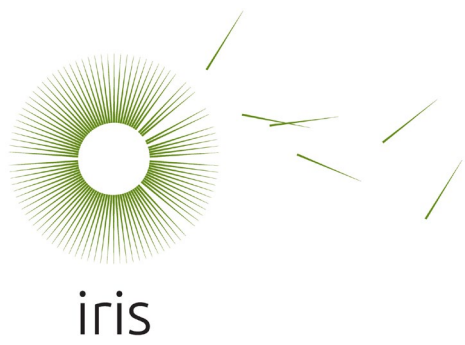




Tully Battery Energy Storage System

Scenic amenity impact assessment



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1. Introduction

This report has been prepared to assess the impact of the proposed Tully Battery Energy Storage System (BESS) (the Project) on scenic amenity.

The Project site is located at 37 and 71 Sandy Creek Road, Tully (Lot 1 RP735276 and Lot 1 RP852238), adjacent the existing Powerlink Tully Substation (132 kV) (Lot 1 on RP716718), in the Cassowary Coast Region Local Government Area. The Project site location and context are shown Figure 1-1.

This report will assess the potential impact of the Project on scenic amenity. This report includes:

- A description of the project
- Summary of the relevant planning provisions
- Description of the site and setting
- Scenic amenity impact assessment, including:
 - A visibility analysis to identify the visibility of the Project (refer to section 5.1)
 - A representative viewpoint assessment (refer to section 5.2)
 - A discussion of potential visual impacts from private properties (refer to section 5.3)
 - A discussion of the potential visual impacts at night (refer to section 5.4)
 - Identification of visual impacts during construction (refer to section 5.5)
- A review of the project in relation to the ... planning provisions relating to scenic amenity in the *Cassowary Coast Regional Council Planning Scheme* (refer to section 5.7).

1.1.Guidance for visual impact assessment

This visual impact assessment has been guided by the principles contained in the *Guidance Note for Landscape and Visual Assessment*, Australian Institute of Landscape Architects Queensland (2018). Further detail on the methodology used for assessing the impact of the Project is described throughout section 5 of this report.

1.2.Project study area

Due to the scale of the project infrastructure, an area of about 2 kilometres (km) from the Project has been used as the study area for this assessment. This covers the area over which there is potential for impacts on rural and scenic amenity.

Within this study area views of the Project will vary according to the vegetation cover and topography of the land. The study area is shown in Figure 1-1.

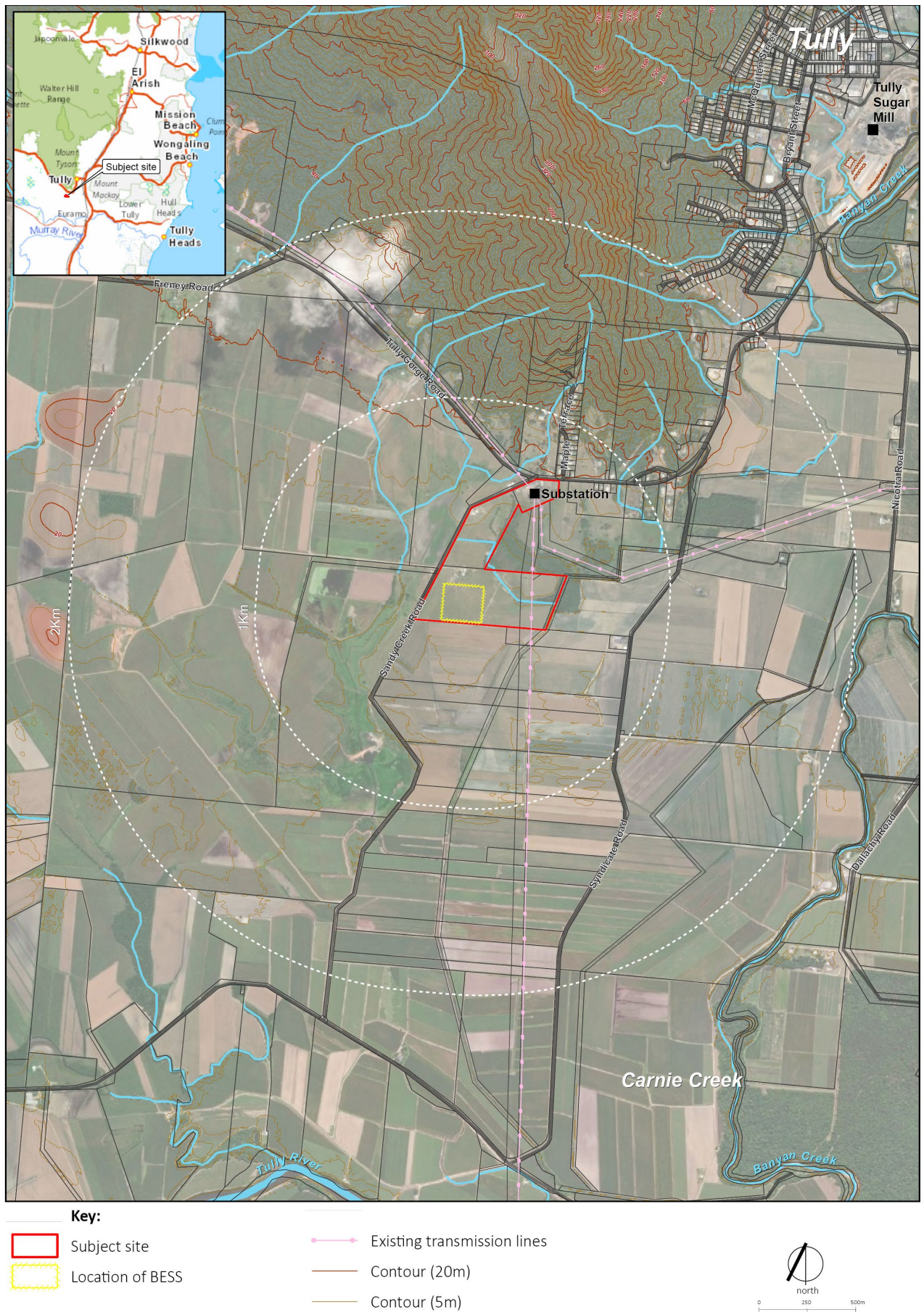


FIGURE 1-1 SITE LOCATION PLAN

2. The Project

The Project site (Lot 1 RP735276 and Lot 1 RP852238) is around 27 hectares (ha) of mostly cleared rural land approximately 4 km southwest of Tully.

The Project includes a proposed BESS with a capacity up to 200 MW / 800 MWh and associated infrastructure (e.g. transformer, switch rooms, access roads, laydown areas, foundations, hard stand, parking, control room and storage).

The BESS and associated infrastructure would comprise a total development footprint of approximately 9 ha within the 27 ha Project site.

The grid connection is proposed via the existing neighbouring Powerlink Tully Substation (132 kV), located to the northeast on Lot 1 on RP716718. This connection would be facilitated by a 132kV overhead transmission line comprising poles and wires.

2.1. Project components

The layout of the BESS and associated infrastructure is shown in Figure 2-1 and includes the following components:

- Battery units:
 - up to 188 battery units covering a total area of approximately 2.5 ha
 - each battery unit would be about 8.6 m in length, 2.8 m in height and 2.1 m wide (typically in the form of a 40-foot shipping container)
 - The foundations on which the proposed battery units will likely be installed on screw piles, piers or concrete pad formations.
 - battery units will be set out in rows and would be connected to an adjacent switch room via underground cables.
- Inverters:
 - Up to 47 associated transformers / inverters units either incorporated as part of the battery units or separate Power Conversion Units (PCU).
- Overhead 132kV transmission line:
 - connecting through the northern part of the site with the Tully Substation (132 kV).
- A switching station is proposed comprising a 132/33 kV high-voltage transformer, air insulated switchgear, an auxiliary transformer, two 33 kV switch rooms and potentially harmonic filters
- 2 x 33 kV switch rooms about 192 m x 48.5 m, including the switchgear and a site office.
- A control room (approximately 12 m x 5 m) would sit on concrete footing with trenches and conduits for the cabling entering the building.
- An acoustic wall of 6m in height has been included with the design, located directly on the northern perimeter of the BESS units.
- Operations and maintenance (O&M) area, approximately 71 m x 38 m adjacent to Sandy Road, would include an O&M building, yard, parking areas and water tanks.
- A 50,000 litre capacity firewater tank (or other volume as required by emergency services).
- Stormwater drainage systems would be constructed to allow for safe collection and diversion of rainwater at the BESS facility and would be established for both construction and operational phases.
- Site Access:
 - Access to the facility would be via the existing local road network with two upgraded access points proposed from Sandy Creek Road.
 - A perimeter road would be provided for operations, maintenance and emergency response.
- Security fencing:
 - The BESS facility would be enclosed by tall chainmesh security fencing (up to 3 m tall) with access gates for safety and security purposes
- Asset protection zone:
 - An Asset Protection Zone (APZ) would be maintained around BESS infrastructure to ensure protection from bushfire and to allow access to firefighting personnel in the event of fire.
 - The APZ would be cleared of any vegetation and have a mineral earth or grass surface.

