TECHNICAL REVIEW – VISUAL ASSESSMENT (SSD-5765)

Project:	N4006_001 Bowdens Silver Visual Radial Analysis	**Date:**	18 August 2021
To:	Lue Action Group	**From:**	Rod Williams
ATT:	Phil English	**CC:**	Click or tap here to enter text.
Subject:	Visual Radial Analysis – Proposed Transmission Line		

Introduction

Bowdens Silver Pty Limited (Bowdens Silver) is seeking approval to develop and operate an open cut silver mine near Lue, NSW (the Project) (Application SSD-5765). As part of the Environmental Impact Statement (EIS) for the Project, prepared by R.W Corkery & Co. Pty Limited (R.W. Corkery & Co) on behalf of Bowdens Silver, Richard Lamb and Associates was commissioned to undertake the Visibility Assessment.

The Lue Action Group (LAG) provide a submission as part of public exhibition of the EIS.

Engeny Water Management (Engeny) was commissioned by the Lue Action Group to undertake a technical review of the Visibility Assessment and the visuals aspects contained within the Response to Submission report. This review was undertaken by Rod Williams, Principal Environmental Scientist. Rod has prepared visual assessments for state significant projects in rural viewsheds.

Documents Reviewed

This review was based on the information below:

- Richard Lamb and Associates, 2020. Part 8a Visibility Assessment State Significant Development No 5765
- RW Corkery, May 2020. Bowdens Silver Environmental Impacts Statement State Significant Development No 5765.
- RW Corkery, 2021. Bowdens Silver Submissions Report State Significant Development No 5765.

General Comments

REVIEW OF BACKGROUND DOCUMENTATION

The visual assessment of the documents reviewed primarily focus on the visual impacts of the mining operations. Minimal consideration (i.e. general assessment) has been given to the visual impacts of the proposed re-aligned power transmission line identified by the LAG in its submission. For example Richard Lamb and Associates 2020 states:

> "*The alignment of the proposed re-aligned power transmission line in the visual catchment of the proposed mine is largely in country with similar visual and physical characteristics to the existing line and the new line would be likely to be compatible with the appearance of the existing line and not cause any significant change to view compositions.*"
>
> "*As the realigned power transmission line would be through country of a similar character and appearance to the existing line and be carried on similar lattice towers, it would be unlikely to have significant visual impacts compared with the existing towers.*"
>
> "*The Project includes establishment and construction, relocation of a 500kV power transmission line, mining and processing operations and road traffic and transportation, aspects of which would be visible in certain circumstances from public and private areas and which could lead to visual impacts.*"

The Response to Submissions report (Corkery 2021) investigated the visual impact of the mining infrastructure at selected receivers. However the impacts of the proposed re-aligned power transmission line on the village of Lue and the surrounds has not been considered. Corkery 2021 states:

> *"**Visibility** - There has been no change to the outcomes of the Visibility Assessment undertaken by Richard Lamb and Associates (2020) or the Lighting and Sky Glow Assessment undertaken by Lighting, Art & Science (2020). It has been concluded that, while components of the Project would be visible to varying degrees and at varying stages of the development, the limited visibility of the mining activities within the Mine Site and the range of visual controls would achieve an acceptable level of impact. Importantly, no components of the Mine Site would be visible from Lue. The potential for lighting impacts on the local environment (including sky glow) has been assessed to be minimal."*

ASSESSMENT OF VISUAL IMPACT OF PROPOSED TRANSMISSION LINE – LUE GENERAL AREA

The village of Lue is located to the southern west of the proposed mine and the re-aligned power transmission line. Views from the Lue general area to the Northeast (i.e. towards the existing power transmission line) are completely screened by the existing natural topography (see Figure 1). Three cross sections from Lue to the existing transmission line alignment confirm that the views from Lue towards the Northeast are screened by the natural topography (see Figure 2, Figure 3 and Figure 4).

LAG agrees that the proposed re-aligned power transmission line is largely in country with similar visual and physical characteristics to the existing line and the new line would be likely to be compatible with the appearance of the existing line. However, the proposed power transmission line alignment is located at a higher elevation than the existing alignment and as such the natural topography does not screen the re-aligned power transmission line. Our analysis shows that the proposed re-aligned power transmission line is in a different visual catchment and impacts receivers which are currently not impacted by the existing transmission line. The proposed re-aligned power transmission line will therefore involve a change from the existing natural viewshed from the general area of Lue to one which includes a transmission line.

