

2 September 2026

Department of State Development, Infrastructure and Planning
State Assessment and Referral Agency

FAO: Rebecca Carpenter

Via email renewablesplanning@dsdip.qld.gov.au and MyDAS2 system

Dear Rebecca,

Tully BESS (SARA ref. 2606-52803 SDA) – Applicant Response to Information Request

We act on behalf of the applicant, RWE Tully Battery Pty Ltd, and write in response to the letter dated 3 July 2026 setting out the State Assessment and Referral Agency (SARA) request for further information for the proposed Tully BESS project (SARA ref. 2606-52803 SDA). A copy of the letter is provided at **Attachment 1**.

In accordance with Section 13.2 (a) of Chapter 1, Part 3 of the Development Assessment Rules (version 3.0), this letter and attachments constitute a response to all of the information requested by SARA.

This letter provides the following:

1. Description of updates to the proposed development
2. Responses to the information requested, including the following attachments in support of the response:
 - **Attachment 1** – Information Request Letter
 - **Attachment 2** – Updated Design Drawings
 - **Attachment 3** – Species List
 - **Attachment 4** – Proposed Access Tracks
 - **Attachment 5** – *Memorandum on Fire-Resistant Acoustic Barriers*, prepared by Aurecon
 - **Attachment 6** – *Revised Stormwater Management Plan and Flood Assessment*, prepared by Water Technology
 - **Attachment 7** – *Memorandum on Acoustic Amenity and Vibration*, prepared by Marshall Day Acoustics
 - **Attachment 8** – Tesla Manufacturer's Advice
 - **Attachment 9** – *Revised Scenic Amenity Impact Assessment*, prepared by Iris Visual Planning and Design
 - **Attachment 10** – Oversize Overmass Route Assessment Communications
 - **Attachment 11** – *Revised Decommissioning Security Report*, prepared by Attexo
 - **Attachment 12** – CVs.



1. Updates/ clarifications to Proposed Development

Minor updates to the proposed development have been made as the Project has developed and in response to the Information Request, including:

- Proposed access tracks to the overhead transmission line (OHTL) – further design has been undertaken to confirm the required locations, widths, and surfaces of the proposed access tracks, including specific points of access to each OHTL pole.
- Confirmed flood immunity and freeboard design levels – revised elevation plans reflecting the design level required to reach immunity in the 0.2% Annual Exceedance Probability (AEP) flood event.
- Revised stormwater management system – Bioretention Basin (BRB) B has been increased in size to 600 m² to achieve the applicable pollutant reduction targets as specified in the *Reef 2050 Water Quality Improvement Plan (WQIP) 2017-2022*.
- Procurement and proposed transport route – Port of Cairns will be equally considered as a point of origin for Project components moving forward (in addition to Port of Townsville), with the final decision to be confirmed as part of compliance with conditions of approval.

Updated design drawings are included in **Attachment 2** and are described and referenced throughout this response.

2. Responses to Information Request

A response to each matter raised in SARA's information request is set out in **Table 1** below.

Table 1: Information Request and Response

Information Request and Response
1. Areas of high ecological value and associated wildlife habitats – Field surveys
Request: Provide the following information to demonstrate compliance with PO1 of State code 27: a) further justification from a suitably qualified and experienced person of how the survey methodology aligns with the requirements of the State code 27 Planning Guidance, with specific reference to the survey conducted and the requirements for an EAR as outlined in Appendix 1 of the Planning Guideline. b) further justification to confirm the validity of the data used in the submitted EAR, particularly considering the time that has passed since the survey was conducted in November 2024.
Response: This response has been prepared by the following persons: • Andy Jensen, Principal Ecologist (BSc Hons.) with 20 years professional experience • Steven Tarte, Senior Principal Consultant, (B Env. Management) with over 20 years professional experience. <u>Item 1(a)</u> The State Code 27 Planning Guidance states that development for BESS generally are located on flat cleared land proximate to the transmission grid. The selected Tully BESS site meets these requirements. Performance outcome PO1 under State Code 27 requires that "development is located, sited, and designed to ensure that the following are protected from adverse impacts: • protected wildlife and associated habitats; and • areas of high ecological value" The State Code 27 Planning Guidance states that the Ecological Assessment Report (EAR) should identify the nature and characteristics of all on-site flora and fauna, correlated with the project layout, and outline how the layout has been modified to achieve compliance with PO1. This is clearly demonstrated within the EAR prepared by Attexo (4 June 2026) and areas of high ecological value are avoided.

Information Request and Response

It is noted that the State Code 27 Planning Guidance also strongly recommends that the EAR is prepared having regard to the Appendix 1 – EAR methodology. The EAR (Attexo, 2026) has regard to this methodology in summarising the project details, desktop studies, likelihood of occurrence, details of field survey undertaken, existing environment, identification of significant values and assessment of impacts to meet PO1.

Meeting the PO1 outcome is achieved through a combination of desktop and field assessment. In the case of the Tully BESS, the early identification and avoidance of areas of high ecological value was a key principle applied to the Project design. By selecting an area cleared of regulated native vegetation with negligible habitat value, currently used for cattle grazing, the Project has avoided direct impacts to areas of high ecological value. The current disturbance footprint is the result of several iterations of Project design in this regard.

A robust desktop assessment was conducted prior to field survey to support this design process, which included a review of Commonwealth and State databases and other publicly available data, as summarised in Section 3.1 of the EAR (Attexo, 2026). From this desktop assessment, a likelihood of occurrence assessment was completed using conservative criteria to predict the occurrence of threatened species and communities in the Project area consistent with Section 3.2 of the EAR (Attexo, 2026). This likelihood of occurrence informed the species that should be targeted during field survey, with the survey effort also being cognisant of all potential species. Species with potential to occur were those with historical records within 50 km of the Project site, and where suitable habitat was likely to be present, which represents a conservative range to use.

The likelihood of occurrence was then updated to reflect the findings of the field survey.

The surveys conducted were during an early wet season (November to January) consistent with the Terrestrial Vertebrate Fauna Survey Guidelines for Queensland June 2022 (V 4.0) (Eyre et al 2022) for the Wet Tropics bioregion. The surveys were not undertaken within the early dry season (May to July) because several of the threatened species potentially occurring in the Project area are either not present at that time of year, or hard to detect. Additionally due to the entirely cleared nature of the Project site, one season of survey was adequate to characterise the ecological values to facilitate avoidance.

The species listed in **Attachment 3** to this response were assessed as potentially being present in the desktop phase and subject to revised assessment in the post-fieldwork phase. **Attachment 3** provides a brief commentary on the species in relation to the Project site, as well as an assessment of seasonality.

A review of these species shows that of the 27 species assessed with potential to occur prior to fieldwork, only four remained potential to occur post-fieldwork. None of these species are seasonally constrained in terms of detectability or presence in the region.

The field surveys conducted in November 2024 were therefore sufficient to verify the findings of the initial desktop assessment and determine that areas of high ecological value have been avoided, and will not be impacted, consistent with PO1. It should also be noted that the Project was conservatively submitted for referral to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) in December 2025 and was determined to be a not controlled action on 14 January 2026 (EPBC 2025/10377). All threatened flora and fauna species assessed in the EAR likelihood of occurrence as potentially being present are also listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and subject to this not controlled action decision.

As a result, the surveys conducted are appropriate to accurately reflect the values of the site including all protected wildlife, associated habitats, and areas of high ecological value.

The Project has been sited on land predominantly used for pasture and avoids all areas of high ecological values.

Item 1 (b)

Regarding point 1(b) there is no issue with the validity of the data provided in the submitted EAR (Attexo, 2026). The survey was conducted less than two years ago at the time of writing this response.

It is generally accepted that survey data should be no more than five years old as:

- populations of species can change due to fires, drought, flooding, and land management changes.
- some species' ranges can shift due to climate change.

Information Request and Response

Therefore, the provided survey data is well within this timeframe, specifically within 18-months of the submission of the Development Application that was made in June 2026. This is in line with DCCEEW guidelines¹.

2. Areas of high ecological value and associated wildlife habitats – Overhead transmission line

Request:

- a) Provide a statement from a suitably qualified and experienced person that:
 - justifies how the access track associated with the OHTL will avoid adverse impacts on wildlife, associated habitats, and areas of high ecological significance. This should include a specific assessment of potential impacts on the mapped wetland.
 - clarifies whether the northern support pole for the OHTL will impact areas of high ecological value, particularly the mapped wetland.
 - further justifies whether the works required to establish the northern support pole or other components of the OHTL will affect protected wildlife, associated habitats, or other areas of high ecological value.

Response:

This response has been prepared by Andy Jensen, Principal Ecologist (BSc Hons.) with 20 years professional experience (refer to **Attachment 12** for CV).

OHTL access tracks

The access tracks for the Project avoid impacts to areas of high ecological significance. Access tracks associated with the OHTL are described in **Section 1** of this response and shown in **Attachment 4**.

The Project has avoided areas of high ecological value and will utilise existing areas of disturbance in routing these access points. The access tracks are a maximum of 3 m wide, located in cleared non-remnant pasture areas comprising high-density exotic grasses. These areas are currently grazed, and as shown in the revised plan provided in **Attachment 4**, existing cattle tracks have been prioritised and existing gates and access points used to facilitate the construction of the OHTL.

The Project has made a series of commitments through the Preliminary Erosion and Sediment Control Plan (P-ESCP) (Attexo, 2026) to avoid or manage any erosion and sediment. Section 4 of the P-ESCP (Appendix P of the development application) provides the specific measures that will be in place for the Project. The construction of the Project will also be managed through a Construction Environmental Management Plan (CEMP) that will be in place before construction commences for the Project. In addition, it is anticipated that during construction of the OHTL there will be approx. 600 vehicle movements across a 3 month period for the tower erection and stringing of the line. With operational traffic will be minimal in this area) and in the context of an existing landscape of agricultural and electrical infrastructure activity, will result in negligible impacts to areas of high ecological value (including the HES wetland).

OHTL support poles

The northern support pole associated with the OHTL avoids areas of high ecological value, including the mapped high ecological significance (HES) wetland, as shown in **Attachment 4**. The pole is located over 30 m from the nearest mapped vegetation in the ground-truthed regional ecosystem (GTRE) map and within the lot/plan of the existing substation. The next support pole to the west is also outside the mapped HES wetland with a separation distance of over 40 m.

These support poles are located entirely in cleared non-remnant pasture areas comprising high-density exotic grasses. This area is highly disturbed due to a history of intensive agricultural practices.

Although this HES wetland is also mapped as a mahogany glider corridor, field surveys ground-truthed the vegetation as not being preferred habitat for the species. The vegetation throughout the mapped corridor represents closed regrowth vegetation consisting of dense young tree canopy with a dense small tree and shrub layer. This is associated with the *Lophostemon suaveolens/Corymbia intermedia* open forest habitat type

¹ <https://www.dcceew.gov.au/environment/epbc/advice/surveys-and-data>

Information Request and Response

described in the EAR (Attexo, 2026). This is not consistent with the mahogany glider's preference for open forests with minimal understory (DAWE, 2021)². Additionally, *Corymbia intermedia* and *Acacia mangium* is often a contra-indicator for Mahogany glider (DAWE, 2021), and these two tree species are abundant throughout the area. The habitat type was noted during field surveys to be showing heavy signs of disturbance from the numerous vegetation edges formed by the cleared paddocks and adjacent Powerlink transmission corridor. The extensive network of sugarcane drains has also limited the quality of this HES wetland feature.

The proposed works to install the OHTL support poles will be minimal in nature and the construction will be entirely in the non-remnant pasture areas habitat type. Through implementation of a CEMP and the P-ESCP (Attexo, 2026) provided in the assessment documentation, further impacts to the HES wetland are likely to be negligible in the context of the highly disturbed current landscape.

As such, the construction of the OHTL support poles to facilitate the OHTL spanning of the mapped HES wetland and mahogany glider corridor are not likely to affect protected wildlife, associated habitats, or areas of high ecological value.

Impact assessment

PO17 of State Code 27 states that "development maintains the water quality of receiving waters, waterways and wetlands by:

- avoiding locating in waterways and wetlands;
- minimising crossings of and interference with natural drainage lines, farm drainage and irrigation infrastructure;
- minimising erosion and sediment run off;
- managing drainage control; and
- preserving the bank stability of affected waterways and drainage lines avoiding non-essential hardening or unnatural modification of the waterway."

The development is consistent with this performance outcome, and access tracks avoid the mapped wetland feature.

The access track and OHTL pole works will not result in degradation of the wetland, or a reduction in water quality. The works will not affect the function of the wetland, with no changes to hydrology of the Project area as a result of the access track or OHTL poles. Consistent with the Planning Guidance for State Code 27, the accompanying P-ESCP (Attexo, 2026) and Stormwater Management Plan (Water Technology, 2026) have been prepared to manage runoff and prevent flow concentration. The Stormwater Management Plan has been signed off by an RPEQ as detailed in **Attachment 6**.

The access track surface will also be permeable consistent with this guideline.

Request:

- b) Provide a revised plan clearly showing the location of the proposed access track for the OHTL.

Response:

A revised plan showing the indicative location of the proposed access tracks for the OHTL is shown as **Attachment 4**. The revised plan also shows support pole locations associated with the OHTL. The access tracks and OHTL poles avoid impacts to areas of high ecological significance as discussed above in the response part (a). The final locations of access tracks and support poles will be confirmed through detailed design.

3. Areas of high ecological value and associated wildlife habitats – Noise impacts

Request:

Provide a statement from a suitably qualified and experienced person that outlines whether the ongoing operation of the proposed development will have adverse impacts on wildlife due to noise.

² DAWE (2021). National Recovery Plan for the Mahogany Glider (*Petaurus gracilis*). Department of Agriculture, Water and the Environment. Canberra: Australian Government.

Information Request and Response

Response:

This response has been prepared by the following persons:

- Andy Jensen, Principal Ecologist (BSc hons)) with 20 years professional experience
- Steven Tarte, Senior Principal Consultant, (B Env. Management) with over 20 years professional experience
- Sue Walker, Principal Planner, (BBE (URP)) with over 20 years professional experience.

The BESS units are located 200 m or more from the nearest point of the mapped HES wetland and associated vegetation. This patch of vegetation is isolated and situated in the agricultural and peri-urban landscape. The field surveys shown that the patch is a generally closed woodland structure and unsuitable for the threatened species identified to be potentially occurring in the Project area. For example, although the vegetation is mapped as a mahogany glider corridor, the species was considered unlikely to be present due to the characteristics of the vegetation present.

Noise can adversely affect fauna by interfering with communication (e.g. territorial bird song), masking the sound of predators and prey, causing avoidance reactions and displacement from habitat. Construction noise will be generated by the Project using machinery, plant and vehicles, and will vary from short intermittent noise from plant and equipment to more persistent noise from generators, during the day. Individuals that occur within the Project area may leave the immediate area of impact. Project construction works and therefore potential noise impacts will be temporary.

Animals can habituate to anthropogenic noise, where the animal reduces or ceases its response to stimulus. There are examples of animals living without apparently detrimental impacts in areas of high ambient noise (e.g. McGregor et al 2008)³.

During the operational phase there may be a minor increase in noise although this is compliant with the *Environmental Protection (Noise) Policy 2019* (EPP Noise). The noise assessment for the DA concluded that cumulative noise is likely to be below the acoustic quality objectives, and deterioration of the existing acoustic environment will be minimised.

The vegetated area falls within the 40-45 dBA contour for day/evening operation, and the 35-40 dBA contour for night operation (refer to Appendix G of the NVIA (MDA, 2026)). Shannon et al (2016)⁴ conducted a literature review of terrestrial wildlife responses to anthropogenic noise and found that terrestrial wildlife responses begin at noise levels of approximately 40 dBA and 20% of papers documented impacts below 50 dBA. During night operation the majority of this mapped vegetation is outside of the 40 dBA contour. More significant, less fragmented (and therefore likely higher utilised) areas of vegetation outside the Project area will be below the 30 dBA contour. Parts of the Project area and surrounds above the 40 dBA corridor are generally cleared non-remnant pasture areas comprising high-density exotic grasses of low ecological value.

Overall, given the separation distance from vegetation associated with the mapped HES wetland, the temporary nature of construction activities, and the low predicted operational noise levels, the Project is unlikely to result in significant adverse noise impacts on wildlife.

4. Acoustic barrier

Request:

Provide the following information to demonstrate compliance with PO13 – PO15 of State code 27:

- a) clarification on the materials proposed for the construction of the noise barrier, ensuring compliance with the fire-resistant material requirements outlined in the Bushfire Hazard Assessment and Management Plan.
- b) additional plan elevations that clearly depict the design, dimensions, and location of the proposed acoustic barrier.

³ McGregor RL, Bender DJ, Fahrig L (2008) Do small mammals avoid roads because of the traffic? *J Appl Ecol* 45(1):117–123.

⁴ Shannon G, McKenna MF, Angeloni LM, Crooks KR, Fristrup KM, Brown E, Warner KA, Nelson MD, White C, Briggs J, McFarland S, Wittemyer G. A synthesis of two decades of research documenting the effects of noise on wildlife. *Biol Rev Camb Philos Soc.* 2016 Nov;91(4):982–1005. doi: 10.1111/brv.12207. Epub 2015 Jun 26. PMID: 26118691.

Information Request and Response

Response:

- a) The Noise and Vibration Impact Assessment (NVIA) report prepared by Marshall Day Acoustics (28 May 2026) has provision for a 6 m tall noise barrier to the north of the BESS that is 220 m in length. If the noise barrier is required, the final height of the barrier will be confirmed as part of detailed design. Should it be required, the noise barrier would be constructed out of non-combustible materials, such as pre-cast concrete, steel or masonry. While final material selection and specifications of the noise barrier would be confirmed during detailed design, it would be designed and constructed to provide a high degree of fire resistance with use of non-combustible materials in accordance with the requirements of the Project's Bushfire Hazard Assessment and Management Plan (Meridian Urban, 2026). Refer to the memorandum prepared by Aurecon in **Attachment 5** for further discussion of fire safety considerations with respect to the noise barrier.
- b) A revised elevation drawing of the noise barrier has been prepared and is included in **Attachment 2** (drawing ref: TUL-BESS - 200 MW CONCEPTUAL - NOISE WALL) which displays the design and dimensions of the noise barrier.
Refer also to the revised site elevation drawing (**Attachment 2**; drawing ref: TUL-BESS - 200 MW SITE ELEVATION) that displays the location of the noise barrier with respect to other Project infrastructure.

5. Protecting water quality and stormwater management – Pollutant loads

Request:

Provide a revised report that:

- a) is certified by an RPEQ with expertise in water quality and stormwater systems
- b) includes further justification for the proposed stormwater management strategy, specifically addressing pollutant loads, and identifies potential impacts associated with the strategy, particularly in relation to the wetland protection area.

Response:

- a) Water Technology Pty Ltd have updated with the Flood Impact Assessment and Stormwater Management Plan report (Water Technology, 2026) (**Attachment 6**) and this includes statement of certification by an RPEQ.
- b) Updated MUSIC modelling has been undertaken to reassess pollutant loads and potential impacts to the downstream receiving waters and the adjacent wetland protection area. The assessment includes increased sizing of BRB B, from 500 m² to 600 m².
The increased sizing of BRB B allows the proposed stormwater management system, comprising BRB A, BRB B and the vegetated swales, to achieve the applicable pollutant reduction targets as specified in the *Reef 2050 Water Quality Improvement Plan (WQIP) 2017-2022*.
Accordingly, the proposed development will significantly reduce pollutant loads prior to discharge offsite and have no adverse water quality impacts on the downstream receiving environment and adjacent wetland protection area.

6. Protecting water quality and stormwater management – Stormwater infrastructure

Request:

Provide a revised plan that clearly identifies all stormwater infrastructure, including BRB A and the proposed vegetated swales.

Response:

A revised development plan has been prepared that identifies all stormwater infrastructure including BRB A, BRB B and vegetated swales. This is included in **Attachment 2** (drawing ref: TUL-BESS - 200 MW CONCEPTUAL SITE LAYOUT).

Information Request and Response

7. Natural hazards – Flood hazard

Request:

Provide revised development plans that ensure the proposed development is designed to achieve flood immunity for the 0.2% AEP event. The revised development plans should incorporate considerations for climate change impacts using SSP2-4.5 for a design year of 2090, in accordance with *Australian Rainfall & Runoff 2019*.

Response:

The Cardwell Inundation Study (2008) is currently the best available regional flood assessment. As it predates *Australian Rainfall & Runoff 2019* (ARR 2019) and does not include contemporary climate change guidance, Water Technology have completed a review against ARR 2019 to account for increases in design rainfall and future climate change scenarios (**Attachment 6**).

An interim freeboard allowance of 0.5 m above the Cardwell Inundation Study flood level has been adopted as an appropriate and conservative approach for assessment of the Project against the SSP2-4.5 2090 climate scenario. This results in a freeboard of 13.21 m AHD to achieve immunity in the 0.2% AEP flood event. An updated site elevation drawing with this design level is included in **Attachment 2** (drawing ref: TUL-BESS - 200 MW SITE ELEVATION).

This calculated freeboard allowance is regarded as an interim measure to facilitate current design and assessment. It is understood that the Cardwell Inundation Study is currently undergoing revision, and it is intended that the Project's flood risk is reassessed as part of detailed design.

Refer to the updated Stormwater Management Plan and Flood Assessment in **Attachment 6** for further detail of the revised flood modelling.

8. Acoustic amenity and vibration – Planning guideline

Request:

Provide an assessment against the specific requirements of the Planning guideline, including:

- demonstrating that background ambient noise at nearby sensitive receptors will not be impacted, by complying with 30–35 dBA at the outdoor façade, or, in very low background noise environments (e.g. rural areas), background noise + 5 dBA
- assessing noise impacts during the night period (8:00 pm to 6:00 am)
- considering whether a low noise environment is present, based on background noise logging at relevant receptor locations
- justification that the selected ground correction factor of 1 in the ISO9613-2 noise model represents typical worst-case noise-enhancing conditions.

Response:

It is noted that there are discrepancies between the Planning Guideline and the requirements of the EPP Noise, specifically regarding the fixed limit for background noise assessment and definition of the night period.

The NVIA (MDA, 2026) completed for the Project considered:

- background noise assessment against the acoustic quality objectives (AQO) in the EPP Noise as the prescribed criteria.
- the night period to be 10:00 pm to 7:00 am as per the EPP Noise.

SARA have confirmed via email on 24 July 2026 that the EPP Noise requirements should be used to demonstrate compliance with PO20 of State Code 27, and any additional guideline assessment would be supplementary.

Based on this advice provided by SARA, no update to the noise assessment and modelling has been undertaken as it was conducted in accordance with the requirements of the EPP Noise to provide assessment against PO20. This included assessment of background creep and the deterioration of the existing acoustic environment in accordance with the EPP Noise.

Information Request and Response

As reported in the NVIA (MDA, 2026), based on the nominated project design and equipment selections, and generally conservative noise assessment assumptions, operational noise from the project is predicted to be below the acoustic quality objectives at all sensitive receptors, by a minimum margin of 5 dB. Concluding that project is capable of being designed and operated to align with the operational noise requirements of State code 27, including PO20.

Further discussion of the approach adopted for the noise assessment to comply with PO20 of State Code 27 is included in the memorandum prepared by Marshall Day Acoustics (**Attachment 7**).

9. Acoustic amenity and vibration – Noise predictions

Request:

Provide justification that the assumed fan speeds will not be exceeded. This could be in the form of manufacturer's advice regarding the fan operating speeds for various ambient temperatures and demonstrating that the relevant temperatures are not exceeded at the proposed site. Alternatively, a commitment to set fan speeds at these limits could be provided.

Response:

Tesla has provided written confirmation (**Attachment 8**) that the proposed 50% fan duty limit during the day and 30% fan duty limit during the night are suitable as set limits for the ambient conditions of the site.

Following detailed design, the noise assessment will be updated to reflect final equipment selection and confirm fan duties in accordance with manufacturer advice and compliant with the EPP Noise.

10. Acoustic amenity and vibration – Construction noise

Request:

- a) Provide a revised assessment which demonstrate how the construction noise criteria will be achieved by the proposed development.
- b) Alternatively, where the proposal cannot comply with PO20 of State code 27, provide justification how the development complies with the Purpose Statement of the Code.

Response:

The construction noise criteria specified in PO20 are the AQO which are intended to provide criteria for long-term noise emissions and do not typically apply to temporary noise such as that from construction activities.

The NVIA undertaken for the Project (MDA, 2026) accordingly concluded that the construction noise criteria specified in PO20 will not be relevant.

The assessment instead adopts the Department of Transport and Main Roads *Transport Noise Management Code of Practice: Volume 2 – Construction Noise and Vibration* (Code of Practice Vol.2) which is a recognised benchmark for assessment of construction noise impacts in Queensland.

The Code of Practice Vol.2 sets a minimum upper limit of 65 dB and a minimum lower limit of 50 dB. The highest predicted construction noise levels for the Project of 54 dB are below the minimum upper limit and up to 4 dB above the minimum upper limit. It is further considered that with the implementation of a detailed Construction Noise and Vibration Management Plan (CNVMP) [to be conditioned], there is opportunity to further reduce construction noise levels as necessary to remain below the minimum lower limit.

Compliance with the minimum lower limit of the Code of Practice Vol.2 is considered to comply with the General Environmental Duty (GED) with the implementation of all feasible work practices and mitigation measures, which will be documented in a CNVMP.

Assessment against the Item 3 of the Purpose Statement of the Code is included below.

Item 3: does not result in unacceptable adverse impacts on individuals, communities, the environment, adjacent sensitive land uses and sensitive receptors, landscape values and infrastructure and services.

The Code of Practice Vol.2 presents an acceptable alternative solution and guideline for the assessment of construction noise as it provides criteria for construction noise to achieve the intent of the *Environmental Protection Act 1994* (EP Act), specifically the GED and protection of environmental values, which include specific

Information Request and Response

acoustic amenity related values identified under the EPP Noise. It is considered that compliance with the Code of Practice Vol.2 meets Item 3 of the Purpose Statement as it:

- provides a best practice industry benchmark for the assessment of construction noise
- is gazetted under Section 551 of the EP Act and therefore is deemed to satisfy the GED for assessing potential environmental harm from construction works
- requires all 'practicable and reasonable' noise mitigation measures to be implemented.

It is therefore considered that the Project's construction noise will not result in unacceptable adverse impacts to relevant sensitive receptors, as it is able to comply with the Code of Practice Vol.2. Further the applicant will commit to construction activities and using any noisy equipment only within the standard hours (07:00 to 18:00 weekdays and 08:00 to 13:00 Saturday). Any construction activities outside these hours will be limited quiet activities, for example commissioning, project management etc.

Refer to the memorandum prepared by Marshall Day Acoustics (**Attachment 7**) for further discussion construction noise.

11. Visual impact

Request:

Provide an additional viewshed analysis from Lot 1 on RP732276 to accurately assess potential visual impacts on this sensitive land use.

Response:

The Scenic Amenity Impact Assessment (SAIA) undertaken for the Project (Iris Visual Planning and Design, 2026) has been updated to include assessment of visual impacts from Lot 1 on RP732276 (122 Syndicate Road) and is included in **Attachment 9**. Please note that the assessment of Viewpoint 5 remains valid as a view from the existing public realm.

The SAIA identifies that the Project would be screened by existing cane fields as well as vegetation located within the drainage line between the Project and Lot 1 on RP732276. Additionally, farm infrastructure in the form of machinery shed would also preclude views from the dwelling to the Project site. While receptors at Lot 1 on RP732276 may have glimpses of taller elements of Project infrastructure, this is considered negligible when considered in conjunction with existing transmission and telecommunication infrastructure within the vicinity.

The overall potential view impact of the Project on Lot 1 on RP732276 is negligible.

12. Transport networks – Oversize/overmass strategy

Request:

Provide a summary of consultation which has occurred with relevant stakeholders to inform the submitted Heavy Vehicle and OSOM Construction Concept Strategy. This may include, but may not be limited to, port authorities, Cassowary Coast Regional Council, the Department of Transport and Main Roads and the National Heavy Vehicle Regulator.

Response:

Copy of the Heavy Vehicle and OSOM Construction Concept Strategy report prepared by Ratio Consultants (2 June 2026) has been provide via email comms (14 July 2026) to the following parties:

- Townsville Port
- Ports North
- Townsville City Council
- Cairns City Council
- Hinchinbrook Shire Council
- Cassowary Coast Regional Council
- Department of Transport and Main Roads

Information Request and Response

- Queensland Rail
- National Heavy Vehicle Regulator

At time of writing responses have been received from the following parties:

- Ports North – request that the Port of Cairns to be considered for the delivery of components for the project. RWE have committed to continue to discuss the use of these port facilities with Ports North.
- Townsville City Council – undertaken review of the report and confirm that no local government road is proposed to be used. No further review required unless changes to the proposed routes use local roads.
- Cairns Regional Council – report reviewed and confirm that CRC have not identified any issues that would prevent the issuance of the requisite permits for use of the identified roads.

Copies of these communications are provided in **Attachment 10**.

13. Decommissioning

Request:

Provide an amended Decommissioning Security Report (Framework and Methodology):

- a) identifying the proposed financial security instruments, cost estimation methodology, trigger events, governance arrangements and the entity responsible for holding and/or calling upon the security
- b) demonstrating that arrangements are legally enforceable, independently accessible, protected from insolvency risk, and capable of funding decommissioning without the State or landowner assuming financial or operational responsibility.

Response:

The Decommissioning Security Report prepared for the Project (Attexo, 2026) has been updated to include further discussion of the Project's Decommissioning Financial Security Framework and is included in **Attachment 11**.

The Decommissioning Financial Security Framework outlines:

- specific identification of financial security instruments for each Project lifecycle stage
- who can call on the security in the event of Project default or abandonment
- trigger events for access to security funds throughout Project lifecycle stages
- proposed method for estimating decommissioning costs over time
- trigger events for review and update of security arrangements throughout Project lifecycle stages.

The information set out herein, has addressed all of the matters raised in the IR and it is respectfully requested that SARA continue their assessment of the proposed development. Please contact me on the details below if you would like to discuss any aspect of this response.

Yours sincerely,



Sue Walker

Principal Planner

sue.walker@attexo.com.au



Attachment 1

SARA

Information

Request Letter

Our reference: 2606-52806 SDA
Your reference: RWE-002

3 July 2026

RWE Tully Battery Pty. Ltd.
C/- Attexo Group Pty Ltd
PO Box 617
FORTITUDE VALLEY QLD 4006
sue.walker@attexo.com.au

Attention: Mrs Sue Walker

Dear Sue

SARA Information Request – Tully BESS

(Notice issued under section 12 of the Development Assessment Rules)

SARA has undertaken a preliminary review of the material provided in support of the above referenced application which was deemed properly referred on 5 June 2026.

From this review, SARA has identified a range of matters relating to *State code 27: Battery storage facility development* that it wishes to draw to your attention.

1. Areas of high ecological value and associated wildlife habitats – Field surveys

Performance Outcome (PO) 1 of State code 27 requires that development is located, sited and designed to protect wildlife, associated habitats and areas of high ecological value.

Appendix 1 of the *Planning guideline State code 27: Battery storage facility development* (the Planning guideline) outlines the methodology for the preparation of an Ecological Assessment Report (EAR). As per the Planning Guideline, an EAR should be based on:

Two seasonal field surveys to map the vegetation and identify flora and fauna species, should be undertaken in accordance with Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland. Version 6.0 (Neldner et al, 2022) and consideration of Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland, Version 4.0 (Eyre et al. 2022).

The submitted EAR prepared by Attexo Group Pty Ltd, dated 4 June 2026, states that an ecology field survey was conducted from 11 November to 13 November 2024.

Response requested:

Provide the following information to demonstrate compliance with PO1 of State code 27:

- a) further justification from a suitably qualified and experienced person of how the survey methodology aligns with the requirements of the State code 27 Planning Guidance, with specific reference to the survey conducted and the requirements for an EAR as outlined in Appendix 1 of the Planning Guideline.
- b) further justification to confirm the validity of the data used in the submitted EAR, particularly considering the time that has passed since the survey was conducted in November 2024.

2. Areas of high ecological value and associated wildlife habitats – Overhead transmission line

The proposed development includes an overhead transmission line (OHTL) which is supported by five (5) support poles. Based on the proposed plans, the northern support pole located on Lot 1 on RP716718 appears to either intersect with or be in close proximity to the mapped wetland protection area.

Additionally, the application material indicates that the OHTL will require an access track for construction, approximately 5 metres wide and 600 metres long. The Decommissioning Security Report prepared by Attexo Group Pty Ltd, dated 4 June 2026, notes that this access track will remain in place during the operational phase.

However, the submitted EAR does not address the potential impacts of the access track or support poles on wildlife, associated habitats, or areas of high ecological value, as required under PO1 of State Code 27. Instead, the EAR states that the OHTL will not involve ground disturbance or vegetation clearing.

Response requested:

- a) Provide a statement from a suitably qualified and experienced person that:
 - justifies how the access track associated with the OHTL will avoid adverse impacts on wildlife, associated habitats, and areas of high ecological significance. This should include a specific assessment of potential impacts on the mapped wetland.
 - clarifies whether the northern support pole for the OHTL will impact areas of high ecological value, particularly the mapped wetland.
 - further justifies whether the works required to establish the northern support pole or other components of the OHTL will affect protected wildlife, associated habitats, or other areas of high ecological value.
- b) Provide a revised plan clearly showing the location of the proposed access track for the OHTL.

3. Areas of high ecological value and associated wildlife habitats – Noise impacts

The submitted EAR acknowledges that disturbance to wildlife may occur during the construction, maintenance, and operation of the proposed development. While the EAR identifies temporary noise impacts during construction, it does not assess potential impacts on wildlife from noise generated during the ongoing operation of the development.

Response requested:

Provide a statement from a suitably qualified and experienced person that outlines whether the ongoing operation of the proposed development will have adverse impacts on wildlife due to noise.

4. Acoustic barrier

The proposed plans identify a noise barrier on the northern side of the proposed battery storage facility (BSF). However, no detailed plans or design specifications for this structure have been provided.

Additionally, the submitted Bushfire Hazard Assessment and Management Plan prepared by Meridian Urban, dated May 2026, specifies that any fencing or barriers located within the Asset Protection Zone (APZ) must not be constructed from timber. Instead, all fencing and barrier materials, including the

proposed noise barrier, must be fire-resistant. It is noted that the proposed noise barrier is partially located within the APZ identified in the Bushfire Hazard Assessment and Management Plan.

Response requested:

Provide the following information to demonstrate compliance with PO13 – PO15 of State code 27:

- a) clarification on the materials proposed for the construction of the noise barrier, ensuring compliance with the fire-resistant material requirements outlined in the Bushfire Hazard Assessment and Management Plan.
- b) additional plan elevations that clearly depict the design, dimensions, and location of the proposed acoustic barrier.

5. Protecting water quality and stormwater management – Pollutant loads

Section 4.8 of the Planning Guideline and PO16 – PO19 of State code 27 require a demonstrated approach to protecting water quality and managing stormwater, including preventing the release of contaminants to surface water or groundwater.

The submitted Stormwater Management Plan & Flood Assessment prepared by Water Technology, dated 26 May 2026, has not been signed by a Registered Professional Engineer of Queensland (RPEQ). Further, it does not adequately demonstrate that the proposed treatment systems achieve the pollutant reduction targets set by the Great Barrier Reef Discharge Standards as described in the *Reef 2050 Water Quality Improvement Plan (WQIP) 2017-2022*.

The submitted Stormwater Management Plan & Flood Assessment notes that Bioretention Basin B (BRB B) does not meet the pollutant reduction targets for Particulate Nitrogen and Dissolved Inorganic Nitrogen. BRB B is proposed to drain in an easterly direction toward the wetland protection area.

Response requested:

Provide a revised report that:

- a) is certified by an RPEQ with expertise in water quality and stormwater systems
- b) includes further justification for the proposed stormwater management strategy, specifically addressing pollutant loads, and identifies potential impacts associated with the strategy, particularly in relation to the wetland protection area.

6. Protecting water quality and stormwater management – Stormwater infrastructure

In reviewing the application material, SARA note that the submitted Stormwater Management Plan & Flood Assessment relies on a stormwater management strategy that includes two Bioretention Basins – A and B (BRB A and BRB B) – as well as vegetated swales. SARA note that the Site Layout Plan dated 16 June 2026, drawing no.: RWE-002_042[A], does not identify BRB A, nor the vegetated swales.

Response requested:

Provide a revised plan that clearly identifies all stormwater infrastructure, including BRB A and the proposed vegetated swales.

7. Natural hazards – Flood hazard

PO13 of State code 27 requires that development is sited to avoid natural hazard areas. It is noted that the submitted Stormwater Management Plan & Flood Assessment includes regional flood depths relevant to the site at Q100 (1% AEP), Q200 (0.5% AEP), and Q500 (0.2% AEP).

The submitted Natural Hazards and Extreme Weather Events Risk Assessment prepared by Meridian Urban, dated June 2026, and the submitted Risk Management Assessment Report prepared by Riskcon Engineering, dated 1 June 2026, both recommend that the proposed development achieves a minimum flood immunity level of the 0.2% AEP event plus climate change.

This recommendation aligns with recently amended planning schemes in Queensland, which conservatively adopt the 0.2% AEP event as the minimum flood planning level for renewable energy developments.

The development plans indicate that the proposed switchroom and BSF achieve the 0.5% AEP level, however, the HV transformer is located below the 0.5% AEP flood level.

Response requested:

Provide revised development plans that ensure the proposed development is designed to achieve flood immunity for the 0.2% AEP event. The revised development plans should incorporate considerations for climate change impacts using SSP2-4.5 for a design year of 2090, in accordance with *Australian Rainfall & Runoff 2019*.

8. Acoustic amenity and vibration – Planning guideline

The submitted Noise Assessment prepared by Marshall Day Acoustics, dated 28 May 2026, does not include an assessment of the requirements outlined in Section 4.9 of the Planning guideline.

As such, the predicted noise levels in the submitted material do not provide justification that they are based on typical worst-case noise-enhancing conditions, as required by the Planning guideline.

Response requested:

Provide an assessment against the specific requirements of the Planning guideline, including:

- demonstrating that background ambient noise at nearby sensitive receptors will not be impacted, by complying with 30–35 dBA at the outdoor façade, or, in very low background noise environments (e.g. rural areas), background noise + 5 dBA
- assessing noise impacts during the night period (8:00 pm to 6:00 am)
- considering whether a low noise environment is present, based on background noise logging at relevant receptor locations
- justification that the selected ground correction factor of 1 in the ISO9613-2 noise model represents typical worst-case noise-enhancing conditions.

9. Acoustic amenity and vibration – Noise predictions

The submitted Noise Assessment is based on the assumption that fan speeds will not exceed 50% during the day and 30% at night.

Response requested:

Provide justification that the assumed fan speeds will not be exceeded. This could be in the form of manufacturer's advice regarding the fan operating speeds for various ambient temperatures and demonstrating that the relevant temperatures are not exceeded at the proposed site. Alternatively, a commitment to set fan speeds at these limits could be provided.

10. Acoustic amenity and vibration – Construction noise

PO20 of State code 27 and the Planning guideline require development to demonstrate that acoustic impacts from the operation, construction, maintenance and decommissioning activities are appropriately assessed and managed to protect nearby sensitive receptors. The submitted Noise Assessment indicates that the construction noise will exceed the criteria.

Response requested:

- a) Provide a revised assessment which demonstrate how the construction noise criteria will be achieved by the proposed development.

- b) Alternatively, where the proposal cannot comply with PO20 of State code 27, provide justification how the development complies with the purpose Statement of the Code.

11. Visual impact

PO22 of State code 27 requires that development minimises potential impacts on sensitive receptors. The submitted Scenic Amenity Impact Assessment, prepared by IRIS Visual Planning + Design and dated 29 May 2026, does not identify or assess potential impacts on the sensitive receptor located on Lot 1 on RP732276, situated to the east of the site.

Although the assessment includes several viewpoints of the site, Viewpoint 5 does not accurately capture or assess the potential visual impacts on the sensitive land use located on this allotment.

Response requested:

Provide an additional viewshed analysis from Lot 1 on RP732276 to accurately assess potential visual impacts on this sensitive land use.

12. Transport networks – Oversize/overmass strategy

In reviewing the application material, SARA note that the Heavy Vehicle and OSOM Construction Concept Strategy prepared by Ratio Consultants Pty Ltd, dated 4 June 2026, is not informed by consultation.

As outlined in Section 4.12 of the Planning guideline, the OSOM concept strategy should outline the consultation which has occurred with relevant stakeholders in the formulation of the strategy.

Response requested:

Provide a summary of consultation which has occurred with relevant stakeholders to inform the submitted Heavy Vehicle and OSOM Construction Concept Strategy. This may include, but may not be limited to, port authorities, Cassowary Coast Regional Council, the Department of Transport and Main Roads and the National Heavy Vehicle Regulator.

13. Decommissioning

A review of the submitted Decommissioning Security Report prepared by Attexo Group Pty Ltd, dated 4 June 2026, has been carried out and it is acknowledged that it does include some information relating to financial securities associated with the sale of the site. However, SARA note that the land ownership-based security mechanism relied on in the submitted report does not demonstrate compliance with PO35 of State code 27.

Further information is required to demonstrate that the decommissioning plans are secured by bonds or financial guarantees or other mechanisms to safeguarded compliance.

Where the proponent is the landowner, risks may be managed through the proponent's corporate structure, provided that the framework ensures clear legal separation, ongoing responsibility, and guaranteed access to funds in the event the project owner or operator defaults, becomes insolvent, or abandons the project. The arrangement must be demonstrated to be legally sound, durable throughout the project's lifecycle, independently verifiable, and capable of being accessed or utilised for decommissioning without reliance on the proponent's discretion or intervention by the State.

Response requested:

Provide an amended Decommissioning Security Report (Framework and Methodology):

- a) identifying the proposed financial security instruments, cost estimation methodology, trigger events, governance arrangements and the entity responsible for holding and/or calling upon the security

- b) demonstrating that arrangements are legally enforceable, independently accessible, protected from insolvency risk, and capable of funding decommissioning without the State or landowner assuming financial or operational responsibility.

In preparing this report, reference should be made to the *SDAP Supplementary Guidance Factsheet Financial security for decommissioning renewables and energy storage (Attachment A)*.

Note that the applicant should not provide sensitive or commercial in confidence information in response to this request. Please contact the assessment team to discuss.

How to Respond

In accordance with section 13 of the Development Assessment Rules (DA Rules), you have three months to respond to this Information Request. The due date of a response to SARA is 6 October 2026.

You can choose to respond to all, some, or none of the matters raised in this notice.

If you decide not to respond to the matters raised, SARA will finalise its assessment on the material provided to date in support of the application.

It would be appreciated if you would provide your response to SARA using the 'manage documents' function in [MyDAS2](#).

If you require further information or have any questions about the above, please contact Faith Duffy, Planning Officer, on (07) 3882 8464 or via email renewablesplanning@dsdip.qld.gov.au who will be pleased to assist.

Yours sincerely



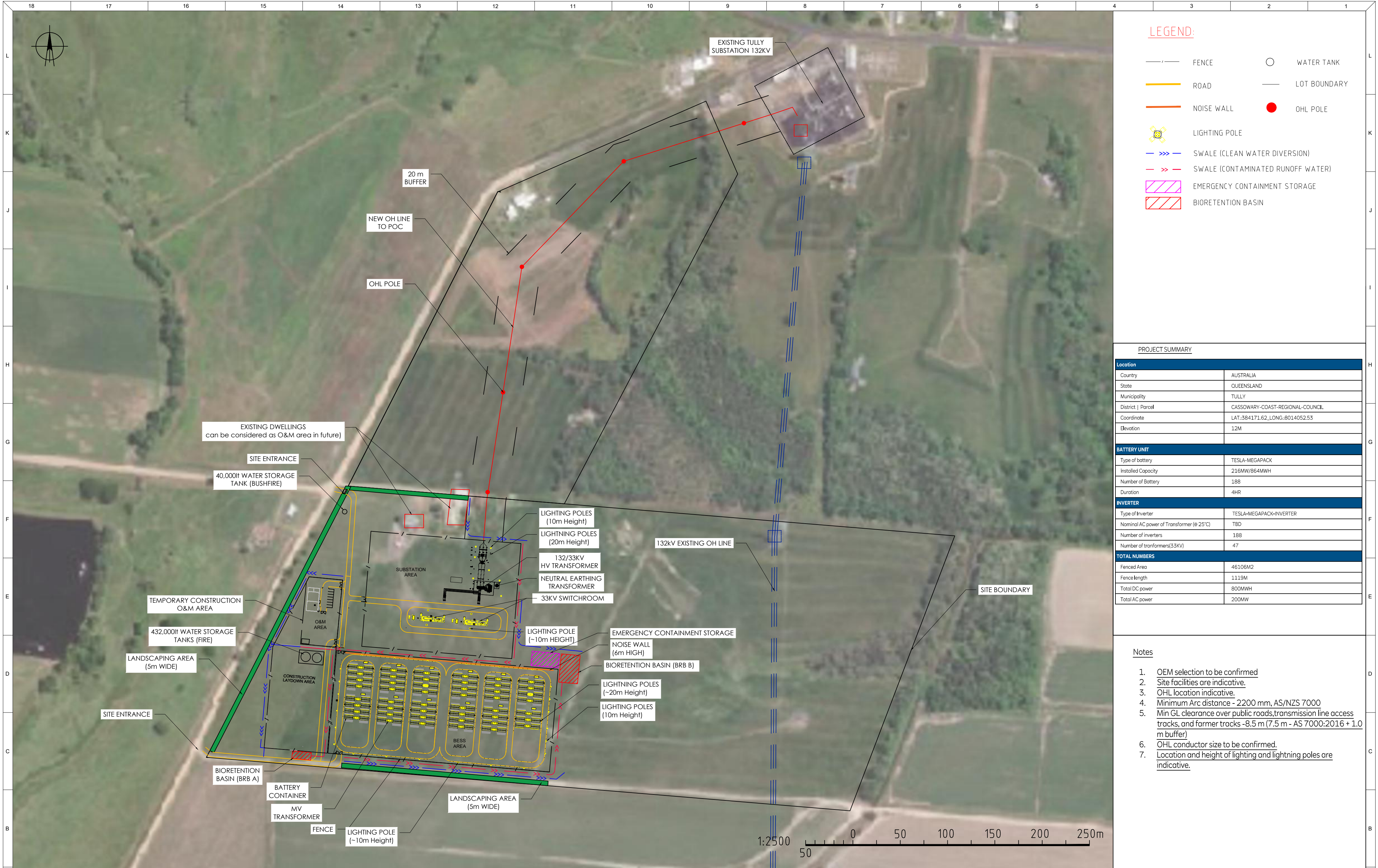
Rebecca Carpenter
Manager

cc bal.saini@rwe.com



Attachment 2

Updated Design Drawings



LEGEND:

- FENCE

ROAD

NOISE WALL

LIGHTING POLE

SWALE (CLEAN WATER DIVERSION)

SWALE (CONTAMINATED RUNOFF WATER)

EMERGENCY CONTAINMENT STORAGE

BIORETENTION BASIN
- WATER TANK

LOT BOUNDARY

OHL POLE

PROJECT SUMMARY

Location	
Country	AUSTRALIA
State	QUEENSLAND
Municipality	TULLY
District Parcel	CASSOWARY-COAST-REGIONAL-COUNCIL
Coordinate	LAT:384171.62_LONG:8014052.53
Elevation	12M
BATTERY UNIT	
Type of battery	TESLA-MEGAPACK
Installed Capacity	216MW/864MWH
Number of Battery	188
Duration	4HR
INVERTER	
Type of Inverter	TESLA-MEGAPACK-INVERTER
Nominal AC power of Transformer (@ 25°C)	TBD
Number of inverters	188
Number of transformers(53KV)	47
TOTAL NUMBERS	
Fenced Area	46106M2
Fence length	1119M
Total DC power	800MWH
Total AC power	200MW

Notes

1.

OEM selection to be confirmed
2.

Site facilities are indicative.
3.

OHL location indicative.
4.

Minimum Arc distance - 2200 mm, AS/NZS 7000
5.

Min GL clearance over public roads,transmission line access tracks, and farmer tracks -8.5 m (7.5 m - AS 7000:2016 + 1.0 m buffer)
6.

OHL conductor size to be confirmed.
7.

Location and height of lighting and lightning poles are indicative.