2.2. Project construction

Project construction is expected to take up to 18 months. A temporary construction site would be established adjacent to project site, near Sandy Creek Road. This area would include an area of hardstand for laydown, temporary site offices, and parking.

An existing house, sheds and associated garden trees within the development footprint would be removed or repurposed.

Civil earthworks would be undertaken to prepare level platforms for the project infrastructure, and to cater to stormwater management requirements.

The batteries would be manufactured off-site, delivered ready for installation, and arranged onto footings via mobile crane. Site buildings would be manufactured off-site and delivered via truck.

Once construction has been completed, the temporary construction buildings would be dismantled and removed. The ground surface would be retained.

2.3. Project operation

The BESS would be capable of operating at any time 24 hours a day, seven days a week. O&M activities may occasionally extend beyond daylight hours for corrective maintenance activities as required. While the BESS would be monitored and controlled remotely during operation, some routine maintenance would be periodically performed on-site. On-site maintenance activities would require a small number of personnel.

2.4. Decommissioning

The Project life is up to 20 years. Following the 20-year period the determination will be made whether to:

- Extend the life of the existing infrastructure with increased maintenance, refurbishment and/or
- replacement of certain components;
- Repower the Site with new infrastructure; or
- Decommission the infrastructure and rehabilitate the Site.

Decommissioning will be addressed as part of a Decommissioning Management Plan but would typically consist of removal of all above-ground infrastructure for recycling or disposal and reinstate all disturbed land and return to agricultural use. The land will be returned to its pre-existing condition, or an improved state, to allow for rural use.

The potential of the Project to operate past the original lifespan will depend on the market conditions and the condition of the BESS equipment at the time.

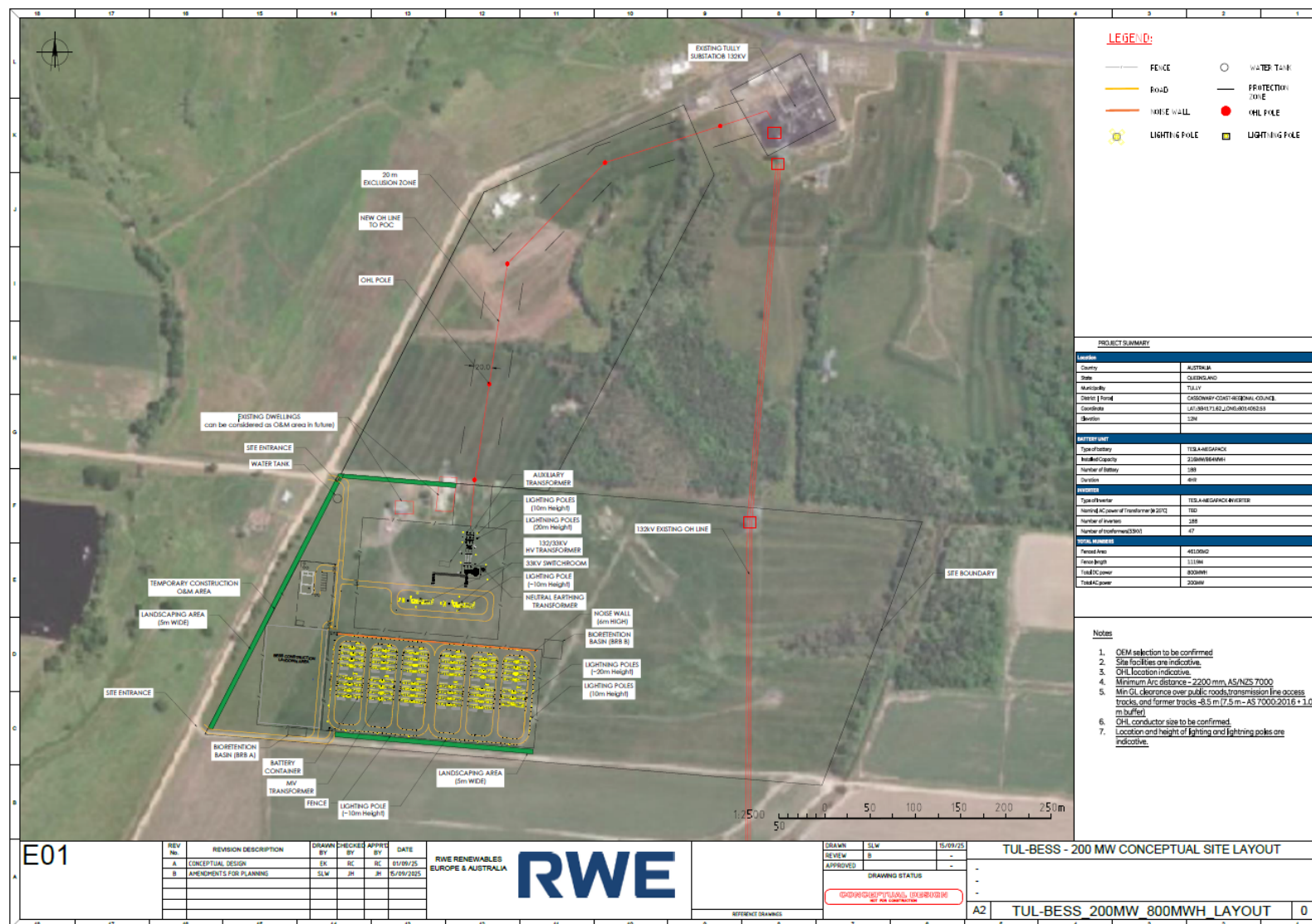


FIGURE 2-1 TULLY BATTERY ENERGY STORAGE SYSTEM (BESS) GENERAL ARRANGEMENT

3. Planning context

This section summarises the relevant state and local government planning documents which apply to the Project site and provide guidance for the management of scenic and rural amenity within the region.

3.1.State and regional planning documents

3.1.1.Far North Queensland Regional Plan 2009-2031

The *Far North Queensland Regional Plan 2009-2031* (QLD Department of State Development, Infrastructure and Planning, 2009) applies to the Cassowary Coast Regional Council LGA.

Under the *Far North Queensland Regional Plan*, Tully is identified as a district regional activity centre. A significant area of broad hectare land in the urban footprint north of Tully has been identified to accommodate future growth of the district. There are no growth plans outlined south of Tully near the Project site.

Objective 2.1 of the *Far North Queensland Regional Plan* is to identify, protect and manage the regions landscape values. The region's natural areas are characterised by their high biodiversity, agricultural and fisheries productivity, and scenic amenity. There are several scenic routes through the region. The Project site is not a regionally recognised natural area or noted for its high scenic amenity. Sandy Creek Road is not included as a scenic route in this plan.

Objective 2.3 of the *Far North Queensland Regional Plan* is to protect and enhance the visual amenity of the region's natural landscapes, seascapes and productive rural lands (page 50). The hill slopes are noted as a highly valued landscape feature in the Regional Plan.

Relevant land use policies that support this objective are:

- In rural production areas, development on land with a gradient greater than 1:6 should be sympathetic to the landscape values of the area (cl. 2.3.1 and 2.3.2b).

- Views from significant popular viewpoints are to be protected from development that diminish their scenic value (cl. 2.3.4).
- Urban areas and villages are to be separated from rural production areas by [vegetated] inter-urban breaks which protect the character and identity of regional communities (regional policy) (cl. 2.3.7).

