



Lower Hunter Estates Development Heritage Impact Assessment

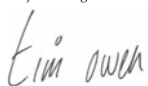

Minmi - Link Road Estate

for Catylis and Coal & Allied

November 2008

0073083

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Catylis and Coal & Allied

Lower Hunter Estates
Development
Heritage Impact Assessment
Minmi Link Road

November 2008

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EXECUTIVE SUMMARY

Environmental Resources Management Australia (ERM) was commissioned by Catylis on behalf of Coal & Allied (CNA) to prepare a Heritage Impact Assessment (HIA) for lands at Minmi Link Road (MLR), which are subject to proposed development under Part 3A of the NSW *Environmental Planning and Assessment Act* (EP&A Act) 1979. The HIA considers the Aboriginal heritage and archaeology, historical archaeology and built heritage of the lands, the potential impacts of the proposed development and identifies an impact mitigation strategy.

Coal & Allied owns approximately 4,187 hectares of land in the Lower Hunter Region located within the four local government areas of Newcastle, Cessnock, Lake Macquarie, and Wyong (located in Northern Central Coast region).

The overall aim of this HIA was to ascertain whether there are any heritage values at the study area affected by the proposed development, and, where required, provide relevant mitigation measures for impacts to these heritage values during any future development.

It was found that the study area contains six Aboriginal sites, zones with high and moderate Aboriginal archaeological potential, several locally listed historical heritage items and several newly identified historic built and archaeological sites. All these heritage items are located within a cultural landscape that connects the Aboriginal inhabitation to the historic mining activities and to the communities who reside in and around Minmi today.

Urban planning for Minmi/Link Road has taken into account community wishes for the conservation of heritage sites and mitigation from an early stage. Whilst the proposed development will result in some impact to assessed heritage values, the cultural landscape and some heritage sites within the study area, sensible, pragmatic and realistic concept planning has included for the conservation and interpretation of the most important local heritage items and landscapes.

The overall value of CNA's conservation lands across this region (as defined by the Memorandum of Understanding [MoU] between CNA and the NSW Government) needs to be recognised for its ability to aid long term heritage conservation and retention of cultural landscapes in perpetuity for future generations across the greater Lower Hunter region.

Environmental Resources Management Australia (ERM) was commissioned by Catylis on behalf of Coal & Allied (CNA) to prepare a Heritage Impact Assessment (HIA) for lands at Minmi and Link Road (MLR), which are subject to proposed development under Part 3A of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act). The HIA considers the Aboriginal heritage and archaeology, historical archaeology and built heritage of the lands, the potential impacts of the proposed development and identifies a heritage conservation and an impact mitigation strategy.

This report builds upon a preliminary desktop review undertaken for the study area (ERM 2007). It provides the results of a detailed site survey, comprehensive heritage values assessments, heritage impact analysis and Aboriginal consultation undertaken during August to December 2007, for the MLR study area (see *Figure 1-1* and *Figure 1.2*)

1.1**PROJECT AND PLANNING CONTEXT**

CNA owns approximately 4,187 hectares of land in the Lower Hunter Region located within the four local government areas of Newcastle, Cessnock, Lake Macquarie, and Wyong (located in Northern Central Coast region). The sites are not required for future mining or other operational purposes.

CNA Lower Hunter lands, including MLR, are included in the Lower Hunter Regional Strategy (LHRS) for urban development and conservation. CNA is one of several major landowners within the region that play a significant role in achieving the LHRS's environmental and conservation outcomes and sustainable growth.

In finalising the LHRS, the NSW Government reached agreement with CNA for the dedication of 3,322 ha (approximately 80 per cent) of CNA land, the details of which are set out in a Memorandum of Understanding (MoU) between CNA and the NSW Government.

The proposed conservation lands are areas of high conservation value in the nominated green corridors that will be dedicated to the public. The conservation lands are similarly identified in the draft Lower Hunter Regional Conservation Plan prepared by the Department of Environment and Climate Change (DECC).

A Concept Plan has been prepared for MLR which will enable key site parameters associated with land use, infrastructure delivery and timing, and environmental conservation to be resolved up front, with subsequent detailed stages being submitted for approval progressively.

On 11 April 2008, the Director General Environmental Assessment Requirements (DGEARs) were issued for the site. The requirements for heritage are:

Heritage

- (1) *Assess in accordance with the Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation DEC (July 2005) the heritage significance of the area.*
- (2) *Provide detail on how the development will incorporate and not negatively impact on the site setting, landscape, landmark elements, heritage items, views and vistas.*
- (3) *Assess the impact of potential development on the historic setting and visual catchment of Minmi and demonstrate how proposed development is to be integrated with the existing development in Minmi.*

Provide a heritage impact statement in accordance with NSW Heritage Office guidelines. The statement should assess the impacts of the application on the area and any significant components of the site. The heritage significance of the area and any impacts the proposed development may have upon this significance is to be assessed. The EA is to address the requirements set out in DECC's "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation".

1.2 THE STUDY AREA

This report focuses on the potential developable area within the MLR study area. The location of the study area is provided at *Figure 1.1* and the potential developable area is shown in *Figure 1.2*.

1.3 METHODOLOGY

The overall aim of this assessment was to ascertain whether there are any heritage values associated with the MLR study area, and whether these values would be affected by the proposed development. Relevant mitigation measures were to be provided to offset impacts to the heritage values during any future development. It was also an aim to 'place' more significant heritage items within conservation zones, integrating them into future development for preservation, interpretation and appreciation. To achieve these aims the following objectives were established:

- to undertake a preliminary background desk based review of potential heritage items within and adjacent to the study area (c.f. ERM 2007);

- to identify and record all heritage objects and places within the study area through field survey;
- to consult with the local Aboriginal community regarding the specific Aboriginal social value of the land and the Aboriginal heritage recommendations;
- to assess the significance of all heritage objects, sites, relics and places within the study area in accordance with relevant NSW heritage guidelines;
- to assess the archaeological potential of the study area to contain further heritage sites;
- to assess the impact of the proposed development on heritage values through a Statement of Heritage Impact (SoHI);
- to prepare recommendations on the management and mitigation of potential impacts caused by development to any heritage values associated with the study area; and
- through consultation with urban designers, integrate some heritage items into the urban planning, form and design.

ERM's approach to the preparation of the detailed site assessment was based on the following current best practice guidelines:

- NSW Heritage Office *Assessing Significance* Guideline;
- NSW Heritage Office *Statements of Heritage Impact* Guideline;
- DECC *Draft Guideline for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*;
- The *Australia ICOMOS Burra Charter 1999* (Burra Charter);
- *Rio Tinto Cultural Heritage Management Guidelines for Australian Businesses*; and
- *Rio Tinto Cultural Heritage Management System Guidance for Australian Businesses*.

1.4

EXISTING HERITAGE STATUS

The preliminary background heritage assessment (ERM 2007) included a search of the NSW DECC Aboriginal Heritage Information Management System (AHIMS) database for all known Aboriginal heritage sites within and surrounding the study area. One Aboriginal site is recorded within the north eastern section of the Minmi portion of the study area. Three other sites are recorded along the southern and eastern boundaries of the Link Road South portion of the study area.

The preliminary background investigation included a search of the NSW Heritage Office State Heritage Register (SHR) and State Heritage Inventory (SHI), Newcastle Local Environmental Plan (LEP), the Register of the National Estate (RNE) and the National Trust Jubilee Register.

The current study areas contain historic places with previously identified heritage values. These values primarily centre on the mining history of the Minmi Township.

It should also be noted that the Newcastle DCP (2005:5.6) contains provisions for the protection and integration of 'heritage' (5.6.1.g) and 'archaeology' (5.6.1.h). This HIA has been guided by the Newcastle DCP provisions for Minmi and provides appropriate management guidelines for the identified heritage items covered by the DCP.

1.5

REPORT LIMITATIONS

The field survey of the study area was limited within the town of Minmi by the equine influenza quarantine zone. The quarantine restricted access to paddocks around Minmi that contained horses. The study team did not enter these paddocks and thus were unable to attain a close inspection of some potential archaeological relics within the Back Creek and Minmi Creek areas. However, landscape analysis from the margins of these zones, coupled with extensive consultation with Minmi locals (and Douglas Partners) and analysis of their photographs has allowed the preparation of an assessment of historical heritage within the quarantined areas.

The survey of some portions of the study area was limited due to thick vegetation in the Link Road areas. However, it is considered that a sufficient representative sample of the study area was surveyed through inspection of tracks, vehicle paths and transmission lines to provide evidence of landforms, historical impacts and heritage sites and thus determine holistic archaeological potential across the study area.

1.6 *REPORT STRUCTURE*

This report is structured as follows:

Chapter 2 outlines the local community consultation undertaken for the study area;

Chapter 3 provides the environmental and archaeological context of the study area, including known and potential heritage sites within the study area;

Chapter 4 provides an overview of the history of the study area;

Chapter 5 outlines the methodology and results of the field survey;

Chapter 6 assesses the significance of heritage sites located in the study area;

Chapter 7 provides the proposed development Concept Plans;

Chapter 8 provides a Statement of Heritage Impact;

Chapter 9 outlines the legislative framework and statutory requirements;

Chapter 10 provides heritage impact mitigation and recommendations; and

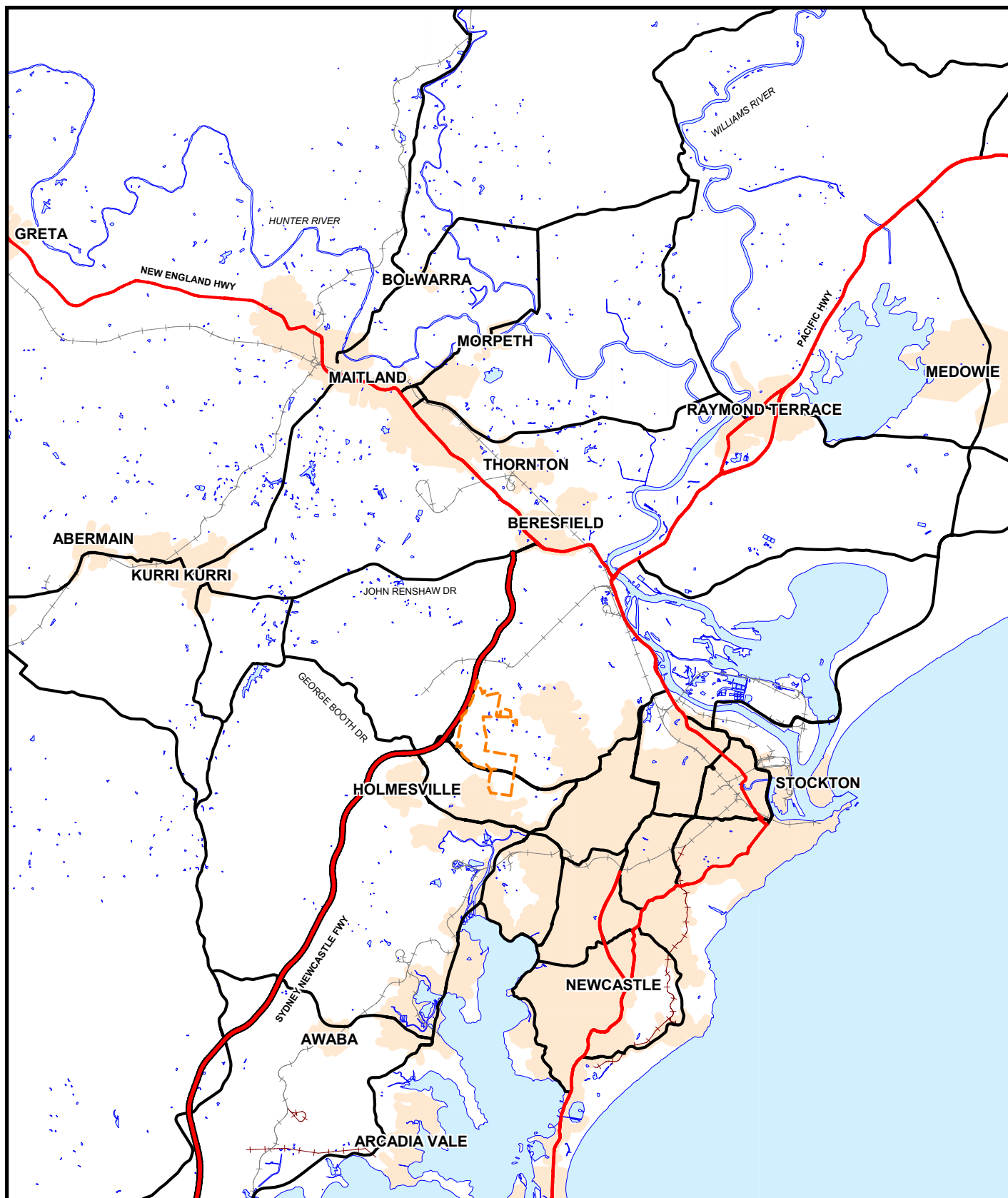
Chapter 11 provides a brief conclusion outlining the findings of the HIA.