E01

REV No.	REVISION DESCRIPTION	DRAWN BY	CHECKED BY	APPR'D BY	DATE
A	CONCEPTUAL DESIGN	EK	RC	RC	01/09/2025
B	AMENDMENTS FOR PLANNING	SLW	JH	JH	15/09/2025
C	AMENDMENTS FOR PLANNING	LT	PP	CW	30/04/2026
D	AMENDMENTS FOR PLANNING	LT	PP	CW	05/05/2026
E	AMENDMENTS FOR PLANNING	RWE	RWE	RWE	24/08/2026

RWE RENEWABLES
EUROPE & AUSTRALIA



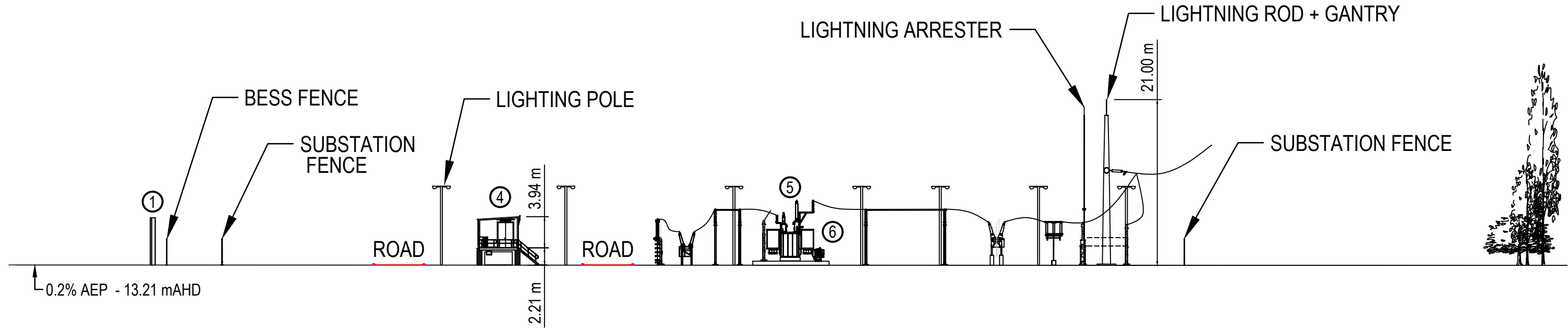
DRAWN	RWE	24/08/26
REVIEW	RWE	24/08/26
APPROVED	RWE	24/08/26

DRAWING STATUS

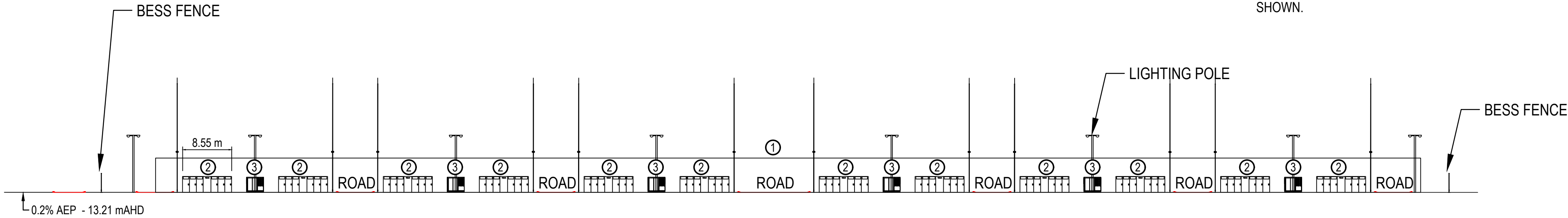
CONCEPTUAL DESIGN
NOT FOR CONSTRUCTION

TUL-BESS - 200 MW CONCEPTUAL SITE LAYOUT

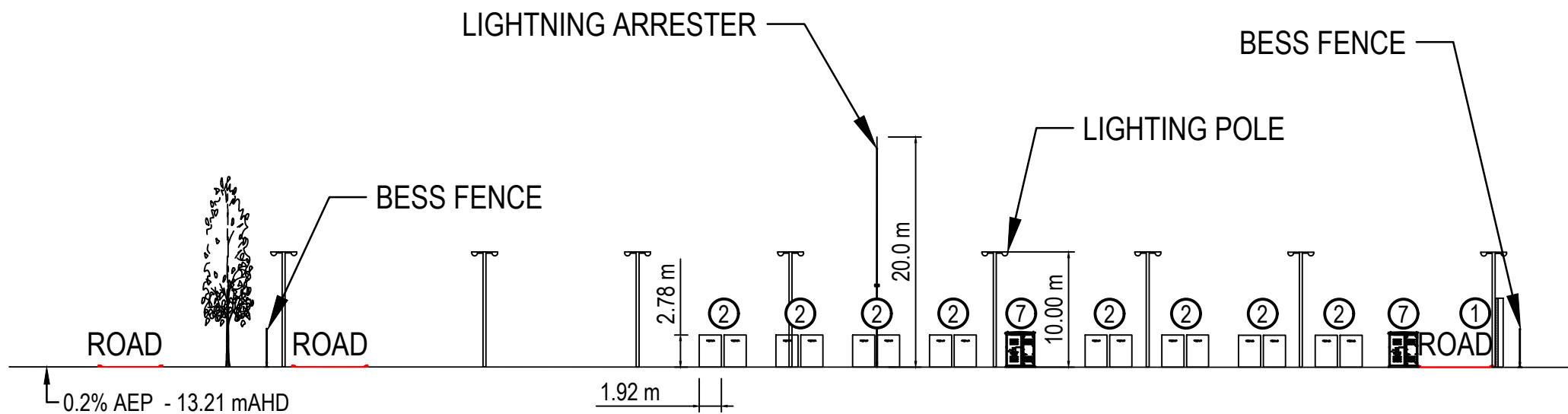
A2 TUL-BESS_200MW_800MWH_LAYOUT E



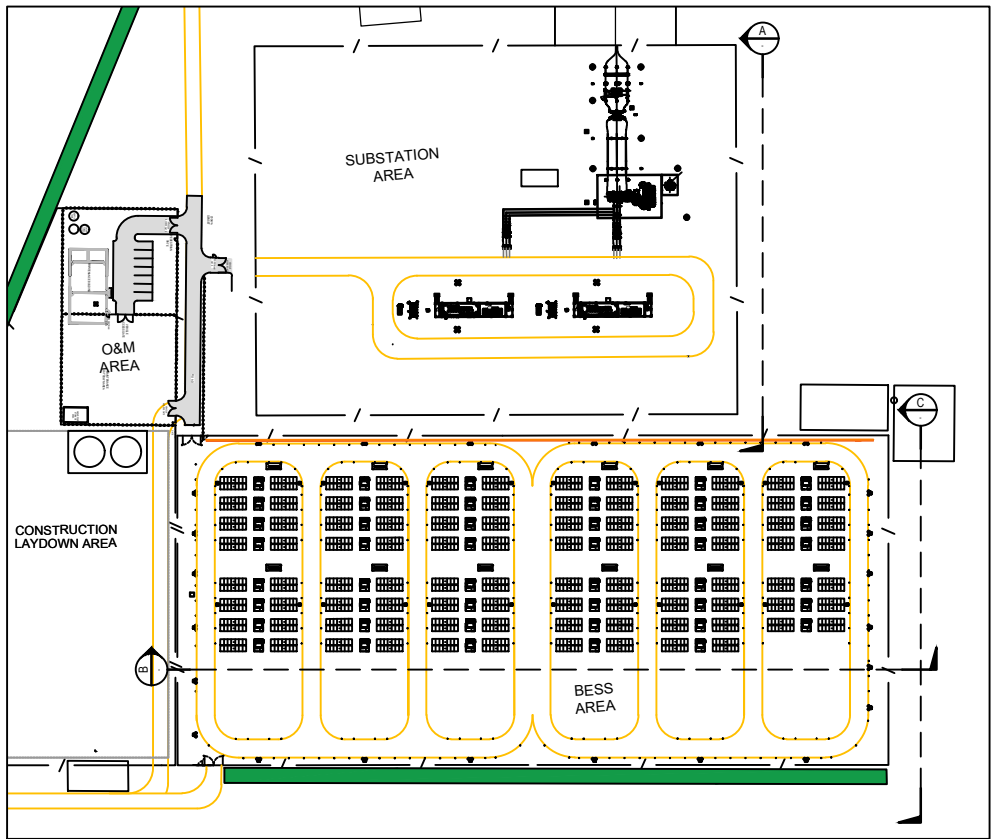
ELEVATION OF THE SUBSTATION AREA, FROM THE EAST



ELEVATION OF THE BESS AREA, FROM THE SOUTH



ELEVATION OF THE BESS AREA, FROM THE EAST

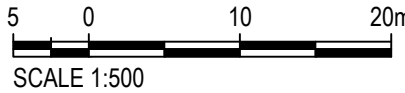


SITE PLAN

NOTES:

1. THE DRAWING REPRESENTS A CONCEPT DESIGN. THE LAYOUT AND SPECIFIC DESIGN DETAILS WILL BE FINALISED DURING DETAILED DESIGN INCLUDING CLEARANCE REQUIREMENTS BETWEEN EQUIPMENT.
2. FINAL EQUIPMENT RATINGS AND EXACT LAYOUT / COMPOSITION OF BATTERY MODULES ARE SUBJECT TO FINAL DETAILED DESIGN.
3. ALL ELECTRICAL EQUIPMENT WILL BE INSTALLED ABOVE THE IDENTIFIED FLOOD LEVELS WITH CONSIDERATION FOR FREEBOARD REQUIREMENTS AND CLIMATE CHANGE FACTORS, AS DESCRIBED BY SUPPORTING DOCUMENTATION.
4. THE DETAILED REQUIREMENTS FOR THE FIRE FIGHTING SYSTEM WILL BE DETERMINED DURING DETAILED DESIGN SUBJECT TO A FIRE SAFETY STUDY.
5. THE LIGHTNING ARRESTER SHOWN IS INDICATIVE ONLY. FINAL ARRANGEMENT AND COVERAGE TO BE DETERMINED DURING DETAILED DESIGN.
6. EXISTING DWELLINGS NOT SHOWN.
7. O&M AREA AND CONSTRUCTION LAYDOWN AREA NOT SHOWN.

EQUIPMENT	DESCRIPTION
1	NOISE WALL (6m x 220m)
2	BATTERY CONTAINER MEGAPACK 3
3	BESS TRANSFORMER
4	SWITCHROOM / CONTROL ROOMS
5	HV TRANSFORMER
6	NEUTRAL EARTHING / AUXILIARY TRANSFORMER
7	RMU
8	GENERATOR



E01

REV No.	REVISION DESCRIPTION	DRAWN BY	CHECKED BY	APPR'D BY	DATE
0	IF1	EK	RC	RC	17/08/25
1	UPDATES AND CORRECTIONS	LT	PP	CW	07/08/26

RWE RENEWABLES
EUROPE & AUSTRALIA

RWE

DRAWN	LT	07/08/26
REVIEW	PP	07/08/26
APPROVED	CW	07/08/26

DRAWING STATUS

CONCEPTUAL DESIGN
NOT FOR CONSTRUCTION

TUL-BESS - 200 MW SITE ELEVATION

A2 TUL-BESS_200MW_800MWH_ELEVATION 1



Attachment 3

Species List

Tully BESS – Species List

Table 1: Tully BESS relevant species and assessment of seasonality and likelihood of occurrence in the Project area

NB seasonality includes assessment of relevant federal and/or state guidelines where available

Scientific name	Common name	NC Act status	Desktop LoO	Post field LoO	Seasonality	Comments
Fauna						
<i>Cairnsichthys rhombosomoides</i>	Cairns rainbowfish	E	Potential	Unlikely	Breeds from August to November but detectable all year.	Occurs in perennial foothill and lowland streams. The BESS site is not within the mapped distribution of the species and suitable habitat is not present.
<i>Casuarii casuarii</i>	Southern cassowary	E	Likely	Potential	Detectable year round. Breeding season June-October (DCCEEW 2010a)	Preferred habitat is not present although suitable food trees are in neighbouring vegetation. Birds can disperse across cleared areas although are easily detectable
<i>Crocodylus porosus</i>	Saltwater crocodile	V	Potential	Unlikely	Detectable year round	No suitable habitat in the Project area
<i>Delma mitella</i>	Atherton delma	NT	Potential	Unlikely	Activity period not known but likely to peak in spring (DCCEEW 2011a)	Only occurs in tall forest and rainforest. The BESS site is not within the mapped distribution of the species and suitable habitat is not present, although survey timing optimal.
<i>Hirundapus caudacutus</i>	White-throated needletail	V	Potential	Potential	Only present in Australia October-April	Surveys were undertaken during an appropriate season for this species. Assessed as potential to occur



Scientific name	Common name	NC Act status	Desktop LoO	Post field LoO	Seasonality	Comments
						overhead the BESS with no likely impact
<i>Litoria dayi</i>	Australian lace-lid	V	Potential	Unlikely	Calling period September to April (DCCEEW 2010b)	Occurs in streams in rainforests and rainforest margins. Habitat not present and survey timing optimal
<i>Petauroides minor</i>	Greater glider (northern)	V	Potential	Unlikely	Detectable year round	Closed forest structure and immaturity of the vegetation renders the Project area unlikely for the species. Survey timing suitable for this species
<i>Petaurus gracilis</i>	Mahogany glider	E	Potential	Unlikely	Detectable year round (DCCEEW 2011b)	Closed forest structure and immaturity of the vegetation renders the Project area unlikely for the species. Survey timing suitable for this species
<i>Phascolarctos cinereus</i>	Koala	E	Potential	Unlikely	Detectable year round	No suitable habitat in the BESS footprint and no records in the region.
<i>Pluvialis squatarola</i>	Grey plover	V	Potential	Unlikely	Predominantly a summer visitor to Australia (September-April) though small numbers overwinter	No suitable habitat in the Project area despite survey timing being optimal.
<i>Pteropus conspicillatus</i>	Spectacled flying-fox	E	Potential	Potential	Seasonally dependent on flowering and fruiting of food plants (DCCCEW 2010c)	Melaleuca forest adjacent to the BESS provides suitable habitat, although the BESS footprint does not contain food species for the flying-fox. Survey timing suitable for the species
Flora						
<i>Alloxylon flammeum</i>	Red silky oak	V	Potential	Unlikely	Flowers in spring	Occurs in rainforest and vine thickets. The BESS site is not within the mapped distribution of the species and suitable habitat is not present. Survey took place in optimal season



Scientific name	Common name	NC Act status	Desktop LoO	Post field LoO	Seasonality	Comments
<i>Aponogeton bullosus</i>	-	E	Potential	Unlikely	Fruiting and flowering occurs between June-October	Requires fast flowing rivers and streams. No suitable habitat present
<i>Aponogeton prolifer</i>	-	E	Potential	Unlikely	Not specified	Occurs in creeks in rainforest. The BESS site is not within the mapped distribution of the species and suitable habitat is not present.
<i>Asplenium pellucidum</i>	-	V	Potential	Unlikely	Not specified but detectable year round	Occurs in rainforest, particularly near waterfalls. No suitable habitat present
<i>Canarium acutifolium</i>	-	V	Potential	Unlikely	Not specified but detectable year round	Confined to creek banks in lowland rainforest. No suitable habitat present
<i>Carronia pedicellata</i>	-	E	Potential	Unlikely	Not specified but detectable year round	Occurs in rainforest and vine forest. No suitable habitat present
<i>Cheilocostus potierae</i>	-	E	Likely	Unlikely	Not specified but detectable year round	Occurs in lowland rainforest. No suitable habitat present
<i>Dioclea hexandra</i>	-	E	Potential	Unlikely	Fruits September to November	Occurs in lowland rainforest. No suitable habitat present
<i>Diplazium cordifolium</i>	-	V	Potential	Unlikely	Not specified but detectable year round	Occurs in rainforest and vine forest. No suitable habitat present
<i>Eleocharis retroflexa</i>	-	V	Potential	Unlikely	Flowering and fruiting in May	Occurs on the margins of seasonal swamps. While suitable habitat is present adjacent to the BESS it is unlikely to be present in the footprint
<i>Myrmecodia beccarii</i>	Ant plant	V	Potential	Potential	Flowers in spring and summer	Occurs in lowland woodland dominated by paperbarks in swampy habitats, and mangroves. Although suitable habitat is adjacent to the BESS it is avoided. Surveys were undertaken in optimal time



Scientific name	Common name	NC Act status	Desktop LoO	Post field LoO	Seasonality	Comments
<i>Phaius australis</i>	Lesser swamp orchid	E	Potential	Potential	Flowers are long lasting, opening progressively, between August and December	Occurs in swampy sclerophyll dominated by Melaleucas. Although suitable habitat is adjacent to the BESS it is avoided. Surveys were undertaken in optimal time
<i>Phlegmariurus tetrastichoides</i>	Square tassel fern	V	Potential	Unlikely	Not specified but detectable year round	Occurs in rainforest and vine forest. No suitable habitat present
<i>Polyphlebium endlicherianum</i>	Middle filmy fern	V	Potential	Unlikely	Not specified but detectable year round	Occurs in rainforest, particularly near waterfalls. No suitable habitat present
<i>Rhodamnia sessiliflora</i>	-	E	Potential	Unlikely	Flowering between October-July and fruiting between December and June	Occurs in lowland rainforest. No suitable habitat present
<i>Steganthera australiana</i>	-	NT	Potential	Unlikely	Not specified but detectable year round	Occurs in lowland rainforest. No suitable habitat present

Survey guidelines for Australia's threatened reptiles (DCCEE 2011a)

Survey guidelines for Australia's threatened birds (DCCEE 2010a)

Survey guidelines for Australia's threatened frogs (DCCEE 2010b)

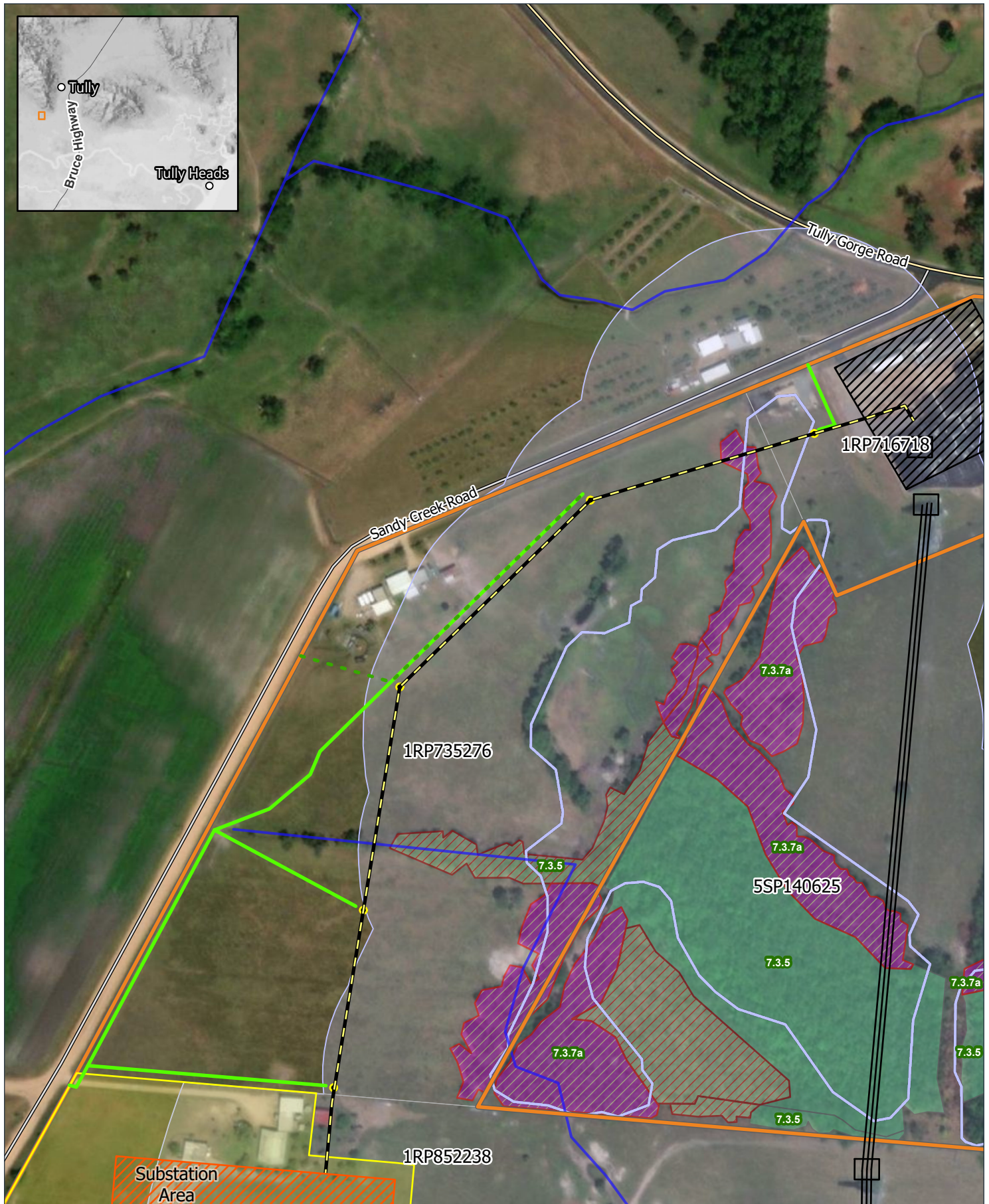
Survey guidelines for Australia's threatened mammals (DCCEE 2011b)

Survey guidelines for Australia's threatened bats (DCCEE 2010c)



Attachment 4

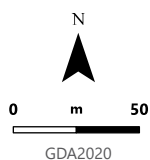
Proposed Access Tracks



Proposed Access to OHTL

Figure 1.0

DWG No: RWE-002-043[D]
 - Figure 1.0 - Proposed
 Access to OHTL
DATE: 26/08/2026
DRAWN: JM
REVIEWED: EJ



- | | | |
|----------------------------|--|-----------------------------|
| Development Footprint | GTR | 132kV Line (existing) |
| Project Area | Endangered (regrowth) | Tully Substation (existing) |
| Proposed Track | Least Concern (regrowth) | VM Watercourse |
| Alternative Track | Least Concern | Main Road |
| Proposed Transmission Line | Wetland protection area | Local Road |
| OHL Pole | Trigger area | |
| Substation Area | Wetlands of high ecological significance | |



Attachment 5

Fire Resistant Acoustic Barrier Memorandum

Memorandum

To	Jordan Hooper	From	Claire Whiteway, Akil Lau
Copy	Peter Perera, Maliheh Ghani, Ahmad Helmy, Balvinder Saini, Nam Ha Quach	Reference	P531195-001
Date	2026-08-05	Pages (including this page)	2
Subject	Feasibility of Fire-Resistant Acoustic Barriers for Tully Battery Energy Storage System (BESS) Development		

1 Introduction

Aurecon is supporting RWE with pre-NTP Owner's Engineer (OE) services for the Tully Battery Energy Storage System (BESS), located approximately 4 km south-west of Tully in the Cassowary Coast Region of Far North Queensland. Tully BESS will have a capacity of up to 200 Mega Watt (MW)/800 Mega Watt hours (MWh). The site is anticipated to contain 188 battery units, 47 medium voltage (MV) kilo volt (kV) substation, operational and maintenance (O&M) facilities, temporary laydown construction area and approximately 650 metres (m) of 132 kV overhead line to connect to the existing Powerlink 132 kV Tully Substation, located to the north of the BESS site.

During the development approval process for the Tully BESS project an information request in relation to the proposed acoustic barrier for the project was issued by the State Assessment and Referral Agency (SARA), to RWE. This memorandum has been prepared in response to this information request (illustrated below for ease in Figure 1) and specifically to address the suitability of such barriers in relation to fire safety considerations.

4. Acoustic barrier

The proposed plans identify a noise barrier on the northern side of the proposed battery storage facility (BSF). However, no detailed plans or design specifications for this structure have been provided.

Additionally, the submitted Bushfire Hazard Assessment and Management Plan prepared by Meridian Urban, dated May 2026, specifies that any fencing or barriers located within the Asset Protection Zone (APZ) must not be constructed from timber. Instead, all fencing and barrier materials, including the

proposed noise barrier, must be fire-resistant. It is noted that the proposed noise barrier is partially located within the APZ identified in the Bushfire Hazard Assessment and Management Plan.

Response requested:

Provide the following information to demonstrate compliance with PO13 – PO15 of State code 27:

- clarification on the materials proposed for the construction of the noise barrier, ensuring compliance with the fire-resistant material requirements outlined in the Bushfire Hazard Assessment and Management Plan.
- additional plan elevations that clearly depict the design, dimensions, and location of the proposed acoustic barrier.

Figure 1: SARA Acoustic Barrier Information Request

2 Discussion

Acoustic barriers are a widely adopted and effective noise mitigation measure for industrial and energy infrastructure developments, including BESS facilities such as that proposed by the Tully BESS project. The acoustic performance of a barrier is primarily a feature of its dimensions, mass, continuity, and the absence of gaps. Barriers are typically solid, imperforate structures with a minimum surface density of 15 kg/m², extending continuously without gaps or openings. Where improved performance is required, particularly adjacent to BESS equipment, the source-facing side of the barrier may be lined with fire-resistant sound-absorptive panels comprising perforated metal facing and non-combustible mineral wool insulation with a high NRC (Noise Reduction Coefficient) rating. All structural elements

supporting the barrier, including posts, framing members, fixings, and connections, are constructed from non-combustible or fire-resistant materials (such as galvanised steel post and framing, stainless steel posts, etc) and designed to maintain structural integrity under applicable fire exposure conditions.

Typical materials used include the following:

- Precast concrete panels;
- Reinforced masonry walls (concrete block or brick);
- Fibre-cement acoustic panels;
- Steel-clad acoustic panels incorporating fire resistant acoustic insulation;
- Composite acoustic wall systems containing fire resistant acoustic insulation; and
- Proprietary acoustic barrier products specifically designed for industrial applications.

Of the above materials, precast concrete, masonry, steel, fibre-cement products, and mineral wool insulation are inherently non-combustible and can typically achieve high levels of fire resistance. These materials are routinely used throughout Australia in infrastructure, industrial, transport, and energy developments where both acoustic attenuation and fire performance are required.

From a technical, construction, and operational perspective, it is both feasible and practical to construct an acoustic barrier using fire-resistant materials which might include any of the above-named materials, or an alternative fire-resistant solution. It is a typical input to the detailed design process which follows a project planning phase, but precedes construction, to specify requirements such as fire resistance for components of a project such as the acoustic barrier.

The use of non-combustible materials such as precast concrete or masonry represents well-established industry practice and can provide robust acoustic performance while also supporting project fire safety objectives. Similarly, proprietary acoustic panel systems are commercially available that combine fire-resistant facings and non-combustible acoustic insulation to achieve both noise and fire performance requirements.

3 Conclusion

Typical acoustic barrier systems for BESS developments can be constructed from a range of materials, including precast concrete, masonry, fibre-cement and steel-clad composite acoustic panels with non-combustible insulation. These materials can deliver the required acoustic attenuation while also providing a high degree of fire resistance.

While the final noise barrier material specification will be determined during the projects detailed design phase, it is considered both feasible and practical to provide the acoustic barrier necessary for the Tully BESS project, that can achieve the necessary noise mitigation outcomes in parallel with the required use of non-combustible materials.



Attachment 6

SMP and Flood Assessment



Report

Tully BESS Stormwater Management Plan & Flood Assessment

Attexo

25 August 2026



Document Status

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ACKNOWLEDGEMENT OF COUNTRY

The Board and employees of Water Technology acknowledge and respect the Aboriginal and Torres Strait Islander Peoples as the Traditional Custodians of Country throughout Australia. We specifically acknowledge the Traditional Custodians of the land on which our offices reside and where we undertake our work.

We respect the knowledge, skills and lived experiences of Aboriginal and Torres Strait Islander Peoples, who we continue to learn from and collaborate with. We also extend our respect to all First Nations Peoples, their cultures and to their Elders, past and present.



Artwork by Maurice Goolagong 2023. This piece was commissioned by Water Technology and visualises the important connections we have to water, and the cultural significance of journeys taken by traditional custodians of our land to meeting places, where communities connect with each other around waterways.

The symbolism in the artwork includes:

- Seven circles representing each of the States and Territories in Australia where we do our work
- Blue dots between each circle representing the waterways that connect us
- The animals that rely on healthy waterways for their home
- Black and white dots representing all the different communities that we visit in our work
- Hands that are for the people we help on our journey



CONTENTS

1	INTRODUCTION	7
1.1	Proposed Development	7
1.2	Background	9
1.3	Assessment Objectives and Scope	9
1.3.1	State Code Performance Outcomes	10
2	LEGISLATIVE CONTEXT	12
2.1	Environmental Protection Act 1994	12
2.1.1	Environmental Protection (Water and Wetland Biodiversity) Policy 2019	12
2.2	Water Act 2000	12
2.3	Planning Act 2016	12
2.3.1	Planning Regulation 2017	13
2.3.2	State Planning Policy (SPP) – Water Quality	13
2.3.3	Cassowary Coast Regional Council Planning Scheme 2015 (V4)	14
2.4	Fisheries Act 1994	14
2.5	Vegetation Management Act 1999	15
2.6	Soil Conservation Act 1986	15
2.7	Non-Statutory Water Quality Guidelines	15
2.7.1	Reef 2050 Water Quality Improvement Plan	15
2.7.2	Wet Tropics Water Quality Improvement Plan	16
2.8	Other Relevant Guidelines	16
3	CATCHMENT HYDROLOGY AND SITE CHARACTERISTICS	17
3.1	Topography and Catchments	17
3.1.1	Regional Context - Tully River Drainage Basin	17
3.1.2	Site and Local Catchment	17
3.2	Land Use	18
3.3	Great Barrier Reef Wetland Protection Areas	18
3.4	Waterways and Fish Passage	21
3.5	Soils	23
3.5.1	Soil Type and Description	23
3.5.2	Acid Sulfate Soils (ASS)	23
3.6	Geomorphology	25
3.7	Climate	25
4	SURFACE WATER QUALITY	28
4.1	Environmental Values	28
4.2	Water Quality Objectives	28
5	STORMWATER MANAGEMENT PLAN	32
5.1	Construction Phase	32
5.2	Operational Phase	32
5.3	MUSIC Model Schematisation	32
5.3.1	Catchment Areas	33
5.3.2	Rainfall Runoff Parameters	35
5.3.3	Pollutant Export Parameters	36
5.3.4	Rainfall and Evapotranspiration Data	36



5.3.5	Treatment Nodes	36
5.4	MUSIC Results and Discussion	39
5.4.1	Hazardous Materials	40
5.4.2	Emergency Containment Storage for Firefighting Runoff	40
5.4.3	Water Supply	41
5.5	Stormwater Quality Summary	41
5.5.1	Construction Phase	41
5.5.2	Operational Phase	42
5.6	Legal Point of Discharge	42
5.6.1	Conceptual Bioretention Basin Outlet Design	42
6	LOCAL FLOOD ASSESSMENT	44
6.1	Overview	44
6.1.1	Model Extent and Topography	44
6.2	Hydraulic Model Setup	44
6.2.1	Base Case Model	45
6.2.2	Surface Roughness	45
6.2.3	Catchment Hydrology	45
6.2.4	Hydrology Validation - RFFE	47
6.3	Result Processing	47
6.4	GIS Mapping	48
6.5	Local Flood Assessment Results	48
7	REGIONAL FLOOD ASSESSMENT	50
7.1	Background	50
7.2	Regional Flood Results	50
7.3	Design Rainfall Comparison	55
7.4	Implications for Flood Behaviour	56
7.4.1	Influence of Updated Rainfall Estimates	56
7.4.2	Additional Factors	56
7.4.3	Climate Change and Losses	57
7.5	Assessment of Appropriate Freeboard Allowance	57
7.5.1	General Considerations	57
7.5.2	Recommended Additional Allowance	57
7.6	Recommended Planning Approach	58
8	INFORMATION REQUEST	59
8.1	Information Request - Item 5	59
8.1.1	Response	59
8.2	Information Request - Item 6	60
8.2.1	Response	60
8.3	Information Request - Item 6	60
8.3.1	Response	61
9	SUMMARY	62
10	STATEMENT OF CERTIFICATION	64

APPENDICES



Appendix A Wet Tropics Region: Tully Catchment Water Quality Targets

Appendix B Flood Depth and Velocity Maps

LIST OF FIGURES

Figure 1-1	Tully BESS – Site Location	7
Figure 1-2	Tully BESS Site Layout	8
Figure 3-1	Tully Drainage Basin	17
Figure 3-2	Site Topography and Local Catchment	18
Figure 3-3	Areas of Environmental Significance (Cassowary Coast Regional Council Online Planning Scheme)	19
Figure 3-4	Great Barrier Reef Wetland Protection Areas	20
Figure 3-5	Assessment process matrix regarding waterway classification and proposed development work	21
Figure 3-6	Crossing Locations	22
Figure 3-7	Site Soil Mapping	24
Figure 3-8	Mean Monthly Rainfall and Evaporation at Tully Sugar Mill (032042)	26
Figure 3-9	Gauge Locations	27
Figure 5-1	Existing Case MUSIC Sub-catchments	33
Figure 5-2	Developed Case MUSIC Sub-catchment Areas and Indicative Flow Directions	34
Figure 5-3	MUSIC Model Schematisation	37
Figure 5-4	Developed Case Treatment Measures	38
Figure 6-1	TUFLOW Model Layout	46
Figure 6-2	1% AEP Inundation Depth	49
Figure 6-3	Key Reporting Locations	51
Figure 6-4	Q100 Regional Flood Results	52
Figure 6-5	Q200 Regional Flood Results	53
Figure 6-6	Q500 Regional Flood Results	54

LIST OF TABLES

Table 1-1	State Code Performance Outcomes	10
Table 2-1	SC27 Performance Outcomes	13
Table 2-2	End-of-catchment anthropogenic load reductions required from 2013 baseline	15
Table 3-1	Annual Rainfall Statistics	25
Table 4-1	Water quality objectives for nutrients and suspended soils to protect aquatic ecosystems EVs during high flow periods- 50 th percentile	29
Table 4-2	Water quality objectives for specific pesticides and biocides to protect aquatic ecosystem EVs for moderately disturbed developed fresh water	29
Table 4-3	Water quality objectives for ions, metals and chemical indicators in surface waters for general data across the Wet Tropics- 50 th percentile	29
Table 4-4	Water quality objectives to protect human use environmental values (Source: DES 2020)	30
Table 5-2	Modelled BESS Sub-catchment Breakdown	35
Table 5-3	Rainfall Runoff Parameters Adopted in MUSIC Modelling	35
Table 5-4	Pollutant Export Parameters	36
Table 5-5	MUSIC Swale Properties	37
Table 5-6	MUSIC Bioretention Basin Properties	38
Table 5-7	MUSIC Model Results Bioretention Basin A	39



Table 5-8	MUSIC Model Results Bioretention Basin B	40
Table 6-1	Manning's "n" roughness coefficient used in model	45
Table 6-2	Design Discharge Estimates – RFFE Comparison	47
Table 6-3	Critical Depth Durations	48
Table 6-4	Regional Flood Depths at Key Reporting Locations	50
Table 3.1	Comparison of 18-hour Duration Design Rainfall Depths (mm)	55
Table 3.2	Percentage Increase Relative to the Cardwell Inundation Study (2008)	55

1

Water Technology (WT) has been engaged by Attexo to prepare a Stormwater Management Plan (SMP) and Flood Assessment (FA) for the proposed Tully battery energy storage system (BESS), situated south of Tully in the Cassowary Coast Regional Council (CCRC) Local Government Area (LGA) in far north Queensland. The Location of the proposed site is presented in Figure 1-1.

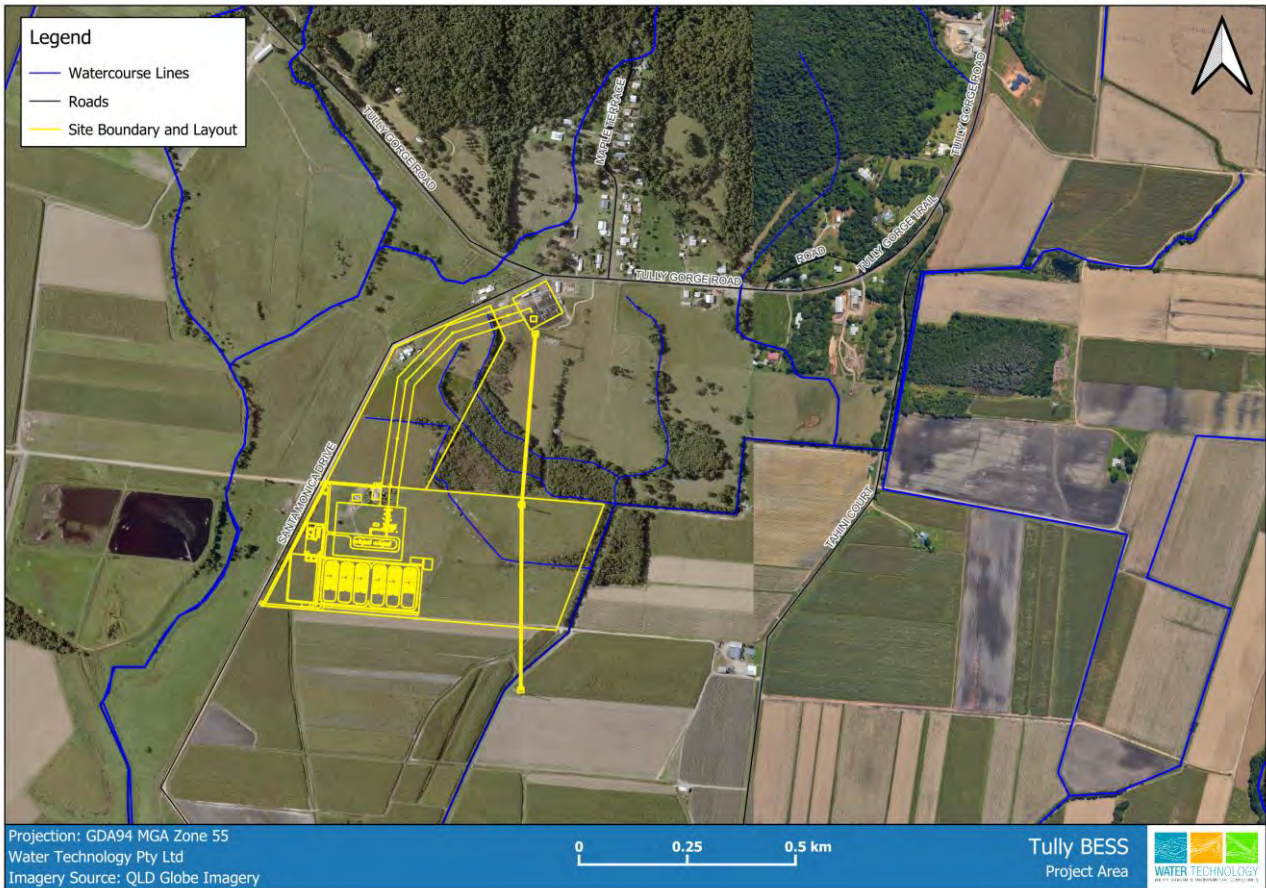


Figure 1-1 Tully BESS – Site Location

1.1

Attexo are assisting RWE Tully Battery Pty. Ltd. (RWE) in submitting a development application for a proposed BESS, occupying an area of approximately 28.7 hectares (ha), that comprises of two freehold parcels, Lot 1 on RP735276 and Lot 1 on RP852238. The site is situated approximately 4 km south-west of Tully. The project is expected to have an approximate capacity of up to 200 MW / 800 MWh with grid connection proposed via the Powerlink owned 132 kV existing Tully Substation, located to the northeast on Lot 1 on RP716718. Figure 1-2 illustrates the BESS area with the layout of the batteries and supporting infrastructure. The proposal includes:

- BESS development area including earthworks, temporary construction ancillary facilities, foundations for installation of containerised battery system, drainage works, appropriate fencing, perimeter and site access road.
- An easement for an overhead electrical infrastructure connection running from the north of the BESS area to substation on the adjoining lot.
- Site access road off Sandy Creek Road.

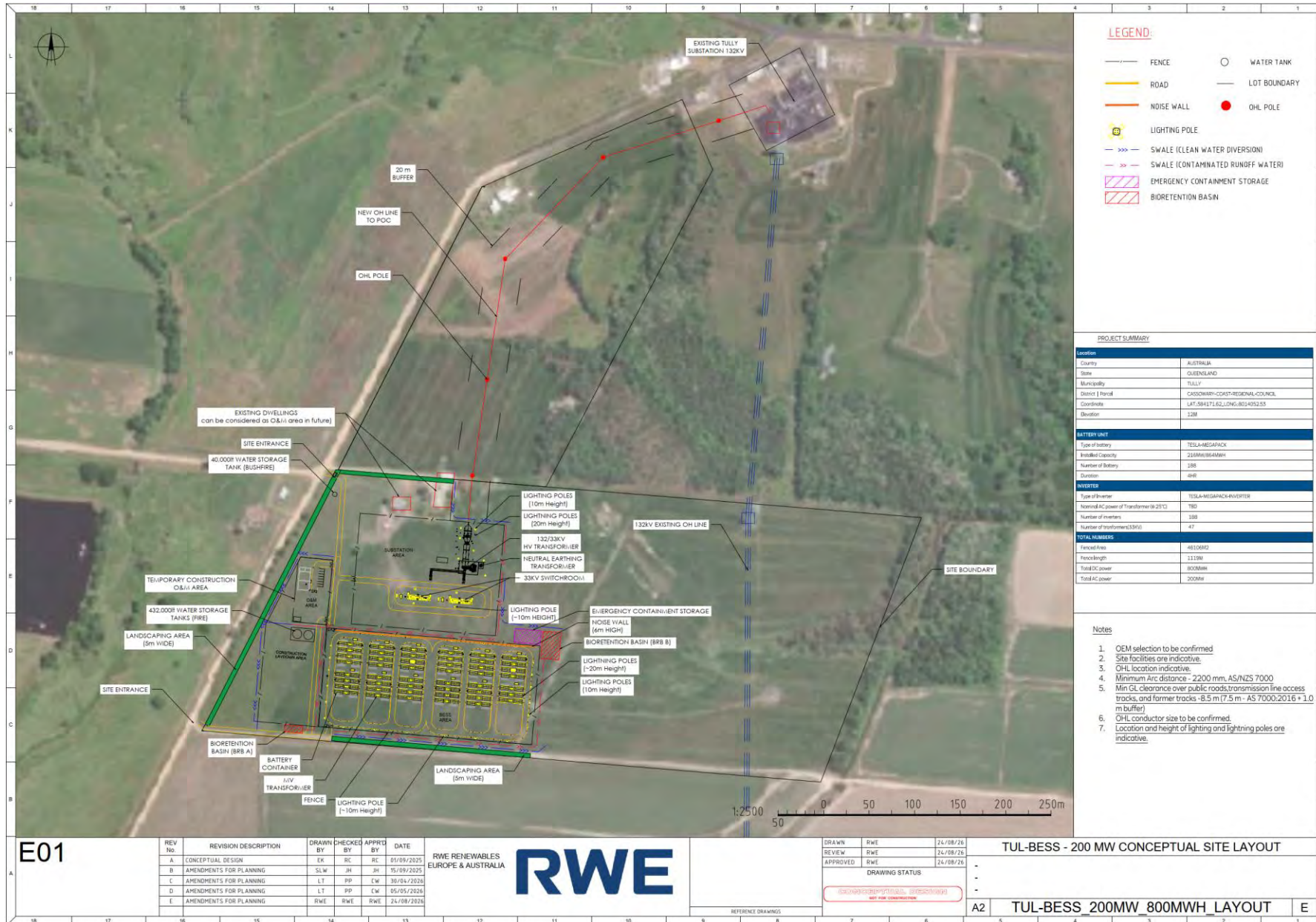


Figure 1-2 Tully BESS Site Layout



1.2 Background

WT originally completed assessments of stormwater and flooding to support the proposal. These are described in the report *'Tully BESS Stormwater Management Plan & Flood Assessment'*, prepared for Attexo by WT and dated 15 December 2025 (the SMP). The SMP was included in the Tully BESS Development Application (DA), previously submitted to Cassowary Coast Regional Council (CCRC) and an *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* referral submitted to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) for assessment of potential impacts on Matters of National Environmental Significance.

The Queensland State Government has recently made changes to the DA process for large-scale BESS projects. DA's for these projects are now assessed by the State Assessment and Referral Agency (SARA) against the State Development Assessment Provisions (SDAP). SDAP version 3.5 commenced on 12 December 2025 and included the introduction of the new *'State code 27: Battery storage facility development'* (SC27) as part of the changes to the Planning Regulation 2017 under the *Planning (Battery storage facilities) and Other Legislation Amendment Regulation 2025*.

For pre-existing applications relating to battery storage facilities, the legislative change means that upon commencement of SDAP v3.5 (on 12 December 2025), for any *"pre-existing development application that is a properly made application – the application is taken not to be a properly made application, and is taken not to have been accepted"*. Accordingly, and the project must re-commence the DA process from the beginning under the new framework.

1.3 Assessment Objectives and Scope

This report describes a conceptual SMP and FA to support the proposal and includes:

- A review and summary of relevant planning and legislative requirements as they relate to stormwater management and flooding.
- Identification of Environmental Values (EV's) and Water Quality Objectives (WQO's) applicable to the development.
- A SMP documenting the methodology and outcomes of the assessments undertaken to demonstrate that the proposed development achieves the stormwater quality requirements of CCRC and the Queensland State Government, including:
 - Compliance with the relevant Performance Outcomes associated with The Department of State Development, Infrastructure and Planning (DSDIP):
 - State Code 27: Battery storage facility development¹.
 - Details of construction phase erosion and sediment control measures.
 - MUSIC modelling to quantify changes to stormwater runoff quality during the operational phase of the development.
 - Conceptual sizing of stormwater quality management measures to meet the relevant WQO's.
- A FA documenting modelling undertaken to characterise existing overland flow flood behaviour within and surrounding the site and quantify potential impacts of the proposal on overland flow flooding as well as:
 - Development of a local flood model (using TUFLOW) to characterise existing overland flow behaviour.
 - High-level recommendations to minimise impacts of flooding on the development.

¹ Queensland Department of State Development, Infrastructure, Local Government and Planning, Planning guidance – State code 27: Battery storage facility development, 12/12/2025



1.3.1 State Code Performance Outcomes

State Code 27 provides performance benchmarks for battery storage facility development. Table 1-1 lists the relevant performance outcomes from these codes and identifies sections of this report where each matter is addressed.

Table 1-1 State Code Performance Outcomes

Performance Outcome (PO)	Response
State Code 27: Battery Storage Facility Development	
Protecting Water Quality and Stormwater Management	
PO16 Development: - minimises the disturbance of high risk soils; and - manages the release of soil based contaminants.	- General soil characteristics, from regional-scale mapping, are described in Section 3.5, however no field soil sampling has been completed at this stage. - The mapping indicates presence of acidic soils (Hewitt) across the majority of the site and unknown soils (MSC) across the remaining site areas, meaning there is potential that high risk soils could be encountered at the site. - Measures to manage disturbance and release of soils (and any corresponding soil-based contaminants) during the construction phase are addressed in the separate <i>Erosion and Sediment Control Plan</i> (ESCP), prepared by Attexo. The ESCP outlines soil management measures for the construction phase, which include: - soil sampling to confirm soil types; and - treatment of any soil limitations.
PO17 Development maintains the water quality of receiving waters, waterways and wetlands by: - avoiding locating in waterways and wetlands; - minimising crossings of and interference with natural drainage lines, farm drainage and irrigation infrastructure; - minimising erosion and sediment run off; - managing drainage control; and - preserving the bank stability of affected waterways and drainage lines avoiding non-essential hardening or unnatural modification of the waterway.	- Waterways and wetland areas impacting the site are identified in Sections 3.4 and 3.3, respectively. - All site infrastructure is situated out of the mapped wetlands and waterways, with the exception of overhead lines which cross above these areas, however, all footings are situated outside them. - General measures to manage erosion and sediment runoff for the construction phase are addressed in the separate ESCP (prepared by Attexo). - Stormwater quality management measures for the operational phase have been modelling using MUSIC to demonstrate that relevant water quality targets are met. This is described in Sections 5.3 to 5.5.



Performance Outcome (PO)	Response
PO18 Development prevents the release of contaminants to surface water or groundwater in the event of an incident, including a fire or explosion.	■ Precautionary containment, testing and managed release framework has been adopted for this facility, and is detailed in Section 5.4.2. ■ Riskcon has undertaken a Fire Safety Study (FSS) for the facility and determined that a fire suppression volume of 0.432 ML is required. ■ An Emergency Containment Storage of this capacity will be provided to capture firefighting runoff for subsequent testing and appropriate management prior to release or disposal. ■ The containment storage is proposed as an open basin with a nominal depth of approximately 1.0 m, occupying an area of approximately 432 m², subject to refinement during detailed civil design.
PO19 Development minimises interference with overland flow paths.	■ The local flood modelling results, summarised in Section 6.5, identifies natural drainage paths across the site. ■ The BESS footprint and surrounding operational areas are situated on land primarily influenced by shallow overland flow and some localised ponding against an embankment along the southern site boundary. ■ The mapped inundation represents runoff from the Subject Property travelling towards downstream waterways and the works do not interfere with conveyance flowpaths for external flows through the site. ■ Future detailed design of the BESS will consider both earthworks and stormwater drainage to protect the infrastructure from flooding and to manage runoff from the developed site.



2 LEGISLATIVE CONTEXT

There are a number of legislative acts and policies in Queensland that govern development throughout the state. Those that are particularly relevant to the proposed Tully BESS in the context of the SMP and FA are detailed in the following sections.

2.1 Environmental Protection Act 1994

The stated object of the act is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (ecologically sustainable development). Subordinate to this act is the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 whose purpose is to achieve the *Environmental Protection Act (1994)* objectives in relation to waters and wetlands.

2.1.1 Environmental Protection (Water and Wetland Biodiversity) Policy 2019

The Environmental Protection (Water and Wetland Biodiversity) Policy 2019 (EPP Water) is designed to uphold the objectives of the *Environmental Protection Act 1994* concerning the protection of Queensland's water environment while permitting ecologically sustainable development. It aims to determine Environmental Values (EV's) and Water Quality Objectives (WQO's) for Queensland waters progressively. EV's define water uses by both aquatic ecosystems and humans (such as drinking water, irrigation, aquaculture, and recreation), while WQO's set objectives for the physical, chemical, and biological characteristics of water (including nitrogen content, dissolved oxygen, turbidity, toxicants, and fish health).

The policy adopts the management framework outlined in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018) to guide its implementation.

2.2 Water Act 2000

The purpose of the act, with relevance to the project, is to provide a framework for the sustainable management of Queensland's water resources. This requires:

- Incorporating the principles of ecologically sustainable development;
- Sustaining the health of ecosystems, water quality, water-dependent ecological processes and biological diversity associated with watercourses, lakes, springs, aquifers and other natural water systems, including where practicable, reversing degradation that has occurred; and
- Recognising the interests of Aboriginal people and Torres Strait Islanders and their connection with water resources.

Subordinate to this act is the Water Plan (Wet Tropics) 2013. The Water Plan provides a framework for sustainable water management balancing human development with environmental systems including the reversal of degradation in natural ecosystems.

2.3 Planning Act 2016

The *Planning Act 2016* is the primary piece of legislation that governs land use planning and development in Queensland. It establishes a framework for the preparation and implementation of planning schemes that regulate the use of land in Queensland. The development of 'battery storage facilities' advances the purpose of the Planning Act under section 5 (c) and (h):

- c. promoting the sustainable use of renewable and non-renewable natural resources, including biological, energy, extractive, land and water resources that contribute to economic development through employment creation and wealth generation
- h. supplying infrastructure in a coordinated, efficient, and orderly way.



2.3.1 Planning Regulation 2017

The Planning Regulation 2017 is subordinate to the *Planning Act 2016*, detailing operational elements of the Planning Act. The Planning Regulation sets out the only land use terms that may be adopted in local planning schemes in Schedule 3. These are complemented by the use terms defined in Schedule 24 of the Planning Regulation.

