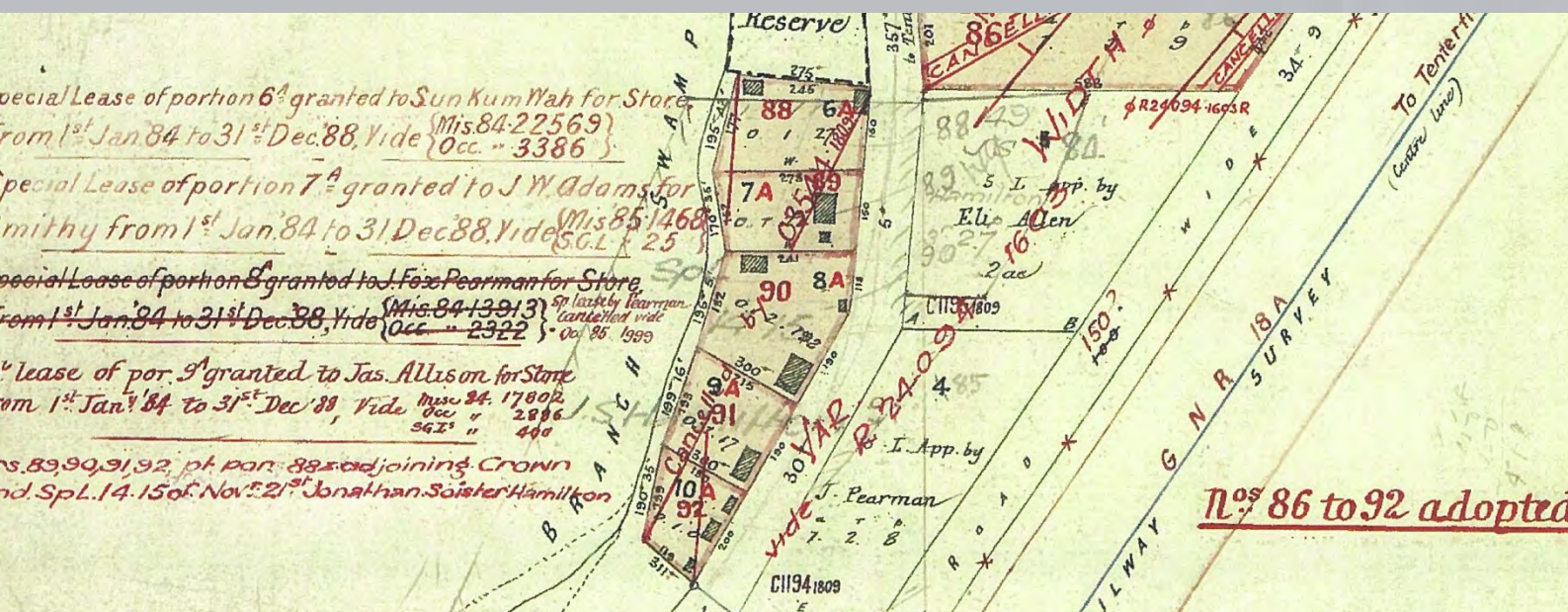


Bolivia Hill Upgrade - Assessment of  
Route Options

**APPENDIX G**  
NON-ABORIGINAL HERITAGE REPORT



# Proposed Route Options for the New England Highway Upgrade, Bolivia Hill


## Historical Heritage Assessment

Cardno and NSW Roads and Maritime Services

July 2013

## Document Controls

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Cover Photo: Extract from 'Plan of Portions No 2A 5A & 6A to 10A' 1198-1809. Anon. 13<sup>th</sup> September 1883.

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Cardno

Historical Heritage Assessment: New England Highway Upgrade, Bolivia Hill

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## Summary

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This report presents the results of an historical (non-Aboriginal) heritage assessment of a proposed upgrade to the New England Highway at Bolivia Hill located near the township of Bolivia, NSW. It has been prepared in accordance with best practice heritage management as outlined in the *NSW Heritage Manual 1996*.

The assessment forms part of Stage 4 of the Project, which involves an assessment of various route options for the proposed highway upgrade. The aim of our assessment was to determine whether any non-Aboriginal heritage items occur within or in close proximity to the proposed route options to assist with the selection of a preferred route. The assessment involved a consideration of background and contextual information, detailed historical research, consultation with the Tenterfield and District Historical Society and a field survey.

A total of twenty (20) non-Aboriginal heritage items were identified within the study area. These items include a c1883 railway town, public school reserve, brickworks, a culvert, the Old Bullock Track, timber and stone creek crossings, two house sites and numerous memorials adjacent to the current highway. Eleven (11) of these items have been assessed in the field. The remaining nine (9) heritage items, including the c1883 township, would require field survey to assess their likely condition, extent and heritage significance if they are likely to be impacted by the chosen route option.

In general, heritage items within the study area are considered to be locally significant for their historical heritage values, associative values, representative values, research potential and/or rarity. However, if substantially intact remains of the c1883 Bolivia town have survived they may be significant at a state level.

A preliminary impact assessment of the four route options indicates that Option 7B would have the least direct impact on historical heritage items. It is therefore considered to be the preferred route option. Given the potential significance of the c1883 Bolivia township and its likely impact from all route options, it is recommended that further archaeological survey of the site be undertaken once concept design details of the chosen route become available. If direct impact on the township can not be avoided an Archaeological Impact Assessment and Research Design would be required to support test excavation under S139 of the *Heritage Act 1977*.

Once a preferred route option is selected, a heritage impact assessment report would also be required to confirm which additional heritage items would be directly or indirectly impacted by the proposed works. This report would form part of the Review of Environmental Factors (REF) and should include individual heritage impact statements and mitigation strategies for affected heritage items.

## 1 Introduction

---

Niche Environment and Heritage Pty Ltd (Niche) was commissioned by Cardno, on behalf of the NSW Roads and Maritime Service (RMS), to prepare an historical (non-Aboriginal) heritage assessment of proposed route options for the New England Highway upgrade at Bolivia Hill, located near Bolivia in NSW. The aim of the highway upgrade is to improve road safety and road transport productivity and the efficiency and reliability of travel whilst minimising the impact on the natural, cultural and built environment (RMS 2012:3).

This report aims to identify whether non-Aboriginal heritage items occur within or in close proximity to the proposed route options and assess their likely significance and potential impacts to inform future environmental impact assessment. It presents the results of historical research, consultation with the Tenterfield and District Historical Society and field survey building on the results of a desktop heritage assessment prepared by Niche in October 2012. The report follows best practice standards as outlined in the *NSW Heritage Manual* (Department of Urban Affairs, 1996) and provides advice to the Proponent on their obligations under the *NSW Heritage Act 1977* and the *NSW Environmental Planning and Assessment Act 1979*.

This report has been prepared by Fiona Leslie (Senior Archaeologist, Niche), Amanda Atkinson and Lydia Sivaraman (Archaeologists, Niche) and has been reviewed by Cameron Harvey (Heritage Team Leader, Niche).

## 2 Scope

---

Our assessment included the following tasks:

- ☐ An initial desktop review of previous studies and reports relevant to the study area;
- ☐ A search of the NSW State Heritage Register (SHR), the NSW State Heritage Inventory (SHI), Local Environmental Plan Heritage Schedules, the World Heritage List, the National Heritage List, the Commonwealth Heritage List and the Register of the National Estate;
- ☐ Consultation with the Tenterfield and District Historical Society and field survey of the proposed route options (and 100 metre buffer);
- ☐ Additional detailed historical research, including the review of archival materials at the Mitchell Library, Crown Plans held by NSW Land and Property Information Section, and the National Library of Australia's TROVE digital archives; and

- Documentation of our findings.

### 3 Location

---

The study area is located along the New England Highway at Bolivia Hill, which is located in the Bolivia Range about 55km north of Glen Innes and 30km south of Tenterfield in northern NSW. A map showing the general location of the study area is shown in Figure 1.

The Bolivia Range runs east - west and connects with the Great Dividing Range to the east. Deepwater River passes around the range to the west. The New England Highway and the Great Northern Railway line pass through gaps in the range to the west of Bolivia Hill. A 9km stretch of the New England Highway passes through the Bolivia Range. 'Bolivia Hill' is a 2km stretch of the highway which descends 100m over 2km.

Four route options for the highway upgrade at Bolivia Hill are currently being considered by RMS. These options, with an additional 100m buffer, define the study area (See Figure 2).

### 4 Proposed Works

---

Stages 1-3 of the Project involved a broad assessment of preliminary route options for the New England Highway upgrade at Bolivia Hill and preparation of a Route Options Development Report by Cardno. This report was informed by a desktop heritage assessment prepared by Niche in October 2012.

Stage 4 of the Project involves the investigation of route options to inform future environmental impact assessment and identification of the preferred route option. RMS has defined four options in order to select the most appropriate upgrade route through Bolivia Hill.

### 5 Aims

---

The aim of this assessment was to:

- Identify whether non-Aboriginal heritage items occur, or are likely to occur, in the study area and assess their likely heritage significance. This will assist with the selection of a preferred route option for the proposed highway upgrade at Bolivia Hill.

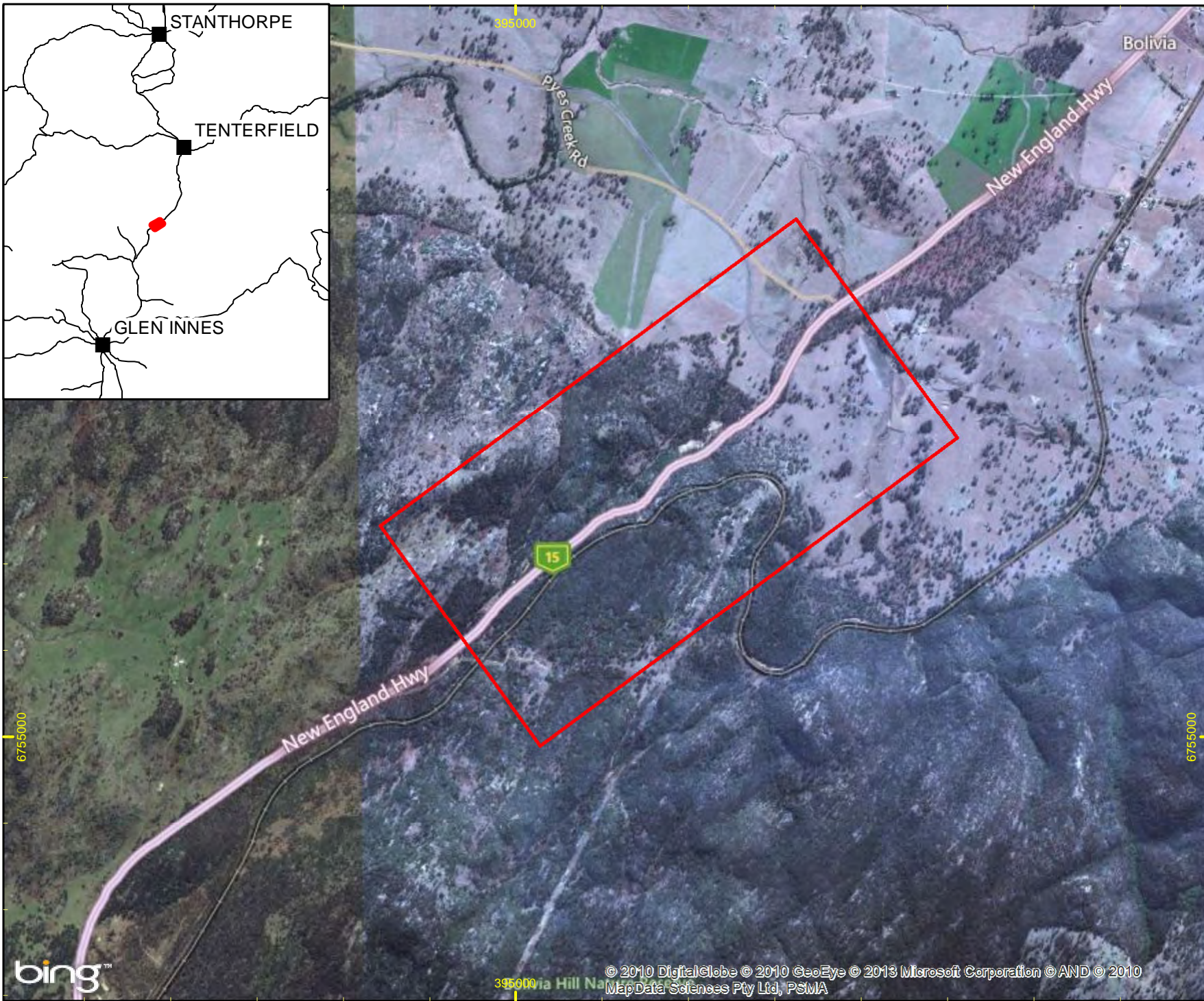
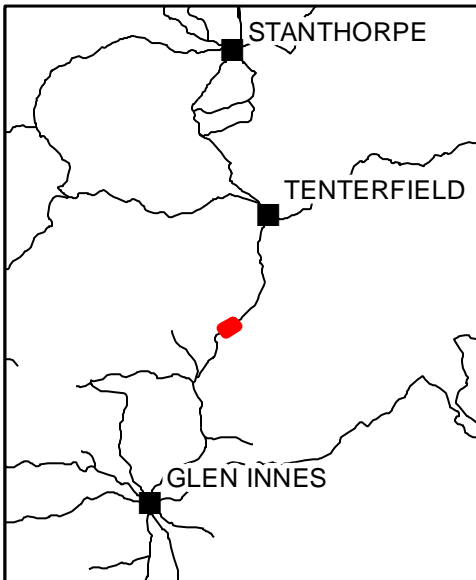


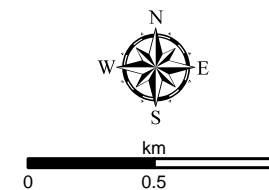
Figure 1: Location Map

1308 Bolivia Hill

Drawn by: RJ  
Project Mgr: FJL

Date: 23/04/2013

 Subject Area



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Figure 2: Route Options

1308 Bolivia Hill

Drawn by: RJ  
Project Mgr: FJL

Date: 7/06/2013

#### Alignment Options

- 10
- 6
- 7
- 7b
- - - 100m buffer



km  
0 0.25 0.5

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## 6 Regulatory and Assessment Framework

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### 6.1 The NSW Heritage Act 1977

The NSW *Heritage Act 1977* is a statutory tool designed to conserve environmental heritage in NSW. It is used to regulate development impacts on the state's historical heritage assets. The Act defines a heritage item as 'a place, building, work, relic, moveable object or precinct'.

To assist management of the state's heritage assets, the Act distinguishes between items of Local and State heritage significance.

*'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;*

*'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;*

Archaeological features and deposits are afforded statutory protection by the relics provisions of the Act. Section 139[1] states that:

*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.*

### 6.2 The NSW Environmental Planning & Assessment Act, 1979

The NSW *Environmental Planning and Assessment Act 1979* establishes the framework for cultural heritage values to be formally assessed in the land use planning and development consent process and requires that environmental impacts are considered prior to land development; this includes impacts on heritage items and places. The Act also requires that local governments prepare planning instruments [such as Local Environmental Plans] in accordance with the principles of the legislation to provide guidance on the level of environmental assessment required.

## 7 Register Searches

---

### 7.1 National Heritage Registers

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) establishes two registers for listing exceptional natural and cultural places that contribute to Australia's national identity - the National Heritage List (NHL) and the Commonwealth Heritage List (CHL).

The NHL provides protection to places of cultural significance to the nation of Australia, while the CHL comprises natural, Aboriginal and historic heritage places owned and controlled by the Commonwealth. There are no management constraints associated with listing on the Register of the National Estate unless the listed place is owned by a Commonwealth agency.

- ☐ Searches of the NHL, CHL and RNE were undertaken on the 22 October 2012. No listed items are located within the study area.

### 7.2 State Registers

#### NSW State Heritage Register

The *State Heritage Register* (SHR) holds items that have been assessed as being of State significance to New South Wales. The *State Heritage Inventory* (SHI) contains items that are listed on Local Environmental Plans and/or on a State Government Agency's Section 170 registers (NSW Office of Environment and Heritage Website - [www.heritage.nsw.gov.au/index.html](http://www.heritage.nsw.gov.au/index.html) - accessed 22 October 2012). Items appearing on either the SHR or SHI have been granted a defined level of statutory protection under NSW legislation.

- ☐ Searches of the SHR and SHI were completed on the 22 October 2012. No registered heritage items are located within the study area.

### 7.3 Environmental Planning and Assessment Act Registers (EP&A Act)

#### Tenterfield Local Environmental Plan (LEP)

Each Local Government Area (LGA) is required to create and maintain an LEP that identifies and conserves Aboriginal and Historic heritage items. These items are protected under the *EP&A Act 1979*.

- ☐ A search of the Tenterfield LEP (2013) was undertaken on the 26 July 2013. No heritage items listed on the LEP are located within the study area.

## 8 Landscape Context

The study area is located in the Bolivia Range, a rugged landscape characterised by steep hills and cliffs with clusters of granite outcrops. The climate in the study area is moderate with mild summers and cold winters. Rainfall is quite high, the average being around 850mm annually. The following subsections outline the soils, topography, hydrology, flora and fauna and climate. This provides a context for historical occupation and use of the study area.

### 8.1 Soils, Geology and Topography

The Bolivia Hill landscape is moderately rugged, incorporating part of the Bolivia Range which runs east-west, with elevation varying from 950m to around 1,225m above sea level. Bolivia Hill is dominated by an early Triassic granitoid known as the Bolivia Range Leucomonzogranite, which has produced well drained to moist and loamy or sandy loam soils. Domed (granite) outcrops occur in clusters with large exposures and shallow soils. The study area is also characterised by the Dundee Rhyodacite geology (Figure 3). The Dundee Rhyodacite is a strongly porphyritic rhyodacitic ignimbrite (NPWS 2011). The soils in the study area consist of shallow gritty loams and red or yellow earthy sands. Larger valleys may have deep dark clay deposits within swampy streamlines (Mitchell 2002:80).

The soils in the study area have not been extensively mapped but observations during the site inspection suggest shallow to moderately deep sandy and loam soils. Erosion along the creek banks and creek terraces showed moderately deep (c. 1m) alluvial soil.

### 8.2 Hydrology

The hydrology of the region is dominated by the Deepwater River, which flows north-west of the study area and around the west of the Bolivia Range (See Figure 4).

Within the study area are two creek lines. A tributary of Brickyard Creek flows through the north-western corner of the study area. Bolivia Creek, a permanent creek line, flows from the north-east to the south-west through the middle of the study area. Immediately surrounding the study area, there are a number of small second and third order creeks lines. At the time of the site inspection, the Deepwater River was flowing and Bolivia Creek and the tributaries of Brickyard Creek held small amounts of water, resembling waterholes.

