



Lidsdale Siding Upgrade Project

Visual Impact Assessment

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1.0 Introduction

The regional visual context of the Lidsdale Siding is characterised by:

- Wallerawang Power Station which is located to the southeast of the site;
- Industrial premises to the south west including bulk materials handling and manufacturing;
- Open forest immediately to the north of the site;
- Rural outlook further to the north and north west of the site;
- The township of Wallerawang to the south west including a small central shopping area;
- Residential dwellings further to the south west;
- Rail infrastructure consisting of the main rail line which runs through the township of Wallerawang and immediately to the south of the power station;
- Road infrastructure including Main Street to the south, Castlereagh Highway to the east and minor roads including Brays Lane to the north of the site.

The site is located in a relatively flat broad valley of the Coxs River and Pipers Flat Creek while elevated locations occur on the ridge to the north west associated with Ben Bullen State Forest and to the north east at Lidsdale. The visual catchment for the visual assessment is identified in Figure 1.

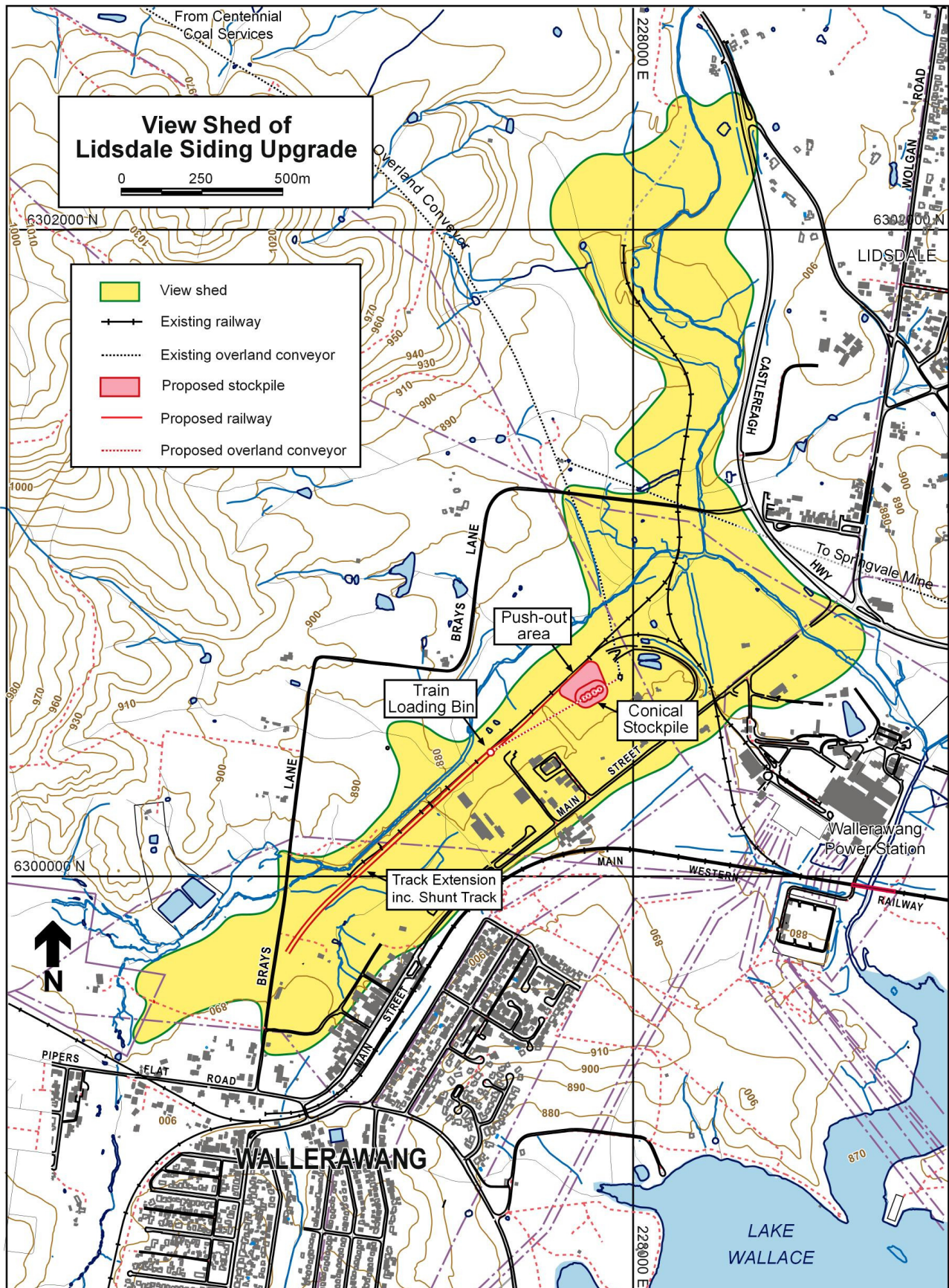


Figure 1: Visual Catchment

2.0 Description

2.1 Existing Visual Environment

The majority of the Project site activities are currently screened from surrounding areas by vegetation. Mature pines approximately 20-25 m in height provide a tall, dense screen around approximately half of the southern boundary of the site, screening the site borders adjacent to Main Street and the rail triangle. Native vegetation to the west of the site on land owned by NSW State Rail provides screening from Brays Lane.



Plate 1: Lidsdale Siding Office Viewed from Main Street

Visual features of the current site include the overland conveyor, stockpiles, front end loaders and semi trailers, fencing and lighting although most of these elements are concealed by existing vegetation. Lights are located adjacent to the rail tracks on light poles for night time operations, as train loading occurs 24 hours a day.



Plate 2: Lidsdale Siding from Main Street showing Conveyor from Coal Services Site

Sensitive receptors located around the Project site include scattered private residences north and west of the Project site. There is also a private residence, a motel and a church located along Main Street, in close proximity to the Siding. Other receptors include the industrial properties located adjacent to the site and residential and commercial properties located at Wallerawang and near the Castlereagh Highway, along Duncan Street.