2.3.1.1 State code 27: Battery storage facility development

The Planning Regulation was recently amended with introduction of the *Planning (Battery Storage Facilities) and Other Legislation Amendment Regulation 2025*, which commenced on 12 December 2025 and sets out terms for development applications for battery storage facilities. A corresponding revision of the State Development Assessment Provisions (SDAP) Version 3.5 introduced the new State Code 27 which outlines assessable benchmarks for battery storage facility development. The relevant performance outcomes, related to protecting water quality and stormwater management, are listed in Table 2-1.

Table 2-1 SC27 Performance Outcomes

Performance Outcome (PO)
PO16 Development: • minimises the disturbance of high risk soils; and manages the release of soil based contaminants.
PO17 Development maintains the water quality of receiving waters, waterways and wetlands by: • avoiding locating in waterways and wetlands; • minimising crossings of and interference with natural drainage lines, farm drainage and irrigation infrastructure; • minimising erosion and sediment run off; • managing drainage control; and • preserving the bank stability of affected waterways and drainage lines avoiding non-essential hardening or unnatural modification of the waterway.
PO18 Development prevents the release of contaminants to surface water or groundwater in the event of an incident, including a fire or explosion.
PO19 Development minimises interference with overland flow paths.

2.3.2 State Planning Policy (SPP) – Water Quality

The State Planning Policy (SPP) identifies natural hazards and water quality as matters of state interest that are relevant to the proposed development. The SPP seeks to ensure development avoids or appropriately mitigates flood-related risks to people, property, infrastructure and environmental values, while also managing stormwater runoff to protect receiving water environments.

For development within flood hazard areas, the SPP requires that development:

- Avoids or minimises the potential for flood-related risk to people, property, community infrastructure and the environment;
- Does not materially worsen flood behaviour external to the site;
- Maintains the function of floodways and overland flow paths; and
- Incorporates appropriate stormwater quantity and quality management measures.

The SPP also establishes stormwater design objectives in Appendix 2 for post-development stormwater quality management. These objectives require minimum load reductions of:



- Total Suspended Solids (TSS): 80%
- Total Phosphorus (TP): 60%
- Total Nitrogen (TN): 45%
- Gross Pollutants (>5 mm): 90%

The stormwater management strategy for the proposed BESS has been developed having regard to both the flood hazard planning outcomes and the stormwater design objectives contained within the SPP. Detailed assessment of flooding, stormwater quantity management and stormwater quality treatment measures is provided in Sections 5 and 6 of this report.

2.3.3 Cassowary Coast Regional Council Planning Scheme 2015 (V4)

The Cassowary Coast Regional Council Planning Scheme advances state and regional policies through detailed local provisions. While the scheme does not specifically define Battery Energy Storage Systems (BESS), development remains subject to relevant zoning provisions and infrastructure standards, including stormwater management requirements specified in the desired standards of service. These provisions align with the State Planning Policy (SPP) – Water Quality objectives discussed in Section 2.2.

Section 4.4 of the Planning Scheme specifies the desired standards of service for the stormwater network:

1. Collect and convey stormwater in a system of natural and engineered channels, a piped drainage network and system of overland flow paths to a lawful point of discharge in a safe manner that minimises nuisance, damage and inundation of habitable rooms and protects life;
2. Manage the water quality within urban catchments and waterways to protect and enhance environmental values and pose no health risk to the community;
3. Adopt water-sensitive urban design principles and on-site water quality management to achieve relevant water quality objectives;
4. The design of the stormwater network is in accordance with the FNQROC Regional Development Manual – Issue 7 (2017).

The proposed stormwater management strategy has been developed having regard to the Strategic Outcomes for natural hazards and risk management contained within Section 3.6 of the Isaac Regional Council Planning Scheme. Stormwater, flooding, erosion and sedimentation risks have been assessed and addressed through the implementation of drainage infrastructure, stormwater quality controls, and erosion and sediment control measures (addressed separately to this report). These measures are intended to manage construction and operational runoff, protect downstream receiving environments, and reduce stormwater-related risks to an acceptable and tolerable level over the life of the development.

In addition to the Planning Scheme requirements, the development is assessable against State Code 27: Battery Storage Facility Development. While State Code 27 does not prescribe specific stormwater quantity or quality design criteria, the proposed stormwater management system contributes to the broader risk mitigation objectives of the code by managing runoff, controlling erosion and sediment transport, protecting environmental values, and minimising adverse impacts on surrounding land and infrastructure. The proposed stormwater infrastructure therefore forms part of the overall site risk management framework for the development.

2.4 Fisheries Act 1994

The primary purpose of this act as stated is to provide for the use, conservation and enhancement of the community's fisheries resources and fish habitats in a way that seeks to apply and balance the principles of and promote ecologically sustainable development. Of relevance to this project, this act manages the introduction of waterway barrier works that may impact fish movement through the project area.



2.5 Vegetation Management Act 1999

The *Vegetation Management Act 1999* provides a comprehensive framework for vegetation management in Queensland, including the protection of riparian vegetation, while the specific policies and guidelines for the protection and management of riparian vegetation in Queensland aim to ensure that this unique and important type of vegetation is protected and preserved for future generations. These include the following:

- **Vegetation Management Regulation 2012:** Subordinate to the *Vegetation Management Act 1999* and provides accepted development vegetation clearing codes.
- **Queensland Government Riparian Vegetation Management Guidelines:** Provides guidance on the management of riparian vegetation and aims to ensure that riparian areas are protected and managed in an ecologically sustainable manner.
- **State Planning Policy:** Sets out the Queensland government's position on the protection of riparian vegetation and the requirement for local governments to include provisions for the protection of riparian areas in their planning schemes.
- **Regional Ecosystems:** Defined areas within Queensland that have similar vegetation types and ecological characteristics and include specific provisions for the protection and management of riparian vegetation.

2.6 Soil Conservation Act 1986

This act relates to the conservation of soil resources and mitigation of soil erosion through soil conservation measures.

2.7 Non-Statutory Water Quality Guidelines

2.7.1 Reef 2050 Water Quality Improvement Plan

The Reef 2050 Water Quality Improvement Plan is a strategic framework designed to safeguard the health of the Great Barrier Reef's marine ecosystems. It focuses on reducing sediment runoff, nutrient pollution, and pesticide contamination. Key elements include targeted actions, improved land management practices, robust monitoring, community engagement, research, and adaptive management. The plan involves stakeholders from various sectors and emphasizes the use of best management practices to minimize environmental impact.

These guidelines list specific water quality objectives for relevant catchments to achieve 2025 Great Barrier Reef water quality targets. This site is situated in the in the Tully Catchment which covers 1,683 km² (8% of the Wet Tropics region).

Table 2-2 summarises the 2025 end-of catchment anthropogenic water quality targets for the Tully Catchment and associated priorities for water quality improvement.

Table 2-2 End-of-catchment anthropogenic load reductions required from 2013 baseline

Region: Wet Tropics Region, Tully catchment water quality targets		
Parameter	Target	Management Priority
Dissolved inorganic nitrogen (DIN)	190 tonnes, 50% reduction	High
Fine sediment	17 kilo-tonnes, 20% reduction	Low
Particulate phosphorus (PP)	23 tonnes, 20% reduction	Low
Particulate nitrogen (PN)	68 tonnes, 20% reduction	Low
Pesticides	n/a	Low



2.7.2 Wet Tropics Water Quality Improvement Plan

The Wet Tropics Water Quality Improvement Plan (WQIP) was developed to establish and achieve water quality targets for the region, ensure the protection of the Great Barrier Reef. The plan identifies priority areas and outlines targeted management actions that aim to reduce pollutant loads, improve land management practises and enhance ecosystem resilience.

The short-term water quality and land management targets are in accordance with the broader Reef 2050 Water Quality Improvement Plan, reinforcing efforts to protect coastal and marine environments. The Wet Tropics region is divided into distinct catchment areas to facilitate localised and strategic interventions. Key pollutants of concern include fine sediment, nutrients and pesticides, which originate mainly from agriculture activities. While some catchments have been identified as priority areas for investment, the plan promotes a proactive and preventative approach to managing water quality risks across the region, ensuring long-term sustainability.

2.8 Other Relevant Guidelines

In addition to relevant legislation, several surface water and stormwater management guidelines have been considered to ensure best practice methods and design outcomes are utilised at Tully BESS. These include:

- Australian and New Zealand Governments (ANZG) 2018, Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia.
- Australian Drinking Water Guidelines, 2011 (Updated August 2018).
- Queensland Urban Drainage Manual, 2017.
- Australian Rainfall and Runoff: A Guide to Flood Estimation, Commonwealth of Australia - Geoscience Australia, 2019.
- Best Practice Erosion and Sediment Control, IECA, 2025.

3 CATCHMENT HYDROLOGY AND SITE CHARACTERISTICS

3.1 Topography and Catchments

3.1.1 Regional Context - Tully River Drainage Basin

The Tully River Drainage Basin is located in the south of the Wet Tropics region and which occupies an area of approximately 1,675 km² extending south from Innisfail, as shown in Figure 3-1. The Tully River Basin drains primarily to the Pacific Ocean, with additional contributions from the Hull River and smaller tributaries. Given the region's high rainfall and complex topography, the site is subject to dynamic hydrodynamic processes, including floodplain inundation, overland flow, and potential backwater effects from downstream constraints.

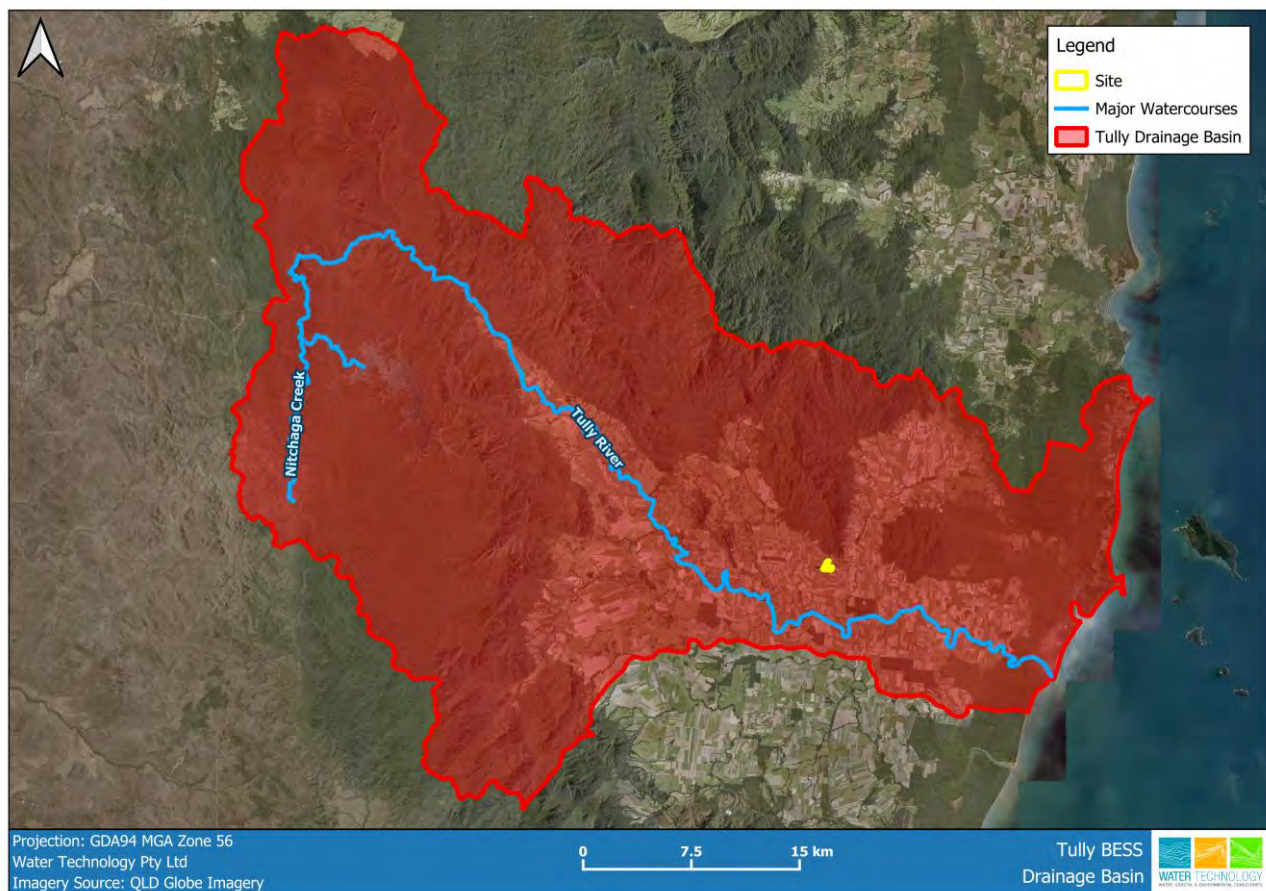


Figure 3-1 Tully Drainage Basin

3.1.2 Site and Local Catchment

The landform of the floodplain surrounding the site to the west, south and east is characterised by gentle low-grade slopes and drained by a combination of natural ephemeral flowpaths and constructed agricultural drains. To the north of the site, the land is much steeper, with ranges of Mount Tyson rising to an elevation above 300m AHD approximately 2.5km north of the site. The mountain range forms the headwaters of the local catchment for the unnamed tributaries flowing around the site.

The site is situated on the fringe of the floodplain in the lower part of the Tully River Drainage Basin. The land is relatively flat, with elevations within the site ranging from approximately 8 mAHD (in the east) to 18 mAHD (in the northwest). The site topography is shown in Figure 3-1.

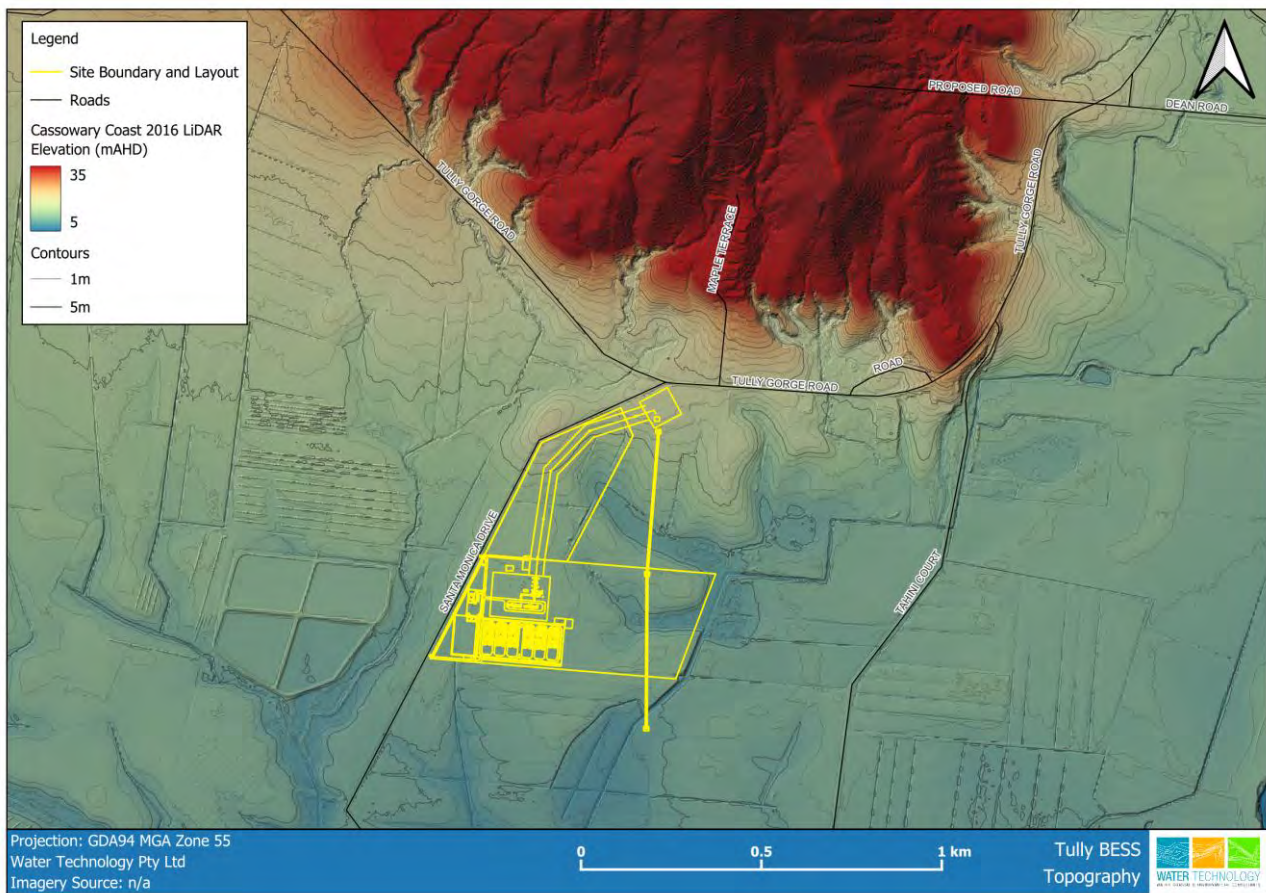


Figure 3-2 Site Topography and Local Catchment

3.2 Land Use

The project area is predominately used for grazing, with the Queensland Land Use Mapping Program identifying the land use as 'Grazing Native Vegetation'. The surrounding catchment features also include areas of Environmental Significance according to Cassowary Coast Regional Council online planning scheme mapping, as shown in Figure 3-3.

3.3 Great Barrier Reef Wetland Protection Areas

Figure 3-4 shows the location of the mapped Great Barrier Reef Wetland Protection Areas in the vicinity of the project. The areas of high ecological significance identified in this dataset closely correlate with the areas of Environmental Significance shown in the Cassowary Coast Regional Council online planning scheme mapping, which includes mapped wetlands near the site. The proposed infrastructure has been designed to be located wholly outside these mapped high ecological significance areas.



Figure 3-3 Areas of Environmental Significance (Cassowary Coast Regional Council Online Planning Scheme)

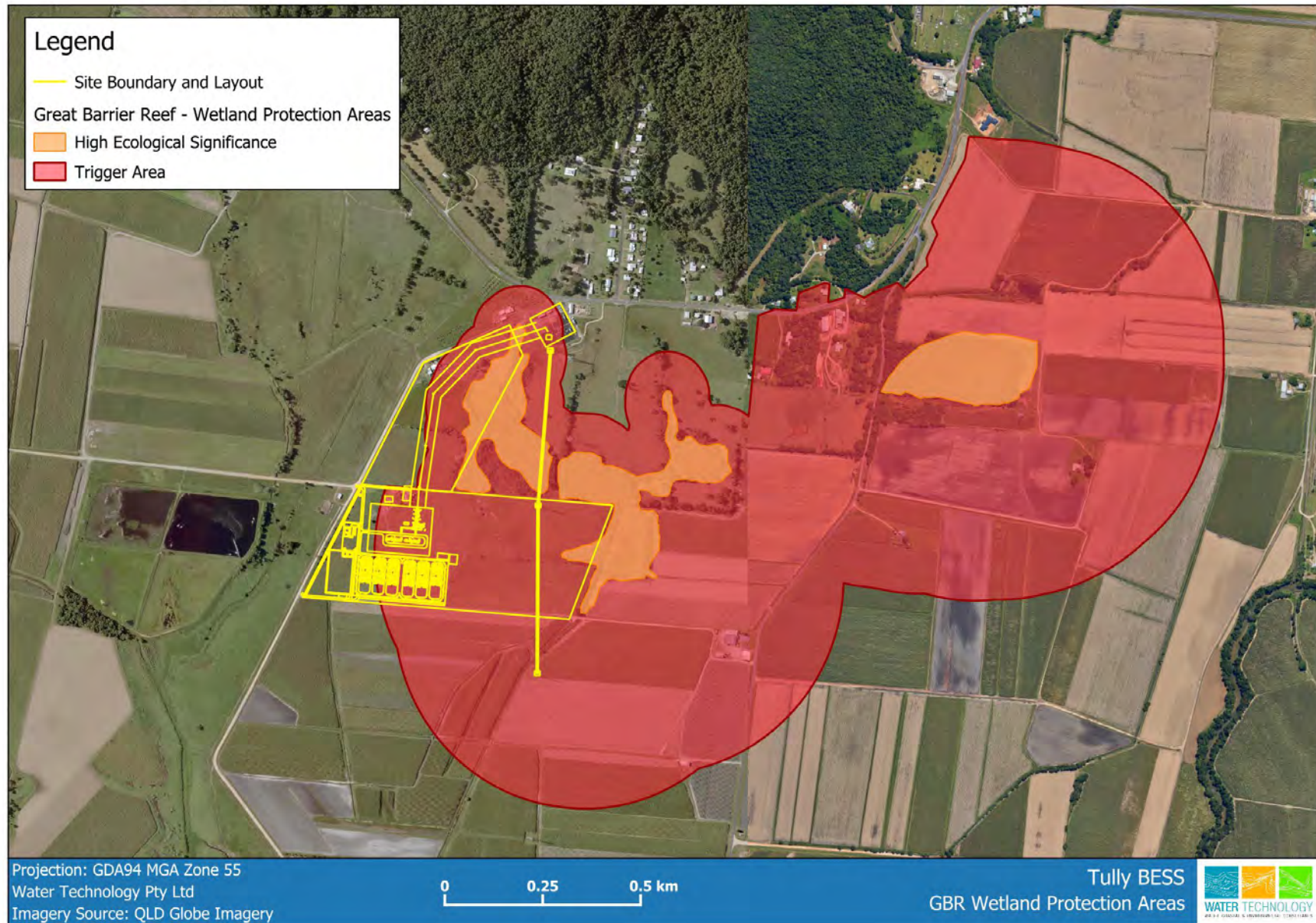


Figure 3-4 Great Barrier Reef Wetland Protection Areas



3.4 Waterways and Fish Passage

Figure 3-6 illustrates the proposed development layout against the Department of Agriculture and Fisheries *Queensland waterways for waterway barrier works* spatial layer. This spatial layer classifies waterways defined by the *Fisheries Act* to assist in determining whether proposed barrier works are assessable or accepted (DAF, 2021). Waterways receive a fish passage attribute, a number between 1 and 5 which is additionally colour coded for easy reference. The classification does not indicate the relative importance of the fish habitat, rather it has been determined by several characteristics including stream order, stream slope and tidal influence.

- Waterways classified as 1 (low) (green) or 2 (medium) (amber) are typically in the upper reaches of a catchment where fish are typically smaller with stronger swimming abilities.
- Waterways classified as 3 (high) (red), 4 (major) (purple), or 5 (tidal) (grey) typically are host to a wider range of fish sizes and swimming abilities.

Figure 3-5 illustrates the assessment process matrix provided by DAF (2021) in the *Queensland waterways for waterway barrier works* spatial data layer: Guide to determining waterways Version 2.0 (April 2021). There were no waterway crossings identified for this project.

Waterway classification		Development work type			
Fish passage attribute	Colour	Some dams/weirs	Culvert crossing	Bed-level crossing	Temporary works
1	Green	Development complies with accepted development requirements OR lodge a development application			
2	Amber				
3	Red	Development application			
4	Purple				
5	Grey				

Figure 3-5 Assessment process matrix regarding waterway classification and proposed development work



Figure 3-6 Crossing Locations



3.5 Soils

3.5.1 Soil Type and Description

Soil mapping at a scale of 1:50,000 was accessed via Queensland Globe and is illustrated on Figure 3-7. The map data was derived from a soil and land suitability survey of the Cardwell-Tully-Innisfail area undertaken between 1982 and 1996 and described in CSIRO's 'Division of Soils, Divisional Report No. 115, Soils of the Cardwell-Tully Area, North Queensland' (1992).

The Hewitt soil series dominates the site and belongs to a broader group described as poorly drained soils formed on alluvial deposits. Conceptually, soils in this series are described as:

Moderately thick to thick (= 0.4m), very dark grey to black sapric peat with strong granular structure. Peat texture is silty clay loam or clay loam, though small amounts of sand and a few fine gravels may be present in areas adjoining the alluvial fans. Peaty horizons overlay grey; light to medium-heavy clay. Clay subsoils are typically mottled and structured. Coarse prismatic or columnar structure was also observed in drain batters.

The soils in this series are hydrosols. The development footprint for the proposed BESS facility is entirely within this mapped area, and the soil properties may influence infiltration capacity and foundation design.

A portion of the site is mapped as MSC (Miscellaneous Soils Complex), a classification used for areas where detailed soil assessment is limited or where heterogeneous soil conditions occur. This designation indicates that site-specific geotechnical investigations will be important to confirm soil properties for earthworks and stormwater management design. Works within the MSC area are limited to a short length of a proposed site entry road (adjacent to an existing driveway entry), and a corridor for linear overhead infrastructure. Soil disturbance will be limited to construction of footings for towers supporting the overhead infrastructure and the areas will be stabilised once construction is complete.

3.5.2 Acid Sulfate Soils (ASS)

The site is located towards the fringe of the National Scale (1:2,000,000) acid sulfate soils mapping accessible through Queensland Globe. The land lies within the Bm(p4) map classification, which is defined as having a 'low probability of occurrence (6-70%)' of ASS. There is no more detailed mapping of ASS covering the site.

Although the mapping indicates a low probability, the potential presence of ASS cannot be ruled out. Accordingly, for any site areas where excavation is required or soil will be disturbed during construction works, soil sampling should be undertaken and soil treatment provided as required. The ESCP (prepared by Attexo) should be referenced for further details on construction phase management of site soils.

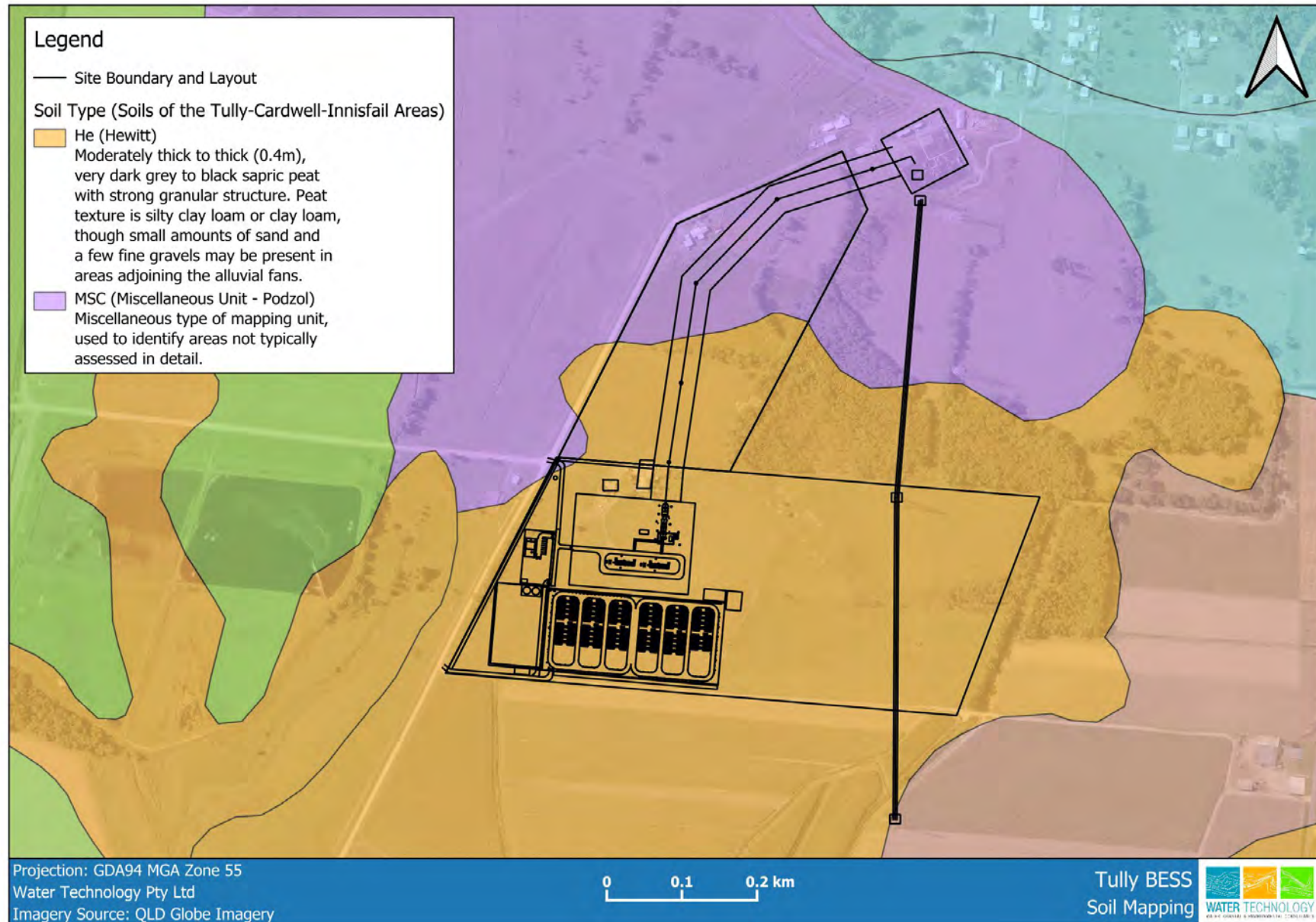


Figure 3-7 Site Soil Mapping



3.6 Geomorphology

A high-level desktop geomorphic assessment was undertaken to characterise the waterways assessed in this Study Area. The Study Area is located on the floodplain of the Tully River, at the southern foothills of Tully Gorge National Park. The geology of the area consists of alluvium materials underlain by granites. The area receives high rainfall and high intensity rainfall often leads to the River overtopping its bank and inundating the floodplains. Flat topography, regular inundation of the floodplain and poor infiltration of granitic geologies supported the development of extensive wetlands in the area historically.

To support the development of agriculture on the alluvial floodplains, many of these wetlands were drained and infilled. Channels were also constructed to divert flows. Consequently, most of the waterways in the Study Area are artificial or highly modified channels of Stream Order 1 and 2. The construction of this extensive channel network has greatly increased the drainage density of the landscape. Many of these drains have been constructed as straight channels, resulting in an increase in the efficiency of flow and sediment transfer downstream. The increase in flow rate also increases the risk of channel bank and/or bed erosion.

Extensive clearing of vegetation from the floodplain also contributed to the increased rate and volume of run-off. This further reduced the resilience of channel banks and bed. While lower order streams such as those bordering the Study Area are less likely to be affected by the cumulative effects of these erosive processes, localised disturbances may trigger changes such as channel deepening or widening.

3.7 Climate

Tully Station is the nearest open station providing climate statistics and is located approximately 3 km northeast of the centroid of the project area. Annual rainfall statistics are provided in Table 3-1 with gauge locations presented in Figure 3-9.

Table 3-1 Annual Rainfall Statistics

Parameter	Units	Tully Sugar Mill	Bingil Bay
Station number		032042	32009
Rainfall record		1956-present	1925-present
Distance from project area centroid	km	3 km NE	24.5 km NE
Mean rainfall	mm/year	3,921	3,127
10 th percentile rainfall	mm/year	2,881	2,339
Median rainfall	mm/year	3,825	3,002
90 th percentile rainfall	mm/year	5,103	4,225
Maximum rainfall	mm/year	6,211	5,165

Figure 3-8 shows the mean monthly rainfall and pan-evaporation derived from the SILO point data for the Tully gauging station. Mean annual rainfall and evaporation at Tully are 3,921 mm and 1,833 mm, respectively. The wet season tends to occur from December - May, with lesser rainfall throughout the remainder of the year.

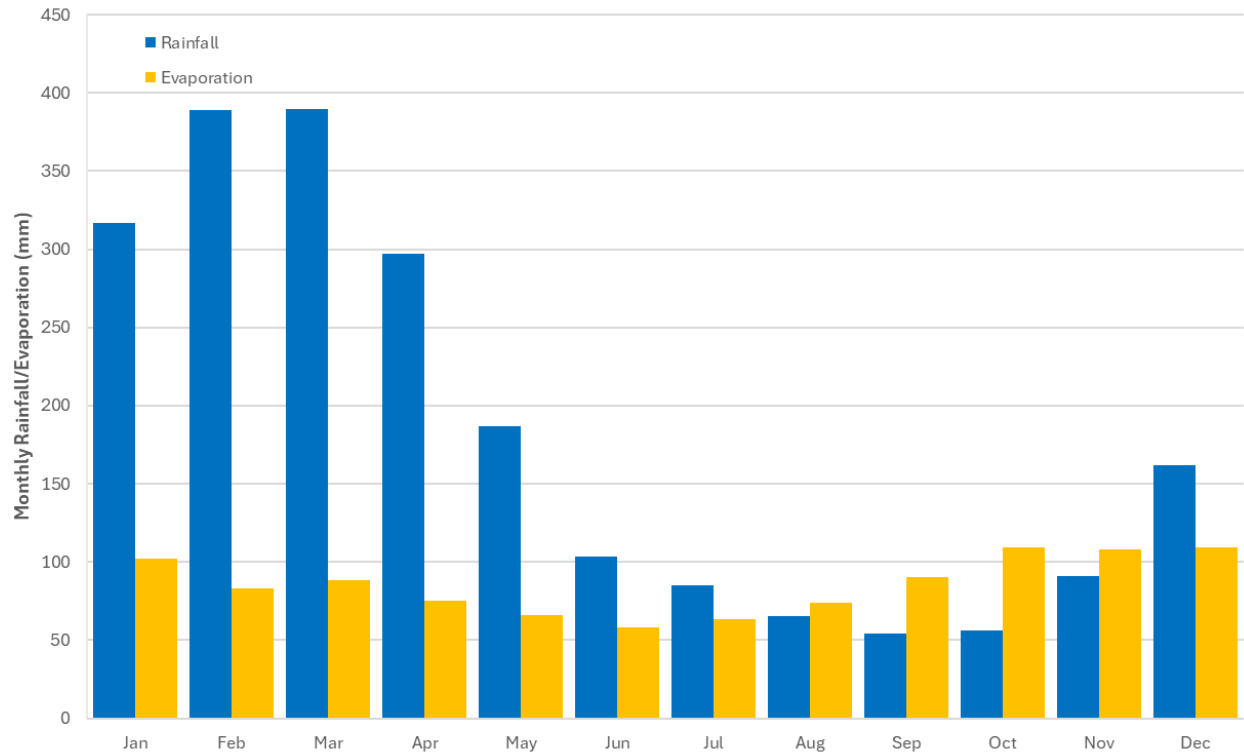


Figure 3-8 Mean Monthly Rainfall and Evaporation at Tully Sugar Mill (032042)

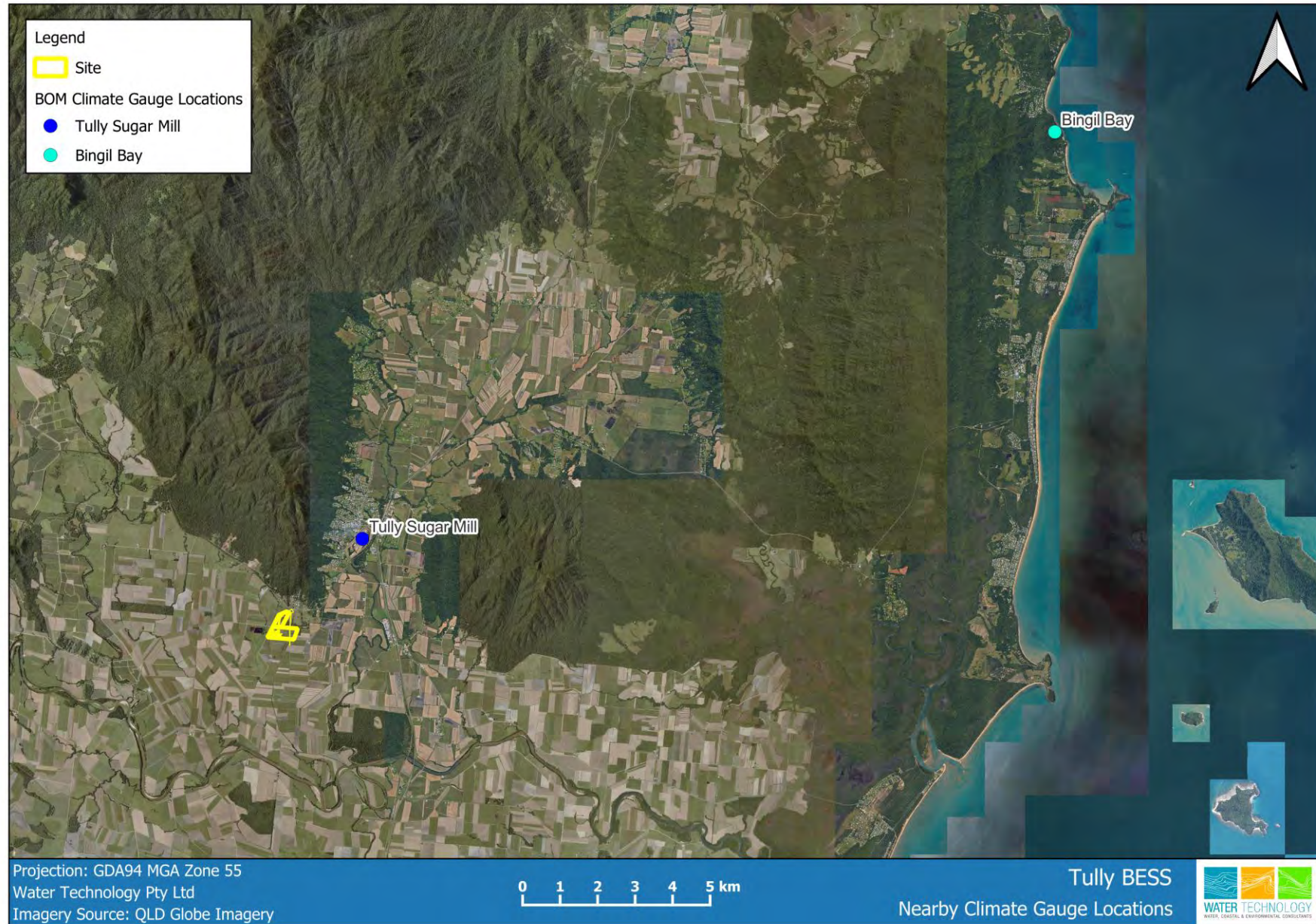


Figure 3-9 Gauge Locations



4 SURFACE WATER QUALITY

4.1 Environmental Values

The Environmental Protection (Water and Wetland Biodiversity) Policy 2019, which is subordinate legislation to the Environmental Protection Act 1994, provides a framework for identifying environmental values (EV) for a waterway and deciding water quality objectives (WQO) to protect or enhance those EV's. EV's for water are the qualities of water that make it suitable for supporting aquatic ecosystems and human water uses. These EVs need to be protected from the effects of habitat alteration, waste releases, contaminated runoff and changed flow to ensure healthy aquatic ecosystems and waterways that are safe for community use.

The site is located in the Tully River (WQ1131 – Tully River, Murray River and Hinchinbrook Island Basins) and is mapped in the Environmental Protection (Water) Policy 2009, Wet Tropics Map Series. The site is located within the Tully River Basin lowland fresh waters environmental values zone. The EVs specified for protection are as follows:

- Aquatic Ecosystems
- Irrigation
- Farm Supply
- Stock Water
- Human consumer
- Primary Recreation
- Secondary Recreation
- Visual Recreation
- Drinking Water
- Industrial Use
- Cultural and Spiritual Values

4.2 Water Quality Objectives

Water Quality Objectives are intended to protect the EV's of receiving waters and as such set out parameters for biological, chemical and other measures to be met in the receiving waters. The site is located in the Tully River Basin lowland fresh waters zone and a management intent of 'moderately disturbed for the protection of aquatic ecosystems. Water quality should be maintained or improved in line with the WQOs. The relevant aquatic ecosystem WQOs for the Tully River catchment waters are outlined in Table 4-1 to Table 4-4.

The management of riparian vegetation related to WQOs shall be conducted with reference to regional vegetation management codes under the Vegetation Management Act 1999. This is aimed at maintaining water quality, bank stability and aquatic a terrestrial habitat. Clearing control varies according to stream order.



Table 4-1 Water quality objectives for nutrients and suspended solids to protect aquatic ecosystems EVs during high flow periods- 50th percentile

Parameter	Value*
Ammonia N	8 µg/L
Oxidised N	66 µg/L
Particulate N	153 µg/L
Dissolved organic nitrogen	106 µg/L
Total nitrogen	370 µg/L
Filterable reactive phosphorous	3 µg/L
Particulate P	10 µg/L
Dissolved organic phosphorous	5 µg/L
Total phosphorus	20 µg/L
Total suspended solids	20 mg/L

*High flow WQOs are based on measured data from high flow periods at a reference site on the Tully River in Tully Gorge National Park (gauging station 113015A).

Table 4-2 Water quality objectives for specific pesticides and biocides to protect aquatic ecosystem EVs for moderately disturbed developed fresh water

Parameter	Value
Atrazine	13 µg/l
Chlorpyrifos	0.01 µg/l
Endosulfan	0.03 µg/l
Simazine	3.2 µg/l
Hexazinone	75 µg/l
2,4-D	280 µg/l
Tebuthiuron	2.2 µg/l
Diazinon	0.01 µg/l

Table 4-3 Water quality objectives for ions, metals and chemical indicators in surface waters for general data across the Wet Tropics- 50th percentile

Parameter	Value
Na	7 mg/l
Ca	3 mg/l
Mg	2 mg/l
HCO ₃	25 mg/l
Cl	9 mg/l
SO ₄	1 mg/l
Electrical conductivity (EC)	72 µS/cm
Hardness	17 mg/l
Alkalinity	20 mg/l
Sodium adsorption ratio (SAR)	0.70



Table 4-4 Water quality objectives to protect human use environmental values (Source: DES 2020)

Environmental Value	Water quality objectives to protect EV
Suitability for drinking water supply	Local WQOs for drinking water supply are provided in Table 4 of DES (2020). Note: For water quality after treatment or at point of use refer to legislation and guidelines, including: - Public Health Act 2005 and Regulations - Water Supply (Safety and Reliability) Act 2008, including any approved drinking water management plan under the Act - Australian Drinking Water Guidelines.
Protection of the human consumer	Objectives as per AWQG and Australia New Zealand Food Standards Code, Food Standards Australia New Zealand, 2007 and updates.
Protection of cultural and spiritual values	Protect or restore indigenous and non-indigenous cultural heritage consistent with relevant policies and plans.
Suitability for industrial use	No WQOs are provided in this scheduling document for industrial uses. Water quality requirements for industry vary within and between industries. The AWQG do not provide guidelines to protect industries and indicate that industrial water quality requirements need to be considered on a case-by-case basis. This EV is usually protected by other values, such as the aquatic ecosystem EV.
Suitability for irrigation	ANZECC objectives for pathogens and metals are provided in Tables 8 and 9 of DES 2020. For other indicators, such as salinity, sodicity and herbicides, see AWQG.
Suitability for stock watering	Objectives as per AWQG, including median faecal coliforms <100 organisms per 100 mL. WQOs for total dissolved solids and metals are provided in Tables 10 and 11 of DES 2020, based on AWQG. For other objectives, such as cyanobacteria and pathogens, see AWQG.
Suitability for farm supply/use	Objectives as per AWQG.
Suitability for primary contact recreation	Objectives as per NHMRC (2008), including: - water free of physical (floating and submerged) hazards - temperature range: 16–34°C - pH range: 6.5–8.5 - DO: >80% - faecal contamination: designated recreational waters are protected against direct contamination with fresh faecal material, particularly of human or domesticated animal origin. Two principal components are required for assessing faecal contamination: - assessment of evidence for the likely influence of faecal material. - counts of suitable faecal indicator bacteria (usually enterococci). - These two components are combined to produce an overall microbial classification of the recreational water body - intestinal enterococci: 95th percentile ≤ 40 organisms per 100mL (for healthy adults) (NHMRC, 2008; Table 5.7).



Environmental Value	Water quality objectives to protect EV
Suitability for primary contact recreation	■ direct contact with venomous or dangerous aquatic organisms should be avoided. Recreational water bodies should be reasonably free of, or protected from, venomous organisms ■ waters contaminated with chemicals that are either toxic or irritating to the skin or mucous membranes are unsuitable for recreational purposes. ■ cyanobacteria/algae: Recreational water bodies should not contain: ■ Level 1: $\geq 10 \mu\text{g/L}$ total microcystins; or $\geq 50\,000$ cells/mL toxic <i>Microcystis aeruginosa</i>; or biovolume equivalent of $\geq 4 \text{ mm}^3 / \text{L}$ for the combined total of all cyanobacteria where a known toxin producer is dominant in the total biovolume; or ■ Level 2: $\geq 10 \text{ mm}^3 / \text{L}$ for total biovolume of all cyanobacterial material where known toxins are not present; OR cyanobacterial scums consistently present. Further details are contained in NHMRC (2008) and Table 12 of DES 2020.
Suitability for secondary contact recreation	Objectives as per NHMRC (2008), including: ■ intestinal enterococci: 95th percentile ≤ 40 organisms per 100 mL (for healthy adults) (NHMRC, 2008; Table 5.7). ■ cyanobacteria/algae—refer objectives for primary recreation, NHMRC (2008) and Table 12 of DES 2020.
Suitability for visual recreation	Objectives as per NHMRC (2008), including: ■ Recreational water bodies should be aesthetically acceptable to recreational users. The water should be free from visible materials that may settle to form objectionable deposits; floating debris, oil, scum and other matter; substances producing objectionable colour, odour, taste or turbidity; and substances and conditions that produce undesirable aquatic life. ■ cyanobacteria/algae—refer objectives for primary recreation, NHMRC (2008) and Table 12 of DES 2020.



5 STORMWATER MANAGEMENT PLAN

5.1 Construction Phase

Management of water quality during the construction phase is necessary to minimise environmental harm to downstream receiving waters. Construction phase stormwater quality management will occur in accordance with current industry standards including the requirements of the *State Planning Policy (SPP)* and *Best Practice Erosion and Sediment Control (International Erosion Control Association (IECA) 2008)*.

Further details of the management approach are provided in the Erosion and Sediment Control Plan (ESCP) developed for the site by Attexo. Construction phase water quality management approaches are highly-site specific. Therefore, the management approach will be refined as more details of the construction timeline are known.

5.2 Operational Phase

An assessment of stormwater quality at the site, including Water Sensitive Urban Design (WSUD) measures adopted to mitigate impacts to the quality of stormwater runoff from the developed site, has been undertaken using the Model for Urban Stormwater Conceptualisation (MUSIC).

The following section documents the conceptual sizing of a treatment train, consisting of bioretention basins and vegetated swales, to inform site layout and civil design. These WSUD measures are proposed for the operational phase of the development and are, therefore, long-term water quality management measures following the post-construction phase of the proposed development. Potential pollutants from this development are listed in Table 5-1 below.

Table 5-1 Potential Pollutants from Site (Post-Construction Phase)

Pollutant Type	Pollutant sources
Sediment	Sediment brought in by vehicles, erosion, atmospheric deposition, organic matter, spills and accidents.
Nutrients	Fertiliser, decaying organic matter, animal faeces, detergents, atmospheric deposition.
Gross Pollutants	Litter such as food, drink and materials packaging and wrappers, leaf matter and grass clippings.
Hydrocarbons	Fuel and oil spills from cars and trucks, asphalt pavements.

5.3 MUSIC Model Schematisation

Water quality modelling of the proposed development has been undertaken using the Model for Urban Stormwater Conceptualisation (MUSIC). The MUSIC model allows the user to estimate the pollutant loads generated within and exported from the proposed BESS area within the site and quantify the relative effectiveness of the proposed stormwater quality treatment train. MUSIC provides quantitative modelling for Total Suspended Solids (TSS), Total Phosphorous (TP), Total Nitrogen (TN), and Gross Pollutants (GP).

In consideration of the Reef 2050 WQIP, which specifies Water Quality Objectives (WQO's) relative to existing site runoff, rather than in terms of treatment train effectiveness for development site runoff, modelling for both existing and proposed developed site conditions has been undertaken.

The MUSIC model was set up in accordance with the *Water by Design MUSIC Modelling Guidelines (2018)* (WBD, 2018) which has been published under the Water by Design Program by the South-East Queensland Healthy Waterways Partnership. In addition, Healthy Waterways recommends using the latest version of MUSIC to ensure compliance with stormwater pollutant load reduction objectives.



5.3.1 Catchment Areas

The existing landform and proposed BESS layout were used to estimate catchment areas for input to the MUSIC model. The same overall catchment area has been represented in the MUSIC model for both existing proposed developed site conditions to enable direct comparison of existing and developed pollutant loads leaving the site. However, the sub-catchment areas are modified by the proposed development.

The existing landform is characterised by a gentle ridge running north-south through the proposed development footprint. The overall catchment has been divided into two sub-catchments, as shown on Figure 5-1, which also depicts indicative flow directions for site runoff. Sub-catchment A falls to the southwest and discharges via an existing culvert under the embankment bounding the southern side of the site. Sub-catchment B falls eastwards, draining to an ephemeral flowpath that traverses the eastern part of the site (and lies entirely outside the proposed development footprint). A lumped landuse approach has been used to represent each existing sub-catchment in the model.



Figure 5-1 Existing Case MUSIC Sub-catchments

For the proposed developed site, detailed design of earthworks will direct runoff from the entire BESS footprint to the east (sub-catchment B). It has been assumed that, where practicable, runoff from the remaining developed site areas will be diverted westwards (sub-catchment A) to minimise changes to the total sub-catchment contributing runoff to each discharge point. A split catchment land use approach was adopted for modelling pollutant loads from the proposed development footprint within the site. The developed case sub-catchments, modelled landuse areas and indicative post-development flow directions are shown on Figure 5-2.

The modelled sub-catchment characteristics for both existing and developed site conditions are summarised in Table 5-2.