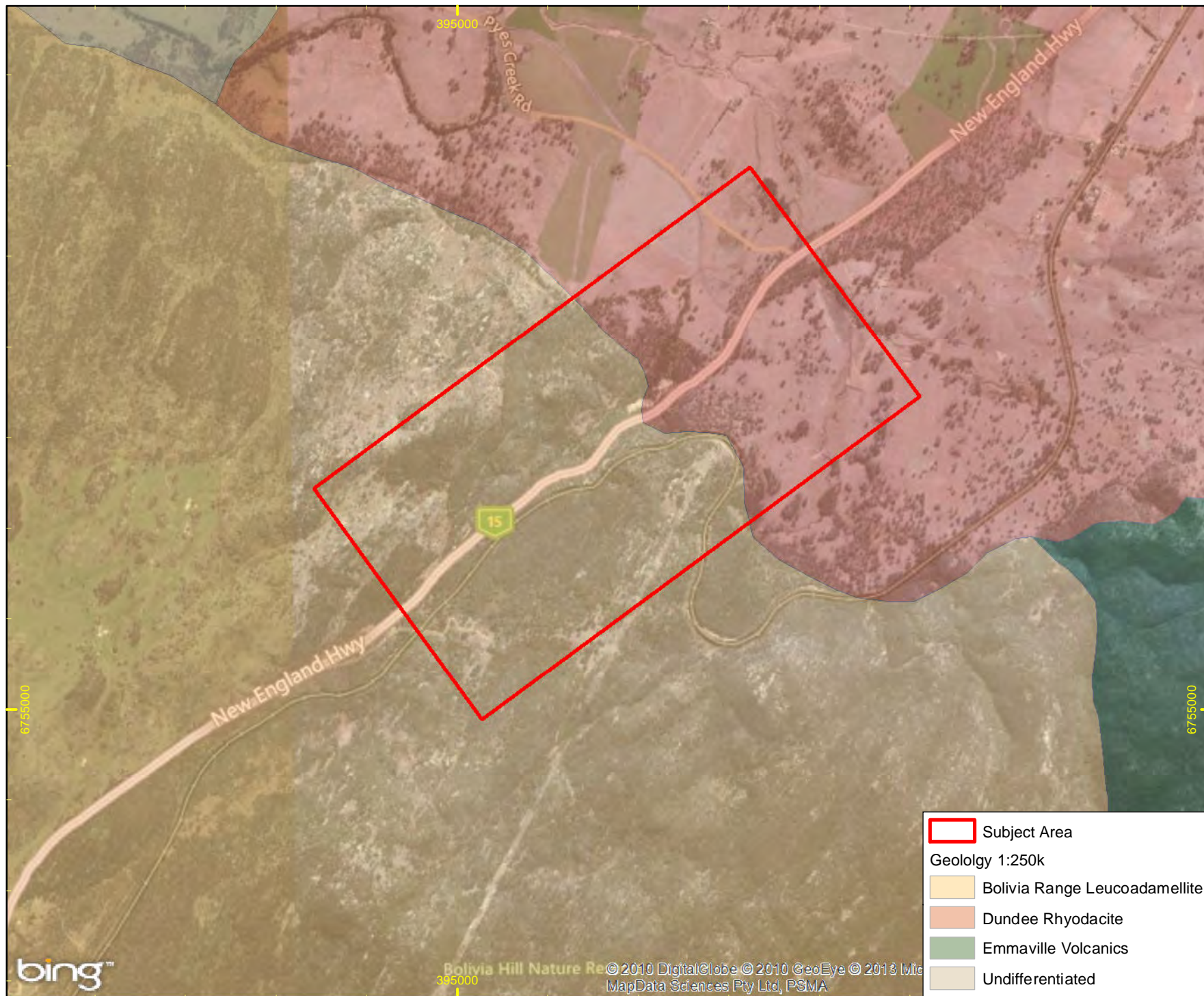
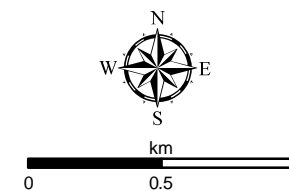


Figure 3: Geological Units

1308 Bolivia Hill

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Date: 28/02/2013



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Bolivia Hill Nature Reserve  
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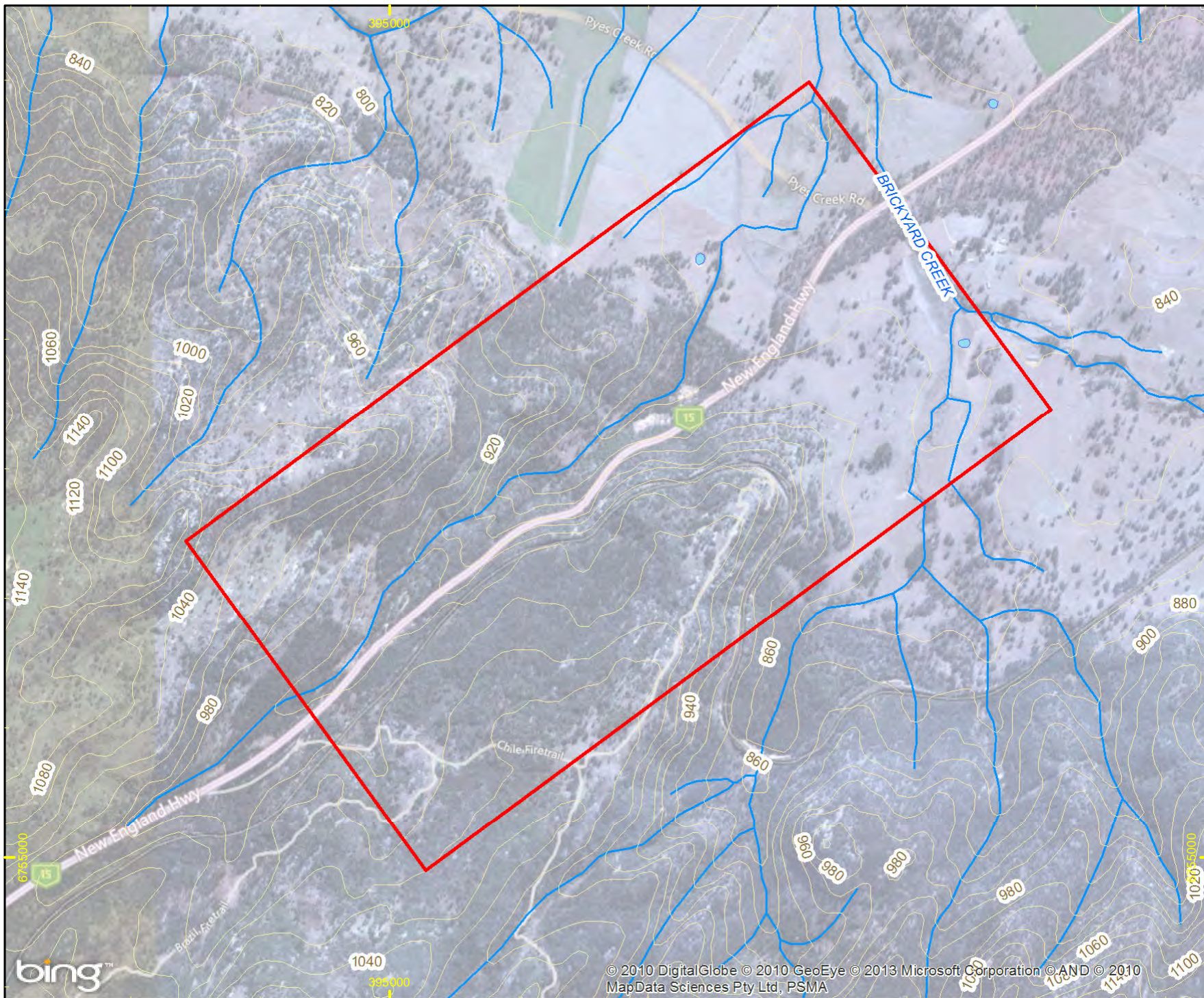


Figure 4: Hydrology

1308 Bolivia Hill

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### 8.3 Flora and Fauna

Much of the vegetation on Bolivia Hill is endemic. The vegetation is diverse with many species available for resource utilization. The species endemic to Bolivia Hill include Bolivia stringybark (*Eucalyptus boliviana*), Bolivia wattle (*Acacia pycnostachya*), Bolivia Hill boronia (*Boronia boliviensis*), Bolivia homoranthus (*Homoranthus croftianus*), Bolivia Hill pimelea (*Pimelea venosa*), Creeping tick-trefoil (*Desmodium campylocaulon*), Austral toadflax (*Thesium australe*) (NPWS 2011).

The environment at Bolivia Hill is generally made up of open woodland communities with a dense understorey and includes silvertop stringybark (*Eucalyptus laevopinea*), broad-leaved stringybark (*Eucalyptus caliginosa*), Blakely's red gum (*Eucalyptus blakelyi*), narrow-leaved peppermint (*Eucalyptus radiata*), yellow box (*Eucalyptus melliodora*), apple box (*Eucalyptus bridgesiana*), red ironbark (*Eucalyptus sideroxylon*), Caley's ironbark (*Eucalyptus caleyi*), rough-barked apple (*Angophora floribunda*) and black cypress pine (*Callitris endlicheri*). In moist areas open forest of; New England peppermint (*Eucalyptus cinerea*), manna gum (*Eucalyptus viminalis*), mountain gum (*Eucalyptus dalrympleana*), New England blackbutt (*Eucalyptus andrewsii* ssp. *campanulata*), diehard stringybark (*Eucalyptus cameronii*), Deane's gum (*Eucalyptus deanei*), messmate (*Eucalyptus obliqua*), privet-leaved stringybark (*Eucalyptus ligustrina*), Youman's stringybark (*Eucalyptus youmanii*), swamp gum (*Eucalyptus camphora*), Gibraltar rock blackbutt (*Eucalyptus pyrocarpa*), tumbledown red gum (*Eucalyptus dealbata*) and orange gum (*Eucalyptus prava*) sometimes with closed forest species in the understorey, especially in the eastern parts of the landscape.

Many fauna species exist in the study area due to the plentiful water and habitat resources. These species include the Eastern Grey Kangaroo (*Macropus giganteus*), Brush-tailed Rock Wallaby (*Petrogale penicillata*), Eastern Pigmy Possum (*Cercartetus nanus*), Spotted-tail Quoll (*Dasyurus maculatus*), Yellow-bellied Glider (*Petaurus australis*), Squirrel Glider (*Petaurus norfolcensis*), Brush-tailed Phascogale (*Phascogale tapoatafa*), Koala (*Phascolarctos cinereus*), Emu (*Dromaius novaehollandiae*) as well as many species of birds, fish, reptiles and amphibians.

### 8.4 Climate

The New England region of New South Wales has a moderate climate with an average annual rainfall of around 850mm. The temperatures are mild in summer and cool in winter; the average high in summer is 27°C and the average high in winter is 15°C. The temperatures often drop below 0°C in the winter months (BOM 2013). Temperatures in the Bolivia range were observed to be similar; however, the range offers some protection from the elements. Historic accounts of the weather by Oxley (1818) suggest the region was very wet and experienced storms with frequent heavy rain.

## 9 Regional and Site History

---

### 9.1 Preamble

The following subsections present the results of historical research conducted prior to and after completing the field survey. Additional, more detailed, research was considered necessary once the frequency and type of sites within the study area were known. The additional research involved visiting the following archives and completing the tasks listed below:

- ❑ Mitchell Library
  - Search of parish plans for the Parish of Bolivia;
  - Search for other historical maps or archives referencing Bolivia Hill; and
  - Search of secondary sources for further information of the history of Bolivia Hill and the New England Highway.
- ❑ Land and Property Information
  - Search of all Parish Plans and cadastral plans to identify information within the study area such as locations of Mineral Leases, land ownership, T.S.R and T.S & CR, various road routes and to find references to Crown Plans;
  - Search for Crown Plans within study area, and used them to gain information of the study area and for further referencing of other Crown Plans which could not be seen on the Parish Plans; and
  - Review of Government Gazettes.
- ❑ Internet
  - Search of TROVE for newspaper articles and pictures relating to Bolivia Hill; and
  - Search for information on Travelling Stock Routes and New England Highway History.

The detailed research focussed on occupation of the study area through the analysis of Crown Plans. The Crown Plans revealed that a town was established within the study area in 1883 to service railway workers and their families (See Section 9.7). The town was temporary and most of the leases ended c1888. Given that this information was only known after completing the field survey, further survey work will be required to assess its archaeological potential and determine the town's likely significance / research potential. This is discussed in further detail in Section 12.

### 9.2 Exploration and Settlement of the Region

John Oxley was the first explorer to travel through the New England area, while travelling to Port Macquarie in 1818. It is believed Allan Cunningham was the first to have approached within 15 miles of modern day Tenterfield after discovering the Darling Downs in 1827 (Halliday 1988). Later, in 1840, the Ogilvie brothers travelled through the area on their return journey to the Hunter River (Baldwin n.d.).

The area was originally settled by squatters who were continuously pressing northwards in a quest to find new grazing land for their stock (Baldwin n.d.). Deepwater station, to the south-west of the study area, was taken up in 1839. Archibald and Charles Windeyer were the original owners of Deepwater station. William Collin, who later became Deepwater station manager, took up the land for the Windeyer brothers in 1939 (Halliday 1988).

### 9.3 The Bolivia Run and Station

Edward Hurry (or Harry) first occupied the area known as Bolivia in 1840 (NRS 906 [X816]; Reel 2748-2749, p32). He named his pastoral run 'Bolivia' after the South American country. It is generally believed Hurry was of South American origin. It may be that the name Bolivia is an anglicised version of the possible Aboriginal name of the area 'Balievie'. Another historical account of the Aboriginal name of the area is 'Bilba', meaning big bushes (Halliday 2002:5). The Bolivia run was located between the Deepwater and Tenterfield pastoral runs (NPWS 2011:8). Hurry acquired the first pastoral license for Bolivia Station in 1840 (NRS 906 [X816]; Reel 2748-2749, Page 32). In 1841 Hurry indicated on the NSW census that there were, at that time, seven free males, two free females and ten male convicts residing at Bolivia Station (Halliday 2002:5). A parish plan from 1905 shows the Little Hill at Bolivia being called 'Hurry's Hill' (see Figure 5).

Bolivia Station was taken up by Edward Irby in 1843 for sheep and cattle grazing (Halliday 1988). The 1863 Land Act allowed lease holders of runs the right of pre-emptive purchase of parts of their run that had been improved by the construction of fencing and other structures. Irby immediately took up the opportunity to make pre-emptive purchase of parts of his run.

### 9.4 Edward Irby's Land within the Study Area

The Bolivia Head Station run by Edward Irby was on the north side of Bolivia Creek, a branch of the Mole Creek. On the south side of the creek, Portion 71 consisted of 160 Acres and lies partially within the study area. 'Stockyards' in the north of the portion (outside the study area) have been surveyed in a Crown Plan prepared for the portion (see Figure 6). The plan is titled "*Plan of Survey (Amended) of 160 Ac of the Bolivia Run applied for as a pre-emptive purchase by E Irby in right of his licensed run of Bolivia 1862*". The area is described as "*2<sup>nd</sup> class Settled, late unsettled district*". The country described in and around the portion is described as "light loam soil / stony poor land" a rocky stony ridge was surveyed into the south west corner and there is a part of a swamp within the portion. A note at the bottom of the page reads "*The soil on this portion is of an inferior quality. The timber chiefly peppermint.*" (Anon. 1863. 144-1471).

Although Irby purchased other parts of his run, he was unable to finance it all. Irby was unable to complete the purchase of Portion 71, and so it was withdrawn from the lease on 21 June 1869 and brought to auction sale. The sale was held at Tenterfield on 29<sup>th</sup> November 1869. The note on the plan

informs that the lot was not bid for and the lot was selected by E. Irby, so it seems he was able to keep the land in the end. Four roads are shown within Portion 71. Two acres two roods and two perches were resumed for the road R17786-1603 (Pyres Creek Road). An unnecessary part of road R3169-1603 was “closed & thus vested in holders of adjoining lands Gaz 22.8.30”. The road R. 4921-1603 runs from Glen Innes and the road R4921-1603 runs from Dundee to Tenterfield confirmed on the 5<sup>th</sup> March 1895 “in lieu of Reserved Road”. The road R24094-1603 (the New England Highway) is referenced on the plan as crossing the south eastern corner of the portion (Anon. 1863. 144-1471).

Next to Portion 71 and on the cusp of the study area is Portion 95, which consisted of 75 acres applied for by Irby on the 18<sup>th</sup> August 1879 (see Figure 7). The portion was surveyed in January 1876. A paddock and two buildings are on the northern end of the portion outside the study area. Only the very southern point of this portion is within the study area. The Value of Improvements to the portion was 95 pounds. The same four roads marked on portion 71 have been surveyed into this plan. The country is described “Soil: light loam Aspect: open forest with Ring-barked red timber, gum and apple trees” (Anon 1876: 685-1809). It seems Bolivia Hill Station was known for its ring-barked trees, a newspaper article described the area as follows:

*“but by far the greatest portion of the land is monopolised by the Bolivia Station, famous for its unsightly forest of dead trees, ringbarked, many years ago. The forest-hating squatter has not even reserved trees enough to shelter the animals from the cold winter blasts, or the warm westerly winds and the hot sun of summer. The value of belts of timber trees to shield the land from the dry north-west winds of summer is evidently not appreciated here. But little seems to have been done to improve the land, excepting in the immediate neighbourhood of the squatters residence”* (Northern Star Saturday 11 1882:5).

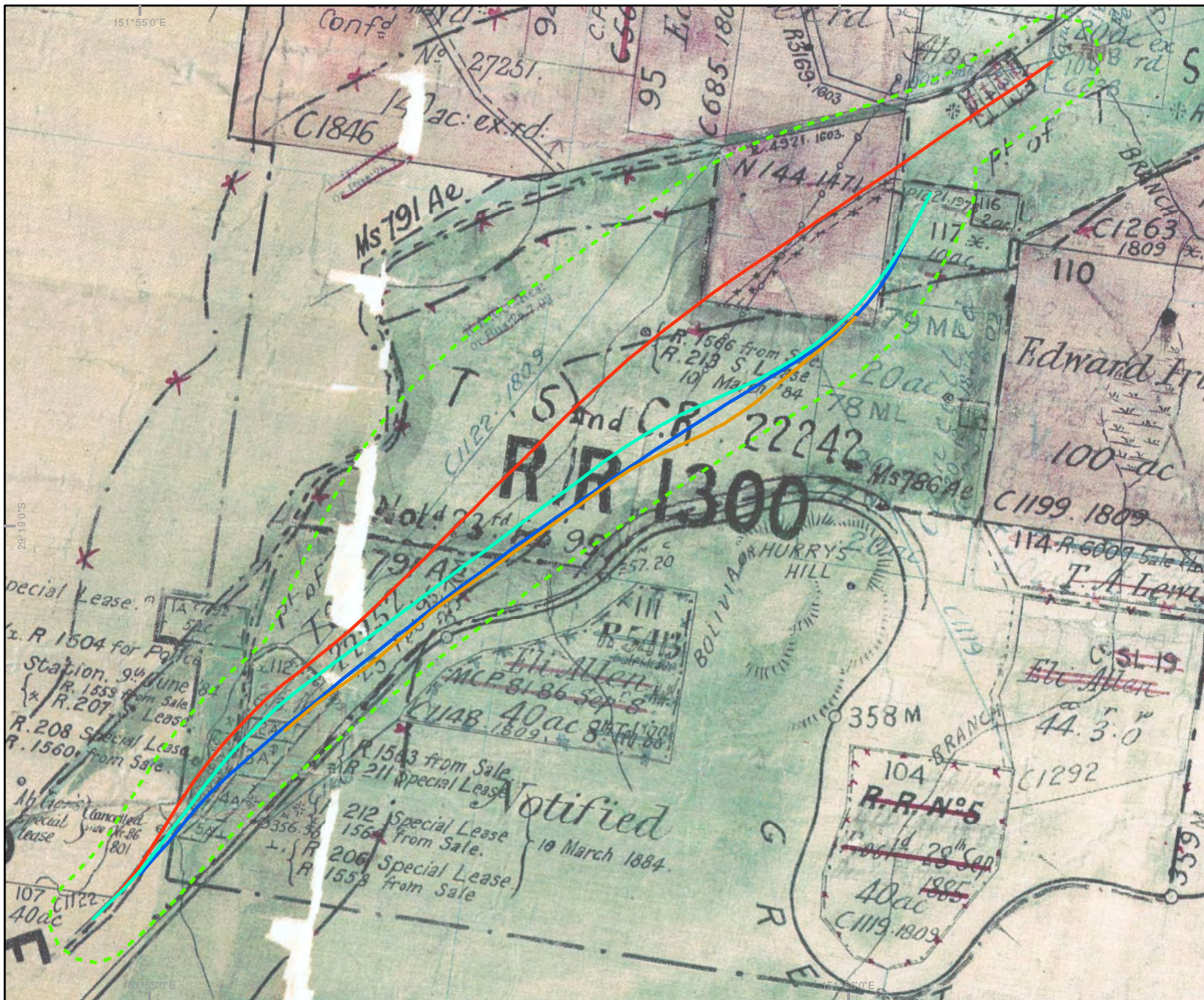


Figure 5: Extent of Study Area and 1905 Parish Map

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

#### Alignment Options

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- 7b
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0 50 100 200 300  
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Environment and Heritage

Horizontal Datum:  
GDA 1994 MGA Zone 56

Imagery:  
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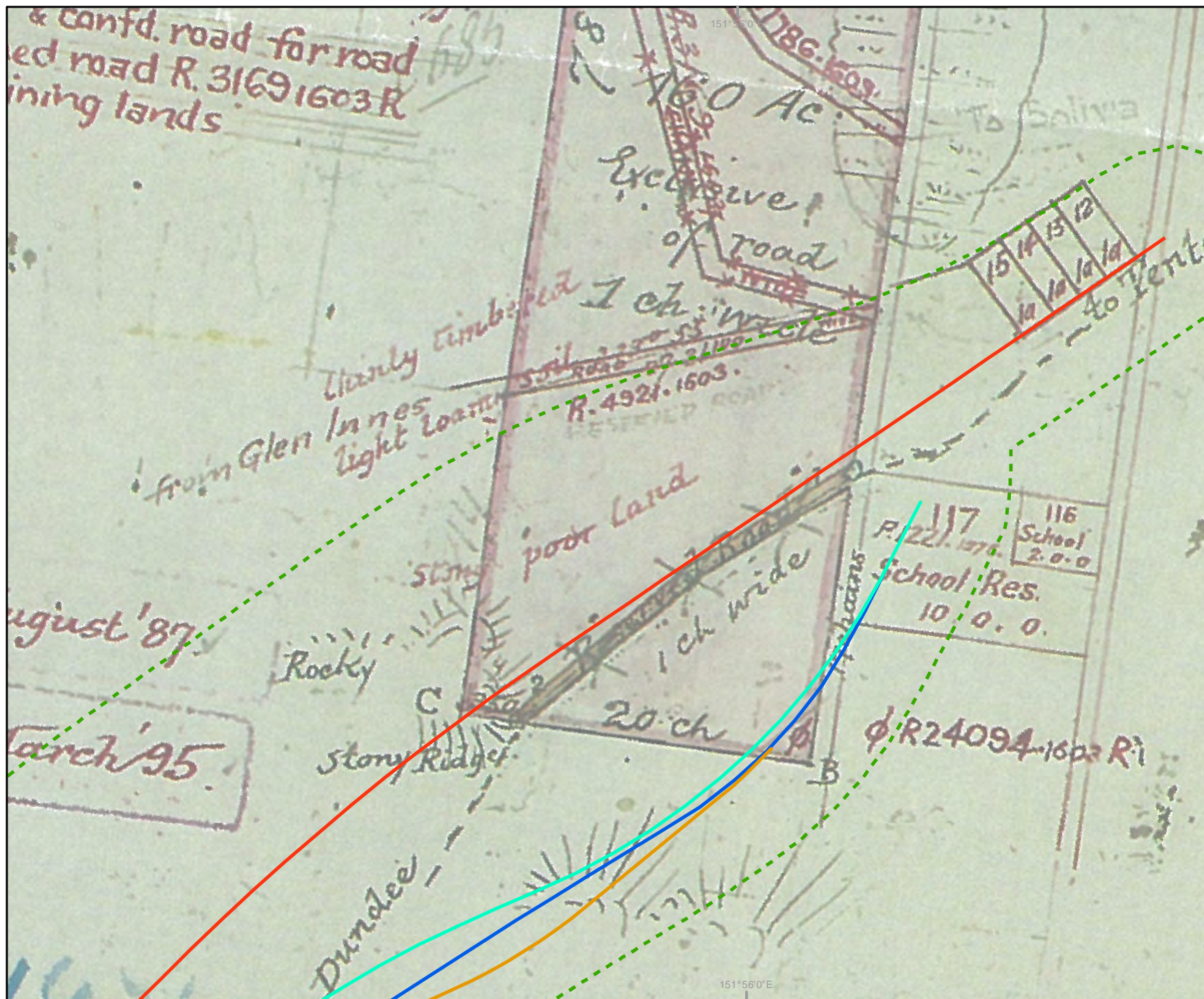


Figure 6: Crown Plan of Portion 71

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

## RouteOptions

### Alignment Options

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Figure 7: Crown Plan of Portion 95

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

#### RouteOptions

#### Alignment Options

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- 7b
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- 100m Buffer



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## 9.5 Bluff Rock Massacre

In 1844, a massacre of Aboriginal people occurred at Bluff rock, which is located 17km north of the study area. The massacre involved the Irby brothers of Bolivia Station, who found one of their shepherds had been attacked with spears and axes and left floating in the river. The Irby brothers, assisted by Windeyer of the neighbouring Deepwater station, pursued the local Aboriginal tribe to Bluff rock and drove them over the edge. This resulted in the death of several men, women and children (New England Examiner 1870). Another massacre occurred at Deepwater station, also in 1844, which resulted in the death of seven Aboriginal men, four Aboriginal women and five Aboriginal children (AMBS 2010:30).