The Project site is not located on a hill slope and does not have a gradient greater than 1:6. The Project site is not a significant popular viewpoint, nor visible from one. The Project is not located within an identified vegetated inter-urban break.

Objective 2.7 of the Regional Plan is to protect regional landscape and rural production values from encroachment of urban activities, via declaration of a rural precinct. The Project site is not within a designated rural precinct.

3.2.Local Government planning

The project is within the Cassowary Coast Regional Council area.

3.2.1.Cassowary Coast Regional Council Planning Scheme

Under *Cassowary Coast Regional Council Planning Scheme* (Cassowary Coast Regional Council, 2015) the Project site is zoned rural, and is located adjacent to land zoned Township (and included in the Industry precinct of the Tully Local Plan) and Special Purpose. Relevant provisions of the rural zone, the adjacent industry zone and special purpose, and scenic amenity provisions that apply to the region are outlined below. How the Project responds to the relevant provisions of the *Cassowary Coast Regional Council Planning Scheme* for scenic amenity within the rural zone is addressed in section 6.1.1 of this report.

Rural zone

The purpose of the rural zone code includes to
“provide opportunities for non-agricultural activities that are compatible with agriculture, the environmental features, and landscape character of the rural area where the activities do not compromise the long-term use of the land for rural purposes.” (cl. 6.2.4.2(1)) ... and to “protect and maintain the scenic values of the Region's landscapes.” (cl. 6.2.4.2(1)).

The purpose of the code is to be achieved through outcomes including *“the rural amenity and character of the existing rural landscape, which is dominated by extensive areas of rural production and natural areas, is maintained”* (cl. 6.2.4.2(2c)).

To comply with the purpose and overall outcomes of the rural code, development must comply with applicable performance outcomes.

Performance outcome 1: *“buildings and other structures do not have a detrimental impact on the amenity of the locality”*. With acceptable outcomes being that buildings/structures:

- do not exceed 9.5 m height
- are set back at least 20 m from the street
- are set back at least 10 m from any side and rear boundary, and
- are located at least 10 m from a cane railway line and 20 m from a cane railway siding or cane bin loading point.

Township Zone – Industry Precinct

Adjacent to the east (Lot 5 on SP140625), land is within the township zone and identified as an industry precinct within the Tully Local Plan. Tully industry precinct provides for low and medium impact industry, telecommunications, transport depots, and warehouses among other uses. This site was formerly an abattoir and currently hosts the new Powerlink Tully 275 kV substation.

Special Purpose

The lot to the north east (Lot 1 on RP716718) is zoned Special Purpose, this zone provides for public uses that are owned or operated by a government, statutory authority, government owned corporation, local government or private organisation in the course of public utility undertaking. This land hosts the existing Tully 132 kV substation.

Scenic amenity

The planning scheme includes a scenic amenity overlay code. *“The purpose of the scenic amenity code is to ensure the Region’s scenic hill slopes, foreshores and esplanades, visually significant areas, tourist routes, rural landscape and landscape generally are protected and enhanced (cl. 8.2.10.2).*

The scenic amenity overlay is shown Figure 3-1, it identifies:

- The dense forested hills (around 400 m to the north and part of Alcock Forest Reserve) as “visually significant areas”.
- Tully Gorge Road is located around 100 m to the north of the Project site and has been identified in the scenic amenity code as a tourist route.

The Project site is not identified on the scenic amenity overlay.

A specific scenic amenity outcome in the planning scheme supports the protection of inter-urban breaks. Clause 3.6.2.1(5) states: *“Urban areas are separated from rural and natural areas by vegetated inter-urban breaks. The four distinct villages comprising Greater Mission Beach remain separated and contained by vegetated areas.”*

The Project site is not part of an inter-urban area protecting a distinct village.

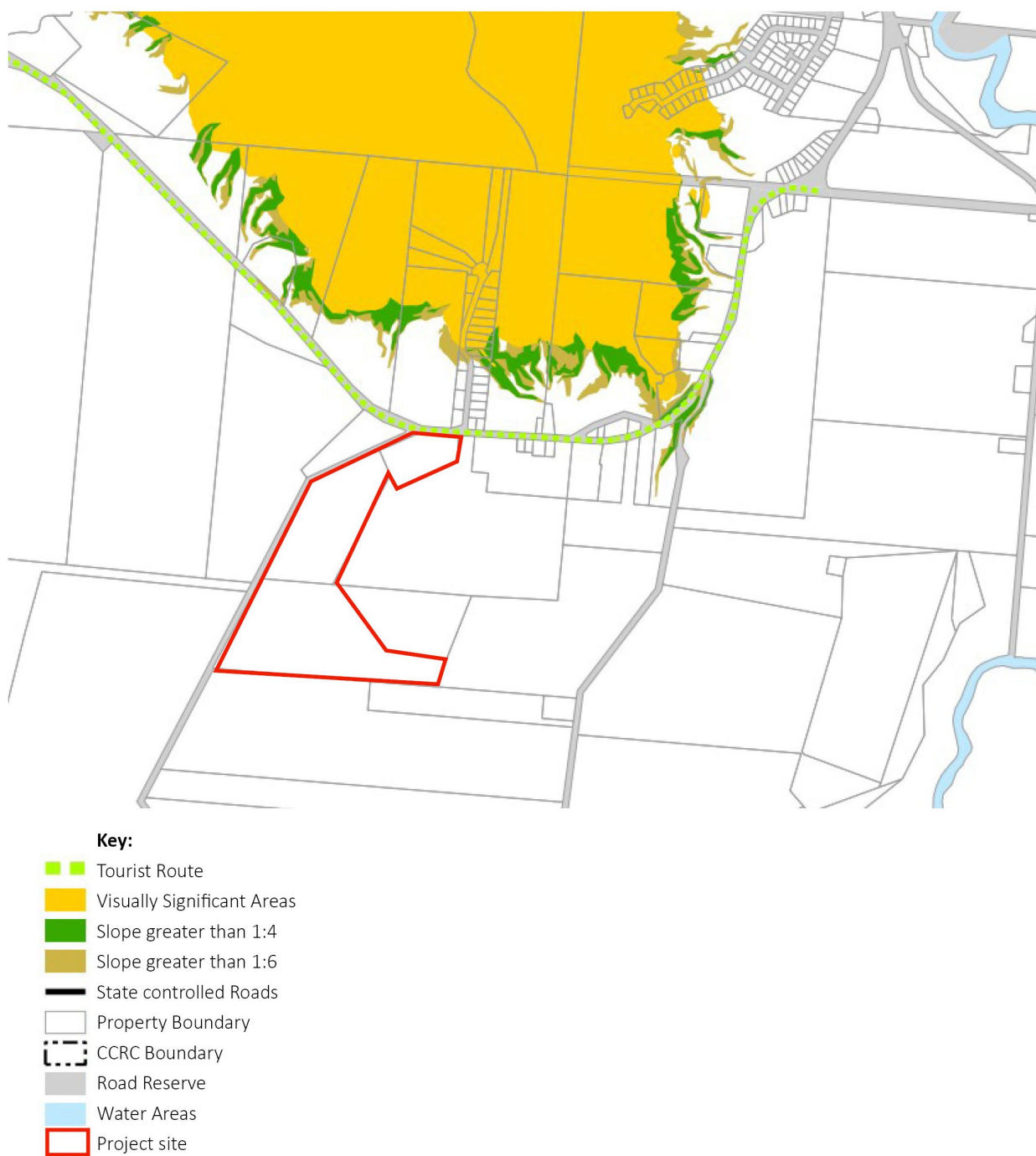


FIGURE 3-1 SCENIC AMENITY OVERLAY (SOURCE: CASSOWARY COAST REGIONAL COUNCIL PLANNING SCHEME)

4. Site and setting

The Project site is located around 2.5 km south of Tully and 100 m south of the Tully Gorge Road/Sandy Creek Road intersection. The existing Tully Substation is located on the southern side of the Tully Gorge Road at the intersection with Sandy Creek Road and adjoins the Project site. (Refer to Figure 4-1)

The Bruce Highway is over 2.5 km and the nearest railway line is around 1.5 km to the east of the site. There are several rural roads surrounding the Project site including Sandy Creek Road, which forms the western boundary of the site, and Syndicate Road about 700 metres to the east. There is a dense group of mature trees on the road verge, adjacent to the site. (see Figure 4-2) which screen the Project site.

