to the former Ravensworth Estate has the potential to provide information on:

Bowman Period (1824-1846)

- The lives of Aboriginal people and the nature of interaction with the British arrivals in the Contact period when they were dislocated from their lands and how this was expressed in the landscape and built environment.
- The establishment of the estate would have involved an initial phase of temporary structures and accommodation for the overseer ('old house') and for the assigned convicts. These were replaced by the surviving homestead and the demolished convict barracks, the location of which is potentially the significant foundations located at the rear of the homestead complex. There is also likely to have been accommodation for free men or families who worked on the estate. While their location is uncertain, it is likely to be some of the building sites identified in the paddocks north of the homestead complex.
- The level of fortification of the homestead complex, if any, for a newly-established estate on a frontier.
- Evidence for how convicts were managed or treated in this isolated place, including attitudes to punishment in a non-institutional or non-military setting, and segregation of male and female convicts.
- The differences between free and convict residents and how they operated on the estate.
- Evidence for habitation and living in this remote environment, such as the nature of diet (faunal material and fossil pollen evidence for possible vegetables grown in the gardens), and the possible modification of scarce material culture resources, such as tools (how they were reused, adapted, modified, stolen, hidden and general resistance to control and enforced labouring on the property).
- Material culture of the main household which may be associated with the Bowman family and how it expresses their status in the colony.
- The layout of the house, understanding phases of its construction, potential alterations and the uses of rooms. These may be able to be interpreted and attributed to periods corresponding to the occupation of the Bowmans, Whites or Lanarchs. In addition, underfloor deposits within the floor cavity are likely to be present in some rooms, surviving beneath original or later flooring. These deposits have the potential to tell us about the status of the household and the use of spaces, although they may not be directly attributable to the Bowman era or to later ownership.
- Changes made to the estate once the Bowman family relocated to this site following their financial collapse and sale of Lyndhurst.
- Nature of early pastoral and agricultural practices and how this is represented and amended in the landscape.

Generally

- The construction, modification and subsequent use of the homestead complex and associated lands through the later 19th and 20th centuries.
- Material culture of lives of families who lived on the estate during later years.
- Evolving nature of the archaeological landscape over time (from the Bowman era through to that of the Marshall family) as people and practices changed and different requirements were placed on the landscape to support economic requirements.

The archaeological significance of Bowman's occupation under Criterion (e) is associated with the research potential contained within the archaeological evidence of the period of occupation during Bowman's ownership and White's management. In particular with respect to expressions of individual identity in the early years of the colony, of Bowman and his overseers, as well as the evidence for convict lives, including personal expression through material goods and through the patterning of space. It is also important in relation to the changing nature of contact and interaction with Aboriginal people. Archaeological evidence of State significance under Criterion (e) would need to:

- Exhibit a moderate to high degree of integrity and demonstrable association with Bowman, his overseers and/or convicts.
- Demonstrate interaction or contemporary use of the land by Bowman, his overseer and/or convicts and Aboriginal people.
- Ability to respond to some of the main research themes identified in Criterion (e):
 - a) Agricultural and Water Management
 - b) Colonial Landscapes
 - c) Convict and Free Life in the Upper Hunter Valley
 - d) Life in the various Residential Households.

Where substantial archaeological remains survive of the Bowman era the potential research significance of the archaeological remains at Ravensworth Homestead Complex are likely to be significant at both a State and local level.

CRITERION (F): RARITY

an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);

The Ravensworth Estate contains the fine, architecturally planned group of colonial farm buildings configured symmetrically around a farmyard compound.

As much of what is known of the convict system in Australia is based on government / institutional sites, archaeological remains associated with the lives, accommodation, treatment, working and private lives in a non-institutional setting would be rare and is unlikely to be representative.

Investigation of the existing homestead building will contribute to an understanding of the skills available during its construction. Underfloor deposits within the floor cavity are likely to be present in some rooms, surviving beneath original or later flooring. These deposits, alongside the archaeology identified in the surrounding landscape, realised through the testing program, have the potential to tell us about the occupants of the household, including convicts, and the division and use of space. The construction and function of outbuildings and evidence of use of the courtyard may also tell us about the day-to-day experience of building and living on the estate.

To date, and after significant research, no plans are known of the homestead making the archaeology of the homestead critical to understanding how the estate was laid out and operated. As the construction of the house is attributable to the Bowman era, the choices about position, layout, size and configuration of the original spaces (including the wider landscape) are likely to contribute substantially to our knowledge of how the convict workforce were treated on the Bowman Estate over time and by various overseers.

The known and potential rarity of the archaeological remains within the study area are significant at a **State** and **local** level.

CRITERION (G): REPRESENTATIVENESS

an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places of cultural or natural environments (or the cultural or natural history of the local area).

The Place also contains Aboriginal archaeological sites that are representative of artefact sites located throughout the upper Hunter Valley, both in terms of the types of artefacts recorded and the raw materials from which the artefacts were manufactured.

Ravensthorpe Estate, established in 1824, is representative of the successful implementation of a new and highly significant government policy introduced in 1822 by Governor Brisbane and Commissioner Bigge in the Hunter Region aimed at the economic and agricultural development of the colony through the management of land and convicts by private landowners. This policy resulted in the rapid colonisation of the region in the period 1820s to 1840s and the Ravensthorpe Estate is one of a number of surviving former pastoral estates which together form the foundational layer of the European settlement of the Hunter Region.

The principal characteristics of Ravensthorpe Estate including its associations with important persons in the development of the colony (James Bowman and the Macarthur family), the establishment of the property as a sheep run, the c1832 homestead buildings, garden and associated agricultural features located adjacent to a permanent water course (Yorks Creek and Bowman Creek), and the use of overseers/managers with assigned convicts in the establishment of the estate, are all representative of a significant pattern of colonisation and history of development that occurred throughout the Hunter Valley and other parts of NSW in the 1820s and 1830s.

The Place is a representative example of a large pastoral property subdivided in the early 20th century under the *Closer Settlement (Amendment) Act 1904*, instigated by the government to encourage agricultural development of smaller rural allotments by ex-service personnel and migrants. Evidence of this period of development survives in the current cadastral property boundaries located across the estate lands and in the form of boundary fencing, former farms and dairies and other associated buildings and agricultural features.

The later history of the Ravensthorpe Estate is also representative of the history of changing land uses in the Hunter Valley, when from the mid to late 20th century former pastoral estate lands and smaller farming allotments began to be mined for coal. From this period onwards, the Ravensthorpe Estate entered a new phase of consolidation and development, a pattern of land use that is found in relatively large pockets of land throughout the Upper and Central Hunter Valley today.

The archaeological remains of the Ravensworth Estate are representative of the pattern of British settlement in the Hunter region during the 19th and 20th centuries. The material remains across the Ravensworth Estate are representative of the changing pattern and development of large pastoral properties across NSW throughout the 19th century from the initial creation of colonial estates through to the initial subdivision of the estate lands and the later amalgamation (for use as outstations).

Based on the outcomes of historical research and historical archaeological surveys, the known and potential representativeness of the archaeological remains within the study area are significant at a State and local level.

5.2.1 REVISED STATEMENT OF HERITAGE SIGNIFICANCE FOR ARCHAEOLOGY

The Ravensworth Homestead Complex and surrounds is an important 1820s/ 1830s archaeological landscape containing an 1830s colonial house, stables, barn (all extant) and the potential archaeological remains of an early house site, potential convict barracks, other 19th-century farm buildings, a silo, a brick well, and evidence of gardens, landscape features and agricultural use of the land. The intactness of the site's structures and their landscape settings enhances its role as a site of archaeological and scientific importance. It was established at the frontier of British expansion into the northern Hunter Valley.

The archaeology of the Place is associated with a number of prominent individuals: James Bowman, Mary Bowman (née Macarthur), overseers James White and John Larnach, as well as later owners Captain William Russell. The homestead's research significance relates to its ability to demonstrate people's way of life, including tastes, customs and functions in a rural context through the 19th to early 20th centuries.

From its establishment, the site is a good example of a colonial rural estate built on convict labour. The Place has the potential to provide information, by way of further study and archaeological investigation, into colonial building techniques, 19th-century lifestyles, evidence of technical achievements associated with an evolving pastoral activity, notably early wool production as well as local brickmaking, agricultural and horticultural practices, the lives of convicts in a non-institutional setting, and contact-period with Aboriginal people. All of these are rare.

The material remains across the Ravensworth Estate from the 1820s through to the 20th century is likely to demonstrate, archaeologically, the changing pattern of occupation and development of large pastoral properties across NSW from the initial creation of colonial estates through to the initial subdivision of the estate lands and the later amalgamation (for use as outstations).

Key research themes relate to the nature of lives on a newly-established frontier and contact with Aboriginal people, material culture and lives of significant colonial people, convict lives and the assignment system and how it is implemented within this landscape, use of technology and management of water, changing transportation and economics and how they shaped life on the estate.

Aspects of these archaeological values will be important to community groups, notably evidence of the material culture and rural technology of the residents, the main families, lives of convicts and free persons.

The archaeological landscape, sites and material culture of parts of the Core Estate Lands and Ravensworth Homestead Complex are of State and local significance.

6.0 IMPACT ASSESSMENT

6.1 DESCRIPTION OF PROPOSED WORKS

The Glendell Continued Operations Project (the Project) is an extension of open cut mining operations immediately to the north of the existing Glendell Mine (refer to Figure 6.1). The Project would extend the life of the Glendell Mine to approximately 2044 and allow for the recovery of approximately 135 million tonnes of ROM coal and provide ongoing employment for existing Mount Owen Complex workforce.

The key features of the Project include:

- extension of open cut mining to the north of the existing Glendell Mine until 2044
- extraction of approximately 135 million tonnes of run-off-mine (ROM) coal
- continued integration of the mine with the wider Mount Owen Complex, including the use of the Mount Owen CHPP, rail loop and associated infrastructure for ROM coal processing and product coal transport
- demolition of the existing Glendell Mine Infrastructure Area (MIA) and the construction of a new MIA
- realignment of a section of Hebden Road
- realignment of a section of Yorks Creek
- relocation of Ravensworth Homestead
- other ancillary infrastructure works such as the construction of a heavy vehicle access road
- progressive rehabilitation of the site.

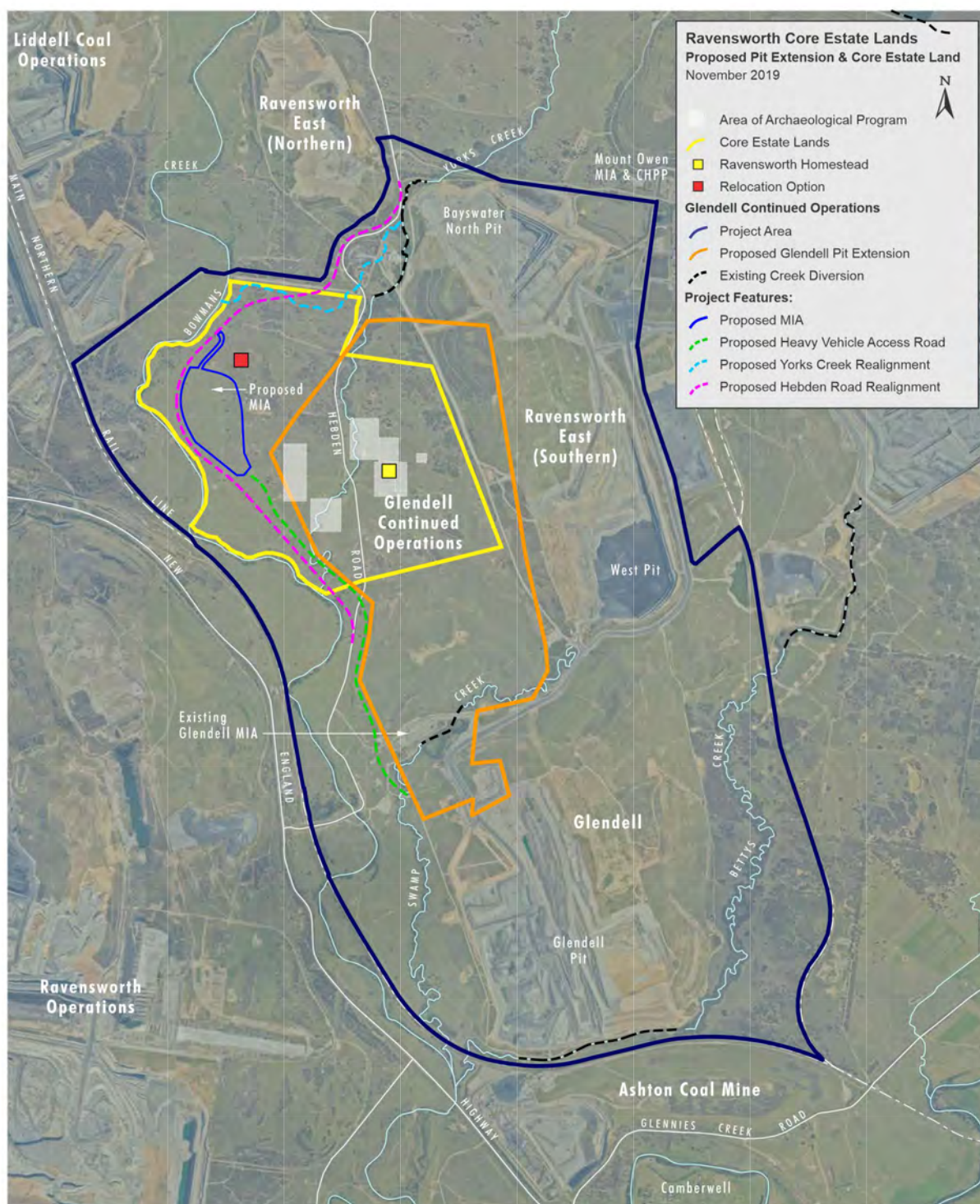


Figure 6.1: The proposed Glendell Pit Extension and other key Project features in relation to the Core Estate Lands. Glencore Image and data adapted by Casey & Lowe 2019.

6.2 IMPACTS OF THE PROPOSED WORKS

The impacts to historical archaeology as a result of the works described above is High. The Project will see the complete removal of the State significant archaeological landscape associated with the Ravensworth Homestead Complex, and any related locally significant archaeology, located inside the Glendell Pit Extension within the Core Estate Lands. The Core Estate Lands (defined further in the Statement of Heritage Impact (SoHI)) refers to the area of land containing the Ravensworth Homestead Complex and immediate surrounds with standing structures and known archaeological sites associated with the Bowman period of occupation (1824-1842), identified on Figure 6.2.

It is noted that the archaeological remains across the Project Area have been variously impacted by 19th and 20th-century agricultural activities (including the demolition of structures and the loss of some underfloor deposits) and are being further truncated by environmental processes (wind, weathering, animals etc), all of which have contributed to the general loss of topsoil (A horizon) across the site and the wider Project Area.

Figure 6.2 identifies the areas for archaeological salvage across the Core Estate Lands and Table 6.1 identifies the impact to the archaeological landscape within the Core Estate Lands. This report only assesses the impact from the Project within the Core Estate Lands. The remainder of the Project Area is assessed in the SoHI.

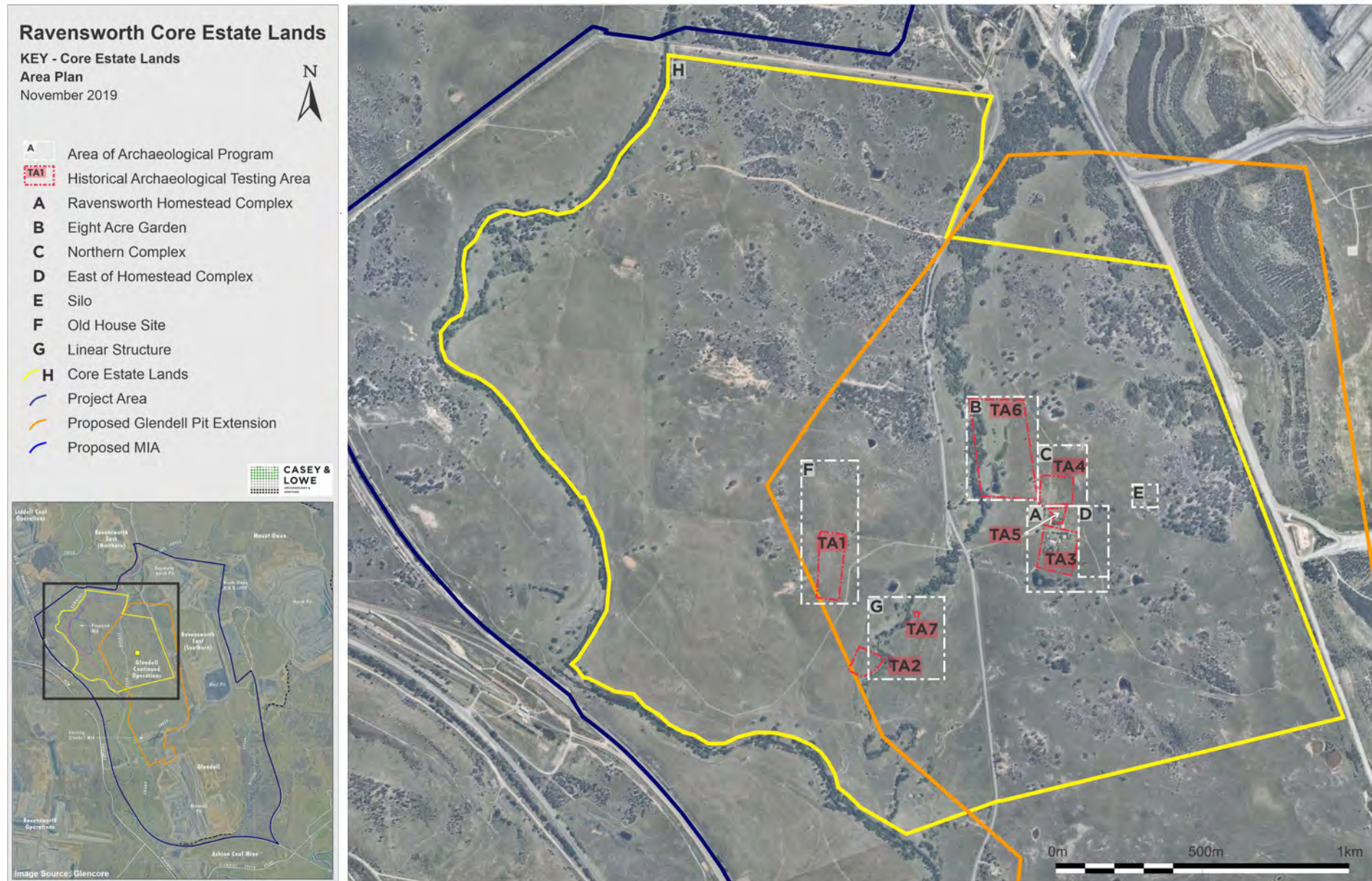


Figure 6.2: The archaeological program across the Core Estate Lands. Showing the Historical Archaeological Testing Areas, Areas A to G (areas for proposed archaeological testing/salvage excavations), Area H subject to an unexpected finds protocol (the Core Estate Lands) and the proposed Glendell Pit Extension. See inset for broader Project Area. Nearmap imagery adapted by Casey & Lowe 2019.

Table 6.1: Impact to Archaeological Landscape within Core Estate Lands.

Archaeological Program Area	Description	Impact	Impact of the Project
A - Ravensworth Homestead Complex	Homestead Complex including main wing, kitchen wing, stables, barn, privy, men's quarters, Miss White's grave and archaeological features.	Glendell Pit Extension	High – all archaeology, State and Local, will be removed as a result of the Project
B - 8 Acre Garden (Landscape Group 4 in the SoHI)	Area of cultivation / garden, including well and other features	Glendell Pit Extension	High – all archaeology, State and Local, will be removed as a result of the Project
C - Northern complex	Field to the north of the homestead complex, area of potential buried remains. Marshall family identified it as a former blacksmith (but not extant during their time).	Glendell Pit Extension	High – all archaeology, State and Local, will be removed as a result of the Project
D - Area to east of Homestead Complex and surrounds:	Potential convict barracks / farm building	Glendell Pit Extension	High – all archaeology, State and Local, will be removed as a result of the Project
E - Silo	Silo, located to northeast of the homestead complex.	Glendell Pit Extension	High – all archaeology, State and Local, will be removed as a result of the Project
F - Old house site	Potential old house site, top of hill and smaller terraced area. Evidence for cottage, huts, wells etc.	Glendell Pit Extension	High – all archaeology, State and Local, will be removed as a result of the Project

Archaeological Program Area	Description	Impact	Impact of the Project
G - Linear Structure (previously potential burial) (Landscape Group 2 in the SoHI)	Area adjacent to creek, linear stone feature.	Glendell Pit Extension	High – all archaeology, State and Local, will be removed as a result of the Project
H - Other Areas	Areas within Core Estate Lands but outside of the Glendell Pit Extension	Wider Project impacts including impacts due to the construction of infrastructure works, water management structures, etc	Low to High – archaeology, State and Local, may be removed as a result of the Project

6.3 MITIGATION MEASURES

The archaeology of the Core Estate Lands is associated with a number of prominent individuals: James Bowman, Mary Bowman (née Macarthur), and overseers James White and John Larnach along with convict assignment, as well as later owners Captain William Russell and the Marshall family. From its establishment, the property is a good example of an intact colonial rural estate built on convict labour, enhancing its role as a site of archaeological and scientific importance. The wider site is likely to provide evidence of technical achievements associated with an evolving pastoral activity, notably early wool production.

The homestead complex, and wider place, is likely to provide unique insights into:

- A newly-established frontier and contact/ interaction with Aboriginal people.
- Rural lifeways, including tastes and customs through the 19th to early 20th centuries.
- Material culture and lives of significant colonial people.
- Convict lives and the assignment system and how it was implemented within this landscape.
- Use of technology and management of water, changing transportation and economics and how they shaped life on the estate.

Aspects of these archaeological/ historical values will be important to the local and wider community groups, notably evidence of the material culture and rural technology of the residents, the main families, lives of convicts and free persons.

The known archaeological resource and its convict-period archaeology has State significant heritage value. The later periods are of local significance. The proposed Project impacts, which will see the removal of all the archaeological deposits, needs to be appropriately mitigated if the Project is approved.

Substantial outcomes, to mitigate the significant impacts of the Project, should include:

- Detailed open area excavation of the identified archaeological resources according to best practice guidelines including excavation reporting and artefact analysis.
- Provision of a repository for the artefacts from the study area. Artefacts belong to the owner of the site and need to be stored in perpetuity.
- Development of a long-term strategy for interpretation/display of artefacts from the Project in the relocated homestead.
- Publishing the results of the archaeological program to ensure public dissemination of the results.
- Consideration of partnering with universities to train/ work with students in best practice heritage and archaeological techniques including legislation, excavation, survey, GIS, artefact analysis and reporting of archaeological results, and the interpretation and display of material and results.

6.3.1 ARCHAEOLOGICAL PROGRAM OUTLINE

Specific archaeological mitigation measures that apply to the Archaeological Program Areas A to H are outlined in Table 6.2 and described in more detail, as part of the archaeological methodology and archaeological research design in Section 7.0. The archaeological mitigation measures need to occur prior to any ground disturbance for the Project, including the relocation of the homestead complex buildings.

There may be instances where early works are proposed to occur, post-approval, within the Archaeological Program Areas, prior to the specific archaeological mitigation measures. These works are to be undertaken in accordance with the early works protocol outlined in the Heritage Management Plan (HMP).

6.3.1.1 EARLY WORKS PROTOCOL

The timeframes anticipated between SSD consent (should it be granted) and full mining disturbance may be in the order of five years in some of the Archaeological Program Areas. Early works may include geotechnical and geological investigations and drilling activities required for ongoing refinement of the mine plan, pollution control works required under the SSD consent or the establishment of infrastructure.

The early works protocol needs to establish an archaeological assessment process to manage any proposed impacts to ensure that significant archaeological values are not impacted/ lost by a fragmented approach to archaeological salvage. This may include undertaking the complete archaeological program (salvage) in an area, where impacts are determined to impact on overall integrity and ability to interpret through open area excavation.

6.3.2 HERITAGE MANAGEMENT PLAN

Should the Project be approved as SSD it is proposed that a HMP be developed in consultation with relevant agencies and to the satisfaction of the Secretary (DPIE). The HMP will provide further details on the mitigation measures to be implemented for the further investigation of potential archaeological resources in the Archaeological Program Areas A to H identified in Section 6.2.

The HMP will include details of the archaeological mitigation measures proposed in Table 6.2, and outlined in Section 7.0, in addition to the following:

- the monitoring program.
- the unexpected finds protocol.
- an early works protocol.

The HMP will include processes for defining the commencement and completion of the Archaeological Program components outlined above and in Table 6.2,

Table 6.2: Archaeological impact and specific mitigation measures.

Archaeological Program Area	Impact of the Project	Specific Mitigation Measure
A - Ravensworth Homestead Complex	High – all archaeology, State and Local, will be removed as a result of the Project.	<p>Prior to any ground disturbance –</p> <p>a. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling - machine and hand excavation.</p> <p>b. The remainder of Area A not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>
B - 8 Acre Garden (Landscape Group 4)	High – all archaeology, State and Local, will be removed as a result of the Project.	<p>Prior to any ground disturbance –</p> <p>a. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling - machine and hand excavation.</p> <p>b. The remainder of Area B not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>
C - Northern complex	High – all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance –</p> <p>a. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling - machine and hand excavation.</p> <p>b. The remainder of Area C not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>
D - Area to East of Homestead Complex and surrounds	High – all archaeology, State and Local, will be removed as a result of the Project.	<p>Prior to any ground disturbance –</p> <p>a. Targeted archaeological testing - machine and hand excavation.</p>

Archaeological Program Area	Impact of the Project	Specific Mitigation Measure
		<p>b. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling - machine and hand excavation.</p> <p>c. The remainder of Area D not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>
E - Silo	High – all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance –</p> <p>a. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling - machine and hand excavation.</p> <p>b. The remainder of Area E not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>
F - Old House site	High – all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance –</p> <p>a. Further targeted archaeological testing - machine and hand excavation.</p> <p>b. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling - machine and hand excavation - machine and hand excavation.</p> <p>c. The requirement for monitoring within and outside the remainder of Area F, not subjected to targeted archaeological investigation, is to be determined, by the archaeologist, upon completion of the archaeological program.</p>
G - Linear Structure (Landscape Group 2 in SoHI)	High – all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance –</p> <p>a. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling - machine and hand excavation.</p>

Archaeological Program Area	Impact of the Project	Specific Mitigation Measure
		b. The remainder of Area G not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.
H - Other Areas	Low to High –archaeology, State and Local, may be removed as a result of the Project	Unexpected finds protocol applies.

7.0 ARCHAEOLOGICAL METHODOLOGY & RESEARCH DESIGN

7.1 EXCAVATION

7.1.1 AIMS

The aim of the archaeological program will be to record the archaeological evidence, to develop our understanding of the convict assignment system, to enhance our understanding of the Bowman-period occupation, and augment the historical record and contribution to an understanding of the history and settlement of the local region (across all occupation phases) prior to any impacts from the Project.

The archaeological program will be further detailed in the HMP and will investigate all significant phases of the site's occupation. This allows for a comprehensive analysis of all key phases of the occupation of this important and rare archaeological site. By looking at all phases it allows for analysis and spatial understanding of how the occupation and uses of the site changed over time.

The eastern portion of the Core Estate Lands, within the Glendell Pit Extension will be subject to open cut mining (see Figure 6.1) that will involve open cut excavation below archaeological levels, removing all traces of archaeological remains (Figure 7.1). The focus of the archaeological excavations across Core Estate Lands will be in Archaeological Program Areas A, B, C, D, E, F, and G (Figure 7.1). Within these areas the archaeological program will target already known deposits and locations where deposits are thought to occur. Area H covers the remainder of Core Estate Lands where additional archaeological investigation may be required as part of the Project and will be subject to an unexpected finds protocol. Where archaeological material is uncovered in Area H, and archaeological excavation/ monitoring is required, then they would be undertaken using the methodology outlined below.

Across the Core Estate Lands archaeological work will involve a mix of the following archaeological strategies:

ARCHAEOLOGICAL TESTING to determine if archaeology survives.

If testing uncovers archaeological remains then shift to a mixture of sampling/salvage depending upon the nature of the archaeology in an area.

OPEN AREA STRATIGRAPHIC EXCAVATION - ARCHAEOLOGICAL SALVAGE

This will focus on the remains of buildings, structures, agricultural infrastructure and fills, houses/ huts, yard areas and grounds, cesspits, underfloor deposits, rubbish dumps and the like. Open area excavation is the standard approach to archaeological salvage of detailed and limited deposits and structures.

OPEN AREA STRATIGRAPHIC EXCAVATION - ARCHAEOLOGICAL SAMPLING

Some areas of the site may include repetitive archaeological deposits/ features (such as agricultural features or plough zone). The excavation of these areas will include sampling of deposits through use of larger trenches. This would allow for the recording of repetitive deposits in sample areas and to understand the processes used to transform the site.

ARCHAEOLOGICAL MONITORING

Monitoring may be a recommendation once the open area excavations are completed. It will typically mean there is expected to be limited potential for further significant archaeology but nevertheless some is still possible. The requirement for monitoring will be

determined upon completion of the targeted archaeological program within each Archaeological Program Area in accordance with the monitoring protocol in the HMP.

See Sections 7.1.2, 7.1.3, and 7.1.4 for the more detailed archaeological methodologies.

7.1.2 EXCAVATION METHODOLOGY

7.1.2.1 OPEN AREA STRATIGRAPHIC EXCAVATION

The areas of the site containing potential archaeological remains should be subject to detailed archaeological recording. The basic principles of open area stratigraphic excavation to be employed across site are:

- Use of excavation machinery to open up areas and to undertake testing to confirm survival of archaeology.
- Where remains are found, undertake open area stratigraphic excavation and recording. This involves a judicious mixture of machine and manual excavation to uncover the significant archaeology of the site.
- Use of context recording forms and context numbers to record all archaeological information.
- Use of Harris matrix as part of the recording program.
- Underfloor deposits will be recorded within a 1m grid, 5cm spits and 100 per cent sieved.
- Wells and cesspits will be excavated in 20cm spits or tip lines (if identifiable), with changes of context numbers where relevant. These deposits will be sieved.
- All structural remains, post holes, and features will be planned at a scale of 1:50.
- Detailed digital survey and mapping of the area, data suitable to be incorporated into GIS.
- Detailed photography and photogrammetry.
- Generally, all artefacts will be collected except from unstratified fills. However, given the limited development across the site some diagnostic/ significant material may be retained from unstratified fills. Samples of bricks and mortar will be collected from structures.
- Taking of soil, pollen and timber samples, and other relevant materials, for scientific analysis.
- Collection, labelling, safe storage, washing, sorting, labelling, bagging and boxing of artefacts.

7.1.2.2 SIEVING STRATEGY

Evidence of past activities is provided by artefacts recovered during archaeological excavation, in particular from occupation deposits. Occupation deposits, with potential to allow for conclusions to be drawn as to standards of living and access to goods, occur beneath floors, within cesspits, rubbish pits, wells or cisterns, and yard deposits. Occupation deposits would be wet or dry sieved, in accordance with the density of the soil matrix and is the most likely way to improve retrieval of significant artefacts.

Where relevant, sample sieving of deposits will be done to determine whether a deposit warrants sieving and if so, this would be wet or dry sieving.

Each room of each building (house or hut) under investigation that is found to contain an underfloor deposit will be gridded into 1m squares. The deposit within each square will be excavated and sieved to ensure that all evidence of material culture is retrieved for analysis. The purpose of this process is to spatially map areas of activity as demonstrated in the material assemblage. Often the artefacts from these deposits are too small to be found other than by wet sieving. Similarly, dense deposits from other structures or features such

as cesspits and wells or cisterns will also be sieved, if this is deemed to be the best strategy for retrieving all significant artefacts. Some deposits will involve sample sieving to determine if they require full scale sieving.

7.1.3 ARCHAEOLOGICAL SURVEY

- Link new work to previous archaeological survey grid for site.
- Use of digital surveying techniques for locating main structures and producing large scale plans. All Excavation Areas will be surveyed to provide detailed plans of the location of open area/ trenches and remains.
- A surveyor will take RLs on the archaeological remains within the excavation areas. These will be tied into the architectural survey of the buildings on the Ravensworth Homestead site and previous test excavations.
- Substantial or significant surviving remains will have detailed archaeological scale plans and sections drawn.
- Detailed archaeological scale plans (1:50) for main areas.
- All data will be included in GIS mapping to ensure a consistent and coherent approach to the recording and interpretation of the landscape information and the detailed archaeological information.

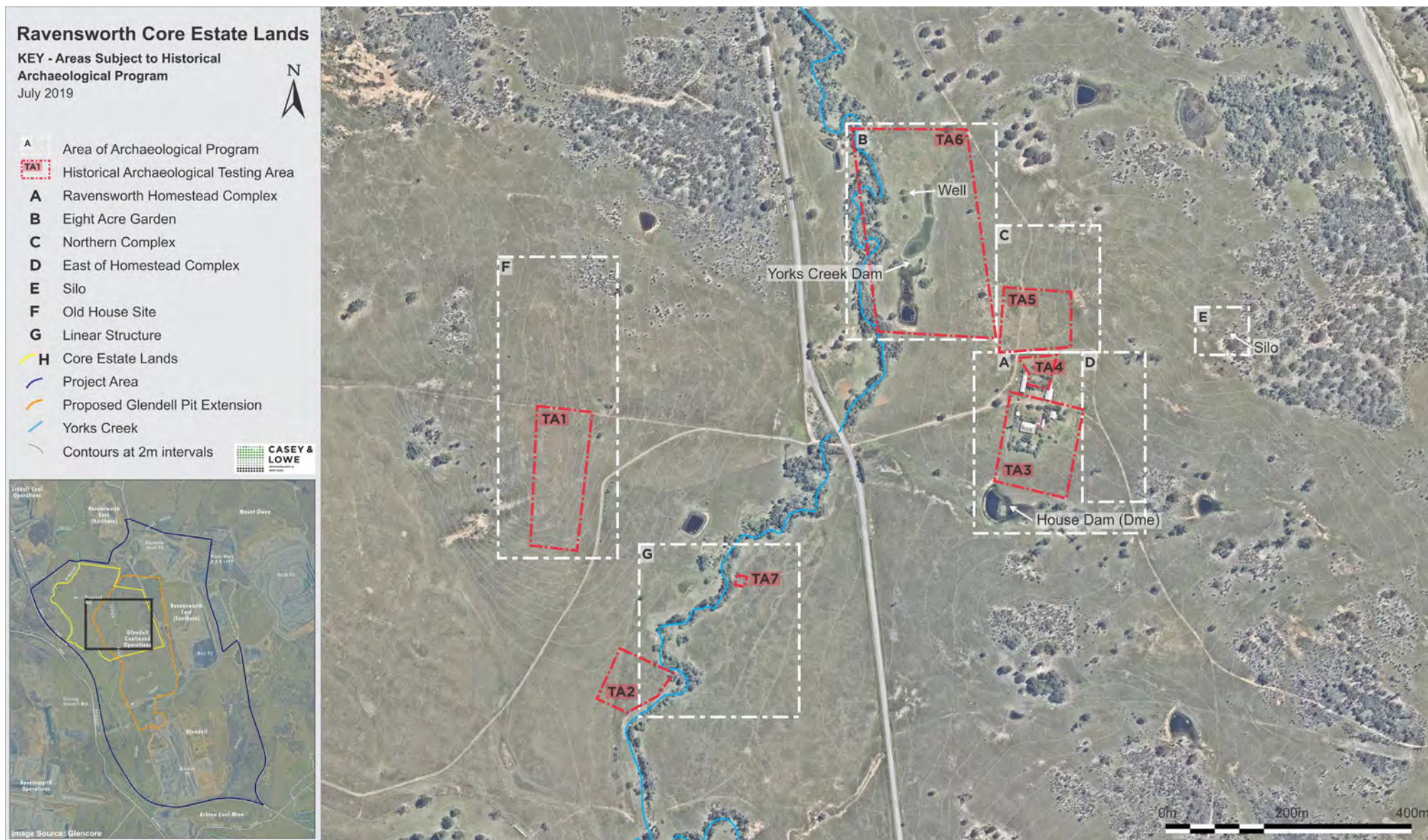


Figure 7.1: Areas for archaeological salvage excavation in relation to the testing areas, see inset for broader Project Area, proposed Glendell Pit Extension and Core Estate Lands. Nearmap imagery, adapted by Casey & Lowe 2019.

7.1.4 EXCAVATION LOCATIONS

The focus of the excavation program will be on intact remains found to survive within the impact area, Areas A through to G (Figure 7.1). There is limited archaeological potential across the rest of Core Estate Lands (Area H), as such, an unexpected finds procedure will be in place across these areas.

As our understanding of the location of buildings beyond the homestead complex is restricted to the areas tested, it is possible that remains may be found in other locations. It is proposed to investigate across Areas A to G to determine if other structures, particularly convict huts, deposits or artefacts are present, this includes Area D to the east of the homestead complex (not previously investigated).

The archaeological program needs to occur prior to any ground disturbance within the Archaeological Program Areas, including the relocation/ dismantling of the main wing, kitchen wing, stables, barn, privy or other extant buildings. In instances where it is necessary to undertake activities that disturb the Archaeological Program Areas prior to the archaeological program then the procedure outlined in Section 6.3.1.1 (and to be further described in the HMP) is to be followed.

It is possible that archaeological evidence, if identified in the archaeological program, will extend outside of the Areas (A to G). In these instances, the areas will be extended to include salvage of any other significant remains. Investigation would cease when the archaeological program within an area has recorded and salvaged all local and state significant archaeology.

7.1.4.1 AREA A: RAVENSWORTH HOMESTEAD COMPLEX

Area A covers the Homestead Complex including main wing, kitchen wing, stables, barn, an array of garden features (walls, flower beds, etc.), a privy, garden trees, a late sandstone turning circle, the sandstone feature known as Miss White's grave and archaeological features such as the potential convict barracks. Area A extends to the south to encompass artefact dumps around house dam and the creek line. Area A encompasses archaeological Test Areas 3 and 4.

In this area the archaeological program (Figure 7.2) includes:

- Excavation of the underfloor deposits within the main wing, kitchen wing and extensions, and the privy.
- Exhumation of the grave of Miss White, specific guidance is provided for the excavation of burials/ exhumation of human remains in Section 7.3.
- Excavation of the stone building footings uncovered in TA4 (the potential convict barracks) and investigate the relationship of this building to the extant stables and barn.
- Excavation in the area of TA3/TT6a & b to investigate and determine the relationship between the features uncovered during testing, particularly whether later impacts (sump and toilets) removed evidence of a west wing. Investigate for the form and nature of the west wing.
- Excavation in the area of, and extend, TA3/TT8 to understand the relationship between the pathway, the main wing, garden and any carriage turning circle.
- Investigation to determine presence/ location of cistern (in the north garden and/ or the area south of the kitchen wing and east of the main wing).
- Investigation across the yard space (area between the main wing, stable, barn and potential convict barracks) and outside to the east (including area of the beehive well) for evidence of activities that may have occurred within this area.

- Investigation for artefact dumps to the west of the house dam (Dme),⁷⁹ the eastern edge of the creek line, and the dump associated with the 20th-century renovations (northern edge of the creek line).
- Additional investigation of the area as determined and agreed during the archaeological program.

Investigations will generally start with a machine but will revert to hand excavation when artefacts and/or deposits are uncovered.

It is noted that there is an Aboriginal site (Glendell North OS13) that falls within the south western edge of Area A.⁸⁰ The presence of both historical archaeology (relics) and Aboriginal objects/ sites will need to be managed across both the Aboriginal and Historical archaeological programs.

Once the excavation program is complete, the remainder of Area A not subjected to the archaeological program described above will be managed under the unexpected finds protocol as detailed in the approved Heritage Management Plan if deemed appropriate.

⁷⁹ See SoHI for details on naming.

⁸⁰ OzArk 2019 *Aboriginal Archaeology Impact Assessment, Glendell Continued Operations Project, Glendell Coal Mine, Ravensworth, NSW, July 2019*. Report to Umwelt Environmental & Social Consultants on behalf of Glendell Tenements Pty Ltd. pp. 113 ff.



Figure 7.2: Key areas of investigation proposed for the archaeological program in Area A. Also showing the location of Aboriginal site - Glendell North OS13.

7.1.4.2 AREA B: 8 ACRE GARDEN (LANDSCAPE GROUP 4 IN SOHI)

Area B is located along the east bank of Yorks Creek, to the northwest of Area A, and includes areas of cultivation and garden, three linear-shaped dams, a brick-lined well with sandstone surround, a structure with herringbone brick paving and other features.⁸¹ Area B incorporates archaeological Test Area 6.

In this area the archaeological program (Figure 7.3) includes:

- Excavation of the stone channel/ water storage reservoir uncovered in TA6/TT5 and investigate the relationship to the creek line and garden.
- Excavation of the structure and herringbone paving identified in the testing program (TA6/TT7 to 9) and investigation of the surrounding area for other features/ structures (including dumps and privies).
- Investigation across the area to determine if other structures, particularly convict huts, deposits or artefacts are present.
- Investigation across the cultivation areas, area east of Yorks Creek and north and west of the chain of dams.
- Excavation and investigation in and around the well and sandstone surround.
- Investigation/ excavation of the log and stone wall dam (Dam D4 in SoHI).
- Additional investigation of the area as determined and agreed during the archaeological program.

Investigations will generally start with a machine but will revert to hand excavation when artefacts and/or deposits are uncovered.

There are Aboriginal sites (Yorks Creek 10 (37-3-0753), Yorks Creek 11 (37-3-0754)) and Glendell North OS37 (37-3-1562) within Area B (see Figure 3.32 above and Figure 7.3) and as such the presence of both historical archaeology (relics) and Aboriginal objects/ sites will need to be managed across both the Aboriginal and Historical archaeological programs.

Once the excavation program is complete, the remainder of Area B not subjected to the archaeological program described above will be managed under the unexpected finds protocol as detailed in the approved Heritage Management Plan if deemed appropriate.

⁸¹ OzArk 2019 Aboriginal Archaeology Impact Assessment, Glendell Continued Operations Project, Glendell Coal Mine, Ravensworth, NSW, July 2019. Report to Umwelt Environmental & Social Consultants on behalf of Glendell Tenements Pty Ltd. p. 223.

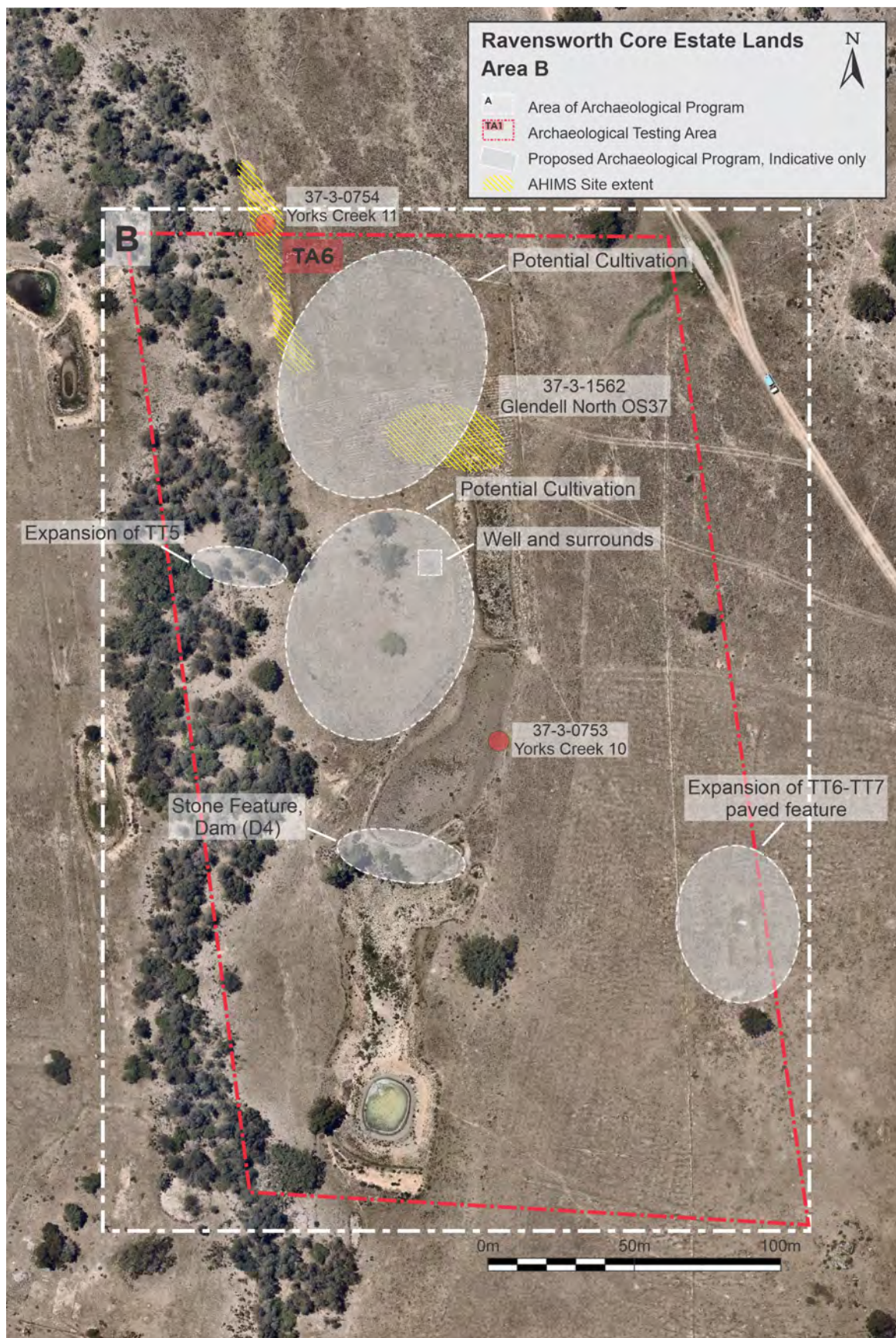


Figure 7.3: Key areas of investigation proposed for the archaeological program in Area B. Also showing the location of Aboriginal sites - Yorks Creek 10 (37-3-0753), Yorks Creek 11 (37-3-0754) and Glendell North OS37 (37-3-1562).

7.1.4.3 AREA C: NORTHERN COMPLEX

Area C encompasses the field to the north of the homestead complex and the archaeological remains of a number of structures/ features. Area C includes archaeological Test Area 5.

In this area the archaeological program (Figure 7.4) includes:

- Excavation of the two structures identified in the testing program (TA5/TT3 and TA5/TT2) and investigation of the surrounding area for other features/ structures (including dumps and privies).
- Investigation across the area to determine if other structures, particularly convict huts, deposits or artefacts are present.
- Additional investigation of the area as determined and agreed during the archaeological program.

Investigations will generally start with a machine but will revert to hand excavation when artefacts and/or deposits are uncovered.

An Aboriginal site, Glendell North OS11, is located within Area C (see Figure 7.4) and as such the presence of both historical archaeology (relics) and Aboriginal objects/ sites will need to be managed across both the Aboriginal and Historical archaeological programs.

Once the excavation program is complete, the remainder of Area C not subjected to the archaeological program described above will be managed under the unexpected finds protocol as detailed in the approved Heritage Management Plan if deemed appropriate.

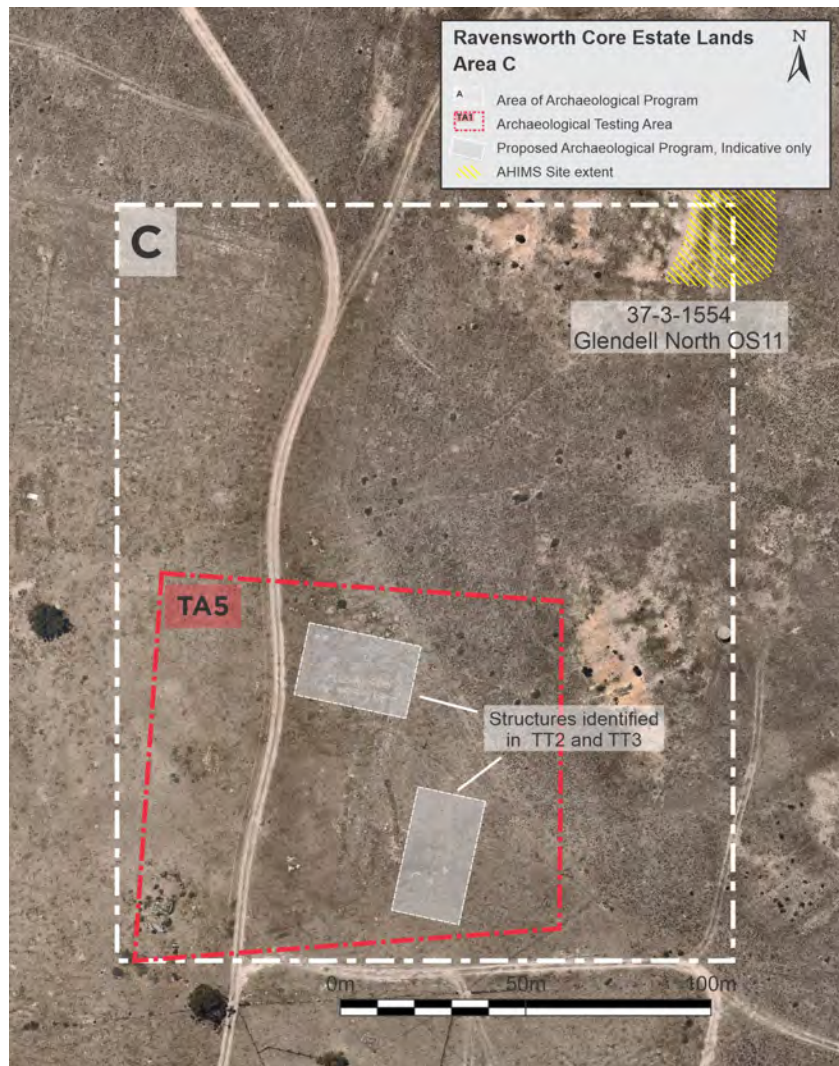


Figure 7.4: Key areas of investigation proposed for the archaeological program in Area C. Also showing the location of Aboriginal site - Glendell North OS11.

7.1.4.4 AREA D: AREA TO EAST OF HOMESTEAD COMPLEX AND SURROUNDS

Area D is the land east of the homestead complex and to the west of the silo. Area D includes the eastern portion of Test Area 3 (Figure 7.1).

In Area D the archaeological program includes:

- Investigation across the area to determine if other structures, particularly convict huts, deposits or artefacts are present.
- Additional investigation of the area as determined and agreed during the archaeological program.

Investigations will generally start with a machine but will revert to hand excavation when artefacts and/or deposits are uncovered.

Once the excavation program is complete, the remainder of Area D not subjected to the archaeological program described above will be managed under the unexpected finds protocol as detailed in the approved Heritage Management Plan if deemed appropriate.

7.1.4.5 AREA E: SILO

Area E contains the silo located on a rise to northeast of the homestead complex (Figure 7.1). In this area the archaeological program includes (Figure 7.1):

- Investigation of the underground silo and surrounds.
- Additional investigation of the area as determined and agreed during the archaeological program.

Investigations will generally start with a machine but will revert to hand excavation when artefacts and/or deposits are uncovered.

7.1.4.6 AREA F: OLD HOUSE SITE

Area F, the potential old house site, is situated approximately 300m west of Yorks Creek, on the opposite side of Hebden Road to the homestead complex (Figure 7.1). Area F includes archaeological Test Area 1. Testing in this area was based upon the natural topography and the presence of a building marked 'house' shown on historic plans⁸². During fieldwork, in hard ground with dry conditions, no evidence of the old house site or related occupation deposits was found.

As the location of the old house site is uncertain in this area a further program of targeted investigation (testing) is proposed within Area F to locate remains. If archaeological evidence is found during this targeted investigation the archaeological salvage excavation would be undertaken using a combination of machine and hand excavation. If archaeological evidence is not located then the requirement for monitoring within the remaining area of Area F would be considered following the completion of the archaeological program.

Investigations will generally start with a machine but will revert to hand excavation when artefacts and/or deposits are uncovered.

Two Aboriginal isolated finds (IF 27 and IF28) are located within Area F (see Figure 3.3 above) and the presence of both historical archaeology (relics) and Aboriginal objects/sites will need to be managed across both the Aboriginal and Historical archaeological programs.

Once the excavation program is complete, the remainder of Area F not subjected to the archaeological program described above will be managed under the unexpected finds protocol as detailed in the approved Heritage Management Plan if deemed appropriate.

7.1.4.7 AREA G: LINEAR STRUCTURE (LANDSCAPE GROUP 2 IN SOHI)

Area G is located to the west of Hebden Road and covers land either side of Yorks Creek, it contains ploughed fields and early vegetation. Area G covers a portion of archaeological Test Area 2 and all of Test Area 7.

In this area the archaeological program (Figure 7.5) includes:

- Excavation of the two potential structures identified in the testing program (TA7/ TT1 to TT3) and investigation of the surrounding area for other features/ structures (including dumps and privies).
- Investigation across the area to determine if other structures, particularly convict huts, are present.

⁸² Casey & Lowe 2018, p. 114-115.

- Additional investigation of the area as determined and agreed during the archaeological program.

Investigations will generally start with a machine but will revert to hand excavation when artefacts and/or deposits are uncovered.

An Aboriginal site and an isolated find (Glendell North OS38 (37-3-1565) and Glendell North IF29 (37-3-1575)) are located within Area G, and Yorks Creek 5 (37-3-0748) is in the vicinity (see Figure 7.5). The presence of both historical archaeology (relics) and Aboriginal objects/ sites will need to be managed across both the Aboriginal and Historical archaeological programs.

Once the excavation program is complete, the remainder of Area G not subjected to the archaeological program described above will be managed under the unexpected finds protocol as detailed in the approved Heritage Management Plan if deemed appropriate.

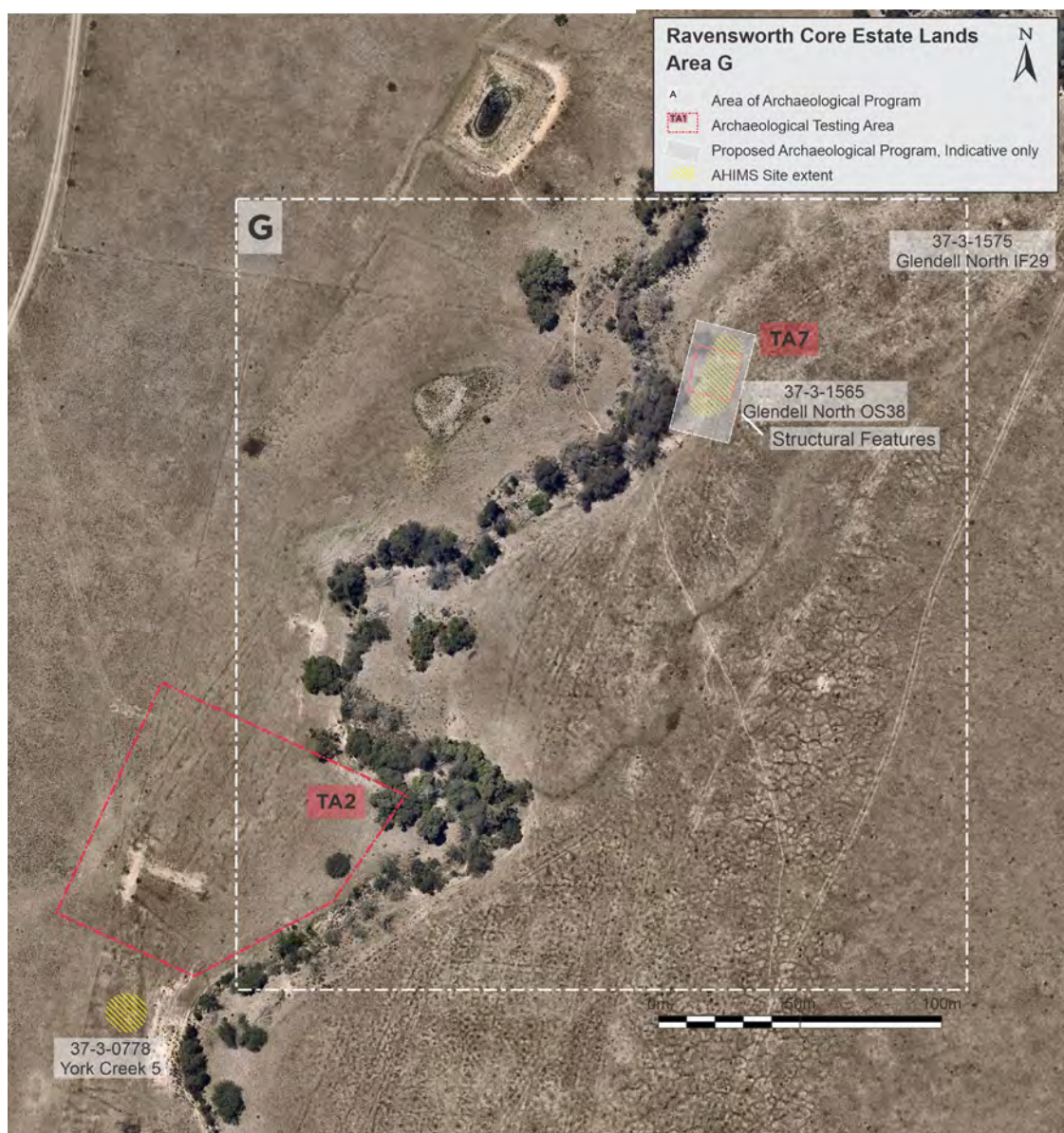


Figure 7.5: Key areas of investigation proposed for the archaeological program in Area G. Also showing the location of Aboriginal site - Glendell North OS38 and IF29.

7.1.4.8 AREA H: OTHER AREAS

Area H is the area identified as the Core Estate Land but outside of Area's A to G above (Figure 7.1).

Area H will be managed under the unexpected finds protocol as detailed in the approved Heritage Management Plan.

Table 7.1: Mitigation measure and excavation methodology by area.

Archaeological Program Area	Impact of the Project	Specific Mitigation Measure	Excavation Methodology
A - Ravensworth Homestead Complex	High – all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance –</p> <p>a. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling – machine and hand excavation.</p> <p>b. The remainder of Area A not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>	<p>Combination of small machine and hand excavation: Some areas will begin with small machine excavation but revert to hand excavation if artefacts and/or deposits are uncovered. Other areas will utilise hand excavation from the start. Some sieving is likely to be required.</p> <p>The underfloor deposits in the existing buildings will be hand excavated and sieved.</p> <p>Separate methodology applies to Miss White's grave (and any other burials across the Project Area).</p>
B - 8 Acre Garden (Landscape Group 4)	High – all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance –</p> <p>a. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling – machine and hand excavation.</p> <p>b. The remainder of Area B not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>	<p>Combination of machine and hand excavation: will begin with machine excavation but revert to hand excavation where archaeological deposits are encountered. Some sieving is likely to be required.</p>
C - Northern complex	High – all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance –</p> <p>a. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling – machine and hand excavation.</p>	<p>Combination of machine and hand excavation: will begin with machine excavation but revert to hand excavation where archaeological deposits are encountered. Some sieving is likely to be required.</p>

Archaeological Program Area	Impact of the Project	Specific Mitigation Measure	Excavation Methodology
		b. The remainder of Area C not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.	
D - Area to East of Homestead Complex and surrounds	High - all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance -</p> <p>a. Targeted archaeological testing - machine and hand excavation.</p> <p>b. Targeted open area stratigraphic excavation - archaeological salvage and archaeological sampling - machine and hand excavation.</p> <p>c. The remainder of Area D not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>	Combination of machine and hand excavation: will begin with machine excavation but revert to hand excavation where archaeological deposits are encountered. Some sieving may be required.
E - Silo	High - all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance -</p> <p>a. Targeted open area stratigraphic excavation - archaeological salvage and archaeological sampling - machine and hand excavation.</p> <p>b. The remainder of Area E not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>	Combination of machine and hand excavation: Will begin with machine excavation but will include hand excavation if artefacts and/or deposits are uncovered and it is safe to do so.
F - Old House site	High - all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance -</p> <p>a. Further targeted archaeological testing - machine and hand excavation.</p>	Combination of machine and hand excavation: will begin with machine excavation but revert to hand excavation if artefacts and/or deposits are uncovered.

Archaeological Program Area	Impact of the Project	Specific Mitigation Measure	Excavation Methodology
		<p>b. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling – machine and hand excavation – machine and hand excavation.</p> <p>c. The requirement for monitoring within and outside the remainder of Area F, not subjected to targeted archaeological investigation, is to be determined, by the archaeologist, upon completion of the archaeological program.</p>	
G - Linear Structure (Landscape Group 2 in SoHI)	High – all archaeology, State and Local, will be removed as a result of the Project	<p>Prior to any ground disturbance –</p> <p>a. Targeted open area stratigraphic excavation – archaeological salvage and archaeological sampling – machine and hand excavation.</p> <p>b. The remainder of Area G not subjected to targeted open area stratigraphic excavation would be managed through the unexpected finds protocol if deemed appropriate, by the archaeologist, at the end of the investigation.</p>	Combination of machine and hand excavation: will begin with machine excavation but revert to hand excavation when artefacts and/or deposits are uncovered. Some sieving may be required.
H - Other Areas	Low to High – all archaeology, State and Local, will be removed as a result of the Project	Unexpected finds protocol applies.	

7.2 MONITORING

Archaeological monitoring is a methodology used outside of open area excavation where there is a low expectation that archaeological remains might be present. Monitoring would be appropriate where there is still some possibility that isolated features such as structures, features or deposits of significance would survive as this is the most feasible way to record them. Monitoring involves an archaeologist or archaeologists being present during disturbance of the upper layers (those which have potential to contain remains) of the site. If substantive remains are found then the ground disturbance work will need to stop in that area so that the archaeologists can determine what has been found. Some use of machinery may be required to assist in this process. If significant archaeological remains are found then it would be necessary to evaluate the need for a combination of testing and open area excavation. Further monitoring may be a recommendation once the subsequent open area excavations are complete, and ground disturbance has recommenced.

Currently monitoring is only anticipated in the event that evidence of the old house site is not uncovered through the targeted Archaeological Program in Area F. The requirement for monitoring would be determined upon completion of the archaeological program within Area F.

Areas which have been monitored should be surveyed. The results of the monitoring should form part of the final excavation report if timing permits and be reported in the manner described on Section 7.4 below.

7.3 BURIALS - POLICY FOR THE MANAGEMENT OF HUMAN REMAINS

It is essential to determine whether the remains are human, and of Aboriginal or European origin. This needs to be determined sensitively, and by an appropriately qualified physical anthropologist, in consultation with the Registered Aboriginal Parties for the Project.

Should human remains be identified as Aboriginal ancestral remains, ongoing investigation and management of the remains must be undertaken in accordance with the “Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW”, DECCW 2010, (Section 3.6 Burials or Human Remains), in consultation with the Registered Aboriginal Parties for the Project.

The policy below applies to any historic burials (non-Aboriginal remains) found across the Project Area.

Work should be undertaken generally in accordance with the *Guidelines for the Management of Human Skeletal Remains* (Heritage Division 1998), noting that if the Project is approved, a permit under the Heritage Act is not required.

The *Public Health Regulation 2012* regulates the exhumation of bodies in NSW (see Section 2.4 above). Glencore would be required to apply to the Director General of NSW Department of Health for approval to exhume human remains as per Clause 70 of the Public Health Regulations.

An Exhumation Management Plan should be prepared and include documentation covering the following:

7.3.1 PERSONNEL

Appropriately qualified personnel to be involved include:

- Historical archaeologist as excavation director, who meets the Heritage Council's Excavation Director criteria and has previous experience in the excavation of human remains.
- Physical anthropologist in charge of the management of the human remains.

7.3.2 OCCUPATIONAL HEALTH AND SAFETY

A series of occupational health and safety protocols should be established prior to the commencement of the archaeological program. This will need to address a range of issues associated with the handling of human remains

The *Work Health and Safety Act 2011* (WH&S Act) and Safework Australia's *Code of Practice for Excavation* provisions apply to protect personnel involved in exhumation procedures by creating and maintaining safe and healthy work practices. Graves, crypts and vaults could be considered to be confined spaces in some circumstances under health and safety legislation. The WH&S Act makes reference to working in confined spaces.

7.3.3 RECORDING

The archaeological program needs to be in accordance with best practices standards.

7.3.4 ACCESS ISSUES

Access to excavated material would be confined to members of the Project team.

7.3.5 ON SITE SECURITY DURING EXCAVATION

During the excavation program, appropriate site security is to be provided. All excavated material will be securely stored when the archaeologists are off site.

7.3.6 BEHAVIOUR ON SITE AND ACCESS TO HUMAN REMAINS

The Project team and any contractors will be briefed on the sensitive nature of the site and the appropriate protocols.

7.3.7 PUBLICITY

Publicity and photography will be subject to the existing site photography policy⁸³ and needs to respect the presence of human remains. Any on-site media briefings would need to be structured to ensure sensitive presentation of human remains.

7.3.8 REINTERMENT AND COMMEMORATION

Prior to exhumation of the remains the Proponent must provide a plan for the reinterment and commemoration of the remains in consultation with the Heritage Council of NSW and the archaeologists, and extended family (where they can be identified).

7.3.9 STORAGE PRIOR TO REINTERMENT

Individual remains, where identifiable, will be boxed separately and stored in a secure lockable space. These remains will be taken off-site once exhumed. In the case of Miss White's grave (subject to determination of the deceased person's likely identity)) the name of the person may be known but it is possible that the identity of other burials, if discovered, may never be known. It is unlikely technology can provide a greater degree of information on identity of human remains (reliant on mitochondrial DNA and possible relative from female line). It is recommended that the remains be stored in a suitable short-term storage (to be determined during the archaeological program).

⁸³ Mt Owen/ Glendell, Glencore 2019 *Procedures Mobile Phones and Personal Electronic Devices*. February 2019.

7.4 REPORTING AND RESULTS

The excavation report will respond to the EIS for the Project, including the results of this testing report.

It is understood that:

- Excavation reports must be prepared in accordance with the conditions of consent for SSDs.
- An excavation report should also conform to the Archaeological Research Design and in consideration of relevant Heritage Council guidelines.
- The excavation report should consist of three main stages:
 - a) **Description** of the archaeological remains recovered during the archaeological program, including both structures, deposits and contexts, and phases of occupation. This should include a stratigraphic Harris matrix of the archaeological contexts.
 These are typically presented in a series of trench or area reports which present the detailed information collected during excavation. Overall synthesis of the results based on the information in the trench reports but presenting an overview of the results. Digitised plans to be generated from site plans. Incorporation of photographs as part of the reporting.
 - b) **Analysis** of the artefacts utilising a database for the catalogue. Analytical techniques used should reflect the research questions and be presented graphically. Analysis needs to respond to the archaeological contexts in a meaningful way. If the site includes residential occupation then the households must be analysed individually and then compared to each other. Artefact specialist reports presenting a detailed overview of what has been found with analysis of this work.
 - c) **Interpretation** of the description and analysis should address the research questions and with a detailed response to the research design. Excavation reports should be prepared by the Excavation Director in association with the site supervisors and artefact specialists.

The report should comply with the following:

After any archaeological works have been undertaken, a copy of the final excavation report(s) shall be prepared and lodged with the Heritage Council of NSW, Council, and DPIE. The final excavation report shall include the following:

- a) An executive summary of the archaeological program.
- b) Due credit to the client paying for the excavation, on the title page.
- c) An accurate site location and site plan (with scale and north arrow).
- d) Historical research, references, and bibliography.
- e) Detailed information on the excavation including the aim, the context for the excavation, procedures, treatment of artefacts (cleaning, conserving, sorting, cataloguing, labelling, scale photographs and/or drawings, location of repository) and analysis of the information retrieved.
- f) Nominated repository for the items.
- g) Detailed response to research questions (at minimum those stated in the DPIE approved Research Design).
- h) Conclusions from the archaeological program. This information must include an assessment of the site's heritage significance, statement(s) on how archaeological investigations at this site have contributed to the community's

understanding of the site and other comparative site types and recommendations for the future management of the site.

- i) Details of how this information about the excavations was publicly disseminated (for example, include copies of press releases, public brochures and information signs produced to explain the archaeological significance of the sites).

7.4.1 ARTEFACT CATALOGUING & REPOSITORY

The artefacts from the site will be the subject of a detailed cataloguing and analysis program in line with current best practice. All artefacts will be catalogued by specialist cataloguers and maintained in an artefact database. An example of this methodology is published and extracted spreadsheet versions available on Casey & Lowe's webpage.⁸⁴ An important component of the cataloguing is the use of minimum item or minimum vessel counts.

In addition, important artefacts will be subject to materials conservation. This would include gluing of important and/or early pottery and conservation of important metal artefacts and where there are significant leather materials. Once cataloguing is completed, Glencore will need to provide a repository in perpetuity for the storage of all artefacts from this excavation. It is estimated there may be between 100 and 200 archive boxes of artefacts collected during the archaeological program.

In its final reporting for the excavation the proponent will identify a repository for the storage in perpetuity of artefacts recovered from the site.

7.5 PERSONNEL FOR EXCAVATION AND REPORTING

The archaeological excavation project will be directed by an Excavation Director who meets the Heritage Council's Excavation Director requirements for State Significant archaeology. The Excavation Director will be assisted by other suitably qualified archaeologists. Survey for the archaeological program will be undertaken by appropriately qualified staff. All artefacts will be catalogued by an appropriately skilled specialist team.

7.6 RESEARCH QUESTIONS

A number of site-specific questions to inform the archaeological program have been identified as part of the significance assessment in Section 5.2 and are developed further below.

The following research themes have been adapted from related research themes used on a number of Casey & Lowe archaeological projects and those of academic researchers.⁸⁵ It is noted these are considered to be the key themes that should allow for the mitigation of the salvage of archaeological sites within the Project study area. There is considerable overlap between the various themes and they should not be seen as exclusive themes or questions.

The themes are a mixture of macro and micro-scale questions relating to archaeological landscapes and evidence for larger-scale cultural, social and technological practices of British settlement, as well as the detailed understanding of individual lives and the meaning of artefacts in terms of personal identity and consumption practices.

⁸⁴ Casey 2004; <http://www.caseyandlowe.com.au/sydney.htm> - Click on specific projects as well as the Parramatta group.

⁸⁵ Tuffin, Richard, Gibbs, Martin et al. 2018.

7.5.1 ENVIRONMENT, CLIMATE, AGRICULTURE & WATER

Environment and expansion of settlement

- Nature of the settlement of the Hunter Valley and the beginning of movement northwards to assist with the support of the colonial experiment through successful agriculture and expansion of settlement.
- Evidence for the difficulty of survival in this new environment, such as the nature of diet based on rations and possible modification of scarce material culture resources, such as tools.
- How did early settlement impact and change the pre-1788 environment across the 19th century with the introduction of grazing for sheep and agricultural cropping? Was the land suitable for these purposes?
- How does this information amend or challenge the written histories of this period?

Management and Role of Water

- Dams, a well, drains, channels and cesspits are found across the site and they form a significant aspect to the management of this landscape on the edge of Yorks Creek. It is important to be able to understand the extent to which these elements have made the landscape habitable, modified its uses, and how they functioned within the landscape. To what degree does the archaeology of the dams and wells indicate that the settlers understood the dynamics of the landscape that they were modifying?

Agriculture

- Nature of early agricultural practices, evidence for clearing, sheep and cattle grazing, orcharding, and self-sufficiency? Address this issue through both the analysis of archaeological features as well as through analysis of early pottery, storage of food surpluses.
- Evidence for adoption of agricultural practices from the Australian Agricultural Co or from the Macarthur's.
- Through the analysis of subdivision and settlement models clarify suitability and success of soldier settlement and smaller-scale farming and dairying?

Climate

- How did the settlers meet the challenge of this new climate with its heavy rain and drought and the early periods of El Niño and La Nina.

7.5.2 ABORIGINAL AND COLONIAL PEOPLES (CONVICT & FREE) & COLONIAL LANDSCAPES

Interactions between Aboriginal people and the Settlers

- What evidence is there about the lives of Aboriginal people and the nature of interaction with the settlers in the 1820s? How were the behaviours of British and Aboriginal people modified by this interaction and how was it expressed in the landscape?
- What is the nature of interaction, contact and conflict between Aboriginal people and settlers?
- What evidence is there for the strategic use of the landform by Aboriginal people? How does it differ from the way that the British responded to the same landscape?

- How was traditional Aboriginal use of the landscape modified through settlement, such as construction of fences, changing access through 'country', and access to resources such as food and water sources?
- How did Aboriginal people and settlers use the landscape and buildings to claim, defend and assert their ownership of Ravensworth Estate?

Establishing the Homestead and Early Residents

- Nature of individual identity in rural Ravensworth, as evidenced by personal attire, and representation of class and behaviour.
- Nature of habitation by groups of male and female convicts? Were they separated within the homestead group, and if so how?
- Life of free staff on the estate and how it contrasted with convict living conditions.
- How did the White's and Bowman's use material culture to separate themselves from servants and convicts?

Using the Landscape & Resources

- Location of suitable resources within the landscape, such as stone, clay quarries and water, brickmaking, rock lime for mortar, and timber getting and sawpits.
- How the landscape was modified through technology and use of natural resources.

The Built Environment

- How do the materials used in the construction of buildings compare to other homestead buildings of a similar period?
- What does the nature and quality of building materials across the area tell us about rural building practices in the early colony?
- How does the potential convict accommodation compare with other convict accommodation/ barrack sites in plan, architectural style and function? Was it constructed to control the behaviour of the convicts and manage/ change their behaviour? Are changes to attitudes towards the role of incarceration visible in the construction/ modification of the structures? Is there material evidence of how convict behaviour was managed/modified/punished in a non-institutional setting?
- Examination of the role and nature of work within a non-institutional setting.

Convict and Free Life on the frontier/ early colonial Hunter Valley

- Convict labour practices and assignment, and how they lived on the Ravensworth Estate.
- How were large numbers of assigned convicts (32 in 1841) managed within this estate? Did they use chains or cells or other strategies to control behaviours or resistance to authority?
- What differences were there between the lives of free or forced/ institutionalised settlers?
- How did the deprivations of a frontier life alter the way in which free people lived on the frontier of the early colonial Hunter Valley?
- Evidence associated with the occupation of this site by James Bowman and his family, alongside that of his overseer James White and his family, may reveal interesting insights into patterns and behaviour.

Consumption and commerce in early colonial Hunter Valley

- How does this site link into issues associated with local, regional and global economies?

- What does it tell us about cultural and social practices on the frontier of colonial Hunter Valley, relating to lifeways, diet and other issues associated with consumption?
- How do patterns of consumption further our understanding of how early residents used material culture in the construction of personal and group identity?
- Evidence for evolving patterns of consumption and commerce from early colonial period into the early 20th century.

7.5.3 GENERAL THEMES

General research themes include:

- Evolving archaeological landscape as labour and pastoral/agricultural practices changed, and evidence of early sheep husbandry.
- Lifeways of the various households and questions relating to: consumption and material culture, class, and gender and the roles of men and women.
- Nature of technological change and adoption of new farming practices. Later owners and periods of use of the homestead complex, including Soldier Settlement.
- Expanding settlement - the roads and railway line.
- Develop other research questions as required based on finding.

7.5.4 RESEARCH QUESTIONS FOR INVESTIGATING HISTORICAL/EUROPEAN BURIALS⁸⁶

The excavation of older burials (relics under the Heritage Act) requires an archaeological approach to excavation, recovery, recording and analysis. Where there is a proposal or intention to remove burial remains it is essential to secure as much information about the graves and their contents as possible.

Social History

- Investigation of physical evidence to provide information on burial practices: use of coffins, clothing of the deceased, individual memorials, floral tributes etc?
- Analysis of the burial methods, grave goods and coffin furniture may provide evidence for social or religious distinctions, social or cultural affiliations, gender, age or ethnicity.
- Do the orientation of the burials and the position of the bodies indicate religious/cultural activities?
- How does the material culture and technology of the burial compare with other 19th-century rural burials?
- Does the burial(s) provide material culture comparable with other rural sites?

7.5.4.1 RESEARCH QUESTIONS FOR INVESTIGATION OF SKELETAL REMAINS

The following methodology, developed by Dr Donlon⁸⁷ for the Old Sydney Burial Ground⁸⁸, are designed to ensure that any excavation of a burial will contribute to current research and knowledge, while at the same time ensuring that the bones are undamaged and secure and treated respectfully.

Where the Project has the ability, through archaeological and forensic investigation, to provide information not generally available through other means of inquiry:

⁸⁶ This section draws on previous permit applications and research designs written for the burials: Godden Mackay Logan 1999, Casey & Lowe 2007.

⁸⁷ Senior Lecturer, Anatomy & Histology, at the School of Medical Sciences, Bosch Institute, University of Sydney.

⁸⁸ Casey & Lowe 2007

1. Information about the identity of the skeletal remains (race, age, sex, stature).
2. Information about the health of the person when alive.
3. Burial method/s, grave goods, coffin, clothing.

Taphonomic information:

4. Did the type of soil and pH affect the preservation of the skeleton, grave goods, grave furniture and clothing?
5. Has there been interference by animals? Has there been interference by vegetation e.g. tree roots?
6. Is there any evidence of trauma on the bones? Is there any evidence of impacts/injuries during life, or cause of death, such as use of weapons which have affected the human remains or bodies?

Where more than one burial is encountered:

7. Information about the personal identity and possible relationships between the skeletal remains.
8. The range of skeletal variation between burials.

These questions have the potential to both provide information about an individual in the past and the population to which that individual belonged, as well as past burial practices. In addition, it has the potential to provide information which may affect living descendants.

7.5.4.2 POST-EXCAVATION ANALYSIS & RECORDING

Before any analysis is done the remains will be cleaned, usually by brushing only. A complete skeletal inventory and post-mortem dental chart will be produced. The dentition and any suspected trauma will be radiographed. Post-excavation analysis of the skeletal remains will focus on a general description. This will be done by firstly identifying racial group, sex, age and stature. These findings will be compared with those of any grave marking or identification, such as a coffin plate.

Standard cranial, post-cranial and dental measurements will be recorded. Such measurements are useful in the determination of racial group, sex, and stature. Cranial, post-cranial and dental non-metric traits will be recorded. Non-metric traits are structural variations in bones and teeth and are determined largely by inheritance. They are particularly useful for determination of family relationships. Observations of skeletal morphology will be used to assist in the determination of sex and age as well as in the investigation of occupational stress.

Any skeletal and dental pathology will be recorded. Possible pathology might include signs of tuberculosis, infectious diseases such as syphilis, trauma, tumours, arthritis, congenital defects, nutritional deficiencies, dental caries and abscesses, periodontal disease and dental enamel hypoplasia.

Diet will be investigated by examination of dental condition and attrition and possibly also by stable isotope and trace element analysis.

Analysis of the human remains should take place at a secure established location/institution, such as the Shellshear Museum at the University of Sydney. The Shellshear Museum has significant experience in working with human remains, including Aboriginal remains.

Mitochondrial DNA analysis might be undertaken to facilitate future comparison with analysed samples of mitochondrial DNA isolated from any individual claiming to be a

maternal relative of the deceased. Where a skeleton is identified by a name plate or headstone then small samples of bone and/or teeth may be taken for DNA analysis. Therefore, an intact long bone, preferably a femur or humerus, would be collected from the remains, and hard tissue samples taken.

8.0 SUMMARY OF RESULTS AND RECOMENDATIONS

8.1 KEY RESULTS

The historical archaeological test excavation program at the Ravensworth Homestead Complex and surrounds has confirmed the survival of early and later 19th and early 20th-century archaeological remains across the site. Testing confirmed the presence of intact archaeological remains dating between 1830-1880s and has shown that their integrity is medium to high. The date and context of these remains means they are likely to be of State heritage significance. One area of testing outside of the homestead revealed other potential structures (TA7).

The main historical archaeological results included:

- *In situ* archaeological remains of buildings / structures in the form of stone foundations, post holes, wall cuts and paths to the north / northwest of the main wing (Test Areas 4, 5 and 6), see Figure 3.1.
 - *In situ* archaeological foundations of a large partitioned structure or series of structures in the area identified as the convict barracks in (Test Area 4), see (Figure 3.1, Figure 3.15).
 - At least two structures (walls, postholes, floors), located in trenches (TA5 TT2-4) to the north of the homestead complex (Figure 3.23). The artefacts associated with one structure (TT2) strongly indicating blacksmithing and horse farriering activities (large oval stone base, large pieces of unworked and worked iron for structures, vehicles, various horse and possibly oxen shoes and equipage, and a leather hole punch presumably for straps and belts).
- Excavation beside the main wing and immediate outbuildings (stables and barn) (TAs 3 and 4) revealed that the upper deposits and fills contained artefacts relating to the preparation, serving and consumption of food and drink.
- Evidence of a previously unknown structure identified in TA7 potentially dated to Phase 2, given historically (based on maps and plans) there is no known development in this area (Figure 3.41).
- Bricks with a wide shallow frog, used in association with sandstone masonry in some structures, were probably locally hand-made from the clays and gravels, most probably on the property somewhere along one of the creek lines. They provide a good comparison for recent studies of early brickmaking in Sydney, Parramatta, and Newcastle. The bricks were used in a large well in TA6 (context 158), herringbone paving (Context 126), a chimney and other components of a multiroom structure investigated in TA6 TT7, TT8, and TT9. Future archaeological work may determine if they were used to construct structural elements of the original house and outbuildings.
- Archaeological evidence of agricultural activity in various areas, including plough marks (TA2 and 6 and in one of the OzArk trenches) - see Section 3.9.
- The investigation also recorded scatters and dumps of similar ceramics and glassware in different parts of the property, including the wall of the main dam and in several paddocks.

The HAA & ARD identified the potential for intact remains across the Project Area for Phase 3, 4 and 5 as being low through to moderate and high.⁸⁹ While not specifically targeted as part of the archaeological program, the physical evidence of subdivision (including properties and fence lines) survives today and it is likely that any related archaeological remains survive. The potential remains as low, moderate and high for these phases.

⁸⁹ This is provided in detail in section 5.3 of HAA & ARD.

8.2 RECOMMENDATIONS

If the Project is approved, a Heritage Management Plan should be developed, as approved by DPIE, to incorporate the archaeological mitigation measures provided in Table 6.2, and incorporating the following:

1. The archaeological remains identified within the impact area should be subject to a program of archaeological excavation *prior* to any impacts, including earthworks or excavation or civil works associated with mining, for the Project. This shall be undertaken by a suitably qualified historical archaeologist and directed by an historical archaeologist who fulfils the Excavation Director criteria of the Heritage Council of NSW at the State significance level.
2. Archaeological works should be undertaken in accordance with the Archaeological Methodology and Archaeological Research Design provided in Section 7.0 of this report. Section 7.0 provides an archaeological program for the archaeological work including:
 - a) Identification of the locations for further work and a methodology for the archaeological excavation covering testing, salvage, monitoring and burials).
 - b) An updated Archaeological Research Design⁹⁰ provides for:
 - i. Archaeological salvage of the site (including underfloor deposits, the well and cistern not subject to the archaeological testing program and any locally significant sites identified as needing archaeological salvage as part of the Statement of Heritage Impact).
 - ii. Detailed recording of the site through stratigraphic excavation and planning, photography, survey and photogrammetry.
 - iii. Cataloguing of all artefacts recovered from the site including the development of a database for the artefact catalogue.
 - c) Final archaeological reporting including the identification of a secure storage location for the relics recovered during the excavation.
 - d) Allows for a Public Open Day(s), to be held at an appropriate time during the archaeological program, and provision of information about the archaeological program.
 - e) A plan for the interpretation and public dissemination of the results of the archaeological program.
3. The final Archaeological Investigation Report will be supplied within two years of the completion of the archaeological program to the DPIE; the Heritage Council of NSW; Singleton Historical Society; Singleton Council and Hunter Living Histories, University of Newcastle.
4. Given the presence of Aboriginal objects across the wider landscape, the archaeological program for historical archaeology will need to be managed and undertaken alongside the archaeological program for Aboriginal archaeology, particularly the potential for evidence of Aboriginal / European interactions.
5. The Proponent, as owner of the relics, will provide permanent storage for historic artefacts recovered from the site or find an appropriate body prepared to take permanent ownership of the material (in consultation with the Heritage Council of NSW).
6. Development of an unexpected finds protocol to manage the unexpected discovery of potential relics during initial ground disturbance. This should include details of what constitutes an archaeological relic for the Project, stop work procedures,

⁹⁰ Updated from that provided in Casey & Lowe 2018 *Ravensthorpe Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design*, report to Glencore (September 2018):

procedures for contacting a suitably qualified archaeologist to assess the find, and processes for notification and consultation with the Heritage Council of NSW.

7. An historical archaeological induction for the site must occur for all personnel undertaking work across the site that will involve surface disturbance activities. The induction should include a brief history of the site, provide and discuss a copy of the heritage / archaeological exclusion zones (where applicable) and details of how to deal with unexpected finds.
8. All archaeological work will be undertaken in accordance with any Project specific conditions of approval, the Archaeological Research Design, relevant Heritage Council of NSW and Heritage Division guidelines, and archaeological best practice.

9.0 REFERENCES

9.1 PRIMARY SOURCES

9.1.1 INDEXES AND DATABASES

State Heritage Database:

'Ravensworth Homestead'. Available at:

<https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1530089>

9.1.2 MAPS AND ILLUSTRATIONS

- 1828 'Map of the River Hunter and its branches', H Dangar, 1st August 1828, NLA Map NK 646.
- 1833 R. Dixon. ML H.35.663 (Crown Plan R.5.830).
- 1835 Assistant Surveyor G.B. White. SA Map 5095 (originally R.6.830).

9.1.3 PRINTED PRIMARY SOURCES

Newspapers accessed via <http://trove.nla.gov.au/newspapers>

NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

9.1.4 STATUTORY DOCUMENTS AND LEGISLATION

Legislation and regulations accessed via <http://www.legislation.nsw.gov.au/>

Environmental Planning and Assessment Act.

Heritage Act 1977 No. 136.

National Parks and Wildlife Act 1974

Public Health Regulation 2012

Singleton Local Environmental Plan 2013, Current version for 20 April 2018 to date.

9.2 SECONDARY SOURCES

Anderson, A. 1968 'The Archaeology of Mass-Produced Footwear', *Historical Archaeology* 2: 56-65.

Australian Cultural Heritage Management 2019 *Glendell Continued Operations Project Aboriginal Cultural Heritage Assessment Report*, prepared for Umwelt Environmental & Social Consultants. August 2019

Ayto, E.G. 1994 *Clay Tobacco Pipes*, Shire, England

Baldwin, J. K. 1975 *Patent and Proprietary Medicine Bottles of the Nineteenth Century*. Thomas Nelson Inc. New York.

Baumann, P. 2004 *Collecting Antique Marbles*, Identification and Price Guide, 4th Ed., kp books, Iola Wisconsin, USA.

Boow, J. 1991 *Early Australian Commercial Glass: Manufacturing Processes*, Department of Planning and Heritage Council of New South Wales.

Bradley, C. 2000 'Smoking Pipes for the Archaeologist', in K. Karklins (ed.) *Studies in Material Cultural Research* pp. 104-133, The Society for Historical Archaeology, California University of Pennsylvania, USA.

- Brooks, A. 2005 *An Archaeological Guide to British Ceramics in Australia 1788-1901*, The Australasian Society for Historical Archaeology and The La Trobe University Archaeology Program.
- Campbell, J.F. 1926 'The genesis of Rural Settlement on the Hunter', JRAHS, XII; CSIL26/4590, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.
- Capon, J. 1991 *Plaster Work*, The Australian Home Renovator, A Practical Guide, Random House, Australia.
- Capon, J. 1993 'Decorative plasterwork in New South Wales, 1800-1839', *Australasian Historical Archaeology* Vol. 2: 43-51.
- Casey, M. 2004 'Falling between the cracks: method and practice at the CSR Site, Pyrmont', *Australasian Historical Archaeology* 21: 27-43.
- Casey & Lowe 2019 *Jordan Springs (Brick Kiln Park), formerly Site 3, Central Precinct, St Marys, Archaeological Investigation*, report to Lendlease.
- Casey & Lowe 2018 *Ravensworth Homestead Complex and Surrounds Historical Archaeological Assessment & Archaeological Research Design*. Report to Glencore (September 2018).
- Casey & Lowe 2007 *Excavation Permit Application & Research Design, Excavation of Basement Peace Hall, Sydney Town Hall*, report to City of Sydney.
- Chan, H. 2012 *Running Wild: A Study of Working Class Childhood in Urban Sydney from the Mid-19th to early 20th Century*, BA hon's thesis, Department of Archaeology, The University of Sydney, Australia.
- Clabburn, P. 1980 *Beadwork*, Shire Album 57, England.
- Coleman, D.S., E.A & E.J. Coleman n.d. *The Collector's Encyclopaedia of Dolls*, Volume 1, Washington, USA.
- Couzens, E. & V.E. Yarsley 1968 *Plastics in the Modern World*, Penguin, UK/Australia.
- Coysh, A.W. 1970 *Blue and White Transfer Ware 1780-1840*. David & Charles, Devon.
- Coysh, A.W. & R.K. Henrywood 1982 *Dictionary of Blue and White Printed Pottery 1780-1880, Volume I*. Antique Collectors' Club, Suffolk, United Kingdom.
- Coysh, A.W. & R.K. Henrywood 1990 *Dictionary of Blue and White Printed Pottery 1780-1880, Volume II*. Antique Collectors' Club, Suffolk, United Kingdom.
- Cuffley, P. 1982 *Oil & Kerosene Lamps in Australia*, Pioneer Design Studio, Australia.
- Cuffley, P. 1984 *Chandeliers and Billy Tea*, A Catalogue of Australian Life 1880-1914, Five Mile Press, Victoria.
- Cuffley, P. 1997 *The Federation Catalogue*, Household Life in Australia 1890-1915, Five Mile Press, Victoria.
- Davey, P. (ed.) 1987 *The Archaeology of the Clay Tobacco Pipe, X. Scotland*, BAR British Series 178, London.
- Davies, P. 2004 'Glass and Stoneware Containers' in *Casselden Place: 50 Lonsdale Street, Melbourne, Archaeological Excavations*, Vol. 4, prepared by Godden Mackay Logan, La Trobe University and Austral Archaeology.

- Davies, P. 2005 'Writing Slates and Schooling in Victoria', *Australasian Historical Archaeology* 23: 63-69.
- Dobson, E. 1850 *A Rudimentary Treatise on the Manufacture of Bricks and Tiles*, reprint 1971 (ed.) F. Celoria, George Street Press, Stafford, England.
- Douglas Partners 2019 *Data Report on Geotechnical Investigation, Ravensworth Homestead, Hebden Road, Mt Owen*. Prepared for Jacobs Group (Australia) Pty Ltd April 2019.
- Duco, D.H. 2004 *Century of Change*, the European clay pipe, its final flourish and ultimate fall 1830-1940, Pijpenkabinet, Amsterdam.
- Dumbrell, R. 1992 *Understanding Antique Wine Bottles*, Antique Collectors' Club in association with Christie's Wine Publications, Woodbridge, Suffolk, England.
- Early Office Museum 2000-2018 www.officemuseum.com
- Eckstein, J., J. & G. Firkins 1987 *Gentlemen's Dress Accessories*, Shire Album 205, England.
- Evans, I., Clive Lucas & I. Stapleton 1994 *Colour Schemes for Old Australian Houses*, Flannel Flower Press, Sydney.
- Everleigh, D.J. 1985 *Candle Lighting*, Shire Album 132, England.
- Fike, R. 1987 *The Bottle Book: A Comprehensive Guide to Historic, Embossed Medicine Bottles*. Peregrine Smith Books, Salt Lake City.
- Fletcher, M. 1984 *Costume in Australia 1788-1901*, Oxford University Press, Melbourne.
- Ford, G. 1995 *Australian Pottery: the First 100 Years*, Salt Glaze Press, Wodonga.
- Gartley, R. & J. Carskadden 1998 *Colonial Period and Early 19th-Century Children's Toy Marbles*, History and Identifications for the Archaeologist and Collector, Muskingum Valley Archaeological Survey, Zanesville Ohio, USA.
- Gemmell, W. 1986 *And So We Graft from Six to Six: The Brickmakers of New South Wales*, Angus & Robertson, North Ryde, Australia.
- Gledhill, D. 1999 *Gas Lighting*, Shire, England.
- Godden Mackay Logan 1999 *Old Sydney Burial Ground, Sydney Town Hall, Archaeological Research Design*, for Sydney City Council.
- Gojak, D. & I. Stuart 1999 'The Potential for the Archaeological Study of Clay, Tobacco Pipes from Australian Sites', *Australasian Historical Archaeology* 17: 38-49.
- Goodfellow, C. 1993 *The Ultimate Doll Book*, RD Press, Dorling Kindersley, Surrey Hills, Sydney.
- Gray, N. 1966 'James Bowman (1784-1846)', *ADB*, volume 1, pp 137-8
- Hunter, C. 1997 Ravensworth Homestead Historical Text, in EJE Architecture, Glendell Coal Joint Venture - Ravensworth Homestead and Farm Complex - Structural and Material Condition Report.
- H King, *Elizabeth Macarthur and Her World*, Sydney University, 1980, p 185-7.
- Jack, R. I. 1986 'Clay tobacco pipes exported from Scotland to Australia in the nineteenth century: some preliminary observations', in B. Sudbury (ed.) *Historic Clay Tobacco Pipe Studies* Vol. 3, pp. 124-134, USA.

- Jean, M. 1991 *A Complete Guide, Lighting*, The Australian Home Renovator, Random House, Australia.
- Jones, D. 1979 *One Hundred Thirsty Years: Sydney's aerated water manufacturers from 1830 to 1930*, Reliance Press, Deniliquin, NSW.
- Jones, O. 1986 *Cylindrical English Wine & Beer Bottles 1735 -1850*, Studies in Archaeology, Architecture and History, National Historical Parks and Sites Branch, Environment Canada - Parks.
- Jones, O. 2000 'A Guide to Dating Glass Tableware: 1800 - 1940', *Studies in Material Culture Research*, edited by Karlis Karklins, Society for Historical Archaeology pp. 141 - 232.
- Jones, O., C. Sullivan, G. Miller, E. A. Smith, J. Harris, K. Lunn 1985 *The Parks Canada Glass Glossary*. Studies in Archaeology, Architecture, and History, National Historic Parks and Sites Branch, Parks Canada.
- Karklins, K. 1985 'Guide to the Description and Classification of Glass Beads', in Karlis Karklins *Glass Beads*, 2nd edition, pp. 85-118, Studies in Archaeology, Architecture and History, Parks Canada, Ottawa.
- Kendrick G. 1966 *The Antique Bottle Collector*, Wester Printing & Publishing Company, Sparks, Nevada.
- Kidd, K.E. & M. Kidd 1970 'A Classification System for Glass Beads for the Use of Field Archaeologists', Canadian Historic Sites Occasional Paper in Archaeology and History, 1: 45-89.
- Lewis, M. 2018 *Australian Building: A Cultural Investigation*, Research database available at <http://www.mileslewis.net/australian-building/>.
- Lindbergh, J. 1999 'Buttoning Down Archaeology', *Australasian Historical Archaeology* 17: 50-57.
- Lucas Stapleton Johnson & Partners Pty Ltd 2019 *Ravensthorpe Estate, 463 Hebden Road, Ravensthorpe NSW, 2330 Statement of Heritage Impact*, prepared for Mt Owen Pty Ltd. August 2019.
- MALA 2018 *Geophysical Survey, Ravensthorpe Homestead, Ravensthorpe NSW*. Report to Casey & Lowe November 2018.
- Meadows, C.A. 2000 *The Victorian Ironmonger*, Shire, England.
- Mt Owen/ Glendell, Glencore 2019 *Procedures Mobile Phones and Personal Electronic Devices*. February 2019.
- Muir, S. 1999, 2011 *Saddlery & Horse Equipment*, Hermes House, London.
- Noël Hume, I. 1970 *A Guide to Artifacts in Colonial America*, Alfred Knopf, New York.
- NSW Heritage Branch 2009 *Assessing Significance for Historical Archaeological Sites and 'Relics'*, Heritage Branch, Department of Planning [Sydney]. Available at: <http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/ArchSignificance.pdf> [accessed online 01 May 2018].
- NSW Heritage Office 1996 *Archaeological Assessments, Archaeological Assessment Guidelines*, Department of Urban Affairs and Planning.
- NSW Heritage Office 2001 *Assessing Significance: a NSW Heritage Manual Update*. Available at:

<http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/ArchSignificance.pdf> [accessed online 01 May 2018].