Radial analysis of three tower locations (assuming a tower height of 60m and a viewshed of 5 kilometres from the tower) along the re-aligned power transmission line alignment has been undertaken to assess the extent to which the proposed towers will be visible from the general area of Lue (see Figure 5, Figure 6 and Figure 7). The Tower 1 radial analysis (see Figure 5) and cross section (see Figure 2) indicates that the top portion of Tower 1 will be visible from the Lue general area. However, this assumes that there is no screening provided by the existing vegetation, which is not the case. As such Tower 1 is unlikely to be

visible from the Lue general area. Towers 2 and 3 are however located on the top of the ridgeline (see Figure 3 and belowFigure 4) and as such will be clearly visible from the Lue Village and surround area (see Figure 6 and Figure 7). The visibility of the proposed power transmission line alignment would be further increased by the clearance of vegetation within the powerline easement. The extent of vegetation clearance required has not been defined in any of the documents reviewed or the contribution to the visual impact assessed.

Based on this analysis it is expected that approximately 50% of the proposed re-aligned power transmission line will be clearly visible from the vast majority if not all receivers in the Lue Village and surrounding area. This represents a significant change the viewshed characteristics for the Lue Village and surrounding receivers, compared to the current situation.

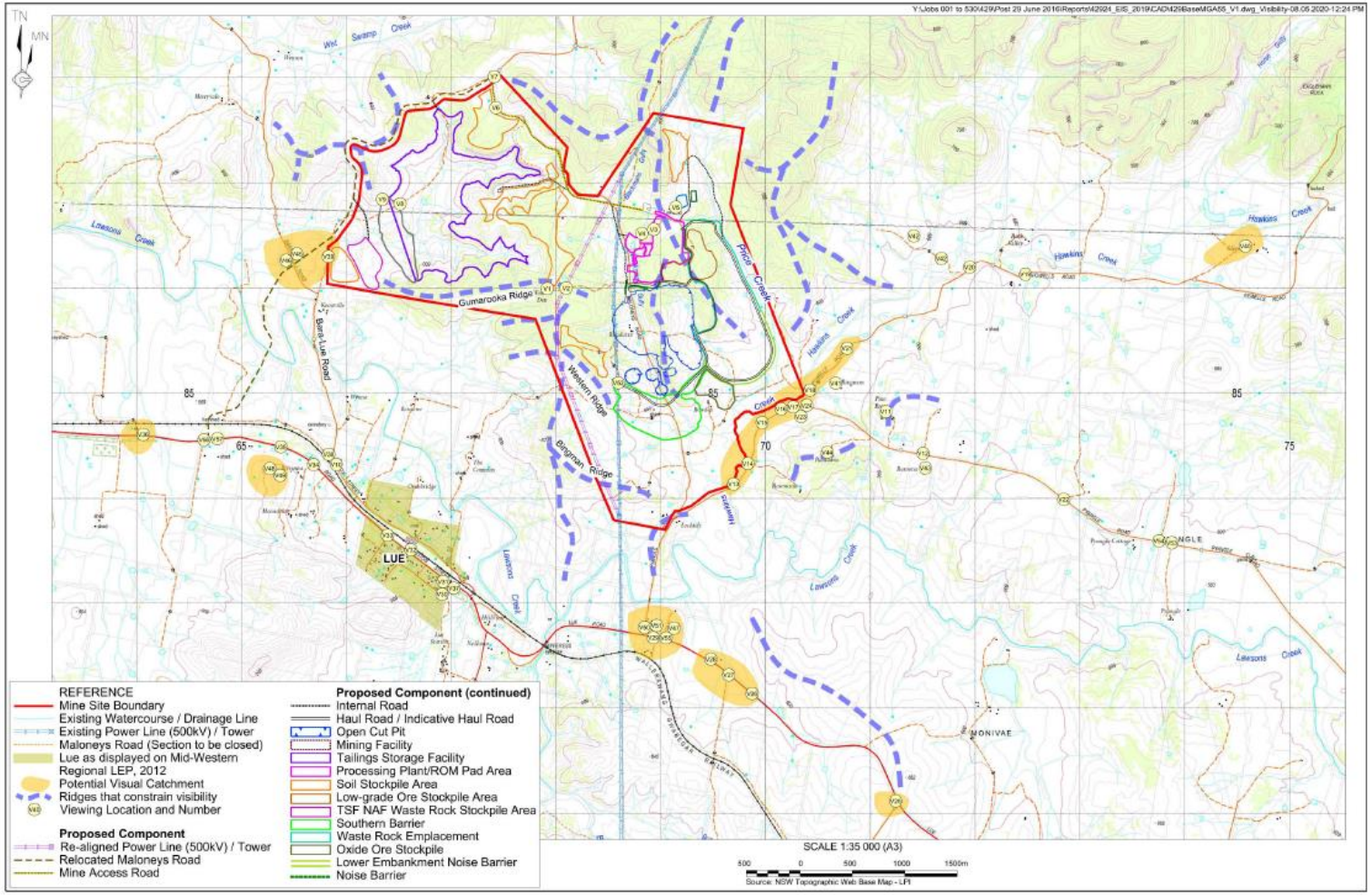

Figure 1 Potential Visual Catchments (Source Richard Lamb 2020)

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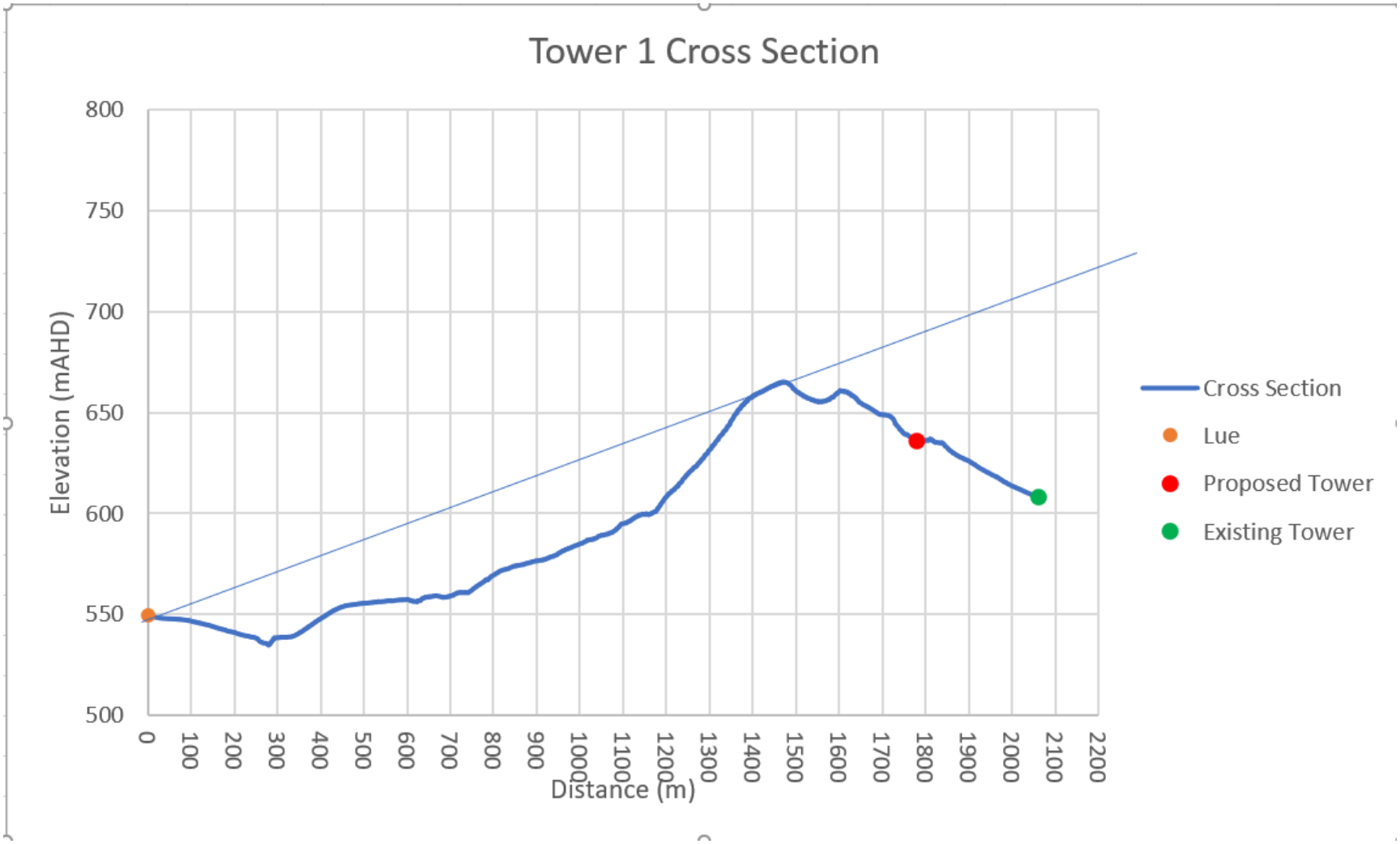