North of Tully Gorge Road, land rises steeply to Mount Tyson (650 m) and is densely vegetated, forming part of the visually significant Alcock Forest Reserve. Topography is shown in Figure 4-11.

A small residential pocket is located along Maple Terrace, which extends up the cleared foothills from Tully Gorge Road.

West and south of the Project site are large rural landholdings, cultivated for cropping, including large areas of sugar cane. The rural land is generally flat and largely cleared, with scattered trees remaining along small creeks and lower-lying areas. There are settling ponds around 160 m to the west.

Directly to the east and northeast of the Project site is an industrial precinct. Within the precinct is the existing Powerlink Tully Substation (132 kV) (see Figure 4-1). Immediately behind the existing substation, the New Tully Substation (275 kV) is under construction. The new substation will accommodate new equipment including a transformer.

Along the eastern and southern borders of the industrial precinct (adjoining the Project site boundary) is a dense corridor of vegetation. Vegetation continues south along a small canal line which runs along the eastern boundary of the Project Site.

The Project site is generally flat, and vegetation is largely cleared. (Refer to Figure 4-8)

A transmission tower is in the eastern end of the Project site, and the associated transmission line traverses the Project site north/south. (Refer to Figure 4-8)



FIGURE 4-1 VIEW FROM SANDY CREEK ROAD TO POWERLINK TULLY SUBSTATION



FIGURE 4-2 TREES ALONG SANDY CREEK ROAD



FIGURE 4-3 MAPLE TERRACE



FIGURE 4-4 SUGAR CANE FARM CROSSED BY EXISTING TRANSMISSION LINE



FIGURE 4-5 VIEW ALONG TULLY GORGE ROAD TO EXISTING TRANSMISSION LINES CONVERGING ON THE TULLY SUBSTATION



FIGURE 4-6 VIEW TO NEW TULLY SUBSTATION FROM TULLY GORGE ROAD



FIGURE 4-7: VIEW ALONG MAPLE TERRACE FROM INTERSECTION WITH TULLY GORGE ROAD



FIGURE 4-8: VIEW ACROSS THE PROJECT SITE TO EXISTING TRANSMISSION LINE



FIGURE 4-9: AERIAL VIEW OVER TULLY GORGE ROAD TO THE EXISTING AND UNDER CONSTRUCTION SUBSTATION



FIGURE 4-10: AERIAL VIEW OVER THE RURAL LANDSCAPE TOWARDS THE SITE AND EXISTING ENERGY INFRASTRUCTURE

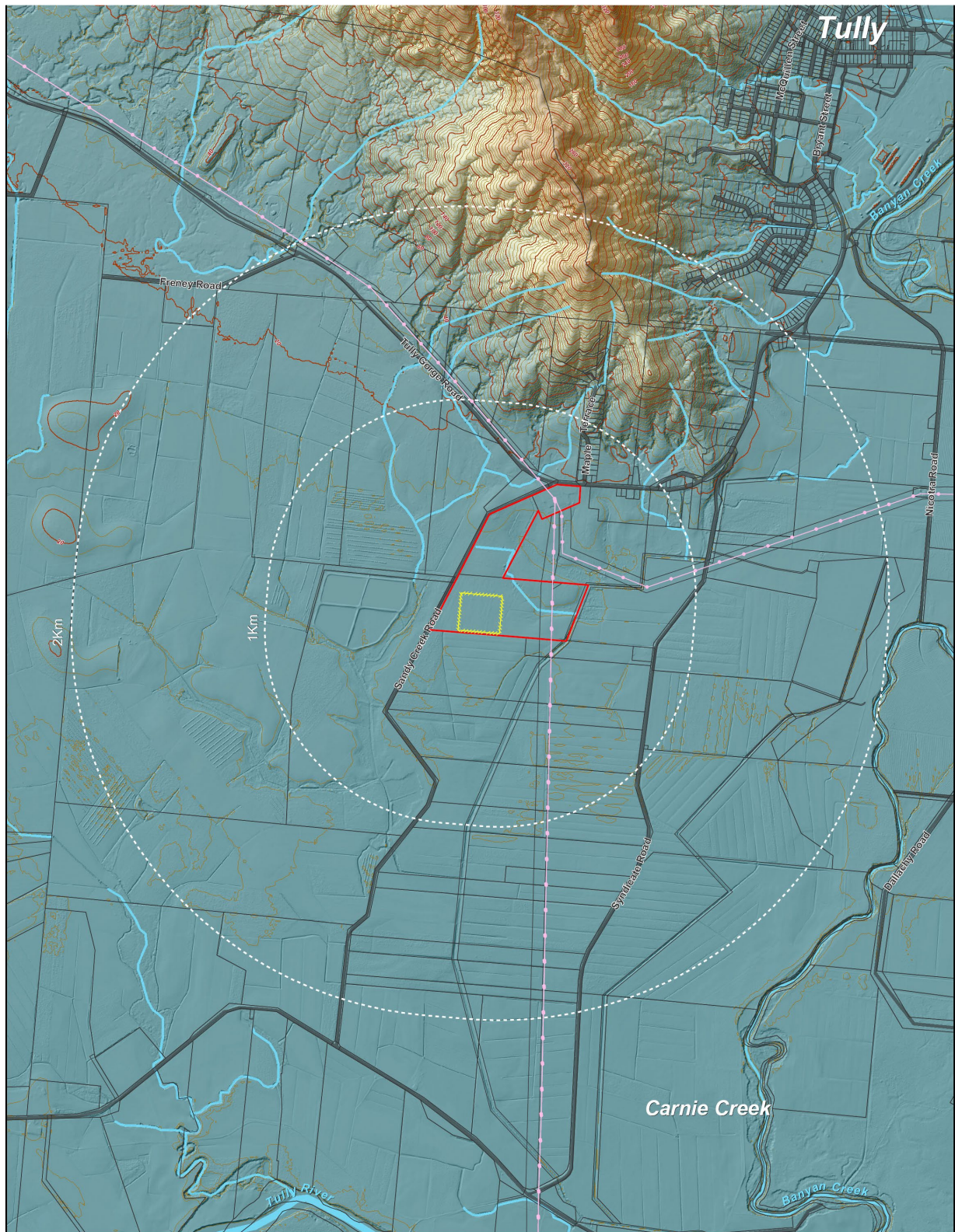


FIGURE 4-11 TOPOGRAPHY

5. Scenic amenity impact assessment

This scenic amenity impact assessment includes the following:

- A visibility analysis to identify the visibility of the Project (refer to section 5.1)
- A representative viewpoint assessment (refer to section 5.2)
- A discussion of potential visual impacts from private properties (refer to section 5.3)
- A discussion of the potential visual impacts at night (refer to section 5.4)
- Identification of visual impacts during construction (refer to section 5.5)
- A review of the project in relation to the ... planning provisions relating to scenic amenity in the *Cassowary Coast Regional Council Planning Scheme* (refer to section 5.7).

5.1. Visibility analysis

5.1.1. Approach

GIS analysis has been undertaken to identify the area from which there is the potential to view the proposed BESS infrastructure. This visibility analysis used a 3D digital terrain model (that is, a digital graphic representation of elevation data to represent existing landform), and an assumed 3 m height of the BESS, to identify areas from which the Project could be theoretically seen.

Existing vegetation and structures were not included in the model; hence the analysis is theoretical and shows a greater area of potential visibility than would otherwise be the case. The visibility analysis (excluding vegetation) is shown in Figure 5-1.

Because of the flat landform of the valley, this analysis shows potential visibility across a broad area.

Following this step, existing vegetation was added to the 3D model to show the reduced extent of potential visibility by taking the screening effect of existing vegetation into account.

5.1.2. Potential visibility of the project

The visibility analysis including vegetation (Refer to Figure 5-2) shows a significantly reduced extent of potential visibility due to the amount of vegetation surrounding the Project site.

