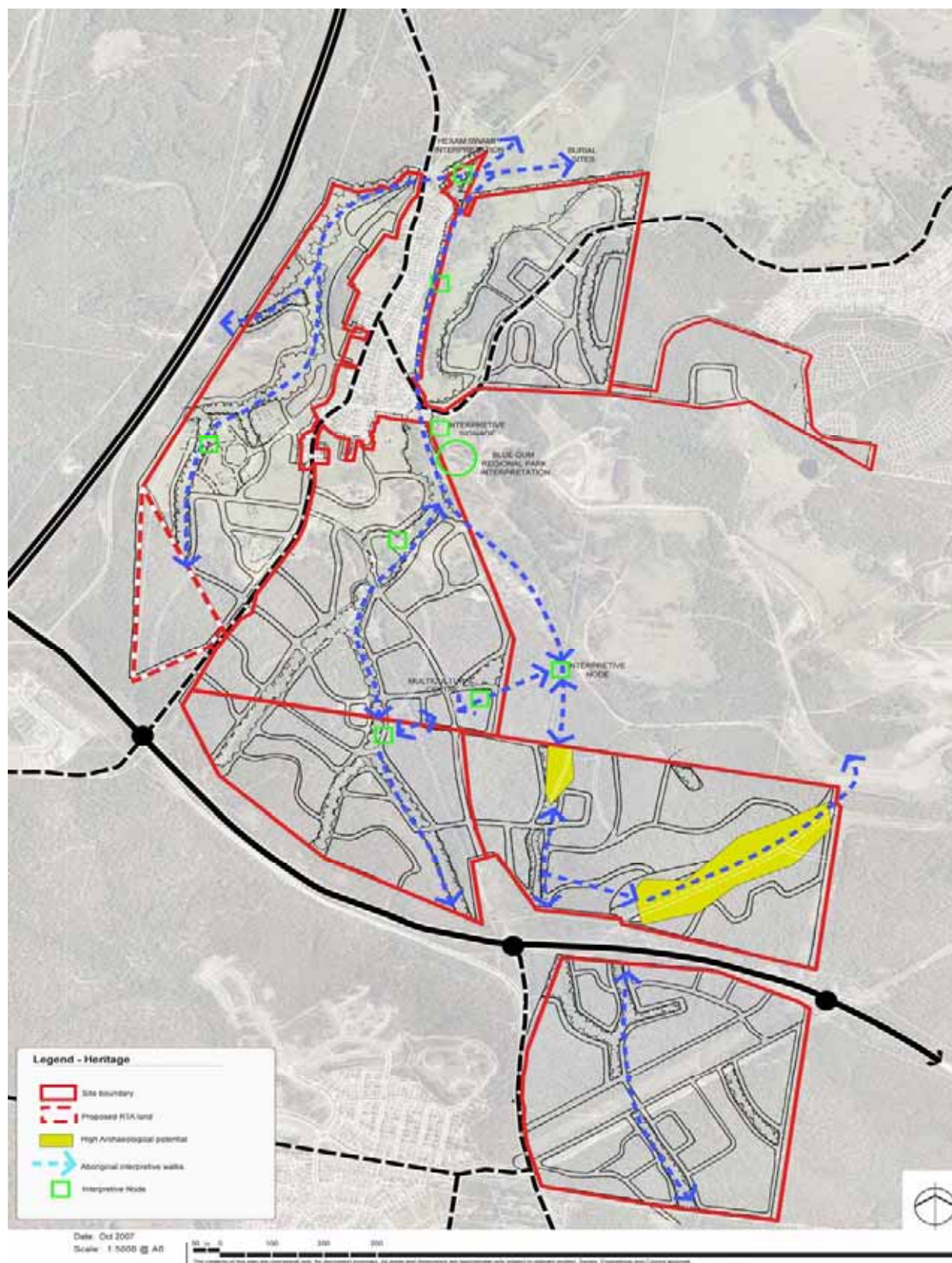


Figure 5-4 Aboriginal Walks



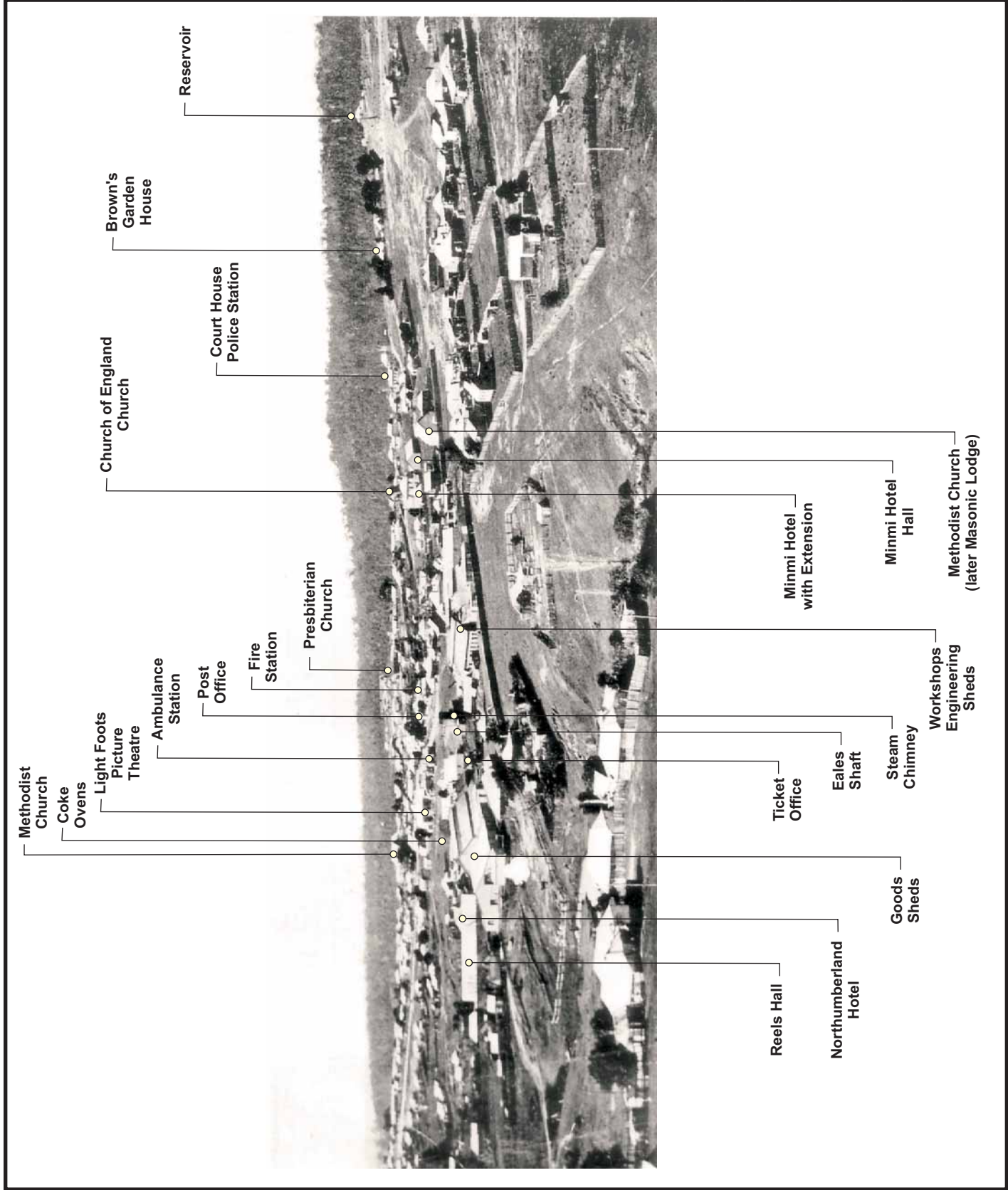


Figure 5.5

**Minmi - Workshop and Coke Ovens
Removed After 1906**

Client:	Catylis
Project:	Minm/Link Road
Drawing No:	0073083s_06
Date:	10/12/2007
Drawn by:	GC
Reviewed by:	TO
Source:	-
Scale:	Not to Scale
Environmental Resources Management Australia Pty Ltd Building C, 33 Saunders St, Pyrmont, NSW 2009 Telephone +61 2 8584 8888	



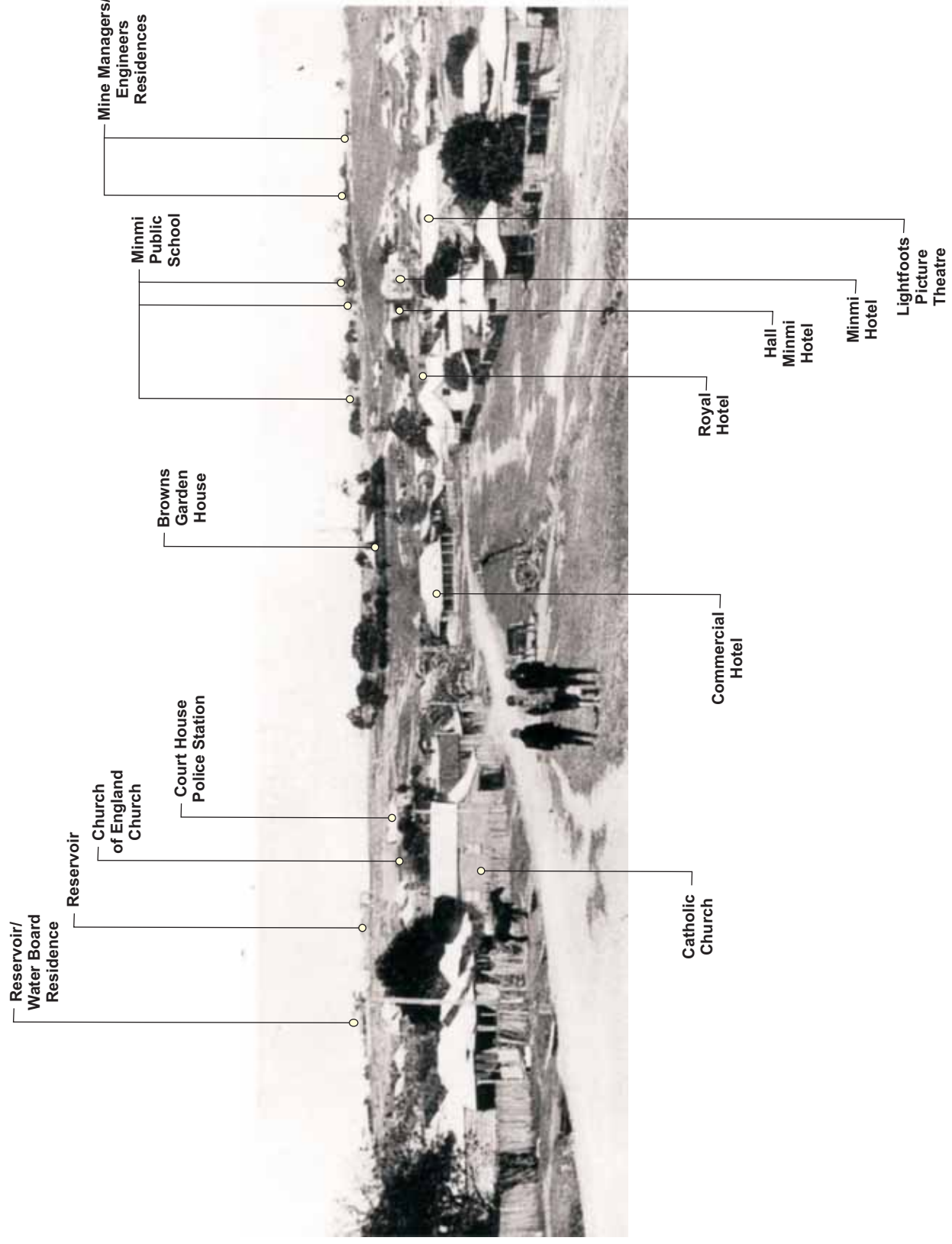


Figure 5.6

Minmi - Looking South Down High Street

Client:	Catylis
Project:	Minmi/Link Road
Drawing No:	0073083s_05
Date:	10/12/2007
Drawn by:	GC
Reviewed by:	TO
Source:	-
Scale:	Not to Scale

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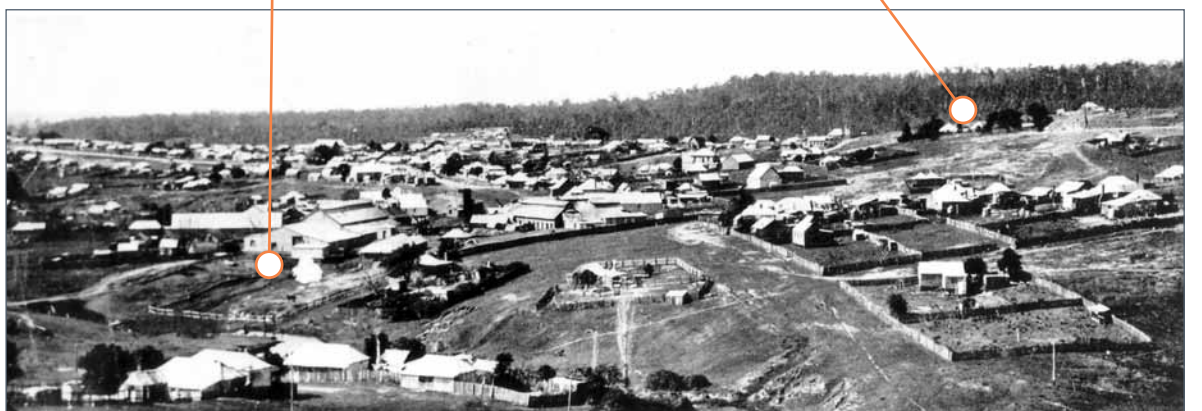
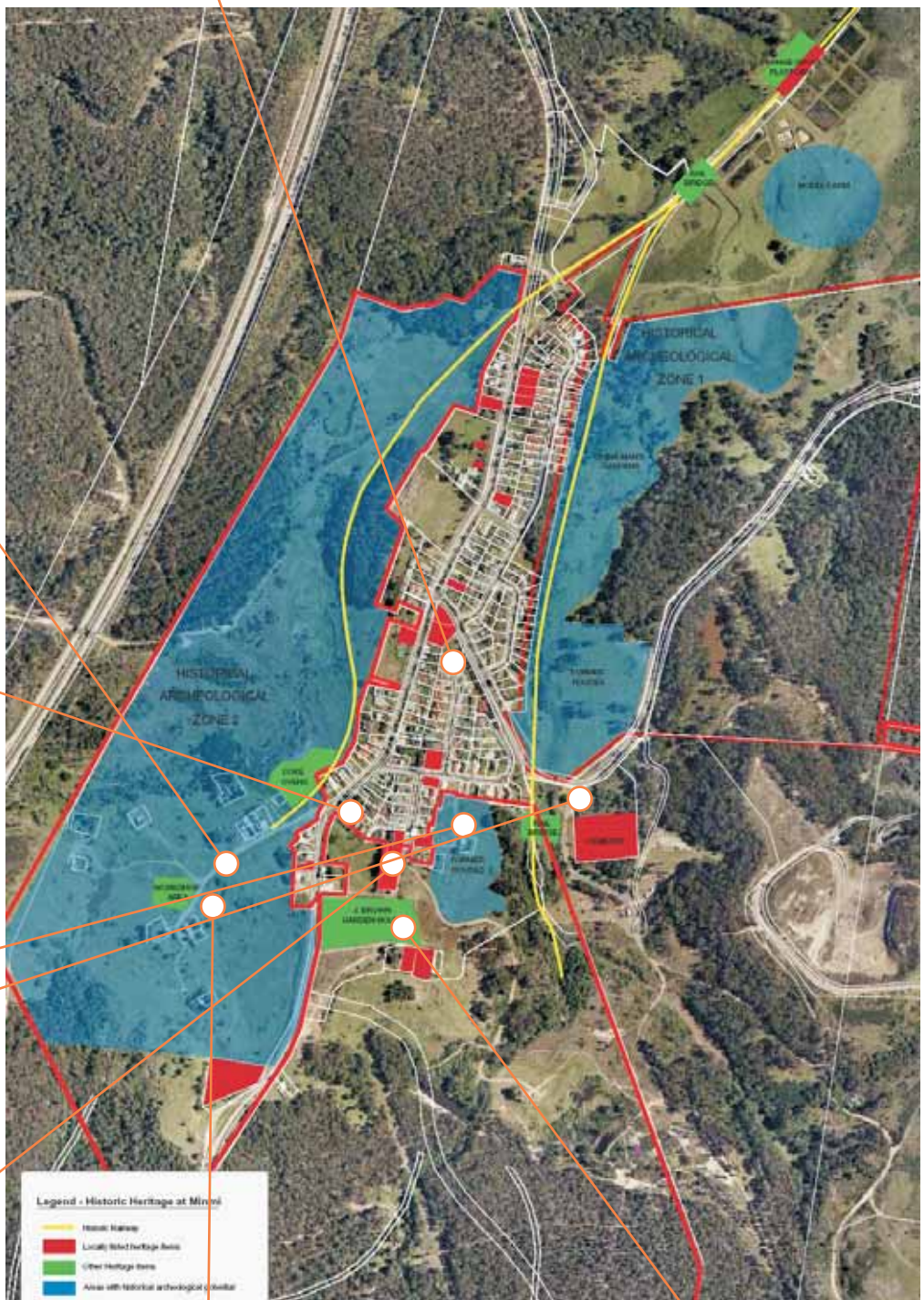
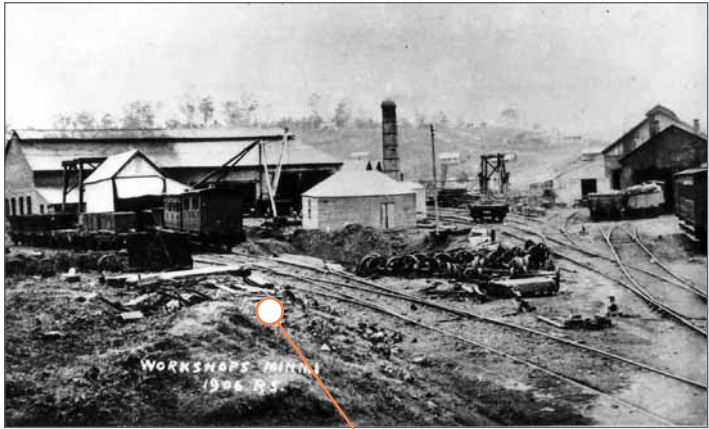