Figure 2 Tower 1 Cross Section

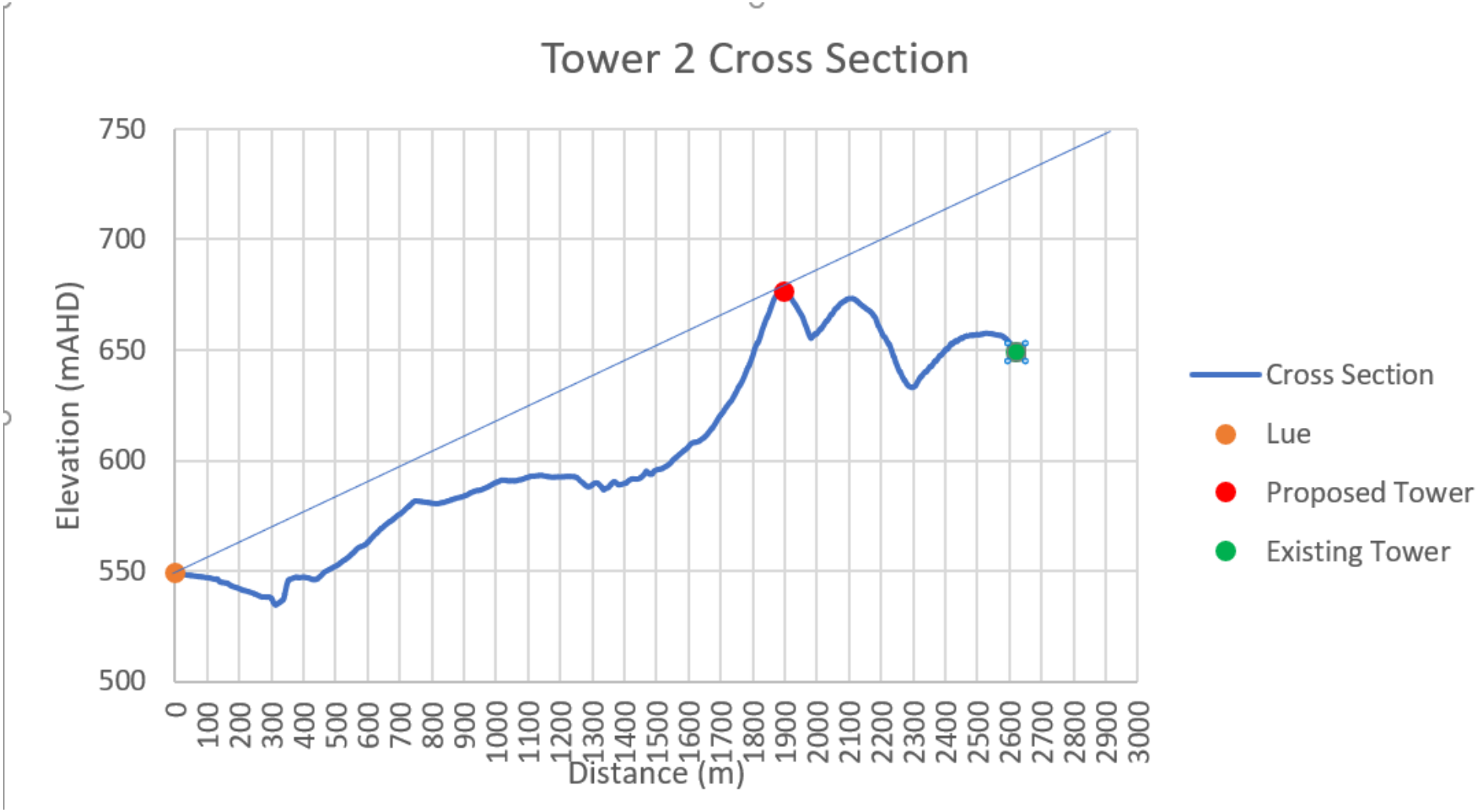

Figure 3 Tower 2 Cross Section