This analysis shows the potential for views extending:

- a few hundred metres from the site to the north, including along Sandy Creek Road
- northeast to adjoining paddocks
- scattered visibility on adjoining paddocks within a kilometre of the site
- scattered visibility on elevated locations between one and two kilometres to the north

The area of theoretical visibility was investigated during field investigations to confirm visibility, and potential public and private viewpoints were identified.

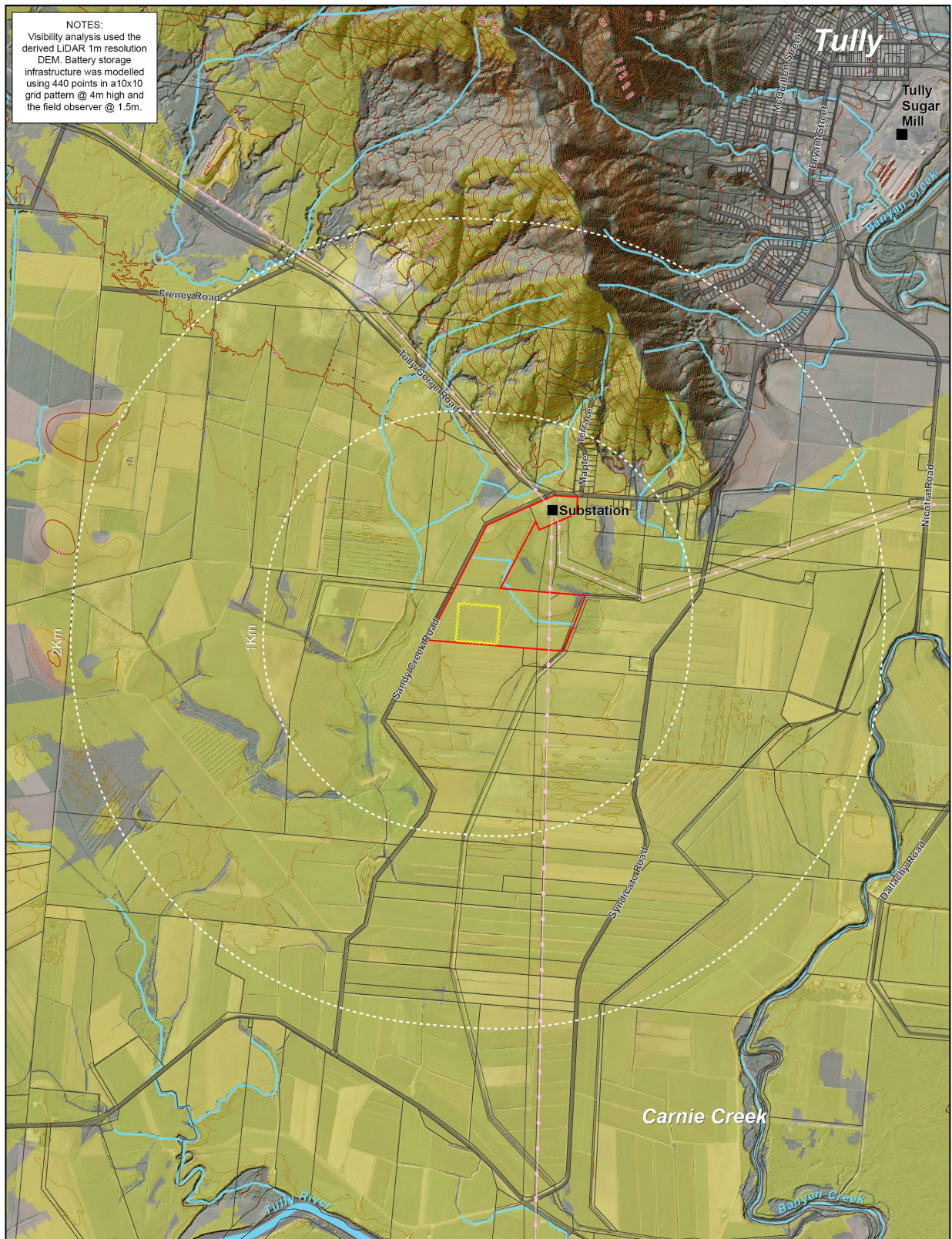


FIGURE 5-1 THEORETICAL VISIBILITY OF THE PROJECT, BASED ON LANDFORM ONLY

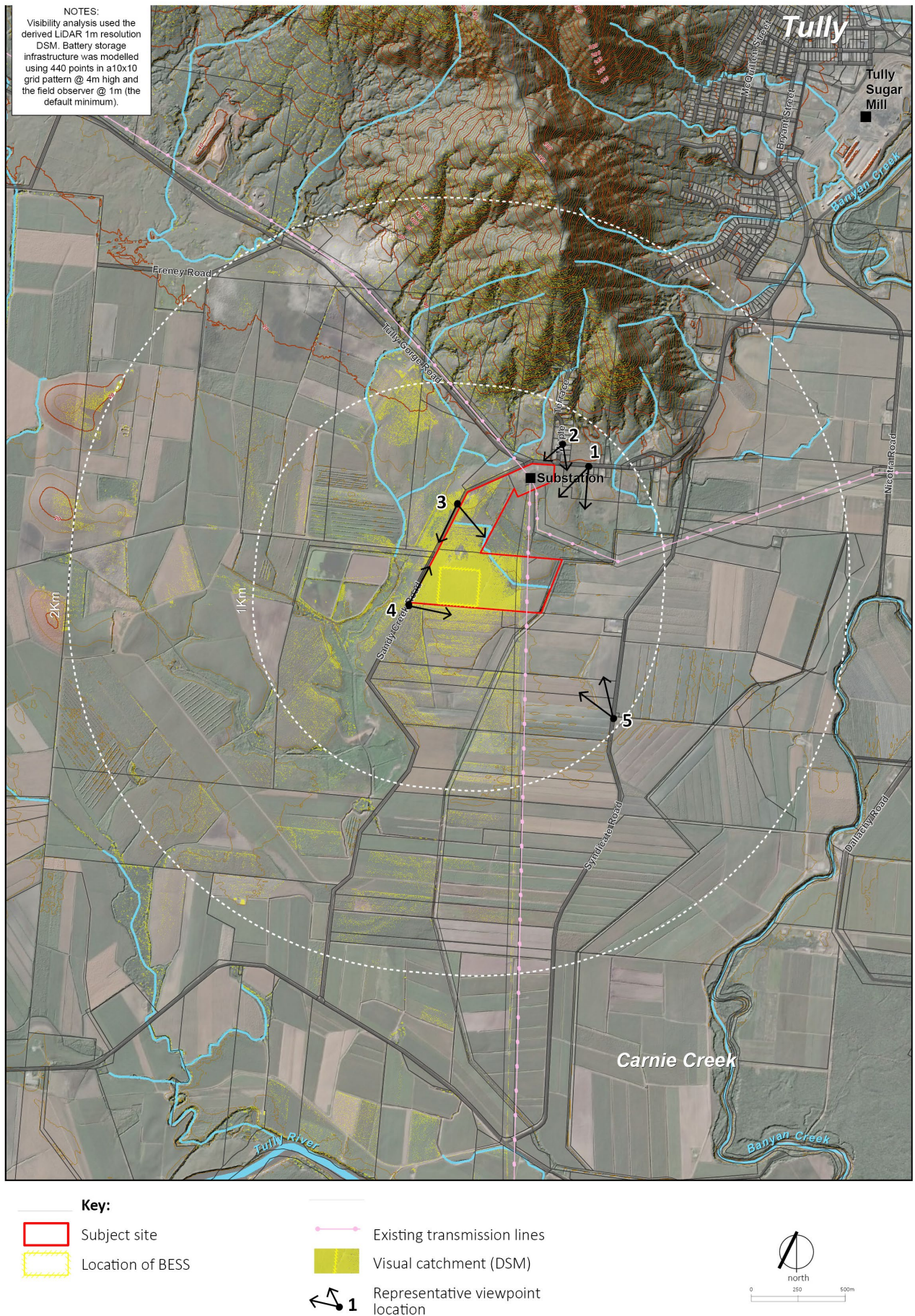


FIGURE 5-2 POTENTIAL VISIBILITY OF THE PROJECT, INCLUDING SCREENING BY EXISTING VEGETATION

5.2. Visual impacts

5.2.1. Approach

Viewpoints have been selected to represent the range of public locations with potential views of the project.

