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15.1 INTRODUCTION

This chapter describes the potential effects of construction and operation of the Waratah Coal, Project's proposed rail project on non-Indigenous cultural heritage, and identifies suitable management and mitigation measures to minimise impacts. The assessment of potential impacts has been conducted according to the EIS TOR. The detailed shared cultural heritage assessment is provided in Volume 5, Appendix 22.

15.1.1 SCOPE OF WORKS

This chapter describes the non-Indigenous heritage and post-contact land-use history of the rail project area. It documents the registered heritage places and potentially significant site locations in and around the rail project and proposes measures to mitigate any impacts that might result from the development of the rail project. The specific aims of this assessment are to:

- identify historical themes relevant to the non-Indigenous use of the study area;
- identify known non-Indigenous heritage sites within the study area;
- assess the significance of sites located in the study area, in terms of these meeting criteria defined for inclusion in local, state or national heritage registers;
- provide advice about appropriate measures for the mitigation of impacts to identified heritage sites, appropriate to the level of significance; and
- propose a methodology for the management of non-Indigenous heritage sites identified during construction on the rail.

15.2 METHOD OF ASSESSMENT

The method adopted for this non-indigenous cultural heritage assessment of the Project involved a six stage process as discussed below.

15.2.1 DESKTOP STUDY AND REVIEW OF LITERATURE

Existing heritage registers and inventories, relevant studies and reports were examined to identify places of significance within the proposed project area. The principal registers included the Australian Heritage Places Inventory (AHPI) and the Queensland Heritage Register, as well as local government registers if they exist within the project area.

15.2.2 HISTORICAL OVERVIEW – KEY THEMES

In order to understand the type of places of cultural heritage significance that may exist within the project area, key historical themes were identified and discussed to provide a context for understanding what types of places with cultural heritage values may be present.

15.2.3 CONSULTATION WITH COMMUNITY GROUPS, INTERESTED PARTIES

Consultation was undertaken with several stakeholders from the project area who have an interest in the history of the region and knowledge of historic sites. It was proposed to also consult local historical organisations that have an understanding of the history of the region, where considered necessary. However, two organisations – the Bowen Historical Society and the Alpha Historical Society – have produced excellent publications of relevance to the project area and it was considered unnecessary to consult further.

15.2.4 FIELD SURVEY

The survey was undertaken in two parts. An aerial survey of the rail corridor facilities was undertaken by helicopter. Given the extent of the study area and the time constraints, it was considered the most efficient method of surveying for places of potential cultural heritage significance. While there is always the possibility that significant places could be overlooked, the potential is low given the history of the region, remoteness and lack of development generally.

The approach taken in the aerial survey was to identify all cultural features and sites within and immediately adjacent to the corridor. A 'cultural feature or site' is broadly interpreted as evidence of any human activity in the landscape. Thus, apart from the obvious features such as buildings and structures, for example, homesteads, cattle yards and windmills, it also includes dams, earth-formed tanks, fences, roads and telegraph lines. The purpose of identifying all cultural sites on the route was to ensure that all places could be assessed for heritage significance and not dismissed out of hand. This provides for sites that might initially appear to have no significance to be considered in a wider context and this may indeed identify the site has heritage values when further research is undertaken.

With a few exceptions, all sites were photographed with a DSLR camera using either a 70 or 200 mm lens. For sites that were of potential or known cultural heritage

significance, multiple images were taken. The Global Positioning System (GPS) tracklog of the route was used to insert GPS data into the metadata so each image has an exact location recorded.

The second component of the survey involved a field survey of a section of the rail corridor between Collinsville and Bowen that contained remnants of early coach roads. Potential places of significance were documented.