Figure 5.7
Minmi Historical Character & Views

Client:	Catylis		
Project:	Minmi/Link Road		
Drawing No: 0073083s_07			
Date:	11/12/2007	Drawing size:	A3
Drawn by:	GC	Reviewed by:	TO
Source:	-		
Scale:	Not to Scale		



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The following description provides an overview of the landscape setting for the heritage items/places found within and adjacent to the study area. They were used to inform the urban planning and design principals (which are presented in the Charette outputs document).

5.4.1

Minmi Landscape Character

Today Minmi can be characterised as a small rural village predominantly contained by rolling hills and ridgelines. The village has a central focus along Woodford Street, with several parallel streets containing a dense network of mainly small single dwellings. Tree covered ridges are visible to the east, west and south of the village centre; whilst the land between the ridges and village centre has developed into an open rural nature during the late 20th century. To the north, the town unfolds onto the flat Hexham swamp and its associated wetlands.

Progress into the town itself and one observes a mixture of modern and old single and double storey buildings. These buildings dominate the view, but do not overly clutter the place. It should be noted that during the 19th and early to mid 20th century Minmi was not characterised as an idyllic rural village but an industrial zone, with large scale buildings, machinery and processes providing the town with a gritty working feel, see *Figure 5.5* to *5.7*. The industrial character can be observed through the remnant historical buildings and archaeology, movable heritage items (such as the coal wagon) and landscape elements, including the railway embankments. However, Minmi is not purely a historical village as the majority of houses are post 1950 additions (and many of the older buildings have been significantly modified, expanded and changed in terms of their original configurations, material and colours). These post 1950 built additions are not all sympathetic to the heritage form, fabric and character of the place, although sufficient original fabric is retained to provide Minmi with an appreciable mixture of old and new fabric and texture.

Distant views from the town are of the vegetated ridgelines, which have always existed – even during the industrial phases. These views provide Minmi with an enclosed feel, where the dark green vegetation dominates the built form. This character and layout defines Minmi as a place, creating the ambience and village atmosphere. It is the aim of the Minmi DCP to protect and enhance these characteristics.

The Minmi DCP was written upon principals aiming to conserve this landscape character. These principals have been incorporated into the urban planning and form, as shown in the Concept Plan (see *Figure 7.1*).

5.4.2 *Link Road Landscape Character*

The characteristic of the Link Road area is one of rolling hills, steep slopes, deep gullies and elevated ridges.

This study area is located on the periphery between the coastal flat and the inland hills. The zone is densely vegetated with mature trees, and extensive understorey, except in areas de-vegetated for transmission lines and fire trails. Amongst the vegetation may be found some former mine workings, including capped pit entrances and occasional evidence for soil movement and modification to waterways. Extensive water erosion has impacted the steeper slopes of the study area, with deep gouges cutting to clay and the underlying bedrock.

Initially appearing as dense bush land, the Link Road study area carries the evident scars of 100 years of mining activity, with more recent regeneration. However, unlike Minmi, the remnants of mining machinery and landscaping have all but been removed over the course of the late twentieth century.

5.5 *DESCRIPTION AND CONDITION OF HERITAGE LISTED PLACES INSIDE THE STUDY AREA*

These descriptions include built heritage and historical archaeological sites within the study area that have been previously listed (c.f. *section 4.3*).

5.5.1 *Former Minmi Reservoir Residence, 17 Reservoir Road*

The former Minmi Reservoir Residence is located on the southern side of Reservoir Road to the east of the Reservoir site and commands sweeping views across the valley to its north. The building is constructed in brick and has a dominant tiled hipped roof which continues over deep verandahs that run along its front and return down each side. Verandah posts are timber with simple curved brackets at their tops. The western verandah retains its original configuration; however, the eastern side has been in-filled and extended with a skillion roof to accommodate a two car garage. See *Photograph 5.1*.



Photograph 5.1 *Former Minmi Reservoir Residence. View from north east (ERM 2007) Former Minmi Public School, 196 Woodford Street*

The former Minmi Public School is located on what is now the southern perimeter of Minmi on the crest of the hill overlooking the township to its north, below. The site originally contained a collection of buildings seen in *Photograph 5.2*. These were constructed in brick and stone, some with shingle roofs and later buildings or extensions having lower pitched corrugated galvanised iron roofing. The later buildings are in the foreground and to the far right of the photograph. Earlier buildings also exhibit late Victorian Gothic detailing with steep pitched roofs, high slender chimneys, roof vents and finial posts.



Photograph 5.2 *Minmi Public School c1898 (from personal collection of Kerry Hinds)*

Today the two buildings in the foreground of *Photograph 5.2* have been removed and a substantial part of the school building, third from the right, was removed after a fire. Later additions were made to this part of the building (*pers comm.* Kerry Hinds and Bob Skelton 2007). The building to the extreme right of the photograph remains. The extent of the school grounds remains through the evidence of what are now substantial trees. See *Photograph 5.3*. A foundation stone and bell from the former Public School are located at the existing school which opened c 1960.



Photograph 5.3 View from north east towards former Public School site (ERM 2007)

5.5.2 *Duckenfield Colliery No2 Railway Branch Line (includes Railway Cuttings east of McInnes Street)*

This branch line runs from its intersection with the Minmi-Hexham line north of Minmi along the valley directly to the east of the town. It crosses Minmi Road and heads south over Minmi Creek and veers south east along the valley floor towards the Duckenfield No 2 colliery (see historical plans in *Figures 4.1* and *4.2*). At the northern end the line was constructed as an embankment above the flood plain (see *Photograph 5.4*), it then ran at the top of the hill where a cut has been made to accommodate the line (see *Photograph 5.5*). This construction arrangement is carried forward across Minmi Creek where the abutments to the bridge crossing survive (see *Photograph 5.6*). Residential allotments at the northern and southern ends of Minmi back onto the railway alignment with a section in the centre that remains as bushland. The condition and integrity of these landscape features are good and readily interpretable.



Photograph 5.4 View to the north with embankment to the right of photograph (ERM 2007)



Photograph 5.5 View to south along railway line (ERM 2007)



Photograph 5.6 *View south east over Minmi Creek showing bridge abutments and railway alignment along the valley floor (ERM 2007)*

5.5.3 *Duckenfield Colliery No1 Railway Branch Line*

This line runs directly from the Minmi-Hexham line north of the town and across Woodford Street south west and around towards Railway Street where it terminated at the railway workshop and Coke Ovens. A branch of this line ran west to Duckenfield No 1, 3 & 4 mines. The alignment is discernable in the landscape through the presence of embankments, cuttings and open surfaces that are still in use as farm access (as shown on *Figure 5.2*). This branch line was not closely inspected due to equine influenza restrictions, however, it could be clearly seen that the condition and integrity of these landscape features were good and readily interpretable.

5.5.4 *Minmi Reservoir Site, 15 Reservoir Road*

This archaeological site (within Archaeological Zone 1) is located on the southern side of Reservoir Road on the hill at south end of Minmi. There is no physical evidence of the reservoir structures at the site. Subsurface archaeological remains of the reservoir are likely to be present, which would include concrete and brick formwork. However, local residents (who witnessed the removal of the reservoir) indicate that few intact remains would be present. The site is likely to have poor condition and integrity following its demolition.

5.5.5 *Garden House Site, 177 Woodford Street*

The archaeological site (within Archaeological Zone 1) is located on the eastern side of Woodford Street at the junction with Reservoir Road. The site slopes down from Reservoir Road facing north. The historic photograph at *Photograph 5.7* shows the house in a dilapidating state. It was constructed in brick that was later rendered with cement which was lined to resemble stone blocks. The photograph shows an attached out building on the south side and a surrounding verandah supported by timber posts with modest brackets and simple three rail balustrade although this may not be an original feature. The hipped roof is clad in corrugated galvanised iron and the four chimneys shown are constructed in brick.



Photograph 5.7 View from east (from personal collection of Kerry Hinds, date unknown)



Photograph 5.8 Site of the Garden House. View from Reservoir Road looking west across the site with the Minmi Hotel in the background

The house and outbuildings have been removed with the only visible material evidence remaining being remnant landscaping and vegetation (including fruit trees), some demolished building material, the house's concrete and brick cistern and possible wall foundations, see *Photograph 5.8*. Further archaeological evidence relating to the footings and construction of the house and outbuildings are likely to remain on the site, although these are buried by soil and vegetation. It should be noted that anecdotal accounts from Minmi locals suggests that this site has been 'gone over' by locals and bottle collectors since the 1970s. Thus, while the condition of archaeological deposits is likely to be fair, the integrity of cultural remains relating to the occupation of the house are likely to be poor.

5.6 DESCRIPTION OF HERITAGE LISTED PLACES ADJACENT TO THE STUDY AREA

The following descriptions are of listed heritage places that contribute to the overall heritage character and value of Minmi, but are immediately outside the current study area. They have been included because new development could potentially impact these items and thus an appreciation and understanding of them is required.

5.6.1 *Minmi Hotel, 156 Woodford Street*

The Minmi Hotel, which is likely to be the earliest surviving building in Minmi, was constructed c1861. It is located towards the southern end of Minmi close to the western side of Woodford Street.

Physical and documentary evidence indicates that the hotel was constructed in several phases with the first being a two storey Colonial Georgian building constructed in brick with a hipped roof. This building, which has a roughly square floor plan, exhibited ground floor entrances at the centre and right hand side with double hung timber windows, one at ground level and three at first floor level. A large picture window to the bar is in evidence in *Photograph 5.9* below. Originally the building had a single storey timber addition to its left which housed the acetylene supply for lighting (Pers comm. Kerry Hinds). There is a skillion roofed addition in this location today.

Late in the 19th century a two storey verandah was added to the front of the building with the central upper window cut down to provide access to the upper verandah via French doors. The verandah was constructed in timber with cast iron balustrades and retains these details today.



Photograph 5.9 Minmi Hotel from south east (ERM 2007)



Photograph 5.10 Minmi Hotel from south east (from personal collection of Kerry Hinds)

By 1911 a further addition had been made to the northern side in the form of a two storey masonry wing with rendered walls and parapet roof. The façade to the street exhibits a heavy cornice with the panel below this with Minmi Hotel in relief and below this are located two symmetrically positioned high windows at upper and lower levels. This addition remains in its original form. More recently a large hip roofed addition, with a verandah to its south side, has been made to the rear of the hotel providing expanded restaurant facilities.

The condition of this building is fair to good. Paint has been sand blasted from the c1860 brick section of the building causing significant surface damage.

5.6.2 *Former Minmi Post Office, 129 Woodford Street*

The former Minmi Post Office is located on the right hand side of the road on the bend as it sweeps to the right at the bottom of the hill at the southern entrance to the town. It was constructed in 1901 in a Federation style typical of NSW Post Offices and other public buildings constructed in this period designed by Commonwealth Government architect Vernon. The building now serves as a residence. See *Photograph 5.12*.



Photograph 5.11 Minmi Post Office c 1906 (NAA - C4076:HN6187)

The building is constructed in brick and its front runs up to the front boundary with this façade dominated by an asymmetrically positioned gable which has a wide timber barge with a deep soffit supported on heavy moulded timber brackets. The remainder of the corrugated steel clad roof is hipped and is dominated by four high square brick chimneys which have banded and corniced detailing on their shafts and at their tops.



Photograph 5.12 Former Minmi Post Office and Residence view from the west (ERM 2007)

The gabled section contains a large semicircular timber window boarded by soft red brick rubbers and divided into six sections by timber frames. The central lower window had a fixed panel that served as an information board but this has since been glazed. Surrounding windows are divided with small panes. To the left of the gable is a generous verandah supported on timber posts with cast iron balusters beneath a timber rail. This verandah would have provided the entrance porch to the Post Master's residence. On the right of the gable is an enclosed porch with a gabled roof facing south, which served as the entrance to the Post and Telegraph Office. See *Photograph 5.11*

Walls contain low level cast iron floor vents with crown insignia in their centres. Evenly spaced double hung timber windows with contrasting soft red brick rubbers populate the northern elevation. The building appears to be well maintained and is in good condition. No internal inspection was undertaken.

5.6.3 ***Former Minmi Police Station Court House, Corner Church And Stephen Streets***



Photograph 5.13 Police Station viewed from the north east.



Photograph 5.14 Court House viewed from the south east.

The former Minmi Police Station Court House complex is located in the south eastern quadrant of the town on the corner of Pitt and Stephen Streets. It is sited on level site cut into a westerly facing slope that rises from Woodford Street below.

The complex of adjoining buildings, which were built in two stages with the first in 1895 and the second in the late 19th century, exhibit late Victorian Arts and Crafts design features. The buildings are constructed in brick and have double hung timber windows with multiple pane top sashes and single pane bottom sashes. Roofs are a combination of hipped, Dutch gabled and gabled forms dominated by large brick chimneys with corniced tops and banded shafts. Verandahs wrap around exterior walls and are supported on chamfered timber posts with segmentally arched timber brackets between. Balustrades have bread loaf timber with plain slatted balusters below. These details can be seen in *Photographs 5.13* and *5.14*. No internal inspection was undertaken.

The building appears in good condition but maintenance of the grounds has been deferred recently.

5.6.4 *Former St Andrews Church, Corner of Bell And Stephen Streets*

The former St Andrews Church is located on the corner of Bell and Church Streets with its porch entrance facing Church Street. It has a rectangular floor plan with lancet windows down each side with buttresses between. Historic *Photograph 5.15* shows the building was constructed in brick but this has since been rendered in cement. The roof which was originally a steep gable form has been cut down.