- Olsen, S.J. 1963 'Dating Early Plain Buttons', *American Antiquity* 28 (4): 551-554.
- Opie, I. & P. Opie 1997 *Children's Games with Things*, Oxford University Press, Oxford.
- Oswald, A. 1975 *Clay Pipes for the Archaeologist*, BAR 14, Oxford.
- OzArk EH P/L 2019 *Aboriginal Archaeology Impact Assessment, Glendell Continued Operations Project, Glendell Coal Mine, Ravensworth, NSW, July 2019*. Report to Umwelt Environmental & Social Consultants on behalf of Glendell Tenements Pty Ltd.
- Peacock, P. 1978 *Discovering Old Buttons*, Shire, England.
- Priess, P.J. 2000 'Historic Door Hardware', reprinted in: K. Karklins (ed.) *Studies in Material Culture Research*, pp. 46-95, The Society for Historical Archaeology, California University of Pennsylvania.
- Randall, M.E. 1971 'Early Marbles', *Historical Archaeology* 5: 102-105.
- Riley, N 1987 *A History of Decorative Tiles*, Chartwell Books, New Jersey.
- Ringer, R. 2008 *The Brickmasters 1788-2008*, Dry Press Publishing, Horsley Park, Australia.
- Sainty, M.R. & Johnson, K.A. 1980 *Census of New South Wales: November 1828*, Library of Australian History.
- Seymour, J. 1984 *The Forgotten Arts*, A practical guide to traditional skills, Darling Kindersley, London & USA.
- South, S. 1964 'Analysis of the Buttons from Brunswick Town and Fort Fisher', *Florida Anthropologist* Vol. 17, No. 2: 113-33.
- Sprague, R. 2002 'China or Prosser Button Identification and Dating', *Historical Archaeology* 36: 111-127.
- Stevens, S.C. & M.T. Ordoñez 2005 'Fashionable and Work Shoes from a Nineteenth-Century Boston Privy', *History Archaeology* 39(4): 9-25.
- Stocks, R. 2008a *Structural Report, Parramatta Hospital Site, Marsden & George Streets, Parramatta*, draft report for Casey & Lowe, August 2008, amended 2011.
- Stocks, R. 2008b 'New evidence for local manufacture of artefacts at Parramatta, 1790-1830', *Australasian Historical Archaeology* Vol. 26: 29-43.
- Stringer, M. 1980 *Australian Horse Drawn Vehicles*, Rigby, Australia.
- Tuffin, Richard, Gibbs, Martin, et al. 2018 'Landscape of production and punishment: convict labour in the Australian contest', *Journal of Social Archaeology* 18(1):50-76.
- Toulouse, J. 1971 *Bottle Makers and Their Marks*, Thomas Nelson, New York.
- Umwelt Pty Ltd. 2018 *Glendell Continued Operations Project Social Impact Assessment Scoping Report, May 2018*. Prepared for Glencore.
- Varman, R.V.J. 1993 *Bricks and Nails: Building Materials as Criteria for Dating in Sydney and Environs from 1788, A Documentary Survey and Assessment of Dating Potential*, Unpublished PhD Thesis, University of Sydney.

- Walker, I.C. 1983 'Nineteenth Century Clay Tobacco-Pipes in Canada', in P. Davey (ed.) *The Archaeology of the Clay Tobacco Pipe VIII America*, BAR International Series 175: 1-87, Oxford.
- White, J. 1978 'Bottle Nomenclature: A Glossary of Landmark Terminology for the Archaeologist', *Historical Archaeology*, Vol. 12, No. 1: 58-67.
- Wilson, G.C. 1999 'Ceramics and Tobacco Pipes Artefact Report', in Godden Mackay Heritage Consultants Cumberland/Gloucester Streets Site, *The Rocks Archaeological Investigation* Vol. 4i, pp.207-366, Sydney.
- Woodhead, E.I., C. Sullivan & G. Gusset 1984 *Lighting Devices* in the National Reference Collection, Parks Canada, Studies in Archaeology, Archaeology and History, National Historic Parks and Sites Branch, Parks Canada, Ottawa.
- Zumwalt, B. 1980 *Ketchup Pickles Sauces: 19th Century Food in Glass*, Mark West Publishers, Fulton, California.

APPENDICES

APPENDIX 1 GPR Survey

APPENDIX 2 Site Plans

APPENDIX 3 Artefact Catalogue

APPENDIX 4 Historical Archaeological Assessment and
Archaeological Research Design

APPENDIX 1: GPR SURVEY



Geophysical Survey Ravensworth Homestead, Ravensworth NSW

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Ravensworth NSW, 2824

PROJECT ID # GNX18294

ONSITE CONTACT Kylie Seretis / Catherine Fenton

SURVEY DATE 21-23 August, 2018

METHODS [x] 3D GPR

REPORT DATE 26 September, 2018

COMPILED BY

James Meintjes (B.Sci)
Geophysicist

REVIEWED BY

William Barber (B.Sci)
Geophysicist

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SPECIFICATIONS and SURVEY AREA

The undertaking of a geophysical survey within dedicated areas of rural property surrounding Ravensworth Homestead in Ravensworth NSW. 3D Ground Penetrating Radar (GPR) was the method that was requested by the client.

The survey aimed to locate potential archaeological subsurface features (<2m) of relevance to the Ravensworth homestead heritage. Such features of interest include subsurface foundations or burial sites. A 400Mhz 3D GPR was used to achieve maximum depth penetration and resolution with best attempt to identify the survey targets.

The survey area was initially broken down into seven main survey locations, totalling approximately 13 hectares over the property. Upon arrival to site and commencement of the data acquisition, the survey area was reduced by Casey and Lowe to six smaller main areas (labelled 01-06 in figure 1 below), instructed on the day during GPR scanning.



Figure 1: Yellow areas indicate GPR coverage on site. Labels 1-6 Indicate these areas.

The survey was conducted by manoeuvring the GPR instrument on a John Deere ride-on utility vehicle. Access on site provided open area however hard undulating ground and vegetation created slower than expected survey speeds. GPS reception was near perfect as no overhead obstructions hindered satellite and horizon contact. GPR survey lines were conducted with an approach to achieve the maximum level of data coverage possible.

The site characterisation information and detail which aims to contribute to existing site plans; thereby providing a safer working environment and detail for informed decision making. The survey provides a .dxf file displaying identified features which can be used as a layer overlay in CAD.

**GROUND
PENETRATING
RADAR (GPR)**

Ground penetrating radar (GPR) is a geophysical method that uses radar pulses to image the subsurface (figure 2). GPR uses transmitting and receiving antennas. The transmitting antenna radiates short pulses of high-frequency radio waves into the ground/material. When the wave hits a buried object or a boundary with different dielectric constants, the receiving antenna records variations in the reflected return signal. The depth range of GPR is limited by the electrical conductivity of the ground. As ground conductivity increases, the signal penetration depth decreases. This is caused when the electromagnetic pulse emitted by a GPR transmitter is more quickly dissipated into heat, causing a loss in signal strength at depth.

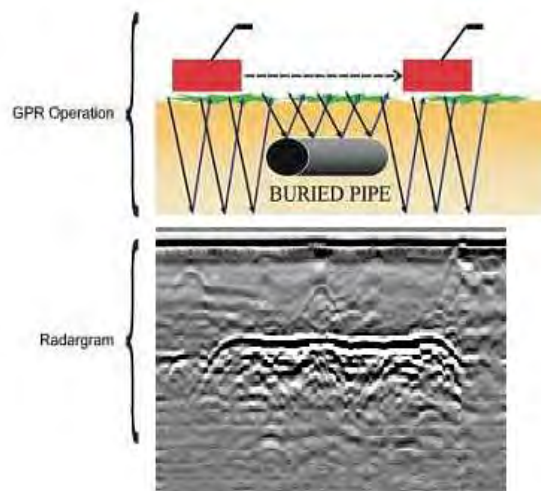


Figure 2: GPR operation and the reflection profile across the length of a buried pipe.

**INSTRUMENTS
USED**

The area was surveyed using the following system:

- MALA 400Mhz 3D MIRA system - 16 Channel

MALA GPR Imaging Radar Array (MIRA) is the most technically advanced GPR system on the market. It is the only system of its kind that integrates acquisition, processing, QA/QC, positioning data, interpretation and export of ground penetrating radar data (figure 3).

The MIRA instrument can quickly and easily gather full 3D data in broad paths, called "swats" using 16 channels. This allows for data collection in one pass (i.e. a swat needs to be covered only once, in singular direction) as opposed to single channel systems which require multiple passes in multiple directions. The MIRA system is an efficient and effective solution for large scale ground penetrating radar mapping and subsurface object identification. Results are processed in 3D depth slices and are displayed and interpreted through a dedicated software package (rSlicer) and then exported into suitable GIS or CAD data formats (.dxf).



Figure 3: MALA 400MHz 3D MIRA acquiring data on site.

POSITIONING Positioning information for the MIRA 3D GPR system was tracked using high accuracy RTK GPS (Hemisphere s321 base/rover) which aimed to offer sub inch horizontal accuracy. A local survey marker position was provided to MALA GPR which was used to setup the survey base station. A rover antenna was mounted on the GPR antenna. The coordinate system used in conjunction with the survey was MGA94 Zone56 – AHD.

To obtain high accuracy positioning, clear vision to the sky/open satellites was a requirement and therefore areas with tree/building cover limited the survey area. The GPS rover did not encounter any interference issues and as a result the entire survey positioning always obtained an RTK fix.

Survey line positioning/spacing was controlled using spray chalk paint marks on the ground along with the use of agricultural crop logging software to aid GPR navigation. Horizontal chainage was recorded via an optical distance encoder mounted to the rear wheel of the GPR acquisition vehicle.

STAFFING The data acquisitioning was performed by Geophysicist William Barber (B.Sci) of MALA GPR Australia. Data processing and reporting was performed by Geophysicist James Meintjes (B.Sci) and reviewed by William Barber.

ONSITE SCHEDULE OF EVENTS Tuesday August 21: Mobilisation to site from Sydney. GPR data acquisition.

Wednesday August 22: GPR data acquisition.

Thursday August 23: GPR data acquisition. Demobilisation from site to Sydney.

SURVEY PARAMETERS Data was collected using the MALA MIRA 400Mhz antenna array Data sampling was triggered with an encoder wheel connected to the John Deere rear wheel. The table below outlines the collection parameters used for the survey.

Collection Parameters	400Mhz MIRA Array
Samples per trace	312
Trace Sampling Frequency	4096.55 MHz
Frequency Steps	116
Distance Interval	0.067 m
Antennas	400MHZ Shielded
Antenna Separation	0.28 m
Time Window	76.16 ns
Stacks	8

DATA PROCESSING The data processing strategy deployed for the targets was as follows:

First the data was imported into our proprietary 3D processing package rSlicer. In that process the time-zero level is established, adjusted for the antenna separation and the DC filter is applied in order to normalise the individual GPR traces.

After the data was successfully imported minor adjustments were made to the array geometry in which bad GPS points were deleted. GPS was very good therefore minimal geometry adjustments were made. Upon saving the survey geometry the pre-processing routine was deployed. The following filters were used in the pre-processing step:

Amplitude Muting: Traces with abnormal amplitudes are removed from further processing in order to reduce striping in the data.

Amplitude Correction: A Spherical Divergence Correction and a centered 100ns Automatic Gain Control window was applied to the data.

Predictive Deconvolution is an algorithm-based process used to reverse the effects of convolution on recorded data. The concept of deconvolution is widely used in the techniques of signal processing and image processing. For GPR data it is used to recover as much ground signal as possible by separating it from the transmitted signal.

Antenna Ringdown Removal is applied to the data in order to reduce the ringing of the signal. It is effectively a trailing subtraction of the average trace over a certain distance, in this case 500 traces.

Band Pass Filtering is applied to reduce signal noise outside our transmitted frequency spectrum. The parameters used in this case were:

Low Cut: 51MHz

Low Pass: 136MHz

High Pass: 409MHz

High Cut: 818MHz

After the pre-processing is complete the data is Chunked, interpolated at 70mm, and x1 slice averaging is applied. These steps are applied to facilitate for a more manageable dataset which can be loaded fully into RAM on the processing station.

Data Migration is the process by which GPR targets are geometrically re-located in either space or time to the real position of the target rather than the location that it was recorded at the surface, thereby creating a more accurate image of the subsurface. Migration moves dipping reflectors to their true subsurface positions and collapses diffractions, resulting in a migrated image that typically has an increased spatial resolution and resolves areas of complex structure much better than non-migrated images. The migration velocity used for the dataset was 11.33cm/ μ s and subsequently this velocity was used for the time-depth transformation of the data.

Amplitude Envelope is a parameter-less filter used to highlight high amplitude features within a dataset. It is particularly useful in 3D GPR data sets in plan view.

RESULT AND DISCUSSION OF SURVEY

Initial observations made from the data were those regarding data quality and depth penetration. The MIRA survey achieved coverage of most of the survey area with the exception of small areas containing onsite obstructions. Data quality in the near surface (<500mm) appeared satisfactory. Depth penetration appeared limited (<1m), considering the soil velocity of 113m/ μ s that was applied to the dataset. The signal velocity directly dictates the horizontal depth scale associated with the GPR radargram. In order to set the most accurate signal velocity, a clear hyperbola anomaly is to be evident in the dataset that can be used to configure the velocity. There were no clear hyperbolas evident (most likely due to data resolution) and as a result a velocity was estimated.

A number of subtle anomalies were detected throughout the survey sites. These anomalies appeared in localised form as well as linear formations. For each anomaly detected, interpretation markers (lines) were inserted into the data set at different depths. Different interpretation colours represent different anomalies open for interpretation. Red markers indicate surface features. Blue markers indicate potential heritage targets. Green markers indicate potential services/utilities.

The images below display these interpretations within depth slices of processed (migrated) data, for each location. The first image for each area will display all of the interpretations made while the following images for each area will display depth slices of processed data showing the anomalies more clearly. Note that the depth slices displayed are at a certain depth (mm) therefore all anomalies may not be visible in one image.

A .dxf file will accompany the report containing x,y,z coordinates of all interpreted data points.

Area 01:

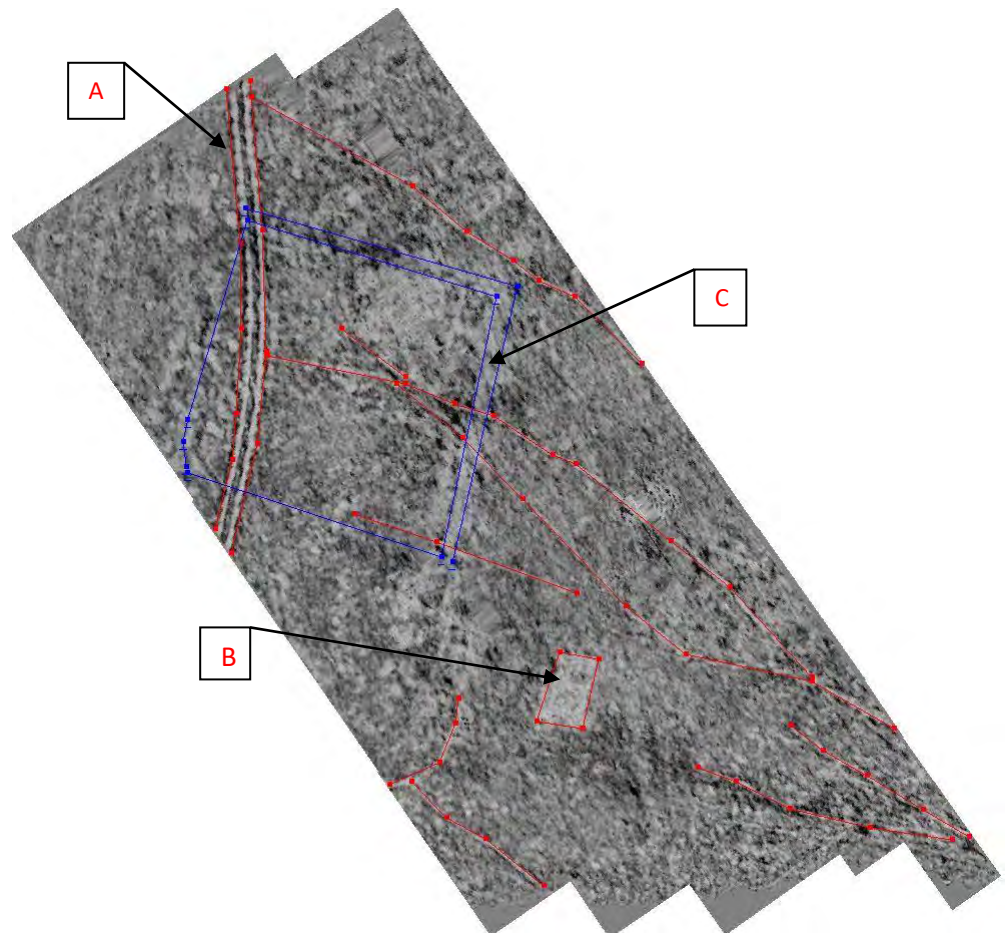


Figure 4: Area 01 all interpretations.

GPR results from Area 01 displayed anomalies both on the surface and below the surface. Figure 4 above displays all interpreted anomalies within a single depth slice of processed data. Surface anomalies are marked in red while subsurface anomalies are marked in blue.

Surface anomalies; Label 'A' in Figure 4 most likely represents the road feature spanning North to South through the area. Label 'B' in Figure 4 appears on the surface as a large zone of differing contrast, offering no interpretation. The remaining red linear surface interpretation markers most likely indicate paths and troughs associated with water movement on the surface.

Subsurface anomalies; Label 'C' in Figure 4 displays interpretations from a subsurface anomaly in the shape of a large square. The anomaly is not distinct or high in contrast however the shape of the anomaly can relate to subsurface features such as a potential foundation. The anomaly is interpreted at 220mm depth.

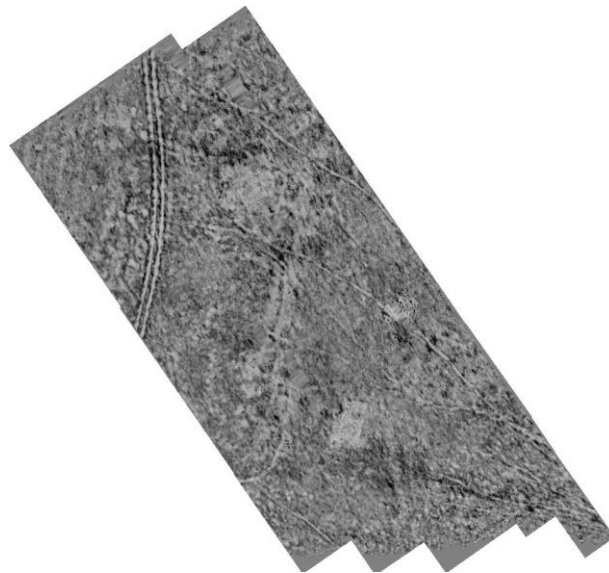


Figure 5: Area 01 surface anomalies. Depth slice at 0mm depth.

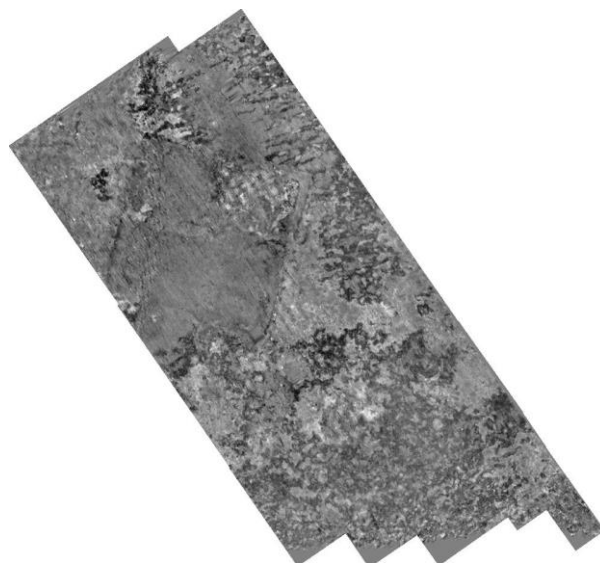


Figure 6: Area 01 subsurface anomalies. Processed depth slice at 220mm depth.

Area 02:

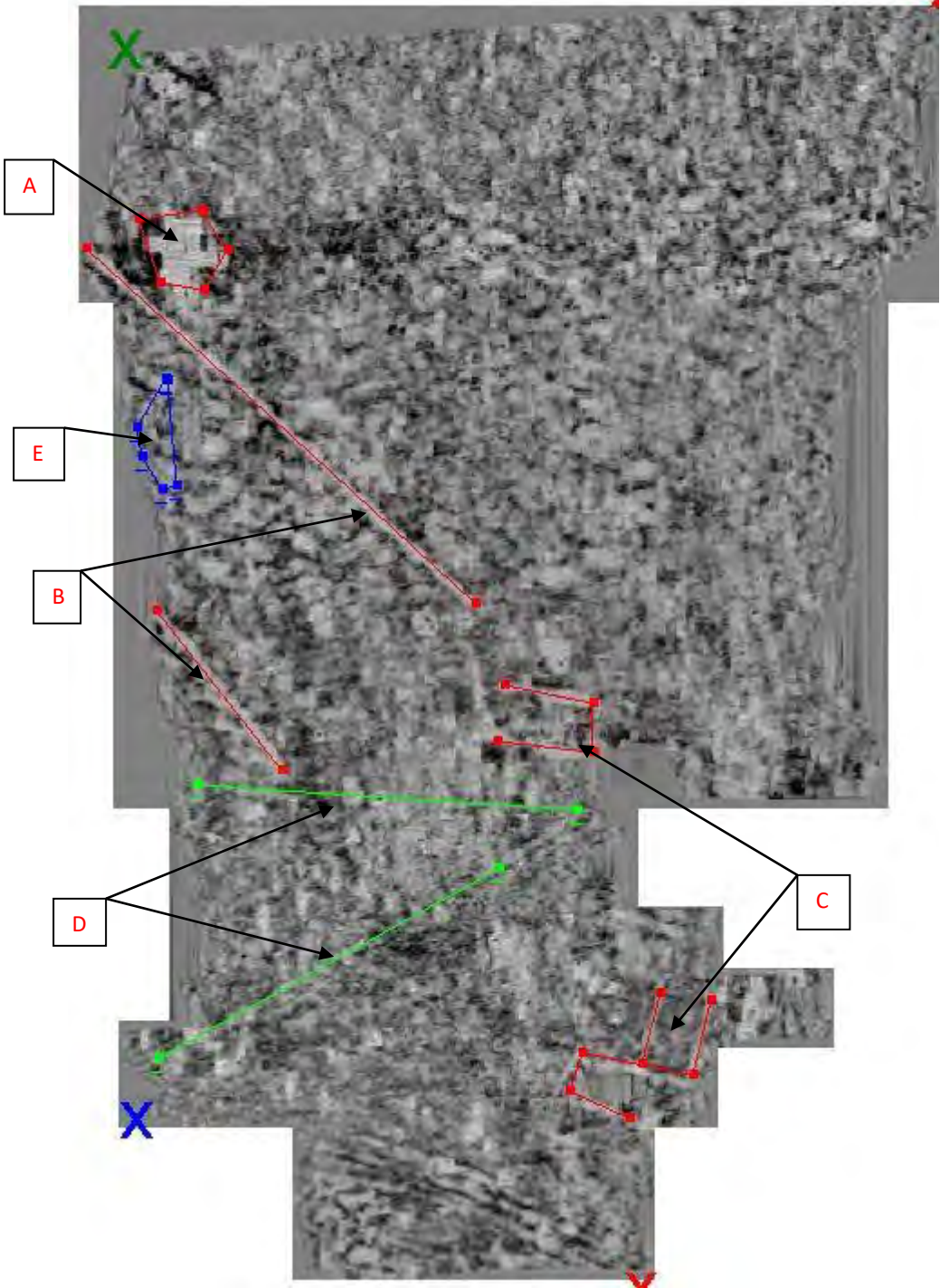


Figure 7: Area 02 all interpretations.

GPR results from Area 02 displayed anomalies both on the surface and below the surface. Figure 7 above displays all interpreted anomalies within a single depth slice of processed data. Surface anomalies are marked in red while subsurface anomalies are marked in blue and green.

Surface anomalies; Label 'A' in Figure 7 is a surface anomaly that is high in contrast and could relate to potential bricks or similar. Label 'B' in Figure 7 appears on the surface as two long linear features. These could relate to potential shallow trenches. Label 'C' in Figure 7 displays interpretations from surface features that take on localised and broken linear patterns. Interpretation of such anomalies is unknown.

Subsurface anomalies; Label 'D' in Figure 7 displays two subsurface anomalies at approximately 400mm depth. The anomalies return the shape and contrast of features referring to subsurface services/utilities. This interpretation is supported by the presence of the neighbouring dwelling to the West of the anomalies. Label 'E' displays an anomaly at approximately 370mm depth. The anomaly is a localised anomaly that stood out in contrast from the surrounds. The interpretation of the anomaly is unknown and more data (to the West) would support interpretation.

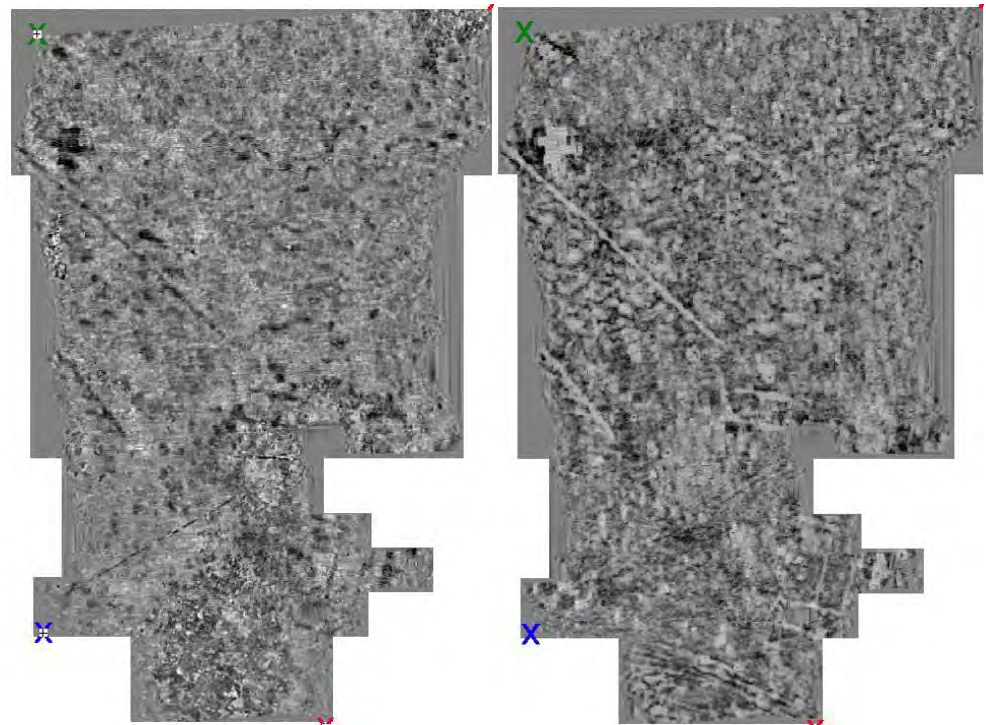


Figure 8 & 8: Figure 8 on the left displays Area 02 subsurface anomalies (400mm depth slice). Figure 9 on the right displays Area 02 surface anomalies (0mm depth slice).

Area 03:

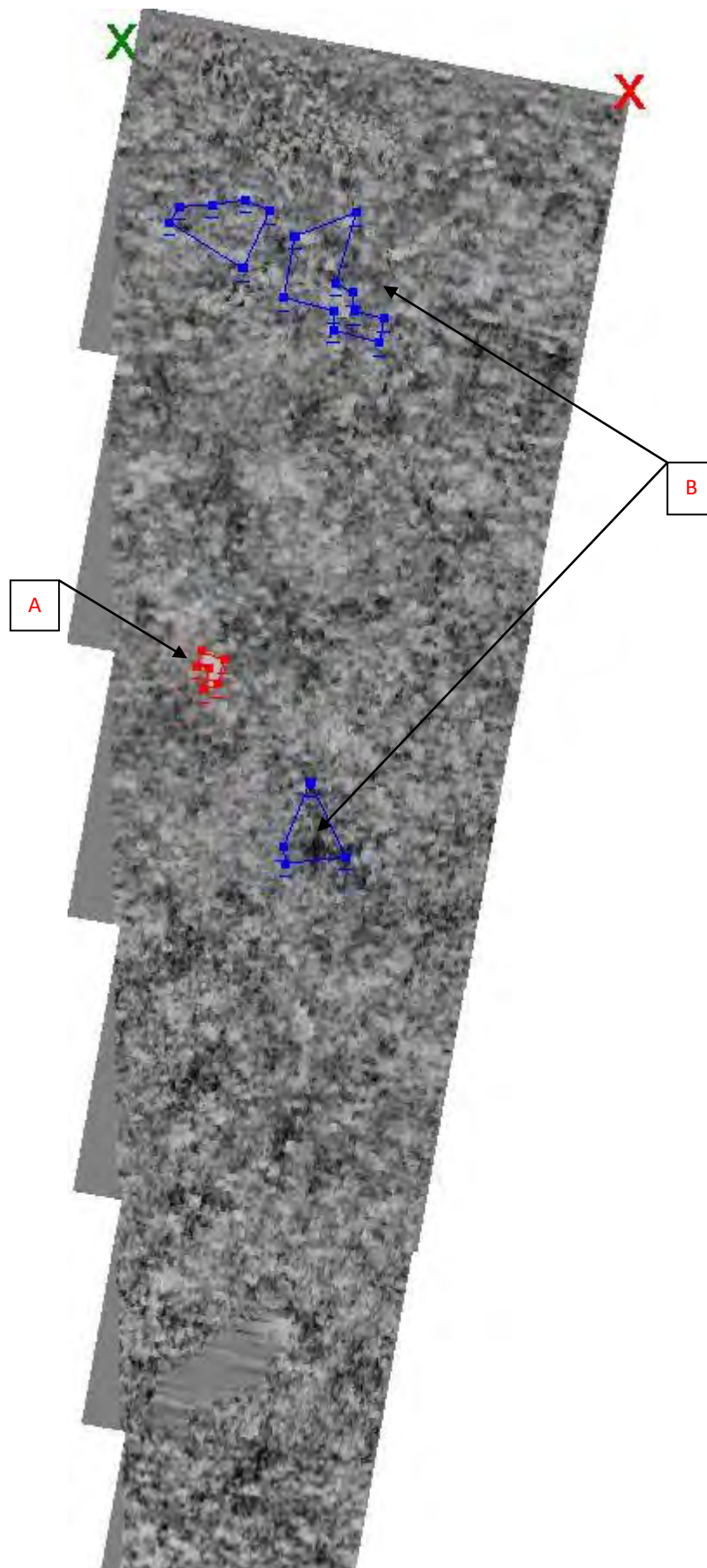


Figure 9: Area 03 all interpretations.

GPR results from Area 03 displayed anomalies both on the surface and below the surface. Figure 10 above displays all interpreted anomalies within a single depth slice of processed data. Surface anomalies are marked in red while subsurface anomalies are marked in blue.

Surface anomalies; Label 'A' in Figure 10 is a surface anomaly that is high in contrast and could relate to potential bricks or similar.

Subsurface anomalies; Label 'B' in Figure 10 displays three localised areas returning subsurface anomalies at approximately 220mm to 280mm depth. The anomalies stood out in contrast from the surrounds. The Southernmost anomaly (~220mm depth) is more defined and takes on a triangular shape while the Northernmost two anomalies (~280mm depth) are less defined. The interpretation of the anomalies is unknown.

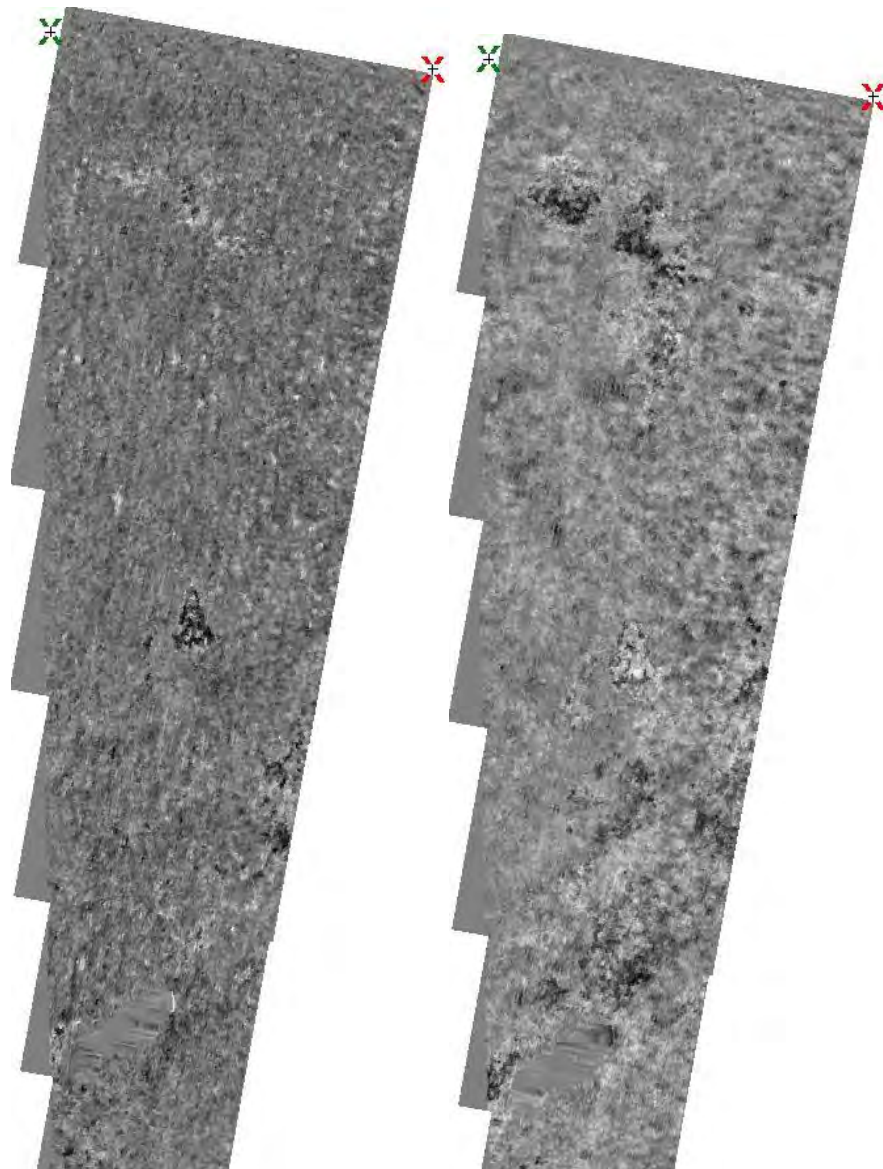


Figure 10 & 12: Figure 11 on the left displays Area 03 subsurface anomalies (220mm depth slice). Figure 12 on the right displays Area 03 subsurface anomalies (280mm depth slice).

Area 04:

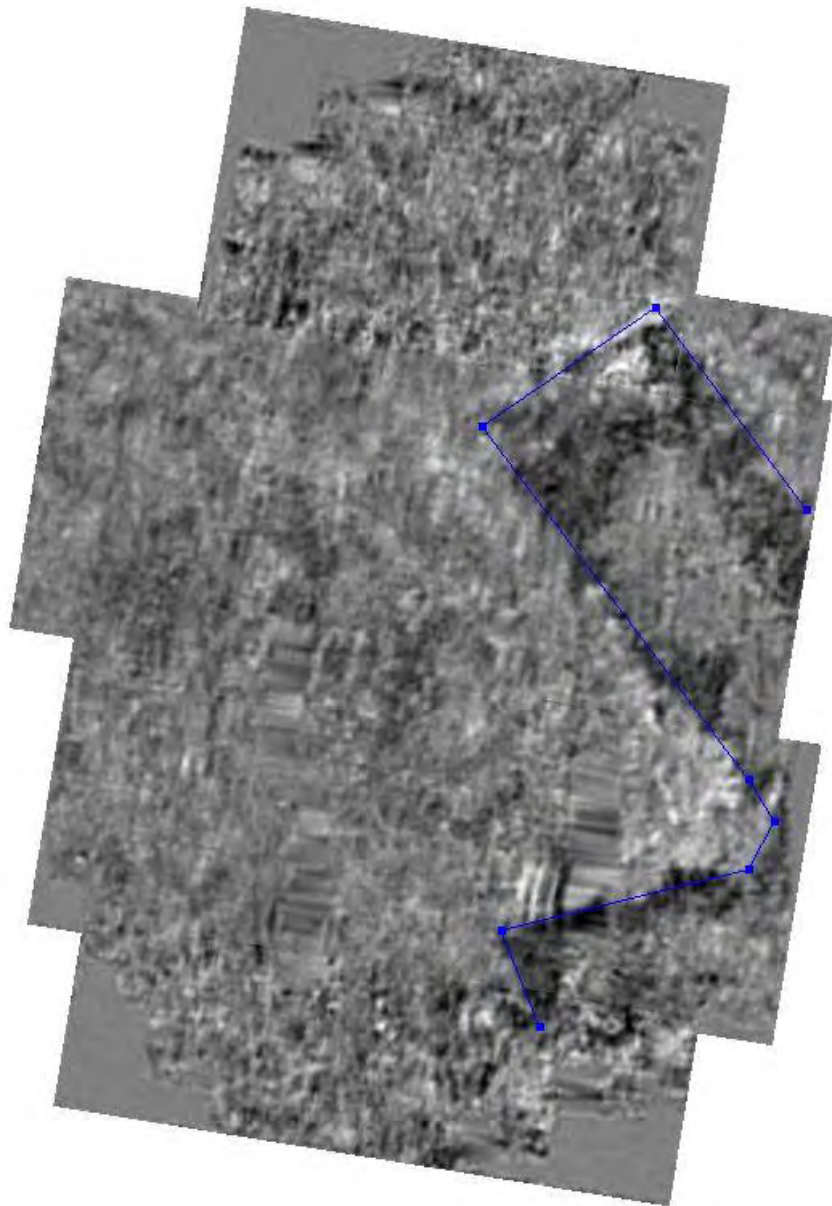


Figure 11: Area 04 all interpretations.

GPR results from Area 04 returned a single large anomaly below the surface. Figure 13 above displays the interpreted anomaly within a single depth slice of processed data. The subsurface anomaly is marked in blue.

Subsurface anomalies; The single anomaly displays a large linear pattern representing that of a potential subsurface foundation or similar. The contrast is low and the anomaly is not well defined. Additional data would be beneficial along the Easternmost extent to further support the interpretation.

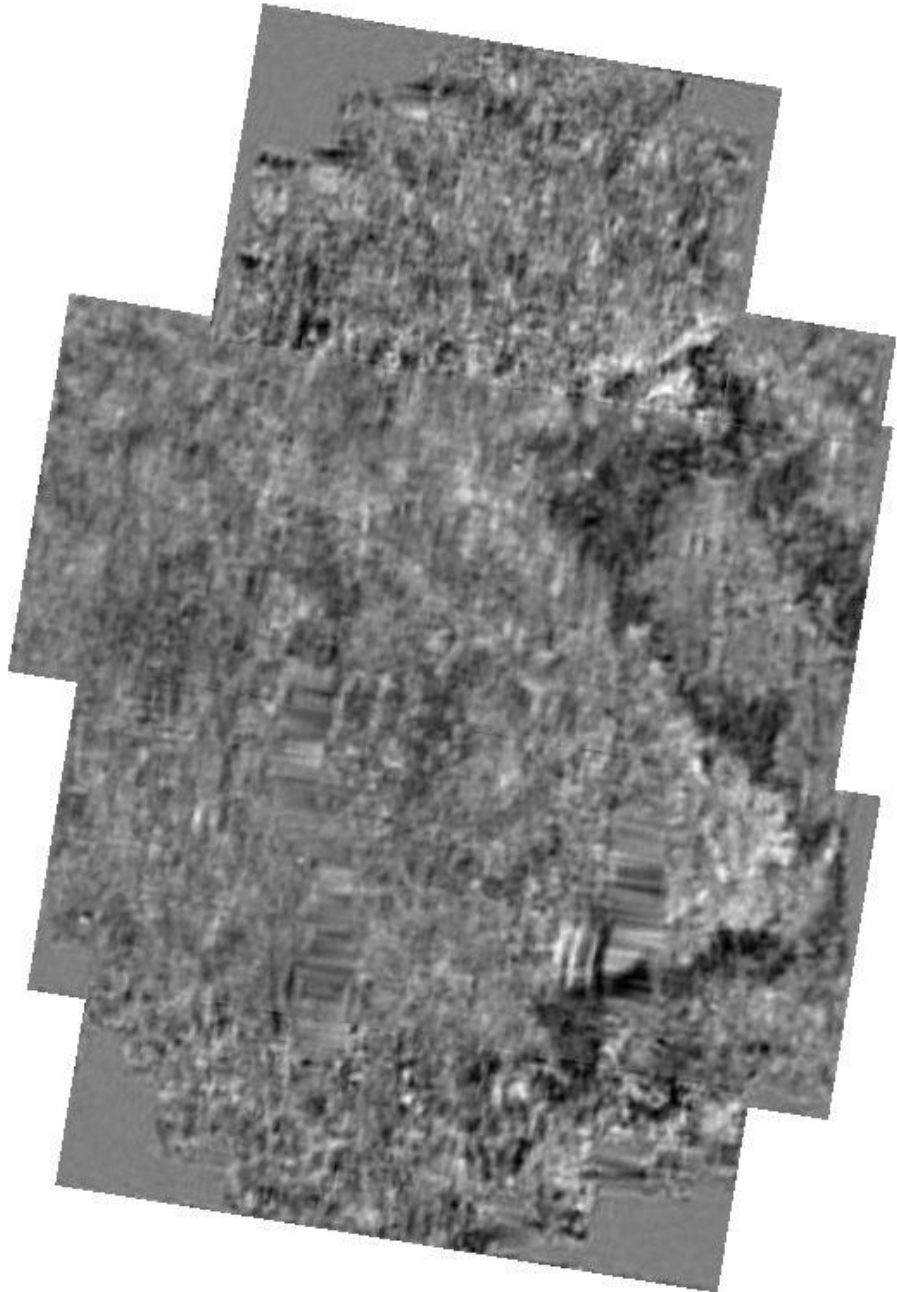


Figure 12: Area 04 subsurface anomaly. Processed depth slice at 220mm depth.

Area 05:

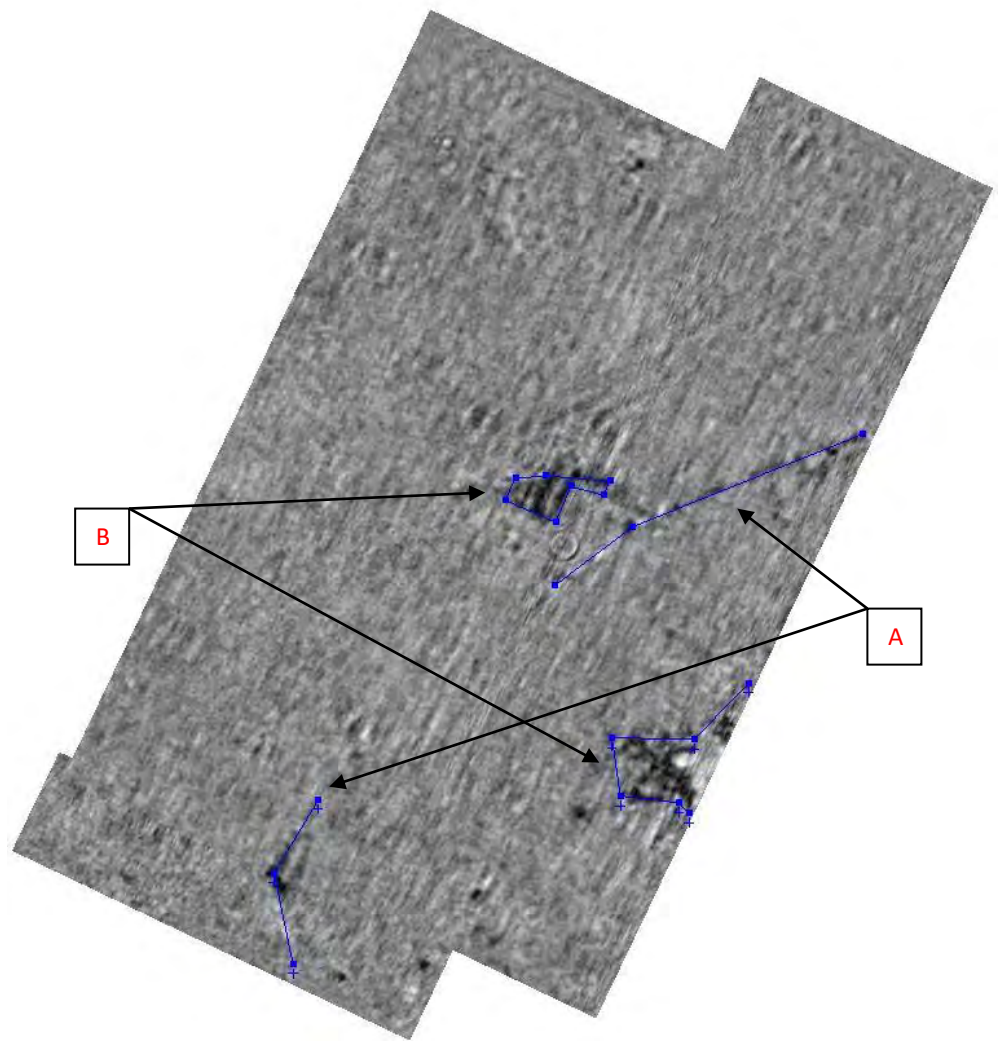


Figure 13: Area 05 all interpretations.

GPR results from Area 05 displayed anomalies below the surface. Figure 15 above displays all interpreted anomalies within a single depth slice of processed data. Subsurface anomalies are marked in blue.

Subsurface anomalies; Label 'A' in Figure 15 above displays two weak linear anomalies at approximately 380mm. The anomalies have potential to connect however there is not data between to support that. The nature of the anomalies is unknown. Label 'B' in Figure 15 displays two localised anomalies that are of weak contrast. They also appear at approximately 380mm depth. The nature of these anomalies is also unknown.

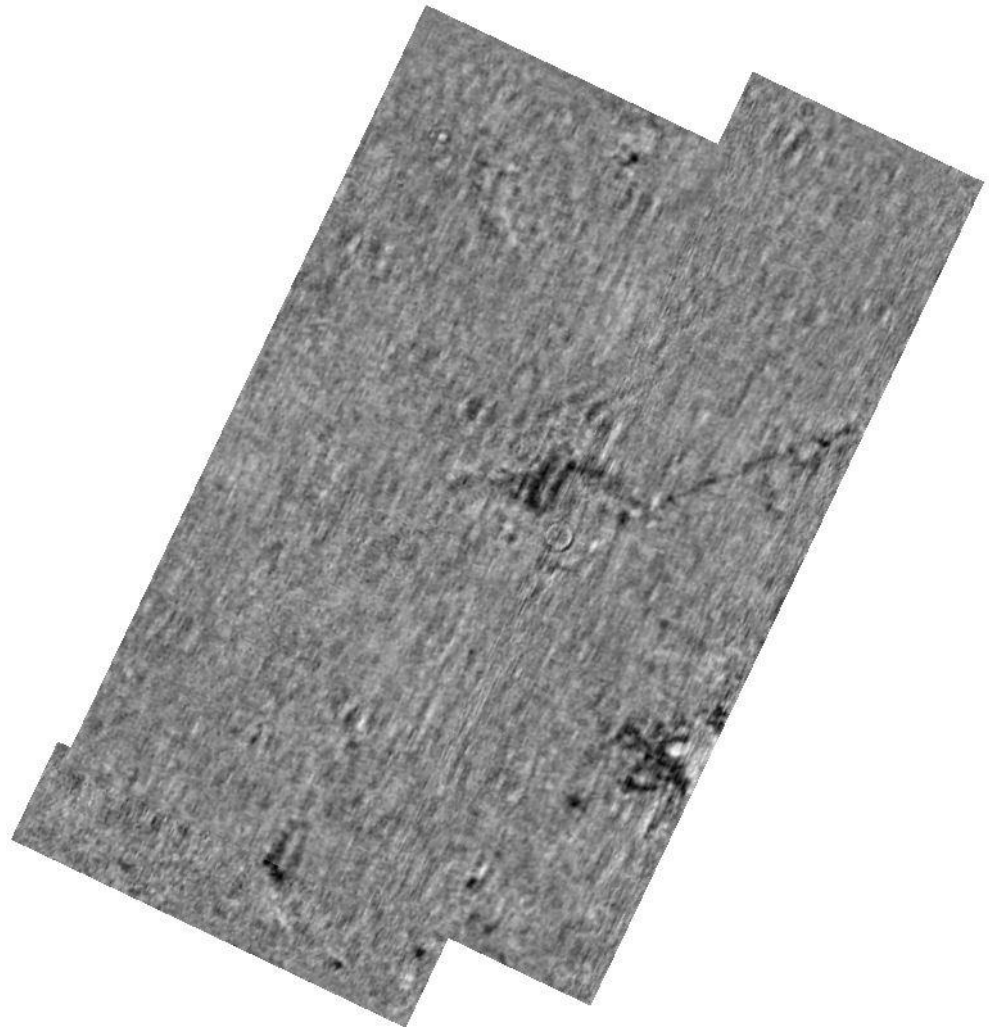


Figure 14: Area 05 subsurface anomaly. Processed depth slice at 380mm depth.

Area 06:

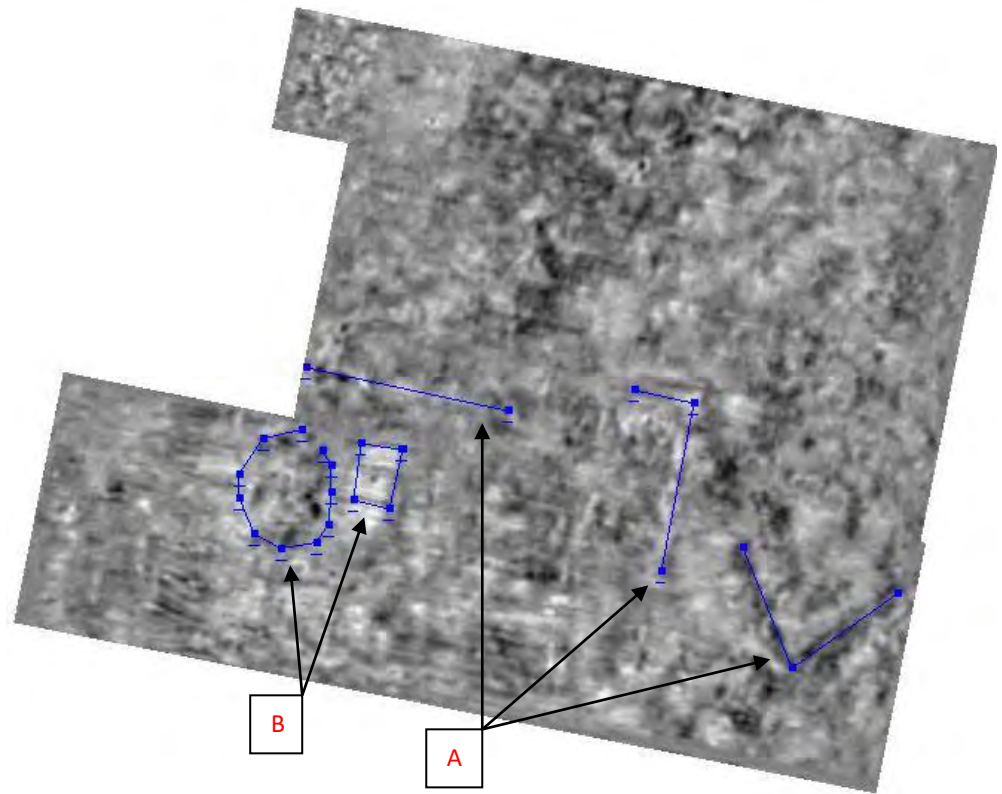


Figure 15: Area 06 all interpretations.

GPR results from Area 06 displayed anomalies below the surface. Figure 17 above displays all interpreted anomalies within a single depth slice of processed data. Subsurface anomalies are marked in blue.

Subsurface anomalies; Label 'A' in Figure 17 above displays three areas returning subsurface linear anomalies. The anomalies are weak in contrast and not well defined. The nature of these anomalies is unknown. Label 'B' in Figure 17 displays two localised subsurface anomalies at approximately 460mm depth. These anomalies are of higher contrast and have sharper definition. Such an anomaly could relate to that of a potential subsurface grave.

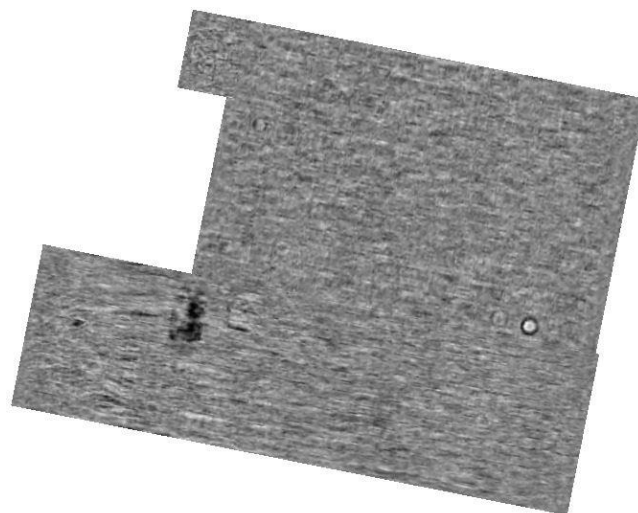


Figure 16: Area 06 subsurface anomalies. Processed depth slice at 460mm depth.

CONCLUSION Overall, data coverage was very good over the areas provided. GPS was excellent with no RTK dropouts occurring. GPR data quality was satisfactory with average to below average depth penetration obtained from a 400Mhz GPR antenna (<1m). The GPR instrument is capable of ~2.5-3m depth penetration in a dry resistive subsurface material. Additional GPR data along the perimeter of certain areas would be beneficial to support findings that could not be completely delineated/interpreted (i.e., Area 04).

There is high possibility that not all survey targets were detected. There are certain factors which may limit the GPR data resolution towards identifying subsurface objects, including material of target, host material, and levels of saturation. The electrical contrast between the target and the surroundings must be significant enough to accurately tell the difference between the two materials. For example a steel object within a dry sand would create a strong contrast whereas brick foundation targets within a surrounding clay would create a lower density contrast. The local geology is unknown however does not appear entirely favourable for GPR technology based on the resolution and depth penetration returned from the data.

Surface anomalies within the data are evident in the most shallow depth slice (0mm). As the anomalies are so shallow (on the surface or directly under it), the intensity of the signal appears and continues in lower depth slices. Interpretations marked as surface anomalies should still be exercised with caution. Surface features of relevance to the investigation that stood out from the rest include Area 02 'A' and Area 02 'A'.

Many subsurface anomalies within the data were of low contrast and made for difficult interpretation. However, there were higher contrast, more defined anomalies that were detected. Subsurface anomalies of relevance to the investigation that stood out from the rest include Area 01 'C', Area 04 and Area 06 'B'. Interpretations made towards surface and subsurface anomalies are ultimately unknown and can therefore vary, if present at all.

Interpretations on individual anomalies have been made as a result of the anomaly contrast and orientation. Interpretations have been made at the first sign of an anomaly within the depth slice (at the most shallow depth). These associated depths are based on the set soil velocity of 113m/μs. The interpreted depths may vary and as a result, caution should be exercised during further invasive investigations.

All interpretation markers are included within the accompanied .dxf file. These markers have a GPS position (x,y) and depth (z) value associated with them.

It is recommended that further invasive investigations are conducted. These will help to correlate with non-destructive GPR results.

Please contact the author if relocation issues occur. Raw GPR data can be provided upon request. A .dxf file with all interpretations will accompany this report.

DISCLAIMER It should be noted that the attached results are the result of an interpretation of the collected data. Whilst state-of-the-art instrumentation and qualified personnel have been utilised for this survey there are circumstances under which the interpreted result can differ from the actual sub surface strata.

The author accepts no responsibility for actions or decisions made on the basis of the presented result. The results are presented for the clients' review only and should not form the sole basis of any decision or action made in relation to this project.

This report has been prepared for the use of the client as listed on page 1 in accordance with general accepted consulting practice. No other warranty, expressed or implied, is made as to the professional advice included in this report.

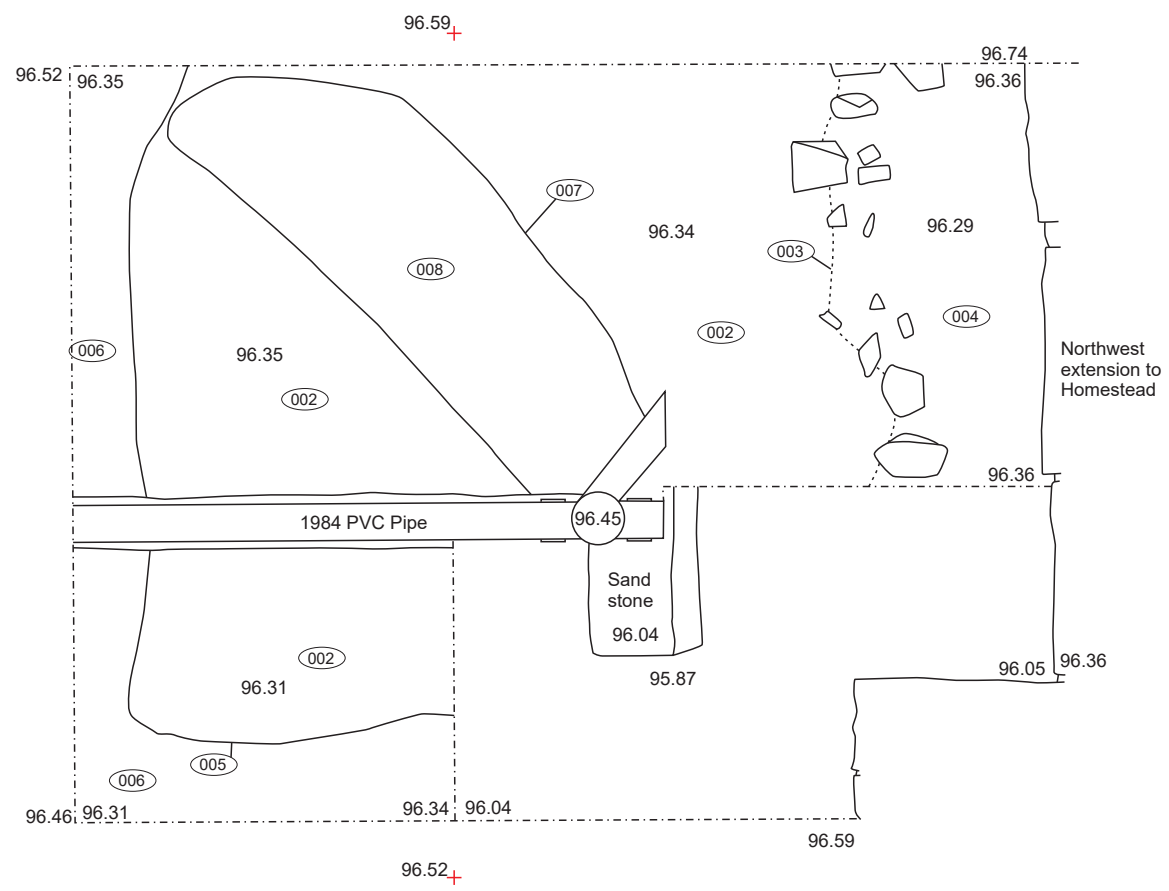
This report was prepared on completion of the fieldwork/processing and is based on conditions encountered and reviewed at the time of preparation. MALA GPR Australia disclaims responsibility for any changes that might have occurred after this time.



This report should be read in full, no responsibility for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Only qualified legal practitioners can give legal advice.

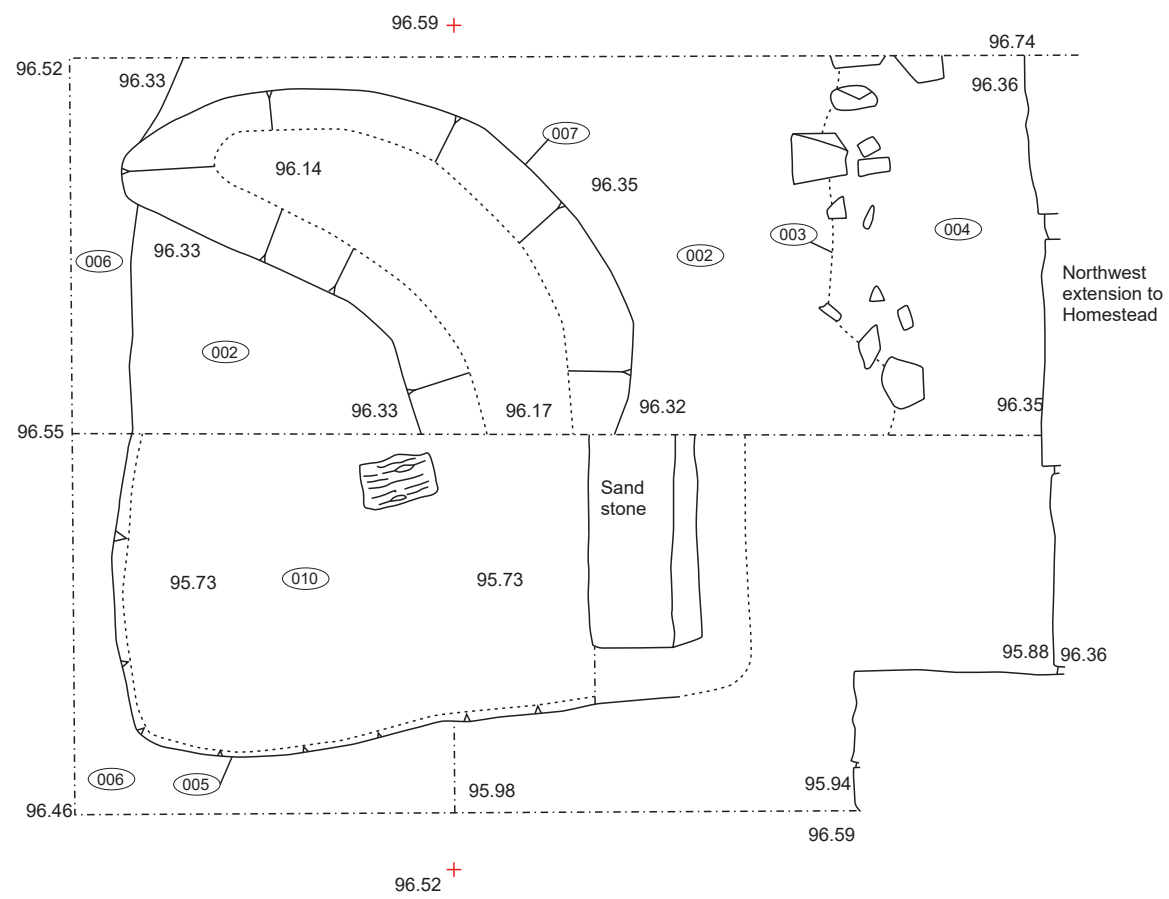
Whilst to the best of our knowledge, information contained in this report is accurate at the date of issue; conditions on the site can change in a limited time. This should be borne in mind if the report is used after a protracted delay. As with any form of non-destructive testing, our opinions of results do not apply, we rely solely on data collection and criteria conformance.



If it is found that the actual locations differ from the interpreted result the author should be contacted immediately.

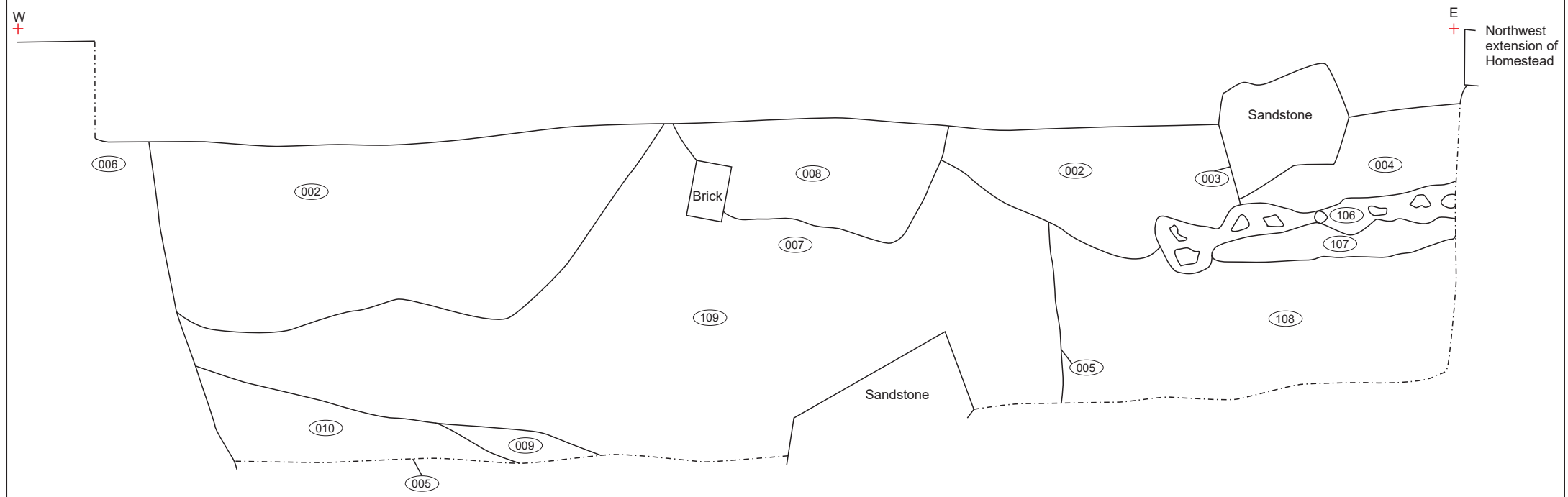
APPENDIX 2: Site Plans





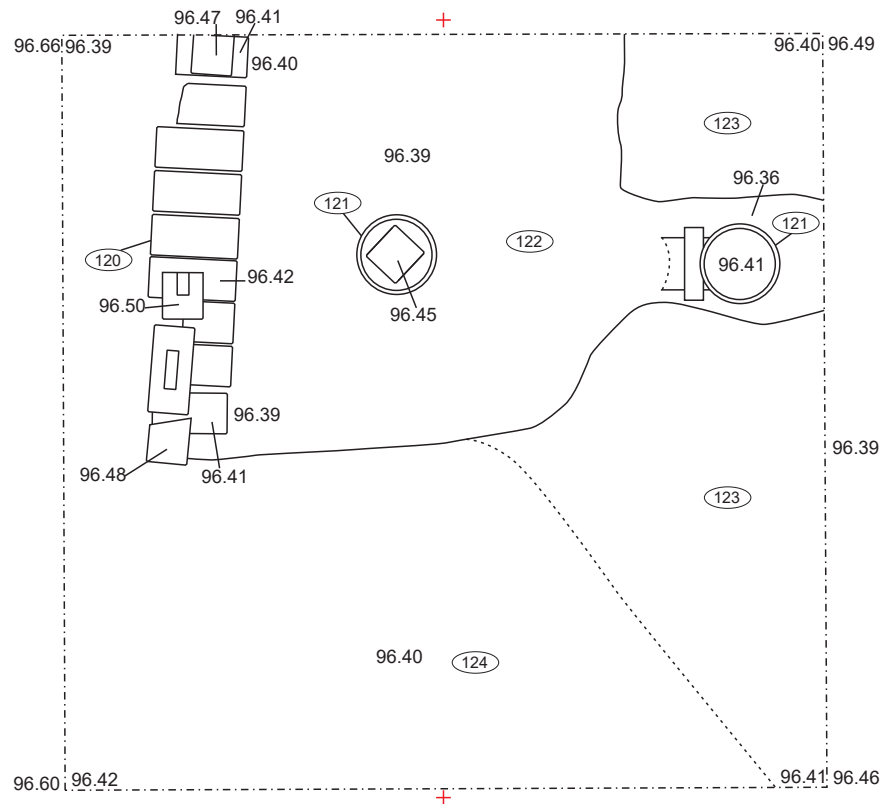
Legend 1.23 - Reduced Level in metres (13450) - Context Number	Test Area 03; Test Trench 06a	Plan No: 3.6a.1	Project: Ravensworth Homestead	
		Drawn By: GPM / GPM		
		Date: 05.11.2018 / 22.11.2018	Client: Glencore	
Scale  0 1m	Title: TT 06a prior to excavation of cuts 005 and 007			




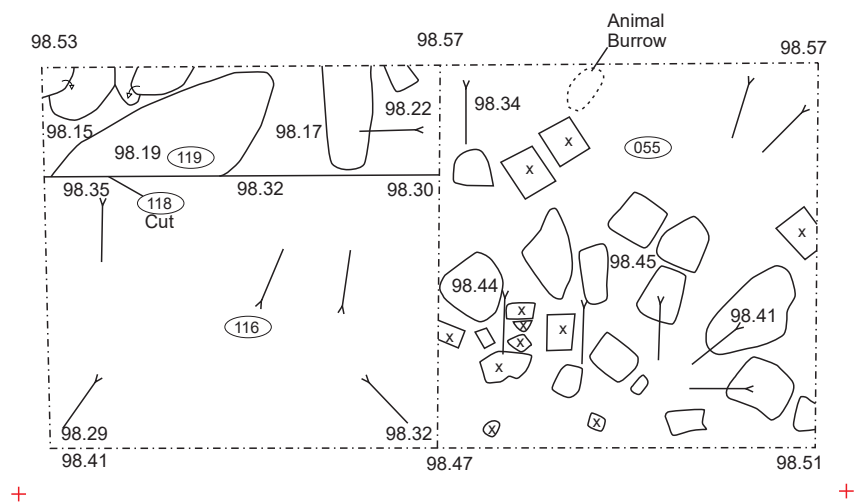
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		Title: Post excavation plan of TT 06a showing various features		Drawn By: GPM / GPM		
				Date: 08.11.2018 / 22.11.2018	Client: Glencore	



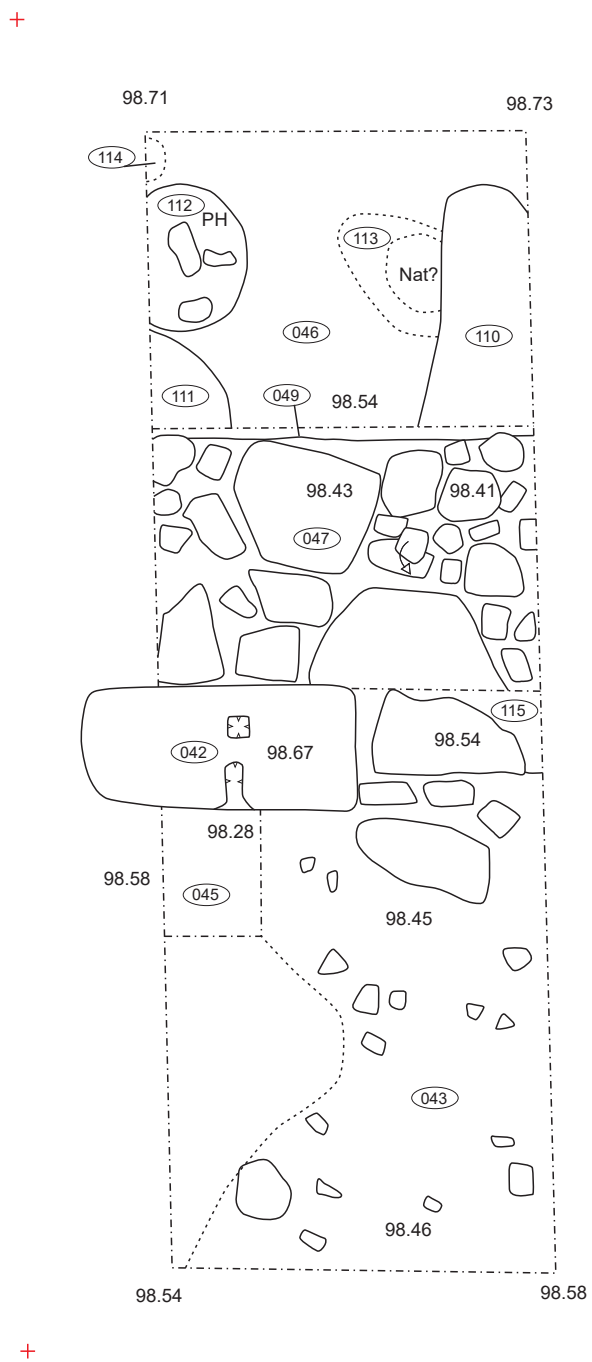
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	Scale  0 0.5m	Title: South facing section of TT 06a mid excavation showing cut 005		
		Date: 07.11.2018 / 22.11.2018	Client: Glencore	



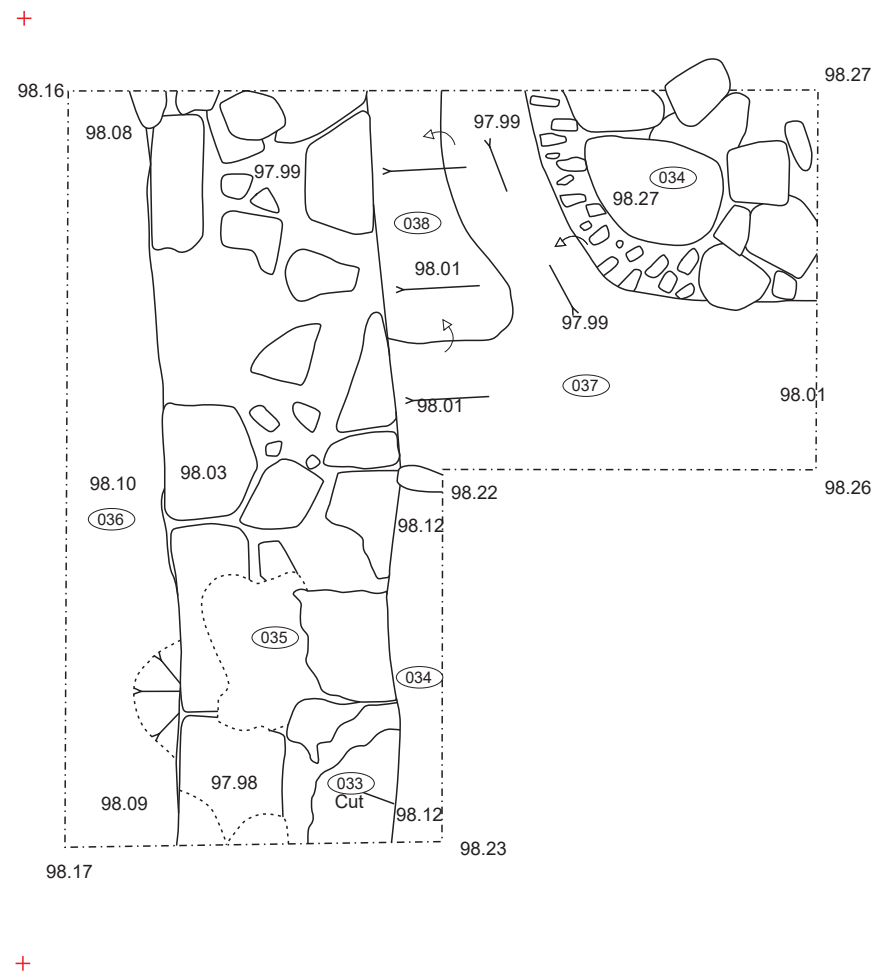
Legend 1.23 - Reduced Level in metres (13450) - Context Number	Test Area 03; Test Trench 06b	Plan No: 3.6b.1	Project: Ravensworth Homestead	
		Drawn By: GPM / GPM		
		Date: 13.11.2018 / 22.11.2018		
Scale 0 1m	Title: Post excavation plan of TT 06b showing wall 120		Client: Glencore	




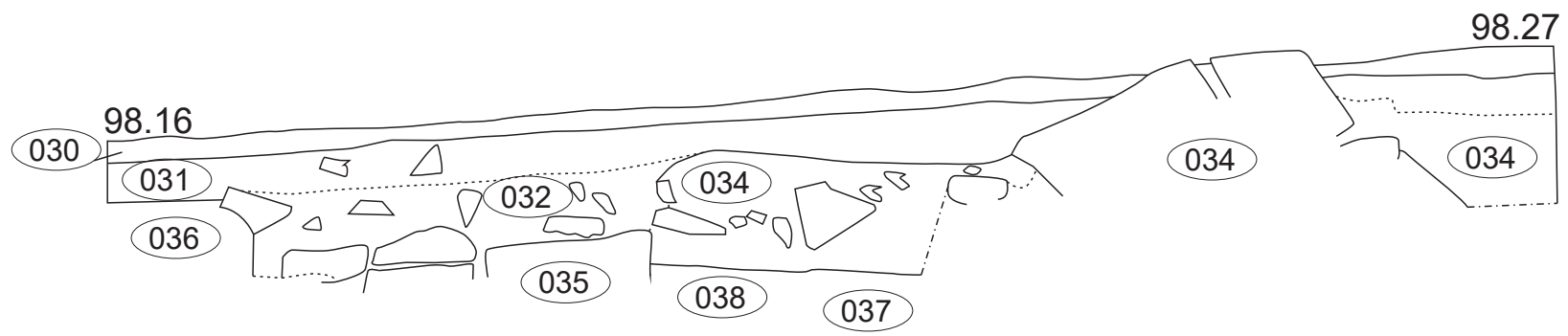
Legend	1.23 - Reduced Level in metres 13450 - Context Number x - Brick	Test Area 04; Test Trench 03	Plan No: 4.3.1	Project: Ravensworth Homestead	
			Drawn By: MB/GPM		
Scale		Title: Post excavation plan of TT 03 showing wall 119	Date: 15.11.2018 / 21.11.2018	Client: Glencore	





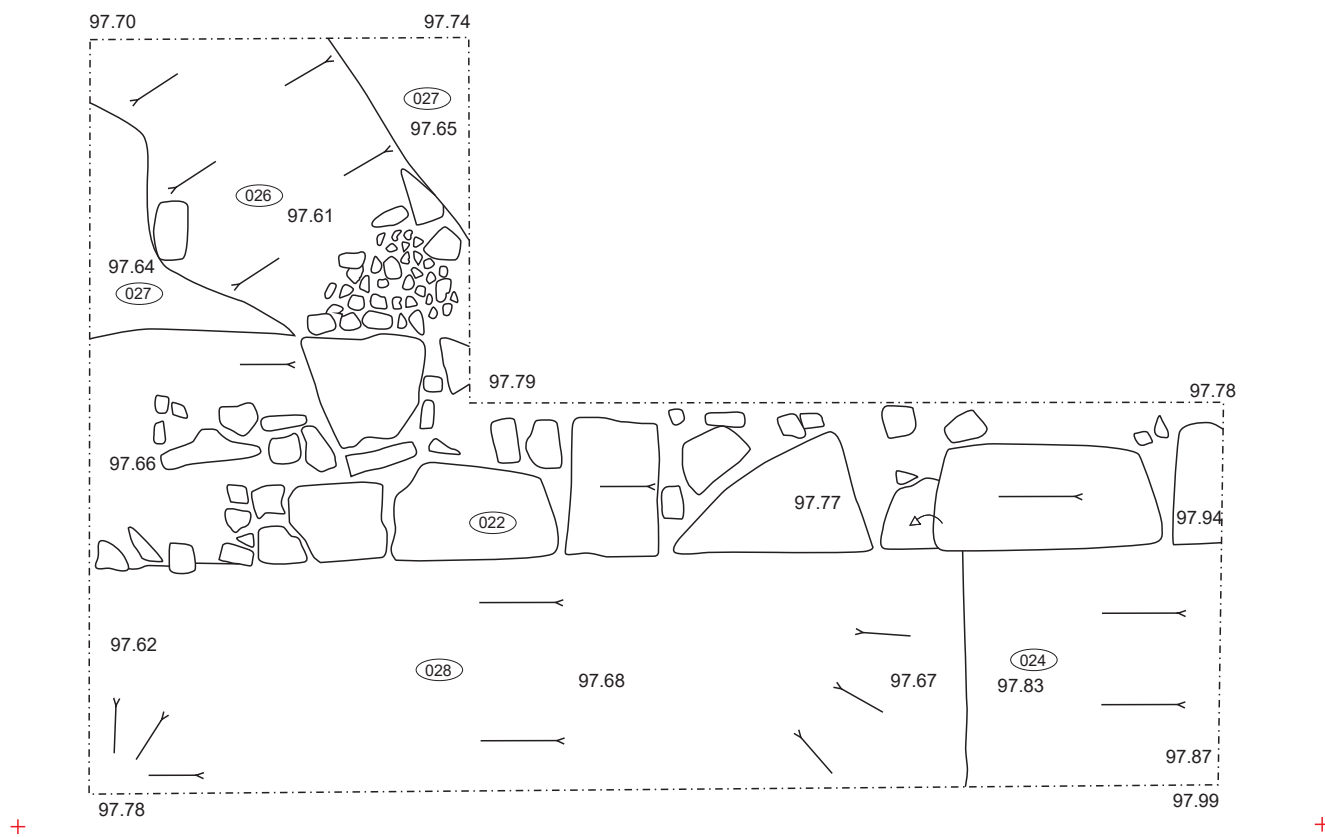
Legend	1.23 - Reduced Level in metres  - Context Number	Test Area 04; Test Trench 04	Plan No: 4.4.1	Project: Ravensworth Homestead	
	Scale 		Drawn By: MB/GPM		
			Title: Post excavation plan of TT 04	Date: 08.11.2018 / 21.11.2018	



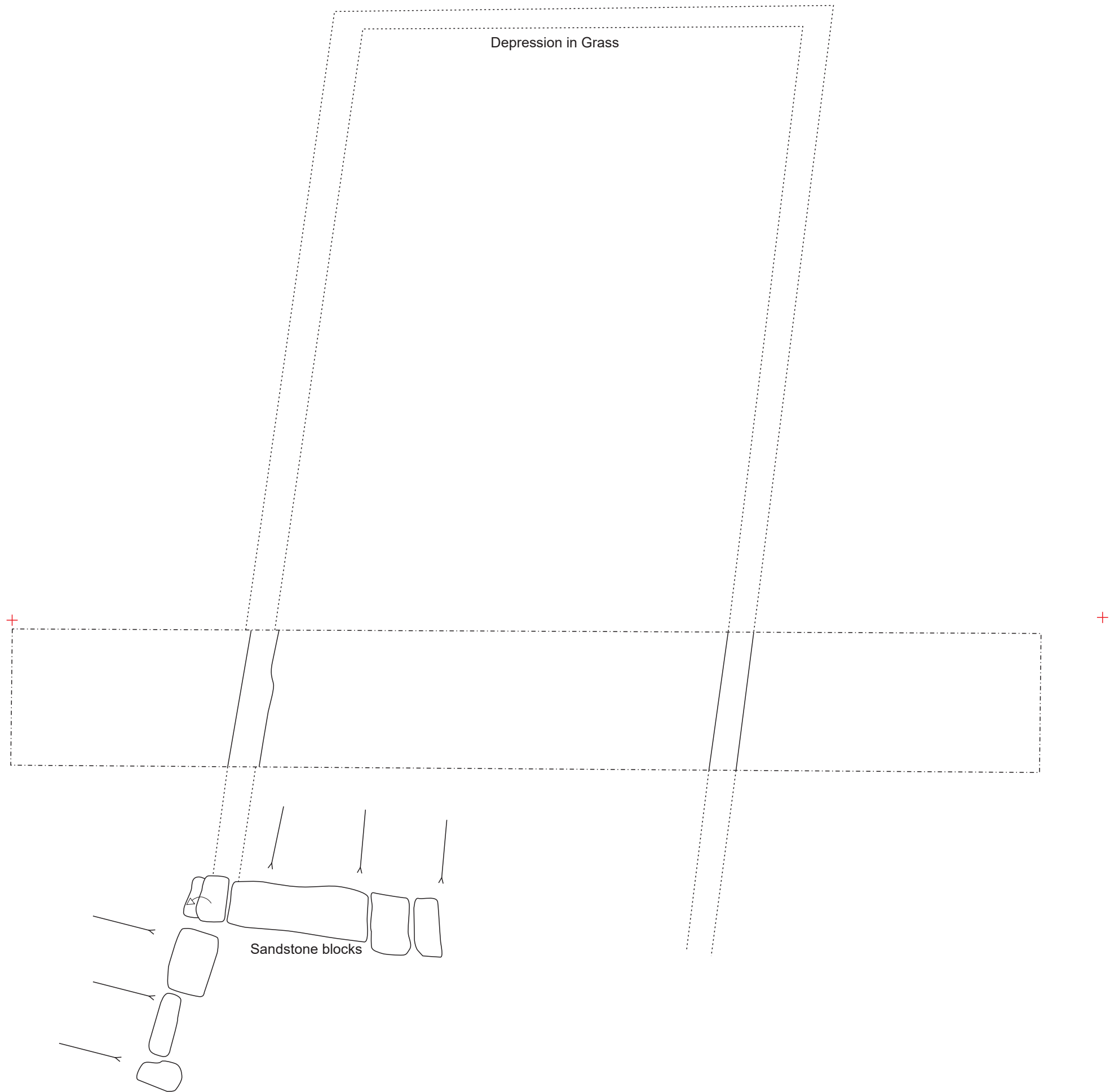
Legend	1.23 - Reduced Level in metres 13450 - Context Number	Test Area 04; Test Trench 05	Plan No: 4.5.1	Project: Ravensworth Homestead	
			Drawn By: MB/GPM		
Scale		Title: Post excavation plan of TT 05 showing wall 035	Date: 13.11.2018 / 21.11.2018	Client: Glencore	



Legend 1.23 - Reduced Level in metres (13450) - Context Number	Test Area 04; Test Trench 1	Section No: 4.5.1	Project: Ravensworth Homestead	
		Drawn By: RLS / GPM		
		Date: 15.11.2018 / 22.11.2018	Client: Glencore	
Scale  0 0.5m	Title: South facing section of TT 01 showing wall 034			



Legend	1.23 - Reduced Level in metres 13450 - Context Number	Test Area 04; Test Trench 06	Plan No: 4.6.1	Project: Ravensworth Homestead	
			Drawn By: MB/GPM		
Scale		Title: Post excavation plan of TT 06 showing wall 022	Date: 13.11.2018 / 21.11.2018	Client: Glencore	



Legend

1.23 - Reduced Level in metres
13450 - Context Number

Scale



Test Area 05; Test Trench 02

Title: Locational plan of TT 02 and surrounding features

Plan No: 5.2.0

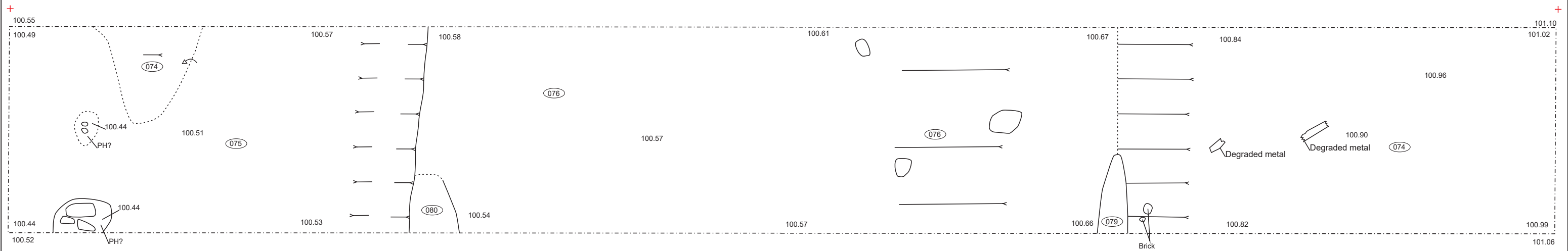
Drawn By: MB/GPM


Date: 12.11.2018 / 21.11.2018

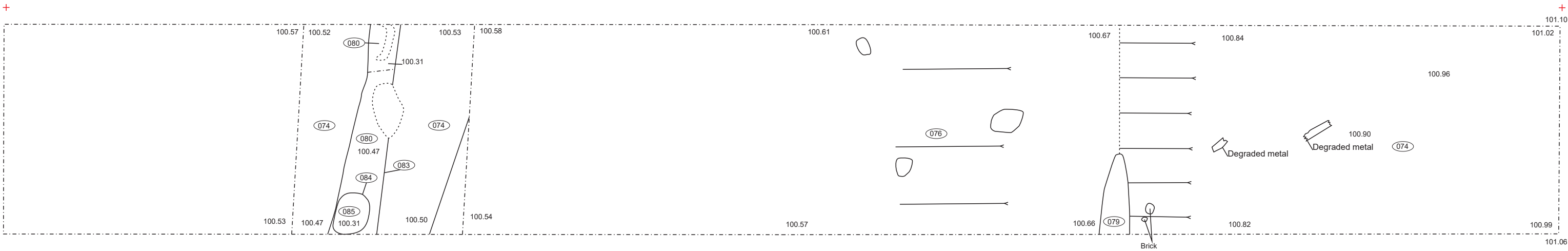
Project:
Ravensworth Homestead
Client: Glencore

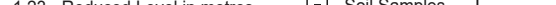


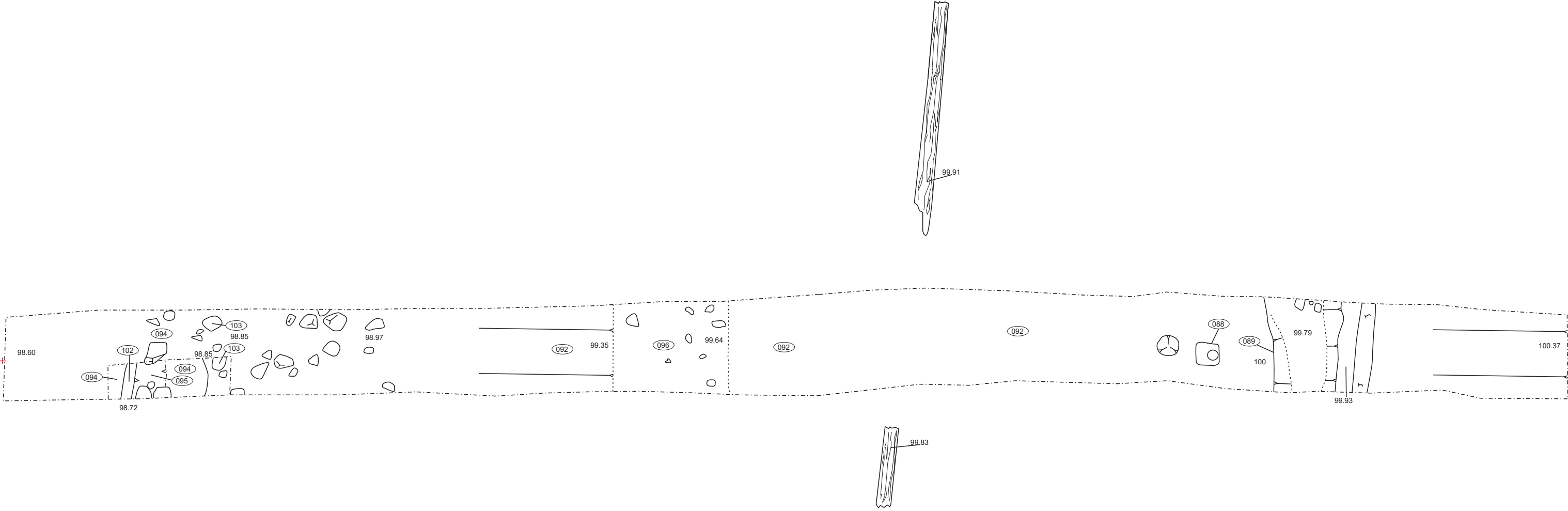
**CASEY &
LOWE**
ARCHAEOLOGY &
HERITAGE



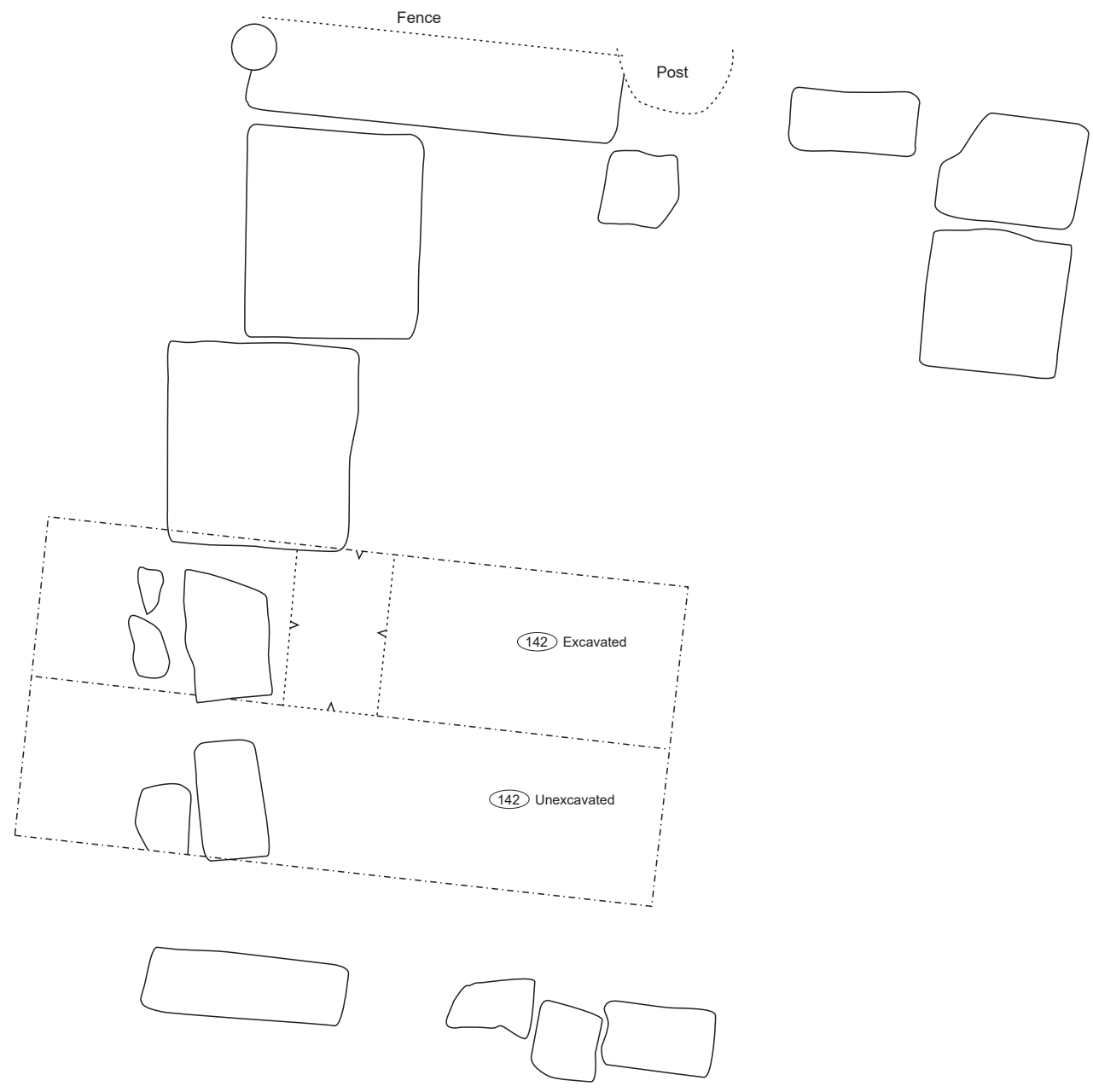
Legend	1.23 - Reduced Level in metres 13450 - Context Number	Test Area 05; Test Trench 02	Plan No: 5.2.1	Project: Ravensworth Homestead	
			Drawn By: MB/GPM		
Scale		Title: Mid excavation plan of TT 02	Date: 07.11.2018 / 21.11.2018	Client: Glencore	




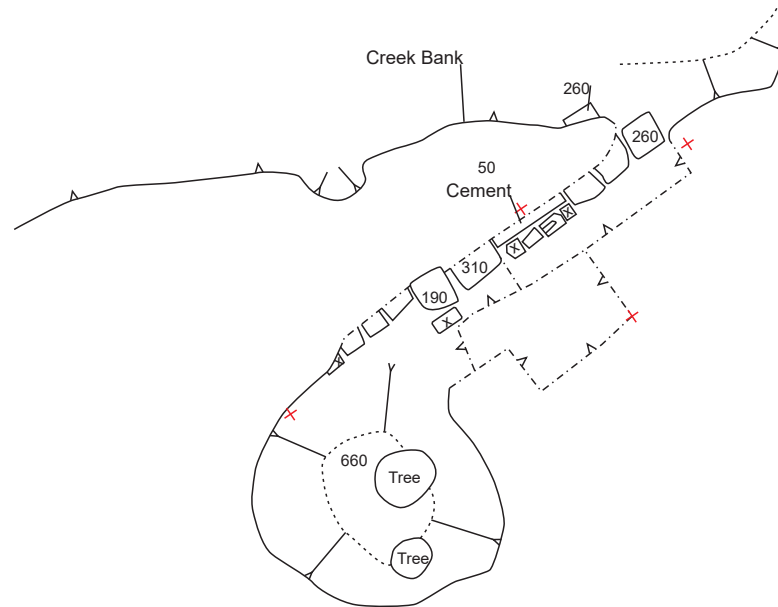
Legend	1.23 - Reduced Level in metres	■ - Soil Samples	Test Area 05; Test Trench 02	Plan No: 5.2.2	Project: Ravensworth Homestead	
	⑬345⑭ - Context Number			Drawn By: MB/GPM		
Scale		Title: Post excavation plan of TT 02	Date: 09.11.2018 / 21.11.2018	Client: Glencore		



Legend	1.23 - Reduced Level in metres 13450 - Context Number	Test Area 05; Test Trench 03	Plan No: 5.3.1	Project: Ravensworth Homestead	
			Drawn By: SK / GPM		
Scale		Title: Post excavation plan of TT 03 and surrounding features	Date: 14.11.2018 / 21.11.2018	Client: Glencore	



Legend <div><div>13450</div> - Context Number</div>	Test Area 05; Test Trench 06	Plan No: 5.6.1	Project: Ravensworth Homestead	
	Post excavation plan of TT 06	Drawn By: BM / GPM		
			Date: 15.11.2018 / 21.11.2018	
Scale <div><div>0</div><div>1m</div></div>				



Legend 1.23 - Relative levels to be adjusted via survey data
(13450) - Context Number x - Brick

Scale 0 2m

Test Area 06; Test Trench 01

Post excavation plan of TT 01

Plan No: 6.1.1

Drawn By: SK / GPM

Date: 15.11.2018 / 21.11.2018

Project:

Ravensworth Homestead

Client: Glencore



Legend 1.23 - Reduced Level in metres
(13450) - Context Number

Scale 0 1m

Test Area 06; Test Trench 07

Title: Post excavation Plan of TT 07

Plan No: 6.7.1

Drawn By: MB / GPM

Date: 14.11.2018 / 21.11.2018

Project:
Ravensworth Homestead

Client: Glencore



APPENDIX 3: Artefact Catalogue

- 3.1 ABBREVIATIONS**
- 3.2 BONE**
- 3.3 BUILDING MATERIAL**
- 3.4 CERAMICS**
- 3.5 GLASS**
- 3.6 METAL**
- 3.7 MISCELLANEOUS**
- 3.8 ORGANICS**
- 3.9 SHELL**