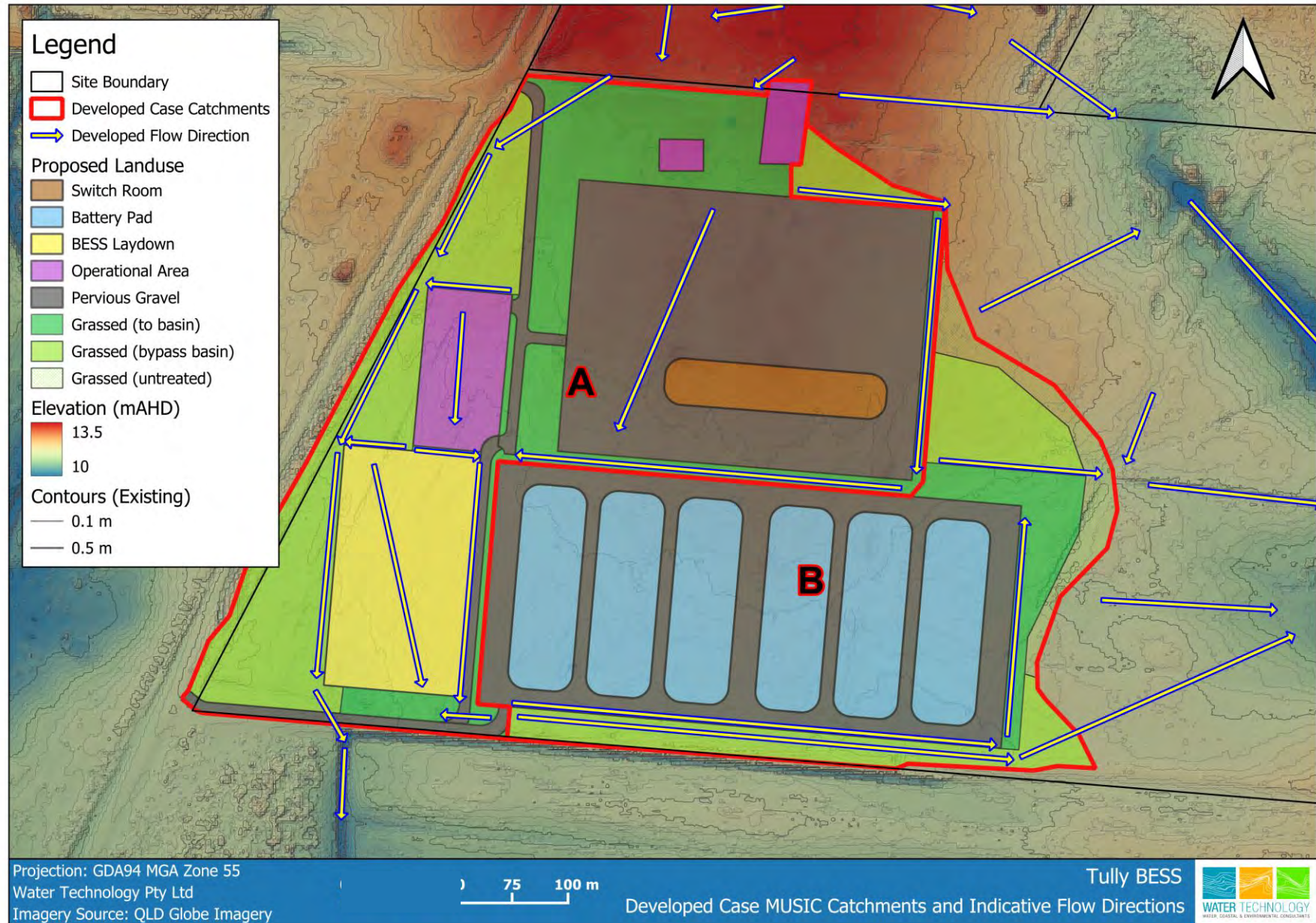


Figure 5-2 Developed Case MUSIC Sub-catchment Areas and Indicative Flow Directions



Table 5-2 Modelled BESS Sub-catchment Breakdown

Catchment	Total Area (ha)	Fraction Impervious (%)	Rainfall Threshold (mm)	Landuse Type
Pre-developed Case Catchment A				
Existing	5.58	0	1.0	Rural residential
Post-Developed Catchment A				
Pervious Gravel	1.99	35%	1.5	Unsealed road
Operational Area	0.37	75%	1.0	Industrial
Battery Pad	0.00	75%	1.0	Industrial
Switch Room	0.20	75%	1.0	Industrial
Grassed (to basin)	0.96	0%	1.0	Rural residential
Grassed (bypass basin)	0.94	0%	1.0	Rural residential
BESS Laydown	0.66	35%	1.0	Industrial
Total	5.11	26%	n/a	n/a
Pre-developed Case Catchment B				
Existing	3.31	0	1.0	Rural residential
Post-Developed Catchment B				
Pervious Gravel	1.00	35%	1.5	Unsealed Road
Operational Area	0.00	75%	1.0	Industrial
Battery Pad	1.57	75%	1.0	Industrial
Switch Room	0.00	75%	1.0	Industrial
Grassed (to basin)	0.26	0%	1.0	Rural residential
Grassed (bypass basin)	0.73	0%	1.0	Rural residential
Grassed (untreated)	0.22	0%	1.0	Rural residential
Total	3.78[^]	40%	n/a	n/a

[^] In the Post-Developed Case, 0.47 ha of catchment area is redirected from Catchment A to Catchment B.

5.3.2 Rainfall Runoff Parameters

WBD (2018) does not include any region-specific rainfall runoff parameters. However, the values recommended for the Whitsunday Region, Queensland have been adopted for this study as they are the closest region with available data (see Table 5-3).

Table 5-3 Rainfall Runoff Parameters Adopted in MUSIC Modelling

Parameter	MUSIC Parameter
Rainfall threshold (mm)	1
Soil storage capacity (mm)	100
Initial storage (% capacity)	30
Field capacity (mm)	100
Infiltration capacity coefficient a	200
Infiltration capacity coefficient b	1
Initial depth (mm)	10
Daily recharge rate (%)	4
Daily baseflow rate (%)	2
Daily deep seepage rate (%)	0.4



5.3.3 Pollutant Export Parameters

In the absence of any site-specific water quality or pollutant data, and in keeping with industry best practice the modelling adopted pollutant load export parameters from WBD (2018). The landuse types adopted in the model for the various site areas are displayed in Table 5-2 and the pollutant export parameters for each land use type are provided in Table 5-4.

As the Water by Design MUSIC Guideline does not provide pollutant generation parameters for unsealed roads, parameters for this land use were adopted from *Using MUSIC in the Sydney Drinking Water Catchment* (WaterNSW, 2023). This document provides the most relevant Australian, regulator-endorsed dataset for unsealed road sources and has been widely applied nationally, including in Queensland, where no equivalent state-specific MUSIC parameters exist. The adopted parameters are consistent with Queensland-based research identifying unsealed roads as sediment-dominated pollutant sources.

Table 5-4 Pollutant Export Parameters

Landuse	Flow Type	TSS log ¹⁰ values		TP log ¹⁰ values		TN log ¹⁰ values	
		Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Rural Residential	Baseflow Parameters	0.53	0.24	-1.54	0.38	-0.52	0.39
	Stormflow parameters	2.26	0.51	-0.56	0.28	0.32	0.30
Industrial	Baseflow Parameters	0.78	0.45	-1.11	0.48	0.14	0.20
	Stormflow parameters	1.92	0.44	-0.59	0.36	0.25	0.32
Unsealed Road	Baseflow Parameters	1.2	0.17	-0.85	0.19	0.11	0.12
	Stormflow parameters	3.0	0.32	-0.3	0.25	0.34	0.19

5.3.4 Rainfall and Evapotranspiration Data

As per the recommendations in WBD (2018), climate datasets were adopted from MUSIC's included data, with rainfall data sourced from the Tully Sugar Mill Radar 6-minute gauge, and monthly average areal potential evapotranspiration (PET) taken for the Tully Sugar Mill SILO dataset.

Rainfall, in the form of a 6-minute pluviometer data, was available from November 1972 to May 2010. From this, a ten-year period from 1 June 1999 to 31 May 2009 was selected for modelling purposes. The mean annual rainfall over the selected MUSIC dataset is 3,782 mm, which is slightly lower than the long-term mean of 3,921 mm for the full Tully Sugar Mill record. This difference is minor, and the selected period is considered representative of local climatic conditions and suitable for modelling purposes.

5.3.5 Treatment Nodes

The site has been split into two sub-catchments for the purposes of treating and directing clean and dirty water run-off. It is proposed to treat run off from the developed site and surrounding post-development catchment using grassed swales which channel flow into two (2) bioretention basins (BRB) located in each sub-catchment. BRB A will be located along the southern boundary of Subcatchment A and adjacent to the BESS laydown area at the down-slope end of the site. BRB B will be located to the east of Subcatchment B, adjacent to the right corner of battery pad laydown.



The MUSIC model schematisation is shown below in Figure 5-3. The modelling considered a range of BRB sizes to determine the most suitable options within respect to achieving the required load reduction targets. The adopted model parameters for the proposed treatment devices is shown in Table 5-5 and Table 5-6. Indicative locations of the proposed treatment devices are shown in Figure 5-4.

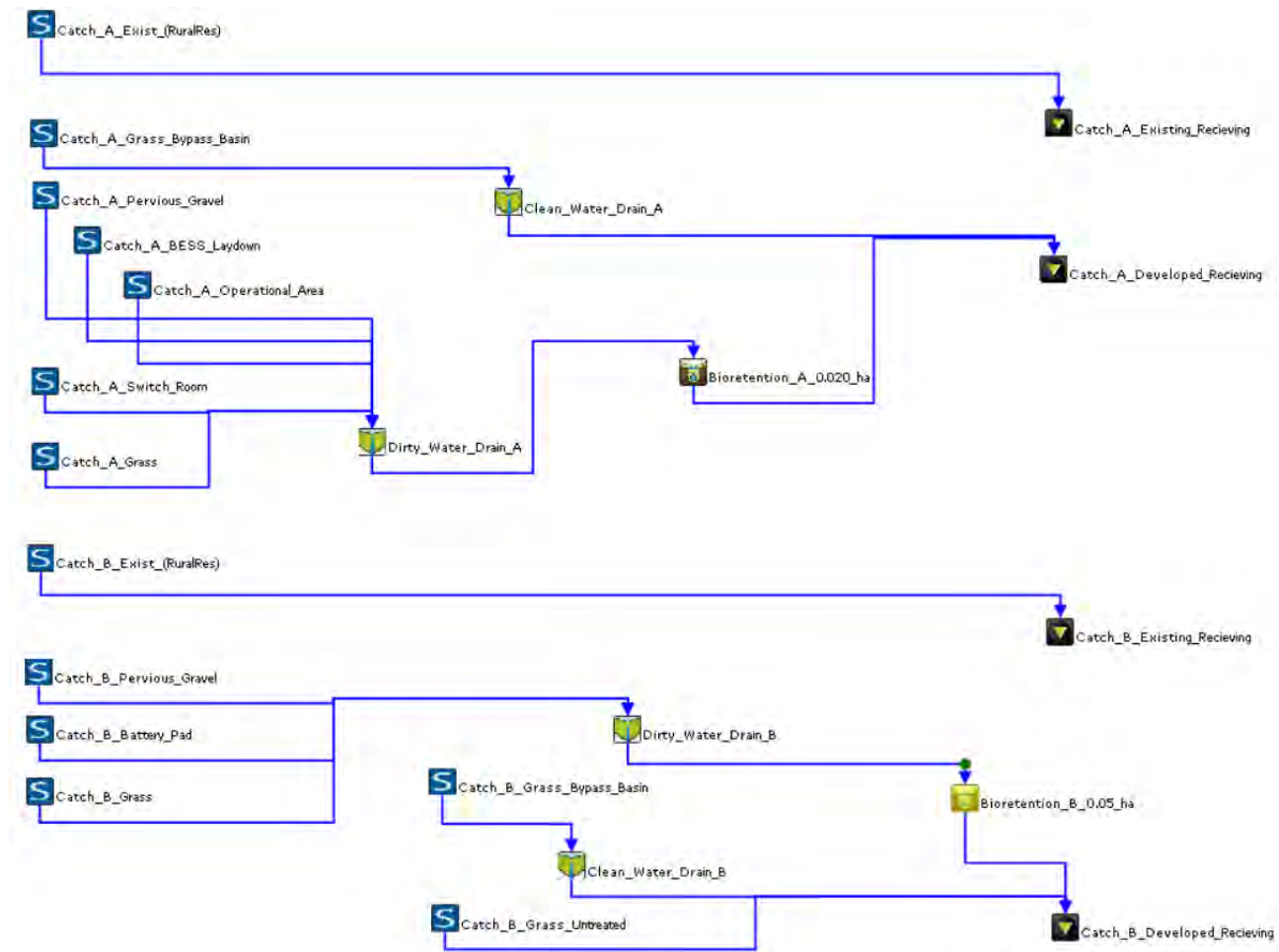


Figure 5-3 MUSIC Model Schematisation

Table 5-5 MUSIC Swale Properties

Parameter	Clean Water A	Dirty Water A	Clean Water B	Dirty Water B
Low Flow By-pass (m ³ /s)	0	0	0	0
Total Length (m)	250	415	395	325
Bed Slope %	1	1	1	1
Base Width (m)	1.0	1.5	1.5	1.0
Top Width (m)	4	4	4	4
Depth (m)	0.5	0.5	0.5	0.5
Vegetation Height (m)	0.25	0.25	0.25	0.25

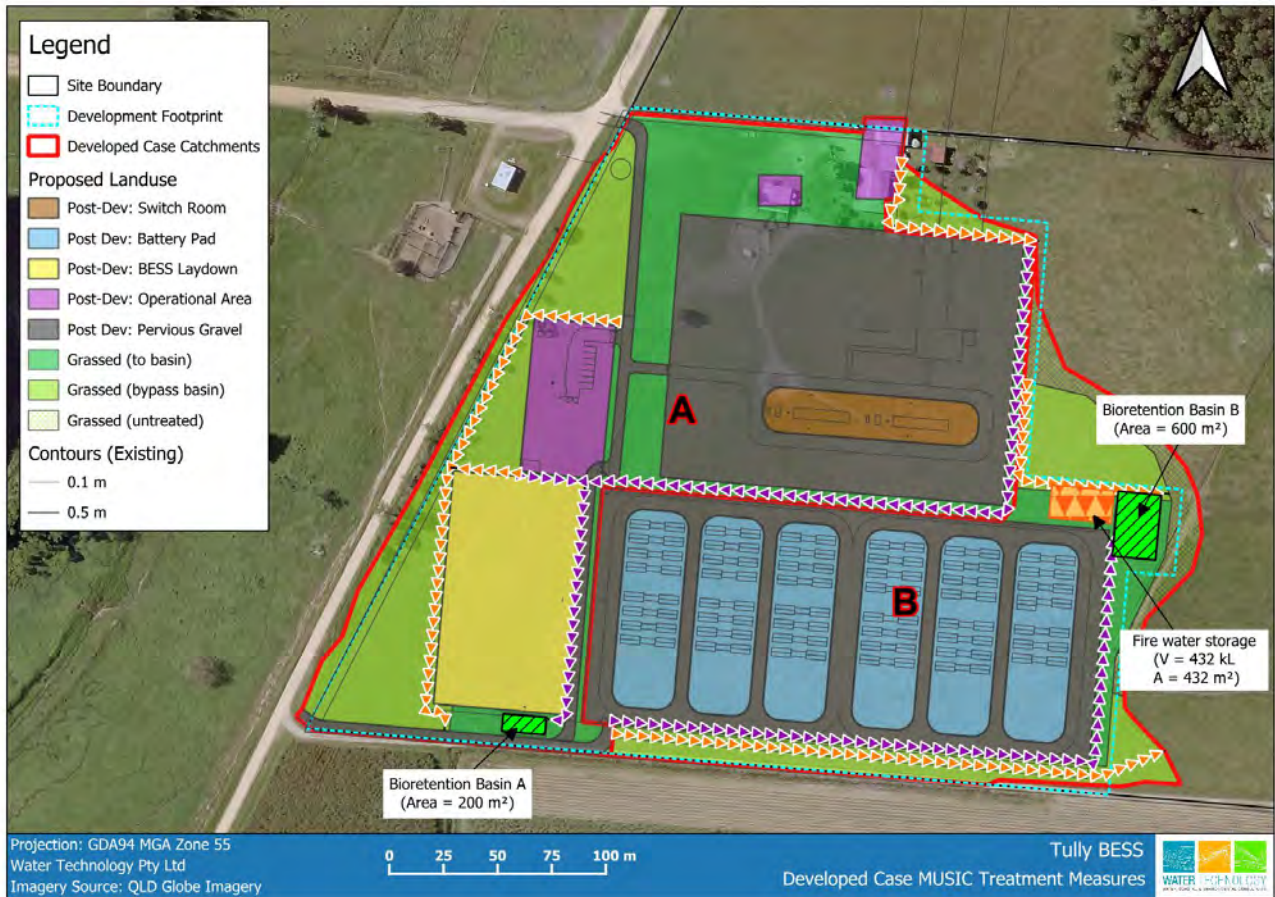


Figure 5-4 Developed Case Treatment Measures

Table 5-6 MUSIC Bioretention Basin Properties

Parameter	Bioretention Basin A Properties	Bioretention Basin B Properties
Low Flow By-pass (m³/s)	0	0
High Flow By-pass (m³/s)	1.5	1.5
Surface Area (m²)	200	600
Extended Detention Depth (m)	0.3	0.3
Filter Area (m²)	200	600
Unlined Filter Media Perimeter (m)	57	98
Filter Depth (m)	0.5	0.5
Saturated Hydraulic Conductivity (mm/hr)	200	200
TN Content of Filter Media (mg/kg)	400	400
Orthophosphate Content of Filter Media (mg/kg)	30	30
Exfiltration Rate (mm/h)	5	5
Overflow Weir Width (m)	20	60
Submerged Zone Depth (m)	0.2	0.2



5.4 MUSIC Results and Discussion

Pollutant load reduction targets for the Tully Catchment have been set by the Great Barrier Reef Discharge Standards as described in the Reef 2050 Water Quality Improvement Plan (WQIP) 2017-2022 (State of Queensland, 2018). The relevant load reduction targets were described in Section 2.7. The performance of the proposed water quality treatment train must be compared to the pre-developed condition of the site, as required by the Reef WQIP's stipulation of achieving reductions compared to the 2013 baseline.

The results for BRB A, which are summarised in Table 5-7 show that the pollutant load reduction targets are met for all pollutants using a treatment train with a BRB with a filter area of 200 m² and vegetated swales with a combined length of at least 665 m long. The clean water vegetated swale diverts clean water along the western boundary of the development, offsite into a preexisting waterway suitable for discharge.

Table 5-7 MUSIC Model Results Bioretention Basin A

Parameter	Pre-Developed Source Load (kg/yr)[1]	Developed Source Load (kg/yr)	Residual Load (kg/yr)	Required Load Reduction	Pollutant Reduction from developed source	Pollutant Reduction from pre-developed source	Target Achieved from pre-developed source
Total Suspended Solids (TSS)	45,802	96,248	1,435	20%	99%	97%	YES
Total Phosphorus (TP)	46	60	13	20%	78%	71%	YES
Total Nitrogen (TN)	355	337	170	Nil	50%	52%	-
Particulate Nitrogen (PN) ²	106	101	51	20%	50%	52%	YES
Dissolved Inorganic Nitrogen (DIN) ³	248	236	119	50%	50%	52%	YES
Gross Pollutants (GP)	0	940	0	Nil	100%	100%	-

The results for BRB B, which are summarised in Table 5-8 show that the pollutant load reduction targets are met for all pollutants using a treatment train with a BRB filter area of 600 m² and vegetated swales with a combined length of at least 720 m long. The clean water vegetated swales divert clean water in an easterly direction, offsite into a preexisting waterway suitable for discharge.

² Particulate Nitrogen is calculated as 30% of TN

³ Dissolved Inorganic Nitrogen (DIN) is calculated as 70% of TN



Table 5-8 MUSIC Model Results Bioretention Basin B

Parameter	Pre-Developed Source Load (kg/yr)[1]	Developed Source Load (kg/yr)	Residual Load (kg/yr)	Required Load Reduction	Pollutant Reduction from developed source	Pollutant Reduction from pre-developed source	Target Achieved from pre-developed source
Total Suspended Solids (TSS)	27,703	59,808	2,520	20%	96%	91%	YES
Total Phosphorus (TP)	26	50	10	20%	80%	61%	YES
Total Nitrogen (TN)	223	305	106	Nil	65%	52%	-
Particulate Nitrogen (PN) ⁴	67	91	32	20%	65%	52%	YES
Dissolved Inorganic Nitrogen (DIN) ⁵	156	213	74	50%	65%	52%	YES
Gross Pollutants (GP)	0	963	0	Nil	100%	#DIV/0!	-

5.4.1 Hazardous Materials

The introduction of contaminants to the project area for the construction, maintenance, operation and decommissioning of the project infrastructure poses a risk of these contaminants ending up in the receiving environment. Local storage of chemicals and fuels within the project area will increase this risk along with concrete batching and associated materials. Therefore, relevant guidelines and standards governing the storage and use of hazardous materials and waste removal will be followed to reduce this risk. Appropriate measures will be incorporated in the Final SMP, Construction Management Plan and Emergency Response Plan, which will be prepared in accordance with relevant conditions of the development approval.

5.4.2 Emergency Containment Storage for Firefighting Runoff

A specific risk associated with Battery Energy Storage System (BESS) facilities is the potential contamination of site runoff generated during firefighting activities in the event of a battery thermal runaway, fire, or explosion. Firefighting runoff from BESS facilities has the potential to contain elevated concentrations of contaminants relative to normal stormwater runoff, including suspended solids, dissolved metals, electrolyte residues and other by-products associated with battery materials, fire suppressants and combustion processes. While the specific composition and concentrations are incident-dependent, such runoff is generally considered unsuitable for uncontrolled discharge without prior assessment. Accordingly, a precautionary containment, testing and managed release framework has been adopted for this facility.

Riskcon has undertaken a Fire Safety Study (FSS) for the facility and determined that a fire suppression volume of 0.432 ML is required. An Emergency Containment Storage of this capacity will be provided to capture firefighting runoff for subsequent testing and appropriate management prior to release or disposal.

No additional storage volume is proposed to capture rainfall runoff coincident with a BESS fire event. This approach reflects the very low likelihood of such coincidence, noting that BESS fire incidents in Australia to date have been rare and have not occurred during rainfall events. The emergency containment storage has therefore been conservatively sized to address the highest-risk component of the scenario, being contaminated firefighting water, while avoiding unnecessary oversizing of infrastructure.

⁴ Particulate Nitrogen is calculated as 30% of TN

⁵ Dissolved Inorganic Nitrogen (DIN) is calculated as 70% of TN



The containment storage is proposed as an open basin with a nominal depth of approximately 1.0 m, occupying an area of approximately 432 m², subject to refinement during detailed civil design. The storage will be located offline and upstream of the bioretention basin, and separate from operational-phase WSUD measures to ensure that potentially contaminated firefighting water does not enter or compromise routine treatment systems.

Under normal operating conditions, site runoff will bypass the emergency containment storage and drain to the operational stormwater treatment system. During firefighting activities, runoff will be diverted to the containment storage via a dedicated diversion system. The physical diversion infrastructure will be incorporated into the detailed civil design.

Operational control of the diversion system will be managed by trained emergency response personnel and documented separately within a site-specific Emergency Response Plan or Emergency Operations Manual, to be prepared prior to commissioning. This documentation will define activation triggers, responsibilities, and procedures for diverting and isolating firefighting runoff.

Water captured within the emergency containment storage will be retained pending water quality assessment. If testing confirms compliance with relevant discharge criteria, controlled release may be undertaken. Where water quality does not meet discharge requirements, or where uncertainty exists, captured water will be removed from the site and treated or disposed of at a licensed facility by an appropriately licensed contractor. Detailed post-incident management procedures will be included in the site emergency documentation.

5.4.3 Water Supply

5.4.3.1 Construction Phase

Water will be required during the construction phase for:

- Construction works
- Dust suppression
- Vegetation establishment

There is a CCRC bulk water supply point near the intersection of Tully Mission Beach Road and the Bruce Highway. During the construction phase, water will be transported to the site by water tankers and stored appropriately at the site where required. Potable water will be supplied by contractors for their workforce during construction.

5.4.3.2 Operational Phase

During the operational phase of the project there will be minimal demand for water. A reticulated water line supplied by council water supply will be connected to the O&M building that will be utilised predominately for potable water. Any non-potable water requirements like short term dust suppression, cleaning or maintenance of vegetation will come from the council run bulk water supply point standpipe as stated in the section above. On-site water storage tanks will also be used to store water for firefighting.

5.5 Stormwater Quality Summary

An assessment of the proposed development has identified potential impacts on the environmental values of the surface waters in the receiving environment. However, these risks can be managed through proper design and the implementation of appropriate mitigation measures during the construction and operation of the BESS. The following provides details of the proposed mitigation measures.

5.5.1 Construction Phase

Any disturbance that involves the clearing of vegetation or earthworks should be carefully considered to ensure the project does not result in increased sediment loads and associated pollutants from entering the downstream receiving environment.



Construction of the proposed BESS represents the highest risk of erosion as there will be active disturbance occurring during this phase including earthworks. However, the construction period will be relatively short compared to the life of the project with construction expected to be completed within 18 months. All construction works should be completed in association with a detailed construction phase ESCP.

Once construction is complete, the risk of erosion will be greatly reduced as there will be no ongoing disturbance of soils. Further it is expected that disturbed areas not required for operations (including cut and fill batter slopes) will be revegetated.

5.5.2 Operational Phase

The surface water assessment showed that the proposed development has the potential to increase the quantity of pollutants discharging to the receiving environment. The MUSIC modelling outcomes demonstrate that the proposed BRB's and vegetated swales will benefit the receiving environment through pollutant load reduction and thus comply with the objectives of the Reef 2050 Water Quality Improvement Plan.

In addition to the WSUD measures, a separate containment storage is to be provided for the purpose of capturing, and treating, potentially contaminated fire water runoff from the BESS area. Detailed civil design will address emergency diversion of runoff to this storage in the event of a battery fire.

Appropriate measures for the safe handling and storage of chemicals and hazardous materials at the project site during the construction and operational phases should be included in the Final Stormwater Management Plan, Construction Management Plan and/or Emergency Response Plan as required.

An emergency containment storage with a minimum capacity of 0.432 ML will be provided to capture potentially contaminated runoff generated during firefighting activities at the BESS facility. The storage is sized in accordance with the project Fire Safety Study and is intended to temporarily contain firefighting water, which may include contaminants associated with battery materials, fire suppressants and combustion by-products. The containment storage will be located offline from the operational stormwater system and activated via a dedicated diversion during emergency response, with captured water retained for testing and either released in a controlled manner if suitable or removed from site for treatment or disposal at a licensed facility.

5.6 Legal Point of Discharge

Stormwater runoff from the proposed development will be conveyed via bioretention basins and swale drains to existing drainage lines and watercourses within the subject site. These drainage features discharge downstream to existing flow paths. The proposed works do not involve diversion of flows to new discharge locations or third-party land, and no re-direction of catchment boundaries is proposed. As such, runoff will continue to discharge to established receiving environments consistent with existing conditions.

A high-level assessment indicates that the development footprint intersects only a minor portion of the mapped floodplain, with shallow inundation depths (generally <0.1 m) and limited earthworks within these areas. On this basis, the proposed works are not expected to cause measurable increases in peak discharge, flow velocity, or flood levels within receiving downstream areas.

Accordingly, the proposed discharge arrangement is considered to satisfy the intent of the lawful point of discharge principles outlined in QUDM (4th Edition), subject to detailed design and confirmation of any specific requirements of Council or relevant referral agencies.

5.6.1 Conceptual Bioretention Basin Outlet Design

Stormwater from the proposed bioretention basins will be discharged via controlled outlet structures. The outlet structures will be configured to mimic existing runoff conditions and limit potential increases in peak discharge. At a conceptual level, each bioretention basin will incorporate a low-flow outlet system consisting of a perforated underdrain and/or outlet pipe connected to a downstream control pit or headwall. The outlet will be set at or near the base of the filter media to allow extended detention of runoff within the basin and promote infiltration and treatment prior to discharge.



A secondary overflow structure (e.g. weir or surcharge pit) will be provided to safely convey flows during larger storm events, preventing overtopping or uncontrolled release. Overflow levels will be set to maintain hydraulic continuity with the adjacent swale and ensure that flow paths remain consistent with existing drainage patterns.

Detailed sizing and hydraulic design of outlet structures will be undertaken at the detailed design stage, including confirmation of discharge capacity, tailwater conditions, and erosion protection requirements.



6 LOCAL FLOOD ASSESSMENT

6.1 Overview

The proposed site is partially inundated during regional flood events within the Tully River catchment. Additionally, multiple defined watercourses traverse the site, requiring a detailed assessment of existing flood constraints.

To support the local flood assessment for the development, a rain-on-grid hydraulic model has been developed using TUFLOW. The model is configured to simulate direct rainfall-runoff interactions across the terrain and incorporates hydrodynamic processes to assess flood behaviour. The hydrologic analysis was conducted in accordance with Australian Rainfall and Runoff 2019 (ARR2019) guidelines, utilising the TUFLOW ARR tool. Key design rainfall parameters include:

- Design Rainfall Data sourced from ARR2019 and BOM 2016 IFD, incorporating all ten (10) ARR2019 temporal patterns to evaluate peak discharge variability.
- Rainfall losses adopted from ARR2019 Data Hub, with an Initial Loss of 43 mm and a Continuing Loss of 4.9 mm/hr.
- Design rainfall was implemented as a direct rainfall boundary in the hydraulic model, enabling a rain-on-grid approach.

In the absence of stream gauge data, estimated peak flows were validated using the Rational Method. A range of design storms including the 10%, 1%, 0.2% and 0.5% AEP events were assessed hydraulically in the TUFLOW model to quantify the local flood extent to inform the proposed development. The subsequent sections of this report provide detailed insights into the catchment modelling undertaken as part of this site-specific study.

6.1.1 Model Extent and Topography

As outlined in Section 3.1, the site is located within the Tully River Drainage Basin, a hydrologically active region of the Wet Tropics. The topography generally slopes south toward the Tully River, which plays a key role in local drainage and flood dynamics, and southeast toward Babinda Creek, a tributary of the Tully River. To the north, the terrain rises steeply beyond 100 mAHD, forming part of the mountain ranges adjacent to Mount Bartle Frere. These mountains receive high rainfall and generate significant runoff, contributing to floodplain inundation during extreme events. Major roads, including Tully Gorge Road and the proposed road network, traverse these elevated areas and may influence surface water flow and drainage patterns.

The Tully River catchment, covering approximately 1,675 km², drains primarily to the Pacific Ocean, with additional contributions from the Hull River and smaller tributaries. Given the region's high rainfall and complex topography, the site is subject to dynamic hydrodynamic processes, including floodplain inundation, overland flow, and potential backwater effects from downstream constraints. These factors will be critical in assessing site-specific flooding constraints.

6.2 Hydraulic Model Setup

The model was developed using two TUFLOW methods to accurately simulate the catchment dynamics. A rain-on-grid approach was applied to represent the catchment. To support the local flood assessment for the development, a TUFLOW hydraulic model (build 2023-01-AE) utilising the HPC (Highly Parallelized Computations) solution scheme was adopted. TUFLOW is a 1D-2D linked hydraulic model that solves the depth-averaged shallow water equations. A range of design storms including the 10%, 5%, 2%, 1%, 0.2% and 0.5% AEP events were assessed hydraulically in the TUFLOW model to quantify the local flood extent to inform the proposed development.



6.2.1 Base Case Model

The following represents a summary of the setup of the TUFLOW hydraulic model, with the hydraulic model setup illustrated in Figure 6-1.

- Detailed grid resolution of 2m to adequately reflect the topography surrounding the site.
- Model topography is based on LiDAR collected in 2014.
- Two large HQ downstream boundaries with relatively flat slope of 0.001% for the hydraulic model was positioned approximately 1km downstream of the investigation area to ensure boundary conditions did not affect the model results at the area.
- Topography modifiers were applied to the model to represent channels through Tully George Road, Sandy Creek Road and Syndicate Road at culvert locations. This approach was adopted as the culverts are non-critical structures for the investigation area. However, satellite imagery confirms their existence, indicating they were constructed to facilitate the free movement of flow.

6.2.2 Surface Roughness

Floodplain roughness was represented using a Manning's "n" roughness coefficient assigned to various land uses and spatial areas throughout the model based on aerial imagery. These are presented in Table 6-1. A depth-varying Manning's n over a building footprint has been used to realistically represent the effects of buildings on overland flow during flooding. The waterways identified as waterway barrier works under the *Fisheries Act 1994* have been adopted in the model to represent Manning's roughness for waterways, as shown in Figure 6-1.

Table 6-1 Manning's "n" roughness coefficient used in model

Land Use	Manning's "n" roughness coefficient
Grass	0.04
Medium Vegetation	0.07
Road	0.02
Watercourse	0.05
Bare Soil	0.03
Buildings	0.02 at shallow depths (< 0.03 m) 0.3 at significant depths, (> 0.1 m)

6.2.3 Catchment Hydrology

The hydrological analysis was conducted using the ARR&R (2019) Datahub and BOM 2016 IFD data. The hydrological model simulated all ten (10) temporal patterns for each duration to ensure comprehensive analysis. Rainfall hydrographs for the specific area were extracted using the ARR TUFLOW tool, enabling accurate representation of local rainfall-runoff dynamics. Key design rainfall parameters include:

- Design Rainfall Data sourced from ARR2019 and BOM 2016 IFD, incorporating all ten (10) ARR2019 temporal patterns to evaluate peak discharge variability.
- Rainfall losses adopted from ARR2019 Data Hub, with an Initial Loss of 43 mm and a Continuing Loss of 4.9 mm/hr.
- Design rainfall was implemented as a direct rainfall boundary in the hydraulic model, enabling a rain-on-grid approach.

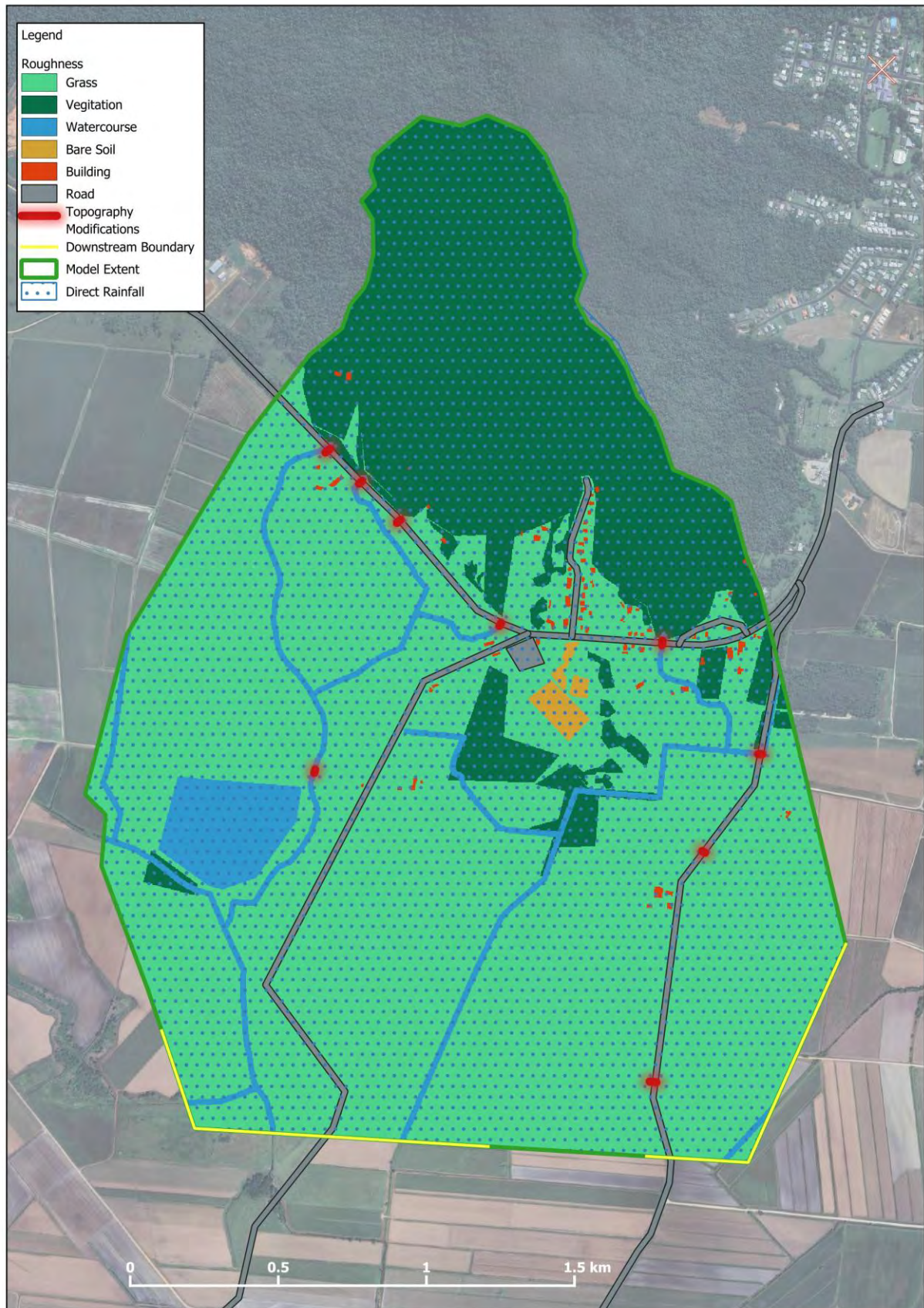


Figure 6-1 TUFLOW Model Layout



6.2.4 Hydrology Validation - RFFE

This site-specific investigation involves an ungauged local catchment, and as such, no site-based data is available for calibrating runoff. Consequently, the TUFLOW direct rainfall modelling has been validated using the Regional Flood Frequency Estimation (RFFE) tool.

The RFFE method applies statistical analysis of streamflow records from gauged catchments across Australia to estimate design flood discharges at ungauged locations. By inputting key catchment descriptors, including catchment area and geographic location, the tool provides peak flow estimates for a range of annual exceedance probabilities (AEPs), together with associated uncertainty bounds.

The following parameters were utilised with the RFFE tool:

- Catchment area: 0.523 km².
- Catchment outlet: Lon 145.9031 Lat -17.9484
- Catchment centroid: Lon 145.9068 Lat -17.9425

RFFE-derived peak flow estimates are summarised in Table 6-2 and compared against the corresponding peak discharges extracted from the TUFLOW direct rainfall model at the catchment outlet.

Table 6-2 Design Discharge Estimates – RFFE Comparison

Design Event	Discharge (m3/s)			
	TUFLOW Peak	RFFE Estimate	RFFE Lower (5%) Estimate	RFFE Upper (95%) Estimate
10% AEP (1 in 10 year)	13.33	10.50	7.99	14.71
5% AEP (1 in 20 year)	15.45	13.34	9.91	20.47
2% AEP (1 in 50 year)	18.07	17.41	12.25	31.44
1% AEP (1 in 100 year)	19.86	20.76	13.86	42.86

The TUFLOW-derived peak discharges for the 1% and 2% AEP events are within approximately 4% of the corresponding RFFE central estimates, indicating very close agreement for the more critical design events. For the 5% and 10% AEP events, the TUFLOW results exceed the RFFE central estimates but remain within the RFFE 90% confidence interval (bounded by the 5th and 95th percentile estimates).

Overall, the level of agreement between the TUFLOW modelled peak flows and the RFFE estimates is considered appropriate for an ungauged catchment of this scale, particularly given the inherent uncertainty associated with regional flood estimation methods. On this basis, the direct rainfall model is assessed as providing a reasonable representation of catchment hydrologic response and is considered fit for purpose for the objectives of this study.

6.3 Result Processing

For the direct rainfall modelling of the investigation area, the median grid for each duration was generated, followed by calculation of a max–max envelope in accordance with ARR2019 Guidelines. This process was applied across all flood events and all hydraulic variables, including peak water level, velocity, and depth. Within the infrastructure area of the site, the median temporal pattern analysis indicated notable variability. Critical storm durations ranged from 15–45 minutes for rare events and 30–45 minutes for more frequent events, confirming that shorter duration events generally represent the most critical scenarios for local flooding at the site.



Table 6-3 Critical Depth Durations

Scenario	Critical Duration
0.2% AEP	30-45 Minutes
0.5% AEP	30-45 Minutes
1% AEP	15-45 Minutes
2% AEP	15-45 Minutes
5% AEP	15-45 Minutes
10% AEP	15-45 Minutes

6.4 GIS Mapping

Appendix B provides the GIS mapping of the peak flood depth and velocity for the 10%, 5%, 2%, 1%, 0.5% and 0.2% AEP events. The flood inundation extents based on the TUFLOW model results for the 1% AEP event is presented in Figure 6-2. A 50mm depth cutoff has been applied to the depth mapping to filter out artifacts from the direct rainfall modelling approach.

6.5 Local Flood Assessment Results

The results of the assessment are summarised as follows:

- Overland flow approaching the site from the north (originating near Mount Tyson) is conveyed via culverts beneath Tully George Road. Downstream of the culverts, the flow diverges, with a portion directed east of the site and another portion flows west of the site toward Sandy Creek Road. Western flows are guided through natural topographic depressions, bypassing an agricultural dam located on a neighbouring lot. The water continues through agricultural land southeast of the site and ultimately discharges into the Tully River. These flows do not break out east of Sandy Creek Road and are not considered to pose a flood risk to the Subject Property.
- Flows travelling along the eastern side of the site traverse the site itself. A portion of this flow is intercepted by an irrigation channel running westward from Syndicate Road. This channel appears to break out just northeast of the proposed site, redirecting flows into a wetland area located immediately south of the developed section.
- The wetland functions as an ephemeral watercourse and is considered an ecologically significant feature in the context of the site. It receives not only redirected flow from the irrigation channel but also overland sheet flow from the north.
- The wetland system drains via the irrigation channel located east of the site. A secondary flow path branches into the site lot and discharges into a smaller additional downstream wetland area before continuing south. This path intersects with another smaller irrigation channel approximately 0.57 km south of the site, which also captures minor sheet flow from the western portion of the site.
- Flood modelling indicates the presence of shallow overland sheet flow across portions of the proposed BESS site. Flow depths are generally less than 0.15 m, with some areas of localised ponding evident along the southern boundary adjacent to the irrigation channel. These conditions are anticipated to be mitigated through site development works, including filling, grading, and re-leveling of the affected areas during construction.
 - This shallow sheet flow can be managed by appropriate site stormwater infrastructure which can be addressed during detailed design.
- Flow velocities across the proposed infrastructure areas of the site are generally low, remaining below 0.5 m/s.

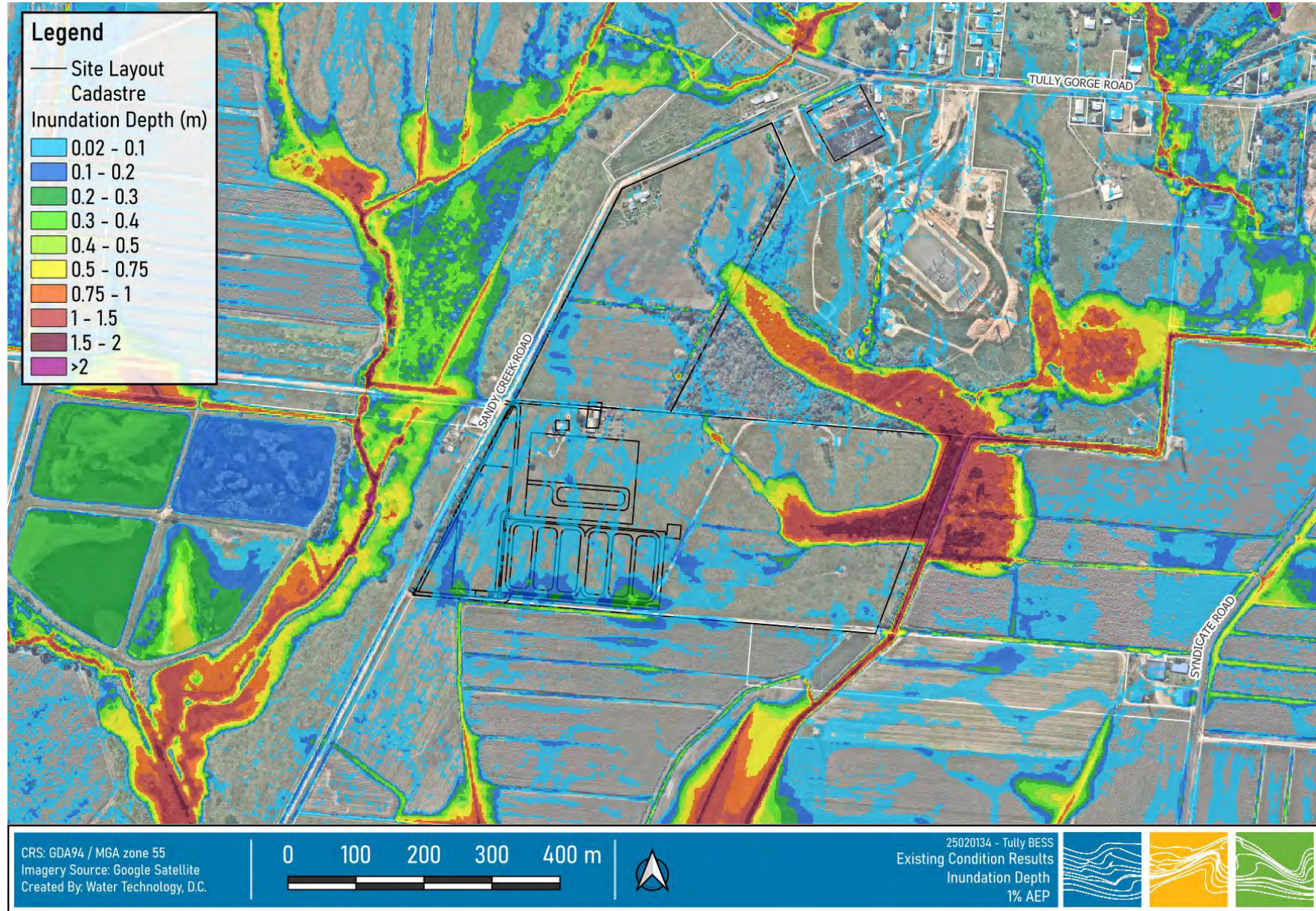


Figure 6-2 1% AEP Inundation Depth



7 REGIONAL FLOOD ASSESSMENT

7.1 Background

The Cardwell Inundation Study was completed in 2008 using design rainfall estimates derived from the CRC-FORGE methodology and ARR 1987 procedures. Design flood hydrographs were generated using URBS and subsequently routed through a TUFLOW hydraulic model. The study assessed flooding within Tully as well as the broader Tully–Murray floodplain system.

For the Tully–Murray River floodplain, the study undertook testing of multiple storm durations and determined that a 72-hour event was critical. The report separately notes that flood behaviour within Tully township was assessed using an 18-hour design event.

Since completion of the study, Australian Rainfall and Runoff has undergone significant revision through ARR 2019 and subsequent updates. ARR now incorporates revised rainfall frequency estimates, ensemble temporal patterns and climate change guidance based on Shared Socioeconomic Pathways (SSPs). None of these advances were available when the Cardwell Inundation Study was commissioned and undertaken.

7.2 Regional Flood Results

The regional flood model result grids were obtained from Cassowary Coast Regional Council and analysed to assess the potential impacts of regional flooding on the proposed site. The regional model is critical as it represents large-scale flood behaviour associated with the Tully River and its interaction with the site. Figure 7-2, Figure 7-3 and Figure 7-4 present the Q100 (1% AEP), Q200 (0.5% AEP), and Q500 (0.2% AEP) peak flood depths.

The results indicate that the site is only minimally affected in the 1% AEP event, with minor flood fringe inundation observed along the southern boundary. This inundation is consistent with localised pooling of water identified in the local model. Maximum flood depths in this event were recorded at 0.30 m in the southwest corner and 0.23 m in the southeast corner of the site.

Table 7-1 summarises the water levels and depths for these reference points (locations shown in Figure 7-1). It should be noted that ground levels at the reference points are approximately 11.23 m AHD at the western corner and 11.49 m AHD at the eastern corner.

More significant inundation occurs under the 0.5% AEP and 0.2% AEP events, which extend further across the site and have greater potential to impact the planned infrastructure. These peak water levels should be considered when designing earthworks levels to site sensitive infrastructure (i.e. substations) to ensure they meet local planning requirements.

Table 7-1 Regional Flood Depths at Key Reporting Locations

Event	Reporting Point	Water Level (m AHD)	Depth (m)
Q100	A	11.75	0.40
	B	11.74	0.23
Q200	A	12.16	0.81
	B	12.11	0.60
Q500	A	12.71	1.36
	B	12.63	1.12



The site is located on the outer edge of the Tully River floodplain, and only a small portion of the development footprint—approximately 5,000 m²—overlaps the 1% AEP (Q100) flood extent, representing a minor fraction of the overall site area. Within this overlap, modelled flood depths are generally less than 0.1 m, indicating shallow, low-velocity inundation.

Given the limited encroachment, minimal fill requirements, and the fact that the majority of infrastructure is located outside the Q100 extent, the proposed works are not expected to cause any measurable change to flood storage or conveyance. The shallow inundation depth combined with the absence of significant earthworks in the flood-affected zone means flood behaviour will remain effectively unchanged.