1.7 *AUTHORSHIP*


Dr Tim Owen (ERM Senior Archaeologist) and Louise Doherty (ERM Built Heritage Consultant) conducted the historical archaeological field survey. Louise Doherty and John Hoysted (ERM Principal Heritage Architect) conducted the built heritage field survey. Guadalupe Cincunegui (ERM Archaeologist) and Tim Owen conducted the Aboriginal heritage field survey. Tim, Guadalupe and Louise authored this report. GIS mapping was undertaken by James Shepherd (ERM Archaeologist and GIS Specialist). John Hoysted (ERM Principal Heritage Architect) undertook a technical review of this report.

1.8 *ACKNOWLEDGEMENTS*

ERM wish to thank all Minmi residents and the Aboriginal stakeholders for their assistance and input into this report. We have been provided with significant historical resources and local knowledge relating to all heritage matters. Without the input of local knowledge this study would not have been possible.



Legend

 Minmi and Link Roads Study Area

Client:	Catylis
Project:	Lower Hunter Land Development
Drawing No:	0060444_GIS02
Date:	05.02.2007
Drawn By:	DH
Source:	-
Scale:	Refer to Scale Bar



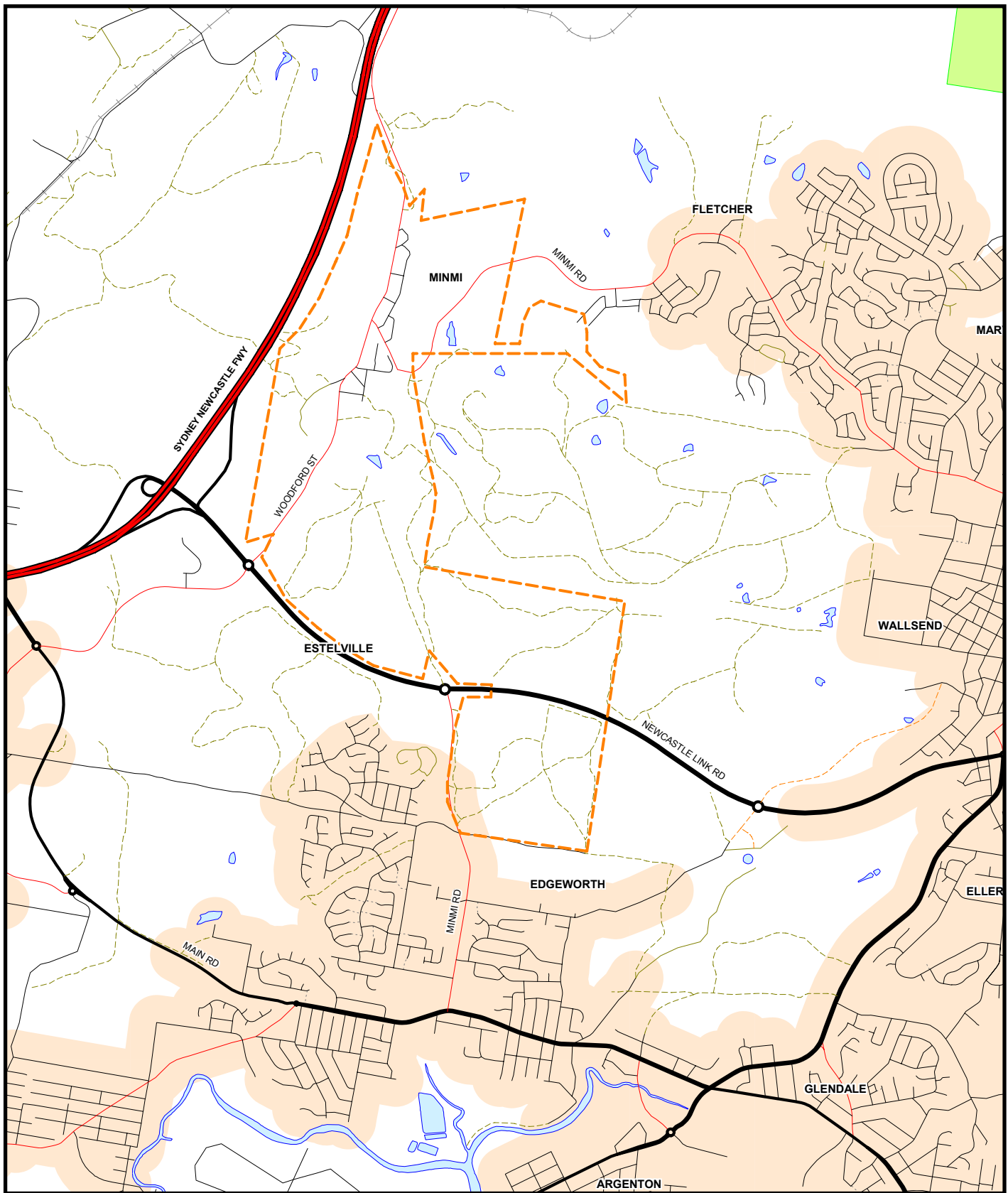
0 2 4 6km

Figure 1.1


**Minmi and Link Roads Study Area
in its Regional Setting**

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Legend

 Minmi and Link Roads Study Area

Client:	Catylis
Project:	Lower Hunter Land Development
Drawing No:	0060444_GIS07
Date:	05.02.2007 Drawing Size: A4
Drawn By:	DH Reviewed By: -
Source:	-
Scale:	Refer to Scale Bar



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Figure 1.2

Minmi and Link Roads Study Area in its Local Setting

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This chapter provides details of community consultation undertaken for this project. This includes Aboriginal community consultation which has followed the DECC's 'DECC Draft Guideline for Aboriginal Cultural Heritage Impact Assessment and Community Consultation' (2005). Reference should also be made to *Annex A* for the Aboriginal consultation logs.

2.1 ABORIGINAL COMMUNITY CONSULTATION

2.1.1 Background

CNA have undertaken community and stakeholder consultation with regard to the study areas including Minmi/Link Road. The results of this consultation are presented in the Coal and Allied Lower Hunter Lands Conservation and Development – northern estates charette reference guide November 2007 (CNA 2007a). This chapter contains specific details of Aboriginal community consultation with regard to ERM's heritage assessment of the MLR study area.

Aboriginal consultation is required for any assessment of Aboriginal heritage. The DECC has released the 'Interim Community Consultation Requirements Guideline' (2005) for Aboriginal consultation in relation to any study that might eventually be used to support an application under Part 6 of the *National Parks and Wildlife Act 1974*.

The interim guideline sets out a process for inviting Aboriginal groups to register interest as a party to consultation (including local press advertisement), seeking responses on proposed assessment methodology, and seeking comment on proposed assessments and recommendations. The interim guideline requires proponents to allow 10 working days for Aboriginal groups to respond to invitations to register, and then 21 days for registered Aboriginal parties to respond to a proposed assessment methodology. An additional 10 days are allowed for groups to review a draft report and comment on the results and management recommendations made.

The Aboriginal community consultation for the project has been carried out in light of the DECC guideline, taking into account the Part 3A requirements of the project. The final Director General's Environmental Assessment Requirements (DGEARs) for the proposed development stated that the DECC's guidelines should be adhered to and the consultation with the Local Aboriginal Land Council should be undertaken.

2.1.2

Aboriginal Groups Consulted

Letters requesting advice on Aboriginal organisations to consult, and any known heritage issues to be taken into consideration in the area, were emailed on 28 June 2007¹ to:

- the NSW DECC;
- Registrar, *Aboriginal Land Rights Act 1983* (NSW);
- Lake Macquarie City Council (LMCC); and
- Awabakal Local Aboriginal Land Council (ALALC).

In addition, a number of other Aboriginal stakeholder groups were already known by ERM for this area, and were also contacted on 22 October 2007:

- Awabakal Traditional Owners Aboriginal Corporation (ATOAC); and
- Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC).

A local press advertisement requesting Aboriginal individuals and groups interested in being consulted on this project to write to ERM was run in the *Leader Newspaper Newcastle* on 1 November 2007. No responses to this advertisement were received.

DECC identified three Aboriginal parties to be contacted:

- Awabakal Local Aboriginal Land Council (ALALC).
- Awabakal Traditional Owners Aboriginal Corporation (ATOAC); and
- Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC).

These parties were therefore contacted by ERM about whether they wished to be consulted on this project. In addition, each party was asked to identify any further individuals or groups who would be interested in being consulted regarding this project.

¹ This first phase of consultation (a forum day) was undertaken in June 2007 because of the overall CNA charette process. An initial a single day event was held for proposed development lands at Catherine Hill Bay, Gwandalan, Nords Wharf, Minmi/Link Road and Black Hill. Therefore it was necessary to invite stakeholders from Minmi/Link Road (to the initial community consultation) prior to undertaking the field survey.

During their community consultation process CNA identified John Thorpe as a potential Aboriginal stakeholder. Consultation was undertaken with Mr. Thorpe on the proposed fieldwork and this report. It should be noted that given his role in the ALALC, he was asked by Ron Gordon (Chairperson ALALC), to represent the Local Aboriginal Land Council on the survey. He participated in the survey within this role and the later CNA charette as a Traditional Owner (Kukuyngal Barritjapa).

All registered parties were provided with a proposed assessment methodology. Verbal responses to this methodology were received from all parties, and each indicated their agreement with this methodology.

Fieldwork for the assessment was undertaken from 29 October to 2 November 2007 and included a total of five local Aboriginal community representatives: Kerrie Brauer and Jonathan Hawken from ATOAC; Shane Frost and James Frost from ADTOAC; and John Thorpe (ALALC). These representatives were invited to comment on Aboriginal heritage issues in the field.

No further Aboriginal parties have so far been identified through the consultation process. Further details of the Aboriginal consultation undertaken for the Minmi\ Link Road study area are provided in *Annex A*.

2.1.3

Requirements for Future Aboriginal Consultation

It is recommended that copies of the draft final report are sent to the registered Aboriginal parties, so that they may comment on its content and recommendations. This should be undertaken during the public exhibition of the EA documents.

Any future work relating to the Aboriginal archaeological mitigation, as stipulated in this report, should include consultation with the relevant Aboriginal stakeholders.

2.2

HISTORICAL HERITAGE CONSULTATION

Historical heritage consultation occurred prior to the field survey, during the field survey, the charette and post survey. ERM made initial contact with Mrs Kerry Hinds (Minmi resident) who was then able to assist our field investigations at Minmi through her connections to the local Progress Association. Mrs. Hinds was able to provide personal histories to many of the properties, introductions to other local residents, access to the local historical photograph archive and written documents and newspaper reports. Further community consultation was undertaken with Bob Skelton (another long term Minmi resident) who was able to provide anecdotal evidence for the history of many of the heritage sites within the Minmi town.

Further community consultation has been undertaken, especially during the charette process (see Charette outputs documents for details). Community consultation during the charette included discussion of local history, sites (known and unknown to the community), assessment of photographs of Minmi and further site inspections to discuss various landscape elements.

The consultation with the community has been used to determine and assess the social values associated with the study area.

3 ENVIRONMENTAL AND ABORIGINAL ARCHAEOLOGICAL CONTEXT

3.1 ENVIRONMENTAL CONTEXT

This section provides a basic environmental overview of the study area. These descriptions have been linked to the potential heritage values where relevant.