Common abbreviations used by Casey & Lowe

Function & Shape abbreviations

alch	alcohol
archit	architectural
aw	aerated water
bev	beverage
btI	bottle
by-prod	by-product
cham	champagne
cleric	clerical
cloth	clothing
collect	collectable
conc	concrete
cond	condiments
cont	container
draw	drawing
elect	electricity
furn	furniture
g/schn	gin/schnapps
groom	grooming
h'hold	household
hygiene/serv	hygiene/serving
indust	industrial
jew	jewellery
mach	machinery
maint	maintenance
med	medical
o/v	oil/vinegar
orna	ornamental
p/c	pickle/chutney
pers	personal
pharm	pharmaceutical
poe	poe, chamber pot
prep	preparation
rec	recreational
roof	roofing
serv/hygiene	serving/hygiene
sew	sewing
stk	stick
stemwre	stem ware
stru	structural
synth	synthetic
tblw	tableware
tele	telephone
trans	transport

Function & Shape (continued)

tumb	tumbler
unid	unidentified
v-fitting	vessel fitting
v-hull	vessel hull
v-superstru	vessel superstructure

Fabric Abbreviations

aes	copper alloy
ag	silver
au	gold
bc	bone china
bp	Britannia Plate
charc	charcoal
conc	concrete
cu	copper
epns	electro-plated nickel silver
fe	iron
few	fine earthenware
fstw	fine stoneware
galv	galvanised steel or iron
jap porc	Japanese porcelain
MoP	mother of pearl
pb	lead
porc	porcelain
pvc	poly vinyl chloride (a common plastic)
sn	tin
sstone	sandstone
stw	stoneware
svfew	semi-vitreous fine
zn	zinc

Country

Aus	Australia
Eng	England
Fra	France
Ger	Germany
Holl	Holland
Ire	Ireland
Scot	Scotland
Syd	Sydney
Jap	Japan

Description Abbreviations

Abbreviations used in other fields PLUS:

attrib	attributed
bck	back
bdy	body
BFD	bad fabric decay
btI	bottle
c.	circa, approximately
centr	centre
charc	charcoal
circ	circular
crn	corner
cylind	cylindrical
dec	decoration/decorated
diag	diagonal
emb	embossed
encr	encrusted
env	environment
exfol	exfoliating
ext	exterior
FD	fabric decay
frag(s)	fragment(s)
freq	frequent
glz	glaze
hdl	handle
hexag	hexagonal
HF	hand forged
HFD	high fabric decay
horiz	horizontal
illeg	illegible
imp	impressed
incl	including
ind	indent
int	interior
irreg	irregular
LFD	light fabric decay
lgst	largest
m&c	mixed and crushed
manuf	manufactured
mchrome	monochrome
MFD	moderate fabric decay
MoP	mother of pearl (shell)
nos	numbers
nth	north

Description (Continued)

obv	obverse
occ	occasional
orig	original
pattn	pattern
post dep	post deposition(al)
prob	probably
pt	point
pttn	pattern
Rect	rectangular
reg	regular
reg	registered
rev	reverse
sctn	section
sect	section
sem-circ	semi-circular
sh	shoulder
shk	shank
sim	similar
sl	slightly
smlst	smallest
smP	sample
spher	spherical
sq	square
sgs	squares
thck	thick
t'out	throughout
tp	transfer print
trunc	truncated
v	very
vege	vegetable
veget	vegetation
ver	vertical
VHFD	very high fabric decay
yrs	years

Common abbreviations used by Casey & Lowe

Bone & Shell Abbreviations

MNI	Minimum Number of Individuals
NFI	Not Further Identified
NISP	Number of Identified Specimens Present
sp.	species

Building Materials Abbreviations

cr	crushed
DP	dry pressed (brick type)
lino	linoleum
mor	mortar
mx	mixed
m&c	mixed and crushed
Sglz	Salt glaze
sstock	sandstock (brick type)
sstock	sandstock (brick type)
unex	unexploded

Ceramic Abbreviations

annu pearl	annular pearlware
annular	annular creamware
bc	bone china
bl flow	blue flow
bl hp	blue handpainted
black btl	blackening bottle
blk flow	black flow
blktp	black transfer print
bltp	blue transfer print
bltp pearl	blue transfer print pearlware
break cup	breakfast cup
bristol gl	bristol glazed ware
brn gl	brown glaze
brntp	brown transfer print
brntp	brown transfer print
candle stk	candle stick
cew	coarse earthenware
Chinese porc	Chinese porcelain
clobb	clobbered

Ceramics (continued)

cont	container
cream w	creamware
dual gl	dual glaze
edge pearl	edgeware pearlware
edge w	edgeware creamware
edge WW	edgeware whiteware
few	fine earthenware
figure	figurine
g beer	ginger beer
gild	gilded
gild	gilded
gl mou	glazed moulded
glz	glazed
glz mou	glazed moulded
grnflow	green flow
grntp	green transfer print
grtp	green transfer print
H	height
hp	handpainted
hp gild	handpainted & gilded
hp lustre	handpainted lustre ware
hp pearl	handpainted pearlware
hp tp	handpainted & transfer print
hp ww	handpainted whiteware
imp	impressed
mou ww	moulded whiteware
porc	porcelain
ppl flow	purple flow
ppl tp	purple transfer print
provin w	provincial ware
redtp	red transfer print
rock gl	Rockingham glaze
salt gl	salt glaze
salt glz	salt glaze
selfslip	self slipped
slip	slipped
spatter pearl	spatter pearlware
spatter ww	spatter whiteware
sponge	sponge ware
sponge pearl	sponge pearlware

Ceramics (continued)

sprigg	sprigged
Th	thickness
tp	transfer print
W3	Willow pattern
wgl	white glaze
wgl gilt	white-glazed & gilded
wgl mou	white glaze moulded
wgl mou	white-glazed & moulded
wgl mou gild	white-glazed moulded & gilded
writ	writing
ww	whiteware
ww mou	moulded whiteware

Colour Abbreviations

blk	black
brn	brown
cl	clear
cob blue	cobalt blue
dk	dark
dk grey	dark grey
gr	grey OR green
grn	green
grn-grey	green-grey
l	light
l brn	light brown
l gr	light green
lt	light
ol	olive
or	orange
ppl	purple
v	very
v pale brn	very pale brown
yell	yellow

Misc & Metals Abbreviations

EUH	Early 'upset head' (pin type)
SW	spherical wire wound head (pin type)
SWC	conical wire head (pin type)
CW	cut & wrought (nail type)
HF	hand forged (nail type)
MW	machine wrought (nail type)
WD	wire drawn (nail type)

Portion Abbreviations

bd	body
bdy	body
bs	base
dia	diameter
fin	finish (rim lip)
frag	fragment
H	height
hd	head
hdl	handle
hdl	handle
L	length
mth	mouth
nk	neck
nr	near
sh	shoulder
th	thickness
W	width

Cat #	Common Name	Scientific Name	Anatomical Name	Body Part	Body SubPart	Fragmentation	Butchery description	Comments	Total Frags	Box
271	Sheep	Ovis sp.	Unidentifiable	Other		Midshaft <10%	Cut by knife or cleaver, right through		1	1
272	Sheep	Ovis sp.	Unidentifiable	Other		Midshaft 10-25%			1	1
273	Sheep	Ovis sp.	Unidentifiable	Other		Dorsal 10-25%			1	1
274	Sheep	Ovis sp.	Unidentifiable	Other		Medial <10%	Midshaft, cut by knife or cleaver		1	1
275	Sheep	Ovis sp.	Scapula	Forelimb	Upper Forelimb	Distal <10%			1	1
276	Sheep	Ovis sp.	Rib	Spine	Rib Cage	Ventral <10%	Midshaft, cut by knife or cleaver		1	1
277	Unidentified Mammal		Fragment	Other		Midshaft <10%		hollow	1	1
278	Sheep	Ovis sp.	Metatarsus	Hindlimb	Lower Hindlimb	Midshaft 50-75%			1	1
279	Sheep	Ovis sp.	Radius	Forelimb	Lower Forelimb	Distal/Midshaft 25-50%			1	1
280	Unidentified Mammal		Femur	Hindlimb	Upper Hindlimb	Midshaft <10%			1	1
281	Unidentified Mammal		Rib	Spine	Rib Cage	Midshaft 10-25%			1	1
289	Sheep	Ovis sp.	Calcaneus	Hindlimb	Lower Hindlimb	90-100%			1	1
282	Unidentified Mammal		Unidentifiable	Other		Midshaft <10%		lamination	1	1
283	Unidentified Mammal		Fragment	Other		Unid/unknown		heavy lamination	1	1
284	Unidentified Mammal		Metatarsus	Hindlimb	Lower Hindlimb	Distal/Midshaft 10-25%			1	1
285	Unidentified Mammal		Fragment	Other		Unid/unknown			1	1
288	Unidentified Mammal		Fragment	Other		<10%			1	1
286	Sheep	Ovis sp.	Tooth	Head	Teeth	25-50%			1	1
287	Unidentified Mammal		Rib	Spine	Rib Cage	Midshaft <10%			1	1

Area	Test Trench	Context	Cat #	Box	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Join	Manuf	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frag	Items	Box
TA3	O2	12	300	7	archit	non-stru	slate	slate	frag		dk grey				Lgst=130+x12+x5	34	Slate damp proof course fragments. Coarsely split. Delaminating.	c 1840		3	1	7
TA3	O2	12	301	7	archit	finish	render	plaster	frag	Lime	white-cream				110+x100+x21; Set Th=3-10; Lath W=53	216	Hard 2-coat lime plaster render over timber laths of ceiling. Both coats white to cream. Scratch/floating coat: very freq sand <1.5mm; freq lime lumps <2mm. Set coat: roughly smoothed flat, varied thickness, coarse, hard, well mixed, less freq sand, very freq lime. No paint. Lath impressions on back, one full width. Lime coat sim to 12/#302. Munsell: paler than 10YR 8/1 white.	c 1840		1	1	7
TA3	O2	12	302	7	archit	finish	render	concrete/plaster	frag	Lime/Conc	white-cream/ lt grey				113+x82+x13-29; Set Th=8-14; Joint W=11, 20	288	Hard 2-coat lght grey render over sandstone wall or floor, frags of sandstone adhering & impressions, wide and thin joints visible. Concentration of lime at interfaces possibly separating from poorly mixed 1st coat or remnants of earlier render. Scratch/floating coat: white-cream lime plaster, hard, very freq sand <1.5mm; freq lime lumps <2mm. Set coat: light grey concrete smoothed flat, varied thickness, coarse, hard, well mixed, very freq sand <2mm, freq lime <1mm, very freq air/heat bubble voids. No paint. As 13/#303. Re-rendering event?	c 1880		1	1	7
TA3	O2	13	303	7	archit	finish	render	concrete/plaster	frag	Lime/Conc	white-cream/ lt grey				Lgst=153+x135+x11-39; Set Th=13-19; Joint W=27-32	790	Hard 2-coat light grey render over sandstone wall or floor, frags of sandstone adhering & impressions, wide and thin joints visible. Concentration of lime at interfaces possibly separating from poorly mixed 1st coat or remnants of earlier render. 2 fragments. Scratch/floating coat: white-cream lime plaster, hard, very freq sand <1.5mm; freq lime lumps <2mm. Set coat: light grey concrete smoothed flat, varied thickness, coarse, hard, well mixed, very freq sand <2mm, freq lime <1mm, very freq air/heat bubble voids. No paint. As 12/#302. Re-rendering event?	c 1880		2	1	7
TA3	O2	13	304	7	archit	non-stru	slate	slate	frag		dk grey				175+x77+x6	120	Slate damp proof course fragment. Coarsely split. Delaminating. As 12/#300.	c 1840		1	1	7
TA3	O2	13	305	7	archit	roof	slate	slate	frag		ppl grey				108+x56+x3.5	48	Roofing slate fragment. Light green oval flaw.	c 1840		1	1	7
TA3	O2	13	306	7	archit	stru	brick	clay	25%	Ss rect shallow Rav	red	Aus			79+x97+x62	579	Sandstock brick fragment with wide shallow rectangular frog with concave base. Medium well m/c sandy clays fired to red, freq white sand <0.5mm, red-brown rounded and angular ironstones <8mm and veget voids. Not very dense, now rounded arrises. Remnant hard white to cream mortar/plaster on stockface with freq sand <1mm and lime lumps <1mm. Very worn/rolled. Too worn to measure frog. Date from lime. Munsell brick: 2.5YR 6/8 light red.	c 1840		1	1	7
TA3	O6A	1	307	6	archit	floor	tile	stw	100%		lt-dk brn				56-58x56-58x5	147	Square glazed floor tiles, modern kitchen/bathroom. Moulded light grey stoneware with matte-glossy variegated glaze creating fuzzy linear zones of light and dark brown across face. 6 low flat bars on back. Remnant hard light grey cement bedding mortar and grout on intact example.	c 1960		6	5	6
TA3	O6A	1	308	6	service	drainage	pipe	stw	frag		brn				Bdy Dia=210	119	Mottled brown saltglazed stoneware drain/sewer pipe fragments of approx same diameter. One collar with flat rim and threaded/grooved interior has more red-brown glaze and greyer fabric with exploded ironstones.	c 1865		2	1	6
TA3	O6A	1	309	6	archit	roof	slate	slate	partial		ppl grey				200+x150+x4; Hole=2.5x1.5	357	Parts of 2 roofing slates, purple grey with light green oval flaws. Largest extant nibbled side and end edges, small rect nail holes beside extant side and broken corner.	c 1840		2	2	6
TA3	O6A	2	310	6	archit	non-stru	slate	slate	frag		dk grey				46+x40+x4	10	Corner fragment of very dark grey damp course or roofing slate. Extant nibbled side and end edges. Possibly darkened in soil.	c 1840		1	1	6
TA3	O6A	2	311	6	archit	stru	brick & mortar	clay/mortar	100%	Ss rect narrow Rav	red	Aus			206x108-110x68; Frog=97-100x32-38, Dpth=13	2650	Near whole sandstock brick used as is, with narrow deep rectangular frog with concave base, remnant lime mortar. Medium well m/c sandy clay, fired to deep red with very freq white sand and infreq white pebbles & pebble frags <7mm; very freq red-brown ironstone frags <2mm, rare <8mm. Dense, sharp arrises, flat surfaces. Frog has one vertical side, the other sloped, and slightly distorted due to very large ironstone 32+mm near vertical side. Hard light grey-brown sandy mortar with freq lime lumps <3mm, sandier at times, on all surfaces. Munsell brick: 7.5R 4-5/8 red; mortar: 10YR 7-8/2 very pale brown-light grey. BM Sample #03. Date from lime. Brick sim to 120/#355.	c 1840		0	1	6
TA3	O6A	2	312	6	archit	stru	brick	clay	100%	Ss rect Turton	lt brn	Aus		Turton, F	234x110x71; Frog=135x35, Dpth=7	3370	Whole sandstock brick with narrow deep rectangular frog with incuse mark: 'TURTON'. Medium well m/c sandy clay, fired to light brown with very freq red-brown ironstone frags 2-6mm, exploded black on stockface. Dense, sharp arrises, flat surfaces. Indented horiz side hackmark, no mortar. BM Sample #02. Munsell brick: 10YR 7-8/4 very pale brown.	1882	c 1900	0	1	6
TA3	O6A	9	313	7	archit	stru	lime	lime	100%		white				42x27x28	15	Irregular lump of white slaked lime.	c 1840		0	1	7
TA3	O6A	9	314	7	archit	roof	slate	slate	frag		ppl grey				Lgst=50+x38+x5	40	Purple grey slate roof tile fragments.	c 1840		6	1	7

Area	Test Trench	Context	Cat #	Box	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Join	Manuf	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frgs	Items	Box	
TA3	O6A	9	354	7	archit	stru	brick	clay	50%	Ss rect shallow Rav	dk red	Aus			148+x103-105+x58-60; Frog W=55	1530	Half fragment of sandstock brick. part of shallow wide rectangular frog with concave base. Medium well m/c homogenous sandy clays, high fired to dark red, very freq white sand 0.5-1mm and rare <4mm, very freq brown-black rounded and angular ironstones <8mm especialy in reduced core of brick, freq veget voids. Fairly dense, sharp arrises, fairly flat sides and ends with minimal slumping wrinkles, slightly warped. Angled impressed/dragged hackmark or secondary strikemark across strikeface. Crossed kiln marks on one side: regular stacking with narrow gaps, slightly sunken on either side of gap similar to standard hackmarks. No mortar. Munsell brick: 10R4/4-6 weak red to red. BM Sample #01.	c	1830		1	1	7
TA3	O6A	10	315	7	archit	roof	slate	slate	partial		ppl grey				Lgst=162+x88+x4	144	Purple grey slate roof tile fragments. One nibbled side edge.	c	1840		6	1	7
TA3	O6A	10	316	7	archit	stru	brick	clay	frag	Ss rect shallow Rav	lt red, red	Aus			92+x54+x59; 50+x75+x59; 95+x41+x62	770	Corner fragments of sandstock bricks with start of shallow wide rectangular frog with concave base. All medium well m/c homogenous sandy clays, fired to range of light red to dark red, very freq white sand 0.5-1mm and rare <6mm, freq red-brown rounded and angular ironstones <8mm and occasional <18mm, freq veget voids. Not very dense, sharp arrises only in higher-fired brick, others worn/rolled, fairly flat sides and ends with minimal slumping wrinkles. No mortar. Munsell brick: 2.5YR 6/8 light red; 2.5YR 5/8 red; 2.5YR 4-5/6 red.	c	1830		3	3	7
TA3	O6B	120	355	7	archit	stru	brick & mortar	clay/ mortar	100%	Ss rect narrow Rav	red	Aus			220-225x105-107x69-71; Frog=96x30-36, Dpth=15	2936	Whole sandstock brick with narrow deep rectangular frog with concave base. Well m/c sandy homogenous clay, fired to deep red with very freq white sand and infreq white pebbles & pebble frags <2mm; very freq red-brown ironstone frags <2mm, rare <12mm. Well made, dense, sharp arrises, flat surfaces. Frog has cuurved sloping upper sides. Munsell brick: 10R 4/8 red. BM Sample #07. Brick sim to 2/#311.	c	1840		0	1	7
TA3	O8	18	317	7	archit	stru	brick	clay	<10%	Ss	lt red	Aus			Lgst=35+x34+x15+	30	Small fragments of sandstock bricks. All medium well m/c homogenous sandy clays, fired to light red, very freq white sand 0.5-1mm and rare <3mm, freq red-brown rounded and angular ironstones <5mm, freq veget voids. Not very dense, worn/rolled. No mortar. Sim to 10/#316.	c	1830		3	1	7
TA3	D	155	352	7	archit	roof	slate	slate	frag		ppl grey				47+x25+x4	7	Small fragment of roofing slate.	c	1840		1	1	7
TA4	O1	53	318	8	archit	stru	brick	clay	<10%	Ss	lt red	Aus			36+x31+x55+	55	Small fragment of sandstock brick. Medium well m/c homogenous sandy clay, fired to light red, very freq white sand 0.5-1mm and rare <7mm, freq red-brown rounded and angular ironstones <8mm, freq veget voids. Not very dense, worn/rolled. No mortar. Sim to 10/#316.	c	1830		1	1	8
TA4	O1	53	319	8	archit	non-stru	slate	slate	frag		ppl grey				32+x28+x5	7	Small fragment of slate roof tile or damp proofing.	c	1840		1	1	8
TA4	O1	57	320	12	work	geological	bore core	stone	partial		grey				Dia=80; L=110+	1274	Broken fragments of a bore core of grey fine grained sedimentary rock with dark inclusions (siltstone with foramnifera?). Done in modern times by unknown geologists. Sim to 24/#343. Munsell core: GLEY 2 6-7/1 light bluish grey.				2	1	12
TA4	O1	58	321	9	archit	non-stru	slate	slate	frag		dk grey				38+x31+x5	10	Small fragment of slate roof tile or damp proofing. Worn/rolled.	c	1840		1	1	9
TA4	O3A	51	323	8	archit	stru	brick	clay	40%	Ss rect shallow Rav	red-brn	Aus			105+x110x65; Frog W=60, Dpth=4	1083	Half fragment of sandstock brick with part of shallow wide rectangular frog with concave base. All medium well m/c homogenous sandy clays, fired to dark red-brown, very freq white sand 0.5-1mm and rare <3mm, very freq black rounded and angular ironstones <12mm, freq veget voids. Not very dense, sharp arrises, wood grain of stockboard visible on stockface, fairly flat sides and ends with minimal slumping wrinkles. Side horiz hack mark. No mortar. Munsell brick: 10R 5/8 red.	c	1830		1	1	8
TA4	O3A	51	324	8	archit	stru/ floor	brick	clay	40%	Ss rect shallow Rav	red	Aus			130+x110x64; Frog W=60, Dpth=7	958	Half fragment of sandstock brick with part of shallow wide rectangular frog with concave base. Medium well m/c homogenous sandy clays, fired to deep red, very freq white sand 0.5-1mm and rare <4mm, freq brown-black rounded and angular ironstones <8mm, freq veget voids. Not very dense, rounded arrises and worn/rolled surface, fairly flat sides and ends with minimal slumping wrinkles. Angled impressed hack mark on strikeface. No mortar. One side very worn, possibly by treadage if laid on edge. Munsell brick: 10R5/8 light red.	c	1830		1	1	8
TA4	O3A	51	325	8	archit	stru/ floor	brick	clay	40%	Ss rect shallow Rav	lt red	Aus			136+x80+x60	732	Corner fragment of sandstock brick with part of shallow wide rectangular frog with concave base. Medium well m/c homogenous sandy clays, fired to orange-red, very freq white sand 0.5-1mm and rare <3mm, freq red-grey rounded and angular ironstones <5mm and rare 13mm, freq veget voids. Not very dense, rounded arrises and worn/rolled surface, fairly flat sides and ends with minimal slumping wrinkles. Some curved strikemarks. No mortar. One side missing, possibly through constant wear if laid on edge. Munsell brick: 2.5YR 6/8 light red.	c	1830		1	1	8

Area	Test Trench	Context	Cat #	Box	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Join	Manuf	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frgs	Items	Box	
TA4	O3A	51	326	8	archit	stru/ floor	brick	clay	60%	Ss rect shallow Rav	lt red	Aus			145+x80+x60	1298	Half sandstock brick with part of shallow wide rectangular frog with concave base. Medium well m/c homogenous sandy clays, fired to orange-red, very freq white sand 0.5-1mm and rare <3mm, freq red-grey rounded and angular ironstones <6mm, freq veget voids. Not very dense, rounded arrises and worn/rolled surface, fairly flat sides and ends with minimal slumping wrinkles. No mortar. One side very worn, probably by treadage if laid on edge. Munsell brick: 2.5 YR 6-7/8 light red.	c	1830		1	1	8
TA4	O3A	51	327	8	archit	stru	brick	clay	40%	Ss rect shallow Rav	lt red	Aus			100+x112x60	919	Half sandstock brick with part of shallow wide rectangular frog with concave base. Medium well m/c sandy clays, primary fired to light red, freq white sand 0.5-2mm, freq red-grey rounded and angular ironstones <6mm, freq veget voids. Occasional patches of secondary white clay. Not very dense, rounded arrises and worn/rolled surface, fairly flat sides and ends with minimal slumping wrinkles. No mortar. Munsell brick: 7.5YR 7/4-6 pink-reddish yellow.	c	1830		1	1	8
TA4	O3A	55	328	9	archit	stru	brick	clay	50%	Ss rect shallow Rav	pink	Aus			143+x113-114x64; Frog W=60, Dpth=5	1404	Half sandstock brick with part of shallow wide rectangular frog with concave base. Medium well m/c sandy clays, primary fired to pink, freq white quartz sand 0.5-2mm and rare rounded pebbles <6-13mm, freq red-grey rounded and angular ironstones <9mm, freq veget voids. Freq patches of secondary white clay. Not very dense, rounded arrises and worn/rolled surface, fairly flat sides and ends with minimal slumping wrinkles. Wide horiz side hackmark. No mortar. Approximate frog measurement as worn. Munsell brick: 5YR 7/6 reddish yellow.	c	1830		1	1	9
TA4	O3A	55	329	9	archit	stru	brick	clay	40%	Ss rect shallow Rav	red	Aus			105+x98+x62	850	Corner fragment of sandstock brick with part of shallow wide rectangular frog with concave base. Medium well m/c sandy clays, primary fired to red, very freq white quartz sand 0.5-2mm and rare rounded pebbles <6mm, freq red-grey rounded and angular ironstones <9mm, freq veget voids. Rare patches of secondary white clay. Not very dense, rounded arrises and worn/rolled surface, fairly flat side and ends with minimal slumping wrinkles. Indented and damaged strikeface, one side broken away. No mortar. Munsell brick: 2.5 YR 5-6/8 red/light red.	c	1830		1	1	9
TA4	O3A	55	330	10	archit	stru	brick & mortar	clay/ mortar	100%	Ss rect shallow Rav	dk red	Aus			234x110-111x62-63; Frog L=160; W=60, Dpth=7	2845	Whole sandstock brick with shallow wide rectangular frog with concave base, remnant lime mortar on stockface. Medium well m/c sandy clays, high fired to dark red, darker at one end, very freq white quartz sand 0.5-2mm and rare rounded pebbles <3mm, freq black rounded and angular ironstones <12mm, freq veget voids. Fairly dense, sharp arrises, very flat sides and ends with minimal slumping wrinkles. Wide horiz side hackmark. Mortar 2-coat/stages: lower firm light grey-brown ashy-sandy with freq lime frags <6mm, occas charcoal <3mm; upper hard light brown carse sandy. Date from mortar. Munsell brick: lighter end 10R 6/6 light red; darker end 10R4/4 weak red. Munsell mortar upper 10YR 7/2 light grey; lower 10YR 6-7/1 light grey to grey.	c	1840		1	1	10
TA4	O3A	55	331	9	archit	stru	brick	clay	>90%	Ss rect shallow Rav	pink	Aus			232x97+x62-64; Frog L=160, W=60, Dpth=5	1960	Near whole sandstock brick with shallow wide rectangular frog with concave base. Medium well m/c sandy clays, primary low fired to pink, infreq white quartz sand 0.5-2mm (most quartz sand clear), freq red-grey rounded and angular ironstones <10mm, freq veget voids. Very freq patches of secondary white clay. Not very dense, rounded arrises and worn/rolled surface, fairly flat sides and ends with minimal slumping wrinkles. No mortar. Approximate frog width as one side broken. 2 fragments with worn join. White page 7.5YR_/2 pinkish white.	c	1830		2	1	9
TA4	O3A	55	332	10	archit	stru	brick	clay	>90%	Ss rect shallow Rav	dk red-brn	Aus			225x110x60-65; Frog L=155, W=53, Dpth=7	2550	Whole sandstock brick with shallow wide rectangular frog with concave base. Medium well m/c sandy homogenous clays, high fired to dark red-brown, very freq white quartz sand 0.5-2mm and rare larger <3mm, freq red-grey rounded and angular ironstones <6mm and occas <10mm, freq veget voids. Fairly dense, sharp and worn rounded arrises, fairly flat sides and ends with minimal slumping wrinkles. Vertical side and angled strikeface hackmarks. Groove or chisel mark across centre of strikeface, chipped corners. No mortar. Munsell brick: 10R 4/6 red.	c	1830		0	1	10
TA4	O3A	55	333	9	archit	stru	brick	clay	60%	Ss rect shallow Rav	pink	Aus	117/#334		145+x113x62-64; Tot=236x113-114x62-65	1088	Half fragment of sandstock brick with shallow wide rectangular frog with concave base. Medium well m/c sandy clays, primary fired to pink-light red, freq white quartz sand 0.5-2mm and rare <3mm, freq red-grey rounded and angular ironstones <6mm and rare <13mm, freq veget voids. Very freq patches of secondary white clay. Not very dense, sharp arrises, fairly flat sides and ends with minimal slumping wrinkles. No mortar. Wide horiz side hackmark beside stockface edge. Chipped end and edges. Near whole with worn join with 117/#334. Munsell brick: 5YR 6/8 reddish yellow.	c	1830		1	0	9

Area	Test Trench	Context	Cat #	Box	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Join	Manuf	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frgs	Items	Box		
TA4	O3A	117	334	9	archit	stru	brick	clay	60%	Ss rect shallow Rav	pink	Aus	55/#333		125+x113x62-65; Tot=236x113-114x62-65; Frog L=160, W=60, Dpth=6	1160	Half fragment of sandstock brick with shallow wide rectangular frog with concave base. Medium well m/c sandy clays, primary fired to pink-light red, freq white quartz sand 0.5-2mm and rare <3mm, freq red-grey rounded and angular ironstones <6mm and rare <13mm, freq veget voids. Very freq patches of secondary white clay. Not very dense, sharp arrises, fairly flat sides and ends with minimal slumping wrinkles. No mortar. Wide horiz side hackmark beside stockface edge. Chipped end and one worn/bevelled side edge, burnt/stained strikeface corner. Near whole with worn join with 55/#333. Munsell brick: 7.5YR 7/4-6 reddish yellow.	c	1830		1	1	8	
TA4	O3A	117	335	10	archit	stru/floor	brick	clay	>90%	Ss rect shallow Rav	red	Aus			234x110x63-67; Frog L=155, W=55, Dpth=7	2440	Near whole sandstock brick with shallow wide rectangular frog with concave base. Medium well m/c homogenous sandy clays, high fired to dark red, very freq white quartz sand 0.5-2mm and rare <10mm, freq red-grey rounded and angular ironstones <4mm and rare <7mm, freq veget voids. Not very dense, sharp and worn arrises, fairly flat sides and ends with minimal slumping wrinkles. Angled hackmark on strikeface. No mortar. One side worn possibly if laid on edge as floor. Chipped stockface and ends. Munsell brick: 10R 4/8 red.	c	1830		1	1	10	
TA4	O3A	117	339	9	archit	stru	mortar	mortar	sample	Mud	dk grey-brn					22	Mortar Sample #8. Firm dark brown-grey sandy silt mud mortar with common charcoal <1mm. Beside lighter brown firm sandy from decayed sandstone. Munsell mortar: 10 YR 5/2 greyish brown.			1	1	9		
TA4	O4	41	336	8	archit	stru	brick	clay	10%	Ss rect shallow Rav	dk red-brn	Aus			83+x56+x63	338	Corner fragment of sandstock brick with part of shallow wide rectangular frog with concave base. Medium well m/c sandy homogenous clays, high fired to dark red-brown, very freq white quartz sand 0.5-2mm and rare larger <3mm, freq red-grey rounded and angular ironstones <5mm and occas <8mm, freq veget voids. Fairly dense, sharp arrises, fairly flat sides and ends with minimal slumping wrinkles. Irreg horiz groove along side. No mortar. Munsell brick: 10R 5/6 red.	c	1830		1	1	8	
TA4	O4	41	337	8	archit	stru	brick	clay	10%	Ss rect shallow Rav	or-red	Aus			76+x38+x53+	126	Corner fragment of sandstock brick. Medium well m/c sandy homogenous clays, fired to orange-red, very freq white quartz sand 0.5-2mm and rare larger <6mm, freq red-grey rounded and angular ironstones <4mm, freq veget voids. Not very dense, worn extant arris and fairly flat surfaces. Worn/rolled. No mortar. 2.5 YR 5-6/8 light red.	c	1830		1	1	8	
TA4	O4	59	322	8	archit	stru	brick	clay	25%	Ss rect Turton?	lt red	Aus		Turton, F	81+x79+x79	709	Corner fragment of sandstock brick with start of narrow deep rectangular frog. Medium well m/c sandy clays, primary fired to light red with very freq red-brown ironstone frags 2-7mm, these black on strikeface. Freq secondary white clay lumps 1-12mm. Dense, sharp arrises, flat surfaces. Indented horiz side hackmark, no mortar. Sim to 2/#312. Munsell brick: 2.5YR 6/8 light red.		1882	c	1900	1	1	8
TA4	O5	31	338	8	archit	stru	brick	clay	<10%	Ss	lt red	Aus			43+x33+x25+	19	Small broken fragment of sandstock brick. Medium well m/c sandy clays, primary fired to light red, freq white quartz sand 0.5-2mm, freq red-grey rounded and angular ironstones <3mm, freq veget voids. Occas patches of secondary white clay. Not very dense. No mortar. Worn/rolled.	c	1830		2	1	9	
TA4	O5	34	340	8	archit	stru	mortar	mortar	sample	Mud	dk grey-brn					144	Mortar Sample #4. Firm dark brown-grey sandy silt mud mortar with rare charcoal <1mm. Redeposited topsoil mixed with some disintegrated sandstone lumps. Munsell mortar: 10YR 5/2 greyish brown.			1	1	8		
TA4	O5	35	341	8	archit	stru	mortar	mortar	sample	Mud	dk grey-brn					182	Mortar Sample #5. Firm dark brown-grey sandy silt mud mortar with freq rounded quartz etc pebbles <8mm, common charcoal <1mm. Redeposited topsoil. Munsell mortar: 10YR 5/2 greyish brown.			1	1	8		
TA4	O5	37	342	8	archit	stru	mortar	mortar	sample	Mud	brn					7	Mortar Sample #6. Firm mid brown sandy mortar with freq rounded quartz (etc) pebbles <2mm. Munsell mortar: 10YR 6/3 pale brown.			1	1	8		
TA4	O6	24	343	12	work	geological	bore core	stone	partial		grey-brn				Dia=80; L=100+	912	Broken fragment of a bore core of grey-brown fine grained sedimentary rock with dark inclusions (siltstone with foramnifera?). Done in modern times by unknown geologists. Sim to 1/#320. Munsell brick: 7.5YR 4-5/2 brown.			1	1	12		
TA4	O6	24	344	12	work	geological	bore core	stone	partial		lt brn				Dia=80; L=105+	1202	Broken fragment of a bore core of conglomerate with very frequent rounded quartz and dark grey pebbles (3-12mm) in light brown coarse grained matrix. Done in modern times by unknown geologists. Munsell brick: 7.5 YR 5/2 brown.			1	1	12		
TA6	O7	125	345	11	archit	floor	brick	clay	75%	Ss rect shallow Rav	red	Aus			185+x112x63-65	1880	Three-quarter sandstock brick with shallow wide rectangular frog with concave base. Medium well m/c sandy homogenous clays, high fired to deep red, very freq white quartz sand 0.5-3mm and rare pebbles <5mm, freq grey rounded and angular ironstones <9mm, freq veget voids. Not very dense, worn slightly rounded arrises, fairly flat sides and ends with minimal wrinkles. One side foot-worn from being laid on edge in paving. Worn/rolled. No mortar. In topsoil directly above paving 126, sim #346. Munsell brick: 2.5 YR 5/8 red.	c	1830		1	1	11	

Area	Test Trench	Context	Cat #	Box	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Join	Manuf	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frag	Items	Box	
TA6	O7	126	346	11	archit	floor	brick	clay	75%	Ss rect shallow Rav	red	Aus			214+x70-81x63	1246	Three-quarter sandstock brick with shallow wide rectangular frog with concave base. Medium well m/c sandy almost homogenous clays. Primary high fired to deep red, very freq white quartz sand 0.5-2mm and rare pebbles <4mm, freq grey rounded and angular ironstones <5mm, freq veget voids. Rare small patches of white secondary clay. Fairly dense, worn slightly rounded arrises, fairly flat sides and ends with minimal wrinkles. One side very foot-worn from being laid on edge in paving. 2 joining fragments. No mortar. Dislodged from paving, sim 125/#345. Munsell brick: 2.5YR 5/8 red.	c	1830		2	1	11
TA6	O8A	134	347	11	archit	roof	slate	slate	frag		ppl grey				Lgst=31+x25+x5	5	Small fragments of roofing slate.	c	1840		2	1	11
TA6	O8B	133	348	11	archit	finish	render & set	plaster	frag	Lime	grey				Lgst Flat=22+x21+x8, Set Th=1.5-2; Curved=27+x20+x13; Joint W=6	10	Small fragments of 2-coat lime plaster render & set. 2 flat; Scratch/Float coat: very firm-hard grey sandy with freq lime lumps <1mm; Set coat: fine white with fine sand; Paint: creamy white. 1 thicker with concave same float/scratch coat surface and narrow (brick?) joint on irreg convex back. Munsell scratch/float: 10YR 8/1 white.	c	1840		3	1	11
TA6	WELL	158	349	11	archit	stru	brick	clay	100%	Ss rect shallow Rav	red	Aus			234x112-114x62; Frog L=160, W=55-60, Dpth=8	2755	Whole sandstock brick with shallow wide rectangular frog with concave base. Medium well m/c sandy homogenous clays, high fired to deep red, darker at one end, very freq white quartz sand 0.5-2mm and rare pebbles <13mm, freq grey rounded and angular ironstones <5mm and rare <12mm, freq veget voids. Fairly dense, sharp arrises, flat sides and ends with minimal wrinkles. Grass or sim impression on side. Chipped corner and inner crack. Remnant grey-brown sandy silt adhering. Dislodged from upper part of well.	c	1830		0	1	11
TA7	O1	152	350	11	archit	stru	brick	clay	<10%	Ss	lt red	Aus			70+x40+x37+	123	Small fragment of sandstock brick. Medium well m/c sandy clays. Primary fired to light red, freq white quartz sand 0.5-1mm, freq grey rounded and angular ironstones <5mm, freq veget voids. Rare small patches of white secondary clay. Not very dense. Worn/rolled. No mortar.	c	1830		1	1	11
TA7	O1	152	353	11	archit	stru	brick	clay	<10%	Ss	dk red	Aus			43+x24+x18+	13	Small fragment of sandstock brick. Medium well m/c sandy clays. Primary fired to dk red, freq white quartz sand 0.5-1mm, freq grey rounded and angular ironstones <5mm, freq veget voids. Rare small patches of white secondary clay. Not very dense. Worn/rolled. No mortar.	c	1830		1	1	11
TA7	O1	153	351	11	archit	stru	brick	clay	10-25%	Ss	lt red	Aus			Lgst=71+x77+x46+	444	Small fragments of sandstock brick. Medium well m/c sandy clays. Primary fired to light red, freq white quartz sand 0.5-1mm, freq grey rounded and angular ironstones <5mm and rare <15mm, freq veget voids, rare impressions. Common small patches of white secondary clay. Not very dense. Worn/rolled. No mortar.	c	1830		3	2	11

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Decor	Pattern Number	Country	Marks	Join	Rim Dia (mm)	Wgt (gm)	Brief Description	From	To	Frgs	Items	Box
TA3	O6A	1	1	food	tblw	plate	few	<10%	bl tp	Wild Rose	UK				5	rim frag; zig-zag followed by rose border.	c 1830		1	1	1
TA3	O6A	1	2	food	tea	saucer	few	<10%	gild		UK				10	rim/bd, bs frags; single foot rim; int cup well; worn gild line cavetto, overglz.	c 1850		3	1	1
TA3	O6A	1	3	food	tea	unid	bc	<10%	sprig	11	UK				3	bd frag; blue grape sprig int.	c 1830	c 1920	1	1	1
TA3	O6A	1	4	food	tea/tblw	unid	few	<10%	bl tp pearl		UK				3	bs frag; scene remains.	c 1800	c 1870	1	1	1
TA3	O6A	2	5	food	tea/tblw	unid	few	<10%	blk tp		UK				3	bd frag; dainty chain of alternating black & white squares ext.	c 1830		1	1	1
TA3	O6A	9	6	unid	cont	bottle	stw	<10%	salt gl		UK				12	bd frag; brown glz ext.	c 1830	c 1930	1	1	1
TA3	O6A	109	7	food	serve	soup tureen	svfew	<10%	banded		UK				251	bd/bs frags; raised splayed ring bs; thin blue line ext foot.	c 1860		5	1	1
TA3	O8	18	8	food	tea	cup	few	<10%	brn tp		UK				2	bd frag; mustachioed man wearing helmet ext; floral remains int.	c 1830		1	1	1
TA3	O8	18	9	unid	unid	unid	few	<10%	gild		UK				6	misc bd frag; worn gild line ext.	c 1850		1	1	1
TA3	O8	18	10	unid	unid	unid	few	<10%	ww		UK				9	misc bd frags.	c 1830		2	2	1
TA3	O8	18	11	food	tblw	plate	few	<10%	ww		UK				4	rim frag; scalloped rim edge.	c 1830		1	1	1
TA3	O8	18	12	food	tea	unid	stw	<10%	gl mou		UK				6	bd frag; fine; grey green fabric with clear glz int & ext; vine scroll ext.	c 1835	c 1870	1	1	1
TA3	O8	18	13	food	tea	cup	bc	<10%	wgl		UK				3	rim frag.	c 1800		1	1	1
TA3	O8	18	14	food	tea	cup	porc	<10%	wgl		UK/Europe			80	19	rim/bd/hdl frag.	c 1780		1	1	1
TA3	O8	18	15	food	tea	cup	porc	<10%	wgl		UK/Europe			80	5	rim frag.	c 1780		1	1	1
TA3	O8	18	16	unid	unid	unid	porc	<10%	wgl		UK/Europe				1	misc bd frag; fluted ext.	c 1780		1	1	1
TA3	O9	11	17	unid	cont	bottle	stw	<10%	salt gl		Aus				80	bd/bs frags; grey fabric; pink/brown glz int and ext; early Aus stw?	c 1830	c 1930	2	1	1
TA3	O9	11	18	food	tea/tblw	plate	few	<10%			UK				2	bs frag; single foot rim; burnt; decoration burnt.			1	1	1
TA3	O9	11	19	food	tblw	plate	few	<10%	ppl tp		UK				2	bd frag; foliated scroll remains int.	c 1830		1	1	1
TA3	O9	11	20	unid	cont	bottle	few	50-75%	ww		UK	Y			276	nk/sh/bd/bs frags; imp bs mark: "1".	c 1830		4	1	1
TA3	E	156	93	unid	cont	bottle	stw	<10%	bristol gl		UK/Aus				9	misc bd frag; cream glazed int and ext.	c 1835		1	1	1
TA3	E	156	94	food	tea/tblw	unid	few	<10%	bl tp		UK				1	misc bd frag; scene remains ext.	c 1830		1	1	1
TA4	O1	53	21	food	tea	saucer	bc	<10%	wgl		UK				12	bd/bs frags; single foot rim; int cup well.	c 1800		2	1	1
TA4	O1	53	22	food	tea/tblw	unid	bc	<10%	wgl		UK				4	misc bd frags.	c 1800		2	1	1
TA4	O1	53	23	unid	unid	unid	few	<10%	ww		UK				21	misc bd frags.	c 1830		2	1	1
TA4	O1	53	24	food	tea/tblw	unid	few	<10%	ww		UK				10	bd/bs frag; flat bs.	c 1830		1	1	1
TA4	O1	53	25	unid	unid	unid	few	<10%	gild		UK				4	rim frag; worn gild line int rim edge.	c 1850		1	1	1
TA4	O1	53	26	food	tea/tblw	plate, small	few	<10%	ww mou		UK				17	rim/bd frags; scalloped rim edge; dainty beading followed by foliated scroll border on marley.	c 1830		3	1	1
TA4	O1	59	27	food	tea/tblw	unid	few	<10%	tp gild		UK				3	misc bd frag; misc red tp int with underglz dark blue hp and worn gild overglz.	c 1850		1	1	1
TA4	O1	59	28	food	serve	ladle	few	<10%	ppl tp	Cable-helix	UK				38	handle tip frag; moulded; helix motif.	c 1860		1	1	1
TA4	O6	20	29	unid	unid	unid	porc	<10%	wgl		UK/Europe				7	misc bd frag; white glz int and ext.	c 1780		1	1	1
TA4	O6	21	30	unid	unid	unid	stw	<10%	bristol gl		UK/Aus		23/#32		12	misc bd frag; cream glz int and ext.	c 1835		1	1	1
TA4	O6	21	31	food	tblw	plate	few	<10%	bl tp pearl		UK				7	bd frag; floral remains int.	c 1800	c 1870	1	1	1
TA4	O6	25	32	unid	unid	unid	stw	<10%	bristol gl		UK/Aus		21/#30		10	misc bd frag; cream glz int and ext.	c 1835		1	0	1
TA4	O6	25	33	food	tea	saucer	porc	<10%	wgl		UK/Europe				2	bs frag; single foot rim; int cup well.	c 1780		1	1	1
TA4	C	154	88	yard	garden	pot	terracotta	<10%	selfslip		Aus				14	bs frag; red/orange fabric and slip.	c 1790		1	1	1
TA4	C	154	89	food	tblw	plate	few	<10%	bl tp	Corsina	UK				7	bs frag; single foot rim; border remains cavetto, scene remains bs. attrib to John Thomson, Glasgow.	c 1830	1865	1	1	1
TA4	C	154	90	food	tblw	plate	few	rim	bl tp	W3	UK				12	rim frag; scalloped rim edge; typical border remains.	c 1830		1	1	1
TA4	C	154	91	food	tblw	plate	few	<10%	bl tp	W3	UK				12	bd frag; typical remains cavetto.	c 1830		1	1	1
TA4	C	154	92	food	tea/tblw	mug	few	<10%	bl tp		UK				1	bd/bs frag; recessed base.hatched tp ext.	c 1830		1	1	1
TA5	O2	73	45	food	prep/tblw	jug	few	<10%	clobb		UK				12	rim/bd frag; moulded; gilded on rim; brown,yellow, pink floral on ext.	c 1830		2	1	1
TA5	O2	73	46	food	tea	plate	few	<10%	pearl		UK				2	bs frag; single foot rim.	c 1780		1	1	1
TA5	O2	73	47	unid	cont	bottle	stw	<10%	salt gl		UK				5	bd frag; brown glz ext.	c 1830	c 1930	1	1	1
TA5	O2	75	48	food	tea	plate	bc	<10%	sprig	11	UK					rim/bd frag; light blue grape sprig on marley int.	c 1830	c 1920	0	0	1
TA5	O2	75	49	food	tea	unid	few	<10%	blk tp		UK				1	misc frag; blk tp ext.	c 1830		1	1	1
TA5	O2	75	50	food	tblw/serve	plate	few	<10%	grn tp		UK				3	rim frag; grided with dots on ext marley.	c 1830		1	1	1
TA5	O2	75	51	food	tea	unid	few	<10%	bl tp		UK				2	misc frag; light blue ext.	c 1830		1	1	1

TA5	O2	75	95	cont	unid	bottle	stw	<10%	salt gl		UK	Y			31	bd frag from below shoulder; large bottle; impressed mark '[E] / [E.]'; brown glaze.	c	1830	c	1930	1	1	1
TA5	O2	76	52	unid	cont	bottle	stw	10-25%	salt gl		UK/Aus				176	bd frag; brown glz ext.	c	1830	c	1930	1	1	1
TA5	O3	91	53	food	tea	cup	few	<10%	bl tp		UK				8	bd frag; scene remains; dog? paws and florals ext.	c	1830			1	1	1
TA5	O3	98	54	food	tea	cup	few	<10%	blk tp		UK				3	rim frag; medalion remains below extreme edge followed by wave with scales ext; dainty petal int.	c	1830			1	1	1
TA5	O4	73	34	unid	cont	bottle	stw	<10%	salt gl		UK				82	bd/bs frag; brn glz ext.	c	1830	c	1930	1	1	1
TA5	O4	73	35	food	tblw	plate	few	<10%	blk tp		UK				3	rim frag; border of bud laden plants on marley; ptnn attrib to Samuel Barker & Son. Faded tp.		1851		1893	1	1	1
TA5	O4	73	36	food	tblw	plate	few	<10%	sponge	34	UK/USA				3	rim frag; pale blue twisted rope border.	c	1840	c	1930	1	1	1
TA5	O4	73	37	food	tblw/serve	plate	few	<10%	sponge pearl		UK/USA/ Europe		97#56		10	bs/rim frag; pale blue potential cross (Buttony) pattern remains ext. Grooves parallel to rim.	c	1840	c	1930	2	1	1
TA5	O4	73	38	food	tblw/serve	plate	few	<10%	spatter pearl		UK/USA/ Europe				3	bs frag; pale blue remains int; single foot rim.	c	1785	c	1860	1	1	1
TA5	O4	73	39	food	tblw	plate	few	<10%	wgl		UK				9	bs frag;	c	1780			1	1	1
TA5	O4	73	40	food	tblw	plate	few	<10%	wgl		UK				2	bs frag; single foot rim	c	1780			1	1	1
TA5	O4	73	41	food	tblw/serve	plate/platter	few	<10%	bl tp	W3	UK				15	rim frag; willow on ext.	c	1810			1	1	1
TA5	O4	73	42	food	tea	plate	few	<10%	bl tp pearl		UK				3	bs/bd frag; single rim foot; unid blue remains on int cavetto.	c	1810			1	1	1
TA5	O4	73	43	food	tblw/serve	plate	few	<10%	bl tp pearl	W1	UK				5	bd frag; W1 remains on int marley.	c	1810			1	1	1
TA5	O4	73	44	food	tblw/serve	plate	few	<10%	bl tp		UK				4	bd frag; feathery light blue floral remnant on ext.	c	1810			1	1	1
TA5	O4	97	55	unid	unid	unid	few	<10%	bl tp		UK				5	bs frag; floral with two parallel lines remains int.	c	1830			1	1	1
TA5	O4	97	56	unid	unid	unid	few	<10%	wgl mou		UK		73#37		1	bd frag; misc moulding int.	c	1830	c	1940	1	1	1
TA5	O4	97	57	food	tblw	plate	few	<10%	ppl tp	Gem	UK				7	bd frag; border with feathery foliage on marley/cavetto int; attrib to Frederick Jones, Longton.		1865		1886	1	1	1
TA6	O7	125	75	food	tea	cup	few	<10%	ww		UK				4	lower bd frag;	c	1830			1	1	1
TA6	O7	125	76	food	tblw	plate	few	<10%	mou ww		UK			240	14	rim/bd frag; moulded, foliage on ext marley.	c	1830			1	1	1
TA6	O8A	134	72	unid	unid	unid	few	10%	bl tp	Corsina	UK	Y			10	bs frag; large vessel; ladies face with chimney stack in background; remains bs mark ext; attrib to John Thomson, Glasgow.	c	1860	c	1884	1	1	1
TA6	O8A	134	73	food	tea	cup	few	10%	grn tp		UK				2	bd frag; remains green floral/ foliated ext.	c	1830			1	1	1
TA6	O8A	134	74	food	tea	saucer	few	10%	bl tp		UK				2	rim frag; overlapping, pointy loops.	c	1830			1	1	1
TA6	O8A/8B	130	58	food	tea/tblw	unid	few	<10%	bl tp		UK				4	bs frag; twisted chain remains int.	c	1830			1	1	1
TA6	O8A/8B	130	59	food	tea	saucer	few	<10%	banded		UK				10	bs/bd frag; single red line int bs; single foot rim.	c	1860			1	1	1
TA6	O8A/8B	130	60	food	tea	teapot	few	<10%	rock gl		UK/Aus				9	bs frag; brown rockingham glaze int and ext. single rim foot.	c	1796	c	1900	1	1	1
TA6	O8A/8B	130	61	food	tblw	plate	few	<10%	ppl tp	Cable-double helix	UK				17	rim frag; double helix border remains on marley and cavetto.	c	1860			1	1	1
TA6	O8A/8B	131	71	unid	unid	unid	few	10%	colour gl mou		UK		105/#63		2	bd frag; misc moulding ext; dk and pale blue glaze ext; white glaze int.	c	1830			1	0	1
TA6	O9	105	62	food	tblw	plate	few	<10%	bl tp	W3	UK			220	7	rim frag; typical border remains int.	c	1830			1	1	1
TA6	O9	105	63	unid	unid	unid	few	<10%	colour gl mou		UK		131/#71		3	bd frag; misc moulding ext; dk and pale blue glaze ext; white glaze int.	c	1830			2	1	1
TA6	O9	105	64	food	tea	saucer	few	<10%	bl tp pearl		UK				2	bs frag; single foot rim; tiny remains of bl tp remains on int bs.	c	1800	c	1870	1	1	1
TA6	O9	105	65	food	tblw	bowl	few	<10%	banded		UK			140	3	rim frag; single red line below ext rim.	c	1860			1	1	1
TA6	O9	105	66	food	tea/tblw	plate, small	few	<10%	banded		UK				1	misc frag; single blue line int.	c	1860			1	1	1
TA6	O9	105	67	food	tblw/serve	lid	few	<10%	mou ww		UK				6	lid frag; hdl/rim frag; misc moulded ext.	c	1830			1	1	1
TA6	O9	105	68	unid	unid	unid	svfew	<10%	wgl		UK	Y			24	bd, bs frag; splayed ring bs; blk tp bs mark: beaded remains.	c	1830			5	1	1
TA6	O9	105	69	food	tblw/serve	bowl	few	<10%			UK				13	rim frag; unregonisable décor due to burning.					1	1	1

TA6	O9	105	70	food	store	demijohn	stw	10-25%	bristol gl		UK/Aus				120	bd frag; ridged int; cream glaze on int and ext.	c	1835			1	1	1
TA8		159	77	food	tblw/serve	unid	few	<10%	bl tp	W3	UK				4	bd frag; blue willow typical border remains on int. OzArk: Transect 1, TA2 TT3 Sp1, 4cm.	c	1830			1	1	1
TA8		159	78	food	tea/tblw	unid	few	<10%	bl tp		UK				2	misc bd frag; floral remains on int and ext. OzArk: Transect 1, TA2 TT3 Sp1, 4cm.	c	1830			1	1	1
TA8		159	79	food	tblw/serve	unid	few	<10%	cream w		UK				7	bs frags. OzArk: TA2 TT3 Sp1, 4 cm.	c	1780	c	1840	2	1	1
TA8		162	80	food	tea	saucer	few	<10%	blk flow		UK				3	bd frag; remains of leaves and lines int. OzArk: TA12 TT1 SQ2 Sp2 (10-20 cm).	c	1830	c	1930	1	1	1
TA8		163	81	food	tea/tblw	bowl	porc	<10%	famille rose		China			140	5	rim, bd, bs frags; hand painted pink flower with brown stem, green leaves and yellow misc pattern; single foot rim. OzArk: TA12 TT1 SQ4, Spit: various (0-25 cm).	c	1790			5	1	1
TA8		163	82	food	tea	unid	porc	<10%	wgl		UK/Europe				5	bs frag; two level rim foot. OzArk: TA 12 TT1 SQ4, Spit: various (0-25 cm).	c	1800			1	1	1
TA8		164	83	food	tea	saucer	porc	rim	banded		UK/Europe			160	3	Rim frag; dk bl band on int. OzArk: TA12 TT1 SQ5 Sp1 (0-10 cm).	c	1800			1	1	1
TA8		164	84	food	tea	saucer	porc	rim	banded		UK/Europe				4	Rim frag; dk bl band on int. OzArk: TA12 TT1 SQ5 Sp1 (0-10cm).	c	1800			1	1	1
TA8		164	85	food	tea/tblw	plate	few	<10%	grn tp		UK				12	rim,bd frags; scalloped rim edge; leaf remains on solid green background covering marley; dainting twisted cable on cavetto. OzArk: TA12 TT1 SQ5, Sp1 (0-10 cm).	c	1830			6	1	1
TA8		164	86	unid	unid	unid	few	<10%	ww		UK				8	misc body frag. OzArk: TA12 TT1 SQ5, Sp1 (0-10 cm).	c	1830			1	1	1
TA8		164	87	unid	unid	unid	few	<10%	bl tp		UK					misc body frag; leaf remains ext. OzArk: TA12 TT1 SQ5, Sp1 (0-10 cm).	c	1830			1	1	1

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Marks	Join	Manufacturer	Product	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frgs	Items	Box		
TA3	O6A	1	501	unid	cont	bottle	glass	<10%		colourless							10	Curved body frag from above shoulder.				1	1	2	
TA3	O6A	1	502	pharm	unid	bottle	glass	<10%		colourless							7	Moulded rect bottle, concave side panel, broken at base.				1	1	2	
TA3	O6A	2	503	bev	beer/wine	bottle	glass	10-25%		dk grn							83	Body/shoulder/neck frags, dip mould.	c	1820	c	1920	7	1	2
TA3	O6A	2	504	bev	unid	bottle	glass	10-25%		lt grn			9/#514	Melbourne 2			47	Bdy frags. Joins 9/#514.		1900		1915	3	0	2
TA3	O6A	2	505	bev	aw	bottle	glass	fin	Lamont	lt grn							6	Single applied collar, tooled finish.	c	1875	c	1910	1	1	2
TA3	O6A	2	506	pers	groom	bottle	glass	<10%		lt grn	USA	Y			Barry		1	Bdy frag, 2 part hinge mould. Part of embossed mark : '[BARRY'S' // 'TR[ICOPHEROUS] / FO[R THE SKIN / AND HAIR // NEW YORK].'(Barry 1851-1982).	c	1851	c	1920	1	1	2
TA3	O6A	2	507	pharm	cont	bottle	glass	<10%		lt bl			10/#515				3	Flat panel frag. Same bottle as 10/#515 but not joining.					1	0	2
TA3	O6A	2	508	archit	window	flat	glass	frag		lt grn						Th=2.8	7	Broad glass frags.	c	1850			3	1	2
TA3	O6A	8	509	bev	alcohol	bottle	glass	<10%		grn							1	Curved bdy frag.					1	1	2
TA3	O6A	9	510	bev	beer/wine	bottle	glass	<10%		dk grn							47	Curved bdy frags.					2	1	2
TA3	O6A	9	511	bev	schnapps	bottle	glass	<10%		dk grn	Holl	Y	109/#519		Wolfe		9	Flat bdy frags, square bottle, part of embossed mark. Same bottle as 109/#519 but not joining.		1848			1	0	2
TA3	O6A	9	512	archit	window	flat	glass	frag		colourless						Th=2	22	Broad glass frags.	c	1850			2	1	2
TA3	O6A	9	513	archit	window	flat	glass	frag		lt grn						Th=2.8	65	Broad glass frags.	c	1850			8	1	2
TA3	O6A	9	514	bev	unid	bottle	glass	10-25%		lt grn		Y	2/#504	Melbourne 2		Bs Dia=75	170	Bs/bdy frags, cylindrical body, post bottom mould with embossed 'M / 343' mark. Joins 2/#504.		1900		1915	3	1	2
TA3	O6A	10	515	pharm	cont	bottle	glass	10%		lt bl			2/#507				19	Fin,nk,sh frag, 2-part mould panelled bottle, tooled applied finish. Same bottle as 2/#507 but not joining.					1	1	2
TA3	O6A	10	516	bev	unid	bottle	glass	10-25%		lt grn							18	Curved bdy frag.					2	1	2
TA3	O6A	10	517	bev	beer	bottle	glass	<10%		dk grn							6	Curved bdy frags, one worn/rolled.					2	1	2
TA3	O6A	10	518	archit	window	flat	glass	frag		lt grn						Th=3	19	Broad glass frags.	c	1850			5	1	2
TA3	O6A	109	519	bev	schnapps	bottle	glass	10-25%		dk grn	Holl	Y	9/#511		Wolfe		35	Flat body frags, square bottle, embossed '[WOLFE'S' // UDOLPHO WOLFE'S// AR[OMATIC / S]CH[NAPPS]' - Schiedam, Netherlands. Same bottle as 9/#511.		1848			2	1	2
TA3	O6A	109	520	bev	beer/wine	bottle	glass	<10%		dk grn							8	Curved bdy frags.					2	1	2
TA3	O6A	109	521	unid	cont	bottle	glass	<10%		colourless							2	Curved bdy frag, start of vertical panel. Probably pharmaceutical bottle.					1	1	2
TA3	O6A	109	522	archit	window	flat	glass	frag		colourless						Th=2	11	Broad glass frag.	c	1850			1	1	2
TA3	O6B	1	523	bev	beer/wine	bottle	glass	<10%		dk grn							11	Curved body frag.					1	1	2
TA3	O6B	1	524	unid	cont	bottle	glass	<10%		lt bl							7	Flat body frag, slightly curved.					1	1	2
TA3	O6B	1	525	bev	unid	bottle	glass	<10%		lt grn							10	Curved thick body frag, probably aw.					1	1	2
TA3	O6B	1	526	pharm/pers	cont	bottle	glass	<10%		lt grn							9	Bdy/bs frag, flat panels, hexagonal bottle, flat resting place.					1	1	2
TA3	O6B	1	527	unid	cont	bottle	glass	<10%		aqua							21	Curved bdy frag, cylindrical bottle.					1	1	2
TA3	O6B	122	528	bev	alcohol	bottle	glass	<10%		dk grn							0	Curved bdy frag.					1	1	2
TA3	O6B	122	529	bev	alcohol	bottle	glass	<10%		dk grn							2	Curved bdy frag.					1	1	2
TA3	O8	18	530	bev	beer	bottle	glass	<10%		brn		Y		AGM2		Bs Dia=90	72	Bs/bdy frags, machine-made cylindrical bottle. Embossed marks: on body '[JO[]'; on base: 'A G M / 1928'.		1928			2	1	2
TA3	O8	18	531	pharm	med	poison btl	glass	<10%		colourless		Y					8	Curved bdy frags. Embossed 'AMMO[NIA] / NOT TO [BE TAKEN]'					2	1	2
TA3	O8	18	532	bev	dairy	milk btl	glass	<10%		colourless		Y					6	Curved bdy/bs frags, machine-made cylindrical bottle. Embossed '[PROPERTY O]F HOL[]'	c	1900			1	1	2
TA3	O8	18	533	bev	unid	bottle	glass	<10%		lt grn							7	Curved bdy frag.					1	1	2
TA3	D	155	618	bev	beer/wine	bottle	glass	10%		dk grn						Bs Dia=80	288	Bs and curved bdy frags, sand pontil.					6	1	2
TA3	D	155	619	food	cond	stopper	glass	75-90%		aqua						Dia Finial=25, Shnk=12	9	Club sauce stopper; circ finial with convex centre; broken circ sect shank.					1	1	2
TA3	E	156	620	food	cond	stopper	glass	100%		lt grn						Dia Finial=24, Shank=8-12	13	Club sauce stopper. Circ finial with convex centre, tapered circ sect shank.					1	1	2
TA3	E	156	621	food	cond	bottle	glass	10%		lt grn		Y					69	Bdy/bs frag, cup bottom mould, cylindrical bottle. Embossed on base: '4955 / C.[]'.	c	1850			1	1	2
TA3	E	156	622	pers/pharm	groom/med	bottle	glass	<10%		colourless							1	Curved thin bdy frag.					1	1	2
TA3	E	156	623	bev	wine	bottle	glass	<10%		dk grn							28	Curved bdy/bs frags, start of high pickup.					3	1	2
TA3	E	156	624	archit	window	flat	glass	frag		colourless						Th=1.8	1	Crown glass.			c	1850	1	1	2
TA4	O1	53	534	cont	unid	bottle	glass	<10%		lt grn							35	Bdy/bs frag, fluted/panelled, probable cup bottom mould with flat resting place.	c	1850			2	1	2
TA4	O1	53	535	bev	beer/wine	bottle	glass	<10%		dk grn							18	Bs/body frags, high pickup, sand pontil.	c	1870			2	1	2
TA4	O1	53	536	bev	alcohol	bottle	glass	<10%		dk grn							1	Curved bdy frag.					1	1	2
TA4	O1	53	537	pharm	med	ointment jar	glass	<10%		milk							5	Milk glass, rim/nk external thread/ridge. Vaseline or similar.	c	1920			1	1	2

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Marks	Join	Manufacturer	Product	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frgs	Items	Box
TA4	O1	53	538	pharm	med	bottle	glass	whole		colourless	Eng	Y		UGB		H=75; Bs Dia=32	45	Press and blow machine made with valve mark on bs. Embossed mark on bs: 'A54 / C 18/ UGB'.	c 1913	c 1968	0	1	2
TA4	O1	53	539	pers/pharm	groom/med	bottle	glass	25-50%		colourless							26	Fin/nk/sh/bd frag of cylind moulded bottle. 2-part mould, applied neck, tooled fin, ribbed shoulder.			1	1	2
TA4	O1	53	540	archit	window	flat	glass	frag		colourless						Th=2	7	Broad glass frags.	c 1850		2	1	2
TA4	O1	53	546	archit	window	flat	glass	frag		colourless						Th=3	3	Broad glass frag.	c 1850		1	1	2
TA4	O1	58	541	bev	beer/wine	bottle	glass	<10%		dk grn							34	Bdy/bs frags, sand pontil, worn/rolled.			6	1	2
TA4	O1	58	542	bev	alcohol	bottle	glass	<10%		aqua							9	Slightly angled curved bdy frag.			1	1	2
TA4	O1	58	543	bev	alcohol	bottle	glass	<10%		lt grn							7	Curved bdy frag.			1	1	2
TA4	O1	58	544	bev	alcohol	bottle	glass	<10%		lt grn							5	Curved bdy frag.			1	1	2
TA4	O1	58	545	bev	wine	bottle	glass	<10%		grn							1	Curved bdy frag.			1	1	2
TA4	O1	59	547	bev	aw	bottle	glass	bs/bd		lt grn	Aus	Y		Lamont 1		Bs Dia=38	105	Bs/ bdy frag, narrow Lamont patent bottle. Embossed on body: above base 'SYDNEY'; vertically 'J[]'.	1876	c 1900	1	1	2
TA4	O1	59	548	unid	cont	bottle	glass	<10%		grn							49	Curved bdy frag			1	1	2
TA4	O1	59	549	bev	beer/wine	bottle	glass	10-25%		dk grn							159	Curved bd/bs frags. Refired sand pontil with low ridge on lower body above base.			12	1	2
TA4	O1	59	550	bev	g/schn	bottle	glass	10-25%		dk grn							34	Flat and curved bdy frags, square bottle.			7	1	2
TA4	O1	59	551	pharm/pers	cont	bottle	glass	<10%		colourless							9	Bdy/bs frags, flat panels, hexagonal bottle, flat resting place.			2	1	2
TA4	O3A	51	556	unid	cont	bottle	glass	<10%		lt grn							5	Flat bs frag, worn/rolled.			1	1	2
TA4	O3A	55	552	bev	alcohol	bottle	glass	<10%		dk grn							30	Curved bdy/bs frags, sand pontil, worn/rolled.			5	1	2
TA4	O3A	55	553	bev	unid	bottle	glass	<10%		dk grn							0	Thin bdy frags.			1	1	2
TA4	O3A	55	554	service	lamp	chimney	glass	<10%		colourless							2	Curved narrow thin bdy frag.			1	1	2
TA4	O3A	117	557	bev	beer	bottle	glass	10-25%		brn		Y					33	Curved bdy frags, machine made. Embossed 'PROPERTY OF [] / COMPAN[Y]'. Curved bdy/bs frags, sand pontil.	c 1920		6	1	2
TA4	O3A	117	558	bev	beer/wine	bottle	glass	<10%		dk grn							33	Curved bdy/bs frags, sand pontil.			5	1	2
TA4	O4	41	559	bev	wine	bottle	glass	25%		dk grn							165	Curved nk/bdy frags, 3 part shoulder height mould.	c 1850	c 1920	16	1	2
TA4	O4	41	560	food	o/v	bottle	glass	10%		colourless							27	Double collar, tooled fin. Narrow neck.			1	1	2
TA4	O4	41	561	archit	window	flat	glass	frag		colourless						Th=2	1	Broad glass frag.	c 1850		1	1	2
TA4	O4	43	562	cleric	writing	ink btl	glass	<10%		lt grn							1	Crack-off fin, vertical mould seam.	c 1820	c 1920	1	1	2
TA4	O5	31	574	bev	beer/wine	bottle	glass	<10%		dk grn							7	Curved bdy frag.			2	1	2
TA4	O5	31	575	bev	g/schn	bottle	glass	<10%		dk grn							2	Flat panels bdy frag, square bottle.			1	1	2
TA4	O5	31	576	pers/pharm	groom/med	bottle	glass	<10%		colourless							1	Panelled body frag.			1	1	2
TA4	O5	31	577	pers/pharm	groom/med	bottle	glass	<10%		aqua							2	Curved nk frag.			1	1	2
TA4	O5	31	578	bev	unid	bottle	glass	<10%		lt grn							2	Curved bdy frag.			1	1	2
TA4	O5	31	579	bev	beer/wine	bottle	glass	<10%		dk grn							8	Double collar, applied lip on nk frag.			1	1	2
TA4	O5	31	580	archit	window	flat	glass	frag		colourless						Th=1.8	1	Crown glass frag.		c 1850	1	1	2
TA4	O6	20	563	bev	unid	bottle	glass	<10%		dk grn							3	Curved bdy frag.			1	1	2
TA4	O6	20	564	bev	alcohol	bottle	glass	<10%		grn							1	Curved bdy frag, worn/rolled.			1	1	2
TA4	O6	21	565	unid	cont	bottle	glass	<10%		colourless			25/#573				1	Curved bdy frag, solarised mauve. Probably same bottle as 25/#573.	c 1880	c 1914	1	1	2
TA4	O6	21	566	food/pharm	cond/med	bottle	glass	<10%		cob bl							1	Curved bdy frag.			1	1	2
TA4	O6	21	567	bev	alcohol	bottle	glass	<10%		dk grn							0	Curved bdy frag.			1	1	2
TA4	O6	21	568	bev	alcohol	bottle	glass	<10%		dk grn							0	Curved bdy frag.			1	1	2
TA4	O6	24	569	bev	alcohol	bottle	glass	<10%		dk grn							1	Curved bdy frag.			1	1	2
TA4	O6	25	570	bev	wine	bottle	glass	<10%		grn							7	Curved bdy frag. Wine/champagne.			1	1	2
TA4	O6	25	571	bev	alcohol	bottle	glass	<10%		dk grn							4	Curved bdy frag.			1	1	2
TA4	O6	25	572	archit	window	flat	glass	frag		colourless						Th=3	0	Broad glass frag.	c 1850		1	1	2
TA4	O6	25	573	unid	cont	bottle	glass	<10%		colourless			21/#565?				2	Curved misc frag, solarised mauve. Probably same bottle as 21/#565.			1	1	2
TA5	O2	73	581	bev	beer/wine	bottle	glass	<10%		dk grn							20	Bs frag, sand pontil.			1	1	2
TA5	O2	73	582	bev	alcohol	bottle	glass	<10%		dk grn							8	Curved bdy frag.			1	1	2
TA5	O2	73	583	pharm	poison	bottle	glass	<10%		cob bl		Y					1	Thin curved bdy frag. Embossed: '[]OR'.			1	1	2
TA5	O2	75	584	bev	wine	bottle	glass	<10%		dk grn							51	Fin/nk frags, applied string rim, tooled fin in and out.			3	1	2
TA5	O2	75	585	unid	cont	bottle	glass	<10%		aqua							23	Bs/bdy frags, flat panels, square bottle, wide flat resting place.			2	1	2
TA5	O2	76	586	food	o/v	bottle	glass	<10%	F03f	lt grn	Eng				Whybrow		4	Curved bdy frag: vertical rows of half chevrons (attributed to George Whybrow).	c 1825	c 1899	1	1	2
TA5	O2	76	587	bev	alcohol	bottle	glass	<10%		lt grn							3	Curved thin bdy frags.			2	1	2
TA5	O2	76	588	unid	cont	bottle	glass	<10%		colourless							2	Bs frag, cylindrical bottle, possible milk.			1	1	2
TA5	O3	98	589	bev	beer/wine	bottle	glass	<10%		dk grn						Bs Dia=80	164	Bs and curved bdy frags, sand pontil. Air bubble in kickup and scarred broken edges. Bdy worn/rolled.			2	1	2
TA5	O3	98	590	bev	unid	bottle	glass	10%		lt grn							55	Bs and curved bdy frags, post bottom mould, flat resting place.			9	1	2
TA5	O4	73	596	bev	beer/wine	bottle	glass	<10%		dk grn						Bs Dia=70	55	Bs frag, sand pontil. Small cylindrical bottle. Bubble in kickup.			1	1	2

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Marks	Join	Manufacturer	Product	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frgs	Items	Box
TA5	O4	73	597	bev	unid	bottle	glass	10%		lt grn							150	Bdy/bs frags, flat-concave bdy panels, flat base, square bottle. Spirits?			9	1	2
TA5	O4	73	598	bev	g/schn	bottle	glass	<10%		dk grn							12	Bdy frags, flat panels, square bottle.			6	1	2
TA5	O4	73	599	bev	unid	bottle	glass	<10%		lt grn							32	Curved bdy frag, cylindrical bottle.			1	1	2
TA5	O4	73	600	bev	wine	bottle	glass	<10%		grn							3	Nk frag, string rim, tooled fin. Wine/champagne.			1	1	2
TA5	O4	73	601	food	tblw	tumbler	glass	<10%		colourless						Bs Dia=65-70	25	Bdy/base frags, fluted panels, concave post bottom mould. Good quality.			3	1	2
TA5	O4	97	591	unid	cont	bottle	glass	<10%		lt grn							11	Bdy frags, panelled bottle.			2	1	2
TA5	O4	97	592	unid	cont	bottle	glass	<10%		aqua							1	Curved bdy frag.			1	1	2
TA5	O4	97	593	food	o/v	bottle	glass	<10%		lt grn	Eng				Whybrow		1	Curved bdy frag; vertical row of half chevrons (attributed to George Whybrow).	c 1825	c 1899	1	1	2
TA5	O4	97	594	bev	g/schn	bottle	glass	<10%		dk grn							6	Curved shldr frag, square bottle.			1	1	2
TA5	O4	97	595	archit	window	flat	glass	frag		colourless							2	Broad glass frag, worn/rolled.	c 1850		1	1	2
TA5	O6	29	602	bev	unid	bottle	glass	<10%		lt grn							4	Curved lower bdy frag.			1	1	2
TA6	O7	125	609	bev	wine	bottle	glass	<10%		dk grn							38	Curved bdy/base frags, high pickup. Wine/champagne.			4	1	2
TA6	O8A	134	604	food	o/v	bottle	glass	<10%		lt grn	Eng				Whybrow		12	Curved bdy frags, vertical row of embossed chevrons. (attributed to George Whybrow).	1825	1899	2	1	2
TA6	O8A	134	605	bev	unid	bottle	glass	<10%		colourless	Eng				Whybrow		1	Curved bdy frag, poss embossed text or half chevrons. (Attrib to George Whybrow)	1825	1899	1	1	2
TA6	O8A	134	606	bev	g/schn	bottle	glass	<10%		dk grn							8	Flat bdy and bse frags.			3	1	2
TA6	O8A	134	607	bev	unid	bottle	glass	<10%		lt grn							6	Curved bdy frag, cylindrical bottle.			1	1	2
TA6	O8A	134	608	archit	window	flat	glass	frag		colourless							1	Crown glass frag.		c 1850	1	1	2
TA6	O8A/8B	131	603	unid	unid	bottle	glass	<10%		lt grn							2	Slightly curved thin bdy sherd. Thick luminescence. Heat affected, HFD.			1	1	2
TA6	O9	105	610	bev	g/schn	bottle	glass	<10%		dk grn							8	Flat bdy frags, worn/rolled.			2	1	2
TA6	O9	105	611	food/pharm	cond/med	bottle	glass	<10%		cob bl							4	Curved thick bdy frag.			1	1	2
TA6	O9	105	612	unid	cont	bottle	glass	<10%		lt grn							5	Curved bdy frags, cylindrical bottle, heat affected.			3	1	2
TA6	O9	105	613	archit	window	flat	glass	frag		colourless						Th=2	1	Crown glass.		c 1850	1	1	2
TA7	O1	152	614	bev	unid	bottle	glass	10-25%		aqua		Y	153/#616				117	Curved bdy/bs frags, cylindrical bottle. Embossed mark on base: 'L[]' or 'U[]'. Post bottom mould. Highly fragmented. Joins 153/#616.			40	0	2
TA7	O1	152	615	bev	wine	bottle	glass	<10%		dk grn							63	Curved body frags, cylindrical bottle. Same bottle as 153/#617.			20	0	2
TA7	O1	153	616	bev	unid	bottle	glass	10-25%		aqua		Y	152/#614				49	Curved bdy/bs frags, cylindrical bottle. See #614 for embossed mark on base: 'L[]' or 'U[]'. Post bottom mould. Highly fragmented. Joins 152/#614.			9	1	2
TA7	O1	153	617	bev	wine	bottle	glass	<10%		dk grn			152/#615				27	Curved body frags, cylindrical bottle. Same bottle as 153/#615.			10	1	2
TA8		160	625	food	tblw	stemwre	glass	<10%		colourless							6	Bdy frag of stemmed glass with fluted bowl, tapered stem. OzArk: TA2 TT3 SQ 4 Sp1 (5 cm).			1	1	2
TA8		161	626	food	tblw	stemwre	glass	<10%		colourless						Bs Dia=50	6	Foot of stemmed glass, fluted upper with thick convex rim, concave base. White cloudy discolouration in the glass. OzArk: TA 11 SQ5 Sp 1 (0-5 cm).			1	1	2
TA8		163	627	pers/pharm	groom/med	bottle	glass	<10%		colourless		Y					1	Flat bdy frag from panelled moulded bottle. Embossed: '[]T[]'. Solarised mauve. OzArk: TA12 SQ 4, Spit: various.			1	1	2
TA8		163	628	archit	window	flat	glass	frag		colourless						Th=2	3	Window glass frags, sand blasted making frosted glass with transparent simple stylised floral patterns. OzArk: TA12 TT1 SQ 4, Spit: various.	c 1850		2	1	2
TA8		164	629	bev	beer/wine	bottle	glass	<10%		dk grn							7	Curved bd frags, cylindrical bottle. OzArk: TA12 SQ5 Sp1 (0-10 cm).			3	1	2
TA8		164	630	h'hold	orna	bowl/dish	glass	<10%		colourless							27	Curved bd frag, pressed glass with embossed design on ext of vertical oval concave panels with beaded teardrop borders. OzArk: TA12 SQ5 Sp1 (0-10cm).	c 1820		1	1	2

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frgs	Items	Box
TA3	O2	12	121	unid	unid	handle	steel	partial				L=89+; Dia=15	110	Tapering cylindrical steel handle from unid object. Flattish wide end with central hollow, bent at narrower snapped end. Several gashes across sides from tool/machine. LFD. Poss tool, machine, cooking pot etc.			1	1	3
TA3	O2	12	122	archit	non-stru	flashing	aes	frag				Lgst=144+x37+; Hole Dia=4	34	Thin copper alloy sheet fragments with tinned coating in and out, bent at angles, some with small punched hole at 17mm above straight folded edge. Prob flashing from window or other part of structure; poss from container or vehicle. LFD.			6	1	3
TA3	O2	12	123	archit	roof	nail	pb	whole	Moulded flat			L=40	5	Circ flat hd, moulded rect shnk, CP. MFD, bent.			0	2	3
TA3	O2	12	124	archit	roof	nail	pb	shank	Moulded flat			L=40	4	Circ flat hd damaged/missing, moulded rect shnk, CP. MFD, bent. As 12/#123.			2	2	3
TA3	O2	12	125	archit	non-stru	brad	fe	whole	HF			L=31	3	Brad from furniture or furnishing, sq sctn, SP. HF. MFD, sl bent.	1788	c 1890	0	1	3
TA3	O2	12	126	archit	stru/ non-stru	nail	fe	whole	HF clasp			L=35	3	Rect clasp hd, sq sctn, SP. HF. MFD.	1788		0	1	3
TA3	O2	12	127	archit	stru	nail	fe	whole	CW rose			L=52-54	10	Rose hd, rect sctn, CP. CW. MFD.	c 1820	c 1870	0	2	3
TA3	O2	12	128	archit	stru	nail	fe	head/shank	CW rose			L=34+	3	Rose hd, rect sctn. MFD. CW. As 12/#127	c 1820	c 1870	1	1	3
TA3	O2	12	129	archit	stru	nail	fe	shank	WD			L=20+, 35+	8	Thick and narrow WD nail shanks, circular sctn. HFD.	c 1870		2	2	3
TA3	O2	13	130	archit/ indust	stru/ mach	bolt & nut	fe	whole				L=57; Nut Dia=21	40	Dome hd, cir sctn shank, blunt point. Sq nut sl tapered sides. MFD.			0	1	3
TA3	O2	13	131	archit	roof	nail	pb	whole	Moulded flat			L=39	4	As 12/#123.			0	2	3
TA3	O2	13	132	archit	stru	nail	fe	shank	HF			L=44+	6	Sq sctn, SP. HF. One has curled point, MFD.	1788		2	2	3
TA3	O2	13	133	archit	non-stru	brad	fe	whole	HF			L=29	2	As 12/#125.	1788		0	1	3
TA3	O2	13	134	archit	stru	nail	fe	head/shank	CW flat			L=32+	5	Scupper. Large flat hd, rect sctn. HFD.	1815	1870	1	1	3
TA3	O2	13	135	archit	stru	nail	fe	whole	CW rose			L=53	9	As 12/#127, one damaged point.	1820	1870	0	2	3
TA3	O2	13	136	unid	unid	strap	fe/steel	partial				35+x15x1.5	3	Thin narrow fe or steel strap now trapezoidal fragment. Poss razor blade? HFD.			1	1	3
TA3	O2	13	137	archit	non-stru	wire hook	fe	whole				L=105, 111, 163; Dia=5-6	63	Straight cut lengths of circ sctn fe wire, last 30-49mm of one end bent perpendicular to form hook. Largest and thickest is bent at both ends. Possibly related to fencing. HFD.			0	3	3
TA3	O2	13	138	unid	unid	wire loop	fe	whole				Loop=70x46; Dia=4	19	Cut length of circ sctn fe wire bent into an oval/rect loop, ends twisted together with the longest ending in another small loop. HFD.			0	1	3
TA3	O2	13	139	unid	unid	wire loop	fe	whole				L=75; Dia=2	2	Cut length of circ sctn fe wire slightly bent in middle, small loop at each end. HFD.			0	1	3
TA3	O6A	1	140	archit	roof	nail	pb	whole	Moulded flat			L=39	2	As 12/#123. Bent, LFD.			0	1	3
TA3	O6A	1	141	archit	stru/ non-stru	nail	fe/steel	whole	WD rose			L=39	1	Rose hd, circ sctn, SP. WD. Narrow. HFD.	c 1870	c 1940	0	1	3
TA3	O6A	1	142	archit	stru	nail	fe/steel	whole	WD rose			L=54	5	Rose hd, circ sctn, SP (blunted). WD. HFD.	c 1870	c 1940	0	1	3
TA3	O6A	2	143	unid	unid	bar	fe/steel	partial				80+x29-40+x11-19		Thick bar of fe or steel, tapered along length and across width. Poss broken plate, stove door or sim. HFD.			0	0	3
TA3	O6A	9	144	archit	non-stru	sheet	fe	partial				Tot=300+x300+; Th=4	470	Flat fe sheeting fragments, probable roofing. 47 frags discarded. HFD.			50	1	3
TA3	O6A	9	145	unid	security	wire	fe	frag				Tot L=270+; Dia=5	20	Circ sctn fe wire fragments, slightly bent. Probably fencing. HFD.			3	1	3
TA3	O6A	9	146	archit	stru	nail	fe	whole	CW rose			L=53	7	As 12/#127. HFD.	1820	1870	0	1	3
TA3	O6A	9	147	archit	stru	nail	fe	head/shank	CW rose			L=29+	3	As 12/#127. HFD.	1820	1870	1	1	3
TA3	O6A	9	148	archit	stru	nail	fe	whole	MW rose			L=43	4	Rect rose hd, rect sctn, SP. MW. Bent, HFD.	c 1840	c 1870	0	1	3
TA3	O6A	9	149	archit	stru	nail	fe/steel	whole	WD rose			L=75	9	Rose hd, circ sctn, SP. WD. HFD.	c 1853	c 1940	0	1	3
TA3	O6A	9	150	archit	stru	nail	fe/steel	whole	WD rose			L=45+	5	Rose hd, circ sctn, SP. WD. Probably steel. HFD.	c 1870	c 1940	1	1	3
TA3	O6A	10	151	archit	floor	brad	fe	head/shank	HF floor			L=46+	13	As 10/#154. HFD.	1788	1890	2	2	3
TA3	O6A	10	152	archit	floor	brad	fe	head/shank	Cut floor			L=46+	8	Rect sctn. Cut. Flooring. HFD.	1805	1890	1	1	3
TA3	O6A	10	153	archit	stru	nail	fe	whole	HF rose			L=43	5	Rose hd, sq sctn, SP. HF. HFD.	1788	1890	0	1	3
TA3	O6A	10	154	archit	floor	brad	fe	whole	HF flooring			L=58	15	Sq sctn, SP. HF. Flooring. HFD.	1788	1890	0	2	3

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frag	Items	Box	
TA3	O6A	10	155	archit	stru	brad/ nail	fe	shank	Cut/CW			L=55+	6	Hd damaged, rect sctn, SP. Cut or CW. Poss flooring brad. HFD.	c 1805	1890	1	1	3	
TA3	O6A	10	156	unid	security	wire	fe	frag				Tot L=260+; Dia=5	25	Circ sctn fe wire fragments, slightly bent. Probably fencing. HFD.			3	1	3	
TA3	O6A	10	157	archit	non-stru	sheet	fe	frag				85+x30+x3	16	Flat fe sheeting fragments, probable roofing. HFD. Sim to 9/#144.			2	1	3	
TA3	O6A	109	158	unid	cont	cont	fe	frag				L=170+	72	Large fe container side seam fragments, probably soldered. Snapped and corroded onto each other. Encrusted, HFD.	c 1880		3	1	3	
TA3	O6A	109	159	archit	stru	nail	fe	frag	HF rose			L=50+	12	Rose hd, sq sctn. HF. HFD.		1788	1	1	3	
TA3	O6B	1	160	archit	stru	nail	fe/steel	whole	WD rhomb			L=78	12	Rhomboid hd, circ sctn, SP. WD. HFD.	c 1870	c 1940	0	1	3	
TA3	O6B	122	161	archit	non-stru	brad	fe	whole	HF furn			L=38	3	Sim to 12/#125. HFD.		1788	0	1	3	
TA3	O6B	122	162	unid	unid	basin/ bowl	fe/enamel	rim				Rim W=12	9	Everted flat rim over wire, concave upper body. Basin or bowl, fragments too small. Probably enamelled, HFD.	c 1880		2	1	3	
TA3	O8	18	163	archit	roof	screw	steel/galv	whole	Slot dome			L=57	12	Dome slot head, wide thread starts 19mm below hd, SP. Machine-made. Bent, HFD.	c 1880		0	1	3	
TA3	D	155	272	archit	door	catch	fe	whole				LxWxTh=85x88 x11-18	100	U-shaped (looped) hand-forged iron door catch with right-angled chisel-pointed ends for attachment to door or wall. Laminating, VHFD.			0	1	3	
TA3	D	155	273	trans	horse	horseshoe	fe	whole				LxW=142x135; Branch WxTh=13-25x6-13; Nail L=28	305	Large horseshoe, slightly asymmetric with one thicker tapered heel, fullering with 3 cut countersunk nails remaining each side (1 whole, approx L measured), base of long toe clip, underside of toe worn. Laminating, VHFD.			0	1	3	
TA4	O1	53	164	unid	unid	strap	fe	frag				25+x24x3	5	Narrow rect strap frag. Possibly from bracket. HFD.			1	1	3	
TA4	O1	53	165	archit	stru	brad/ nail	fe	shank	HF?			L=45+	3	Brad or nail. Sq sctn, both ends shank broken. HF? HFD.			1	1	3	
TA4	O1	58	166	archit	stru	brad/ nail	fe	shank	Cut/CW			L=26+, 40+	5	Brad or nail. Rect sctn, both ends shank broken. Cut or CW? HFD.			2	2	3	
TA4	O1	58	167	archit	stru	nail	fe	whole	HF rose			L=39	4	Rose hd, sq sctn, SP (damaged). HF. HFD. Sim to 10/#153.		1788	0	1	3	
TA4	O1	58	168	archit	stru	nail	fe	head/shank	HF rose			L=23+	4	As 58/#167.		1788	1	1	3	
TA4	O1	58	169	archit	stru	nail	fe	whole	CW rose			L=60	7	Rose hd, rect sctn, CP. CW. Bent, HFD.		1820	0	1	3	
TA4	O1	58	170	archit	roof	screw	steel/galv	head/shank	Slot dome			L=49+	10	Dome slot hd, wide thread starts 15mm under head, broken point. Machine-made. HFD. Sim to 18/#163.	c 1880		1	1	3	
TA4	O1	58	171	archit	non-stru	screw	fe/steel	whole	Slot flat c-sunk			L=40	9	Flat countersunk slot hd, wide thread, rounded SP. HFD. Sim to 18/#163.	c 1850		0	1	3	
TA4	O1	59	172	archit	stru	nail	fe	whole	HF rose			L=48	5	Rose hd sq sctn, SP. HF. HFD. Sim to 10/#153 but larger.		1788	0	1	3	
TA4	O1	59	173	archit	stru	nail	fe	head/shank	HF rose			L=32-35+	15	As 58/#172 or possibly 58/#174.		1788	4	4	3	
TA4	O1	59	174	archit	stru	nail	fe	head/shank	HF rose			L=49+, 60+	14	Rose hd, sq sctn. HF. One bent, HFD. As 109/#159.		1788	2	2	3	
TA4	O1	59	175	archit	stru	nail	steel	whole	WD jolt			L=44	2	Jolt hd, circ sctn, SP. Narrow, WD. Bent, HFD.	c 1940		0	1	3	
TA4	O1	59	176	archit	stru	nail	steel/galv	whole	WD dome			L=85	15	Dome hd, circ sctn, SP. WD. HFD. Seen in adjacent shed galv structure.	c 1890		0	1	3	
TA4	O1	59	177	archit	stru	nail/ spike	fe	head/shank	HF dome			L=45+	11	Dome hd, sq sctn. Large nail or spike. HF. Exfoliating, HFD.		1788	c 1914	1	1	3
TA4	O1	59	178	archit	stru	spike	fe	head/shank	HF dome			L=106+	46	Dome hd, sq sctn. HF. Exfoliating, HFD.		1788	c 1914	1	1	3
TA4	O1	59	179	unid	security	wire	fe	frag				L=100+; Dia=5	9	Fe wire fragment, circ sctn. HFD.			1	1	3	
TA4	O1	59	180	archit	roof	sheet	fe	frag				37+x25+x3	7	Fe roofing sheet fragment. HFD. Possibly part of a strap or bracket.			1	1	3	
TA4	O3A	51	181	archit	stru	screw	fe	whole	Slot flat c-sunk			L=103	29	Large screw. Flat countersunk slot hd, wide thread starts 40mm below hd, SP. Exfoliating, HFD.	c 1850		0	1	3	
TA4	O3A	55	182	unid	unid	vessel	aes	bs				Dia=70		Circ base fragment of roughly machine-turned copper alloy vessel. Rounded foot ext, flat bottom, concave int. Ripped broken edge, MFD.	c 1850		0	0	3	
TA4	O3A	55	182	unid	unid	vessel	aes	bs				Dia=70	14	Circ base fragment of roughly machine-turned copper alloy vessel. Rounded foot ext, flat bottom, concave int. Ripped broken edge, MFD.	c 1850		1	1	3	
TA4	O4	41	183	work	tool	chisel	fe/steel	partial				L=75+; Hd Dia=23	106	Short tapering fe chisel, sq sctn, flat hd, point missing. VHFD.			1	1	3	

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Dimensions (mm)	Wgt (gm)	Brief Description		From	To	Frgs	Items	Box		
TA4	O4	41	184	work	tool	tool	fe/steel	handle				L-141+; Loop HxWxTh=38x72 x10	111	Forged iron tool handle with wide loop, straight shank with circular band or nut, broken off on other side. Also possible eyebolt or part of chimney crane. VHFD.					1	1	3	
TA4	O4	43	185	h'hold	security	padlock	fe/brass	whole			UK	HxWxTh=134x9 2x27; Shkl Dia=20; Cover=52x15-25; Sleeve+30.5x15+	614	Rounded heart-shaped large iron padlock. Symmetrical front and back plates, rounded lobes and bottom, brass keyhole sleeve and tapered pivoting cover. Thick shackle locked in place. HFD.		c	1840			0	1	3
TA4	O4	43	186	h'hold	cooking	hook	fe	whole	S			LxWxTh=54x32 x12	32	Small double-ended S-shaped iron hook. Probably for hanging pots and pans in kitchen or in fireplace on crane etc. VHFD.					0	1	3	
TA4	O4	43	187	unid	unid	bar	fe	frag				LxWxTh=90+x3 9x12	186	Rectangular iron bar, broken ends. Poss wall plate, unid mechanism or agricultural vehicle. VHFD. Sim to or same as 44/#188.					1	1	3	
TA4	O4	44	188	unid	unid	bar	fe	frag				LxWxTh=112+x3 9x12	244	Rectangular iron bar fragment, broken ends. Poss wall plate, unid mechanism or agricultural vehicle. VHFD. Sim to or same as 43/#187.					1	1	3	
TA4	O5	31	189	archit	roof	screw	fe/galv	whole	Slot dome			L=48	8	Dome slot hd roofing screw, wide thread below hd, SP. HFD. Same as 20/#191.		c	1860			0	1	3
TA4	O5	34	190	archit	stru	nail	fe	head/shank				L=18+	5	Rose hd, sq sctn. Prob HF. VHFD.			1788	c	1890	1	1	3
TA4	O6	20	191	archit	roof	screw & washer	fe/galv/pb	whole	Slot			L=48	17	Dome slot hd roofing screw, wide thread below hd, SP. Circ stamped-out lead washer. MFD. Same as 31/#189.		c	1860			0	1	3
TA4	O6	21	192	archit	stru	nail	fe/steel	whole	WD rose			L=80	10	Rose hd, circ sctn, SP. WD. HFD.		c	1853	c	1890	0	1	3
TA4	O6	21	193	archit	non-stru	wire	fe/steel	frag				L=625+; Dia=6	54	Wire fragments, thick circ stn, several found joined together L=350mm. WD. HFD. Fencing wire or part of modern RIO.		c	1870			8	1	3
TA4	O6	24	194	archit	stru	nail	fe	shank	WD rose			L=24+	4	Rose hd, circ sctn. WD. VHFD.		c	1853	c	1890	1	1	3
TA4	C	154	270	archit	stru	nail	fe	head/shank	WD rose			L=62+	6	Rose hd, circ sctn. WD. Slightly bent, VHFD.		c	1853	c	1940	1	1	3
TA4	C	154	271	archit	stru/ non-stru	nail	steel	whole	WD rhomb			L=52	3	Small rhomboid hd, narrow circ sctn, SP. WD. Slightly bent, VHFD.		c	1890	c	1940	0	1	3
TA5	O2	73	195	unid	unid	bar	fe	whole				115x77-70x38	2.189	Solid rectangular iron bar. Flat surfaces. Possibly structural plate or unworked bar from smithy workshop. HFD.						0	1	4
TA5	O2	73	196	work	tool	chisel	fe/steel	head/shank				L=99+; Dia Hd=19	110	Tapered chisel. Flat hammered hd (no overlap), sq sctn, point missing. VHFD.						1	1	4
TA5	O2	73	197	unid	unid	strap	fe	partial				L Strap=340+, Bent=235; W=35; Th=4	245	Long iron strap, one end bent into a loop with possible pointed end (damaged); slightly curved middle of strap; other end broken. Possible bracket or vehicle/machine part. VHFD.						1	1	4
TA5	O2	73	198	trans/ indust	vehicle/ mach	handle	fe	whole				L=305; Dia=10-13	197	Long curved iron handle. Oval sctn rod bent into a curve which starts to curve back again at one end. For vehicle/machine part. Hand-forged. Exfoliating, VHFD.						0	1	4
TA5	O2	73	199	trans	horse	horseshoe	fe	partial				L=114+; Branch WxTh=17-23x9-11	102	Part of a large horseshoe. Narrower and thinner extant heel, fullering and nail holes. Broken at toe. Exfoliating, VHFD.						1	1	4
TA5	O2	73	200	archit	non-stru	staple	fe	nr whole				HxW=35x39	7	Iron staple, both points damaged. Fencing or possibly to hold tools to structure. Exfoliating, VHFD.						1	1	4
TA5	O2	73	201	archit	non-stru	hasp	aes	whole				L=217; W=37-38; Th=5; Block End=48x38x24; Slot=39x8	628	Large hasp, copper alloy. Cast, hand-hammered and sawn. Thick wide strap with 2 triangular notches on one side, rect slot for door catch loop at one sq end. Underside at other end is thick rect block, 2 rect added lumps of metal beside the notches and dimple beside slot. For door, large box. Now curved/bent in middle. LFD.						0	1	4
TA5	O2	73	202	indust	by-prod	slag	slag	frag		dk grey		Max=42x33x22	45	Slag lumps, broken. Hard dark grey, freq creamy patches <2mm, freq air holes, surface partly glossy vitreous. Not magnetic. Same as 75/#203.						2	1	4