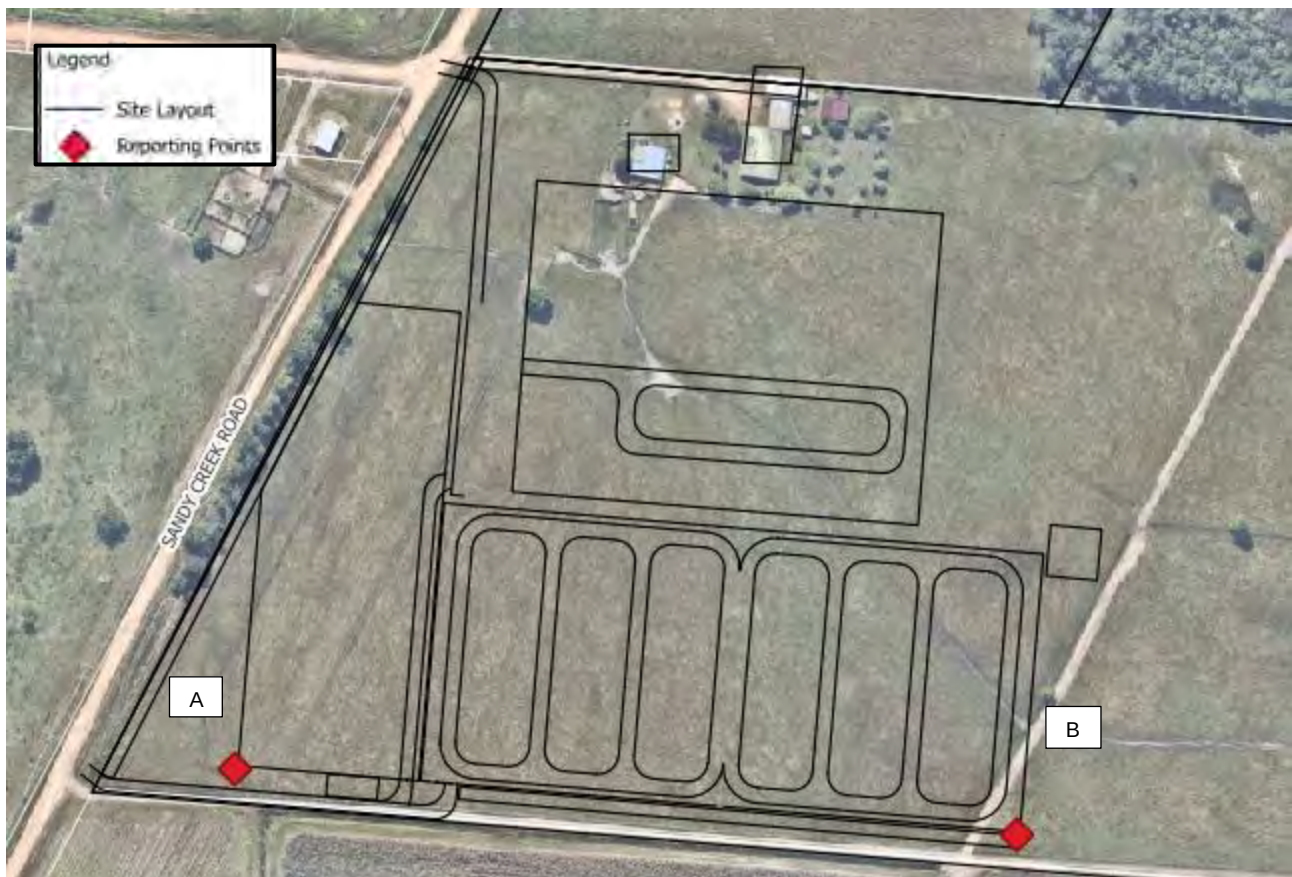


Figure 7-1 Key Reporting Locations

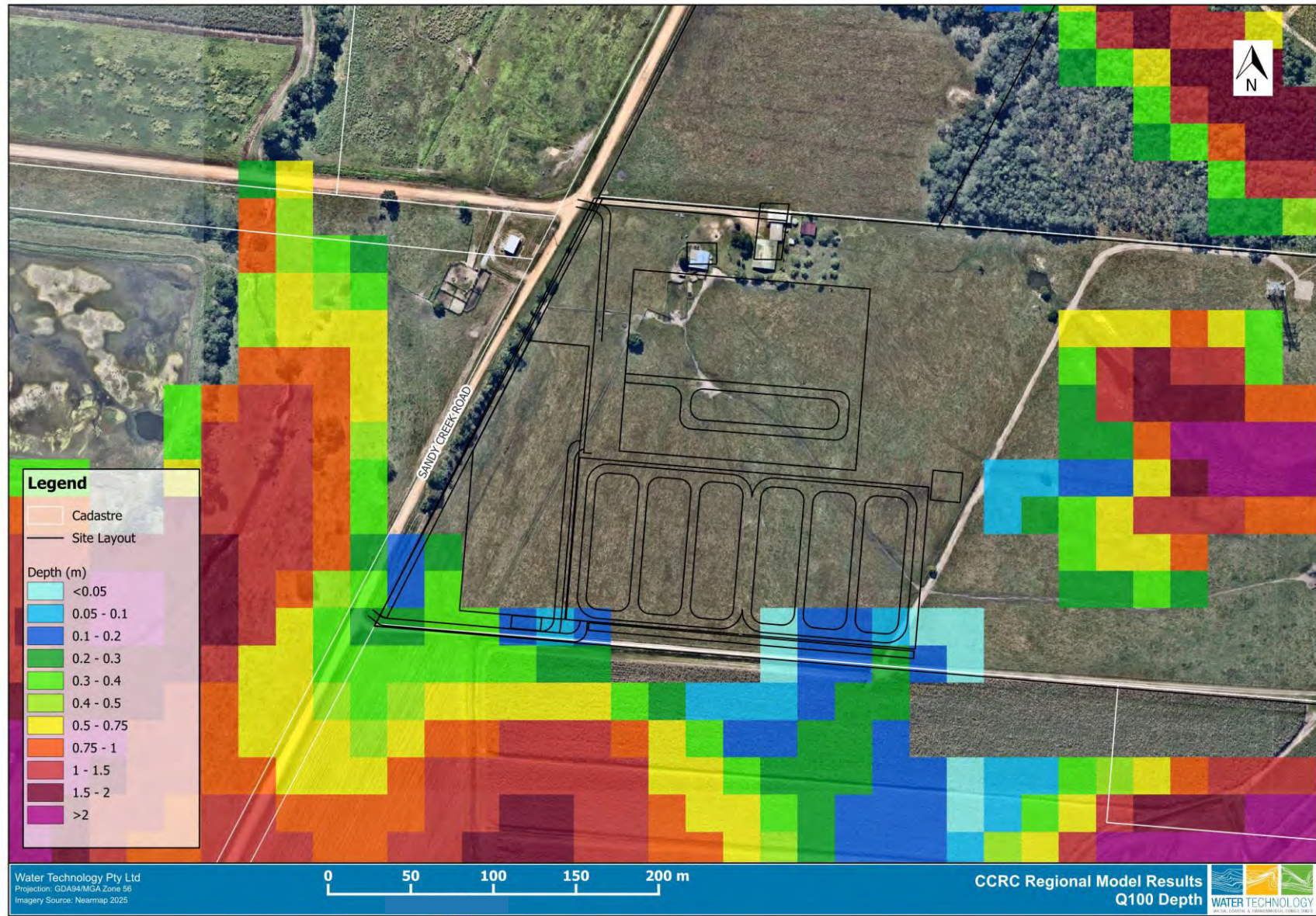


Figure 7-2 Q100 Regional Flood Results

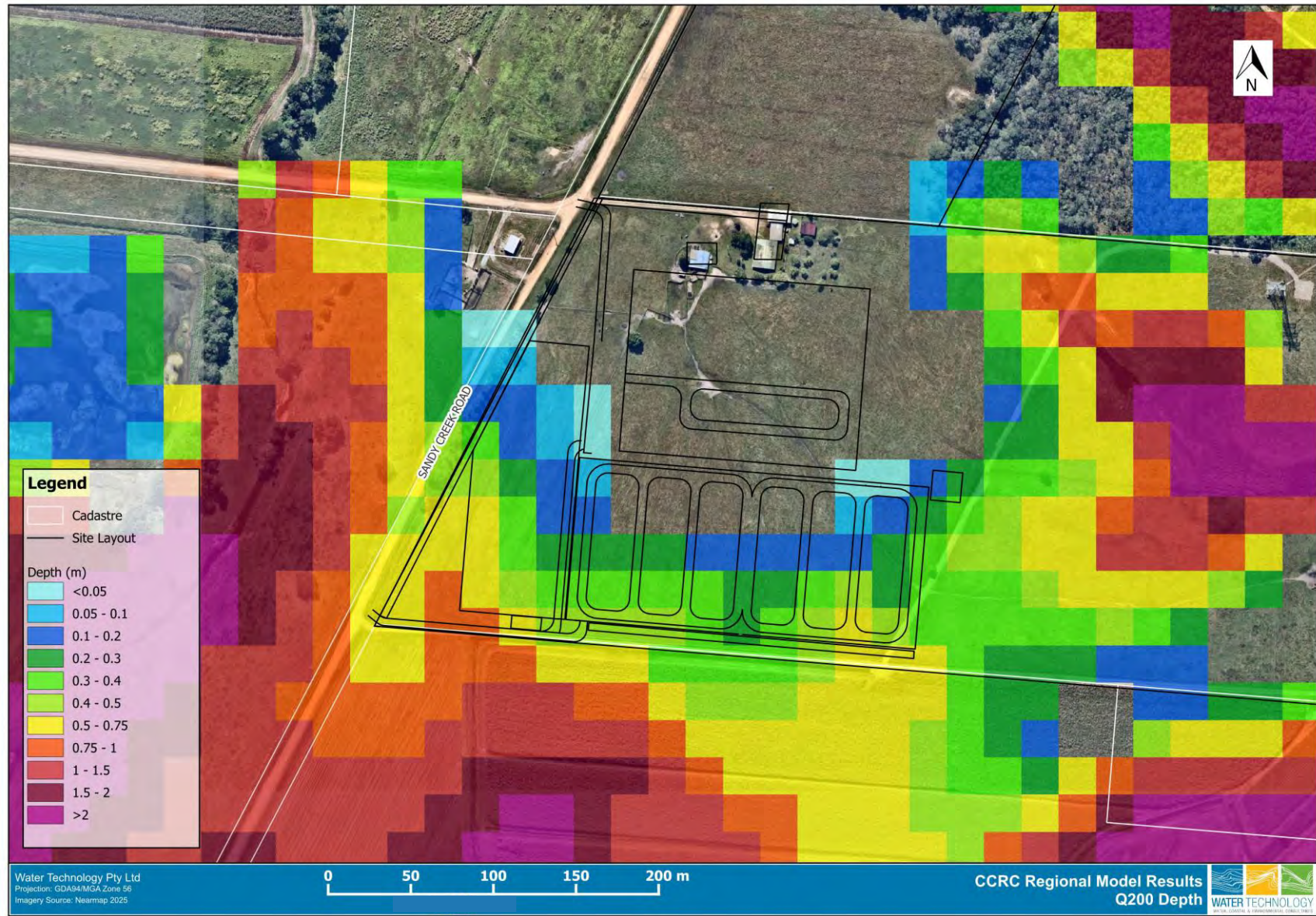


Figure 7-3 Q200 Regional Flood Results

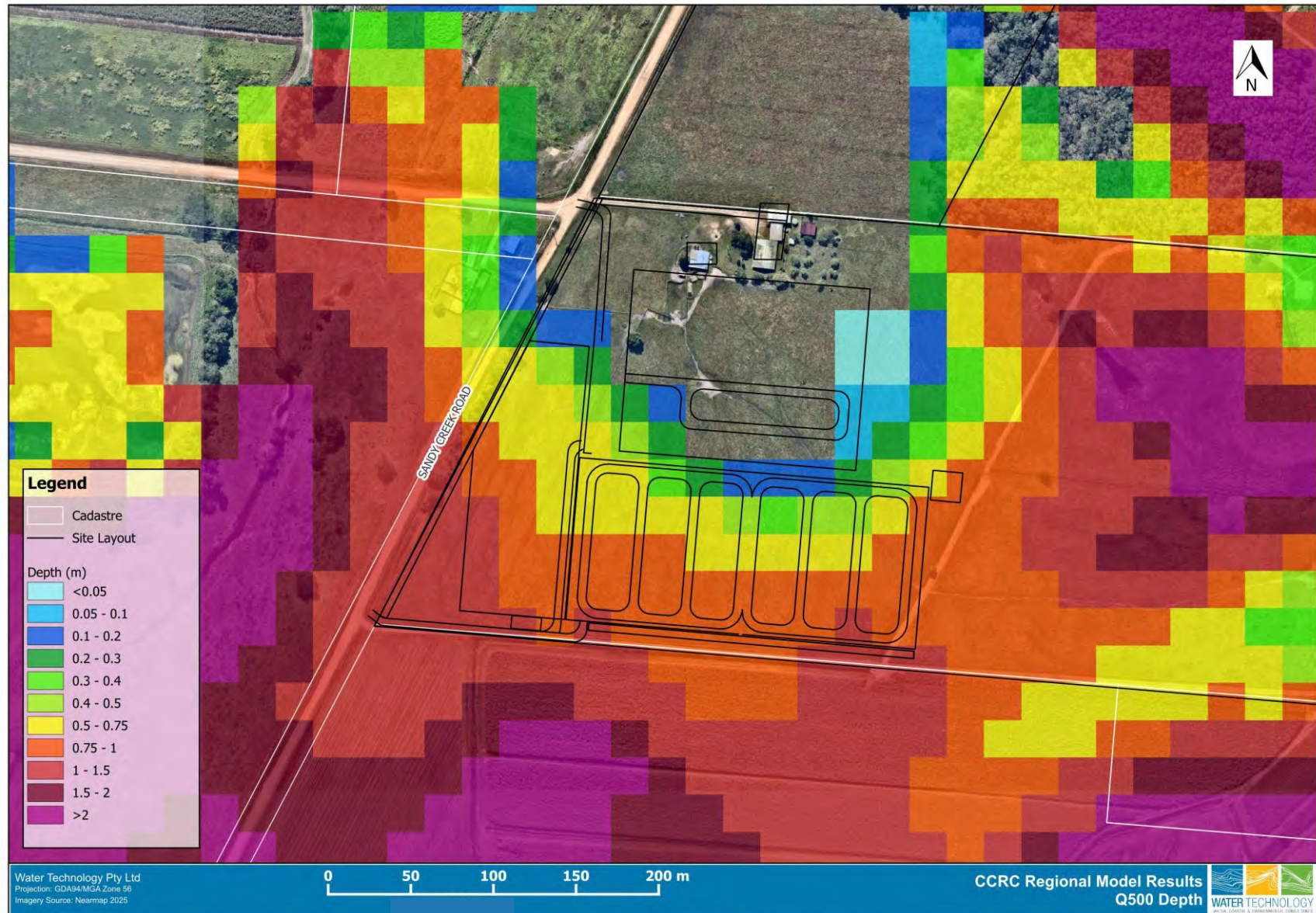


Figure 7-4 Q500 Regional Flood Results



7.3 Design Rainfall Comparison

A comparison was undertaken between the 18-hour duration rainfall depths adopted within the Cardwell Inundation Study (BMT WBM, 2008) and contemporary ARR 2019 rainfall depth estimates. Climate change adjusted rainfall depths were then derived using SSP2-4.5 rainfall factors of 1.10 for 2030 and 1.21 for 2090.

Table 7.2 presents the comparison of design rainfall depths for a range of AEPs relevant to flood planning. The results indicate that rainfall depths adopted within the Cardwell Inundation Study are consistently lower than contemporary ARR rainfall estimates across the full range of events assessed. The increase becomes more pronounced when climate change allowances are applied.

Table 7.2 Comparison of 18-hour Duration Design Rainfall Depths (mm)

Design Flood Event (AEP)	2008 Flood Study	ARR 2019	2030 SSP2-4.5	2090 SSP2-4.5
10%	276	334	367	404
2%	384	444	488	537
1%	433	492	541	595
0.5%	484	551	606	667
0.2%	556	619	681	749

The use of contemporary ARR rainfall data results in a material increase in design rainfall depth relative to that adopted within the Cardwell Inundation Study. For the 1% AEP event, the rainfall depth increases from 433 mm to 492 mm under ARR 2019, representing an increase of approximately 14%. When climate change is considered, the corresponding rainfall depth increases to 541 mm for the 2030 planning horizon and 595 mm for the 2090 planning horizon.

Similarly, the 0.2% AEP event increases from 556 mm in the original study to 619 mm using ARR 2019 rainfall data, increasing further to 681 mm and 749 mm for the 2030 and 2090 climate scenarios respectively. These increases are substantial and indicate that contemporary assessments would likely generate significantly larger runoff volumes than those adopted in the 2008 study.

To better understand the implications of these changes, the percentage increase relative to the rainfall depths adopted within the Cardwell Inundation Study was calculated. The results are presented in Table 7.3.

Table 7.3 Percentage Increase Relative to the Cardwell Inundation Study (2008)

AEP	ARR 2019 Increase	2030 Increase	2090 Increase
1%	+13.6%	+25.0%	+37.4%
0.5%	+13.8%	+25.2%	+37.8%
0.2%	+11.3%	+22.5%	+34.7%



For the events typically adopted for flood planning and development assessment (1%, 0.5% and 0.2% AEP), ARR 2019 rainfall depths are between approximately 11% and 14% greater than those adopted in the Cardwell Inundation Study. When climate change allowances are incorporated, rainfall depths increase to approximately 22%–25% above the original study values for 2030 and approximately 35%–38% above the original study values for 2090.

7.4 Implications for Flood Behaviour

7.4.1 Influence of Updated Rainfall Estimates

The increase in rainfall depth is substantial and suggests that flood discharges generated by contemporary hydrologic modelling would likely be greater than those produced for the 2008 study. However, rainfall increases do not translate directly into equivalent increases in flood level. Flood response is also influenced by:

- Rainfall temporal patterns;
- Antecedent conditions;
- Catchment losses;
- Catchment storage effects;
- Floodplain storage and attenuation;
- Hydraulic controls; and
- Interaction between conveyance and floodplain storage.

Accordingly, the change in flood level resulting from a 25% increase in rainfall is expected to be significantly smaller than 25%.

7.4.2 Additional Factors

An updated flood study would also involve more than simply replacing rainfall depths. A contemporary ARR-based assessment would include:

- Revised ARR 2019 ensemble temporal patterns;
- Updated design storm methodology;
- Updated rainfall losses;
- Contemporary climate change guidance;
- Updated topography and survey data;
- Revised calibration procedures; and
- Updated hydraulic modelling practices.

The Cardwell Inundation Study itself identified limitations associated with representation of floodplain storage and flow transfer, including sensitivity of water levels to assumptions regarding floodplain behaviour and conveyance. The study also noted that improved survey would improve model accuracy.

It is therefore likely that future modelling would produce changes in flood levels arising from both hydrologic and hydraulic factors.



7.4.3 Climate Change and Losses

While future climate conditions may alter catchment losses through changes in evapotranspiration, soil moisture and antecedent conditions, the influence of losses generally diminishes as event rarity increases. For the 1%, 0.5% and 0.2% AEP events considered in this assessment, the increase in rainfall depth is expected to be the dominant factor influencing flood response.

Accordingly, although changes in losses and modelling methodology may partially offset increases in runoff, they are unlikely to fully compensate for the observed increase in design rainfall.

7.5 Assessment of Appropriate Freeboard Allowance

7.5.1 General Considerations

In the absence of updated modelling, the preferred approach would be to directly reassess flood levels using contemporary ARR rainfall, climate change guidance and updated modelling practices. Where updated modelling is not available, an interim allowance may be adopted to account for:

- Increased design rainfall;
- Projected climate change impacts;
- ARR 2019 methodology updates;
- Uncertainty in future loss assumptions;
- hydrologic model uncertainty;
- hydraulic model uncertainty; and
- limitations identified in the original study.

The allowance should be considered an interim planning measure only and not a substitute for updated flood modelling.

7.5.2 Recommended Additional Allowance

Based on the rainfall comparison and consideration of modelling uncertainty, the following additional allowance above the Cardwell Inundation Study flood levels is recommended.

Scenario	Additional Freeboard Above Cardwell Study
ARR 2019 rainfall only	0.15 m
2030 SSP2-4.5	0.30 m
2090 SSP2-4.5	0.50 m

The recommended allowances are not intended to represent recalculated flood levels. Rather, they provide a practical and defensible means of incorporating increases in rainfall and broader climate-related uncertainty pending completion of updated flood modelling.



7.6 Recommended Planning Approach

The Cardwell Inundation Study currently represents the best available regional flood assessment for the Tully area. However, the study predates ARR 2019 rainfall estimates and does not incorporate contemporary climate change guidance. The study is understood to be currently undergoing revision, including consideration of climate change impacts, although the updated flood modelling is not expected to be available within the timeframe required for the current development assessment.

For the purposes of the present assessment, an interim climate change review has been undertaken by comparing design rainfall depths adopted within the Cardwell Inundation Study against contemporary ARR rainfall estimates and SSP2-4.5 climate-adjusted rainfall projections to a 2090 planning horizon. This review indicates that design rainfall depths relevant to Tully have increased by approximately 35–38% relative to those adopted in the 2008 study for a 2090 planning horizon.

Whilst changes in rainfall depth cannot be directly translated into corresponding increases in flood level without additional modelling, the analysis demonstrates that the existing regional flood study is likely to underestimate future flood risk under contemporary climate change scenarios. It is also recognised that a future revision of the regional flood model would likely incorporate additional changes, including updated temporal patterns, revised hydrologic loss assumptions, updated topographic data, revised calibration and contemporary hydraulic modelling practices.

Given these uncertainties, and in the absence of updated regional flood modelling, adoption of an interim climate change freeboard allowance of 0.5 m above the Cardwell Inundation Study flood levels is considered a reasonable and conservative approach for the current stage of planning and development assessment. The freeboard allowance is intended to account for:

- Increases in design rainfall resulting from ARR 2019 and SSP2-4.5 climate change projections.
- Uncertainty associated with future hydrologic parameterisation, including rainfall losses.
- Uncertainty associated with future hydraulic model revisions.
- Limitations acknowledged within the existing regional flood study.

This allowance should be regarded as an interim measure to facilitate the current assessment and should not be interpreted as a substitute for updated flood modelling. Where the revised regional flood study becomes available during subsequent project phases, it is recommended that flood risk be reassessed against the updated model results and that relevant design levels be reviewed as part of detailed design.



8 INFORMATION REQUEST

Following lodgement of the Development Application, the State Assessment and Referral Agency (SARA) issued an Information Request seeking additional information to enable assessment of the proposed development. The Information Request included matters relating to flood risk, climate change, and other technical aspects relevant to the assessment of the proposed Battery Energy Storage System (BESS).

This section provides a summary of each relevant Information Request item and outlines how the matter has been addressed within this report. For ease of review, the original Information Request item is reproduced, followed by a brief summary of the response and a reference to the section(s) of this report where detailed assessment, analysis and supporting information are provided. The purpose of this section is to act as a response register and assist the assessment manager in locating the information relevant to each Information Request item.

8.1 Information Request - Item 5

Item 5: SDAP State code 27: Battery storage facility development - Protecting water quality and stormwater management – Pollutant loads

Issue:

Section 4.8 of the Planning Guideline and PO16 – PO19 of State code 27 require a demonstrated approach to protecting water quality and managing stormwater, including preventing the release of contaminants to surface water or groundwater.

The submitted Stormwater Management Plan & Flood Assessment prepared by Water Technology, dated 26 May 2026, has not been signed by a Registered Professional Engineer of Queensland (RPEQ). Further, it does not adequately demonstrate that the proposed treatment systems achieve the pollutant reduction targets set by the Great Barrier Reef Discharge Standards as described in the *Reef 2050 Water Quality Improvement Plan (WQIP) 2017-2022*.

The submitted Stormwater Management Plan & Flood Assessment notes that Bioretention Basin B (BRB B) does not meet the pollutant reduction targets for Particulate Nitrogen and Dissolved Inorganic Nitrogen. BRB B is proposed to drain in an easterly direction toward the wetland protection area.

Response requested:

Provide a revised report that:

- a) is certified by an RPEQ with expertise in water quality and stormwater systems
- b) includes further justification for the proposed stormwater management strategy, specifically addressing pollutant loads, and identifies potential impacts associated with the strategy, particularly in relation to the wetland protection area.

8.1.1 Response

A statement of certification is provided in Section 10.

Section 5 of the revised Stormwater Management Plan provide additional assessment and justification of the proposed stormwater management strategy, including updated MUSIC modelling of pollutant loads and consideration of potential impacts on downstream receiving waters and the adjacent wetland protection area.

The assessment demonstrates that the updated stormwater treatment system, comprising bioretention basins and vegetated swales, achieves the applicable pollutant reduction targets for all pollutants within both Catchment A and Catchment B.



Overall, the proposed stormwater management strategy delivers a marked improvement in stormwater quality compared to the existing site condition and significantly reduces pollutant loads prior to discharge. As a result, no adverse impacts on the downstream receiving environment, including the wetland protection area, are anticipated provided the proposed stormwater treatment measures, emergency firewater containment system and operational management measures are implemented and maintained.

8.2 Information Request - Item 6

Item 6: SDAP State code 27: Battery storage facility development - Protecting water quality and stormwater management – Stormwater infrastructure

Issue:

In reviewing the application material, SARA note that the submitted Stormwater Management Plan & Flood Assessment relies on a stormwater management strategy that includes two Bioretention Basins – A and B (BRB A and BRB B) – as well as vegetated swales. SARA note that the Site Layout Plan dated 16 June 2026, drawing no.: RWE-002_042[A], does not identify BRB A, nor the vegetated swales.

Response requested:

Provide a revised plan that clearly identifies all stormwater infrastructure, including BRB A and the proposed vegetated swales.

8.2.1 Response

The locations of the proposed swales have been provided to the project team. A revision of drawing no. RWE-002_042[A] will be provided separately to this report as part of the response to the Information Request.

8.3 Information Request - Item 6

Item 6: SDAP State code 27: Battery storage facility development – Natural hazards – Flood hazard

Issue:

PO13 of State code 27 requires that development is sited to avoid natural hazard areas. It is noted that the submitted Stormwater Management Plan & Flood Assessment includes regional flood depths relevant to the site at Q100 (1% AEP), Q200 (0.5% AEP), and Q500 (0.2% AEP).

The submitted Natural Hazards and Extreme Weather Events Risk Assessment prepared by Meridian Urban, dated June 2026, and the submitted Risk Management Assessment Report prepared by Riskcon Engineering, dated 1 June 2026, both recommend that the proposed development achieves a minimum flood immunity level of the 0.2% AEP event plus climate change.

This recommendation aligns with recently amended planning schemes in Queensland, which conservatively adopt the 0.2% AEP event as the minimum flood planning level for renewable energy developments.

The development plans indicate that the proposed switchroom and BSF achieve the 0.5% AEP level. however, the HV transformer is located below the 0.5% AEP flood level.

Response requested:

Provide revised development plans that ensure the proposed development is designed to achieve flood immunity for the 0.2% AEP event. The revised development plans should incorporate considerations for climate change impacts using SSP2-4.5 for a design year of 2090, in accordance with *Australian Rainfall & Runoff 2019*.



8.3.1 Response

A review of the Cardwell Inundation Study (2008) design rainfall adopted for the 18-hour critical duration event affecting Tully township has been undertaken against contemporary ARR 2019 rainfall estimates and climate-adjusted rainfall projections for the SSP2-4.5 planning horizons. The assessment indicates that ARR 2019 rainfall depths are approximately 11-14% greater than those adopted in the original study, while climate-adjusted rainfall depths increase by approximately 22-25% for a 2030 planning horizon and 35-38% for a 2090 planning horizon. These increases indicate that flood levels derived from the existing regional flood study are likely to underestimate future flood risk when assessed against contemporary climate change guidance.

The existing Cardwell Inundation Study remains the best available regional flood assessment while an updated regional flood study incorporating climate change is being prepared. Given the updated study is not expected to be available within the project timeframe, a temporary allowance has been applied to account for increases in design rainfall together with uncertainty associated with future changes to hydrologic losses, ARR 2019 methodology, model calibration and hydraulic representation. On this basis, an interim freeboard allowance of 0.5 m above the Cardwell Inundation Study flood levels is considered an appropriate and conservative approach for assessment of the project against the SSP2-4.5 2090 climate scenario pending availability of the revised regional flood study. Further detail regarding the rainfall comparison, assessment methodology and justification for the recommended allowance is provided in Section 7.5.



9 SUMMARY

Water Technology was engaged by Attexo to prepare a Stormwater Management Plan (SMP) and Flood Assessment (FA) for the proposed Tully BESS facility located at Tully, Queensland. The SMP described modelling to quantify potential changes to runoff quality from the BESS and to undertake conceptual sizing of mitigation measures to meet relevant Water Quality Objectives (WQO's) for the development in respect of pollutant load reductions relative to the undeveloped site. Based on the modelling outcomes, the following measures are recommended to mitigate the potential impacts on stormwater quality:

- In Catchment A, vegetated swales at least 415 m long to convey stormwater runoff from the developed site area to the end-of line treatment device and an end-of-line BRB with a minimum filter area of 200 m². It is proposed that the BRB will be located at the downslope end of the southern boundary, adjacent to the proposed location of the temporary construction area. A 250 m long vegetated swale will also be required to divert clean water runoff along the western boundary of the site.
- In Catchment B, vegetated swales with a combined length of 325 m in to convey stormwater runoff from the developed site area to the end-of line treatment device and end end-of-line BRB with a minimum filter area of 600 m². It is proposed that the BRB will be located to the east of the subcatchment, adjacent to the battery container. Vegetated swales with a combined length of 395 m will also be required to divert clean water runoff along the western boundary of the site.

The surface water assessment showed that the proposed development has the potential to increase the quantity of pollutants discharging to the receiving environment. The MUSIC modelling outcomes demonstrate that the proposed BRB's and vegetated swales will benefit the receiving environment through pollutant load reduction and thus comply with the objectives of the Reef 2050 Water Quality Improvement Plan.

Appropriate measures for the safe handling and storage of chemical and hazardous materials at the project site during the construction and operational phases should be included in the Final Stormwater Management Plan, Construction Management Plan and/ or Emergency Response Plan as required.

An emergency containment storage with a minimum capacity of 0.432 ML will be provided to capture potentially contaminated runoff generated during firefighting activities at the BESS facility. The storage is sized in accordance with the project Fire Safety Study and is intended to temporarily contain firefighting water, which may include contaminants associated with battery materials, fire suppressants and combustion by-products. The containment storage will be located offline from the operational stormwater system and activated via a dedicated diversion during emergency response, with captured water retained for testing and either released in a controlled manner if suitable or removed from site for treatment or disposal at a licensed facility.

The local flood assessment described modelling to characterise existing local flood behaviour at the site. The assessment found:

- Overland flow from the north is conveyed via culverts beneath Tully George Road before diverging east and west of the site, ultimately draining to the Tully River without posing a flood risk to the Subject Property.
- Flows along the eastern boundary interact with an irrigation channel and an adjacent wetland system, which functions as an ephemeral watercourse and receives both channel breakout and minor sheet flow from the north.
- Within the proposed BESS site, modelling indicates shallow sheet flow (<0.15 m) and localised ponding near the southern boundary, which is expected to be mitigated through construction earthworks and site grading. Flow velocities are generally low, remaining below 0.5 m/s.



The regional flood model results indicate that the site is only minimally affected in the 1% AEP event, with minor flood fringe inundation observed along the southern boundary. These impacts are consistent with localised pooling identified in the local model. More significant inundation occurs under the 0.5% AEP and 0.2% AEP events, which extend further across the site and have greater potential to impact the planned infrastructure. The regional flood levels should be considered when designing earthworks levels to site sensitive infrastructure (i.e. substations) to ensure they meet local planning requirements.

The site is located on the outer edge of the Tully River floodplain, and only a small portion of the development footprint—approximately 5,000 m²—overlaps the 1% AEP (Q100) flood extent, representing a minor fraction of the overall site area. Within this overlap, modelled flood depths are generally less than 0.1 m, indicating shallow, low-velocity inundation.

Given the limited encroachment, minimal fill requirements, and the fact that the majority of infrastructure is located outside the Q100 extent, the proposed works are not expected to cause any measurable change to flood storage or conveyance. The shallow inundation depth combined with the absence of significant earthworks in the flood-affected zone means flood behaviour will remain effectively unchanged.

The Cardwell Inundation Study currently represents the best available regional flood assessment for the Tully area. However, the study predates ARR 2019 rainfall estimates and does not incorporate contemporary climate change guidance. The study is understood to be currently undergoing revision, including consideration of climate change impacts, although the updated flood modelling is not expected to be available within the timeframe required for the current development assessment.

For the purposes of the present assessment, an interim climate change review has been undertaken by comparing design rainfall depths adopted within the Cardwell Inundation Study against contemporary ARR rainfall estimates and SSP2-4.5 climate-adjusted rainfall projections to a 2090 planning horizon. Comparison of the 18-hour duration rainfall depths indicates that the rainfall adopted within the Cardwell Inundation Study is materially lower than contemporary ARR rainfall estimates. For the events most relevant to planning and development assessment for this project:

- ARR 2019 rainfall depths are approximately 11–14% greater than those adopted in the 2008 study.
- 2030 SSP2-4.5 rainfall depths are approximately 22–25% greater than those adopted in the 2008 study.
- 2090 SSP2-4.5 rainfall depths are approximately 35–38% greater than those adopted in the 2008 study.

These increases are expected to result in higher flood discharges and flood levels than those presented in the Cardwell Inundation Study.

Given these uncertainties, and in the absence of updated regional flood modelling, adoption of an interim climate change freeboard allowance of 0.5 m above the Cardwell Inundation Study flood levels is considered a reasonable and conservative approach for the current stage of planning and development assessment.

This allowance should be regarded as an interim measure to facilitate the current assessment and should not be interpreted as a substitute for updated flood modelling. Where the revised regional flood study becomes available during subsequent project phases, it is recommended that flood risk be reassessed against the updated model results and that relevant design levels be reviewed as part of detailed design.

Overall, the assessments described in this SMP and FA demonstrate that the proposed development, including the mitigation measures described above, returns a no-worsening of existing conditions with respect to flood as well as providing an improvement in stormwater runoff quality. Detailed design of the management and mitigation measures described conceptually within this report will be required to ensure the final design provides the intended outcomes.



10 STATEMENT OF CERTIFICATION

I, Carl Wallis, Registered Professional Engineer of Queensland (RPEQ No. 16570), certify that the work contained within this report, prepared by Water Technology dated 25 August 2026, was undertaken under my direct supervision.

The assessment methodologies, analyses and conclusions contained within this report are appropriate for the stated purpose of the assessment and have been prepared in accordance with accepted engineering practice.

This certification is provided in accordance with the requirements of the *Professional Engineers Act 2002*.

Carl Wallis (RPEQ 16570)

on behalf of Water Technology Pty Ltd

Entry off, Level 5 43 Peel Street, Merivale St, South Brisbane QLD 4101

07 3105 1460

Carl.wallis@watertechnology.com.au



APPENDIX A WET TROPICS REGION: TULLY CATCHMENT WATER QUALITY TARGETS



WET TROPICS REGION

Tully catchment water quality targets

Catchment profile

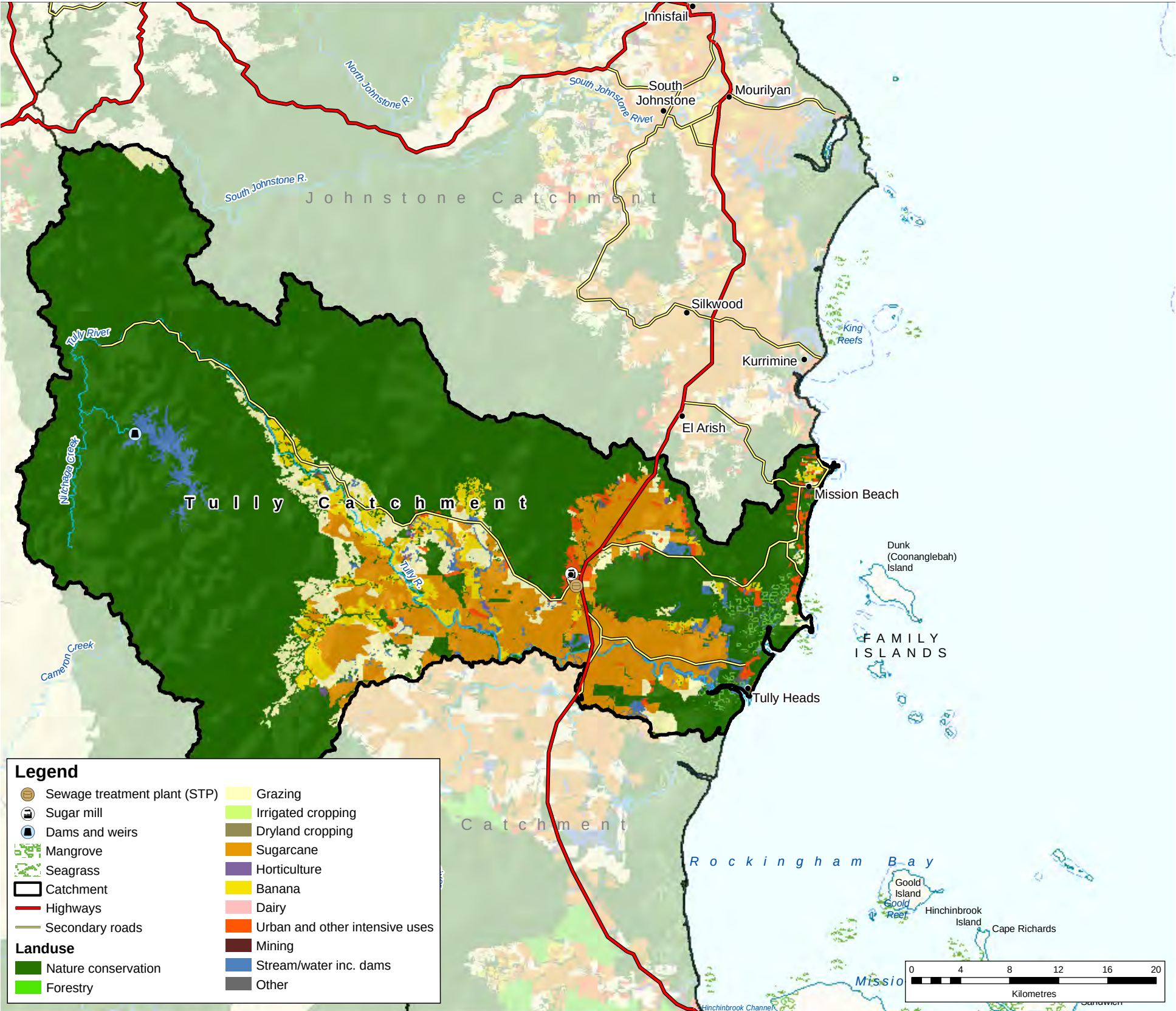
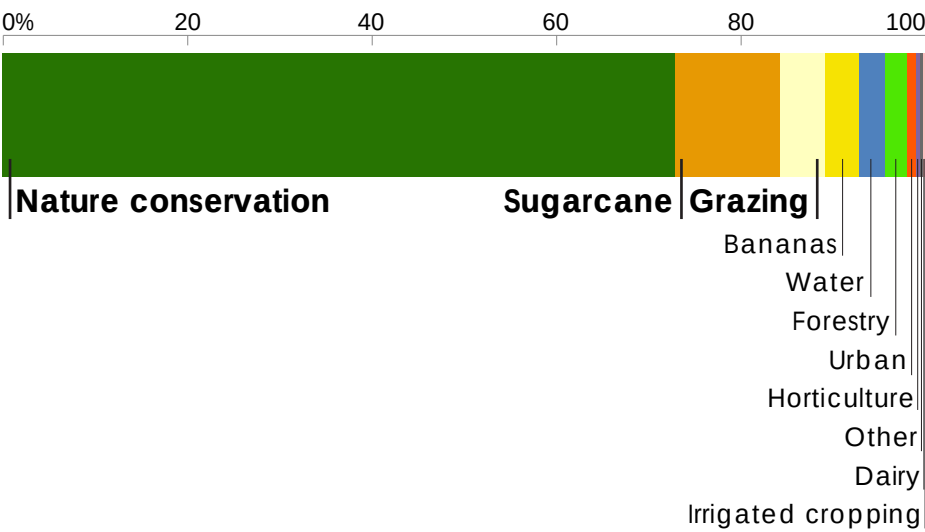
Under the Reef 2050 Water Quality Improvement Plan, water quality targets have been set for each catchment that drains to the Great Barrier Reef. These targets (given over the page) consider land use and pollutant loads from each catchment.

The Tully catchment covers 1683 km² (8% of the Wet Tropics region). Rainfall averages 2763 mm a year, which results in river discharges to the coast of about 3527 GL each year.

The Tully catchment is located in the southern section of the Wet Tropics region. The majority of the catchment is drained by the Tully River, with the remaining area captured by the Hull River and a number of smaller coastal creeks. The upper reaches of the Tully River are fed by streams emerging from rainforests of the Wet Tropics World Heritage Area in the coastal mountain ranges. The Koombooloomba Dam is also located in the upper catchment area. The lowland floodplains of the Tully catchment have intensive agricultural land use, principally of sugarcane, grazing and banana crops. Small pockets of urban areas are present, which include the township of Tully at the foot of the mountain range and several smaller coastal localities, including Hull Heads, Tully Heads and Mission Beach.

Land uses in the Tully catchment

The main land uses are nature conservation (73%), sugarcane (11%), and grazing (5%).



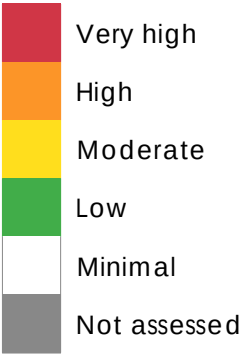
2025 water quality targets and priorities

End-of-catchment anthropogenic load reductions required from 2013 baseline				Pesticides
Dissolved inorganic nitrogen (DIN)	Fine sediment	Particulate phosphorus (PP)	Particulate nitrogen (PN)	
50% 190 tonnes	20% 17 kilotonnes	20% 23 tonnes	20% 68 tonnes	To protect at least 99% of aquatic species at the end of catchment

The 2025 targets aim to reduce the amounts of fine sediments, nutrients (nitrogen and phosphorus) and pesticides flowing to the reef. Each target for sediment and nutrients is expressed as: (a) the percentage load reduction required compared with the 2013 estimated load of each pollutant from the catchment; and (b) the load reductions required in tonnes. Progress made since 2013 will count towards these targets. [Previously reported](#) progress between 2009 and 2013 has already been accounted for when setting the targets. The pesticide target aims to ensure that concentrations of pesticides at the end of each catchment are low enough that 99% of aquatic species are protected. The targets are ecologically relevant for the Great Barrier Reef, and are necessary to ensure that broadscale land uses have no detrimental effect on the reef’s health and resilience.

A high percentage reduction target may not necessarily mean it is the highest priority. The priorities (ranked by colour) reflect the relative risk assessment priorities for water quality improvement, based on an independent report, the [2017 Scientific Consensus Statement](#). The priorities reflect scientific assessment of the likely risks of pollutants damaging coastal and marine ecosystems.

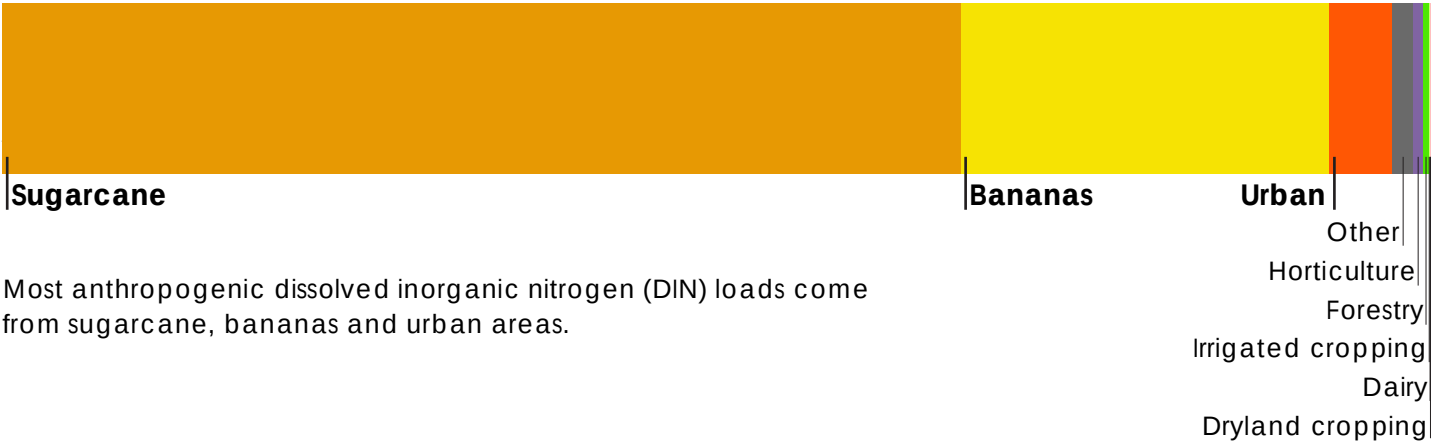
Water quality relative priority



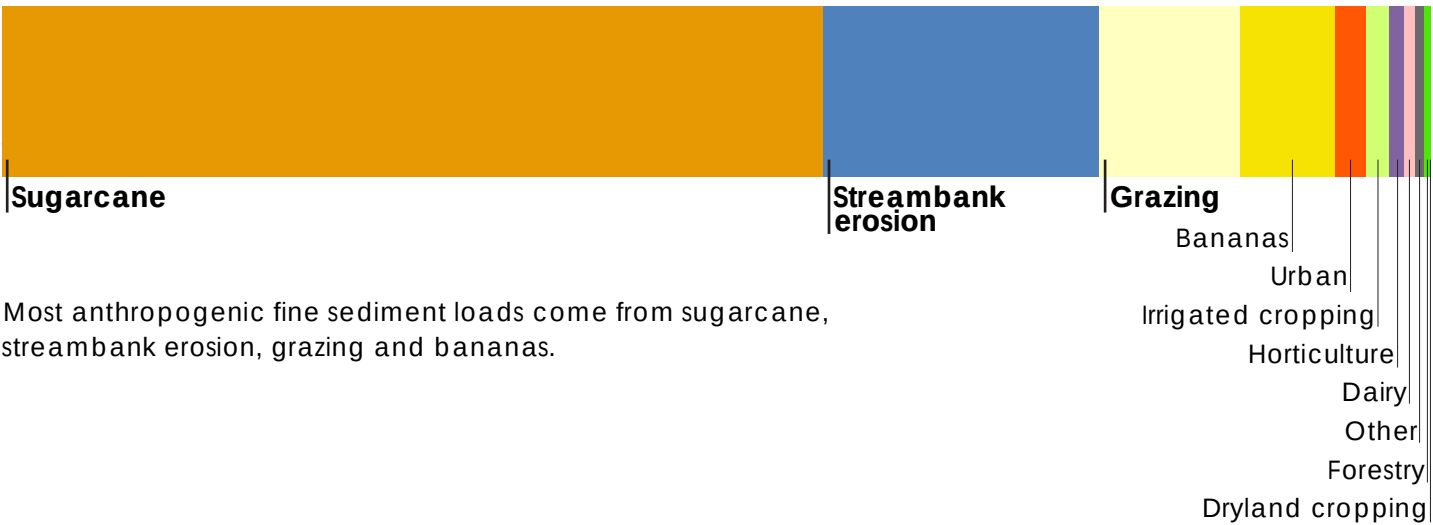
Modelled water quality pollutant loads

The Tully catchment contributes high loads of anthropogenic dissolved inorganic nitrogen, mostly from sugarcane. There are also small loads of fine sediment.

Dissolved inorganic nitrogen



Fine sediment



Types of sediment erosion



Most sediment erosion comes from hillslopes and streambanks in the Tully catchment.