15.2.5 ASSESSMENT

The approach to assessing cultural heritage significance is broadly similar at a local, regional, state and national level. Standard criteria were used to identify what are the cultural heritage values of a place depending on the level of significance. The difference is a question of threshold and whether a place is significant at a local, regional, state or national level. The criteria for assessing cultural heritage significance are:

- the place is important in demonstrating the evolution or pattern of history of a locality, region, state or Australia;
- the place demonstrates rare, uncommon or endangered aspects of cultural heritage of a locality, region, state or Australia;
- the place has potential to yield information that will contribute to an understanding of the history of a locality, region, state or Australia;
- the place is important in demonstrating the principal characteristics of a particular class of cultural places in a locality, region, state or Australia;
- the place is important because of its aesthetic significance in a locality, region, state or Australia;
- the place is important in demonstrating a high degree of creative or technical achievement at a particular period in a locality, region, state or Australia;
- the place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons in a locality, region, state or Australia; or
- the place has a special association with the life or work of a particular person, group or organisation of importance in the history of a locality, region, state or Australia.

15.2.6 POTENTIAL IMPACT AND MITIGATION STRATEGIES

Potential impacts and mitigation strategies were considered, as required by the projects' terms of reference, in three types. The three types of impacts that were discussed are:

- permanent impacts – impacts on places that were unavoidable and strategies recommended to minimise or compensate the impact if possible;
- temporary impacts – impacts on places during construction that could be reversed at the completion of the project or inadvertent impacts of places in the vicinity of the project area; and
- artifacts – the potential exists that artifacts may be discovered during construction. The possibility of a find, however, cannot be discounted. The QH Act contains provisions relating to the discovery of archaeological artefacts and it is vital that appropriate procedures are established in the event of the discovery of an artifact of heritage significance.

15.3 EXISTING ENVIRONMENT

15.3.1 REVIEW OF REGISTERS

15.3.1.1 Australian Heritage Places Inventory

The AHPI contains summary information about places listed in state, territory and Commonwealth Heritage registers and lists. It includes the Register of National Estate which is a list of places established under the AHC Act and that are protected by provisions in the EPBC Act. The AHPI also includes the National Heritage List, which is a list of places with outstanding heritage value to the nation, and the Commonwealth Heritage List which is a list of places owned or managed by the Commonwealth and considered to have Commonwealth heritage values. Places on these lists are protected under provisions of the EPBC Act

No places were identified in the AHPI within or in close proximity to the project area.

15.3.1.2 Queensland Heritage Register

The Queensland Heritage Register is administered by the Queensland Heritage Council under provisions in the QH Act. The register contains approximately 1,600 places throughout Queensland that are of heritage significance to the state.

No places were identified within the Project area or immediately adjacent. However, five places were identified within 20 km of the rail corridor. While these places will clearly not be impacted, it is useful to note what places are in the vicinity as an indication of what type of place with heritage value could be present in the project area.

The sites identified were:

- Strathmore Homestead (QHR 602683) - Strathmore homestead is located 11 km west of the rail on Strathmore Road. It is significant as one of the earliest pastoral runs established in north Queensland and comprises a 1860s slab hut and c. 1900 house.
- Bowen River Hotel (QHR 600042) - The Bowen River Hotel is located 18 km west of the rail on Strathmore Road. It is significant as an 1860s structure built as a hotel on the Bowen Down road, which was the main route from Bowen to the central west and north Queensland pastoral districts.
- Bowen Consolidated Colliery (QHR 601850) - The Bowen Consolidated Colliery is located 10 km east of the rail at Scottville. The colliery is significant as an intact coal mine of the early 20th century and as evidence of the development of the coal mining industry in the region.
- Bowen Cemetery (QHR 602730) - The Bowen Cemetery is located 12 km east of the rail on the Collinsville-Scottsville Road. The cemetery is significant for its association as the burial place of 23 miners killed in mining accidents including seven killed in a major accident at the Collinsville State mine in October 1954.
- Barclay's Battery (QHR 602242) - Barclay's Battery is located 10 km north-west of the rail at Mount Coolon. Barclay's Battery is significant as evidence of gold-mining operations in the earlier part of the 20th century in north Queensland.