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frag	Items	Box
TA5	O2	75	203	indust	by-prod	slag	slag	frag		dk grey		Max=50x35x34	96	Slag lumps, broken. Hard dark grey, freq creamy patches <2mm, freq air holes, surface partly glossy vitreous. Not magnetic. Same as 73/#202.			3	1	4
TA5	O2	75	204	archit	roof	washer	pb	whole				32x24x2; Hole Dia=10	9	Rectangular cut lead roofing nail/screw washer, circ hole. SI bent, HFD.			0	1	4
TA5	O2	75	205	work	tool	punch	fe/steel	nr whole				L=120+; Hd Dia=40	524	Large punch, iron/steel. Flat hd (no overlaps), sq or poss rect sctn, blunt point or broken. Possible wedge. Severe lamination and fractured, fragments missing, VHFD. Measurement of hd approx.			4	1	4
TA5	O2	75	206	archit	non-stru	rod	fe	offcut				L=160; Dia=10	78	Rod offcut. Circ sctn, snipped ends, narrow U-shaped. HFD.			0	1	4
TA5	O2	75	207	archit	non-stru	rod	fe	frag				L=55+-65+; Dia=10-14	45	Rod fragments. Circ sctn. Some possible large nail shanks. Laminating, 2 bent, VHFD.			3	3	4
TA5	O2	75	208	archit	stru	spike	fe	shank				L=55+; Dia=17+x20+	41	Spike shank fragment, rect sctn, one end bent into curve. Possible chisel. Laminating, VHFD.			1	1	4
TA5	O2	75	209	trans	horse	horseshoe	fe	frag				L=150; Branch WxTh=21x12	180	Large wide horseshoe, broken. Simple thick extant heel, squared toe possibly indicating location of 2 missing toe clips. No evidence of fullering or nails but severely laminating, VHFD. Full measurement of branch at heel only.			1	1	4
TA5	O2	75	210	trans	horse	horseshoe	fe	frag				L=58+; Branch WxTh=24x18	46	Horseshoe fragment. Simple extant heel and start of branch. No evidence of fullering or nails. VHFD.			1	1	4
TA5	O2	75	211	archit	roof	washer	pb	whole				32x24x2; Hole Dia=10	9	Rectangular cut lead roofing nail/screw washer, circ hole. SI bent, HFD.			0	1	4
TA5	O2	76	212	work	leatherworki ng	borer	fe/steel	whole				L=98; Loop HxWxTh=33x57x25; Wire LxDia=24x5	166	Leather hole borer, iron/steel. Thick oval sctn wide loop handle with narrow heart shaped hole and short upper shank, above and holding short straight circ sctn wire with sharp point. Thick iron badly splitting & laminating, wire slightly bent, VHFD.			1	1	4
TA5	O2	76	213	trans	horse	horseshoe	fe	frag				Branch L=82+	30	Fragments of one curved branch of a horsehshoe. Iron badly splitting & laminating, VHFD.			2	1	4
TA5	O2	76	214	archit/ trans	stru/ horse	nail	fe	head/shank	Cut			L=27+, 29+	4	Countersunk cut nails, rect sctn. Cut. VHFD. Often used in horseshoes.	c 1805		2	2	4
TA5	O2	76	215	archit	stru	nail	fe	whole	WD rose			L=55	7	Rose hd, circ sctn, SP. Bent, VHFD.	c 1853	c 1890	0	1	4
TA5	O2	78	216	trans	horse	horseshoe	fe	nr whole				L=138; W=135; Branch WxTh=21x8	143	Horseshoe, broken across worn toe with possible bases of 2 toe clips. Tapering heels, possibly asymmetric. Fullering and rect nail holes, 3 each side. Laminated surfaces, rough join at toe, VHFD.			2	1	4
TA5	O2	78	217	trans	horse	horseshoe	fe	frag				Branch WxTh=16+x7+	33	Horseshoe, squared worn toe possibly indicating ocation of 2 missing toe clips. Part of 1 baranch with fullering and rect nail holes. Laminated surfaces, VHFD.			1	1	4
TA5	O2	80	218	trans	horse	chain	fe	partial				Link Dia=30x20; Th=7	122	Length of iron chain coiled and corroded together. 11 oval links, circ sctn. VHFD. Probably horse or cart equipage.			1	1	4
TA5	O3	87	219	archit	stru	nail	fe	whole	CW rose			L=83	12	Rose hd, rect sctn, CP. CW. Bent. VHFD.	c 1820	c 1870	0	1	4
TA5	O3	87	220	archit	stru	nail	fe/galv	whole	WD rose			L=74	10	Rose hd, circ sctn, SP. WD. Bent. VHFD.	c 1870	c 1890	0	1	4
TA5	O3	90	221	archit	stru	nail	fe/galv	whole	WD rose			L=77	26	Rose hd, circ sctn, SP. WD. Bent. HFD.	c 1870	c 1890	0	2	4
TA5	O3	90	222	archit	stru	nail	fe	head/shank	CW rose			L=70+	11	Rose hd, rect sctn, CP missing. CW. Good condition.	c 1820	c 1870	1	1	4
TA5	O3	91	223	archit	non-stru	screw	fe/steel	whole	Slot dome			L=42	6	Dome slot hd, wide thread starts approx 13mm below hd, SP (damaged). VHFD.	c 1850		0	1	4
TA5	O3	98	224	archit	roof	screw & washer	fe/pb	whole	Slot dome			L=55; Washer Dia=22	17	Dome slot hd, wide thread starts 19mm below hd, SP. Sq hand-cut lead washer, now bent. VHFD.	c 1850		0	1	4
TA5	O3	98	225	archit	stru	spike	fe	whole	HF rose			L=305; Hd Dia=40	435	Large sq rose hd with flat centre, shank tapered sq sctn, SP. Most of outer surface below upper shank has laminated off, hooked lower end and point. VHFD.	1788	c 1914	0	1	4
TA5	O3	98	226	unid	unid	ferrule	fe	frag				L=134; W=30; Th=10-14; Dia=230	248	Curved fragment or offcut of thick iron ferrule or band. Flat out with flat central ridge along inner. Probably from service, possibly machine. HFD.			1	1	4

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TA5	O4	73	227	archit	non-stru	rivet & washer	pb	whole				Riv HdxL=20x9; Wash Dia=50-52	152	Single cast lead circ flat hd rivet with wide circ washer, hand-soldered with lead on other side with thick dollop and radiating irregular strands of solder. Probable seal for roof, shed or tank. HFD.			0	1	4
TA5	O4	73	228	archit	non-stru	wire	fe	frag				L=320; Dia=7	39	Circ sectn iron wire frags, splitting and laminating, VHFD.			2	1	4
TA5	O4	73	229	trans/agric	vehicle/mach	bolt	fe	whole				L=222; Hd Dia=38	326	Circ dome hd, sq upper shank, circ lower with thread, blunt point. Splitting and laminating, VHFD.			0	1	4
TA5	O4	73	230	trans	horse	horseshoe	fe	whole				L=134; W=128; Branch WxTh=19-25x8-9	247	Symmetrical rounded horseshoe. Tapered simple heels, single long low toeclip worn on underside of toe, fullering with 3 rect nail holes either side. One heel damaged, HFD.			0	1	4
TA5	O4	73	231	trans	horse	horseshoe	fe	nr whole				L=108+; Branch WxTh=22-28x13-20	191	Partial horseshoe. 1 extant tapered heel, now split and expanded, severely laminated at toe. Bent, VHFD.			2	1	4
TA5	O4	73	232	trans	horse	horseshoe	fe	partial				Branch WxTh=17-23x10-13	146	Branch fragments of 1 fairly symmetric horseshoe. Tapered heel, fullering and 3 rect nail holes either side. Split, partly expanded and laminated. Toe area missing. VHFD.			4	1	4
TA5	O4	97	233	trans	oxen	yoke	fe	ring and bars				Ring DiaxTh=210x20; Bar L=225, WxTh=25-28, Eye W=60; Sm Bar=203x12x18-30	1695	Large iron ring, circ sectn, attached to a looped thick straight bar on one side with a hole or slot possibly through the side at the other end. Opposite side had a smaller tapered iron bar, struck by a plough in the middle and twisted. HF. Badly damaged ring, splitting, laminating, VHFD. Found near surface and part of an oxen harness/yoke.	1788		2	1	4
TA5	O4	97	269	indust/trans	mach/vehicle	split pin	aes	whole	Cotter			L=39; Shnk Dia=5	8	Split pin (Cotter), bent single strip of copper alloy with convex outer and flat inner surface, creating split shank below loop and convex ends, one slightly longer than the other. Slightly warped and split due to use. MFD.	1912		0	1	5
TA5	O6	29	234	archit	stru	nail	fe	whole				L=56	9	Rose hd, circ sectn, SP. WD. Splitting, laminating, VHFD.	c 1853	c 1940	0	1	4
TA5	O6	29	235	archit	non-stru	nail & washer	fe/pb	partial				L=29+; Hd/Wash Dia=11-19	23	Single cast circ lead flat head and wider washer with badly damaged/missing iron shanks. Splitting, laminating, VHFD. Roof or shed.			2	2	4
TA5	O6	142	236	archit	stru	nail	fe	whole				L=62	6	Rose hd, circ sectn, SP. WD. Bent, HFD.	c 1853	c 1940	0	1	4
TA5	O6	142	237	archit	roof	washer	pb	nr whole				Dia=14+	1	Circ lead washer for roofing nail or screw. Edges very worn, HFD.			1	1	4
TA6	O7	125	238	archit	stru	nail	fe	shank	HF			L=43+	2	Sq sectn, SP. HF, VHFD.	1788	c 1890	2	1	3
TA6	O7	125	239	archit	stru/ non-stru	nail	fe	whole	HF rose			L=34	2	Rose hd, sq sectn, SP. HF. HFD.	c 1788	c 1890	0	1	3
TA6	O7	125	240	archit	non-stru	brad	fe	head/shank	HF			L=19+	1	Brad, sq sectn. HF. HFD.	c 1788	c 1890	1	1	3
TA6	O7	125	241	archit/h' hold	non-stru/furn	brad/nail	fe	shank	HF			L=12-25+	2	Sq sectn. HF. HFD.	c 1788	c 1890	3	3	3
TA6	O8A	134	242	archit	stru	nail	fe	shank	Cut			L=37+	4	Rect sectn, CP. Cut. HFD.	c 1805		1	1	3
TA6	O8A/8B	130	257	archit	stru	nail	fe	whole	HF rose			L=54	5	Rose hd, sq sectn, SP. HF. HFD.	1788	c 1890	0	1	3
TA6	O8A/8B	130	258	archit	stru	nail	fe	whole	CW rose			L=48-49	6	Rose hd, rect sectn, CP. CW. Laminating, VHFD. As 133/#248.	c 1820	c 1870	0	2	3
TA6	O8A/8B	130	259	archit	stru	nail	fe/steel	whole	WD rose			L=50-52	8	Rose hd, circ sectn, SP (damaged). WD. VHFD.	c 1853	c 1940	0	2	3
TA6	O8A/8B	130	260	archit	non-stru	sheet	fe/galv	whole				132x142x0.8; 165x115x0.8; Strap=67x24; Riv Dia Hd=10, Wash=15	8	2 fragments of sheet galvanized iron. The squarer has cut edges forming a corner and a rect strap (broken?) rivetted onto one side. 2 rivets, dome hd, circ washer. VHFD. Roofing or fireplace/stove etc.	c 1860		0	2	3
TA6	O8A/8B	131	261	archit	stru	nail	fe	head/shank	CW rose			L=51+	3	Rose hd, rect sectn, CP (broken just above). CW. VHFD. As 133/#248.	c 1820	c 1870	1	1	3
TA6	O8A/8B	131	262	archit	stru	nail	fe/steel	whole	WD rose			L=54	5	Rose hd, circ sectn, SP. WD. VHFD. As 130/#259.	c 1853	c 1940	0	1	3
TA6	O8B	133	243	archit	stru	nail	fe	whole	HF rose			L=84	15	Rose hd, sq sectn, FP. HF. MFD.	1788	c 1890	0	1	3
TA6	O8B	133	244	archit	stru	nail	fe	whole	HF flat			L=76	16	Flat hd, sq sectn, SP. HF. Bent under hd and mid shank, MFD.	1788	c 1890	0	1	3
TA6	O8B	133	245	archit	stru	nail	fe	whole	HF rose			L=59	5	Rose hd, sq sectn, SP. HF. Bent mid shank, MFD.	1788	c 1890	0	1	3

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TA6	O8B	133	246	archit	stru	nail	fe	whole	HF rose			L=55	15	Rose hd, sq sctn, SP. HF. 1 less weight. 2 slightly bent mid shank, MFD.		1788	c	1890	0	3	3
TA6	O8B	133	247	archit	stru	nail	fe	whole	CW rose			L=66	9	Rose hd, rect sctn, CP. CW. Slightly bent mid shank, MFD.	c	1820	c	1870	0	1	3
TA6	O8B	133	248	archit	stru	nail	fe	whole	CW rose			L=45-49	41	Rose hd, rect sctn, CP. CW. 2 bent mid shank, MFD.	c	1820	c	1870	0	12	3
TA6	O8B	133	249	archit	stru	nail	fe	whole	HF rose			L=35	2	Rose hd, sq sctn, SP. HF. Curled point, MFD.		1788	c	1890	0	1	3
TA6	O8B	133	250	archit	stru	nail	fe	head/shank	HF rose			L=25-28+	6	Rose hd, sq sctn. HF. 1 split point, MFD. As 133/#249.		1788	c	1890	4	4	3
TA6	O8B	133	251	archit	stru	nail	fe	whole	HF clasp			L=30	2	Clasp hd, sq sctn, SP. HF. MFD.		1788	c	1890	0	1	3
TA6	O8B	133	252	archit	non-stru	tack	fe	whole	HF rose			L=25-26	4	Rose hd, sq sctn, SP. HF. 1 bent, MFD.		1788	c	1890	0	3	3
TA6	O8B	133	253	archit	fitting	hook	fe	whole	MW rose			L=58; Nail L=80		Wall hook made from a nail bent in a sinuous shape mid shank. Nail is flattish rose hd, rect sctn, CP. MW. MFD.	c	1840	c	1900	0	0	3
TA6	O8B	133	254	archit	fitting	hook	fe	whole	HF rose			L=45; Nail L=56	5	Wall hook made from a nail/brad bent at right angle15mm below top of head. Brad or nail is triang rose hd, sq sctn, SP. HF. MFD.		1788	c	1890	0	1	3
TA6	O8B	133	255	archit	fitting	hook	fe	whole	HF rose			L=45; Nail L=56		Wall hook made from a nail/brad bent at right angle15mm below top of head. Brad or nail is triang rose hd, sq sctn, SP. HF. MFD.		1788	c	1890	0	0	3
TA6	O8B	133	256	archit	fitting	hook	fe	whole	HF rose			L=49; Nail L=56	6	Wall hook made from a nail bent at right angle13mm below top of head. Nail is off-centre rose hd, sq sctn, SP. HF, slightly warped. MFD.		1788	c	1890	0	1	3
TA6	O9	105	263	archit	stru	nail	fe	whole	HF rose			L=50	4	Rose hd (damaged), sq sctn, SP. HF. VHFD. As 130/#257.		1788	c	1890	0	1	3
TA6	O9	105	264	h'hold	furn/ fitting	brad	fe	head/shank	Cut			L=17+	1	Rect sctn. Cut. HFD.		1805	c	1890	1	1	3
TA6	O9	105	265	archit	stru	nail	fe/steel	whole	WD rose			L=75	6	Rose hd (damaged), circ sctn, SP. WD. Bent, laminating, VHFD.	c	1853	c	1940	0	1	3
TA6	O9	105	266	archit	stru	nail	fe/steel	whole	Slot dome			L=55	8	Dome slot hd iron screw, wide thread starting approx 18mm below hd, SP. Laminating, VHFD. Possibly galv & roof.	c	1850			0	1	3
TA6	O9	105	267	archit	stru	nail	fe	head/shank	HF rose			L=41+	20	Rose hd (flat top), rect sctn. Laminating, VHFD.		1788	c	1914	1	1	3
TA6	O9	105	268	unid	unid	handle	fe	whole				Tot L=104; U L=122, H=60, Th=12	193	Large U-shaped horizontal handle, circ sctn, flattened at each end forming 2 slightly irregular leaf-shaped plates each with 2 small rivets. HF. HFD. Possibly large pot/pan, machine or utilitarian furniture.		1788			0	1	3

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Type	Colour	Country	Age Assoc	Sex Assoc	Join	Manuf	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frgs	Items	Box
TA3	O2	12	119	pers/trans	cloth/horse	buckle	fe	partial	Rect 1-pin							H=38; W=21+; Th=6-8	9	Rectangular belt or strap buckle fragment, missing prob single pin. Male belt or horse harness. HFD. Sim to 53/#109.			1	1	1
TA3	O6A	1	101	rec	toy	marble	glass	whole	Glass alley e mach s-g	l bl, white	Ger/USA	Child				Dia=17	7	Translucent light blue glass marble with opaque white side swirl. Smoothed snips with creases. Scattered battering marks.	c 1901	c 1926	0	1	1
TA3	O6A	1	102	cleric	writing	slate pencil	slate	point	Mach-cylind	dk grey		Child				LxDia=22+x6	1	Fragment with facetted point, snapped shank with opposing facets and fine grinding marks.		c 1960	1	1	1
TA3	O6A	8	103	pers	cloth	shoe nail	aes	whole								L=15	0	Machine-punched copper alloy wire shoe nail or tack, angled-flat head, SP, slightly bent. MFD.	c 1862		0	1	1
TA3	O6B	122	104	rec	toy	doll	few	frag				Child	Female			H forehd-chin=26	3	Moulded fragment of left face of soft-bodied doll or ornament. Poured few with cracked glossy white glaze. Strongly moulded features, ears flat, start of hair at top of forehead, no paint.	c 1860		1	1	1
TA3	O6B	122	105	pers	groom	comb	celluloid	frag		cream		Adult				L=31+; Spine H=7.5	1	Fragment of wide-toothed cream celluloid comb, straight spine, only tops of teeth remaining. FD now slightly curved.	c 1869		1	1	1
TA3	O6B	122	106	archit	struct	wall plug	pvc	partial	Spagetti	black						L=56+; Dia=6	1	Fragment of opaque black PVC spagetti type wall plug with longitudinal ridges, to secure screw. One end cut, the other damaged.	c 1960		1	1	1
TA3	O8	18	107	h'hold	elect	light bulb	glass/cu	base	Bayonet							Dia=21	5	Broken base of light bulb. Opaque black glass with copper contact points and bayonet-type bar.	c 1922		1	1	1
TA3	E	156	98	pers	health	spectacle lens	glass	25%								Dia=4.5; Th=1.5	1	Circular or oval spectacle lens fragment, flat with smooth polished vertical rim. Scratched surfaces. Probably to correct myopia.			1	1	1
TA4	O1	53	108	pers	jew	bead	glass	whole	Mchrome wound barrel	grn	Italy		Female			Dia=7.5; H=8	0	Wound translucent green glass barrel bead, irreg large holes.			0	1	1
TA4	O1	53	109	pers/trans	cloth/horse	buckle	fe	partial	Rect 1-pin							H=33; W=46; Th=6	14	Rectangular belt or strap buckle with base of missing pin in corner. Male belt or horse harness. HFD, snapped.			2	1	1
TA4	O1	58	120	pers	cloth	button	aes/fabric	partial	3-fold linen							Dia=2; Th=2.5	1	Circ copper alloy frame of 3-fold linen button, flat face, hollow back with remnant linen threads. Bent, FD.	1841		1	1	1
TA4	O1	59	110	trans	horse	buckle	fe	partial	Sq 1-bar							H=41; W=40; Th=9	39	Thick square strap buckle with pivoting flat bar. Horse harness. HFD, damaged.			1	1	1
TA4	O4	41	111	pers/trans	cloth/horse	buckle	fe	nr whole	Rect 1-bar 1-pin				Male			H=35; W=50; Th=9	17	Rectangular belt or horse harness buckle with raised central bar and remnant single pivoting pin. HFD.			1	1	1
TA4	O5	32	112	rec	smoking	pipe	kaolin	stem								LxDia=44+x7-9; Bore	3	Thick tapered trimmed pipe stem frag, smooth.	c 1860		1	1	1
TA4	O6	21	113	rec	smoking	pipe	kaolin	mnt piece								LxDia=27+x5-6; Bore Dia=2	1	Narrow ground-down pipe stem frag reused as simple mouthpiece with remnant worn honey brown glaze. Oval sctn.			1	1	1
TA5	O2	75	99	pers	cloth	stud	aes	back				Adult	Male			L=10; Dia=10	2	Half of a copper alloy stud, probable back. Flat circ back with sold shank. MFD.			1	1	1
TA5	O3	98	116	cleric	writing	slate pencil	slate	point	Mach-cylind	dk grey		Child				L=45+; Dia=5	2	Fragment with facetted point, snapped shank with opposing facets. Worn/rolled.		c 1960	1	1	1
TA5	O3	98	117	pers	cloth	button	porc	whole	4-hole sunkeneye	white						Dia=11; Th=3.5	0	Circular white porcelain button. 4 holes in sunkeneye on face with bevelled rim. Convex back. Moulded.	1840	1930	0	1	1
TA5	O4	73	114	rec	smoking	pipe	kaolin	stem			Scot				McDougall, D	LxDia=45+x6-7; Bore Dia=2	2	Trimmed stem frag with incuse marks LHS: '[McDOU]GALL'; RHS: 'GLA[SGOW]'. Surface stained brown.	1846	1867	1	1	1
TA5	O4	73	115	rec	toy	doll	porc	shoulder			Fra/Ger	Child	Female	97/#118		H=12+	0	Fragment of moulded shoulder from head of soft-bodied doll. Poured porcelain, white glaze ext, unglazed int. Angled rim with circular hollow poss from moulding or unpunched attachment hole. Same doll as frag 97/#118.	c 1840	c 1920	1	1	1
TA5	O4	97	118	rec	toy	doll	porc	shoulder		white	Fra/Ger	Child	Female	73/#115		H=21+	0	Fragment of moulded shoulder from head of soft-bodied doll. Poured porcelain, white glaze ext, unglazed int. Angled rim with circular hollow poss from moulding or unpunched attachment hole. Same doll as frag 73/#115.	c 1840	c 1920	1	1	1
TA6	O9	105	100	pers/trans	cloth/horse	buckle	fe	partial	Sq/Rect 1-pin			Adult				H=21+; W=34+; Pin L=43	12	Corner fragment of square or rect iron buckle frame with 1 pivoting pin. Belt or horse harness. HFD.			1	1	1

Area	Test Trench	Context	Cat #	Gen Funct	Spec Funct	Shape	Fabric	Portion	Dimensions (mm)	Wgt (gm)	Brief Description	From	To	Frag	Items	Box
TA3	D	155	270	pers	cloth	shoe/boot	leather/fe/aes	sole	68+x45+x8	8	Fragment of 2 layers of thick hide sole of an adult shoe or boot. Fastened with iron hand-forged and copper alloy machine-punched nails/tacks. FD.	c 1862		1	1	1

Area	Test Trench	Context	Cat #	Common Name	Scientific Name	Locality	Fragmentation Proportion	Condition	Wgt (gm)	Frgs	MNI	Box
TA3	2	13	290	Limpet	Patellidae sp.	Rock platform	50%-90% complete	Well preserved	0.2	7	4	1
TA3	2	13	622	Turban shells	Family Turbinidae	Intertidal to subtidal	90-100% complete gastropod	Well preserved	0.01	1	1	1

APPENDIX 4: HISTORICAL ARCHAEOLOGICAL ASSESSMENT AND ARCHAEOLOGICAL RESEARCH DESIGN

RAVENSWORTH HOMESTEAD COMPLEX AND SURROUNDS

HISTORICAL ARCHAEOLOGICAL ASSESSMENT & ARCHAEOLOGICAL RESEARCH DESIGN

SEPTEMBER 2018



Ravensworth Homestead – the main house – view to northeast. Casey & Lowe 2018.

REPORT TO

GLENCORE



**CASEY &
LOWE**
ARCHAEOLOGY &
HERITAGE

EXECUTIVE SUMMARY

This report assesses the potential historical (non-Aboriginal) archaeological remains of the Ravensworth Estate, situated within the Hunter Coalfields, NSW, through an analysis of historical records, site inspection and comparative analysis. The assessment has been prepared as part of an Environmental Impact Statement (EIS) required under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), in preparation for the proposed Glendell Pit Extension (the Project). The Glendell Mine forms part of the Mount Owen Complex (MOC) (Figure 1.1) and is situated within Dr James Bowman's original 1824 'Ravensworth' land grant.

Glendell Continued Operations Project (the Project) is a State Significant Development (SSD 9349) under the Environmental Planning and Assessment 1978 (EP&A Act). Secretary's Environmental Assessment Requirements (SEARs) were issued by the Department of Planning and Environment on 07/06/2018.

In relation to heritage, the SEARs for the Project require:

- an assessment of the potential impacts of the development on Aboriginal heritage (cultural and archaeological), including consultation with relevant Aboriginal communities/parties and documentation of the views of these stakeholders regarding the likely impact of the development on their cultural heritage;
- identification of historic heritage in the vicinity of the development and an assessment of the likelihood and significance of impacts on heritage items, having regard to the relevant policies and guidelines listed in Attachment 1¹; and
- in relation to Ravensworth Homestead, the EIS must include:
 - o a detailed heritage significance and historical archaeological assessment of the homestead, including consideration of its surrounding garden and landscape;
 - o an analysis of all reasonable and feasible options to preserve the Homestead (including leaving in situ);
 - o if relocation is selected as the preferred option, please include an analysis of all feasible relocation options and how the Ravensworth Homestead Advisory Committee was involved in the decision.

RESULTS

This Archaeological Assessment (AA) suggests the study area has the potential to contain significant archaeological remains (relics under the NSW *Heritage Act, 1977*), associated with the 19th and 20th-century pastoral and agricultural land-use of the site, including:

- Structural remains associated with the Ravensworth homestead complex.
- Evidence for changes in design, including demolished extensions, particularly within the homestead and associated outbuildings.
- Subfloor occupation deposits within the homestead main building.
- Artefact dumps or occupation deposits, including rubbish pits.
- Evidence for landscaping, including land clearance, ploughing, cultivation and irrigation works.
- Evidence of the (old) Great Northern Road.
- Structural remains of the (wheat) silo and associated artefact deposits.
- Structural remains of the late 19th-century wool shed and stable block (c. 1882-1887), situated to the southeast of Ravensworth Homestead.

¹ See Section 2.1.2 guidelines referred to in the SEARs.

- Structural remains of former huts, cottages, dairies, cattle yards and other features associated with the homestead and various farm complexes dating from the late 19th century and early 20th centuries.

RECOMMENDATIONS

Further analysis within the study area should include:

- Targeted archaeological testing of potentially State-significant sites related to the Bowman era, including the Ravensworth Homestead complex, the surrounding cultivation areas, and the site of the nearby early house site.

The following recommendations are based on the historical research and archaeological analysis provided in this assessment, and pertain to the management of those identified heritage items within the study area:

Potentially State Significant Archaeological Items

A program of archaeological testing should be undertaken to:

1. Respond to the SEARs for the Project with regard to historical archaeology.
2. Determine the survival, extent and location of the potential archaeological resource.
3. Clarify the archaeological potential and significance of areas of State and/or local significance.

The proposed testing program at Ravensworth Homestead Complex and surrounds has been designed to:

1. Determine the survival, extent and location of the potential archaeological resource.
2. Clarify the archaeological potential and significance of areas of potential state and/or local significance.
3. Inform the environmental assessment process and any options proposed as part of the project, including the potential to relocate the homestead.

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APPENDICES

APPENDIX 1: STATE HERITAGE INVENTORY FOR RAVENSWORTH HOMESTEAD
APPENDIX 2: PRELIMINARY RESULTS OF ARCHAEOLOGICAL FIELD SURVEY

Document Status

STATUS	DATE SUBMITTED	PURPOSE	AUTHOR	REVIEWED
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HISTORIC ARCHAEOLOGICAL ASSESSMENT & RESEARCH DESIGN RAVENSWORTH HOMESTEAD COMPLEX & SURROUNDS

1.0 INTRODUCTION

1.1 BACKGROUND

Casey & Lowe, Archaeology & Heritage, have been engaged by Glencore (the client) to provide a Historic Archaeological Assessment (AA) and Archaeological Research Design (ARD) of the Ravensworth Estate, in preparation for the proposed extension of coal mining operations at Glendell Mine, situated within the original 1824 Ravensworth Estate land grant. Glendell Mine is an open-cut mine and forms part of the Mount Owen Complex (MOC), located within the Hunter Coalfields, NSW (Figure 1.1).

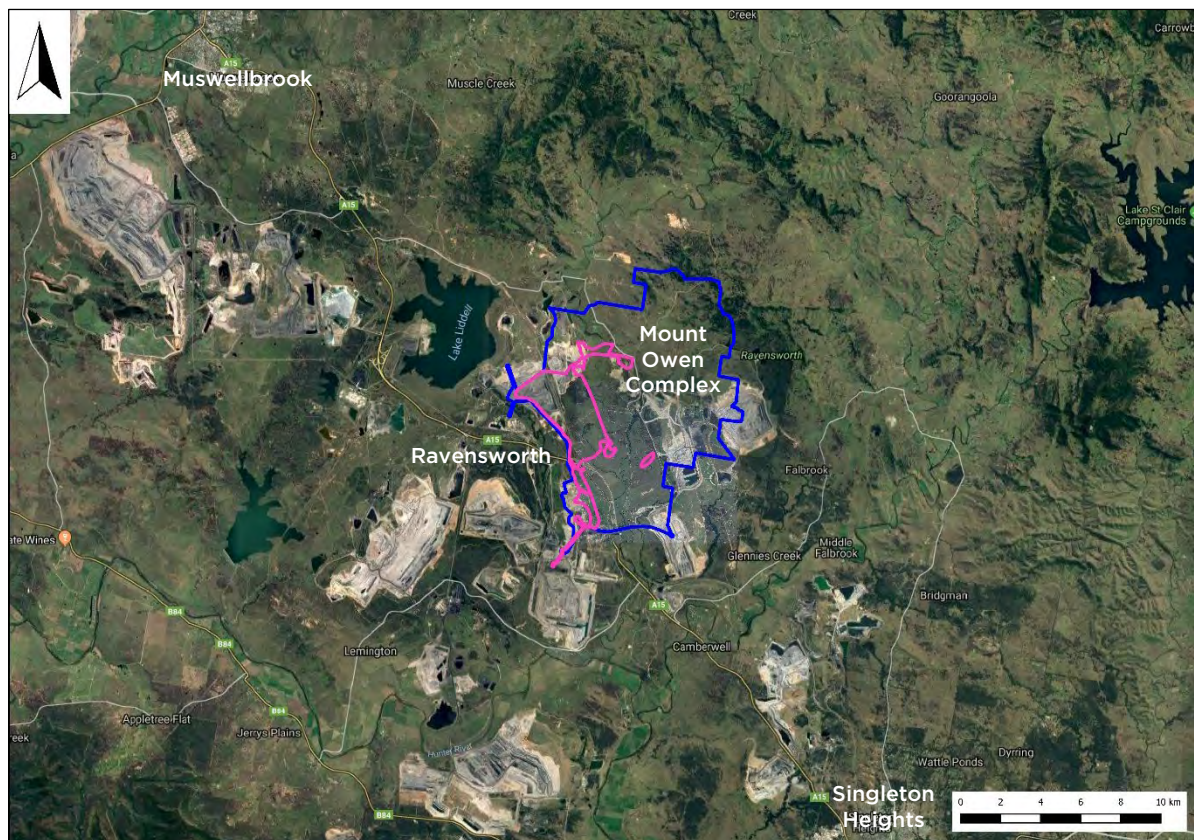


Figure 1.1: Location of the study area (outlined in blue) and Potential Additional Disturbance Area (outlined in pink). Google imagery using QGIS.

The Glendell Continued Operations Project, Glendell Pit Extension (henceforth, the Project), proposes to extend open-cut mining operations north from the existing Glendell Mine (Figure 1.2), in order to continue the life of mining operations at Glendell to 2044. Works directly associated with the pit extension include the realignment of Hebden Road, the diversion of Yorks Creek and the proposed relocation of Ravensworth Homestead. The Project will further impact a Potential Additional Disturbance Area of up to 1,050 ha of land.

The following report has been prepared as part of an Environmental Impact Statement (EIS), required under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and provides:

- Statutory context for the project.
- A detailed historical development of the Ravensworth Estate.

- A review of archaeological investigations within the vicinity of the study area.
- An assessment of the archaeological potential and significance of any identified relics and/or sites within the Ravensworth Estate study area.
- An evaluation of the Project's impacts on the Ravensworth Homestead and other heritage items identified as being potentially impacted by the Project.
- Appropriate management of the identified and potential historical archaeological resource within the study area.

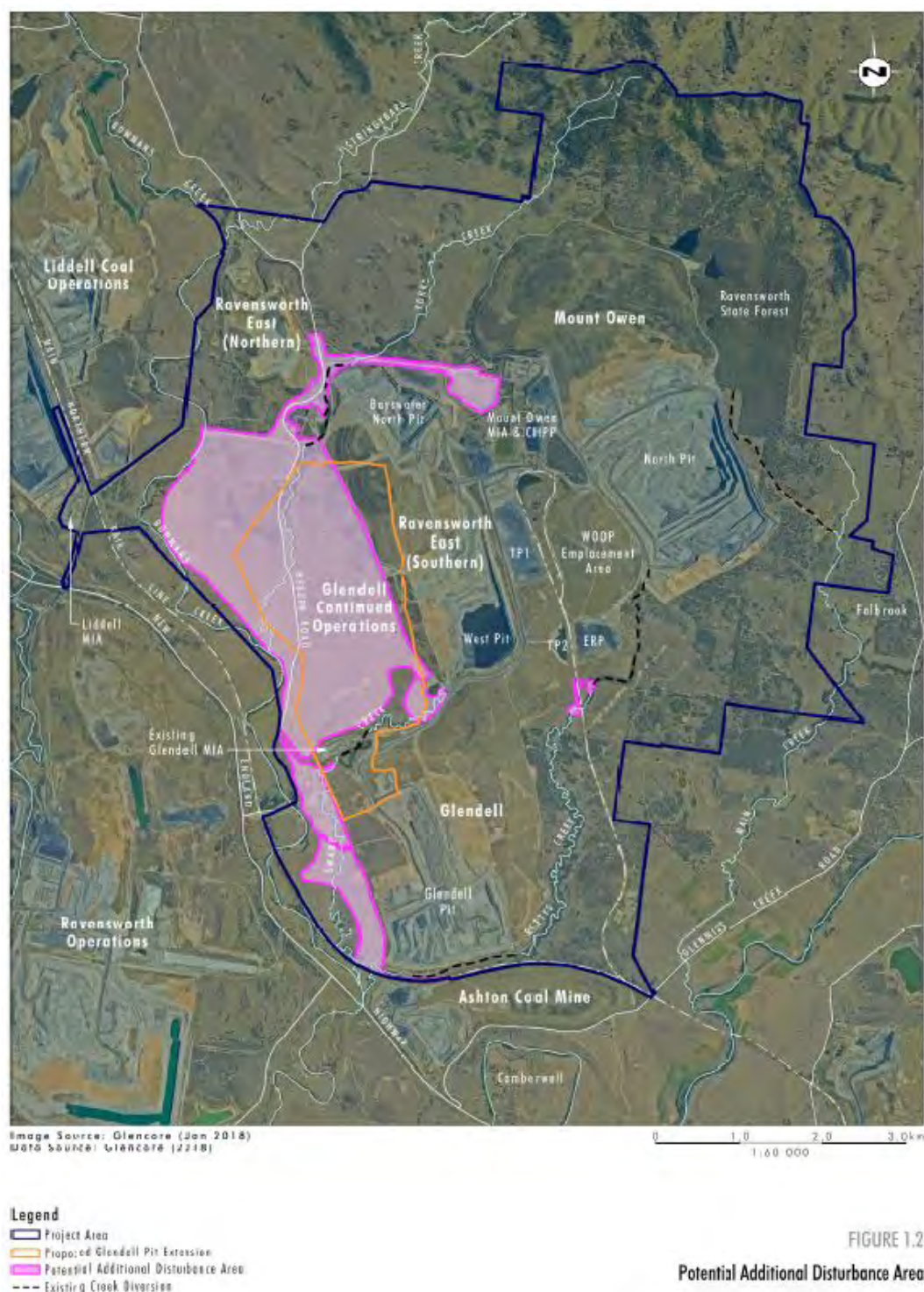


Figure 1.2: Location of the proposed extension of Glendell Continued Operations (outlined in orange) and Potential Additional Disturbance Area (pink) within the broader project area (outlined in blue). Source: Umwelt 2018.

1.2 STUDY AREA

Ravensthorpe Estate is situated in the Upper Hunter Valley, NSW, approximately 20km northwest of Singleton and 24km southeast of Muswellbrook, in the parish of Liddell (Figure 1.3). 'Ravensthorpe' was the estate name given to the large parcel of land granted to Dr James Bowman in 1824. The estate comprises several historic features, including:

- The (extant) Ravensthorpe homestead and farm complex (the earliest phases constructed in the 1830s).
- An earlier, pre-1820s house.
- A section of the (old) Great Northern Road, c.1820s.
- A wheat silo, constructed in the late 1830s.
- A section of Great Northern Railway dating to the 1860s, including Ravensthorpe station (although within the Ravensthorpe Estate, the railway is outside the current study area).
- A wool shed and stable, erected c. 1882-1887 and demolished in the early 20th century.
- Several former huts and cottages, as well as other structures associated with the homestead and farm complex, likely demolished in the early 20th century.
- Several (likely) 20th-century dairies, cattle yards and dwellings.

The homestead and farm complex comprises five buildings - the main house (c.1832, with later 1840s and 20th-century additions), an ablutions building (c.1832), two outbuildings (c.1830s) and a 20th-century cottage (c.1900).

1.3 PREVIOUS REPORTS

Several existing reports concerning the historical development of the Ravensthorpe Estate and advice regarding the proposed relocation of Ravensthorpe Estate have helped to inform the current assessment, specifically:

- *Ravensthorpe Homestead and Farm Complex Structural and Material Condition Report*, prepared by EJE Architecture (history by Cynthia Hunter) for Glendell Coal Joint Venture, August 1997.
- *Ravensthorpe Homestead Preliminary Advice on Future Use Options, Final Report*, prepared by GML for Xstrata Coal NSW, June 2011.
- *Ravensthorpe Homestead Relocation Feasibility Study Report*, prepared by GML for Xstrata Coal NSW, December 2011.

Additionally, several prior archaeological investigations within the MOC and adjacent Ravensthorpe Mine Complex (RMC) were consulted. The results of these projects are summarised in Section 4.0. Those that deal specifically with the historical development and archaeological context of the original Ravensthorpe Estate land grant include:

- *Ravensthorpe East Mine Archaeology Report, EIS Supporting Document*, report prepared by ERM Mitchell McCotter, February 1999.
- *Statement of Heritage Impact and Research Design: Ravensthorpe East Coal Mine*, report prepared by Umwelt, December 2002.
- *The Historical Archaeology of Ravensthorpe East Mine, near Singleton, NSW: Excavation and Recording of Sites RE31, RE32 and RE33*, report prepared by Umwelt, November 2006.
- *Mt Owen Operations Historic Heritage Assessment*, report prepared by Umwelt, December 2003.
- *Historical Heritage and Aboriginal Archaeological Constraints Analysis for Mt Owen Operations*, report prepared by Umwelt, December 2011.
- *Historical Heritage Assessment for Modification of Glendell Mine Operations*, report prepared by Umwelt, August 2007.
- *Ravensthorpe Complex, Plan for Heritage Management*, report prepared by Glencore, June 2016.

Finally, the Ravensworth Homestead is documented in two regional heritage studies:

- *Regional Study of Heritage Significance Central Lowlands: Hunter Valley Electricity Commission Holdings. Volume 2: Assessment of Historical Sites*, prepared by Wendy Thorp for the Electricity Commission of NSW, July 1990.
- *Hunter Estates: A Comparative Heritage Study of pre 1850s Homestead Complexes in the Hunter Region*, published by OEH on behalf of the Heritage Council of NSW, April 2013.

1.4 AUTHORSHIP

This report was prepared by Brian Shanahan, Senior Archaeologist, Dr Iona Kat McRae, Senior Archaeologist, Maggie Butcher, Archaeologist, Kylie Seretis and Dr Mary Casey, Directors (all Casey & Lowe). The historical background presented in Section 3.0 was prepared by Dr Terry Kass, historian. Brian Shanahan undertook the Geographic Information System (GIS) mapping and led the site survey of the study area. The report was reviewed by Tony Lowe, Kylie Seretis and Dr Mary Casey.

1.5 ACKNOWLEDGEMENTS

This report has benefited from information and data provided by, and discussions with:

- the Project team including: Shane Scott, Bradley Snedden, Catherine Fenton, Ben Kemp and Guy French (all Glencore), Bret Jenkins, David Holmes and Bridie McWhirter (all Umwelt), Tim Duddy, Ian Stapleton, Kate Denny, Michael Gunn (all LSJ Heritage Planning & Architecture), Colleen Morris, Geoffrey Britton, Terry Kass, Mark Dunn, Simon Wiltshier (Mott MacDonald) and Ann Hardy and Victoria Grey, (both University of Newcastle);
- Geoff and Jenny Marshall, former owners of Ravensworth Homestead.

1.6 LIMITATIONS

This report is designed to assess the historic development of the Ravensworth Estate in order to determine the nature of historic archaeological remains that may be present, as well as to consider the Project's impacts on these historic remains. It does not deal with the potential of the study area to retain evidence of its pre-contact Aboriginal use. This work is being undertaken by Ozark EHM and Australian Cultural Heritage Management and has also been considered in several prior studies.²

The report is based on historical research, comparative and archaeological analysis and field inspection. There was sufficient time and funding to complete this report to a quality standard.

1.7 ABBREVIATIONS

AA	Archaeological Assessment
ABGR	Australian Biographical & Genealogical Record for the Society of Australian Genealogists
ADB	<i>Australian Dictionary of Biography</i>
ATCJ	<i>Australian Town and Country Journal</i>
Bk	Book
c.	circa
CSIL	Colonial Secretary, In Letters (SANSW)

² Including: ERM 2002 *Ravensworth East Archaeological Investigation*; OzArk 2013 *Aboriginal Archaeological Values Assessment. Mount Owen Continued Operations. Near Ravensworth, Upper Hunter Valley, NSW*; OzArk 2017 *Aboriginal Archaeological Salvage Report. Mount Owen Continued Operations. Near Ravensworth, Upper Hunter Valley, NSW*.

C T	Certificate of Title
DP	Deposited Plan (LRS)
EP&A Act	Environmental Planning and Assessment Act 1979
HRA	<i>Historical Records of Australia</i>
JRAHS	<i>Journal of the Royal Australian Historical Society</i>
LEP	Local Environment Plan
LRS	Land Registry Services
LRS HLRV	(NSW) Lands Registry Services: Historic Land Register Viewer
ML	Mitchell Library
MOC	Mount Owen Complex
NAA	National Archives of Australia
NLA	National Library of Australia
No	Number
NSWGG	<i>NSW Government Gazette</i>
OSD	Old System Deed (LRS)
RNE	Register of the National Estate
RPA	Real Property Application
SANSW	State Archives, New South Wales
SMH	Sydney Morning Herald

1.8 GLOSSARY

The following terms are used in this report:

HISTORICAL ARCHAEOLOGY (NON-INDIGENOUS/EUROPEAN)

Historical Archaeology (in NSW) is the study of the physical remains of the past, in association with historical documents, since the British occupation of NSW in 1788. As well as identifying these remains the study of this material can help elucidate the processes, historical and otherwise, which have created our present surroundings. Historical archaeology includes an examination of how the late 18th and 19th-century arrivals lived and coped with a new and alien environment, what they ate, where and how they lived, the consumer items they used and their trade relations, and how gender and cultural groups interacted. The material remains studied include:

- Archaeological Sites:
 - below ground: relics which include building foundations, occupation deposits, rubbish pits, cesspits, wells, other features, and artefacts.
 - above ground: buildings, works, agricultural and industrial structures, and relics that are intact or ruined.
- cultural landscapes: major foreshore reclamation
- maritime sites: infrastructure and shipbuilding
- shipwrecks
- structures associated with maritime activities.

ARCHAEOLOGICAL POTENTIAL

Archaeological potential is here used and defined as a site's potential to contain archaeological relics which fall under the provisions of the *Heritage Act 1977* (amended). This potential is identified through historical research and by judging whether current building or other activities have removed all evidence of known previous land use.

ARCHAEOLOGICAL SITE / ITEM

A place that contains evidence of past human activity. Below ground sites include building foundations, occupation deposits, features and artefacts. Above-ground archaeological sites include buildings, works, industrial structures and relics that are intact or ruined.

ARCHAEOLOGICAL INVESTIGATION OR EXCAVATION

The manual excavation of an archaeological site. This type of excavation on historic sites usually involves the stratigraphic excavation of open areas.

ARCHAEOLOGICAL MONITORING

Archaeological monitoring is recommended for those areas where the impact of the works is not considered to mean the destruction of significant archaeological fabric. Nevertheless, the disturbance of features both suspected and unsuspected is possible. In order to provide for the proper assessment and recording of these features an archaeologist should inspect the works site at intervals they consider to be adequate and to be 'at call' in case the contractor uncovers remains that should be assessed by the archaeologist.

Monitoring is a regular archaeological practice used on many building and development sites. Efforts are made so that monitoring will not impact on the planned works or unduly hold up contractors' work schedules.

HOMESTEAD

A parcel of land; the main residence on a sheep or cattle station or large farm; of or relating to a building, settler, etc., on a homestead.

ESTATE

A parcel of landed property, especially one of large extent.

RESEARCH DESIGN

A set of questions which can be investigated using archaeological evidence and a methodology for addressing them. An archaeological research design is intended to ensure that archaeological investigations focus on genuine research needs. It is an important tool that ensures that when archaeological resources are destroyed by excavation, their information content can be preserved and can contribute to current and relevant knowledge.

RESEARCH POTENTIAL

The ability of archaeological evidence, through analysis and interpretation, to provide information about a site that could not be derived from any other source and which contributes to the archaeological significance of that site and its 'relics'.³

RELIC

Means any deposit, artefact, object or material evidence that:

- (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and
- (b) is of State or local heritage significance.⁴

³ Taken from NSW Heritage Branch 2009 *Assessing Significance for Historical Archaeological Sites and 'Relics'*, Heritage Branch, Department of Planning [Sydney], p 11.

⁴ NSW *Heritage Act 1977*, Definitions, Part 1.4

2.0 STATUTORY CONTEXT

The following section provides advice regarding the primary statutory controls protecting the historical archaeological heritage of the study area, as well as relevant approvals processes for the Project.

2.1 ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979, PART 4 AND PART 5 (EP&A ACT)

The Environmental Planning and Assessment Act 1979 (EP&A Act) provides the statutory basis for planning and environmental assessment in NSW. The EP&A Act provides the framework for environmental planning and development approvals and includes provisions to ensure that the potential environmental impacts of a development or activity are assessed and considered in the decision-making process. The Minister for Planning, statutory authorities and local councils are responsible for implementing the EP&A Act.

The EP&A Act contains three parts that enforce requirements for planning approval. These are generally as follows:

- Part 4 provides for the assessment of State Significant Development - Division 4.7 - as well as the regulation of local development that requires development consent from the local Council.
- Part 5 provides for:
 - Subdivision 5.1 - regulation of 'activities' that do not require approval or development consent under Part 4.
 - Subdivision 5.2 regulation of State Significant Infrastructure (SSI).

The need or otherwise for development consent is set out in environmental planning instruments – State Environmental Planning Policies (SEPPs) or Local Environmental Plans (LEPs).

The EP&A Act establishes the framework for cultural heritage values to be formally assessed in the land-use planning, development assessment and environmental impact assessment processes.

2.1.1 DIVISION 4.7 STATE SIGNIFICANT DEVELOPMENT

The Project is a State Significant Development (SSD 9349) as defined under Schedule 1 of the State Environmental Planning Policy (State and Regional Development) 2011, and requires development approval under the *Environmental Planning and Assessment Act 1979* (EP&A Act). As such the consent authority under Part 4 is the Minister for Planning or the Independent Planning Commission (if the development is of a kind for which the Commission is declared the consent authority by an environmental planning instrument).

An Environmental Impact Assessment (EIS) is being prepared to assess the impacts of the project, in accordance with environmental assessment requirements issued by the Secretary (SEARs) of the Department of Planning and Environment (DP&E) in June 2018. Heritage has been identified as a key issue for the project.

2.1.1.1 S4.41 APPROVALS ETC – LEGISLATION THAT DOES NOT APPLY

Section 4.41 (Part 4 Division 4.7) of the EP&A Act removes the need for approvals under s139 or s57 of the *Heritage Act 1977* and s90 of the NP&W Act. The Minister for Planning (or delegate) or, where relevant, the Independent Planning Commission may be the consent authority for impacts to heritage items, relics and Aboriginal objects and Aboriginal places under the EP&A Act.

Additionally, Section 4.41 (3) of the EP&A Act, provides that approvals under the *Heritage Act 1977* are not required for 'any investigative or other activities that are required to be carried out for the purpose of complying with any environmental assessment requirements under this Part in connection with a development application for any such development'.

DP&E may consult with the Heritage Council of NSW, the Office of Environment and Heritage (the Heritage Division, and the Regional Operations for Aboriginal Heritage Section). Assessments, recommendations and reporting need to be generally consistent with the relevant heritage guidelines.

Section 4.41 does not exempt developers from the obligation to notify the discovery of relics under s146 of the *Heritage Act 1977*, or the discovery of Aboriginal objects under s89 of the NP&W Act.

2.1.2 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

The Secretary's environmental assessment requirements (SEARs) were issued, under delegation, by the Department of Planning and Environment on 7 June, 2018.

In relation to historic heritage and historical archaeology, the SEARs for the Project require:

- identification of historic heritage in the vicinity of the development and an assessment of the likelihood and significance of impacts on heritage items, having regard to the relevant policies and guidelines listed in Attachment 1 (listed below); and
- in relation to Ravensworth Homestead, the EIS must include:
 - o a detailed heritage significance and historical archaeological assessment of the homestead, including consideration of its surrounding garden and landscape;
 - o an analysis of all reasonable and feasible options to preserve the Homestead (including leaving in situ);
 - o if relocation is selected as the preferred option, please include an analysis of all feasible relocation options and how the Ravensworth Homestead Advisory Committee was involved in the decision.

Attachment 1 of the SEARs includes the following guidelines under Heritage:

- o The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
- o Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH)
- o Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH)
- o Assessing Significance for Historical Archaeological Sites and Relics (OEH)
- o Archaeological Assessments Guidelines (OEH)
- o NSW Heritage Manual (OEH)
- o Statements of Heritage Impact (OEH)
- o Hunter Regional Environmental Plan 1989 (Heritage)

2.2 HERITAGE ACT 1977 (NSW)

Section 4A of the NSW *Heritage Act 1977* defines the two levels of heritage significance as:

'State heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

'Local heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.⁵

⁵ NSW Heritage Branch 2009, p 6.

2.2.1 DIVISION 9: SECTION 139, 140-146 - RELICS PROVISIONS - EXCAVATION PERMIT

The main heritage legislative constraint on archaeological remains is the relics provisions of the *Heritage Act 1977*. A 'relic' is an item of 'environmental heritage' which is defined by the *Heritage Act 1977* as:

...those places, buildings, works, relics, moveable objects, and precincts, of State or local heritage significance.

A relic as further defined by the Act as:

... any deposit, object or material evidence that:

relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement; and

is of State or local heritage significance.

According to Section 139:

- (1) A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.
- (2) A person must not disturb or excavate any land on which the person has discovered or exposed a relic except in accordance with an excavation permit.
- (4) The Heritage Council may by order published in the Gazette create exceptions to this section, either unconditionally or subject to conditions, in respect of any of the following:
 - a. any relic of a specified kind or description,
 - b. any disturbance or excavation of a specified kind or description,
 - c. any disturbance or excavation of land in a specified location or having specified features or attributes,
 - d. any disturbance or excavation of land in respect of which an archaeological assessment approved by the Heritage Council indicates that there is little likelihood of there being any relics in the land.

Any item identified as an historical archaeological site or relic cannot be impacted upon without an **excavation permit**. An excavation permit forms an approval from the Heritage Council for permission to 'disturb' a relic.

An application for an excavation permit must be made to the Heritage Council of NSW (Section 140) (or its delegate). The application for a permit must nominate a qualified archaeologist to manage the disturbance of the relics.

2.2.1.1 EXCEPTION, SECTION 139(4)

For sites not listed on the SHR or under an Interim Heritage Order, the *Heritage Act 1977* includes exceptions for works in relation to relics which may not need an excavation permit if they fall within the terms of the S139/S140 exceptions. The relevant exceptions are:

- a. Where an archaeological assessment has been prepared in accordance with Guidelines published by the Heritage Council of NSW which indicates that any relics in the land are unlikely to have State or local heritage significance; or
- b. Where the excavation or disturbance of land will have a minor impact on archaeological relics; or
- c. Where the excavation or disturbance of land involves only the removal of unstratified fill which has been deposited on the land.

A S139(4) Exception may be submitted when works are likely to have only a minor impact on relics under the *Heritage Act 1977*. The relevant exception in such cases is S139 (1B):

The excavation or disturbance of land will have a minor impact on archaeological relics including the testing of land to verify the existence of relics without destroying or removing them.

Note: Under Section 4.41 (Part 4 Division 4.7) of the EP&A Act an excavation permit under s139 and/or an exception under s139 (4) of the *Heritage Act 1977* are not required for this project, once approved.

Section 4.41 (3) of the EP&A Act allows for 'any investigative or other activities that are required to be carried out for the purpose of complying with any environmental assessment requirements under this Part in connection with a development application for any such development' to be undertaken without approvals under the *Heritage Act*. The test excavations outlined in this document have been developed in response to the SEARs.

2.3 NATIONAL PARKS AND WILDLIFE ACT 1974: MANAGEMENT OF ABORIGINAL OBJECTS AND ABORIGINAL PLACES

The main legislation governing Aboriginal objects is the *National Parks & Wildlife Act 1974* (NPW Act). This Act provides statutory protection to all Aboriginal objects and places within New South Wales. The Office of Environment and Heritage (OEH) is the State Government agency responsible for the implementation and management of the NPW Act. Part 6 of the NPW Act provides provision for the protection of all 'Aboriginal objects', which are defined as:

...any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of...New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

An Aboriginal place is any place declared to be an Aboriginal place by the Minister for the Environment, under Section 84 of the Act. It is an offence to disturb Aboriginal objects or places without a permit (Aboriginal Heritage Impact Permit – AHIP) authorised by the Chief Executive, OEH (or delegate). In addition, anyone who discovers an Aboriginal object is obliged to report the discovery to the Chief Executive, OEH.

An AHIP may not be required in the following circumstances (the following is applicable to Aboriginal objects only, not Aboriginal places):

- for harm to Aboriginal objects if undertaking test excavation in accordance with the *Code of Practice for Archaeological Investigation in NSW* (2010), or
- if due diligence has been undertaken in accordance with *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* or industry-specific codes of practice adopted under the *National Parks and Wildlife Regulation 2009* and determined that Aboriginal objects are not present or are unlikely to be present and an activity will not harm those objects.

The NPW Act has also established the Aboriginal Heritage Management System (AHIMS) which is a database of known Aboriginal heritage place and sites within NSW.

Note: Under Section 4.41 (Part 4 Division 4.7) of the EP&A Act a permit under the *National Parks and Wildlife Act 1974* (NPW Act) is not required for this project, once approved.

Section 4.41 (3) of the EP&A Act allows for 'any investigative or other activities that are required to be carried out for the purpose of complying with any environmental assessment requirements under this Part in connection with a development application for any such development' to be undertaken without approvals under the *National Parks and Wildlife Act*. The test excavations outlined in this document have been developed and are proposed to be undertaken in response to the SEARs.

2.4 HERITAGE LISTINGS

2.4.1 SINGLETON LOCAL ENVIRONMENT PLAN (LEP), 2013

Ravensworth Homestead is listed on the Singleton Local Environment Plan (LEP) 2013 as an item of local heritage significance (LEP I41) (Figure 2.1). The provisions of the LEP are primarily geared for built heritage items, it also includes a range of requirements, including conservation objectives, relevant to archaeological heritage (see below) and development applications to Local Council.

5.10 Heritage conservation

(1) Objectives

The objectives of this clause are:

.....

(c) to conserve archaeological sites.

2.4.2 NON-STATUTORY HERITAGE LEGISLATION

Ravensworth Estate is listed in the (archived) Register of the National Estate (RNE Place ID 101927). The RNE is a non-statutory heritage register and provides no statutory protection, however, these listings are typically considered to be a sign of recognition of the heritage values of a site.

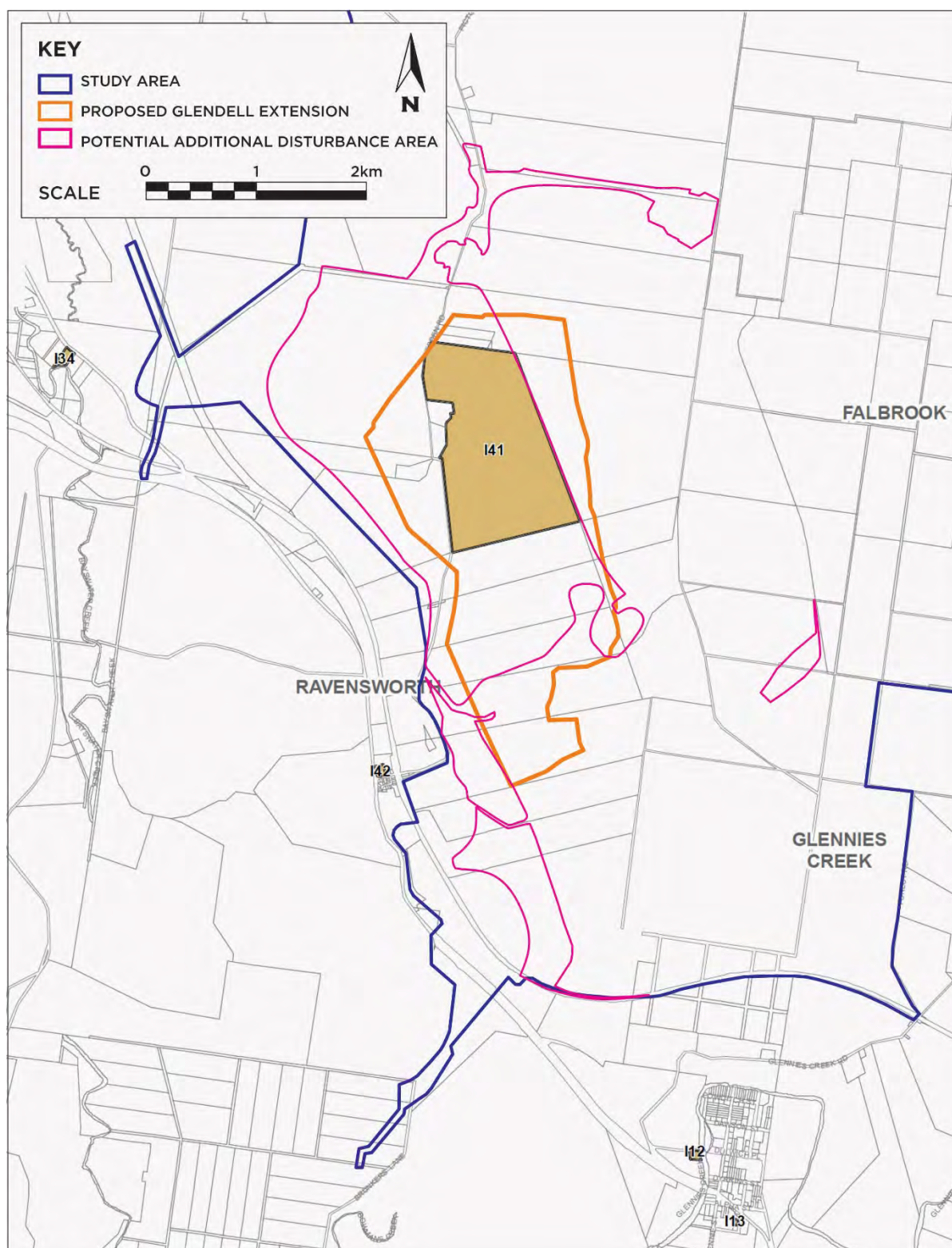


Figure 2.1: Detail of 'Heritage Map - Sheet HER_008' *Singleton LEP 2013*, showing the listing for Ravensworth Homestead (I41) with reference to the location of the proposed extension of Glendell Continued Operations (outlined orange), Potential Additional Disturbance Area (outline in pink) and broader project area (outlined in blue).

2.5 ARCHAEOLOGICAL GUIDELINES

2.5.1 BURRA CHARTER

The *Australia ICOMOS Burra Charter 2013* (The Burra Charter) is widely acknowledged as the principal guiding document for managing places of cultural significance. The Burra Charter defines the basic principles and procedures that should be followed in the conservation of places of heritage significance. The Burra Charter has been adopted as the standard for best practice conservation of heritage places in Australia.

The management of heritage sites in NSW should conform to the requirements of The Burra Charter. Many of the following guidelines provide for best practice conservation approaches and can be used to inform all the management of the archaeological remains.

2.5.2 ARCHAEOLOGICAL GUIDELINES

There are a range of archaeological guidelines which inform the management of the place:

- *Archaeological Assessment Guidelines*, NSW Heritage Office, Department of Urban Affairs & Planning, 1996.
- *Assessing Significance for Archaeological Sites and 'Relics'*, Heritage Branch, Department of Planning, 2009.
- *NSW Heritage Manual*, NSW Heritage Office, Department of Urban Affairs & Planning, 1996.
- *Historical Archaeological Investigations: A Code of Practice*, NSW Department of Planning, 2006.
- *Historical Archaeological Sites, Investigation and Conservation Guidelines*, Department of Planning and NSW Heritage Council, 1993.
- *Excavation Director's Assessment Criteria*, NSW Heritage Office.
- *ICHAM Charter, The ICOMOS Charter for the Protection and Management of Archaeological Heritage*, ICOMOS International, 1990.
- *Practice Note - The Burra Charter and Archaeological Practice*, Australia ICOMOS 2013.
- *Recommendation on International Principles Applicable to Archaeological Excavations*, UNESCO, 1956.
- *Heritage Interpretation Policy and Guidelines*, Heritage Information Series, NSW Heritage Office, August 2005.
- *Photographic Recording of Heritage Items*, Heritage Information Series, NSW Heritage Office, 2006.

3.0 HISTORIC BACKGROUND⁶

3.1 HISTORY OF THE HUNTER VALLEY

3.1.1 EXPLORATION

Governor King despatched a party to explore the Hunter River in 1801, followed later the same year by the Surveyor General Charles Grimes and Francis Barraillier. John Howe, the chief constable from Windsor, explored northwards from the Hawkesbury in October and November 1818 reaching the Hunter River. He explored parts of the upper reaches of the valley in 1819. A second shorter route was found by him in March 1820 with the assistance of Aboriginal guides. Others such as Reverend G A Middleton and Benjamin Singleton also travelled to the Hunter.⁷

In November 1819, John Howe described the land he had found at Patricks Plains near the site of Singleton:

The land is very fine forest ground, thinly timbered, I think not exceeding from 4 to 6 trees to an acre, flooded though it does not appear high, generally about breast high and the highest place I saw (even on low ground) did not exceed 12 feet. In many places there is from 20 to 50 acres with not more than 20 to 30 trees on it. The flooded land continues from about ¾ to 1½ miles back from the river on each side (and more in places) and great parts of it equal Meddow [sic] land in England.⁸

By the 1820s, surveyors including James McBrien, Heneage Finch, J B Richards and George Boyle White were busy in the valley, but particularly Henry Dangar.

3.1.2 ACCESSING THE HUNTER VALLEY

Emancipated convicts and intrepid local lads born on the Hawkesbury used to rambling in virgin territory across the river eventually travelled north finding a trafficable route to the Hunter River. A number of expeditions tried unsuccessfully to reach the Hunter until John Howe was successful.⁹ Benjamin Singleton, a miller, reached Patricks Plains with John Howe in 1820. He later overlanded cattle to what became Patricks Plains and received a land grant in 1821. In 1823, Howe's track allowed movement to the Hunter from the county of Cumberland. Surveyor General T L Mitchell's scheme for building three great roads radiating from Sydney including the Great North Road, constructed with convict labour. That magnificent engineering achievement was not trafficable until the mid 1830s. The rugged and barren nature of much of the country through which it passed made it an unattractive route to the Hunter Valley.

3.1.3 JOHN THOMAS BIGGE

John Thomas Bigge, appointed to review Governor Lachlan Macquarie's administration of the convict system, finalised his reports in 1822 and 1823 recommending a privatisation of the government penal system. Rather than use convicts sent to Australia to undertake public works, he recommended they be assigned to large landholders. Reflecting his elitist background and experiences in the Caribbean, he was certain that wealthy and respectable 'pillars of society' represented by people such as those who settled the Upper Hunter would provide virtuous administration of a convict workforce driven by their religious and moral beliefs. His recommendations were soon enshrined in instructions issued to governors who succeeded Macquarie.

⁶ The research undertaken in this report includes a land title search for the property focusing upon the central core of the estate rather than the numerous small parcels around its periphery. Since some of the Old System title deeds dealing with the early history of the property have been withdrawn from the shelf at Land Registry Services for digitisation but are not yet available in a digitised form, a number of the deeds from 1860 to the mid 1870s are only noted briefly from summaries recorded in title schedules and other documents.

⁷ T M Perry, *Australia's First Frontier: The Spread of Settlement in New South Wales 1788-1829*, p 63-4.

⁸ Howe to Macquarie, 17 Nov 1819, cited in T M Perry, *Australia's First Frontier: The Spread of Settlement in New South Wales 1788-1829*, p 55.

⁹ H A MacLeod Morgan, 'The Bulga or Coal River - Australia's First North Road: Its History and Pioneers', JRAHS, 44, 4, 1958, p 185-221

3.1.4 HENRY DANGAR

Henry Dangar had arrived in the colony as a 25-year-old settler on 2 April 1821. He was appointed as an assistant surveyor and was originally employed in the Counties of Argyle and Camden. On 1 March 1822, he was directed to survey the Hunter River District ready for settlement. He was required to divide the area into a grid of one mile squares.¹⁰

Dangar was extremely busy for the next five years. On July 1824, he named Fal Brook and Foy Brook and divided the land around the current Ravensworth into squares ready for settlement.¹¹ In 1824, when Dangar was surveying further north with three others, his party was attacked by a group of Aborigines claimed to be 150 strong. They escaped and three days later, they reached 'Dr Bowman's farm, which is the highest on Hunter's River'. The report of this incident was dated December 1824 but A W Wood stated it occurred in October 1824.¹²

Dangar's enthusiastic reports about land in the district inspired a rush of recently arrived free settlers to take up land in the district. Along with a grid of allotments ready to be taken up by settlers, Dangar, in accordance with his instructions, selected Village sites and set aside land for the Church and School Corporation. After being dismissed on 31 March 1827, for using the information he had gained in his public capacity to enrich himself privately, he was dismissed from the service. After he returned to England, he published what could rightly be called the 'speculators guide' to land in the Hunter district and beyond.¹³

In it, he described different counties and parishes in the valley, outlining the topography, water supply and potential as well as identifying the landholders and grants in each. For the parish of Vane, he described it included,

Some good country extending along the Fal-brook: the parish is generally elevated, but affording some good vallies [sic] and desirable pasturage.¹⁴

Dangar described the parish of Liddel [sic] thus:

This parish affords an excellent tract of open, sound, and deep loam up-land country; a most desirable tract for winter and spring sheep or cattle grazing, but owing to the waters being impregnated with saline matter, cannot be recommended to settle at. The Church and School Estate is fine land, and is watered by a pure stream – Foy-brook.¹⁵

He provided the information in Table 3.1 about land already taken up in the parish.¹⁶

Number on map	Date of Order	Landholder	Acres Granted	Acres Purchased	Church and School Lands
1	-	Church and School Estate			2597
2	31 March 1821	Ebenezer Bunker	600		
3	5 July 1824	William Powditch	2000		
4	17 May 1825	William Powditch		500	
5	4 June 1824	Capt John Brabyn JP	800		
6	4 June 1824	James Bowman JP	2560		
7	17 May 1825	James Bowman JP		5000	
8	17 May 1825	James Bowman JP	4600		

Table 3.1: Dangar's information about land taken up in the Parish *Index and directory to map of the country bordering upon the River Hunter*, Joseph Cross, London, 1828, p 30-1

¹⁰ T M Perry, *Australia's First Frontier*, p 66.

¹¹ W A Wood, *Dawn in the Valley: The Story of Settlement in the Hunter River Valley to 1833*, Sydney, 1972, p 42.

¹² *Australian*, 23 Dec 1824, p 3; W A Wood, *Dawn in the Valley*, p 42.

¹³ N Gray, 'Henry Dangar (1796-1861)', *ADB*, volume 1, p 280.

¹⁴ H Dangar, *Index and directory to map of the country bordering upon the River Hunter*, Joseph Cross, London, 1828, p 30.

¹⁵ H Dangar, *Index and directory to map of the country bordering upon the River Hunter*, Joseph Cross, London, 1828, p 31.

¹⁶ H Dangar, *Index and directory to map of the country bordering upon the River Hunter*, Joseph Cross, London, 1828, p 30-1.

A key map indicated the location of each holding by a number linked to the table Figure 3.1. That map had only approximate boundaries for the parishes he described. The eventual parish boundaries differed from those he had shown.

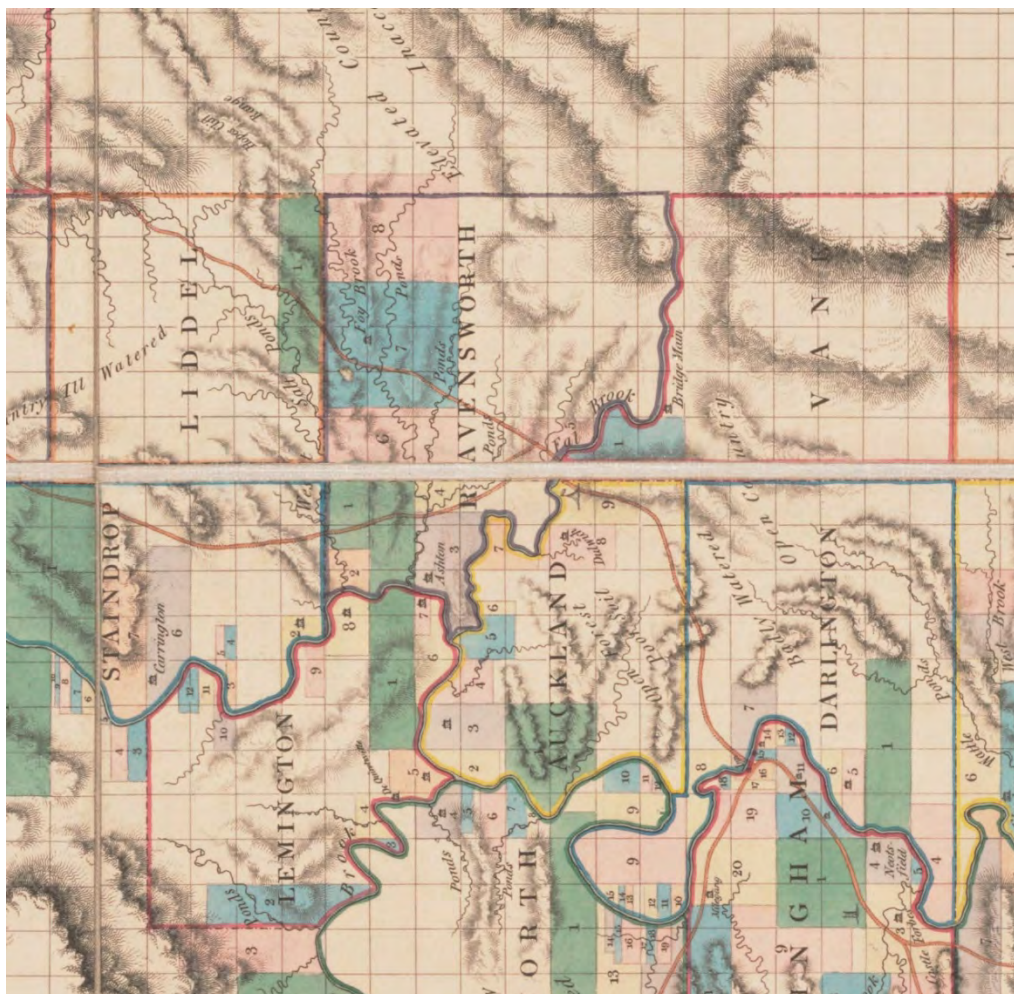


Figure 3.1 Dangar's map to which the descriptions in his Index related. Source: Dangar, Henry, Map of the River Hunter and its branches ..., 1 Aug 1828, NLA Map NK 646.

3.1.5 SETTLING THE HUNTER VALLEY

Newcastle was largely closed to settlement since it was the site of secondary punishment of convicts who had re-offended in the colony. The earliest settlement was at Paterson's Plains (now Paterson) in 1812 and 1813 creating a dozen or so farms. Farms were also established at Wallis Plains so by 1820 there were about 20 farms in the valley consisting of 12 at Patersons Plains and 11 at Wallis Plains.¹⁷ They were joined in 1821 when settlers used the track from Hawkesbury to settle in the Patricks Plains (later named Singleton).¹⁸

When free settlement was officially permitted in the Hunter Valley after the role of Newcastle has changed, settlement initially focused on the area known as Wallis Plains centred on what is now known as Maitland. Small grants close to the Hunter River characterised the early settlement phase in the lower Hunter. By the late 1820s, a significant number of retired naval and army officers and officials emigrated to New South Wales from Britain and India along with other parts of the empire encouraged by the recommendations made by John Thomas Bigge. Many of them had wealth. Others carried vouchers based upon their military service giving them the right to acquire large areas of land. Many brought both wealth and vouchers. The capital they possessed was correlated with the land that they would be granted. These both determined the number of convicts

¹⁷ T M Perry, *Australia's First Frontier: The Spread of Settlement in New South Wales 1788-1829*, p 61.

¹⁸ T M Perry, *Australia's First Frontier*, p 64.

they be allotted to work their land. Often these wealthy settlers brought out their family and other relatives giving them the potential to amass large estates when they acquire land as well. The new settlers were entitled to receive 640 acres (one square mile) for each £500 they brought to colony in cash or goods.¹⁹

Many selected land south-west of Sydney but a significant proportion were drawn to the upper Hunter, where Henry Dangar and Heneage Finch had divided the well-watered traditional lands of the Aboriginal people into a grid in accordance with the instructions from Britain. The existence of a ready grid made it simple for new settlers to choose suitable land, which they could occupy quickly.

Buoyed up by their social position and wealth, the Hunter Valley elite was a distinctive social caste of recently arrived wealthy free settlers. Many were appointed as magistrates. They were often prime movers in innovation and the creation of community organisations, particularly those catering for the interests of large settlers.²⁰

Most of these settlers proposed to follow pastoral pursuits, in a manner befitting English gentry. Convict emancipists had grown prosperous and wealthy through acquiring land and running cattle with which they supplied convict commissariat with the foodstuffs that fuelled the convict workforce. Early pastoral entrepreneurs beginning with officers of the NSW Corps (Rum Corps) and others such as Reverend Samuel Marsden experimented with wool growing to supply the mills of England. Former New South Wales Corps officer, John Macarthur, had promoted the industry whilst exiled to England. Lobbying the British government on behalf of the nascent industry whilst promoting his own interests, he eventually returned to New South Wales with orders for large grants, which he took up in the County of Camden.

Inspired by his promotion of the potential wealth to be acquired through wool growing, the Australian Agricultural Company was formed in England in 1824. Company representatives arrived in the colony with an order for a grant of 1,000,000 acres. Acting on dubious advice, they chose land poorly suited for sheep at Port Stephens. Sir Edward Parry, the company's local commissioner from 1829 to 1834 made a significant impact. He was also in regular communication with James Bowman, the future owner of Ravensworth.²¹

As settlement grew around Maitland and Singleton, commercial activity and town settlement drifted to the central part of the valley around those towns away from Newcastle. Maitland grew to become the principal commercial centre, particularly around the private town which soon overtook the government town of East Maitland.

The 1828 census showed 191 landholders lived in the Hunter Valley. Of those 91 landholders held more than 100 acres. They represented a larger proportion of land under cultivation and used for cattle grazing. Those large landholders were soon able to run even larger herds of sheep and cattle. In 1829, Crown lands were made available for lease. Using that opportunity, larger landholders acquired the exclusive use of large acreages to further enhance their wealth.²² The owners of Ravensworth from James Bowman through to F J L Measures used that benefit to further their wealth and position.

3.1.6 CHURCH AND SCHOOL LANDS

The Church and School Estate was set up by letters patent of 9 March 1826 to oversee land reserved to provide income for Anglican clergy, schools and church organisations. The Church and School Estate Corporation was dissolved on 4 February 1833. By the *Clergy and School Lands Act, 1834*, (5 Gul IV, No 11) an agent was appointed to manage and dispose of the land and property of the Church and School Corporation. The scheme was

¹⁹ T M Perry, *Australia's First Frontier*, p 74.

²⁰ CLSP, *Hunter Estates*, Volume 1, pp 12-3.

²¹ W E Parry, *In the service of the company: Letters of Sir Edward Parry, Commissioner to the Australian Agricultural Company*, 2 volumes, ANU Press, 2004-5.

²² T M Perry, *Australia's First Frontier*, p 77.

largely unsuccessful. Large areas set aside for the Estate were distributed across the 19 counties. Until provision was made for selling the land, most of it was leased. Outside of the City of Sydney, most of the leases were for pastoral purposes.

Significant areas had been reserved for the Church and School Estate in the parishes of Liddell, Ravensworth, and Vane. James Bowman and his successors in title often leased those lands. County maps show the location of these areas. In 1835, James Bowman leased 5,512 acres (lots 67 to 73) of Church and School Estate land in the parishes of Liddell, Ravensworth, and Vane for 20/- per section from 1 July 1835 for one year.²³ When 2,552 acres in the parishes of Ravensworth, and Vane were advertised to let from 1 January 1840, James Bowman was shown as the current lessee.²⁴

A surviving record of Church and School lands rented in 1856 recorded that William Russell leased 2,560 acres in the parish of Liddell, for a lease commencing on 1 January 1843, at the rent of £20 for the first period, £30 for the second period and £40 for the third period.²⁵ Though no period is specified in the register, most Church and School leases were for 21 years. Another ledger commencing on 1 January 1860 showed that William Russell of 'Ravensworth near Singleton' paid £30 for the second period until 1 January 1863, when the third period commenced at the rate of £40. That lease officially ended on 31 December 1868, but he continued to pay £40 per annum until the end of 1871. There is no evidence in the ledger about what happened afterwards.²⁶

3.2 HISTORY OF RAVENSWORTH

3.2.1 LOCATING RAVENSWORTH

The original holder of Ravensworth was James Bowman, the colonial surgeon in charge of the Sydney infirmary or hospital. James Bowman had been appointed an assistant naval surgeon in 1806 and promoted to surgeon in 1807. At the end of the Napoleonic wars, he was reduced to half pay in 1814. He worked for some time as the surgeon on ships bringing convicts to the colony. In 1817, whilst acting as surgeon on the *Lord Eldon*, he became acquainted with John Macarthur who was returning to New South Wales after eight years exile. In 1819 Bowman arrived in the colony of New South Wales as the successor for D'Arcy Wentworth as colonial surgeon. In a happy coincidence, during his voyage to take up the position in 1819, one of the other passengers on the *John Barry* was John Thomas Bigge, travelling to New South Wales to commence his inquiry into the administration of Governor Lachlan Macquarie.²⁷

He was soon closely involved with the Macarthur family. On 4 November 1823, he married Mary Isabella Macarthur, the daughter of John and Elizabeth Macarthur. Her father gave her a dowry of 2,000 sheep and 200 cattle allowing James Bowman to apply for a land grant.²⁸ Despite his windfall from marrying into the wealthy Macarthur family, Bowman did not always respect the object of his good fortune. His wife Mary Isabella was subjected to violence and beatings, so that she often sought refuge with her mother.²⁹

Using that stock as his rationale for applying for land, on 4 June 1824 James Bowman received a Land Order for 12,160 acres (4920 ha) as three portions. The land he chose was bounded by Foy Creek (Bowmans Creek) and Yorks Creek draining into the Hunter River.³⁰

²³ NSWGG, 20 May 1835, p 316.

²⁴ NSWGG, 20 Nov 1839, p 1307.

²⁵ Church and School Estates, Rent roll of leases, SANSW 7/1271, p 10.

²⁶ Church and School Estates, Rent Register 1860-80, SANSW 4/6875, p 24.

²⁷ J F Campbell, 'The genesis of Rural Settlement on the Hunter', *JRAHS*, XII, 1926, pp 95-6; CSIL26/4590, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

²⁸ J F Campbell, 'The genesis of Rural Settlement on the Hunter', *JRAHS*, XII, 1926, p 96; N Gray, 'James Bowman (1784-1846)', *ADB*, volume 1, pp 137-8.

²⁹ D Bairstow, *A Million Pounds, A Million Acres: The Pioneer Settlement of the Australian Agricultural Company*, Author, Cremorne, 2003; J F Campbell, 'The genesis of Rural Settlement on the Hunter', *JRAHS*, XII, 1926, p 1196; N Gray, 'James Bowman (1784-1846)', *ADB*, volume 1, pp 137-8.

³⁰ J F Campbell, 'The genesis of Rural Settlement on the Hunter', *JRAHS*, XII, 1926.

On 22 September 1824, the Colonial Secretary Frederick Goulburn, wrote to Bowman informing him that the Governor had seen his memorial, and would allow him a ticket to occupy 6,000 acres (2428 ha).³¹ Bowman commenced paying rent for the land he was to purchase for 5/- per acre amounting to £1,125 from that date.³² The lower Hunter had first been surveyed for cropping, whilst the upper Hunter was occupied by large pastoralists who obtained large grants. Two major roads crossed the land that became Bowman's estate. One followed the Hunter towards Muswellbrook. It split into two roads at Glennies Creek. Both these roads crossed Bowman's land.

Ravensworth was occupied on the basis of the land order and additional land was rented from the government. An overseer with convict workers would have been the first occupiers. Huts were built for their accommodation plus the earliest wool sheds. Hunter suggests there may be evidence of sheep-washing facilities in the creeks.³³ In 1825, Peter Cunningham described Ravensworth. He reported that Bowman's property was situated between two creeks, one of fresh water and the other brackish. According to him, Bowman had 'extensive buildings for packing and sorting wool'.³⁴

The original Aboriginal inhabitants of the Hunter Valley did not willingly submit to the appropriation of their traditional lands and there are reports of clashes between the Aboriginal inhabitants and the settlers. Hunter claims that a stockade like structure was built on the property.³⁵ No map or archival reference has been found to confirm this. In June 1826, Bowman's farm was attacked by Aborigines. A watchman employed by Bowman was killed in his hut.³⁶ Two Aborigines thought to have been behind attacks, particularly those on Bowman's farm, were captured in August 1826 but were shot dead on what was claimed to be an escape attempt en route to Wallis Plains. An inquiry was later held and the officer in charge replaced.³⁷

On 17 May 1825, J Ovens, private secretary to the Governor, reported that Bowman would be issued a grant of 2,000 acres and that he could purchase an additional 5,000 acres.³⁸ James Bowman wrote to Governor Darling on 31 July 1826 in response to a government notice that occupiers of Crown land had to report on their entitlements. He stated that he held 6,000 acres on the basis of an order of 22 September 1824 in response to his memorial of 2 September 1824. In May 1825 he had bought an additional 5,000 acres of land. Though he stated he had purchased this land, this was a simplification since he had only obtained the right to purchase. He also noted that he owned many sheep and cattle which were grazing under John Larnach with four freemen and 29 convicts. In February 1824, he had sent a memorial to Lord Bathurst in London seeking land and had heard that it had been approved but had not been officially notified. He still occupied his land on the Hunter. His workmen had cleared about 200 acres and he had spent money on building and fencing. He possessed available capital and referred to his service in the Navy and the colony.³⁹

A deposit of £125 was paid on 1 October 1825 for 5,000 acres based on a warrant from Brisbane dated 17 May 1825.⁴⁰ This became the central part of Ravensworth (Portion 150, Parish Liddell).

Later that year, on 11 November 1826, Bowman returned a printed form for an additional grant without purchase. He held 5,000 acres by purchase and 6,000 acres by reserve (leased to him), of which 250 acres had been cleared, with his livestock totalling 270 cattle, 3,300 sheep, and 6 horses. He stated that he had erected 'Sheep Sheds, Wool House, Stores, Cottage, Kitchen, huts for ten men etc, which cost me Two Hundred & Sixty Pounds'.

³¹ Letter 22 Sept 1824, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

³² CSIL31/7818, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

³³ Hunter, Ravensworth, p 28.

³⁴ P Cunningham, *Two Years in New South Wales*, Henry Colburn, London, 1827, p 144.

³⁵ Hunter, Ravensworth, p 17.

³⁶ *Australian*, 28 June 1826, p 3; W A Wood, *Dawn in the Valley*, p 115.

³⁷ *Australian*, 26 Aug 1826, p 2; W A Wood, *Dawn in the Valley*, p 117-118.

³⁸ Letter 17 May 1825, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

³⁹ CSIL26/4590, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

⁴⁰ IntRev34/895 in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

In addition, he had built a stout fence 3 miles long and had maintained 34 convicts.⁴¹ On 18 November 1826, Darling authorised a primary grant of 2,560 acres to Bowman and Bowman took possession on 15 October 1831. It later became Portion 149, parish Liddell.⁴² It was advertised as number 295 in the notice of 18 May 1839 to be called Ravensworth.⁴³

The census of November 1828 listed the staff of James Bowman at Patricks Plains, essentially based at Ravensworth. Nearly all were assigned convicts with a free superintendent John Alexander. There were 11 listed as shepherds plus another 19 listed as 'labourer' as well as one listed as 'stockman'. There were four female convicts, most likely employed as domestics plus another male list simply as 'servant'. John Tucky, a 28 year old convict who arrived in 1823 on the ship *Ocean* was overseer. There were two shoemakers. James Smith, a convict, was recorded as a 'Tenant' of Bowman. Two blacksmiths supplied and repaired ironmongery. Building workers included two sawyers and two carpenters (George Delbridge, arrived on *Lord Sidmouth*, 1819 and John Wilday, 17 arrived on *Albion*, 1827). It is particularly notable that there were two stonemasons. James Burnett was 27 years old arriving on the *Marquis Huntley* in 1826 whilst Robert Jackson who arrived in 1825 on the *Speke* was only 19.⁴⁴ In 1828, Bowman also held land at Bathurst and Baulkham Hills.⁴⁵

George Delbridge is more correctly identified as John George Delbridge. He had been convicted at Middlesex Gaol Delivery on 2 July 1817 for sacrilege for stealing pipes from a church organ. In December 1829, he received a Ticket of Leave allowing him to work for himself. On 7 April 1836, he was tried on a charge of stealing a pair of trousers but no conviction was recorded since there was no evidence to back the charge. On 4 October 1836, still based at Patricks Plains he applied for a Conditional Pardon, which was subsequently granted.⁴⁶

In 1829, James White left the employment of the Australian Agricultural Company to become sheep manager for Bowman at Ravensworth. He arrived at Ravensworth on 30 March 1829, and took charge of the establishment on 6 April 1829.⁴⁷ White managed the property for ten years whilst acquiring his own land. He later became one of the major landholders of the colony establishing one of the most significant pastoral families of New South Wales.

On 6 September 1831, the Colonial Secretary informed Bowman that he would be allowed a grant of 2,560 acres out of the 6,000 acres promised to him and that he could rent the remainder of the 3,440 acres of that promise ready for purchase at 20/- per 100 acres per annum. Approval was also given to purchase those 3,440 acres.⁴⁸ In response to that confirmation, on 12 September 1831, Bowman informed the Surveyor General T L Mitchell that he wanted his 2,560 acres to be part of Sections 3/4, 3/5, 3/6 and 4/4, 4/5 and 4/6. The Parish of Liddell had previously been divided into sections.⁴⁹

Under the direction of the Surveyor General, surveyors Henry Dangar, Robert Dixon and George Boyle White had divided the upper parts of the Hunter valley into a grid network of portions ready for alienation.⁵⁰ This was in accordance with the directions received from Britain for laying out Crown land for alienation transmitted to Surveyor General John Oxley in 1822.⁵¹ In the Hunter Valley, the basic block was 640 acres. Although the scheme

⁴¹ CSIL26/7403, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

⁴² CSIL39/3807, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

⁴³ OSD No 934 Bk 932.

⁴⁴ M R Sainty & K A Johnson, *Census of New South Wales: November 1828*, Library of Australian History, Sydney, 1980.

⁴⁵ M R Sainty & K A Johnson, *Census of New South Wales: November 1828*, Library of Australian History, Sydney, 1980.

⁴⁶ CSIL 36/8659, NRS 905, Colonial Secretary, Letters received, SANSW 4/2309.

⁴⁷ Letter, J White, 12 April 1829, in Macarthur Family Papers, Vol 78, Papers re Dr Bowman, 1829-1855, ML A2974.

⁴⁸ CSOL 6 Sept 1831, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

⁴⁹ CSIL31/567, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807; SA Map 2981.

⁵⁰ Fieldbook indexes, SANSW.

⁵¹ T M Perry, *Australia's First Frontier*, p 50.

continued in a modified form into the 1840s, it was eventually abandoned since it tended to ignore land quality and the pressing need to survey land in response to applications received from land seekers.⁵²

Measuring virgin land as a grid tended to favour wealthy settlers who arrived early in the selection of land in any district. It also tended to ignore principles of equity when allotting land. It was a common practice to give all settlers a narrow frontage to a watercourse so all had the right to water. This was commonly seen in the positioning of grants in the County of Cumberland parishes such as the Parish of Castlereagh. Early and astute settlers in the Hunter Valley picked the blocks in the grid giving them a disproportionate length of river frontage. James Bowman selected what became portion 70 in the parish of Vane, giving him an extended frontage along the Hunter River and Fal Brook. Similarly, J B Weller who took what became portion 67 not only acquired 1,360 acres of land but also an extensive frontage to Fal Brook.

Further clarification of Bowman's entitlements was outlined in a letter of 12 September 1831 from the Colonial Secretary to the Surveyor General. Bowman had the following land orders from previous Governors. One of 22 September 1824 gave him permission to occupy 6,000 acres. Another order of 17 May 1825 permitted him to receive 2,000 acres by grant plus 5,000 acres by purchase. An order of 31 December 1825 instructed that instead of the grant of 2,000 acres Bowman would receive an area of 2,560 acres out of the land reserved for him on 22 September 1824 and he could rent the 3,440 acres with a view to purchase. This had not been done since Bowman had not described the land he required for the grant or arrange to pay the rent that was due for the remainder. The current Governor would allow him to complete the purchase under a notice of 1 and 2 August 1831. In summary, the land of Bowman was entitled was a 5,000 acre purchase allotted to him by Brisbane; the right to purchase and rent with a right to purchase 3,440 acres and a primary grant 2,560 acres. In all, the land totalled 11,000 acres.⁵³

Bowman informed the Surveyor General on 14 September 1831 that he wanted to take the 5,000 acres south of his primary grant and that an additional 3,440 acres would be taken of the 10,000 acres that he was due to receive.⁵⁴ Once this land was formally granted, it became the core of his Ravensworth property. What this land included is most clearly seen on the Crown Plan of those portions.

Assistant Surveyor Robert Dixon arrived at Ravensworth on 2 May 1832 to carry out surveys and then went on to measure the Pages River. He returned to Ravensworth on 14 May. The next day, 15 May, he measured Bowman's Primary Grant of 2,560 acres. On 16 May, the Retained Purchase of 3,440 acres was measured but the 5,000 acres took longer occupying Dixon on 17 and 18 May. The following day, 19 May, Dixon drew the plan.⁵⁵

The Crown Plan was sent to the Surveyor General on 2 July 1832. It showed the boundaries of his grants with some topography, roads and tracks plus watercourses. Portion 149 Parish Liddell was Bowman's primary grant of 2,560 acres, with a paddock in its north-west corner. Portion 150 Parish Liddell was his 'Retained Purchase' of 5,439 acres whilst Portion 1 Parish Vane measuring 2440 acres was also his 'Retained Purchase'. No buildings were shown on the plan (Figure 3.2, Figure 3.3).⁵⁶

⁵² T Kass, *Sails to Satellites: The Surveyors General of NSW (1786-2007)*, NSW Dept of Lands, Bathurst, 2008.

⁵³ Draft letter 12 Sept 1831, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

⁵⁴ CSIL31/8781, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

⁵⁵ NRS 13736. Surveyor General, Letters from Surveyors, R Dixon, SANSW 2/1531.2, p 131.

⁵⁶ H.35.663, Crown Plan.

ARCHAEOLOGICAL ASSESSMENT & RESEARCH DESIGN
RAVENSWORTH HOMESTEAD COMPLEX & SURROUNDS

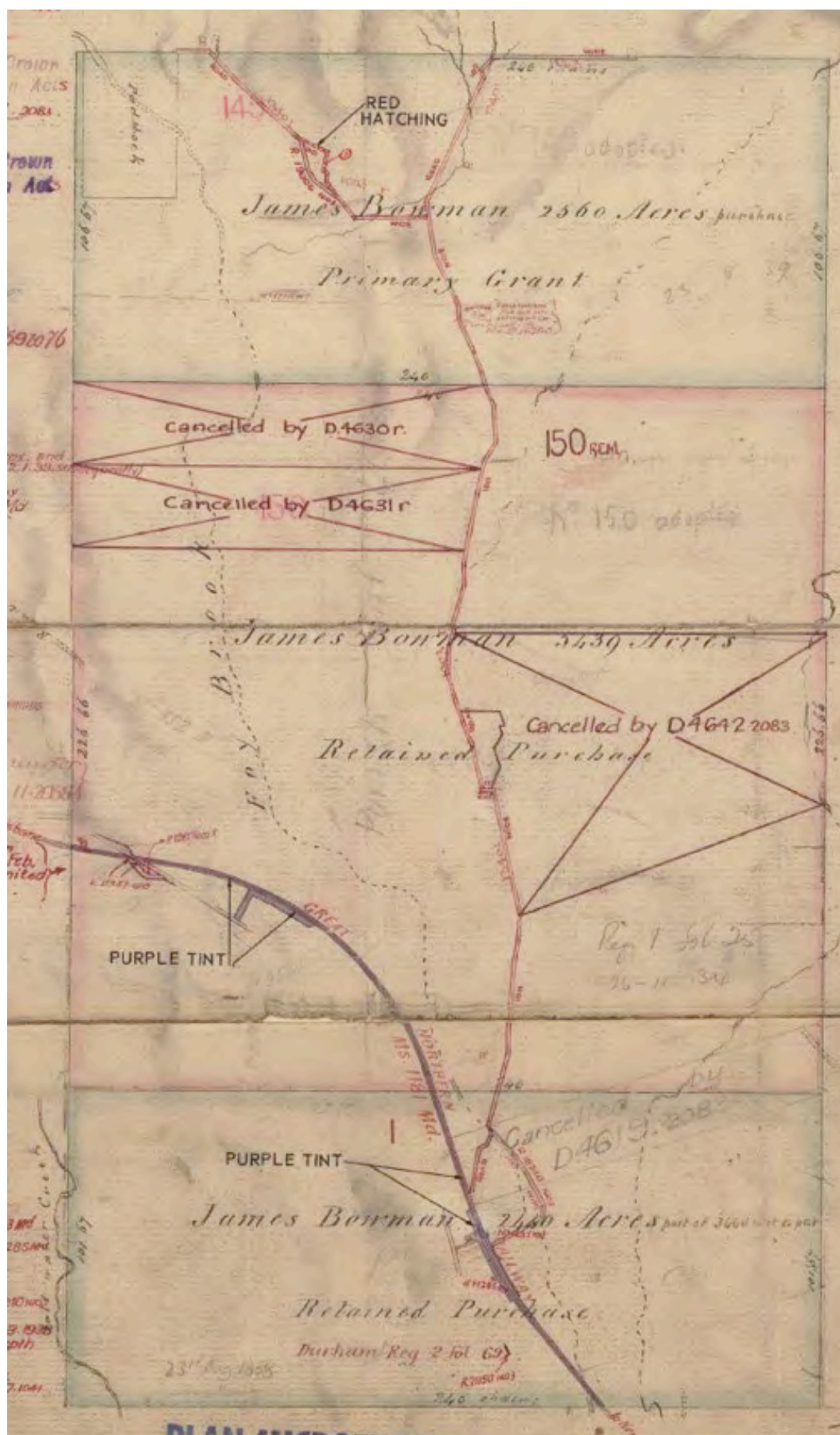


Figure 3.3: Enlargement of the grants on Dixon's plan. Source: H.35.663, Crown Plan.

Bowman was also acquiring other land nearby. On 27 February 1832, he wrote to the Collector of Internal Revenue about 500 acres south of his land in Parish Vane. Brisbane had issued a warrant for land on 17 May 1825 to Captain William Powditch who had then sold it to Captain George Bunn, who later sold it to Bowman. Bowman stated he would pay the balance owed to purchase the land.⁵⁷ It became Portion 69 Parish Vane.

Although the central parcels of Ravensworth had not yet been formally alienated from the Crown, Bowman was actively improving the land as the centre of his pastoral activity. On 7 March 1832, Sir William Edward Parry visited Ravensworth on his journey to Liverpool Plains, with Henry Dangar. Manager James White, previously employed by the Australian Agricultural Company, and his wife met him. Parry was not impressed with the estate believing too much money had been spent clearing a large home paddock. White described the flat land near Foy Creek as not being good land. Higher land was thickly timbered with ironbark and would probably not be good land. Bowman was then building a substantial stone cottage for White. A garden of 8 acres with a paling fence and small stream through it was laid out in an ornamental fashion. Parry thought it too large for a private estate.⁵⁸

The 1833 Post Office Directory, recorded that at 140 Miles out from Newcastle the traveller would 'Enter the estate of Dr Bowman - a tract of 11,000 acres, used principally as a sheep run. Cross several chains of ponds, branches of Foy Brook; Dr Bowman's farm buildings are to the right of the road'.⁵⁹

The garden mentioned by Parry was probably laid out on the estate in 1832. It was watered by a dam on Yorks Creek. A minor watercourse below the house had been dammed for the 'homestead dam' (Figure 3.4).⁶⁰



Figure 3.4: The homestead dam in 1902. Source: *Sydney Mail*, 15 Feb 1902, p 416.

⁵⁷ Letter 27 Feb 1832, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

⁵⁸ *Dungog Chronicle*, 18 Feb 1927, p 4.

⁵⁹ 1833 PO Directory, p 129.

⁶⁰ Hunter, Ravensworth, p 18.