APPENDIX B FLOOD DEPTH AND VELOCITY MAPS



Legend

— Site Layout

— Cadastre

Inundation Depth (m)

0.02 - 0.1

0.1 - 0.2

0.2 - 0.3

0.3 - 0.4

0.4 - 0.5

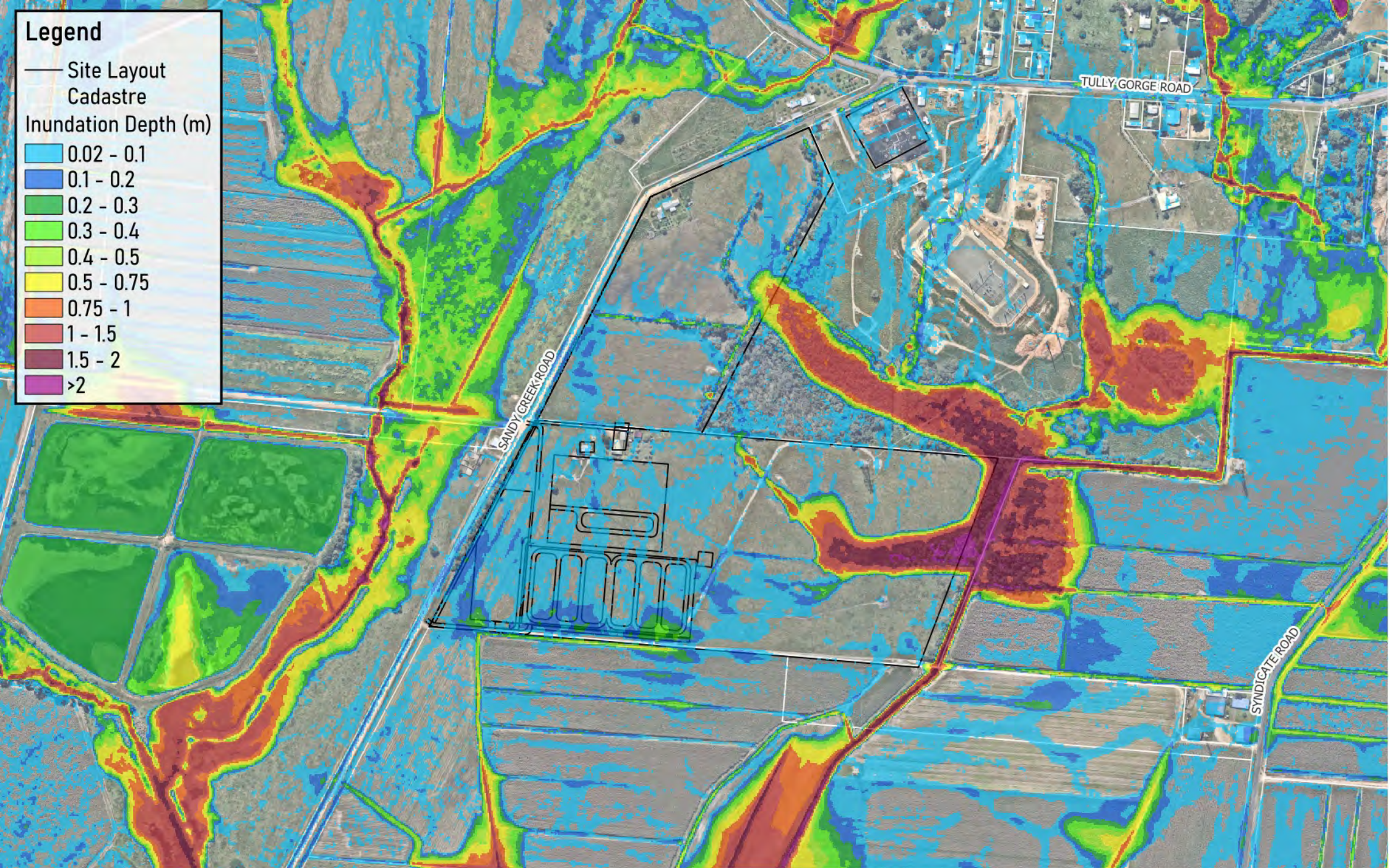
0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 - 2

>2



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Depth
0.2% AEP



Legend

— Site Layout

Cadastre

Inundation Depth (m)

0.02 - 0.1

0.1 - 0.2

0.2 - 0.3

0.3 - 0.4

0.4 - 0.5

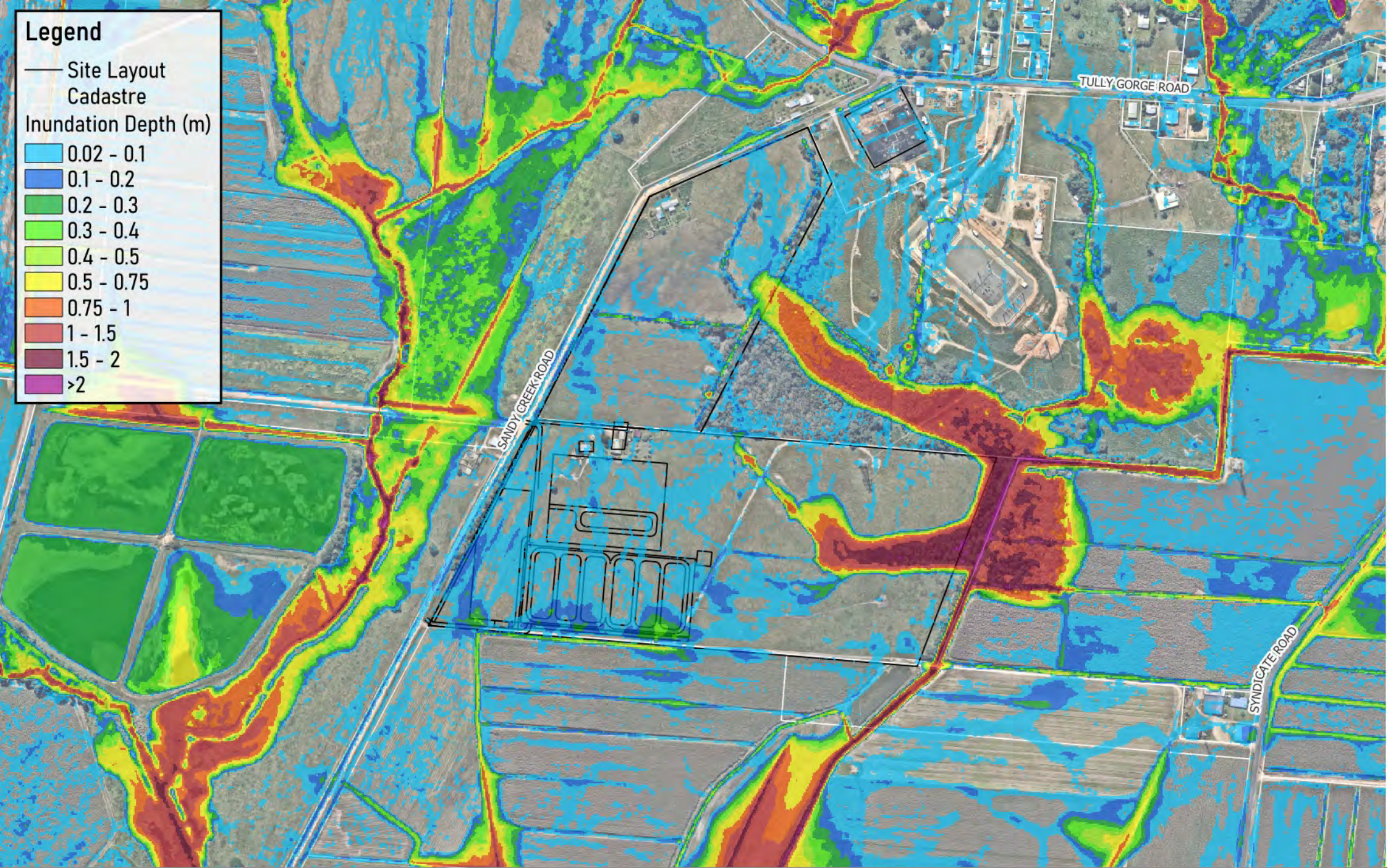
0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 - 2

>2



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Depth
0.5% AEP



2025-09-18T11:24:45.315

Legend

— Site Layout

— Cadastre

Inundation Depth (m)

0.02 - 0.1

0.1 - 0.2

0.2 - 0.3

0.3 - 0.4

0.4 - 0.5

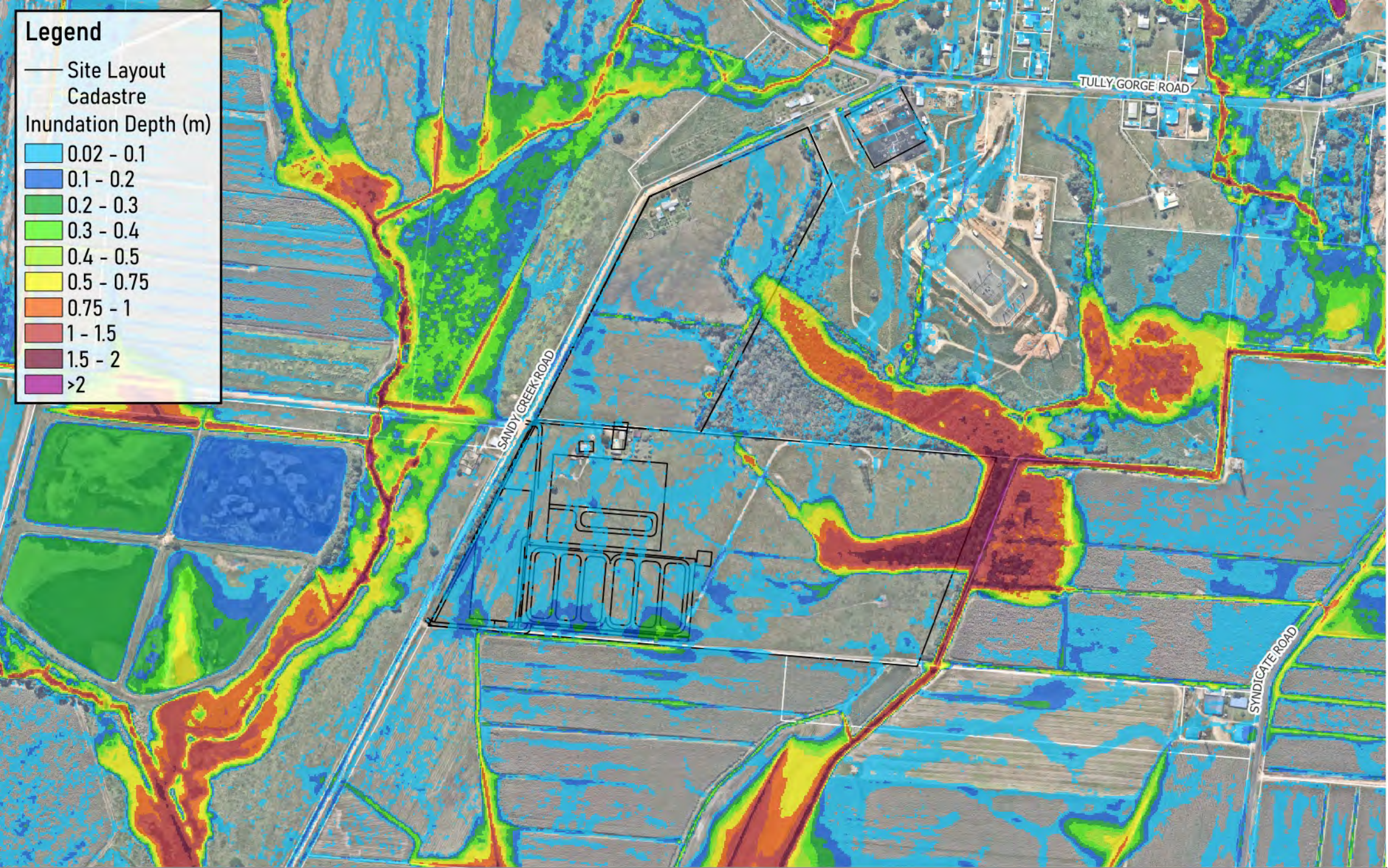
0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 - 2

>2



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Depth
1% AEP



Legend

— Site Layout

Cadastre

Inundation Depth (m)

0.02 - 0.1

0.1 - 0.2

0.2 - 0.3

0.3 - 0.4

0.4 - 0.5

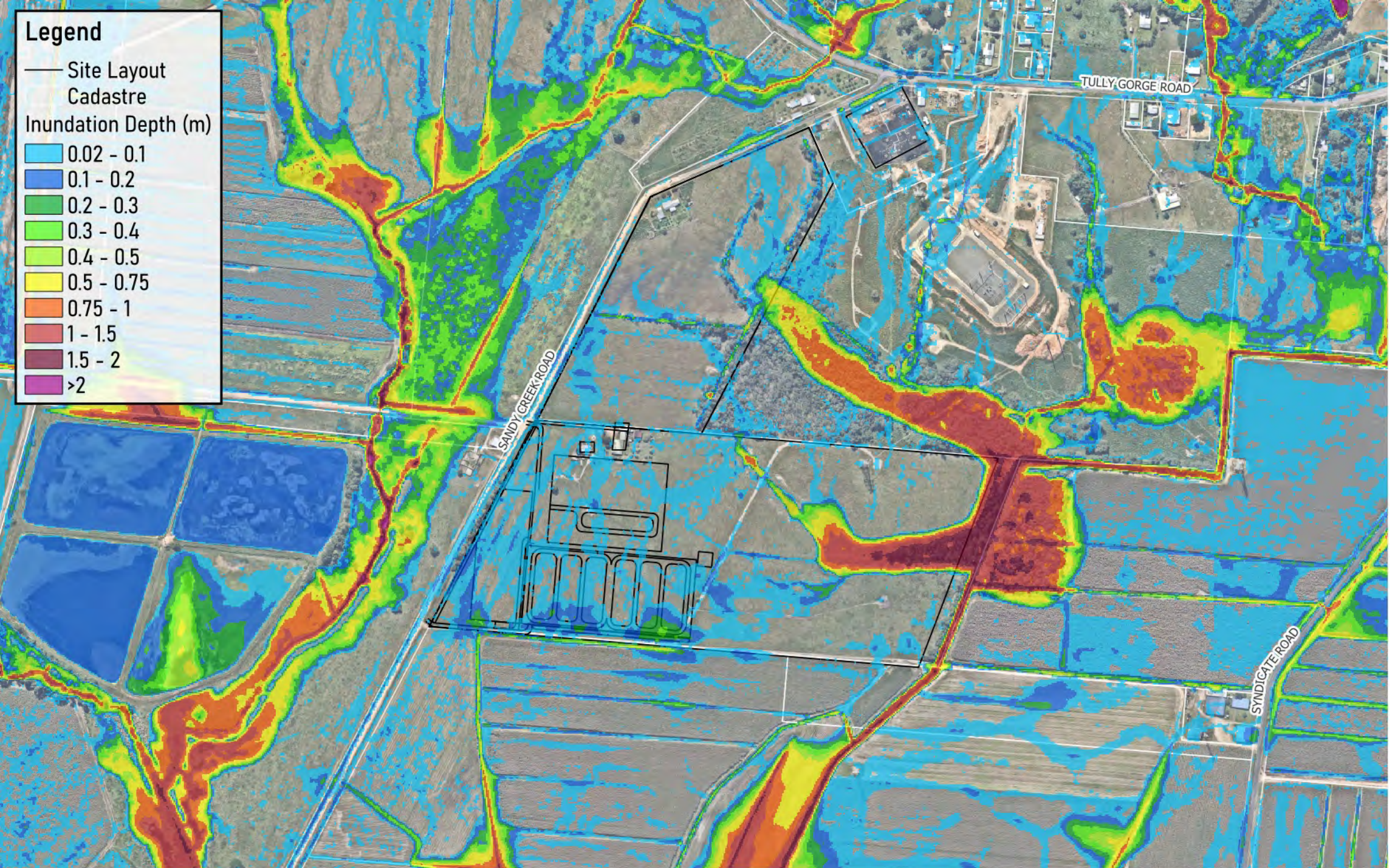
0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 - 2

>2



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Depth
2% AEP



Legend

— Site Layout

— Cadastre

Inundation Depth (m)

0.02 - 0.1

0.1 - 0.2

0.2 - 0.3

0.3 - 0.4

0.4 - 0.5

0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 - 2

>2



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Depth
5% AEP



2025-09-18T11:24:48.714

Legend

— Site Layout

— Cadastre

Inundation Depth (m)

0.02 - 0.1

0.1 - 0.2

0.2 - 0.3

0.3 - 0.4

0.4 - 0.5

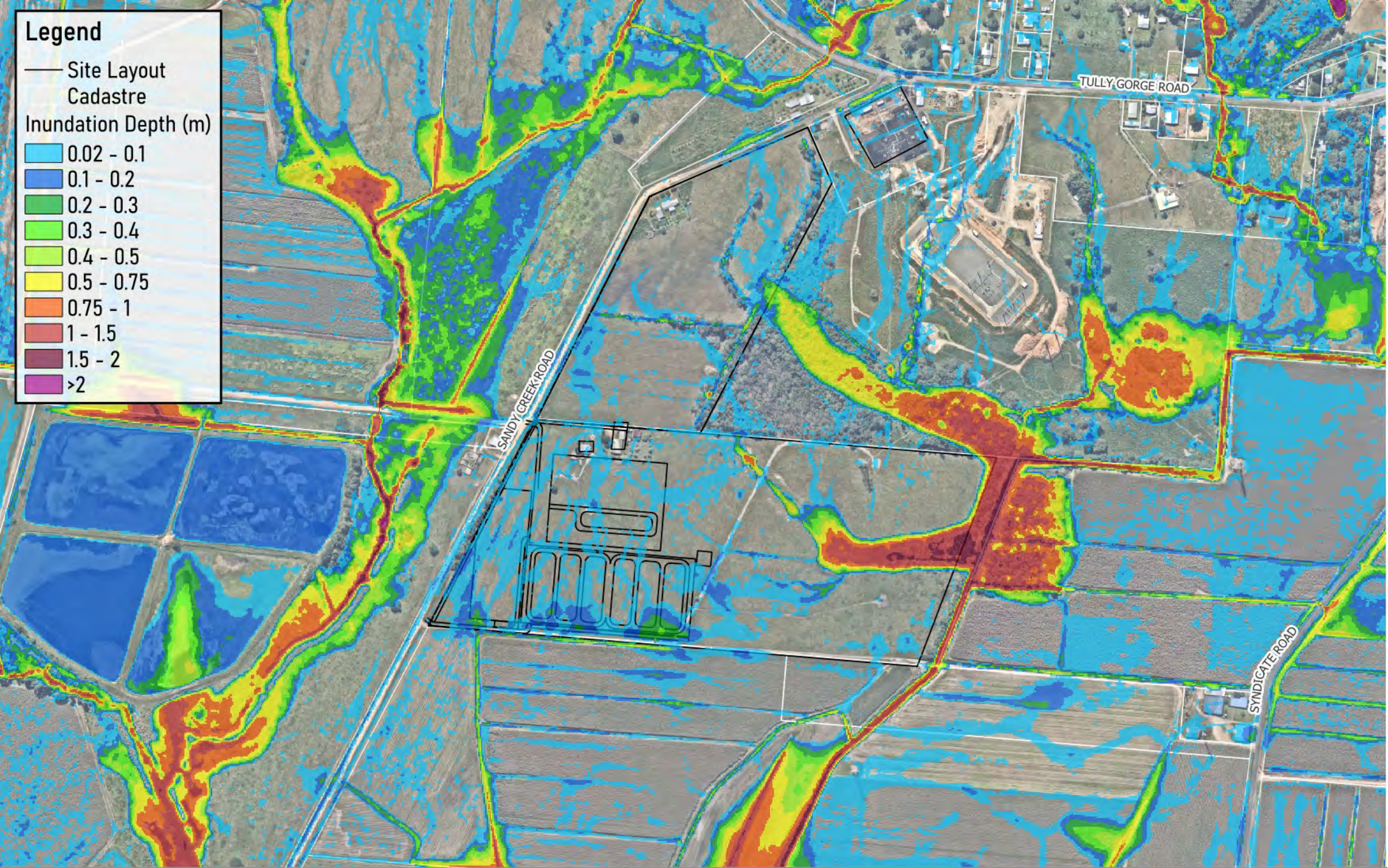
0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 - 2

>2



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Depth
10% AEP



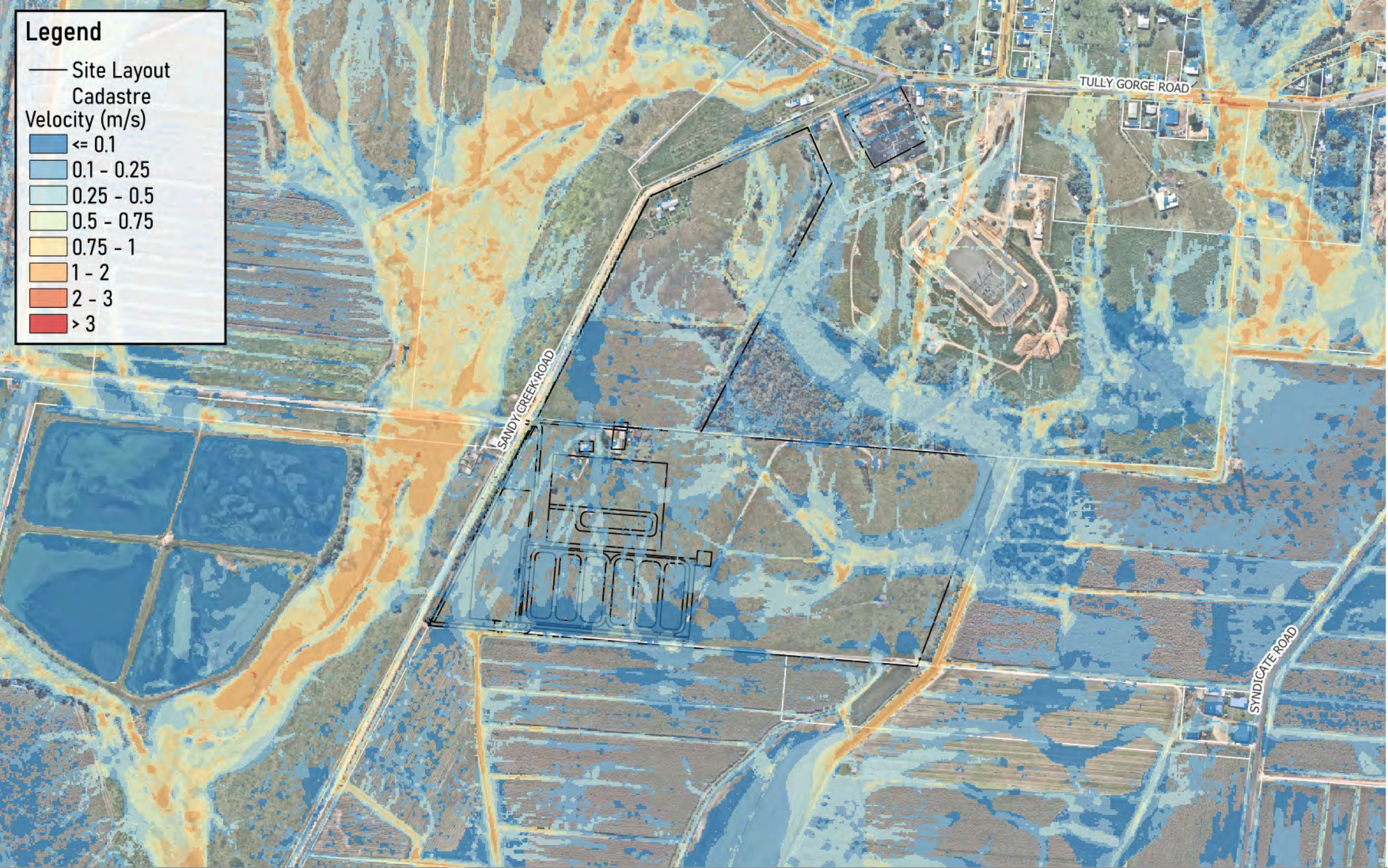
Legend

— Site Layout

— Cadastre

Velocity (m/s)

- ≤ 0.1
- 0.1 - 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 2
- 2 - 3
- > 3



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m

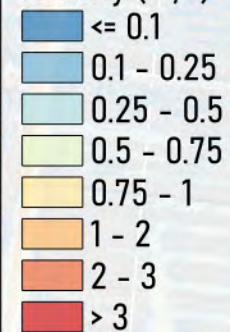


25020134 - Tully BESS
Existing Condition Results
Inundation Velocity
0.2% AEP



Legend

— Site Layout
— Cadastre
Velocity (m/s)



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m

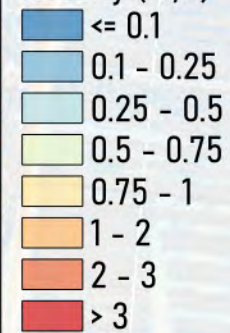


25020134 - Tully BESS
Existing Condition Results
Inundation Velocity
0.5% AEP



Legend

— Site Layout
— Cadastre
Velocity (m/s)



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m

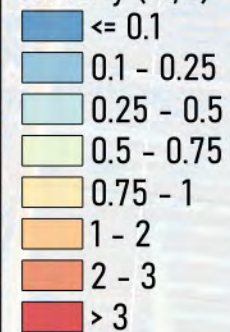


25020134 - Tully BESS
Existing Condition Results
Inundation Velocity
1% AEP



Legend

— Site Layout
— Cadastre
Velocity (m/s)



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Velocity
2% AEP



Legend

— Site Layout

— Cadastre

Velocity (m/s)

- ≤ 0.1
- 0.1 - 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 2
- 2 - 3
- > 3



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Velocity
5% AEP

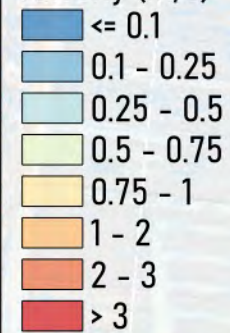


Legend

— Site Layout

— Cadastre

Velocity (m/s)



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m

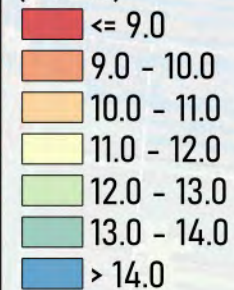


25020134 - Tully BESS
Existing Condition Results
Inundation Velocity
10% AEP



Legend

— Site Layout
— Cadastre
Peak Water Level
(mAHD)



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Height
0.2% AEP



Legend

— Site Layout
— Cadastre
Peak Water Level
(mAHD)

- <= 9.0
- 9.0 - 10.0
- 10.0 - 11.0
- 11.0 - 12.0
- 12.0 - 13.0
- 13.0 - 14.0
- > 14.0



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

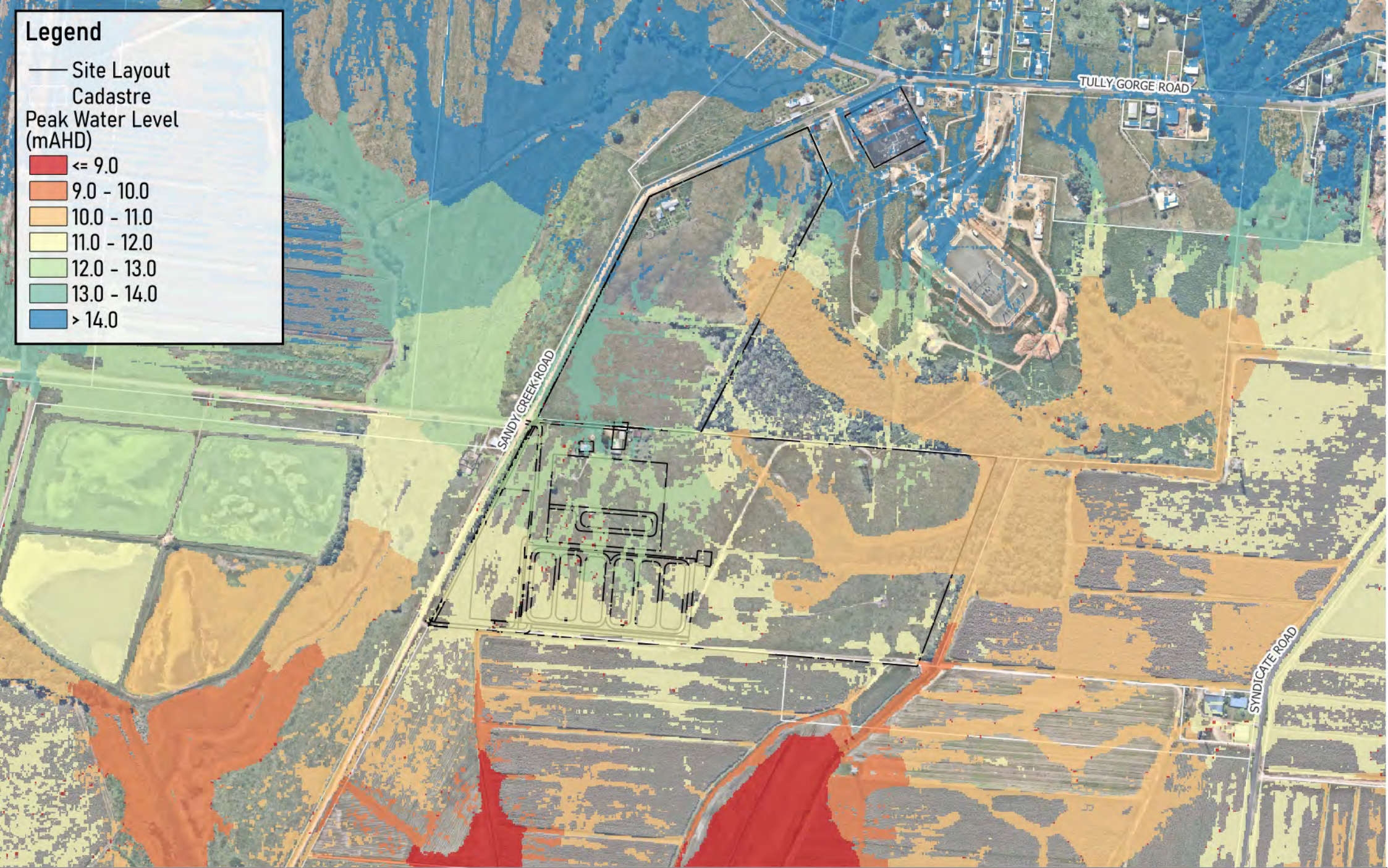
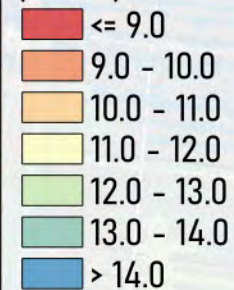


25020134 - Tully BESS
Existing Condition Results
Inundation Height
0.5% AEP



Legend

— Site Layout
— Cadastre
Peak Water Level
(mAHD)



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



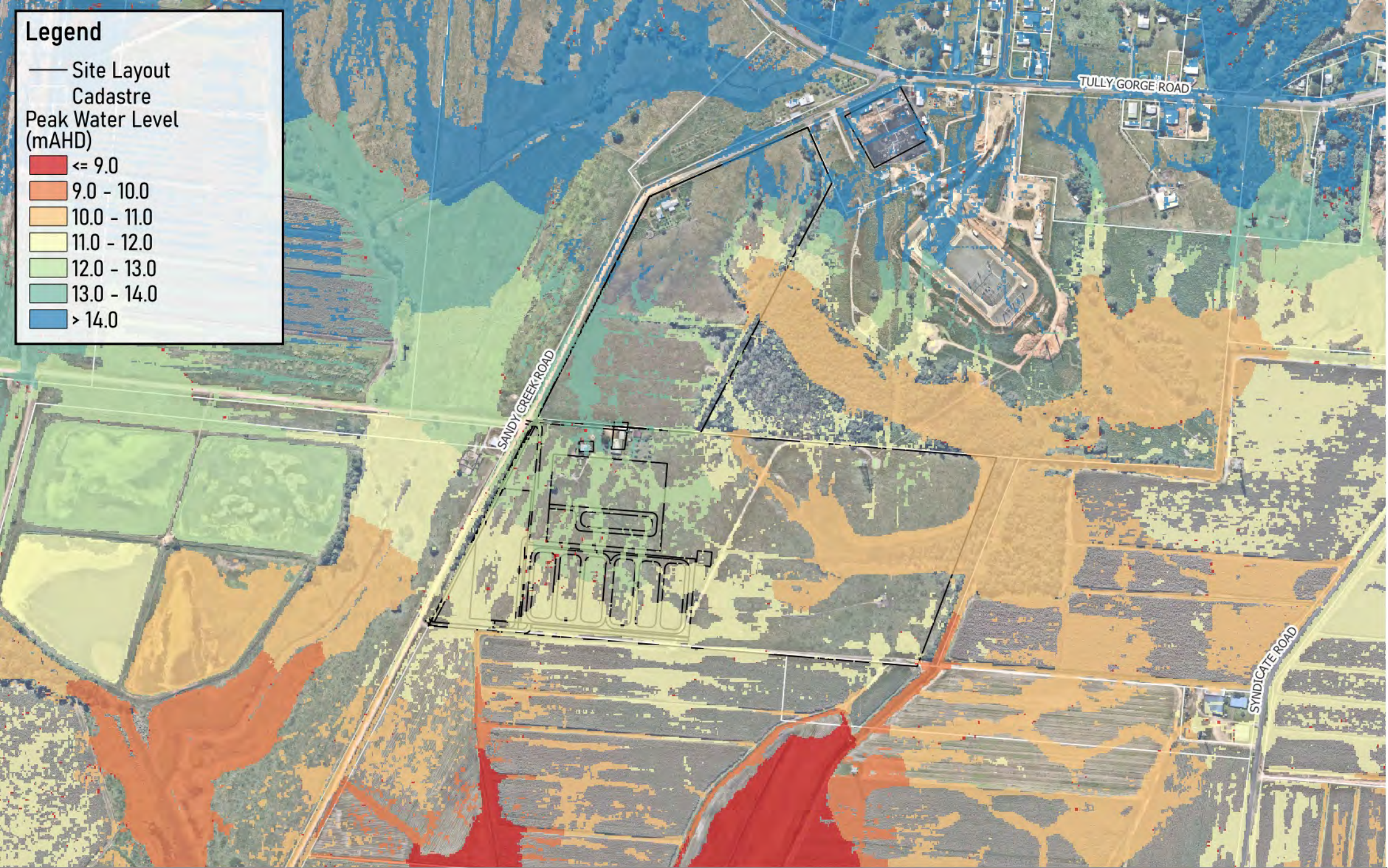
25020134 - Tully BESS
Existing Condition Results
Inundation Height
1% AEP



Legend

— Site Layout
— Cadastre
Peak Water Level
(mAHD)

- <= 9.0
- 9.0 - 10.0
- 10.0 - 11.0
- 11.0 - 12.0
- 12.0 - 13.0
- 13.0 - 14.0
- > 14.0



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m

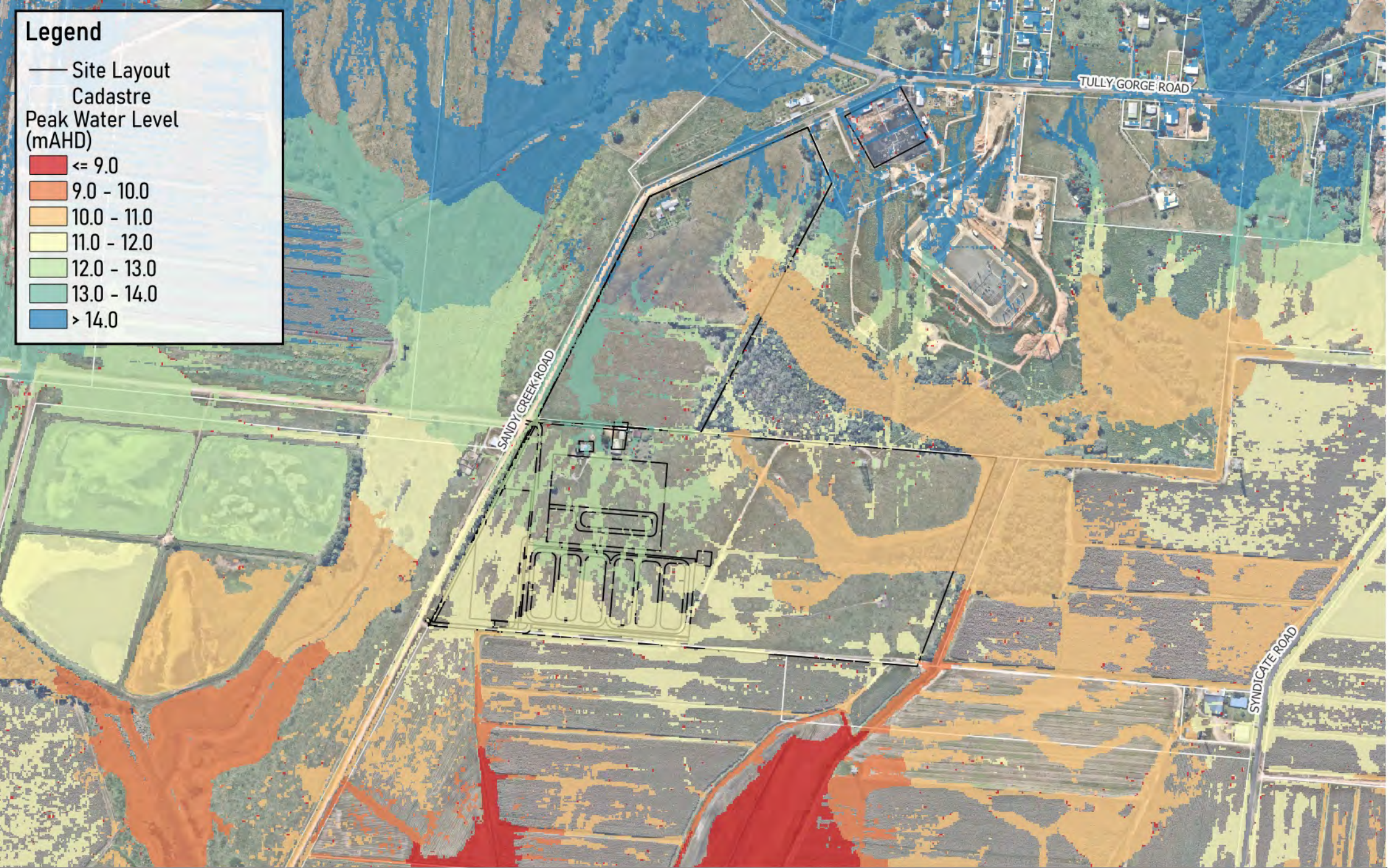


25020134 - Tully BESS
Existing Condition Results
Inundation Height
2% AEP



Legend

— Site Layout
— Cadastre
Peak Water Level
(mAHD)



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



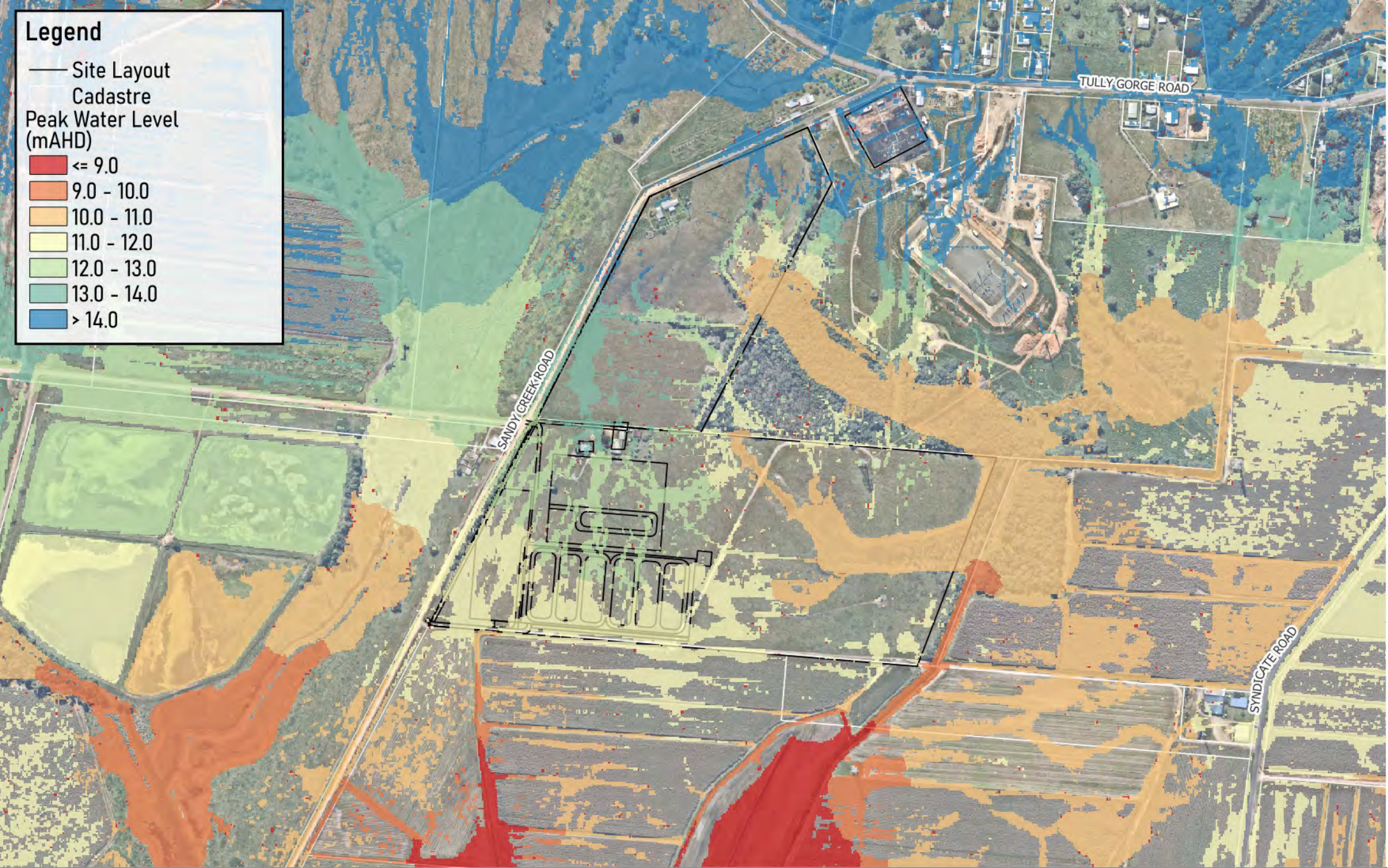
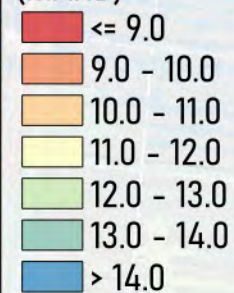
25020134 - Tully BESS
Existing Condition Results
Inundation Height
5% AEP



2025-09-18T11:25:01.591

Legend

— Site Layout
— Cadastre
Peak Water Level
(mAHD)



CRS: GDA94 / MGA zone 55
Imagery Source: Google Satellite
Created By: Water Technology, D.C.

0 100 200 300 400 m



25020134 - Tully BESS
Existing Condition Results
Inundation Height
10% AEP





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watertech.com.au





Attachment 7

Acoustic Amenity and Vibration Memorandum

Project:	Tully BESS	Document No.:	Mm 002 R01
To:	Attexo Group Pty Ltd	Date:	25 August 2026
Attention:	Sue Walker	Cross Reference:	Rp 002 R01 20241144
From:	Jarek Gil	Project No.:	20241144
		No. Pages:	6
		Attachments:	No
Subject:	Response to SARA Information Request - Acoustic amenity and vibration items		

Marshall Day Acoustics (Australia) Pty Ltd (MDA) has prepared a noise assessment report (NIVA) for Tully BESS (project) on behalf of Attexo Group Pty Ltd (Attexo) and the proponent, RWE Tully Battery Pty Ltd (RWE).¹ The report details the findings of an operational and construction noise assessment for the project, with reference to performance outcome (PO) PO20 and PO21 of State code 27.² The NIVA did not consider the additional requirements of the State code 27 planning guideline (planning guideline).³

SARA has carried out a preliminary review of the development application documentation and issued a request for information (RFI) to the proponent on 3 July 2026.⁴ The RFI listed items pertaining to 'Acoustic amenity and vibration' and the NIVA. These items are addressed below.

RFI Item 8. Acoustic amenity and vibration – Planning guideline

The submitted Noise Assessment prepared by Marshall Day Acoustics, dated 28 May 2026, does not include an assessment of the requirements outlined in Section 4.9 of the Planning guideline. As such, the predicted noise levels in the submitted material do not provide justification that they are based on typical worst-case noise-enhancing conditions, as required by the Planning guideline.

Response requested:

Provide an assessment against the specific requirements of the Planning guideline, including:

- *demonstrating that background ambient noise at nearby sensitive receptors will not be impacted, by complying with 30–35 dBA at the outdoor façade, or, in very low background noise environments (e.g. rural areas), background noise + 5 dBA*
- *assessing noise impacts during the night period (8:00 pm to 6:00 am)*
- *considering whether a low noise environment is present, based on background noise logging at relevant receptor locations*
- *justification that the selected ground correction factor of 1 in the ISO9613-2 noise model represents typical worst-case noise-enhancing conditions.*

¹ Rp 002 R01 20241144 Tully BESS - Noise assessment, dated 28 May 2026 (NIVA).

² Queensland Department of State Development, Infrastructure and Planning *State Development Assessment Provisions v3.5* (SDAP); Queensland Department of State Development, Infrastructure and Planning *State Development Assessment Provisions v3.5 - State code 27: Battery storage facility* (State code 27).

³ Queensland Government Department of State Development, Infrastructure and Planning *State code 27: Battery storage facility development* (planning guideline).

⁴ Queensland Department of State Development, Infrastructure and Planning *State Assessment and Referral Agency* (SARA); 2606-52806 SDA - Information Request, dated 3 July 2026.

MDA response

The NIVA was prepared to meet the requirements of State code 27. Where practical, the assessment also complies with parts of the supplementary requirements of Section 4.9 of the planning guideline. The planning guideline includes a number of requirements inconsistent with the State code 27 requirements. Where these conflicts occurred, MDA referred to the State code 27 as the binding legislative document. The approach adopted to specific requirements of the planning guideline is detailed in Table 1 below.

Table 1: Approach adopted to State code 27 planning guideline requirements

Section 4.9 requirement	Conflict with State code 27?	Adopted approach
In addition to the acoustic quality objectives in the EPP 2019, the development must demonstrate background ambient noise on nearby sensitive receptors is not impacted by complying with 30 - 35dBA at the outdoor façade or, if background noise is very low (e.g. rural areas) - background noise + 5 dBA. ⁵	Yes. PO20 refers to acoustic quality objectives (AQO) as defined in EPP 2019, being the prescribed criteria. Neither PO20 nor EPP 2019 specifies a fixed limit of 30–35 dB L_{Aeq} at façade or a requirement for quantitative background assessment.	State code 27 PO are adopted. The noise assessment indicates compliance with PO20 and EPP 2019 with respect to operational noise as detailed in sections 6 and 7 of the NIVA.
Site layouts should ensure noise and vibration generating equipment is sited away from sensitive receptors and that necessary equipment design and/or other design measures such as acoustic barriers or buffers are incorporated and shown in a project layout plan.	No conflict.	Requirement followed. Mitigation measures are recommended (section 6.2 of the NIVA) and operational noise levels complying with the AQO are demonstrated with the proposed layout (section 6.3 of the NIVA).
A NIVA must be undertaken by a suitably qualified acoustic consultant.	No conflict.	Requirement followed.
NIVA to describe and quantify operational noise sources and operating modes, where applicable. Where feasible and available, spectral data should be used within the calculations.	No conflict.	Requirement followed. Spectral data for all operational noise sources are provided in section 6.1 of the NIVA.

⁵ Environmental Protection (Noise) Policy 2019 Subordinate Legislation 2019 No. 154 (EPP 2019) made under the Environmental Protection Act 1994.

Section 4.9 requirement	Conflict with State code 27?	Adopted approach
Undertake 3D noise modelling using industry best-practice methods, utilising prediction algorithms that consider attenuations from distance, ground effects, terrain/shielding effects, atmospheric absorption and meteorological conditions	No conflict.	Requirement followed. 3D noise modelling carried out using industry standard SoundPLANnoise version 9.1 and ISO 9613-2:2024 calculation method, as detailed in Appendix F of the NIVA.⁶ The ground factor values align with the guidance provided by Section 7.3.1 of ISO 9613-2:2024 being: Hard ground, $G=0$, for areas within the BESS site representing concrete or tamped ground as is typical around industrial sites. Porous ground, $G=1$, for surrounding land suitable for the growth of vegetation. The use of ISO 9613-2:2024 and the guidance within is considered industry best practice.
Utilise the noise model to predict noise level impacts onto nearby sensitive receptors under typical worst-case noise enhancing conditions (i.e. under downwind and/or temperature inversions conditions)	No conflict.	Requirement followed. Predictions carried out for downwind temperature inversion conditions, as detailed in Appendix F of the NIVA.
Assess the modelled impacts against the prescribed criteria and PO20, considering any modifying factors/penalties	No conflict.	Requirement followed. Section 3.1 and 3.2 of the NIVA makes reference to AQO and EPP 2019, which are the prescribed criteria under PO20. The NIVA also considers noise penalty for special characteristics (tonality) as detailed in section 6.3 of the NIVA.
Where noise impacts on sensitive receptors are predicted, identify mitigation measures or strategies to reduce or eliminate noise levels to achieve compliance with the EPP 2019 (and therefore PO20)	No conflict.	Requirement followed. Mitigation measures were recommended to achieve compliance with EPP 2019 and PO20 as detailed in section 6.2 of the NIVA.

⁶ International Standard ISO 9613-2: 2024 *Acoustics – Attenuation of sound during propagation outdoors – Part 2: Engineering method for the prediction of sound pressure levels outdoors* (ISO-9613-2:2024).

Section 4.9 requirement	Conflict with State code 27?	Adopted approach
Noise impacts during the night period (8:00 pm to 6:00 am) are required to be assessed. This specific night period is selected to avoid the shoulder period between 6:00 am and 7:00 am which typically contains an increased level of road traffic noise, rural activities and natural extraneous noise (i.e. increased ambient noise levels) compared to the pre-6:00 am period	Yes. The AQO are defined in EPP 2019 for day and evening (07:00 to 22:00) and night (22:00 to 07:00) periods.	PO20 and EPP 2019 assessment periods are adopted as detailed in section 3.1, section 6.3 and Appendix G of the NIVA.

Attexo has asked SARA for further guidance on the appropriate response to Item 8. The response from SARA stated that the EPP noise requirements should be used to demonstrate compliance with PO20 of State code 27, given the way that the code is drafted.

Any additional guidelines assessment have been indicated to be supplementary only.⁷

The approach adopted by MDA in the NIVA aligns with the guidance provided by SARA above.

The existing noise environment was described in section 4.0 of the NIVA. Background creep and deterioration of the existing acoustic environment were qualitatively assessed in section 7.2.1 of the NIVA. This involved consideration of the management intent and management hierarchy, as specifically required in the EPP 2019. This does not inherently require the direct measurement of background noise levels.

RFI Item 9. Acoustic amenity and vibration – Noise predictions

The submitted Noise Assessment is based on the assumption that fan speeds will not exceed 50% during the day and 30% at night.

Response requested:

Provide justification that the assumed fan speeds will not be exceeded. This could be in the form of manufacturer's advice regarding the fan operating speeds for various ambient temperatures and demonstrating that the relevant temperatures are not exceeded at the proposed site. Alternatively, a commitment to set fan speeds at these limits could be provided.

MDA response

Attexo has provided a letter from Tesla confirming that the batteries can operate at the ambient conditions of the site with the specified fan duties. The letter is reproduced in Appendix A.

RFI Item 10. Acoustic amenity and vibration – Construction noise

PO20 of State code 27 and the Planning guideline require development to demonstrate that acoustic impacts from the operation, construction, maintenance and decommissioning activities are appropriately assessed and managed to protect nearby sensitive receptors. The submitted Noise Assessment indicates that the construction noise will exceed the criteria.

Response requested:

- Provide a revised assessment which demonstrate how the construction noise criteria will be achieved by the proposed development.*
- Alternatively, where the proposal cannot comply with PO20 of State code 27, provide justification how the development complies with the purpose Statement of the Code.*

⁷ Email from Rebecca Carpenter to Sue Walker, dated 24 July 2026, subject: RE: 2606-52806 SDA application correspondence.

MDA response

The construction noise assessment shows a range of predicted noise levels for each construction phase. The predicted level ranges are reflective of the range of distances and range of equipment sound power levels. The lowest levels in the range are below the daytime AQO of 42 dB $L_{Aeq,adj,1\text{ hr}}$, whereas the highest levels are up to 54 dB $L_{Aeq,adj,1\text{ hr}}$ (up to 12 dB above the AQO). Project-specific mitigation measures, as well as universal work practices are recommended in section 8.3 of the NIVA to reduce the construction noise levels as low as reasonably practicable.

As stated in section 8.4 of the NIVA, the EPP 2019 AQO are intended to provide criteria for environmental noise emissions with a long-term focus and would not typically apply to temporary noise such as that from construction sites.

Outside of the SDAP structure, including where an environmental impact statement is required for high-risk projects, construction noise would ordinarily be assessed considering the Code of Practice Vol. 2.⁸ The Code of Practice Vol. 2 specifies a minimum upper limit of 65 dB $L_{Aeq,adj,15\text{ min}}$ and a minimum lower limit of 50 dB $L_{Aeq,adj,15\text{ min}}$.

The highest predicted noise levels are below the minimum upper limit and up to 4 dB above the minimum lower limit. Given the range of available equipment and practical noise control measures, there is an opportunity during the detailed construction plan to achieve a further reduction of 4 dB where necessary for construction noise levels to remain below the minimum lower limit.