Plate 3: View of Wallerawang Township

The Lidsdale Siding has been in operation as a coal loading facility since 1974 while rail infrastructure has been a dominant feature of the local area over 100 years.

Wallerawang Power Station is a dominant form in the landscape incorporating a large cooling tower, furnace stacks, substation and associated buildings. A number of 330 kV transmission towers are also located in the area.



Plate 4: View of Wallerawang Power Station from Wallerawang Township



Plate 5: Coal Wagons on Existing Siding behind the Main Street Industrial Area



Plate 6: Overland Conveyor from Coal Services looking South from Brays Lane



Plate 7: Train Moving towards Brays Lane Crossing

2.2 New Project Elements

The main project elements that will be visible from outside the current site include the main stockpile and overhead gantry, rail loading bin (with batch weigher) and the track extension. Plate 8 shows the new stockpile as viewed from the west. This stockpile is likely to be viewed from various vantage points along Main Street and Brays Lane.

From the Main Street industrial area, the new rail bin will be visible as shown in Plate 9.



Plate 8: New Conical Stockpile



Plate 9: Montage of New Rail Loading Bin and Feed Conveyor

The rail extension will be visible from the rear of the Wallerawang shops as well as residents in Blackberry Lane. Plate 10 shows the anticipated location of the new rail line.



Plate 10: View from Main Street Wallerawang at Rail Extension

2.3 Visibility of New Project Elements

The upgraded site is likely to be more visually prominent from surrounding areas as a result of the additional infrastructure within the site. The two main elements of the upgraded site that are likely to be visible from some locations are the main elongated conical stockpile with additional conveyor section, and the rail bin and associated elevated conveyor.

The main conical stockpile when at its maximum capacity would have a nominal height of 28 m. The conveyor feeding the stockpile will be located above it, giving a total height of over 30 m. The rail bin would be approximately 30 m high with the conveyor feeding the bin rising to this height from ground level from the underground feeders beneath the main stockpile.

As part of the Project, lighting would be upgraded to provide both brighter and more directional lighting. Due to the use of directional lighting there would be little light spill from the site. Lights may be visible from surrounding areas but would not be intrusive. Lights would only be operated when required for train loading activities at night.

The potential visibility of the upgraded site have been assessed for four receptor areas as identified in Table 1.