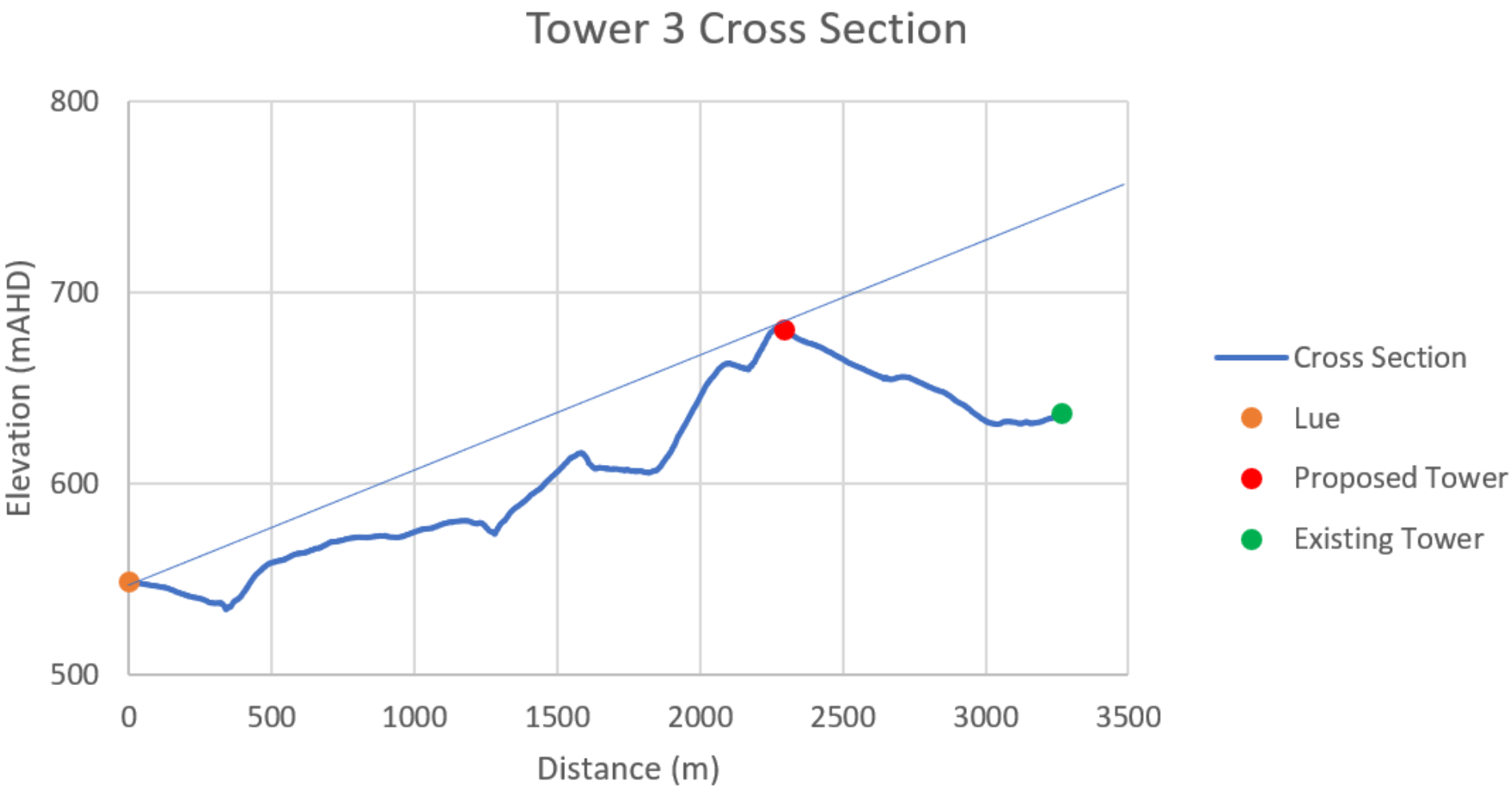

Figure 4 Tower 3 Cross Section