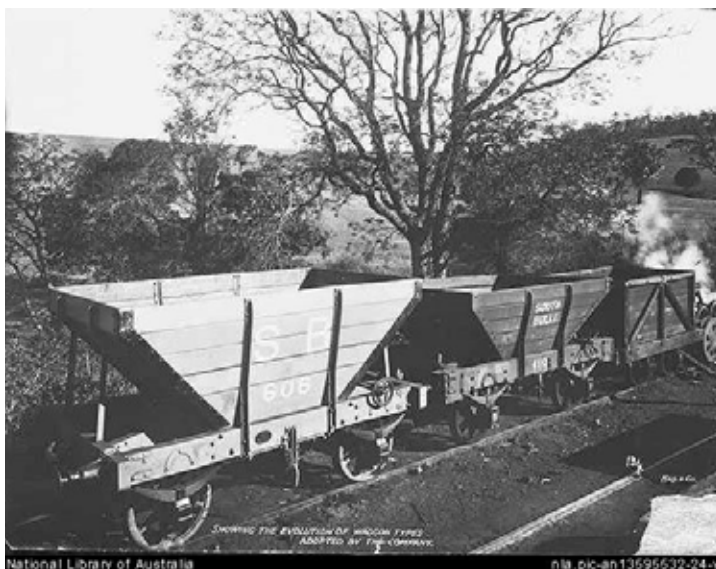
Photograph 5.15 Former St Andrews Church (from personal collection of Kerry Hinds)



Photograph 5.16 View from Church Street (ERM 2007)

5.6.5 *Minmi Coal Wagon, 56 Woodford Street*

Located in the south east corner of Minmi Public School along Woodford Street the coal wagon is an example of those used in the late 19th century. It was manufactured by A Coninan & Co, Makers, Newcastle. The evolution of coal wagon can be seen in *Photograph 5.17* from 1906.



Photograph 5.17 Evolution of Coal Wagons c1906 South Bulli Colliery. Source: (NLA. pican13595532 24)

A wagon similar to the Minmi example is in the centre. It sits on four 20" cast iron wheels with axles projecting into enclosed bearings which in turn are fixed to multiple leaf springs that attach to the hot riveted channel framed chassis. A lever operated shoe pad braking system is located on each wheel. Buffers and couplings are at each end of the chassis.

The chassis which is 8' long and 4' wide supports a hopper which is lined with hardwood timber which is bolted to a steel frame made up of a combination of angle channel and flat members. The hopper bottom is hinged. To release its load the hopper has a heavy hasp and staple system.



Photograph 5.18 Coal wagon viewed from Woodford Street (ERM 2007)

The coal wagon is not being maintained, however, its robust construction ensures that it is not decaying at an accelerated rate and can be left in its current state; however, a conservation program should be initiated.

5.6.6 Minmi Guard's Van, 96 Woodford Street

This example of movable industrial heritage is located in the park to the north of the Minmi Hall. The cabin is supported on a steel channel frame chassis which rides on for 20" cast iron wheels with axles projecting into enclosed bearings which in turn are fixed to multiple leaf springs. The small cabin is constructed in timber and has tongue and grooved vertical cladding with balconies with minimal balustrading at each end. The roof is curved and has been covered in corrugated galvanised iron. A flue extends through the roof from an internal stove once used for heating the cabin and as a cooking facility. See *Photograph 5.19*. The guard's van was restored in 1989 and is in good condition.



Photograph 5.19 Guard's Van from north (ERM 2007)

5.6.7 *Minmi Cemetery*

The Minmi Cemetery is located on the southern side of Minmi Road where it crosses Minmi Creek. The land rises gently from the creek and slopes west. The cemetery is populated by a variety of marble, sandstone and granite masonry monuments dating from the middle of the second half of the 19th century through to the present. See *Photograph 5.20*. Cast iron railings around the older monuments are also in evidence.



Photograph 5.20 View towards the east (ERM 2007)

The general landscape within the cemetery is well maintained, however, a number of the monuments require stabilisation through realignment of vertical tablets and surrounding perimeter walls and repairs to cast iron railings.

5.6.8 *Railway Siding Remains and Former Railway Cuttings*

The Railway Siding is located approximately 200m north along the Minmi-Hexham Railway from where it crosses Woodford Street. The siding is on the eastern side of the line and remaining evidence consists of a brick platform edge wall approximately 10m long and 0.75m high. See *Photograph 5.21*.



Photograph 5.21 Railway Siding viewed from south (ERM 2007)



Photograph 5.22 View of collapse tank stand piers (ERM 2007)

Directly opposite the platform are the remains of a water tank stand which consists of two brick piers with semi circular tops to cradle a cylindrical iron tank. These piers have collapsed from their original location, see *Photograph 5.22*. The site also contains archaeological evidence in the form of landscaping, relating to the construction of the banks on the western side, subsurface pipes (related to a water delivery system), footings (from the water stand and possibly a further small building/room, which may have been used for storage, and the dam (to the west of the site) which presumably was used as the source of the water for the tank. The archaeological deposits appear to be in a good condition (with stable earth banks and intact bricks at the surface), with no evidence for disturbance, thus also maintaining good integrity.

The archaeological potential of this site to yield further information relating to the water delivery system and its associated buildings can be described as high.

5.6.9 *John Brown's Model Farm and Dairy Cool Rooms*

John Browns Model Farm is located to the east of Woodford Street within the 'Tank Paddock'. Historic *Photographs 5.23* and *5.24* show the farm house constructed in red brick in an Edwardian style with an asymmetric gable flanked by wide verandahs under a continuous corrugated galvanised iron roof. Conspicuous brick chimneys rise above the roof; these have corniced tops and banded shafts.



Photograph 5.23 John Brown's model Farm which has since been demolished (from personal collection of Kerry Hinds)



Photograph 5.24 Out buildings associated with John Brown's Model Farm (from personal collection of Kerry Hinds)

The above ground evidence of John Brown's Model farm no longer exists. However, the Dairy Cool Rooms which are set into the ground and a number of brick and cement foundations apparently survive. ERM was unable to inspect this site due to equine flu access restrictions. Consultation with local residents suggests that the 'Water Board' undertook partial demolition of the brick cool rooms during the 1980s because of potential OH&S issues. It is understood that the site was partially filled with demolition material and soil. The condition of any structural archaeological remains is likely to be fair, but the integrity of the site is likely to be poor.

5.6.10 Duckenfield No2 Air Furnace Shaft

Before mechanical fans were introduced, generally from the 1880s onwards, coal mines used air shafts with furnaces at their foot to produce updraught by convection.

The Air Furnace Shaft which served Duckenfield No2 Mine is located approximately 0.5 kms south of Minmi Road along the alignment of the Duckenfield No2 Railway. The Air Furnace shaft which is constructed in brick has a 4m diameter and the shaft rises approximately 10m. The top section tapers slightly inwards. The shaft has six metal bands that consist of a series of interconnected links 100mm wide.



Photograph 5.25 Air Furnace Shaft Duckenfield No 2 (ERM 2007)

**5.7 ANALYSIS OF HISTORICAL HERITAGE ITEMS/PLACES NOT CURRENTLY LISTED,
WITHIN THE STUDY AREA**

This section provide an overview of all other heritage items identified during the field survey that have not previously recorded as heritage items on statutory lists.

5.7.1 Cottages

ERM's field survey of Minmi revealed that a number of cottages and other buildings survive in the town that are likely to date from the later half of the 19th century. Evidence of these is mainly in their stepped hipped and small gabled roof forms as most places have undergone many changes. Only two places were found that have not been excessively altered and these were at 91 and 155 Woodford Street (*Photograph 5.26* and *Photograph 5.27* respectively).



Photograph 5.26 91 Woodford Street



Photograph 5.27 155 Woodford Street



Photograph 5.28 46 Woodford Street



Photograph 5.29 43 Woodford Street



Photograph 5.30 83 Woodford Street



Photograph 5.31 89 Woodford Street



Photograph 5.32 153 Woodford Street



Photograph 5.33 Railway Street



Photograph 5.34 11 Telford Street



Photograph 5.35 5 Telford Street



Photograph 5.36 20 Minmi Street

5.7.2

Church and Manse 38 Church Street and 1 Neal Close

The former St Johns Church is located on the western side of Church Street with the former Police Station Courthouse to its south.

It is constructed in brick with a steep pitched roof clad in corrugated galvanised steel and has lancet windows between stepped buttresses. It has been adapted for use as a residence and comparison of historic *Photograph 5.37* with the building today *Photograph 5.38* demonstrates that its external form has been little altered.



Photograph 5.37 View from the north east (from personal collection of Kerry Hinds).



Photograph 5.38 View from north east (ERM 2007)

To the north of the former St Johns Church is the former Church Manse. As can be seen in *Photograph 5.39*, it is difficult to determine the exact configuration of this building due to its extensive cover in creeper and the density of surrounding vegetation. However, ERM was able to determine that the building has a tee shaped floor plan and steep roof forms similar to the church although on a smaller scale. The former Manse is constructed in brick also similar to the church.



Photograph 5.39: Former Church Manse from north east.

Both buildings appeared to be in good condition and well maintained.

5.7.3 *Dam site*

A small brick dam was observed near a capped Duckenfield pit entrance, to the east of Woodford Road, north of the Newcastle Link Road (location shown on *Figure 5.1*). The dam is of double brick (machine cut) construction, with brick buttresses on the down-slope side, with a curved wave shaped face (*Photograph 5.40*). It has been positioned at the top of a small gully that acts as the water shed most probably for the origins of Back Creek.



Photograph 5.40 Wall of the brick dam

The site survey inspected items listed on the Newcastle LEP heritage schedule (refer to *Table 5.2*) and identified a number of historic archaeological sites not currently included on the Newcastle LEP. These archaeological sites all date from the 19th century. These archaeological sites, including those on the LEP (see *Section 4.3.3*), occupy two distinct areas, described as Archaeological Zone 1 and Archaeological Zone 2 – the location of AZ1 and AZ2 and archaeological sites within these two zones is displayed in *Figure 5.2*.

Minmi Archaeological Zone 1 (AZ1)

AZ 1 is located on the eastern side of Minmi and includes all archaeological sites east of Woodford Street. Four archaeological sites/features are included in this zone:

- Chinamen's Gardens (landscape and possible remains);
- Former Miner's Residences (former house sites);
- Minmi Reservoir Site (listed on the LEP and thus described in *Section 5.5.5*); and
- J. Brown Garden House Site (listed on the LEP and thus described in *Section 5.5.6*).

Minmi Archaeological Zone 2 (AZ2)

AZ 2 is located on the western side of Minmi and includes all archaeological sites west of Woodford Street. Five archaeological features are included in this zone:

- Coke Oven Site (detailed descriptions and investigation are presented Annex D, an overview is provided in this chapter);
- Workshop Area and Eales Shaft (possible remains);
- Former Miner's Residences (former house sites);
- First School Site (the exact location remains unknown); and
- Remains of railway embankments (listed on the LEP and thus described in *Sections 5.5.3 and 5.5.4*).

A description and synopsis of the potential relics and archaeological potential of each zone is provided below.

5.7.5 Minmi Archaeological Zone 1 (AZ1)

Chinamen's Gardens

The presence of the 'Chinamen's Gardens' is marked on the mud map in the volume "Minmi - Place of the Giant Lily" (NHDHS 1991:13). The location of the site is to the northeast of Minmi, located on the flood plain between Back Creek and the railway embankment, see *Figure 5.8*. The historical aerial (1944) appears to show an outline of 'rectangles', set between creek and railway embankment. These could be the remains of garden beds and paths relating to the market gardens. These features do not appear on all later aerial photographs, possibly because soil conditions were not dry enough to reveal the outlines of the features seen in 1944, or because the area had been buried beneath alluvial material from flooding of Back Creek. However the 2008 aerial appears to show the same network of rectangles, see *Figure 5.9*.



Figure 5-8 *Extract from 1944 aerial photograph of Minmi, showing possible market gardens.*

It is suggested that the 'Chinese Gardens' were market gardens, established on the edge of Minmi, where mainly unnamed and unknown numbers of Chinese planted vegetable gardens. Little is known about the market gardens, such as the date of commencement, or the layout of the gardens, but it is reported that by the 1930s most Chinese had 'moved away'. "One of the last Chinese was Duck Wan who took his vegetables to the Newcastle markets by horse and cart. Old timers remember him selling his produce around the town from baskets, hanging from a pole on his shoulders" (1991: 71).



Figure 5-9 *Extract from 2008 aerial photograph of Minmi, showing possible market gardens.*

If archaeological evidence were uncovered relating to market gardening it could present itself through four main forms:

- buildings and infrastructure (structural evidence for buildings, including residual archaeological remains of posts/piers);
- artefact scatters and dumping events (background scatters of glass and ceramic often seen as a 'sheet midden' created from 'fertilisation' of the land with manure from cess-pits; subfloor occupation deposits [primarily associated with housing structures]; and rubbish dumps);
- landscape evidence (garden beds, pipe lines, construction, drainage ditches, duckboards and footpaths); and
- movable heritage (household furniture and fittings, farm tools and machinery, consumables and building materials).

A view across the landscape in 2007 (*Photograph 5.41*) shows that this area is now covered in a low grass, with a few younger trees. No evidence can be seen for deliberate landscaping or modification of the water course. The grass cover prevented an inspection of the zone for cultural relics (such as ceramic and glass), although a well is located within the zone amongst the trees.

The area was presumably selected because of its fertile nature and possible separation from the remainder of the town (NB it is noted that across Australia in rural settings Chinese communities often settled outside of their 'European' counterparts [authors personal observations]). This location was near to the Brown's Model Farm, which also included vegetable gardens.



Photograph 5.41 Montage of the northern section of AZ1 (where the Chinese market gardens were possibly located).

Investigations into other NSW Chinese markets gardens reveal that relatively few have been listed at the local or State level. Four gardens are cited under the NSW State heritage register (Arncliffe Market Gardens, Kyeemagh Market Gardens, Toomevara Lane Chinese Market Gardens and Chinese Market Gardens La Perouse). Overall the significance of these four sites is derived from the long term historical use of the place as a market garden, the connection to an 'ethnic' population, the importance of the market garden for food production and supply on the local level, the modification and appearance of the landscape of the gardens themselves and the mode of horticulture applied and the technologies used and still present.

The historical notes for Toomevara Lane Chinese Market Gardens state "Market gardens such as this [Toomevara] played an important role in food production for the local and regional community, particularly during the Great Depression and Post and Inter-War periods. For much of the Great Depression, Chinese market gardens were the only source of vegetables for urban dwelling Australians." (SHR listing viewed online January 2008). The CMP for the Rockdale sites (including Toomevara Lane) state that the "primary importance is their continuous use for market gardening since at least the 1850s.

This has resulted in the creation of a landscape that bears evidence of continuous work and the marking of the changes that have taken place in the market gardening industry in that time" (Architectural Heritage Service 2002: Exec Summary).

The Minmi Chinese market gardens have a reasonably long period of use, possibly from the end of the 19th into the early decades of the 20th century (possibly 40 years). The market gardens were probably important in supplying Minmi with fresh produce, with sufficient surplus production to sell goods in Newcastle (c.f. Williams 1999:41-44, re: importance of Chinese agriculture to NSW from 1890s-1930s). However, the mode, form and exact location of the gardens are difficult to determine because of site conditions and possibly alluvial fill covering the general area. It is possible that the area retains archaeological deposits (as listed above), which would yield new information on food production and horticulture at Minmi, however the condition and integrity of any archaeological deposits is not possible to determine at the current time. This could possibly be resolved through non-intrusive methods such as a geophysical survey (GPR [ground penetrating radar] or resistivity survey), which could provide evidence for the location of garden beds and paths.