A plan of the old and new Road from Muswellbrook to the Hunter River dated April 1833 by Assistant Surveyor Robert Dixon showed James Bowman's land near Foy Brook at Ravensworth with the house, barn and the new house shown. A paddock next to Foy Brook was marked as well as the line of fence. His area was shown as 10,439 acres, which tallies with the area of the three portions shown on the Crown Plan H.35.663 (Figure 3.5, Figure 3.6).⁶¹



Figure 3.5: Dixon's road plan of April 1833. Source: R.5.830, Crown Plan.

⁶¹ R.5.830, Crown Plan.



Figure 3.6: Part of Dixon's road plan showing buildings on Ravensworth including 'House', 'New house' and 'Barns'. Source: R.5.830, Crown Plan.

Though Dixon failed to show the buildings on Ravensworth on his 1832 portion survey, their inclusion on the 1833 road plan would almost certainly be accurate since he had carried out both surveys. The Treasury reported on 31 May 1834 that it had received payment for 5,000 acres from James Bowman of £1,250. A deposit of £125 had been paid on 1 October 1825 based on a warrant from Brisbane dated 17 May 1825.⁶²

James Bowman was then granted 5,000 acres [portion 150, parish Liddell] on 24 September 1834. The warrant dated 17 May 1825 permitted him to purchase 5,000 acres at five shillings per acre. The land was in County Durham, parishes Ravensworth, Liddell and Vane. Beginning at the North West corner it was bounded on the north by Bowman's primary grant of 2,560 acres, 240 chains, on the east by a line 226 chains 66 links, on the

⁶² IntRev34/895 in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

south by James Bowman's purchase of 2,440 acres [Portion 1 Parish Vane] 240 chains, and on the west by a line 226 chains 66 links.⁶³ The area seems to have later been corrected to 5,439 acres.

3.2.2 JAMES BOWMAN'S RAVENSWORTH ESTATE

In October or November 1835, Lieutenant George Pulteney Malcolm, who was travelling around the colony looking for suitable land to purchase, visited Ravensworth. When he arrived at Ravensworth the sheep were being washed and shorn. The sheep were first washed in hot water and then in cold. After being kept warm for 2 to 3 days so that the yolk could rise in the wool, they were shorn. He noted that 'Dr B's is the most complete establishment I have seen in the District'. Apart from sheep, Bowman also ran cattle.⁶⁴ On Malcolm's return to Windsor on 22 November, he further noted that 'The largest & best managed establishments I saw were Ravensworth, Dr Bowmans, they were busy shearing when I was there and his clip of wool this year was supposed to be worth 4,000£ [sic] clear of all expenses & Glendon, belonging to Mr Scott...' ⁶⁵

A road survey of 1835 by Assistant Surveyor G B White showed the land held by Bowman, plus an 'Old House' north of the road. A 'Burial Ground' near the VR (Village Reserve = Village of Camberwell?) was also marked on the plan (Figure 3.7, Figure 3.8).⁶⁶



Figure 3.7: G B White's road survey. Source: SA Map 5095 originally R.6.830.

⁶³ Grants, Volume 35 No 30.

⁶⁴ Lieutenant George Pulteney Malcolm, Journal, ML.MSS 5312, Item 2, p 5.

⁶⁵ Lieutenant George Pulteney Malcolm, Journal, ML.MSS 5312, Journal p 129.

⁶⁶ SA Map 5095 originally R.6.830; Copy not available as Crown Plan.



Figure 3.8: Enlargement of G B White's road survey showing 'Old House'. Source: SA Map 5095 originally R.6.830.

A sketch by G B White dated July 1835, showing roads in that vicinity sent to the Surveyor General showed Bowman's house plus the 'burying ground' near Fal Brook (Figure 3.9).⁶⁷ It was almost certainly associated with the road survey above.

⁶⁷ Surveyor General, Sketch Book 3 f 16, SANSW.

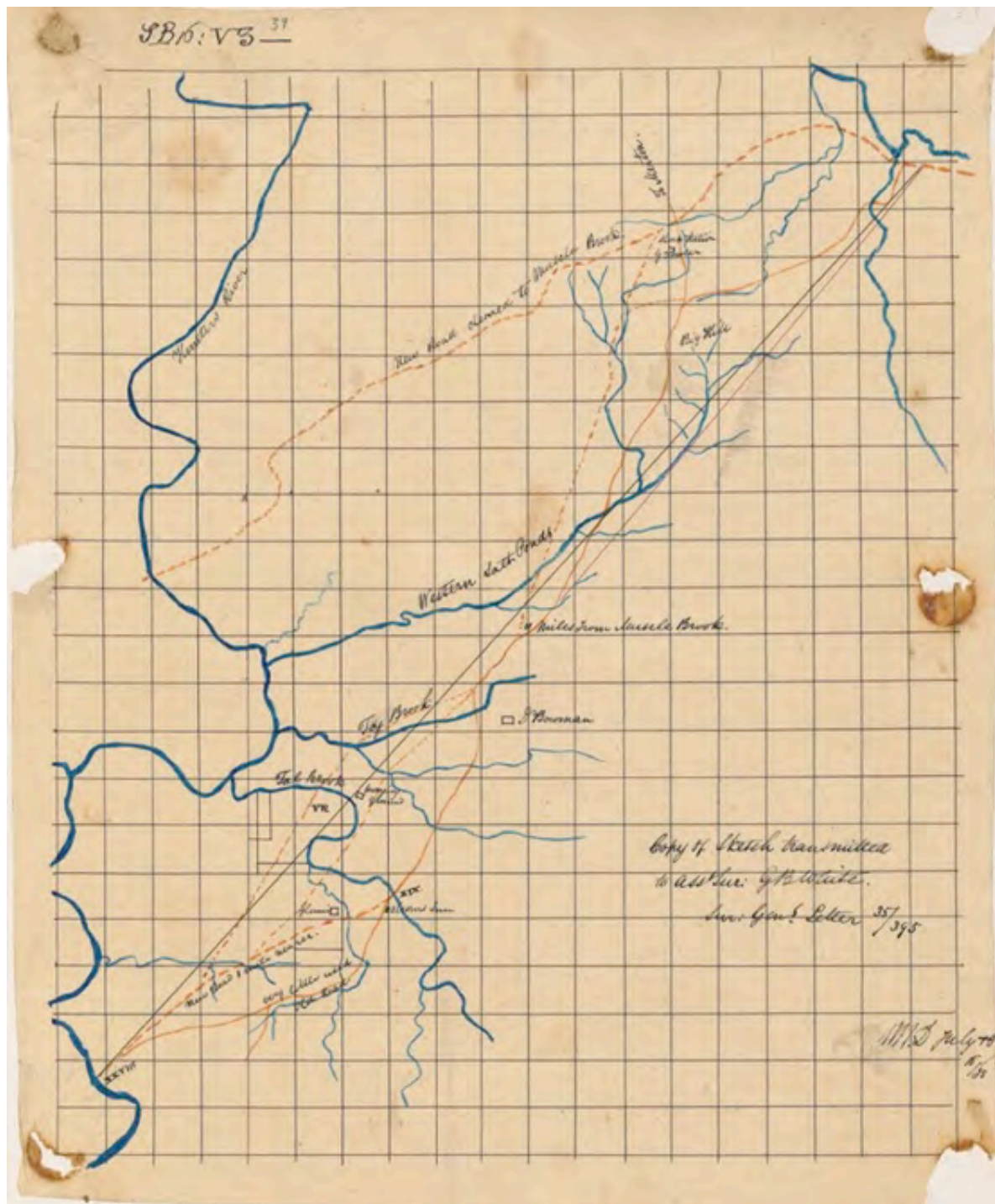


Figure 3.9: G B White's sketch also showing a house owned by J Bowman. Source: Surveyor General, Sketch Book 3 f 16, SANSW.

Missionaries James Backhouse and George Washington Walker visited Ravensworth on 30 June 1836. During their approach, they noted that the land was covered with kangaroo grass a foot high whilst in other areas it was thickly forested. Before leaving on 1 July, they walked through the garden eating the oranges, which were ripe and 'irrigated during the dry weather'. The garden also included a peach orchard and vineyard.⁶⁸

Bowman paid for 3,440 acres on 30 June 1836 at 5/- per acre making a total of £860 plus rent on that land of £20/4/5 from 18 November 1826 to 21 July 1831. The deposit had been

⁶⁸ J Backhouse, *Extracts from the Letters of James Backhouse*, Part 3, Darton and Harvey, London, 1838, p 74.

paid on 13 October 1831 as £86. That now completed the purchase.⁶⁹ On 23 August 1838, the Land purchase by James Bowman was issued as a grant, on the basis of permission granted by Sir Ralph Darling on 1 December 1828, for £860. There were two portions of land described in the grant deed. The first portion measuring 2,440 acres was situated in the parishes of Ravensworth and Vane. It was bounded on the north by James Bowman's purchase of 5,000 acres 240 chains, on the east by 101 chains 67 links, on the south by William Powditch's 500 acre purchase 240 chains, and on the west by 101 chains 67 links [It was portion 1 Parish Vane]. The second portion measuring 1,000 acres was in the Parish adjoining the parish of Liddell. It was not part of the core area of Ravensworth.⁷⁰ Later, on 5 March 1842, when the colonial administration was clarifying lands purchased by Bowman during the administration of Brisbane or Darling. The original order for 3,440 acres for £850, the Surveyor General reported had been granted on 23 August 1838.⁷¹

Bowman continued his process of acquiring the freehold of land adjoining Ravensworth. On 21 and 22 November 1838 by a deed of Lease and Release, James Bowman, Sydney, esquire purchased 2,560 acres at the corner of the Church Reserve from William Morgan, Sydney, merchant (portion 7 Parish Liddell) for £1,600.⁷² This was originally recorded as Portion 89 to be granted to William Morgan at Saltwater Creek.

Cynthia Hunter suggests that the new house was built for James White in 1839 in the style of Elizabeth Farm, the family home of James Bowman's wife, Mary Isabella (nee Macarthur).⁷³ No evidence has been found that confirms the date of construction of the current Ravensworth.

A publication of 1978 described the original layout of the main homestead was an H shape with verandahs that was later altered. The worked stone quoins and symmetrical design suggest that John Verge, who was working for John Macarthur at the same time, may have supplied Bowman with the house plan. The house was originally one side of a rectangular stable yard but that range was later demolished. No details characteristic of John Verge's buildings were located on the building.⁷⁴

A sketch map from the 1830s with papers regarding a boundary dispute showed three buildings at Ravensworth. Since the map is only very approximate, it is probably unable to be accurately related to current cadastral boundaries.⁷⁵

Bowman continued to expand his freehold landholdings around Ravensworth. On 29 January 1840, he was granted 500 acres in Parish Vane to James Bowman. That land became Portion 69.⁷⁶

⁶⁹ CSIL37/5560, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

⁷⁰ Grants, Volume 67 No 35.

⁷¹ CSIL41/5799, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

⁷² OSD, No 999 Bk N.

⁷³ Hunter, Ravensworth, p 20.

⁷⁴ J Broadbent, I Evans, C Lucas, *The Golden Decade of Australian Architecture: The Work of John Verge*, David Ell, Sydney, 1978, p 123.

⁷⁵ Macarthur Family Papers, Vol 78, Papers re Dr Bowman, 1829-1855, ML A2974.

⁷⁶ RPA 17251; Grants, Vol 70.

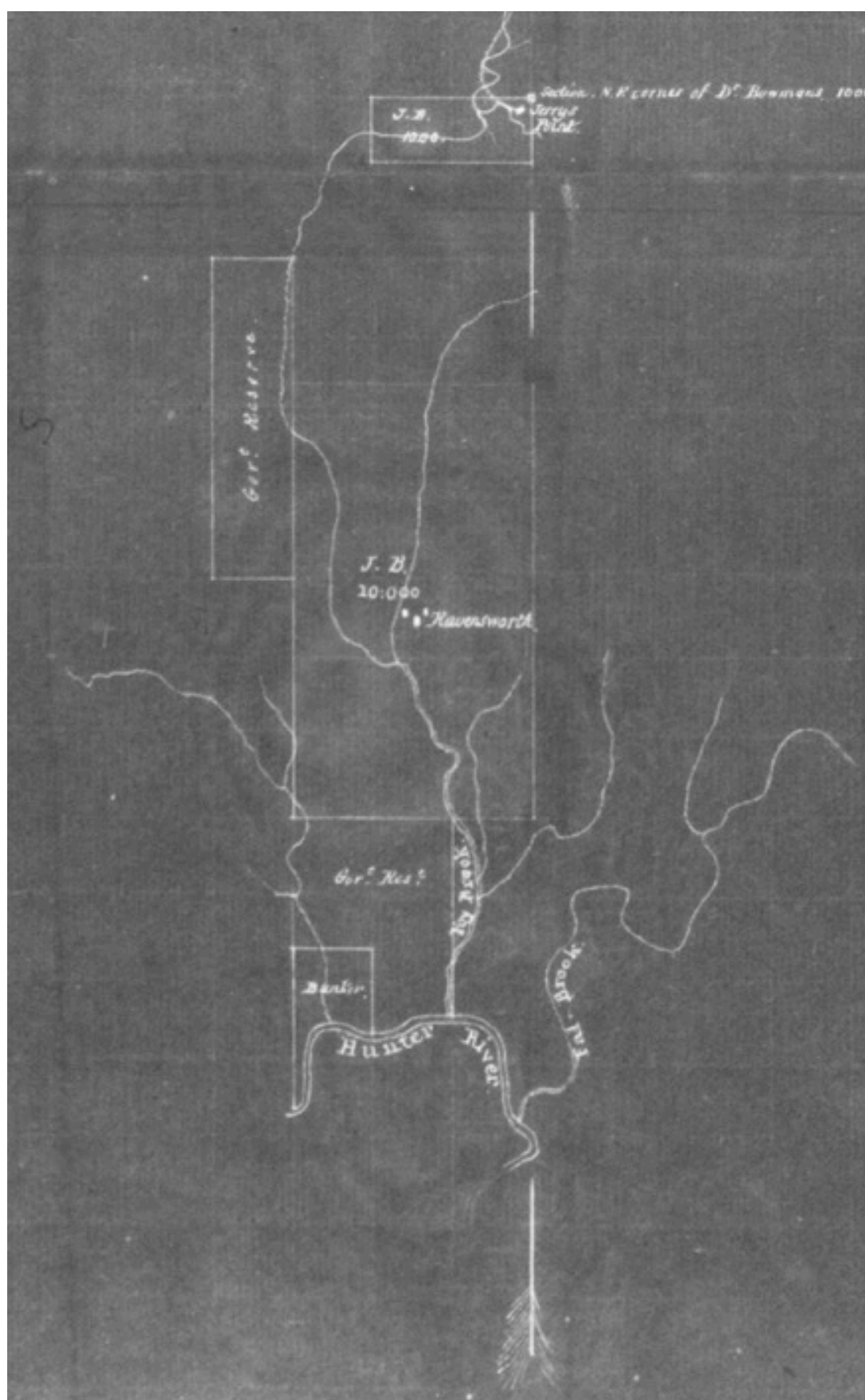


Figure 3.10: This rough undated sketch map from the 1830s showed three buildings on Ravensworth. Source: Macarthur Family Papers, Vol 78, Papers re Dr Bowman, 1829-1855, ML A2974.

Bowman's salary ended on 1838 two years after his official position was vacated and he retired to Ravensworth. The loss of his official position, his heavy expenses incurred in construction of Lyndhurst and the cost of liabilities regarding acquisition of Segenhoe meant that James Bowman was in a precarious financial position. After selling various assets, James Bowman and his wife moved to Ravensworth in 1843.⁷⁷ Meanwhile, James and William Macarthur took over the debts and the estate was conveyed to them.⁷⁸ By 1842, Bowman had large debts to the Bank of Australasia and was threatened with foreclosure. Assistance from his Macarthur brothers-in-law helped him weather this problem.⁷⁹ On 12 September 1842, James Bowman, Sydney, esquire and his wife Mary Isabella released various parcels of land at Ravensworth to James and William Macarthur of Camden, esquires, including 5,000 acres in the parishes Liddell and Vane, 3,440 acres in the parishes of Ravensworth and Vane and 2,560 acres, in the Parish Liddell for £10,691.⁸⁰

By his will of 23 August 1843 James Bowman, Ravensworth, esquire appointed James and William Macarthur as the executors of his estate. One sixth of any income from his estate was left to his widow Mary Isabella Bowman.⁸¹ James Bowman died at Ravensworth on 23 August 1846. His place of burial is unknown. Hunter suggests that it is possibly on Ravensworth or in the churchyard.⁸² In 1851, St Clements Church was completed on land donated by James Bowman.⁸³ It is possible he is buried there.

In order to meet debts to the bank, on 28 August 1847, James Macarthur and his wife Amelia and William Macarthur conveyed Ravensworth to the Bank of Australasia. The conveyance was from James Macarthur and his wife Amelia and William Macarthur to the Bank of Australasia to cover a debt of £45,897/10/9 to the Bank. The property was the land transferred to them by James Bowman in 1842. The purchase price paid by the bank was £58,186/0/10.⁸⁴

The Bank held the property for a number of years. By January 1851 Captain William Russell was occupying Ravensworth when he advertised that an employee had absconded.⁸⁵ On 20 January 1851, an inquest was held at Ravensworth on the body of Mary Stewart, a 15 year old girl who had drowned while swimming in a waterhole near the house. William Russell was one of those who vainly tried to rescue her.⁸⁶ Russell became the next owner of Ravensworth.

3.2.3 JAMES MACARTHUR AND THE AUSTRALIAN AGRICULTURAL COMPANY

When the Australian Agricultural Company was formed in 1826, a local committee was established to oversee its operations. The local committee was largely a family consortium of the Macarthur family. Hannibal Hawkins Macarthur, John Macarthur's nephew and James Macarthur, one of John Macarthur's sons were appointed to the committee. Another appointee, linked to the family by his marriage to John Macarthur's daughter was James Bowman. As the historian Damaris Bairstow has noted, this was scarcely an astute appointment, since Bowman no experience of managing a pastoral station until he was forced to move to Ravensworth in 1838 when he was no longer receiving his official salary.⁸⁷

⁷⁷ H King, *Elizabeth Macarthur and Her World*, Sydney University Press, Sydney, 1980, p 185-7.

⁷⁸ N Gray, 'James Bowman (1784-1846)', *ADB*, volume 1, pp 137-8.

⁷⁹ Hunter, Ravensworth, p 8.

⁸⁰ OSD, No 155 Bk 2.

⁸¹ NRS 13660, Supreme Court, Probate Packet, Series 1 No 1778, SANSW 14/3229.

⁸² Hunter, Ravensworth, p 9.

⁸³ Hunter, Ravensworth, p 28.

⁸⁴ OSD, No 460 Bk 13.

⁸⁵ *Maitland Mercury*, 22 Jan 1851, p 3.

⁸⁶ *Maitland Mercury*, 24 Dec 1851, p 2.

⁸⁷ D Bairstow, *A Million Pounds, A Million Acres: The Pioneer Settlement of the Australian Agricultural Company*, Author, Cremorne, 2003, p 10.

To oversee the management of the company's Port Stephens property, noted Arctic explorer, Sir Edward Parry, was appointed as commissioner. He arrived in Sydney on 23 December 1829.⁸⁸

3.2.4 OVERSEERS AT RAVENSWORTH

According to Alan Atkinson, a total of 42% of estates in the Hunter Valley (apparently in 1828) were managed by overseers for proprietors who lived elsewhere, usually in the county of Cumberland.⁸⁹

John Larnach was an early overseer for Bowman. He was later involved in the unlawful killing of Aborigines in 1826.⁹⁰ The General Muster Lists for 1823 to 1825 identified him as overseer for Bowman in the Newcastle area.⁹¹

The November 1828 census identified John Alexander, a free immigrant as the superintendent for James Bowman at Patricks Plains. John Alexander drowned in the Fish River in October 1830 aged 25 whilst acting as overseer to Reverend Samuel Marsden. He was buried at All Saints Church of England Bathurst.⁹²

James White arrived in the colony in 1826 overseeing the transportation of the Australian Agricultural Company's sheep to New South Wales. After landing the sheep at Sydney, he took them to Parramatta and later to Port Stephens. From 1826 to 1829, he was sheep supervisor for the Company.⁹³ White arrived at Ravensworth on 30 March 1829 to take over from John Alexander. Alexander showed him over the estate whilst mustering cattle and viewing the flocks of sheep. White formally took charge on 6 April 1829. The sheep were affected by lack of feed, and White expected there would be further difficulty if no rain fell soon. He noted that the stations ran up to the brook for 4 miles above the stockyard from Powditch's (Portion 69, Parish Vane). He found a run over the range 7 miles from the source of the brook that would feed 2,000 sheep and moved them there. Cattle had wandered as far as 35 miles from the head station. Wheat would be planted in two weeks time but he would need to buy some since it was short. He also reported on construction work on the estate. The granary was 'just above the first Floor and no stuff out for the roof before this last week'. He also noted 'The Barn about three parts shingled and no shingles split'. One of the convict sawyers named Baker was now free and would be paid wages from 1 April.⁹⁴ From the time White took over as superintendent, a series of letters and reports about Ravensworth survive in the Macarthur papers.

White complained about the laxity of some of the shepherds. On 2 May 1829, he identified the only good shepherds as Thomas Light, who was then ill and might need to go to hospital and Fordam and May. He reported the sheep were doing well at the new station. He had found another run 25 miles away but it lacked water.⁹⁵

Tobacco was grown in the garden, and was used for rations for the men whilst poorer quality leaf was used to treat scab on the sheep. A man named Gaggin had been engaged by Alexander to stump and burn off the land behind the garden at 32 shillings per acre. The work was ready to be valued by August but White was critical of the quality of the work since the stumps were 'only burnt to the surface of the Earth and will require to be dug out'. He noted that there were two sections of land about '6 Miles from James [??] Point' where Bowman had taken his last two sections. White wanted to make a sheep station that now find is that Busby wanted it for a cattle station. White hoped to beat him

⁸⁸ D Bairstow, *A Million Pounds, A Million Acres: The Pioneer Settlement of the Australian Agricultural Company*, Author, Cremorne, 2003, p 196.

⁸⁹ CLSP, Hunter Estates, Volume 1, p 41.

⁹⁰ B T Dowd and A R Fink, 'John Larnach (1805-1869)', *ADB*, Volume 2, p 86.

⁹¹ C J Baxter, *General Muster List of New South Wales: 1823, 1824, 1825*, ABGR, Sydney, 1999, No 29211.

⁹² All Saints Church, Bathurst burial register, <http://www.bda-online.org>, accessed 20 August 2018.

⁹³ J White, *The White Family of Belltrees: 150 Years in the Hunter Valley*, Sydney, 1981, p 29.

⁹⁴ Letter, 12 April 1829, Papers re Dr Bowman, 1829-1855, ML A2974.

⁹⁵ Letter, 2 May 1829, Papers re Dr Bowman, 1829-1855, ML A2974.

to it by taking some of their lambs to that site. He would order Francis to stop making fencing and make hurdles and a hut for that location. White commented 'In the present distress of this part of the Country every Acre of Land where there is Grass and Water is valuable to preserve[.] It would be a good way to take a Ticket of occupation for two or three Thousand Acres.'⁹⁶

On 21 January 1833, White informed Bowman that Colonel William Dumaresq had arrived at their outstation at Sandy Creek and ordered Bowman's men to leave and remove the stock since it was his station. He also reported that the convict Short was removed from the kitchen and was punished with 12 lashes and later with another 50 lashes for making 'most malicious reports of my Family'. Ward had received 50 lashes after being found by White's brother absent from his flock, whilst Scott received 25 lashes for the same offence. White reported there were many grapes on the vines and hoped that Bowman could identify them if he sent some. Otherwise he was anxious for Bowman to visit. Peaches and nectarines were also plentiful.⁹⁷

Dumaresq wrote to Bowman from St Heliers on 17 January 1833, that he had found White had formed a sheep station on 'St Heliers Brook' and his land. Dumaresq noted he had selected the station 25 miles from Ravensworth to avoid any problems. He asked him to order White to remove the livestock. In passing he also mentioned that White 'gave me good accounts of your House etc at Ravensworth. Whenever you visit your little dominion there, I hope that you will extend your ride as far as St Heliers'.⁹⁸

Bowman replied to Dumaresq from Ravensworth on 4 February 1833, disputing the location of the run. It was 15 miles from Ravensworth and it was a property occupied for four years, which he confirmed by looking at Dixon's recent survey on that part of the Hunter. It was 'only 15 miles from my cottage at Ravensworth' he claimed.⁹⁹

White sent apples to Bowman on 24 February 1833. Ploughing had commenced on Powditch's land to grow wheat but the soil was so hard that only half an acre was completed in a day.¹⁰⁰

On 8 April 1835, Dumaresq wrote to Bowman from Port Stephens hoping that, 'By this time, I hope you are comfortably fixed in your new and spacious dwelling'.¹⁰¹ This appears to refer to Lyndhurst, which was then under construction for Bowman.

White sent lemons to Bowman on 9 June 1835. He also reported on punishments meted out to the convicts for various offences – Broden [??] 36 lashes for losing sheep (third punishment in a month); Hassel 25 for absence at night; Edwards 50 for disobedience; Cummings 25 for losing a wether; Millard to iron gang for 12 months for stealing and 'George Bowman's man' same for receiving.¹⁰²

On 4 July 1835, White reported Dwyer had left 170 sheep out one night so White's brother and several men searched all night. Five were killed and four remained lost so Dwyer received 50 lashes. White reported he had wheels and boxes made.¹⁰³

White informed Bowman in July 1835 he had planted vines and, 'The piece of land under the Fence in the vineyard is now completed.' Additionally, 'We have done nothing to the Building since the beginning of May'. The workmen were all ill. He named them as Ponting [?], Kenavey [?], Taylor and Lawton.¹⁰⁴

⁹⁶ Letter, 2 Aug 1829, Papers re Dr Bowman, 1829-1855, ML A2974.

⁹⁷ Letter, 21 Jan 1833, Papers re Dr Bowman, 1829-1855, ML A2974.

⁹⁸ Letter, 17 Jan 1833, Papers re Dr Bowman, 1829-1855, ML A2974.

⁹⁹ Letter, 4 Feb 1833, Papers re Dr Bowman, 1829-1855, ML A2974.

¹⁰⁰ Letter, 24 Feb 1833, Papers re Dr Bowman, 1829-1855, ML A2974.

¹⁰¹ Letter, 8 April 1835, Papers re Dr Bowman, 1829-1855, ML A2974.

¹⁰² Letter, 9 June 1835, Papers re Dr Bowman, 1829-1855, ML A2974.

¹⁰³ Letter, 4 July 1833, Papers re Dr Bowman, 1829-1855, ML A2974.

¹⁰⁴ Letter, 27 July 1833, Papers re Dr Bowman, 1829-1855, ML A2974.

In January 1836, White employed free servants – Dakin at £18 pa, tea and sugar; Lewis at £13 pa [possibly James Lewis, arrived 1835 on *Bengal Merchant*¹⁰⁵].¹⁰⁶ On 28 January 1836, White requested ‘a woman from the Factory [Female Factory, Parramatta] for a wife for Tom - Hayes’ wife was confined on Xmas Day and we have no one able to wash or do any thing’. He also informed Bowman, he would leave to look for land in about a fortnight and hoped to return before the lambing season.¹⁰⁷ James White left his position as superintendent in 1839.

On 26 June 1840, P C Pagan of Dalmorton wrote to Bowman that he had collected a flock of ewes from Ravensworth from Mr Shepherd. James White endorsed the promissory notes.¹⁰⁸

3.2.5 EXPANSION OF THE BOWMAN PROPERTY

Robert Dixon’s 1837 map of New South Wales showed grants distributed along the Hunter River (Figure 3.11). Dixon depicted the area held by Dr James Bowman as 14,600 acres. Another parcel north of his main holding was shown simply as ‘Bowman’. It could either have been James or possibly George Bowman.¹⁰⁹

A map of the County of Durham compiled in 1839 by draftsman William Henry Fernyhough showed the grants of James Bowman (

Figure 3.12). It was used as a charting map by the Surveyor General for some years so further information was added. This possibly includes some of the grants charted on the map. It appears to have not being used after 1846 since no grants to William Russell were shown. That is rather dark and heavily used so some of the detail is unclear. It does depict a number of the grants that Bowman received after those that made up the core of his holding.¹¹⁰

¹⁰⁵ 1837 Muster, No 15018.

¹⁰⁶ Letter, 4 Jan 1836, Papers re Dr Bowman, 1829-1855, ML A2974.

¹⁰⁷ Letter, 28 Jan 1836, Papers re Dr Bowman, 1829-1855, ML A2974.

¹⁰⁸ Letter, 26 June 1840, Papers re Dr Bowman, 1829-1855, ML A2974.

¹⁰⁹ Dixon, Robert, This map of the colony of New South Wales, 20 July 1837, NLA Map F 891.

¹¹⁰ County Durham, 1839, SA Map 2520.

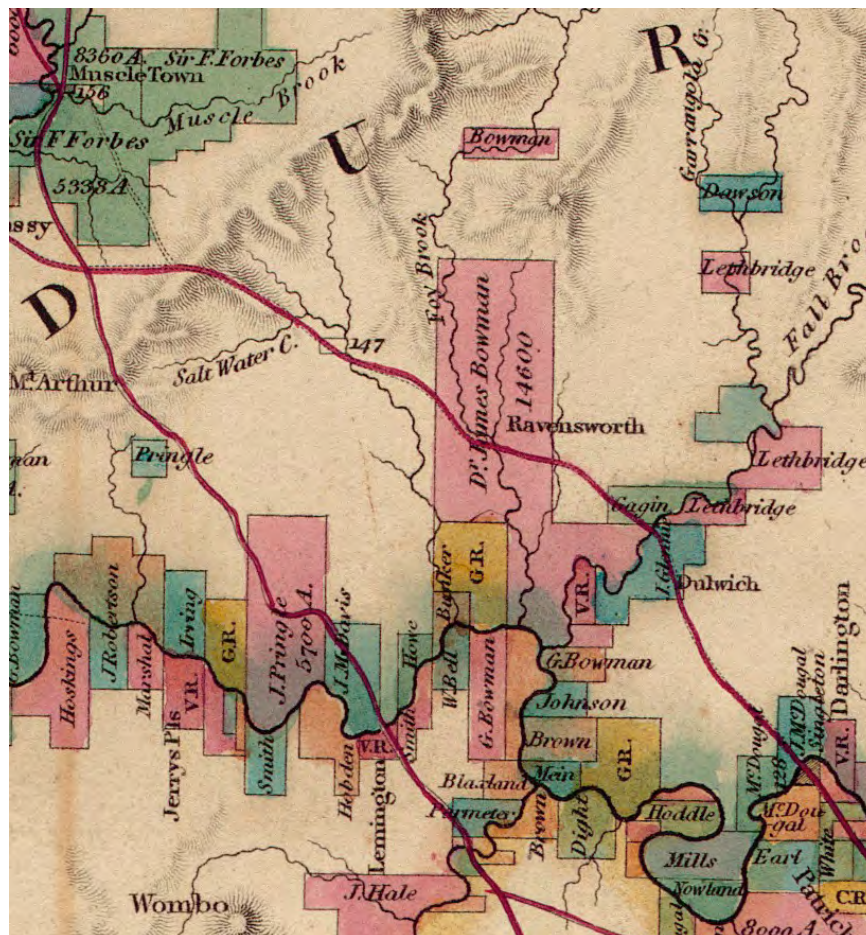


Figure 3.11: Robert Dixon's 1837 map showed land at Ravensworth held by Dr James Bowman.
Source: Dixon, Robert, This map of the colony of New South Wales, 20 July 1837, NLA Map F 891.



Figure 3.12: Fannyhough's 1839 map depicted the status of land held by various individuals. It is difficult to read and may have later information added to it. Source: County Durham, 1839, SA Map 2520.

The 1850 map of the County of Durham showed a further phase in the expansion of Ravensworth, particularly under William Russell (Figure 3.13). The map appears to have

been updated until well into the 1870s since it plots a number of grants to William Russell that were not finalised until the late 1860s.¹¹¹

The edition of the County Map dated as June 1857 was used as a charting map probably into the late 1860s (Figure 3.14). Numerous grants to William Russell are charted on the map. The original print on the map was black. Both blue and red ink were used to chart those parcels of land that William Russell aimed to purchase.¹¹² However, not all these parcels were granted to William Russell. Some were purchased by others, whilst a number were eventually purchased by members of his family after his death. Others appear to have been purchased by later holders of Ravensworth.

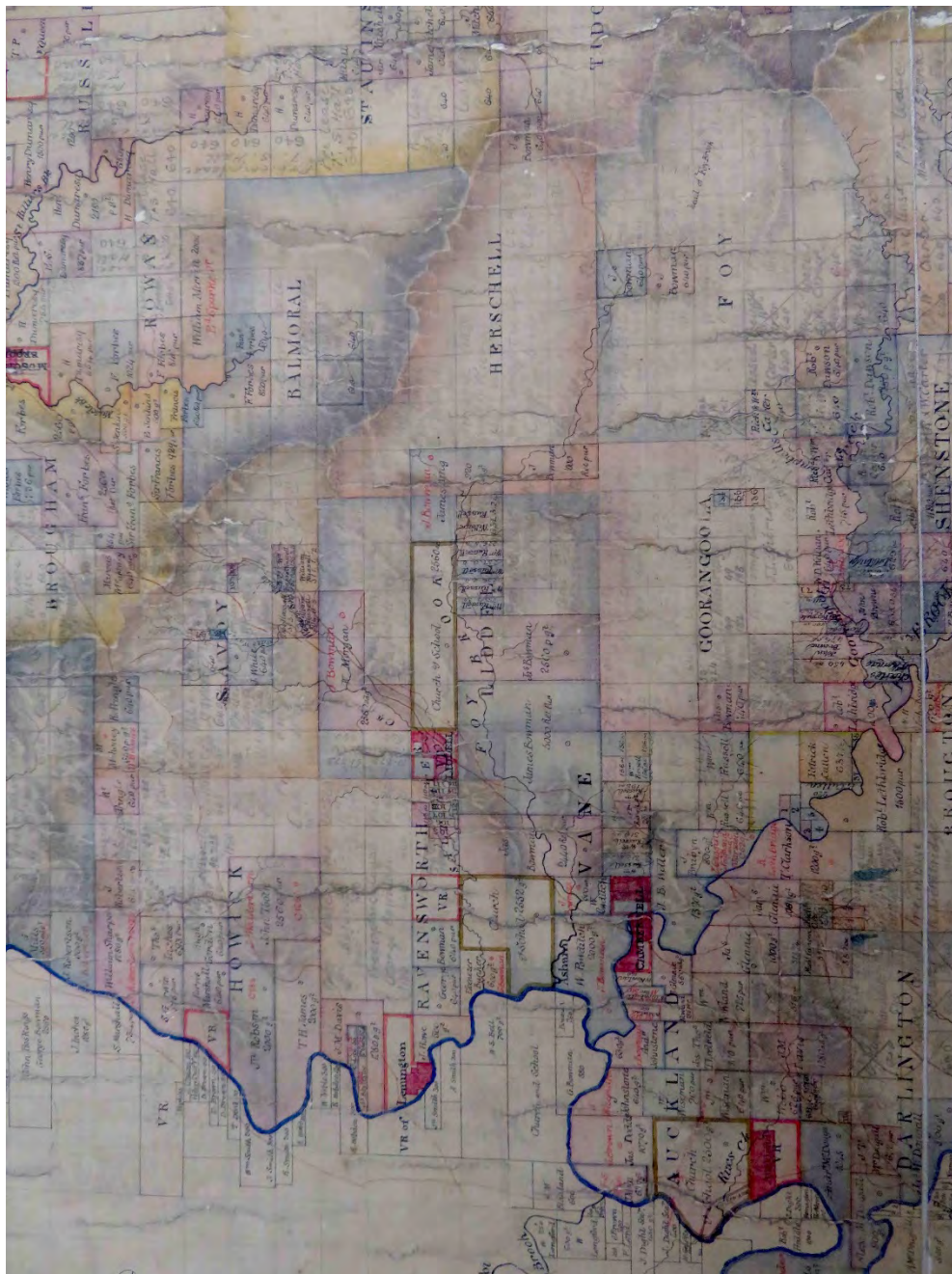


Figure 3.13: The 1850 version of the map of the County of Durham showed Bowman's holdings and those of William Russell. It was used to chart additional information in later years. Source: County Durham, 1850, SA Map 252.

¹¹¹ County Durham, 1850, SA Map 2521.

¹¹² County Durham, 1857, SA Map 2522.

CASEY & LOWE

3.2.6 OTHER BOWMAN LANDHOLDINGS

In 1828, Bowman was recorded as holding land at Bathurst and Baulkham Hills.¹¹³ The land at Bathurst was probably a lease from the Crown. He later sold the Baulkham Hills land.

In 1838, Bowman purchased a number of Crown portions at auction, which were granted in 1839. They were situated in the County of Brisbane, but were scattered in various locations so they did not make a consolidated holding.¹¹⁴ He sold the portions in the County of Brisbane to his former overseer James White who acquired considerable areas of land nearby but the sale was not registered until after Bowman's death.¹¹⁵

3.2.7 WILLIAM RUSSELL

On 15 December 1853, the Bank of Australasia conveyed Ravensworth to William Russell with the same property descriptions as in the 1842 deed for £8,614.¹¹⁶ Captain William Russell had been reduced to half-pay in 1837 before moving to Australia. He retired from the Army in 1843. He had a network of powerful friends including the Commissioner for Lands. The list of squatting runs in the Gwydir District listed his holdings as Blue Nobby of 35,000 acres grazing 18,000 sheep, Eena of 50,000 acres capable of running 18,000 sheep, Tucka Tucka of 35,000 acres capable of running 1,800 cattle, all in conjunction with G Burges.¹¹⁷ He held substantial squatting properties beyond the Hunter Valley, particularly Wallangra in the Inverell district. Russell purchased a number of Hunter Valley properties including Ravensworth. It is unclear which one was his residence. According to an 1895 article Cheshunt Park was his principal residence, though numerous title deeds describe him as being of Ravensworth.¹¹⁸

William Russell, of Ravensworth, Hunters River, but now of Dover, County Kent signed his will on 16 June 1863 leaving his estate to his wife Eliza and 'at his death expressed a wish that she might leave whatever might remain to their children in such fair manner as she might think fit'. He appointed her and his eldest son William Russell and his friend Richard Carey Dangar as trustees and executives. William Russell died in England at 12 Queens Gate, Kensington, London on 7 June 1866. The value of his goods in England was sworn at £7,000.¹¹⁹ The will was probated in England on 13 July 1866 and subsequently in NSW on 25 October 1866 with the value of his goods in New South Wales sworn at £18,000.¹²⁰ At that time, the value of real estate was not included in any valuation of assets of the deceased person.

From 1866, the title to Ravensworth was a continuous chain including the land acquired by William Russell in 1853 until 1911, according to F H King, the solicitor handling an application to convert the property to Torrens Title in 1911.¹²¹ A number of deeds were signed, either as mortgages or changes in the identity of the trustees of the estate. Some of the more notable ones are recorded here. As noted earlier, not all deeds could be examined, as they are involved in an ongoing digitisation project.

On 22 June 1869, a Mortgage was signed with the following parties, 1st William James Russell, 2nd John William Russell, 3rd Maria Jane Russell, 4th Eliza Russell, 5th Thomas Bowyer Bower and Edmund Butler Edwards (mortgagees).¹²² The next day, a Settlement of the property was signed with the following parties, 1st Eliza Russell, 2nd William James Russell 3rd Baker Creed Russell, 4th John William Russell 5th Thomas Bowyer Bower and wife Bessie Elllice Bower 6th Maria Jane Russell 7th Henry Thomas Auley and wife Rachel Eliza 8th

¹¹³ M R Sainty & K A Johnson, *Census of New South Wales: November 1828*, Library of Australian History, Sydney, 1980.

¹¹⁴ Grants, Volume 68, No 125-126; 130-133.

¹¹⁵ OSD, No 453 Bk 20.

¹¹⁶ OSD, No 804 Bk 30.

¹¹⁷ NSWGG, 9 Sept 1848, p 1175-6.

¹¹⁸ Hunter, Ravensworth, p 10.

¹¹⁹ OSD, No 435 Bk 264; NRS 13660, Supreme Court, Probate Packet, Series 1 No 6981, SANSW 14/3398.

¹²⁰ OSD, No 435 Bk 264; NRS 13660, Supreme Court, Probate Packet, Series 1 No 6981, SANSW 14/3398.

¹²¹ NRS 17513, Lands, Real Property Application Packet, RPA 17251.

¹²² OSD, No 751 Bk 122.

George Brown Russell, 9th Sarah Justina Russell, 10th Frederick Love Russell, 11th Edmund Henry Somerset Russell, 12th George Frederick Smith, 13th William James Russell, Baker Creed Russell and John William Russell (trustees).¹²³

James Edmond Davys managed Ravensworth for William Russell as early as 1857.¹²⁴ After Russell's death, Davys was granted land in the parish of Goorangoola as representative of the estate of William Russell.¹²⁵ In 1871, the Davys Family returned to Britain. In 1876, they were back at Ravensworth, and James Edmond Davys was delegated to sell the property. Bushfires and drought prevented the sale. His son later named Billy Ross and James Barden as the stockmen on the estate.¹²⁶

On 19 May 1869, the railway from Singleton to Muswellbrook crossed Russell's estate. Ravensworth station and two sidings were built on Ravensworth. In an orgy of purple prose, a local reporter described the landscape as it passed Ravensworth:

Presently we arrive at the commencement of the magnificent estate of Ravensworth, the property of Mrs Captain Russell. Ravensworth is remarkable alike for its extent, its fertility, and the beauty and varied nature of its scenery. In some places we note a park-like view; a verdant grassy sward, over which are dotted clumps of trees - here the primeval monarch of the forest with his massive trunk and gnarled limbs, leafless and bare, yet majestic in his gigantic stature and in his noble attitude - there we see the lofty sapling, literally straight as an arrow, with an airy globe of foliage twinkling in the sunshine as the leaflets tremble in the breeze - again, we notice the dark green hue of the native oaks, whose feathery leaves threw scarcely any shade upon the ground. Next we come to open pasture lands, where the carpet of verdure is studded with flocks of sheep, grazing peacefully over the alternating hill and dale. Anon we cross a creek, in whose bed the pebbles now lie idly shining in the sun, but whose waterworn banks show how forcibly the stream can run at times. In this locality the line is generally very straight, and we notice here, as well as along the whole of the extension, how neatly (to an unprofessional eye) the work of the contractor has been finished off. We observe too, in some places quite close to the line, the old Great Northern Road, on which the creeping bullock teams are quickly left behind.¹²⁷

The Russell Family stocked Ravensworth with Durham cattle.¹²⁸ On 13 August 1875, a re-conveyance of the mortgage of 22 June 1869 to the English mortgagees, Thomas Bowyer Bower, esquire and Edmund Butler Edwards to the Russells provided a somewhat generic description of the property. It was described as:

All that freehold Estate known by the Name of Ravensworth situate for most part in the County of Durham in the Province of New South Wales but partly in the Adjacent Counties and bounded in part by Hunters river and which said Estate comprises about fifty thousand acres of Arable Meadow and Pasture Land and has been acquired as to part thereof by an original grant from the Crown and which was purchased by the said William Russell from the Representatives of one Doctor Bowman and as to the other part thereof by Deeds of Conveyance from the Government to the said William Russell or to the said E Russell and William James Russell or his Executors and Trustees Together with the Capital Messuage or Mansion House thereon and all Farm Houses Barns stables Sheepfolds and other buildings upon the same or every or any part thereof.¹²⁹

On 14 March 1881, Eliza Russell died. There was no death duty file.¹³⁰ In the wake of that event, the family appears to have decided to sell the estate.

¹²³ OSD, No 750 Bk 122.

¹²⁴ *NSWGG*, 17 March 1857, p 546.

¹²⁵ CT 72 f 241.

¹²⁶ *Maitland Daily Mercury*, 4 Feb 1933, p 4

¹²⁷ *Maitland Mercury*, 22 May 1869, p 4.

¹²⁸ Harold M Mackenzie, 'Cheshunt and Ravensworth', *Maitland Weekly Mercury*, 7 Sept 1895, p 10.

¹²⁹ OSD, No 241 Bk 250.

¹³⁰ NRS 13340, Stamp Duties Office, Deceased Estate File, Eliza Russell, Piccadilly, England, died 14/3/1881, duty paid 8/5/1882 (no duty paid file), SANSW.



¹³² Recited in OSD, No 435 Bk 264.

3.2.8 ENLARGING THE RUSSELL PROPERTY

Like James Bowman, the Russell family acquired the freehold of numerous parcels of land around Ravensworth, either by purchase at auction when the land was offered for sale or as Conditional Purchases. Landholders could request that land be surveyed for auction enabling them to bid for that land. Immediately north of the core area of Ravensworth, the executors of the late William Russell apply for a survey ready for auction. In May 1869, Licensed Surveyor John Neill surveyed five portions of land north of Portion 149 in response to that application. No buildings were shown on the plan. His notes stated that the portions were only suitable for grazing lacking permanent water.¹³³ At the auction the Russell family only purchased one portion of 165 acres that later became Portion 165 parish Liddell.¹³⁴ Other portions were acquired by other landholders, some as Conditional Purchases.

The *Crown Lands Alienation Act*, 1861 (25 Vic No 1) gave individuals the right to apply for a Conditional Purchase of 40 to 320 acres of land (later increased to 640 acres) that had previously not been alienated and was not reserved. Large pastoralists such as William Russell were threatened with the incremental or wholesale loss of lands they leased from the Crown. Most of them defended the land they leased, sometimes by requesting land be surveyed and offered at auction. Often they also used the right of Conditional Purchase themselves or using members of their family. Once the rights to Conditional Purchase and for Additional Conditional Purchases for these individuals had been exhausted, many pastoralists used dummy selectors. Dummies would take land in their own name and after meeting the minimum requirements regarding residence and improvements transferred the right to the CP to the large landholder. The large number of portions across a number of parishes that formed the Ravensworth run that were eventually alienated to William Russell, and the members of his family after his death as well as later holders of Ravensworth testifies to the proactive use of this strategy by the owners of Ravensworth to protect their land holding. Often runholders used their own employees as dummies when acquiring Conditional Purchases, once they had run out of suitable family members.

Immediately north of the core area of Ravensworth, the executors of the late William Russell applied for a survey ready for auction. In May 1869, Licensed Surveyor John Neill surveyed five portions of land north of Portion 149 in response to that application. No buildings were shown on the plan. His notes stated that the portions were only suitable for grazing lacking permanent water.¹³⁵ At the auction the Russell family only purchased one portion of 165 acres that later became Portion 165 parish Liddell.¹³⁶ Other portions were acquired by other landholders, some as Conditional Purchases.

On 9 November 1865, Patrick Kelly applied for a Conditional Purchase of 40 acres for land in the parish of Herschell at the Patricks Plains Lands Office (later Singleton). When Licensed Surveyor John Neill surveyed the land on 12 April 1866, Kelly had already erected the obligatory hut, completed some fencing and cleared some land which he was cultivating. On 14 April 1870, Kelly of 'Camberwell' transferred the Conditional Purchase to Eliza and William Russell. They later mortgaged it along with all the other Ravensworth land to Baker Creed Russell of England. He later transferred it along with numerous other parts of Ravensworth to Duncan Forbes Mackay, who completed the purchase and received a grant of that land as Portion X [10], parish of Herschell.¹³⁷

On 1 July 1869, Matthew Hourigan of Bowmans Creek, Camberwell selected 64 acres and 33 perches in the parish of Liddell. When Licensed Surveyor John Neill inspected the land on 11 December 1869, Hourigan was living on the land in a hut and had completed ringbarking to the value of £15. He transferred the land to William and Eliza Russell on 15 July 1872. It was finally granted to Duncan Forbes Mackay as Portion XXII [22], parish of Liddell.¹³⁸ Hourigan appears to have been quite co-operative. In September 1879, he

¹³³ D.810.557, Crown Plan.

¹³⁴ C T 104 f 205.

¹³⁵ D.810.557, Crown Plan.

¹³⁶ C T 104 f 205.

¹³⁷ CS86/26869, NRS 8103, Conditional Sales Branch, Correspondence, SANSW 10/17377.

¹³⁸ CS86/26875, NRS 8103, Conditional Sales Branch, Correspondence, SANSW 10/17377.

transferred three selections, one measuring 100 acres and two measuring 50 acres to William and Eliza Russell.¹³⁹ Examples could be multiplied extensively to demonstrate how the Russell family, Duncan Forbes Mackay and his family used Conditional Purchases to secure the freehold of large numbers of portions.

The Russell family also took advantage of Volunteer Land Orders to acquire freehold portions. Volunteers in the colonial volunteer military forces who had served for five years under the *Volunteer Force Regulation Act* of 1867 (31 Vic No 5) were entitled to a free grant of 50 acres of land. They almost always sold these Orders to squatters wanting to acquire land by avoiding existing controls on land selection. The Act was amended by Act 41 Vic No 15, which abolished these grants to volunteers in 1878.

On 11 November 1878, William and Eliza Russell applied to purchase two 50-acre portions in the parish of Herschell. Joseph Stanton and Josiah Stanton of the Penrith Volunteer Rifles had sold their VLOs to James Davys on 7 June 1878. He transferred the VLOs to William and Eliza Russell on 11 November 1878, the same day they applied for the grants. These portions became Portions 236 and 238 parish of Herschell.¹⁴⁰

The parish map of the parish of Liddell testifies to a proactive policy of acquiring numerous parcels of land as freehold land. It was a policy initiated by Bowman, continued by William Russell and later his family and even further by their successors in title, Duncan Forbes Mackay and J C L Measures, all of whose names appear as grantees of portions on the Liddell parish map.

On 3 April 1877, the Crown auctioned a large number of portions in the parishes of Liddell and Goorangoola on the 'Ravensworth run'. Most measured between 40 and 150 acres.¹⁴¹

William and Eliza Russell purchased most of the portions on the parish of Liddell. The Land Corporation of Australasia Ltd purchased one portion, and F J L Measures who purchased Ravensworth in 1911 bought a number of others. William and Eliza Russell purchased a number of the portions in the parish of Goorangoola but Duncan Forbes Mackay and William Hooke Mackay acquired others, probably as Conditional Purchases.¹⁴²

¹³⁹ *Singleton Argus*, 3 Sept 1879, Supp, p 1.

¹⁴⁰ ALn80/2530, NRS 8022, Lands, Alienation Branch, Correspondence, SANSW 10/35154.

¹⁴¹ *NSWGG*, 27 Feb 1877, p 891.

¹⁴² Parish maps, Parish Liddell and Goorangoola, LTO charting maps, LRS HLRV.

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SALE AT THE POLICE OFFICE, SINGLETON,

On Tuesday, the 3rd day of April, 1877.

COUNTRY LOTS.

Lot.	No. of Portion.	Area.	Price per Acre.	County.	Parish.	Situation.	Remarks.
		a. r. p.	£ s. d.				
A	102	73 2 0	1 0 0	Durham	Liddell	Adjacent and near the southern boundary of Jas Bowman's 1,000 acres, and extending southerly nearly $1\frac{1}{2}$ mile, and adjacent to the eastern boundary of W. Russell's 631 acres 3 roods 24 perches and 236 acres 3 roods 8 perches, and extending about 87 chains easterly, Ravensworth Run. 76-23,572; D. 983-2,083.	{ Exclusively of a road 1 chain wide.
B	107	88 2 0	1 0 0	do	do		
C	103	87 2 0	1 0 0	do	do		
D	109	82 0 0	1 0 0	do	do		
E	110	113 2 0	1 0 0	do	do		
F	114	67 2 0	1 0 0	do	do		
G	115	96 2 0	1 0 0	do	do	Adjoining the southern boundaries of E. Noble's conditional purchases Nos. 167 and 167, and R. Cooper's portions 94 and 95 and extending southerly $1\frac{1}{2}$ mile, and adjoining and adjacent to the eastern boundary of G. Alcorn's conditional purchase No. 173, of 340 acres, and E. Noble's conditional purchase No. 174, and extending easterly thence 106 chains. Ravensworth Run. 76-23,573; D. 936-2,083.	{ Exclusively of two roads each 1 chain wide. { Exclusively of a road 1 chain wide.
H	116	103 0 0	1 0 0	do	do		
I	175	141 0 0	1 0 0	do	Goorangoola		
J	176	149 0 0	1 0 0	do	do		
K	177	156 0 0	1 0 0	do	do		
L	178	133 0 0	1 0 0	do	do		
M	179	134 3 0	1 0 0	do	do		
N	180	104 2 0	1 0 0	do	do		
O	181	103 1 0	1 0 0	do	do		
P	182	52 0 0	1 0 0	do	do		
Q	185	48 0 0	1 0 0	do	do	Adjacent to the southern boundary of portions 173 and 178 to 181, and extending southerly $2\frac{1}{2}$ miles, and at and near the eastern boundary of J. Bowman's 2,560 acres, and extending at intervals about $2\frac{1}{2}$ miles easterly to portion 215, of 100 acres. Ravensworth Run. 76-26,607; 26,608; and 26,606; D. 937 to 939-2,083.	do do
R	186	60 0 0	1 0 0	do	do		
S	189	46 3 0	1 0 0	do	do		
T	190	68 0 0	1 0 0	do	do		
U	191	74 0 0	1 0 0	do	do		
V	192	83 2 0	1 0 0	do	do		
W	193	46 0 0	1 0 0	do	do		
X	194	45 0 0	1 0 0	do	do		
Y	195	48 2 0	1 0 0	do	do		
Z	196	51 2 0	1 0 0	do	do		
AA	197	66 0 0	1 0 0	do	do		
BB	198	71 2 0	1 0 0	do	do		
CC	199	60 0 0	1 0 0	do	do		
DD	200	57 1 0	1 0 0	do	do		
EE	201	51 3 0	1 0 0	do	do		
FF	203	44 2 0	1 0 0	do	do		
GG	204	48 0 0	1 0 0	do	do		
HH	205	52 2 0	1 0 0	do	do		
II	206	90 0 0	1 0 0	do	do		
JJ	207	59 2 0	1 0 0	do	do		
KK	208	71 0 0	1 0 0	do	do		
LL	209	43 1 0	1 0 0	do	do		
MM	210	44 2 0	1 0 0	do	do		
NN	211	47 1 0	1 0 0	do	do		
OO	212	40 1 0	1 0 0	do	do		
PP	213	85 3 0	1 0 0	do	do		
QQ	214	66 0 0	1 0 0	do	do		
RR	217	105 1 0	1 0 0	do	do		
SS	218	101 0 0	1 0 0	do	do		

Figure 3.16: The Crown land sale notice offering numerous portions on the Ravensworth estate for auction sale. Source: NSWGG, 27 Feb 1877, p 891.

3.2.9 RAVENSWORTH VILLAGE AND RAILWAY STATION

Immediately west of Bowman's grants was land surveyed officially was the Village of Liddell. The original survey was in 1843 and was titled 'Plan of the Allotments in the VR [crossed out] Village of Liddell 1843' (Figure 3.17). A copy of the survey survives as both the official charting map on the Land Registry Services HLRV website. An identical copy is also Crown Plan L.4.1222. The details on both plans are identical including names of people to whom the land was alienated. According to the Surveyor General's plan register the plan was a 'Compilation shewing cultivation allots' by Charles A Bayley in 1843.¹⁴³ Bayley was not a surveyor. As a draftsman at head office his 'compilation' plan meant he had not surveyed the site but drew the village layout over a topographical survey completed by a surveyor on the ground. That plan of the Village Reserve showed the original lot 1 purchased by Henry Nowland in 1831, had stone buildings used as a lock-up, whilst lot 2 was occupied by two buildings marked 'Watsons Inn' (Figure 3.18). Following this, another survey was completed by Trantham MacKay and dispatched on 24 May 1856 to the Surveyor General.¹⁴⁴

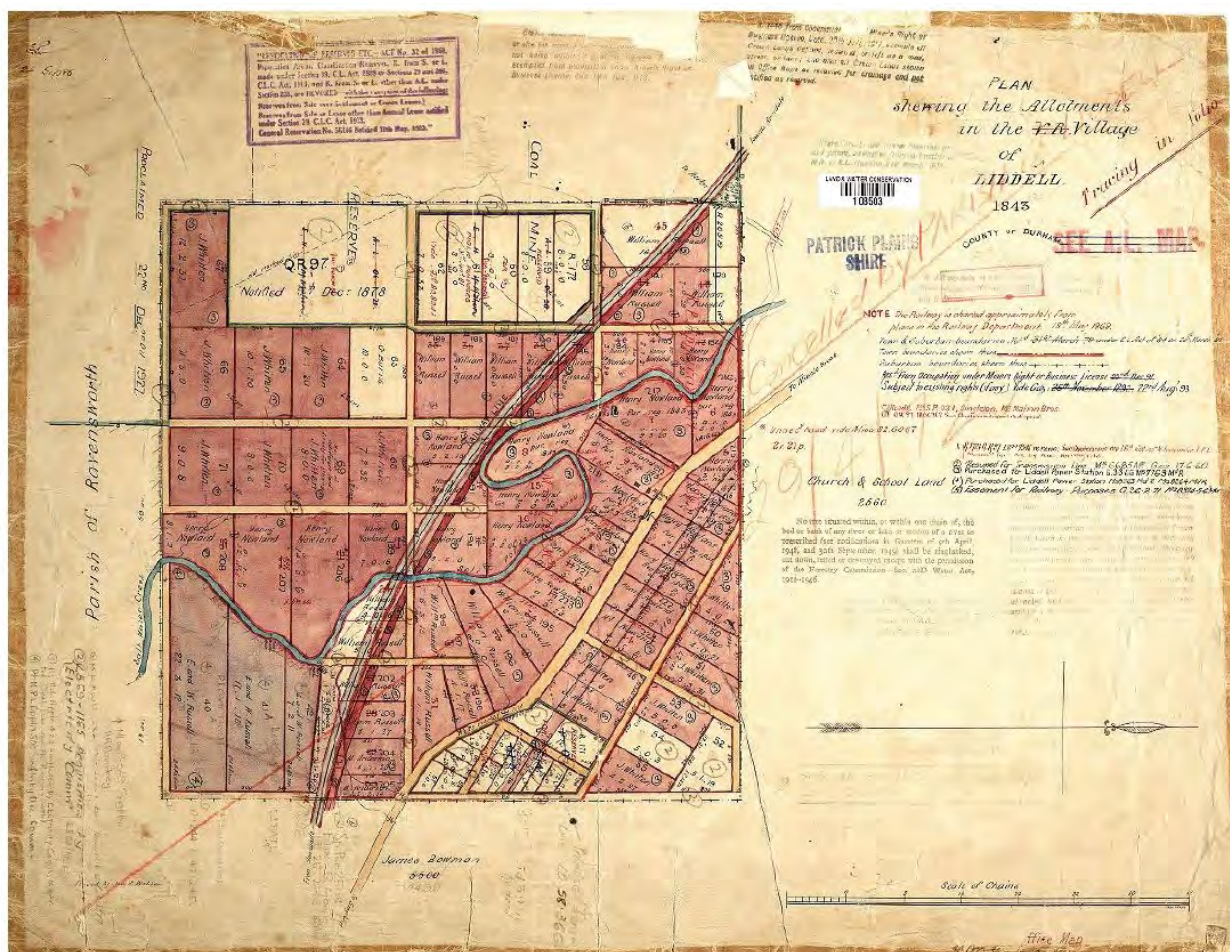


Figure 3.17: Village of Liddell 1843. Source: LRS HLRV.

The village of Liddell had originally been known as Chain-of-Ponds.¹⁴⁵ Sales of allotments in the Village Reserve of Liddell proceeded in a piecemeal fashion. Lots 2 and 3 were auctioned on 13 September 1843.¹⁴⁶ Lots 4 to 10 were auctioned on 13 December 1843.¹⁴⁷ In later years, William Russell purchased a number of lots of the village. Henry Nowland

¹⁴³ COD 85, SANSW.

¹⁴⁴ COD 85, SANSW; Crown Plan L.1222.

¹⁴⁵ Harold M Mackenzie, 'Cheshunt and Ravensworth', *Maitland Weekly Mercury*, 7 Sept 1895, p 10.

¹⁴⁶ NSWGG, 15 Aug 1843, p 1044-5.

¹⁴⁷ NSWGG, 21 Nov 1843, p 1529-1530.

3.2.10 RAVENSWORTH PUBLIC SCHOOL

On 13 July 1876, John Moss, a Mormon, applied for a half-time school near the railway station to operate in conjunction with one at Chilcotts Plains. He was listed as a 'station overseer' possibly on the staff at Ravensworth. Edward Sweeney, a Wesleyan, was also listed as station overseer in 1878. Two years later, on 4 April 1878, the local residents applied for a formal public school for children of employees on the Ravensworth estate and railway workers, which was approved. The proposed site was near the stationmaster's house.¹⁵²

A public school was later approved on a different site. Eliza and William Russell, trustees of the will of William Russell, conveyed two acres at the corner of the Great North Road and the road to the railway station to the Council of Education for 10 shillings.¹⁵³ The opening caused the closure of the half time school, which was 2 miles away (Figure 3.19). James Pritchard of West Maitland completed the buildings in 1880. In 1912, when the school buildings were being repaired a site plan showed the position of the buildings and the configuration of the combined schoolhouse and residence (Figure 3.20).¹⁵⁴

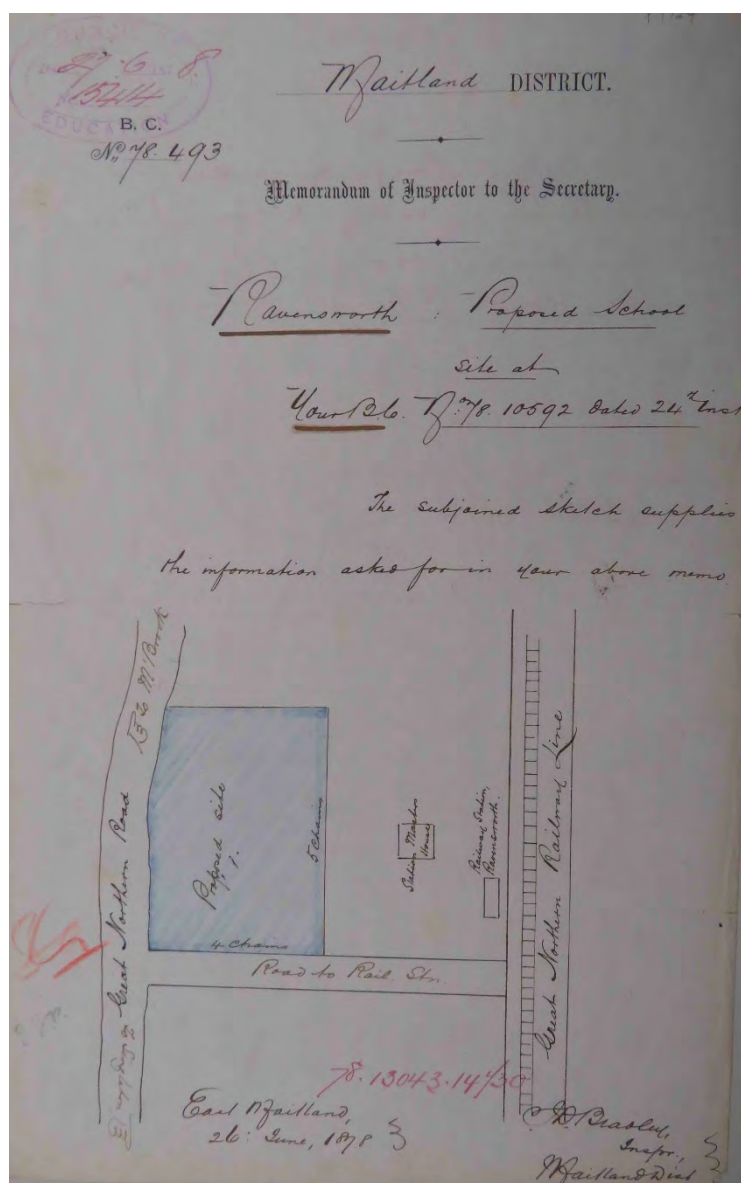


Figure 3.19: The site of Ravensworth half-time school. Source: NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1

¹⁵² NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1.

¹⁵³ OSD, Bk 198 No 648.

¹⁵⁴ NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1.

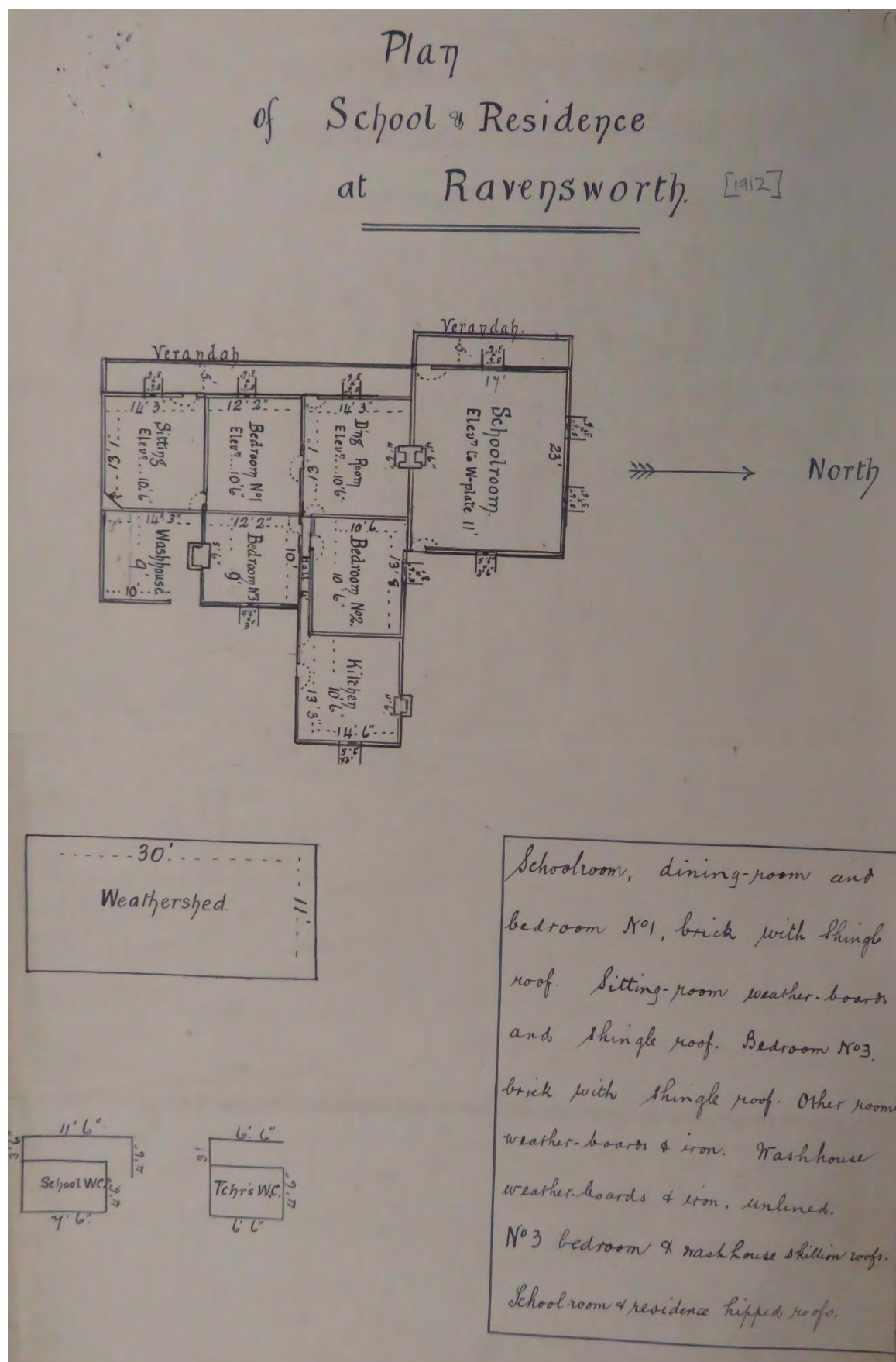


Figure 3.20: The layout of the public school site in 1912. Source: NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1.

3.2.11 DUNCAN FORBES MACKAY

The Russell family sold Ravensworth in 1883. By a deed of Conveyance dated 9 February 1883, William James Russell, originally Ravensworth but now of Sydney, esquire and Sir Baker Creed Russell, KCMGCB, Muttra, India, colonel in HM Regiment 13th Hussars sold the central part of Ravensworth to Duncan Forbes Mackay, Dulcalmah, grazier for £35,603/2/6. Numerous parcels were involved in the transaction including the balance of 5,000 acres less the land cut off by the railway; part of 2,560 acres granted 21 March 1839 and 3,440 acres.¹⁵⁵ A number of other deeds conveyed the title for other parts of the estate. For example, a conveyance, with the same parties sold other parts for £2,880. These included 640 acres at the head of St Heliers Brook granted on 13 January 1838; another 640 a ditto, granted on 13 January 1838 and another 640 a ditto, granted on 13 January 1838.¹⁵⁶ Simultaneously, transfers of other portions held under the Real Property Act were also registered.¹⁵⁷

On 10 February 1883, the day after the transfers and conveyances, a mortgage from Duncan Forbes Mackay, Dulcalmah, grazier to William James Russell, originally of Ravensworth now of Sydney, esquire and Sir Baker Creed Russell, KCMGCB, Muttra, India, colonel in HM Regiment 13th Hussars covering the livestock, freehold land and Conditionally Purchased land of Ravensworth was signed for £65,898/0/11.¹⁵⁸ That loan was paid off and the title reconveyed on 11 August 1886.¹⁵⁹ There were a number of other mortgages and discharges over the following decades. There is no reason to list them since the property remained in the hands of Duncan Forbes Mackay and his successors in title until it was sold.

Duncan Forbes Mackay senior had been born in Sunderlandshire, Scotland in 1792. He went to Prince Edward Island with his parents in 1806. He was in Australia in 1826. George Mackay, his nephew, was born at Prince Edward Island in 1821 and later took over the Melbee property.¹⁶⁰ Duncan Forbes Mackay did not marry and had no children. In the 1830s, he had encouraged his brother John Mackay to come to Australia.¹⁶¹

John Kenneth Mackay, Cangon, had arrived in Australia with his parents in 1839. He inherited the estate when his father died in 1851. He was the proprietor of Anambah of 4,000 acres on the Hunter River used as the cattle fattening property. His brother was the late Duncan Forbes Mackay. In 1859, his son, Duncan Forbes Mackay junior married Miss Hooke and had two sons.¹⁶² Duncan Forbes Mackay junior had been born at Prince Edward Island, North America, later arriving in New South Wales in 1839. He became a large stockholder and held a number of stations breeding his stock at Tilpal station on the Gulf of Carpentaria and then shifting them to Ravensworth and Whittingham for fattening.¹⁶³

The Ravensworth property concentrated on merino wool production, cattle and general farming, dairying, maize, as well as maintaining its orchards. Mackay built a large shearing shed and large stable block between 1882-7, now demolished. Mackay also ringbarked much of the property to increase its grazing capacity.¹⁶⁴ The Stock return of 31 December 1884 showed Ravensworth held by D F Mackay, had an area of 47,032 acres, with 310 horses, 2,567 cattle, 22,000 sheep and 100 pigs.¹⁶⁵

Robert Ascot Hill, who was related to the Mackay family by marriage, was manager of Ravensworth for many years. He was ringmaster at the Singleton Show for many years and known as a breeder of excellent racehorses. He died in September 1938 at Forster.¹⁶⁶

¹⁵⁵ OSD, No 434 Bk 264.

¹⁵⁶ OSD, No 435 Bk 264.

¹⁵⁷ See, for example, C T 104 f 205.

¹⁵⁸ OSD, No 479 Bk 264.

¹⁵⁹ OSD, No 250 Bk 348.

¹⁶⁰ *Australian Men of Mark*, Vol 2, pp 161-3.

¹⁶¹ Hunter, Ravensworth, p 12.

¹⁶² *Aldine Centennial History of New South Wales*, Sydney, 1888, Biographies.

¹⁶³ *ATCJ*, 25 June 1887, p 1315.

¹⁶⁴ *Sydney Mail*, 15 Feb 1902.

¹⁶⁵ 'Dept of Mines (Stock and Brands Branch), Report 31 Dec 1884', *V & P L A N S W*, 1885 (2), volume III, p 359.

¹⁶⁶ *Maitland Daily Mercury*, 10 Sept 1938, p 1.

Duncan Forbes Mackay junior died at Dulcalmah aged 53 on 16 June 1887.¹⁶⁷ He was buried in the Presbyterian cemetery, Glenridding, Singleton.¹⁶⁸ A valuation of Duncan Forbes Mackay's real estate dated 19 July 1887 by auctioneer O K Young, West Maitland noted that Ravensworth with improvements measured 62,651 acres and was worth £100,000 (cf 1884 Stock Return). His livestock were mustered and counted by Mr Hill, manager and valued by Mr Sparke. All were at Ravensworth. The stock on Ravensworth included 30,742 sheep, 3,528 cattle, 544 horses and 69 pigs. Amongst his debts were wages due to Ravensworth staff.¹⁶⁹ They were listed as R A Hill, Sinderberry, Harrison, Dennis, Bates, George, Lister, Bradford, Black and Franks.¹⁷⁰

3.2.12 OTHER PROPERTIES HELD BY DUNCAN FORBES MACKAY

On 11 January 1875, Duncan Forbes Mackay purchased a number of portions in the parishes of Whittingham and Ovingham, County Northumberland.¹⁷¹ This became his Dulcalmah estate. The Gundabri Estate measuring 7,197 acres and known as the 'Hall Estate' in the parishes of Hall and Wickham County Brisbane were offered at auction in 1883 by auctioneers Bruncker and Wolfe.¹⁷² D F Mackay purchased it for £8,515/2/6.¹⁷³

When Duncan Forbes Mackay died in June 1887, his properties were described as:

- o Ravensworth Estate, 62,651 acres with improvements £100,000.
- o Dulcalmah estate 9,343 acres with improvements £28,000.
- o Gundabri Estate 8,654 acres with improvements £10,000.
- o Denman property 1,000 acres with improvements £4,000.
- o Lochinvar property 13 acres 1 rood 30 perches with improvements £200.
- o Total £142,200.¹⁷⁴

3.2.13 THE LAND COMPANY OF AUSTRALASIA

The Land Company of Australasia acquired an option to purchase Segenhoe estate of 24,000 acres in order to establish an irrigation scheme and subdivision. It negotiated with Mackay to purchase Ravensworth as part of that scheme.¹⁷⁵ The Land Company of Australasia had been formed in 1885 to subdivide large estates and to settle British farmers in NSW. It claimed to have purchased Ravensworth of 63,000 acres. Parts of Ravensworth had been sold by the Company according to that press report.¹⁷⁶ Its offices were located in Pitt and Bridge Street, Sydney (Figure 3.21).¹⁷⁷

¹⁶⁷ *ATCJ*, 25 June 1887, p 1315.

¹⁶⁸ *SMH*, 17 June 1887, p 12.

¹⁶⁹ NRS 13340, Stamp Duties Office, Deceased Estate File, Duncan Forbes Mackay, duty paid 7/11/1887, SANSW 21/4.

¹⁷⁰ NRS 13340, Stamp Duties Office, Deceased Estate File, Duncan Forbes Mackay, duty paid 7/11/1887, SANSW 21/4.

¹⁷¹ For example, CT 192 f 108; CT 195 f 26.

¹⁷² *Maitland Mercury*, 18 Aug 1883, p 8.

¹⁷³ *SMH*, 27 Sept 1883, p 6.

¹⁷⁴ NRS 13340, Stamp Duties Office, Deceased Estate File, Duncan Forbes Mackay, duty paid 7/11/1887, SANSW 21/4.

¹⁷⁵ Hunter, Ravensworth, p 13-14.

¹⁷⁶ *Illustrated Sydney News*, 5 Sept 1889, p 7.

¹⁷⁷ *Illustrated Sydney News*, 5 Sept 1889, p 19.



Figure 3.21: Head office of the Land Company of Australasia. Source: Illustrated Sydney News, 5 Sept 1889, p 19.

The Company later failed but Segenhoe was subdivided and sold. Ravensworth was subdivided for sale but no final sales occurred. In 1888, possibly as part of the process of arranging the sale of the land, a portion survey plan was prepared in the Lands Head Office for Portion 69 parish Vane (Figure 3.22).¹⁷⁸

¹⁷⁸ Ms.146.3070, Crown Plan.

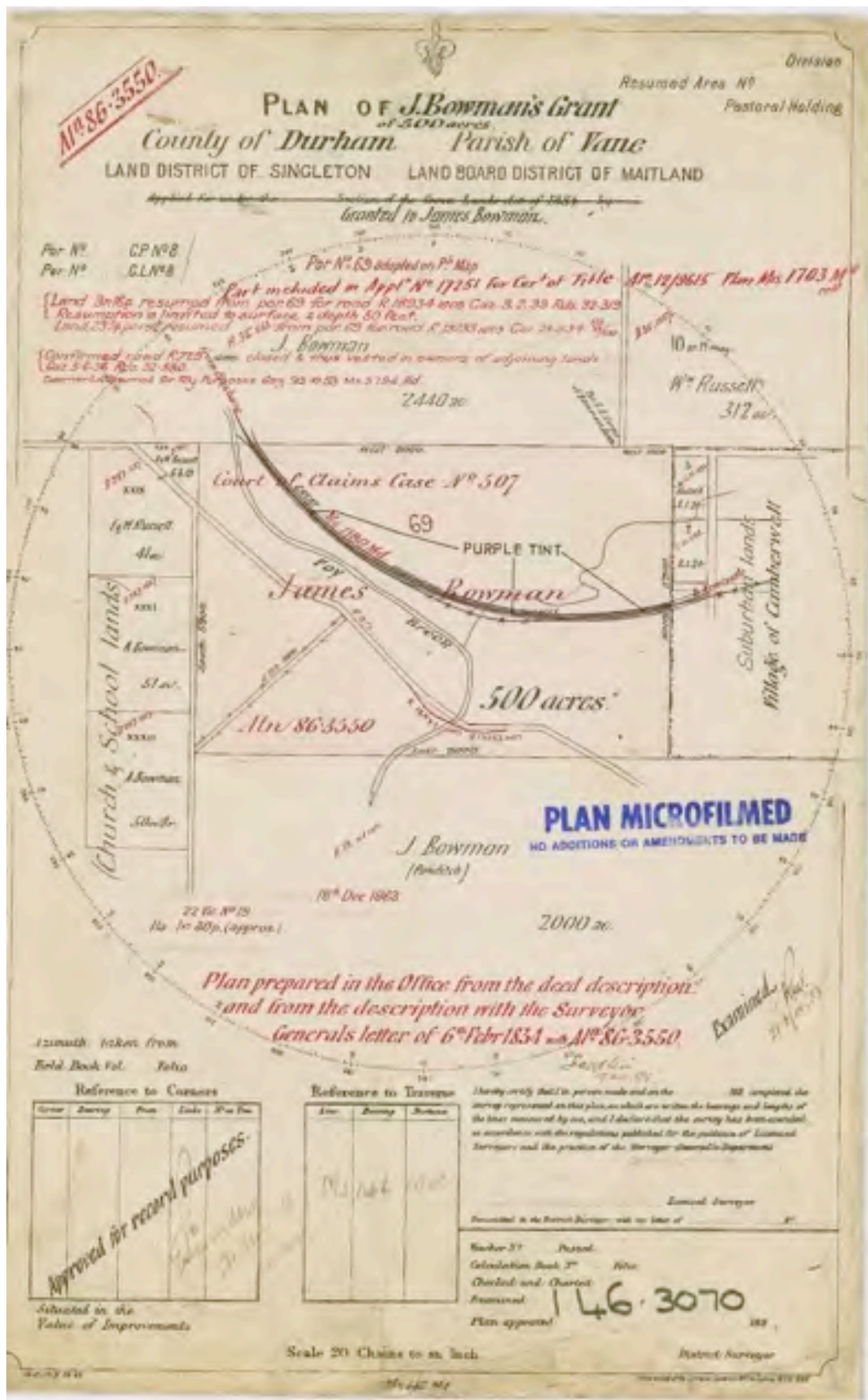


Figure 3.22: Survey of Portion 69, Parish Vane. Source: Ms.146.3070, Crown Plan.

On 24 November 1888, Brunker and Wolfe auctioned lots for the Land Company of Australasia. This was mainly a subdivision of the original Portion 89 and some surrounding land. A notation on a copy of the sale contract showed that the plan was registered at the LTO as 1550 (L).¹⁷⁹ No transfers or conveyances of this land registered at the Titles Office (Figure 3.23).



Figure 3.23: The Land Company subdivision of November 1888. Source: County Durham, Subdivision Plans, ML, ZCP/D6/9.

The fourth balance sheet of the Land Company of Australasia in August 1889 reported it was selling the Ravensworth estate of 3,632 acres less the mineral rights.¹⁸⁰ The presence of coal under the estate had long been known. In May 1890 the Diamond Drill Branch of the Dept of Mines reported it had located coal seams at Ravensworth.¹⁸¹

¹⁷⁹ County Durham, Subdivision Plans, ML, ZCP/D6/8, 9 & 9a.

¹⁸⁰ Australian Star, 5 Aug 1889, p 8.

¹⁸¹ Maitland Mercury, 1 May 1890, p 6.

An article on large estates in the Hunter valley published on 1 November 1890 described Ravensworth as having 65,000 acres. It claimed that Ravensworth was then owned by the Land Company of Australasia carried 40,000 sheep, 3,213 cattle and 354 horses. The manager was R A Hill. When Bowman held the property, it had one of the best gardens growing 'the most choice fruits and flowers'.¹⁸²

The Land Company of Australasia held a subdivision sale of the Ravensworth Estate on 31 March 1892 (Figure 3.24). It was mainly the land on the northern part of the property.¹⁸³ Since the estate was being purchased under an option and the company did not hold the title, this land was never registered in the name of the company. The sale advertisement provided some details of the land. Portions in the following parishes were included – St Aubins, Tudor, Balmoral, Foy, Herschell and Russell (Figure 3.25).¹⁸⁴

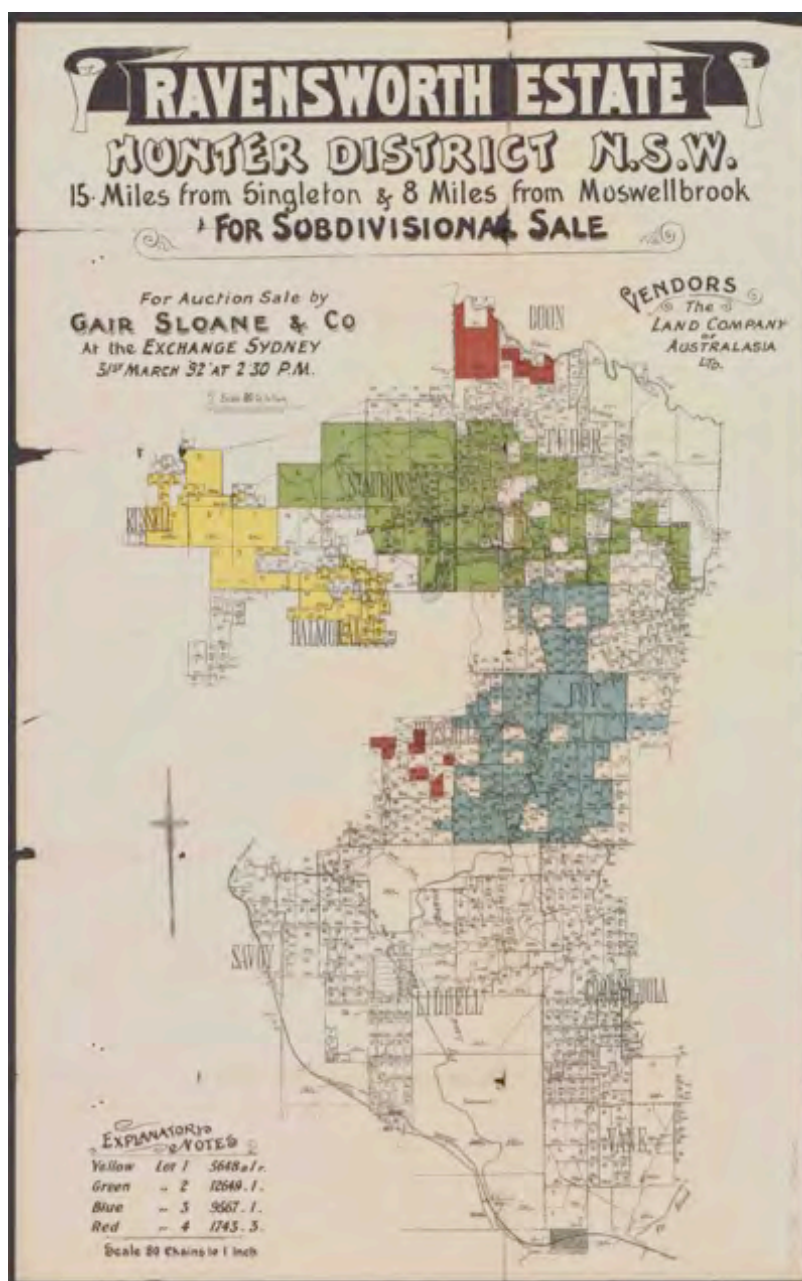


Figure 3.24: The 1892 subdivision by the Land Company of Australasia was of the northern parts of the property. Source: NLA Map Folder 144 LFSP 2306.

¹⁸² *Sydney Mail*, 1 Nov 1890, p 963.

¹⁸³ NLA Map Folder 144 LFSP 2306.

¹⁸⁴ *Sydney Mail*, 20 Feb 1892, p 411.

IMPORTANT SUBDIVISIONAL SALE.

27,301 acres 3 roods of **FREEHOLD LAND**, being portion
of the

Ravensworth Estate.

RAVENSWORTH ESTATE is situated on the Northern
Railway, 15 miles from Singleton, 8 miles from Mus-
wellbrook, and 2½ hours from Newcastle by rail.

GAIR, SLOANE, and CO. have received instruc-
tions from the Land Company of Australasia, Limited,
to sell by auction at the Exchange, Sydney, on

THURSDAY, MARCH 24,

at 2.30 p.m.,

WITHOUT STOCK,
29,061 acres 2 roods
of the famous **RAVENSWORTH ESTATE**,
comprising
some of the finest land for Grazing, Studbreeding, and
Dairying purposes in this famous district.

The soil is of a reddish and dark loam, much of it adapted
for the growth of lucerne, cereals, and root crops, and is
particularly well suited for orchard and vine-growing pur-
poses. All kinds of fruits flourish here, even in the driest
seasons, without irrigation, yielding profitable returns.

The country is chiefly undulating, running into hills, with
long open slopes of lightly-timbered land.

The whole area is sound sheep-breeding, heavy stock-car-
rying, and fattening country, grazing over one sheep to each
acre, in addition to a large number of cattle and horses.

The flock ranks amongst the leading flocks of this cele-
brated wool-growing district, and will be found upon in-
spection to combine symmetry of frame and robustness of
constitution, clipping heavy fleeces of great value.

The improvements are most complete, erected regardless
of expense. The fencing is specially good, a large quantity
being of split posts and 2 and 3 rails with wires, balance
being of top rail and 5 wires, and some 6 and 7 wires with-
out top rail, all of which is in a perfect state of repair.

The Estate is thoroughly and permanently watered in all
parts by running creeks, and from its altitude and position has
never suffered during the late droughts or disastrous
floods.

The whole area has been judiciously ringbarked (free
from suckers and undergrowth). Sufficient timber has been
saved for shade and shelter for the stock, also a large num-
ber of picked trees for fencing and building purposes.

The property is perfectly free from rabbits, marsupials, and
vermin.

PORTION 1.—5674 acres. All rich, fattening coun-
try of volcanic and limestone formation. Fenced
and divided into two paddocks; permanently
watered by running creeks in every paddock.
Cottage and horse paddock.

PORTION 2.—12,180 acres. Fenced into 10 paddocks.
Permanently watered in all parts by running
creeks. Improvements consist of a 4-roomed
Cottage (iron roof), kitchen, and dining-room for
men, newly-built 2-roomed Cottage, iron roof;
horse paddock and garden.

PORTION 3.—9493 acres 3 roods. Fenced and
divided into 5 paddocks.

PORTION 4.—1737 acres 3 roods (detached lots) will
be offered in lots of 40 acres and upwards to suit
purchasers.

TERMS:—One-quarter Cash; one-quarter at 12 months
with 6 per cent. interest; balance in four years from day of
sale, 6 per cent. interest.

TITLE WILL BE TORRENS.

INSPECTION INVITED.

Buyers will be punctually met on the arrival of the train
at Ravensworth, and shown over the property.

Lithographed Plans and full particulars can be obtained
from the agents.

GAIR, SLOANE, and CO.,
80 Pitt-street,
Sydney.

Figure 3.25: The sale advertisement of March 1892. Source: Sydney Mail, 20 Feb 1892, p 411.

William Mackay, a nephew of Duncan Forbes Mackay took a lease of Ravensworth and installed Robert Hill as manager.¹⁸⁵

An auction of Ravensworth Estate in the estate of D F Mackay was advertised 5 June 1894 (Figure 3.26). The property had been ringbarked. It included a complete homestead, making a comfortable family residence with kitchen and outbuildings built of stone. A large stable and barn, coach house, men's quarters and overseer's cottage were also at the home station. The outstation included an overseer's cottage, kitchen, garden and horse paddock. The whole property was subdivided into 63 paddocks suitable for cattle or sheep. The property would be sold at the risk of the Land Company of Australasia.¹⁸⁶

Auctions.

GAIB, SLOANE, and CO. have received instructions from the Trustees in the Estate of the late D. F. Mackay, Esq., to sell by auction, at the Chamber of Commerce Exchange, Sydney,

TUESDAY, 5th JUNE, 1894,
at half-past 2 o'clock,
the following

**Pastoral Estates and
Station Properties**

FOR ABSOLUTE SALE:

RAVENSWORTH ESTATE,
HUNTER DISTRICT, NEW SOUTH WALES.

Having a frontage of 13 miles to the Great Northern Railway Line, 8 miles from Muswellbrook, 15 miles from Singleton, and 8 miles from the Aberdeen Meat Freezing and Export Works, 2½ hours from the shipping port of Newcastle, and 3 hours from Sydney by rail.

FOR SALE WITHOUT STOCK,
Containing
62,651 ACRES FREEHOLD LAND.
TITLE GUARANTEED.

Comprising some of the finest land for grazing either Sheep or Cattle, for rye, Farming, or Fruitgrowing in this District.

The Country is chiefly undulating, running into hills, with long open slopes of lightly timbered land and extensive flats.

The soil is of a reddish dark loam, and much of it is adapted for the growth of cereals, and root crops, and lucerne. It is particularly well suited for orchards and vine-growing purposes. All kinds of fruit flourish here, even in the driest seasons, without irrigation.

The whole area has been judiciously ringbarked, free from suckers and undergrowth. Sufficient timber has been saved for shade and shelter for the stock, also a large number of picked trees for fencing and building purposes. The property is perfectly free from rabbits, marsupials, vermin, prickly pear, and burrs.

The improvements are most complete, erected regardless of expense.

Complete Homestead, Comfortable Family Residence, Kitchen, and all necessary out buildings, erected of stone, large Stable and Barn, Coach House, Men's Quarters, Overseer's Cottage, etc.

Also Out Home Station, Overseer's Cottage, Kitchen, Garden, Horse Paddock.

Fenced and divided into 63 sheep and cattle paddocks—sheep-proof. Fencing is specially good, large quantity being of split posts, 2 and 3 rails, with wire, balance being top rails and 5 wires, and some 6 and 7 wires, without top rail. All in splendid state of repair.

The Estate is thoroughly and permanently watered in all parts and in every paddock by running creeks, yielding a never-failing supply in the driest seasons.

From its altitude and position this Estate never suffered during the late droughts or disastrous floods.

(The above property will be sold at the risk of the Land Co. of Australasia, Ltd.)

TERMS: £25,000 Cash, balance 3 and 5 years at 5½ per cent.

Figure 3.26: Notice for the unsuccessful attempt to sell Ravensworth. Source: ATCJ, 19 May 1894, p 3.

In 1895, the *Maitland Mercury* reported the property was leased by Mackay to Robert Ascot Hill. It was well suited for sheep with small enclosures in the home station. A fine woolshed with stands for 20 shearers was included. The bulk of the livestock were Merino sheep

¹⁸⁵ Harold M Mackenzie, 'Cheshunt and Ravensworth', *Maitland Weekly Mercury*, 7 Sept 1895, p 10.

¹⁸⁶ ATCJ, 19 May 1894, p 3.

obtained from Dr Traill, Collaroy, Liverpool Plains and J B Bettington, Brindley Park. The Land Company of Australasia had later crossed them with Lincoln sheep to create stronger meat producers but there was high mortality due to worms. Currently 25,000 sheep and 2,000 cattle were on the property. William Mackay was then introducing Devon cattle to the station. Ravensworth was timbered with gum, ironbark and apple. The homestead was described as a well-built cottage with slate roof. Stables had been erected by Duncan Forbes Mackay. The Land Company had promoted orchards, some of which were still in good condition. An excellent seam of coal had been discovered. It also noted that James Bowman had built a large wheat silo 'to the left of the house on the hill'. It was currently abandoned and the writer was of the opinion that it would be a useful water tank. The quality of workmanship in the silo was excellent.

By 1900, the original tree cover had been so depleted that contractors renovating the Ravensworth School building had to search for 40 miles before they could find she-oaks (casuarinas) suitable to split 5,000 roofing shingles for the school roof.¹⁸⁷

Another auction sale of Ravensworth estate was held on 14 November 1899. The property description was very similar to the 1894 advertisement.¹⁸⁸ Yet another auction sale of Ravensworth estate was held on 12 March 1902 also with a description very similar to 1894 advertisement.¹⁸⁹

Hunter noted that before 1900, the stone buildings had deteriorated. The rear wing of the house was dismantled, allowing the stone to be used elsewhere on the site.¹⁹⁰ On 15 February 1902, the *Sydney Mail* published an article on Ravensworth. It claimed the property was the oldest in the Hunter. The walls of the house were of stone 3 feet thick with windows built to use as firing ports for rifles to defend the house. It also noted that the grave of Miss White was close to the farm house. D F Mackay had carried out much ringbarking, built dams and 10 miles of fencing plus a large woolshed.¹⁹¹ Photographs included the house, the house dam and views across the landscape (Figure 3.27, Figure 3.28).



Figure 3.27: Ravensworth House in 1902. Source: *Sydney Mail*, 15 Feb 1902, pp 416-7.

¹⁸⁷ 1900/17762, NRS 3829, School file, Ravensworth, Part A SANSW 5/17442.1.

¹⁸⁸ *Maitland Weekly Mercury*, 28 Oct 1899, p 8.

¹⁸⁹ *Maitland Weekly Mercury*, 1 March 1902, p 8.

¹⁹⁰ Hunter, Ravensworth, p 28.

¹⁹¹ *Sydney Mail*, 15 Feb 1902, pp 416-7.



Figure 3.28: View towards Singleton. Source: Sydney Mail, 15 Feb 1902, pp 416-7.

On 30 July 1902, John Kenneth Mackay, Cangon, Dungog, grazier, Edward Sparke, Maitland, auctioneer, Henry Trenchard, originally West Maitland, now Sydney, stock and station agent, trustees of the will of Duncan Forbes Mackay who died on 7 June 1887 devised all the land of Ravensworth to William Hooke Mackay, Anambah, grazier.¹⁹² The same day he mortgaged Ravensworth to the Scottish Widows Fund and Life Assurance Society for £55,000.¹⁹³

According to Hunter, alterations were made to Ravensworth house under the supervision of architect W Pender of Maitland in Federation style in 1906 that included a timber and iron workmen's barrack of three rooms with a veranda.¹⁹⁴

In December 1906, Robert Ascot Hill, manager of the Ravensworth estate took adjoining landowners Andrew Dries and Frederick Dries to court for trespassing across the estate. Andrew Dries, who had been an adjoining landowner since 1865, asserted that he had always had the right to cross the property, including when he was going to church.¹⁹⁵ Subsequently, an agreement was reached between the parties. On 8 May 1907, William Hooke Mackay, Anambah, grazier granted a Right of Way to Andrew Dries, farmer and grazier of Ravensworth. Dries was the owner of Portions 17, 24, 118, 119 and 120, parish Liddell. Dries had later brought an action in the Supreme Court for his right of way across Mackay's land. The matter had now been settled. The right of way was shown on a plan with the deed (Figure 3.29).¹⁹⁶

¹⁹² OSD, No 459 Bk 718.

¹⁹³ OSD, No 461 Bk 718.

¹⁹⁴ Hunter, Ravensworth, p 27.

¹⁹⁵ *Singleton Argus*, 20 Dec 1906, p 4.

¹⁹⁶ OSD, No 133 Bk 828.