## 9.6 Another Early Settler within the Study Area

Portion 107 is within the south west end of the study area. The portion was applied for under the 19<sup>th</sup> Clause of the Crown Lands Alienation Act of 1861 by Alex McCook and was surveyed on the 11<sup>th</sup> December 1882 (see Figure 8). Houses surveyed within Portion 106, below Portion 107 are outside the study area. However, the line of a route through the study area shown on the plan depicts a house that is within the study area. The portions do not appear on parish plans as they were revoked on the 22<sup>nd</sup> March 1890 and hence forwarded to the Reserve Branch with a view to becoming melded into the area T.S.R. 370 extension. The country is described as “*precipitous Range covered with granite boulders*” (Anon 1882: 1122-1809).

## 9.7 The Great Northern Railway and the Township of Bolivia Hill

The main northern railway line was the original rail transport route between Sydney and Brisbane, primarily constructed by the Hunter River Railway Company (Halliday 2004). Messrs Cobb & Co the coach company, fearing financial loss caused by the construction of the railways across Australia, were entrepreneurial and actually won the contract to construct part of the railway line from Glen Innes to Tenterfield. Bolivia, as explained in the *Australian Town and Country Journal* was chosen as the site for their main camp and centre of operations as it was about midway on the line of work and in the vicinity of the most costly portion of the works. “*Here, on the eastern side of the railway line, the company have erected their offices, workshops, and stables; there is also in the camp a post and telegraph office*” (Australian Town and Country Journal 8 September 1883: 26).

### 9.7.1 A plan for a township

On the 11<sup>th</sup> September 1883 a survey of four, one acre blocks of land, Portions 12A to 15A was undertaken within TSR370 Measured for Sale as Special Leases. These portions of land occur in the northern part of the study area. There is no indication that any of the Special Leases were taken up. There was one pre-existing building in the northwest corner of Portion 12A. It seems the plan was an idea that never eventuated. Surveyed on a branch of the Bolivia Creek are a ‘culvert’ and ‘brickyards’ (Phillips 1883: 1196-1809, see Figure 9).

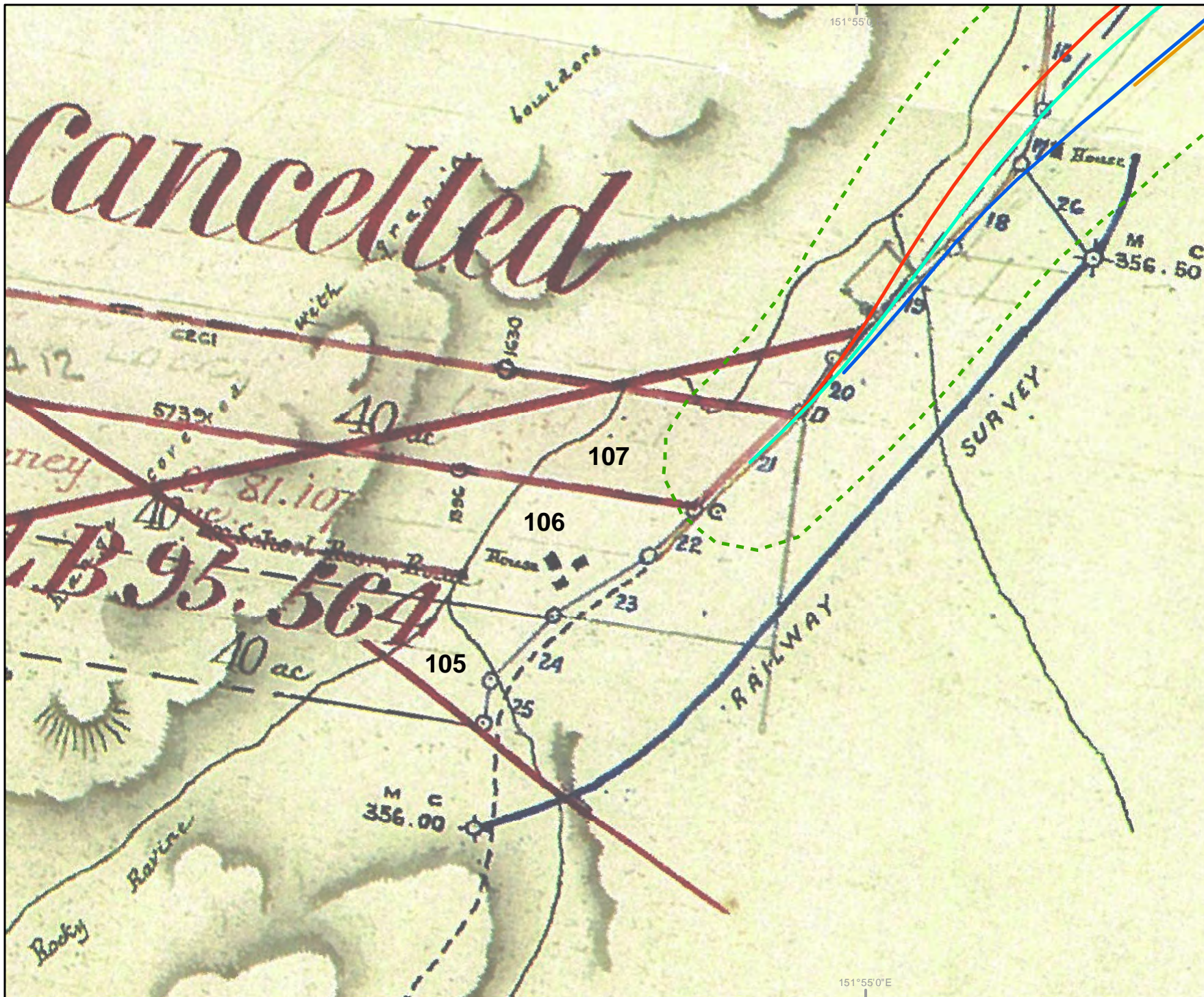


Figure 8: Crown Plan of Portion 107

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

**RouteOptions**  
**Alignment Options**

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- 7b
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Environment and Heritage

Horizontal Datum:  
GDA 1994 MGA Zone 56

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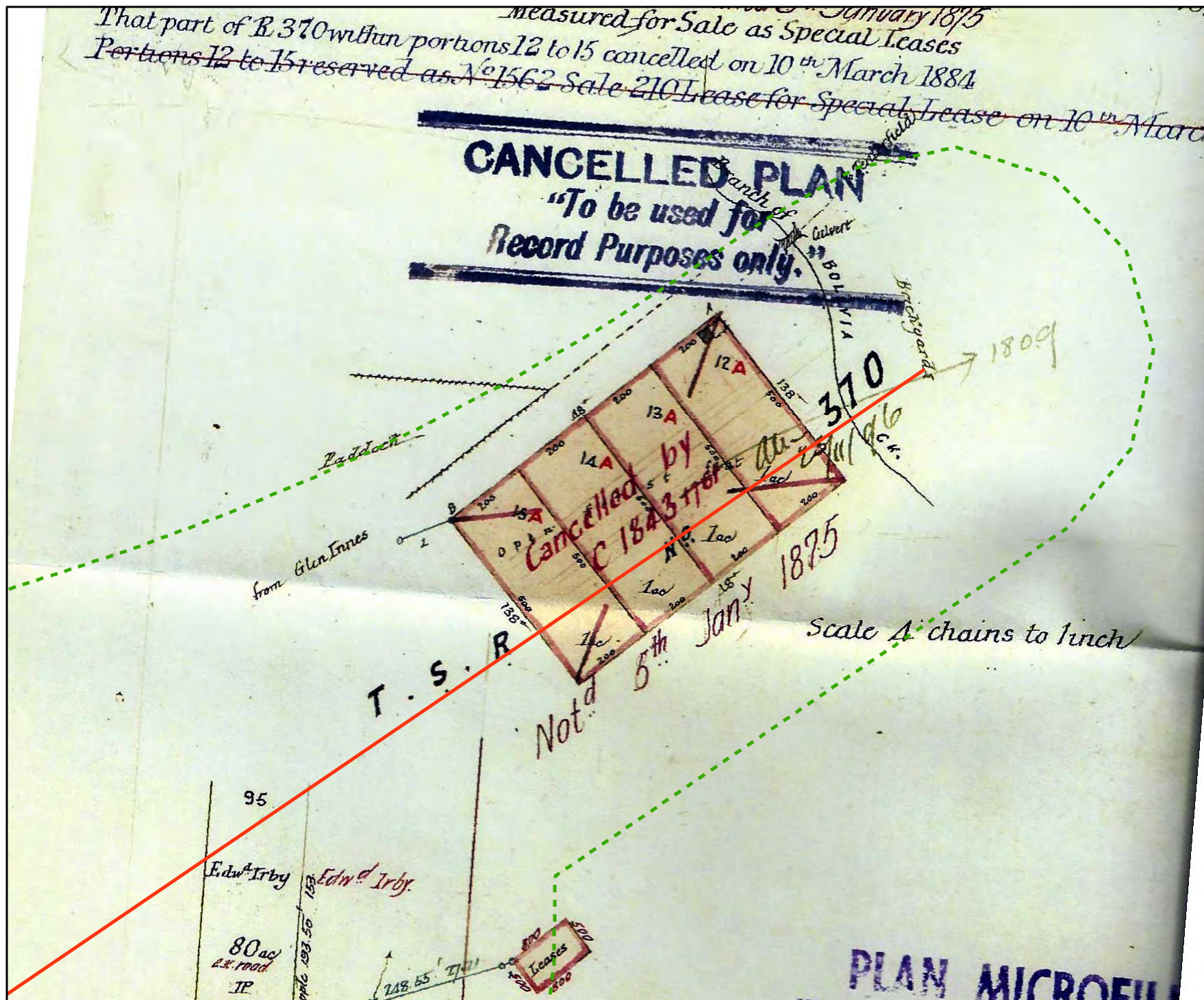


Figure 9: Crown Plan of Portions 12A - 15A

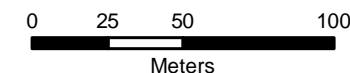
1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

## RouteOptions Alignment Options

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### 9.7.2 An Actual Township

Cobb & Co advertised for workers on the line throughout 1884. In January of that year Cobb & Co advertised for “Pick and Shovel men” to work on the Glen Innes to Tenterfield section of the Great Northern Railway Extension (Australian Town and Country Journal 19 January 1884: 41). The Cobb & Co continued to advertise for pick and shovel men to work on the line throughout the year and in various newspapers (Warwick Argus, 2 February 1884:5; Warwick Argus, 16 August 1884:3; The Brisbane Courier, 1 April 1884:1; The Brisbane Courier, 21 October 1884:8). Clearly the railway line required many workers and with them all being stationed at Bolivia, along with the central offices for the contractors it is no wonder that a small township sprung up in Bolivia near the workers camp. The government was involved in its official establishment. A Government Notice was issued in the Australian Town and Country Journal “*By Order of the Minister For Mines for sale of Lease at Bolivia Hill, on the Great Northern Railway Line under the 38<sup>th</sup> clause of the Lands Amendment Act of 1875*”. The notice had been issued in the Government Gazette “*of Special Leases as sites for stores, smithies, bakeries, or inns at Bolivia Hill, County of Clive, on the Great Northern Railway Line.*” (Australian Town and Country Journal. 12 July 1884:9).

The village at Bolivia Hill was on the western side of the railway line and “*extended along the gully at the foot of Bolivia Hill*”. The main Road from Glen Innes to Tenterfield ran through the township and over the hill. The township was described as:

*“formed on either side of the road for about a quarter of a mile. There are two hotels....two bakerys, two butchers’ shops, so well stocked with prime beef that the stranger finds himself mentally calculating where it all goes to.....Then there are two general stores, which a little of everything is kept on hand; an equal number of produce stores, a barber’s shop....Then there are two tobacconists, and fancy goods business..... saddler and the bootmaker...Half a dozen or so boarding houses...whose signs inform the traveller that he can have ‘meals at all hours, and soups!’ and some 50 or 60 private dwellings, some of canvas, and others constructed of bark”* (Australian Town and Country Journal 8 September 1883: 26, see Plate 1).

The writer of the article noticed that:

*“the spirit for competition was keen in the town, and that one trader was not allowed a monopoly in his calling, there are always two of a kind.....Contentment seems to reign in this sylvan village, and many of the men, knowing that the work to be had would last some time, have made their wives and families as comfortable as circumstance permit, and through the open door one may see the prosperous navvy (a navvy may be prosperous if he doesn’t drink, for he is in receipt of good wages) taking his noonday meal off a clean table cloth covering a substantially laden board; or after the meal taking his smoke before assuming work for the afternoon, and beguiling the time with fondling the*

*baby while his wife clears away the dishes”* (Australian Town and Country Journal 8 September 1883: 26).

The Crown Plan for Portions No 2A 5A & 6A to 10A are part of the Bolivia Hill township surveyed on the 16<sup>th</sup> November 1883 (see Figure 10). The township was established within the existing reserves Travelling Stock Route (T.S.R) 370 Notified on the 8<sup>th</sup> January 1875 and 370 Extension Notified 8<sup>th</sup> May 1882. The portions were applied for under the 38<sup>th</sup> Clause of the Crown Land Alienation Act of 1875 and measured for sale as Special Leases. The railway and three roads have been surveyed into the plan and the line of a third road (New England Hwy) has been added later. A “water reserve” and a “Police Reserve” have been recorded at the northern end of the plan. Below the Police Reserve Portions 2A (86), 3 and 4 show that when the New England Hwy (R24094.1603) was surveyed it cut through most of these portions. The plan shows that Portion 3 was two acres and Eli Allen applied for a special lease. J Pearman applied for a special lease in Portion 4. Portion 5A had a structure surveyed into the south-west corner. On the western side of the road directly below the Water Reserve portion 6A had two structures within it and a Special Lease for this portion was granted to Sun Kum Wah for a Store from 1<sup>st</sup> January 1884 to 31<sup>st</sup> December 1888. A Special Lease of portion 7A was granted to J W Adams for Smithy from 1<sup>st</sup> January 1884 to 31<sup>st</sup> December 1888, there are three structures shown within this portion. A Special Lease of portion 8A was granted to J. Fox Pearman for a Store from 1<sup>st</sup> January 1884 to 31<sup>st</sup> December 1888, there are three structures shown within this portion too. Portion 9A has one structure shown and a Special Lease was granted to Jas Allison for a Store. Portion 10A has three structures surveyed in. All the portions have been crossed out and cancelled, presumably this was when the rail construction finished and the township dispersed the shop leases ended and the land went back to being a reserve. All the Special Leases were officially revoked on the 9<sup>th</sup> September 1920 however most of the leases had ended and were unlikely to have been renewed after 31<sup>st</sup> December 1888 (Anon 1883: 1198-1809).

A plan of Portion 4A was surveyed September 13<sup>th</sup> 1883 (see Figure 11). The portion was applied for by J Pearson as a Special Lease for a store and manufactory approved on the 1<sup>st</sup> December 1882. Part of the Special Lease was transferred to Jonathan Soister Hamilton. The plan shows three structures within the portion and the value of improvements was 30 pounds (Anon 1883: 1194-1809).

A plan of Portion 3A was surveyed on the 13<sup>th</sup> September 1883 and was applied for by Eli Allen as a Special Lease ‘For Hotel Purposes’ (see Figure 12). The lease was granted to the 31<sup>st</sup> December 1888. Three structures (one very large) have been surveyed into this plan and the Value of Improvements was 400 pounds (Anon 1883: 1195-1809).

As the township became quite large, and probably also due to the bushrangers in the area, a police reserve was approved within the township. As many of the railway workers had brought their families to live in the town at Bolivia Hill it became necessary for a school in the township.