3.1.1 *Physical Description*

The Minmi/Link Roads study areas extend to the south and south east of the township of Minmi into an area of dense bushland. For the purpose of this report the overall study area can be divided into two zones – Minmi (relating directly to the Minmi town) and Link Road (relating to all other areas).

It can be seen from documentary and physical evidence that Minmi town and the surrounding area have been extensively cleared in the past and developed for settlement and by industry associated with coal mining. A review of historical aerial photographs showing this activity from the 1950s is presented in *Annex C*.

The Link Roads study areas are to the north and south of Link road and cover an area of dense vegetation, access tracks, and transmission line easements. The relatively easy access to these areas through easements and roads has led to rubbish dumping. Some of these zones have been impacted by historical activities associated with coal mining. The areas proposed for new development are further described in *Section 7*.

3.1.2 *Geology*

The Narrabeen Group is transitional between the Permian and Triassic systems. It consists predominantly of the Munmorah Conglomerate, which is composed of quartz, lithic sandstones, conglomerates, siltstones and reddish shales (Umwelt 2002:4).

The geology of the study area can be linked to the creation of many heritage sites, either directly or indirectly. For instance, Aboriginal grinding grooves have been recorded on fine grained areas of Narrabeen sandstone, whilst the underlying coal measures have been extensively mined during the historical period.

3.1.3 *Topography and Landforms*

The study area is located in the area that marks the transition between the gently hilly landscape of the Central Lowlands of the Hunter Valley and the coastal landscape of Newcastle and Lake Macquarie (*Figure 1.1*).

These landforms and topography mean that the most likely Aboriginal site types to be found in this area are stone artefact sites/scatters and grinding grooves. As the study area is situated between very hilly country (to the south, east and west) and flat swampy country (to the north), it represents a marginal transition landscape, where abundant ecotones (environmental 'focus' or 'niches' in the landscape) exist. It is suggested that ridges within the study area was used to move around the local area (Aboriginal representatives *pers comm.* 2007).

It is likely that the historical town of Minmi was positioned in an area that would have been intensively inhabited by Aboriginal people. However, all evidence of Aboriginal sites in Minmi itself has been removed by the historical activities relating to mining and the town. Minmi's positioning, at the south end of Hexham Swamp, abutting the hilly country, represents selection of the 'best' location for a village in the local region.

This transition between coastal and hilly country means that coal deposits vary greatly in depth; this in turn has influenced the methods used to retrieve coal and therefore historical and Aboriginal sites present across the study area.

3.1.4

Drainage

The availability of water has significant implications for the range of resources available and the suitability of the area for Aboriginal and historical periods settlement and occupation.

The town of Minmi has two second order creeks (Strahler model) - Minmi Creek runs through the western area of Minmi town and Back Creek runs through the eastern area of Minmi town. Both drain into Hexham Swamp. In addition there are several rivulets (first order creeks) also running through the western portion of the study area, which are be offshoots of these creeks.

A number of minor creek lines (first and small second order) occur in the areas to the north and south of the Link Roads study area (this includes the source of Back Creek).

In terms of Aboriginal sites it has been asserted (ERM 2007) that Aboriginal stone artefacts and grinding groove sites may be associated with the waterways and proximity to the swamp (see discussion below). However the Aboriginal archaeological potential of the study area needs to be correlated against the level of historical disturbance (i.e. open cut mining). This assessment has been refined through this report and heritage assessment.

3.1.5

Flora and Fauna

Surveys undertaken by Harper Somers O'Sullivan (HSO 2006 and 2007) in the project area found that the vegetation occurring at the Minmi/Link Road study area generally comprised the following species:

- Coastal Foothills Spotted Gum – Ironbark Forest; and
- Alluvial Tall Moist Forest.

The Harper Somers O'Sullivan report also notes a range of fauna species present or likely to be present in the study area, which are predominantly comprised of birds, small mammals, frogs and reptiles. Reference should be made to the updated HSO study (2007) for detailed ecological information.

These vegetation communities (where older than 200 years) contain the potential for Aboriginal scarred and carved trees to occur in the Link Road portion of the study area.

3.2

ABORIGINAL HERITAGE CONTEXT

3.2.1

Regional Aboriginal Heritage

Prior to European settlement the Pambalong people inhabited the Hexham Swamp region. They were thought to be a sub-group of the Awabakal people of Lake Macquarie. The natural resources of Hexham Swamp were extensively utilised by the Pambalong people and later by settlers in the Hexham and Minmi district. The Pambalong territory extended from the south bank of the Hunter River west to Tarro and South to Lake Macquarie (Effenberger & Baker 1996:8-9).

3.2.2

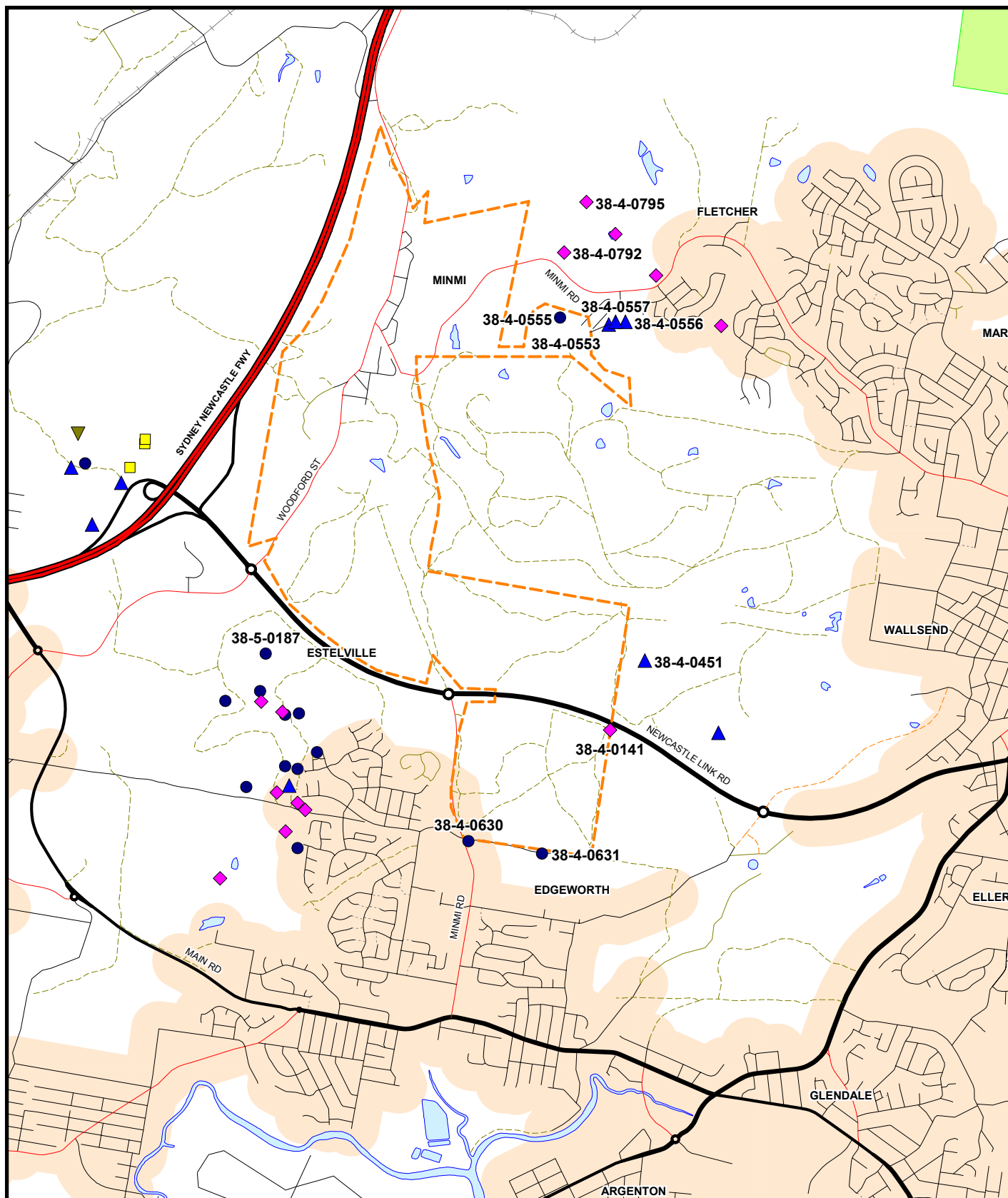
Literature Review

A literature review of the DECC library was made to understand archaeological sites in the broader region. This review was targeted to those reports relevant to the study area. Key word searches were used to find reports for the locality in the AHIMS Database. *Table 3.1* lists reports that were briefly reviewed and the locality with which they were concerned.

The general patterning of Aboriginal sites in the local area shows that stone artefacts are highly likely to be found in close proximity to Hexham Swamp and undisturbed water sources.

Table 3.1 *Literature Review of Relevant Archaeological Reports from the AHIMS Database*

Author of Report	Distance from study area	Type of development/ Report	Locality	Sites Recorded
Effenberger & Baker 1996	On F3 Freeway, approx 1km north of the study area	Aboriginal archaeological survey, assessment & test excavation	Two sites along the F3 Freeway – Woods Gully & Black Hill Road	66 test pits yielded extremely high density of stone artefacts, particularly at Woods Gully. Majority were silcrete, with some Nobbys Tuff, and small amounts of quartz and quartzite.
Kuskie & Kamminga 2000	On F3 Freeway, approx 1km north of the study area	Salvage Report for Sites recorded by Effenberger & Baker for F3 Freeway construction	Two sites along the F3 Freeway – Woods Gully & Black Hill Road	As above
Kuskie 2006	Approx. 1.5km north east of the study area, extending north for several km	Aboriginal heritage assessment for Abel Underground Mine	Two areas on north & south (2750 hectares) of John Renshaw Drive	38 sites comprising stone artefact scatters, grinding groove sites and a scarred tree. 21 of these occur in the southern area, none of which occur in the study area. Only targeted field survey undertaken.
ERM Mitchell McCotter 1997	Forsythe Parade Woods Gully approx. 1.5km north east of study area	Application for preliminary research permit for residential development	Lot 422 DP 791776 No 21A Forsythe Parade Black Hill	Project design for sample excavations due to high likelihood of subsurface deposits.
ERM Mitchell McCotter 1996	Forsythe Parade Woods Gully approx. 1.5km north east of study area	Flora, Fauna and Archaeology Survey for residential development	Lot 422 DP 791776 No 21A Forsythe Parade Black Hill	One artefact scatter located on the surface comprising yellow mudstone flakes, red mudstone flakes, grey silcrete flake and core and a piece of bone.
Silcox & Ruig 1995	Approx. 2km north east study area	Test Excavations	13ha on western edge of Hexham Swamp, adjacent to Ebenezer Park	218 test pits yielded 663 stone artefacts, the majority being indurated mudstone and silcrete, with small amounts of quartz, chert and quartzite. Artefacts included backed blades, flakes and cores.
Umwelt 2002	Approx. 5km south west of study area	Aboriginal archaeological assessment for proposed Tasman Mine Surface Facilities	8ha 2km east of Mt Sugarloaf	No sites located
CH2M Hill Australia (1997)	Approx 5km east of study area	Aboriginal archaeological survey of the Maryland to Shortland Rising Main, Hexham Swamp	Rising main and pipeline alignment	No sites located



Legend

 Minmi and Link Roads Study Area

- ▲ Axe Grinding Groove
- Isolated Find
- Stone Arrangement
- ◆ Stone Artefact Scatter
- ▼ Stone Artefact Scatter, PAD

Client:	Catylis
Project:	Lower Hunter Land Development
Drawing No:	0060444_GIS012
Date:	05.02.2007
Drawn By:	DH
Source:	-
Scale:	Refer to Scale Bar



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Figure 3.1

AHIMS Sites within the Locality of Minmi and Link Roads Study Area

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3.2.3

Local Aboriginal Heritage

The AHIMS Database search indicated several sites of isolated Aboriginal artefacts and artefact scatters (see Figure 3.1). These include an isolated find of a single red silcrete flake in the Minmi/Link Roads study area to the east of the township and on the northern side of Minmi Road (38-4-0555). Three other sites are recorded along the southern and eastern boundaries of the study area. These include a stone artefact scatter (38-4-0141) disturbed by vehicular use of an unsealed track; and an isolated find of a silicified tuff (38-4-0630). Also several isolated finds in a disturbed location in a transmission line easement; and a silcrete and quartz flake (38-4-0631) also in a vehicle disturbed location.