The mortgage to the Scottish Widows Fund was discharged on 31 August 1907.¹⁹⁷ A mortgage the same day to the Australian Mutual Provident Society for £40,000 replaced it.¹⁹⁸ On 17 September 1909 by a deed of Settlement, William Hooke Mackay, junior, Anambah, grazier settled property on Adelaide Ann Mackay, his wife and William Hooke Mackay, junior, Anambah, esquire as trustee. The land measured 6,065 acres 2 roods (except roads, public school and railway reserves) but once these were included it became 6,203 acres in the parishes of Liddell and Vane.¹⁹⁹ The same day, it was leased by Adelaide Ann Mackay and William Hooke Mackay, junior, Anambah, esquire to William Hooke Mackay, junior, Anambah, grazier for £450 pa.²⁰⁰ The mortgage to the AMP society was discharged on 31 March 1911 when the property was sold to its new owner.²⁰¹

3.2.14 F J L MEASURES

On 1 April 1911, Adelaide Ann Mackay, wife of William Hooke Mackay, senior, Anambah near Maitland, grazier and William Hooke Mackay, junior, West Maitland, grazier conveyed the land to Frank Joseph Lappen Measures, Niagara Park, farmer for £22,545. That land measured 5,829 acres in the parishes of Liddell and Vane being grants of 5,000 acres portion 150 and 2,440 acres, portion 1, parishes of Liddell and Vane, plus 197 acres 2 roods 34 perches, part of 500 acres, portion 69 parish Vane.²⁰² Additionally, the same day, William Hooke Mackay, senior, Anambah near Maitland, grazier conveyed other parcels to Frank Joseph Lappen Measures, Niagara Park, farmer for £41,064. These included numerous parcels in the parishes of Liddell, Ravensworth, Vane, and Herschell. Parcel 7 measuring 2,560 acres was portion 149, in the parish of Liddell, promised to James Bowman that he was authorised take possession on 15 October 1831 as a primary grant.²⁰³

F J L Measures was an American who arrived in Australia about 1899. He was a grazier and real estate dealer, who purchased a number of large estates on the Central Coast, the Hunter and Gunnedah to subdivide for sale.²⁰⁴ He was born in Boston, Massachusetts in 1863. He was married but had not brought his wife to Australia. He had three children, Philarma Measures, George Severn Measures and Hutchinson Measures. He had been part of wheat syndicate in Milwaukee. He was last in the United States in 1893.²⁰⁵ Measures even had his own stationery with letterhead and list of properties for sale.²⁰⁶

3.2.15 F J L MEASURES SUBDIVISION

Measures bought Ravensworth measuring about 29,000 acres from Mackay for £108,000 in cash in partnership with Alexander C Reid. A loan of £70,000 was obtained from the Mutual Life and Citizens, plus £20,000 from the Australian Bank of Commerce, with the balance made up by Measures and Reid plus deposits of about £3,000 to £3,500 received from purchasers of land in the estate before he finalised the sale from Mackay. The land had to be subdivided to be put under the Real Property Act, which cost £1,100, and the cost of bringing the land under the Act was another £1,000. Additional costs were incurred in building houses, bails and dairies costing about £11,000 whilst fences cost about £4,000.²⁰⁷

The quality of the improvements made by Measures on the different parcels was shown by the description when R T Barratt acquired Allotment 12 Section B under the Closer

¹⁹⁷ OSD, No 710 Bk 837.

¹⁹⁸ OSD, No 711 Bk 837.

¹⁹⁹ OSD, No 379 Bk 892.

²⁰⁰ OSD, No 381 Bk 892.

²⁰¹ OSD, No 929 Bk 932.

²⁰² OSD No 933 Bk 932.

²⁰³ OSD No 934 Bk 932.

²⁰⁴ Evidence, F J L Measures, 20 March 1917, NRS 13655, Bankruptcy File, F J L Measures, No 21010, SANSW 10/23827.

²⁰⁵ Minutes, 11 Sept 1916, NRS 13655, Bankruptcy File, A W A Farey, No 20921, SANSW 10/23820.

²⁰⁶ NRS 17513, Lands, Real Property Application Packet, RPA 17251.

²⁰⁷ Evidence, F J L Measures, 20 March 1917, NRS 13655, Bankruptcy File, F J L Measures, No 21010, SANSW 10/23827.

Settlement legislation. When that land was assessed for acquisition under the legislation about April 1920, the report noted that the improvements on the land included:

- House 32' x 32' weatherboard, iron roof, lined and ceiled, 6 rooms £300
- Dairy 10' x 12' weatherboard, iron roof, 5' verandah all round, cement floor £25
- 1000 gallon tank at dairy £10
- Barn 26' x 12' iron walls and roof no floor £20
- 4 cow bails 27' x 18' S T iron roof, cement floor £25
- Two 1000 gallon tanks at house £20
- One 3000 gallon tank at bails £20
- Hay shed 12' x 12' open, iron roof £8.²⁰⁸

Frank Joseph Lappen Measures, Niagara Park, farmer had submitted his Real Property Application to convert the land to Torrens Title on 22 May 1911. The land had already been subdivided with contracts for sale signed with a number of purchasers. He stated he had married his wife on 15 October 1882.²⁰⁹

Licensed Surveyor Harold Clyde Manning completed the subdivision plan dated 12 May 1911. Lot 4 of Section B included Ravensworth House.²¹⁰ Measures were already advertising the estate for sale. On 6 January 1912, a sale notice for the Ravensworth Estate by its owner F J L Measures, Niagara Park was issued (Figure 3.30).²¹¹

The process of subdivision was well advanced in October 1911 when Mrs Amos Turnbull of 'Oaklands', Ravensworth wrote to the Department of Public Instruction appealing for a school to be established at Foy Brook. As well as commenting on the danger for children of crossing two waterways that are dangerous in heavy rain, she also stated:

The Ravensworth subdivision is being cut up into dairy farms - houses are being built on it very quickly, and several families are now on their farms.²¹²

Various different versions of the subdivision plan of Measures' Ravensworth Estate are held in the Mitchell Library and in files held at State Archives of NSW (Figure 3.31 to Figure 3.40). One of them dated about 1911 showed the lots with some details of purchasers but only showed buildings on lots 4 and 5 (Figure 3.33, Figure 3.34). Some of the land was shown as sold.²¹³

²⁰⁸ NRS 8052 Closer Settlement Estate File, No 1794, Troy's (2) Estate, SANSW 10/13284.

²⁰⁹ RPA 17251.

²¹⁰ DP 6842.

²¹¹ *Daily Telegraph*, 6 Jan 1912, p 5.

²¹² 1911/73829, NRS 3829, School file, Ravensworth, Part A SANSW 5/17442.1.

²¹³ County Durham, Subdivision Plans, ML, ZCP/D6/34.

RAVENSWORTH!!!
RAVENSWORTH ESTATE.

**FARMING IS EASIER ON
RAVENSWORTH.**

SUCCESS ASSURED.

SO MANY THINGS ARE IN ITS FAVOR! Soil is unequalled in this district—the Valley of the Hunter—for carrying capacity. Each Farm has part rich deep alluvial cultivation soil and part well-grained, easy-farming upland, with frontage to several of the creeks. Just the spot for dairying, lucerne and wheat growing, in lucerne, orchards, or mixed farming. Four railway stations and four post and telegraph offices on the Estate, and five public schools and churches. Factories and markets in Singleton and Newcastle, only 3 or 4 miles distant by good roads. Heavy rains cannot interfere with access to railway stations. All open country, cleared for many years and so sound and sweet. Easy Terms are 2/ in the £ deposit (when possession is given), 2/ in the £ on March 15, 1912; 2/ in the £ on March 15, 1913; and Balance in 14 half-yearly instalments, with interest at 6d in the £ every half-year—or special terms can be had. No survey fees or restrictions. Possession given on signing of contract.

SOME GOOD WHEAT FARMS FOR SALE.
 SOME GOOD DAIRY FARMS FOR SALE.
 SOME REALLY GOOD GRAZING BLOCKS LEFT.
 FROM 75 TO 400 ACRES.
 FOR PRIVATE SALE.
 TITLE WILL BE TORRENS.
 GRASS COUNTRY FROM
 £4 5s TO £4 10s.
 DAIRY FARMS FROM
 £4 10s TO £7 PER ACRE.
 WHEAT LAND, £4 15s TO £5 10s PER ACRE.

WHY HAVE SO MANY FARMS BEEN SOLD TO DATE???

ECHO ANSWERS:

“QUALITY, PRICE, AND TERMS.”

COME AND INSPECT.

WE MEET YOU AT RAVENSWORTH STATION, AND DRIVE YOU ROUND.

FOR PLAN AND PRICES WRITE THE OWNER,

F. J. L. MEASURES,
NIAGARA PARK, NEW SOUTH WALES.

OR HIS SYDNEY OFFICE, 10 BLIGH-STREET;
 OR HIS ESTATES GENERAL MANAGER,
MR. H. R. SCOTT,
 RAVENSWORTH, NEW SOUTH WALES.

Address

Mr. H. R. Scott,
 Ravensworth, N.S.W.
 Send me Plan and Price List.
 Name

Figure 3.30: Early sale notice for Measures' Ravensworth estate. Source: Daily Telegraph, 6 Jan 1912, p 5.



Figure 3.31: The original version of the Ravensworth subdivision plan. Source: NRS 3829, School file, Hebden, SANSW 5/16256.4.

CASEY & LOWE

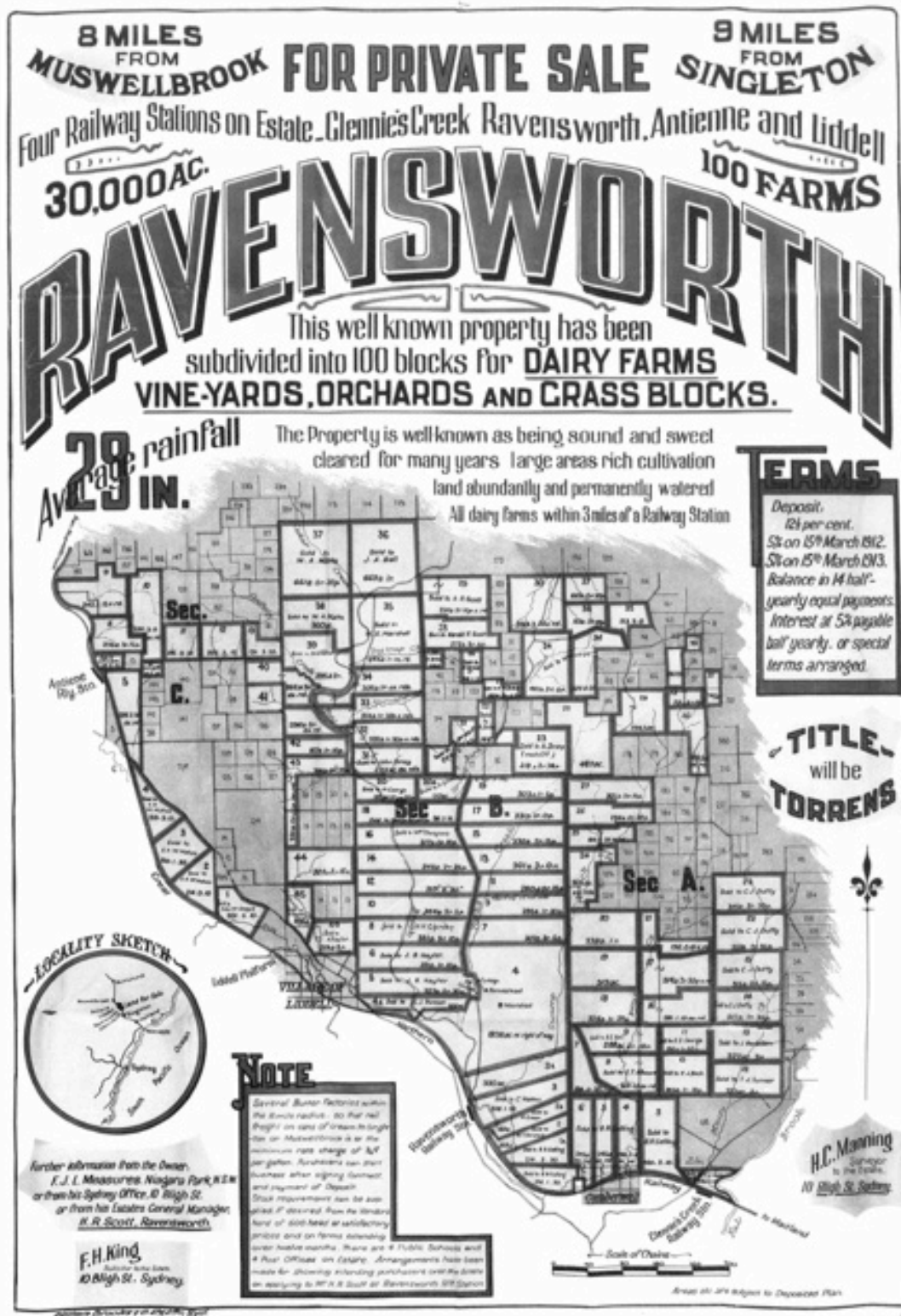


Figure 3.33: A version of the Ravensworth sale plan showing little detail. Source: County Durham, Subdivision Plans, ML, ZCP/D6/34.

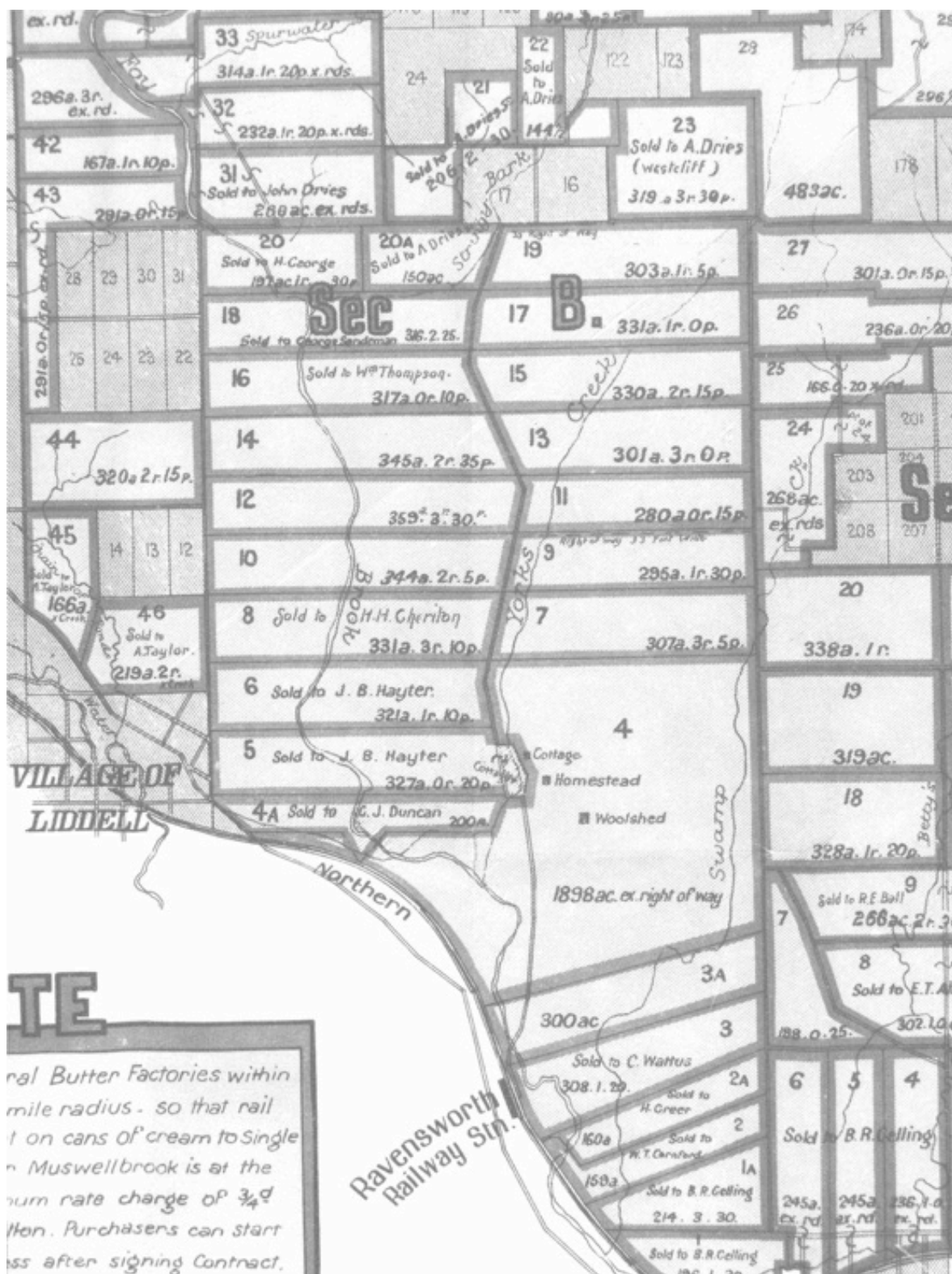


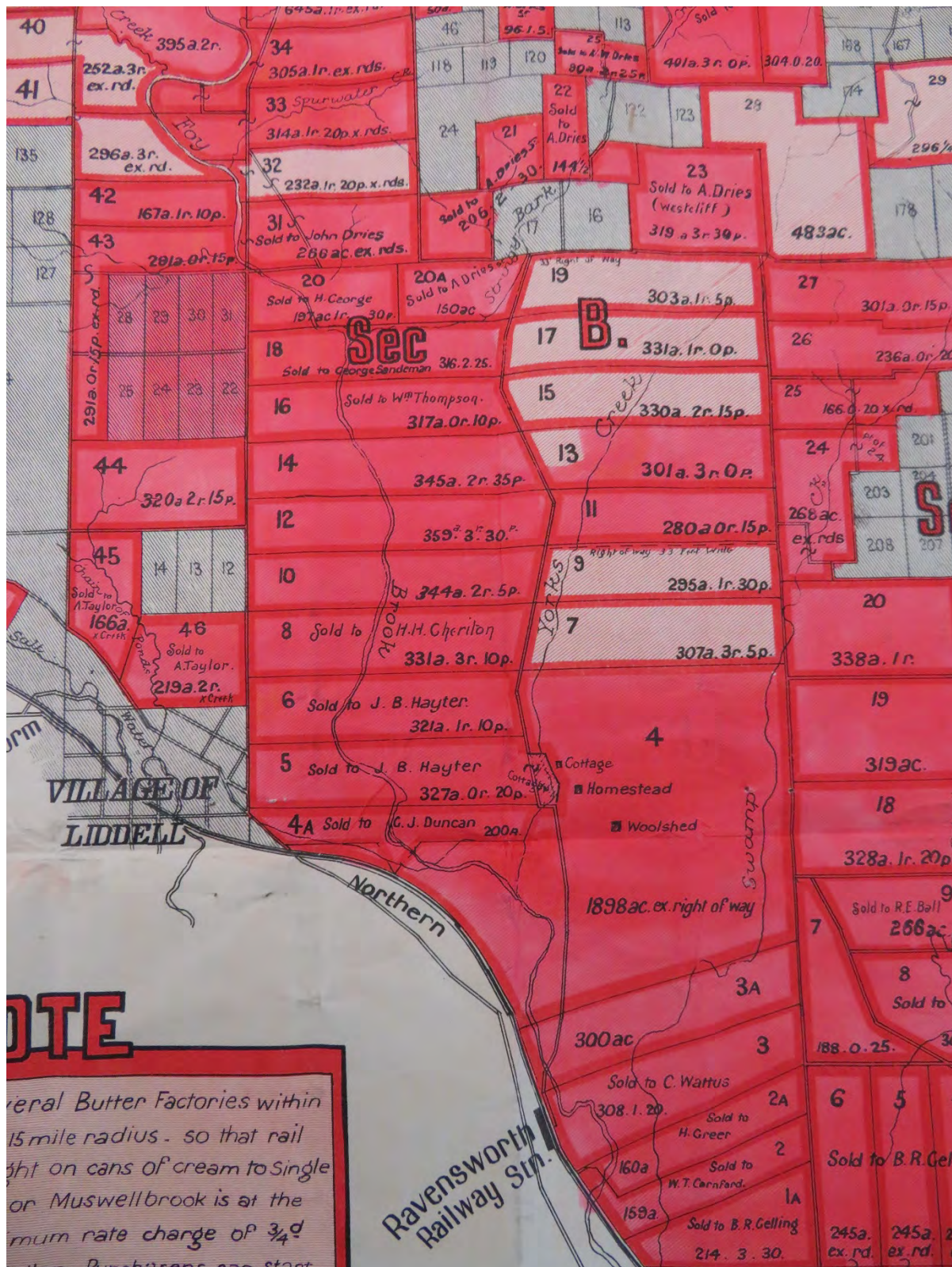
Figure 3.34: Detail of the Ravensworth sale plan showing central area and homestead block.
Source: County Durham, Subdivision Plans, ML, ZCP/D6/34.

Another version of the sale plan showed buildings on various lots, including houses, cow bails, dairies, plus the school and post office (Figure 3.37, Figure 3.38). No purchasers are named on the plan and those lots that had been sold had been stamped 'SOLD'.²¹⁴

²¹⁴ County Durham, Subdivision Plans, ML, ZCP/D6/100.



Figure 3.35: Another copy of the later version of the sale plan with an additional building on Lot 4 and with part of lot 4 excised to create lot 4A. Source: NRS 3829, School file, Hebden, SANSW 5/16256.4.



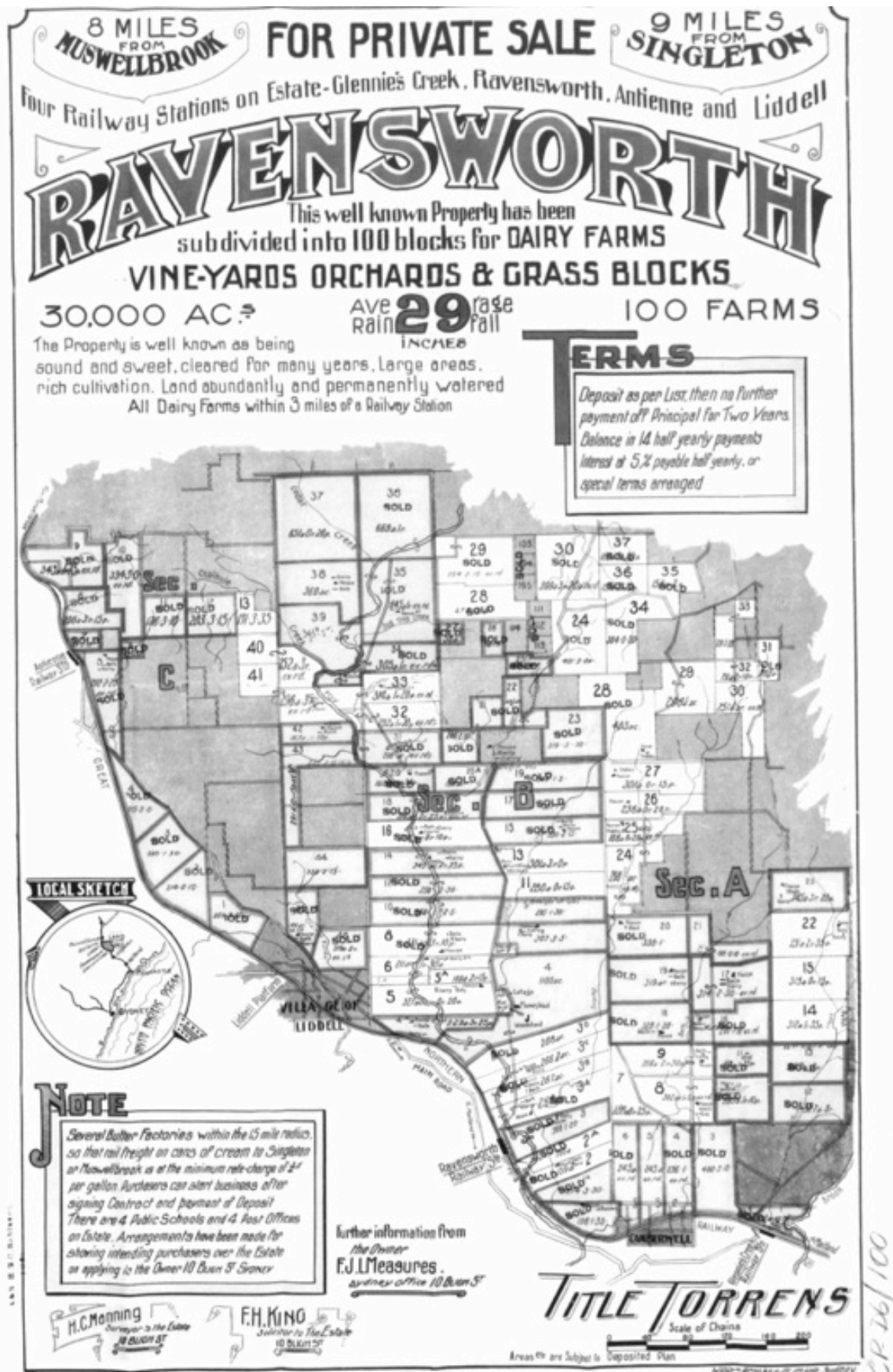


Figure 3.37: A later version of the Ravensworth sale plan showing buildings on the individual lots. Source: County Durham, Subdivision Plans, ML, ZCP/D6/100.

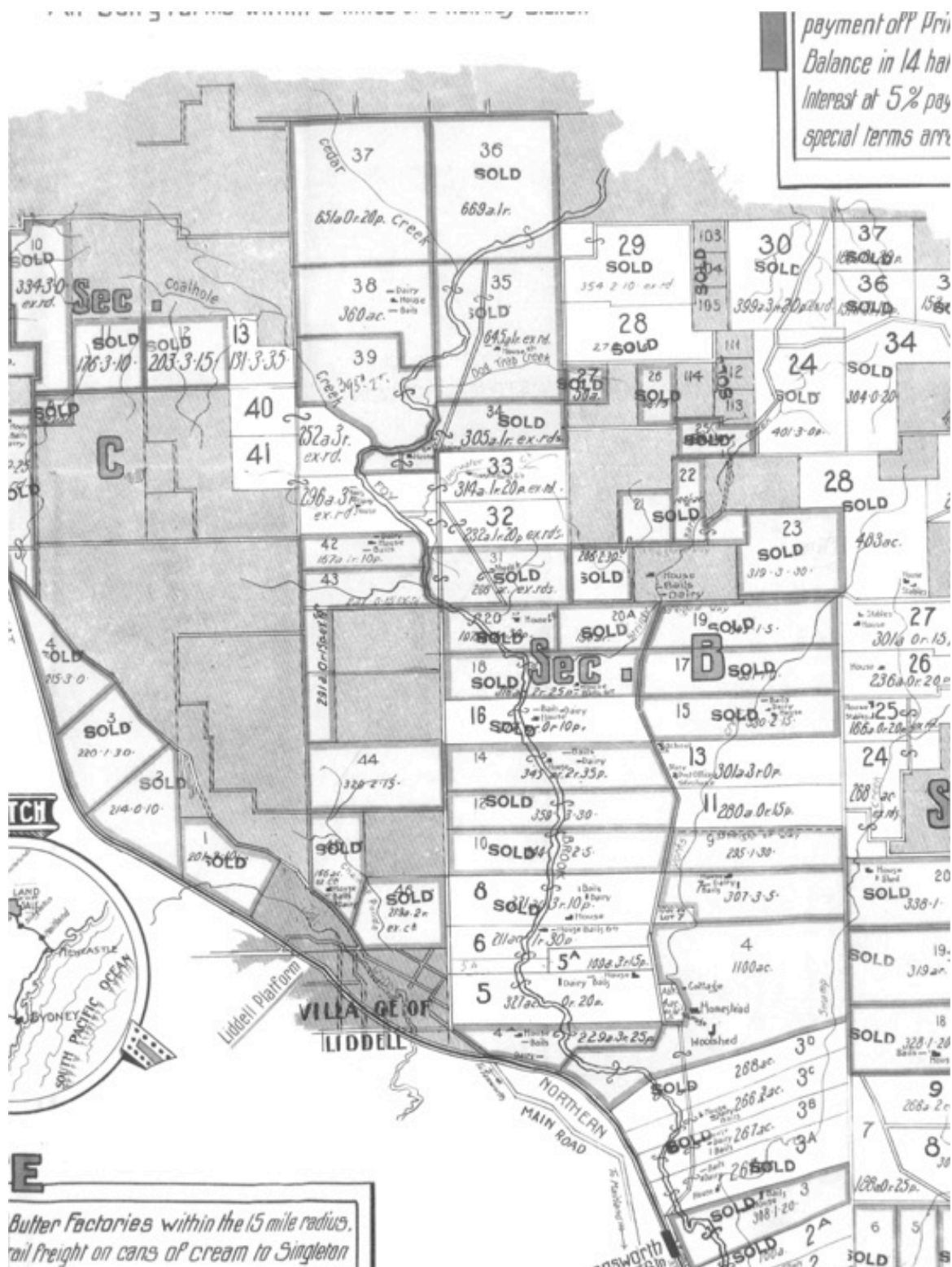


Figure 3.38: Detail of the Ravensworth sale plan showing buildings on the individual lots. Source: County Durham, Subdivision Plans, ML, ZCP/D6/100.

A damaged version of the subdivision plan with fewer details is held in the Document packet for the conversion of the land to Torrens title. A note on the plan noted that 'Many of the purchasers are in possession of the lots purchased by them'. Lot 4 shown was sold to A W Farey (1,100 ac) and was occupied by him with homestead, cottage and woolshed shown (Figure 3.39, Figure 3.40). This plan had to be supplied to the Land Titles Office since a number of titles would be issued to his purchasers once the application was approved.

Sandeman as the builders who had constructed his own House and 'are generally considered the best workmen in this neighbourhood'.²²⁰

Knowles was the first postmaster at the Hebden post office established at his store from 15 October 1912.²²¹

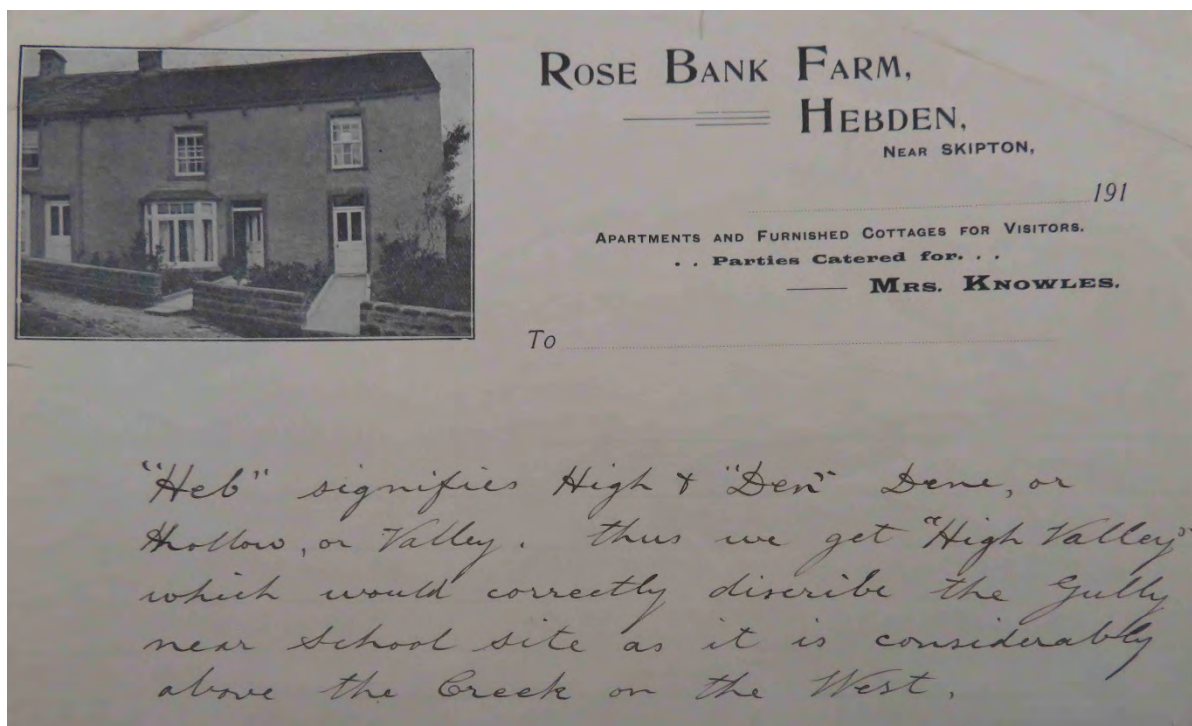


Figure 3.41: The letter explaining the derivation of the name 'Hebden'. Source: NRS 3829, School file, Hebden, SANSW 5/16256.4

Hints of future trouble arise when Schools Inspector Lynch reported on the proposed school on 30 September 1913. Some farmers had already left the farms they had purchased. There were attempts to get the government to take over the estate under the Closer Settlement Act, and 'Unless this is done, the general opinion in the district was that the majority of the farmers must leave'.²²²

Measures was in financial trouble. On 17 June 1915, the mortgage to the Mutual Life and Citizens Assurance Company Ltd was discharged only to be replaced by another to the company on 29 June 1915. The mortgage to the Australian Bank of Commerce Ltd was discharged on 7 September 1915. A new mortgage to Sydney Arthur Josephson, Sydney, engineer, was registered on 30 August 1915. The residue of the land was transferred to Measures partner, Alexander Couchrian Reid, Sydney, grazier on 12 October 1916.²²³

Measures were declared bankrupt on 11 December 1916.²²⁴ He later became an estate agent. In 1933, he was found guilty of fraud when he represented himself as the owner of a large estate at Narrabeen that he attempted to sell.²²⁵ He died in March 1936.²²⁶ A survey of a road across Ravensworth by Licensed Surveyor Marcus Hyndes of 12 November 1917 showed fences, the church on lot 12 plus the school site (Figure 3.42).²²⁷

²²⁰ Loose letter 19/6/12, NRS 3829, School file, Hebden, SANSW 5/16256.4.

²²¹ A5037, in SP32/1 Post Office File, Hebden, 1912-17, (Barcode 435452), NAA.

²²² 1913/78805, NRS 3829, School file, Hebden, SANSW 5/16256.4.

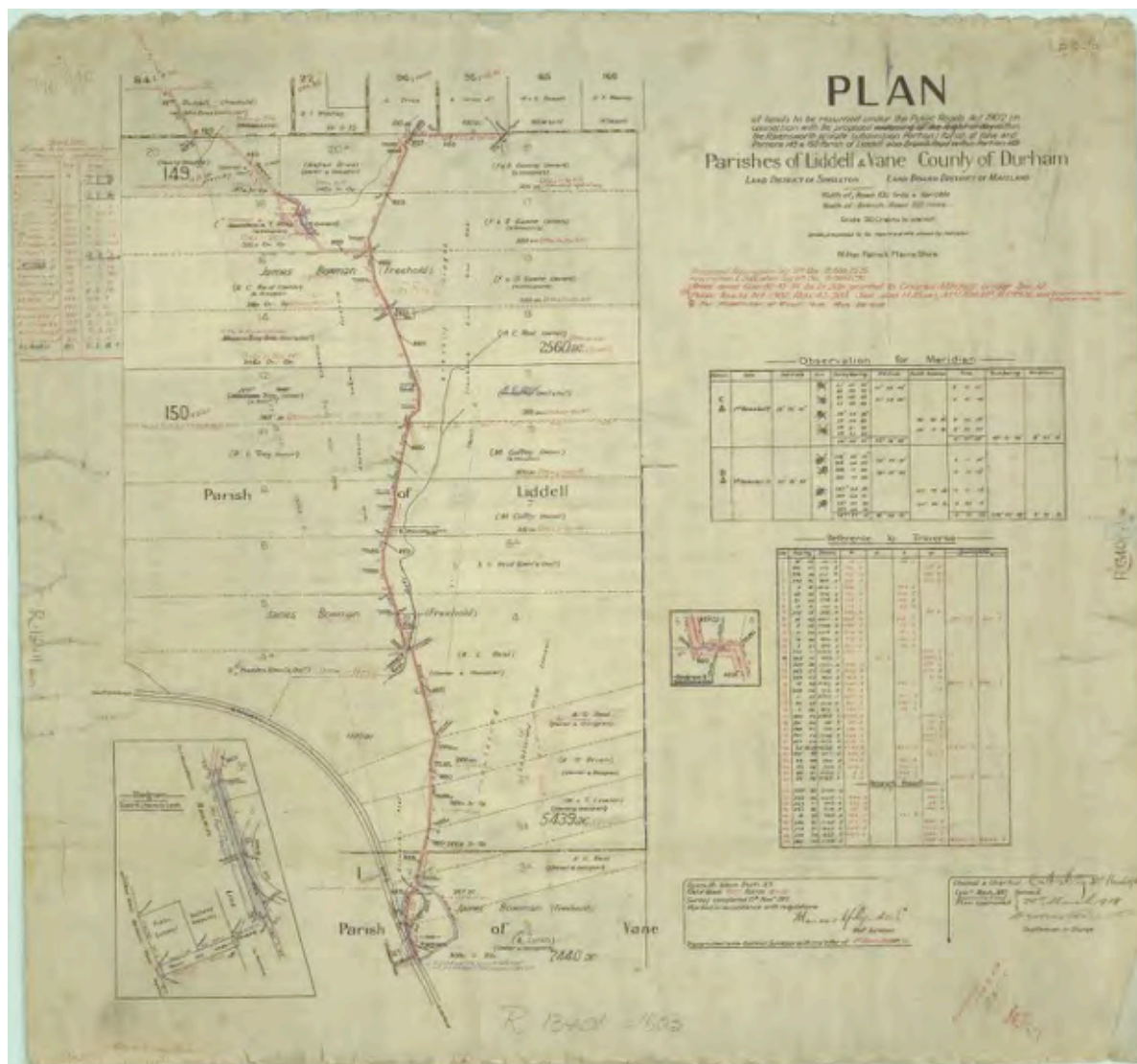
²²³ CT 2302 f 109..

²²⁴ NRS 13655, Bankruptcy File, F J L Measures, No 21010, SANSW 10/23827.

²²⁵ *Daily Examiner* (Grafton), 16 Dec 1933, p 5.

²²⁶ BDM index and *SMH*, 11 March 1936, p 11.

²²⁷ R.13401.1603, Crown Plan.



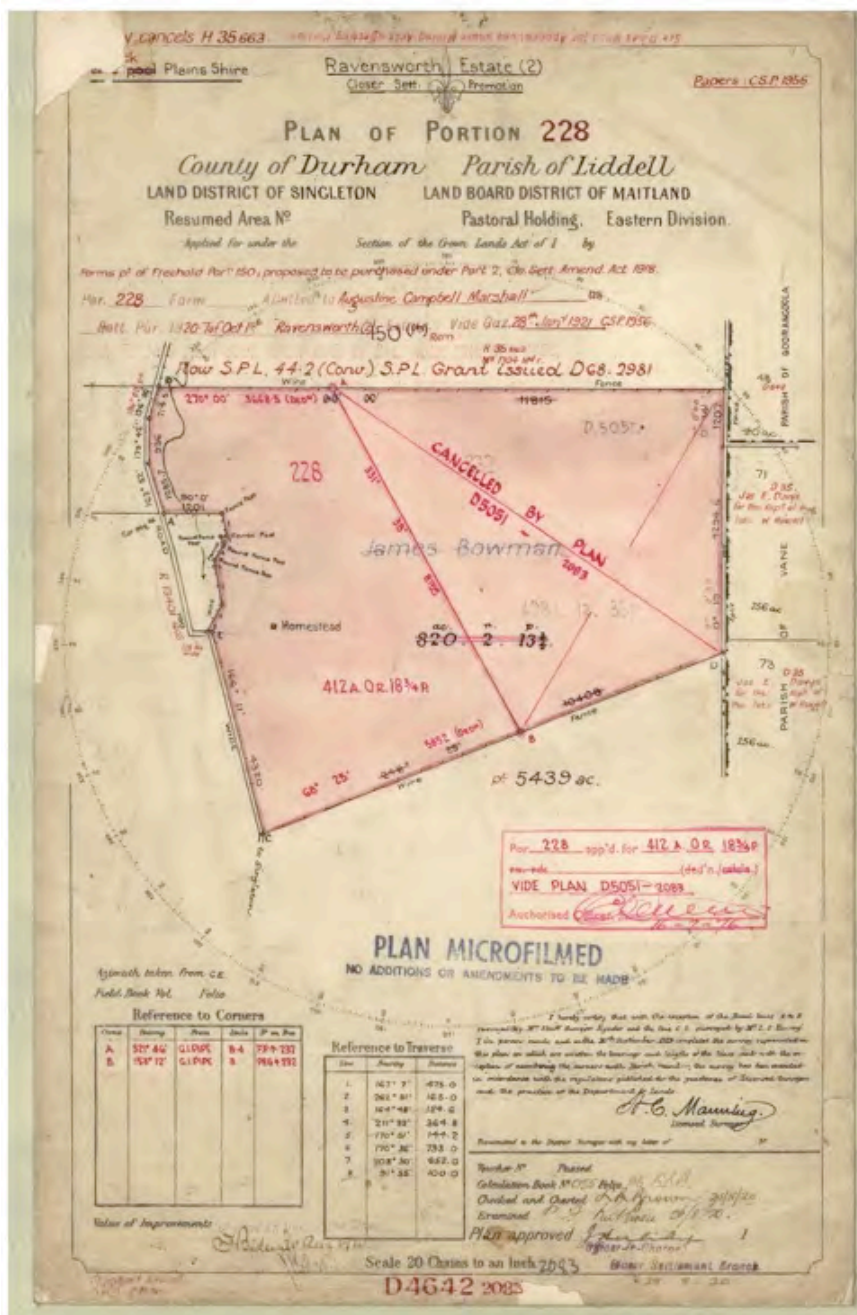


Figure 3.43: Survey of September 1919 of the new Portion 228. Source: D.4642.2083, Crown Plan.

3.2.16 ALFRED WALTER ALBERT FAREY

Alfred Walter Albert Farey had signed a contract to purchase Allotment 4 Section B occupied by the homestead for £8,250 paying a deposit of £1,000 on 22 April 1912. He had previously been a wheat farmer at Peak Hill for 14 years, with £3,700 deposited in banks at Peak Hill and Camden.²²⁸ He was recorded as living at Ravensworth on 19 June 1912 on his marriage certificate.²²⁹ He refused to pay later instalments, so Measures took him to court. Farey argued that Measures had 'made misrepresentations to him as to the land being in the valley of the Hunter River that it was thoroughly cleared and closely grassed, and of heavy carrying capacity and sweet, sound, and well and permanently watered'. The court found in favour of Measures.²³⁰ During his occupation of the land Farey spent about £250

²²⁸ Minutes, 16 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820.

²²⁹ Marriage Certificate, NRS 13495, Divorce File, Farey v Farey 4438/1947, SANSW.

²³⁰ *SMH*, 9 May 1916, p 5; 11 May 1916 p 4; Farey's name was incorrectly recorded as Albert Walter Farey in those press reports.

on ringbarking, fencing and other matters, while growing wheat and raising sheep and cattle. He vacated the property in April 1916 leaving a man in charge and moving to Baulkham Hills.²³¹

Alfred Walter Albert Farey was born on 5 May 1865, at Adelaide.²³² On 19 June 1912, he married Sarah Amelia Blackeby at Mosman, Sydney. She had also been born in Adelaide and was much younger than him.²³³ He always called his wife Millie. After the marriage, he settled £1,000 and real estate he owned in South Australia on her.²³⁴ The couple had a total of eight children born between April 1913 and May 1932.²³⁵

After losing the court case, Farey was financially ruined. He filed for bankruptcy on 11 September 1916. From his extensive experience growing wheat, Farey explained that the land was unsuitable for wheat. The crop was affected by red rust and the soil would not respond to treatment with superphosphate. About 50 others had similar experiences and lost their land to Measures.²³⁶

On 15 October 1917, Farey applied for a discharge from bankruptcy. Measures was the sole creditor claiming a total of £7,055/16/2. After deducting the value of the security he held over the property, Measures claimed a balance of £1,005/16/2.

On 6 October 1916, Farey described the improvements on the property measuring 1100 acres:

Improvements – large Wool-shed – Shearers Quarters and Drafting Yards – Stone House and Kitchen adjoining, in all thirteen rooms – 2 Weatherboard Cottages, servants quarters, one containing 3 rooms and one two rooms – Stone Shed – Stone Stable and Harness Room – Wooden Hay Shed and four Stallion Stalls – Machine Shed – fencing enclosed and sub dividing with sheep proof – 150 acres clear, been under cultivation – Three hundred acres partly cleared – Balance ring barked – Watered by 3 Creeks and 2 dams.²³⁷

Farey claimed that:

I consider I was practically robbed by Measures. The manner in which he induced me to enter into this contract which was similar to that between 40 and 50 others who are forced to abandon their holdings convinced me that this Ravensworth affair was practically a swindle.²³⁸

He claimed that he was not familiar with land nearer to the coast since most of his experience was in Western New South Wales. 'Measures painted a very fine picture about the estate'. After Farey sought advice from two or three other people about the area, he found they were paid commissions by Measures to encourage purchasers. Farey unsuccessfully tried to sell the homestead property. He named some of the other 40 or 50 purchasers who had to abandon their holdings as Camboyne, Hull and Ritsen. Measures went on to resell a number of those lots as many as 4 or 5 times.

Measures' success in selling the land at Ravensworth was confirmed by Farey, who was persuaded to purchase despite his own judgement.

Many [purchasers] have the same opinion. They can't understand it, and think he has some hypnotic influence.²³⁹

Purchasers had probably never met a slick fast-talking American salesman before.

²³¹ Minutes, 16 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820.

²³² Ancestry, accessed 10 Aug 2018.

²³³ Marriage Certificate, NRS 13495, Divorce File, Farey v Farey 4438/1947, SANSW.

²³⁴ Report, 24 Aug 1917, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820.

²³⁵ NRS 13495, Divorce File, Farey v Farey 5141/1945, SANSW.

²³⁶ Minutes, 16 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820.

²³⁷ Description, 6 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820.

²³⁸ NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820.

²³⁹ Minutes, 16 Oct 1916, NRS 13655, Bankruptcy File, No 20921, SANSW 10/23820.

The homestead remained vacant for eight years. The woolshed was demolished about 1914-8 leaving some evidence on the ground plus an in-ground water tank and pump.²⁴⁰ It was later reported that the house was occupied by tramps in that period.²⁴¹ The stable block burned down at an unknown date.²⁴²

After losing his Ravensworth property, Farey moved around the state, living at Peak Hill, Moore Creek near Tamworth and Gosford.²⁴³ By the late 1930s, he was estranged from his wife, violent and irrational. His son Alfred stated that his father would have 'Brain Storms' which brought on sudden beatings of his children and his wife. He oscillated between beating his wife and blaming her for his misfortunes and heartfelt pleas calling on her to obey God's will and return to him as his wife. In 1946, he wrote to his wife regretting that he had not purchased the property offered to him about 1912 at Peak Hill. Instead he had taken 'that Ravensworth, as that was the place that ruined the early days of our Married life & I blamed you to a great extent for my misfortune in being there'.²⁴⁴

Farey died at Peak Hill on 30 November 1951 at Peak Hill District Hospital aged 86. He was buried in the Peak Hill Cemetery according to the rites of the Assembly of God.²⁴⁵ He was in the process of selling 1 rood of land worth £748 when he died.²⁴⁶ By his will he left one quarter of his estate to his sister with whom he had been living at Peak Hill and three quarters of his estate to his wife for the natural life after which it would pass to his children and grandchildren.²⁴⁷

3.2.17 ALEXANDER COUCHRIAN REID

A new Certificate of Title was issued to Alexander Couchrian Reid, Sydney, grazier, on 30 December 1920 for various lots in this subdivision with a total area of 3,227 acres 1 rood 5 perches, including Allotment Section B 4 DP 6842 including Ravensworth House. A transfer had previously been made to His Majesty King George V for the purposes of Closer Settlement Acts and Settlement Purchases by Discharged Soldiers on 25 October 1920 and was noted on the new certificate.²⁴⁸ No new Certificate of Title for that lot was issued since the property had been acquired by the Crown again becoming Crown Land.

A portion survey of this land had previously been completed by Licensed Surveyor H C Manning on 20 September 1919 as a new Portion now numbered as 228 being (Ravensworth (2)) Clo Sett of 820 acres 2 roods 13 $\frac{3}{4}$ perches. The homestead was shown on the plan.²⁴⁹

When A C Reid died on 25 October 1925, he still held some lots in the Ravensworth estate. Lot 13 Section B measured 296 acres 3 roods and had a weatherboard house used as the post office plus outbuildings, dairy, bails and two dams. It was let to A Taylor. Lot 3 Section B measured one acre and had a weatherboard cottage and outbuildings.²⁵⁰

Similarly, a survey of the new portions 226 and 227 was completed in April 1921, also under the Closer Settlement Acts. No buildings were shown. Part of 226 was later acquired as the site for a hall.²⁵¹

3.2.18 SOLDIER SETTLEMENT

Soldier settlement commenced in 1916 after an Australia wide Premiers' conference in Adelaide. The scheme sought to place returned soldiers on the land in order to absorb

²⁴⁰ Hunter, Ravensworth, p 15.

²⁴¹ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 6240/9.

²⁴² Hunter, Ravensworth, p 28.

²⁴³ NSW Electoral Rolls.

²⁴⁴ Letter, 3 April 1946, A W A Farey to Millie', NRS 13495, Divorce File, Farey v Farey 5141/1945, SANSW.

²⁴⁵ NRS 13660, Supreme Court, Probate Packet, Series 4 No 399384, SANSW.

²⁴⁶ NRS 13340, Stamp Duties Office, Deceased Estate File, B 67306, SANSW 20/5316.

²⁴⁷ Death Certificate, in NRS 13660, Supreme Court, Probate Packet, Series 4 No 399384, SANSW.

²⁴⁸ CT 3144 f 148.

²⁴⁹ D.4642.2083, Crown Plan.

²⁵⁰ NRS 13340, Stamp Duties Office, Deceased Estate File, pre A 16735, SANSW 20/1078.

²⁵¹ D.4630.2083; D.4631.2083, Crown Plans.

them back into civil society. Concern that the returned men could become a dangerous force of under-employed men accustomed to violence coalesced with the mythic status of the pioneer settler, a potent element in the narrative of white settlement across Australia. The *Returned Soldiers' Settlement Act 1916* (Act No 21, 1916) gave returned men the right to apply to purchase land in areas set aside as Returned Soldiers Special Holding Areas. Men approved by local Repatriation Committees were allotted land in special schemes subdivided for them. All applicants were given a loan to purchase the land, ranging from 3½% to a maximum of 5%. Applicants were given a minimal area of land, often too small to be viable.²⁵²

Most soldier settlement purchases were taken up as Settlement Purchases, continuing the practice that had originally been created by the 1904 *Closer Settlement Act* (Act No 37, 1904). They were similar to Conditional Purchases. Settlement Purchases were a purchase from the Crown with conditions that the applicant pay a deposit, pay annual instalments, reside on the land for 10 years, and carry out improvements to a quarter of the capital value of the land within 10 years. It differed from a Conditional Purchase in that a Settlement Purchase was for 'acquired lands', i.e. resumed land rather than Crown land. It was only available for land within a gazetted Settlement Purchase Area. Previous owners had usually improved the land so the purchase price might be higher in order to pay for the previous owner's improvements.

3.2.19 AUGUSTINE CAMPBELL MARSHALL

Augustine Campbell Marshall, a Light Horse veteran had selected this land with the homestead. He had enlisted on 18 October 1915 and embarked on 10 November 1915 for the Middle East where he was a member of the 6th Squadron, 2nd Remount Unit. He also served for a time with the camel section of the Remount Unit. He returned and was discharged on 24 October 1919.²⁵³

Two other blocks in Measures Ravensworth Estate were taken by other veterans. All became Settlement Purchases. Cynthia Hunter claimed that it was unusual for freehold land to be reclaimed as Crown Land, making the acquisition of this property for Marshall a unique situation.²⁵⁴ This is incorrect. This was a common form of acquiring land for soldier settlers, particularly under the settlement promotion scheme. Any three or more persons could apply to acquire land after obtaining an agreement with the owner under the *Closer Settlement Promotion Act, 1910* (Act No 7, 1910). The *Closer Settlement (Amendment) Act, 1919* (Act No 46, 1919) liberalised the conditions so that only one or more discharged soldiers or sailors could take up land under such an arrangement.

In later years, Augustine Campbell Marshall also served on Patrick Plains Shire Council.²⁵⁵ Augustine Campbell Marshall used the property for dairying and sheep.

The land was gazetted on 1 October 1920, as an area 820 acres 2 roods 13 ¾ perches surrendered to the Crown as part of portion 150, parish Liddell, that was taken up as Settlement Purchase 1920/7 Singleton by Augustine Campbell Marshall, becoming portion 228.²⁵⁶ As part of the regime of administering the land by the Department of Lands, the property was regularly inspected, and any applications by Marshall regarding the land were reported on. On 22 October 1923, W D Hogarth inspected the property. His report provided a detailed summary of the improvements on the land both pre-existing and those undertaken by the holder. These included:

- Improvements
- Repairs house £20

²⁵² B Scates and M Oppenheimer, *The Last Battle: Soldier Settlement in Australia 1916-1939*, Cambridge University Press, Port Melbourne, 2016, pp 1-11.

²⁵³ B2455 World War One Army Personnel File, 1636, A C Marshall, Barcode 8218310, NAA.

²⁵⁴ Hunter, Ravensworth, p 16.

²⁵⁵ Hunter, Ravensworth, p 27.

²⁵⁶ *NSWGG*, 28 Jan 1921, p 528.

- 150 fruit trees planted near house £15
- Erecting bails £20
- Preparing part of fences £20
- Stone house £500
- Barn and dairy Stone £100
- Stables and shed £100
- Weather board cottage £70
- Piggery and calf pen £40
- 820 acres burned off £820
- Shed £50
- Internal fencing and sheep pens
- Livestock 150 cattle; 10 horses; 200 sheep; 140 lambs.²⁵⁷

On 1 June 1924, Marshall applied for a loan.²⁵⁸ As a result, in September 1924, a very detailed description of improvements on Marshall's land was completed (Figure 3.44).²⁵⁹

²⁵⁷ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 21/20235.

²⁵⁸ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 6240/2.

²⁵⁹ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155.

<u>CLOSER SETTLEMENT PROMOTION</u>			
<u>Ravensworth (2) Estate</u>			
<u>IMPROVEMENTS</u>			
C.S.P. 1956 G.N.C.			
<u>Structural:</u>			<u>£. s. d.</u>
Stone house, 42'x72' sundrlich ceiling 2 brick chimneys stonemills front & back verandah, 7 rooms slate roof ...			300: 0: 0
Kitchen (stone) 50'x21' (breakfast room 20'x18') and six other rooms slate roof ...			150: 0: 0
Tanks 800 & 1000 gallon & 1000 gallon at man's quarters ...			25: 0: 0
Stables 20'x57' stone walls & floors, iron roof... ..			50: 0: 0
Man's quarters s.s. 12'x36' iron roof front verandah 3 rooms..			30: 0: 0
Shed, 36'x12' slabs, iron roof.. ..			20: 0: 0
Stable, 25'x20' stone walls, and floor iron roof.. ..			50: 0: 0
Shed 21'x42' sawn timber, iron roof... ..			15: 0: 0
Blacksmith's shop 15'x18' slabs, iron roof.. ..			5: 0: 0
Slaughter house, 16'x15' round timber, iron roof ...			10: 0: 0
Underground tank 15' deep 10' diameter pump (cemented)..			40: 0: 0
Wells (2), 12' deep 4'x4' timbered ...			24: 0: 0
Sheep dip 60' cemented & yard cemented 56'x78' ...			25: 0: 0
Dams (2) 225 each ...			50: 0: 0
24 chs. 4 rail sheep yards @ 6/- per chain ...			7: 4: 0
102 " 7 plain wire S.Bdy. Pavilion			
55 " old 2 r. on E. " @ 15/- " " (H.V.) ...			38: 8: 0
95 " 5 & 6 w fence s. " @ 8/- " " (P.V.) ...			22: 4: 0
11 " 5 & 6 w fence s. " @ 12/- " " do ...			57: 0: 0
292 " 7 wire fence " @ 15/- " " do ...			8: 5: 0
292 " mixed fence in subdivision @ 10/- " " do ...			146: 0: 0
15 " 3r. & cap. & pt. 3 r. & crush stock yards @ £1 ...			15: 0: 0
117 " 7 w. fence on North boundary @ 15/- (H.V.)... ..			43: 17: 6
Total Structural Improvements:			£1131: 15: 6
<u>Ground:</u>			
817 acres partly cleared grassland @ 10/-... ..			408: 10: 0
Total Improvements:			£1540: 5: 6

Figure 3.44: Description of assets and improvements on Portion 228 in September 1924. Source: NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155.

Furthermore, on 8 October 1924, Marshall had improvements valued at £1,540/5/6. These included a stone house £300; stone kitchen £150; three tanks £25; man's quarters £30; 2 Stables £100; two sheds £35; Black smith's shop £5; underground tank £40; slaughterhouse £10; two wells £24; two dams £50; sheep dip £25; sheep yards £7/4/0; fencing £330/11/6; 817 acres partly cleared £408/10/0.²⁶⁰ The loan was approved on 11 November 1924 and a mortgage to the Minister for Lands was noted in departmental records. It was not discharged until 25 July 1952.²⁶¹

²⁶⁰ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 6240/9.

²⁶¹ NRS 18096, Tenure Cards, Settlement Purchase Lease, Singleton, 1944/2, SANSW.

Another report by CP inspector A H Lawrence dated 25 January 1928 listed the improvements made by Marshall since his acquisition of the property. These included: repairing fence £50; guttering on house and shed - purchase and labour £10; purchase 1,000 gallon iron tank and erecting timber stand at house £8; making and building up stone and cement tank 20 feet x 16 feet x 4 feet cement bottom to catch water of stone stables at the end of stables £40; flooring timber and putting down in the dwelling, renewing skirting boards, papering walls of 11 rooms, painting house inside and partly outside £150; erecting stalls in milking shed £5.²⁶²

An undated report on his consolidation application that was stamped 15 February 1929 was compiled by an unnamed official. He stated he had been visiting property and was familiar from earlier visits. It was an old improved property acquired by Marshall with an old stone homestead that he had renovated and 'made into an excellent dwelling'. The stone stables and large stone shed were also renovated. A shed had been converted into a shelter for dairy cattle by adding stalls. A small mill and piping worth £30 had been added to the garden. The total of 27 chains of new 7 wire fencing had been added on the eastern boundary costing £30. No other improvements had been made since the acquisition. When completing renovations Marshall had used materials already on the property. As a result, the assessor could not estimate the value of the work. The work had mostly been carried out by himself and his employees but it had been done well 'and there are few better equipped properties of this size in the district'. The land had been acquired from the vendors along with another property to the west owned by Marshall's father. In general, the property was very efficiently managed, with fodder grown on the adjacent land by his father. It had dairy cattle and 8 to 900 sheep. He was noted to be a prosperous settler.²⁶³

Inspector John Bonar made a report on 20 December 1930. Except for the weatherboard cottage, all buildings were stone and convict built. All were now in first class order. At one time the house had been occupied by tramps. It had a slate roof; Wunderlich ceilings; 10 rooms; stone dividing walls; kitchen and bath.²⁶⁴

The valuation of Patrick Plains Shire completed on 1 October 1933 by the Valuer General, described the improvements on the property as a stone homestead, 14 rooms, slate roof, men's hut, cowshed, stone hayshed, stone cart shed, fencing and ringbarking. At an unspecified later date, the men's hut, cow shed, stone hayshed and stone cart shed were altered to 'WB/Gl Ctge - Farm Bldgs' and 'Water Supply' was added.²⁶⁵ When Lands Inspector John Bonar reported on 31 August 1936, he noted that Marshall had recently improved a shed and had erected a 2 stand shearing plant and he was shearing with two men when Bonar visited.²⁶⁶ The 1942 Australian Army Topographical map showed the buildings across the study area including those at Ravensworth (Figure 3.45).²⁶⁷

²⁶² NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155.

²⁶³ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155.

²⁶⁴ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at 6240/9.

²⁶⁵ NRS 14465, Valuer General, Valuation Roll, Patricks Plains, 1933-62, SANSW 19/12823, No 529/724.

²⁶⁶ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155.

²⁶⁷ Australia - Army, Topo Map 1:63360, Camberwell, Zone 8, No 378, 1942.



Figure 3.45: The 1942 Army Topographical map of Ravensworth. Source: Australia – Army, Topo Map 1:63360, Camberwell, Zone 8, No 378, 1942.

Marshall applied to convert his holding to a Settlement Purchase Lease. His application became 1944/2 Singleton. The Minister granted this request on 16 January 1946.²⁶⁸ An inspection of his property by G A Baillie on 30 July 1945 listed the following improvements:

- Stone house 72 ft x 42 ft £300
- Stone kitchen 50 ft x 21 ft £75
- WB men's quarters 12 ft x 36 ft Verandah 5 ft x 36 ft £60
- Stone shed 72 ft x 20 ft £75
- Stone shed 84 ft x 20 ft (including dairy bails) £100

²⁶⁸ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155, at CS366/64.

- 21 section feed stalls 60 ft x 10 ft £30
- 219 chains boundary fence – North and south £87/12/0
- 26 chains boundary fence £13
- 71 chains West boundary fence £42/12/0
- 40 chains West boundary fence £6
- Two small wells, two small dams £95
- Dip £60
- Underground tank 10 ft x 15 ft no value £25.²⁶⁹

On 20 August 1962, the mines and minerals under Allotment 4 Section B DP 6842 with an area of 820 acres 2 roods 14¾ perches were transferred to the Electricity Commission of New South Wales.²⁷⁰ A Perpetual Lease on Settlement Purchase Grant was issued to A C Campbell on 9 April 1969.²⁷¹

A series of photographs taken by the Marshall family survive (Figure 3.46, Figure 3.47, Figure 3.48, and Figure 3.49).²⁷²



Figure 3.46: Ravensworth homestead. Source: Marshall family photographs.

²⁶⁹ NRS 8058, Soldier Settlement Loan File, No 6240, SANSW 12/7155.

²⁷⁰ CT 3144 f 148.

²⁷¹ NRS 18096, Tenure Cards, Settlement Purchase Lease, Singleton, 1944/2, SANSW.

²⁷² Supplied by Casey and Lowe, 29 May 2018.



Figure 3.47: Homestead and garden. Source: Marshall family photographs.



Figure 3.48: Ravensworth outbuildings. Source: Marshall family photographs.



Figure 3.49: Ravensworth verandah. Source: Marshall family photographs.

The Eastern part of the land was excised and on 18 July 1973 the new Portion 232 (eastern portion) was sold to the Electricity Commission of NSW.²⁷³ In 1974, the residue was converted to Settlement Purchase 74/3, approved on 12 September 1975.²⁷⁴ The property continued to be held by Marshall. The 1977 Central Mapping Authority Topographical Map showed the study area including many of the buildings (Figure 3.50).²⁷⁵

Augustine Campbell Marshall died on 1 May 1983 aged 91.²⁷⁶ His widow Enid died on 27 March 1993 aged 92.²⁷⁷

Historian Cynthia Hunter collected oral information about the property in 1997 from the Marshall family. This information noted that there were several graves near the house, one marked with a stone slab. A bell near the first stone cottage was marked 1828 and had possibly been on the site for many years.²⁷⁸ This bell now resides in the new Marshall family home.

²⁷³ NRS 18096, Tenure Cards, Settlement Purchase Lease, Singleton, 1944/2, SANSW.

²⁷⁴ NRS 18096, Tenure Cards, Settlement Purchase Lease, Singleton, 1944/2, SANSW.

²⁷⁵ Central Mapping Authority, Topographic Map 1:25,000, Camberwell, 9133-III-S, 1977.

²⁷⁶ *SMH*, 5 May 1983.

²⁷⁷ *SMH*, 31 March 1993.

²⁷⁸ Hunter 1997, p 27.

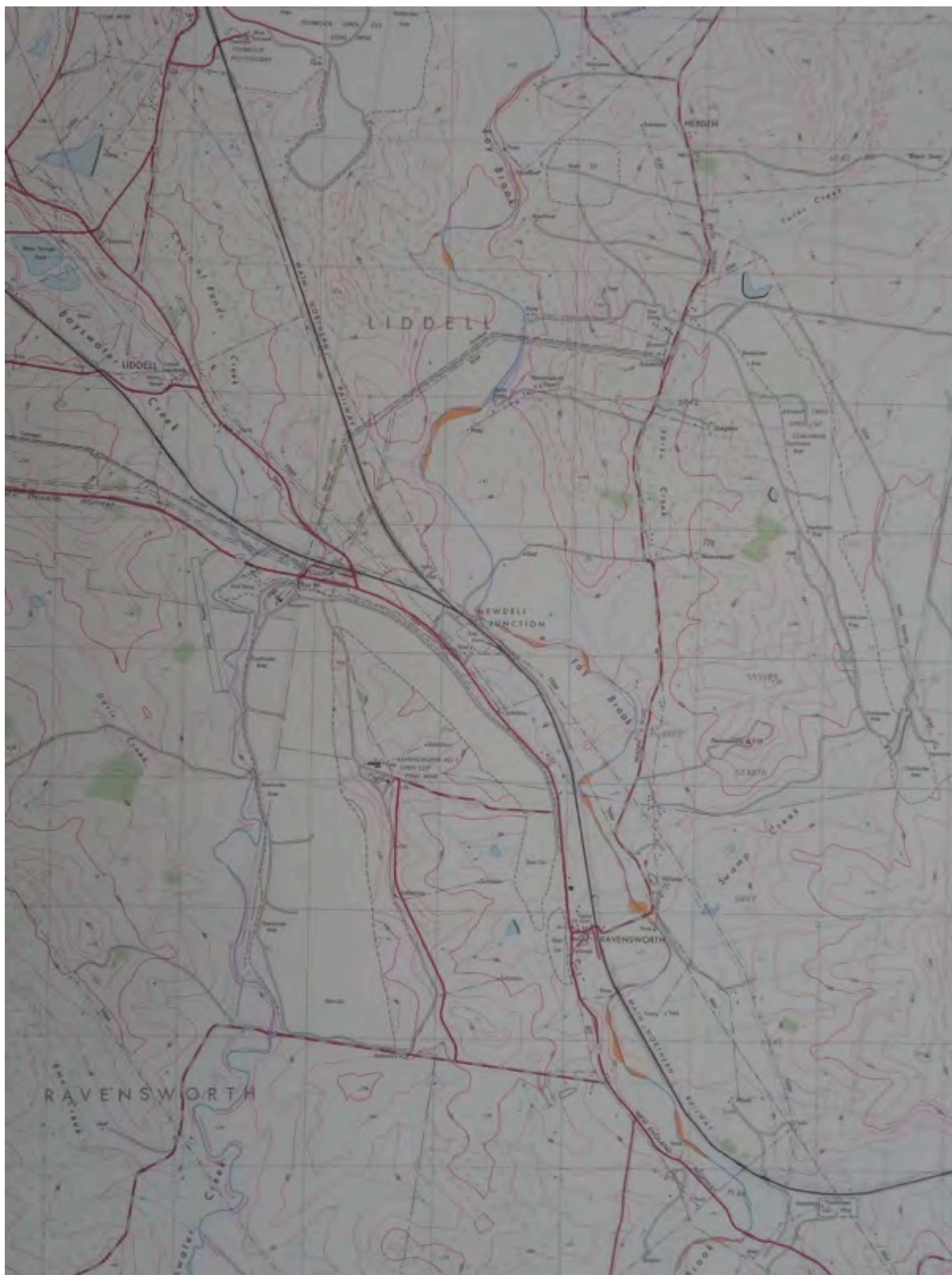


Figure 3.50: The 1977 CMA Topographical map showing Ravensworth. Source: Central Mapping Authority, Topographic Map 1:25,000, Camberwell, 9133-III-S, 1977

3.3 SUMMARY HISTORICAL TIMELINE

The following summary provides a brief historical outline of the study area, extracted from the history above and supplemented with information from Cynthia Hunter's history of Ravensworth Homestead. References can be found in the preceding text unless otherwise shown. This timeline is particularly focused on evidence that has helped to inform the archaeological potential in Section 5.0:

- 1797 Hunter River discovered by Lieutenant John Shortland.
- 1820 Upper Hunter Valley open to free settlers.²⁷⁹
- 1823 Hunter mapped by Surveyor Henry Dangar, describing the Ravensworth county as '...lightly timbered, well watered, and though (except the vallies [sic]) a thin iron stone gravelly soil, yield a healthy and good sheep pasture'.²⁸⁰

PHASE I: Bowman's Estate (1824-1846)

- 1824 Ravensworth granted to Dr James Bowman on 4 June 1824.
Several huts built on the property to accommodate overseers and a convict workforce of approximately 40 people, as well as 'extensive buildings for packing and sorting wool'.²⁸¹ Possible evidence of sheep washing facilities in the creeks.
- By 1826 Bowman had apparently erected 'Sheep Sheds, Wool House, Stores, Cottage, Kitchen, huts for ten men etc..' in addition to a stout fence 3 miles long.²⁸²
- 1820s The Great Northern Road built, traversing through Ravensworth.²⁸³
- 1832 Original sandstone cottage (for James White) constructed.
A garden of 8 acres with a paling fence and small stream was laid out, watered by a dam on Yorks Creek.²⁸⁴ These gardens contained orange trees, a peach orchard and vineyard. Additionally, land had been cleared to create a large paddock, although areas of the property evidently remained thickly forested.
- Late 1830s Construction on the 'stockade-like' Ravensworth homestead complex, and nearby silo, begun.²⁸⁵
- By 1842 Ravensworth House completed.

PHASE II: The Russell Family (1842-1882)

- 1842 Various parcels of land at Ravensworth released to James and William Macarthur.
Ravensworth Estate conveyed to the Bank of Australasia.
- 1846 James Bowman dies at Ravensworth (23 August). His place of burial purportedly either on the Ravensworth estate or in an unmarked burial at St Clements Church.
- 1853 Ravensworth Estate sold to Captain William Russell and his wife Eliza, although Russell's principle residence was apparently Chesthunt Park.²⁸⁶
- 1869 Great Northern Railway built, Ravensworth station and two sidings were built on Ravensworth Estate.

PHASE III: Subdivision and Early Coal Mining at Ravensworth (c.1880s-1917)

- 1882 Ravensworth subdivided into three Lots separate to the main (Ravensworth) estate.
The property is described as having 'extensive stone buildings, fenced and divided into some 70 paddock by upwards of 250 miles of substantial fencing... [and] large deposits of coal and other minerals...'²⁸⁷
- 1883 D.F. Mackay purchases extended Ravensworth estate from the Russell family.

²⁷⁹ Hunter 1997 p. 1.

²⁸⁰ Dangar, H. *Index and Dictionary to Map of the Country Bordering Upon The River Hunter* 1928 pp. 30-31.

²⁸¹ P Cunningham, *Two Years in New South Wales*, Henry Colburn, London, 1827, p 144.

²⁸² CSIL26/7403, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

²⁸³ *The NSW Calendar and General Post Office Directory* 1832, p. 131.

²⁸⁴ *Dungog Chronicle*, 18 Feb 1927, p 4.

²⁸⁵ Hunter 1997, pp. 25, 28.

²⁸⁶ Hunter, Ravensworth, p 10.

²⁸⁷ *Maitland Mercury* 21 Mar 1882, p. 8.

- 1882-1887 Mackay builds a new 20-stand shearing shed, large stable block and undertakes substantial rural improvements in the homestead precinct.
- 1886 Reported that 'sinking for coal has been actively prosecuted on the Ravensworth Estate...'²⁸⁸
- 1889 Land Company of Australasia purchases 63,000 acres of Ravensworth estate.
- 1890 Coal seams located at Ravensworth.
- 1892 Subdivision sale.
- 1894 In addition to the homestead complex (comprised of the main house, kitchen, a large stable and barn, coach house, men's quarters and overseer's cottage), the property is described as having an outstation (which included an overseer's cottage, kitchen, garden and horse paddock). The property was divided into 63 paddocks.
- 1895 Observed that the silo is abandoned at this time.
- Robert Ascot Hill leases the Ravensworth property, inclusive of the adjacent wool sheds (constructed by Mackay), remaining the manager here until 19.
- Pre-1900 Deterioration of the stone outbuildings. The rear wing of the main house was dismantled and these stones used elsewhere on site.²⁸⁹
- 1902 Reported that the grave of a '...Miss White, who was burned to death, can be seen close to the homestead'.²⁹⁰
- Ravensworth devised to W.H. Mackay, following D.F. Mackay's death in 1887.
- Alterations, in the Federation style, were made to the Ravensworth house, and included the addition of a timber and iron workmen's barrack with a verandah.
- 1908 Mackay surrenders individual grants for extended Ravensworth, all lands consolidated.
- Measures advertised the estate as 30,000 acres divided into 100 blocks for dairy farms, vineyards, orchards and grass blocks. All the dairy farms were within 3 miles of a railway station. There were now 4 stations within the estate, Glennies Creek, Ravensworth, Antienne and Liddell.
- 1911 F.J.L. Measures' purchases and subdivide extended Ravensworth.
- Measure's notes the construction of a weatherboard house and dairy, several water tanks, a barn with iron walls and no floor, 4 cow bails with iron rooves and cement floors and a hay shed.
- 1914-1918 Wool shed demolished.

PHASE IV: Crown Land (1917-Marshalls?)

- 1917 Reservation of Crown Land (R1448) from sale generally in locality for mining
- Stable block burnt down.
- Many former huts and cottages, now demolished.
- 1920 Portion of the former Ravensworth Estate that contains the Ravensworth Homestead is taken up by Augustine Marshall (and remains in the Marshall family until 1997).
- 1923 Geological survey conducted in the vicinity of Muswellbrook and Ravensworth in order to confirm the extent of coal measures.
- 1997 to present The lands of the former Ravensworth Estate, including the portion that contains the Ravensworth Homestead, is in the ownership of Glencore.

²⁸⁸ *Maitland Mercury* 23 Sep 1886, p. 7.

²⁸⁹ Hunter 1997, p 28.

²⁹⁰ *Sydney Mail* 15 Feb 1902, p. 417.

4.0 HISTORICAL AND ARCHAEOLOGICAL CONTEXT

4.1 HUNTER ESTATES COMPARATIVE STUDY, 2012

Ravensworth was one of 214 properties²⁹¹ documented in OEH's 2012 comparative analysis of pre-1850s homestead complexes located throughout the Hunter Region (the Hunter Homestead Study). Within this study the term Hunter Estate/s is used to define:

... the whole of the land, the agricultural or pastoral practices managed either by the main landowner or by an overseer, together with the main house and its surrounding outbuildings, the **homestead complex**.²⁹²

Sites were defined by a number of shared traits including a variety of agricultural and pastoral industries (sheep and cattle grazing, horse studs, crops, vineyards and wine, tobacco and mixed farming), property size (initial grants or purchases of 640 acres or over), and the use of large convict labour forces. The study further notes a series of consistent characteristics of the Hunter Estates, specifically:

- Homesteads are situated within close proximity of, and facing, a watercourse.
- Outbuildings (domestic and agricultural) are located within the immediate vicinity of the homestead, within the 'homestead complex'.
- Homesteads are situated within an agricultural / pastoral landscape.
- Marker trees are often found within or adjacent to the homestead complex.²⁹³

The dominant style of early 19th-century homestead within the Hunter Region is the Australian colonial bungalow: single-storied, three bay, two rooms deep with a central hall, encircling verandah (single pitch roofline) and enclosed wings. The main house on the Ravensworth property (called Ravensworth) is identified as one of a small number of homesteads from the initial establishment period to survive relatively unchanged from this basic form.²⁹⁴ The use of architects in the design and construction of the early homesteads is rare. Current work is looking at whether Ravensworth, often thought to have been designed by John Verge, is an exception.

The study notes that the survival of convict labour accommodation is equally rare, despite the large number of convicts assigned to landowners throughout the Hunter Region during this period.²⁹⁵ Approximately 42 per cent of the land held in private hands was managed by non-resident proprietors, in most cases an overseer, who lived on the estate lands, managing both the agriculture and convict workers.²⁹⁶ Ravensworth was worked by both overseers and assigned convicts, although the location of any convict barracks is unknown.

In addition to the historical survey of homestead sites, an archaeological desktop study was conducted, using historical maps to reconstruct the settlement pattern of the Hunter Region. Higginbotham identified 685 properties, at least 14 of which were over 10,000 acres in size.²⁹⁷ The significant disparity between Higginbotham's study and the 214 properties recognised in the historical survey most likely suggests a high loss of historical buildings, although several other factors are possible.²⁹⁸ A total of 139 properties were subject to a baseline archaeological assessment and a typology established to provide quantifiable information regarding the number of structures on each property, in addition to farm layout and farm plantings / landscaping.

²⁹¹ Compared to 78 homestead complexes identified by GML 2010 *Wambo Homestead Complex: Heritage Strategy*, Wambo Coal Pty Ltd.

²⁹² Clive Lucas, Stapleton & Partners 2012, p. 11.

²⁹³ Clive Lucas, Stapleton & Partners 2012, p. 53.

²⁹⁴ Clive Lucas, Stapleton & Partners 2012, p. 55.

²⁹⁵ Clive Lucas, Stapleton & Partners 2012, p. 59.

²⁹⁶ Clive Lucas, Stapleton & Partners 2012, p. 39.

²⁹⁷ Edward Higginbotham & Associates 2012, *Nineteenth Century Rural Homestead Complexes in the Hunter Region. Historical Archaeological Survey*, report for Clive Lucas, Stapleton & Partners, p. 7.

²⁹⁸ Including faults in both the existing heritage listings and archaeological methodology.

It should be noted that such a classification system is reliant on extant structures and does not account for subsidiary buildings that have not survived. Ravensworth is classed as Type 4.4 (House and Primary Farmyard with five or more buildings; single nucleus), the most common within Higginbotham's series.²⁹⁹ Surviving homestead sites are predominantly located above the flood plain, adjacent to alluvial soils ideal for cultivation. The observed settlement pattern has a strong influence on the development of road communications, as well on the location of towns and villages and other services within the Hunter Region.

Table 4.1 lists those homestead sites within the Hunter Region that share characteristics with Ravensworth. These properties are either identified as Type 4.4 or exhibit one of those rare traits identified above - the preservation of the original homestead form, associated with a known architect, or having an original grant of 10,000 acres or more. The data presented here is taken directly from the Hunter Homestead Database.

²⁹⁹ 30 properties, including Ravensworth, accounting for approximately 15%.

Table 4.1: List of homesteads within the Hunter Region that share traits with Ravensworth. Data taken from the Hunter Homestead Database.

Name	Date		LGA	Architect	Size (acres)	Ty.	Original Homestead
	Grant	Homestead					
Old Barraba	1830-31	?	Cessnock	-	1280	4.4	-
Brookfield	1822	?	Dungog	-	1280	4.4	-
Cory Vale & Vacy	1824/25	?	Dungog	-	1200	4.4	-
Gostwyck	1824	1836	Dungog	-	2030	4.1	Y
Lewinsbrook	1825	c.1839	Dungog	-	2560	5.2	Y
Maryville	1826	1886	Dungog	-	1032	4.4	Present building 1886
Tocal	1829	1841	Dungog	William Moir	2000	2.1	Y
Stobo	1834?	?	Gloucester	-	640	4.4	-
Woodside	c.1839	?	Greater Taree	-	705	4.4	-
Aberglasslyn	1822	1842	Maitland	John Verge / Henry Robertson	1100a	4.3	1860s villa
Bolwarra (Browns Brush)	1822	?	Maitland	-	2030	4.4	Later additions
Clifton House ³⁰⁰	-	1850	Maitland	-	-	-	Y
Dunmore	1833		Maitland	-	1050	4.4	Y
Eelah (originally Hunter's Hill)	c.1825	c.1835	Maitland	-	2000	4.4	-
Elms Hall	1827	?	Maitland	-	2560	4.4	-
Balmoral	1829	c.1857	Muswellbrook	-	640	4.4	-
Dalmar (Nemgalla)	1822	?	Muswellbrook	-	2500a	4.4	Demolished
Martindale	1824	c.1838-40	Muswellbrook	-	1040	4.4	Rebuilt 1865/c.1900
Negoa	1823	1830s-50s	Muswellbrook	-	8000	4.4	-
Overdene (Overton)	1823	1830s	Muswellbrook	-	2560	4.4	-
Piercefield	1830-31	1830s/1860s	Muswellbrook	-	2030a, 1000a in reserve	4.4	Later additions
Balikera (Balickera)	1828	?	Port Stephens	-	1920	4.4	-
Brandon	1820s	1880s	Port Stephens	-	2000	4.4	-
Burrowel	1829	?	Port Stephens	-	640	4.4	Later house replaced original
Hinton	-	1823/1830	Port Stephens	-	600a	4.4	1850s/1870s additions
Kinross (Graham's Farm)	1828	c.1834	Port Stephens	Mortimer Lewis (verandah)	640	4.4	Y
Tomago	1824	1840-45	Port Stephens	Mortimer Lewis (attributed)	850	5.7	1842-47, with 1868 cellars
Abbey Green (Abbeygreen)	1840s	?	Singleton	-	4000	4.4	-
Archerfield	1825	1830-1850	Singleton	-	2560a	4.4	Demolished

³⁰⁰ NB. Not included in the Hunter Homestead Database, but referred to in text.

Name	Date		LGA	Architect	Size (acres)	Ty.	Original Homestead
	Grant	Homestead					
Dalwood / Wyndham	1820s	1828-1840	Singleton	-	2000a	4.4	-
Dulwich (now Kangory)	1822	c.1870s	Singleton	-	2080	4.4	-
Manresa	1823	?	Singleton	-	2500	4.4	-
Mount Leonard	Pre 1824	1881	Singleton	-	1000	4.4	-
Ravensworth	c.1825	1830s	Singleton	John Verge (attributed)	11,000 (by 1832)	4.4	Y
Wambo	1835 ³⁰¹	1844-47	Singleton	-	1218	4.4	Y
Cliffdale Wyoming Stud	1828	1840s	Upper Hunter	-	640	4.1	Y
Collaroy / Collaroi	c.1834	?	Upper Hunter	-	10,000	3.2	-
Cullingral	1846	1827	Upper Hunter	-	Up to 10,766	2.3	-
Elmswood	?	1890	Upper Hunter	-	600	4.4	-
Invermein	1821	1826-30, 1876	Upper Hunter	-	2000a	4.3	Y. With 1876 construction also
Kelvinside	Pre 1824	1898	Upper Hunter	-	20,000	5.7	-
Segenhoe	1825	Late 1820s	Upper Hunter	-	10,000	2.2	Y. With additions
Terragong	1837	1839	Upper Hunter	-	2560	4.1	Y
Thornthwaite	1833	1846	Upper Hunter	-	595	3.2	Y
Waverley	1831	?	Upper Hunter	-	15,000	2.2	-

³⁰¹ GML 2010 *Wambo Homestead Complex: Heritage Strategy*, report for Wambo Coal Pty Ltd, draft report August 2010.

4.2 SINGLETON RURAL HERITAGE STUDY, 2010

A desktop review of the rural heritage within the Singleton LGA was conducted in 2010. The study identified 414 items, many of which were abandoned or ruined, but may be classified as being items of potential archaeological value. In addition to buildings, other items included in the study were 'movable items', 'transport items' and 'dams'. The study was undertaken by driving along public roads within the LGA, therefore restricting recording to items visible from the roadside. Several items identified as homesteads are listed within the Singleton Database, however, only three of these date to the early (pre-1850s) Hunter Region settlement:

- "Stafford" and "Clifford" Homestead ruins.
- "Kangory" Homestead (formerly "Dulwich").
- Ravensworth Homestead.

Additionally, several predominantly 20th-century sites within the original Ravensworth Estate (along Hebden Road) were recorded within the Singleton Database. These include:

- School and Residence.
- Old barn and shed.
- Shed and archaeological sites.
- Ravensworth School.

4.3 THE GREAT NORTHERN ROAD

Several investigations within the vicinity of the Project area have traced the route of the original convict-built Great Northern Road. Karskens' comprehensive historical and archaeological study suggests the construction of the northern section of the road (within the Hunter Valley) is less well documented than further south, and is not likely to have been fully completed.³⁰² The construction of the road in the Hunter Valley was typically preceded by rough cart tracks, and Karskens notes that this resulted in an array of half-finished roads, with the original settlers' tracks taking precedence over Mitchell's surveyed lines.³⁰³

Sections of the road were identified within the 2007 archaeological investigations of the Glendell mine, east of the current Project area.³⁰⁴ The road was observed as a dirt track in an earlier archaeological survey, and visible on existing aerials. Much of the track had been destroyed by 2007 and there was no evidence to suggest any formal road construction. This section of the road, situated within an approved mining area, was subsequently destroyed following archaeological archival recording.³⁰⁵

4.4 ABORIGINAL EUROPEAN CONFLICT AND CONTACT IN THE HUNTER VALLEY

A small number of studies have considered the relationship between Aboriginal people and the Europeans in the valley.³⁰⁶ Dunn has undertaken the most comprehensive review to date, exploring the conflict over land and resources in the first decades of European occupation and settlement of the Hunter from 1820 until the 1850s. Dunn explores the geological formation of the Valley and the role of the rivers in the lives of Aboriginal and

³⁰² Karskens, G. 1985 *"The Grandest Improvement in the Country" An Historical and Archaeological Study of the Great North Road, N.S.W., 1825-1836*. Unpublished Masters thesis.

³⁰³ Karskens 1985, p. 125.

³⁰⁴ Umwelt (Australia) 2007 *Historical Heritage Assessment for Modification of Glendell Mine Operations*, for Xstrata Mt Owen Pty Ltd, August 2007, 2327/R04/Final, Section 3.3.9.

³⁰⁵ Glencore 2017 *Mt Owen Open Cut Historic Heritage Management Plan*, effective 01/05/2018, p. 21.

³⁰⁶ Dunn, M. 2015 *A Valley in a Valley: Colonial struggles over land and resources in the Hunter Valley, NSW 1820-1850*. Unpublished PhD thesis, University of NSW. Gollan, V. 1993 *The Military Suppression of Wanaruah Resistance in the Upper Hunter 1826: Mount Arthur and surrounding area*, unpublished report for Wanaruah Land Council; Umwelt 2004 *Response to DEC Request for Further Information in Relation to the Aboriginal Archaeological Assessment - Glendell Open Cut Mine*, on behalf of Glendell Joint Venture, November 2004.

Europeans who lived there. The Ravensworth Estate, and James Bowman, feature quite frequently in the historical records in the 1820s.

Dunn documents significant activity in and around the Ravensworth estate – with significant violent conflict occurring across 1825-1826. On 4 September 1826 a petition was sent to the Governor signed by eleven settlers on properties from Lochinvar and Maitland in the lower valley, to Merton and Segenhoe in the upper valley – James Bowman was one of the signatories. Dunn notes:

In a curious turn of phrase, they wanted troops to protect their property from “the revenge and depredation of these infuriated and savage people”. The description of the Aboriginal groups as vengeful and infuriated suggests that the petitioners acknowledged an initial wrongdoing on their part, or a wider injustice by Europeans in the valley.³⁰⁷

Dunn attributes the concentration of the later attacks around the Ravensworth estate of James Bowman and his neighbours to an escalation following the military’s first incursion into the valley.³⁰⁸

Correspondence from Governor Darling to Under Secretary Hay on 11 September 1826 notes that:

They have put two Stock Keepers of Mr Lethbridge’s to death and speared two others, and not long since murdered an overseer of Mr Bowman’s, and also speared one or two of his Stockmen. The latter event appears to have been occasioned by the circumstance of one of their Tribe, who had been taken up for some offence, having been confined for a day or two on Mr. Bowman’s Farm, which it is supposed had induced them to think that Mr. Bowman’s People had been concerned in Apprehending their Comrade.³⁰⁹

The information from these sources, in relation to Aboriginal - European interaction on the Ravensworth Estate, provides an opportunity to explore the archaeological nature of initial contact in the Upper Hunter Valley particularly in relation to the original location of house/ homestead/ farm on Bowman’s grant.

4.5 OTHER SITES IN THE VICINITY

The MOC has been subject to several prior historical heritage assessments and archaeological programs, covering the areas of Mt Owen, Ravensworth East, and the Glendell mining areas, situated to the northeast and southeast of the current study area. Throughout the course of these archaeological investigations, several historical sites have been identified in the immediate vicinity of the current project area. These sites are summarised below in Table 4.2 and their locations mapped in Figure 4.1.

Research and results from these studies inform our understanding of the types of remains and levels of preservation that can be expected within the Ravensworth Estate, as well as locating the study area within a broader contextual landscape of significance and associations.

Table 4.2: Previously documented sites within the MOC.

SITE ID	Easting	Northing	DESCRIPTIONS / SITE DETAILS	DATE	STILL EXTANT
RAVENSWORTH EAST MINE ³¹⁰					

³⁰⁷ Dunn 2015, p. 216.

³⁰⁸ Dunn 2015, p. 229.

³⁰⁹ Governor Darling to Under Secretary Hay, 11 September 1826 *Historical Records of Australia* Vol XII, p574

³¹⁰ ERM Mitchell McCotter 1999 *Ravensworth East Mine Archaeology Report*; Umwelt (Australia) 2002 *Statement of Heritage Impact and Research Design: Ravensworth East Coal Mine*, for Ravensworth East Mine, December 2002; 2006 *The Historical Archaeology of Ravensworth East Mine, near Singleton, NSW: Excavation and Recording of Sites RE31, RE32 and RE 33*, for Xstrata Mt Owen, November 2006.

SITE ID	Easting	Northing	DESCRIPTIONS / SITE DETAILS	DATE	STILL EXTANT
RE 31	320510	6410699	Shearing Facility (fence posts, foundation stumps, gate posts)	c.1920s-1940s	No – Removed as part of approved works following archaeological excavation and/or recording.
RE 32	319902	6411554	Sheep Dipping Yards (holding pens constructed of timber planks, bound with wire, sheep dipping trough)	c.1920s-1950s	No – Removed as part of approved works following archaeological excavation and/or recording.
RE 33	319800	6412150	Farmstead (foundations, remains and artefacts of a dwelling and gardens, a machine shed, and at least 4 other structures with concrete rafts and the site of waterpump/windmill)	c.1920s-1950s	No – Removed as part of approved works following archaeological excavation and/or recording.
MOUNT OWEN OPERATIONS PROJECT³¹¹					
MOH1	321272	6411500	Former dwelling (timber foundations, fireplace base, scattered bricks, exotic plants)	Mid-late 1800s-1900s	No – Removed as part of approved works following archaeological excavation and/or recording.
MOH2	321518	6410783	Former occupation site (brick scatter, post holes, exotic plants)	c.1920s	No – Removed as part of approved works following archaeological excavation and/or recording.
MOH3	321350	6410843	Post and rail fence line	c.1920s	No – Removed as part of approved works following archaeological excavation and/or recording.
MOH4	324086	6412622	Former dairy floor, cattle yards, post and rail fences and dwelling	Early 1900s	No – Removed as part of approved works following archaeological excavation and/or recording.
MOH5	324086	6412622	Former Homestead and dairy	c.1920s	Yes – Archival recording undertaken.
MOUNT OWEN CONTINUED OPERATIONS PROJECT³¹²					
Grave site	0324035	6410749	2.5 x 0.7 m alignment of stones orientated east-west overlying rectilinear (grave) cut	Early 1900s	To confirm
House site	0324044	6410608	Brick chimney, associated concrete slab, no other surface information	Early 1900s	To confirm
MOUNT OWEN CONTINUED OPERATIONS PROJECT³¹³					

³¹¹ Umwelt (Australia) 2003 *Mt Owens Operations Historic Heritage Assessment* for Hunter Valley Coal Corporation, December 2003, 1614/R10/V4.

³¹² Umwelt (Australia) 2013a *Mount Owen Potential Grave Site, Archaeological Assessment and Research Design*, for Xstrata Coal, June 2013; 2013b *Mount Owen Potential Grave Site Investigation*, letter to OEH, February 2013.

³¹³ Umwelt (Australia) 2014 *Historic Heritage Assessment Mount Owen Continued Operations Project*, for Mount Owen Pty Ltd, October 2014, 3109/R04/FINAL.

SITE ID	Easting	Northing	DESCRIPTIONS / SITE DETAILS	DATE	STILL EXTANT
Hebden Public School	318020	6415052	Former public school site - Hebden Road	1912	Yes - Archival recording undertaken.
John Winter Memorial	318070	6415101	Memorial and potential grave site - Hebden Road	1928	Yes - Archival recording undertaken.
Ravensworth Village	317270	6408945	Former village - south side of Hebden Road	1876-1986	No - Areas to the south of Hebden Road removed as part of approved works following archaeological excavation and/or recording.
Ravensworth Public School	-	-	Former public school site	1880s	Yes - Archival recording undertaken.
MOH6	322162	6411204	Former house / dairy site	20th century	No - Archival recording undertaken.
MOH7	323196	6411953	Timber yards and sheds	20th century	No - Archival recording undertaken.
MOH8	324238	6413531	Timber yards	20th century	Yes - Archaeological investigation undertaken.
MOH9	322919	6414582	Timber yard / house site	20th century	Yes - Archival recording undertaken.
MOH10	323764	6414421	Timber loading ramp	20th century	Yes - Archival recording undertaken.
MOH11	324529	6409998	Former house / dairy site	20th century	Yes - Archival recording undertaken.
MOH12	-	-	Former house site	20th century	Yes - Archival recording undertaken.
MOH13	-	-	Timber Cattle Yards	20th century	Yes - Archival recording undertaken.
GLENDALL MINE³¹⁴					
1			Wooden bridge across Swamp Creek	?	Yes - Archival recording undertaken.
2			Tree stump with surveyor's mark	?	No - Removed as part of approved works following archaeological excavation and/or recording.
3	318787	6407367	Yards (timber posts and felled logs)	20th century (post 1911)	No - Removed as part of approved works following archaeological excavation and/or recording.
4 Potential Dairy					
4a	318716	6407195	Sandstone and conglomerate footings	20th century (post 1911)	Yes - Archival recording undertaken.
4b	318713	6407179	Sandstone and conglomerate footings		
4c	318713	6407177	Drain / gutter		
4d	318718	6407185	Machine made and sandstock bricks		
5	318629	6407087	Remnant corduroy road		Yes - Archival recording undertaken.
6 Ruined Homestead					

³¹⁴ Umwelt (Australia) 2007b *Historical Heritage Assessment for Modification of Glendell Mine Operations*, for Xstrata Mt Owen Pty Ltd, August 2007, 2327/R04/Final.

6a	318955	6407244	Footings & peppercorn trees	20th century (post 1911)	No – Removed as part of approved works following archaeological excavation and/or recording.
6b	318981	6407230	Footings of house		
6c	318989	6407326	Bricks		
6d	313977	6407204	Footings, meat house		
6e	318967	6407212	Sandstone footings		
6f	318978	6407217	Salt-glazed drainage pipes		
6g	318980	6407119	Shaft / well		
6h	319001	6407217	Water tanks, fenceline		
6i	318978	6407214	Wall		
6j	318971	6407187	Borehole		
6k	318982	6407200	Artefact scatter		
6l	319010	6407164	Fenceline		
7 Ruined Homestead - Marali					
7a	318337	6407536	Marali Homestead ruins	20th century (post 1911)	Yes – Archival recording undertaken.
7b	318336	6407476	Telegraph Pole		
7c	318336	6407476	Wooden bridge		
7d	318275	6407474	Footbridge		
7e	318297	6407437	Shed		
7f	318305	6407420	Yards associated with 7e		
7g	318344	6407431	Yards		
7h	318193	6407401	Water tank, well and trough		
7i	318007	6407576	Yards near 7h		
8 Ruined Homestead – Hillview					
8a	317767	6409140	Site of former homestead – no trace?	20th century (post 1911)	Yes – Archival recording undertaken.
8b	317781	6409194	Sheds (shearing, milking, maintenance)		
8c	317782	6409208	Yards and fences		
9			Section of the old Great Northern Road	c.1835	No – Removed as part of approved works following archaeological excavation and/or recording.

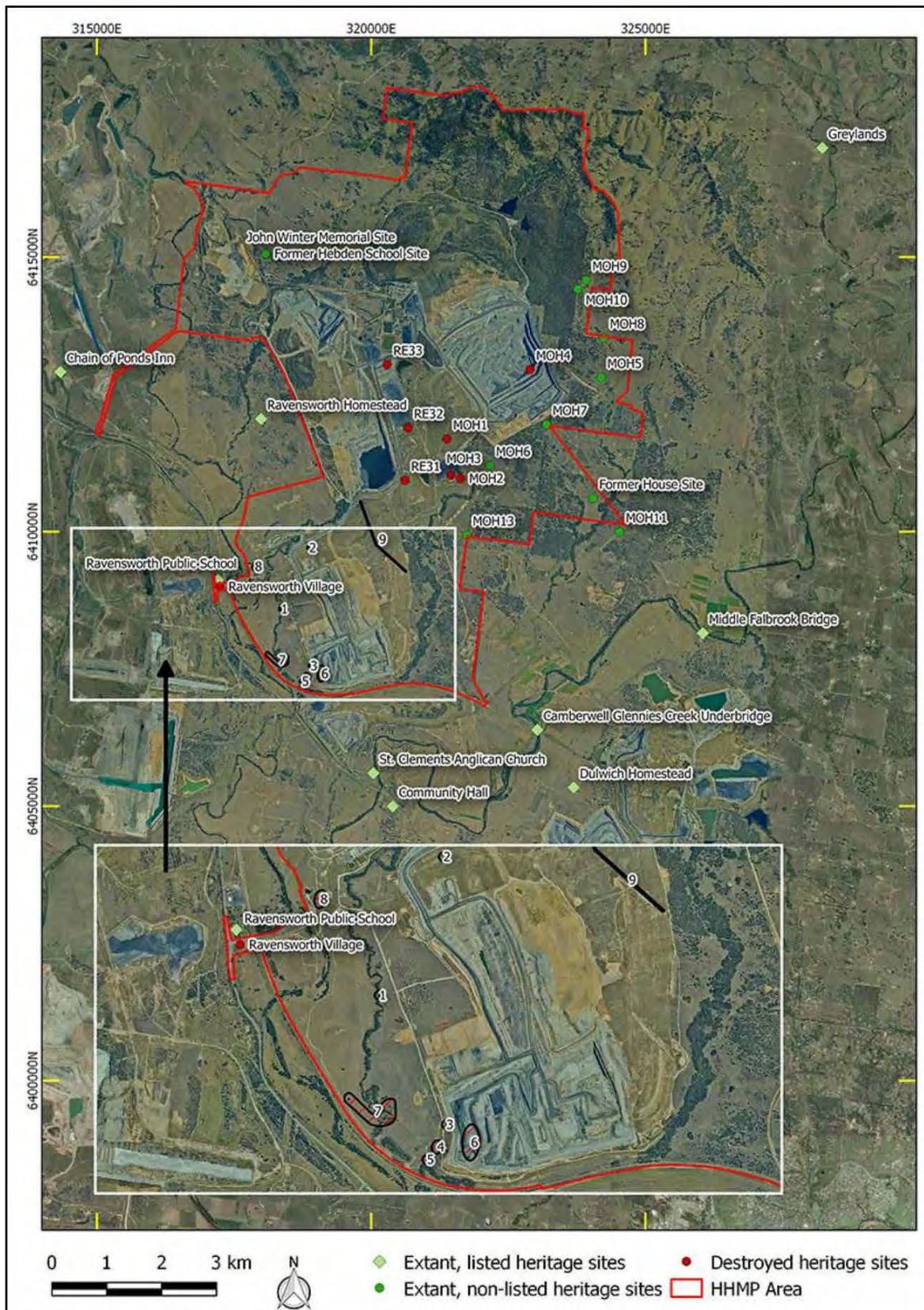


Figure 4.1: Sites in the vicinity: Identified historic sites in the MOC. Several of these (RE31 – RE33, MOH1-MOH4, MOH6-MOH7, sites 2, 3, 6 and 6, and sections of Ravensworth Village site) were removed as part of approved works following archaeological excavation and/or archival recording. *Mount Owen Complex Management Plan*.