Plate 1: An Artists impression of the Bolivia Township. 1883. Australian Town and Country Journal

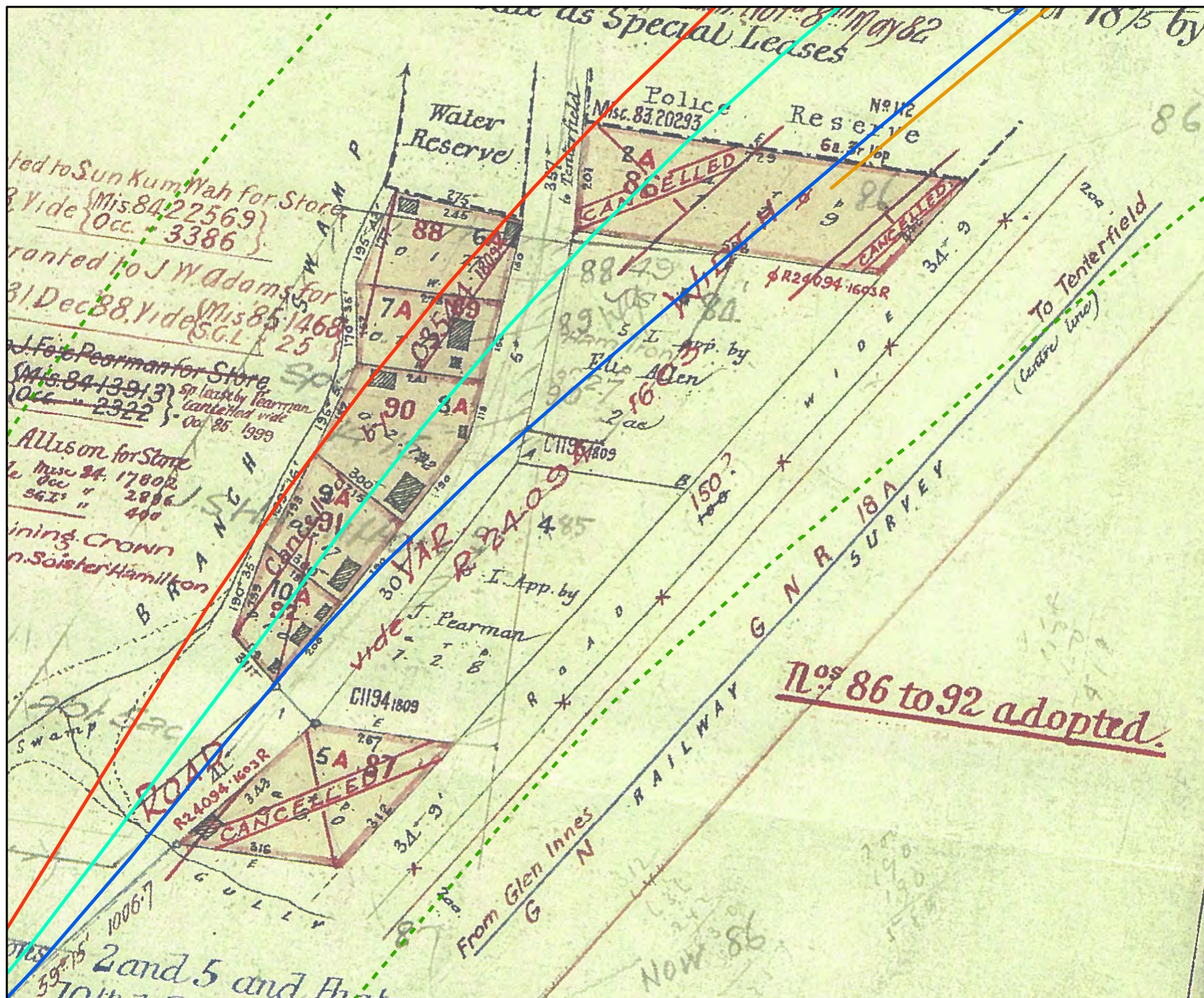


Figure 10: Crown Plan of  
Portions 2A, 5A, 6A-10A

1308 Bolivia Hill

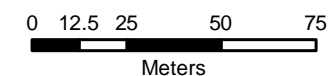
Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

## RouteOptions

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Figure 11: Crown Plan of Portion 4A

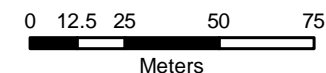
1308 Bolivia Hill

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Project Mgr: FJL

Date: 7/06/2013

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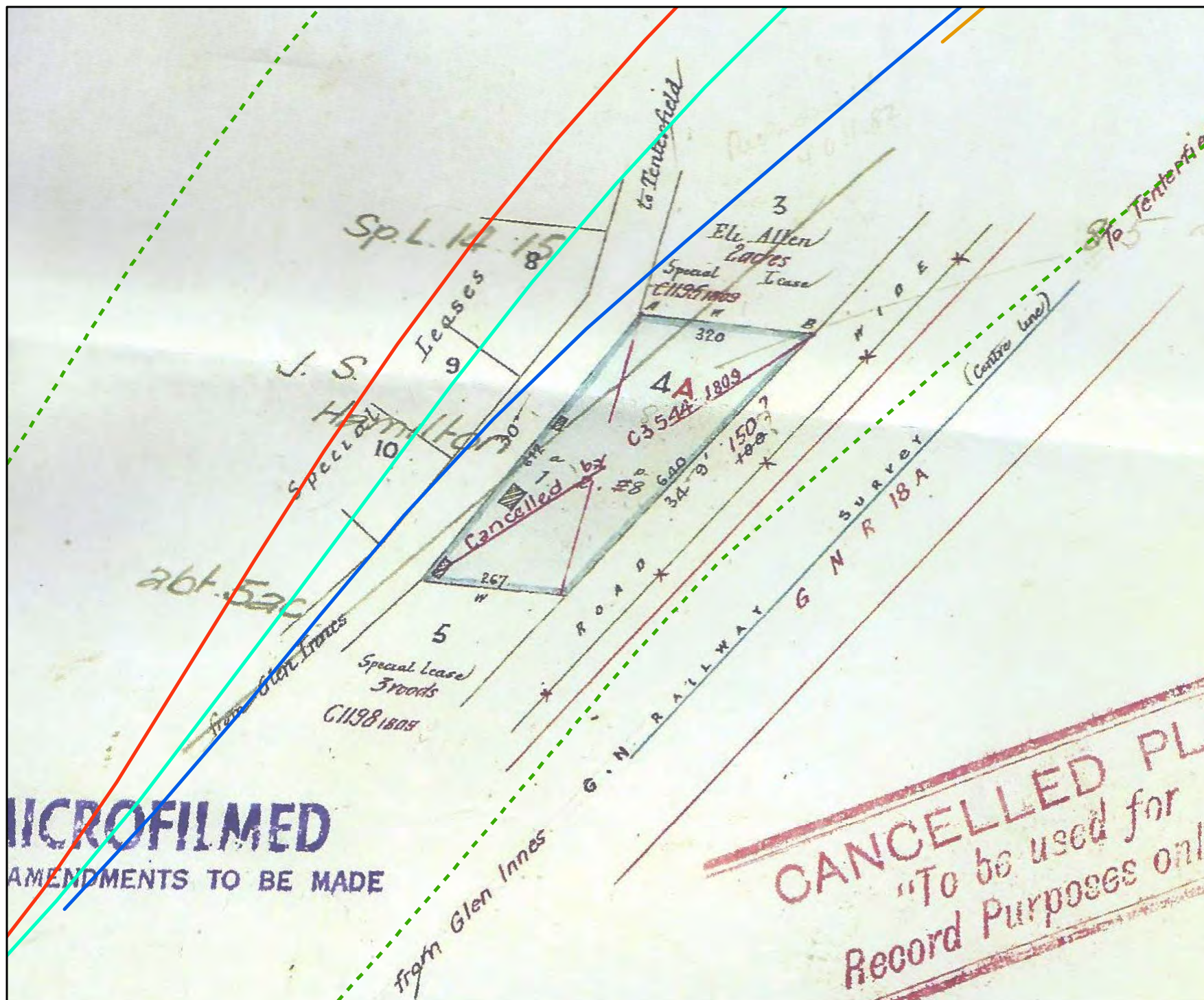
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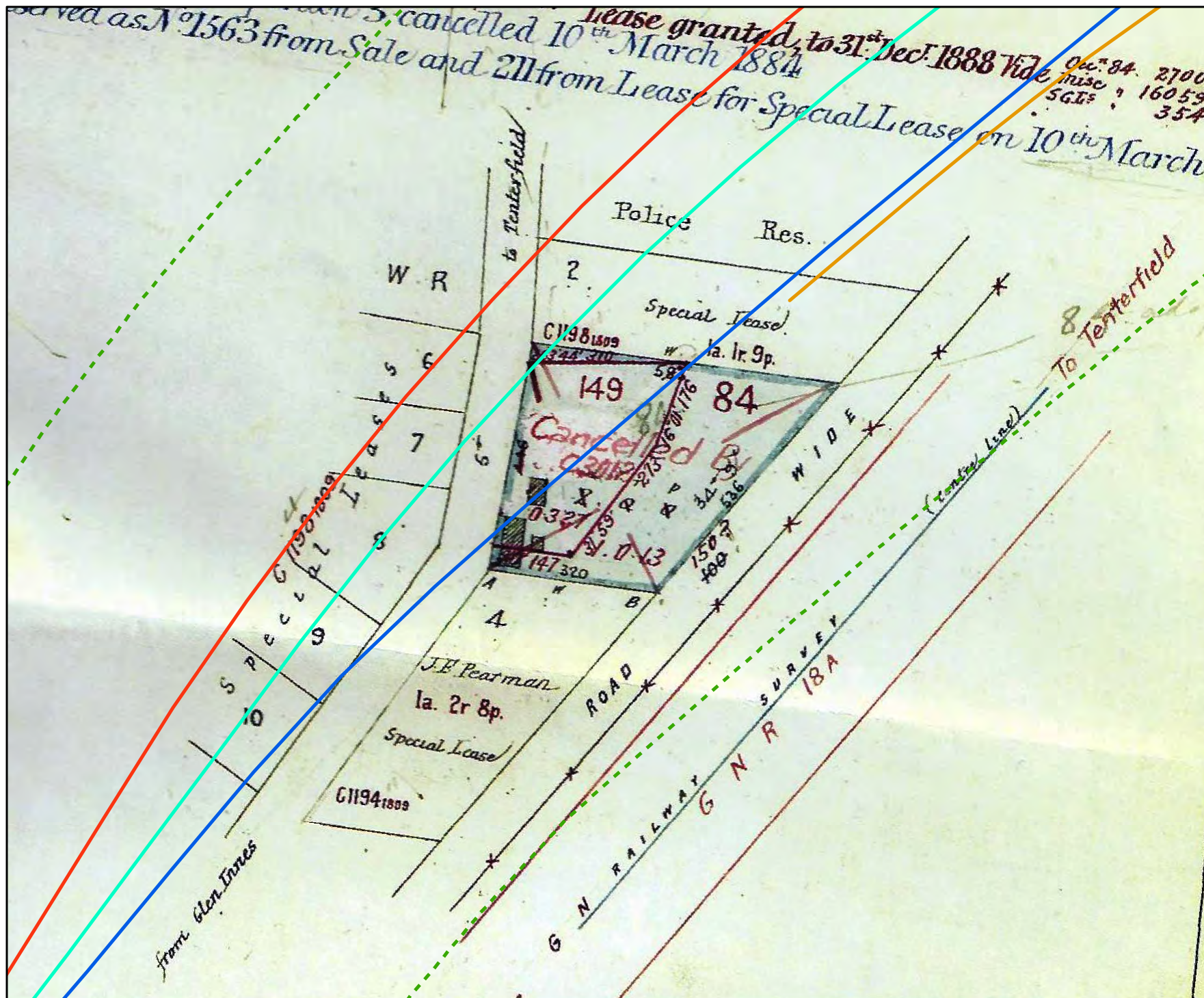


Figure 12: Crown Plan of Portion 3A

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

**RouteOptions**  
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## 9.8 Police Reserve and Station

The crown plan of Portion 112 (see Figure 13) was surveyed on the 21<sup>st</sup> January 1884. It was applied for “as a Reserve for a Police Station” and approved on the 30<sup>th</sup> April 1884 and notified as R 1604 on the 9<sup>th</sup> June 1884. The portion was within TSR 370 notified 5<sup>th</sup> January 1875, which was then updated to being within T.S.R 22252 notified 23rd February 1895”. The police reserve and the portion were revoked on the 27<sup>th</sup> March 1925. The police reserve was located within the Bolivia Township with a road on both east and west borders of the reserve, opposite the water reserve. The Value of Improvements to the portion was 8 pounds (Anon 1884: 1226-1809).

## 9.9 Public School Site and Reserve

Portions 116 and 117 were applied for under the 5<sup>th</sup> & 4<sup>th</sup> Clauses of the Crown Lands Alienation Act of 1861 and Measured as a Public School Site and Reserve (see Figure 14). They were approved 14<sup>th</sup> March 1884. Portion 117 reserved as No 1586 for public school purposes on 28<sup>th</sup> April 1884 and was revoked 12<sup>th</sup> February 1908. Portion 116 was dedicated as land set apart as a site for a public school on the 19<sup>th</sup> September 1884, and was revoked in the Government Gazette on the 4<sup>th</sup> December 1907 (Anon 1883: 1221-1978). Portion 117 is within the study area. Portion 116 borders on the study area (see Figure 14).

From 1884 the Bolivia and the Horseshoe Bend Schools operated within one and a half miles of each other. By the end of 1884 there were 75 pupils enrolled at the Bolivia Public School and 111 pupils enrolled at the Horseshoe Bend School. Ken Halliday when researching the schools in the area found that the Bolivia School was established in August 1883 and closed June 1886. During this period the teacher at the school was James H Beacroft (Halliday 2002:51). The dates do not entirely match with the dates on the Crown Plan, however it is possible that the school was operating before the official approval. When the school closed in 1886 the children still at the Bolivia Township would then have had to travel a little further to the school at Horseshoe Bend.

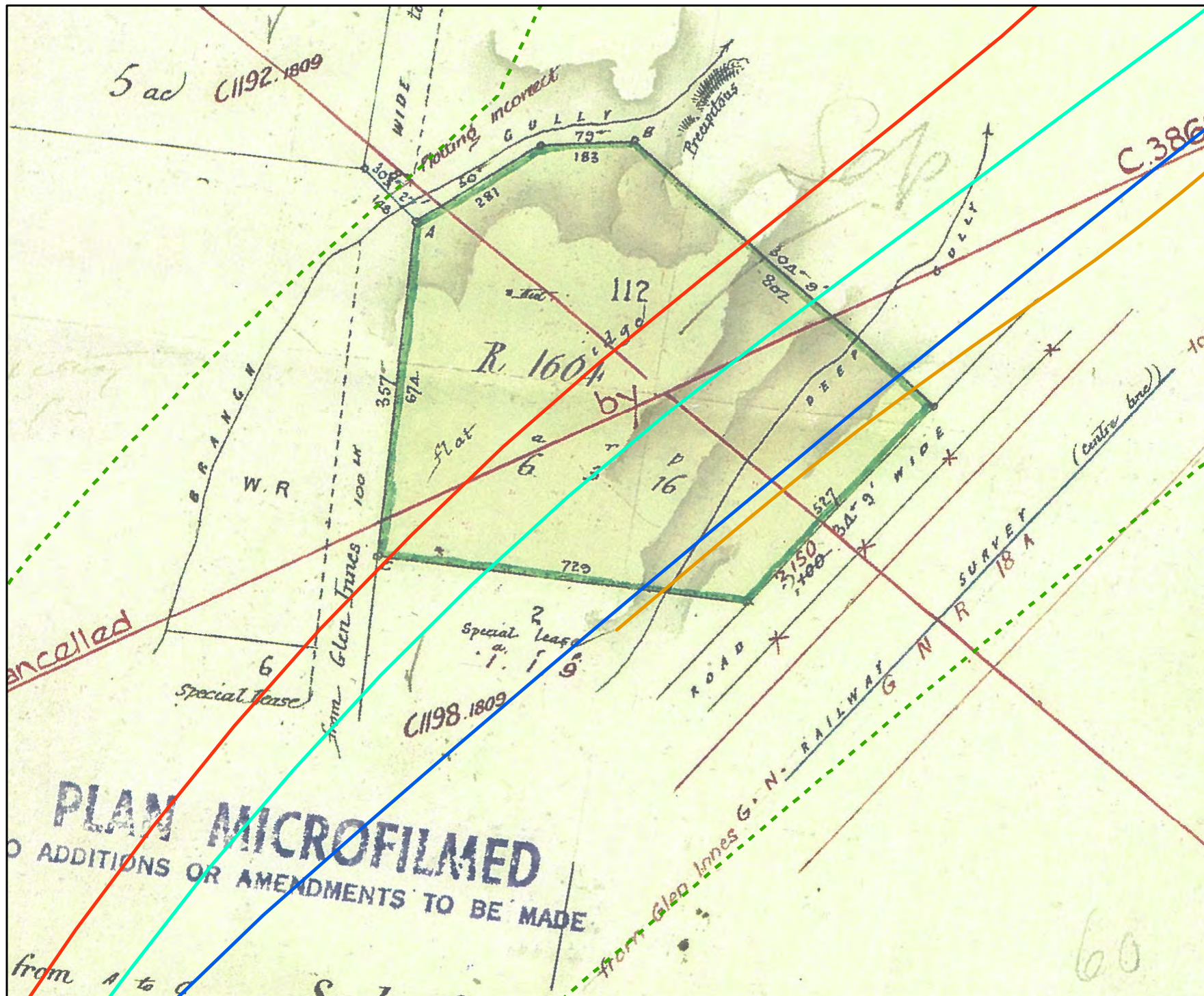


Figure 13: Crown Plan of Portion 112 for a Police Reserve

1308 Bolivia Hill

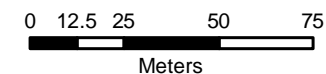
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Project Mgr: FJL

Date: 7/06/2013

#### RouteOptions

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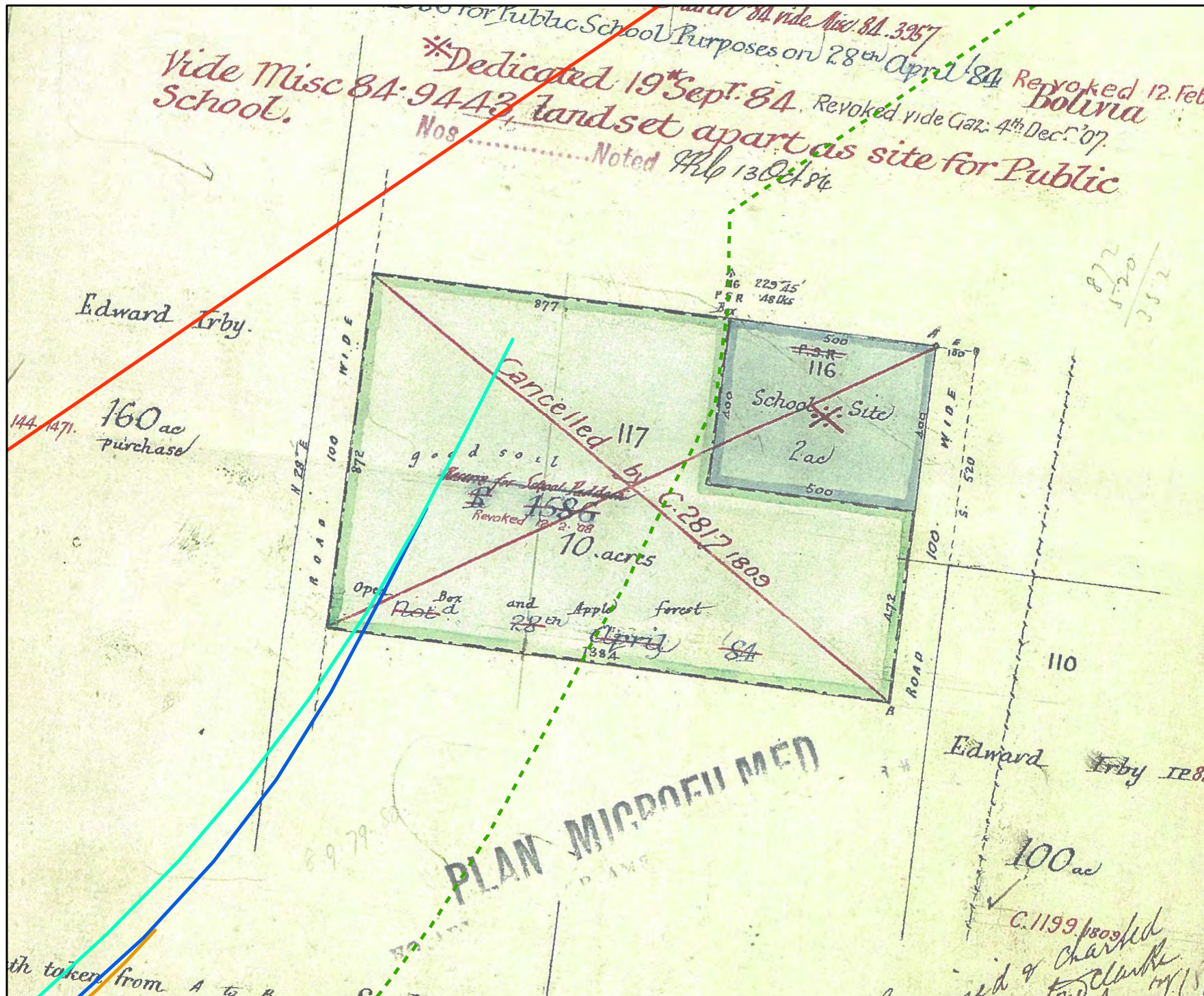


Figure 14: Crown Plan of Portions 116-117 for a School and Reserve

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

RouteOptions

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## 9.10 Brickyards

The Crown Plan for Portion 113 shows 50 acres of land applied for by Irby and located just outside of the study area. The survey was undertaken on the 17<sup>th</sup> Sept 1883 (see Figure 15). A Branch of the Bolivia Creek is depicted running from the portion westwards into an area which is the part of the study area and is within T.S.R 370. On the north side of the creek two structures have been surveyed onto the plan and labelled “Brickyards” (Anon 1883 1263-1809). The brickyards existed as early as 17<sup>th</sup> September 1883 when the land was surveyed it is likely that they primarily existed to aid the construction of the railway for building bridges and culverts. Bringing such supplies long distances for the railway construction would have been very difficult. As the brickyards are located on the Travelling Stock Route the bricks could easily be transported along the route for short distances by bullock drays to the areas they were required.

Halliday (2002:55-56) recorded in a reminiscence by Richard Rowe whose family was associated with Bolivia Station that the house at Bolivia Station was built in three stages *“the third stage was of brick made on the property at the kiln at the bottom of Bolivia Hill near the highway”* indicating that the brickyards were part of Bolivia Station.