Former Miner's Residences;

Areas adjacent to Back Creek (to the east and west) sloping above the floodplain appear to have been terraced and used for housing across the historical mining period (see *Figure 5.7*). Historical photographs suggest that the houses in these zones mirror others at Minmi, with a basic weather board construction (see *Section 5.7.1*). No above ground physical remains are present, but the landscaping and terracing which occurred is very evident (see *Photograph 5.42*). Potential archaeological evidence relating to these former houses could include:

- buildings and infrastructure (structural evidence for buildings, including residual archaeological remains of posts/piers, foundation trenches, foundations and cess pits);
- subfloor occupation deposits (relating to the occupation of the houses);
- landscape evidence (terracing, formation of gardens and paths around the houses); and
- movable heritage (household furniture, fittings, personal affects and possibly items relating to mining).

The terraces where these houses were located can be correlated with historical photographs of Minmi (*Figure 5.7*) to provide an indication of the house type and possible layout on a lot by lot basis. It is likely that the condition and integrity of archaeological remains relating to house sites in AZ1 is good.



Photograph 5.42 *Montage of the southern section of AZ1, with Minmi Road. House sites were located across the slope.*

Minmi Reservoir Site

This archaeological site is listed on the Newcastle LEP. It has described in Section 5.5.5 above.

J. Brown Garden House Site

This archaeological site is listed on the Newcastle LEP. It has described in Section 5.5.6 above.

5.7.6 *Minmi Archaeological Zone 2 (AZ2)*

Coke Oven Site

A complete overview of the history and archaeological potential/significance of the Minmi Coke Oven site is presented in *Annex E*. This assessment has indicated that any remains relating to the coke ovens are possibly in a moderate condition, however, because of demolition and nearby open cut mining the integrity of the site could be moderate to low. The potential for archaeological deposits associated with this site could be confirmed through geophysical survey (GPR and magnetic survey).

Workshop Area and Eales Shaft;

The historical review of Minmi (*Section 4.2.2*) provides evidence for the location of the workshop and Eales shaft (see *Figures 4.2, 4.3, 5.5 and 5.7*). Eales shaft was started c.1853. The creation of the workshops and sheds etc soon followed, where the layout can be seen in 1905 photograph of the area (*Figure 4.3*). The workshop area included the workshop engineering sheds, steam chimney, Eales shaft, the ticket office, a good shed and two nearby buildings – Northumberland Hotel and Reels Hall.

Today, very scant evidence remains for this industrial zone, as all buildings, infrastructure, railway lines etc. have been removed, sold, scavenged or buried beneath vegetation. Landscape evidence is present in the form of a few flat ‘platforms’ and pads possibly indicating the location of these buildings and workings (see *Photograph 5.43*).



Photograph 5.43 Location of the workshop area (across middle ground below red roof house)

The archaeological evidence that may remain could include:

- landscape elements (including the mine shaft, terraced pads and banks and drainage channels);
- buildings and infrastructure (structural evidence for the workshop, sheds and other buildings/features, including residual archaeological remains of footings and foundations); and

- movable industrial deposits (from the workings and use of the industrial buildings, which could include machine parts and tools).

Given the historical removal of the buildings from this zone and the extent of open cut mining (during the 1950s) the archaeological condition and integrity of the workshop area is likely to be moderate to low.

Former Miner's Residences;

On the eastern side of Minmi were located a series of larger residences (around seven separate houses, with associated out buildings, can be seen see on *Figure 5.5*). These houses appear to have surrounding garden fences and small out buildings. Possibly occupied by more senior workers from the mine, they may be contrasted (in terms of size, layout and construction) against the workers cottages located in AZ1. The archaeological evidence is likely to be similar to that found in AZ1 (see descriptions above), but comparison of material culture deposits could provide an indication of social and wealth differences between those inhabiting the western and eastern sides of Minmi. The condition and integrity of archaeological deposits relating to these house sites is likely to be moderate to good, with increasing distance from the open cut mining activity.



Photograph 5.44 Landscape with evidence of former house sites

First School Site

Despite being a subject of local curiosity, the precise location of Minmi's first school is not known. Anecdotal evidence is present in NHDHS (1991:13), but this hand drawn plan only provides an approximate context for the location of the school. Local knowledge suggested that the school could be positioned near the house shown in *Photograph 5.45*, although this area was not surveyed because a private residence occupies the lot.

If archaeological deposits relating to the school site were uncovered, then potential evidence could include:

- landscape (modification of the slope for creation of the school and a school yard);
- buildings and infrastructure (possible remains of the school building and infrastructure including cess pits and drainage channels); and
- movable culture, where particular focus should be placed upon subfloor deposits (relating to education and children, such as writing slates and slate pencils, toys and beads etc.).

Given the absence of development and consequential impact to the slopes in the possible area of the first school, the archaeological site could have moderate to good condition and integrity.



Photograph 5.45 Possible location of the first Minmi school (behind middle ground trees)

Remains Of Railway Embankments (See Description Above).

The embankments from the Duckenfield Colliery No 1 and No 2 railway branch lines are listed on the Newcastle LEP. They are described in *Sections 5.5.3 and 5.5.4* respectively.

5.8 NSW HISTORIC THEMES

The local history of study area highlights that a number of NSW historical themes are clearly illustrated by both the tangible and intangible values of Minmi and its surrounds. Identification of these themes assists with the following:

- understanding the role and importance of the place in NSW and Australian history;
- developing a statement of heritage significance of the site;
- prioritising management activities in relation to the site; and
- developing an interpretation strategy for the site.

The NSW Historical Themes Guideline and the Australian Historical Themes framework have been used to identify the historical themes for the study area. The NSW historical themes for the study area, as they align with the Australian Historical Themes, are provided *Table 5.4* below.

Table 5.4 *Historic Themes for Minmi*

Australian Theme	NSW Theme	Discussion
Theme 2 Peopling Australia	Aboriginal cultures and interactions with other cultures	The Minmi/Link Road area contains Aboriginal sites that can be directly linked to the habitation and subsistence patterns of local Aboriginal groups during the mid-late Holocene. The study area contains a network of Aboriginal tracks/routes, which were used to move between the swamp areas, other habitation zones and possible ceremonial places.
	Migration	Many migrants were employed as miners within the mines in and around Minmi (particularly from the UK). Chinese migrants undertook market gardening activity at Minmi.
	Ethnic influences	The culture and influence is embodied through the creation of Chinese market gardens and migration of mine workers, from the UK and across Europe.
Theme 3 Developing local, regional and national economies	Agriculture	The establishment of Chinese market gardens possibly played a vital role in providing fresh produce for the relatively isolated town of Minmi. During the 20 th century it is reported that the market gardens also supplied Newcastle.
	Commerce	Minmi was established as a Company Town through the commercial opportunities established by coal mining and coke production. The town grew to include a variety of shops, hotels and other local businesses, which provided sufficient economic prosperity to attract workers to Minmi. The failure of commerce (with reference to the

Australian Theme	NSW Theme	Discussion
Theme 4. Building settlements, towns and cites	Environment – cultural landscape	<p>mining industry) shaped the decline of Minmi during the early to mid 20th century.</p> <p>Minmi/Link Road’s cultural landscape is apparent on two levels – the Aboriginal landscape and the industrial landscape.</p> <p>The Aboriginal landscape can be seen through the procurement of economic resources from the Hexham swamp and the walking routes traversing the hills in the south.</p> <p>The industrial landscape saw substantial modification to the original landscape form, through the commencement of mining and the development of mining infrastructure (pits and shafts, railway lines and the town of Minmi). These are embodied in the changes that have occurred to the landscape as a result of the mining and development for housing. Minmi town demonstrates landscape modification through selection of the sites for the village (abutting surface exposures of coal and located in a relatively flat basin which is in juxtaposition to the surrounding hilly landscape), habitation (i.e. houses, churches, schools, the cemetery etc), industry (including the railways, workshops, mine infrastructure, coke ovens and pit heads), commerce (mining, public houses, the post office, shops) and small scale agriculture.</p>
	Industry	Industrial practice at Minmi can be directly related to coal mining and coke production. The fortunes of the coal industry can be directly linked to the growth and decline of Minmi. The creation of these two industries spurred the associated buildings, mine workings and railway lines.
	Mining	Although initially established as an agricultural area the discovery of coal and the long history of its extraction were responsible for the booms and the busts of Minmi. Mining was responsible for the establishment of housing, education, transport, law and order and other essential services to the area.
	Technology	The mining, railway and the coke production infrastructure are typical examples from the mid 19 th century. They demonstrate the principals of these industries and were either modified or abandoned once they became outdated.
	Transport	The establishment of the mining industry within Minmi resulted in the introduction of railway networks to the area which was initially used for industry. Later the railway routes were used for transportation of people, mail and goods to Minmi. Evidence of this theme is embodied in the remaining embankments and associated infrastructure (bridges and platform).
	Towns, suburbs and villages	<p>The town of Minmi was established to provide housing for the Miners working for J & A Brown. As a Company Town Minmi did not fall within the boundaries of a Council and improvements to the area were reliant on the generosity of the Browns or the fundraising efforts of the towns folk.</p> <p>Evidence of this theme is embodied in the cultural landscape, road network, remaining hotel building, old school site, the courthouse and all archaeological deposits relating to historical occupation. The social history of Minmi and the Brown family is strongly engrained in local culture.</p>
	Land tenure	The area that became Minmi was originally owned by Eales. He sold the land to the Brown’s who established the town of Minmi. Occupation of the town resulted in creation of zones for habitation and use of areas for industrial purposes including industry, mining and agriculture. Eventually some residents were able to purchase their own houses and land, resulting in private ownership.

Australian Theme	NSW Theme	Discussion
Theme 5. Working	Accommodation	The Brown's company owned all housing at Minmi which they rented at a shilling a week to encourage miners and their families into the area. Minmi's cultural landscape (with terracing for houses), early working cottages (remaining standing) and archaeological sites provide direct evidence for this theme. The 'heritage' personification of Minmi is embodied through the type of housing originally created, which has been mimicked in terms of scale and extent by modern development.
	Labour	Most of the men in Minmi would have worked in the mine and historic evidence indicates that they would have worked a 6 and a half day week. Other work requiring labour included agriculture, the coke industry, engine sheds and the workshops. These values supported by anecdotal evidence, historical photographs and the remains of some heritage sites,
Theme 6. Educating	Education	This theme is embodied in the evidence of the current and former schools sites as well as the historical evidence gathered by the school. Minmi has always retained a local school, which continues successfully today.
Theme 7. Governing	Law and Order	The number of workers at Minmi required an active police force. This is embodied in the surviving court house and historical evidence such as photographs.
Theme 8. Developing Australia's cultural life	Domestic life	This theme is embodied through the houses that were spread across Minmi, the need for a school and other community facilities not related to mining and industry. Minmi's archaeological resources have the potential to yield cultural material and information relating to the lives of the families who lived within Minmi. This can be supplemented through historical records and photographs.
	Religion	This is embodied in the evidence of the former Anglican and Presbyterian churches in Minmi. Further anecdotal evidence remains regarding additional churches including Methodist and Catholic churches.
Theme 9. Marking the phases of life	Birth and death	The cemetery at Minmi started as a private cemetery. This is unusual because it serviced an entire town rather than a family. This is embodied in the cemetery and the graves that remain.

5.9

ABORIGINAL HERITAGE SITES LOCATED WITHIN THE STUDY AREA

The study area survey inspected all zones that contained the potential to yield Aboriginal heritage sites and Aboriginal objects. This potential was determined by the extent of historical impacts, particularly open cut mining directly around the town of Minmi. Survey was only undertaken in zones with Aboriginal archaeological potential.

A total of six new Aboriginal heritage sites were identified during the survey. None of the previously recorded Aboriginal sites (*Figure 3.1*) on the periphery of the study area could be relocated. This included the zone (north-east) with AHIMS registered grinding grooves. Unfortunately these sites appear to have been impacted or covered through recent development and modification to the creek. Previously recorded stone artefact sites are more than likely to have been impacted by water erosion, which would have moved any surface material from its originally recorded location.

The six recorded Aboriginal sites were labelled MLR (Minmi/Link Road) 1 to 6. *Figure 5.3* displays the locations of these sites.

5.9.1 *Description and condition of Aboriginal sites and the archaeological potential of the study area*

Survey transects covered the majority of landforms and zones within the Link Road study area (see *Figure 5.1*). Observations made of soil conditions, landforms and Aboriginal site placement have permitted the extrapolation of results to culminate in Aboriginal archaeological zoning (defined as high, moderate, low or no archaeological potential – see *Table 5.1*) for the study area. The Aboriginal archaeological potential zoning is presented in *Figure 5.3*.

Archaeological Potential of the study area

In general it was found that the study area could be divided into three basic landforms – simple (albeit steep) slopes, flats and ridge lines. These landforms have defined how the study area had been used by Aboriginal people in the past.

The ridge lines, shown in *Figure 5.1* and *Figure 5.3*, formed connective walkways between the lower and upper flats and other resource zones (such as Hexham Swamp and the small creeks). As expected (following the predictive modelling, *Section 3.2.5*), it is upon these ridgelines that the majority of Aboriginal site were discovered. Soil conditions on the ridgelines were generally good, with some residual (A horizon) soil (maximum of 0.2 m where observable), abutting shallow weathered clay (B horizon) and sandstone bedrock. Soil erosion on and adjacent to the ridgelines was evident but generally limited by thick vegetation on the immediate slopes falling away from the ridgelines. Thus some major ridgelines have a high level of archaeological potential to yield further Aboriginal objects/sites.

The slopes connecting the ridgelines were uniformly steep. These again appear to have a substantial vegetation and soil covering, except where they have been used as access routes. In such locations, the slopes were heavily eroded and degraded by wash run-off, culminating in an absence of any (A horizon) soil and deep scars through the yellow (B horizon) clays (maximum 0.4 m, average 0.2 m) to the underlying fragmented bedrock. It is suggested that given the steep nature of the slopes, they are unlikely to contain buried Aboriginal sites and thus have a low archaeological potential.

All slopes inevitably lead to ephemeral small creeks, which were generally water worn to the underlying bedrock. Water erosion has carried soil (alluvium) down the slopes, so that some creeks contain deep soil deposits on either bank. Such areas have a moderate potential to contain buried Aboriginal sites beneath slowly accumulated soils.

A number of flats are found between the ridges and slopes, which were covered by low grasses and small trees. These zones have been subject to limited erosion by tracks, water run-off and mining activities. Soils in these areas appeared to comprise of A1, A2 and B horizons, with depths between 0.1 m and 0.5 m (where visible). Flats that had not been subject to erosion or historical impact have a moderate archaeological potential for further Aboriginal sites.

MLR 1

MLR 1 was an axe grinding groove on an area of very flat, smooth sandstone on the bank of a stream within the first area surveyed to the north of Link Road (*Photograph 5.46*). This outcrop of sandstone was the only one visible within the creek margin and appeared to have grooves with various directional strokes. Axe grinding grooves are most commonly found on rock slabs or outcrops of rock, usually homogenous and fairly fine grained sandstone and are generally determined by the presence of suitable rock as well as water (*Hagland 1986:33*).

The zone surrounding MLR 1 has been assessed as having moderate archaeological potential due to the overburden of soil that was present on either side of the stream, and the relatively intact integrity of the stream area.



Photograph 5.46 Detail of MLR 1

MLR 2

MLR 2 was in the area to the north of Link Road and located at the top of a flat cleared section of a ridge. The site was an artefact scatter consisting of 10 chert pieces and 2 cores (*Photograph 5.47*). The cores retained parts of the cortex on the dorsal side and the area showed substantial evidence of stone working, with 6 fragments of heat affected debitage recorded in the vicinity (within 50m). The scatter of artefacts appeared to extend along the ridge to the south west, within an area of 50m.

The ridge where this site was located was quite wide (3-4m) with high ground visibility across the whole area. This location is characterised by the confluence of several transmission line easements and had been greatly changed through the passing of vehicles and the import of gravel surface for a vehicle track. This immediate area of MLR 2 is not likely to contain further Aboriginal material, although the surrounding and un-eroded portions of the ridgeline have a high archaeological potential.