4.5.1 RAVENSWORTH EAST MINE

The (Aboriginal and historical) archaeological resource of Ravensworth East Coal Mine, east of the current project area, was initially assessed in 1999. Archaeological survey was conducted within the total mining lease, and three sites were identified and assessed to be more than 50 years old and of European origin.³¹⁵ Historical evidence suggests these sites likely date between the mid- to late-1920s and the 1970s:

- **RE 31 (Shearing Facility):** a number of timber fence posts, foundation stumps and gates. Site identified as a shearing shed and associated corral and drafting races, likely associated with the small homestead, farm and associated building RE 33.
- **RE 32 (Sheep Dipping Yards):** holding pens constructed of timber planks, bound with wire, and a sheep dipping trough constructed of brick and concrete. Small concrete yard with fence posts to the north of the trough.
- **RE 33 (Farmstead / Associated Buildings):** foundations, remains and artefacts of a dwelling and gardens, a machine shed / garage, and at least four other structures with concrete rafts and the site of a waterpump / windmill.³¹⁶ Scattered bricks suggest a likely date of between 1900 and 1950.³¹⁷

Archival recording and archaeological excavation at these sites were undertaken in 2003,³¹⁸ and the sites subsequently removed as part of approved works.

4.5.2 MT OWENS OPERATIONS

The MOC was subject to a Historical Heritage Assessment in December 2003, prepared by Umwelt Environmental Consultants for the Hunter Valley Coal Corporation. The project area land was owned by Captain William Russell and his wife Eliza. In 1847 Ravensworth was sold to Captain William Russell by Dr James Bowman. Field inspection was carried out in September 2003, and five potential historic heritage sites were inspected and recorded for further review. The post-and-rail style fencing at these sites are suggestive of the management of cattle, indicating they may date to the 1920s subdivision:

- **Site MOH1 (Dwelling):** Remains included foundations of former timber piers arranged in a rectangular fashion, fireplace stones, scattered brick fragments ranging from the mid-late 1800s to machine made (early 1900s) and evidence of a former garden.
- **Site MOH2 (Dwelling / Occupation Site):** little surface evidence including a scattering of bricks and the remains of a corrugated iron water tank, the bricks date from the 1920s. Post holes were also present and indicate the former presence of yards.
- **MOH3 (Fence Posts):** located a short distance from dwelling MOH2.
- **Site MOH4 (Former Dairy floor, Yards and Dwelling):** Evidence included posts, a concrete slab and dish drain for the dairy, paddock fence, scattering of bricks and roofing iron and stone forming the base of a fireplace. The bricks dated to the early 1900s.
- **Site MOH5 (Homestead and Dairy Complex):** Remnants of a dwelling, including an intact dairy and timber foundations, a dairy floor, standing timber dairy building, remains of a hayshed/barn and scattered farm implements and machinery items. This site represented a substantial former homestead complex.

Archival photography of MOH5 was undertaken in 2010.³¹⁹ These sites, with the exception of MOH5, were subsequently removed as part of approved works.

³¹⁵ Reflecting the definition of a relic prior to the 2009 amendments to the Heritage Act (any deposit, object or material evidence: (a) which relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and (b) which is 50 or more years old.

³¹⁶ ERM Mitchell McCotter 1999, pp. 102-3.

³¹⁷ Umwelt 2006, p. 11.

³¹⁸ Umwelt 2002; 2006.

³¹⁹ Umwelt (Australia) 2010 *Photographic Recording Site MOH5 Mt Owen Complex*, for Xstrata Mt Owen, March 2010, 2765/R01/V2 FINAL.

4.5.3 MT OWENS CONTINUED OPERATIONS

Archaeological investigations were conducted at two sites, a potential grave and former house, located within Lot 922 DP 844642, prepared by Umwelt Environmental Consultants for Xstrata Mount Owen Pty Ltd. These sites are situated within the project area of the Mt Owen Continued Operations, adjacent to the proposed North Pit Continuation disturbance. Captain William Russell was the original grantee in 1856, and the lot (in addition to the Ravensworth Estate) was later purchased by Duncan Forbes Mackay in 1883 and F.J.L. Measures in 1911. Excavations of the potential burial revealed no evidence of any grave surrounds or other grave-related material or artefacts. Nonetheless, the formal construction of the stone alignments was suggestive of a grave memorial.

The MOC was subject to further Historic Heritage Assessment in 2014, prepared by Umwelt Environmental Consultants for Mount Owen Pty Ltd. The study area includes Ravensworth Village, originally part of James Bowman's Ravensworth Estate, described in newspaper articles from the late 1880s to mid-1900s as consisting of a post office, public school and a long-established wine store/saloon. Much of the Ravensworth Estate in the study area was purchased by William Wolfgang in 1908. The majority of the land was retained by the Wolfgang family until the 1950s.

Historic archaeology documented within the study area included:

- **Hebden School Site:** Remains included remnant timber flooring, concrete piers, concrete slabs and evidence of landscaping such as timber pathways.
- **John Winter Memorial Site:** Comprised of a terrazzo headstone and monument. No other graves or memorials were evident in the area.
- **Ravensworth village:** Situated at the corner of the New England Highway and Hebden Road. The Public School and adjacent weatherboard house are the only structures remaining in the village area. The area had the potential for sub-surface evidence of the 1800s-1897 wine shop and associated buildings, fellers' huts and tents, 1903 community hall and post-1950 houses.
- **Site MOH6 (Former House / Dairy Site):** A former house, evident by a concrete slab footing with remnant single-width brick walls and assorted domestic debris, was located within an area which included remains of a derelict timber yard and sheep ramp, concrete machine bases, concrete water tank with PVC piping, demolition rubble and a timber-frame chicken coop.
- **Site MOH7 and MOH8 (Timber Yards):** Constructed of cut timber, a small timber-framed corrugated iron shed at one site (MOH7).
- **Site MOH9 (Timber Yard / House Site):** A former house site comprised of a remnant brick chimney and associated concrete slab, extant chimney and a concrete slab.
- **Site MOH10 (Timber Loading Ramp):** A long timber loading ramp comprised of two tree trunks laid on top of low timber piers.

Historic archaeology located within the wider project area included:

- **Site MOH11 (Former house Site):** Timber yards and a potential house site, remains include a post and two rail fencing and a timber post, wire and wire mesh fence with a gate including a timber cattle grid and a concrete slab.
- **Site MOH12 (Former house Site):** Consisting of an extant chimney and concrete slab, derelict timber yard and associated sheep dip and loading ramp, a timber and metal yard complex and a series of raised corrugated iron tanks with concrete-lined interiors.

Two sites, the former House / Dairy site (MOH6) and one of the timber yards (MOH7), were expected to be directly impacted by the proposed works. These were, in addition to several other sites (MOH8, MOH9, MOH10, MOH12), assessed as having no heritage significance and no research potential. No further management of these sites was recommended.

4.5.4 GLENDELL MINE

Glendell Mine was subject to a Historical Archaeological Assessment in August 2007, prepared by Umwelt Environmental Consultants for Xtrata Mt Owen Pty Ltd. The study area consists of a number of land grants, many of which originally comprised the Ravensworth Estate land grant of James Bowman. The history of this study area is therefore closely connected to the development and use of the Ravensworth Homestead. The study area was principally a sheep station for wool production but was also utilised for cattle raising, cultivation of vines, orchards and wheat. This area follows the same history as Ravensworth homestead until it was subdivided in a private sale of 56 farms ranging from 300 to 2000 acres in 1911. Many of the subdivided lots within the study area were used for mixed farming and dairies which became the predominant land use until the late 1970s. After this time much of the land was acquisitioned by mining companies and other investment companies for coal mining.

Historic heritage sites found within the study area in the site inspection included:

- **Site 1:** A wooden bridge across Swamp Creek constructed from wooden slabs without railings thought to be a bridge to move stock across the creek.
- **Site 2:** A tree stump bearing an unknown surveyor's scar.
- **Site 3:** Several yards which appear to have been used for sheep and cattle. These were mostly constructed of timber posts and split and felled logs, some hand sawn while others split with an axe.
- **Site 4:** Remains of an unidentified potential dairy site consisting of several sandstone and concrete footings, a smooth mortar-lined drain/gutter, some machine made and earlier sandstock bricks approximately 200m east of the cattle yards.
- **Site 5:** Remains of a corduroy road with hand-cut timber slabs identified at a crossing of a tributary of Bettys Creek.
- **Site 6:** An unidentified ruined homestead which included remains of structural footings of a house and associated structures, remains of a water tank, shaft/well, salt-glazed drainage pipes, a fence line, an in situ wall, borehole and scatters of ceramic and glass.
- **Site 7:** Ruins of the former Marali homestead which included the bulldozed ruins of a house, a telegraph pole, remains of a footbridge, a shed and associated yards, water tank, well and trough and a wooden bridge across Swamp Creek used to move stock.
- **Site 8:** The former Hillview homestead, remains of the original gardens and fences are present as well as sheds (milking, shearing and maintenance), yards and fences of which the condition of structures is variable.
- **Site 9:** The Great Northern Road remains which is only identifiable as a dirt track.

Several of these sites (Sites 1, 2, 3, 6 and 9) were situated within the proposed disturbance area and were subsequently removed as part of approved works.

5.0 ARCHAEOLOGICAL POTENTIAL

5.1 NATURE OF ARCHAEOLOGICAL POTENTIAL

Archaeological potential is the degree to which archaeological remains are considered likely to survive within the study area in light of modern impacts and historic activities. A series of assumptions and general principles underlie the analysis of archaeological potential for colonial remains.

- Structural remains (i.e. building footings) associated with buildings and shown on plan are likely to survive but will be impacted by later phases of building.
- Certain types of remains are typically not shown on plan, although they occasionally feature on later plans. These include:
 - wells.
 - cesspits.
 - site drainage.
 - rubbish pits.
 - evidence for gardens, layout and use of the yard areas.
 - pet burials.
 - fencelines, assisting with clarification of lot boundaries and internal use of lots.
 - pollen and soil evidence.
 - land clearing and modification of the landform, including major filling events, i.e., backfilling of ponds or the creek line and more ephemeral evidence of land use including plough, hoe and drainage channels.
 - underfloor deposits associated with the occupation of the house.
 - rubbish dumps.
 - other types of archaeological deposits.

There are also several other common processes which determine the archaeological resource. Generally, the following principles apply:

- The greater the number of occupation phases, the more complicated the nature of the archaeological remains.
- Underfloor deposits typically form where the original flooring was butt-boarded timber floorboards.
 - These can survive in both demolished and standing structures, although the installation of later services and the replacement of flooring can impact on the integrity of underfloor deposits.
 - Underfloor deposits can include both small items which fell between floorboards, and also larger material deliberately deposited beneath loose floorboards.
 - Floor coverings such as oil-cloths and carpets can minimise the accumulation of items underneath a butt-boarded timber floor. Floor coverings like these would be more common in wealthier households.
 - Subsequent replacement with tongue and groove floorboards or even capping the underfloor void with imported material (a strategy popular for dealing with rats),³²⁰ often will only have a limited impact on any archaeological deposit.

³²⁰ This practice was observed at workers' housing excavated as part of the Darling Quarter redevelopment - Casey & Lowe 2013 *Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney* [Archaeological Investigation], for Lend Lease Development, December 2013, pp. 412-3.

5.2 ARCHAEOLOGICAL POTENTIAL UTILISING GIS, MAPPING AND SURVEY DATA

This section provides an overview of the GIS, mapping and survey data utilised to develop an understanding of archaeological potential, particularly for sites and landscapes not clearly identified or located in the historical records.

The original Bowman land grant, including the Ravensworth Homestead Complex, has been in continuous and ongoing agricultural use throughout the 19th and 20th centuries (with the exception of the portions resumed for the rail line, road and 20th-century coal mining activities). The majority of portions of the (former) Ravensworth Estate continue to be used and managed as farmland (cattle grazing) by the land management arm of Glencore.

5.2.1 SURVEY

The survey focused primarily on the core of the Ravensworth Homestead Complex and its surrounds. Potential sites of interest were shortlisted following a review and synthesis of historical sources, historical cartography and analysis of the topography of the Ravensworth estate using remote sensing data combined with cadastral and topographic data. This data was correlated and analysed using Geographical Information Systems (GIS). A GIS project was created using QGIS. It provided a structure to correlate existing geospatial datasets, to map the landscape and topography of the Ravensworth Estate and to prospect for sites and earthworks of potential archaeological significance. All data were projected to the project coordinate system of GDA94 56. A preliminary list of sites in the project area can be found in Appendix 2.

5.2.2 TOPOGRAPHIC DATASETS

New South Wales topographical and cadastral datasets of the Singleton LGA were used as a basic mapping framework. High resolution digital elevation models (DEM), derived from remote sensing Lidar surveys, were used to model, visualise and map the topography of the former Ravensworth estate.³²¹ Data provided by the client included georeferenced historic and recent aerial photographs, which provide a record of changing land use over the past 60 years. CAD files derived from recent topographic survey and laser scan survey of the homestead and environs provided additional information on buildings, fences and areas of potential archaeological interest. Historic sites in the vicinity of the current study highlighted in previous reports were mapped using coordinates provided in the text.

5.2.3 GEOREFERENCED MAPPING

Digital copies of historic maps were provided by historian Dr Terry Kass. These maps provide an essential insight into the early historic settled landscape of Ravensworth. The georeferenced maps create precisely-located snapshots of lot ownership and sales at key points in the history of the Ravensworth estate. It was also possible to contextualise a small number of early features that were highlighted on the 1820s and 1830s maps of the Ravensworth estate.³²² These included the line of historic road (the 1833 Great North Road), an early (possibly the earliest) fence-line enclosing (or close to?) the estate centre, an early house and the Ravensworth Homestead.

The maps were georeferenced in GIS allowing the approximate locations of historic features such as roads, fences and buildings to be digitised. The georeferencing process involves rescaling, rotating, warping and translating a map so that it correlates to a modern spatial data framework and projects within a modern coordinate system. Historic features of interest can then be mapped in conjunction with features from other historic maps and modern surveys. Projecting these data within a modern GIS or survey network can create the misleading impression of accuracy. The information gleaned from these maps is only as good as the original survey and the quality of the manuscript map. Caution must be exercised, particularly where the accuracy of the maps cannot be validated through comparison with other cartographic data and/or through field testing.

³²¹ NSW Spatial Data Services.

³²² Dixon 1832 (Crown Plan R.5.830), GB White 1835 (SA Map 5095).

The maps were georeferenced using tie points. These are points that could be identified on both the historic maps and on modern cartographic datasets such as cadastral boundaries, roads and creeks. Recent maps were georeferenced first because they contained more detail. This provided additional contextual information and potential tie points. Nonetheless, modern boundaries were used when possible, although the nature of historic settlement and cartography meant that sometimes tie points were selected from other early georeferenced maps. This process underlines the inherent variability of early cartography and means that in the absence of sufficient detail throughout the maps, no absolute and consistent level of accuracy can be determined. A Helmert transformation was used in most cases in order to minimise the degree of weighted distortion around each tie point. This maintained the basic integrity of the original maps. Also, there were too few details in the early maps to attempt or validate more aggressive polynomial transformations.

Robert Dixon's 1832 survey, which was used to compile Crown Plan H.35.663³²³, was georeferenced in order to map the extent of James Bowman's early land grants. Dixon's 1833 map (Crown Plan R.5.830) was also georeferenced (Figure 5.1). It included the same land grant boundary. These boundaries correlate with current lot boundaries on the northern, western and eastern sides. The southern boundary and the southwestern corner of the grant are not preserved in the current lot boundaries (they have been altered by mining). Details marked on the map included a fence marking a paddock boundary, a house, the new house and a barn. Portions of Swamp Creek, Bowmans Creek (labelled Foy Brook) and York Creek were also marked on the map. The creek lines deviate somewhat from the modern creek lines. The creek lines and the 'new' house (Ravensworth Homestead) are also situated around 100m to the west of where they are actually located. The site of the other earlier house remains unlocated.

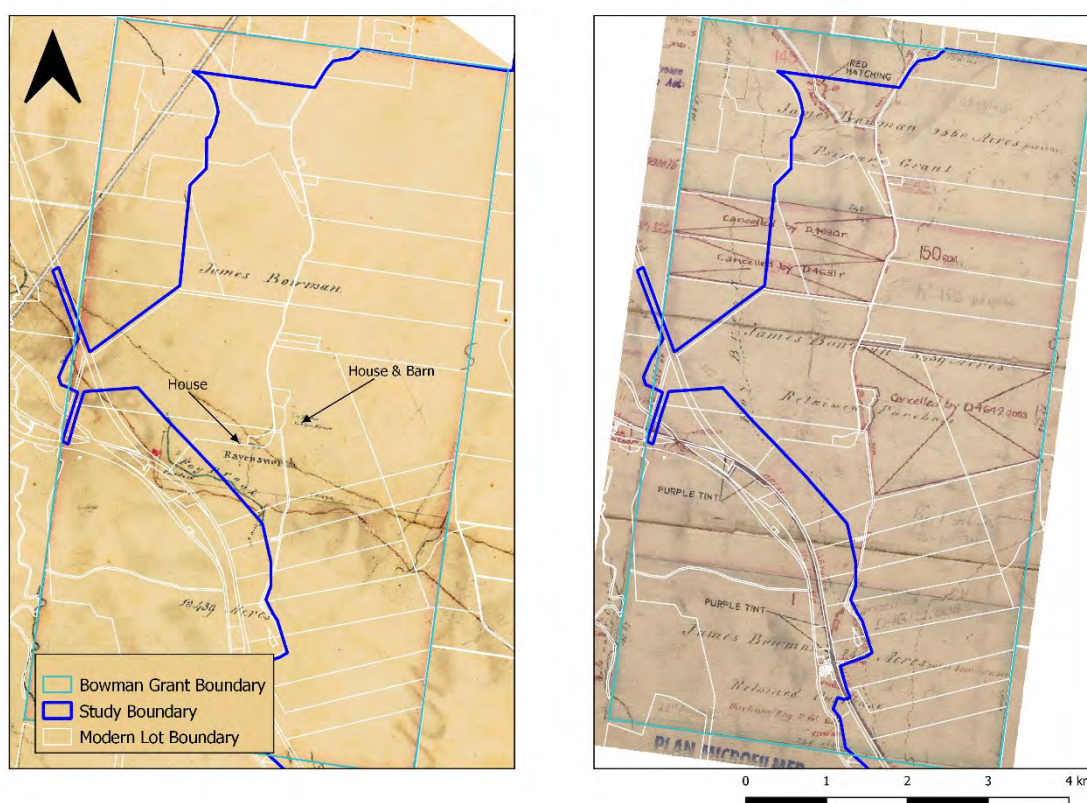


Figure 5.1: Georeferenced maps (Crown Plan R.5.830, left, and Crown Plan H.35.663, right) showing Bowman's early grants in relation to the current lot boundaries.

G. B White's road survey, undertaken in 1835³²⁴, was also georeferenced using lot boundaries. Although later than Dixon's map, it was primarily concerned with depicting the road

³²³ H.35.663, Crown Plan.

³²⁴ GB White 1835 (SA Map 5095).

network and so omits details such as the fencing and the Ravensworth Homestead. The 'old house' marked on White's map appears to correspond to the 'house' on Dixon's map, which was located to the west of the current historic Ravensworth Homestead. White's map includes hachuring indicating breaks of slope around prominent ridge lines. The hachuring indicates that the old house was situated on a ridge and that the land sloped to the south, to the west and to the east of the house site (

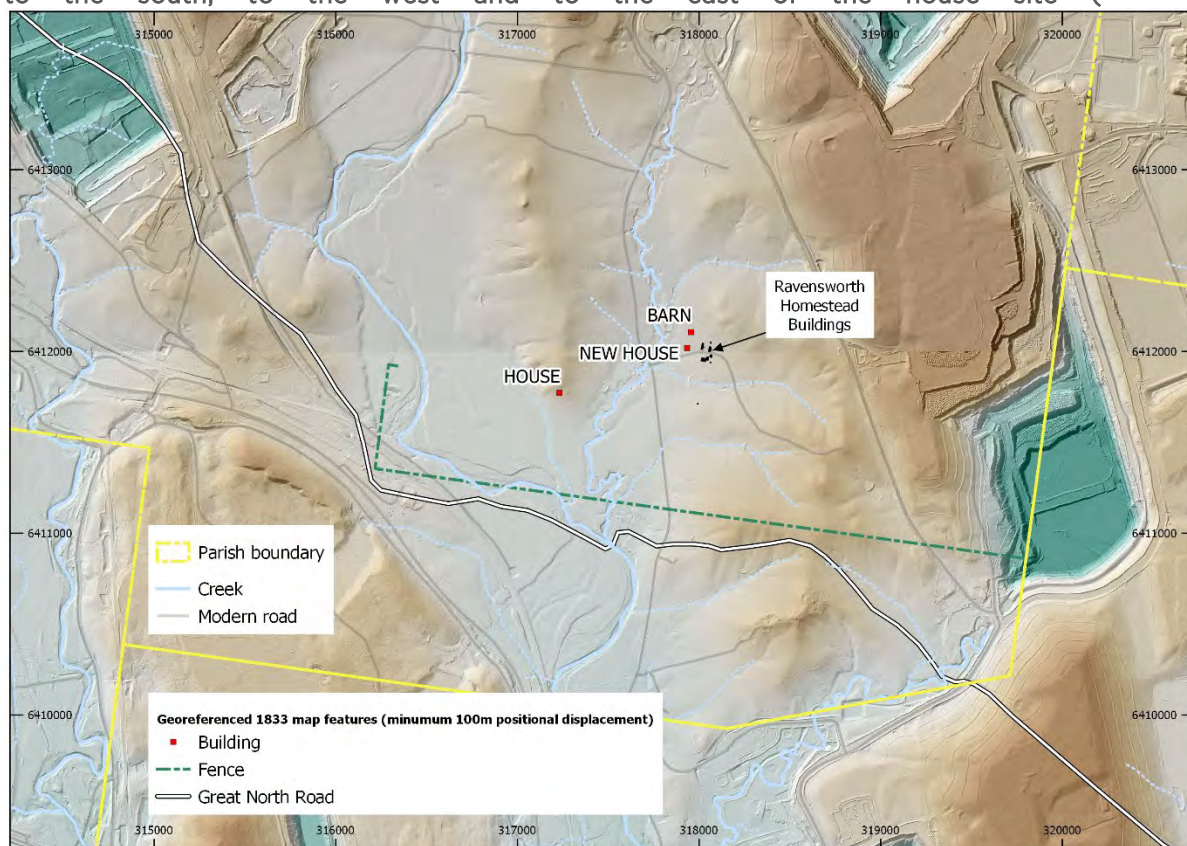


Figure 5.2).

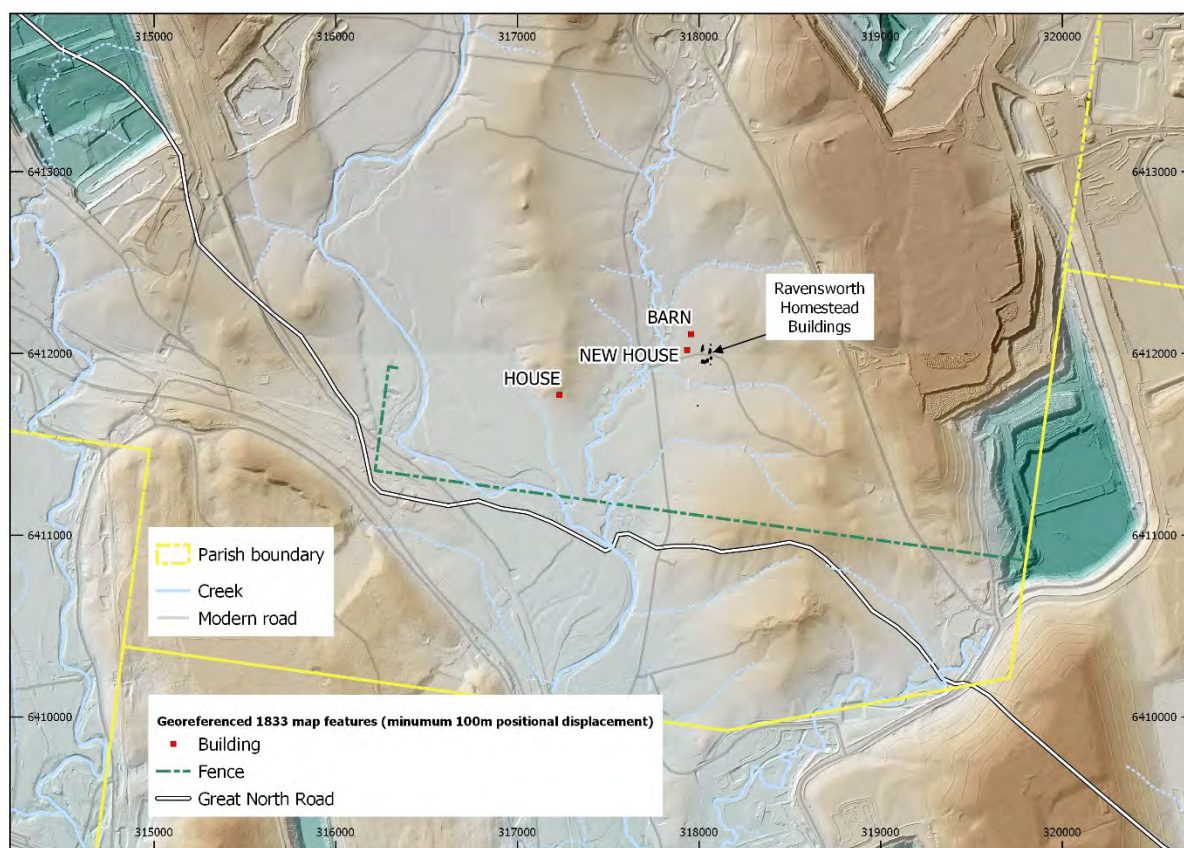


Figure 5.2: Approximate location of 1833 features based on georeferenced map.

5.2.4 TOPOGRAPHIC ANALYSIS

LIDAR-DERIVED DEMS: High resolution topographic data was also acquired. These data were delivered in TIFF format where the georeferenced raster files represented Digital Elevation Models (DEM). Each cell in the TIFF represents a location situated on an x axis and a y axis, while the cell value represents an elevation. The rasters, covering the entire study area, were processed to create a single DEM which was used as a base for further analyses. The Lidar survey resolution varied within the study area with the divide crossing the historic homestead. The southern half of the study area has a resolution of 1m, whereas the northern half of the study area has a resolution of 2m. The difference in resolution is significant, especially when prospecting for, and mapping, potential historic sites. The 2m DEM proved to be suitable for mapping general terrain and for highlighting larger features of potential interest such as potential areas of relict cultivation, terracing and larger earthworks (Figure 5.3). The 1m DEM also revealed elements of individual potential structures. The partly classified Lidar pointcloud data covering the area in the immediate vicinity of the homestead was also acquired as an additional resource for visualising and investigating the site. This data is a more representative and comprehensive record of the landscape because it includes points relating to the vegetation canopies and built structures that are removed when generating digital elevation models.

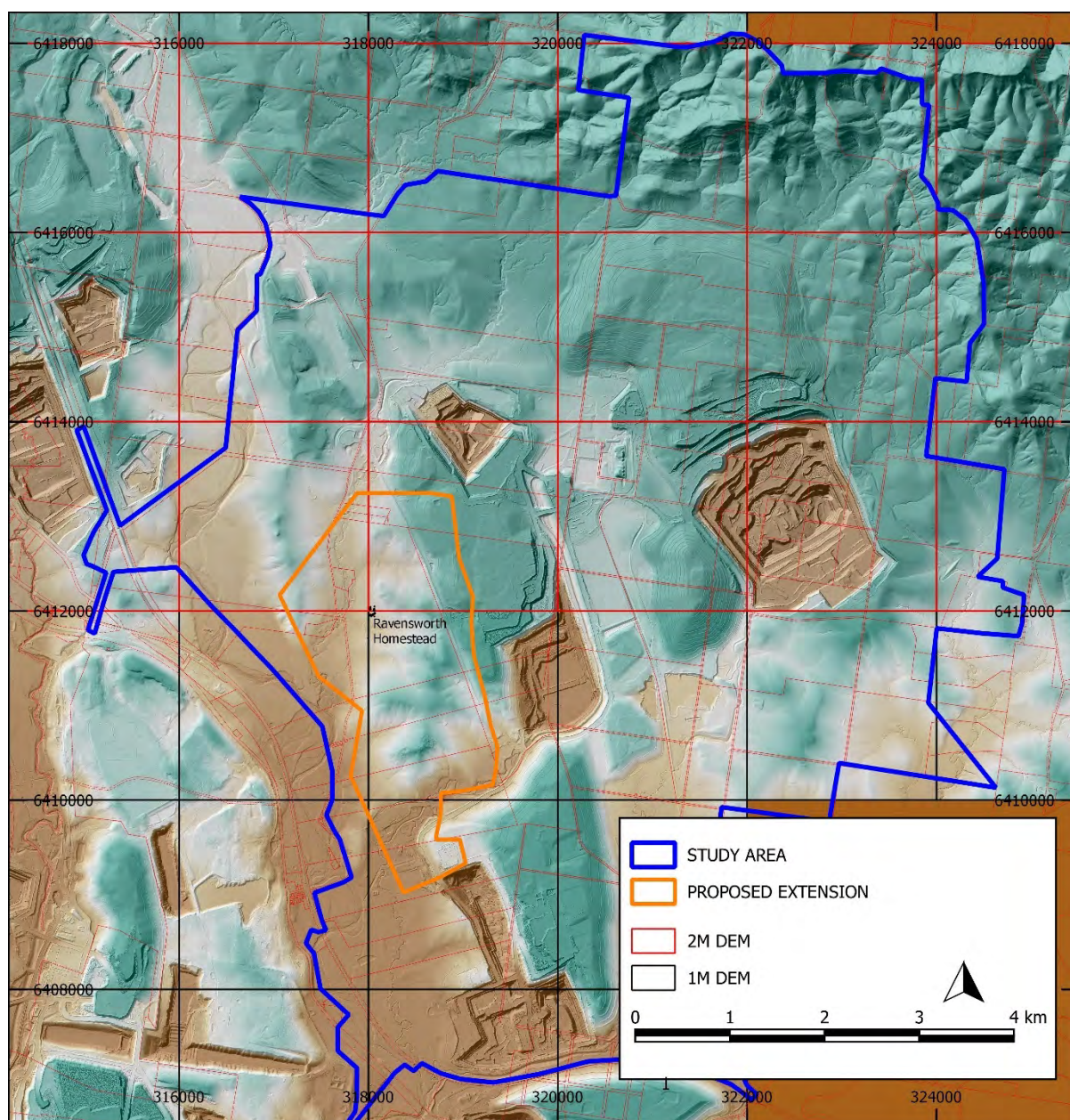


Figure 5.3: Map showing resolution of Lidar-derived DEM tiles for Ravensworth study.

DTM PROCESSING: The raster image of the DEM can be classified by elevation but it is of limited value on its own. Additional processing is generally required to accentuate, highlight and visualise the topography of the study area in question.³²⁵ Some preliminary analysis was undertaken in QGIS and the relief visualisation toolbox was used to undertake additional analyses of the DTM.³²⁶ No single process provides a comprehensive overview, so the resulting maps were interpreted together and in conjunction with the georeferenced historic maps. Some of the map outputs are listed below.

³²⁵ For an overview see Kokalj, Z, Zakšek, K., & Ostir, K 'Visualizations of lidar derived relief models' in Rachel Opitz & David C. Cowley (eds.) *Interpreting Archaeological topography* (Oxbow 2013) pp100-114.

³²⁶ Kokalj, Žiga, Klemen Zakšek and Krištof Oštir 2016 *Relief Visualization Toolbox Manual*; Kokalj, Žiga, Klemen Zakšek and Krištof Oštir. 2011. Application of Sky-View Factor for the Visualization of Historic Landscape Features in Lidar-Derived Relief Models. *Antiquity* 85 (327): 263-273. Zakšek, Klemen, Krištof Oštir and Žiga Kokalj. 2011. Sky-View Factor as a Relief Visualization Technique. *Remote Sensing* 3: 398-415.

CONTOUR MAP: The Digital Terrain Model was used to generate contour lines at a range of intervals. An interval of 0.5m was determined to best reflect the topographic variation across the area. The resulting contour map highlights slope intervals and trends across the site using a well-established and widely understood cartographic convention. The contour lines can be overlaid on other visualisation methods for comparison.

HILLSHADE MAP: A hillshade model is a virtual representation of the qualities of a surface as affected by a virtual lighting source projected from a defined altitude and azimuth. A virtual shadow value is calculated for every raster cell of the model. The resulting map, when overlaid on top of a digital surface model, can accentuate topographical features in a visually intuitive manner. The light source is projected from a single direction so all potential features will not be highlighted. However, hillshade maps are another aesthetically pleasing representation of topography, especially when superimposed on a classified terrain model. A hillshade map was generated using an azimuth of 315 degrees and a sun elevation angle of 35 degrees. Multiple hillshade models generated from different locations can be combined as an overview of the topography.

SLOPE GRADIENT MODEL: This model calculates the degree of slope for each cell in the raster image. However, it does not distinguish between concave or convex slopes. Steeper inclines have been depicted as dark and shallower gradients are white. The slope model is useful for highlighting small variations in topography that are not always evident in a general classified elevation model.

SKY VIEW FACTOR: Sky view factor is a proxy for diffuse illumination and measures the proportion of the sky visible from a given point. It is commonly used for highlighting subtle earthworks that might otherwise be lost in the more general topography. Locally flat terrain, ridges and earthworks (e.g. building walls, cultivation ridges, burial mounds) which receive more illumination are highlighted and appear in light to white colours on a Sky view factor image, while depressions (e.g. trenches, moats, ploughing furrows, mining pits) are dark because they receive less illumination.³²⁷

SIMPLE LOCAL RELIEF MODEL: 'The Local Relief Model (LRM) represents local, small-scale elevation differences after removing the large-scale landscape forms from the data. The LRM greatly enhances the visibility of small-scale, shallow topographic features irrespective of the illumination angle and allows their relative elevations as well as their volumes to be measured directly'.³²⁸ The version applied to the DTM is a simplified process (SLRM) whereby the trend is computed by a simple mean filter and a trend removed model is produced directly by subtracting the filtered model from the original.³²⁹

COMBINATION: Models were also viewed together or combined using transparency settings in order to highlight multiple attributes (for example classified DEM and Slope Model).

LIDAR POINTCLOUD: The DEMs are the result of processing and optimisation for GIS mapping of landscape topography. However, the Lidar pointcloud data on which they are based was also cursorily examined in order to consider its value for visualising potential sites of interest. The pointclouds include returns for vegetation and buildings which are excluded from the DEMs. The points include additional information such as intensity and return values and a basic classification according to whether points are likely to relate to ground surface, vegetation, or buildings. They can be used to extract different information, they can be reclassified, or they can be used to generate Digital Surface Models,

³²⁷ Kokalj, Žiga, Klemen Zakšek and Krištof Oštir. 2011. Application of Sky-View Factor for the Visualization of Historic Landscape Features in Lidar-Derived Relief Models. *Antiquity* 85 (327): 263-273. Zakšek, Klemen, Krištof Oštir and Žiga Kokalj. 2011. Sky-View Factor as a Relief Visualization Technique. *Remote Sensing* 3: 398-415.

³²⁸ Ralf Hesse 'LiDAR-derived Local Relief Models – a new tool for archaeological prospection' in *Archaeological Prospection* vol. 17, Issue 2 (2010) pp 67-72.

³²⁹ Kokalj, Žiga, Klemen Zakšek and Krištof Oštir. 2011. Application of Sky-View Factor for the Visualization of Historic Landscape Features in Lidar-Derived Relief Models. *Antiquity* 85 (327): 263-273. Zakšek, Klemen, Krištof Oštir and Žiga Kokalj. 2011. Sky-View Factor as a Relief Visualization Technique. *Remote Sensing* 3: 398-415.

incorporating vegetation, buildings or other features. The pointcloud data can also be used to render three-dimensional mesh surfaces for viewing or analysis in 3D modelling software. The environs of the sheep-dip and the earthworks to the north of the homestead were used to generate mesh models in order to compare with the DEMs. The pointcloud was inspected, edited and manipulated using a combination of CloudCompare and Meshlab.

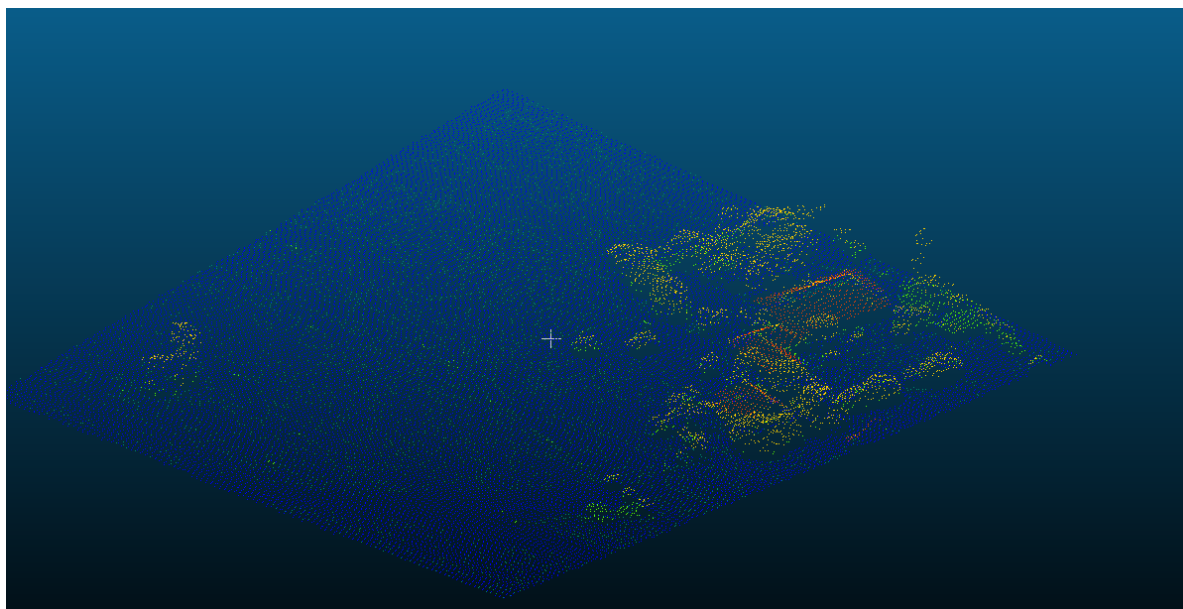


Figure 5.4: Clipped Lidar pointcloud with points coloured according to classification.

5.3 RAVENSWORTH HOMESTEAD COMPLEX AND SURROUNDS

The types of potential historical archaeological remains identified within the Ravensworth Homestead Complex and Surrounds are presented, in chronological sequence, below in Table 5.1 and shown in Figure 5.5.

Several 20th-century sites are not included in the following discussion.³³⁰ These items are marked on a c.1911 subdivision plan (Allotments 3a, 3b, 3c and 7, Section B) as a 'House' 'Dairy' and 'Bails'.³³¹ The remains of structures at two of the properties (Allotments 3a and 3b) are visible on modern aerials but were not visited as part of the site survey. There is no evidence of structural remains at the other two properties. Sites within the study area that will be subject to archaeological testing are highlighted in green.

Table 5.1: Identified historic archaeological items / sites within the study area, including the level of expected archaeological potential for each item.

HISTORIC ITEM	DATE	SITE ID	BRIEF DESCRIPTION	ARCHAEOLOGICAL POTENTIAL
PHASE I: Bowman's Estate (1824-1846) and PHASE II: The Russell Family (1842-1882)				
Huts, sheep sheds, wool sheds (various structures)	By 1826	GCO24	Several huts built on the property to accommodate overseers and a convict workforce of approximately 40 people, as well as 'extensive buildings for packing and sorting wool'. ³³² Bowman had apparently erected 'Sheep Sheds, Wool House, Stores, Cottage, Kitchen, huts for ten men etc..', in addition to a stout fence 3 miles long and maintained 34	Unknown location of these structures is unknown. Buried remains could be situated in the vicinity of the homestead complex (current homestead or the old house site)

³³⁰ These will be covered in the forthcoming Conservation Management Plan for the Ravensworth Homestead Complex by LSJ.

³³¹ Subdivision Plans, ML, ZCP/D6/100.

³³² P Cunningham, *Two Years in New South Wales*, Henry Colburn, London, 1827, p 144.

HISTORIC ITEM	DATE	SITE ID	BRIEF DESCRIPTION	ARCHAEOLOGICAL POTENTIAL
			convicts. ³³³ Possible evidence of sheep-washing facilities in the creeks.	
'Old house'	By 1828	GCO8	No visible evidence of structure identified during preliminary survey.	Moderate (buried remains)
Early(?) Cultivation	unknown	GCO8 a & b	Floodplain lying between Bowmans Creek and Yorks Creek, several areas of linear features, indicating possibly historic agrarian landscapes (Lidar analyses). Possibly associated with early homestead.	Low (evidence of any early cultivation may have been obscured by later 19th and early 20th-century land use)
Ravensworth Homestead	c.1830s, with 1840s and 20th-century additions	GCO1	Homestead is comprised of 5 extant structures (the main house, an ablutions building, two outbuildings and a 20th-century cottage). Sandstone perimeter wall, with several possible early non-extant returns visible at northern end. Drainage channel / ditch to the north of the complex, several 20th-century pipe fragments, sandstone blocks and machine-made bricks discarded here. Areas of possible cultivation observed in Lidar analyses south of the homestead.	High (largely still extant)
Great Northern Road	c.1820s	GCO17	Modified landform identified during preliminary survey. Potential curvilinear anomalies, distinct from the modern contour drains, observed in Lidar analyses. Old road likely crossed south of where Bowmans Creek divided into two separate watercourses. The creek banks are less steep at this point and general spreads of stones and cobbles are present in the creek. Topography on the east side of creek could account for the noticeable curve in the line of the road, as marked on the 1833 map.	Low (dirt track surveyed but not formally constructed, largely obscured by modern land-use)
Silo	1830s	GCO2	Brick-lined silo (likely filled in) with metal covering.	High (still extant)
Cultivation – 8 Acre Garden	1830s	GCO9	'...garden of 8 acres or thereabouts fenced with a paling fence, and has a little stream running through it...partly laid out in a...ornamental fashion'. ³³⁴ These gardens contained orange trees, a peach orchard and vineyard. ³³⁵ Several areas of linear features, indicating possibly historic agrarian landscapes, were identified in Lidar analyses and visible to a lesser extent during surface survey.	Low (evidence of any early cultivation may have been obscured by later 19th and early 20th-century land use)
'Homestead Dam'	1830s	GCO18	A minor watercourse south of the homestead had been dammed for the 'homestead dam'.	High (largely still extant)
Well	Potentially 1850s onwards	GCO4	Brick-lined well, with wooden superstructure and sandstone edging. Several dried-up dams near to here, with stone damming walls. Remnant timber post and rail fence lines.	High (still extant)
Dam – Yorks Creek	1830s	GCO19	A dam constructed on Yorks Creek within vicinity of 8 acre garden.	High (largely still extant)
Linear Stone Feature (potential burial)	unknown	GCO6	Linear arrangement of stones (with possible return), close to creek bed and running up to / underneath tree. (identified by Glencore staff as potential burial).	Moderate (buried remains)
PHASE III: Subdivision and Early Coal Mining (c.1880s-1917)				

³³³ CSIL26/7403, in NRS 907, Col Sec, Correspondence re Land, James Bowman file, SANSW 2/7807.

³³⁴ *Dungog Chronical* 18 Feb 1927, p. 4.

³³⁵ Backhouse, J 1838, *Extracts from the Letters of James Backhouse*, Part 3, Darton and Harvey, London, p 74.

HISTORIC ITEM	DATE	SITE ID	BRIEF DESCRIPTION	ARCHAEOLOGICAL POTENTIAL
Wool Shed	1882-1887	GCO5	Timber foundations (posts), rendered sandstone sheep dip, fragments of cement flooring, scattered bricks and artefacts.	High (including potential buried remains)
Yards / Paddocks	Late 19th early 20th century	GCO3 a & b	North and East of homestead. Timber corral with associated stable (and stone footings) partially collapsed. Scattered bricks, ditches / postholes, linear stone features and artefacts. Remnant timber post and rail fence lines. Areas of possible cultivation (Bowman's garden?).	High (including potential buried remains)
Yards and former dairy	late 19th / early 20th century	GCO11	Timber post and rail fence lines (delineating yards), fragments of cement floor and cast-iron sheeting. Some bottles.	High (including potential buried remains)
Quarrying	unknown	GCO10	Eroded surface near to site of 'old house'.	Moderate
Cottage	Pre-1911	GCO14	No apparent surface features identified during preliminary survey.	Low (marked on 1911 subdivision plan, not visible in early aerials)
Associated Cultivation Area	unknown	GCO15	Several areas of linear features, indicating possibly historic agrarian landscapes, were identified in Lidar analyses and visible to a lesser extent during surface survey.	Low (evidence of any early cultivation may have been obscured by later 19th and 20th-century land-use)
PHASE IV: Crown Land and the Marshalls (1917-Current)				
Former dwelling / yards and cattle-loading ramp	20th century	GCO7	Cattle-loading ramp (still extant), small corrugated iron / wooden outbuilding (still extant), discarded corrugated-iron sheeting, farm equipment. Bottle dump (ceramic and glass, apparently 20th century) and remnant timber post and rail fence lines closer to creek bed.	High (including potential buried remains)
Former dwellings and wool shed	20th century	GCO12	Several largely extant structures (a cottage, wool shed, and house) and associated yards.	High (still extant)
Former dairy	20th century	GCO13	Largely extant structure, discarded corrugated iron sheeting, timber fencing.	High (still extant)
Cultivation	unknown	GCO16	Large area of sub-rectangular anomalies visible in Lidar. Possibly raised garden beds.	Low (any evidence of early 20th-century cultivation may have been obscured by modern land-use)

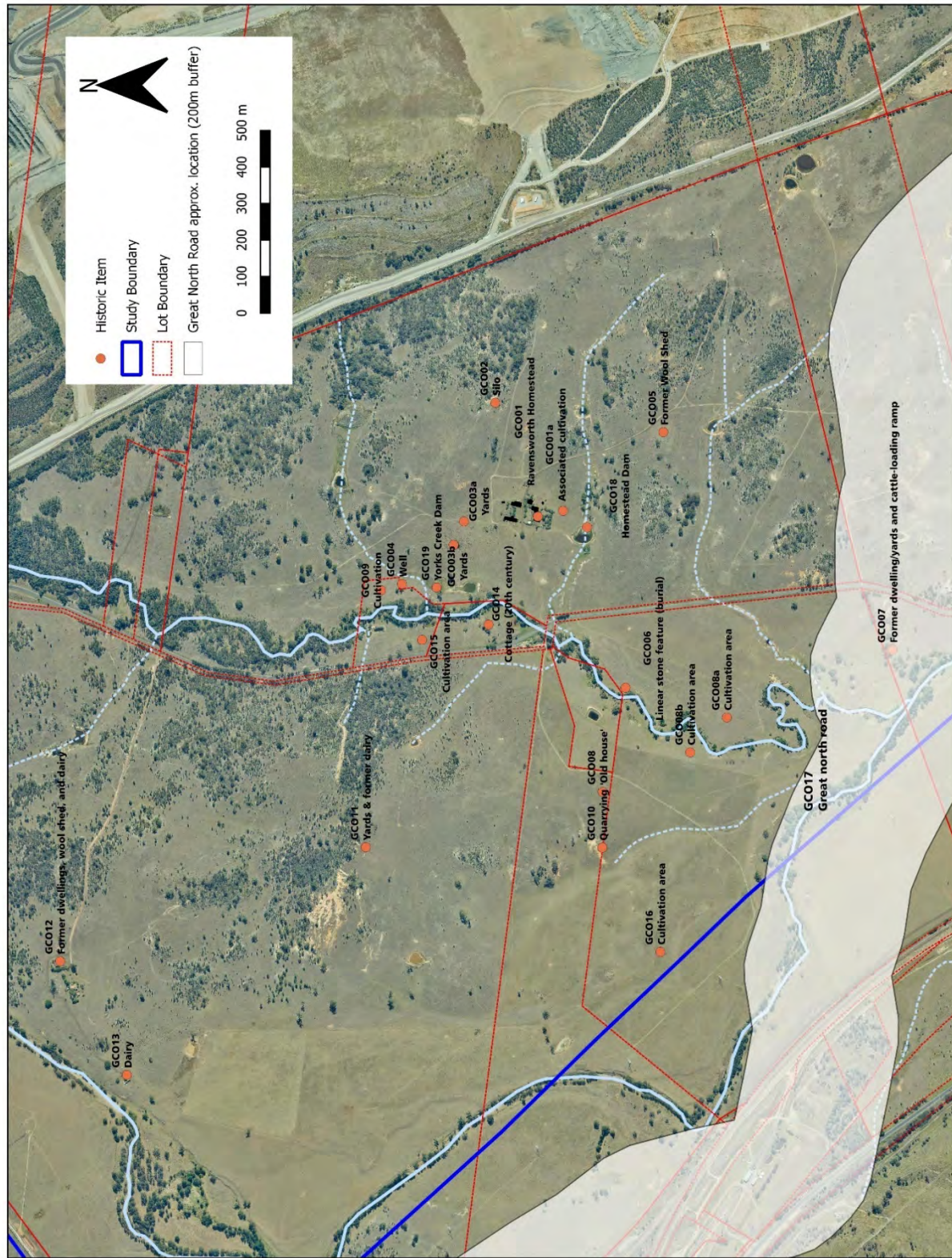


Figure 5.5: Identified historic archaeological items / sites within the study area.

5.3.1 THE EARLY HOUSE (GCO8)

An earlier building labelled 'House' and 'Old House' (GCO8) is marked on three early historic maps (Figure 5.7).³³⁶ There is no obvious trace of the site on the ground and determining the precise location of the building remains a matter of informed consideration. The maps were georeferenced using common lot boundaries. The lack of a network of easily identifiable features and discrepancies between the two maps mean that they should not be overinterpreted. Georeferencing Dixon's map using lot boundaries situates the house on the southern side of a prominent hill or ridge (Figure 5.7). The later homestead (GCO1) and a barn, which were also marked on the map, provide some degree of rudimentary control. The georeferenced Dixon map (1832) places them about 100m west of their actual locations. The two creek lines reflect their general situation but they deviate variably by up to 100m from their current courses. However, there were no other features within the Bowman grant boundary with which to test the accuracy of the map. The margin for error is therefore at least 100m but it could be more and there is no way of testing the potential margin for error any further without fieldwork including excavation. White's map was also georeferenced using the lot boundaries. That georeferenced map places the old house on the west bank of Yorks Creek, around 300m to the southeast of where it is located on Dixon's map. However, hachuring depicted around the house on that map suggests that the house was actually located on high ground, which suggest that Dixon's map provides a more accurate location.



Figure 5.6: Detail from Dangar's 1828 plan of the Hunter Region, showing a house on the ridge line situated between Foy Brook and Yorks Creek.

³³⁶ Dangar 1828, 1833 road map, GB White 1835.

Field inspection failed to reveal any obvious traces of the house, although it provided an opportunity to consider the topography and environs. The ridge is exposed and windswept and does not at first sight appear to be an ideal location for the house. However, it would place the house in an elevated and defensible position, while also providing for extensive views to the east, to the south and to the southwest as well as views to the 1830s Ravensworth Homestead. One potential location for the house is a terrace on the south-eastern corner of the ridge. It overlooks the modern farm track and is also adjacent to the later east-west running lot boundary.

It could be significant that mapping this lot boundary in conjunction with the early fence marked on the 1832 Dixon map would create a rectangular enclosure, possibly reflecting the early first homestead paddock. Interestingly, the potential grave (GCO6) site is located just off this line too and on the other side of the creek.

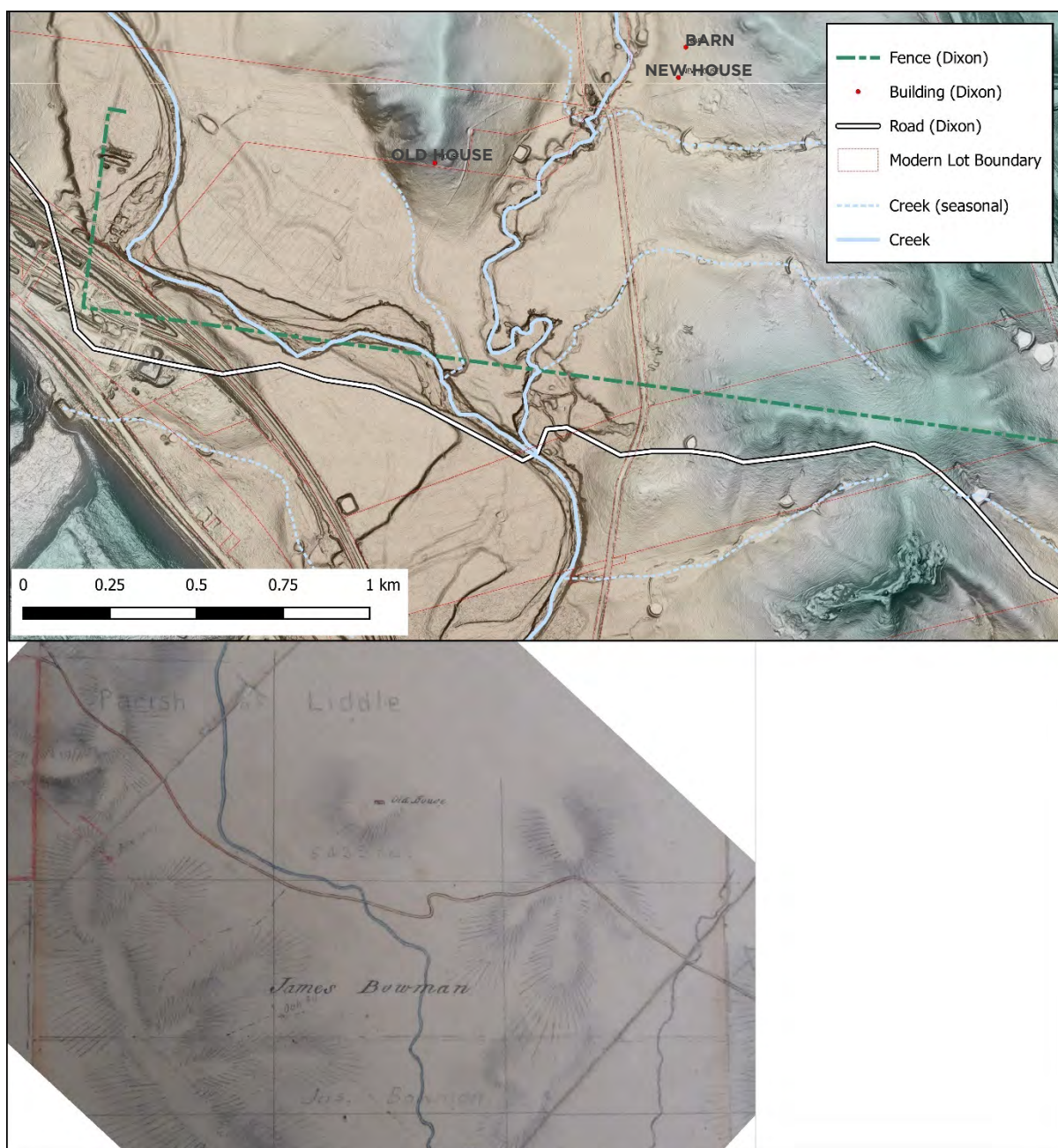


Figure 5.7: Early house location and associated features digitised from Dixon's map and superimposed on Lidar-derived slope model and compared with the depiction of the 'old house' location on White's map.

Evidence of potential early quarrying was identified to the west of the 'old house' (GCO10) site. The soil here is heavily eroded and several exposed outcrops of sandstone and ironstone are visible on the surface.



Figure 5.8: Old House (South) (to South). Casey & Lowe 2018.



Figure 5.9: Old House (North) (to north). Casey & Lowe 2018.

5.3.2 RAVENSWORTH HOMESTEAD COMPLEX (GCO1)³³⁷

Ravensthorpe Homestead Complex comprises five buildings—the main house (residence and kitchen wings), two outbuildings (the stables and barn), an ablutions building and a later cottage, briefly described below (Figure 5.10 to Figure 5.21). The complex is set within an extensive landscaped garden which include a range of archaeological features - underground silos, stone walls, etc.

There is moderate to high archaeological potential within the homestead buildings however no testing is proposed that would have an adverse impact on the fabric of existing buildings (i.e. lifting floorboards or sandstone flagging).

5.3.2.1 MAIN HOUSE

The main house (still extant) faces south and was likely built in the early 1830s - a single-pile form plan with recessed verandahs front and back, with bell-cast eaves, use of stone quoins, shingle roofing and probably lath and plaster ceilings. The front and back verandahs are sandstone flagged. The door mouldings and the thickness of the skirtings support the date. Floorboards are a mix of butt-boards and tongue and groove

The kitchen (part of the eastern wing) is likely to be of the same construction date as the main house based on the roof framing matching the details of the house and the use of matching stone quoins.

The house may have had a West Wing balancing the existing Kitchen (East) Wing. The evidence for this is the many fine stone quoins reused in the northern additions to the house, hold-fast locations in the north elevation at the west end suggesting a linking verandah as well as the amount of stone lying around the locality.

There are later extensions and additions to the house in the late 19th and into the 20th centuries.

5.3.2.2 OUTBUILDINGS - STABLES AND BARN

The Barn and the Stables are of stone construction. These may have been linked to the house with square, coursed, stone walls. The stables and barn are likely to be of the same construction date as the main house (1830s). The stylistic evidence for this date is the use of eaves details and stone quoins matching the Kitchen. As constructed, the Stable was, in plan, symmetrical with one door and two windows arranged either side of the three bay arches in front of the Tack Room. The stables are sandstone flagged.

The original construction of the Barn space had no doors except the open south end and three blank window recesses in the west wall facing west.

Local oral history suggests that a third building may have been located to the north, and between, the stable and the barn. The third building is frequently referred to as 'convict barracks' or 'accommodation'.

5.3.2.3 ABLUTIONS BLOCK - PRIVY

Intact standing cesspit structure with wooden toilets - four seats. Structure appears to have been restored, with the walls having been rendered internally and externally, and the interior of toilets sealed with timber boards to prevent use. The structure has sandstone flagged flooring.

5.3.2.4 SANDSTONE GRAVE SURROUND

Immediately to the east of the privy is a sandstone structure, believed to be the grave of Miss White.³³⁸ The sandstone cover, now cracked, has no marking on the surface.

³³⁷ This information is based on the archaeological survey undertaken by Casey & Lowe and discussions with Project heritage architects, Lucas Stapleton Johnson (June - August 2018).

³³⁸ *Sydney Mail*, 15 Feb 1902, pp 416-7.

5.3.2.5 LATER COTTAGE - MEN'S QUARTERS

The Men's Quarters (timber framed, weatherboard clad) was constructed in the 1890s. This has since been altered many times.



Figure 5.10: Plan of Ravensworth Homestead Complex. Source: Lucas Stapleton Johnson Heritage Planning & Architecture.



Figure 5.11: Ravensworth Homestead, with garden (view to NW). Casey & Lowe 2018.



Figure 5.12: Northeast of homestead, barn in the foreground and stables in the background (to the right of the picture) with the area of the potential third building located between the two in the general location of the stone wall (view to SW). Casey & Lowe 2018.



Figure 5.13: Northeast of homestead (house, barn and stables) – area described by the former owner Geoff Marshall (and others) as the convict accommodation (view to north) (Casey & Lowe 2018)



Figure 5.14: Northeast of homestead looking towards of area described by the former owner Geoff Marshall (and others) as the convict accommodation (view to South). Casey & Lowe 2018.



Figure 5.15: Northeast of homestead – area with significant amount of worked building stone - immediately to north of area described by the former owner Geoff Marshall (and others) the convict accommodation (view to East). Casey & Lowe 2018.



Figure 5.16: Sandstone grave (to right of picture) and garden to west of homestead (view to SE). Casey & Lowe 2018.



Figure 5.17: Cultivation south of homestead and looking towards homestead dam (view to SE). Casey & Lowe 2018.



Figure 5.18: North of homestead – looking towards remains of cottage and potential 8 acre garden (view to NW). Casey & Lowe 2018.



Figure 5.19: North of homestead, area described by the former owner Geoff Marshall as location of the slaughterhouse (view to East). Casey & Lowe 2018.

5.3.2.6 PADDOCKS NORTH OF RAVENSWORTH HOMESTEAD (GCO3A AND GCO3B)

The paddock immediately north of the Ravensworth Homestead was targeted for preliminary investigation and followed up with detailed foot survey. Analysis of the Lidar-derived DEM highlighted potential archaeological features in the area between the ridge to the east and Yorks Creek to the west (a roughly 200m east-west and 110m north-south area) (Figure 5.21). Features identified included a spread of ceramics (GCO3b).

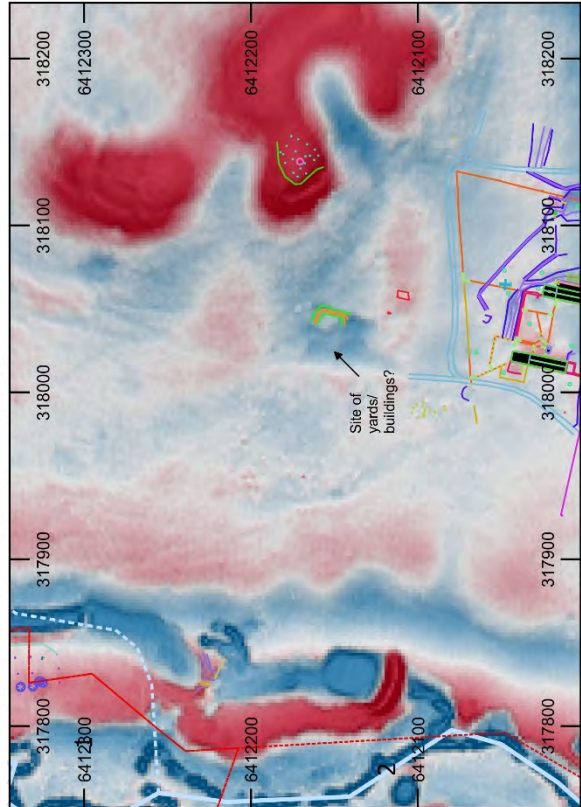
The most significant cluster of features was located at the base of the eastern ridge. It consisted of a series of potential terraces and mounds (GCO3a). Two cut-stone blocks were located here. One block has a semi-circular dressed opening or cavity (Figure 5.20). A line of rectangular stone blocks and an adjacent sub-rectangular mound were located further to the west. These probably indicate a wall or an associated fence-line and a building. Some elements were included on the recent commissioned survey. A sketch plan was compiled in order to provide a preliminary understanding of the topography. The approximate locations of selected features were also logged using a tablet and cellular connection. This provided locations with an approximate positional accuracy of around 2m to 4m, which could be checked in some cases against the georeferenced aerial imagery and DEM.



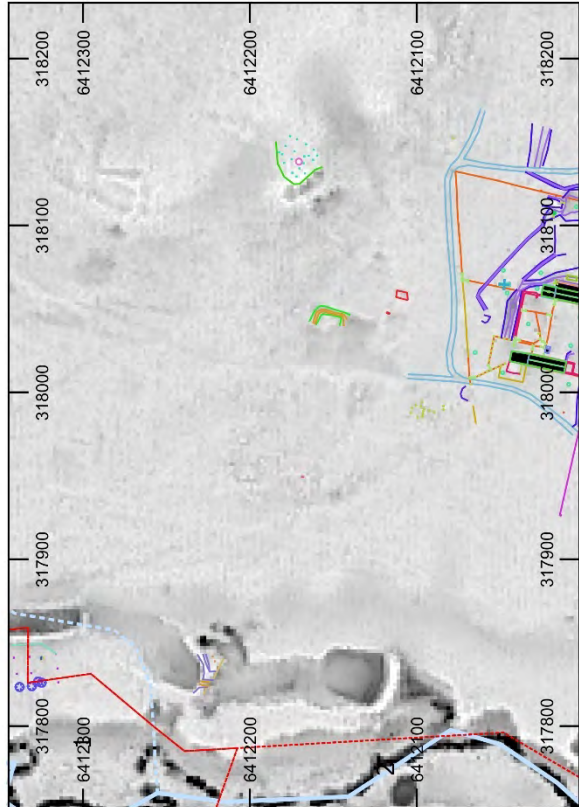
Figure 5.20: Dressed stone block with semi-circular dressed opening, described by the former owner Geoff Marshall as part of the Blacksmiths workshop. Casey & Lowe 2018.

Another potential occupation site (GCO3b) was located 60m to the west of the previous site. It consists of a spread of ceramics and a rectangular stone block close to a tree. A range of large timber fenceposts marking the site of a former east-west running fence were observed to the north of these sites. Other fenceposts and lines of stones were observed in the area of the creeks, close to the well and the Yorks Creek dam (GCO19).

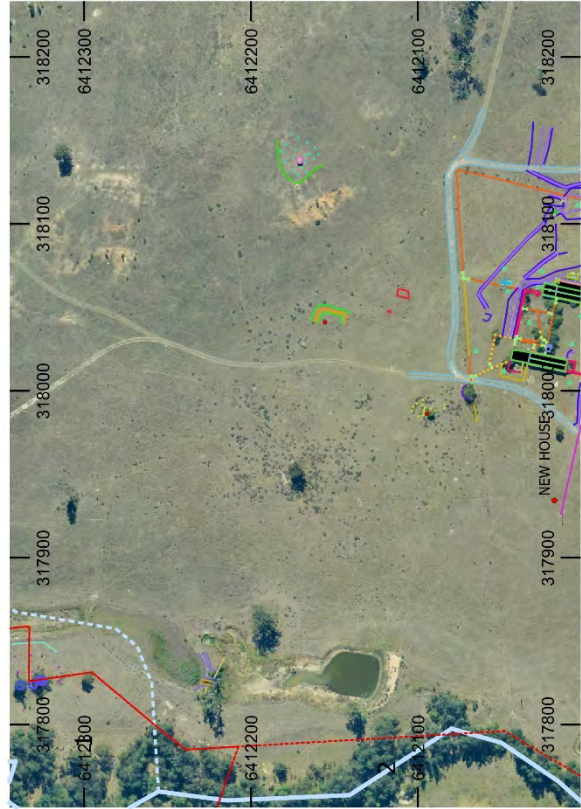
Paddock north of Ravensworth Homestead



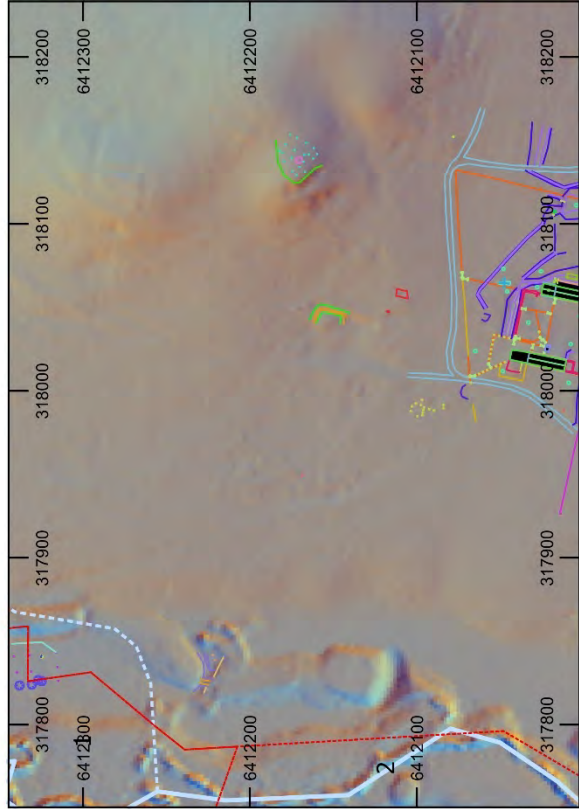
Slope model over Simple local relief model



Open positive



Aerial photograph 2018



Multi-direction hillshade

Figure 5.21: Potential archaeological features in the paddock north of the homestead (in relation to recent topographic survey).

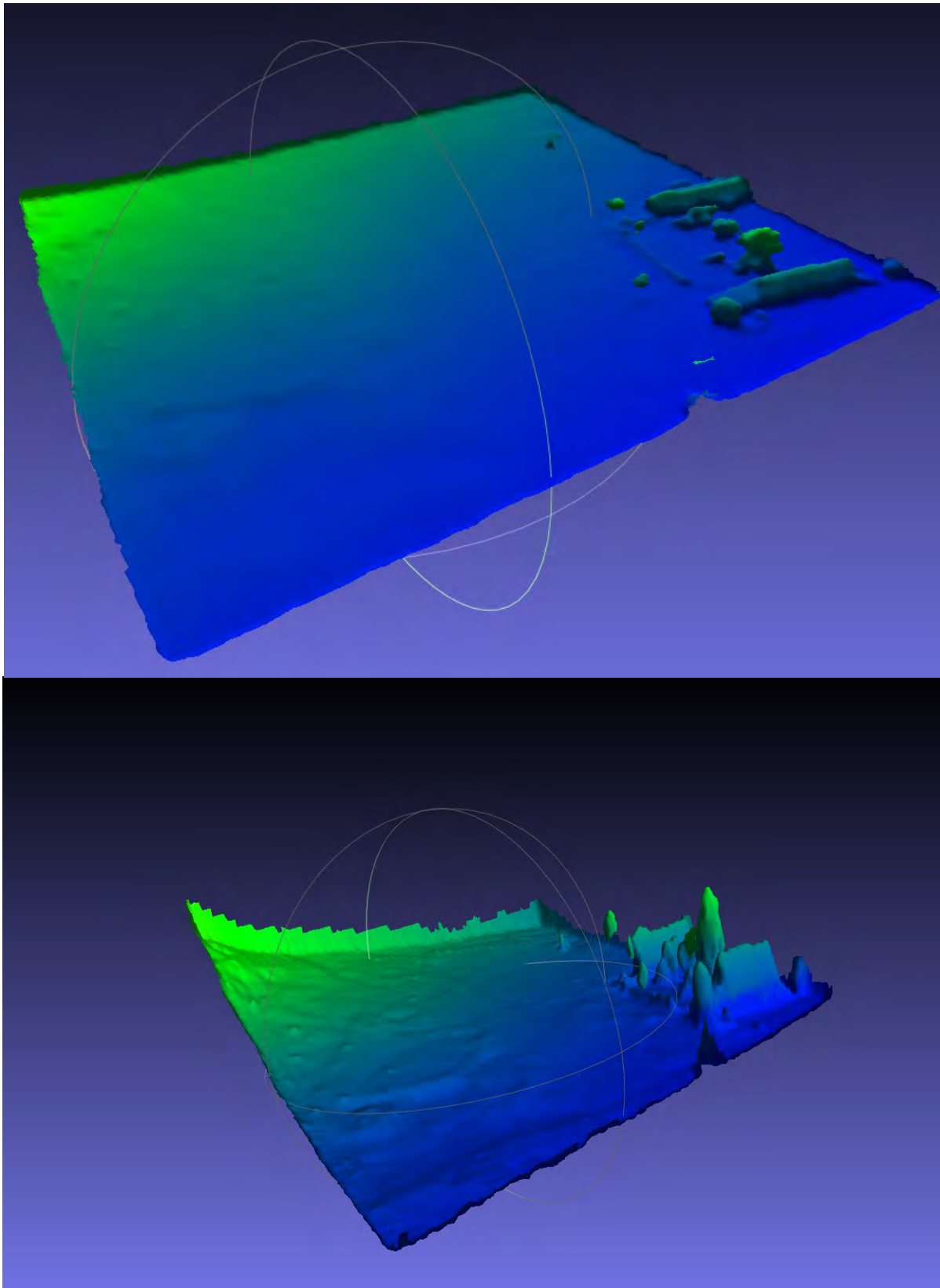


Figure 5.22: The top Lidar is based on actual terrain and the lower view shows a mesh with vertical exaggeration factor of four, which highlights the potentially early occupation earthworks. The linear striping appears to be inherent to the Lidar survey as opposed to being cultivation ridges. Mesh generated from Lidar pointcloud covering the area immediately to the north of the homestead. Looking east.

5.3.2.7 PADDOCKS/LOTS STRADDLING YORKS CREEK (GCO4, GCO4 & GCO15)

This area contains the early brick well (GCO4) (Figure 5.23) and the remains of the early dam wall (GCO18). This area is partly fenced into two small and distinct lots. The presence of the well just outside the northern lot could suggest habitation in the immediate vicinity. A (later?) cottage (GCO14) once occupied the south end of the southern lot and it was visible on the DEM.

The DEM highlights parallel linear anomalies on the western side of Yorks Creek (GCO15). They may be traces of cultivation. They appear to be bounded by the road on the west, by the lot boundary to the north and by the creek on the east. They appear to ignore the boundary between the two lots. A symmetrical group of eight sub-rectangular raised areas is enclosed by the lot boundaries on the eastern side of Yorks Creek - Figure 5.24 (GCO9). Each anomaly appears to measure roughly 12m north-south and 9m east-west. They could be traces of a garden or raised beds or plantings.



Figure 5.23: Well with stone kerb, looking southeast. Photo: Casey & Lowe.

An early garden was documented on the Ravensworth estate by 1832. It was apparently located on either side of Yorks Creek, enclosed by a paling fence and laid out in ornamental fashion.

...garden of 8 acres or thereabouts fenced with a paling fence, and has a little stream running through it...partly laid out in a...ornamental fashion.³³⁹

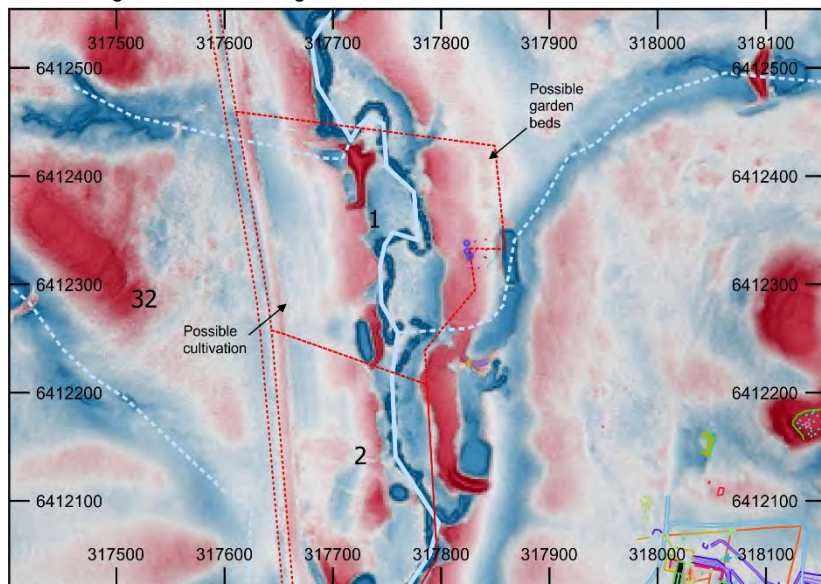
These gardens contained orange trees, a peach orchard and vineyard.³⁴⁰

The precise location and configuration of the 8 acre garden is unknown. The two modern lots that straddle the creek may partly reflect that earlier land use (GCO9) (Figure 5.24Figure 5.24). The two lots amount to approximately 20 acres, which is larger than 8 acres, but the northern lot amounts to 10½ acres, which is closer to the documented acreage of the early garden. The garden may have been enlarged over time. However, another potential site for that garden is located 800m to the south and is discussed below.

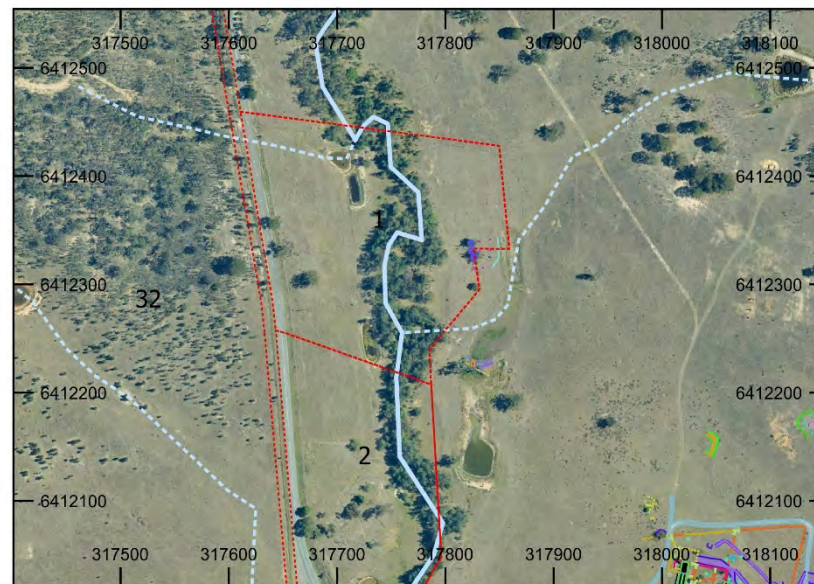
³³⁹ *Dungog Chronical* 18 Feb 1927, p. 4.

³⁴⁰ Backhouse, J 1838, *Extracts from the Letters of James Backhouse*, Part 3, Darton and Harvey, London, p 74.

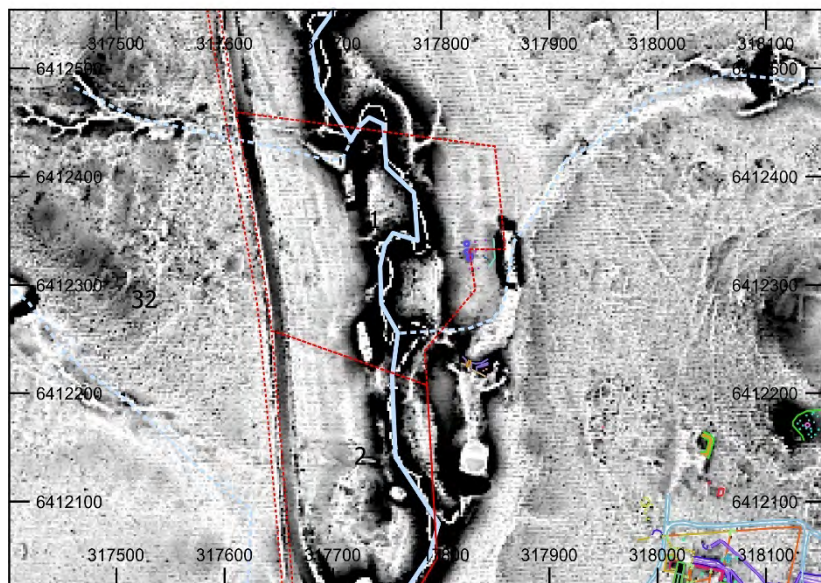
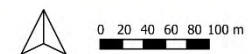
Possible gardens straddling York's Creek



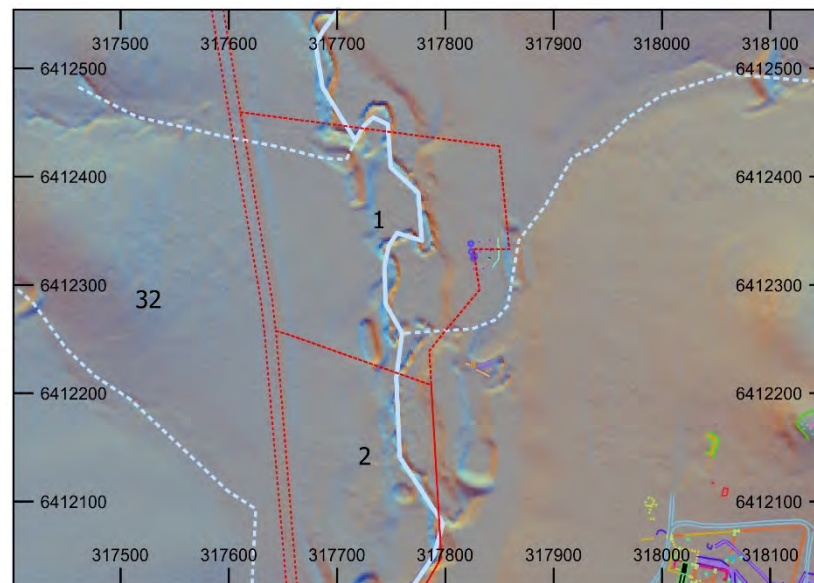
Slope model over Simple local relief model



Aerial photograph 2018



Open negative



Multi-direction hillshade

Figure 5.24: Possible cultivation areas straddling York's Creek (GCO9).

5.3.2.8 POTENTIAL CULTIVATION AROUND THE HOMESTEAD (GCO1A)

Linear anomalies were highlighted on the DEM within the paddock immediately south of the homestead (GCO1J). They probably represent early cultivation or plantings. This area was lightly grassed at the time of the site visit. Low linear anomalies were also observed during the site visit in the paddock located to the east of the house and within the homestead area. They would appear to pre-date the stone-defined grave which is located in this area.

5.3.3 OTHER AREAS OF CULTIVATION (GCO8A, GCO8B & GCO16)

The most extensive area of cultivation (GCO16) was located on the floodplain lying between Bowmans Creek and Yorks Creek, located about 200m from the potential site of the old house (Figure 5.27). It was situated to the south and to the southwest of the ridge on which the early homestead was located. Groups of aligned linear anomalies are visible in the Lidar-derived DEM and traverse the older palaeo-channels. This relatively level area, of presumably relatively good alluvial soil, was close to the early homestead so it was potentially cultivated at an early date. The current linear anomalies could be later in date. The 1967 and 1983 aerial photographs do not show obvious signs of cultivation, however, some of the linear groups correspond to what appear to have been paddocks at that time.

Two smaller and discrete areas of cultivation were located on either side of the creek. The area on the east side of the creek (GCO8a) measured 128m east-west and 93m north-south. The area on the west side of the creek (GCO8b) measured 78m east-west. Sub-rectangular anomalies located in the southwestern corner could be the remains of buildings or structures. The areas amount to around 9 acres and could be another potential location for the ornamental garden mentioned above. Regardless, their small scale and proximity to the creek raises the possibility of them being early features.



Figure 5.25: Cultivation area (to SE). Casey & Lowe 2018.



Figure 5.26: Cultivation area (to SE). Casey & Lowe 2018.

Southern Cultivation Areas



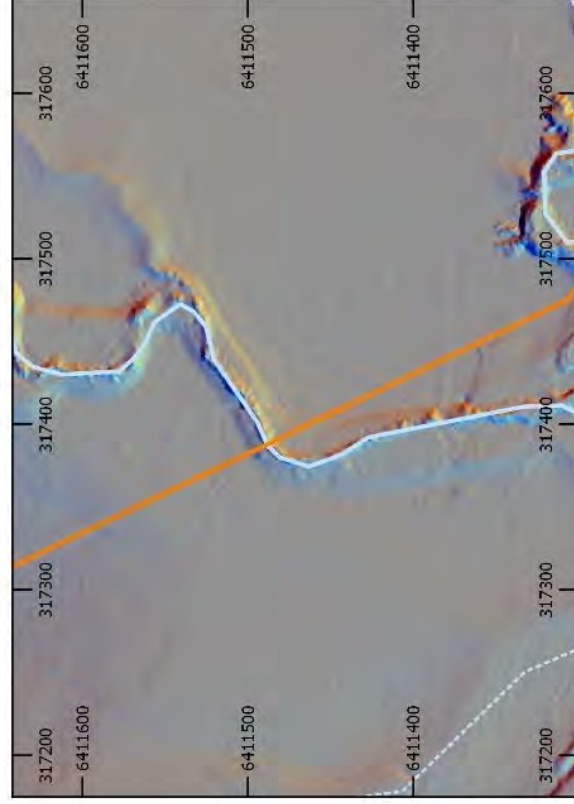
Slope model over DEM



Aerial photograph 2018



Open positive



Multi-direction hillshade

Figure 5.27: Southern cultivation areas on either side of Bowman's Creek. These are visible in the open positive (bottom left).

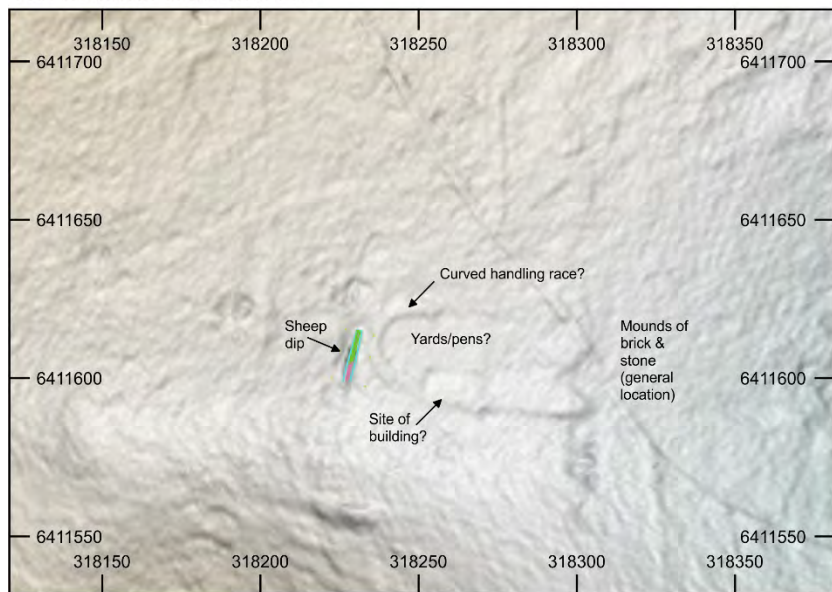
5.3.4 SHEARING SHEDS

The shearing sheds site (GCO5) was known from historic maps. The outline of a sheep dip had been surveyed. The GIS analysis of the Lidar-derived DEM revealed a number of clearly-defined anomalies immediately to the west of the sheep dip (Figure 5.29). A roughly rectangular area is defined on the west by a curved depression and on the east by three irregular anomalies. The north was featureless and linear. A rectangular anomaly on the southern side (measuring approximately 18m east-west and 9m north-south) is probably the site of a building. This area is likely to be the site of buildings and associated yards, or possibly even gardens. The site visit confirmed that mounds of stone and brick located at the east end of the site could be the remains of other walls and buildings. Other anomalies to the north and west of the sheep dip could be the remains of other structures. The environs must have been fenced too in order to manage and sort the sheep. Old fenceposts and the site of a gateway were observed around the site and they could be traces of this earlier system (Figure 5.28, Figure 5.30, Figure 5.31).



Figure 5.28: Sheep dip (arrowed), wall footing and fenceposts (facing north). Photo: Casey & Lowe.

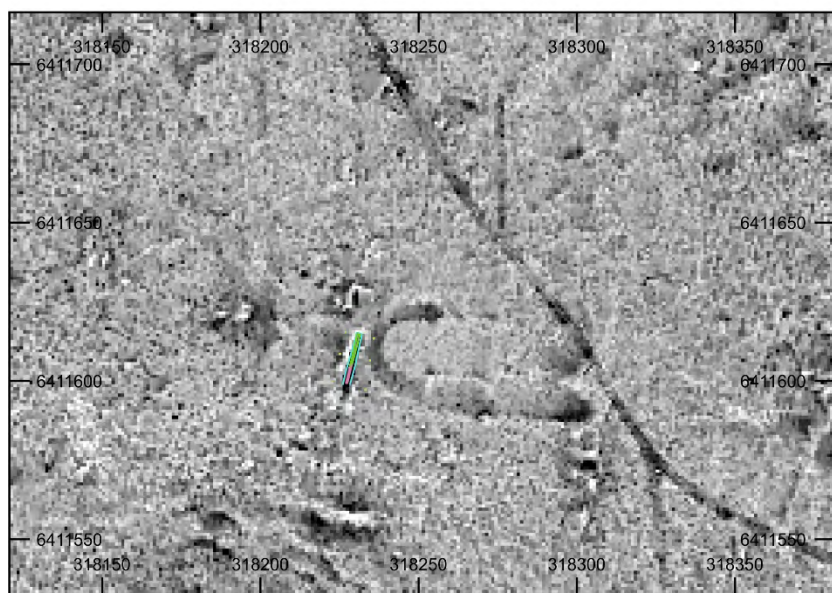
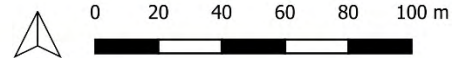
Ravensworth Woolshed Site



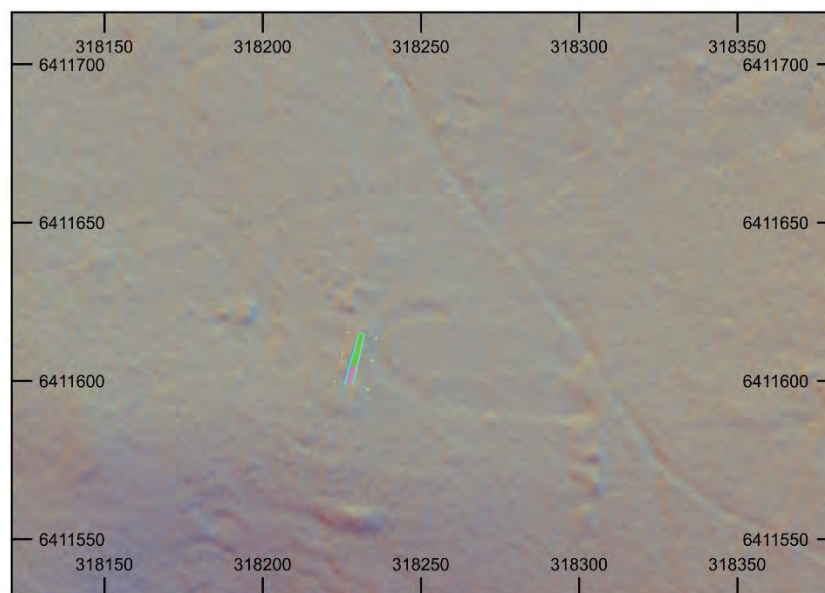
Slope model over DEM



Aerial photograph 2018



Open positive



Multi-direction hillshade

Figure 5.29: Site of sheep dip and woolshed.

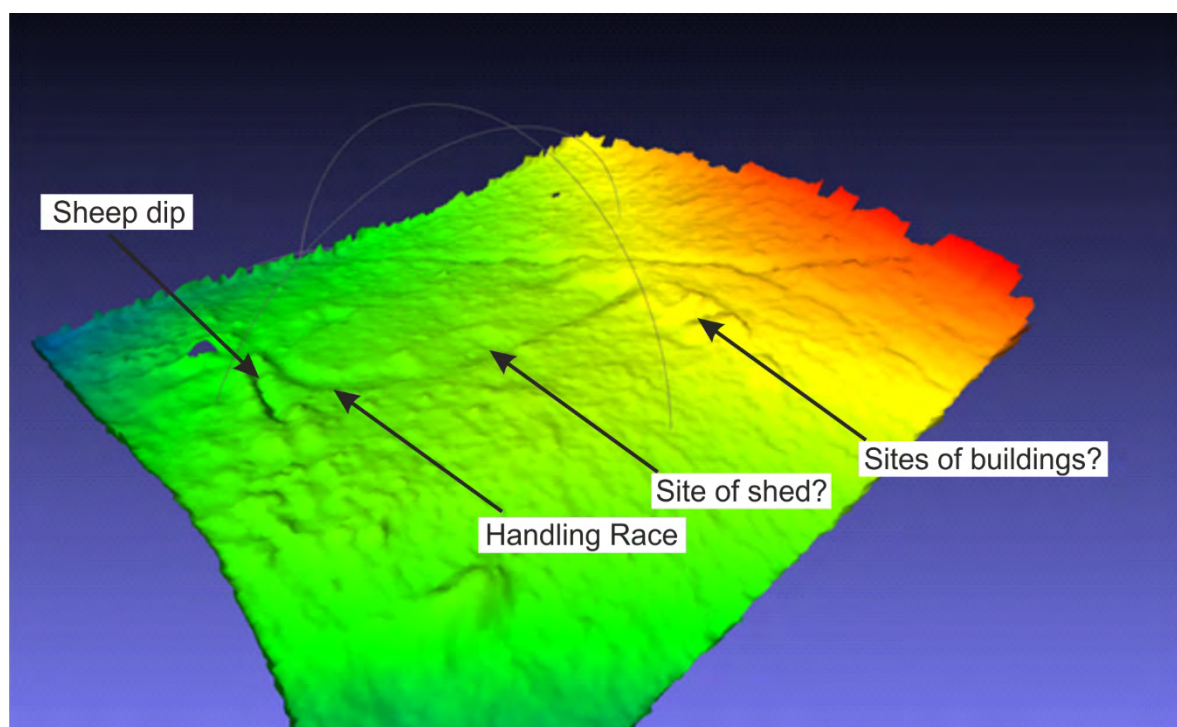


Figure 5.32: Mesh surface of the Woolshed site generated from Lidar pointcloud (NE at top) with vertical exaggeration (x4).

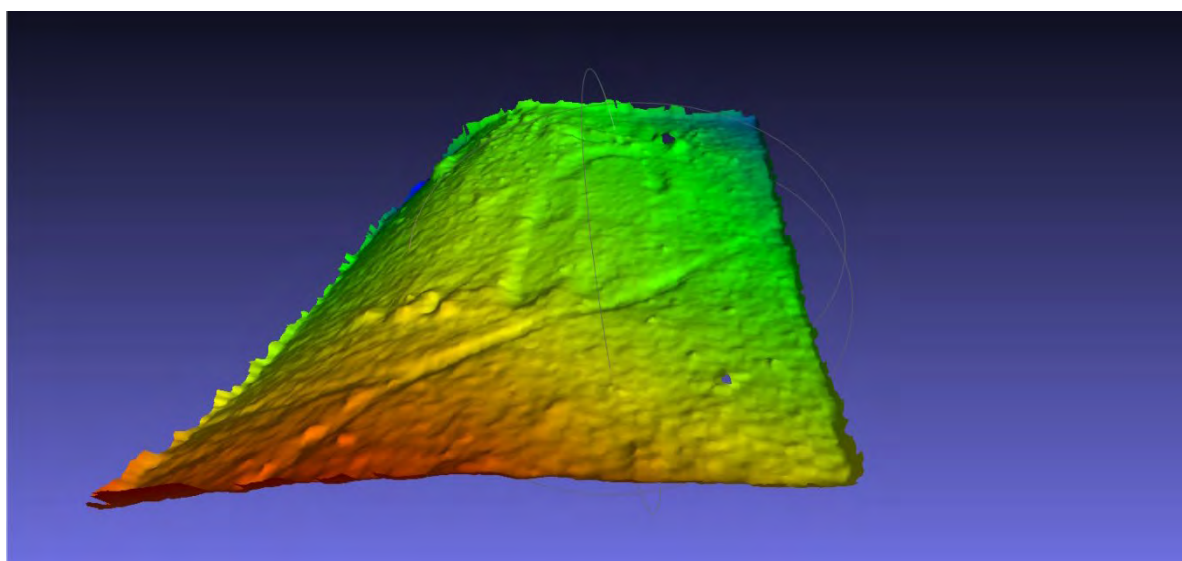


Figure 5.33: Mesh surface of the Woolshed site generated from Lidar pointcloud (West at top) with vertical exaggeration (x4).

5.3.5 THE GREAT NORTH ROAD

The Great North Road is marked on two early 1830s maps.³⁴² Both Dixon's 1833 map and White's 1835 map were georeferenced using the modern lot boundaries as a framework (Figure 5.34, Figure 5.35). The historic and modern boundaries correspond with reasonable accuracy but the historic creek lines deviate from their modern courses by a few hundred metres in places. In some instances, this deviation may reflect a shift in their course because potential palaeo-channels are present in those locations. In other cases, they could reflect original mapping errors. Regardless, it suggests that while the maps provide

³⁴² GB White 1835 (SA Map 5095). Dixon 1832 (Crown Plan R.5.830),

a good general indication of the route of the road there is a potential margin of error of up to several hundred metres.

The road meandered in a general southeast to northwest direction crossing Bowmans (formerly Foy Brook) Creek. Potential curvilinear anomalies, distinct from the modern contour drains, were highlighted on the slope model of the Lidar-derived DEM (Figure 5.35). The anomalies were offset roughly 50m from the line of the road as indicated on the georeferenced map. These areas were investigated during the preliminary field visit but they could not be definitively identified. Nonetheless, the visit provided an opportunity to consider the general landscape topography and to consider where an early driveway was most likely to run. The first 800m stretch of road, starting at the southeastern corner of the site, appears to have run along the mid-slope on the western side of the creek towards a point between the catchments of the two creeks. Following the line of the historic map suggests that it ran along the southern slopes of a ridge where there was another curvilinear anomaly. However, during the site visit it appeared that this route was quite undulating and less than ideal. Another possibility is that the route skirted the northern side of the ridge where the land was less undulating.

The creek was also investigated for the site of the crossing point. No obviously modified fording point or bridge structure were identified. However, it seems likely that the old road crossed just south of where the creek divided into two separate watercourses. The creek banks are less steep at this point and general spreads of stones and cobbles are present in the creek. Also, the team observed while walking the east side of the creek that the topography there could account for the noticeable curve in the line of the road, as marked on the 1833 map.