## 9.11 Telegraph Line

At the railway camp at Horseshoe Bend there was a post and telegraph office (Australian Town and Country Journal 8 September 1883: 26). The 1905 Parish plan of Bolivia shows the location of the Armidale to Tenterfield telegraph line. No further information of this line has been recorded on the plan. The line is only shown on the parish plan where there is not too much information already recorded, the line runs through Portion 71 within the study area but is not shown far beyond that (see Figure 5). However from the orientation of the line it is obvious that it does go through the study area. The Crown Plan of Portion 134 which is in the study area has the location of the telegraph line marked within the portion of a 150 foot wide easement appropriated for the Armidale to Tenterfield Telegraph Lines by the Electricity Commission gazetted on the 30<sup>th</sup> of March 1872 ([Warner] 1907: 2723-1809, see Figure 16). The Crown Plan for the telegraph Lines could not be located at the Land and Property Information where it should be held.

The telegraph lines were located near the railway as Peter Schiffmann, who grew up in Bolivia, reminisced that *“Dad used to saw large trees, bark them and hauled them to the railway line for the telegraph line when they were building it. He got three pounds each for them”* (Halliday 2002:78)

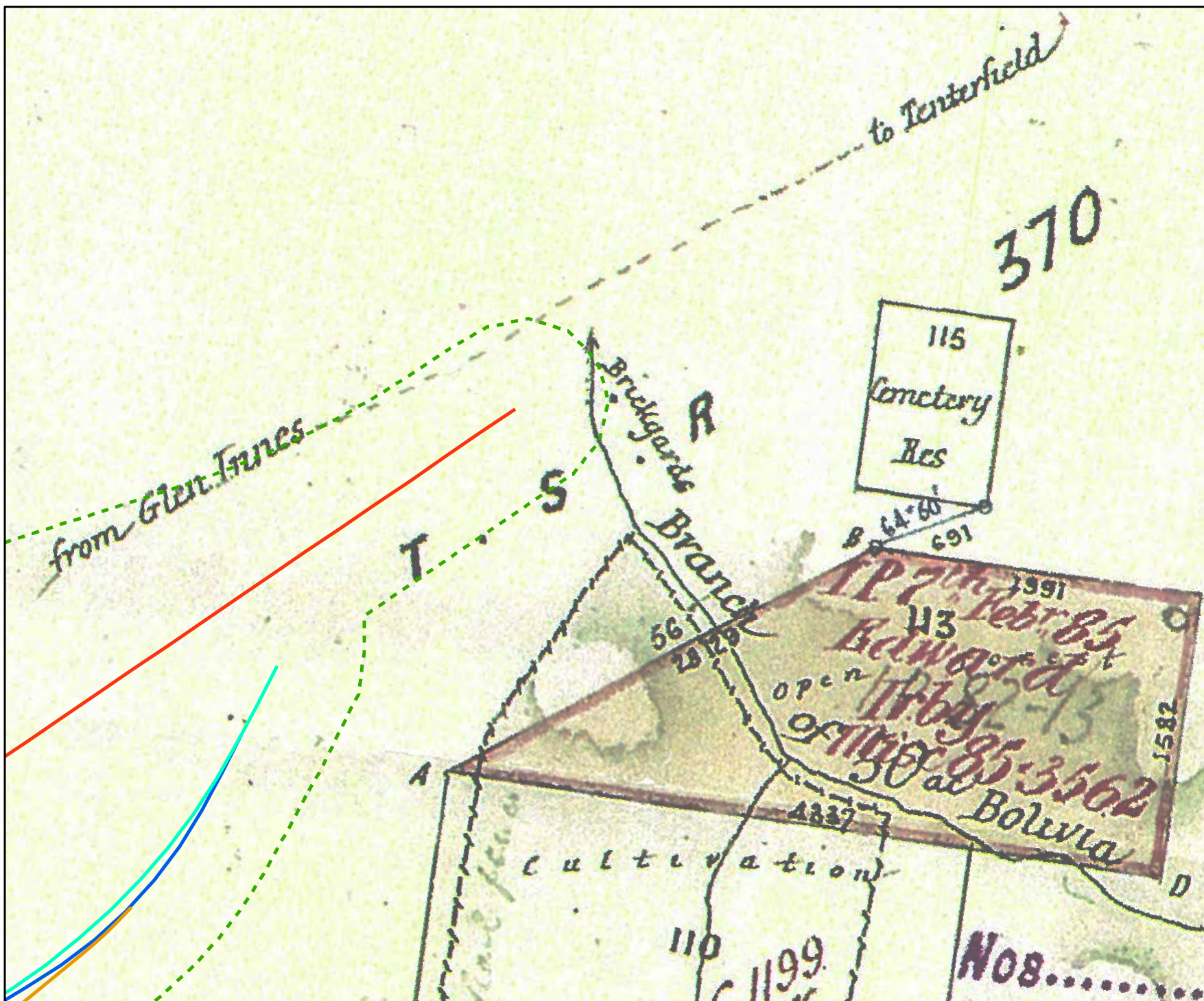


Figure 15: Crown Plan of Portion 113 and adjacent Brickyards


1308 Bolivia Hill

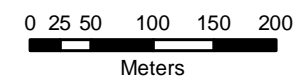
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Project Mgr: FJL

Date: 7/06/2013

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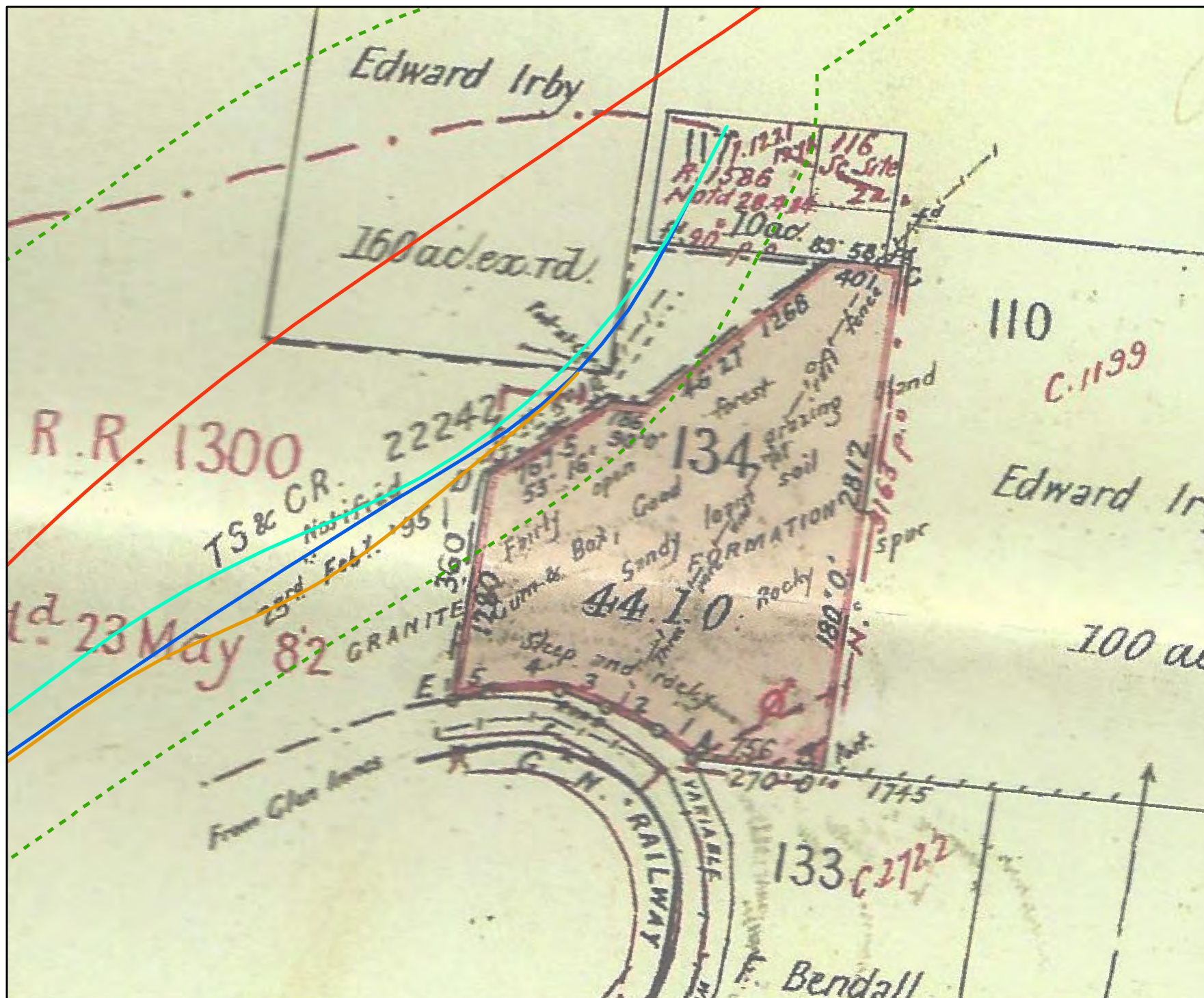


Figure 16: Crown Plan of Portion 134

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

## RouteOptions

### Alignment Options

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## 9.12 Travelling Stock Routes

Travelling Stock Routes (TSR) and Travelling Stock and Camping Reserves (TS&CR) were developed as wide pathways for the movement of stock from one place to another, often with wide verges for stock to graze. Many TSRs have fenced areas for camping with watering facilities for stock to drink (Smiles et.al 2011:6). It is thought that most TSRs were developed from Aboriginal travelling routes and that the camping reserves were originally Aboriginal camping grounds. Aboriginal travel routes connected food and water and the routes were along the least difficult terrain avoiding natural obstacles (Smiles et.al 2011:18).

The origins of the government management of TSRs came about with the government attempts to reduce the spread of disease in sheep and cattle populations in NSW. Controls were implemented through legislation between 1830 and 1870 and this led to the origins and management of the TSRs. In the 1860's some TSR had such high usage that regulations were implemented to protect the rights of adjacent land holders and subsequent drovers. The Occupation Act of 1861 stipulated that stock was not to venture more than one and a half miles on either side of the path nor outside fenced areas at the camping reserves. The stock was to travel a minimum of 4 miles per day (Smiles et.al 2011:20). In the 1870s charges were introduced for travelling stock at 2 shillings per head and a permit was required showing the route of travel. The minimum travel time increased to 6 miles per day for sheep and ten miles per day for cattle (Smiles et.al 2011:20).

In many cases, a road for travellers passed down the middle of TSRs. Inns were positioned along TSRs catering for travellers, most of which have disappeared but some still survive such as the Bolivia Inn on the New England Hwy, which later operated as a boarding house and a post office (Halliday 2004:26).

Three TSR's have been gazetted running through the centre of the study area, the New England Hwy also runs through this area. The path of the TSR can easily be identified on the 1905 Parish of Bolivia plan where the TSR area is marked in green. The three TSRs are:

- TSR 370 Notified on the 8<sup>th</sup> January 1875 and 370 Extension Notified 8<sup>th</sup> May 1882
- TSR. 22252 Notified 23<sup>rd</sup> February 1895
- TS & CR 22242 Notified 23<sup>rd</sup> Feb 1895

TSR 370 was replaced by TSR 22252. Both TSR 22252 and TS & CR 22242 are still current and are under the control of the rural lands board (Pers. Comm. Armidale Lands Office).

The Crown plan for TSR 22252 and TS & CR 22242 was surveyed on the 4<sup>th</sup> November 1898 and shows the TSR western boundary and the eastern boundary as the railway (Rhode 1898: 791-3010 see Figure 17). Only the northern end of the plan includes part of the study area, but it is quite clear that the area that was once the Bolivia Township by 1898 had become a camping ground TS & CR 22242 along the

Travelling Stock Route. The Crown plan for Portion 107 shows the line of the TSR in more detail and a house is marked along the TSR within the study area (Anon 1882: 1122-1809).

Travelling Stock Routes were heavily used up until the late 1940s but with a series of wet years and the rise of motor transport, their usage began to decline. Recent years of drought have resulted in a rise in the usage of TSRs as they provide a place to graze and access to drinking water (Smiles et.al 2011:20).

Smiles, Merchant and Proft (2011: 20) nicely summarised the historical connection of TSRs to the modern day:

*“TSRs today represent a continuation of early European pastoral activities in today’s modern world. The drover is still an important part of the livestock industry in NSW and Queensland and connections with the rural landscape, lifestyle and working traditions are integral to the Australian identity”.*

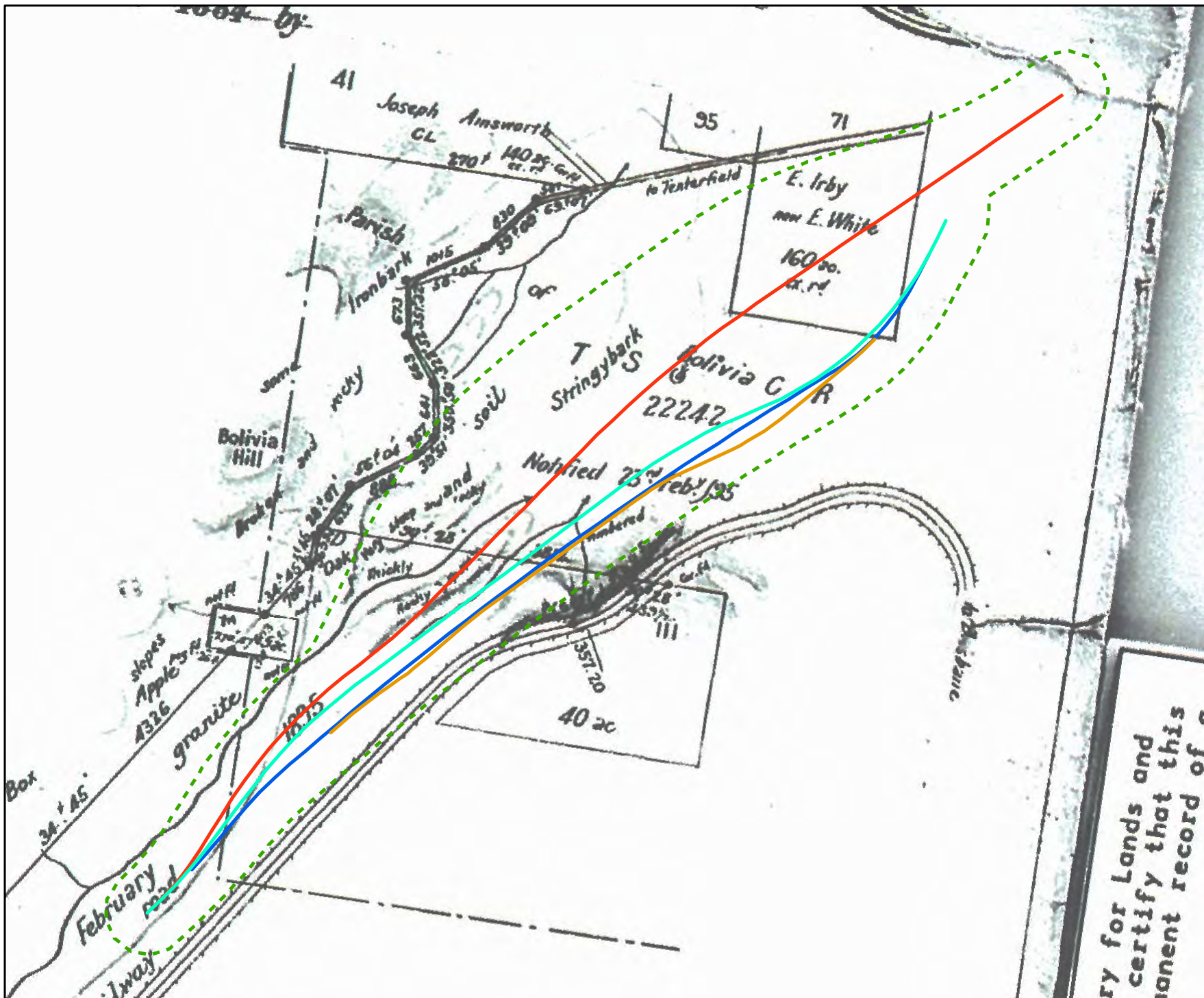


Figure 17: Crown Plan of Portion TS & CR 2242 and TSR 22252

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

RouteOptions  
Alignment Options

- 6
- 7
- 7b
- 10
- 100m Buffer



0 50 100 200 300 400  
Meters

niche  
Environment and Heritage

Horizontal Datum:  
GDA 1994 MGA Zone 56

Imagery:  
(c) 2010 Microsoft Corporation  
and its data suppliers

### 9.13 Roads

The first main road through Bolivia Hill was an old bullock track known as 'Centre Ridge'. The track was to the west of the current New England Highway and followed a steep spur in a direct route over the Bolivia Range, the route is used by the current Brisbane to Sydney telegraph line, and parts of the road are still visible today (Schiffmann et. al. 1988:81). The next road to be used was known locally as the 'Bullock Track' and was west of 'Centre Ridge Road'. The 'Bullock Track' was in use for about 40 years over which time improvements were carried out on the road, including '*a length of dry rubble retaining wall*' (Schiffmann et. al. 1988:81). This road ran along the path of the TSR and where both these roads met and became one road, is where the Railway Township of Bolivia was established on either side of the road (Anon 1883: 1194-1809; Anon 1883: 1195-1809; Anon 1883: 1198:1809). Both these roads were part of the Great Northern Road which linked Sydney with Brisbane over the New England Tablelands. The Crown Plan 4921-1603 is of a part of the 'Great Northern Road' within Portion 71 and within the study area (see Figure 18). The survey was completed on the 19<sup>th</sup> April 1894 and was proposed to be opened as a parish road. It was preliminarily notified in the Government Gazette on the 20<sup>th</sup> November 1894 and confirmed on the 5<sup>th</sup> May 1895. ([L]igge 1894: 4921-1603).

The Crown Plan (Anon 1883: 1198-1809) shows that the Bolivia Township had three roads. The main road already mentioned running through the centre of the town, a road on the east side of the town that ran parallel to the railway and a road on the west side of the township separating the town from the 'Branch Swamp' which is marked on the survey plan. These three roads were all within the study area and can clearly be seen in Figure 10 in relation to the present route of the New England Highway. The 'Bullock Track' still had too steep a grade for horses and the Department of Main Roads sought an alternative route, which was roughly the existing route opened in 1901 (Schiffmann et. al. 1988:81).

In August 1928 the NSW main road system was reorganised and the Great Northern Road was gazetted as part of State Highway 9, it was renamed State Hwy 9, the Great Northern Highway in May 1929. State Highway 9 stretched from Sydney to Tenterfield. On the 24 Mar 1933 State Highway 9 was renamed the New England Highway (oz roads; New England Hwy <http://www.ozroads.com.au>). A Crown Plan of a proposed road widening in Bolivia surveyed 23<sup>rd</sup> December 1949 shows that the highway was called 'New England Highway State Road No.9' (George 1949 24096-1603). In March 1951 the Bolivia Range Deviation began (oz roads; New England Hwy <http://www.ozroads.com.au>). The New England Highway deviated through the abandoned Bolivia Township and Crown Plans show that it actually cut through most of the allotments 2A a store, 3A the hotel and 4A the store and manufactory and through the police reserve (Anon 1883 1198-1809 see Figure 10). A Crown Plan of the New England Highway surveyed on the 12<sup>th</sup> April 1949 is of a section of the highway within the study area showing the new route for the Bolivia Range deviation (George 1949: 24094-1603 see Figure 19). The road works in Bolivia required drilling and blasting which blocked traffic crossing through Bolivia, so as an alternative in April 1950 work began

on the re-conditioning of the 'Old Bullock Track'. This track was used as an alternative route until the New England Highway was ready for use (Schiffmann et. al. 1988:81).

#### **9.14 Mineral Leases within the Study area**

A range of minerals have been mined within the Bolivia area. These include gold, silver, tin, arsenic, molybdenite and silica (Schiffmann et. al. 1988:83). Tin was mined at the Bolivia Station (Schiffmann et. al. 1988:83). The Parish Plan of Bolivia 1905 depicts an area shaded blue on the northern border of the study area labelled "Sale Mining 30<sup>th</sup> May 1900". Within this area a number of boxes marked 'ML' standing for 'Mining Lease' can be seen in faint blue pen. These boxes extend into the study area with "79 ML" and "78 ML" being within the study area. The Crown Plan they refer to is of "5 portions Nos 82 to 86 Applied for by AW Bucknell for working Tin" (see Figure 20). The survey was undertaken in March 1873 and the mineral Leases were cancelled on the 12<sup>th</sup> February 1877 (Mackay 1873: 238-1809).