For each viewpoint, its *visual sensitivity* and potential *magnitude of change* to the view, are determined. The combination of *visual sensitivity* and *magnitude of change* determines the level of visual impact.

Visual sensitivity

Visual sensitivity refers to the nature and quality of views. Locations from which a view would potentially be seen for a longer duration, where there are higher numbers of potential viewers and where visual amenity is important to viewers, can be regarded as having a higher visual sensitivity. In addition, views recognised by local, state or federal planning regulations would, by nature of their recognition in these documents, have a higher sensitivity.

The sensitivity of a viewpoint is considered in the broadest context of possible views, from those of national importance to those considered to have a neighbourhood visual importance (refer to Table 5-1).

TABLE 5-1 VISUAL SENSITIVITY LEVELS

Level	Description
National	Heavily experienced view to a national icon, e.g. view to the Barron Gorge from the Sky Rail and Lookouts, Kuranda.
State	Heavily experienced view to a feature or landscape that is iconic to the State.
Regional	High quality view from an area of regional open space (e.g. Mount Larcom Peak lookout), or heavily experienced view to a feature or landscape that is iconic to a major portion of a city or a non-metropolitan region, including areas of district and/or regional significant scenic amenity value (Gladstone Regional Planning Scheme).
Local	Higher quality view experienced by concentrations of residents and/or local recreational users, and/or large numbers of road or rail users (e.g. views from the Bruce Highway. Views with local visual features and/or landmarks.
Neighbourhood	Views where visual amenity is appreciated by a small number of isolated residents, not particularly valued by the wider community. Viewers whose interest is not specifically focused on views e.g. workers.

Magnitude of change

The magnitude of change describes the extent of change resulting from the Project and the visual compatibility of these new structures with the existing landscape. There are some general principles which determine magnitude of change levels: the proportion of the view affected; extent of the area over which the change occurs; the size and scale of the change; the rate and duration of the change; and the level of contrast and compatibility.

A high magnitude of change would result if the Project contrasted strongly with the existing landscape. A low magnitude of change would result if there were minimal visual contrast and a high level of integration between the development and the environment in which it is located.

Table 5-2 lists the magnitude of change levels.

Assigning visual impact levels

The level of visual impact (made by combining the visual sensitivity and magnitude of change levels for each view) is determined using the visual impact levels assessment matrix (refer to Table 5-3).

5.2.2. Photomontages

Photomontages have been prepared for the two most potentially impacted viewpoints. These photomontages are prepared by creating a 3D model that combines the project with a model of the existing landscape (landform and vegetation). A camera is accurately positioned into the photograph using a LiDAR point cloud and a render of the 3D model incorporated into the photograph using photo editing software.

The proposed screening vegetation is based on the Landscape Plan and assumes trees at 5 metres and shrubs varying between 2 and 3 metres high.

TABLE 5-2 VISUAL MAGNITUDE OF CHANGE LEVELS

Level	Description
High	A substantial part of the view is altered. This project contrasts substantially with the surrounding landscape and/or desired future character.
Moderate	A small to moderate part of the view is altered. This project contrasts with the surrounding landscape and/or desired future character.
Low	A small to moderate part of the view is altered. This project does not contrast substantially with the surrounding landscape and/or desired future character.
Negligible	Either the view is unchanged or if it is, the change in the view is unlikely to result in a change in the amenity of the view. This project does not contrast with the surrounding landscape and/or is consistent with the desired future character.

TABLE 5-3 VISUAL IMPACT LEVELS

		Visual sensitivity				
		National	State	Regional	Local	Neighbourhood
Ma	High	Very high	Very high	High	Moderate	Low
	Moderate	Very high	High	Moderate	Low	Low
	Low	High	Moderate	Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

5.2.3. Representative viewpoint assessment

Several viewpoints were selected to represent range of views to the project.

These viewpoints are:

- Viewpoint 1: View southwest from Tully Gorge Road
- Viewpoint 2: View south from Maple Terrace
- Viewpoint 3: View south from Sandy Creek Road
- Viewpoint 4: View northeast from Sandy Creek Road
- Viewpoint 5: View northwest from Syndicate Road.

The location of these viewpoints is shown in Figure 5-1.

It should be noted that while Mount Tyson is relatively close to the Project site (around 1.5 km to the north) and elevated, there are no lookouts or trails on the mountain that would have a view to the Project.

The assessment of visual impact on public viewpoints is presented in the following sections (5.2.3.1 to 5.2.3.5)



5.2.3.1. Viewpoint 1: View southwest from Tully Gorge Road



FIGURE 5-4 VIEWPOINT 1: EXISTING VIEW SOUTH FROM TULLY GORGE ROAD

TABLE 5-4 VIEWPOINT 1: VIEW FROM TULLY GORGE ROAD – IMPACT ASSESSMENT

Existing conditions:	The fore and middle ground of this view includes cleared grassed paddocks on gently undulating landform, and glimpses of the under-construction Tully Substation and multiple transmission line structures converging on the existing and new substation. The view of the new substation (under construction) is partly screened by corridors of existing mature vegetation. Beyond the vegetation and power infrastructure the view is enclosed by distant mountains to the south. Refer to Figure 5-4.	
Visual sensitivity:	Tully Gorge Road is a scenic route. The scenic quality of this view is relatively low due to the strong presence of power infrastructure.	Regional
Magnitude of change:	The project would be located beyond the trees and substation and out of view. Any glimpses to the upper portion of the 132kV transmission towers connecting to the existing Tully Substation would not alter the amenity of the view from this section of Tully Gorge Road. Overall, the magnitude of change from this view is negligible.	Negligible
Visual impact	Negligible	

5.2.3.2. Viewpoint 2: View south from Maple Terrace



FIGURE 5-5 VIEWPOINT 2: EXISTING VIEW SOUTH FROM MAPLE TERRACE

TABLE 5-5 VIEWPOINT 2: VIEW SOUTH FROM MAPLE TERRACE – VIEWPOINT IMPACT ASSESSMENT

Existing conditions:	View from an elevated position on Maple Road, a local road providing access to a small pocket of residential dwellings. The foreground of the view includes houses and garden trees which partially screen views to Tully Gorge Road. The existing Tully Substation is visible in the middle ground, and there are several transmission towers (poles and lattice structures) surrounding the substation and extending across most of this view. The substation is viewed against existing dense vegetation that also obstructs the view to the open rural fields beyond. Over the substation there are glimpses of existing agricultural cropping uses, including sugar cane. This view is enclosed by the distant mountain range which rises dramatically above the rural plain. The strong presence of energy infrastructure, including transmission lines and towers, the existing and future substations, dominate the middle ground of this view. Refer to Figure 5-5.	
Visual sensitivity:	This view is from a local street used to access a small pocket of residential dwellings. The scenic quality of this view is mixed, with a strong presence of power infrastructure in the middle ground detracting from an attractive backdrop.	Neighbourhood
Magnitude of change:	Due to the distance, landform and intervening vegetation the BESS infrastructure would not be visible from this location. There is the potential for the upper portion of the proposed 132kV transmission pole towers to be visible above the intervening vegetation. Where visible, these poles and wires would be seen in the context of multiple existing transmission lines (both poles and lattice structures) and the existing and future substations.	Negligible
Visual impact	Negligible	