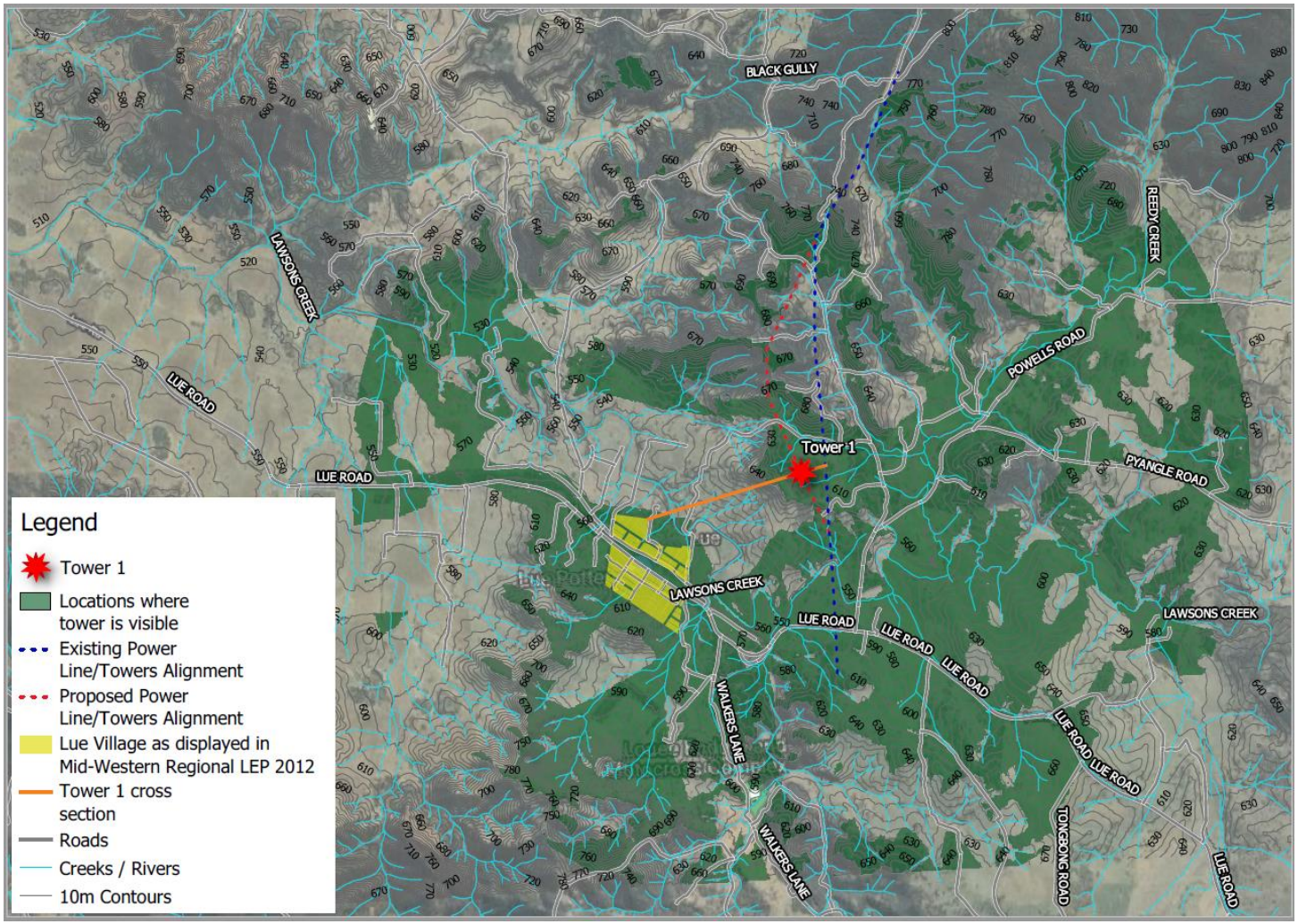

Figure 5 Tower 1 Radial Analysis

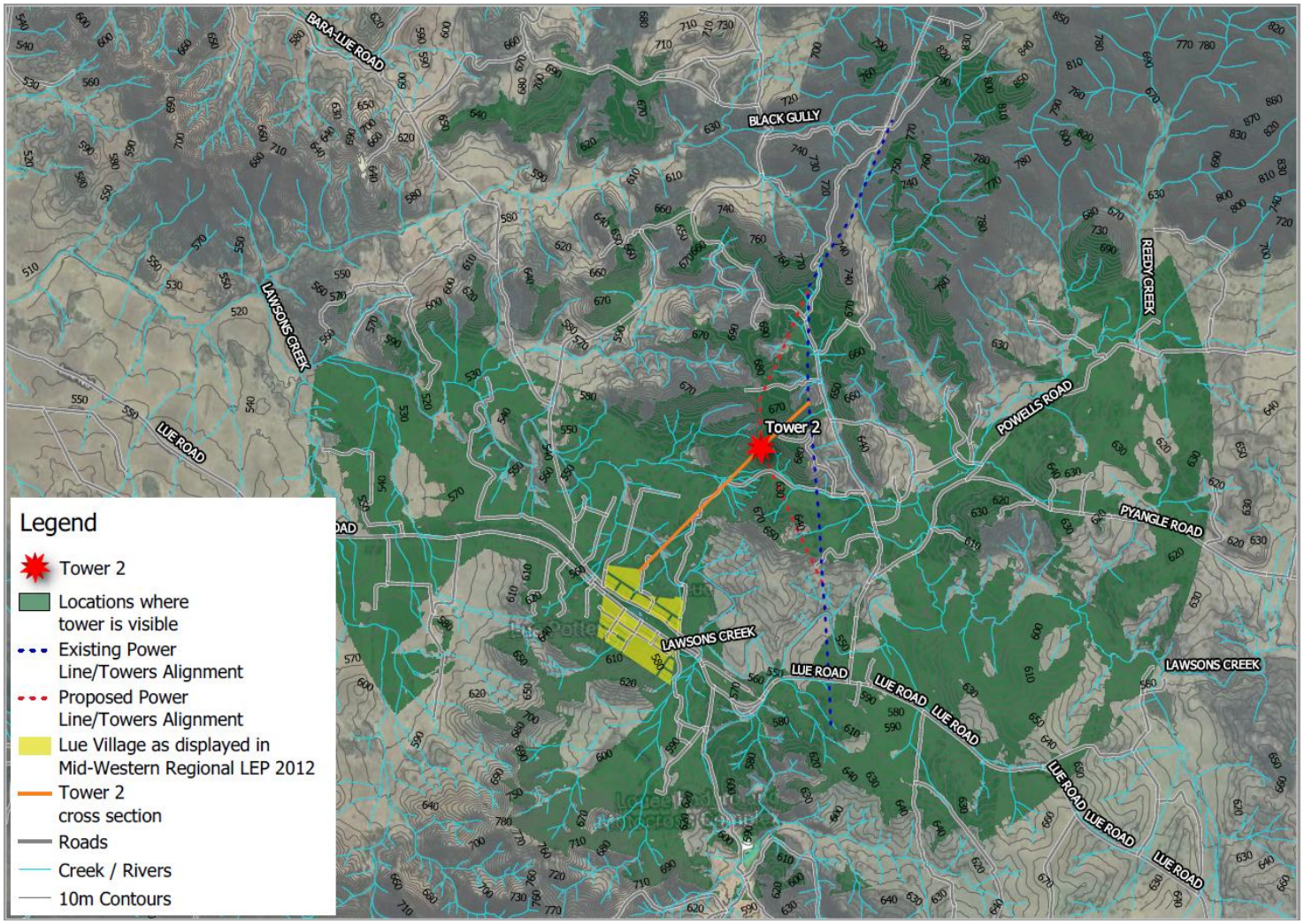