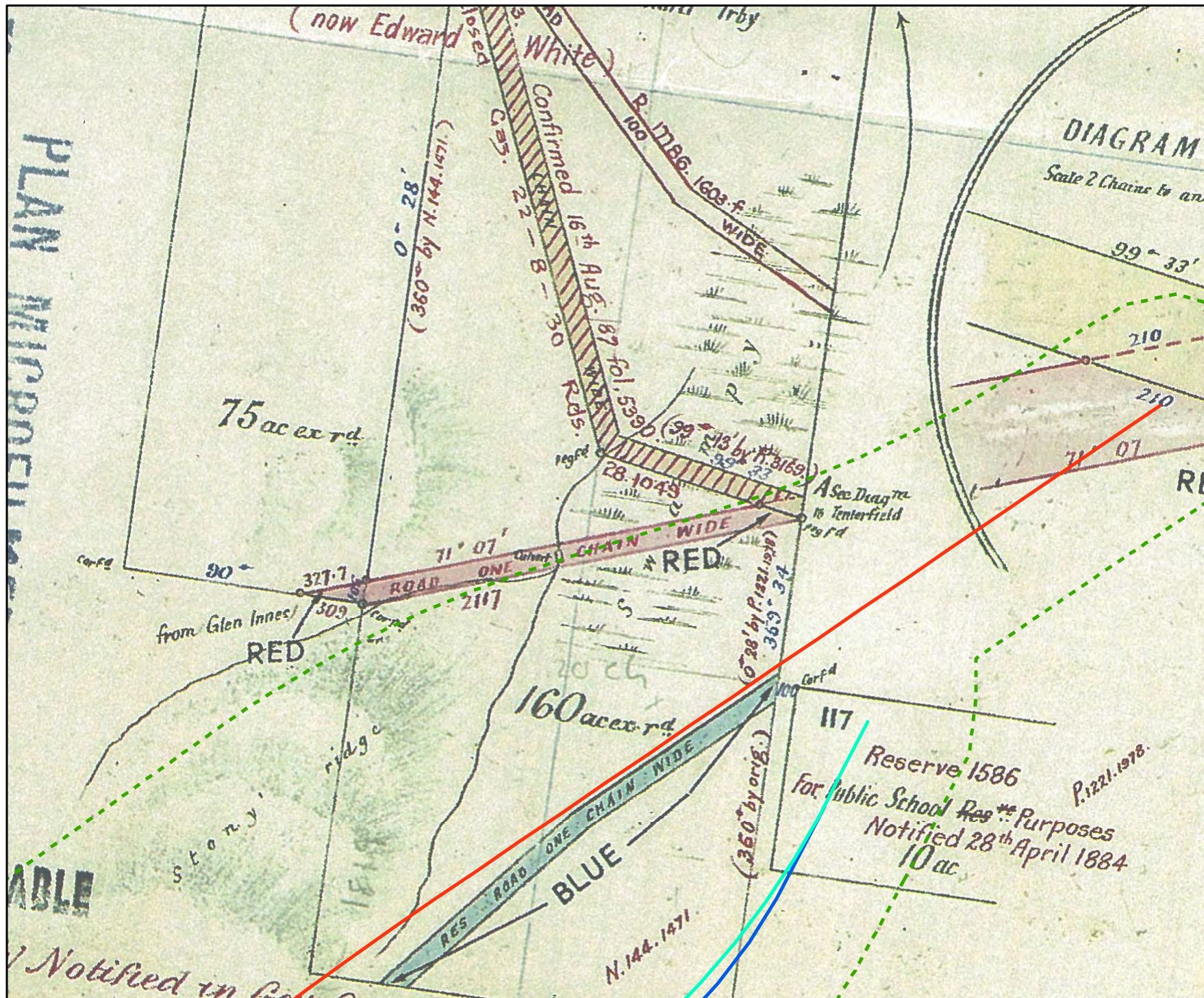


Figure 18: Crown Plan of 'The Great Northern Road' 1895

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

#### RouteOptions

##### Alignment Options

- 6
- 7
- 7b
- 10
- - - 100m Buffer



0 25 50 100 150 200

Meters

**niche**  
Environment and Heritage

Horizontal Datum:  
GDA 1994 MGA Zone 56

Imagery:  
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Historical Heritage Assessment: New England Highway Upgrade, Bolivia Hill

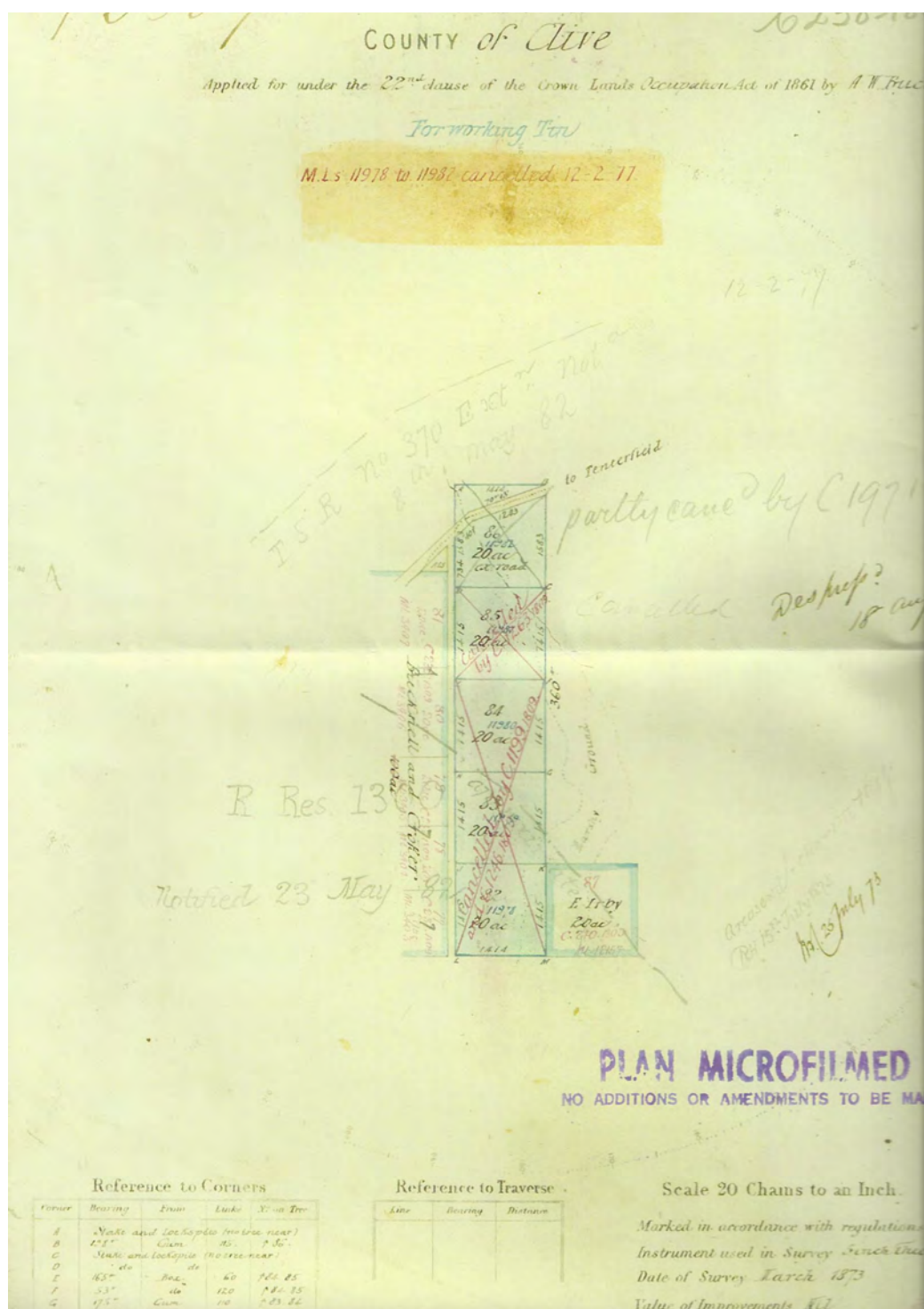


Figure 20: Crown Plan showing Mineral Leases for 'Working Tin' 1873.

## 9.15 Later Settlement within the Study Area

Portion 40 is a parcel of land bordering on the north side of the study area (see Figure 21). It is part of the Resumed Area No 68A, applied for by Fredrick Michael Jackson a landowner in Bolivia. The survey was undertaken on the 17<sup>th</sup> Sept 1910. Pye's Creek Road borders the south of this study area an additional parcel of land within part of TSR 22252 identified as an "Area set apart for Additional Holdings @ 2pounds per acre" available from the 19<sup>th</sup> May 1910 and Gazetted on the 16 March 1910. It seems Jackson was able to add some additional land to his holding, although it is likely that as Portion 40 was also part of the TSR he did not actually purchase that land but leased it from the government. The additional holdings were the four one acre allotments originally set aside for Special Leases for the Bolivia Township in 1883. The country in Portion 40 is described as "*undulating country; deep washed out gullies Timbered with gum*" with "*granite forms*", "*Good black soil*" and "*scrub*". A three wire top rail fence is marked at the southern boundary of the portion and a bridge or culvert has been marked on Pye's Creek Road (Sheaffe 1910:3258-1809).

Fredrick Michael Jackson obtained an Occupation License for Portion 66 within the study area (see Figure 22). The portion is part of the TS & CR 22242 and TSR 22252 and is partly within "R1300 from sale for railway purposes" which was notified 23<sup>rd</sup> May 1882. R1300 is a Railway Reserve. The survey was undertaken for Portion 66 on 14<sup>th</sup> February 1929. There is a fence around the portion and the country is described as "*Very Rough Broken Country Stony Soils, Granite Formation, Timbered with Gum Stringybark, few apples & pine, water southern end*". The New England Highway borders the west side of the portion, and a bridge has been marked on the survey. The value of improvements for fencing 70 chains 6 wide (new) costing 43 pounds 15 and 34 chains 6 wide costing 6 pounds 16". Jackson's license expired on the 31<sup>st</sup> December 1956 and a new licence was obtained for the portion by Thomas Jacob Stanley Bendall (Hutchison 1929: 3869.1809).

Fredrick Jackson had a Bullock team of about 18 bullocks and they use to haul timber from Manglesons Mill to the Railway line at Bolivia (Schiffmann 1988:77).

Frederick Bendall applied for land in Portions 139 and 134 that were part of Resumed Area No 68A Bolivia. These two portions are within the study area (see Figures 23 and 16). Portion 139 was surveyed on the 22<sup>nd</sup> Nov 1907 and is within part of the TS & CR 22242 and TSR 22252 and RR 1300 as well as Portion 116 the school site and part of Portion 117. The plan refers to a voucher number which was passed at 8 pounds 3.0 indicating that the land is being leased rather than purchased. Only the southern end of the portion is within the study area (Sweet 1907: 2817-1809).

Portion 134 is within the study area as well as part of the TS & CR 22242 and TSR 22252 and RR 1300. The survey was undertaken on the 21<sup>st</sup> February 1907. This land described as "*Fairly open forest of Gum & Box good grazing sandy loam soil, Granite formation rocky, steep and rocky*". The telegraph

line is marked as running through the south east corner of the study area. The land is in an area “*set apart for ACP @ 23s/4d*”. The plan refers to a voucher number which was passed at 5 pounds 10-5 indicating that this parcel of land is being leased rather than purchased ([Warner] 1907: 2723-1809).

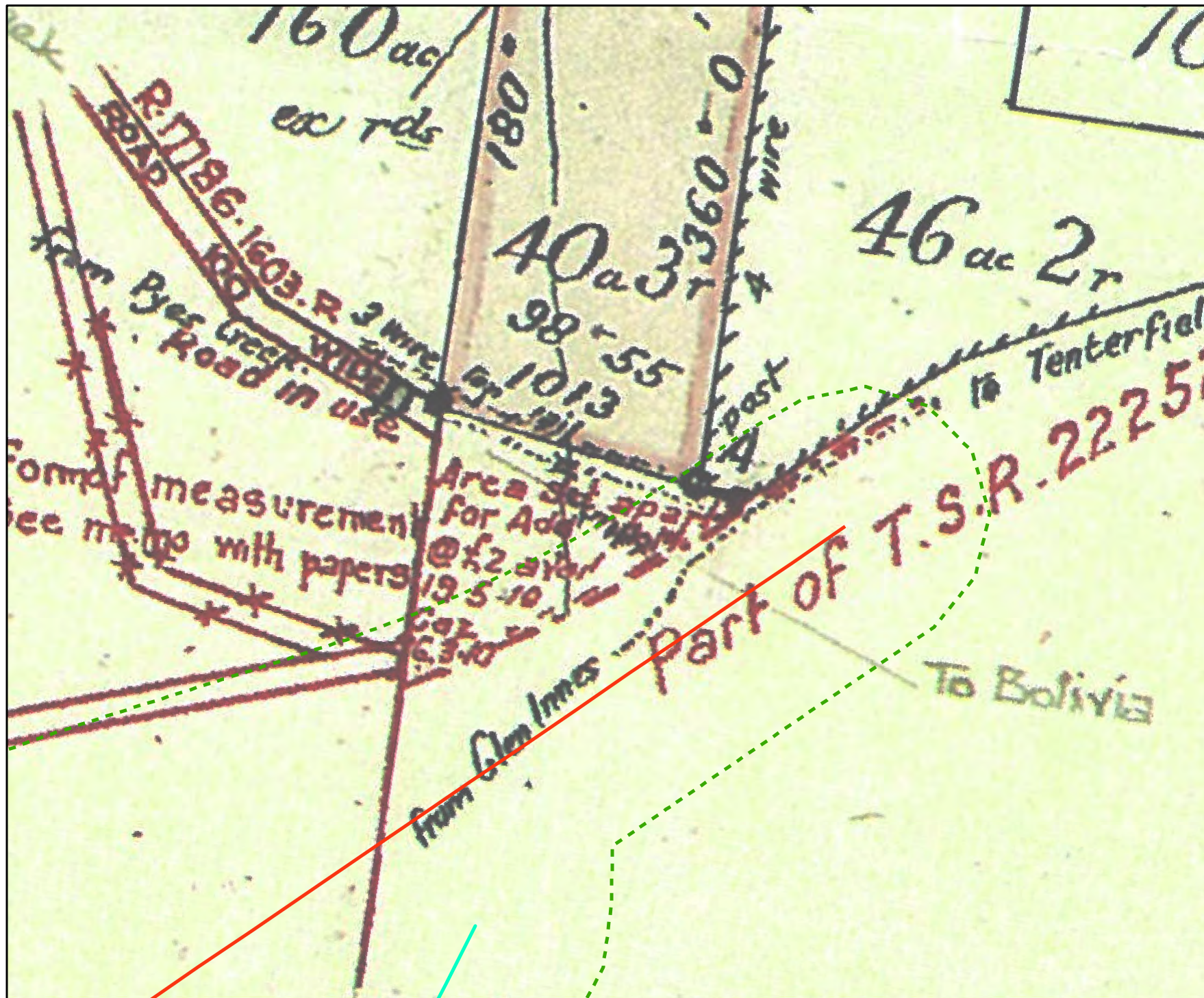


Figure 21: Crown Plan of Portion 40

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

#### RouteOptions

#### Alignment Options

- 6
- 7
- 7b
- 10
- 100m Buffer



0 25 50 100 150  
Meters

**niche**  
Environment and Heritage

Horizontal Datum:  
GDA 1994 MGA Zone 56

Imagery:  
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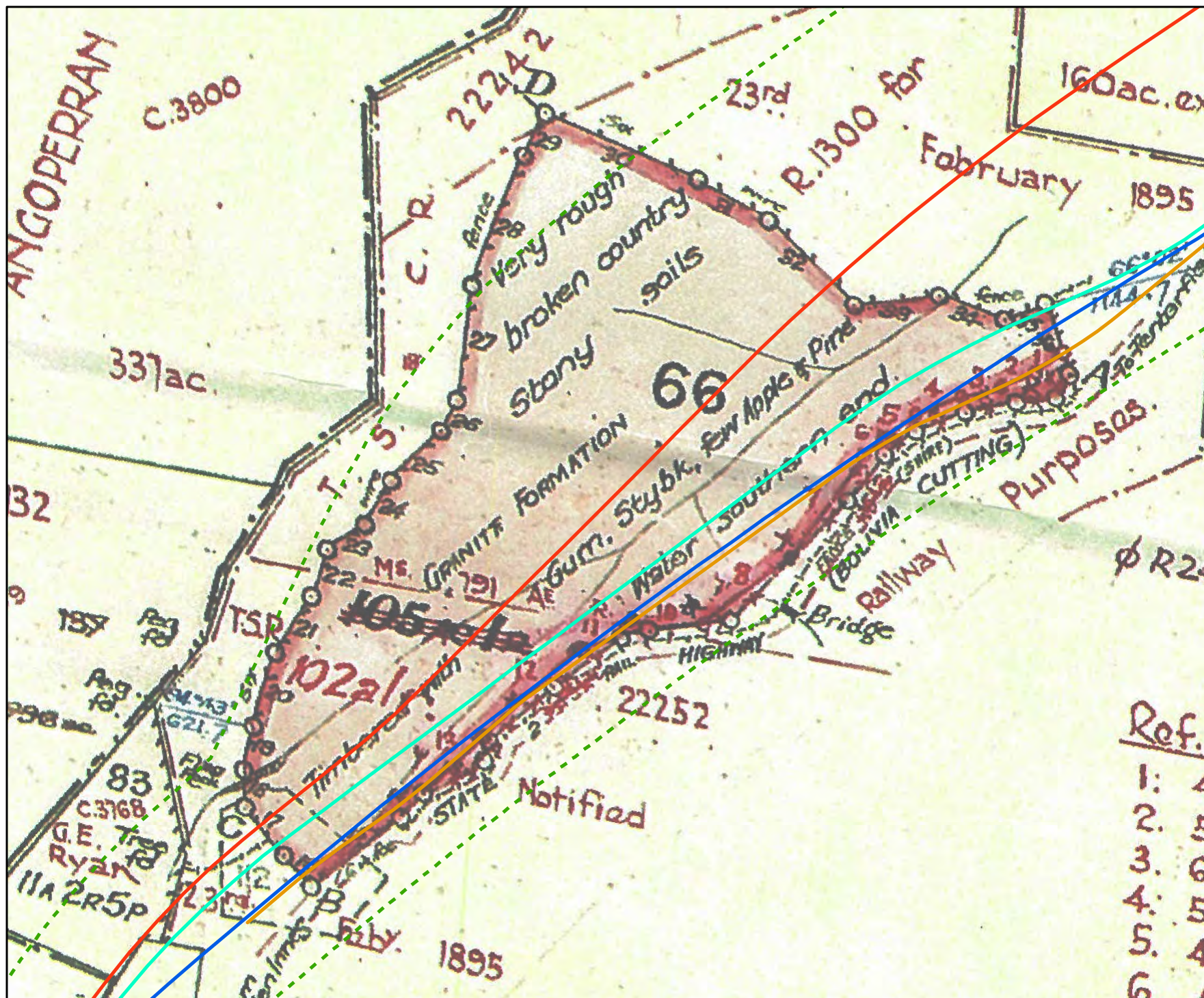


Figure 22: Crown Plan of Portion 66

1308 Bolivia Hill

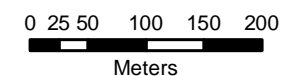
Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

## RouteOptions

### Alignment Options

- 6  
7  
7b  
10  
100m Buffer



**niche**  
Environment and Heritage

Horizontal Datum:  
GDA 1994 MGA Zone 56

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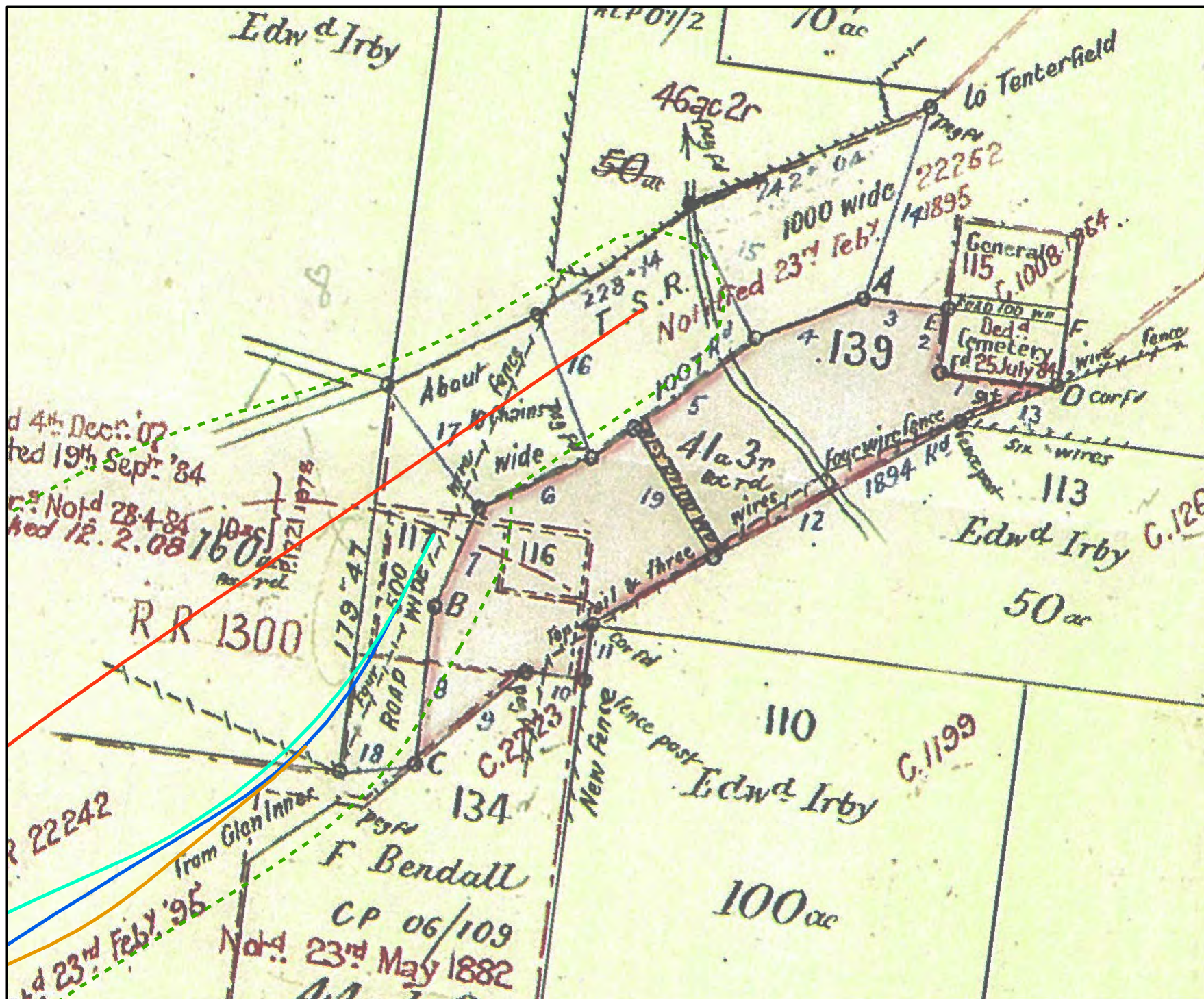


Figure 23: Crown Plan of Portion 139

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

## RouteOptions

## Alignment Options

- 6  
7  
7b  
10  
100m Buffer



Meters

**niche**  
Environment and Heritage

Horizontal Datum:  
GDA 1994 MGA Zone 56

Imagery:  
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## 10 Consultation with the Tenterfield & District Historical Society

The Tenterfield and District Historical Society were contacted about the Project prior to the field survey and a meeting was organised. The meeting took place on 14<sup>th</sup> January 2013, on the first day of the field survey, and was held at the historical society premises in Tenterfield. The attendees were: Fiona Leslie (Niche, Senior Archaeologist), Neil Dight (historical society member) and Fay McGowan (historical society member and local historian). The historical society provided very useful information on the following heritage items:

- ☐ Jackson's house site, Pye Creek Road - built by Bolivia Station in the 1910s and relocated in the 1980s;
- ☐ The Public Watering Point / Travelling Stock Route adjacent to the current highway;
- ☐ Quin Chee's Market Garden - established in the 1880s by a Chinese gardener named Quin Chee, who transported produce to Tenterfield on a horse and buggy;
- ☐ Silver / lead mining and the presence of huts in the area;
- ☐ Brickyard Creek where clay was sourced for the Railway to make bricks;
- ☐ A Cobb & Co track across Bolivia Hill;
- ☐ A railway camp on the Horseshoe Bend; and
- ☐ Various memorials along the highway.