5.2.3.3. Viewpoint 3: View south from Sandy Creek Road



FIGURE 5-6 VIEWPOINT 3: EXISTING VIEW SOUTH FROM SANDY CREEK ROAD



FIGURE 5-7 VIEWPOINT 3: VIEW SOUTH FROM SANDY CREEK ROAD, PHOTOMONTAGE

TABLE 5-6 VIEWPOINT 3: VIEW SOUTH FROM SANDY CREEK ROAD – VIEWPOINT IMPACT ASSESSMENT

Existing conditions:	The fore and middle ground of this view includes grassed paddocks on flat landform. There are two rural dwellings in the view, as well as several lattice transmission line structures crossing the landscape, heading to the Tully substation. There are some trees along Sandy Creek Road, scattered across the fields and in the gardens surrounding the dwellings. The view is enclosed by distant mountains to the south, which rise dramatically above the flat valley, forming an attractive feature in the view. Refer to Figure 5-6.	
Visual sensitivity:	View from an unsealed road within the rural valley that provides access to homesteads and farms in this rural zoned area.	Neighbourhood
Magnitude of change:	The BESS would be visible in the middle ground of this view, including several buildings (switch rooms) and transformers. A long length of noise barrier can be seen beyond this, screening views of the battery and inverter units from this location. The height of the noise barrier remains well below the hills in the background which remain visible and continue to be seen rising prominently above the valley floor. There are some vertical elements visible above the noise barriers, including light poles and lightening arrestors, which are viewed against the backdrop of hills. The proposed 132kV transmission line connection will be seen extending north from the proposed transformer. These poles and wires are viewed in the context of an existing transmission line with lattice structures, set back further from the road. Refer to Figure 5-7.	Low
Visual impact	Negligible	
Magnitude of change with mitigation	The proposed screening vegetation would obstruct the view of the switch rooms, transformers, and noise barriers. Refer to Figure 5-8.	Negligible
Residual visual impact	Negligible	



FIGURE 5-8 VIEWPOINT 3: EXISTING VIEW SOUTH FROM SANDY CREEK ROAD, PHOTOMONTAGE WITH PROPOSED SCREENING VEGETATION SHOWN

5.2.3.4. Viewpoint 4: View northeast from Sandy Creek Road



FIGURE 5-9 VIEWPOINT 4: EXISTING VIEW NORTHEAST FROM SANDY CREEK ROAD



FIGURE 5-10 VIEWPOINT 4: VIEW NORTHEAST FROM SANDY CREEK ROAD, PHOTOMONTAGE

TABLE 5-7 VIEWPOINT 4: VIEW NORTHEAST FROM SANDY CREEK ROAD – IMPACT ASSESSMENT

Existing conditions:	This view, from the southern corner of the site (south of a corridor of existing trees within the road reserve), includes open cleared paddocks in the fore and middle ground. Beyond the field there is a dense corridor of vegetation, which screens the residential areas and existing and new substation (under construction) beyond. There are numerous transmission lines, including poles and lattice towers and wires visible crossing the landscape and converging on the substations. The background of the view includes a distinctive mountain and vegetated foothills. Refer to Figure 5-9.	
Visual sensitivity:	View from an unsealed road within the rural valley that provides access to homesteads and farms in this rural zoned area.	Neighbourhood
Magnitude of change:	The BESS would be visible in the middle ground of this view, mostly setback from the road. This includes battery and inverter units arranged in rows and enclosed by security fences. There are some vertical elements that would be visible above the BESS, including light poles and lightening arrestors. The transformer may be visible glimpsed beyond the BESS, as would the proposed 132kV transmission line connection, which would extend north from the proposed transformer. These vertical elements would be viewed in the context of several existing transmission lines with both pole and lattice structures and viewed against the backdrop of hills. The site access track would be visible in the foreground as well as large areas of hardstand, replacing an area of pasture. Refer to Figure 5-10.	Moderate
Visual impact	Low	
Magnitude of change with mitigation	The proposed screening vegetation along the site boundary with Sandy Creek Road, would partly obstruct the view of the project from the road. Refer to Figure 5-11.	Low
Residual visual impact	Negligible	



FIGURE 5-11 VIEWPOINT 4: VIEW NORTHEAST FROM SANDY CREEK ROAD, PHOTOMONTAGE WITH PROPOSED PLANTING SHOWN

5.2.3.5. Viewpoint 5: View from Syndicate Road



FIGURE 5-12 VIEWPOINT 5: VIEW WEST FROM SYNDICATE ROAD

TABLE 5-8 VIEWPOINT 5: VIEW FROM SYNDICATE ROAD – VIEWPOINT IMPACT ASSESSMENT

Existing view:	View across cane fields with some existing transmission lines (including tall lattice structures) in the middle ground. Distant views of the mountain ranges (left of view) and hills north of Tully Gorge Road (right of view), rise dramatically above the flat valley floor, provide an attractive feature and encloses the view.	
Visual sensitivity:	This view is from a sealed within the rural valley that provides access to homesteads and farms in this rural zoned area.	Neighbourhood
Magnitude of change:	Due to the distance, landform and intervening cane farms, the BESS infrastructure would not be visible from this location. It is also unlikely, due to the distance, and flat landform, that the proposed 132kV transmission pole towers, and taller elements such as lightening arrestors, would be visible above the intervening farms. If visible, these vertical elements would comprise a very small portion of the view and not have a material effect on the amenity of the view. When the sugar cane crop is harvested, there would continue to be some screening by bushland in the middle to background of the view. Any visible portion of the BESS would be in the background and comprise a small portion of the view and be seen in the context of existing energy infrastructure.	Negligible
Visual impact	Negligible	

5.3.Views from private properties

The nearest residences (not associated with the Project site) are:

- 8 Sandy Creek Road, north of the Project site and opposite the existing Tully Substation (Refer to Figure 5-13)
- 119 Tully Gorge Road, about 860m from the Project (Refer to Figure 5-14)
- 73 Syndicate Road around 720 m east of the Project site (Refer to Figure 5-15)
- A cluster of dwellings on Maple Terrace, north of Tully Gorge Road, around 250 m north of the Project site. (Refer to Figure 5-16 and Figure 5-17)

The following table summarises the potential views from these locations.

TABLE 5-9 ASSESSMENT OF POTENTIAL VISUAL IMPACT ON DWELLINGS

No.	Property address	Distance to the project	Discussion	Potential view impact
R1	8 Sandy Creek Road	Around 550 m	Views from the dwelling towards the Project site are limited by existing sheds and trees on this property. There is the potential for glimpses to the proposed transmission connection, where it connects with the existing substation. Refer to Figure 5-13.	None
R2	119 Tully Gorge Road	Around 860 m	The Project would be screened by intervening vegetation. Refer to Figure 5-14.	None
R3	73 Syndicate Road	Around 1.1 km	Project would be screened by existing cane fields and vegetation along the drainage line to the west of the project site. Potential glimpses to the taller elements on the site, viewed within the context of other existing transmission lines. Refer to Figure 5-15.	None
R4	Maple Terrace dwellings	500 metres	Dwellings mostly enclosed by vegetation or view to site obstructed by intervening vegetation south of the existing and future substation. Limited potential for a view to the project. Refer to Figure 5-16 and Figure 5-17.	None
R7	214 Tully Gorge Road	Around 860 m	There would be no view to the project due to the flat landform, intervening transmission infrastructure, buildings and vegetation. Refer to Figure 5-18.	None



FIGURE 5-13: VIEW ALONG SANDY CREEK ROAD TO R1 (LEFT) AND EXISTING TULLY SUBSTATION (RIGHT)



FIGURE 5-14: VIEW FROM TULLY GORGE ROAD TO DWELLING R2, 119 TULLY GORGE ROAD



FIGURE 5-15: VIEW FROM SYNDICATE ROAD TO DWELLING R3, 73 SYNDICATE ROAD



FIGURE 5-16: VIEW FROM THE TOP OF MAPLE TERRACE



FIGURE 5-17: VIEW TOWARDS MAPLE TERRACE FROM SANDY CREEK ROAD IN THE VICINITY OF THE PROJECT SITE, SHOWING DENSE VEGETATION ENCLOSING DWELLINGS



FIGURE 5-18: VIEW TOWARDS THE INTERSECTION OF SANDY CREEK ROAD FROM TULLY GORGE ROAD, NEAR

5.4. Visual impacts at night

The project includes lighting when maintenance works are to be undertaken at night. There would be some security lighting that is controlled by sensor.

When the lighting is in use, the project would have the potential to be seen from surrounding areas where there is a view to the project, including Sandy Creek Road.

Where the upper portion of the light posts are visible, including from residential areas to the north, there would be the potential for additional lighting to be seen and a general skyglow above the site. This lighting would be seen in the context of similarly lit substations, lighting from dwellings along Tully Gorge Road and Maple Terrace, and vehicle headlights from vehicles travelling along Tully Gorge Road and surrounding rural roads.

All lighting would be designed and operated in accordance with AS 4282:2023 Control of the obtrusive effects of outdoor lighting. Refer to mitigation measures, Chapter 6 of this report.