The other recorded sites within the vicinity are situated outside the boundary of the study area. These comprise isolated artefact finds, artefact scatters, stone arrangements and axe grinding groove sites. It is noted that four of the axe grinding groove sites are located in close proximity to the study area boundaries – three are located near the isolated find within the study area near Minmi Road and one is located near the eastern boundary of the North Link Road area.

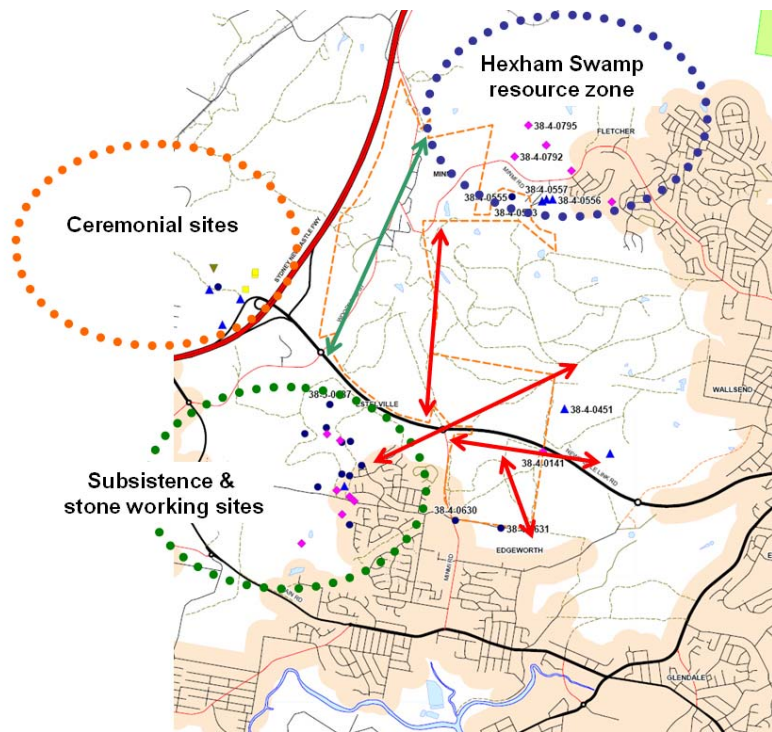


Figure 3-2 *Aboriginal landscape use in the MLR area (based upon AHIMS results and consultation with local Aboriginal representatives). Red arrows indicate routes of movement through the landscape via ridge lines, green arrow indicates movement through the Minmi 'valley'.*

Interpretation of the general Aboriginal site patterning (*Figure 3.2*) suggests that Hexham Swamp provided a focus for Holocene Aboriginal subsistence – it was a resource dense zone. It is known that margins of this swamp feature a high density of Aboriginal sites (AHIMS results and *pers comm.* 2007 all Aboriginal representatives) that have resulted from long term access to the many food sources available. Site patterning provides evidence for some ceremonial sites to the west of the study area (AHIMS and Rick Griffiths [Mindaribba LALC] *pers comm.* 2007), which have an association with local stone artefact sites. A dense scatter of sites is also present to the south west, where numerous artefact sites suggest a zone where stone artefact manufacture occurred.

This patterning suggests that whilst the Hexham Swamp provided a subsistence focus, the Aboriginal people were travelling through the hills to the south, where they undertook other activities. Minmi was probably a preferred route – because of the lower topography, although the ridge lines would also have been used too.

Further study could provide more evidence for seasonal use of this landscape, where evidence from inter and intra site assessment could reveal patterns of subsistence and habitation, with possible connections to local later Holocene Aboriginal economy, demography and society.

3.2.4

Land Use and Disturbance

The land around the township of Minmi has been extensively disturbed by mining operations, clearance for settlement, construction of railway networks and roads. The land in the MLR study area that extends eastwards towards Fletcher is densely vegetated in parts, with the understorey cleared around maintenance tracks. The land within the Link Road study area is densely vegetated and less disturbed; however there is a wide network of tracks, clearance for transmission line easements and expansion of the Newcastle Link Road to the south.

Annex C contains an overview of historical mining impacts on the study area.

3.2.5

Predictive Aboriginal Heritage Statement

The environmental context outlined above has a number of implications for archaeology in the study area. Firstly, the extent of disturbance in the vicinity of Minmi Creek and Back Creek is such that there is very limited potential for Aboriginal objects to occur within these areas.

Secondly, the surveys and recordings undertaken in the local area indicate that there is some likelihood of artefacts occurring in the Link Road portion of the study area, particularly in the vicinity of the creek lines and along the ridge lines. Scarred or carved trees may occur in the less disturbed parts of the study area due to the maturity of some of the trees. In addition, given the number of axe grinding grooves recorded in the local area it is also possible that these sites may occur in the study area along creek lines.

Stone arrangements and ceremonial grounds (including bora rings) are not anticipated to occur within the study area (these appear to be connected with land to the west of the study area). A lack of stone outcrops within the study area indicates that stone quarry sites, shelter sites and rock art/engravings will also not occur.

The level of disturbance associated with the impact of coal mining and timber industries in the area (including settlement, clearing and mining activity) is extremely high and has affected the archaeological integrity of the area as a whole, and Minmi in particular. This means that the likelihood of intact Aboriginal sites occurring in these areas is considered very low.

A summary of these archaeological site types, their key characteristics and their likelihood of occurrence (most likely listed first) is presented in *Table 3.2* below.

Table 3.2 *Aboriginal Archaeological Site Types (in order of likely occurrence)*

Site types	Definition
Open sites [stone artefact scatters]	Open sites, also known as open campsites, are usually indicated by surface scatters of stone artefacts and sometimes fire blackened stones and charcoal. Where such sites are buried by sediment they may not be noticeable unless exposed by erosion or disturbed by modern activities. The term campsite is used as a convenient label which, in the case of open sites, does not necessarily imply that Aboriginal people actually camped on the sites; rather it indicates only that some type of activity was carried out there.
Scarred trees	Scarred trees bear the marks of bark and wood removal for utilisation as canoes, shields, boomerangs or containers. It is commonly very difficult to confidently distinguish between Aboriginal scars and natural scars or those made by Europeans.
Grinding grooves	Grooves resulting from the grinding of stone axes or other implements are found on flat areas of suitable sandstone. They are often located near waterholes or creek beds as water is necessary in the sharpening process. In areas where suitable outcrops of rock were not available, transportable pieces of sandstone were used.
Shelter sites	Sandstone shelters and overhangs were used by Aboriginal people to provide campsites sheltered from the rain and sun. The deposits in such sites are commonly very important because they often contain clearly stratified material in a good state of preservation.
Burial sites	Burials may be of isolated individuals, or they may form complex burial grounds.

Site types	Definition
Quarries	These are areas where stone was obtained for flaked artefacts or ground-edge artefacts, or where ochre was obtained for rock paintings, body decoration or decorating wooden artefacts.
Middens	Middens consist of accumulations of shell that represent the exploitation and consumption of shellfish by Aboriginal people. Shell species may be marine, estuarine or freshwater depending on the environmental context and middens may also include other faunal remains, stone artefacts, hearths and charcoal.
Art sites	Aboriginal paintings, drawings and stencils are commonly to be found where suitable surfaces occur in sandstone shelters and overhangs. These sites are often referred to as rock shelters with painted art. Rock engravings, carvings or peckings are also to be found on sandstone surfaces both in the open and in shelters. These are referred to as rock engraving sites.
Stone arrangements, carved trees and ceremonial grounds	These site types are often interrelated. Stone arrangements range from simple cairns or piles of rocks to more elaborate arrangements; patterns of stone laid out to form circles and other designs, or standing slabs of rock held upright by stones around the base. Carved trees are trees with intricate geometric or linear patterns or representations of animals carved into their trunks. Ceremonial grounds and graves were often marked by such trees. Bora grounds are a common type of ceremonial site and they are generally associated with initiation ceremonies. They comprise two circles, generally edged with low banks of earth but sometimes of stone, a short distance apart and connected by a path.

4.1

PREAMBLE

This chapter is divided into two sections. The first provides a history of Minmi; the second concentrates on the existing heritage listings for items with known heritage value within and adjacent to the study area. These two sections have been used to underpin the study area inspection, consequential heritage assessment and the recommended mitigation measures.

Annexes C, D and E accompany this historical background and the consequential heritage survey and assessment. *Annex C* reviews historical aerial photographs of Minmi and its surrounds from the 1950s onwards. Details of historically significant people associated with the development of Minmi are provided in *Annex D*. Annex E presents the results of research into the history and archaeological potential of Minmi Coke ovens.

4.2

MINMI\LINK ROAD - A HISTORY

4.2.1

Early Regional Settlement

The following summary history of the region is drawn from the 1996-97 'Newcastle City Council City Wide Heritage Study' prepared by Suters Architects and the publication *Minmi: The place of the Giant Lily*, prepared by the Newcastle and Hunter District Historical Society (NHDHS) in 1991. It has been supplemented by consultation with local Minmi residents. Further details relating to the technical side of the mining infrastructure at Minmi is presented in Douglas Partners (2007:7-22).

The first European settlement of the area was for agricultural purposes. Later settlement and development of the greater Newcastle area is closely associated with the rich coal seams in the Hunter region. Newcastle was settled in the early years of the 19th century, and the extraction of coal, lime, timber and salt using convict labour ensued over the next twenty years in the region.

The railway network was established in response to the need for reliable transportation of coal in the 1850s, with the construction of what was to become the Great Northern Railway commencing in 1854. At the same time, private railways were constructed to transport coal to the port in Newcastle from recently established mines in Minmi, Wallsend, Lambton and Waratah. This included the Richmond Vale Railway which was commenced in 1857 by John Eales to transport coal between his mine at Minmi to a coal loading wharf in Hexham.

With this improvement in transportation several villages in the hinterland began to grow and would later become suburbs to the city of Newcastle. Many of these towns and villages were closely connected to the development of the coal industry.