Table 1: Potential Visual Implications for Receptor Areas

Receptor Area	Visibility of Project Components
Residences along Main Street (including Black and Gold Country Cabins Motel and St Johns Church) and the Industrial area adjacent to the site.	Views for the private residences located along Main Street would remain largely unchanged. A vegetation screen already exists and would continue to provide visual screening. There would be views of the stockpile from St Johns Church, however as seen from Plate 2, the existing facilities including conveyors and stockpiles are currently clearly visible. The existing vegetation would provide some visual screening. From the motel, some rooms with a west facing aspect would have a view of the rail loading bin and conveyor. The stockpile may also be visible. From the industrial area there would be views of the rail loading bin and possibly the stockpile.
Scattered private residences located north and west of the Project site including Brays Lane	Wallerawang – shops and businesses along Main Street and residential dwellings along Blackberry Lane. Some shops and businesses along Main Street would have views of the proposed track extensions and the when trains are present along the new section of track as shown on Plate 10. Views of the trains in operation will be new and contrasting against an otherwise agricultural landscape. Mitigation strategies are proposed for this location.
There would be minimal views of the rail loading bin and stockpile and only from elevated vantage points. These views cross the intervening industrial landscape.	The siding itself is screened from the Wallerawang township by existing vegetation, industry and topographic shielding. Receptors in this area would not have views of the stockpile or loading bin.
Residences along Duncan Street near the Castlereagh Highway, north east of the Project site. Residences in this area would be able to view the top of the stockpile. Some visual screening exists from tree planting and barriers placed along the boundary of the highway.	From these locations, the Wallerawang Power Station provides the dominating backdrop with Lidsdale Siding in the middle ground. Trains crossing Brays Lane are more visible and will occur more frequently as part of the Project.

3.0 Assessment of Visual Impacts

The assessment of visual impacts of the Lidsdale Siding upgrade has been based on the degree of change in scenic quality of the local area. Scenic quality is usually defined as either:

- High – Areas with a diversity of landscape elements or areas with visually prominent features of land form which may include escarpments, ridge lines, visually significant stands of vegetation, geological formations, rivers, beaches, parks, villages, city skylines or streetscape. Views from an elevated position are also usually of High scenic value.
- Moderate – Areas of land form or built features which tend to be common throughout the region and are not outstanding in visual quality.
- Low – Areas with features of minimal diversity or variety.

Although often considered arbitrary or of personal preference, a highly diverse landscape is classified as having high scenic quality. This would include built forms such as city buildings overlooking natural harbours as well as cliff and pagoda formations of the Newnes Plateau.

The Lidsdale Siding is located in a highly diverse visual environment and includes industrial, commercial, residential, native forest and rural outlooks. On this basis, the Lidsdale and Wallerawang area is considered to have a high visual quality.

To assess the impacts on the scenic quality of an area, the Visual Absorption Capacity needs to be determined. The Visual Absorption Capacity can be described as the amount of change a site (or parts of), can accommodate without adversely affecting the desired character. The absorption capacity may vary across a site depending on likely visual impacts from development in relation to the site and its broader context. For the purpose of this study, qualitative criteria listed below have been used to assess the Visual Absorption Capacity.

- High – Existing landscape and built environment able to absorb development with no or minimal obstruction to significant views or desired character.
- Moderate – Existing landscape able to absorb some development with moderate obstruction to significant views and desired landscape character.
- Low – Existing landscape unable to absorb development without a high degree of obstruction to significant views and desired landscape character.

Factors used in determining the level of visual absorption relate to the type of development being proposed compared to the existing visual environment. If the proposal is a totally new element in the landscape which is different in character and dominating in form, then it is likely that the development will have a significant impact on the visual environment. For example, a large new industry located in an open rural environment is likely to have a significant visual impact while the same industry located within an existing industrial area will likely have a low impact.

Although the Lidsdale project will introduce some new elements into the landscape, these elements are not new to the area. Conveyors, coal stockpiles and train movements are certainly not new and are not out of place when compared to the surrounding built forms. The visual absorption capacity of the area is therefore high in relation to coal handling and rail infrastructure given that these elements are common and historic to Wallerawang.

On this basis, the project lies within an area of high scenic quality due to its inherent diversity but with high visual absorption capacity with respect to coal handling and rail infrastructure.

The assessment of visual impact rating is determined by comparing the scenic quality with the visual absorption capacity. This cross referencing ensures that the viewer's emotional response to scenic quality is considered with the respect to the capacity for change. The ratings shown in the Table 2 below are described as:

- High - Developments within this rating are likely to have a significant visual impact upon the scenic quality of the landscape character.
- Moderate - Developments within this rating will have a visual impact upon a limited area at a local scale and may be mitigated with landscaping, screens or colour treatments.
- Low - Developments within this rating will not have significant visual impact.