15.3.1.3 Local government registers

Under the QH Act, local government authorities are required to establish and maintain a register of places of local cultural heritage significance and include policies for the protection of such places in their planning schemes. The rail project area traverses three local authorities: WRC, IRC and the BRC. None of these local authorities currently have heritage registers or provision for the protection of heritage places in their planning schemes.

15.4 HISTORICAL OVERVIEW

15.4.1 IDENTIFIED HISTORICAL THEMES

While many parts of inland Australia share a similar history, each has a distinctive story. The purpose of this historical overview is not to provide an appreciation of the key historical themes. The identified themes assist in identify places of cultural heritage significance that may exist in the area covered by this study. The identified historical themes in the rail area are Exploring and Knowing the land, Pastoral development and Mining.

15.4.1.1 Exploring and knowing the land

For the indigenous inhabitants of the region, knowledge of the land was intimate, profound and encyclopedic: the movement and behaviour of animals, the flowering of trees and shrubs, the sources of water in an often dry landscape, what plants, grasses and fruits were edible, the medicinal properties of plants, the appropriate time to regenerate the land through burning, and the timing of the seasons.

For Europeans the region remained unknown, uncharted, and a mystery until the 1840s. In 1841, John Lort Stokes had explored the Gulf of Carpentaria in the Beagle. He briefly explored the land beyond the Gulf and reportedly in highly favourable terms of the country, calling it the 'Plains of Promise'. The NSW Legislative Council was impressed and in 1843 resolved to establish an overland route to Port Essington (near Darwin) from NSW. In May 1844, Ludwig Leichhardt and a small party left the Darling Downs to investigate such a route. They travelled northwards through central Queensland following rivers and creeks in the Fitzroy River system, and then journeyed through the Peak Downs region and followed the Suttor River northwards through to the Burdekin River system. Leichhardt reported favourably on the prospects along the Burdekin River, but in the Peak Downs district and along the Suttor River he was more circumspect. He wrote in 1848:

> *But they are a country which must be well examined, before stock should be taken to it. There is very little encouragement for those who are going to establish stations and to bring into bearing new and perhaps remote country (in O'Donnell 1989).*

Leichhardt's words were indeed most prescient. Unlike other explorers, politicians and advocates for unlimited development of the continent, Leichhardt foreshadowed that pastoral development along the Suttor River and adjacent regions would not be easy – and pastoralists even today would probably agree with Leichhardt.

Just 12 months after Leichhardt and his party had travelled through the region, Surveyor General Sir Thomas Mitchell and his party reached the Belyando River after exploring the northern tributaries of the Darling River system, including the Balonne River, with the intention of also finding a route to Port Essington.

While Leichhardt and Mitchell's expedition pointed to the potential of the Belyando Downs and lower Burdekin regions for pastoral development, the influx of pastoralists did not begin until the early 1860s.

15.4.1.2 Pastoral development

The slowness of pastoralists to move into the region was due in part to the remoteness and also because other areas were initially more accessible and attractive. The gold rushes in NSW and Victoria also dampened pastoral expansion in the early 1850s. As more and more runs were taken up, pastoralists began seeking out what were previously less desirable areas. The discovery of a fine harbour at Port Denison (Bowen) provided an entry point into north Queensland and the interior. Indeed, pastoralists quickly took up land along the Burdekin River and its tributaries. But pastoralists also moved into the area from the south from Peak Downs and into the Belyando Downs from the south-west. Oscar De Sagte, a pastoralist in the Peak Downs region, noted that in the early 1860s that 'the number of stock on the road was hardly to be credited'.

By the mid-1860s, pastoral runs had been established throughout the region. But the viability and long-term future of many runs was highly uncertain. The initial confidence and triumphalism about quickly subduing the land was soon checked by a multitude of problems: drought, flood, resistance by indigenous groups, disease, shortage of labour, lack of capital and uncertainty over land tenure. Runs were abandoned, re-occupied and then abandoned again. Between 1866 and 1870, 175 runs were abandoned in the North and South Kennedy pastoral districts.