Charlie McGowan and Neil Dight also attended the field survey on the 14<sup>th</sup> and 15<sup>th</sup> January 2013. With their assistance various sites were located and recorded within the study area.

## 11 Results of Field Survey

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### 11.1 Methodology

The field survey was carried out over a 5 day period from 14<sup>th</sup> to 18<sup>th</sup> January 2013. The survey team consisted of: Amanda Atkinson (Archaeologist, Niche), Fiona Leslie (Senior Archaeologist, Niche), Clare Anderson (Archaeologist, Niche), Darren Daley (Moombahlene Local Aboriginal Lands Council), Donald Kirk (Moombahlene Local Aboriginal Lands Council) and Graham Purcell (Cultural Heritage Officer, RMS). Charlie McGowan and Neil Dight assisted with the identification of non-Aboriginal heritage items on the 14<sup>th</sup> and 15<sup>th</sup> January 2013.

The survey used a combination of survey transects and sampling of landforms identified within the subject area. Initially, it was expected that the survey team would traverse the proposed route options in transects, however on inspection of the subject area it became apparent that there was very steep terrain and the original methodology would not be the most appropriate way to survey the proposed route options. The survey methodology was modified and a sampling strategy was employed. Each of the landforms was sampled by the survey team; this provided a good indication of the sites types that occurred or would be likely to occur in the study area.

A non-differential hand held GPS unit was used to record all transects and sites identified during the survey.

### 11.2 Results

A total of fourteen (14) non-Aboriginal heritage items were identified during the field survey. Eleven (11) of these sites are located within the study area. These are summarised in Table 1 and described in further detail in subsequent tables. Their locations are shown in Figure 24.

It should be noted that Sites 3, 11 & 13 are located outside the study area boundary.

An additional eleven (11) sites were identified through detailed historical research following the completion of the field survey. These are listed in Table 2 and their locations shown in Figures 25a and b. All of these sites are likely to be located within the study area, although further field survey is required to confirm their locations.

**Table 1: Non-Aboriginal heritage items located during the field survey**

Site ID	Site Name	Brief Description	Condition / Integrity	Located within Study Area?
1	Angel Memorial	Angel Statue with Bronze Plaque	Average	Y
2	Jackson's Homestead Site	Former homestead site. Two corrugated iron water tanks on timber stumps.	Average	Y
3	Drill Holes on Bullock Track	Stone rubble and brick platform. A small 2m square concrete pad for former shed. Corrugated iron. Evidence of blasting in the 1950s as preparation to use as a deviation road	Average	N
4	Harry and Lenny Memorial	Harry and Lenny written in white paint on rock face. Flowers in small vases attached to post and wire fence above rock face.	Average	Y
5	Hut Remains	Corrugated iron collapsed roof above timber supports. Small pile of clay bricks 1m south of iron. Likely to be chimney remains. Structure appears to be a former timber hut.	Poor	Y
6	Johnson Memorial	Two wooden crosses. One painted yellow one brown. Both for graham Johnson our gentle giant. 6-10-87 18-01-09	Average	Y
7	Mine Shaft	Rubble stone pile used to fill mine shaft. Site dimension is 2m <sup>2</sup> .	Average	Y
8	Former Bridge	Concrete blocks noted on edge of rock face. Disturbed by later rubble retaining wall added to new bridge. No other remains evident.	Poor	Y
9	Quarry	Quarry in eroded area	Average	Y
10	Quinn Chee's Market Garden & Well	Cleared area near creek & circular depression.	Poor	N
11	Stone Rubble Creek Crossing	Large angular stones imported to form level creek crossing.	Average	Y
12	Timber Creek Crossing	Small crossing constructed of machine cut timber logs laid directly on ground.	Average	N
13	Timber Bridge	Small timber bridge. Built on concrete and rubble approaches. Reinforced using large timber beams with timber decking.	Average	N
14	Telegraph Line Remains	Remains of 12 Telegraph Poles on the western side of the current highway alignment.	Poor	Y

**Table 2: Additional Non-Aboriginal heritage items identified through detailed historical research. Further field survey is required to verify their presence, condition and integrity.**

Site ID	Site Name	Source	Condition / Integrity	Located within Study Area?
15	Former Bolivia Township	Crown Plans for Portions 2A, 5A, 6A-10A, 4A, & 3A	Unknown	Y
16	Former House Site	Crown Plan of Portion 105-107	Unknown	Y
17	Brickyards	Crown Plan of Portion 12A-15A and Portion 113	Unknown	Y
18	Culvert	Crown Plan of Portion 12A	Unknown	Y
19	Police Reserve	Crown Plan of Portion 112	Unknown	Y
20	Former Public School Site & Reserve	Crown Plan of Portion 116 & 117	Unknown	Y
21	Travelling Stock Routes (2)	1905 Parish Map	Unknown	Y
22	Bullock Track (west of current highway)	Crown Plan of Portion 2A, 5A and 6A-10A & CP4921-1603	Unknown	Y
23	Former Road (current highway)	Crown Plan of Portion 2A, 5A and 6A-10A & CP4921-1603	Unknown	Y
24	Former Road (adjacent to railway)	Crown Plan of Portion 2A, 5A and 6A-10A & CP4921-1603	Unknown	Y
25	Telegraph Line	1905 Parish Map & Crown Plan 4921-1603	Unknown	Y

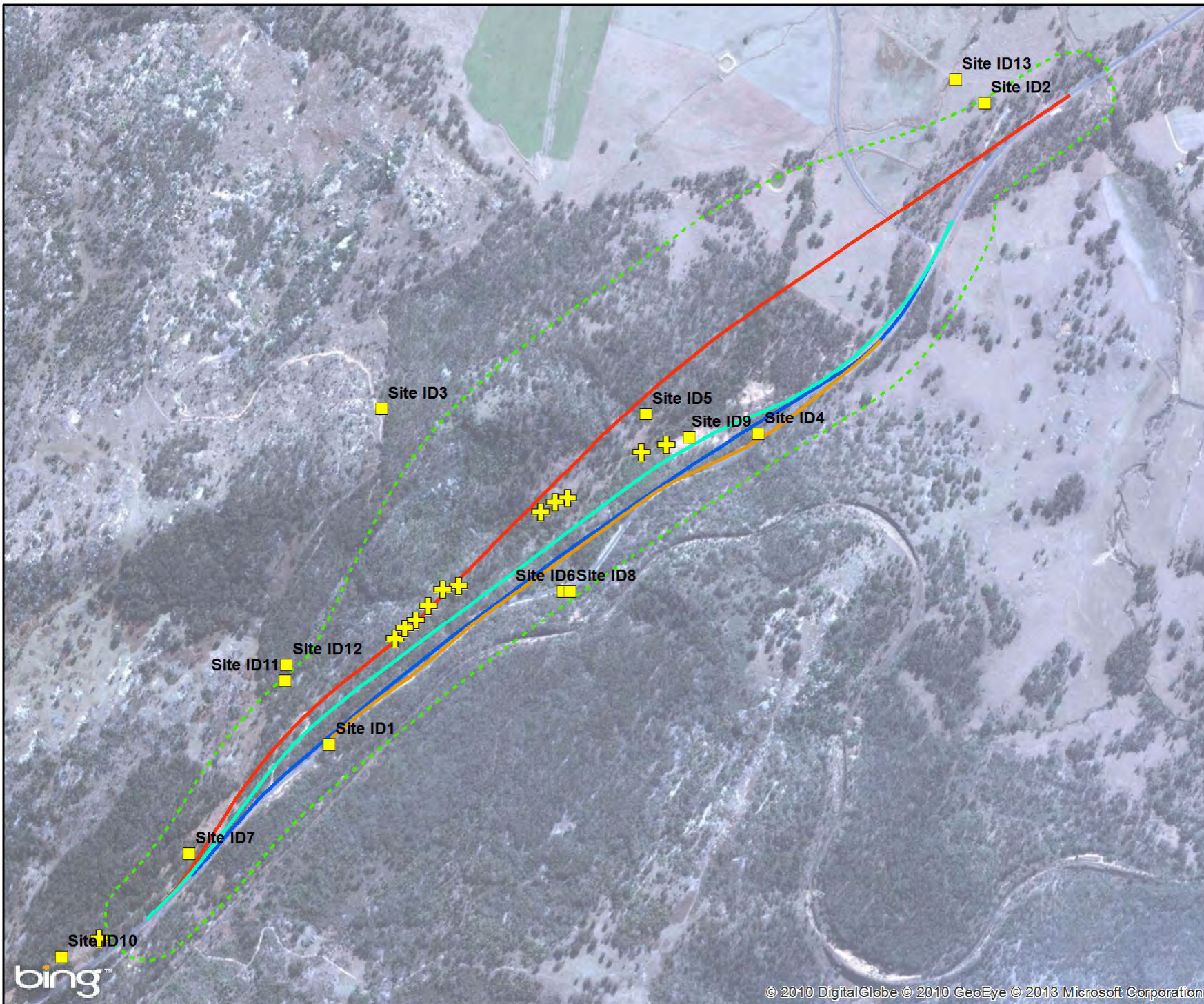


Figure 24: Non-Aboriginal Heritage Items Located During Field Survey

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

**Surveyed non-Aboriginal heritage items**

- Heritage Item (Site ID 1-13)
- + Telegraph Pole (Site ID 14)

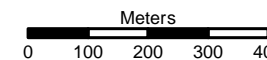
**RouteOptions**

**Alignment Options**

- 6
- 7
- 7b
- 10

**100m Buffer**

- - - 100m Buffer



**niche**  
Environment and Heritage

Horizontal Datum:  
GDA 1994 MGA Zone 56

Figure 25a: Non-Aboriginal Heritage Items Located Through Historical Research

## 1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

### RouteOptions

#### Alignment Options

- 6
- 7
- 7b
- 10

#### 100m Buffer

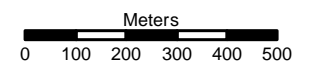
- 100m Buffer

#### Roads Tracks & Lines

- 'Bullock Track'
- Former Road
- Telegraph Line

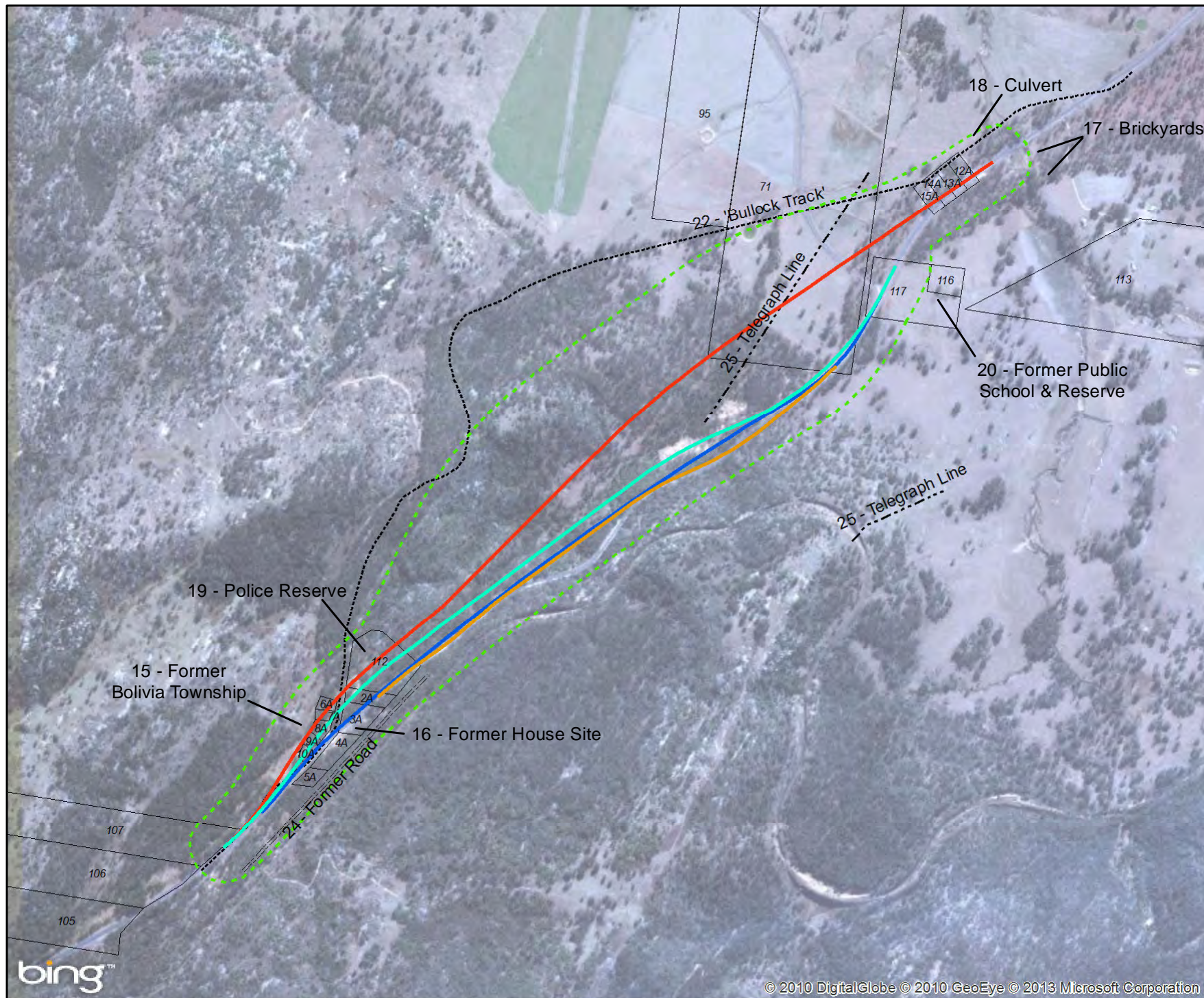
#### Portions

- Portions



**niche**  
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Horizontal Datum:  
GDA 1994 MGA Zone 56



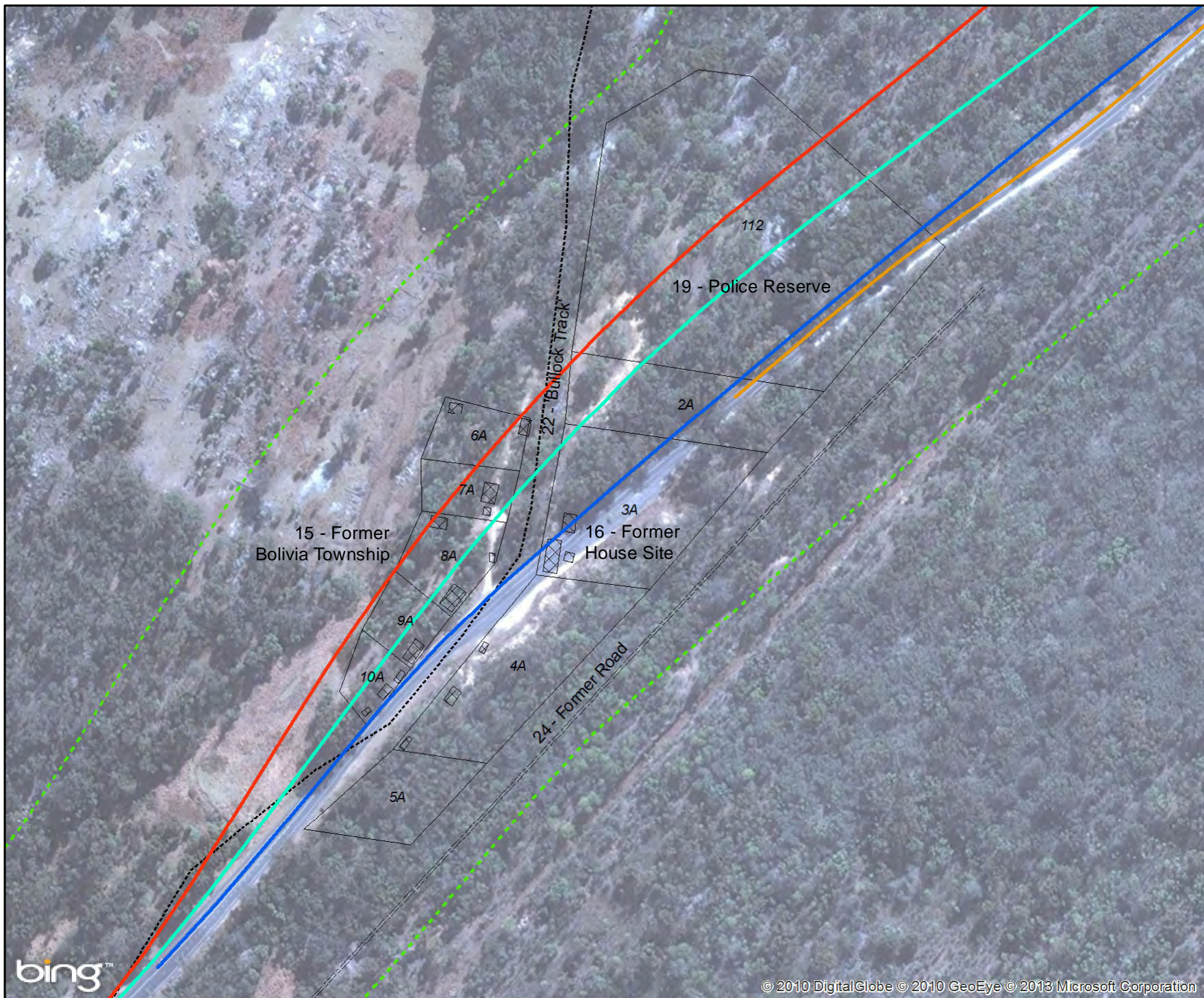


Figure 25b: Non-Aboriginal Heritage Items Located Through Historical Research (Bolivia Town Area)

1308 Bolivia Hill

Drawn by: CH  
Project Mgr: FJL

Date: 7/06/2013

#### RouteOptions

##### Alignment Options

- 6
- 7
- 7b
- 10

#### Former Structures / Features

- Former Structures / Features

#### Roads Tracks & Lines

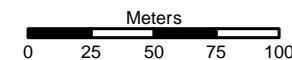
- 'Bullock Track'
- Former Road
- Telegraph Line

#### Portions

- Portions

#### 100m Buffer

- 100m Buffer







**niche**  
Environment and Heritage


Horizontal Datum:  
GDA 1994 MGA Zone 56

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Site 1: Angel Memorial	
Location	56 J E: 395124 N: 6755990 On east side of highway
Site Description	Angel statue with bronze plaque. Dedicated to Billie Roseanna Ward. B 26.1.1987
Archaeological Potential	NA
Site Condition / Integrity	Good
Historical Notes	The statue was placed on the hill around 20 years ago. The girl was 5 or 6 years old and was killed in a car accident (Tenterfield & District Historical Society, pers comm).
Photo (s)	  <p><b>Plate 2: The Angel Memorial, Bolivia Hill</b></p>

Site 2: Jackson's Homestead Site	
Location	56 J E: 396701 N: 6757494 500m north of Pyes Creek Road. 4 large pine trees and water tanks indicate location.
Site Description	Former homestead site. Two corrugated iron water tanks on timber stumps and stone rubble and brick platform. A small 2m square concrete pad for former shed. Corrugated iron. Site dimensions are 30m x 20m.
Archaeological Potential	Moderate potential. Possible testing if impacts.
Site Condition / Integrity	Good condition, with some stock damage.
Historical Notes	The house was built c1910 by Micky Jackson, who worked for Bolivia Station. The house was relocated in the 1980s (Tenterfield & District Historical Society, pers comm).
Photo (s)	  <p><b>Plate 3: Jackson's Homestead Site, Pyes Creek Road.</b></p>

Site 3: Drill Holes on the Old Bullock Track	
Location	56 J E: 395249 N: 6756758 Three drill holes noted on boulders along an overgrown track (Old Bullock Track) outside the study area.
Site Description	Three vertical drill holes located approximately 1m apart from the face of a series of boulders. Evidence of blasting and reworking of the track. Site dimensions are 0.45m x 0.04m.
Archaeological Potential	Other drill holes were noted on the ridge line to the west.
Site Condition / Integrity	Condition good, but weathered.
Historical Notes	It is likely that the track was blasted and reworked in the 1950s when the current highway was upgraded and the Old Bullock Track used as a deviation.
Photo (s)	 <p><b>Plate 4: Drill Hole on Old Bullock Track</b></p>


Site 4: Harry and Lenny memorial	
Location	56 J E: 396156 N: 6756697 On east side of highway.
Site Description	Harry and Lenny written in white paint on rock face. Flowers in small vases attached to post and wire fence above rock face.
Archaeological Potential	NA
Site Condition / Integrity	Site condition is good.
Historical Notes	Harry and Lenny were brothers killed in a vehicle accident on Bolivia Hill.