Photograph 5.47 Detail of scatter artefacts MLR 2

MLR 3

MLR 3 consisted of 3 pieces of burnt/heat affected debitage approximately 60m to the west of MLR 4 on the same ridge line (this survey transect [#7] also connected to MLR 2). The track (2 m wide) on the ridge had been extensively cleared as part of the transmission line easement and covered with imported gravel. Although there was high visibility throughout the area no original soil landscape was discernable and no bedrock was observed.

The site MLR 3 has been assessed as having a low archaeological potential given the clearance of this area for the transmission line and the import of gravel for the vehicle track. However, the landform (a wide upper flat on the top of the ridgeline) can be described as having a high archaeological potential because immediately either side of the track clearance of original soil profiles is limited.



Photograph 5.48 Detail showing artefacts from MLR 3

MLR 4

MLR 4 site consisted of an isolated find – a large silcrete flake showing indications of retouching along one side. The flake was found on a grassy track in the transmission line easement on an upper flat adjacent to the ridgeline, slightly down slope from MLR 2 and 3.

MLR 4 has been placed within a zone of high archaeological potential because of the association with the ridgeline and the upper flat. It should be noted that zoning in the area of MLR 4 is dependant upon the depth of topsoil and the general absence of impact to buried soil horizons by the transmission line.



Photograph 5.49 MLR 4 Isolated Find

MLR 5

MLR 5 consisted of an artefact scatter of four pieces of chert. These were found in the transmission line easement approximately 55 m to the west of MLR 4. The site has been exposed because of erosion impacts associated with the transmission line, but is located within an area of high archaeological potential through its association with the upper flat and ridgeline.



Photograph 5.50 Detail of artefacts from MLR 5

MLR 6

MLR 6 site consisted of an isolated find of grey chert debitage. The chert was of extremely good quality and was found along the flat bush/walking track at the top of a ridge. The site has been exposed because of erosion impacts associated with the transmission line, but is located within an area of high archaeological potential through its association with the upper flat and ridgeline.



Photograph 5.51 Detail of MLR 6 - isolated find

Synopsis of Aboriginal sites and archaeological potential

The survey revealed a series of small Aboriginal lithic sites along and adjacent to a major ridgeline (identified as an Aboriginal walking track). These sites had been primarily exposed because of the construction of transmission lines. In some cases this construction necessitated the importation of foreign stone material and erosion, the combination of which has significantly impacted the condition and integrity of these Aboriginal sites (resulting in a determination of low archaeological potential). However, the impact zones on the ridgelines are not wide and therefore relevant ridgelines within the study area have been designated as having a general level of high archaeological potential to yield further Aboriginal objects/sites where sites will maintain both good condition and integrity.

The CNA charette process provided the opportunity for the local community (both Aboriginal and historical, residents and non-residents) to further work with ERM to develop their and our understanding of the 'social' heritage values associated with Minmi. The discussion ranged across the pre-history, history, built heritage and archaeological, to the values associated with an appreciation of living in the place – both from an Aboriginal and modern point of view. The outcomes of these discussions were a series of succinct statements provided by the different community stakeholder groups. These are presented in the charette output document (CNA 2007b) and repeated here because they provide clarity on the social values of Minmi. These values have been used during the assessment of the place against the NSW heritage criteria, and taken into consideration during the concept plan design and assessment of heritage impact.

Statement From The Minmi Progress Association

"Minmi, what this village means in this busy world.

There are few places that are truly unique, as we see the development of adjacent land that have been completed and the commencement of further development has given us the opportunity to rectify the mistakes made by other developers e.g. total elimination of vegetation, impractical narrow roads and small residential blocks.

Not being adverse to change we accept that the extension to our village is inevitable but would hope that this development can be both environmentally and family friendly. In this stressful world we can honestly say when driving into our village from all directions and are greeted by the rural surrounds, many trees and amazing neighbourhood, we feel we are truly blessed and are grateful that our children will live to appreciate our lifestyle.

We hope that this process can be mirrored in future developments with the wider streets, and recognising the need for larger building blocks. We would like to take this opportunity to thank Coal & Allied for the opportunity of allowing the community representatives to be involved in this very emotive process and congratulate the staff on professionalism and compassion.

Statement of European Heritage Significance

Minmi Village, its layout, landscape and industrial, social, built and archaeological heritage are significant in the context of NSW's history as they encapsulate the values and vision of establishing and operating a remote industrial community in the Lower Hunter.

The study area is significant for its retention of a range of material evidence relating to mining, industry and development of a community within a company town. This significance is demonstrated through the placement of mining infrastructure, workers cottages, community facilities and finally owner's residences.

This pattern of historical development remains apparent today and deserves to be conserved through appropriate consideration with sensible planning and integration in ongoing regional development" (CNA 2007b:5).

Statements from the Aboriginal Community

The Aboriginal community was represented by both the Local Aboriginal Land Council and Traditional Owners. These groups provided two statements that were authorised by these groups and printed in the charette outputs document (CNA 2007b). The manifestation of significant discussions with the Aboriginal stakeholders also led to the development of traditional Aboriginal 'walking routes' within the study area. Whilst these are not tangible sites they can be readily appreciated by anyone who moves through Minmi and the bushland within the Link Road portion of the study area. These routes were recorded by the author and the design team and are presented in *Figure 5.4*. These routes have been interpreted through the creation of the urban form and character for the study area.

"The principles of our cultural traditions still exist today to keep intact the moral and spiritual fibre of this land, enabling the best direction for all who live within it. Our culture and spiritual traditions have a story to tell ... ". 'Welcome to Country' excerpts from Coal & Allied regional forum Charette, 27 August, 2007 by Nola Hawken, Awabakal, Traditional Owner.

"The Awabakal Traditional Owners have come to participate in the Northern Estates Charette in good faith and intend to assist Coal & Allied with matters pertaining to our cultural Inheritance to the best of our knowledge and ability.

The principal vision and aims of the Awabakal people is to protect the cultural heritage of our ancestors. Therefore the residual evidence of our people is held in high degree and is regarded as a cultural reminder that unites us with our ancestral country and spirituality. The Black Hill and Minmi areas fall within the confines of the traditional Awabakal boundary and are therefore regarded as culturally significant to the Awabakal descendants.

The Awabakal Traditional Owners see this land as being the cultural bed for our lives, and believe that it is important to protect the heritage of our Ancestors giving support to our unique cultural heritage.

Historically, our ancestral family has been disenfranchised from our cultural environment and this has continued for over two centuries. Therefore, it is imperative for Coal & Allied to enable accessibility to educate our children and share in the stories of our experience, ensuring the 'survival' of our sacred culture.

Our cultural environment is a holistic one that interconnects the spirituality of our land with our past, present and future. Over time our language, tradition and lifestyle have been interpreted by many people. This land is full of meaningful reminders that speak to the present day population through our stories, language, art and a landscape that contains numerous cultural heritage sites... In the context of land development it is disturbing knowing that once more our ancestral family's land is once again being changed forever ... Therefore we believe that it is essential to nurture new visions that are inspired by the cultural integrity of our ancestral family." (CNA 2007b:3).

"This area and its physical landmarks have been and are of a continuing and great significance to the local Indigenous people. For thousands of years Indigenous people have occupied and used the abundant natural resources to forge a strong cultural identity that like all Indigenous clans are totally unique to this area. But we know we can't keep living in the past and we must make our future our primary focus. Working together with the local Indigenous people, we believe that Coal & Allied can be a pathway to achieving a better future for all Australians regardless of race. It is important that Coal & Allied continue to show respect to the Indigenous people native to the area and help us develop and better our own communities. We have lost a lot as Traditional owners of this area, but knowing Coal & Allied, one of Australia's most successful companies is committed to working with us in a productive and respectful manner can make all the difference in getting Indigenous people to participate in a real and honest way. The land and its people have lost everything but we can regain our pride by becoming community builders and from those roots we are becoming nation builders. We are taking our proper position as people who need to be active in all developments and too see such a great and natural place destroyed gives us great grief, but as was said earlier, we cannot keep living in the past. That is not to say that tradition is lost. It means that along side Coal & Allied we can recover some aspects of our identity and rebuild. We need the capital to make these things happen and with Coal & Allied we know that our needs are central to those of all Australians. We all want a fair and balanced go. And in this proud nation that is one thing we know we can get." (CNA 2007b:3-4).

This chapter provides heritage significance assessments for Aboriginal and historical heritage items within the MLR study area. These assessments are of the heritage items identified in *Chapter 5*. This heritage significance assessment has been used to understand the potential impacts resulting from development across the study area (*Chapter 7* and *8*) and develop heritage mitigation measures for these impacts (*Chapter 9*).

The assessment of Aboriginal heritage values is followed by the historical heritage assessment.

6.1

SIGNIFICANCE ASSESSMENT FOR ABORIGINAL HERITAGE

Heritage sites, objects and places hold value for communities in many different ways. The nature of those heritage values is an important consideration when deciding how to manage a heritage site, object or place and balance competing land-use options. The many heritage values are summed up in an assessment of “Cultural Significance”.

The primary guide to management of heritage places is the Australia ICOMOS Burra Charter 1999. The Burra Charter defines cultural significance as:

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Places may have a range of values for different individuals or groups.

The current assessment has attempted to identify Aboriginal heritage objects, sites and places within the study area and obtain enough information to allow the values of those objects, sites and places to be determined.

Research and consultation with the Aboriginal community was also conducted to determine whether any heritage value relates specifically to the study area regardless of the archaeological evidence. While it is accepted that the Minmi/Link Road landscape is of significance to local Aboriginal people, including the ATOAC, ADTOAC and ALALC, this investigation sought to identify whether the study area held specific values either in itself, or as part of a local area of particular significance.

As discussed in *Chapter 5*, the study area was determined to contain Aboriginal walking tracks, which linked resource and habitation zones to the north and south. Further Aboriginal heritage sites with archaeological evidence are of value to the Aboriginal community because they represent the tangible connection between the land today and traditional Aboriginal occupation and use.

Scientific value is assessed according to the research potential of a site. Rarity and representativeness are also related concepts taken into account. Research potential or demonstrated research importance is considered according to the contribution that a heritage site can make to the present understanding of human society and the human past. Those heritage sites, objects or places of high scientific significance are those which provide an uncommon opportunity to inform us about the specific Aboriginal modes of economy, demography or society.

The comparative rarity of a site is a consideration in assessing scientific significance. A certain site type may be 'one of a kind' in one region, but very common in another. Artefacts of a particular type may be common in one region, but outside the known distribution in another.

The integrity of a site is also a consideration in determining scientific significance (which has been determined through the archaeological potential of each site). While disturbance of a topsoil deposit with artefacts does not entirely diminish research value, it may limit the types of questions that may be addressed. A heavily cultivated paddock may be unsuited to addressing research questions of small-scale site structure, but it may still be suitable for answering more general questions of implement distribution in a region and raw material logistics.

6.1.1 *Aboriginal heritage research questions*

The capacity of a site to address research questions is predicated on a definition of what the key research issues are for a region. In the areas of Minmi/Link Road the main archaeological research questions centre on Aboriginal subsistence and movement through the local landscape, especially with relation to the known subsistence and ceremonial zones to the south, north and west (c.f. *Figure 3.2*).

The background literature review and consultation with Aboriginal stakeholders suggests that future scientific archaeological work could investigate seasonal use of the local 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.

Archaeological questions could be asked on a local and regional basis. Suitable archaeological research questions focusing on the local Aboriginal archaeology could be considered in order to facilitate further understanding of the study area. These may include:

- is there evidence for higher densities of archaeological sites along the ridge lines following the basic patterning observed to date?

- are these sites representative of transitional sites, i.e. temporary use, or are site present that indicate longer periods of habitation within the higher landforms away from Hexham swamp?
- do these sites have the same composition (materials, lithic types and densities) as those adjacent to resource or ceremonial areas?

Regional research questions include:

- how do sites on the ridgelines differ to that in adjacent hilly country or next to Hexham swamp?
- is this indicative or seasonal exploitation or longer term Holocene variability?
- is there evidence for long term Holocene variability, such as social opening or closure, within a regional archaeological pattern?
- how can this be contrasted again Aboriginal subsistence patterns from coastal zones?

6.2 *ABORIGINAL HERITAGE ASSESSMENT OF SIGNIFICANCE*

6.2.1 *Recorded Aboriginal Sites*

MLR 1 (grinding grooves) is considered a representative site. The zone surrounding the site has been assigned a moderate level of archaeological potential. Further research on MLR 1 has the potential to address basic scientific questions on the local level.

MLR 2 (open site) is considered a representative site. The area defined as MLR 2 has been assigned a level of low archaeological potential; however, the zone surrounding the site (the ridge line) has high archaeological potential. Further research on MLR 2 has the potential to address basic scientific questions on the local level.

MLR 3 (open site) is considered a representative site. The area defined as MLR 3 has been assigned a level of low archaeological potential, although as for MLR 2 the surrounding area has a high archaeological potential. Further research within zone has the potential to address basic scientific questions on the local level.

MLR 4 (isolated find), MLR 5 (open site) and MLR 6 (isolated find) are all considered representative sites. The zone surrounding these sites has been assigned a level of high archaeological potential. Further research within zone has the potential to address scientific questions on the local and possibly the regional level.

6.2.2 *Areas With Archaeological Potential*

High Archaeological Potential

All areas with a high archaeological potential are likely to contain representative Aboriginal sites (i.e. stone artefact scatters – in greater density than a background scatter). It is possible that larger stone artefact sites with good condition and integrity and intra site patterning (i.e. knapping floors) could be located within this zone. Any such sites could be able to answer scientific questions on the local and regional level.

Moderate Archaeological Potential

Zones with a moderate archaeological potential could contain representative Aboriginal sites, with some focus or specific activity evident on the intra-site basis. Any such sites could be able to answer scientific questions on the local and contribute to questions on the regional level.

Low Archaeological Potential

Areas with a low archaeological potential are unlikely to contain Aboriginal sites, other than a nominal background scatter. Any Aboriginal objects within these zones are unlikely to be able to contribute to local or regional research questions.

No Archaeological Potential

All other zones within the study area have no archaeological potential as these zones have been significantly impacted and modified by historical activities. These areas will not contribute to scientific understanding of local or regional Aboriginal research questions.

6.2.3 *Summary Of Aboriginal Heritage Significance Assessment*

A summary of the Aboriginal heritage significance assessment is presented in Table 6.1.

Table 6.1 *Summary of Aboriginal Heritage Significance*

Site	Rare/ Representative	Archaeological potential	Scientific significance
MLR 1	Representative	Moderate	Moderate
MLR 2	Representative	Low	Low
MLR 3	Representative	Low	Low
MLR 4	Representative	High	Moderate
MLR 5	Representative	High	Moderate
MLR 6	Representative	High	Moderate
Areas with low archaeological potential	Likely to be representative	Low	Low
Areas with moderate archaeological potential	Likely to be representative	Moderate	Moderate (local basis)
Areas with high archaeological potential	Likely to be representative	High	Moderate (possibly high) (local and regional basis)
Intangible Social Values			
Aboriginal waking routes		High	Moderate
<ol style="list-style-type: none"> 1. All Aboriginal sites have a high level of Aboriginal social significance 2. Rare/representative described in <i>Section 6.1</i>. 3. Archaeology potential defined in <i>Table 5.1</i>. 			

6.3

ASSESSMENT OF BUILT AND HISTORICAL HERITAGE SIGNIFICANCE

The Burra Charter (*The Australia ICOMOS Charter for Places of Cultural Significance*) has set a standard for assessing heritage significance based on the aesthetic, historic, scientific and social values embodied in an item or place. In New South Wales the *Heritage Act 1977* has established seven criteria for the identification and assessment of heritage values. The NSW Heritage Office, Department of Planning, has developed a guideline to assessing heritage significance against the seven criteria in their publication *Assessing Heritage Significance*. These criteria are:

- *Criterion (a) – an item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area);*
- *Criterion (b) – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local area);*
- *Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);*
- *Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;*

- *Criterion (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);*
- *Criterion (f) – an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);*
- *Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW's:*
 - *cultural or natural places; and/or*
 - *cultural or natural environments.*

6.4

ASSESSMENT OF SIGNIFICANCE AGAINST CRITERIA FOR MINMI TOWNSHIP

This assessment of historic heritage significance has been undertaken for the town of Minmi and its surrounds. It takes into consideration the listed heritage items (Newcastle LEP 2003), the archaeological potential, the early mining cottages, the layout, infrastructure of the town and the historical values that have been uncovered during the course of this study.