Most pastoralists initially brought sheep, but within a decade many in north Queensland realised that cattle were more suited to the conditions. Sheep were more prone to diseases such as footrot and lungworm, and grasses such as speargrass damaged the wool on the sheep's back. The initial impediment to cattle was lack of markets. However, the emergence of a number of large goldfields in the north provided a market for local beef. More important for the beef industry was the introduction of technology for canning meat and then freezing meat. The Central Queensland Meat Preserving Company opened a canning factory in 1870 at Rockhampton and provided an outlet for central Queensland meat producers for almost a decade until it went into liquidation. The Central Queensland Meat Export Company was formed in 1880 to process and export meat using recently developed freezing technology. A meat works was opened at Lakes Creek, Rockhampton in 1883 and was instrumental in developing the beef cattle industry in central Queensland (McDonald 1988). Similarly in north Queensland, the establishment of a meat works at Ross Creek, Townsville provided an outlet for north Queensland beef producers (May 1990).

Despite more certainty with markets and the development of the railway to transport stock to the meat works, pastoralists still faced ongoing challenges and obstacles in developing viable cattle properties. Some of the larger runs were considerable reduced in size as leases expired, and the government was keen to open up land for smaller selections. For example, in the 1890s, more than a quarter of the total area of the five largest runs in the Alpha district were resumed, with the intention of subdividing for smaller selections and agricultural farms (Cooper 2005).

Regardless of the reduction in size, drought was a major periodic problem for pastoralists. The great drought of 1898-1902 was particularly devastating. The Surbiton run in the Alpha district had 19,295 head of cattle in 1900 but by 1904 the number had declined to just 500 (Cooper 2005). The loss was mirrored on other properties not only in the immediate region but throughout Queensland. Less severe, but still major droughts occurred in 1915, 1926, the mid-1930s and the mid-1960s.

Another battle pastoralists faced with cattle was disease, most notably tick or redwater fever. The cattle tick *(Boophilus microplus)*, was probably introduced into Australia at Darwin in 1872 with cattle brought from Indonesia. The tick spread to Queensland, reaching Burketown in 1894. It quickly spread south and became a major problem for the cattle industry (Blake 2002). Dipping in arsenic was introduced as a relatively successful method of killing ticks and reducing the impact of the tick on cattle. Dipping; however, had to be undertaken on a regular basis to keep cattle 'clean'.

Yet another problem pastoralists faced was the presence of poisonous plants. In parts of the Alpha district, Poison Bush *(Gastrolobium grandiflorum)* was, and is, a major problem that affected both sheep and cattle. An 1890 report on the Surbition run in the Alpha district noted that the poison bush was so 'thoroughly scattered' that it severely limited the potential for pastoral development (QSA LAN A1890). The only solution (and one which remains) was simply to fence off the area to exclude stock.

Various improvements after World War II improved the viability of the cattle industry. Mechanisation of land clearing made possible more areas for grazing in the brigalow scrub. Mechanisation also made possible the sinking of tanks for water storage easy and increasing water facilities on properties. Undoubtedly, the most significant change was the introduction of *Bos indicus* (Indian / African) breeds in favour of the *Bos taurus* (European / British) breeds. Since the beginning of the cattle industry in Queensland the main breeds were Herefords and Shorthorns but they were not well suited for the arid conditions of inland Queensland. Many pastoralists were initially sceptical of the value of *Bos indicus* but with extensive breeding and cross breeding, breeds such as Brahman, Droughmaster and Santa Gertrudis now dominate and have proved to be well suited for the environment.

15.4.1.3 Mining

While pastoralism has been the dominant industry in the Belyando Downs and lower Burdekin, mining has been an important industry. Coal was discovered at Collinsville in 1866 but mining commercially did not begin until 1917 when the Bowen Consolidated Coal Company commenced operations. A state-owned mine opened in 1919. Production at both mines was boosted by the construction of a railway line from Collinsville to Bowen in 1922. The mines were for a long period underground operations but now mining in the district is open-cut on an extensive scale.