4.2.2 *The Town Of Minmi*

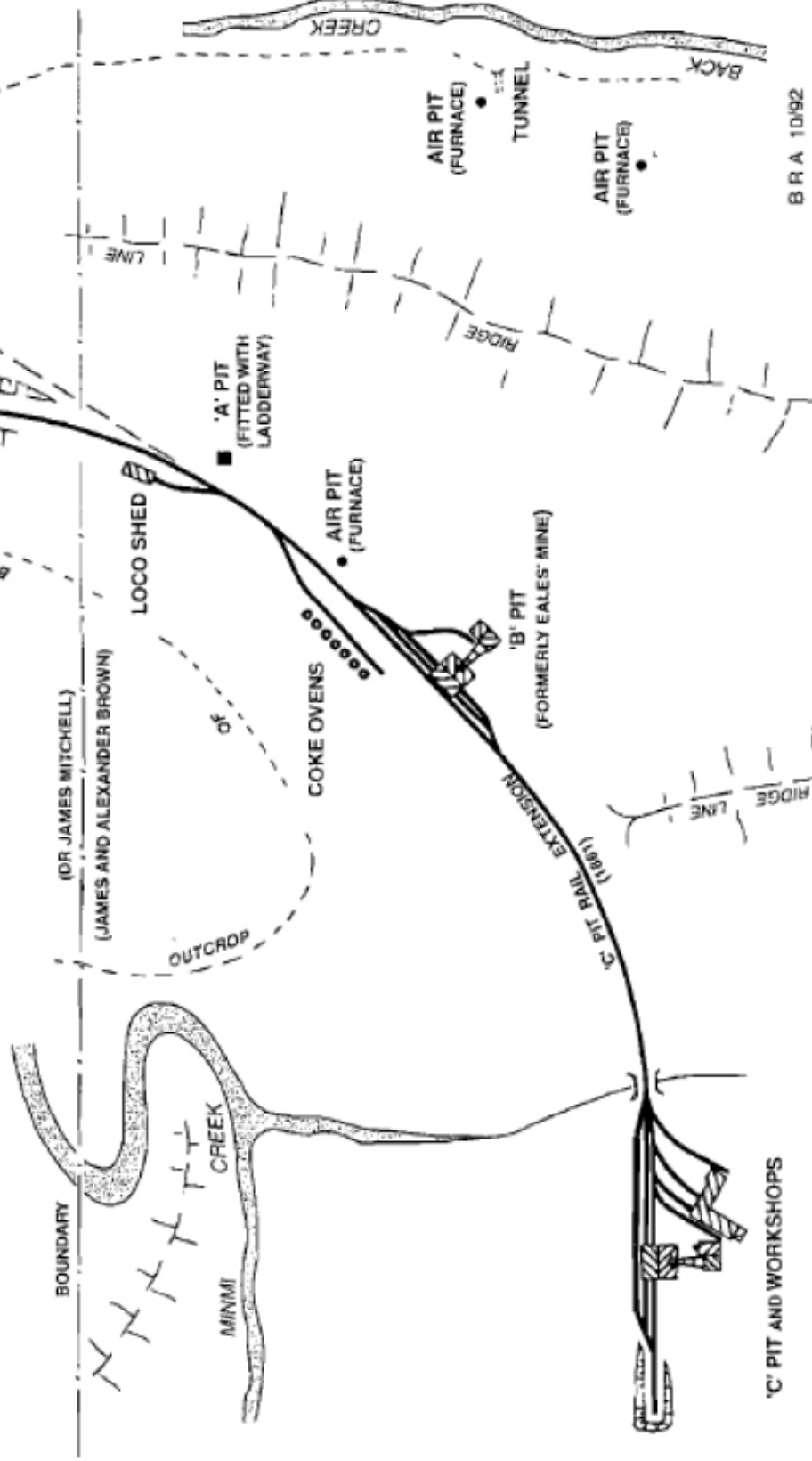
The name *Minmi* is taken from an Aboriginal word for the Giant Gymea Lily which flourished in the swamplands (Effenberger & Baker 1996: 9).

The area of Minmi was first settled as a cattle station in the 1830s (Suters 1996-97: 2/18) and the first recorded discovery of coal in Minmi was made by George Styles in 1835 (it is now known that the study area is underlain by two coal seams – the Young Wallsend and the Borehole seams). Five years later there were several mines operating in the area which were run by either William Roberts or the Turner Brothers, all of whom were recorded as being active in the Minmi mining industry at that time.

In June 1853 John Eales was granted 316 acres of land in Minmi. Eales with his partner John Christian were keen to mine their land and commissioned brothers, James and Alexander Brown to sink a shaft. Three pits were commenced (A, B and C – see *Figure 4.1*), which worked the Borehole seam by board and pillar workings. The following year an Act of Parliament allowed the construction of a railway line between Minmi and Hexham, which opened in 1856, and Eales gained permission to build a branch line to his colliery – located in present day Railway Street (*Figure 4.1*).

Realising the potential of the rich coal seam and the newly introduced transport system, J & A Brown purchased the mineral rights for 6000 acres adjoining Eales land in 1857. J & A Brown's mine was known as Duckenfield Merthyr or Duckenfield No 1. The same year the Browns constructed the Duckenfield branch line which connected Eales' Line at Orange Garden Points to the Minmi Hexham Railway line (see *Figure 4.2*).

MINMI COLLIERY A, B AND C PITS 1862



B R A 10/92

Suffix	Revisions	Date	Init
R0	Preliminary Issue	26-01-08	JS

Figure 4.1
Minmi 1862
Layout of Pits A, B and C

Client:	Catylis
Project:	Minmi/Link Road
Drawing No:	0073083s_GIS11
Suffix No:	R0
Date:	26/03/2008
Drawing size:	A4
Drawn by:	JS
Reviewed by:	TO
Source:	Andrews, 2004
Scale:	Not to Scale



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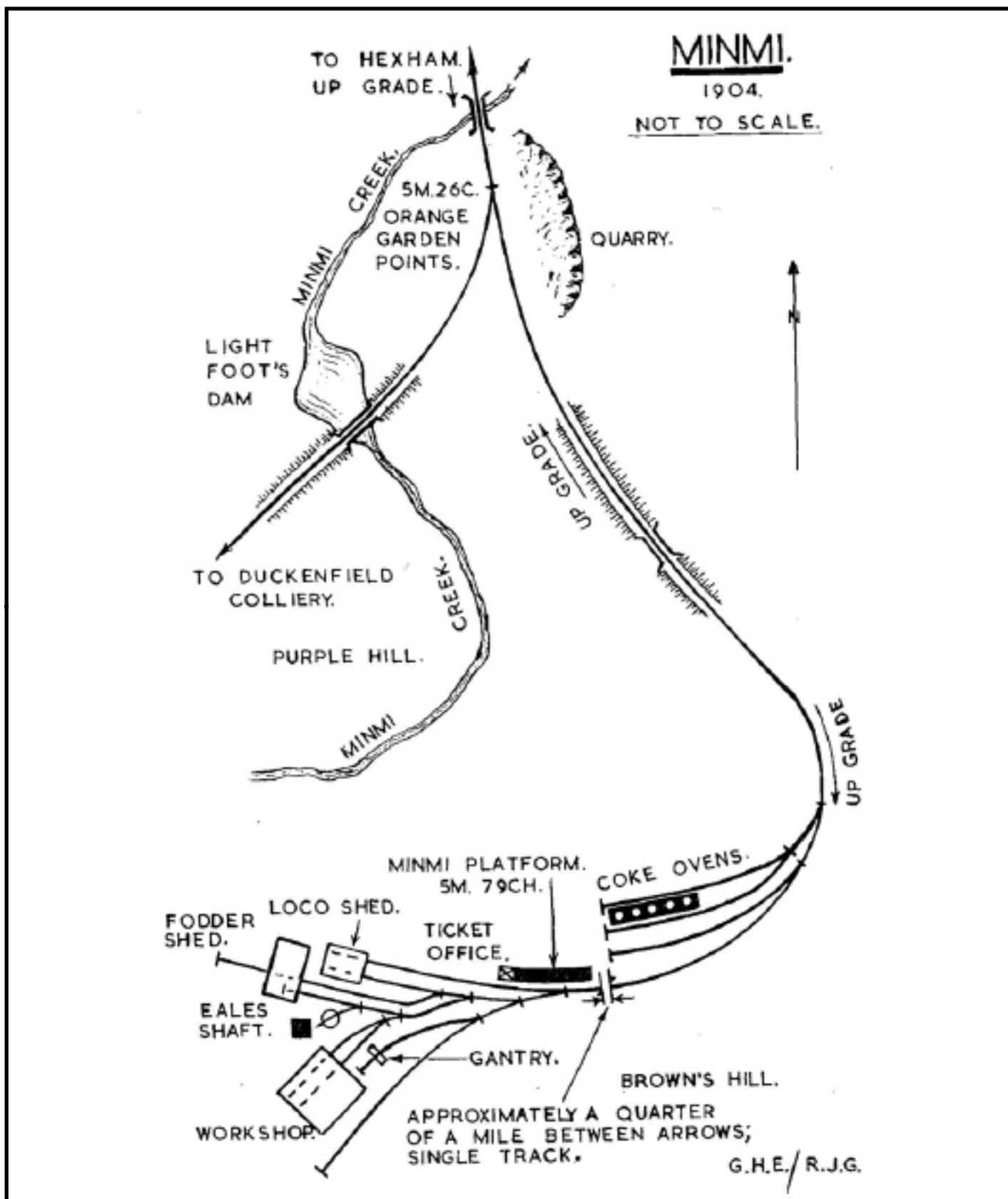


Figure 4.2

Minmi 1905
Layout of the Railway lines and the line to Duckenfield.

Client:	Catylis		
Project:	Minmi/Link Road		
Drawing No: 0073083s_GIS11		Suffix No:	R0
Date:	26/03/2008	Drawing size:	A4
Drawn by:	JS	Reviewed by:	TO
Source:	Earley		
Scale:	Not to Scale		

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Despite the money and effort Eales and his partner Christian had put into the development of the mine and associated infrastructure their venture failed in 1859 because of the financial constraints, industrial disputes and a depressed coal market. They were further impeded when their shaft flooded which ultimately forced them to sell to J & A Brown. The Browns converted the shaft to a pumping pit for Duckenfield No1 and used the railways, siding and workshop buildings for workshop facilities (NHDHS 1991:1-3 and see *Figure 4.3*).

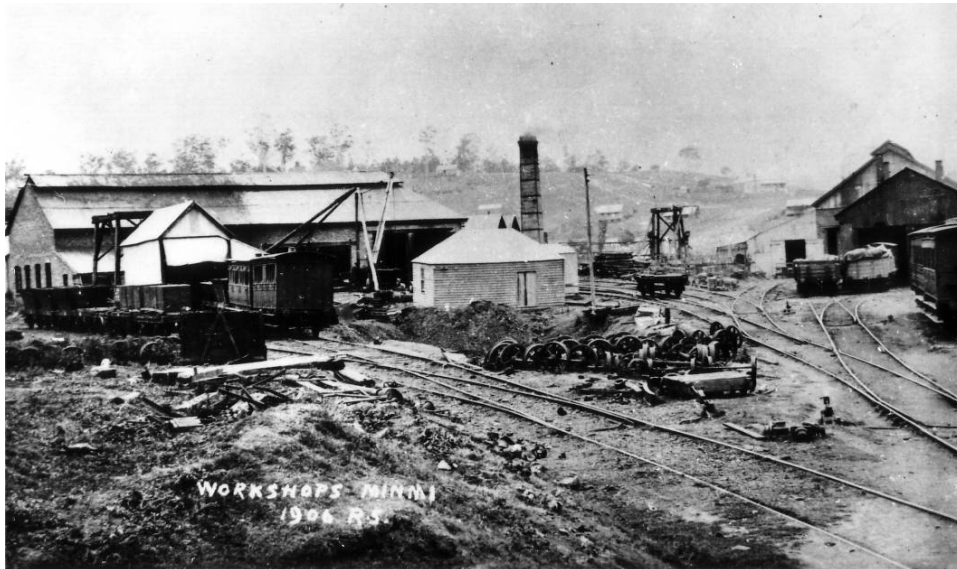


Figure 4-3 *The Minmi Workshop complex, near Pit C. Source: Personal collection of M. Hinds.*

With plenty of mining work available J & A Brown needed to attract workers to the still remote area of Minmi. They did this by renting homes to workers for a shilling a week. Other people who came to Minmi looking for work outside of the mines found that there was very little to offer and that the Browns provided the primary source of employment. In effect, the Browns owned the town and Minmi did not have a town council nor was it presided over by a Local Council making it ineligible for government funding. As a result improvements to the town and the provision of necessary infrastructure were funded by the Browns or by the fund raising efforts of the Minmi community (NHDHS 1991:11).

In 1861, the Browns were still prospering and established a Coke Works at Minmi. This would have enabled them to process their raw coal into fuel by driving off the smoke producing constituents of the coal rendering the coal suitable for use in stoves and furnaces (www.wikipedia.org; see *Annex E* for more details on the Coke works). At peak operation there were 32 coke ovens but by 1898 J & A Brown had closed the Coke Works.

The Browns sold the Colliery to the Newcastle Melbourne Mining Company (NMM.Co) in 1863. The tenure of the NMM.Co was short lived, the mine flooded shortly after the sale and caused the company to be declared bankrupt by the Victorian Supreme Court. The mine was returned to the Browns to liquidate the debt.

The flooding and closure of the mine caused extreme hardship for the mining families of Minmi who by Christmas of 1864 had faced almost two years without pay. The miners had tried to take legal action against the NMM.Co but as a Victorian based company they, at the time, could not be held accountable to NSW Laws. After the mine had been returned to the Browns the miners were able to take successful action against the Browns and received their owed wages (NHDHS 1991: 3-4).

The late 1870s saw the senior Brown's change ownership and operation of the mine. Alexander died in 1877 and shortly thereafter James had a stroke. He transferred the entire business to his three sons John, William and Stephen. In 1882 John became General Manager of the firm (NHDHS 1991: 3-4) and many changes to Minmi occurred under his patronage.