All feasible and reasonable work practices and mitigation measures should be implemented as part of a detailed construction noise and vibration management plan (CNVMP), to be drafted once a main contractor is appointed.

Clause 319 of the Queensland EP Act defines 'general environmental duty' when specifying the duty to prevent and minimise environmental harm:

319(1) A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonably practicable measures to prevent or minimise the harm (the general environmental duty).⁹

Compliance with the Code of Practice Vol. 2 minimum lower limit indicates compliance with the EP Act general environmental duty. With recommended mitigation measures, and if restricted to standard construction hours, the project would comply with items 1 and 3 of the State code 27 purpose statement.

⁸ Queensland Department of Transport and Main Roads *Transport Noise Management Code of Practice: Volume 2 – Construction Noise and Vibration*, dated May 2023 (Code of Practice Vol. 2).

⁹ Queensland Government *Environmental Protection Act 1994* (EP Act)

APPENDIX A TESLA LETTER



RE: Megapack 2XL Fan Duties

To whom it may concern,

We are writing to provide guidance regarding the fan speeds for Megapack 2XL for Tully BESS. Megapacks can have fan duty limits set, for Tully BESS, we can confirm that Megapack 2XL can operate at the ambient conditions of the site with the proposed 50% fan duty limit during the day and 30% fan duty limit during the night.

Sincerely,

Megan Jackson



Senior Sales Engineering Manager, APAC
Tesla, Inc



Attachment 8

Tesla

Correspondence



RE: Megapack 2XL Fan Duties

To whom it may concern,

We are writing to provide guidance regarding the fan speeds for Megapack 2XL for Tully BESS.

Megapacks can have fan duty limits set, for Tully BESS, we can confirm that Megapack 2XL can operate at the ambient conditions of the site with the proposed 50% fan duty limit during the day and 30% fan duty limit during the night.

Sincerely,

Megan Jackson

A handwritten signature in black ink, appearing to read "M. Jackson".

Senior Sales Engineering Manager, APAC

Tesla, Inc



Attachment 9

Scenic Amenity Impact Assessment



Tully Battery Energy Storage System

Scenic amenity impact assessment



September 2026

Document information

Date	2/09/2026
Title	Scenic Amenity Impact Assessment
Version:	Revision 5
Prepared by:	Suzie Rawlinson, Director, BBE (L'Arch), MLA, RLA #001682, FAILA Alison Dodds, B.L.Arch, B.Plan, PGC Public Policy, RPIA #5511
Reviewed by:	Sue Walker, Attexo
Approved by:	 Suzie Rawlinson Director, IRIS Visual Planning + Design

Contents

1. Introduction	1
2. The Project	3
3. Planning context	6
4. Site and setting	9
5. Scenic amenity impact assessment	14
6. Mitigation measures	35
7. Response to relevant planning provisions	36
8. References	39

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:

- Chapter 2: A description of the project
- Chapter 3: Summary of the relevant planning context including: *Code 27: Battery storage facility development* and *Cassowary Coast Regional Council Planning Scheme*
- Chapter 4: Description of the site and setting
- Chapter 5: 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)
- Chapter 6: Describes the mitigation measures incorporated into the project and proposed to respond to the potential scenic amenity impacts of the project.
- Chapter 7: A review of the project in relation to State Code 27 and planning provisions relating to scenic amenity in the *Cassowary Coast Regional Council Planning Scheme*.

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 Chapter 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.

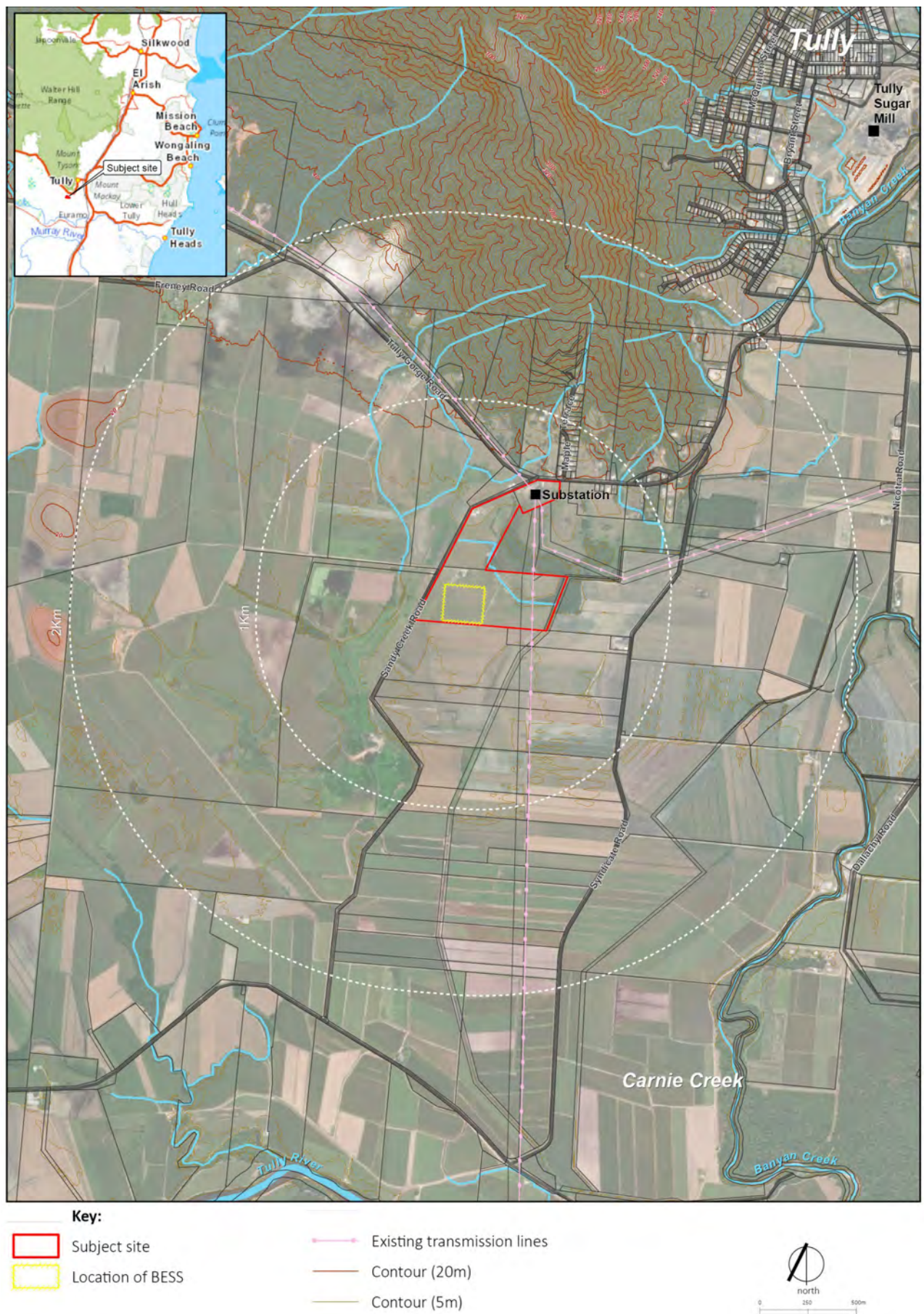


FIGURE 1-1 SITE LOCATION PLAN

2. The Project

The Project site (Lot 1 RP735276 and Lot 1 RP852238) is around 28 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 1.9 m wide (typically in the form of a 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.
- MV Transformers:
 - Up to 47 associated MV transformers with MV switchgear and field communication units.
- Overhead 132kV transmission line:
 - Connecting through the northern part of the site to the adjacent Tully Substation via an overhead transmission line supported by approximately five (5) single-circuit 132 kV poles, each approximately 27.5 m in height.
- A switching station is proposed comprising a 132/33 kV high-voltage transformer, associated switchgear, an auxiliary transformer, two 33 kV switch rooms and potentially harmonic filters
- 2 x 33 kV switch rooms about 3.9m (H) x 21.6m (L) x 5.1m (W) each, including the switchgear and a site control room.
- An acoustic wall of 6 m in height has been included with the design, located directly on the northern perimeter of the BESS units. The requirement for this wall would be confirmed during detailed design and may be refined or omitted subject to equipment specifications and acoustic performance.
- An operations and maintenance (O&M) area would be established adjacent to Sandy Creek Road. This would include an O&M building, yard, parking areas, office facilities, storage sheds and water tanks.
- A 40,000 litre capacity firewater tank for bushfires and two 235,000 litre capacity fire water tanks for onsite fire hydrants (or other volume as required by emergency services).
- Stormwater drainage systems would be constructed to allow for safe collection and management of rainwater at the BESS facility and would be established for both construction and operational phases. Additionally, an emergency containment storage basin for firewater used on site would be built into the storm water drainage system.
- Earthworks would include site levelling, formation of batters, and clearing necessary to facilitate construction and access.

- Lighting would be installed to support night maintenance activities. Lights would be on 10 m high poles. Security lighting would be sensor-controlled. Lighting would be designed and operated in accordance with *AS 4282:2023 Control of the obtrusive effects of outdoor lighting*.
- Lightning arrestors, up to 20 m in height, would be installed within the development footprint to protect critical infrastructure.
- Site Access:
 - Access to the facility would be via the existing local road network, including the Bruce Highway and Tully Gorge Road, with upgrades proposed to the two access points from Sandy Creek Road.
 - A perimeter road, in the BESS area, 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 established and maintained around BESS infrastructure to mitigate bushfire risk and provide access for firefighting activities.
- Landscape buffer planting would be established along the frontage and partially along the side boundaries of Lot 1 on RP852238 to provide visual screening and enhance integration with the surrounding landscape.

2.2. Project construction

Project construction is expected to take approximately 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.

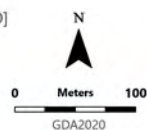
Decommissioning will be addressed as part of a Decommissioning Management Plan but would typically consist of removal of all above-ground infrastructure for recycling or disposal and reinstate all disturbed land and return to agricultural use. The land will be returned to its pre-existing condition,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



Project Layout Plan Figure 1

DWG No: RWE-002-014 [D]
DATE: 7/05/2026
DRAWN: KB, JM
REVIEWED: EJ
SCALE (A4): 1:5,000



- | | | | |
|-------------------------------------|----------------------------|---------------------|-------------------------------|
| Project Area | Proposed Transmission Line | Noise Wall | Emergency Containment Storage |
| Development Footprint | 20m Exclusion Zone | Landscaping Area | Fence |
| Proposed Access Track Footprint | Substation Area | Existing 132kV Line | Main Road |
| Proposed Transmission Line Corridor | BESS Area | Existing Dwellings | Local Road |
| | Bioretention Basin A | Water Storage | Cadastral Parcels |
| | Bioretention Basin B | O&M Building | |
| | Construction Laydown Area | O&M Area | |

Vantor, © State of Queensland (Department of Resources) 2023, © State of Queensland (Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development) 2025

C:\Users\joshua\Documents\Projects\Tully BESS\Tully BESS Planning\Report_Figures_2025.aprx

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.

3.1.2. State Code 27: Battery storage facility development

The State Assessment and Referral Agency (SARA) assesses development applications against the State Development Assessment Provisions (SDAP). State Code 27 of the State Development Assessment Provisions applies to the development of battery storage facility development.

The purpose of the code, includes to ensure that a battery storage facility: '*... does not result in unacceptable adverse impacts on individuals, communities, the environment, adjacent sensitive land uses and sensitive receptors, landscape values and infrastructure and services.*' (page 27-1)

Development complies with the code where:

- *it complies with all relevant performance outcomes; or*
- *development does not meet relevant performance outcome(s) and SARA determines, on balance, that the development complies with the purpose statement.*

The relevant performance outcomes are:

Visual Impact

PO22 Development is sited and designed to:

- minimise visual impacts on **sensitive receptors**;
- protect the **landscape values** and **scenic amenity** of the surrounding landscape; and
- provide screening and buffering to sensitive receptors the greatest extent feasible.

Lighting

PO23 Lighting associated with the development provides safe and effective illumination for site operations and maintenance, whilst minimising environmental impacts and visual impacts on **sensitive receptors**.

How the Project responds to PO22 and PO23 is addressed in Chapter 7 of this report.

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 7.2 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.

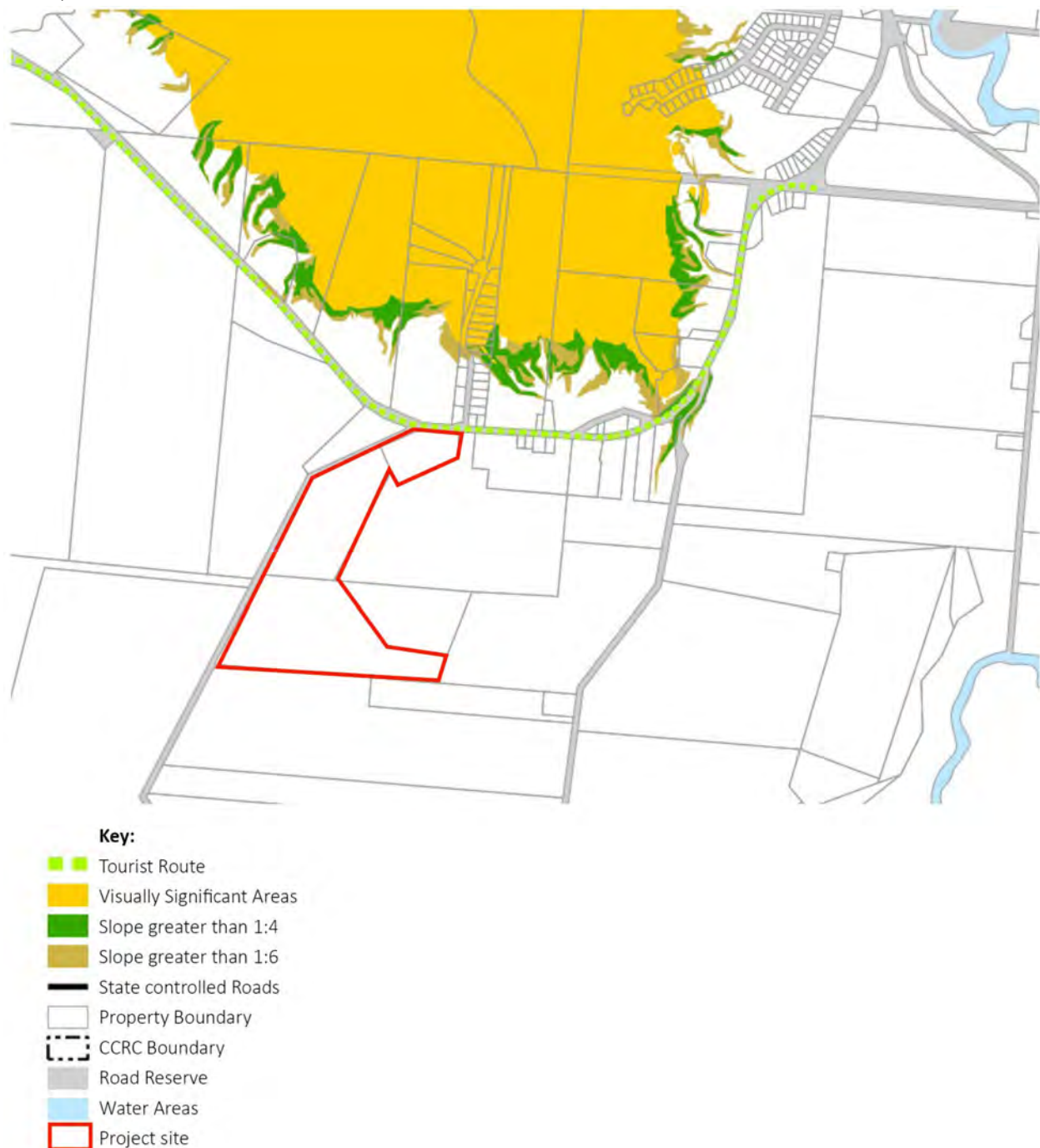


FIGURE 3-1 SCENIC AMENITY OVERLAY (SOURCE: CASSOWARY COAST REGIONAL COUNCIL PLANNING SCHEME)

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. (refer Figure 4-2) which screen the Project site.

North of Tully Gorge Road, land rises steeply to Mount Tyson (650 m) (refer Figure 4-7) and is densely vegetated, forming part of the visually significant Tully Gorge National Park. Topography is shown in Figure 4-10.

A small residential pocket is located along Maple Terrace, which extends up the cleared foothills from Tully Gorge Road (refer Figure 4-3).

West and south of the Project site are large rural landholdings, cultivated for cropping, including large areas of sugar cane (refer Figure 4-4). 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) (refer Figure 4-1). Existing Transmission lines converging on the Tully Substation are shown Figure 4-5. Immediately behind the existing substation, the New Tully Substation (275 kV) is under construction (refer Figure 4-6). 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 topography in Figure 4-10).

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 4-7).

Aerial views are provided Figure 4-8 and Figure 4-9 and show the project site in the surrounding setting.



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 ACROSS THE PROJECT SITE TO EXISTING TRANSMISSION LINE AND MOUNT TYSON



FIGURE 4-8: AERIAL VIEW OVER TULLY GORGE ROAD TO THE EXISTING AND UNDER CONSTRUCTION SUBSTATION



FIGURE 4-9: AERIAL VIEW OVER THE RURAL LANDSCAPE TOWARDS THE SITE AND EXISTING ENERGY INFRASTRUCTURE

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).

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
- to adjoining fields to the south, west and northwest
- to 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.

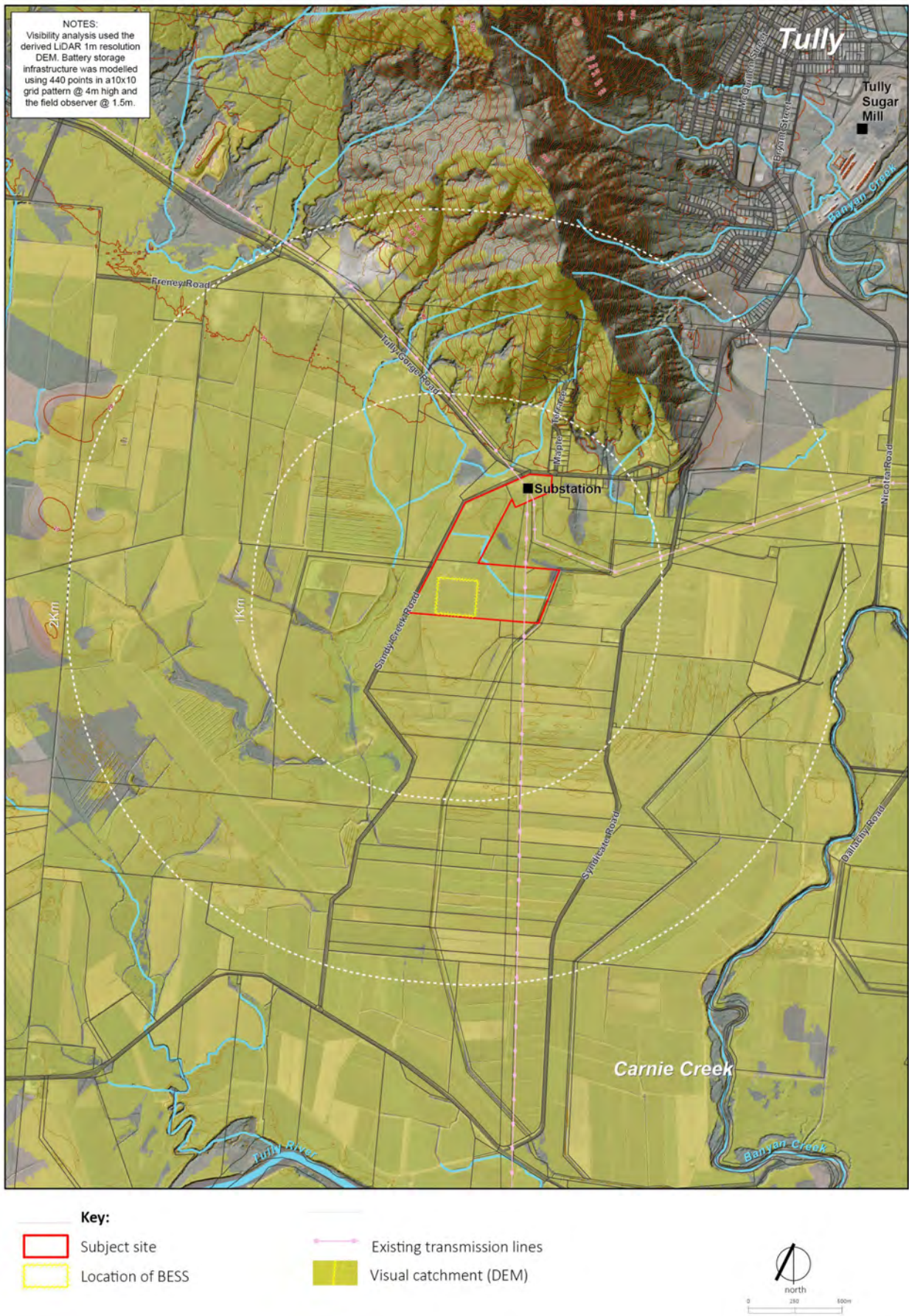


FIGURE 5-1 THEORETICAL VISIBILITY OF THE PROJECT, BASED ON LANDFORM ONLY

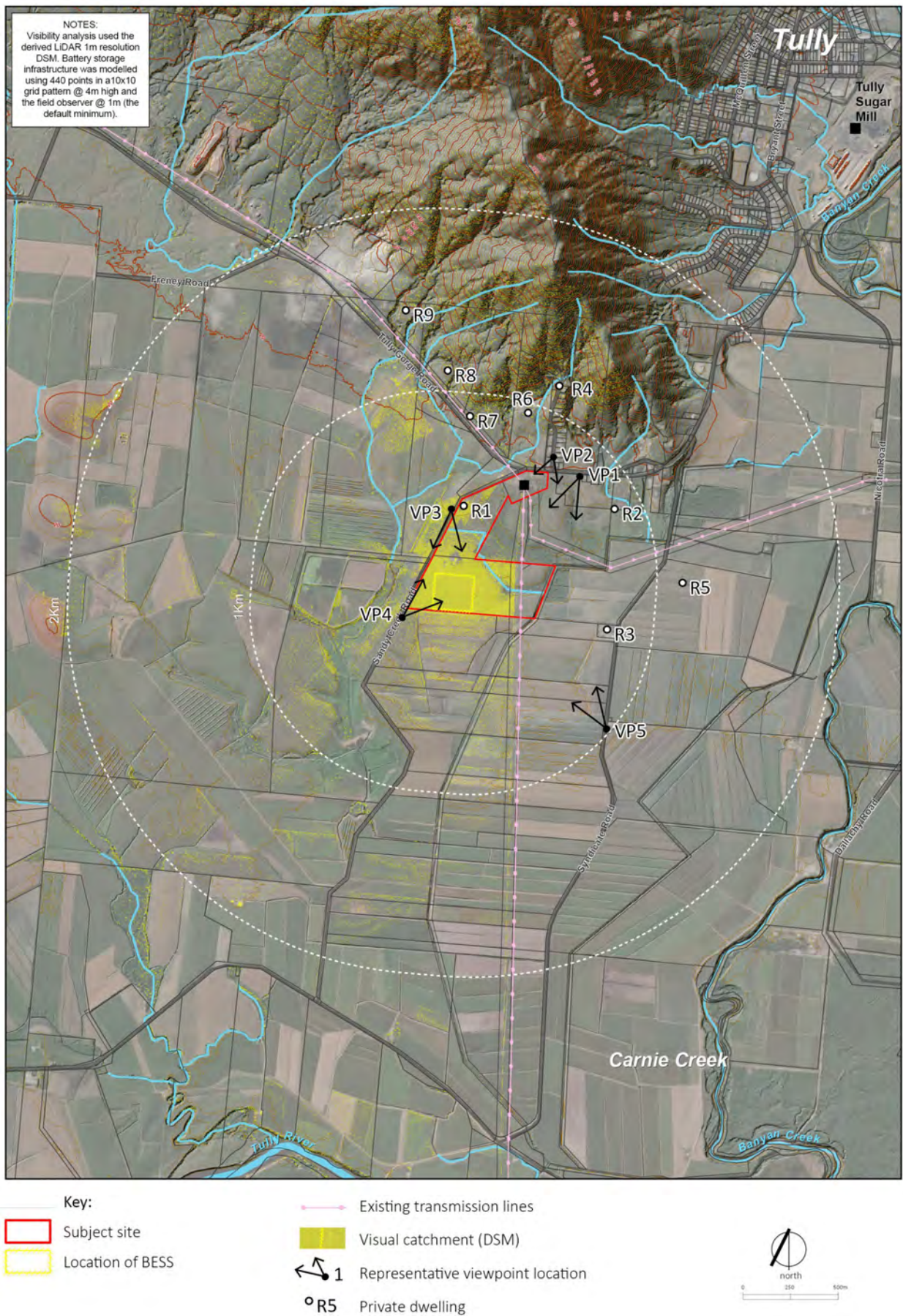


FIGURE 5-2 POTENTIAL VISIBILITY OF THE PROJECT, INCLUDING SCREENING BY EXISTING VEGETATION

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.

The 3D model of the project includes indicative BESS components of a size, scale and layout consistent with the project layout. There would be additional firefighting water tanks located within the Emergency Containment area that have not been included in the 3D model. These tanks, however, have been considered in the following viewpoint assessment.

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
Magnitude	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 5-2.

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).

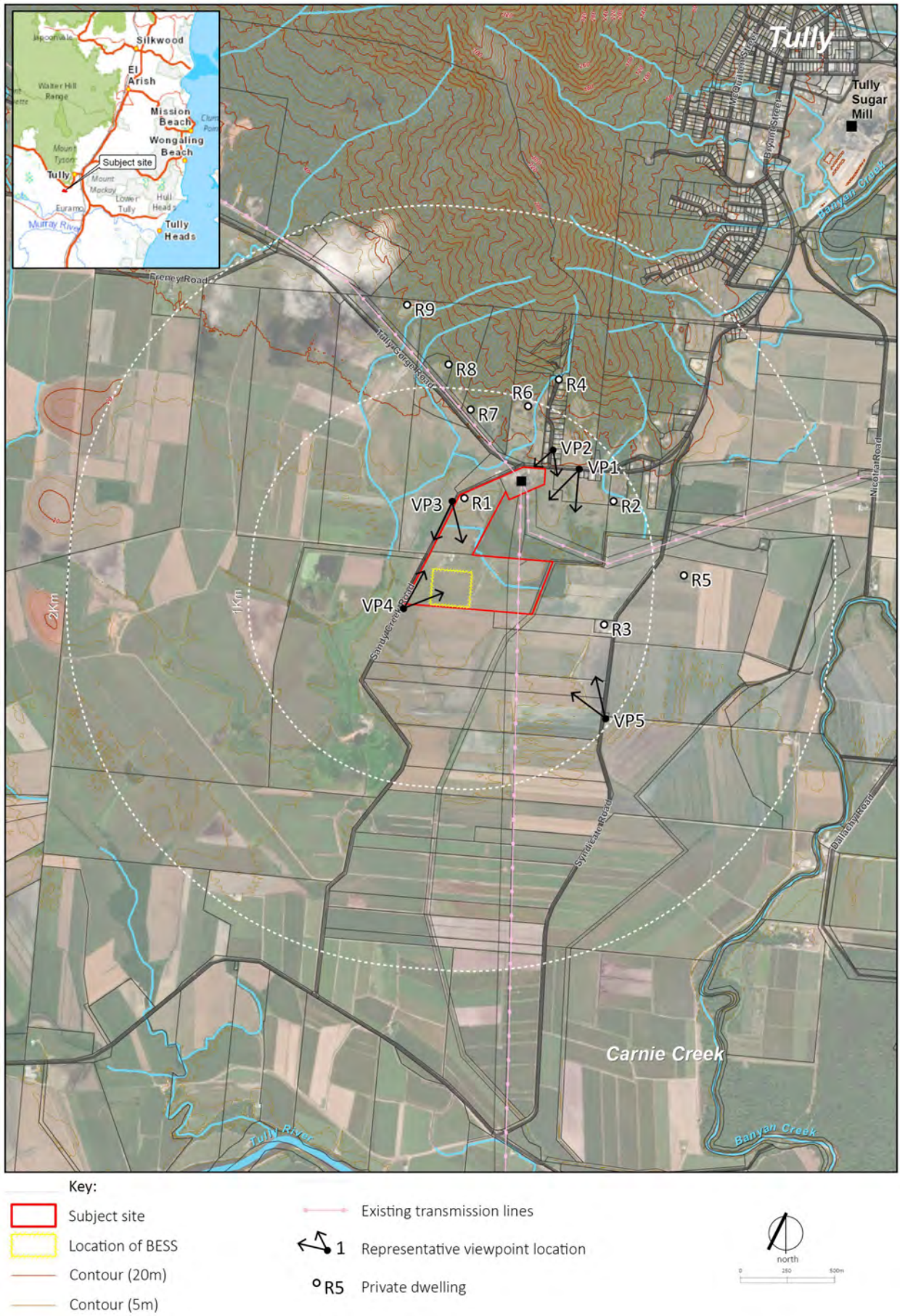


FIGURE 5-3 VIEWPOINT PLAN

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 tourist 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 MV transformers 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 MV transformers 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, the O&M building, yard, parking areas, office facilities, storage sheds and firewater tanks in the middle ground, 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. Refer to Figure 5-12.	
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)
- 122 Syndicate Road around 720 m east of the Project site (Refer to Figure 5-15)
- 73 Syndicate Road around a kilometre east of the Project site (Refer to Figure 5-16)
- A cluster of dwellings on Maple Terrace, north of Tully Gorge Road, around 250 m north of the Project site. (Refer to Figure 5-17 and Figure 5-18)
- 214 Tully Gorge Road, around 860 m north of the Project site (Refer to Figure 5-20).

Each residence is identified with a receiver (R) number. The location of the private viewpoints is shown in Figure 5-2.

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	122 Syndicate Road	Around 700 m	Project would be screened by existing cane fields and vegetation along the drainage line to the east 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 5-17 and Figure 5-18.	None
R5	73 Syndicate Road	Around 1.1 km	Project would be screened by existing cane fields and vegetation along the drainage line to the east 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 5-16.	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 5-20.	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, 122 SYNDICATE ROAD



FIGURE 5-16: VIEW FROM SYNDICATE ROAD TO DWELLING R5, 73 SYNDICATE ROAD



FIGURE 5-17: VIEW FROM THE TOP OF MAPLE TERRACE (R4)



FIGURE 5-18: VIEW FROM THE TOP OF MAPLE TERRACE (R4)



FIGURE 5-19: VIEW TOWARDS R1 FROM SANDY CREEK ROAD IN THE VICINITY OF THE PROJECT SITE



FIGURE 5-20: VIEW TOWARDS THE INTERSECTION OF SANDY CREEK ROAD FROM TULLY GORGE ROAD, NEAR R7

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 MV transformers, 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 tourist 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. Mitigation measures

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

6.1. 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 tourist 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.

6.2. 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*.

7. Response to relevant planning provisions

7.1.State code 27

The relevant performance outcomes of State code 27 and how the project responds to that performance outcome, is provided in Table 7-1.

TABLE 7-1 RESPONSE TO STATE CODE 27, PERFORMANCE OUTCOME FOR VISUAL IMPACT

State code 27 performance outcome	Response
Visual impact PO22 Development is sited and designed to: minimise visual impacts on sensitive receptors;	The scenic amenity impact assessment (see Chapter 4) identified: - no visual impacts to private dwellings; and - a low visual impact for two public viewpoints (Viewpoint 3 and Viewpoint 4) which would reduce to negligible following the incorporation of mitigation measures. These impacts have been minimised by the location of the site, near the existing and proposed Tully Substations and tucked away from Tully Gorge Road, which is a tourist route. The impacts would be further minimised by the colour treatment of the noise barriers and buildings, and proposed screening vegetation that would integrate the development with the surrounding landscape over time.
protect the landscape values and scenic amenity of the surrounding landscape; and	The review of relevant planning documents (see Chapter 3) confirmed that the Project site does not have any designated landscape features, nor is it in an area of mapped scenic amenity. The surrounding landscape, however, includes a visually significant area on the mountain range to the north of Tully Gorge Road. This includes Mount Tyson which is about 1.5 km to the north of the site. There are no lookouts or trails on the mountain that would have a view to the Project. Views to this visually significant area from Tully Gorge Road (a tourist route), both to the north of the Project site, would remain unchanged.
provide screening and buffering to sensitive receptors the greatest extent feasible	While the visual impacts of the project would be low and negligible, screening vegetation and scattered trees have been included as a mitigation measure (see Chapter 6) to reduce the visibility of the Project from surrounding rural areas, particularly views from Sandy Creek Road. This planting would be located near the development footprint to maximise the screening effect of the vegetation, whilst maintaining the distant views to the surrounding mountain ranges from surrounding rural areas.
Lighting PO23 Lighting associated with the development provides safe and effective illumination for site operations and maintenance, whilst minimising environmental impacts and visual impacts on sensitive receptors .	The visual impacts of lighting have been minimised as the project would have minimal lighting including occasional lighting for maintenance works if required to be undertaken at night, and security lighting that is controlled by sensor to avoid over lighting. 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. This would include the use of downward directed, cut-off light fixtures.

7.2.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 7-1 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 7-1 RESPONSE TO CASSOWARY COAST COUNCIL PLANNING SCHEME PROVISIONS

Planning scheme provision	Response
Purpose The purpose of the rural zone code includes to <i>“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.”</i> (cl. 6.2.4.2(1))... And to <i>“protect and maintain the scenic values of the Region's landscapes.”</i> (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: (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.	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
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.

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*

Queensland 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

Queensland Department of State Development,
Infrastructure and Planning, 2009, *Far North
Queensland Regional Plan 2009-2031*

Queensland Government, 2025, *Planning guideline,
State code 27: Battery storage facility development*

*Queensland State Development Assessment
Provisions, State Code 27 Battery Storage Units, 2025*



Attachment 10

OSOM

Communications



Proposed Tully BESS

From Sue Walker <sue.walker@attexo.com.au>

Date Tue 14/07/2026 8:56 AM

To info@nhvr.gov.au <info@nhvr.gov.au>; enquiries@ccrc.qld.gov.au <enquiries@ccrc.qld.gov.au>; cairns.office@tmr.qld.gov.au <cairns.office@tmr.qld.gov.au>; roadloads@qr.com.au <roadloads@qr.com.au>; RCM@tmr.qld.gov.au <RCM@tmr.qld.gov.au>; enquiries@townsville.qld.gov.au <enquiries@townsville.qld.gov.au>; council@hinchinbrook.qld.gov.au <council@hinchinbrook.qld.gov.au>; council@cairns.qld.gov.au <council@cairns.qld.gov.au>

 1 attachment (11 MB)

Tully BESS Heavy Vehicle and OSOM Construction Concept Strategy.pdf;

Good morning,

We are working with RWE Renewables, to support the statutory approvals process under the Planning Act 2016 for proposed Tully BESS, located 37 and 71 Sandy Creek Road, Tully.

A development application has been recently submitted to the State Assessment and Referral Agency (ref. 2606-52806 SDA) and included assessment against the State Development and Assessment Provisions, specifically State Code 27 (SC27). A requirement of SC27 is for the preparation and submission of a *Heavy Vehicle and Oversize/ Overmass Concept Strategy Report*.

The proposed route to site has been reviewed from either Port of Cairns or Port of Townsville and will utilise state and local road assets, as well as crossing rail infrastructure. As such we seek any feedback on the matters set out in the attached report. Noting that final transport route selections to the site will be determined during later project development stages and the requisite permits would be obtained prior to construction.

Should you have any queries please get in touch via contact details below.

Kind regards
Sue

**Re: Proposed Tully BESS**

From Sue Walker <sue.walker@attexo.com.au>
Date Mon 17/08/2026 8:03 AM
To Rafi Hasan <r.hasan@cairns.qld.gov.au>

Thanks Rafi - appreciate the time taken to review and provide response.

I have passed this information on to our client.

Kind regards
Sue

From: Rafi Hasan <r.hasan@cairns.qld.gov.au>
Sent: Wednesday, 12 August 2026 9:48 AM
To: Sue Walker <sue.walker@attexo.com.au>
Subject: RE: Proposed Tully BESS

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Dear Sue,

Apologies for the delayed response.

Upon review of the report, we note that three (3) OSOM movements have been proposed on roads operated by CRC and TMR. This will require the applicant to obtain a permit through the NHVR portal. At this stage, CRC has not identified any issues that would prevent the permit from being granted. However, the applicant will be required to demonstrate compliance with the maximum permitted wheel loading for the pavement.

If you wish to discuss anything further, please feel free to contact us. Thanks

Kind Regards

Rafi Hasan | Senior Engineer - Transport
Strategic Asset Management & Planning | Cairns Regional Council
P: +61 7 4044 3508
E: r.hasan@cairns.qld.gov.au | **W:** cairns.qld.gov.au
Mail: PO Box 359, Cairns Q 4870 | **Office:** 119-149 Spence Street, Cairns



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From: Sue Walker <sue.walker@attexo.com.au>
Sent: Tuesday, 14 July 2026 8:56 AM
To: info@nhvr.gov.au; enquiries@ccrc.qld.gov.au; cairns.office@tmr.qld.gov.au; roadloads@qr.com.au; RCM@tmr.qld.gov.au; enquiries@townsville.qld.gov.au; council@hinchinbrook.qld.gov.au; Cairns Regional Council <council@cairns.qld.gov.au>
Subject: Proposed Tully BESS

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Good morning,

We are working with RWE Renewables, to support the statutory approvals process under the Planning Act 2016 for proposed Tully BESS, located 37 and 71 Sandy Creek Road, Tully.

A development application has been recently submitted to the State Assessment and Referral Agency (ref. 2606-52806 SDA) and included assessment against the State Development and Assessment Provisions, specifically State Code 27 (SC27). A requirement of SC27 is for the preparation and submission of a *Heavy Vehicle and Oversize/ Overmass Concept Strategy Report*.

The proposed route to site has been reviewed from either Port of Cairns or Port of Townsville and will utilise state and local road assets, as well as crossing rail infrastructure. As such we seek any feedback on the matters set out in the attached report. Noting that final transport route selections to the site will be determined during later project development stages and the requisite permits would be obtained prior to construction.

Should you have any queries please get in touch via contact details below.

Kind regards
Sue
Sue Walker
Principal Consultant - Statutory Planning and Approvals

+61 449 109 356
sue.walker@attexo.com.au



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RE: Introduction – Tully BESS Project

From Sue Walker <sue.walker@attexo.com.au>
Date Mon 27/07/2026 4:33 PM
To Peter McBride <Peter.McBride@portsnorth.com.au>
Cc Saini, Balvinder <bal.saini@rwe.com>; Kevin Malone <Kevin.Malone@portsnorth.com.au>

Hi Peter

Many thanks for your reply and feedback on the Heavy Vehicle and OSOM Construction Concept Strategy that has been prepared in support of the Tully BESS project.

Please note that there has been no decision as yet by RWE as to the port to be used for the delivery of components for the project. It is expected that SARA will include a condition of approval for a final Transport Assessment and TMP to be prepared prior to the commencement of construction, and that this would include the detailed review of the chosen port and OSOM routes to the project site.

RWE will be in touch separate to the DA process to discuss matters you have set out in your email. As part of next steps we will provide update to SARA confirming that Port of Cairns will be equally considered moving forward with the final decision to be confirmed as part of complying with conditions of approval.

Thank you again for the time taken to review the material and provide comments below.

Kind regards
Sue

From: Peter McBride <Peter.McBride@portsnorth.com.au>
Sent: Tuesday, 21 July 2026 9:37 AM
To: Sue Walker <sue.walker@attexo.com.au>
Cc: Saini, Balvinder <bal.saini@rwe.com>; Kevin Malone <Kevin.Malone@portsnorth.com.au>
Subject: Re: Introduction – Tully BESS Project

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Hi Sue,

Thank you for providing the Heavy Vehicle and OSOM Construction Concept Strategy and inviting Ports North to comment as part of the statutory approvals process for the Tully BESS project.

We have reviewed the report in the context of the proposed 200 MW / 800 MWh facility, SARA application 2606-52806 SDA and the current Q1 2028 delivery target. Ports North supports the report's conclusion that a safe and viable haulage route can be secured from the Port of Cairns. We also note your advice that the final port and transport route will be determined during later project-development stages.

Our principal comment is that the report's current description of Townsville as the "preferred port" and Cairns as a "secondary consideration" appears premature. The strategy assesses road-route feasibility, but it does not compare the port-side and whole-of-supply-chain requirements that will ultimately determine the best gateway. We therefore consider Cairns should be carried forward on at least an equal basis and tested as the potential preferred option.

The attached proposal sets out the detailed basis for that position. In summary, the Cairns solution offers:

- a route of approximately 145 km to the project, compared with approximately 210 km from Townsville—around 15,470 fewer loaded road-kilometres across the 238 major component deliveries identified in the strategy;
- greater nominal height clearance on the assessed route and avoidance of the Townsville-route Category 2 "Cannot Cross" restriction identified at Sunbeam Creek;
- Wharves 7 and 8 as established common-user general-cargo facilities adjacent to the Cairns cargo terminal and biosecurity interfaces, subject to load-specific checks for unusual and heavy lifts;
- available 1 ha project lots, with smaller areas available if required, for staging, trailer marshalling, construction laydown or a longer-term operations base; and
- the new Southern Barge Ramp, which can accommodate vessels up to 100 m subject to conditions, navigation simulation and operational approval.

For the current Concept Strategy, we recommend replacing the preferred/secondary terminology with neutral wording confirming that both ports remain under consideration, and recording Ports North's consultation and the available Cairns port-side solution.

Ports North is prepared to work with Attexo, RWE, the OEM/EPC team and the appointed logistics provider on an integrated vessel-to-site solution covering berth compatibility, cargo handling, biosecurity, heavy-lift engineering, staging land, OSOM permits, delivery sequencing and commercial tenure.

We would welcome a technical workshop and site inspection of Wharves 7 and 8, the adjacent cargo and biosecurity interfaces, available project land and the Southern Barge Ramp. This would allow Ports North to prepare a preliminary operating concept and indicative commercial proposal once the latest cargo, vessel and programme information is available.

Please find our detailed response and proposal attached. I would be pleased to discuss the comments or coordinate the workshop with you and Bal.

Kind Regards,

Peter McBride | MANAGER COMMERCIAL, PROPERTY AND TRADE
t. | m. 0497095284
Corner of Hartley and Grafton Streets
Cairns City, Queensland, 4870
Peter.McBride@portsnorth.com.au
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ACN 131 836 014



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From: Sue Walker <sue.walker@attexo.com.au>
Sent: Tuesday, July 14, 2026 9:06 AM
To: Peter McBride <Peter.McBride@portsnorth.com.au>
Cc: Saini, Balvinder <bal.saini@rwe.com>
Subject: RE: Introduction – Tully BESS Project

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Hi Peter

Further to the email below, Attexo are working with RWE to support the statutory approvals process under the Planning Act 2016 for proposed Tully BESS, located at Sandy Creek Road, Tully.

As noted by Bal a development application has been recently submitted to the State Assessment and Referral Agency (ref. 2606-52806 SDA) and included assessment against the State Development and Assessment Provisions, specifically State Code 27 (SC27). A requirement of SC27 is for the preparation and submission of a *Heavy Vehicle and Oversize/ Overmass Concept Strategy Report* (attached for your reference).

The proposed route to site has been reviewed from either Port of Cairns or Port of Townsville and will utilise state and local road assets, as well as crossing rail infrastructure. As such we seek any feedback on the matters set out in the attached report. Noting that final port and transport route selections to the site will be determined during later project development stages and the requisite permits would be obtained prior to construction.

Should you have any queries please get in touch by return email.

Kind regards
Sue

Sue Walker
Principal Consultant - Statutory Planning and Approvals

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sue.walker@attexo.com.au



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From: Saini, Balvinder <Bal.Saini@rwe.com>
Sent: Wednesday, 24 June 2026 1:29 PM
To: peter.mcribide@portsnorth.com.au
Subject: Introduction – Tully BESS Project

Hi Peter

Thank you for reaching out and great to catch up earlier today.

The Tully BESS is a proposed 200 MW / 800 MWh grid-scale battery energy storage project being developed by RWE adjacent to the Powerlink Tully Substation in Far North Queensland.

The project is designed to support electricity network reliability, capture excess renewable energy generated during the day and provide dispatchable energy during periods of peak demand.

The project recently reached an important milestone, with the Development Application now confirmed as properly made by the State Assessment and Referral Agency (SARA) and entering the formal assessment phase.

As the project progresses, we are currently planning potential logistics and supply chain requirements associated with the delivery of major project components, including battery units, transformers and associated electrical infrastructure. Based on the current program, delivery is anticipated in Q1 2028.

Given Ports North's strategic role in supporting freight and project logistics across the region, as part our logistics planning, we will reach out to you to scope this further.

For further background on the project, please visit: <https://au.rwe.com/projects/tully-bess/>

Thank you for your time, and I look forward to the opportunity to work together.

Cheers

Bal Saini

Senior Development Manager

RWE Renewables Australia



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350 Collins Street

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RE: Proposed Tully BESS

From Sue Walker <sue.walker@attexo.com.au>
Date Mon 20/07/2026 7:04 AM
To Cordelia De Kievit <Cordelia.DeKievit@townsville.qld.gov.au>
Cc EAIP CRMS <EAIP.CRMS@townsville.qld.gov.au>

Many thanks for the prompt reply Cordelia.

We have also sought comment from DTMR. RWE will be in touch prior to construction should there be changes to the proposed route.

Kind regards
Sue

From: Cordelia De Kievit <Cordelia.DeKievit@townsville.qld.gov.au>
Sent: Friday, 17 July 2026 3:14 PM
To: Sue Walker <sue.walker@attexo.com.au>
Cc: EAIP CRMS <EAIP.CRMS@townsville.qld.gov.au>
Subject: RE: Proposed Tully BESS

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Good afternoon Sue,

Thank you for your email in relation to the proposed Tully BESS project and the development of the Heavy Vehicle and OSOM Concept Strategy Report.

Council has now reviewed this report and note that no local government road is proposed to be used according to the routes identified.

Benwell Road, Boundary Street and Woolcock Street onto the Bruce Highway are all State Controlled roads.

Hence, these need to be raised with TMR for review.

Unless the route is modified, these heavy vehicle applications will not come to Townsville City Council.

Kind Regards,

Cordelia De Kievit
Principal Lead Civil - EAIP
Infrastructure & Operations

P 4727 8300 **M** 0457 729 750 **E** Cordelia.Dekievit@townsville.qld.gov.au

From: Sue Walker <sue.walker@attexo.com.au>
Sent: Tuesday, 14 July 2026 8:56 AM
To: info@nhvr.gov.au; enquiries@ccrc.qld.gov.au; cairns.office@tmr.qld.gov.au; roadloads@gr.com.au; RCM@tmr.qld.gov.au; TCC-Enquiries <TCC-Enquiries@townsville.qld.gov.au>; council@hinchinbrook.qld.gov.au; council@cairns.qld.gov.au
Subject: Proposed Tully BESS

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Good morning,

We are working with RWE Renewables, to support the statutory approvals process under the Planning Act 2016 for proposed Tully BESS, located 37 and 71 Sandy Creek Road, Tully.

A development application has been recently submitted to the State Assessment and Referral Agency (ref. 2606-52806 SDA) and included assessment against the State Development and Assessment Provisions, specifically State Code 27 (SC27). A requirement of SC27 is for the preparation and submission of a *Heavy Vehicle and Oversize/ Overmass Concept Strategy Report*.

The proposed route to site has been reviewed from either Port of Cairns or Port of Townsville and will utilise state and local road assets, as well as crossing rail infrastructure. As such we seek any feedback on the matters set out in the attached report. Noting that final transport route selections to the site will be determined during later project development stages and the requisite permits would be obtained prior to construction.

Should you have any queries please get in touch via contact details below.