Traces of gold and silver were discovered in the Mount Coolon district, 130 km southwest of Collinsville in 1913. Mining commenced in 1917 and for a brief period in the 1930s Mt Coolon was one of the most profitable gold mines in Queensland. Industrial disputes and the onset of World War II led to the closure of the mine, but other small mines, continue to operate in the district.

15.4.2 FIELD INVESTIGATION

An aerial survey of the rail corridor was undertaken on 1 September 2010 and a field survey conducted of two specific sites on 15 October 2010. Thirty-eight sites were identified and in addition the crossing of the Bowen River was noted.

The survey identified 38 cultural features or sites within one km of the rail corridor.

The land along the rail corridor study area is used almost exclusively for grazing and rearing cattle. One paddock was used for cultivation. Not surprisingly, the majority of sites and features identified were associated with cattle production.

This survey revealed seven types of cultural features or sites along the rail corridor study area. These are:

- homesteads 4
- cattle yards 4
- stock-watering facilities 21
- windmill 1
- cattle feed lot 1
- roads 5
- historic roads 2

15.4.2.1 Homesteads

With the exception of Hobartville, the other four homesteads are typical post-World War II complexes comprised of low-set timber houses with metal roofs and an assortment of metal clad sheds used for machinery and equipment. Of these four homesteads, none are unusual or exceptional or have any significant cultural heritage values. Hobartville may have local values but is well outside the corridor and will not be impacted.

15.4.2.2 Dams/earth tanks

Dams or earth tanks were the most common feature within the corridor – a total of 21 tanks of varying capacity were identified. More than half were in the southern section of the corridor, indicating more intensive grazing on the Belyando Downs and Suttor River plains compared with the northern section through the Clarke and Leichhardt ranges

Earth tanks are ubiquitous on pastoral properties and none identified within the corridor have significant cultural heritage values.

15.4.2.3 Windmills

Windmills have been and are widely used on pastoral properties to pump sub-artesian groundwater to water stock. Mass-produced windmills were available from the late 19th century, and in Queensland the two most common locally produced brands were Comet and Southern Cross. The one windmill close to the corridor is certainly a typical example of a windmill found throughout rural Australia and not significant.