Essential services for a growing town, such as the police station, were introduced in 1879. A two man police station was constructed and the initial location of the police station is unknown. However, it is not thought to be in the same location as the present day Court House as when that building had been finalised in 1893 the *Newcastle Morning Herald* Stated that "Senior Constable Rodgers and family have recently moved into their new residence. " (January 31). This is further supported in the same article stating that "there is no road to the station and the constable asserts that at night time it is very dangerous to venture off the Minmi Road." Later newspaper articles allude to the fact that the many of the improvement works to this site, such as drainage, were carried out by the Policemen.

By 1895 the town of Minmi was booming again. The local publication the *Wallsend and Plattsburg Sun* remarked that as well as English, Welsh, Scots and Irish there were also Swedes, Norwegians, French, German, Italian and Portuguese "but no Chinese"(April 6th 1895)².

² The statement of 'no Chinese' is significant because it is known that Minmi contained a Chinese market garden (see *Section 5.7.5*). The date for commencement of market gardening at Minmi is not known, although it is believed that the last Chinese market gardeners had left Minmi by the 1930s. This statement could suggest a number of different things: that there had been Chinese, but they had left; that Chinese market gardeners were being encouraged to establish gardens at Minmi; or that the Chinese market gardens were present, but the Chinese did not live at Minmi. Either way this statement is too ambiguous to draw a valid conclusion with regard to the commencement of market gardening at Minmi.

The new Post Office was constructed in 1895. Up until 1875 the mail was brought into Minmi using the Hexham Minmi Railway. This had to be reconsidered in 1875 when the Browns stopped using the railway sidings in Railway Street but instead redirected to Duckenfield #2 which branched off a mile out of town. From 1875 until the opening of the new post office the postal service for Minmi was run out of rented premises (NHDHS 1991: 17).



Photograph 4.1 Current condition of 'points' leading to Duckenfield No 2.

Construction of other public facilities in Minmi included three churches and the Public School. There were also several Public Houses.

The present day school, opened in 1961, is believed to be in the third location for Minmi Public School. In 1861 the non-vested school was constructed although its location is unknown. A surge in the local population resulted in a new school being constructed in 1877 – part of this school remains to the present day as a private residence (196 Woodford Road).

In the late 1950s the school was in a dilapidated state and plans for a new school were implemented. This resulted in the present day school located to the centre of Minmi.

Of all the hotels only the Minmi Hotel remains and similarly only St. Andrews church continues to operate as a regular place of worship.

Just as the rise of Minmi had been closely associated with the prosperity of the mine, so too was its decline. According to Suters (1997) the Census of 1911 recorded 1708 people living in Minmi; by 1921 this number had declined by just over 900 people to 803. In a town that had traditionally relied so heavily on the mining industry this decline in population can be almost certainly be tied back to the demand for workers and it is considered that as the jobs diminished the workers moved to more prosperous mines and other sources of employment. This is mirrored by the fact that the Maitland coalfields were willing to pay higher wages to their workers and as a result the miners left in large numbers (NHDHS 1991:78). (Suters report states that in the 1930s the police estimated the town population at 472. It remained around this figure until the 1950s when extensive open cut mining commenced [NHDHS 1991:80]).

In 1924 the mines at Minmi finally closed (NHDHS 1991):

"On January 3rd 1924, the miners at Back Creek returned to work after Christmas holidays. During the morning David Howie, an old pit hand, died at work. The miners took the day off to attend his funeral. John Brown reacted violently. 'Return to work immediately' he demanded, 'or don't return at all, for I will close down the mine and it will not re-open. The miners buried their workmates, John Brown buried the town."

Many people believed at the time, and still believe, that this was convenient for Brown. The mine was nearly exhausted and he took advantage of the traditional day of mourning and wailing to close the mine (Kerry Hinds *pers. comm.* 2007).

In 1949 a plan was formulated to sell the land to the north of Wallsend Road to the Hunter Shire Council. The Council was to sell the land to present or prospective residents, who were willing to build immediately. However this did not eventuate and the Council resumed the land 10 years later where upon it was subdivided and sold off to individual residents for personal dwellings (NHDHS 1991:84).

In the 1950s J & A Brown and Abermain Seaham Colliers Ltd commenced open cut mining. However, open-cut mining operations ceased after only five years leaving *"the slopes of the Purple Hill...ruined – unsightly mullock heaps and deep craters remained and the tree clad bushland by Back Creek was despoiled. Although the bush has grown back the scars remain."* (NHDHS 1991:80).

J & A Brown & Abermain Seaham Collieries Limited became part of Coal and Allied Industries Limited in 1960. Demand from Japan for coking coal saw RW Miller and Co Pty Ltd and the Newcastle Wallsend Coal Company mining the surrounding land to Minmi in 1967. The companies even put back to use the No 9, 12 and 14 shafts.

The land to the south of the Wallsend road known as the 'Old Town' was not sold off and in 1971 householders were issued with 'Notices to Quit'. The residents claimed squatter's rights and by 1980, with local political intervention, they had won the right to purchase the fenced areas surrounding their property (Kerry Hinds *pers comm.* 2007). In 1985 Coal and Allied took over RW Miller and Co Pty Ltd and by 1988 the decline in demand saw the closure of the Minmi Collieries.

In the early 1990s the area to the east of the town was developed with modern residential single storey dwellings.

4.3 LISTED HISTORICAL HERITAGE SITES

Prior to the study area survey a complete search of available heritage registers was undertaken. This included the State Heritage Register (SHR), the State Heritage Inventory (SHI), the National Trust Jubilee Register, the Australian Heritage Register and heritage schedules to Newcastle planning instruments.

These searches revealed a number of items listed at the local level, within and adjacent to the current study area. The result of these searches is provided below.

No places in Minmi and Link Roads study area are currently included on the NSW State Heritage Register, Commonwealth and National Heritage Lists or the Register of the National Estate.

4.3.1 *The National Trust of Australia (NSW)*

The National Trust of Australia (NSW) has identified the Cemetery, the Minmi Hotel and the Court House as having historic heritage values and included them on the National Trust Register.

Classification by the National Trust carries no statutory implications, but is regarded as an authoritative statement of the cultural significance of a place and its worthiness for retention and conservation. The National Trust is often consulted when major proposals are being formulated in heritage precincts or in relation to heritage buildings.

4.3.2 Newcastle Development Control Plan (DCP)

The Newcastle DCP includes a section on the township of Minmi. The DCP does not apply to the Link Road section of the development area. The town of Minmi is described within the DCP as having:

“a clear identity, different from other mining villages in the Hunter Valley that reflects its evolution and change. A key element of its identity is the history of the town and its landscape character and setting, with natural woodlands and open spaces between scattered buildings.”

The heritage objectives of the DCP for Minmi seek to:

- retain the existing village character whilst accommodating limited urban and rural residential growth; and
- ensure that the built heritage character of Minmi is preserved through landscape separation.

The built heritage recommendations contained within the DCP includes the:

- enhancement of the cemetery;
- retention of drainage and view corridors to the former courthouse;
- retention of curtilage buffer around former courthouse; and
- preservation of railway embankments and cuttings.

The urban design and heritage provisions of the DCP outline the need to limit new buildings to two storeys in height, maintain views to the surrounding hills, rural and natural landscapes through retention and enhancement of the treed ridgeline to the south of Minmi and sensitive setting and design of new buildings. The bushland around the cemetery is also to be retained and enhanced (minimum width is 50m) on the northern, eastern and southern boundaries.

It should be noted that these recommendations and principals have been at the forefront during the current design and planning charrettes for Minmi/Link Road (CNA Lower Hunter Lands Northern Estates Charette Report 2007b).

4.3.3 Newcastle Local Environmental Plan (LEP) 2003

Minmi includes several places that are listed on the heritage schedule to the Newcastle Local Environmental Plan (LEP) 2003. Refer to *Table 4.1* (and *Figure 5.2*) below for these items and their physical relationship to the study area. The items potentially affected by the proposed development are highlighted (these are located within the study area). Each item's relationship to the study area has been verified through a cross check of Lot and DP numbers. The actual location of each item is shown on *Figure 5.2*, along with all newly identified heritage items.

Table 4.1 *Newcastle LEP heritage items in and around Minmi (shaded items are situated within the study area)*

Heritage Item	Location	Relationship to Study Area
Duckenfield Colliery Railway (Relics)	Not provided in LEP	Inside study area, network runs from east and west sides of the town
Duckenfield Railway No 1 Colliery Branch Line	Not provided in LEP	Inside study area, west of the town
Duckenfield Railway No 2, 3 & 4 Collieries Branch Line	Not provided in LEP	Inside study area, south east of the town
St Andrews Presbyterian Church	19 Church Street	Outside study area in Minmi central township
Former Police Station and Courthouse	40 Church Street	Outside study area in Minmi central township
John Brown's Model Farm	33 Lenaghans Drive	Outside study area north of Minmi
Stone Ford	33 Lenaghans Drive	Outside study area north of Minmi
Winston Court (residence)	142 Lenaghans Drive	Outside study area north of Minmi
Former Railway Cuttings	East of McInnes Street	Inside study area on eastern side of Minmi township
Minmi to Hexham Railway	Minmi to Hexham	Outside study area to the north east end of main township
Duckenfield No 2 Air Furnace Shaft	141 Minmi Road	Outside study area on eastern side of Minmi township
Cemetery	141 Minmi Road	Outside study area on eastern side of Minmi township

Heritage Item	Location	Relationship to Study Area
Minmi Reservoir Site	15 Reservoir Road	Inside study area to the southern end of Minmi township
Former Reservoir residence	17 Reservoir Road	Inside study area to the southern end of Minmi township
Remains of railway Siding	29 Woodford Street	Outside study area in Minmi central township
Dairy Cool Rooms	29 Woodford Street	Outside study area in Minmi central township
Former Railway Cuttings	29 Woodford Street	Outside study area in Minmi central township
Minmi Public School (Foundation stones and bell)	56 Woodford Street	Outside study area in Minmi central township
Minmi Coal Carriage	56 Woodford Street	Outside study area in Minmi central township
Minmi Train Carriage	96 Woodford Street	Outside study area in Minmi central township
Former Post Office	129 Woodford Street	Outside study area in Minmi central township
Minmi Hotel	156 Woodford Street	Outside study area in Minmi central township
Garden House Site	177 Woodford Street	Inside study area at the southern end of Minmi township
Former Minmi Public School and Residence	196 Woodford Street	Inside study area at the southern end of Minmi township

There are no heritage listings or heritage based development controls that apply to the Link Road portion of the study area.

This chapter provides an overview of the survey methodology employed for Aboriginal and historical heritage surveys.

5.1

SURVEY METHODOLOGY

A pedestrian survey of the study area was conducted from 30 October to 2 November 2007 inclusive. The survey aimed to inspect all zones within the study area that contained tracks and paths, areas with soil exposures and zones with low vegetation. Transects were also walked through representative samples of denser bush around and through the centre of the study area (the survey transects are presented in *Figure 5.1*).

When heritage sites were identified they were recorded by the survey team for content, GPS location and digitally photographed. Notes were made of soil conditions, evidence of disturbance and possible extent of sites. Specific methodologies are described below.

5.1.1

Aboriginal Heritage

Field survey methods were adopted to pursue the discovery of new archaeological sites, ensure their accurate recording and provide sufficient background information to provide an assessment of cultural significance to the extent that surface survey allows. An assessment of the potential of the study area to yield further sub-surface cultural material was made (*Table 5.1*).

The ERM field survey team for Aboriginal heritage (Dr Tim Owen and Guadalupe Cincunegui) were accompanied by five Aboriginal representatives – Kerrie Brauer and Jonathan Hawken from ATOAC, Shane Frost and James Frost from ADTOAC and John Thorpe from ALALC.

A representative sample of the different landforms identified across the study area were surveyed, namely slopes, ridges, flats and gullies/creeks (*Table 5.2* and *Figure 5.1*). Creek lines, mature trees, erosion scours and vehicle access tracks were all inspected. In order to ensure the highest likelihood of locating Aboriginal sites, the survey focussed particularly on areas of visibility, water courses and trees. Photographs were taken of key elements to support this report.