The role of the existing heritage items (within and adjacent to Minmi) have been recognised with reference to their contribution to the overall heritage values of the place. No further assessment of these items has been conducted. This is due to the fact that the heritage value of the locally listed items have been demonstrated by their inclusion on the LEP and validated by the current field survey.

The existing heritage sites that meet the assessment threshold for their inclusion, at the local level, include the Former Minmi Reservoir Residence (17 Reservoir Road), the Former Minmi Public School (196 Woodford Street), the Duckenfield Colliery No2 Railway Branch Line and Duckenfield Colliery No1 Railway Branch Line, the Minmi Reservoir Site (15 Reservoir Road) and the Garden House Site (177 Woodford Street).

Criterion (A) an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area)

A strong mining industry in the Lower Hunter region flourished during the mid-late 19th century. This helped establish and encourage the growth and development of the wider Newcastle area. The discovery of coal at Minmi and the industrial extraction of that natural resource played a significant part in the history of the NSW coal industry.

Evidence of the commencement, evolution and eventual cessation of coal mining practices within the company town of Minmi are embodied through the cultural landscape and setting of the town and surrounding bushlands, the numerous heritage buildings and associated archaeological resources as well as the oral history and traditions of the town, held by locals, and the collections of photographs, newspaper articles and archives relating to the place.

The cultural landscape contains evidence of deliberate human modification to the natural slopes, valleys and flats to create a landscape where a synthesis existed between the town and the initial (and final) mine sites. This landscape evolved, changed and developed as different coal seams were extracted through a process of subsurface and open cut mining. Remnants of the industrial process and the life of the miners, and their families, who inhabited the town are found in the landscape, the listed heritage items, the former miners houses, open cut mining activities, the rail embankments and numerous archaeological sites.

Individual aspects of Minmi that have not previously been recognised under this criterion include the former St Johns Church and Manse, which reflect the need for religion at Minmi. Newly assessed archaeological resources at Minmi include the Coke Ovens, the Chinamen's Gardens and the workshop area with Eales Shaft.

The Minmi Coke Ovens, probably the second coke ovens in Australia, are historically important because they represent the introduction of larger scale coal processing and coke production in NSW, utilising the bee-hive oven design. The production of coke from the Brown's mines represents domination of local industry and markets (as evinced by the inability of other producers to enter the market). The Chinamen's Gardens have significance because of their association with the need for local food production connected to the development of local industry and for their association with Chinese immigration and possibly the influence of ethnic communities on local industry. The workshop area and Eales shaft can be described as the initial fulcrum for early mining activity, a hub at the centre of Minmi. This zone contained the original coal mine shaft, the engine sheds and the end of the local railway line.

The described heritage items, places and landscape satisfy criterion a at the local level.

There are a number of cottages associated with the 19th century development of Minmi. Field survey has verified the previous assessment that these cottages have been modified to varying degrees and do not meet the threshold for this criterion.

Criterion (b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area)

Minmi is considered to have a strong and special association with John Eales, James Brown, Alexander Brown and John Brown.

Eales was a grazier and pioneer pastoralist, who tried to open up the area to the north of the Moreton Bay (Queensland) for grazing. He was part of an effort to establish new shipping lines between Sydney and Newcastle with the result that the Hunter River Steam Navigation Co was established. Eales was a keen supporter of bringing labour from China and India and promoted "coloured migration". His involvement in the Minmi mining area included the construction of the railway which connected the mines with the Hunter River at Hexham. At the time of his death in 1871 Eales was believed to be one of the wealthiest men in the colony.

James and Alexander Brown operated under the name J & A Brown and took over the colliery in 1859 after Eales withdrew. The colliery was handed on to James Brown's son John Brown. The Browns had a considerable influence on the NSW coal industry for over fifty years. Details of the Browns' historical connections are presented in *Chapter 4* and *Annex D*.

The association with John Eales and the Browns satisfies criterion B at a local level.

Criterion (c) an item is important in demonstrating aesthetic characteristics and/or A high degree of creative or technical achievement in NSW (or the local area)

Minmi/Link Road does not meet the threshold for this criterion.

Criterion (d) an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons

Minmi Township has a strong and special association with the residents of the township. Several local families have been in the area for multiple generations and descend from the miners who originally migrated to the area seeking employment in the mines. This intangible association is embodied through the stories, historical records and fabric of the place.

Minmi and Link Road have a special connection with the local Aboriginal community. This association relates to the walking tracks and routes that traversed between Hexham Swamp, Minmi and Mount Sugar Loaf. It is likely that prior to historical development of Minmi, the site of the town was used in connection with the economic exploitation of resources at Hexham Swamp.

Criterion c is met at a local level for both community groups.

Criterion (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)

The archaeological resources of Minmi have the potential to yield new archaeological information with regard to the industrial and domestic historical processes associated with Minmi.

Former house sites could yield artefacts belonging to the inhabitants of the houses, where analysis could provide new information about life in the rural and isolated town. Analysis of deposits from houses occupied by different social classes of people could provide evidence for differences (or similarities) between the blue and white collar workers. It is possible that Chinese, and/or European, cultural influences could be established from artefact deposits.

The Chinamen's gardens archaeological site has the potential to yield new archaeological information with regard to the layout and function of the gardens that is not available from other sources. Investigation of this archaeological resource could provide further data on the subsistence base of Minmi during the 19th century.

The Minmi Coke Ovens site has the potential to yield archaeological evidence for the introduction of coke production to Australia and the NSW coal fields. The site could provide evidence for the type of coking technology employed in the mid to late 19th century, with possible evolution over their operational life time. This information would add a different dimension to the archaeological resources currently heritage listed in and around Minmi.

The workshop and Eales Shaft area have the potential to yield new information relating to the operation, function, layout and evolution of this area.

The first school site has the potential to yield new information about early education in the company town. Discovery of the site could confirm the size and layout of the school buildings. Excavation of the site could yield artefacts from local school children and provide evidence of cultural and/or ethnic backgrounds.

The archaeological resources of Minmi meet criterion E at the local level.

Criterion (f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area)

The presence of 19th century coke ovens does not appear to be rare in itself; however, it is likely that Minmi's ovens are the second coke oven constructed in NSW and the first commercially successful coke oven. The mode of coke production employed at Minmi is now defunct and archaeological remains of the Minmi coke ovens could demonstrate a process which is historically obsolete.

The coke ovens meet criterion F at the local level.

Criterion (g) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; and/or cultural or natural environments.

Minmi was established and developed by the Brown's, the local miners and their families. The town's range of houses, remnant industrial landscape, churches, schools, cemetery and other constituent components, currently listed and unlisted, culminate to demonstrate the principal characteristics of a company mining town within rural NSW.

The single (previously unassessed) element within Minmi that demonstrate the principal characteristics are the Coke Ovens. The ovens could provide evidence for 19th century coke manufacture, featuring a technology that was superseded and became defunct in the late 19th century.

Minmi town and the Coke Ovens meet criterion G at the local level.

None of the assessed dwellings meet the threshold for this criterion. However, buildings 91 and 115 Woodford, which have not undergone extensive alterations, could be considered to represent the principal characteristics of working class dwellings, in a former coal mining community. However, this type of building is not considered to be rare and many examples of this type of building can be found within the wider Newcastle area.

6.5

HISTORICAL HERITAGE STATEMENT OF SIGNIFICANCE

Minmi, the company town, comprising its history, cultural landscape, built and archaeological fabric are considered to be significant at local level for their historical association with mining during the 19th century.

The place can be directly linked with John Eales, James, Alexander and John Brown who were the business men that commenced and established mining companies at Minmi. Their connections and business were significant with the local and regional mining community for around half a century.

The local mining community is historically significant because of their desire to create the town of Minmi and further its progress and development through their own endeavours and efforts. The people who inhabited the town represent a wide range of ethnic background, from Europe and China. Minmi is still significant to the local community as many families have direct connections to the mining industry of the place. The local Aboriginal community also has connections to the study area through their long term Holocene occupation of the region.

In addition to prior past heritage assessments, this study has found that a number of additional items have significance at the local level in relation to the history of Minmi and the ability of these items to yield new information.

St Johns Church and Manse reflect the growth of religion at Minmi. The various religious institutes reflect the diversity of ethnic groups who came to work at Minmi.

The Chinamen's Gardens represent the need for localised food production. The site has the potential to further knowledge relating to historical horticulture at Minmi. Studies into the supply of food to Minmi could be used to further determine the transportation of goods between Minmi and Newcastle.

The former house sites and industrial archaeological sites (such as the workshop and Eales Shaft) have the ability to yield new information in relation to the daily lives of the Minmi workers, the social position of these people, access to and use of material in a rural setting etc. The first school site could yield new information with regard to the school regime at Minmi, with the potential to yield artefacts from the younger members of the Minmi community.

The Minmi Coke Ovens are significant because of their history and association with the mining heritage of the town. They represent an integral component of Minmi's 19th century commercial success and the town's growth within the NSW coal fields. The ovens are testament to the expansive business acumen of the Brown brothers, who aimed to dominate and control local and overseas coal markets. The Mimi Coke Ovens appear to be the second set of ovens constructed in NSW and the first to be commercially successful. Their long history of use only appears to have ceased when the technology employed ceased to be profitable, which can also be associated with the initial downturn in the Brown family's fortunes.

The extent of remains for the coke ovens remains unproven, however, if archaeological relics were to be found at Minmi they would be significant as a central component of the mining history of the place. They have the potential to further industrial archaeological knowledge through investigation of the technology introduced to NSW in the 1860s.

7.1

EVOLUTION OF THE CONCEPT PLAN

The original concept plan for Minmi/Link Road was informed by and published through the Stage 1 environmental assessments in early 2007. These concept plans became part of the MoU between the NSW Department of Planning and RTCA.

The original concept plans defined the boundaries for proposed development within the Minmi/Link Road areas. The Stage 2 studies (this assessment and other environmental reports) were then used to further inform the planning and community charette process with the aim of developing planning and urban design/form within the boundaries of the concept plan.

The core objective of the charette was to inform, within the study area boundaries, the design of the existing Stage 1 structure plan with regards to opportunities and constraints. Extensive community consultation and input during the charette significantly furthered the understanding of heritage values (Aboriginal and historical, tangible and intangible) within the Minmi/Link Road study area.

The charette process thus allowed the significance of heritage items to be explored and greatly informed the design process, culminating in a final concept plan that accounts for the heritage of the study area within the proposed urban form.

An important question which needed to be addressed for Minmi was: *How will the buffer area around Minmi Village be defined?* This was explored by the design team, where a collaborative answer was decided upon by the charette team and community representatives:

“The determination of Minmi boundary

Minmi’s historical cultural significance is captured by a curtilage that encompasses the extent of the former industrial complex, which can be directly related to J & A Brown’s original mining endeavours which commenced in the 1850’s.

The curtilage includes items of industrial heritage, community heritage and social heritage, including the Courthouse, School, Public house, Post Office, numerous Miners Cottages, landscape archaeological elements such as the railway embankments, Brown’s Garden House, Workshops and Coke Ovens, Orange Grove Railway Station, Chinaman’s Garden and the Model Farm.

The holistic construction of these items within the flat landform bound to the West, South and East by vegetated ridgelines and to the North by Hexham swamp created a cultural landscape, rich in its diverse historical remains and social history.

This is how we have determined the boundary for the Village.” (CNA 2007b: Appendix F)

7.2

OVERVIEW OF THE CONCEPT PLAN

The concept plan for Minmi\Link Road is shown in *Figure 7.1*. When compared and contrasted against the location of heritage items (*Figures 5.2, 5.3, and 5.4*) it can be seen that the proposed development has been designed to avoid and incorporate areas of heritage sensitivity as much as possible:

- all locally listed heritage items will be retained without direct impact;
- most of the ‘new’ heritage items will be incorporated into neighbourhood green spaces;
- key areas assessed as having high Aboriginal potential will be retained without development;
- many of the archaeologically sensitive areas within Minmi will be incorporated into the urban design, without impact;
- substantial open green spaces are being conserved within Minmi;
- development does not contradict the principals of the Newcastle DCP. The concept plan retains the green ridgelines and primary views across open spaces within Minmi;
- new development will be low to medium density;
- the key vantage point across Minmi (to the east, north and west) is from the Brown’s Garden House. This area will be retained as green open public space;
- the open space in front of the Court House will be retained without development;
- the flat open areas in the north of Minmi (opening onto Hexham Swamp) are retained without development;
- representative samples of zones with high Aboriginal archaeological potential (and thus some Aboriginal sites) in the Link Road area will be conserved within Riparian corridors; and

- the urban design creates Aboriginal walking routes through walk ways, cycle routes and some roads. These are combined with Riparian corridors, thus combining ecological conservation with historical.

The design and location of the new development is subject to mining constraints and heritage considerations.

A flexible rural residential approach to the design of new development, particularly in the Minmi areas, is proposed in order to retain the existing landscape character (thus following the requirements of the DCP, refer to *Section 4.3.2*).

Figure 7-1 Minmi\Link Road Concept Plan

This analysis of potential heritage impacts has been prepared following the guidelines provided by the NSW Heritage Office and DECC in regard to heritage, which require the recognition and incorporation, or avoidance, of possible impacts on Aboriginal and historical heritage sites and areas in planning and designing new development.

8.1**ABORIGINAL HERITAGE**

The survey of the study area resulted in the discovery of six Aboriginal sites and assigned archaeological zoning (none, low, moderate and high) to the study area (see *Figure 5.3*).

Development will not impact MLR 1, but could impact the remainder of the sites. MLR1 is positioned within a Riparian zone and thus will be conserved during development. This Riparian corridor will also conserve an area zoned with high archaeological potential.

The concept plan for M/LR has located MLR2-6 and the largest zone with high archaeological potential (which was a significant Aboriginal walking route) is an area defined as 'heritage open space'. Heritage open space has been specifically positioned to conserve these sites and areas with potential and provide a new connection through any modern development along the ancient Aboriginal walking path. This has been designed to link by connection the old and new values of the subject lands and provide conservation for an area of Aboriginal significance within M/LR. Inclusion of this conservation area shows both respect and consideration for Aboriginal heritage values.

It should be noted that MLR2-6 are located along a ridgeline that is currently zoned as a 'paper road'. This road is unlikely to be constructed in the future because of the proposed road layout of the Concept Plan which provides for a North to South access route in the general vicinity of the paper road. However, if constructed this road would impact these Aboriginal sites and the zone with high archaeological potential.

Any impact to these sites would need to be mitigated, which is described in *Chapter 10*. However, it should be noted that the area adjacent to the route of the road (north and south) is zoned with high archaeological potential. The remainder of this high archaeological potential zone has been located within a conservation corridor that will conserve all further Aboriginal objects and sites associated with this ridge line.

All zones with moderate and low archaeological potential will be impacted (by soil and vegetation stripping) by the proposed development. Development impact within these zones will be required to follow the mitigation requirements set out in *Chapter 10*. Impacts to Aboriginal intangible values are discussed below.

8.2 *BUILT HERITAGE*

ERM's Phase 1 assessment (2007) identified that the proposed development had the potential to impact on the listed heritage items under the Newcastle LEP located within the study area, as highlighted in *Table 4.1*. This report also considered the view angles from the court house which are understood to add to its amenity as a business and conference centre and are therefore important to the economic viability of this heritage item. This heritage consideration had also been identified within the Newcastle DCP.