15.4.2.4 Roads

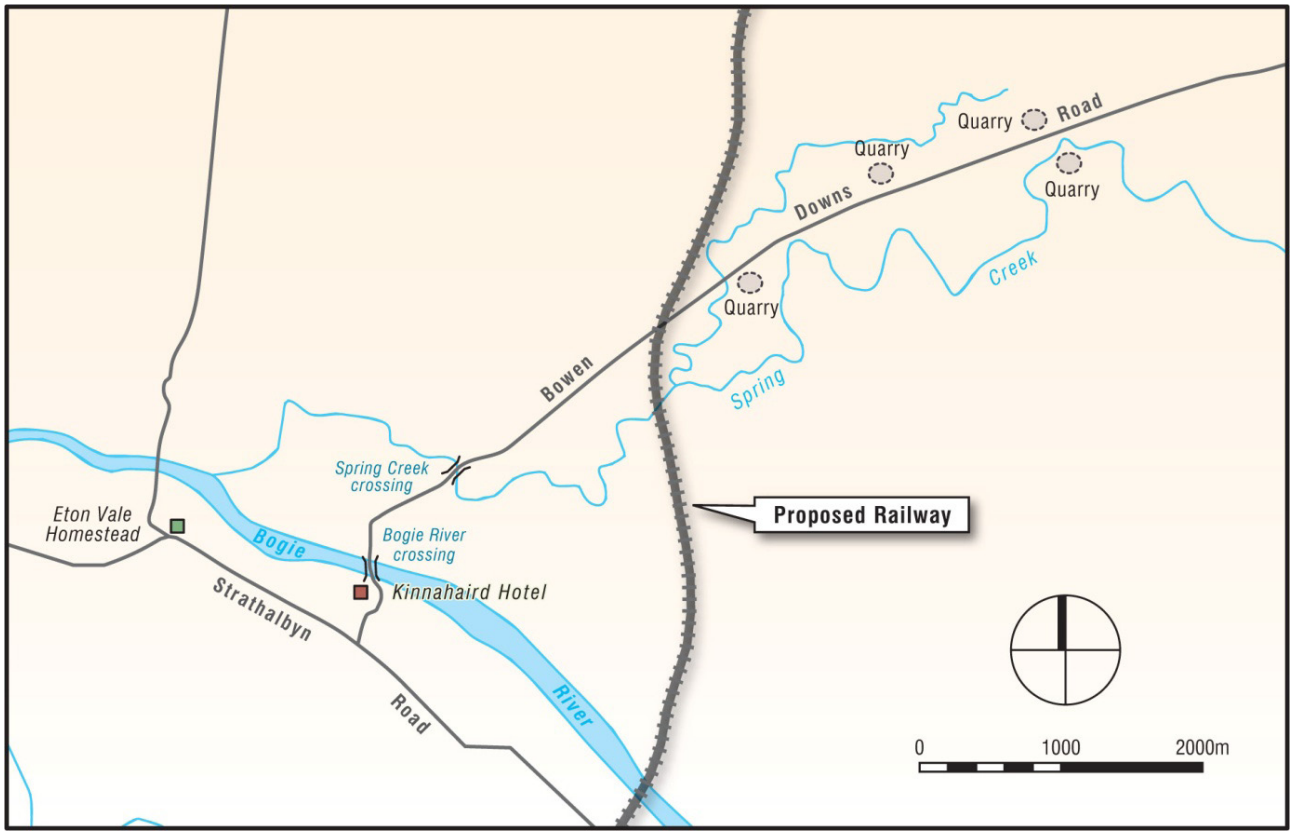
Roads and paths are not normally considered as having heritage values place but they can be important in demonstrating early tracks and transportation routes.

The rail corridor crosses four major roads: the Gregory Developmental Road, the Suttor Developmental Road, the Bowen Developmental Road and the Bruce Highway. The Gregory Development Road had its origins in a major inland route planned prior to World War II linking Brisbane to Cairns. However, events during World War II overtook the proposal and only part of the road was built. The other developmental roads were planned in the 1950s to improve road transport for the pastoral industry and have been gradually upgraded in subsequent decades. The proposed design of the rail will not impact on the roads.

15.4.2.5 Cattle yards

Three cattle yards were identified within and immediately adjacent to rail corridor. Like tanks, yards for mustering and branding are an integral part of a cattle property and none of these yards are neither unusual or exceptional.

Figure 1. Plan of Bowen Downs Road Sites in Relation to Proposed Rail



15.4.2.6 Early roads and associated facilities

When Bowen became the point of entry to the northern and north-west hinterland in 1861, the need for a trafficable road from newly established pastoral runs was a high priority. Bowen Downs station, near Muttaburra, was one of the first properties to be established in the north-west. The owners of Bowen Downs were proactive in developing a road from their property to Bowen. The route they developed soon became the major inland road from Bowen to the inland. The main route followed a south-west direction from Bowen, following a section of Eurie Creek and then crossing the Bogie River near Eton Vale station. The main road continued in a south-west direction while an alternate route went in a more southerly direction. Figure 1 shows a plan of the old Bowen Downs road sites in relation to the proposed rail corridor.

Significant sections of the Bowen Downs road survive in river crossings, location of hotels, coaching stops, cuttings, stone pitching and roadside quarries. The road later became a designated stock route and is therefore a gazetted road. A substantial stone causeway survives where the road crossed the Suttor River.

15.4.2.7 Eton Vale remnants

On Eton Vale station, evidence of the road is still clearly visible in the crossing of the Bogie River and Spring Creek. Other remnants include quarries, and stone flagging that was possibly the base of a water tank. Remnants of a hotel that was to became the site of a township known at Kinnahaird also remain. Approximately 20 km south where the proposed railway intersects the Bowen Downs road, are remnants of a small changing station; located near a tributary of Machinery Creek. These remnants comprise stone flagging, the ant-bed base of a building, well, and fragments of pottery and bottles. The pottery and bottle fragments date from the 19th century and it is likely that this was the site of a modest inn or changing station.