The archaeological potential of each landform and site was determined during the field survey. This was undertaken to aid the future management of sites and the landscape during possible future development impacts.

Basically, archaeological potential relates to the possibility of discovering further archaeological material and the likelihood that this material retains sufficient condition and integrity to be scientifically valuable. Definitions of archaeological potential are provided in *Table 5.1*.

Table 5.1 *Definitions of Archaeological Potential*

Rank	Definition	Example
No potential	Artefacts cannot occur in situ.	Reconstructed landscapes, mined areas, and developed areas.
Low potential	Artefacts are not normally found in comparable contexts but could occur in low densities making detection unlikely.	Landforms with no specific focus for use, i.e. with water sources or undifferentiated slopes.
Moderate potential	Artefacts are known to occur in comparable landforms in detectable densities (~1artefact/m ²) and there is an unknown possibility for detection.	Landforms with an environmental focus which may have seen occasional visitation.
High potential	Artefacts are consistently found in comparable landforms or similar environmental contexts and thus will certainly be found in any ground breaking works.	Landforms with known environmental focus encouraging repeat visitation to specific locale, i.e. significant ridgelines or near high order creeks.

5.1.2 *Built Heritage*

The site inspections of the study area were undertaken by ERM Built Heritage Consultant (Louise Doherty) and ERM Heritage Architect (John Hoysted).

ERM considered it prudent to understand and appreciate the heritage character of the local area, in addition to possible general constraints and opportunities for the study area. Therefore a visual inspection of the neighbouring heritage items, places and areas was also undertaken. The results of this additional survey are presented in this chapter and add to the overall heritage character assessment of Minmi.

5.1.3 *Historical Archaeological Heritage*

The study area was surveyed for historical archaeological sites concurrently with the Aboriginal heritage survey. An inspection of all visible soil profiles was made, as well as an inspection of the landscape for former sites, such as house sites, evidence of landscape modification (associated with building, industry and cultivation) and remnant material culture, such as rubbish dumps.

One site located within the study area (the Garden House Site) and two sites outside (the Railway Siding and associated relics and John Brown's Model Farm) are included on local heritage registers (see *Table 5.3* below). However, a search of the associated listing does not provide archaeological information. Therefore we have prepared new descriptions for these items.

5.1.4 *Cultural Heritage Values (Social and intangible values)*

An Aboriginal community assessment was made of the study area for cultural values. The opinions expressed and voiced during the field survey, along with mitigation measures for potential impacts to Aboriginal sites and areas with high and moderate potential, have been included in this report and form part of the Aboriginal heritage assessment and impact assessment. Further Aboriginal social values assessment has been presented in the Charette outputs document (CNA 2007b).

The social heritage values associated with the historical town of Minmi have been assessed through consultation with local residents and research into the local history of the place. The intangible values have been embodied through the historical themes associated with the place and the consequential values assessment.

5.1.5 *Fieldwork Constraints*

The Aboriginal survey was limited by the vegetation cover in portions of the study area. However, the survey of this area was able to take in the majority of tracks and paths that had excellent exposures and visibility. Erosion was present predominantly on the vehicle tracks and beneath the transmission lines in the Link Road area. Occasional patches of exposed ground surface in the study area mainly occurred in these areas of erosion. In light of these constraints, the survey focused particularly on the patches of visible ground; however a sample of each of the landforms identified was surveyed (see below, and *Annex B*) to ensure that the full range of potential site locations was inspected.

The historical survey was limited because of the equine horse flu epidemic, which prevented some access into areas with horses. This primarily impacted the survey of the zones defined as Archaeological Zones 1 and 2, to the east and west of Minmi (see *Figure 5.2*). The built heritage survey was limited to the external areas of the houses within the study area.

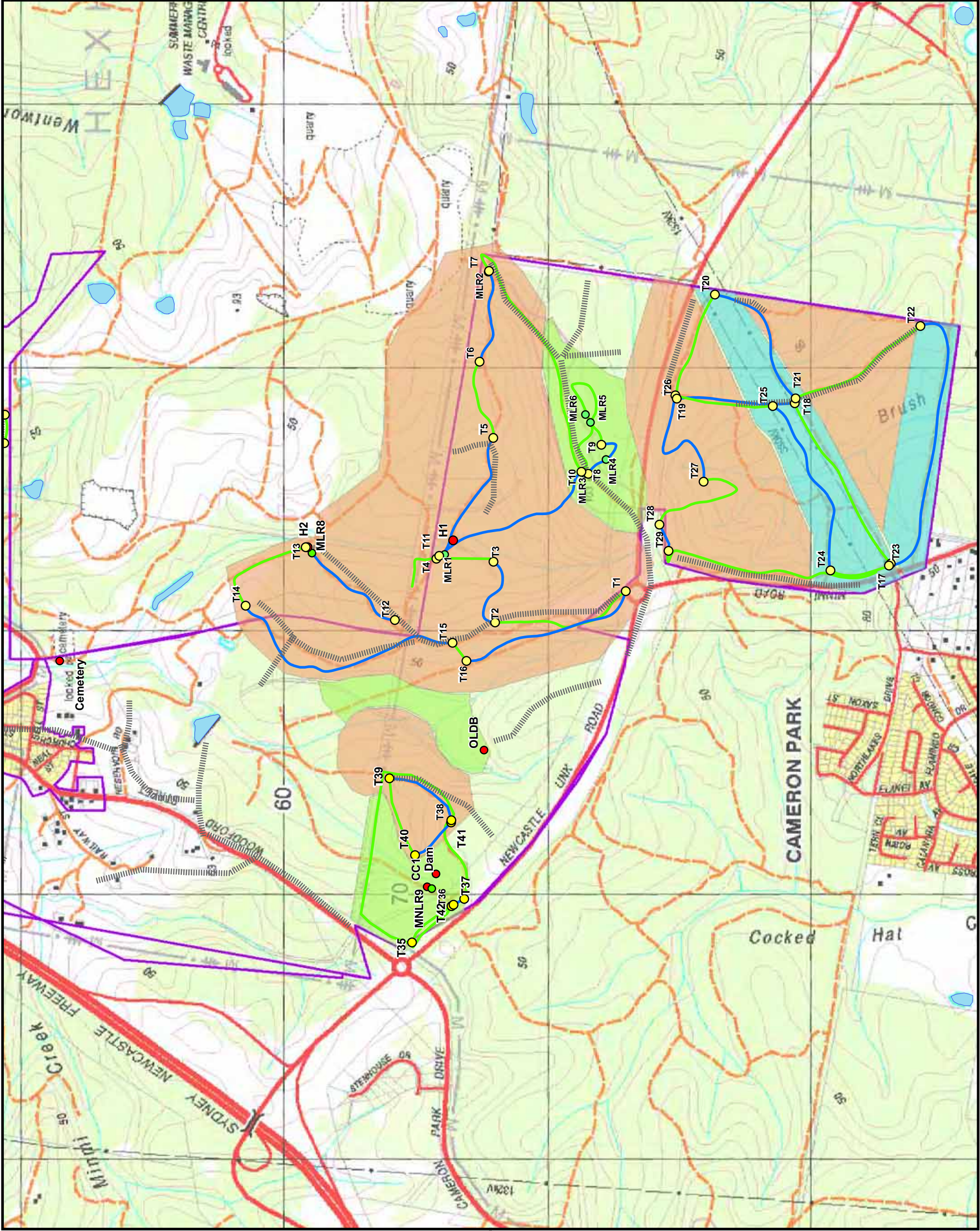
5.2 *SURVEY TRANSECT SAMPLING*

In order to survey a sample of each landform within the study area (for Aboriginal sites) and make best use of the areas of exposure available, the study area was surveyed in a total of 42 transects, as described in *Table 5.2* and *Annex B*. The route walked is shown on *Figure 5.1*.

The historical survey within the town of Minmi was guided by locals (who were able to identify numerous heritage items), existing listing information, historical research and the mud map shown in the publication "*Minmi – The Place of the Giant Lily*" (1991:12-13). The historical survey confirmed that the area surrounding Minmi had been holistically impacted by historical mining activity and contained no physical Aboriginal heritage sites.

Table 5.2 *Description of Transects Surveyed within the Minmi/Link Road study area.*

Transect	Landforms	Description
T1	Slope	Fire trail along bedrock shelf
T2	Slope	Steep track following open depression to the South East
T3	Flat	Bush track alongside flat topped rail embankment
Therefore	Slope	Bush track heading east
T5	Slope	Bush track sloping downhill
T6	Slope	Steep Bush track
T7	Ridgeline	Cleared for bush tracks and fire line easements
T8	Slope	Slope off side of ridgeline
T9	Slope	Bush track
T10	Slope	Steep slope down one side of the ridgeline
T11	Slope	Bush track
T12	Slope	Bush track
T13	Road	Wide flat road covered with blue metal
T14	Slope	Bush track
T15	Steep bank	Bush track-flat down to transmission line easement
T16	Slope	Transmission line easement
T17	Slope	Transmission line easement
T18	Ridge	Central ridgeline
T19	Upper flat	Bush track running along top of ridgeline
T20	Slope	Slope
T21	Ridgeline	Flat bush track at top of ridge
T22	Slope	Slope off side of ridge
T23	Ridgeline	Bush track along ridge above gully
T24	Slope	Slope down then up
T25	Ridgeline	Sloped track toward ridge top
T26	Upper flat	Flat track along ridge top
T27	Slope	Steep sloping bush track over ridge and gully
T28	Ridge top	Ridgeline adjacent to site boundary
T29	Slope	Sloping bush track
T30	Slope	Sloping bush track
T31	Slope	Slope with extremely low visibility
T32	Ridge top	Wide ridge track
T35	Slope	Flat bush track eroded by water
T36	Slope	Slope down covered in compact road base
T37	Slope	Slope down covered in compact road base
T38	Ridgeline	Top of ridgeline, slight slope down to the east
T39	Slope	Slope down towards SW
T40	Slope	Slope down along ridgeline above gully
T41	Flat	Flat bush track
T42	Flat	Winding/flat bush track



Legend

- Historic sites
- Aboriginal sites
- Transect start points
- Ridgelines
- Study Area
- Water courses
- Transects


Landform

- Flat
- Simple slope
- Transmission Line
- Transmission Line

Suffix	Revisions	Date	Init
R0	Preliminary issue	09-11-07	JS
R1	Size change + ridgelines added	13-11-07	JS

Figure 5.1

Minmi Survey Transects and Landforms

Client:	Catylis			
Project:	Minmi/Link Road			
Drawing No:	0073082s_GIS02_R1	Suffix No:	R1	
Date:	13/11/2007	Drawing size:	A3	
Drawn by:	JS	Reviewed by:	TO	
Source:	Dept. Lands			
Scale:	Refer to Scale Bar			
	0	150	300	450m

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5.3 FIELD SURVEY RESULTS – ALL HERITAGE

An overview of the results from the Aboriginal and historical field survey of the study area is presented in *Table 5.3*. NB this table does not include any items outside the study area, which were included in *Table 4.1*.