8.2.1 *Statement of Heritage Impact – Built Heritage*

An assessment of potential built heritage impacts has been undertaken in accordance with the NSW Heritage Office guideline "Statements Of Heritage Impact". The potential built heritage issues arising from the proposal relate to:

- protection of views to and from heritage dwellings;
- retention of all listed and potential built heritage items;
- buffer zones between any new development and listed heritage items;
- sympathetic use of materials and building form, of new development in the vicinity of heritage items; and
- provision of vegetative screening between new development and existing heritage places.

The Concept Plan has taken these issues into consideration and has sought to incorporate heritage items into the new urban design and minimise potential impacts. The new development will be comprised of appropriately scaled new buildings to ensure views and the overall setting of existing heritage items are not adversely affected. New development is set back from the central portion of Minmi village and retains a green buffer around the older portions of the town.

An assessment of the impacts to the cultural landscape is presented below.

Some archaeological sites could be impacted by the proposed development, although a representative proportion will be retained and no unique deposit will be impacted by the proposed development.

Further investigation into the archaeological resources within Minmi, triggered by proposed development, represents an opportunity to further expand the heritage knowledge of the place. This assessment has discovered a number of archaeological sites that had not previously been recorded or assessed for their heritage value. The investigations and consequential assessment have allowed further understanding of the historical values associated with Minmi.

Whilst some of the archaeological resources of Minmi will be impacted through the proposed development within the town, it is suggested that the overall consequence of the proposed residential development (from the initial investigation, to future archaeological excavations, interpretation and conservation of particular sites) is positive with regard to recognition, understanding and public appreciation of the local heritage places.

8.3.1

Statement of Heritage Impact – Historical Archaeology

The proposed development incorporates many of the landscape elements (such as the railway embankments) and archaeological sites (including a sample of former houses and all listed archaeological sites) within Minmi.

Portions of the development will impact (remove all subsurface deposits/relics) some of the former house sites, the former first school, a portion of the workshop complex and Eales Shaft and the Chinese Market Gardens. All of the sites to be impacted are either representative of a type (such as the former house sites), where a sample will be retained, or have been assessed to have a low to moderate archaeological potential.

In order to mitigate the loss of historical archaeological sites it is proposed to undertake archaeological excavation on a representative portion of sites and incorporate the excavation and results into a programme of public interpretation (see section 10.2.3).

8.4

VISUAL CATCHMENT IMPACT ASSESSMENT FOR THE COURT HOUSE

The setting and surrounds of heritage items require careful consideration when making changes to these places. This can include views to and from an item that contribute to the aesthetic values of a site. Visual catchment issues in the heritage context for Minmi have therefore been considered in the section. It is focussed on information contained in the Newcastle DCP, review of historic photographs and fieldwork observations.

8.4.1 *Impact on Views for Listed Heritage Items*

The Newcastle DCP recognises that the Court House has view corridors to the west of the building. This was confirmed by ERM during the site visit conducted in October 2007. It is considered that these view corridors are essential not only to the retention of the setting of the heritage item but review of historic photographs has confirmed that this area has historically been undeveloped.

Photograph 8.1 shows the current view from the grounds of the Court House. This photograph demonstrates that the area to the immediate west of the building is largely grassed containing some trees. In the middle distance it is possible to see some housing backed by sporadically planted green hills and to the far west densely forested.



Photograph 8.1 *Existing view from grounds of Court House*

Proposed Development within the Visual Catchment

The proposed development for this area of Minmi has been guided by the heritage listings and the charette process, which has incorporated a range of heritage input and recommendations from ERM.

The grassed area to the west of the Court House has been designated as an area of “*Neighbourhood Park*” and will remain undeveloped.

A portion of the area described above as the middle distance will be designed with a *rural residential character*” and will be comprised of a low density area with houses surrounded by farm lands.

A further portion of the middle distance, to the north west of the Court House, will be designed as “*village courtyard lots and traditional lots*” and will comprise of a core of large open lots with smaller lots to the south and north east.

The land further to the west, currently forested, will not be affected by this development. The proportion of the area within the middle distance is to remain undeveloped in its current open paddock, associated with the creek lines.

Analysis

Any development to previously undeveloped land surrounding a conservation area or heritage item will have a visual impact. The key consideration in this respect for the Court House is whether the potential visual impact is acceptable and whether the visual impact directly relates to the heritage values of the conservation area or heritage item.

While it is evident that elements of the proposed development will be visible from this view point, it is considered that overall the proposed layout will pose a minimal impact to the visual catchment of the Court House for the following reasons:

1. the area to the immediate west of the grounds will remain undeveloped as will the forested area to the distance. Both of these elements play an important role in the visual catchment of the Court House.

The majority of the proposed new development to the middle distance is proposed to be of rural residential character. While some houses will be added to this area, the surrounding farm land will ensure that this section of the view angle does not appear “crowded” or out of character with the existing development to this area.

The area which will be developed with a higher density of houses has the potential to impact views from the court house. Therefore it is important that the design of these houses be in keeping with the principles of the DCP (Section 4.3.2), especially in terms of building height, materials and colour.

Statement Of Visual Impact

The potential visual impact of the proposed development on the Court House is acceptable as it does not impact the heritage values of the building, nor is it likely to adversely affect its amenity. The visual catchment of the Court House has been a key consideration in the planning of this area, and the selection of complementary density within this zone will ensure that this is not lost or devalued.

8.5 *INTANGIBLE HERITAGE VALUES*

It is acknowledged that an assessment of the potential impact to intangible heritage values can be subjective. The reader or viewer of an area may have different responses to the appearance of the proposed development depending upon their personal aesthetic preferences and familiarity with the area.

The following assessment has described the impacts to the cultural landscape, which have been recognised through the heritage assessment. This assessment has incorporated the views and opinions of the local communities.

8.5.1 *Minmi's Landscape Character*

The description of Minmi's cultural landscape is provided in *section 5.4.1* and can be summarised thus:

- as a small rural village constrained by a circumference of rolling hills and ridgelines;
- treed ridges are visible to the east, west and south of the town;
- Minmi has an open rural character where to the north the town unfolds onto Hexham swamp and its associated wetlands;
- the town itself is dominated by views of the extant building (the majority of which are post 1950); and
- distant views from the town are of the vegetated ridgelines that provide Minmi with an enclosed feel, where the dark green vegetation dominates the built form.

Analysis

The proposed development will locate new single storey houses around the town of Minmi within a number of distinct zones (see *Figure 7.1*). Each zone has been located in accordance to restrictions imposed by heritage, mining, ecology and flooding. However, it is important to note the areas of Minmi where no development will be located (i.e. retained as open or vegetated public space). No development will occur on:

- the Brown's Garden House site and the areas in front of the Court House;
- the a portion of the former workshop and the coke oven archaeological sites in AZ2 zone;

- the open landscape area to the west of Back Creek and associated with the north of Minmi and Hexham Swamp; nor
- any visible ridgelines (from the centre of Minmi).

Although development will abut some of the listed heritage items it has been designed to incorporate and feature many areas/items.

Development within the zone to the north-west abuts the existing housing and includes a portion of the former railway embankment. The houses in the zone are proposed to continue the pattern of urban form and will not be visible from the main road, or other significant vantage points within Minmi.

The zone to the east covers the currently treed area to the east of Back Creek. This area was covered in housing c.1900. Development across this zone will be visible from high vantage points within Minmi (i.e. the Brown's Garden House site), although it should be noted that this will mirror former views across this area (c.f. *Figure 5.7*).

The zone to the south-east covers a treed area and abuts existing housing and some of the items within AZ1. However, the majority of these houses are located on the southern side of a ridgeline and will not be visible from within the village. The houses located within the village are located upon a zone of former housing and thus mirror the historical placement of buildings.

The zone to the south-west abuts the former school and covers a portion of AZ1. This zone currently has a rural character, which will be impacted through the addition of new houses. However, it should be noted that historically this zone was an industrial precinct dominated by the workshop complex (c.f. *Figure 5.7*). Locating new houses within this area will create an appearance less cluttered than the historical view. Further all new houses will be positioned below the ridgelines, thus maintaining the domination of the vegetated form over the developed. All new roads need to respond to the landform in a sensitive way, integrating with the natural contours, thus minimising obviously out of place construction.

The small zone to the west covers a flat area to the west of Minmi Creek and below the treed ridgeline. This area was historically open cut mined where the original landscape has been impacted and modified far more substantially than all other areas within Minmi. Its character is current one of significant modification and obvious impact, and can be said to detract from the visual aesthetic of the town. Development in this area represents an opportunity to transform and rehabilitate this modified landscape.

Statement Of Impact

The impact of new development on Minmi is to be minimised through the recognition of heritage items, places and landscapes by the CNA design team. The concept design does not locate new houses in areas with existing listed heritage value and complies with design recommendations as presented in the Newcastle DCP (with regard to the form, sitting, density and proportions of proposed lots). The concept plan has avoided the majority of significant archaeological sites and incorporated landscape elements into the new urban form (such as the railway embankments).

All significant views within and across Minmi have been retained through an absence of development on ridgelines and the maintenance of open spaces. The pattern of new development mirrors the historical model and locates houses within areas where houses existed (c.1900) and other industrial areas.

Access to the heritage items will be maintained so that the public will still be able to appreciate and view all items. Mitigation measures for the overall impact of development will include interpretation of the heritage items which, for several items, will culminate in the ability of the public to appreciate the items for the first time.

8.5.2 Cultural Landscape – Link Road

The description of Link Road's cultural landscape is provided in *section 5.4.2* and can be summarised thus:

- rolling hills, steep slopes, deep gullies and elevated ridges, located on the periphery between the coastal flat and the inland hills;
- densely vegetated with mature trees, and extensive understorey, except in areas de-vegetated for transmission lines and fire trails;
- a series of linked ridge lines, which Aboriginal peoples used to transverse the study area, from Hexham Swamp to areas in the south and west; and
- the area carries the scars of 100 years of mining activity, although remnants of mining machinery and landscaping have all but been removed over the course of the late twentieth century.

Analysis

The proposed development will impact the bushland nature of the whole study area through the construction of infra-structure, houses, roads and other buildings. This development needs to be considered in the context of CNA's objectives of regional conservation.

Although the Link Road study area will be holistically developed, the concept plan includes the original water ways, along with Riparian corridors, in its design. This inclusion, combined with the topography, means that retention of significant quantities of bushland will occur, which will link into surrounding vegetation communities (i.e. the Blue Gum Regional Park). Limitations to the extent of development mean that taken as a whole the CNA conservation lands will retain their overall landscape characteristics and values.

Statement Of Impact

Whilst the study area itself will be impacted by the development, the zones with high Aboriginal archaeological potential are located within conservation zones and the significant Aboriginal walking routes have been incorporated into the urban design and thus will be conserved for the future. However, the proposed conservation zones (as defined by the MOU) mean that a significant quantity of recorded and unrecorded Aboriginal and possibly historical heritage sites will be conserved for perpetuity. Further, the effect of the conservation zone is such that it will prevent future development which could have an accumulative long term impact on heritage values.

8.6 SUMMARY OF HERITAGE IMPACTS

Table 8.1 presents an overview of the heritage items within MLR and whether these sites/features/character will be potentially impacted by the proposed development.

Table 8.1 *Summary of Heritage Impacts*

Site/Area Name	Heritage Status	Heritage Impact	Impact mitigation recommended (see Chapter 10)
Former Minmi Reservoir Residence	LEP Heritage Schedule	No direct impact	Interpretation, as component of Minmi
Former (Second) Minmi Public School	LEP Heritage Schedule	No direct impact	Interpretation, as component of Minmi
Church and Manse	Not listed (local)	No direct impact	Interpretation, as component of Minmi
Duckenfield Colliery No2 Railway Branch Line	LEP Heritage Schedule	No direct impact	Interpretation, as component of Minmi, included in landscape design as walking route
Duckenfield Colliery No1 Railway Branch Line	LEP Heritage Schedule	Partially impact	Interpretation, as component of Minmi, included in landscape design as walking route
Dam	Not listed (does not meet local threshold)	No direct impact	No further heritage work required
Minmi Archaeological Zone 1 (AZ1), including:			
Chinamen's Gardens	Not listed (local)	To be impacted by	Archaeological geophysical survey, possible excavation of

Site/Area Name	Heritage Status	Heritage Impact	Impact mitigation recommended (see Chapter 10)
		playing fields	significant areas resultant from geo-phys, and interpretation, as component of Minmi
Former Residences	Not listed (local as group)	Impacted	Archaeological investigation and consequential interpretation as part of Minmi
Minmi Reservoir Site	LEP Heritage Schedule	No direct impact	Very difficult to further interpret, include within Minmi interpretation
J. Brown Garden House Site	LEP Heritage Schedule	No direct impact	Deserves to be further archaeological investigated, conserved and publicly interpreted
Minmi Archaeological Zone 2 (AZ2), including:			
Coke Oven Site	Not listed (local)	No direct impact	Interpretation, as component of Minmi. Possible archaeological geophysical survey and limited excavation could significantly further academic understanding and public appreciation
Workshop Area and Eales Shaft	Not listed (local)	Impacted	Archaeological investigation and consequential interpretation as part of Minmi
Former Residences	Not listed (local as a group)	Impacted	Archaeological investigation and consequential interpretation as part of Minmi
First School site (exact location unknown)	Not listed (local)	Presumed to be impacted	Archaeological investigation into location, possible excavation and consequential interpretation as part of Minmi
Aboriginal sites			
MLR 1	Not listed	No direct impact	Conserve within Riparian corridor
MLR 2	Not listed	Potentially impacted	No archaeological work – mitigation for low archaeological potential zone
MLR 3	Not listed	Potentially impacted	No archaeological work – mitigation for low archaeological potential zone
MLR 4	Not listed	Potentially impacted	Archaeological work required – mitigation for high archaeological potential zone
MLR 5	Not listed	Potentially impacted	Archaeological work required – mitigation for high archaeological potential zone
MLR 6	Not listed	Potentially impacted	Archaeological work required – mitigation for high archaeological potential zone
Areas with low archaeological potential	Not listed	Impacted	No archaeological work – mitigation for low archaeological potential zone
Areas with moderate archaeological potential	Not listed	Impacted	Some archaeological work required – mitigation for moderate archaeological potential zone
Areas with high	Not listed	Mainly	Archaeological work required

Site/Area Name	Heritage Status	Heritage Impact	Impact mitigation recommended (see Chapter 10)
archaeological potential		conserved	(where impacted) – mitigation for high archaeological potential zone Conserve within Riparian corridor where possible.
Intangible Social Values			
Aboriginal waking routes	Not listed	Impacted and conserved	Inclusion within urban design and heritage interpretation.
Minmi town	Not listed	Impacted	Inclusion within urban design following DCP and heritage interpretation.
1. Heritage status – if not listed on the LEP then assessment under this report provided			

This project is to be assessed and approved under Part 3A of the *Environmental Planning & Assessment Act 1979* (EP &A Act). In summary, Part 3A can provide developers with 'comprehensive' approval for development, without the need for obtaining further approvals under different State Acts. The Part 3A approval process involves strict requirements established by the Director General of NSW Planning to ensure all environmental factors are adequately considered and addressed.

Until the development is granted Part 3A approval the study area and its heritage values remain protected and under the statutory control of the relevant State Acts.

Aboriginal cultural heritage in NSW is protected by the *National Parks and Wildlife Act 1974*. Historical heritage in NSW is protected under the *Heritage Act 1977*. These acts and their obligations are provided below. The obligations under these various acts have been used to devise relevant mitigation measures for the study area, which are presented in *Chapter 10*.

9.1

NSW LEGISLATION

9.1.1

Environmental Planning and Assessment Act 1979 (NSW)

The EP&A Act requires that environmental impacts are considered in land-use planning, including impacts on Aboriginal and historical heritage. Various planning instruments prepared under the Act identify permissible land use and development constraints.

The DECC provides guidelines for Aboriginal heritage assessment, including those conducted under the EP&A Act 1979. Where Aboriginal heritage assessment is conducted under the Integrated Development Approval process, a more detailed set of NPWS guidelines applies.