15.5 ASSESSMENT OF SIGNIFICANCE

The remnants of both the main Bowen Downs road and changing station are highly significant as evidence of one of the most important early roads in north Queensland. This section of the road was developed at some cost and effort and was probably funded by the consortium who owned Bowen Downs station. The owners of Bowen Downs station considered it was vital for the success of their station for a suitable road to the most accessible port.

This site, in conjunction with other sites on the early coach roads from Bowen, would meet the criteria for entry on the Queensland Heritage Register and evidence of a highly significant early road in north Queensland.

15.6 IMPACT ASSESSMENT

15.6.1 POTENTIAL IMPACTS

The survey and assessment of rail corridor revealed that the rail will have only a minimal impact on places of cultural heritage significance. The approach in the survey was to identify all cultural sites in the project area and assess for significance. Given the history of land use it was not surprising that few places of heritage significance were identified. The most important places of heritage significance were the Bowen Downs road and changing station. Both places would meet the threshold for entry on the Queensland Heritage Register. The proposed rail project is located approximately 20 km from the changing station and therefore should not impact on this site. However, the proposed rail project will cross the alignment of the Old Bowen Downs road.

15.7 MITIGATION AND MANAGEMENT

15.7.1 KNOWN CULTURAL HERITAGE SITES

15.7.1.1 Mountain Creek Changing Station

The Mountain Creek changing station should be identified and marked as an exclusion zone to ensure that no disturbance occurs during construction.

15.7.1.2 Bowen Downs Road

Through access on the Bowen Downs road should be maintained where it will be crossed by the proposed rail line.

Remnants of the Bowen Downs road within a five km radius of the rail corridor should be identified and areas should be marked as an exclusion zone to ensure no disturbance occurs during construction.

15.7.2 CONSTRUCTION AND OPERATION

This assessment has focused on assessing places that have potential cultural heritage significance. During construction, it is possible that non-indigenous artifacts may be discovered. The history of land use suggests that significant archaeological finds are unlikely to be discovered.

The possibility of a find; however, cannot be discounted. The QH Act contains provisions relating to the discovery of archaeological artefacts. Waratah Coal will develop a project specific management strategy for the Project. The strategy will:

- outline statutory obligations for all parties involved;
- provide for an induction for all construction personnel regarding non-indigenous cultural heritage management procedures; and
- outline procedures to be implemented in the case of the find on non-indigenous heritage material during construction. This will include:
  - notification of heritage consultant to assess significance of find;
  - stop / redirection of-work requirements and establishment of buffer zone;
  - procedures for informing DERM;
  - documentation and recording of site in-situ;
  - if required, removal and conservation of find if assessed as significant; and
  - management and deposition of find in an appropriate museum or interpretative facility.

15.8 CONCLUSIONS

The assessment of non-indigenous heritage for the rail project involved a comprehensive review of publically available information together with significant stakeholder consultation and a two stage field assessment. The proposed rail project will have a minimal impact on places of cultural heritage significance. Two places that would meet the threshold for entry on the Queensland Heritage Register were identified. These places are not likely to be directly impacted by the Project works; however, mitigation measures have been proposed to ensure potential impacts during construction and operation are minimised. A Project specific strategy will be developed and implemented for the Project to manage impacts on potential non-indigenous heritage sites that have not identified within the Project area.

15.9 COMMITMENTS

Waratah Coal commit to:

- facilitating the further examination and formal reporting of the Mountain Creek changing station and the Bowen Downs road to DERM in accordance with the QH Act requirements; and,
- the implementation of procedures during site activities that aim to identify, assess and record undetected non-Indigenous heritage sites, including appropriate induction of relevant project personnel.