Based on the following table, the expected impacts of the project will be moderate. This means that mitigation strategies are warranted in order to reduce the visual impacts of the development.

Table 2: Visual Impact Rating

Visual Impact Rating		Visibility of Project Components		
		Low	Moderate	High
Visual Absorption Capacity	Low	Moderate	High	High
	Moderate	Low	Moderate	High
	High	Low	Low	Moderate

3.1 Mitigation Strategies

Although the overall impact is considered Moderate, there would be a range of impact perceptions which warrant differing visual treatments. At the Wallerawang township end, the track extension will be more contrasting against the existing rural outlook while the more prominent visual elements such as the new rail loading bin is located in an existing industrial landscape.

In order to reduce the impacts on the Wallerawang township, a visual screen will be planted as shown on the Project Components Figure in Appendix 1. This screen will consist of native tree and shrub species comparable to the existing forested areas to the north of the site. The location of the screen may be elevated with fill generated during the construction works if excess is available and considered suitable for this purpose.

As shown on The Project Components Figure in Appendix 1, the tree screen will run along Brays Lane and the boundary of Wallerawang Playing Fields and then extend along the middle ground between Blackberry Lane and the track extension. A second screen will be planted along the existing rail siding along the boundary with the industrial area. This screen will be an extension to the existing tree screen which runs around the main Siding facilities and loading area. The tree screens are located on land owned by Centennial Ivanhoe.

The project also involves the progressive removal of Willows along the existing and previous alignment of Pipers Flat Creek. Where these Willows provide visual screening of the existing or future facilities, they will only be removed once replacement tree screening has been completed and is developing. Removal of the Willows that provide some visual screening will therefore be the last to be removed in the weed eradication program and at least 5 years after the replacement screening trees have been planted.

The main conveyor and bin structures will be colour treated to reduce reflection and contrast against the existing backdrop. An appropriate colour will be determined during detailed design.

The proposed mitigation measures will reduce but not eliminate the visual impacts of the proposed development.

Visual impacts associated with the construction of the siding facility would include crane operation, other works at elevated heights, an increase in heavy vehicles and construction machinery, and additional fencing/signage. The majority of earthmoving equipment will not be visible as they will be shielded by existing tree screens however the cranes will be visible during erection of the conveyor and bin structures. Earthmoving equipment will be visible during the construction of the track extension however the impacts will be no greater than during the operation of the track. Construction impacts will be temporary and in general no greater than the existing or ongoing operation of the Siding.