Site 5: Hut Remains	
Location	56 J E: 395886 N: 6756745 40m from quarry.
Site Description	Corrugated iron collapsed roof above timber supports. Small pile of clay bricks 1m south of iron. Likely to be chimney remains. Structure appears to be a former timber hut.
Archaeological Potential	Very little archaeological potential.
Site Condition / Integrity	Condition is poor.
Historical Notes	The hut is likely to be associated with tin mining in the area. A mine shaft was located nearby.
Photo (s)	 <p>Plate 5: Hut remains identified on Bolivia hill</p>

Site 6: Johnson Memorial	
Location	56 J E: 395685 N: 6756318 On east side of highway in front of rock face.
Site Description	Two wooden crosses. One painted yellow one brown. Both for Graham Johnson our gentle giant. 6-10-87 18-01-09
Archaeological Potential	N/A
Site Condition / Integrity	Good
Photo (s)	 <p><b>Plate 6: Johnson Memorial, Bolivia Hill</b></p>

Site 7: Mine Shaft	
Location	56 J E: 394786 N: 6755685 15m from west side of highway between two cleared areas.
Site Description	Rubble stone pile used to fill mine shaft. Site dimension is 2m <sup>2</sup> .
Archaeological Potential	Low potential.
Site Condition / Integrity	Average
Historical Notes	Tin mining took place on Bolivia Station and Parish Maps indicate that mining leases did occur within the study area in the 1870s.


Photo (s)	 <p><b>Plate 7: Mine Shaft adjacent to highway, Bolivia Hill.</b></p>
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Site 8: Former Bridge Site	
Location	56 J E: 395703 N: 6756318 On east side of highway.
Site Description	Concrete blocks noted on edge of rock face. Disturbed by later rubble retaining wall added to new bridge. No other remains evident although access was difficult.
Archaeological Potential	Unknown
Site Condition / Integrity	Condition is poor.
Historical Notes	A review of the 1954 aerial photograph indicates that the highway deviated at this location. It is possible that a new bridge was constructed when the highway was upgraded in the 1950s.
Photo (s)	 <p><b>Plate 8: Site of a former bridge, New England Highway, Bolivia Hill</b></p>


Site 9: Quarry	
Location	56 J E: 395990 N: 6756688 Eroded area adjacent to creek.
Site Description	Quarry in eroded area. Site dimensions are 20m x 5m.
Archaeological Potential	No archaeological potential.
Site Condition / Integrity	Condition poor.
Historical Notes	The area is shown as being cleared in the 1954 aerial photograph. Quarry may have been used when the highway was upgraded in the 1950s. Area is also located within the Travelling Stock Route (TSR).
Photo (s)	 <p><b>Plate 9: Quarry site, Bolivia Hill.</b></p>


Site 10: Quinn Chee's Market Garden & Well	
Location	56 J E: 394478 N: 6755438 Cleared area on edge of highway adjacent to creek & depression in grass paddock. The site is outside the study area boundary.
Site Description	Unclear where boundary of market garden is but presumed to be near creek. 2m <sup>2</sup> depression in paddock. Possible well owned by Quinn Chee.
Archaeological Potential	Subsurface potential for botanical remains.
Site Condition / Integrity	Condition poor due to erosion.
Historical Notes	Tenterfield and District Historical Society informed us of this location.

Photo (s)	 <p>Plate 10: Quin Chee's Market Garden, Bolivia Hill</p>
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Site 11: Stone rubble creek crossing	
Location	56 J E: 395017 N: 6756102 Stone rubble fill on small creek.
Site Description	Large angular stones imported to form level creek crossing. Site dimensions are 5m x 3m.
Archaeological Potential	Low archaeological potential
Site Condition / Integrity	Good condition.
Historical Notes	Evidence of former roads in the area. Possibly associated with the Old Bullock Track, which was upgraded in the 1950s as a deviation to the current highway.
Photo (s)	 <p>Plate 11: Stone Rubble Creek Crossing, Bolivia Hill</p>

Site 12: Timber Creek Crossing	
Location	56 J E: 395020 N: 6756140 Semi cleared woodland.
Site Description	Timber creek crossing. Whole timber logs laid directly on ground. Machine cut edges. Site dimensions are 6m x 4m.
Archaeological Potential	Low archaeological potential.
Site Condition / Integrity	Good condition.
Historical Notes	Evidence of former roads in the area. Possibly associated with the Old Bullock Track.
Photo (s)	 <p><b>Plate 12: Timber Creek Crossing, Bolivia Hill</b></p>

Site 13: Timber bridge	
Location	56 J E: 396633 N: 675755 On small creek running north-south. Contemporary with the homestead site. Used as driveway. Located outside the study area.
Site Description	Small timber bridge. Built on concrete and rubble approaches. Reinforced using large timber beams with timber decking. Given concrete and bolts likely to be erected c1930. Site dimensions are 7m x 3m.
Archaeological Potential	No archaeological potential.
Site Condition / Integrity	Good condition.
Historical Notes	Contemporary with Jackson's homestead site.
Photo (s)	 <p>Plate 13: Timber bridge, Jackson's Homestead site, Pyes Creek Road.</p>

Site 14: Telegraph Pole Remains	
Location	<p>Telegraph Pole 1: 56 J E: 395935 N: 6756670</p> <p>Telegraph Pole 2: 56 J E: 395876 N: 6756652</p> <p>Telegraph Pole 3: 56 J E: 394570 N: 6755482</p> <p>Telegraph Pole 4: 56 J E: 395717 N: 6756572</p> <p>Telegraph Pole 5: 56 J E: 395698 N: 6756542</p> <p>Telegraph Pole 6: 56 J E: 395634 N: 6756509</p> <p>Telegraph Pole 7: 56 J E: 395435 N: 6756331</p> <p>Telegraph Pole 8: 56 J E: 395366 N: 6756284</p> <p>Telegraph Pole 9: 56 J E: 395332 N: 6756249</p> <p>Telegraph Pole 10: 56 J E: 395282 N: 6756203</p> <p>Telegraph Pole 11: 56 J E: 395362 N: 675628</p> <p>Telegraph Pole 12: 56 J E: 395306 N: 6756228</p>
Site Description	Remains of 12 telegraph poles and ceramic insulators.
Archaeological Potential	NA
Site Condition / Integrity	Poor
Historical Notes	The 1905 Parish plan of Bolivia shows the location of the Armidale to Tenterfield telegraph line. The Crown Plan of Portion 134 shows a 150 foot wide easement appropriated for the Armidale to Tenterfield Telegraph Lines by the Electricity Commission on the 30 <sup>th</sup> of March 1872.
Photo (s)	 <p><b>Plate 14: Example of telegraph pole remains, Bolivia Hill.</b></p>

## 12 Significance Assessment

The NSW *Heritage Manual* (including the *Assessing Heritage Significance* guideline) prepared by the former NSW Heritage Office and Department of Urban Affairs and Planning, provides the framework for the following assessment and statement of significance. These guidelines incorporate the five aspects of cultural heritage value identified in the *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 1999* (Burra Charter) into a framework currently accepted by the NSW Heritage Council.

- (a) An item is important in the course, or pattern, or NSW's cultural or natural history (or the cultural or natural history of the local area);
- (b) An item has strong or special associations with the life or works of a person, or group of persons, of importance in the cultural or natural history of NSW (or the cultural and natural history of the local area);
- (c) An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievements in NSW (or the local area);
- (d) An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;
- (e) 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);
- (f) An item possess uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);
- (g) An item is important in demonstrating the principal characteristics of a class of NSW's:
  - Cultural or natural places; or
  - Cultural or natural environments;
  - (or a class of the local areas)
  - Cultural or natural places; or
  - Cultural or natural environments;

*Assessing Significance for Historical Archaeological Sites and 'Relics'* (2009) clarifies how the above criteria relate to historical archaeological sites and provides a series of questions for each criterion that assist the assessment of 'relics'. By using this guideline archaeological sites or 'relics' can more easily be assessed on their own right and compared with other sites.

Aboriginal cultural heritage values are documented in a separate report prepared for the Project by Niche.

## 12.1 Preliminary Significance Assessment

The following table provides a preliminary significance assessment for the twenty (20) heritage items located within the study area. Given that many of the sites have not been evaluated in the field this assessment should be considered a preliminary guide only at this stage.

**Table 3: Preliminary Significance Assessment of non-Aboriginal heritage items located within the study area.**

Site ID	Site Name	Likely to satisfy the following Significance Assessment Criteria	Likely Level of Significance
1	Angel Memorial	(a), (d)	Local
2	Jackson's Homestead Site	(a), (e)	Local
4	Harry and Lenny Memorial	(a), (d)	Local
5	Hut Remains	(a)	Local
6	Johnson Memorial	(a), (d)	Local
7	Mine Shaft	(a)	Local
8	Former Bridge	(a)	Local
9	Quarry	(a)	Nil
11	Stone Rubble Creek Crossing	(a)	Local
12	Timber Creek Crossing	(a), (e)	Local
14/25	Telegraph Line Remains	(a)	Local
15	Former Bolivia Township	(a), (b), (d) (e), (f) (g)	State and/or Local
16	Former House Site	(a), (e)	Local
17	Brickyards	(a), (b) (e), (f), (g)	Local
18	Culvert	(a)	Local
19	Police Reserve	(a)	Local
20	Former Public School Site & Reserve	(a)	Local
21	Travelling Stock Routes (2)	(a), (b)	Local
22	Bullock Track (west of current highway)	(a)	Local
23	Former Road (current highway)	(a)	Nil

## 12.2 Statement of Significance

Bolivia Hill is a rugged landscape characterised by steep hills and cliffs with clusters of granite outcrops. It represented a significant obstacle to early European explorers and squatters on their quest to discover new grazing land for stock in the 1830s and 40s. The earliest pastoral station to be established in the area was 'Bolivia Station' granted to Edward Hurry in 1840 and purchased by Edward Irby for sheep and cattle grazing in 1843. However, use of the study area was ephemeral and sporadic until the 1870s when a TSR was gazetted over the Bolivia Range. The TSR was used to move stock and likely followed an Aboriginal travelling route and camping grounds. A road ran along the path of the TSR and

was later the focus of activity when the Great Northern Railway (GNR) was constructed. The GNR was the primary rail transport route between Sydney and Brisbane and its construction from Glenn Innes to Tenterfield was awarded to Messrs Cobb & Co, who established a town on either side of the road from 1883 to 1888. The town was located in the southern portion of the study area and consisted of numerous buildings including: two hotels, two bakeries, two butchers' shops, two general stores, a barber's shop, two tobacconists, saddler, bootmaker and over fifty private dwellings constructed of bark or canvas. Once the section of railway was complete the town moved to the Horseshoe Bend to the north east. Associated with the railway, a police reserve, public school and brickyards were also established within the study area. Once the railway was complete activity within the study area slowed and centred on the Great Northern Road, opened in 1901 and later renamed the New England Highway. The highway was upgraded in 1949 and deviated through the abandoned Bolivia town. The highway upgrade required drilling and blasting which blocked traffic crossing through Bolivia, so as an alternative in April 1950 work began on re-conditioning the 'Old Bullock Track'. This track was used an alternative route until the New England Highway was complete. Since this time many fatal accidents have occurred on Bolivia Hill, as evidenced by the numerous memorials along its length.

Given its history of occupation and use, heritage items identified within the study area are generally considered to be locally significant for their historical heritage values, associative values, representative values, research potential and/or rarity. A wide range of items have been identified through field survey and detailed historical research. These items include a c1883 railway town, public school reserve, brickworks, a culvert, the Old Bullock Track, timber and stone creek crossings, two house sites and numerous memorials for those that have lost their lives in vehicle accidents. Further archaeological survey and investigation of the c1883 Bolivia township, former house site, police reserve, public school reserve, brickworks and culvert, however, is required to determine their extent, condition and research potential. If substantially intact archaeological remains of Bolivia town have survived they may be significant at a state level and careful management of the site and its heritage values would be required.

## 13 Preliminary Impact Assessment

A total of twenty (20) non-Aboriginal heritage items were identified within the study area through field survey or subsequent detailed historical research. At this stage RMS has defined four route options through Bolivia Hill for the proposed highway upgrade. These route options and 100m buffer are shown in Figure 2.

The following preliminary impact assessment table has been provided to assist with the selection of a preferred route option (See Table 4). It provides a summary of which heritage items would be directly or indirectly impacted by the various route options. The likely degree and consequence of harm are also listed with a recommended management strategy for each heritage item.

As indicated by the table, up to ten (10) of the twenty items have the potential to be directly impacted by the highway upgrade, depending on the route option chosen.

**Table 4: Preliminary Impact Assessment of the four Route Options on non-Aboriginal heritage items identified within the study area.**

Site ID	Site Name	Impacted by which Route Options	Type of Harm (Direct / Indirect / None)	Degree of Harm (Total / Partial / None)	Consequence of Harm (Total loss of Value/ Partial loss of Value / No loss of Value)	Recommended Management
1	Angel Memorial	All Options	Direct impact from Route 7, Indirect impacts from Routes 7B, 6 & 10.	Total or Partial	Total loss of Value	Conserve in-situ
2	Jackson's Homestead Site	Option 10	Indirect	Partial	Partial loss of Value	Archaeological Investigation
4	Harry and Lenny Memorial	Options 6, 7 & 7B	Direct impact from Route 7B. Indirect from Routes 6 & 7.	Total or Partial	Total loss of Value	Conserve in-situ
5	Hut Remains	Option 10	Indirect	Partial	Partial loss of Value	Archival Recording
6	Johnson Memorial	Options 6, 7 & 7B	Indirect	Partial	Partial loss of Value	Conserve in-situ
7	Mine Shaft	Options 6, 7 & 10	Indirect	Partial	Partial loss of Value	None
8	Former Bridge	Options 6, 7 & 7B	Indirect	Partial	Partial loss of Value	Archival Recording
9	Quarry	Options 6, 7 & 7B	Direct impact from Route 6, Indirect impact from Routes 7 & 7B.	Total or Partial	No loss of Value. Quarry is not considered significant.	None
11	Stone Rubble Creek Crossing	Option 10	Indirect	Partial	Partial loss of Value	Archival Recording
12	Timber Creek Crossing	Option 10	Indirect	Partial	Partial loss of Value	Archival Recording
14/2 5	Telegraph Line Remains	All Options	Direct impact from Route 10, Indirect impacts from Routes 6 & 7B	Total or Partial	Total loss of Value	Interpretation

Site ID	Site Name	Impacted by which Route Options	Type of Harm (Direct / Indirect / None)	Degree of Harm (Total / Partial / None)	Consequence of Harm (Total loss of Value/ Partial loss of Value / No loss of Value	Recommended Management
15	Former Bolivia Township	All Options	Direct impact from all Route Options	Total	Total loss of Value	Field survey & Archaeological Excavation to determine likely condition, extent and significance. Possible conservation in-situ depending on results of Investigations.
16	Former House Site	All Options	Direct impact from Routes 6, 7 & 10. Indirect impact from Route 7B.	Total or Partial	Total loss of Value	Field survey, possible Archaeological Investigation
17	Brickyards	Option 10	Indirect	Partial	Partial loss of Value	Field survey, possible Archaeological Investigation
18	Culvert	Option 10	Indirect	Partial	Partial loss of Value	Survey & Archival Recording
19	Police Reserve	All Options	Direct impact from all Route Options	Total	Total loss of Value	Field Survey
20	Former Public School Site & Reserve	Options 6 & 7	Direct impact on the Reserve by both Options	Partial	Partial loss of value	Field Survey and Recording
21	Travelling Stock Routes (2)	All Options	Direct impact from all Route Options	Total	Total	Interpretation
22	Bullock Track (west of current highway)	All Options	Portions of the track would be directly impacted by Routes 6, 7 & 10 and Indirectly impacted by Route 7B.	Partial	Partial loss of value	None
23	Former Road (current highway)	All Options	Direct impact from all Route Options	Total	No loss of Value. Former Road is not considered significant.	None

## 14 Conclusions and Recommendations

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### 14.1 Conclusions

- ❑ A total of twenty (20) non-Aboriginal heritage items have been identified within the study area through field survey or subsequent detailed historical research. These items include a c1883 railway town, public school reserve, brickworks, a culvert, the Old Bullock Track, timber and stone creek crossings, two house sites and numerous memorials adjacent to the current highway.
- ❑ Eleven (11) of the twenty heritage items have been assessed in the field. The remaining nine (9) heritage items, including the c1883 railway town, were identified through historical research only and may require field survey pending selection of the preferred route option and definition of its construction footprint.
- ❑ In general, the heritage items are considered to be locally significant for their historical heritage values, associative values, representative values, research potential and/or rarity. However, if substantially intact remains of the c1883 Bolivia town have survived within the study area they may be significant at a state level.
- ❑ Up to ten (10) of the twenty items would be directly impacted by the highway upgrade, depending on the route option chosen. Whilst all of the current route options would directly impact on the c1883 Bolivia town, Route Option 7B would have the least impact.

### 14.2 Recommendations

The following recommendations are made to assist with the selection of a preferred route option and management of non-Aboriginal heritage items for the proposed upgrade of the New England Highway at Bolivia Hill.

- ❑ Based on information currently available on the four route options, Option 7B would have the least direct impact on historical heritage items identified within the study area, including the c1883 Bolivia township. For this reason, this route would be the preferred option.
- ❑ Once the preferred route option is selected and concept design details are made available, archaeological survey of the c1883 Bolivia township by a suitably qualified historical archaeologist is recommended to determine its condition, extent and heritage significance. The results of this survey should then be documented in an Archaeological Impact Assessment and Research Design (AIA & RD). Depending on the nature and extent of potential impacts by

the chosen route, archaeological test excavation under S139 of the *Heritage Act, 1977* may be required to determine the nature, extent and likely significance of relics associated with the town.

- ❑ On selection of a preferred route option it is recommended that RMS engage a suitably qualified heritage consultant to undertake additional field survey and prepare a heritage impact assessment report to inform the REF. The report should confirm which heritage items would be directly or indirectly impacted by the preferred route and ancillary works, document the result of additional field survey that confirms the location, extent and heritage significance of heritage items identified through detailed research only and present individual heritage impact statements and mitigation strategies for affected heritage items (e.g. archival recording, interpretation, community consultation, archaeological excavation).

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