Table 5.3 Results of Minmi/Link Road Heritage Survey

Site/Area Name	Heritage Status	Heritage Type	Basic Description
Former Minmi Reservoir Residence	LEP Heritage Schedule	Built	Free standing single storey house dating from Federation era with some modifications.
Former (Second) Minmi Public School	LEP Heritage Schedule	Built	The remaining portions of the second Public School have been converted for use as a residential property. Much of original structure was destroyed by fire.
Church and Manse	Not listed	Built	Two separately owned single storey properties that have been converted for residential use.
Duckenfield Colliery No2 Railway Branch Line	LEP Heritage Schedule	Built and landscape	Residual embankment within landscape.
Duckenfield Colliery No1 Railway Branch Line	LEP Heritage Schedule	Built and landscape	Residual embankment within landscape.
Dam	Not listed	Built and landscape	Landform creates natural dam, which has been blocked with a semi-circular brick structure.
Minmi Archaeological Zone 1 (AZ1 – eastern side of Minmi), including:			
Chinamen's Gardens	Not listed	Archaeological	Potential remains for landscaping, buildings and evidence of fields.
Former Residences	Not listed	Archaeological	Potential remains of structural elements and sub-floor deposits relating to mining families residences.
Minmi Reservoir Site	LEP Heritage Schedule	Archaeological	Potential structural remains of the former reservoir.
J. Brown Garden House Site	LEP Heritage Schedule	Archaeological	Remnant vegetation surrounds the potential remains of structural elements and sub-floor deposits relating to the Browns Garden House.
Minmi Archaeological Zone 2 (AZ2- western side of Minmi), including:			
Coke Oven Site	Not listed	Archaeological	Potential remains of the Coke Ovens.
Workshop Area and Eales Shaft	Not listed	Archaeological	Potential remains of railway infrastructure and the mine's workshop.
Former Residences	Not listed	Archaeological	Potential remains of structural elements and sub-floor deposits relating to mining families residences.
First School site	Not listed	Archaeological	Possible remains relating to the first Minmi school, including the building and yard.
Aboriginal Heritage Sites - in the Link Road study area			
MLR 1	Not listed	Aboriginal-	Axe grinding grooves in the

Site/Area Name	Heritage Status	Heritage Type	Basic Description
MLR 2	Not listed	tangible Aboriginal-tangible	sandstone bedrock of a creek. Stone artefact scatter.
MLR 3	Not listed	Aboriginal-tangible	Three stone artefacts.
MLR 4	Not listed	Aboriginal-tangible	Isolated stone artefact.
MLR 5	Not listed	Aboriginal-tangible	Two chert stone artefacts.
MLR 6	Not listed	Aboriginal-tangible	Isolated stone artefact.
Areas with low archaeological potential	Not listed	Archaeological	Zones with a low potential to yield further sites, predominantly sloping zones, with no immediate access to water, away from the Aboriginal walking routes.
Areas with moderate archaeological potential	Not listed	Archaeological	Zones with a moderate potential to yield further sites, predominantly sloping zones, with no immediate access to water, away from the Aboriginal walking routes.
Areas with high archaeological potential	Not listed	Archaeological	Zones with a low potential to yield further sites, predominantly sloping zones, with no immediate access to water, away from the Aboriginal walking routes.
Intangible Social Values			
Aboriginal waking routes	Not listed	Aboriginal-intangible	Significant walking tracks that connected the land. As defined in <i>Figure 3.2</i> and <i>5.4</i> .
Minmi town	Not listed	Historical – intangible	The landscape and setting of the historical town.

The presentation and assessment of the heritage sites provided below are divided into following sections:

- Minmi landscape character;
- Link Road landscape character;
- heritage listed places within the study area;
- heritage listed places outside (adjacent to) the study area;
- historical heritage items/places not currently listed, within the study area; and
- Aboriginal heritage sites located within the study area.

This order has been devised to provide a ‘top-down’ appraisal of the study area, where descriptions of the wider landscape are presented followed by individual sites characteristics.

The location of the identified heritage items and values is shown in *Figures 5.2 to 5.7*.

Figure 5.2 – Historical heritage sites and archaeological zones 1 & 2;

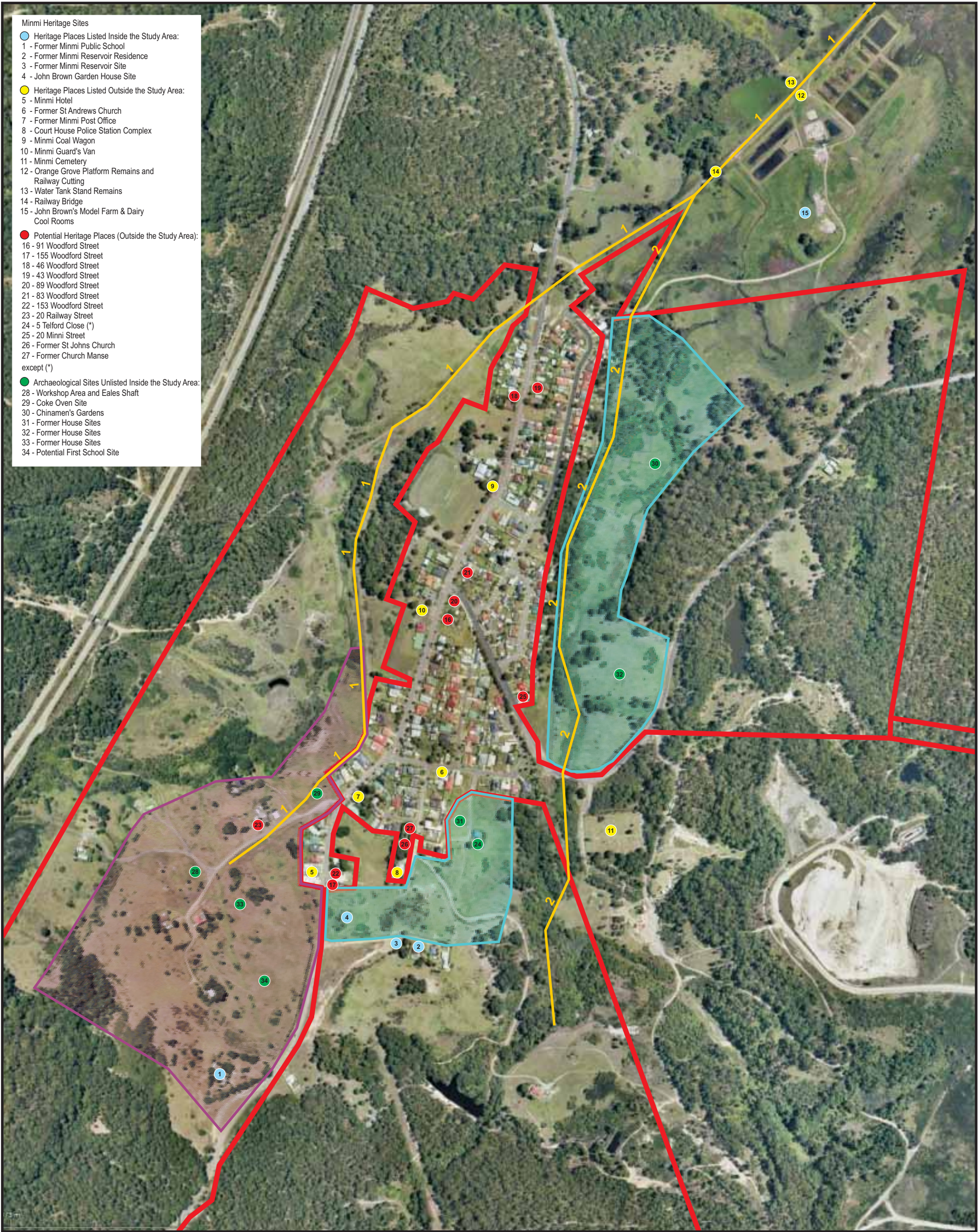
Figure 5.3 – Aboriginal heritage sites and archaeological potential for the study area;

Figure 5.4 – Aboriginal heritage walking routes through the study area;

Figure 5.5 – c1906 historical view of Minmi (NE) with identified heritage sites;

Figure 5.6 – c1906 historical view of Minmi High Street (S) with identified heritage sites; and

Figure 5.7 – historical views within and across Minmi related to the current layout.



- Legend**
- Site Boundary
 - Historical Archaeological Zone 1
 - Historical Archaeological Zone 2
 - Minmi Heritage Sites
 - 1 Duckenfield Colliery No 1 Railway Branchline
 - 2 Duckenfield Colliery No 2 Railway Branchline

Client:	Catylis		
Project:	Minmi/Link Road		
Drawing No:	0073083s_08		
Date:	06/11/2008	Drawing size:	A3
Drawn by:	GC	Reviewed by:	TO
Source:	Google Earth Pro		
Scale:	Refer to Scale Bar		

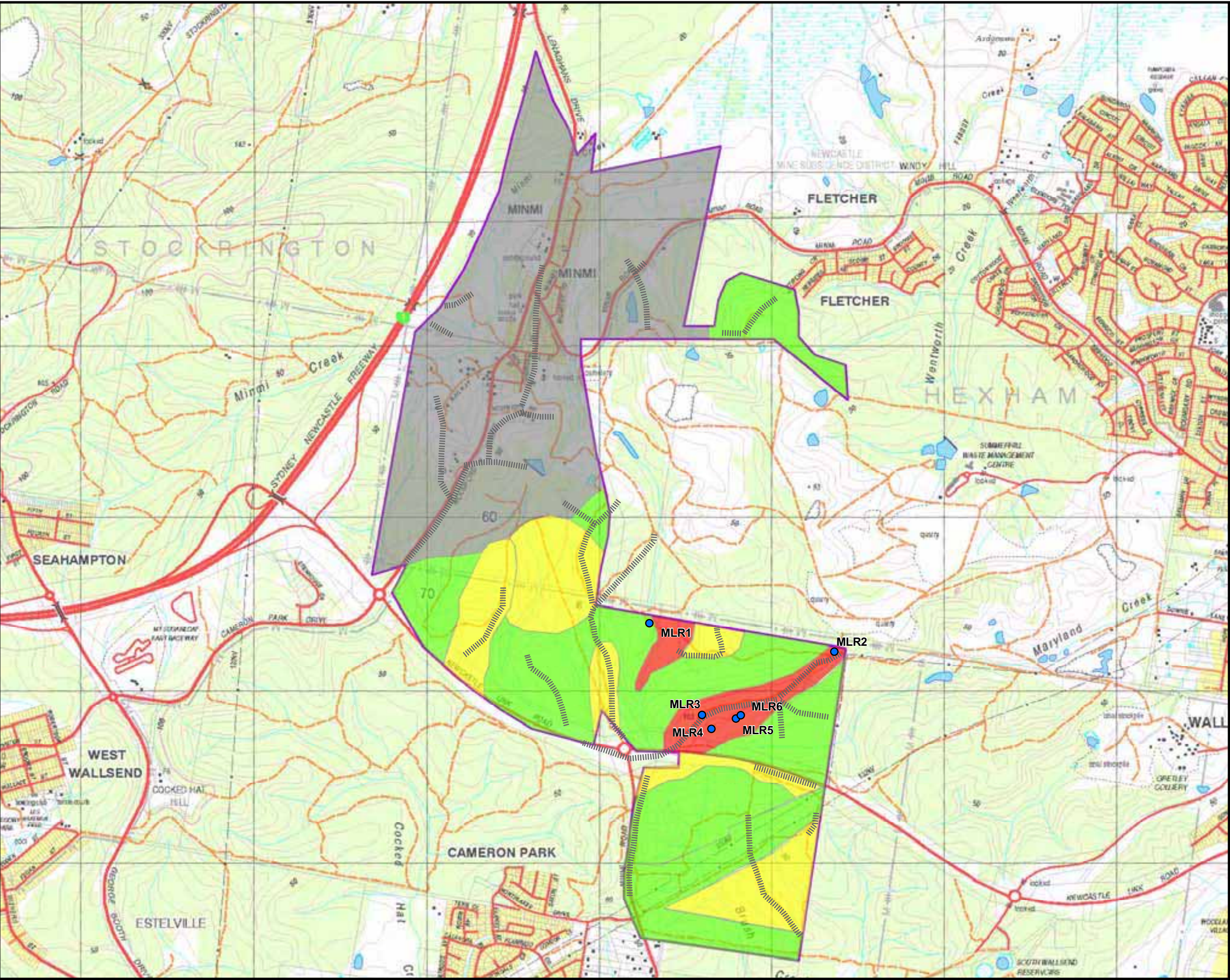


Figure 5.2

Minmi Heritage Sites

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Legend

- Aboriginal sites
- Ridgelines
- Study Area
- Water courses

Archaeological Potential

- High
- Low
- Moderate
- None

Suffix	Revisions	Date	Init
R0	Preliminary Issue	13-11-07	JS

Figure

Minmi - Aboriginal Archaeological Potential

Client:	Catylis	
Project:	Minmi/Link Road	
Drawing No: 0073082s_GIS02_R1		
Date:	13/11/2007	Drawing size: A3
Drawn by:	JS	Reviewed by: TO
Source:	Dept. Lands	
Scale:	Refer to Scale Bar	

0 200 400 600 m

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