Figure 6 Tower 2 Radial Analysis

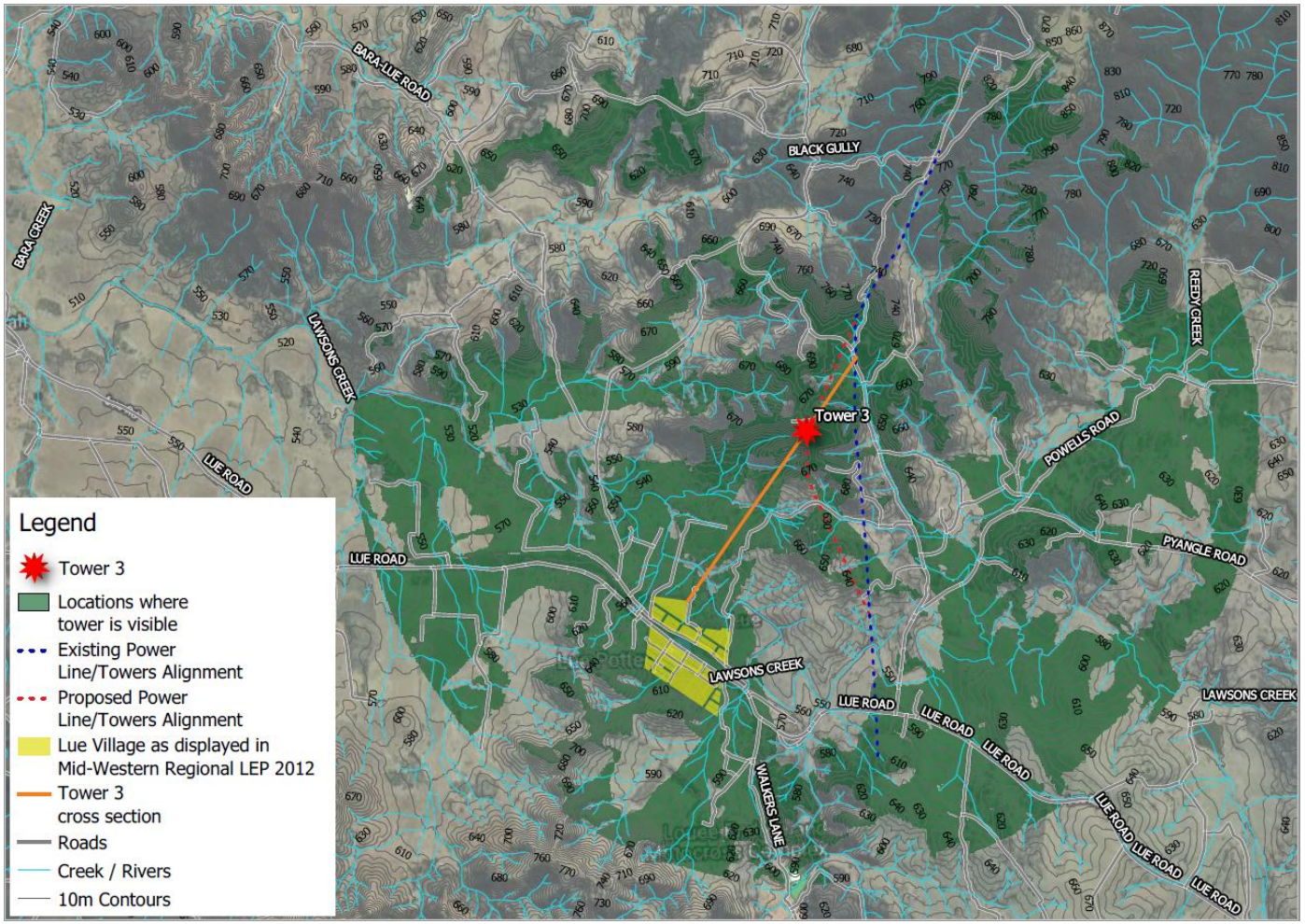

Figure 7 Tower 3 Radial Analysis

DISCLAIMER

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