Where a development is approved under Part 3A of the Act, further approvals under the National Parks & Wildlife Act 1974 are not required. In those instances management of heritage sites must follow the statement of commitments included in the Part 3A development approval.

The statement of commitments defines the environmental management and mitigation measures the proponent is prepared to make for on the site. The statement of commitments is made in accordance with *EP&A Act 1979*: Part 3A Division 2 Section 75F [6].

A Draft Statement of Commitments has been prepared as part of the Environmental Assessment. The draft Statement of Commitments defines the environmental management and mitigation measures the proponent is prepared to make for on the site.

9.1.2 *National Parks and Wildlife Act 1974 (NSW)*

All Aboriginal objects within the state of NSW are protected under section 90 of the *National Parks and Wildlife Act 1974* (NPW Act).

Under section 5 of the Act, “Aboriginal Object” means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

Sites of traditional significance that do not necessarily contain archaeological materials may be gazetted as “Aboriginal places” and are protected under Section 84 of the Act. This protection applies to all sites, regardless of their significance or land tenure. Under section 90, a person who, without first obtaining the consent of the Director-General, knowingly destroys, defaces or damages, or knowingly causes or permits the destruction or defacement of or damage to, an Aboriginal object or Aboriginal place is guilty of an offence.

Amendments introduced by the *National Parks & Wildlife Amendment Act 2001* which strengthen the provisions of section 90 have yet to commence.

The DECC is the statutory authority for the protection of Aboriginal objects and places within NSW, with the Director-General of that department the consent authority. Approvals under the NPW Act are not required where a development is approved under Part 3A of the *Environmental Planning and Assessment Act*.

9.1.3 *Heritage Act 1977 (NSW)*

The *Heritage Act 1977* protects the natural and cultural history of NSW with emphasis on non-Aboriginal cultural heritage. It provides automatic statutory protection to ‘relics’. The Act defines a ‘relic’ as:

Any deposit or material evidence relating to the settlement of the area that comprises NSW, not being an Aboriginal settlement, which is 50 or more years old.

Sections 139-145 of the Act prevent the excavation or disturbance of land known or likely to contain ‘relics’, except in accordance with an excavation permit issued by the Heritage Council of NSW (or in accordance with a gazetted exception under Section 139(4) of the Act).

While Aboriginal heritage sites and objects (“relics”) are protected principally by the *National Parks & Wildlife Act 1974*, if an Aboriginal site, object or place is of great significance it can be protected by a heritage order issued by the Minister on the advice of the Heritage Council.

Approvals under the Heritage Act are not required where a development is approved under Part 3A of the *Environmental Planning and Assessment Act*.

There are a range of planning controls and guidelines that outline issues to be considered in the management and protection of heritage at Minmi and Link Road Estate. These include:

- Hunter Regional Environmental Plan (REP) 1989 - Heritage;
- Newcastle Local Environmental Plan (LEP) 2003; and
- Newcastle Development Control Plan (DCP) 2005.

The Hunter REP Heritage aims to conserve the environmental heritage of the Hunter Region. It lists 1300 heritage items that are divided in a number of categories; State, regional, local, areas requiring archaeological investigation, and heritage precincts or conservation areas. The Hunter REP Heritage also provides a framework for local government councils to develop, along with the assistance of the Department of Planning, appropriate means for conserving the heritage of their area.

No items in or around Minmi and the Link Roads Estate are included on the Hunter REP.

The Newcastle LEP 2003 includes a range of heritage protection provisions addressing both Aboriginal and European heritage sites, items and areas. The heritage objective of the LEP is to protect and conserve archaeological sites and places of Aboriginal, natural or European cultural significance. The LEP includes provisions to protect heritage in any redevelopment works.

As outlined in *Section 4*, several items in and around Minmi are included on the heritage schedule of the Newcastle LEP for their built and historic archaeological heritage values. No items at Link Roads Estate are included on the LEP.

The Newcastle DCP 2005 includes a range of guidelines for Minmi, as outlined in *Section 4*. The DCP does not incorporate the Link Roads Estate.

9.3 COMMONWEALTH LEGISLATION

9.3.1 *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth)

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* protects areas and/or objects which are of significance to Aboriginal people and which are under threat of destruction. The Act can, in certain circumstances override State and Territory provisions, or it can be implemented in circumstances where State or Territory provisions are lacking or are not enforced. A significant area or object is defined as one that is of particular importance to Aboriginal people according to Aboriginal tradition. The Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander or organisation.

9.3.2 *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides for the protection of matters of National Environmental significance and the environment generally on Commonwealth land. Impacts on the Aboriginal heritage must be considered as part of environmental impact assessment during land-use planning. A referral must be made to the Department of Environment, Water, Heritage and the Arts (formerly the Department of Environment and Heritage) where a significant impact is anticipated on matters of National Environmental significance or the environment of Commonwealth land.

This assessment has found that no heritage sites are located on Commonwealth land in association with the study area and no heritage sites are significant at the National level. Therefore, from a heritage point of view, the EPBC Act does not apply for this development.

This section contains provisions for the mitigation of impacts resulting from the proposed development on the heritage values of the study area. Mitigation measures have been informed by consideration of the NSW Heritage Office and DECC guidelines for historic and Aboriginal heritage impact assessments.

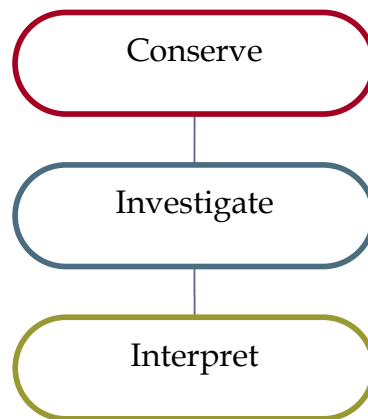
The mitigation measures presented will be used to form the basis of a 'Statement of Commitments' as defined under the *EP&A Act 1979*: Part 3A Division 2 Section 75F[6].

10.1

PREMISE BEHIND HERITAGE MITIGATION

The objectives for mitigation of impacts to the heritage values within the study area are to minimise potential impacts resulting from development, whilst enhancing and interpreting the heritage values of the identified items.

Therefore these mitigation measures are set out under a three stage process:



1. Conserve the existing heritage values through avoidance by development (including planning for unforeseen discoveries) and recognition of the heritage values during all stages of the proposed development;
2. Investigate these values further (especially if they could be impacted by the proposed development); and
3. Interpret the significant heritage values in collaboration with the local community and relevant agencies.

The need for conservation, investigation and/or interpretation of each heritage item was established in *Chapter 8* and is presented in *Table 8.1*.

10.2 CONSERVATION OF HERITAGE VALUES

10.2.1 General Heritage

It should be the aim of development to conserve the heritage values and cultural landscapes associated with the study area. This includes the conservation of Aboriginal heritage, including archaeological potential (within areas that are not to be developed i.e. Riparian corridors) and the incorporation of the existing historical heritage sites (built heritage and unique archaeological sites), cultural landscapes and landscape features into the new development.

Conservation strategies enacted during this project should be in-line with the Blue Gum Hills Regional Park, Plan of Management (DEC 2007). The principals presented below align with this PoM.

10.2.2 Aboriginal Heritage

An 'Aboriginal Heritage Plan of Management' for the development should be developed in consultation with local Aboriginal stakeholders prior to the commencement of Stage 1 works. The PoM should be agreed upon by all stakeholders before any development works commence. The PoM should include the items discussed in *Sections 10.3 and 10.4*.

Conservation of Aboriginal heritage values should align with other local heritage plans (such as DEC 2007).

10.2.3 Historic Heritage

In order to minimise the potential impacts of the proposed development, the following conservation principals should be followed:

- the guidelines as set out in the Newcastle DCP 2005;
- encouragement of adaptive re-use and interpretation of heritage items;
- adequate setbacks, buffering, vegetation and screening between the proposed development and identified heritage items; and
- the use of sympathetic materials and scale during any new construction.

10.3 FURTHER INVESTIGATION OF HERITAGE VALUES

10.3.1 *Aboriginal Heritage*

These measures are the responsibility of the developer (Stage 1 subdivision) and could be included in the Aboriginal heritage PoM. The following measures should be undertaken in areas identified as having Aboriginal archaeological potential within the survey area. Any future site works, as specified, should involve relevant local Aboriginal stakeholders (as per this assessment):

- ensure appropriate stop work procedures are in place particularly for the excavation phase of works and all site contractors undergo a site induction that includes information about Aboriginal sites;
- in the unlikely event of discovery of skeletal material all works should cease, the police, relevant local Aboriginal community groups and a suitably experienced archaeologist or physical anthropologist should be contacted to assess the material before determining the correct management action;
- ensure that on-site information about the heritage requirements is in place for the construction phase for the construction team;
- during earth breaking activities within areas of archaeological potential ensure that appropriate stop work procedures are in place in the case of unforeseen archaeological discoveries. Any remaining archaeological deposits uncovered should be recorded and monitored by a suitably qualified archaeologist and an Aboriginal community representative; and
- should any artefacts be identified in the course of development (which are not being monitored as above) all works should cease and an assessment of the material should be conducted by an archaeologist.

Area of High or Moderate Archaeological Potential

Figure 5.3 indicates the areas of high and moderate archaeological potential. Some of these areas are located within zones that will be conserved (i.e. Riparian corridors or adjacent to main roads). Such area should be designated as conservation areas and not impacted by top soil stripping, tree removal or other impacts with the potential to modify intact soil profiles.

For all areas that will be impacted by top soil stripping, infrastructure works or other site works a research design should be prepared based upon this assessment and the following sampling strategy.

The research design should aim to address local and regional Aboriginal heritage questions, developed during the assessment of the study area's Aboriginal heritage values. Investigation of the zones with archaeological potential could include:

- a sample of grader scrapes (2 m by 20 m) to inspect relevant landforms for evidence of artefacts;
- in the event of further artefact scatters, the integrity of the site and course of action should be determined by an archaeologist in conjunction with the Aboriginal representatives;
- if the site has low integrity or a low density of Aboriginal objects, the Aboriginal representatives could undertake a surface collection of visible artefacts and no further archaeological intervention is required;
- if the site is assessed as being of moderate/high integrity an archaeological test excavation could ensue. This could comprise of setting a grid consisting of 1m by 1m squares over the extent of the site and sampling a representative portion. Soil deposits should be sieved through a 5mm mesh;
- provision should be made to extent sample trenches with a high density of artefacts (i.e. above 20/m²); and
- any artefacts recovered during excavation should be analysed for material and other features. A report should be prepared that details the outcomes of the excavation process, with spatial and artefact usage data.

Areas of Low Archaeological Potential

Figure 5.3 shows the area with low archaeological potential. It is recommended that the Aboriginal stakeholders be invited to monitor topsoil stripping for the purposes of recovering cultural heritage material. This work would not require the presence of an archaeologist. No further archaeological work is required within this area of low archaeological potential unless significant archaeological deposits were uncovered by topsoil stripping.

In the event that significant archaeological deposits are uncovered, an archaeological test excavation could ensue (as outlined above).

Repository for Aboriginal Cultural Material

The Aboriginal heritage PoM should include management recommendations for the storage and conservation of all Aboriginal materials excavated from the site. Measures should be agreed with the Aboriginal community prior to any site works. Storage solutions could include reburial at a nearby location, use of the material as a teaching collection or standard artefact repository with the Australian Museum.

10.3.2 *Historical Heritage*

Built Heritage

The assessment has determined that there will be no direct impact to built heritage items (listed or otherwise). However, historic photographs have formed a prominent element in the historical research of this report. To ensure that future generations have access to similar resources an archival record should be prepared of the area prior to commencement of development and made available across Council libraries in the region.

Archaeological Heritage

The historical archaeological heritage within Minmi will be partially impacted by the proposed development (see *Table 8.1*). These impacts need to be mitigated prior to development. Further, recent discussion (December 2007 to February 2008) between CNA, the University of Sydney and the principal author [TO] have established an archaeological research project within Minmi, which is being supported by the local community (see some details in Annex E). This research project aims to research some of the cultural landscape and other items, such as the Coke Ovens and the Chinese Gardens, at Minmi through non-intrusive archaeological techniques.

Notwithstanding these investigations the following historical archaeological investigations should be undertaken prior to development. These should be undertaken by a qualified historical archaeologist:

- a geophysical survey of the AZ1 and AZ2 should be undertaken to investigate the possible location of the former school site, former house sites, any remains relating to the workshop and Eales shaft area and the Chinese Gardens (GPR or resistivity should yield suitable results);
- an archaeological research design should be written to investigate a representative portion of sites to be impacted. This design should aim to investigate the former school site, portions of the workshop and Eales shaft areas not conserved, a sample of former houses from AZ1 and AZ2 - a street front would provide a representative sample and a representative portion of the Chinese Gardens. Archaeological excavation should be informed by the likely archaeological potential and deposits at each site and aim to address questions established by this assessment;
- test excavation could be undertaken to determine the condition and integrity of any remains. This would then inform the requirements for further investigations; and
- all archaeological sites deserve to be interpreted for public appreciation (see below).

As the proposed project will be an 'approved project' for the purpose of Part 3A of the EP&A Act and that section 75U of the Act therefore suspends the requirements for an excavation permit under section 139 of the Heritage Act. However, the requirements for notification under section 146 would still apply if any archaeological 'relics' (within the meaning of the Heritage Act) were to be found as the project proceeds. In this event (and the event of preparing an archaeological research design for the investigation of the above mentioned sites/areas) consultation and advice could be sought on appropriate management from the Department of Planning. It should be the aim to establish a working and collaborative relationship between CNA and the DoP with regard to on going heritage investigations. Such a relationship will serve to enhance the heritage values associated with Minmi.

10.4 INTERPRETATION OF HERITAGE VALUES

The development of an interpretation strategy for MLR should be considered a key priority for ongoing management and conservation of the study area. This strategy needs to holistically consider the cultural landscapes, Aboriginal and historical heritage. The assessment of this study area has proven that all heritage values are intertwined, where ancient Aboriginal cultural values have been adopted and integrated into historical periods. The charette process brought the various community representatives together to create a collaborative and working team. This collaborative spirit should be perpetuated during future work across the study area.

As such a heritage interpretation strategy to guide the provision of on-site interpretation should be developed. This strategy could be informed by the NSW Heritage Office guidelines for *Interpreting Heritage Places and Items* (2005). It should include heritage walks or trails (c.f. NSW Heritage Office [1995] *Guidelines for Heritage Trails*), signage about the history and heritage significance of the area. Links need to be established with the DECC managers for Blue Gum Hills Regional Park, as any interpretation for MLR needs to be in-line and link into the PoM for the Park (c.f. DEC 2007: section 7.9).

The scope for interpretation should not be limited, but would need to explain local types of heritage sites and their importance to local Aboriginal and historical people/groups. All interpretation should be subject to involvement and agreement with the relevant local community groups. It should be noted that interpretation of the cultural landscape commenced through the charette design process. The concept plan for MLR includes provision for the inclusion of Aboriginal walking routes and interpretation, linked to the Blue Gum Hills Regional Park (CNA 2007b).

All archaeological works could be subject to public interpretation. This should be undertaken on an archaeological site specific basis, but could follow guidelines for archaeological interpretation (c.f. Steele in Jackman and Tuffin 2005: Chapter 16; Owen and Steele 2002).

This HIA has found that the study area contains numerous Aboriginal and historical heritage sites set within a significant cultural landscape. All sites have been assessed to have heritage value at the local level. Most heritage sites also have an element of scientific and research potential that could further knowledge of the study area.

This HIA has determined that the proposed development at Minmi and Link Roads has the potential to have some impact on the cultural landscape, Aboriginal heritage values, historic buildings and archaeological areas of potential in and adjacent to the study area. Provided the mitigation measures outlined in this HIA are implemented by CNA, the potential impacts on the heritage values will be avoided and/or minimised to an acceptable level. Mitigation, especially conservation and interpretation, can be used to enhance the recognised heritage values.

All mitigation measures should be undertaken by relevant heritage professions with the collaboration and support from the local community.

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