5.5. Visual impacts during construction

During construction the visual impacts would be slightly greater as construction equipment and activity occurs on the site. This would include temporary site offices, laydown of materials, storage of equipment and vehicle parking on an area adjacent to Sandy Creek Road. There would also be heavy construction equipment to install the transformer, transmission line, switch rooms, battery containers and inverters, and construct the hardstand and internal access roads.

5.6. Summary of visual impacts

This assessment has identified that there are limited locations in the public domain from which the Project would be seen. This is due to the:

- rural nature of the area, with a sparse road network and scattered rural dwellings; and
- existing vegetation that surrounds Tully Gorge Road and the areas to the northeast of the site.
- low-lying landform.

Table 5-10 summarises the impacts identified in the representative viewpoint assessment. A summary of the findings of this assessment from key viewing areas follows.

Views from Tully Gorge Road

There would be limited views to the project from Tully Gorge Road and adjacent dwellings due to intervening vegetation and electricity infrastructure, including the existing Tully Substation and new substation.

Viewpoint 1: View from Tully Gorge Road represents views from this scenic route, where a negligible visual impact was identified.

Views from Maple Terrace

There would not be a visual impact from dwellings along Maple Terrace, some of which are elevated on the hillside above Tully Gorge Road. Viewpoint 2 represents views from this residential pocket, where

a negligible visual impact was identified. This negligible visual impact is due to the limited potential visibility of the project, and the presence of energy infrastructure in views from this location.

Views from surrounding rural areas

Overall, this assessment has identified low and negligible visual impacts from surrounding local roads and no visual impacts from private dwellings.

Viewpoint 3 and Viewpoint 4, which represent the views from Sandy Creek Road in the vicinity of the site, would have low visual impacts. This is due to the low sensitivity of an unsealed local road and the low to moderate magnitude of change with the BESS being set back from the road and screened from the north by a noise wall.

With the proposed tree and shrub planting along the northern boundary of the Proposal site and along the boundary with Sandy Creek Road, the project would be screened over time, and there would be no residual visual impact.

From areas in the vicinity of Syndicate Road to the southeast of the Proposal, there would be a negligible visual impact due to the distance, flat landform, intervening buildings and vegetation (including existing bushland and sugar cane crops).

When the intervening cane is harvested, the Proposal would be partly screened by existing bushland vegetation and where visible, viewed at a distance of about 700 metres or greater.

TABLE 5-10 SUMMARY OF PUBLIC VIEWPOINT ASSESSMENT

Viewpoint number and location	Sensitivity	Magnitude	Visual impact	Magnitude with mitigation	Residual visual impact
Viewpoint 1: View from Tully Gorge Road	Regional	Negligible	Negligible	-	-
Viewpoint 2: View from Maple Terrace	Local	Negligible	Negligible	-	-
Viewpoint 3: View south from Sandy Creek Road	Local	Low	Low	Negligible	Negligible
Viewpoint 4: View northeast from Sandy Creek Road	Local	Moderate	Low	Low	Negligible
Viewpoint 5: View from Syndicate Road	Local	Negligible	Negligible	-	-

6. Response to scenic amenity provisions in the planning scheme

6.1.1. Cassowary Coast Regional Council Planning Scheme provisions

Cassowary Coast Regional Council Planning Scheme includes provisions relating to the protection of scenic amenity within the rural zone.

Table 6-1 outlines how the Project responds to the relevant matters within the *Cassowary Coast Regional Council Planning Scheme*, and to provisions for scenic amenity within the rural zone.

TABLE 6-1 RESPONSE TO CASSOWARY COAST REGIONAL COUNCIL PLANNING SCHEME PROVISIONS

Planning scheme provision	Response
Purpose The purpose of the rural zone code includes to “provide opportunities for non-agricultural activities that are compatible with agriculture, the environmental features, and landscape character of the rural area where the activities do not compromise the long-term use of the land for rural purposes.” (cl. 6.2.4.2(1))... And to “protect and maintain the scenic values of the Region’s landscapes.” (cl. 6.2.4.2(1)).	The Project is consistent with the purpose of the rural zone as the Project: - Is a non-rural activity that has visual characteristics consistent with the existing landscape character of the area, which includes energy infrastructure including an existing and future substation and several transmission lines. - Does not directly impact any environmental features and introduces additional tree planting to improve the landscape character of the site. - Would have a limited visibility from the surrounding areas and would not obstruct any views of the scenic vegetated ridgelines and mountains surrounding the site. The Project would be located adjacent to an existing industry zone which provides for low and medium impact industry uses.
To comply with the purpose and overall outcomes of the rural code, development must comply with applicable performance outcomes. Table 6.2.4.3 Amenity – P01 Performance outcome: Buildings and other structures do not have a detrimental impact on the amenity of the locality. Acceptable outcomes: AO1.1 Buildings and other structures do not exceed: (a) a maximum height of 9.5 metres; (b) a maximum of 2 storeys. AO1.2 Buildings and other structures are set back at least:	The BESS infrastructure comprises relatively small-scale battery enclosures and several small-scale buildings. The Project buildings/structures: - would be set back more than 20 m from Sandy Creek Road - building height would not exceed 9.5 m and would not exceed two stories - would be set back more than 10 m from side boundaries - would be more than 20 m from the nearest cane railway line and cane railway siding or cane bin loading point. There are no residential buildings proposed for the Project.

Planning scheme provision	Response
(a) 6 metres from the street frontage where fronting a private road; (b) where the lot is 4,000 m² or less in area, 10 metres from the street frontage when fronting a public road; or (c) where the lot is greater than 4,000 m² in area, 20 metres from the street frontage when fronting a public road. AO1.3 Buildings and other structures are set back at least 10 metres from any side and rear boundaries. AO1.4 Buildings used for residential activities must be located: (a) at least 20 metres from a cane railway line; (b) at least 40 metres from a cane railway siding or cane bin loading point. AO1.5 Buildings not used for residential activities must be located: (a) at least 10 metres from a cane railway line; (b) at least 20 metres from a cane railway siding or cane bin loading point. AO1.6 Residential activities are designed to incorporate architectural/design elements detailed in Planning Scheme Policy SC6.2 Building design.	
Scenic amenity overlay	The Project site is not identified on the scenic amenity overlay. The BESS is around 520 m from the closest tourist route (Tully Gorge Road) and the visual assessment has identified a negligible visual impact from Tully Gorge Road. The Project site is not part of an inter-urban area protecting a distinct village.

7. Mitigation measures

This section summarises the ability to avoid, mitigate or offset the impacts of the project on visual amenity.

7.1. Mitigation measures incorporated into the project

The location of the site, near the existing and proposed Tully Substations, reduces the potential scenic amenity impacts of the project. In particular, the Project is located away from Tully Gorge Road, which is a scenic route.

To minimise the visual impacts of the project, the following measures have been incorporated into the Project:

- Noise barriers would be painted (e.g. a shade of green that is compatible with the surrounding landscape) to reduce its visual prominence.
- All buildings will be a neutral colour (i.e. not white) so they recede in views from surrounding areas.
- Landscaping including screening vegetation along Sandy Creek Road, and part of the northern and southern site boundaries.

While the overall visual impacts of the project would be low and negligible, screening vegetation and scattered trees have been included to reduce the visibility of the project from surrounding rural areas, particularly Sandy Creek Road. This planting is located near the development footprint to maximise the screening effect of the vegetation, whilst maintaining the distant views to the surrounding mountain ranges from areas

7.2. Mitigation measures during operation

During operation the following measures would further reduce the potential visual impacts identified in this assessment:

- Any lighting used during construction and operation would be designed and operated in accordance with AS/NZS 4282:2023 Control of the obtrusive effects of outdoor lighting.

8. References

Australian Institute of Landscape Architects
Queensland, 2018, *Guidance Note for Landscape and Visual Assessment*

Cassowary Coast Regional Council, 2015, *Cassowary Coast Regional Planning Scheme*

QLD Department of Energy and Climate, 2024,
Queensland Renewable Energy Zone Roadmap, URL:
https://www.epw.qld.gov.au/__data/assets/pdf_file/0036/49599/REZ-roadmap.pdf

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