It's also worth noting here that Karskens' has suggested the construction of the northern section of the road (within the Hunter Valley) may not been fully completed, with original settlers' tracks taking precedence over Mitchell's surveyed lines.³⁴³

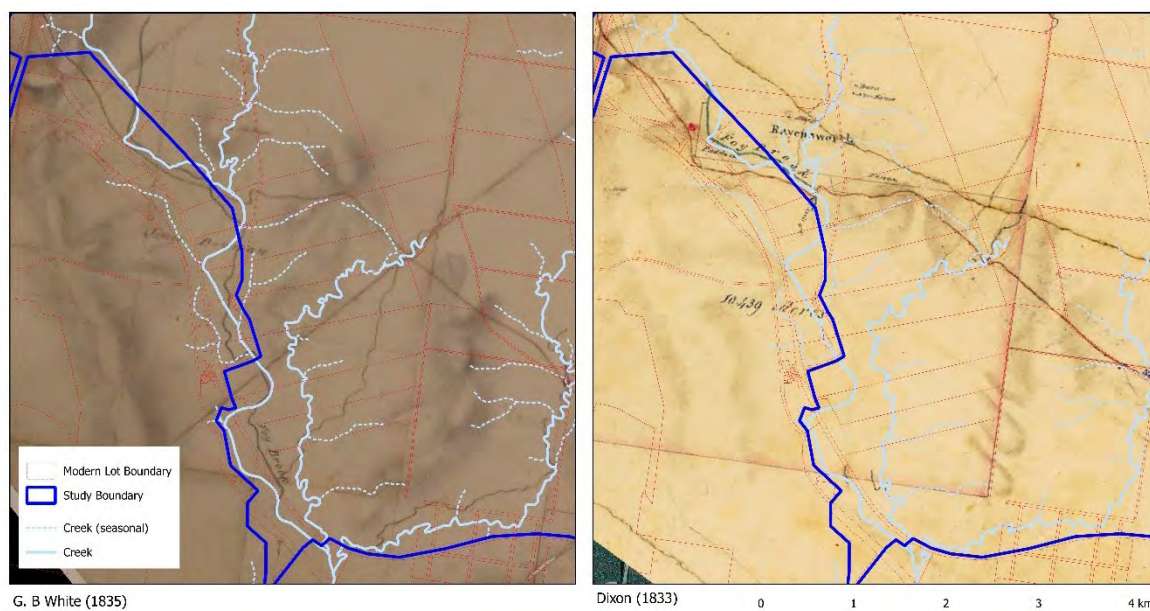


Figure 5.34: Comparison of White and Dixon where both were georeferenced using the lot boundaries.

³⁴³ Karskens 1985, p. 125.

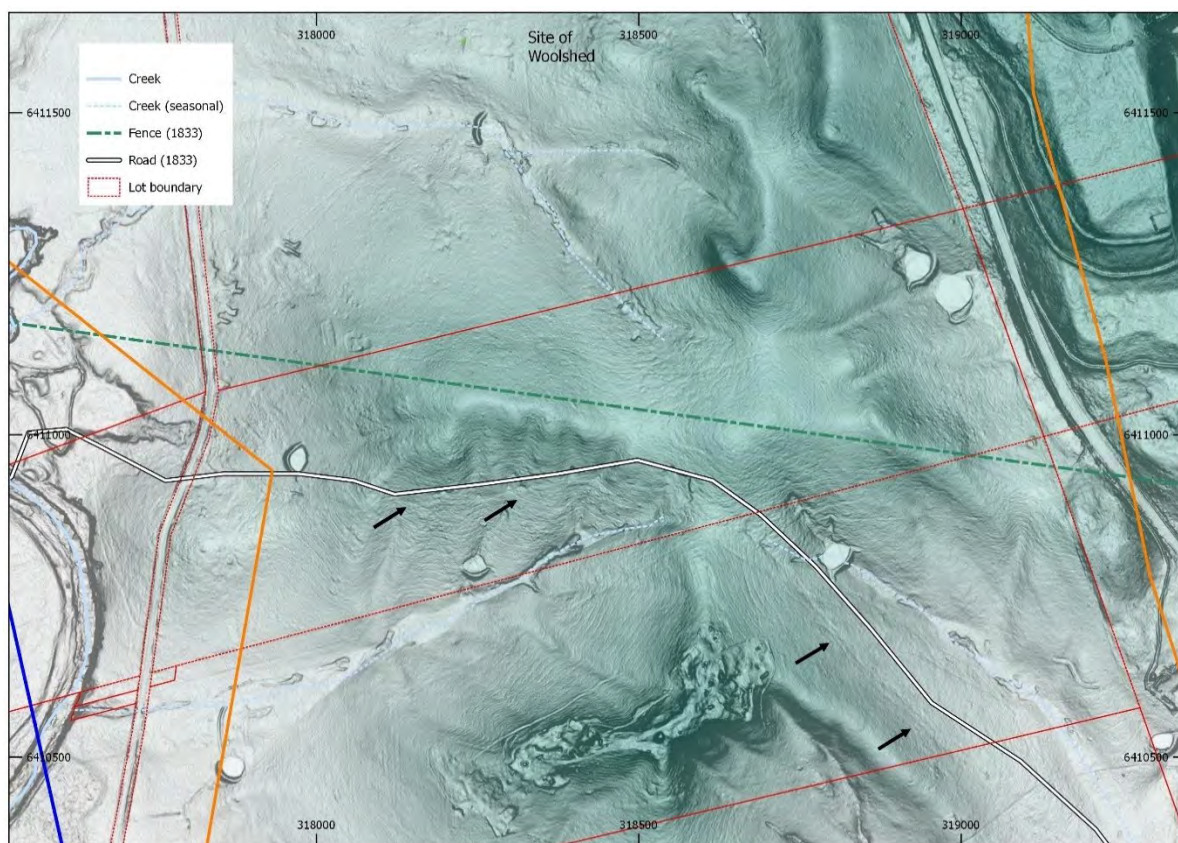


Figure 5.35: Possible route of early road (indicated by black arrows) from georeferenced map and curvilinear anomalies visible in Lidar-derived slope model.



Figure 5.36: Potential location of old North Road (to South). Casey & Lowe 2018.

5.3.6 POTENTIAL BURIAL SITE

A potential burial site (GCO6), considered by local oral tradition to be the possible resting place of John Bowman, was pointed out by Glencore employees. It was beneath a tree canopy and was located on the east bank of Yorks Creek, some 500m southwest of Ravensworth Homestead. There is a line of rectangular stones possibly forming an edge of some sort (Figure 5.37, Figure 5.38) and therefore possibly marking a grave. It is also 200m due east of the potential site of the early house. It is also around 20m south of the potential return of the early (1820s to 1830s) home paddock fence.



Figure 5.37: View of potential grave site partially outlined by rubble stone. Photo: Casey & Lowe.

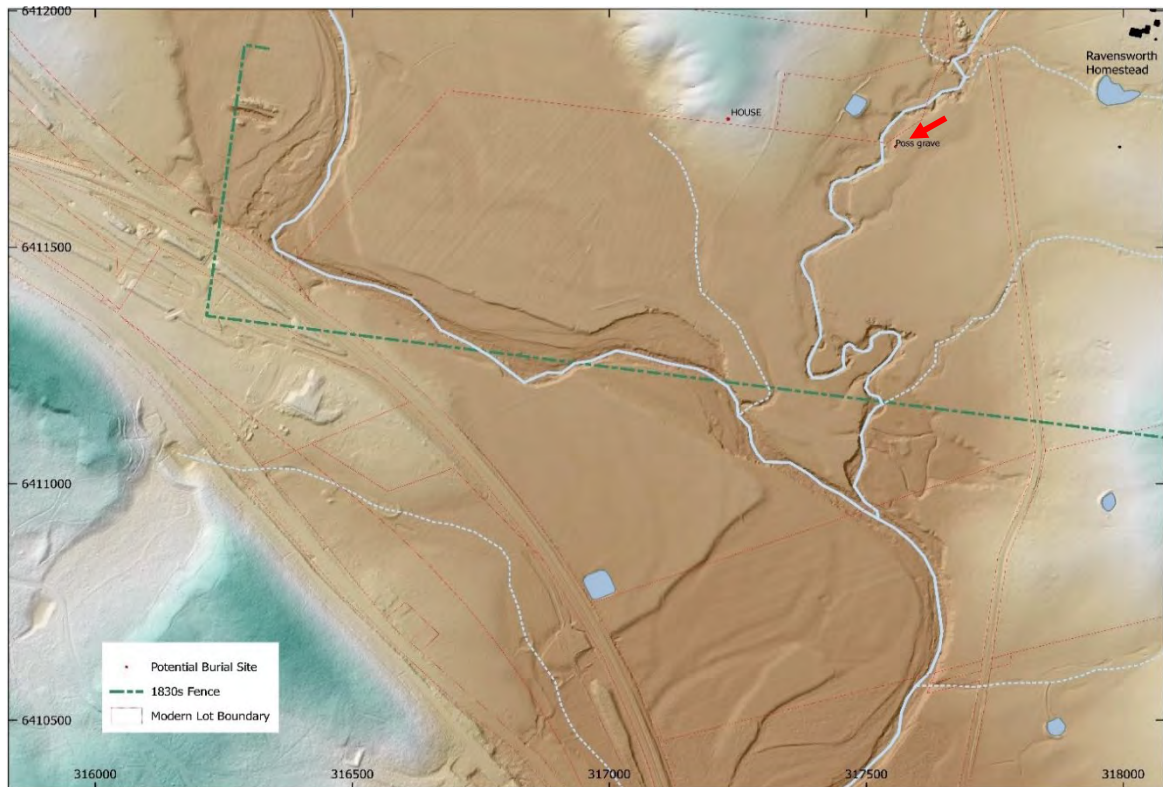


Figure 5.38: Location of potential grave site (arrowed) in relation to Ravensworth Homestead, the early house and the early fence.

6.0 HERITAGE SIGNIFICANCE

6.1 HERITAGE SIGNIFICANCE

Heritage significance is distinct from archaeological potential. The assessment of archaeological potential considers the probability of physical evidence from previous human activity to still exist on a site. Assessment of heritage significance for archaeological features considers the cultural values associated with those remains.³⁴⁴

6.2 HERITAGE SIGNIFICANCE AND ARCHAEOLOGY

This assessment of archaeological heritage significance has been written to be in accordance with the Heritage Branch 2009 guidelines: *Assessing Significance for Historical Archaeological Sites and 'Relics'*. These guidelines provide the following discussion of heritage significance:

Apart from NSW State guidelines, the nationally recognised Australia ICOMOS Charter for the Conservation of Places of Significance (*The Burra Charter*) also defines 'cultural significance' as meaning:

'aesthetic, historic, scientific and social value for past, present and future generations.'

Significance is therefore an expression of the cultural value afforded a place, site or item.

Understanding what is meant by value in a heritage sense is fundamental, since any society will only try to conserve things it values. In terms of built heritage, what we have inherited from the past is usually places that have been continuously cared for. Conversely, many archaeological sites will comprise places which, for whatever reason, have not been cared for until the relatively recent period.

Our society considers that many places and items we have inherited from the past have heritage significance because they embody, demonstrate, represent or are tangible expressions of values society recognises and supports. Our future heritage will be what we keep from our inheritance to pass on to the following generations.³⁴⁵

6.2.1 BASIS OF ASSESSMENT OF HERITAGE SIGNIFICANCE

To identify the heritage significance of an archaeological site it is necessary to discuss and assess the significance of the study area. This process will allow for the analysis of the site's varied values. These criteria are part of the system of assessment which is centred on the *Burra Charter* of Australia ICOMOS. The *Burra Charter* principles are important to the assessment, conservation and management of sites and relics. The assessment of heritage significance is enshrined through legislation in the *NSW Heritage Act 1977* and implemented through the *NSW Heritage Manual* and the *Archaeological Assessment Guidelines* and *Assessing Significance for Historical Archaeological Sites and 'Relics'*.³⁴⁶

6.2.2 LEVEL OF SIGNIFICANCE

To be assessed as having heritage significance an item must:

- meet at least one of the one of the seven significance criteria
- retain the integrity of its key attributes

If an item is to be considered to be of State significance it should meet more than one criterion, namely in the case of relics, its research potential.³⁴⁷ Archaeological Significance:

may be linked to other significance categories especially where sites were created as a result of a specific historic event or decision, or when sites have been the actual location of particular incidents, events or occupancies.

³⁴⁴ This distinction has long been recognised by historical archaeologists working in heritage management and was restated in *Practice Note – The Burra Charter and Archaeological Practice* (Australia ICOMOS 2013, p 7).

³⁴⁵ NSW Heritage Branch 2009, pp 1-2. Note that this passage quotes the 1988 version of the *Burra Charter*. The 1999 and 2013 revisions also include 'spiritual value' in their definition of cultural significance.

³⁴⁶ NSW Heritage Office 1996, pp 25-27; NSW Heritage Office 2001; NSW Heritage Branch 2009.

³⁴⁷ NSW Heritage Branch 2009, p 9.

Other relevant factors may be comparative values related to the intactness and rarity of individual items. The rarity of individual site types is an important factor, which should inform management decisions.

Relics must also be ranked according to their heritage significance as having:

- Local Significance
- State Significance

If a potential relic is not considered to reach the local or State significance threshold, then it is not a relic under the *NSW Heritage Act 1977*.

Section 4A of the *NSW Heritage Act 1977* defines the two levels of heritage significance as:

'State heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

'Local heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.³⁴⁸

6.2.3 RESEARCH POTENTIAL

The heritage significance of archaeological remains most often lies in their research potential (criterion e of the Heritage Council criteria). The assessment of research potential has its own peculiarities compared with the assessment of other heritage items. The 1996 *Archaeological Assessment Guidelines* comment:

Research potential is the most relevant criterion for assessing archaeological sites. However, assessing research potential for archaeological sites can be difficult as the nature or extent of features is sometimes unknown, therefore judgements must be formed on the basis of expected or potential attributes. One benefit of a detailed archaeological assessment is that the element of judgement can be made more rigorous by historical or other research.³⁴⁹

6.2.4 ASSESSMENT OF RESEARCH POTENTIAL

Once the archaeological potential of a site has been determined, research themes and likely research questions identified, as addressed through archaeological investigation and analysis, the following inclusion guidelines should be applied:

Does the site:

- (a) contribute knowledge which no other resource can?
- (b) contribute knowledge which no other site can?
- (c) is the knowledge relevant to general questions about human history or other substantive problems relating to Australian History, or does it contribute to other major research questions?³⁵⁰

If the answer to these questions is yes then the site will have archaeological research potential. The new significance guidelines have taken a broader approach.

6.3 DISCUSSION OF HERITAGE SIGNIFICANCE

This discussion of significance relates to the site's archaeological values which include a range of evidence, such as, relics and works, remains of structures, the archaeological landscape of pastoralism and convict assignment, buried structures and grave sites, evidence of past activities found across this landscape and how they help us investigate the research values of the place and the way in which they make Ravensworth Estate and its surrounds a significant place in heritage of the Upper Hunter Valley and NSW. The Conservation Management Plan being written by Lucas, Stapleton and Johnson (LSJ)

³⁴⁸ NSW Heritage Branch 2009, p 6.

³⁴⁹ NSW Heritage Office 1996, p 26.

³⁵⁰ Bickford and Sullivan 1984, p 23.

provides a Discussion and Statement of Significance which addresses other values of the site and also includes the values identified in this report.

Criterion (a): Historic Significance – (evolution)

an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area);

The land that forms the Ravensworth Estate today is of historical significance for being the substantial remnants of an early (1824) pastoral estate in the Upper Hunter Valley. The estate is one of a surviving group of pastoral properties established shortly after the opening up of the Hunter Region to settlement in the early 1820s initiated by Governor Brisbane and Commissioner Bigge, to encourage the economic and agricultural development of the colony through the private management of land (rather than public farming) and assignment of convicts to private landowners. A key element of its establishment was the use of convict labour in the opening up of the valley and clearing of the land, early sheep pastoralism and wool production, agricultural production and the running of the property.

Documentary evidence suggests that a substantial number of convicts (up to 87 by the 1841 census) were assigned to the Ravensworth Estate and convict labour may have been used for the construction of a number of buildings and site features, including (it is assumed) the homestead complex.

Evidence of the Bowman period (1824-1848) remains in the property boundaries, the road alignments, remnant landscape features (agricultural and horticultural), archaeological sites (the first house site) and landscapes and the 1830s homestead complex including its siting, configuration and setting.

The place is of historical significance for containing evidence of two major roads that crossed the estate lands in the early 19th century, one following the Hunter River towards Muswellbrook, the precursor to the New England Highway and part of the Great Northern Road and Glennies Creek Road; as well as containing a portion of the Great Northern Railway, established in the 1860s when the line was extended to Muswellbrook. These transport systems were critical to the economic success of pastoralism and agriculture in the Hunter Valley.

The estate was not intended as the primary address of James Bowman - this was Lyndhurst, until he was in financial difficulties during the 1840s Depression. The homestead's original purpose appears to have been for the overseer and the property was intended for grazing of stock, mostly sheep and production of wool.

The establishment of the estate would have involved an initial phase of temporary structures and accommodation for the overseer ('old house') and for the 41 convicts. These were replaced within a few years by the surviving homestead and the now demolished convict accommodation, the location of which is currently uncertain but may be to the rear of the homestead. There is also likely to have been accommodation for free men or families who also worked on the estate but again their location is uncertain.

Ravensworth Estate is one of a number of identified places demonstrating the early interactions and tensions over land between Aboriginal people and the British-government and the colonists settling in the Hunter Valley. This new stage of expansion into the Hunter Valley saw a number of raids, both by the military and/or settlers and by Aboriginal groups, in the 1820s. Three separate Aboriginal raids on the Ravensworth Estate saw the deaths of Bowman's men while working on the estate.

These historic values are likely to be significant at a **State** and **local** level.

Criterion (b): Associative Significance – (association)

an item has strong or special association with the life or works of a person, or group of persons, or importance in NSW's cultural or natural history (or the cultural or natural history of the local area);

Ravensthorpe Estate is significant for its associations with several people of historical note including:

- Dr James Bowman, principal surgeon of the colony and inspector of colonial hospitals, who was granted the land, established and expanded the property as a sheep run and named the property Ravensthorpe. He is said to be buried on the property (location unknown).
- Mary Bowman, daughter of John Macarthur, whose dowry of 2000 sheep and 200 cattle allowed Bowman to apply for the land grant that became Ravensthorpe.
- John Macarthur, Mary's father who supported Bowman and assisted with the establishment of Ravensthorpe via Mary's dowry and financial help
- James White, early overseer at the A.A. Co. and Ravensthorpe and father of James White born at Ravensthorpe who was the founder of the White pastoral dynasty (other White estates include Edinglassie, Belltrees, Merton, Martindale and Waverley).
- John Larnach, early overseer at Ravensthorpe, who went on to be the partner of James Mudie at Castle Mudie and who established Rosemount Estate (rebuilt as Barooka by the Dangars).
- Later owners including Captain William Russell MLA MLC (who also owned Cheshunt Park and substantial squatting properties) and Duncan Forbes Mackay (superintendent of public works at Newcastle and owner of the Melbee and Minimbah properties, amongst others).
- Later owner Augustine Campbell Marshall, a Light Horse veteran, Spitfire pilot in WWII and Mayor of Singleton, who obtained a portion of the original estate lands (Portion 228) containing the homestead complex under the Closer Settlement Scheme and who, with his descendants, held the land from 1920 to 1997, the longest continuous period of ownership.
- Convict labour system which allowed for the spread of British settlement and the removal of Aboriginal people from their traditional lands within this part of the Hunter Valley.

The estate is also associated with the highly significant Australian Agricultural Co. (A.A. Co.), the oldest continuously operating company in Australia, established in 1824 by John Macarthur with James Bowman as local committee member and James White as an early overseer of the company.

These associative values are likely to be significant at a State and local level.

Criterion (c): Aesthetic Significance – (scenic qualities / creative accomplishments)

an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the cultural or natural history of the local area);

Although buried archaeological remains may have aesthetic value, mostly through their novelty and age, they are not usually 'important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW'. Their aesthetic values are often more by accident than design.

The group of early buildings are complemented by a collection of typical homestead features (material culture) including yards, tank stands, house dams, sheep dip, timber and wire fencing, stone walls and a profusion of discarded stones, that create an evocative historic atmosphere. Notable features include the stone-edged house dams, the surviving

grave of Miss White on the cross axis of the house, reused stone from former (now demolished) buildings, and potential archaeological evidence of former buildings, including dips and rises in the landscape, the brick-lined cistern and well. It is possible that aspects of the pastoral activity associated with wool production may be important examples of developing approaches to this important economic activity of 19th-century Australia.

The aesthetic values of the archaeological resource are likely to be significant at a **local** level.

Criterion (d): Social Significance – (contemporary community esteem)

an item has a strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the cultural or natural history of the local area);

As one of a group of surviving colonial pastoral estates of the Hunter Region, Ravensworth is held in high esteem by the local community as well as the broader NSW community as indicated by the number of statutory and non-statutory heritage listings existing for the area, together with the great wealth of research, books, images, heritage studies, memoirs, family archives and other documentation relating specifically to the history of the region, its people, industries, buildings and the estates.

Ravensworth is held in high regard by the local community of Singleton and surrounds as well as groups interested in the history of the colonial settlement and development of the Upper Hunter, colonial architecture, historical archaeology, convict genealogy and history, and the Aboriginal community. Of particular note, the Marshalls as long-term residents of Ravensworth, remain well known in the broader community with continued family connections in the area, dating back to A.C. Marshall, former President of the Shire who played an important role in community development.

These social significance values are likely to be significant at a **local** level.

Criterion (e): Technical/Research Significance – (archaeological, educational, research potential and scientific values)

an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);

The technical or research value of Ravensworth Homestead Complex lies in its potential to contribute to our understanding of a range of research questions, including but not limited to:

- The group of surviving 1830s homestead buildings and other surviving colonial-built agricultural features (including the brick beehive cistern and underground silo) have a high potential to provide further information regarding colonial architecture and building practices.
- Information relating to the use of assigned convicts, a newly established system by Commissioner Bigge, in the development of the pastoral estates in early to mid-19th century NSW. The archaeology of this place may also provide information on the lives of individual convicts within the much harsher assignment system and longer penalties of imprisonment imposed by the British courts.
- Early transport systems, roads and railway lines, that provide information regarding the gradual spread of colonial settlement through the northwest of the NSW during the early to mid-19th century.
- Early frontier life and the nature of contact and conflict between British settlers and Aboriginal people and their traditional practices.

Where it survives historical archaeology relating to the former Ravensworth Estate has the potential to provide information on:

Bowman Period (1824-1846)

- The lives of Aboriginal people and the nature of interaction with the British arrivals in the Contact period when they were dislocated from their lands and how this was expressed in the landscape and built environment.
- The level of fortification of the place (the House site and the homestead), if any, for a newly established estate on a frontier.
- Evidence for how convicts were managed or treated in this isolated place, including attitudes to punishment in a non-intuitional or non-military setting, and segregation of male and female convicts.
- The differences between free and convict residents and how they operated on the estate.
- Evidence for habitation and living in this remote environment, such as the nature of diet (faunal material and fossil pollen evidence for possible vegetables grown in the gardens), and the possible modification of scarce material culture resources, such as tools (how they were reused, adapted, modified, stolen, hidden and general resistance to control and enforced labouring on the property).
- Material culture of the main household which may be associated with the Bowman family and how it expresses their status in the colony.
- Changes made to the estate once the Bowman family relocated to this site following their financial collapse and sale of Lyndhurst.
- Nature of early pastoral and agricultural practices and how this is represented and amended in the landscape.

Generally

- The construction, modification and subsequent use of the homestead complex and associated lands through the later 19th and 20th centuries.
- Material culture of lives of families who lived on the estate during later years.
- Evolving nature of the archaeological landscape as people and practices changed and different requirements were placed on the landscape to support economic requirements.

There is extensive documentation about the Ravensworth Estate, and the settlement and development of the Hunter Valley more generally, which serves to complement and interact with the physical evidence creating a wealth of documentary and physical evidence of past practices and traditions. This provides a significant opportunity to consider the nature of the oral and written sources to further understanding of how and archaeological record support, amends or challenges the written history of this period. This evidence when considered together will offer considerable new insights into its history and archaeology.

There is moderate to high potential for the archaeological resource within the Ravensworth Estate to provide information that is unavailable from other resources. The ability of a site to reflect knowledge that no other resource can is dependent upon the **Research Questions** which are posed and the methodology employed to investigate the archaeological resource.

The potential research significance of the archaeological remains at Ravensworth Homestead Complex are likely to be significant at both a **State** and **local** level.

Criterion (f): Rarity

an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);

The Ravensworth Homestead Complex and surrounds has the potential for substantial evidence across the landscape of the archaeology of beginnings of settlement in the upper Hunter Valley, including:

- As part of the convict assignment system,
- Evidence of conflict with Aboriginal people over land and resources
- Beginnings of sheep husbandry outside of the Cumberland Plain and its strong association with the Macarthur and Bowman families.

The known and potential rarity of the archaeological remains within the study area are likely to be significant at a **State** and **local** level.

Criterion (g): Representativeness

an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places of cultural or natural environments (or the cultural or natural history of the local area).

The potential archaeological remains of the Ravensworth Estate are representative of the pattern of British settlement in the Hunter region during the 19th and 20th centuries.

Ravensworth, established as a sheep property in 1824, is representative of the successful implementation of a new and highly significant government policy introduced in the early 1820s by Governor Brisbane and Commissioner Bigge, following the recommendations of the Bigge Inquiry, in the Hunter Region aimed at the economic and agricultural development of the colony through the management of land and convicts by private landowners. This policy resulted in the rapid settlement of the region in the period 1820s to 1840s and Ravensworth is one of a number of surviving pastoral estates which together form the foundational layer of the colonisation of the Hunter Region

The principal characteristics of Ravensworth including its associations with Dr. James Bowman, its physical characteristics, including the 1830s homestead buildings, garden and associated agricultural features, and the use of assigned servants are representative of a significant pattern of settlement and history of development that occurred in the Hunter Region in the 1820s through to the 1840s and one that is still able to be experienced today.

The place is also representative of the pattern of development for large pastoral properties throughout NSW in the latter half of the 19th century when the boom and bust period of the 1890s led to the initial subdivision of the estate lands only to be later amalgamated for use by big pastoralists as outstations.

The later period of development from the early 20th century is representative of the application of the *Closer Settlement (Amendment) Act 1904* instigated by the government to encourage agricultural development of smaller rural allotments by ex-service personnel and migrants resulting in the subdivision of the large estate lands into small holdings, evidence of which remains today in surrounding property boundaries.

The known and potential representativeness of the archaeological remains within the study area are likely to be significant at a **State** and **local** level.

6.4 STATEMENT OF HERITAGE SIGNIFICANCE FOR ARCHAEOLOGY

The Ravensworth Homestead Complex is important as an archaeological landscape containing an 1820s colonial house and associated outbuildings which were modified throughout the 19th and 20th centuries, and the archaeology of the estate. The homestead buildings, the remnant 19th-century farm and garden layout built by assigned convicts all provide evidence of this landscape and its history. This can testify to the way in which this early occupation by Surgeon James Bowman with expansion of the wool industry into the Upper Hunter Valley, aided by assigned convicts, irrevocably changed the lives of Aboriginal people and the modified the landscape of the Hunter Valley.

The archaeology of the place is associated with a number of prominent individuals: James Bowman, Mary Bowman (née Macarthur), John Macarthur, overseers James White and John Larnach, as well as later owners Captain William Russell and the Marshall family. This cultural landscape with its buried sites, works, relics, and ruins should provide evidence of technical achievements associated with an evolving pastoral activity, notably early wool production. Aspects of these archaeological values will be important to the local community, notably evidence of the material culture and rural technology of the residents, the main families, lives of convicts and free persons.

The homestead's potential research significance relates to its ability to demonstrate the way of life, tastes, customs and functions in a rural context through the 19th to early 20th centuries. From its establishment, the site is a good example of a colonial rural estate built on convict labour. The intactness of the site's structures and their landscape settings enhances its role as a site of archaeological and scientific importance. Key research themes relate to the nature of lives on a newly established frontier and contact with Aboriginal people, material culture and lives of significant colonial people, convict lives and the assignment system and how it is implemented within this landscape, use of technology and management of water, changing transportation and economics and how they shaped life on the estate.

The Ravensworth Estate is rare for its contribution as part of the new convict assignment system, evidence of conflict with Aboriginal people and the beginnings of sheep husbandry outside the Cumberland Plain and its association with the Macarthur and Bowman families. Representative values are expressed through its 1820-1840s homestead and estate, pattern of pastoralism and closer settlement.

The archaeological landscape, sites and material culture of this place have the ability to be of both State and local significance.

7.0 PROPOSED TESTING METHODOLOGY

7.1 REASONS FOR TESTING

Heritage is a key issue identified in the SEARs for the project, and the following must be addressed:

- identification of historic heritage in the vicinity of the development and an assessment of the likelihood and significance of impacts on heritage items, having regard to the relevant policies and guidelines listed in Attachment 1;³⁵¹ and
- in relation to Ravensworth Homestead, the EIS must include:
 - o a detailed heritage significance and historical archaeological assessment of the homestead, including consideration of its surrounding garden and landscape;
 - o an analysis of all reasonable and feasible options to preserve the Homestead (including leaving in situ);
 - o if relocation is selected as the preferred option, please include an analysis of all feasible relocation options and how the Ravensworth Homestead Advisory Committee was involved in the decision.

The proposed testing program is designed to respond the SEARs for the Project. The key reasons for undertaking archaeological testing within the Ravensworth Homestead are:

1. Determine the survival, extent and location of the potential archaeological resource.
2. Clarify the archaeological potential and significance of areas of potential State and/or local significance.
3. Inform the environmental assessment process and any options proposed as part of the project, including the potential to relocate the homestead.

The testing program is primarily focused on areas of identified and assessed as having archaeological potential of State significance, specifically the survival, condition, date range and function of:

- The building commonly known as the convict barracks (located to the north of the homestead complex) (potential State).
- The site of the potential 'House / Old House' to the west of the Ravensworth Homestead Complex (potential State).
- Possible buildings to the north of the Ravensworth Homestead Complex including the site of the cottage, the potential slaughter house, the potential blacksmiths, and other buildings and areas of cultivation/ garden (potential State).
- Potential burial site (unknown).

7.2 PROPOSED TESTING LOCATIONS

There are seven proposed testing areas with a number of trench locations within each area (Figure 7.1). The methodology is detailed below and summarised in Table 7.1.

Note: no testing is proposed that would have an adverse impact on the fabric of existing buildings (i.e. lifting floorboards or sandstone flagging).

³⁵¹ Attachment 1 lists the following for heritage: The Burra Charter (The Australia ICOMOS charter for places of cultural significance), Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH), Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (OEH), Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH), Assessing Significance for Historical Archaeological Sites and Relics (OEH), Archaeological Assessments Guidelines (OEH), Criteria for the Assessment of Excavation Directors (OEH), NSW Heritage Manual (OEH), Statements of Heritage Impact (OEH), Hunter Regional Environmental Plan 1989 (Heritage).

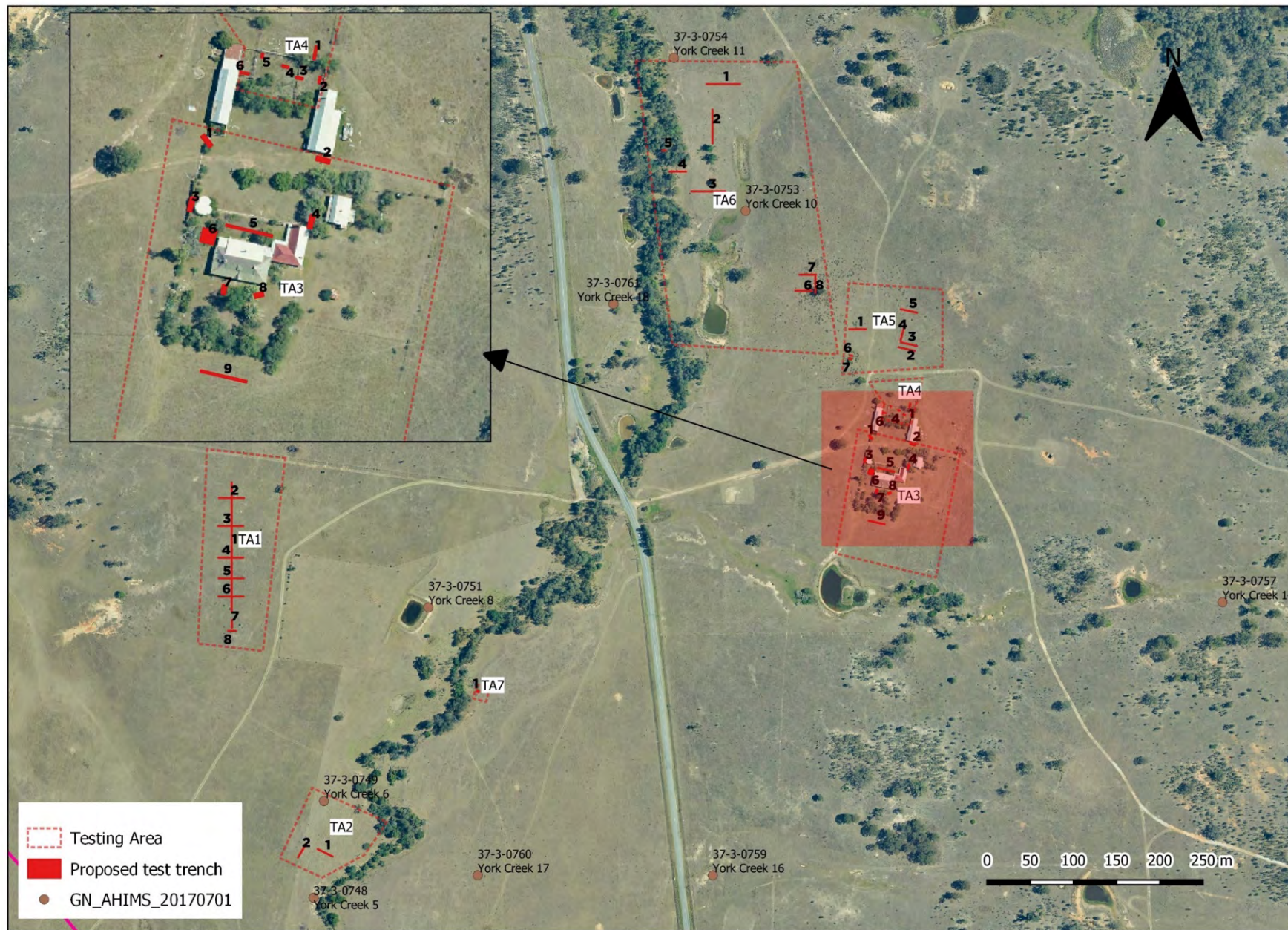


Figure 7.1:
Proposed testing
areas with trench
locations.

7.2.1 OLD HOUSE SITE (POTENTIAL STATE SIGNIFICANCE)

Two testing areas (TA 1 & 2) are proposed to locate any remains of the old house site across this large area and determine the potential for evidence of early cultivation / gardens. The location of this area is only known from historic maps, the earliest dating to 1833. Types of remains may include structural remains of the house and its outbuildings (foundations and/or post holes), wells, cisterns and rubbish deposits.

7.2.1.1 PROPOSED TESTING METHODOLOGY

- Up to six trenches across TA 1. Five 25m x 1m each (TA 1, Trenches 1-4), and two 10m x 1m (on the flat part of the slope to the SE) (TA 1, Trench 5).
- One trench across TA 2. One 5m x 1m (TA 2, Trench 1).
- Trenches will begin with a machine but will revert to hand excavation when artefacts and/or deposits are uncovered. Not all trenches may be required to be excavated.
- If no archaeology is found then two to four additional trenches or extensions of these trenches may need to be excavated to clarify survival of the old House.
- If remains are uncovered we may need to extend them by up to two separate 1m x 2m trenches to clarify the extent and survival of the archaeology in this area.

7.2.2 RAVENSWORTH HOMESTEAD COMPLEX: MAIN HOUSE AND SURROUNDS

One testing area (TA 3) is proposed for this area to investigate and locate any remains that may relate to the presence of a west wing to the homestead as well as evidence of fortification of the homestead, potential cistern and evidence for the front garden including a turning circle.

7.2.2.1 PROPOSED TESTING METHODOLOGY

- Nine trenches across the TA 3. Four 3m x 1m each (TA 3, Trenches 1, 2, 3 & 4), one 8m x 1m (TA 3, Trench 5), one 4m x 4m (TA 3, Trench 6), two 1 by 4m (TA 3, Trench 7 & 8)) and one 1 by 10m (TA 3, 9).
- If no archaeology is found then we may need to excavate between two to four additional trenches or extensions of these trenches to clarify the extent and survival of the archaeology in this area.
- If remains are uncovered we may need to extend them by up to two separate 1m x 2m trenches to clarify the extent and survival of the archaeology in this area.

7.2.3 RAVENSWORTH HOMESTEAD COMPLEX: 'CONVICT ACCOMMODATION / BARRACKS' (POTENTIAL STATE SIGNIFICANCE)

One testing area (TA 4) is proposed for this area to investigate and locate and better understand what was constructed in this area. There is the potential for this area to contain the remains of convict accommodation (oral history and secondary historical sources) or potentially further farming-related building.

Six trenches are proposed for this area to locate and clarify whether any structure/s existed in this area and to determine whether this area was physically linked to the barn and stables. Types of remains may include structural remains of buildings (foundations and/or post holes) or rubbish deposits.

7.2.3.1 PROPOSED TESTING METHODOLOGY

- Six trenches across the testing area (TA 4, Trenches 1-6). Two 4m x 1m each (TA 4, Trenches 1 & 6) and four 3m x 1m each (TA 4, Trenches 3-5).
- If we uncover remains in the trenches we may need to extend them by up to 1m by 1m to clarify the extent and survival of the archaeology in this area.

7.2.4 RAVENSWORTH HOMESTEAD COMPLEX: AREA TO THE NORTH (POTENTIAL STATE SIGNIFICANCE)

The purpose of testing in this area is to better understand what was constructed in this area. Local oral history provides that there is the potential for this area to contain the

remains of convict accommodation, a blacksmiths workshop, a slaughter house, a cottage, gardens and/or potentially further farming-related buildings. The presence of a cottage is supported by historical sources relating to the sale of the property.³⁵²

Two areas of testing (**TA 5-6**) are proposed for this area to locate and clarify whether any structures existed. Types of remains may include structural remains of the houses (foundations and/or post holes), wells, cisterns or rubbish deposits, and evidence of gardens.

7.2.4.1 PROPOSED TESTING METHODOLOGY

- Seven trenches across **TA 5**. Seven 1m x 15m each (TA 5, Trenches 1-7).
- Eight trenches across **TA 6**. Eight 1m x 15m each (TA 6, Trenches 1-6). If we uncover remains in the trenches we may need to extend them in order to understand the evidence being exposed and to clarify the extent and survival of the archaeology in this area.

7.2.5 POTENTIAL BURIAL SITE (POTENTIAL LOCAL OR STATE SIGNIFICANCE)

The purpose of testing in this area is to understand/ confirm the likelihood of a burial in this location.³⁵³

One test area (**TA 7**) is proposed to determine and clarify whether anything, including a grave or structure, was located in this area. Types of remains may include structural remains of the houses (foundations and/or post holes), wells, cisterns or rubbish deposits, graves and evidence of gardens.

7.2.5.1 PROPOSED TESTING METHODOLOGY

- One trench is proposed across the testing area. The trench will be 4m x 4m (TA 7, Trench 1).
- If we uncover remains in the trenches we may need to extend them in order to understand the evidence being exposed and to clarify the extent and survival of the archaeology in this area.

7.2.6 POTENTIAL IMPACTS ON RELICS BY THIS TESTING PROGRAM

The testing program is not intending to cut through the deposits or structural remains associated with the construction, use or demolition of the key structures.

- The landscape / A Horizon is deflated as result of ongoing farming practice and potential for significant later occupation deposits is limited.
- Testing is not intended to remove State significant archaeology.
- Minor impacts are predicted.

7.2.6.1 MITIGATION OF IMPACTS

- Try to avoid impacts where possible.
- If impacts cannot be avoided, undertake best practice archaeological recording and collection of artefacts.

7.2.6.2 BACKFILLING OF TRENCHES

- Use of geotextile fabric as marker.
- Backfill, where possible, with the material just removed from the trench.

³⁵² *Sydney Mail*, 20 Feb 1892, p 411.

³⁵³ *Sydney Mail*, 20 Feb 1892, p 411.

Table 7.1: Table listing proposed historic archaeological Testing Areas and Trench Dimensions within Ravensworth Homestead Complex.

Testin g Area	Homestead Complex Area	Trench es	Description/Archaeology/Reason for Testing	Test Trench Dimensions (indicative only)	Issues with Location	Comments
TA 1	Old House Site	1-6	Old House site, top of hill and smaller terraced area. Evidence for cottage, huts, wells etc.	Five 25 x 1m Two 10 x 1m		Location of old house site is uncertain in this area. Combination of machine and hand excavation: Will begin with machine excavation but revert to hand excavation if artefacts and/or deposits are uncovered.
TA 2	Old House Site	7	Area of cultivation / garden, testing to determine potential date and method of agriculture, and/or evidence of garden	One 5 x 1m		Combination of machine and hand excavation: Will begin with machine excavation but revert to to hand excavation if artefacts and/or deposits are uncovered.
TA 3	Main House and surrounds: area linking house and outbuildings	1-4	Evidence for fortification of homestead	Four 3 x 1m	Currently has low level stone fence built during the later Marshall period. This will need to be removed in places for testing	Hand excavation
TA 3	Main House and surrounds: west wing	5	Evidence for cistern	One 10 x 1m	Area has garden and landscape features	Combination of machine and hand excavation: Will begin with machine excavation but revert to to hand excavation when artefacts and/or deposits are uncovered.
TA 3	Main House and surrounds: west wing	6	Evidence for a demolished West wing	One 4 x 4m	Area has some services and vegetation	Combination of machine and hand excavation: Will begin with machine excavation but revert to to hand excavation when artefacts and/or deposits are uncovered. This trench will also be utilised for relation methodology (Tr K).
TA 3	Main House and surrounds: front (southern) garden	7 & 8	Evidence for turning circle	Two 3 x 1m	Locations to minimise disturbance to plants and garden features	Combination of machine and hand excavation: Will begin with machine excavation but revert to to hand excavation if artefacts and/or deposits are uncovered.
TA 3	Main House and surrounds: Southern paddock	9	Area of cultivation / garden, testing to determine potential date and method of agriculture, and/or evidence of garden	One 10 x 1m		Combination of machine and hand excavation: Will begin with machine excavation but revert to to hand excavation when artefacts and/or \or deposits are uncovered.

Testin g Area	Homestead Complex Area	Trench es	Description/Archaeology/Reason for Testing	Test Trench Dimensions (indicative only)	Issues with Location	Comments
TA 4	Main House and surrounds: demolished structure to north of house	1-6	Potential Convict accommodation / farm building	Four 3 x 1m Two 4 x 1m	Large stones on the ground and recent stone walls (stacked with no mortar) - part of the wall will need to be temporarily removed for excavation (but can be restacked after)	Hand excavation
TA 5	Main House and surrounds: potential demolished structures to north east of homestead complex	1-6	Field to the north east of the homestead, area of potential buried remains. Marshall family identified it as a former blacksmiths (but not extant during their time).	Six 15 x 1m	Large stones on the ground and recent stone walls (stacked with no mortar)	Combination of machine and hand excavation: Will begin with machine excavation but revert to to hand excavation if artefacts and/or deposits are uncovered.
TA 6	Main House and surrounds: potential demolished structures to north west of homestead complex	1-3	Fields to the north west of the homestead, area of potential buried remains. Marshall family identified it as a former slaughter house (but not extant during their time).	Three 15 x 1m	Shrub (non-native) will need to be cut to ground level. Large stones on the ground, standing posts associated with site.	Combination of machine and hand excavation: Will begin with machine excavation but revert to to hand excavation if artefacts and/or deposits are uncovered.
TA 6	Main House and surrounds: potential demolished structures to north west of homestead complex	4-6	Fields to the north west of the homestead, area of buried remains. Contains evidence of brick floors and demolition rubble.	Three 15 x 1m	Large stones on the ground, some evidence of structures / material on surface (will be hand excavated).	Combination of machine and hand excavation: Will begin with machine excavation in two trenches but revert to to hand excavation if artefacts and/or deposits are uncovered.
TA 6	Main House and surrounds: potential demolished structures to north west of homestead complex	6-9	Area of Garden and cultivation	Three 15 x 1m		Combination of machine and hand excavation: Will begin with machine excavation but revert to to hand excavation if artefacts and/or deposits are uncovered.
TA 7	Linear Structure (potential burial)	1	Area adjacent to creek, linear stone feature.	One 4 x 4m	Large tree on edge (potential for tree roots)	Combination of machine and hand excavation: Will begin with machine excavation but revert to to hand excavation when artefacts and/or deposits are uncovered.

General Notes:

- Testing Areas are to be located in response to on-ground constraints, avoiding such items as trees, fence lines, garden beds, services, large extant stones etc where feasible.

- Testing Areas will be located by surveyor to maximize probability of locating remains.
- Testing Areas may need to be shifted in response to any archaeological features; ie they may need to be widened or lengthened to obtain the maximum amount of information.
- Specific Trench dimensions are indicative only and may be subject to movement, extensions or additional trenches. Distribution of trenches will be determined in conjunction with each other; ie one trench may have three extensions, while another only has one, depending on any remains found.
- All efforts will be made to keep testing areas from interfering with key roads, access or entrance/egress routes. Areas may need to be fenced or bunted to ensure safety.
- At the conclusion of testing trenches will be covered with geofabric and backfilled to ensure the reinstatement of any surfaces or ground that is disturbed during the testing. The areas to be tested are generally occupied by stock for grazing.

7.2.7 TRENCHES AND AUGER HOLES TO INFORM BUILDING CONSERVATION / RELOCATION METHODOLOGY

7.2.7.1 TRENCHES AND AUGER HOLES

Eleven trenches and six auger holes (Figure 7.2) are required to inform building conservation works and the relocation methodology for the Ravensworth House, the stables and the barn.

The eleven trenches will be excavated to investigate the composition/configuration of wall footings³⁵⁴ and foundations³⁵⁵ in areas where:

- existing walls are unstable and require conservation works: and
- to inform design of moving methodology.

Specific information to be documented for the conservation and relocation methodology includes:

- Top of foundation
- Type of foundation
- Level of underside of foundation (founding level)
- If movement has occurred
- Any information on the structure and materials used to construct the footing.

Excavations will need to be taken to sufficient depth to ensure that base of footings has been correctly identified, locally excavating to a depth below the footing. The test trench findings will be recorded with:

- drawn cross sections identifying the geometric profile of the footings, the materials (footing and bearing material eg: sandstone block footing on stiff clay), and the relevant depths and widths measured in mm of changes in footing dimension.
- any ground water levels in excavations (if encountered).
- the nature and estimated permissible bearing capacity of the existing founding material below the footings (eg stiff clay, 200kPa or weathered rock, 600kPa).³⁵⁶

Six auger holes will be excavated to identify the level of bedrock, and the type and strength of the in situ material that would need to be excavated to confirm that the proposed relocation method is correct. Changes in soil type can be observed as the soil comes up. Auger locations are generally flexible (to ensure that areas with significant archaeological potential can be avoided).

The Men's quarters are timber and considered less problematic to relocate, however an additional four trenches may be required to evaluate the relocation of the Men's quarters. The location of these trenches, if required, would be designed to minimise any impacts on potential archaeological deposits.

Care will be taken to ensure there is no damage to the structure during these works.

7.2.7.2 PROPOSED TESTING METHODOLOGY

Eleven trenches are proposed. Additional trenches may be required should the excavation of some trenches need to be relocated as a result of encountering significant in situ deposits or large obstacles obscuring the purpose of the pit.

Hole sizes to be kept to a minimum with typical dimensions being 800mm x 600mm based on an assumed foundation width of 600mm (depth will vary).

³⁵⁴ Footing is defined as the base part of the wall that contacts the bearing material (eg. Stone spread brick or concrete).

³⁵⁵ Foundation is defined as the soil or bedrock bearing material that supports the footing

³⁵⁶ Input to methodology provided by Simon Wiltshier (Mott MacDonald) and Glencore.

Excavation methodology for Trenches:

- Excavation by hand using pick shovel and/or a mechanical hand-operated shovel.
- Excavation to start approximately 800mm away from the edge of the building and move towards the structure.
- Remove top 150mm layer and set aside.
- Excavate in layers approximately 200-300mm deep.
- All trenches will be monitored and recorded by an archaeologist from Casey & Lowe. All artefacts from the trenches will be collected and catalogued.
- Material from the trench will be set aside and reused to backfill the hole upon completion of work.
- If significant remains are uncovered in the trenches we may need to relocate them to clarify the extent and survival of the archaeology in this area.

Details of the trench locations are provided in Table 7.2 and Figure 7.2.

Table 7.2: Proposed trench locations for building relocation methodology.

Trench	Location	Observation	Orientation/ Trench size
Tr. A	Stable, west-facing wall	Lower foundation course partially visible.	E-W / 600mm by 800mm
Tr. B	Stable, east facing wall		E-W / 600mm by 800mm
Tr. C	Barn, west-facing wall	Lower foundation course partially visible.	E-W / 600mm by 800mm
Tr. D	Barn, south-facing wall/entrance	Area partially disturbed, evidence of modern plastic pipe visible.	E-W / 600mm by 800mm
Tr. E	Barn, east-facing wall, (northern end)	Lower foundation course partially visible.	E-W / 600mm by 800mm
Tr. F	East Wing, east-facing wall	Lower foundation course partially visible.	E-W / 600mm by 800mm
Tr. G	East Wing, east-facing wall	Lower foundation course already visible.	E-W / 600mm by 800mm
Tr. H	Join between Main House and East Wing	External sandstone floor across the whole area. Difficult to do this trench without removing flooring.	E-W / 600mm by 800mm
Tr. I	Main House east-facing wall (southern end)	Downpipe located in this area. Relocate trench immediately to north.	E-W / 600mm by 800mm
Tr. J	Main House west-facing wall (southern end)	Downpipe located in this area. Plus in area of raised garden bed. Larger trench proposed as need more space to work in this area.	E-W / 1000mm by 1000mm
Tr. K	Main House west-facing wall (northern end)	Area already partially disturbed by services to bathroom and other pipes visible. Area of potential West wing -will be excavated archaeologically (see Test Area 3 above).	E-W / 2000mm by 2000mm

Excavation methodology for Auger Holes:

- Depth to bedrock.
- Machine-mounted auger approximately 450mm diameter to bedrock or 3m.
- Holes located approximately 2m from the structure (flexible).

Details of the auger hole locations are provided in Table 7.3 and Figure 7.3.

Table 7.3: Proposed auger hole locations for building relocation methodology.

Auger Hole	Location	Observation	Auger Hole size
AH 1	To west of Stable	In field external to main compound, immediately east of current vehicle track.	Approx. 450 mm diameter
AH 2	To north-east of Barn	In field external to main compound.	Approx. 450 mm diameter
AH 3	To south-east of Main House	Within garden area.	Approx. 450 mm diameter
AH 4	To south-west of Main House	Within garden area.	Approx. 450 mm diameter

7.2.7.3 POTENTIAL IMPACTS ON RELICS BY THIS TESTING

- The landscape / A Horizon is deflated as result of on-going farming practice and potential for later occupation deposits is limited.
- Works are not intending to cut through the deposits or structural remains associated with the construction, use or demolition of the key structures.
- Testing is not intended to remove State significant archaeology.
- In several cases the lower foundation courses are already visible. Based on the location and the size of the trenches negligible impact is predicted.

7.2.7.4 MITIGATION OF IMPACTS

- Try to avoid impacts where possible.
- Archaeological monitoring of works, where significant *in-situ* deposits are encountered and if impacts cannot be avoided (trench relocated), undertake best practice archaeological recording and collection of artefacts.

7.2.7.5 BACKFILLING OF TRENCHES

- Use of geotextile fabric as marker where it is useful.
- Backfill, where possible, with the material removed from the trench.

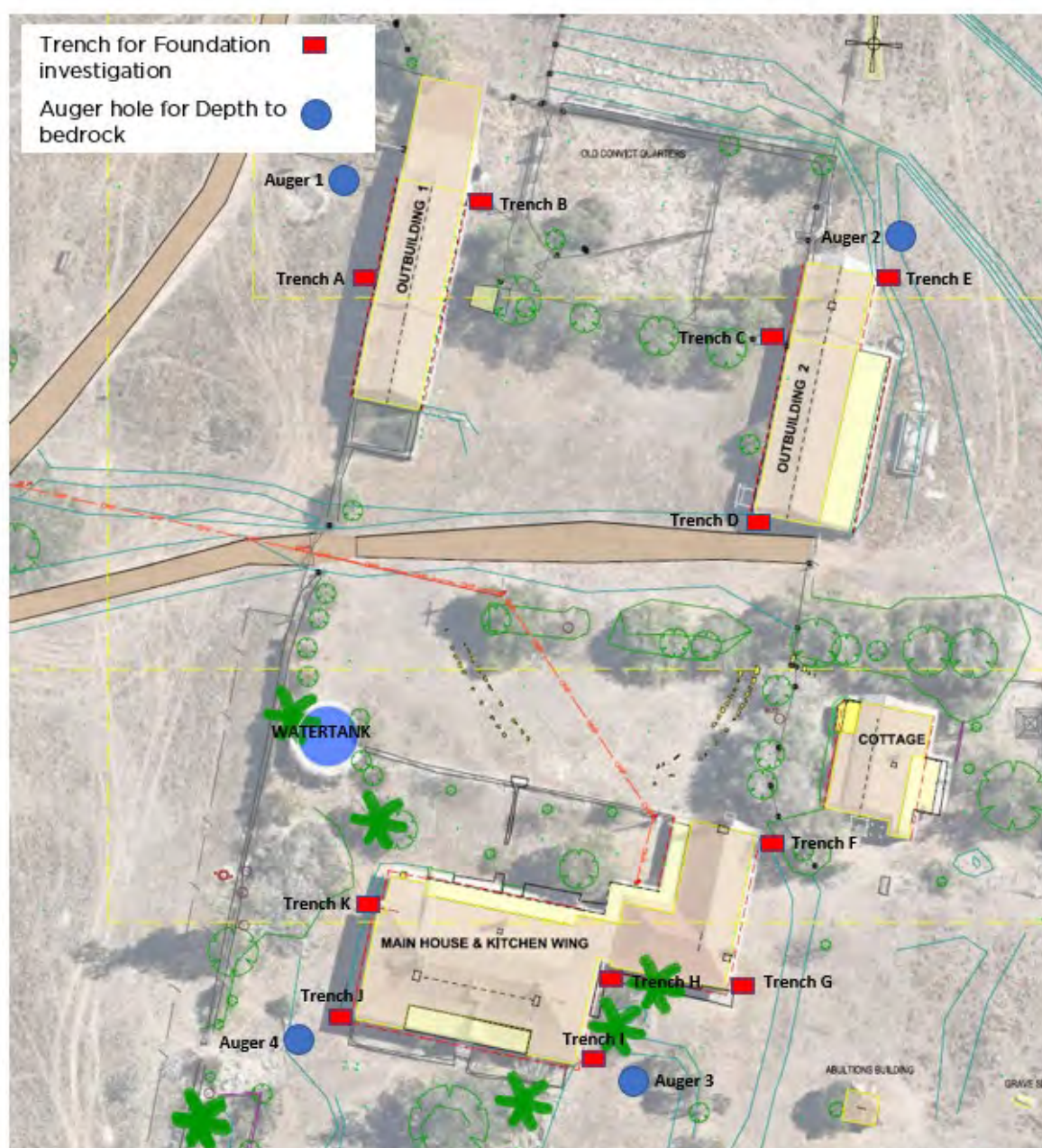




Figure 7.2: Location of Trenches and Auger holes for building relocation methodology.

Figure 7.3: View of Trenches for building relocation methodology.

	
Tr A: General view. Stable, west-facing wall.	Tr A: Detail. Stable, west-facing wall.
	
Tr B: General view. Stable, east-facing wall	Tr B: Detail. Stable, east-facing wall



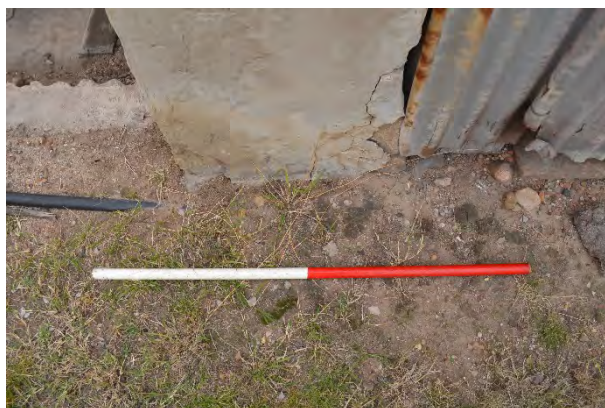
Tr C: General view. Barn, west-facing wall



Tr C: Detail. Barn, west-facing wall



Tr D: General view. Barn, south face wall / entrance



Tr D: Detail. Barn, south face wall / entrance

	
<p>Tr E: General view. Barn, east-facing wall (northern end)</p>	<p>Tr E: Detail. Barn, east-facing wall (northern end)</p>
	
<p>Tr F: General view. East Wing, east-facing wall</p>	<p>Tr F: Detail. East Wing, east-facing wall</p>



Tr G: General view. East Wing, east-facing wall



Tr G: Detail. East Wing, east-facing wall



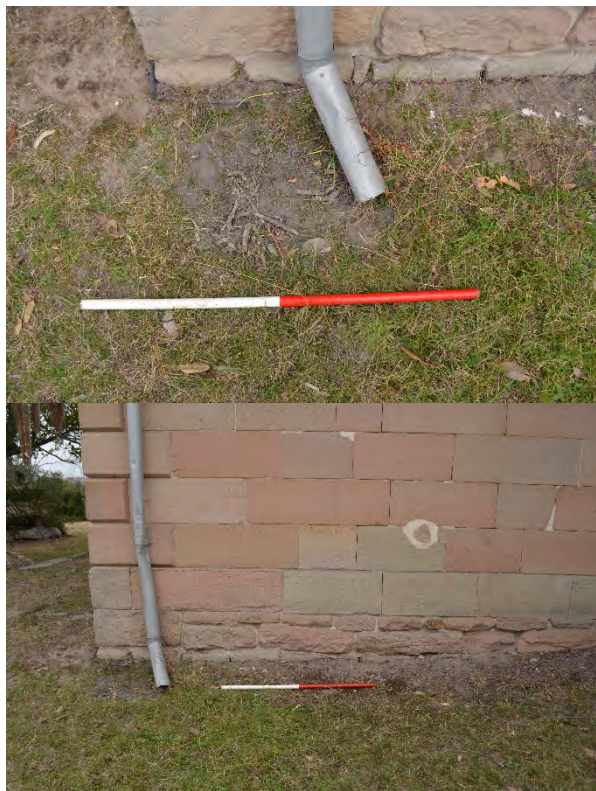
Tr H: General view. Join between Main House and East Wing



Tr H: Detail. Join between Main House and East Wing



Tr I: General view. Main House east-facing wall (southern end)



Tr I: Detail. Main House east-facing wall (southern end)



Tr J: General view. Main House west-facing wall (southern end)



Tr J: Detail. Main House west-facing wall (southern end)



Tr K: General view. Main House west-facing wall (northern end)



Tr K: Detail. Main House west-facing wall (northern end)

7.3 ABORIGINAL ARCHAEOLOGICAL TESTING AREAS (OZARK EHM)

As a result of a surface archaeological assessment (carried out in April and May 2018), OzArk EHM have identified 12 locations that require subsurface test excavation in order to determine the integrity and/or extent of Aboriginal archaeological sites recorded during the field assessment (Figure 7.4).³⁵⁷

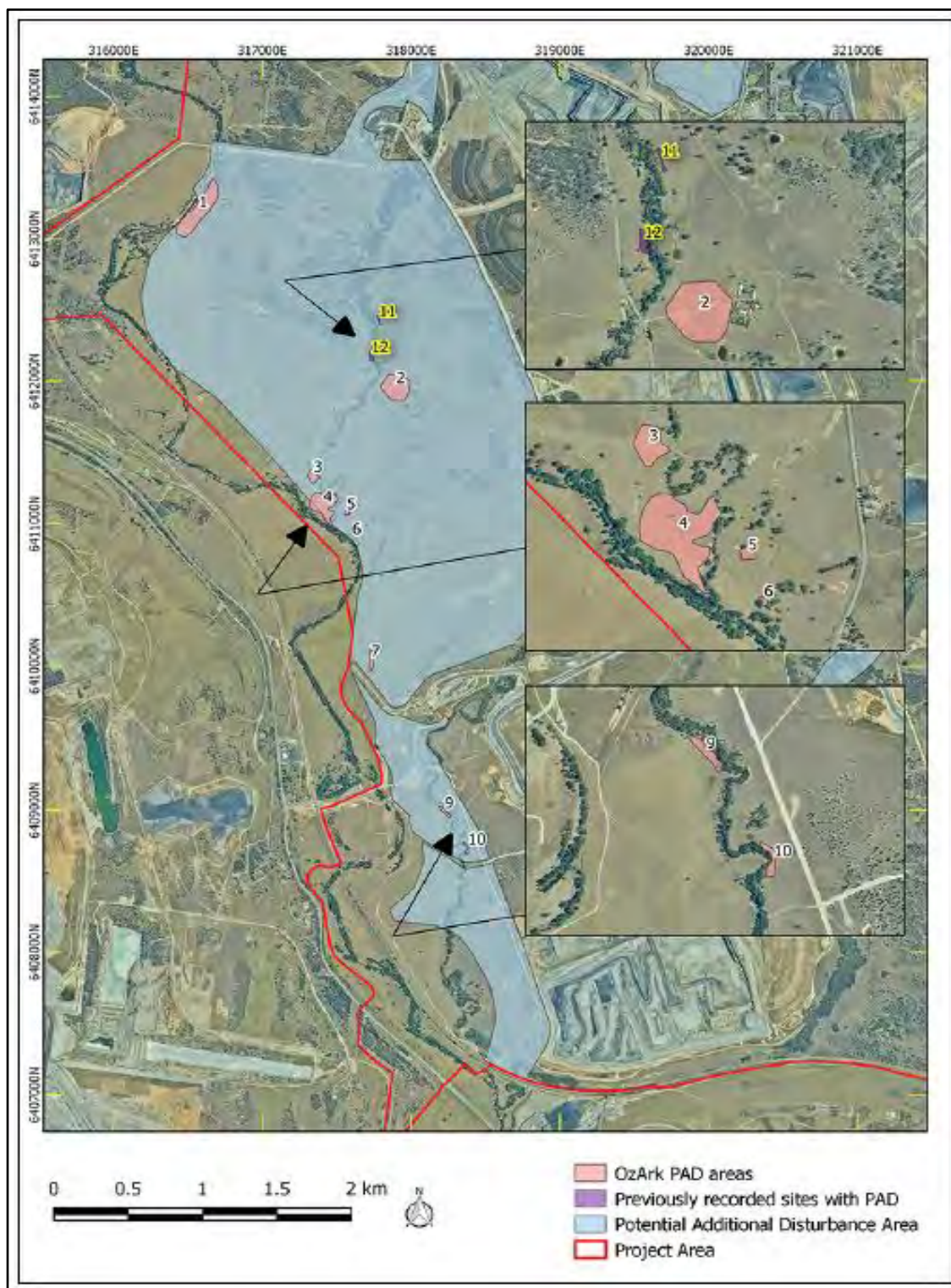


Figure 7.4: Location of the proposed Aboriginal archaeological test excavation program (OzArch EHM 2018: Figure 4-3, p.32).

³⁵⁷ OzArk EHM 2018 *Archaeological Test Excavation Methodology*, prepared for Umwelt Australia on behalf of Mt Owen Pty Ltd, August 2018.

The OzArk report, prepared and provided to the Registered Aboriginal Parties (RAPs), identified that test excavations related to historic heritage at the Ravensworth Homestead may also be required as there is potential for Aboriginal artefacts to be encountered in historic archaeological test excavations. The report also identified that the methodology for the historic test excavations will have policies relating to the potential of encountering Aboriginal artefacts and the methodology would be circulated separately to the RAPs for the Project once prepared. The proposed management measures in relation to Aboriginal objects can be found in Section 7.3.2 below.

It is proposed that there will be representation from the RAPs, working with Casey & Lowe, during the historical archaeological testing program.

Of the proposed Indigenous test trenches, a number of areas are located adjacent to several historical archaeological sensitive areas of potential State significance (Figure 7.5).

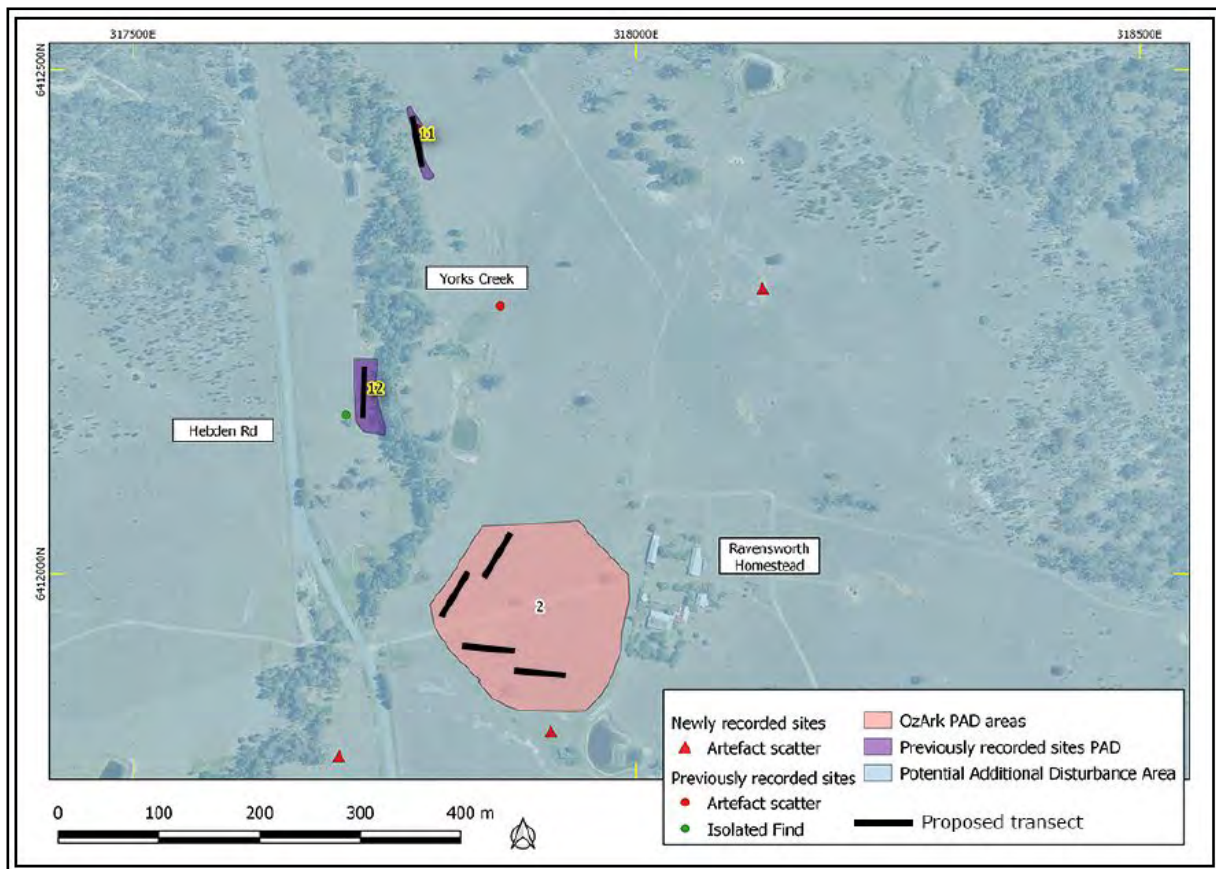


Figure 7.5: Detailed locations for the proposed test excavation program at Areas 3, 13 & 14 (OzArk EHM 2018: 31).

One of Casey and Lowe's proposed test locations includes AHIMS site 37-3-0753. The proposed test area is large and site 37-3-0753 and its vicinity will be avoided during the proposed historical archaeological testing program.



Figure 7.6: Plan showing proposed historical archaeological test trench locations in Test Area 6 (TA6) in relation to the AHIMS site 37-3-0753.

7.3.1 MANAGEMENT MEASURES FOR RELICS

Where excavation for purposes of Aboriginal archaeology is proposed within areas of potential State significant archaeology, then it should be done in consultation with Dr Mary Casey and Tony Lowe. Generally, it may not be allowed but if it is in an area where we have already undertaken testing and not found any significant remains it should be able to go ahead. If significant remains have been found then the Aboriginal archaeological testing may need to be shifted some distance from the potential State significant archaeology.

7.3.2 MANAGEMENT MEASURES FOR ABORIGINAL OBJECTS

In the event that the historical archaeological testing program finds Aboriginal objects the following measures will be undertaken:

1. Works will stop in the trench where Aboriginal objects have been found.
2. The Primary Excavation Director or Site Director will contact the archaeologist undertaking the Aboriginal cultural heritage assessment (providing them with the location, photographs of the objects and context/ setting and information re the context where the objects were found);
3. If the items are Aboriginal objects, Glencore will contact the RAPs; and
4. Casey & Lowe and Glencore, in consultation with OzArk, determine the next step.

Where objects are found in areas not identified as having archaeological potential³⁵⁸ work would likely continue except where a significant number of objects or a significant object has been found. Works may continue considering both historical archaeology (relics) and Aboriginal heritage (objects).

OEH would be notified under s89 of the NP&W Act.

7.4 DISCOVERY OF HUMAN SKELETAL REMAINS

Human skeletal remains can be identified as either an Aboriginal object or (non-Aboriginal) relic depending on ancestry of the individual (Aboriginal or non-Aboriginal) and burial context (archaeological or non-archaeological). The Coroners Act only has jurisdiction over remains less than 100 years old, as such remains are considered to be archaeological in nature when the time elapsed since death is believed to be 100 years or more.

Should suspected human skeletal material be exposed during works, all relevant procedures for identification will be undertaken in accordance with the Policy Directive – Exhumation of Human Remains (NSW Ministry of Health Dec 2013 PD2013_046); Skeletal Remains – Guidelines for the Management of Human Skeletal Remains under the Heritage Act 1977 (NSW Heritage Office 1998) and the Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1997).

Different legislation applies depending on context and ancestry of the remains. For example:

- A pre-contact archaeological Aboriginal burial is protected under the *National Park and Wildlife Act 1974*;
- A historic (non-Aboriginal) archaeological burial outside a cemetery would be protected under the *Heritage Act 1977*.

For these cases, the relevant heritage notification requirements provided above in section 2.1.1.1 would apply. In addition to the *National Park and Wildlife Act* notification, finding Aboriginal human remains also triggers notification requirements to the Commonwealth Minister for the Environment under s20(1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth).

Where it is suspected that the remains are less than 100 years old, the human skeletal remains fall under the jurisdiction of the State Coroner and the *Coroners Act 2009* (NSW) and would be considered a 'reportable death' under s35(2) of that Act. A person must report the death to a police officer, a coroner or an assistant coroner as soon as possible. This applies to all human remains less than 100 years old regardless of ancestry, and includes both Aboriginal and non-Aboriginal human remains. Public health controls may also apply.

7.4.1 PROTOCOL FOR HUMAN SKELETAL REMAINS

As a result of the relevant legislation the following protocol will be adopted for this project. The Primary Excavation Director or Site Director, in consultation with Glencore representative, will:

1. **Stop** all work in the vicinity of the potential human remains: as soon as remains are exposed, work will cease within an appropriate radius (minimum 10 m) around the remains and temporary fencing will be erected to restrict access and allow assessment and management.
2. **Notify** local police, OEH and/or the Heritage Division. A forensic physical anthropologist will review photographs, and may inspect the remains in-situ in order

³⁵⁸ OzArk EHM 2018.

to make a determination about ancestry (Aboriginal or historical) and antiquity (pre-contact, historic or forensic).

Note: The police may wish to take control of the site at this stage or may be happy to wait for a specialist skeletal assessment to determine the approximate date of death to inform legal jurisdiction.

Notification: The following is a summary of the different notification pathways required for human skeletal remains depending on the preliminary skeletal assessment of ancestry and burial context.

a) Human bones are from a recently deceased person (less than 100 years old).

Notification to police officer immediately (as per the notification requirements under s35 of the Coroners Act 2009 (NSW)). It should be assumed the police will then take command of the site until otherwise directed.

b) Human bones are archaeological in nature (more than 100 years old) and are likely to be Aboriginal remains.

Notification to OEH and the RAPs immediately that potential Aboriginal remains have been found and are awaiting formal identification by the physical anthropologist. Glencore will contact and inform the Registered Aboriginal Parties.

b) Human bones are archaeological in nature (more than 100 years old) and likely to be non-Aboriginal remains.

Notification to Heritage Division, OEH immediately that human remains have been found and are awaiting formal identification by the physical anthropologist.

Note: The above process functions only to appropriately identify the remains and secure the site. As the purpose of the current work is archaeological testing it is not proposed, where human remains are discovered and determined to be of an archaeological nature, to remove them. The project team would work with the forensic physical anthropologist, OEH and/or the Heritage Division and RAPs, where relevant, to ensure the remains are protected and kept secure in situ on the site.

8.0 EXCAVATION METHODOLOGY & RESEARCH QUESTIONS

8.1 TESTING METHODOLOGY

- Most of the Testing Areas will be excavated to the top of significant archaeology. There is no intention to excavate structural remains of State-significant archaeology other than some specific occupation deposits.
- Excavating small sondages within selected surviving deposits (eg rubbish or occupation deposits) within the Ravensworth Homestead and Old House may be necessary to determine depth and to inform significance.
- Most Testing Areas will be relatively shallow. The locations of any sondage will be identified during testing.
- Most excavation will be undertaken by hand with minimal use of machine. Where a machine is used this will be under the supervision of the archaeologists, with hand excavation for detailed work and exposure of archaeological remains.
- Open trenches will be secured with temporary fencing during excavation.
- Once archaeological excavation and recording has been completed, the trenches will be backfilled with the excavated material. Geotextile fabric will be placed on top of the archaeological remains and/or at the base of trenches.

8.2 RECORDING

- All Testing Areas will be surveyed to provide detailed plans of the location of trenches and remains to inform the detailed design process. A surveyor will take RLs on the archaeological remains within the testing areas. These will be tied into the architectural survey of the buildings on the Ravensworth Homestead site
- Substantial or significant surviving remains will have detailed archaeological scale plans and sections drawn.
- Detailed photography will be taken of the Testing Areas and trenches.
- Use of detailed trench recording forms.
- Analysis of stratigraphic information to help inform the overall impacts of the proposed development so we can extrapolate positions and RLs of potential archaeology as predictors across the site.

8.3 ARTEFACTS

- It is not the intention to recover artefacts from test trenches but if significant deposits of objects are found these will be collected. All artefacts recovered will be catalogued according to Casey & Lowe's cataloguing system by our team of specialists. All collected artefacts will be washed, labelled, bagged and boxed prior to cataloguing.

8.4 REPORTING

A testing report will be prepared to address the results of the archaeological program. This will include:

- Description and analysis of the Testing Areas.
- Detailed plans and photos.
- Further analysis of impacts.
- Artefact catalogue for the final version of the report.

The testing report will respond to the SEARs and inform the Environmental Impact Assessment for the Project, including the Conservation Management Plan and the Statement of Heritage Impact (SoHI).

8.5 ARCHAEOLOGICAL TEAM

The archaeological testing project will be directed by Dr Mary Casey (Primary) and Tony Lowe (Secondary), Directors, Casey & Lowe. Both Mary and Tony can hold permits from the Heritage Division, OEH, for working on sites of State significance. Kylie Seretis, Director, Casey & Lowe, will be the Site Director. Kylie will be responsible for the day-to-day excavation and recording of the trenches. They will be assisted by Robyn Stocks, Bernadette McCall, Sandra Kuiters, Kat McRae and other qualified archaeologists as identified. All artefacts will be catalogued by our specialist team.

8.6 RESEARCH QUESTIONS

A number of site specific questions which informs the testing program have been identified above. The main focus of research questions in relation to the proposed archaeological testing program is to refine our predictions about the site's archaeological potential and level of significance and to inform the detailed design process, including:

- How do the results of the testing inform our model of the survival, extent and location of the potential archaeological resource, including:
 - Structural remains associated with the Ravensworth homestead complex.
 - Evidence for changes in design, including demolished extensions, particularly within the homestead and associated outbuildings.
 - Subfloor occupation deposits within the now demolished potential northern building.
 - Subfloor occupation deposits within the homestead main building. It is noted, however, that it is not proposed to test under the floorboards for this work.
 - Artefact dumps or occupation deposits, including rubbish pits.
 - Evidence for landscaping, including land clearance, ploughing, cultivation and irrigation works.
 - Evidence of the (old) Great Northern Road.
 - Structural remains of the potential buildings to the north of the homestead, and associated artefact deposits.
 - Structural remains of former huts, cottages, dairies, cattle yards and other features associated with the homestead and various farm complexes dating from the 1820s to the early 20th centuries.

General research themes which the archaeology of this site may contribute to are:

- Contact between Aboriginal people and the British settlers.
- Expanding British settlement - the roads and railway line.
- Convict labour practices and assignment, and how they lived on the Ravensworth estate.
- Life of free staff on the estate and how it contrasted with convict living conditions.
- Evolving archaeological landscape as labour and pastoral/agricultural practices changed, and evidence of early sheep husbandry.
- Lifeways of the various households and questions relating to: consumption and material culture, class, and gender and the roles of men and women.
- Nature of technological change and adoption of new farming practices. Later owners and periods of use of the homestead complex, including Soldier Settlement.

9.0 RESULTS AND RECOMMENDATIONS

9.1 RESULTS

This Archaeological Assessment (AA) suggests the study area has the potential to contain significant archaeological remains (relics under the NSW *Heritage Act, 1977*) associated with the 19th and 20th-century pastoral and agricultural land-use of the site, including:

- Structural remains associated with the Ravensworth homestead complex.
- Evidence for changes in design, including demolished extensions, particularly within the homestead and associated outbuildings.
- Subfloor occupation deposits within the homestead main building.
- Artefact dumps or occupation deposits, including rubbish pits.
- Evidence for landscaping, including land clearance, ploughing, cultivation and irrigation works.
- Evidence of the (old) Great Northern Road.
- Structural remains of the (wheat) silo and associated artefact deposits.
- Structural remains of the late 19th-century wool shed and stable block (c. 1882-1887), situated to the southeast of Ravensworth Homestead.
- Structural remains of former huts, cottages, dairies, cattle yards and other features associated with the homestead and various farm complexes dating from the late 19th century and early 20th centuries.

9.2 RECOMMENDATIONS

Further analysis within the study area should include:

- Targeted archaeological testing of potentially State-significant sites related to the Bowman era, including the Ravensworth Homestead complex, the surrounding cultivation areas, and the nearby early house site.

The following recommendations are based on the historical research and archaeological analysis provided in this assessment, and pertain to the management of those identified heritage items within the study area:

Potentially State Significant Archaeological Items

A program of archaeological testing should be undertaken to:

1. Respond to the SEARs for the Project with regard to historical archaeology.
2. Determine the survival, extent and location of the potential archaeological resource.
3. Clarify the archaeological potential and significance of areas of State and/or local significance.

The proposed testing program at Ravensworth Homestead Complex and surrounds has been designed to:

1. Determine the survival, extent and location of the potential archaeological resource.
2. Clarify the archaeological potential and significance of areas of potential State and/or local significance.
3. Inform the environmental assessment process and any options proposed as part of the project, including the potential to relocate the homestead.

10.0 REFERENCES

10.1 PRIMARY SOURCES

10.1.1 INDEXES AND DATABASES

State Heritage Database:

'Ravensworth Homestead, LEP I41. Available at:

<http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1530089>

10.1.2 NEWSPAPERS

Newspapers accessed via <http://trove.nla.gov.au/newspapers>

The Australian
Australian Star
Australian Town and Country Journal
Daily Examiner
Daily Telegraph
Dungog Chronicle
Illustrated Sydney News
Maitland Daily Mercury
Maitland Weekly Mercury
Singleton Argus
Sydney Mail
Sydney Morning Herald

10.1.3 MAPS, PLANS AND SKETCHES

- 1828 'Map of the River Hunter and its branches', H Dangar, 1st August 1828, NLA Map NK 646.
- 1833 R. Dixon. ML H.35.663 (Crown Plan R.5.830).
- 1835 Assistant Surveyor G.B. White. SA Map 5095 (originally R.6.830).
- 1835 [sketch of], G.B. White. Surveyor General, Sketch Book 3 folio 16.
- 1837 'This map of the colony of New South Wales', R. Dixon, 20th July 1837, NLA Map F 891.
- 1839 [Map of County of Durham], William Henry Fernyhough. (D.1086), SA Map 2520.
- 1843 'Plan shewing the Allotments in the Village of Liddell 1843', LHR HLRV.
- 1850 [Map of County of Durham]. (D.2.1086), SA Map 2521.
- 1857 [Map of County of Durham]. (D.3.1086), SA Map 2522.
- [c.1830s] [sketch map showing three buildings on Ravensworth], Macarthur Family Papers, Vol 78, Papers re. Dr. Bowman, 1829-1855, ML A2974.
- [n.d.] 'Ravensworth Proposed School Site...', NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1.
- 1888 'Plan of J. Bowman's Grant, County of Durham, Parish of Vane' (Portion 69), Crown Plan Ms.146.3070.
- 1888 'Ravensworth Hunter River District', County Durham, Subdivision Plan ML, ZCP/D6/9.
- 1892 Ravensworth Estate, NLA Map Folder 144, LFSP 2306.
- 1892 'Ravensworth Estate, Hunter River District', County Durham, Subdivision Plans NLA Map Folder 144 LFSP 2306
- 1907 [Plan of the right of way granted to Andrew Dries], OSD, No 133 Bk 828.
- 1911 [Ravensworth Subdivision Plan], NRS 3829, School file, Hebden, SANSW 5/16256.4.
- 1911 [Ravensworth Subdivision Plan], County Durham, Subdivision Plans, ML, ZCP/D6/34.

1912	[Ravensworth Subdivision Plan], County Durham, Subdivision Plans, ML, ZCP/D6/100.
1912	[Ravensworth Subdivision Plan], NRS 17513, Lands, Real Property Application Packet, RPA 17251.
1912	'Plan of School & Residence at Ravensworth', NRS 3829, School file, Ravensworth, Part A, SANSW 5/17442.1.
1917	'Plan of lands to be resumed under the Public Roads Act 1902 in connection with the proposed widening of the Right of Way within the Ravensworth private subdivision Portion / Parish of Vane and Portions 149 & 150 Parish of Liddell', R.13401.1603, Crown Plan.
1919	'Plan of Portion 228', D.4642.2083, Crown Plan.
1942	Australia – Army, Topo Map 1:63360, M Ser 3 804 3 Camberwell, Zone 8, No 378
1977	Central Mapping Authority, Topographic Map 1:25,000, M Ser 4 810 9 Camberwell, 9133-III-S.

10.1.4 OTHER CROWN PLANS CONSULTED

Parish Maps, Parish Liddell and Goorandgoola

(H.32.or) SA Map 2949

(H.130) SA Map 2965

(H.365) SA Map 2981

(H.365) SA Map 2982

(H.1.376) SA Map 2989

(H.2.418) SA Map 2990

(H.3.418) SA Map 2990A

(H.6.830) SA Map 5095 (original seen at SANSW)

D.8.1557

D.35.1557 (Surv Mackay 20 Feb 1856)

D.431.1557

D.447.1557

D.807.1557

D.810.1557

D.211.2083

D.536.2083

D.936.2083

D.937.2083

D.938.2083

D.939.2083

D.983.2083

D.1113.2083

D.1653.2083

D.4630.2083

D.4631.2083

D.4642.2083

D.4643.2083
 D.5051.2083
 H.35.663
 L.1.1222
 Ms.352.3070
 Ms.1704.3070 (RPA)
 Ms.1706.3070 (RPA)
 Ms.1714.3070 (School site)
 R.962.R (not available – not at SANSW)
 R.1330.1603
 R.19906.1603

10.1.5 LAND REGISTRY SERVICES

Certificates of Title, 1863 onwards

Deeds Registers

Grants Registers

'Dept of Mines (Stock and Brands Branch), Report 31 Dec 1884', *V & P L A N S W*, 1885 (2), V. III, pp. 435-457.

10.1.6 STATUTORY DOCUMENTS

Legislation and regulations accessed via <http://www.legislation.nsw.gov.au/>

Environmental Planning and Assessment Act Current version for 1 July 2018 to date.

Heritage Act 1977 No. 136, Current version for 1 July 2018 to date.

Singleton Local Environmental Plan 2013, Current version for 20 April 2018 to date.

10.1.7 PRINTED PRIMARY BOOKS AND ARTICLES

1881 *The Railway Guide of New South Wales*, New South Wales Government Printer, Sydney.

1888 *Aldine Centennial History of New South Wales*, Sydney,

1889 *Australian Men of Mark*, Volume 2, C F Maxwell, Sydney,

Backhouse, J. 1838 *Extracts from the Letters of James Backhouse*, Part 3, Darton and Harvey, London,

Baxter, C J. 1999 *General Muster List of New South Wales: 1823, 1824, 1825*, ABGR, Sydney.

Cunningham, P. 1827 *Two Years in New South Wales*, Henry Colburn, London.

Dangar, H. 1828 *Index and Directory to Map of the County bordering upon the River Hunter: the lands of the Australian-Agricultural Company, with the ground plan and allotments of King's Town, New South Wales*, Joseph Cross, London.

Historical Records of Australia

New South Wales Government Gazette

Parry, W E. 2004-5 *In the service of the company: Letters of Sir Edward Parry, Commissioner to the Australian Agricultural Company*, 2 volumes, ANU Press.

10.1.8 UNPRINTED PRIMARY SOURCES (MANUSCRIPTS)

Church and School Estates, Rent roll of leases, SANSW 7/1271

Church and School Estates, Rent Register 1860-80, SANSW 4/6875

Macarthur Family Papers, Vol 78, Papers re Dr Bowman, 1829-1855, ML A2974

- Malcolm, Lieutenant George Pulteney, Journal 17 Aug 1834 – 15 July 1837, ML.MSS 5312
- NRS 905 Colonial Secretary, Letters received (SANSW)
36/8659 (J G Delbridge Conditional Pardon Application) 4/2309
- NRS 907 Col Sec, Correspondence re Land (SANSW)
Bowman, James, 1829-41, 2/7807
- NRS 3829 School files, 1876ff (SANSW)
Hebden, 1912-39, 5/16256.4
Ravensworth, 1876-1939, Parts A & B, 5/17442.1
- NRS 8022 Lands, Alienation Branch, Correspondence (SANSW)
Aln80/2530 (VLO purchase) 10/35154
- NRS 8052 Closer Settlement Estate Files (SANSW)
No 1794, Troy's (2) Estate 10/13284
- NRS 8058 Soldier Settlement Loan Files (SANSW)
No 6240, A C Marshall, Ravensworth, 12/7155
- NRS 8103 Conditional Sales/Sales Branch, Correspondence (SANSW)
1886, 10/17377 (numerous files purchase portions on Ravensworth)
- NRS 13011 Lands, Real Property Applications (SANSW)
RPA 17251 (Ravensworth) 6/10207
- NRS 13736 Surveyor General, Letters from Surveyors (SANSW)
Dixon, Robert, 2/1531.2
- NRS 17513 Lands, Real Property Application Packets (SANSW)
RPA 17251 (Ravensworth)
- NRS 13340 Stamp Duties Office, Deceased Estate Files (SANSW)
Farey, Alfred Walter Albert, died 30 /11/1951, B 67306, 20/5316
Mackay, Duncan Forbes, Dulcalmah, died 16/6/1887, duty paid 7/11/1887, 21/4
Reid, Alexander Couchrian, died 26 Oct 1926, pre A 16735, 20/1078
Russell, Eliza, Piccadilly. England, died 14/3/1881, duty paid 8/5/1882 (no duty paid file)
- NRS 13495 Divorce Files (SANSW)
Farey v Farey 5141/1945
Farey v Farey 4438/1947
- NRS 13660 Supreme Court, Probate Packets (SANSW)
Bowman, James, died 23/8/1846, Series 1 No 1778, 14/3229
Farey, Alfred William Albert, died 30/1/1951, Series 4 No 399384
Russell, William, Series 1 No 6981, 14/3398
- NRS 13655 Bankruptcy Files (SANSW)
Farey, A W A, 1916, No 20921, 10/23820
Measures, F J L, 11/12/1916, No 21010, 10/23827
- NRS 14465 Valuer General, Valuation Rolls (SANSW)
Patrick Plains, 1933-62 19/12823

NRS 18096 Lands Department, Tenure Cards (SANSW)

Settlement Purchase Lease, Singleton, 1944/1 – 1946/1

A5037, in SP32/1 Post Office File, Hebden, 1912-17, (Barcode 435452), NAA

B2455 World War One Army Personnel Files (NAA)

1636, A C Marshall, Barcode 8218310, NAA

10.2 SECONDARY SOURCES

— 1966 *Australian Dictionary of Biography*, Melbourne University Press, Melbourne.

Bairstow, D. 2003 *A Million Pounds, A Million Acres: The Pioneer Settlement of the Australian Agricultural Company*, Damaris Bairstow (Publisher), Cremorne.

Broadbent, J, Ian Evans, Clive Lucas, 1978 *The Golden Decade of Australian Architecture: The Work of John Verge*, David Ell, Sydney.

Campbell, J F. 1926 'The genesis of Rural Settlement on the Hunter', *JRAHS* XII, pp 73-112.

Casey & Lowe 2013 *Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney* [Archaeological Investigation], for Lend Lease Development, December 2013.

Clive Lucas, Stapleton and Partners, 2013 *Hunter Estates: A Comparative Heritage Study of pre 1850s Homestead Complexes in the Hunter Valley*, report for the Heritage Branch (NSW), Office of Environment and Heritage, Dept of Premier and Cabinet, March 2013.

Dowd, B T. and Fink, A F. 1967 'John Larnach (1805-1869)' *Australian Dictionary of Biography*, National Centre of Biography, Australian National University, <http://adb.anu.edu.au/biography/larnach-john-2330>, published first in hardcopy 1967 [accessed online 10.09.2018], Vol. 2.

Dunn, M. 2015 *A Valley in a Valley: Colonial struggles over land and resources in the Hunter Valley, NSW 1820-1850*. Unpublished PhD thesis, University of NSW.

EJE Architecture 1997 *Ravensworth Homestead and Farm Complex Structural and Material Condition Report*, (history by Cynthia Hunter) report for Glendell Coal Joint Venture, August 1997.

ERM Mitchell McCotter 1999 *Ravensworth East Mine Archaeology Report, EIS Supporting Document*, report for Peabody Resources Limited, February 1999.

ERM 2002 *Ravensworth East Archaeological Investigation*

Glencore, 2016 *Ravensworth Complex, Plan for Heritage Management*, June 2016.

Glencore 2017 *Mt Owen Open Cut Historic Heritage Management Plan*, October 2017.

GML (Godden Mackay Logan) 2010 *Wambo Homestead Complex: Heritage Strategy*, report for Wambo Coal Pty Ltd, draft report August 2010.

2011a *Ravensworth Homestead Preliminary Advice on Future Use Options, Final Report*, report for Xstrata Coal NSW, June 2011.

2011b *Ravensworth Homestead Relocation Feasibility Study Report*, report for Xstrata Coal NSW, December 2011.

Gollan, V. 1993 *The Military Suppression of Wanaruah Resistance in the Upper Hunter 1826: Mount Arthur and surrounding area*, unpublished report for Wanaruah Land Council.

Gray, N 1966 "Henry Dangar (1796-1861)", *Australian Dictionary of Biography*, National Centre of Biography, Australian National University, <http://adb.anu.edu.au/biography/dangar-henry-1954>, published first in hardcopy 1966 [accessed online 10.09.2018], Vol. 1.

- Edward Higginbotham & Associates Pty Ltd. 2012 *Nineteenth Century Rural Homestead Complexes in the Hunter Region. Historical Archaeological Survey*, report for Clive Lucas, Stapleton & Partners Pty Ltd
- Hunter, C. 1997 'Ravensworth Homestead Historical Text', in EJE Architecture 1997 *Ravensworth Homestead and Farm Complex Structural and Material Condition Report*.
- Jeans, D N. 1972 *An Historical Geography of New South Wales to 1901*, Reed, Artarmon.
- Karskens, G. 1985 "The Grandest Improvement in the Country" *An Historical and Archaeological Study of the Great North Road, N.S.W., 1825-1836*. Unpublished Masters, University of Sydney.
- Kass, T. 2008 *Sails to Satellites: The Surveyors General of NSW (1786-2007)*, NSW Dept of Lands, Bathurst.
- King, H. 1980 *Elizabeth Macarthur and Her World*, Sydney University Press, Sydney.
- NSW Heritage Branch 2009 *Assessing Significance for Historical Archaeological Sites and 'Relics'*, Heritage Branch, Department of Planning [Sydney]. Available at: <http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/ArchSignificance.pdf> [accessed online 01 May 2018].
- NSW Heritage Office 1996 *Archaeological Assessments, Archaeological Assessment Guidelines*, Department of Urban Affairs and Planning.
- NSW Heritage Office 2001 *Assessing Significance: a NSW Heritage Manual Update*. Available at: <http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/ArchSignificance.pdf> [accessed online 01 May 2018].
- Morgan, H.A MacLeod 1958 'The Bulga or Coal River – Australia's First North Road: Its History and Pioneers', *JRAHS* 44/4: 185-221.
- O'Brian, A and Wand, C. n.d. 'Use Sheep Behaviour to Your Advantage When Designing Handling Facilities', *OMAFRA Factsheet 430/20* <http://www.omafra.gov.on.ca/english/livestock/sheep/facts/14-035.htm> [accessed online 07 Aug 2018].
- OEH 2013 *Hunter Estates: A Comparative Heritage Study of pre 1850s Homestead Complexes in the Hunter Region*, published on behalf of the Heritage Council of NSW, April 2013.
- OzArk EHM 2013 *Aboriginal Archaeological Values Assessment. Mount Owen Continued Operations. Near Ravensworth, Upper Hunter Valley, NSW*
- 2014 *Aboriginal Archaeological Salvage Report. Mount Owen Continued Operations. Near Ravensworth, Upper Hunter Valley, NSW*
- 2018 *Archaeological Test Excavation Methodology*, prepared for Umwelt Australia Pty Limited on behalf of Mt Owen Pty Ltd, August 2018.
- Perry, T M. 1963 *Australia's First Frontier: The spread of settlement in New South Wales, 1788-1829*, Melbourne University Press, Melbourne.
- Sainty, M.R and Johnson, K.A. 1980 *Census of New South Wales: November 1928*, Library of Australian History, Sydney.
- Scates, B and Oppenheimer, M. 2016 *The Last Battle: Soldier Settlement in Australia 1916-1939*, Cambridge University Press, Port Melbourne.
- Thorpe, W. 1990 *Regional Study of Heritage Significance Central Lowlands: Hunter Valley Electricity Commission Holdings. Volume 2: Assessment of Historical Sites*, report for the Electricity Commission of NSW, July 1990.
- Umwelt (Australia) Pty Limited 2002 *Statement of Heritage Impact and Research Design: Ravensworth East Coal Mine*, on behalf of Ravensworth East Mine, December 2002.

- 2003 *Mt Owen Operations Historic Heritage Assessment*, on behalf of Hunter Valley Coal Corporation, December 2003.
- 2004 *Response to DEC Request for Further Information in Relation to the Aboriginal Archaeological Assessment – Glendell Open Cut Mine*, on behalf of Glendell Joint Venture, November 2004.
- 2006 *The Historical Archaeology of Ravensworth East Mine, near Singleton, NSW: Excavation and Recording of Sites RE31, RE32 and RE33*, on behalf of Xstrata Mt Owen, November 2006.
- 2007 *Historical Heritage Assessment for Modification of Glendell Mine Operations*, on behalf of Xstrata Mt Owen Pty Limited, August 2007.
- 2010 *Photographic Recording Site MOH5 Mt Owen Complex*, on behalf of Xstrata Mt Owen, March 2010.
- 2011 *Historical Heritage and Aboriginal Archaeological Constraints Analysis for Mt Owen Operations*, on behalf of Xstrata Mt Owen, June December 2011.
- 2013a *Mount Owen Potential Grave Site Investigation*, letter to OEH, February 2013.
- 2013b *Mount Owen Potential Grave Site: Archaeological Assessment and Research Design*, on behalf of Xstrata Mt Owen Pty Limited, June 2013.
- 2014 *Appendix 14: Historic Heritage Assessment, Mount Owen Continued Operations Project*, on behalf of Mt Owen Pty Limited, October 2014.
- 2018 *Glendell Continued Operations Project: Preliminary Environmental Assessment, Mount Owen Continued Operations Project*, on behalf of Glendell Tenements Pty Limited, May 2018.
- White, J. 1981 *The White Family of Belltrees: 150 Years in the Hunter Valley*, Seven Press, Sydney.
- Wood, W A. 1972 *Dawn in the Valley: The Story of Settlement in the Hunter River Valley to 1833*, Wentworth Books, Sydney.
- Kokalj, Z, Zakšek, K and Oštir, K. 2011 'Application of Sky-View Factor for the Visualization of Historic Landscape Features in Lidar-Derived Relief Models', *Antiquity* 85 (327): 263–273.
- 2013 'Visualizations of lidar derived relief models' in Rachel Opitz & David C. Cowley (eds.) *Interpreting Archaeological Topography*, Oxbow Books, pp. 100–114.
- Zakšek, K, K. Oštir and Z. Kokalj. 2011 'Sky-View Factor as a Relief Visualization Technique', *Remote Sensing* 3: 398–415