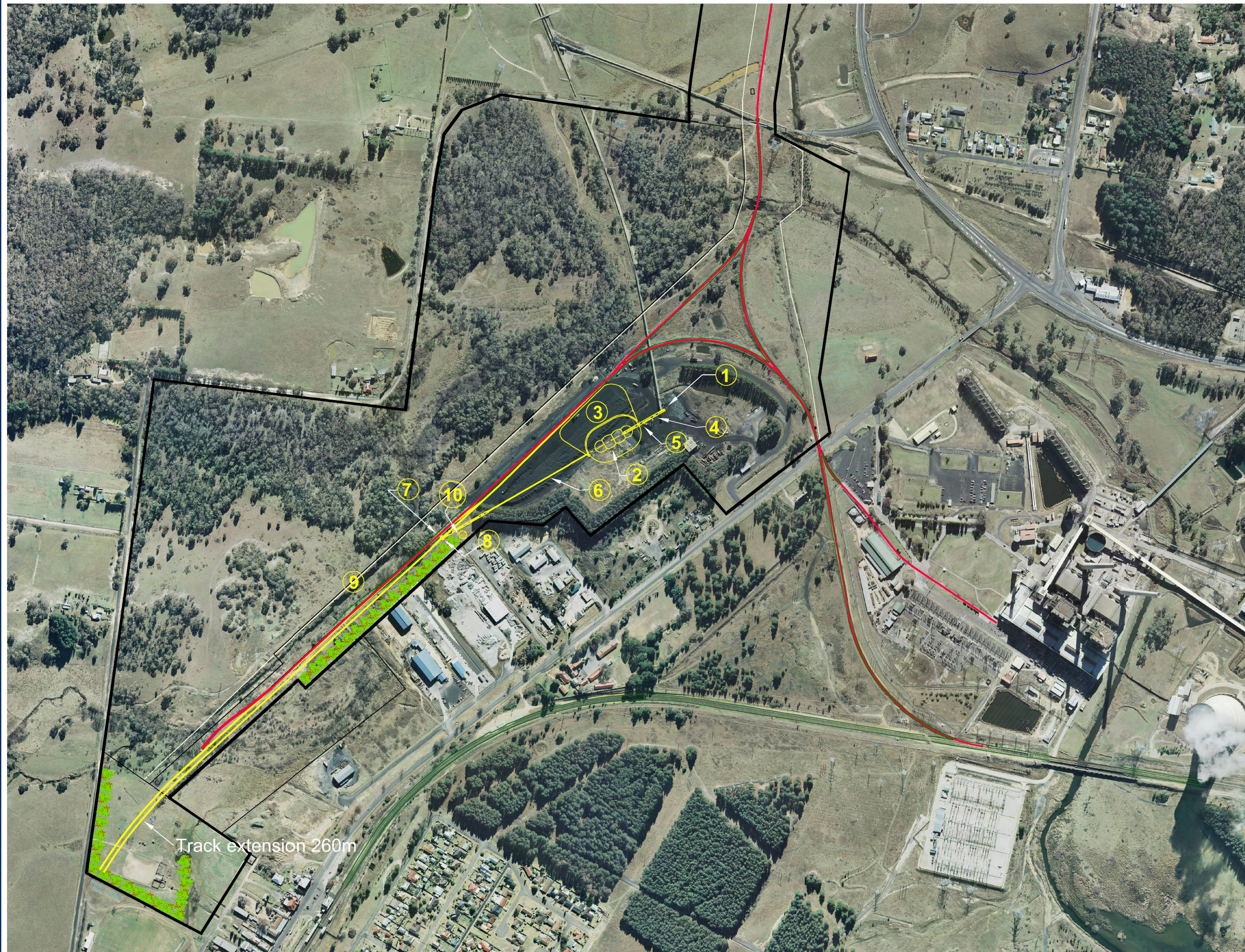
4.0 Conclusion

As identified within this visual assessment of the proposed upgrade, The upgraded site is likely to be more visually prominent from surrounding areas as a result of the additional infrastructure within the site.

Although the Lidsdale project will introduce some new elements into the landscape, these elements are not new to the area. Conveyors, coal stockpiles and train movements are certainly not new and are not out of place when compared to the surrounding built forms and land uses. The visual absorption capacity of the area is therefore high in relation to coal handling and rail infrastructure given that these elements are common and historic to Wallerawang.

Based on the visual impact rating of the project undertaken, the expected impacts of the project will be moderate. Provided that the mitigation strategies identified are implemented to reduce the visual impacts of the development, the proposal is unlikely to have a significant visual impact to the surrounding community.

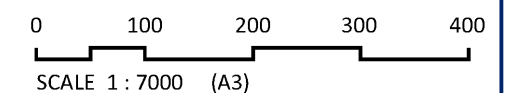
Appendix I – Project Components Figure



Proposed Components:

- ① Diversion chute at the end of the existing overland conveyor (Auxiliary Stockpile beneath)
- ② 50 000 t elongated conical stockpile
- ③ General Pushout Area for elongated conical stockpile
- ④ Elevating conveyor to elongated conical stockpile
- ⑤ Reclaim tunnel beneath the stockpile.
- ⑥ Ground conveyor from the reclaim tunnel, elevating to the train loading bin
- ⑦ A train loading bin (nominal 250 tonne capacity)
- ⑧ Control room adjacent to the loading bin
- ⑨ Notional alignment of New Rail Line and adjacent shunt
- ⑩ Self banded transportable fuel tank

- Lidsdale Siding Study Area
- EXISTING RAIL LINE
- PROPOSED COMPONENTS
- LANDSCAPING BUFFER



TITLE: LIDSDALE SIDING UPGRADE PROJECT
FIGURE 3 PROPOSED COMPONENTS

LOCATION: WALLERAWANG

DATUM: (GDA 94)
PROJECTION: MGA Zone 56

13TH JUNE 2012
ENV. ASSESSMENT

AUTOCAD REF: 110912 UPGRADES TO PROJECT AREA 3
VERSION (PLAN BY): PROPOSED 2

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