Kind regards

Sue

Sue Walker

Principal Consultant - Statutory Planning and Approvals

+61 449 109 356

sue.walker@attexo.com.au



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Attachment 11

Decommissioning Security Report

Decommissioning Security Report

Tully Battery Energy Storage System

Prepared for: RWE Tully Battery Pty Ltd

Date: 1 September 2026



Document information

Document	Decommissioning Security Report
Attexo ref	RWE-002
Date	1 September 2026
Prepared by	Justin Claridge, Principal Scientist
Reviewed by	Sue Walker, Principal Consultant – Statutory Planning and Approvals

Quality information

Rev	Date	Details	Name/position	Authorisation	Signature
0	04/06/2026	Final for issue	Sue Walker, Principal Consultant – Statutory Planning and Approvals		
1	01/09/2026	Final for issue	Sue Walker, Principal Consultant – Statutory Planning and Approvals		

Prepared for:

RWE Tully Battery Pty Ltd

Prepared by:

Attexo Group Pty Ltd
attexo.com.au
ABN 75 637 138 008

Attexo Group Pty Ltd 2026

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Contents

Abbreviations and Statutory Terms	iv
1. Introduction	1
1.1 Background	1
1.2 Purpose and Scope	1
1.3 Defined Terms	2
1.4 Other Relevant Reports	5
1.5 Limitations	5
2. Roles and Responsibilities	6
3. Project Description	8
4. Regulatory Framework	10
4.1 Planning Act 2016	10
4.2 Environmental Protection Act 1994	10
4.3 Waste Reduction and Recycling Act 2011	11
5. Existing Environment	13
5.1 Land Use and Existing Structures	13
5.2 Soils	13
5.3 Vegetation and Biodiversity	16
5.4 Hydrology	16
6. Project Infrastructure	17
6.1 Construction	17
6.1.1 BSF	17
6.1.2 OHTL Corridor and Access Tracks	20
6.2 Operation	20
6.2.1 BSF	20
6.2.2 OHTL Corridor and Access Tracks	20
7. Decommissioning Process	21
7.1 End-of-life Options	21
7.2 End of Construction Decommissioning Elements and Methods of Removal	21
7.3 End of Operations Decommissioning Elements and Methods of Removal	22
7.4 Traffic Management	26
7.5 Waste Management	27
7.5.1 Waste Streams	27
7.5.2 Reuse, Recycling and Recover Options (Batteries)	27
7.6 Contamination and Remediation	27
7.7 Rehabilitation	27
7.7.1 Rehabilitation Principles	28
7.7.2 Soil Management	28
7.7.3 End of Construction Rehabilitation	29
7.7.4 End of Operations Rehabilitation	30
7.8 Decommissioning timeframes	30



7.8.1	End of construction	30
7.8.2	End of operations.....	31
8.	Indicative decommissioning cost estimation	32
8.1	Cost Estimate for Standard BSF	32
9.	Decommissioning Security Framework.....	34
10.	References	38

Figures

Figure 1.1	Project Area and related terms	4
Figure 4.1:	Waste and resource management hierarchy (WasteOnline, 2024)	11
Figure 4.2	Circular economy principles (Queensland Government, n.d.)	12
Figure 5.1:	The 1:50,000 <i>Soils of the Cardwell-Tully Area, North Queensland</i>	15
Table 6.1	Summary of Proposed BESS Components and Associated Construction Disturbance	17

Tables

Table 1.1:	Compliance assessment table	1
Table 1.2:	Key terms used within this report	2
Table 2.1:	Responsibilities for decommissioning	6
Table 5.1:	Soils (Cannon et al, 1992) mapped within the Site	13
Table 5.2:	Ground-truthed regional ecosystems	16
Table 6.2:	Construction stages.....	18
Table 7.1:	End of construction key decommissioning of indicative elements and potential methods of removal	22
Table 7.2:	Infrastructure expected to be retained	22
Table 7.3:	End of operations key decommissioning of indicative elements and potential methods of removal.....	23
Table 8.1:	End of operations BESS decommissioning estimate (GHD, 2025).....	32
Table 9.1:	Decommissioning Financial Security Framework	35



Abbreviations and Statutory Terms

Term	Meaning
BESS	Battery energy storage system
BSF	Battery storage facility
CCRC	Cassowary Coast Regional Council
CLR	Contaminated land register
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DTMR	Department of Transport and Main Roads
ECDMP	End of Construction Decommissioning Management Plan
EODMP	End of Operation Decommissioning Plan
EP Act	<i>Environmental Protection Act 1994 (Qld)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
EMR	environmental management register
EP Regulation	Environmental Protection Regulation 2019 (Qld)
MCU	material change of use
MNES	Matters of National Environmental Significance
NC Act	<i>Nature Conservation Act 1992 (Qld)</i>
O&M	operations and maintenance facilities
OSOM	oversize/overmass
LFP	Lithium Iron Phosphate (LiFePO ₄) battery
LGA	Local Government Area
Planning Act	<i>Planning Act 2016 (Qld)</i>
PO	Performance Outcome
QLD Waste Strategy	<i>Waste Management and Resource Recovery Strategy</i>
RWE	RWE Tully Battery Pty Ltd
SARA	State Assessment and Referral Agency
SDAP	<i>State Development Assessment Provisions</i>
State code 27	<i>State Code 27: Battery storage facility development</i>
WRR Act	<i>Waste Reduction and Recycling Act 2011 (Qld)</i>



1. Introduction

1.1 Background

RWE Tully Battery Pty Ltd (RWE) are seeking to develop the proposed Tully Battery Energy Storage System (BESS) (the Project) across a 28.7 hectare (ha) site (the Site), consisting of two freehold parcels, Lot 1 on RP735276 and Lot 1 on RP852238. Grid connection is proposed via the neighbouring Powerlink 132 kV Tully substation, located to the northeast on Lot 1 on RP716718.

The Site is located approximately 4 km south-west of the township of Tully in far north Queensland.

The Project will have a capacity of up to 200 MW / 800 MWh and is proposed to store electricity from the grid in periods of excess supply, and dispatch into the grid at periods of high demand.

RWE has commissioned Attexo Group Pty Ltd (Attexo) to prepare this Decommissioning Security Report to address contemporary State regulator expectations. Specifically, this report addresses the decommissioning outcomes within *State Code 27: Battery storage facility development* (State Code 27) under the Planning Act's *State Development Assessment Provisions* (v3.6) (SDAP) (refer **Section 4.1**).

1.2 Purpose and Scope

RWE has commissioned Attexo Group Pty Ltd (Attexo) to prepare this Decommissioning Security Report to address contemporary State regulator expectations. Specifically, this report addresses the decommissioning outcomes within State Code 27 under the Planning Act's SDAP. The State Code 27 Planning Guideline requires a development application to be supported by a Decommissioning Security Report to address PO35 (Department of State Development, Infrastructure and Planning, 2026). For completeness, this report also provides an overview of likely decommissioning strategies associated with PO31 – PO34 to demonstrate that RWE has considered decommissioning as part of current Project development. This report sets out the decommissioning strategies which will be implemented post construction and at the end of operations. These measures are adaptive and will be further refined during construction and asset operations.

The State Code 27 Decommissioning Performance Outcomes (POs) and where they are responded to in this report are included in **Table 1.1**.

Table 1.1: Compliance assessment table

State Code 27 Performance Outcome	Section addressed / response
PO11 Development is constructed to maintain the fertility and soil attributes of high-quality agricultural land and to enable decommissioning at the end of operations to return the land to pre-construction agricultural land productive value.	Refer to Section 7.7 and Section 7.7.2 .
PO31 Relevant components of development, both after completion of construction and at cessation of operations, are decommissioned in a timely and efficient manner.	Refer to Section 7.8 , Section 7.3 and Section 8 .
PO32 Development decommissioning ensures that: - materials removed from site are minimised; - materials that are removed from the site are disposed of at approved disposal facilities capable of receiving the materials; and - opportunities to reuse, recycle and/or repurpose the materials are deployed to the greatest extent feasible.	Refer to Section 7.1 and Section 7.5 .



State Code 27 Performance Outcome	Section addressed / response
P033 Decommissioning at end of operations ensures disturbance footprints are rehabilitated, waterways and drainage patterns are reinstated.	Refer to Section 7.7 and Section 7.6 .
P034 Decommissioning incorporates design features that enable reuse, recycling, and recovery of battery components and associated infrastructure at end-of-life.	Refer to Section 7.3 and Section 7.5 .
P035 Decommissioning plans are secured by bonds or financial guarantees or other mechanism/s to safeguard compliance.	Refer to Section 8 .

Overall, the intent of this report is to demonstrate the following, at the end of construction and end of operations, for the Project:

- The decommissioning strategies, practices, and processes will not result in adverse impacts on landowners, the community, the environment, or the State; and
- Financial security or other mechanisms are in place, resulting in minimal financial liability risks to landowners and the State.

1.3 Defined Terms

Where applicable, terms used within this report are consistent with definitions provided in State Code 27 (v3.5). A summary of the meaning of key terms used in this report are defined in **Table 1.2**.

Table 1.2: Key terms used within this report

Term	Definition
Project Site	The extent of the lot boundaries for Lot 1 on RP735276 and Lot 1 on RP852238. The combined area of both lots is 28.7 ha. The Project Site will host the BESS infrastructure and the majority of the overhead transmission line (OHTL).
Landowner	The owner of the Project Site, noting that RWE Renewables Australia Pty Ltd (RWE Australia) holds an option to purchase the land. It is expected that, prior to the commencement of construction of the Project, RWE Australia will use the Special Purpose Vehicle [SPV] to exercise the option and nominate RWE Tully Battery Pty Ltd to complete the purchase and become the registered proprietor of the Project Site.
Grid Connection	The proposed OHTL to the existing Powerlink 132kV Tully Substation within Lot 1 on RP716718. The Grid Connection requires approximately 540 m of OHTL to be constructed within the Project Site and 60 m of OHTL to be constructed within Lot 1 on RP716718.
Development Footprint	The area that will be directly impacted by the Project. The total area of the Development Footprint is approximately 9 ha and includes infrastructure located within the Project Site and the Grid Connection.
Decommission	The removal, rehabilitation and remediation of the battery storage facility in part, after finalisation of construction, then in entirety at cessation of operations. Decommissioning will be in accordance with strategies prepared by proponents and all decommissioning activities undertaken at full cost to proponents/operators.
Project infrastructure or infrastructure	Infrastructure associated with the BSF and ancillary OHTL construction and operation, as identified in Section 6 .



Term	Definition
Rehabilitate	Restoration of areas of disturbance created for the construction of and operations of a battery storage facility. Rehabilitate means the act of undertaking a range of activities that collectively endeavour to return the landscape (over time) back to its condition prior to the battery storage facility land use. These activities aim to achieve a safe, stable, non-polluting and sustainable landform (over time) through methods including, but not limited to: 1. decommissioning and removal of infrastructure; 2. remodifying some areas of civil works; 3. replanting with native vegetation species; 4. installation of habitat elements (e.g. fallen woody debris); 5. watering to enhance planting survival rates; 6. weed and pest management; 7. monitoring and reporting.
Stable	Means the rehabilitation and restoration of Project infrastructure is enduring or permanent so that the site is unlikely to collapse, erode or subside

Figure 1.1 Project Area and related terms

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1.4 Other Relevant Reports

This plan is intended to be consistent with and/or will inform the development of future plans required at various stage of Project delivery. These plans will detail how the Project Site will be managed to minimise potential impacts, seek to assist with decommissioning where relevant and detail the decommissioning procedure and process.

Relevant plans to be prepared prior to the commencing construction:

- Stormwater Management Plan
- Construction Rehabilitation Management Plan
- Erosion and Sediment Control Plan (ESCP) – Construction
- Construction Environmental Management Plan

Plans to be prepared prior to the completion of construction:

- End of Construction Decommissioning Management Plan (ECDMP)
- Rehabilitation Management Plan (RMP)
- Site Stabilisation Plan – Operations (SSPO)

Plans to be prepared prior to the cessation of operations:

- End of Operation Decommissioning Plan (EODMP)

1.5 Limitations

This report solely focusses on decommissioning activities that relate to proposed development within the submitted DA, which includes the components within the Project Site as presented in **Section 3**.

2. Roles and Responsibilities

At the time of decommissioning, the Proponent will be fully responsible for the decommissioning and rehabilitation of the Project infrastructure. Through RWE Australia's Option to Purchase (OTP) it is expected that RWE Tully Battery Pty Ltd it will be the legal owner of the Project Site (two freehold lots) prior to the commencement of construction (**Table 1.2**). This report refers to the 'landowner' in relevant sections to acknowledge the rights and custodial responsibilities of the landowner at the time of these future project stages.

Through contractual arrangements with RWE project contractors will also be responsible for end of construction decommissioning, as indicated in **Table 2.1**. Further details of these arrangements will be revised in the ECDMP.

Table 2.1: Responsibilities for decommissioning

Role		Responsibilities
End of Construction	End of Operations	
Proponent (RWE)	Proponent (RWE)	- During Project construction, prepare an ECDMP that is consistent with the approvals obtained and regulatory requirements. - Prior to the cessation of Project operations, prepare an EODMP that is consistent with the approvals obtained and regulatory requirements. This is to be accompanied or informed by relevant technical studies and strategies for potential approvals, including: - waste and resource recovery - site contamination assessments (if applicable) - traffic management, including OSOM requirements - Ensure that decommissioning requirements in relevant approvals and landowner agreement requirements: - are communicated to construction and decommissioning contractors - are sufficiently addressed by construction and decommissioning tenders / bids, and - are contractually binding. - Review contractor management plans with respect to decommissioning to ensure that they achieve or exceed Project approval(s) and regulatory requirements. - Undertake regular assurance activities, including monitoring and auditing, to ensure that decommissioning activities are being properly undertaken by the construction contractor and end of operations decommissioning contractor.
Construction Project Manager (Contractor)	End of Operations Decommissioning Project Manager (Contractor)	- Ensure that adequate processes, plans and procedures are in place to manage decommissioning requirements in line with Project commitments, legislative requirements and approval conditions. - Allocate sufficient resources for a timely and efficient decommissioning process. - Review environmental incidents as they occur and ensure that adequate corrective actions have been undertaken to prevent recurrence.

Role		Responsibilities
End of Construction	End of Operations	
		- Ensure that reportable environmental incidents are communicated to the Project Owner and the relevant regulatory authority. - Ensure that sufficient training is provided to personnel to achieve awareness of decommissioning requirements.
Construction Manager (Contractor)	End of Operations Decommissioning Manager (Contractor)	- Take overall responsibility for the on-ground implementation of decommissioning activities, including processes, procedures, controls and incident response, and allocate sufficient on-ground resources for the same. - Consider environmental and land outcomes when scheduling works and allocating resources (e.g. staged activities, works appropriate for weather conditions, progressive rehabilitation, etc.). - Support the Health Safety and Environment (HSE) management team in achieving Project decommissioning outcomes.
Project HSE Manager (Contractor) Site based HSE personnel (Contractor)	Project HSE Manager (Contractor) Site based HSE personnel (Contractor)	- Develop and implement any additional plans necessary to achieve Project decommissioning. - Roll out training and awareness programs (e.g. environmental contamination/spills, waste and resource recovery). - Establish, monitor, maintain and audit effective environmental controls onsite, including rehabilitation. - Respond to, report and investigate environmental incidents (as necessary) and identify corrective actions to prevent recurrence. - Provide advice to the Project Manager and Construction Manager / End of Operations Decommissioning Project Manager in relation to decommissioning management and associated performance.
Construction personnel	End of Operations Decommissioning personnel	- Attend training and maintain awareness regarding Project decommissioning requirements. - Comply with the ECDMP. - Establish, monitor and maintain physical environmental controls as directed. - Respond to and report environmental incidents as they occur.

3. Project Description

The Project includes a proposed BESS with a capacity up to 200 MW for a duration of 4 hours and associated infrastructure (e.g. transformer, OHTL, air insulated switchgear, access roads, laydown areas, foundations, hard stand, parking, switch rooms and storage). The BESS and associated infrastructure will comprise a total development footprint of approximately 9 ha within the 28.7 ha Project Site.

The primary components of the Project will consist of the following:

- **Battery Units:** Up to 188 battery units will cover a total area of up to 2.5 ha. The foundations for the proposed battery units will likely be screw piles, piers or concrete pad formations. The BESS will be connected to the adjacent switch rooms via underground cables.
- **Switching Station:** A switching station will be located to the north of the battery units and will include a 132/33 kV high-voltage transformer, associated switchgear, an auxiliary transformer, two 33 kV switch rooms, and, if required, harmonic filters.
- **Stormwater Management:** Stormwater infrastructure will be designed and constructed to ensure the safe collection, containment, and management of runoff across the site during both construction and operational phases. This will include any emergency containment storage for containment for fire water in an emergency event.
- **Site Access and Internal Circulation:** Access to the site will be via the existing road network, including the Bruce Highway and Tully Gorge Road, with upgrades proposed to the two access point from Sandy Creek Road. The BESS facility will be secured by perimeter fencing. Internal access tracks will be provided around the battery units to facilitate operations, maintenance, and emergency response.
- **Grid Connection Infrastructure:** The Project will connect to the adjacent Powerlink 132 kV Tully Substation via an overhead transmission line extending north from the BESS area. The line will be supported approximately five (5) single-circuit 132 kV poles, each approximately 27.5 m in height.
- **Asset Protection Zone (APZ):** An Asset Protection Zone will be established and maintained around the battery infrastructure to mitigate bushfire risk and provide access for firefighting activities.
- **Fire Safety Measures:** Fire protection infrastructure will include, subject to detailed design, approximately 472,000 litres (L) of on-site static water storage, together with a fire hydrant system designed in accordance with Australian Standard (AS) AS 2419.1.
- **Acoustic Treatment:** A 6 m high noise wall is currently incorporated along the northern boundary of the BESS area to mitigate potential noise impacts. The requirement for this wall will be confirmed during detailed design and may be refined or omitted subject to equipment specifications and acoustic performance.
- **Earthworks:** Earthworks will include site levelling, formation of batters, and clearing necessary to facilitate construction and access.
- **Lighting:** Lighting will be installed to support maintenance activities, when maintenance works are to be undertaken at night; these will be on 10 m high poles. Security lighting will be sensor-controlled. All lighting will be designed and operated in accordance with AS 4282:2023 Control of the obtrusive effects of outdoor lighting.
- **Lightning Protection:** Lightning arrestors, up to 20 metres in height, will be installed within the development footprint to protect critical infrastructure.
- **Laydown and Operations Areas:** Temporary construction laydown areas and a permanent operations and maintenance (O&M) building will be established adjacent to Sandy Creek Road. This will include an O&M building, yard, parking areas, office facilities, and storage sheds.
- **Landscaping and Screening:** Landscape buffer planting will be established along the frontage and partially along the side boundaries of Lot 1 on RP852238 to provide visual screening and enhance integration with the surrounding landscape.

Visual representation of the Project is provided with aerial view in **Plate 3.1**. Further details on the Project infrastructure components and Project staging is provided in **Section 6** and **Section 7**.

Plate 3.1: Photomontage of proposed BESS¹



¹ For information purposes only. This image is an artist's conceptual rendering, based upon preliminary development plans, and is subject to change. It is not to scale and shown solely for illustrative purposes.

4. Regulatory Framework

The below sections provide a summary of the key legislation for Battery storage facility development, with respect to primary approvals and associated decommissioning requirements.

4.1 Planning Act 2016

The Planning Act regulates and manages development in Queensland, providing a framework for the preparation and implementation of planning instruments. It requires the coordination and integration of State, regional and local planning outcomes. A Development Permit is required under the Planning Act prior to commencing assessable development.

As discussed in **Section 1.2**, this Decommissioning Security Report has been prepared to address the decommissioning outcomes within State Code 27 (PO 31-35) under the Planning Act's SDAP. In accordance with the State Code 27 Planning Guideline, conditions of a Development Permit for a BSF would require the management of decommissioning through the preparation of an ECDMP, SSPOs and EODMP.

4.2 Environmental Protection Act 1994

The EP Act establishes Queensland's key regulatory framework for protecting environmental values. The following regulatory requirements are relevant to decommissioning at end of construction and end of operations of the Project:

- The general environmental duty: a person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonably practicable measures to prevent or minimise the harm.
- Duty to restore the environment: this provision applies where an incident involving contamination of the environment has caused unlawful environmental harm. The person must, as soon as reasonably practicable after the incident happens, take measures, as far as reasonably practicable, to rehabilitate or restore the environment to its condition before the harm.
- Duty to notify: notification requirements to report events, or changes in land condition, that relate to contaminated land or notifiable activities.
- Removal of contaminated soil: a soil disposal permit will be required to remove and treat or dispose of soil from land listed on the environmental management register (EMR) or contaminated land register (CLR).
- Waste management: waste characterisation is to be undertaken in accordance with the Environmental Protection Regulation 2019 (EP Regulation) to determine whether waste is a regulated waste (and which type). Trackable waste will be transported offsite by a regulator waste transporter in accordance with regulated waste tracking provisions. Waste will be taken to a facility that is authorised to accept that type of waste.

Should the release of contaminants to the environment occur, this will be cleaned up in accordance with Project-specific Construction and Operational Environmental Management Plans, and any other legal requirements. Accordingly, decontamination associated with decommissioning at the end of construction and end of operations is expected to be limited to:

- Potential incidents that occur while undertaking decommissioning activities.
- Remediation or restoration in response to environmental incidents.

Contamination and remediation in Project decommissioning are further discussed in **Section 7.6**.

4.3 Waste Reduction and Recycling Act 2011

The *Waste Reduction and Recycling Act 2011* (WRR Act) is Queensland's principal legislation for waste avoidance and reduction, resource recovery, and transition to a circular economy. The WRR Act has linkages to the EP Act for the regulation and management of waste.

Section 8AA of the WRR Act defines waste as:

- Anything that:
 - is left over, or is an unwanted by-product, from an industrial, commercial, domestic or other activity; or
 - is surplus to the industrial, commercial, domestic or other activity generating the waste.
- However, waste does not include:
 - a resource under an end of waste approval
 - a thing prescribed by regulation not to be waste.
- A thing can be waste whether or not it is of value.

The WRR Act enacts Queensland's *Waste Management and Resource Recovery Strategy* (QLD Waste Strategy) which establishes targets and high-level strategies for Queensland to become a zero-waste society where waste is avoided, reused and recycled to the greatest extent possible (Queensland Government, n.d.). The QLD Waste Strategy acknowledges that strategic investment in diverse and innovative resource recovery technologies and markets is required to produce high-value products and generate economic benefits. The QLD Waste Strategy is centred around the waste and resource management hierarchy (**Figure 4.1**) and circular economy principles (**Figure 4.2**) as established in the WRR Act.

Higher order preferences in the waste and resource management hierarchy and circular economy principles will be key standards adopted during detailed design, construction methodology, and decommissioning optioneering. The fate of end-of-life infrastructure components and other waste materials will depend on viable market solutions for recycling, reuse, repurposing, and recovery of materials. Accordingly, waste and resource recovery options considered within this report are based on current achievable options in Australia and will be further investigated as the Project progresses. Waste management and decommissioning optioneering is further discussed in **Section 7.1** and **Section 7.5**.

Figure 4.1: Waste and resource management hierarchy (WasteOnline, 2024)

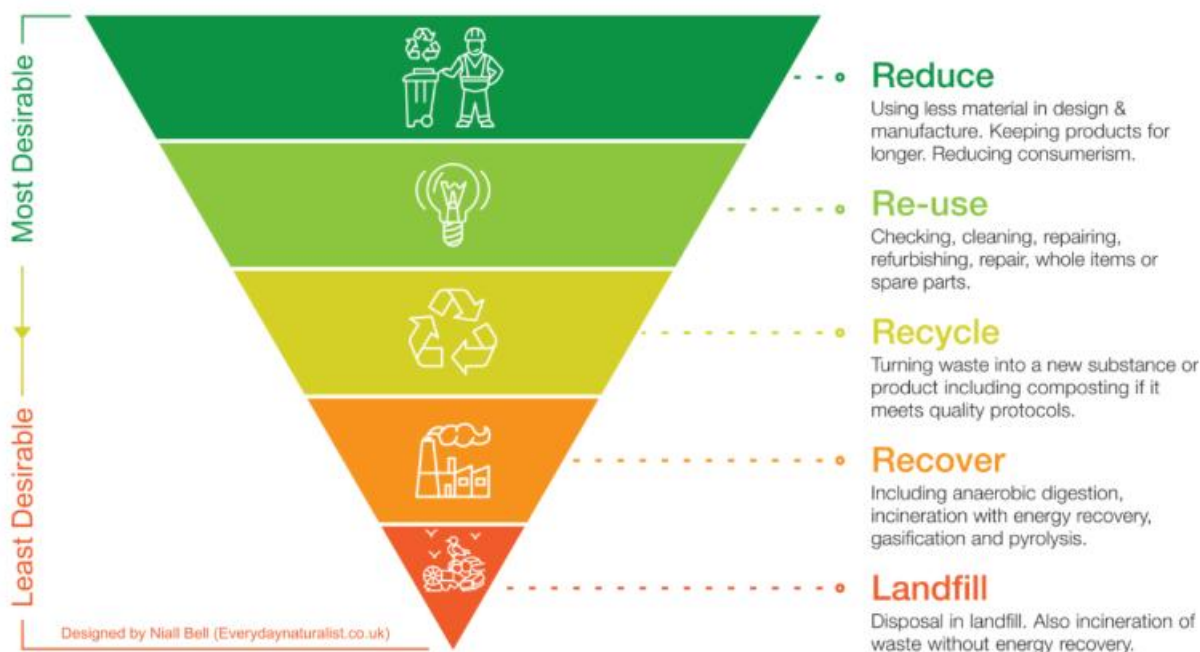
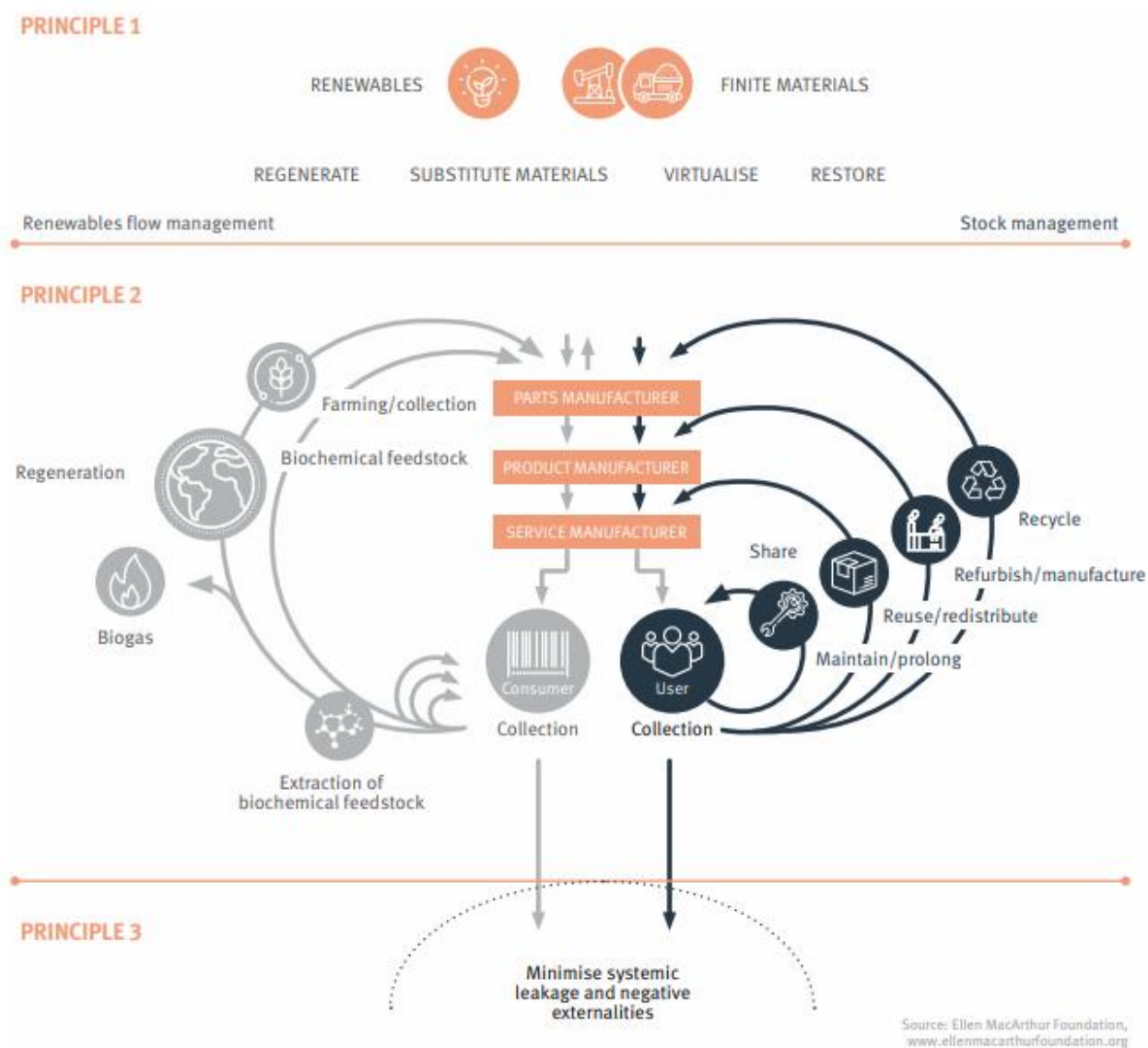


Figure 4.2 Circular economy principles (Queensland Government, n.d.)



5. Existing Environment

The existing environment is summarised below from information contained in reports and management plans, as submitted with the Project's DA (refer **Section 1.4**).

5.1 Land Use and Existing Structures

The Site consists of two lots (Lot 1 on RP735276 and Lot 1 on RP852238) that are both zoned as Rural under the CCRC planning scheme and currently used for livestock grazing.

Both lots are currently used as rural residential properties and are largely undeveloped. Lot 1 on RP852238 contains the Powerlink OHTL and infrastructure designation. The existing Powerlink 132 kV substation and 275 kV substation are located on adjacent lots to the north-east of the Site. Land to the south and east of the Site comprise rural areas used for sugar cane farming.

Each of the lots is associated with a rural residence on both, access tracks, and farm-related infrastructure. There is also a powerline easement that crosses Lot 1 on RP852238 in a north south direction from the Powerlink substations north of the Project Site.

RWE's intention is that the remaining area of the site continues to be used for cattle grazing and RWE will maintain the entirety of the site.

While the Project Site currently contains two dwellings, they are not occupied. The dwellings may be used as part of the on-site operations and maintenance (O&M) facilities during Project construction and operation, if not practicable these would be demolished and the area rehabilitated.

5.2 Soils

Soils within the Site have been mapped in the 1:50,000 *Soils of the Cardwell-Tully Area, North Queensland* by Cannon *et al.* (1992). The Cannon *et al.* (1992) mapping identifies the three mapped soil units (Hewitt, MSC and Tyson) over the Site as shown in **Figure 5.1** and detailed in **Table 5.1**. The Development Footprint is located entirely within the area mapped as comprising Hewitt soils.

The Hewitt soil series forms a continuum, becoming progressively more poorly drained with distance from higher, better drained levees. Overall, the Hewitt soil unit is mapped as containing poorly drained soils formed on alluvium. MSC is a miscellaneous map unit that has not been assessed in detail, located in the north of the Site.

Table 5.1: Soils (Cannon et al, 1992) mapped within the Site

Soil	Landform	Major distinguishing features	Australian Soil Classification
Hewitt	Floodplain and swamps	Sapric loamy A horizon, grey whole coloured or mottled, silty clay B horizons	Hydrosols
MSC	-	Miscellaneous type of mapping unit, used to identify areas not typically assessed in detail.	Podosols
Tyson	Upper slope of fans	A gradational or uniform textured soil with a red massive B horizon. On granite fans with rainforest vegetation	Kandosols

The Hewitt soil series is described as having variable topsoil depths, from 9–80 cm thick, consisting of black to dark grey, sapric to fibric loams to clay loams. The terms sapric and fibric refer to peat materials, where fibric is undecomposed or weakly decomposed organic materials whilst sapric is strongly to completely decomposed organic material. Hewitt subsoils comprise brown to grey, clay loam to medium clays with mottling due to their commonly waterlogged status.

No soil sodicity was identified in the recorded analytical data, however soil pH is consistently acidic (<5.0) throughout the profile, with high presence of hydrogen and aluminium cations.

Due to the lack of information on the MSC soil, relevant to the proposed grid connection route north of the development footprint, it has been conservatively assumed that sodic, dispersive soils could potentially be disturbed by the Project.

The Project Area is mapped as Bm(p4) from the national mapping in the Atlas of Australian Acid Sulfate Soils (Fitzpatrick et al 2011) which identifies an inland acid sulfate soil (ASS) mapping unit that indicates a low probability of occurrence containing Potential Acid Sulfate Soil (PASS) materials. This unit has a low confidence and is a provisional classification inferred from surrogate data with no on ground verification.

Figure 5.1: The 1:50,000 *Soils of the Cardwell-Tully Area, North Queensland*
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5.3 Vegetation and Biodiversity

The majority of the Project Site has been subject to prior clearing associated with established rural, rural residential and infrastructure uses, with a large portion of the site remaining in a cleared condition.

Vegetation within the Project Site was ground-truthed during ecological survey in November 2024. Ground-truthed regional ecosystems (GTREs) within the Project Site are summarised in **Table 5.2**.

Table 5.2: Ground-truthed regional ecosystems

Regional Ecosystem	VM Act Status	Category	Description
7.3.5	Least Concern	B, C	<i>Melaleuca quinquenervia</i> and/or <i>Melaleuca cajuputi</i> subsp. <i>platyphylla</i> closed forest to shrubland on poorly drained alluvial plains
7.3.7a	Endangered	C	<i>Eucalyptus pellita</i> and <i>Corymbia intermedia</i> open forest and woodland. Poorly drained alluvium, including seasonal swamps. Contains Palustrine. (BVG1M: 9e).
Non-remnant	None	X	Non-remnant

No State or Commonwealth threatened flora species or vegetation aligning with the key diagnostic criteria for Commonwealth listed Threatened Ecological Communities (TEC) were identified within the Project Site.

No threatened fauna were observed during the one ecological survey conducted in November 2024.

5.4 Hydrology

The Project Site is located within the Wet Tropics Region, which is part of the Great Barrier Reef catchment identified under the *Great Barrier Reef catchment and river basins* map (Queensland Government, 2018). The Project Site is also mapped within the Tully catchment area, where the majority of the catchment is drained by the Tully River, characterised by steep ranges transitioning into coastal floodplains.

A Great Barrier Reef wetland protection area is located across the eastern extent of the Project Site, spanning through all subject land parcels. The wetland itself is predominantly located within the adjacent Lot 5 on SP140625 and is also identified as a wetland of high ecological significance (HES).

The Project Site contains several surface water features, including:

- Three unmapped watercourses under the *Water Act 2000*, that flow into the wetland area within Lot 5 on SP140625
- One of the unmapped watercourses is additionally mapped as a low impact (green) waterway for waterway barrier works under the *Fisheries Act 1994* and traverses both Lot 1 on RP735276 and Lot 1 on RP852238
- A mapped watercourse identified as an unnamed tributary of Tully River (Sandy Creek), located along the eastern boundary of Lot 1 on RP852238 and additionally mapped as a moderate impact (amber) waterway for waterway barrier works.

6. Project Infrastructure

The Project comprises the construction, operation and decommissioning of the BSF and OHTL. This section of the report provides an overview of the construction and operational activities of the Project, including details on the Project infrastructure, to provide context for the scope of the decommissioning process (**Section 7**) and cost estimation (**Section 8**).

A summary of the major components and the estimated construction footprint (i.e. disturbance footprint) is provided in **Table 6.1**. Further descriptions of infrastructure associated with decommissioning at the end of construction and end of operations are included in **Section 6.1** and **Section 6.2**.

Table 6.1 Summary of Proposed BESS Components and Associated Construction Disturbance

Component	Number	Disturbance area
Temporary workspaces for OHTL poles (within cleared areas)	5	~0.2 ha
OHTL access track	1	~0.3 ha
BSF	1	8.5 ha

6.1 Construction

There are no stand-alone facilities and/or areas that will need to be decommissioned post-construction.

All temporary construction activities for the BSF and OHTL will be undertaken within the 9 ha and may include construction compounds and site offices, workshops, storage, and other construction-related structures and amenities. The construction sequencing will either remove or repurpose these structures or areas as part of the overall construction program. It is anticipated that only minor areas are required to be stabilised/rehabilitated/landscaped as per the Project ESCP and RMP. Most of the Development Footprint will be for operational use including the temporary laydown areas for use during construction as these hard stand areas will remain in place following construction for future use.

The construction methodology for the OHTL has not been finalised but is likely to consist of an access track that will remain during operation, temporary workspaces i.e. at the location of each OHTL poles that will be disturbed during construction and the electrical pole footings. Access to the OHTL construction area will be via the BFS. The OHTL has been designed to span the waterway and direct impacts to the waterway are avoided.

6.1.1 BSF

Construction of the BSF is estimated to be undertaken over an 18-month period, subject to final equipment selection, construction methodology and appointment of construction contractors(s). **Table 6.2** provides a summary of the main construction stages.

Site Entrance

Access to the facility will be via the existing local road network with upgraded access proposed from Sandy Creek Road.

Table 6.2: Construction stages

Stage		Overview
1	Site preparation	<i>Vegetation clearing</i> Although the Site consists of open grazing land, vegetation within the development footprint would be removed prior to construction works commencing. The clearing methodology has not yet been determined, however, clearing will likely be undertaken through mechanical methods that are suitable for the applicable environmental conditions. The types of machinery will be determined prior to construction by the relevant contractor.
		<i>Existing infrastructure</i> The existing dwellings and sheds on the Project Site will be assessed for suitability to be repurposed as O&M areas for Project operation. Where existing structures cannot be repurposed, they will be removed.
		<i>Earthworks</i> Civil works will be required to prepare the Project Site for construction of the BESS and ancillary facilities. Excavation and filling will be required to make the site level and cater to stormwater management requirements. Cut and fill volumes and battery design will be finalised during detailed design.
2	Construction	<i>BESS Bench</i> If relevant, topsoil will be removed and stockpiled on site for use in landscaping and rehabilitation once construction is completed. Where the quality of material is acceptable, excavated material would be used as backfill and compacted during the civil works program. Gravel sheeting will be applied to the BESS bench area.
		<i>Access Roads</i> New internal access roads will be constructed for delivery of equipment and material and ongoing maintenance activities. The access roads would be up to 6 m wide and connect the BESS compound entrance to the Project Site frontage at Sandy Creek Road. Any topsoil would be removed for use elsewhere where applicable, and the access roads will be finished with compacted gravel. A bitumen crossover will be constructed in accordance with the appropriate standards between Sandy Creek Road and the Project Site boundary.
		<i>Battery Units</i> The battery units and MV transformers would be installed on either screw piles, piers or concrete pad formations (to be determined through detailed design phase). Each BESS unit is expected to be 8.6 m in length, 2.8 m in height and 1.9 m wide. The battery units would be transported to Project Site via heavy vehicles and craned onto their concrete footings for anchoring. The associated transformers would also be trucked to site and arranged onto footings via mobile crane.
		<i>Storage and Operation Area</i> Areas will be designated on-site for the storage of materials in open air laydown, for use as required during operations.

Stage		Overview
		<i>Switchgear Control Room</i> A switchgear control room will be manufactured off-site and delivered to the BESS bench via trucks. The control building would sit on suitable concrete footings with trenches and conduits for the cabling entering the building.
		<i>Perimeter Fencing</i> Fencing will be erected at the perimeter of the BESS area, switching station and O&M area for safety and security reasons.
		<i>Underground cabling</i> Underground cabling within the BESS bench would be installed via open trenching, undertaken in accordance with relevant Australian Standards and marked accordingly. Upon installation of the cabling, the trench will be backfilled with excavated material and the surface rehabilitated.
		<i>Grid Connection</i> The proposed OHTL to the existing Powerlink 132kV Tully Substation within Lot 1 on RP716718 will require five (5) OHTL poles and an access track approximately 5 m wide and 600 m long. The OHTL pole footings locations will have an "up to" 20 m x 20 m temporary workspace that will be disturbed for construction equipment such as cranes, excavators, conductor stringing equipment etc. The OHTL foundation will be up to 6 m deep and concreted. Where the quality of material is acceptable, excavated material would be used as backfill and compacted during the civil works program on the broader Site.
		<i>Asset Protection Zone (APZ)</i> The APZ will be established and maintained around the Project Site to a width of 48.1 m along the northern and eastern sides and 10 m along the western and southern sides. The APZ will be cleared of any vegetation and have a minimal earth or grass surface.
		<i>Demobilisation</i> Following completion of construction, all construction equipment will be demobilised from the site.
3	End of Construction Rehabilitation	Rehabilitation would occur in stages throughout the construction program. Rehabilitation works comprising compaction and surfacing of the BESS bench area would occur once civil works have been completed. Further rehabilitation of the site, including disposal of waste materials (at an appropriately licensed waste facility) would occur once equipment installation and construction has been completed.
4	Operation	The BESS will be in operation 24 hours a day, every day of the year. O&M activities may occasionally extend beyond daylight hours for corrective maintenance activities as required. The site will be remotely monitored 24 hours a day.
5	Decommissioning	The Project is intended to operate for a period of 20 years. Following this period a determination will be made whether to: • Extend the life of the existing infrastructure with increased maintenance, refurbishment and/or replacement of certain components; or • Repower the site with new infrastructure; or

Stage	Overview
	Decommission the infrastructure and rehabilitate the site. For further information refer to Section 7.1.

6.1.2 OHTL Corridor and Access Tracks

A single access track to facilitate the construction of the OHTL and for operational access will be construction within the OHTL corridor with access from the BSF.

The OHTL pole footings locations will have an “up to” 20 m x 20 m temporary workspace that will be disturbed for construction equipment such as cranes, excavators, conductor stringing equipment etc. The OHTL foundation will be up to 6 m deep and concreted. Where the quality of excavated material is acceptable, it would be reused during the civil works program on the broader Site.

6.2 Operation

6.2.1 BSF

The BSF area (~8.5 ha) will consist of consist of:

- Up to 188 battery units
- Switch rooms
- Inverters may be incorporated as part of the battery units or there may be separate Power Conversion Units (PCU) that convert the DC energy from the battery units
- Two lightning arrestors up to 20 m in height
- Stormwater drainage systems
- A perimeter road will be provided for operations, maintenance and emergency response.
- An acoustic wall of 6 m in height has been included with the design, this is located directly on the northern perimeter of the BESS units. Subject to further design enhancements of the BESS units to reduce noise emissions, the acoustic wall may not be required.

Fencing, including grids and gates, will be installed within the Site boundary to manage access and ensure safety during all Project phases.

Water sourcing for the construction of the Project has not been confirmed at this stage. Relevant permits will be sought for the selected water sourcing strategy in future stages of the Project.

The Site is intended to be self-sufficient for power generation during construction (i.e. no grid connection). Electrical infrastructure will be co-located and may include generators, solar power, and onsite small-scale BESS'. Ablution facilities for the construction workforce will be co-located with the BSF. Design specifications for power generation sources/facilities and ablution facilities will be determined in future stages of the Project.

Site entrance

The Project will require access for operational and decommissioning activities as per **Section 6.1.2**.

6.2.2 OHTL Corridor and Access Tracks

A single access track approximately 5 m wide and 600 m long to facilitate operational access and maintenance of the OHTL.

7. Decommissioning Process

Decommissioning and Demolition of a BSF is a multi-step process that requires careful planning and coordination. Prior to the start of work, the appropriate waste management pathway for all materials must be defined. The goal is to maximise reuse and repurposing wherever possible and recycling in full compliance with the local safety and environmental regulations, while properly disposing of any hazardous or non-recyclable components.

The decommissioning sequence involves the following activities (further detail of these is set out in the PBRs):

1. De-energisation and Isolation.
2. Module Removal and Packaging.
3. Infrastructure Disconnection.
4. Site Logistics and Removal
5. Material Disposition
6. Site Restoration

An overview of the decommissioning process considerations is discussed in the below sections.

7.1 End-of-life Options

End-of-life (EOL) Options will be investigated prior to potential full decommissioning which, for a BSF using Lithium Iron Phosphate (LFP) batteries, revolve around extending life, repurposing, recycling, or decommissioning. The likely options are:

1. Repowering to extend the life of the facility. Instead of closing the facility, it may be economic to extend the life of the facility by replacing or augmenting battery modules while keeping the rest of the infrastructure.
2. Decommissioning
 - a. Reuse of batteries for another purpose. Batteries retired from grid scale BSF are likely to still retain 60% capacity and can potentially be reused in lower-performance applications such as commercial backup power, EV charging buffers, microgrids or community storage.
 - b. Decommissioning of BSF and recycling of battery units.

The following sections discuss the strategy for full decommissioning of the BSF and application of the waste minimisation and resource management hierarchy.

A Preliminary Battery Recycling Strategy (Attexo, 2026f) has also been prepared for the Project addresses the decommissioning outcomes applicable to the reuse, recycling and recovery of battery components within State Code 27.

7.2 End of Construction Decommissioning Elements and Methods of Removal

At the end of construction decommissioning will involve demobilisation of people, equipment and removal of temporary construction facilities not required for permanent operations. These temporary construction facilities will be within the disturbance area of the BSF.

A summary of the key decommissioning elements and potential methods of infrastructure removal is provided in **Table 7.1**. Waste management for key infrastructure elements is discussed in **Section 7.5** and rehabilitation outcomes are discussed in **Section 7.7**. Key decommissioning of indicative elements and associated methodologies will be further investigated and documented within the ECDMP, which will be prepared prior to commissioning of the project.

Table 7.1: End of construction key decommissioning of indicative elements and potential methods of removal

Key Element	Components	Constituents	Indicative Removal / Disassembly Methodology and Options
Construction compound and facilities	Site offices, amenities, storage containers, workshops and laydown areas	Portable buildings, shipping containers, utilities connections, storage areas	Disconnect temporary services. Remove portable structures by truck or crane for reuse.
Temporary access and civil infrastructure	Access tracks, temporary drainage and earthworks	Gravel roads, aggregate surfacing, temporary drainage channels, sediment basins (if required), imported fill	Remove temporary roads and drainage infrastructure not required for operations. Reuse suitable materials onsite or remove offsite. Regrade land and restore natural drainage patterns (if required).
Temporary utilities and construction services	Power, water, wastewater and fuel storage systems	Generators, switchboards, cabling, water tanks, pumps, temporary pipework, fuel tanks, bunding, portable sanitation facilities	Isolate and disconnect services. Remove fuels, chemicals and wastes. Dismantle and remove equipment for reuse, recycling or disposal through licensed contractors.
Temporary environmental, security and safety infrastructure	Fencing, lighting, monitoring equipment, erosion and sediment controls	Temporary fencing, gates, security cameras, lighting, sediment fences, erosion control measures, signage	Remove fencing, lighting, monitoring equipment and environmental controls once no longer required.

7.3 End of Operations Decommissioning Elements and Methods of Removal

RWE are expected to own the land prior to the construction of the BSF and OHTL. RWE has undertaken consultation with key stakeholders and the community as part of preparing applications for the Project.

The final land use will be consistent with the surrounding land uses and rehabilitated in accordance with the Project's RMP (to be developed) and discussed in **Section 7.7**. This is an adaptive management plan, which will be further refined in future rehabilitation plans, along with the ECDMP and EODMP.

The types of infrastructure that are expected to remain at decommissioning are summarised in **Table 7.2**. RWE will evaluate the suitability of these decisions in the decommissioning process end of operations. Discussions will be held with the future landholder/land manager prior to decommissioning to determine what will be retained.

Table 7.2: Infrastructure expected to be retained

Infrastructure type to be retained by landowner	Commentary
Potential opportunities	
Site entrance and access tracks	Access tracks used for the BESS may be useful for ongoing Site use.
Concrete foundations and hardstands	Hardstands may form an integral part of sustaining farming operations.

Infrastructure type to be retained by landowner	Commentary
Potential opportunities	
Operational and maintenance storage sheds	Operational and maintenance storage buildings may be advantageous to landowners to support farming operations.

A summary of the key decommissioning elements and potential methods of infrastructure removal is provided in **Table 7.3**. Waste management for key infrastructure elements is discussed in **Section 7.5** and rehabilitation outcomes are discussed in **Section 7.7**. Key decommissioning of indicative elements and associated methodologies will be further investigated and documented within the EODMP, which will be prepared during the operational phase of the project.

It is expected that the redundant O&M facilities (including offices, laydowns and ablution facilities) would be used during the decommissioning stage. However, additional temporary facilities during decommissioning are still likely to be required to support a workforce smaller than needed for construction .

Table 7.3: End of operations key decommissioning of indicative elements and potential methods of removal

Key Element	Components	Constituents	Indicative Removal / Disassembly Methodology and Options
Unsealed access tracks	Unsealed tracks	Crushed rock / possibly geotextile separators / geogrids on weaker ground	If tracks are not to be retained by the landowner or require partial rehabilitation, excavate using excavator and dumper trucks. Work from end point back to access point. Remove offsite via tipper truck.
Sealed track (bitumen)	Wearing course	Asphalt/bitumen, aggregate	Mill or excavate asphalt using road profiler or excavator. Load to trucks for recycling or disposal.
	Basecourse	Crushed rock, gravel	Excavate using excavator and loader. Screen and reuse onsite where possible or transport offsite.
	Sub-base	Compacted gravel, engineered fill	Remove to required rehabilitation depth. Regrade remaining material.
Buildings	Switching rooms, offices, workshops, warehouses, etc.	Timber / brick / prefabricated panels / glass / steel / concrete	Internal contents to be removed manually, recycled where possible, and taken off site via tipper truck. The switch room is portable and will be removed from the Project Site and repurposed. If buildings are not to be retained by the landowner, utilise an excavator to demolish buildings (if not modular and buildings cannot be repurposed). Remove offsite via low-loader or tipper trucks. If the concrete slab is not to be retained by the landowner, remove and break up concrete. Remove offsite via tipper truck.
Site services (buried, above)	Power generation, cables, pipes, sewage treatment plants, septic systems, water	Copper, aluminium, fibre optic, plastic, rubber sheaths	Isolate electrical power prior to removing cables. Underground services to remain in situ if 0.6 m below ground and do not pose a contamination or safety risk (to be reassessed in the EODMP).

Key Element	Components	Constituents	Indicative Removal / Disassembly Methodology and Options
ground, overhead)	treatment plants, water tanks		For underground services that are to be removed: - Excavate using appropriate safe work methods - Clean soil and topsoil to be temporary stockpiled and used as fill after site services are removed - Site services to be removed offsite via truck. Sewage treatment plant, water treatment plant, associated tanks and generators to be removed offsite via on low-loader trucks. If concrete slab is not to be retained by the landowner and will be removed down to 0.3m below ground level. Remove components offsite via low-loader and tipper trucks.
Transformers	Transformer	Electrical components, oil	Minor dismantling of MV transformers and lift onto trucks for offsite removal. HV transformer will be dismantled and cut up on site into small parts that can be transported on standard trucks Drain oil first and contain in IBCs. Drained oil will be filtered onsite and reused if possible. Filtered oil will be transported offsite for disposal if not reused.
	Concrete Foundations	Concrete, steel reinforcement	Foundations removed by excavator / hydraulic breakers. Steel burning equipment will be required to cut through reinforcing bars.
BESS	Battery components (battery modules, racks, cabling, etc.)	Batteries (type to be determined), copper, aluminium, fibre optic, plastic and rubber sheaths	The decommissioning process will include: 1 - Discharge all energy from the BESS units, de energise and isolate. 2 - Remove all battery modules (that contain the Battery Cells) from the BESS units and prepare for transport to a tesla facility for recycling or reuse. 3 - Drain and remove all remaining fluids from the BESS units (Refrigerant) by certified professionals. 4 - Removal of BESS units from site using cranes and low loader trucks. Transported either to a Tesla facility or a 3rd party facility for complete dismantling for recycling/reuse. Controlled removal of all components using cranes and specialist contractors. Remove offsite via low-loader, tipper or standard trucks.
	System container housing, power conversion system, HVAC thermal management, fire suppression systems, etc.	Electrical components, iron, steel, copper, cabling, hazardous contaminants, other miscellaneous (fencing, lighting, etc)	

Key Element	Components	Constituents	Indicative Removal / Disassembly Methodology and Options
			More detail on the reuse, recycling and recover of material is contained in the Preliminary Battery Recycling Strategy (Attexo, 2026f)
	Concrete Foundations	Concrete, steel reinforcement	Foundations removed by excavator / hydraulic breakers. Steel burning equipment will be required to cut through reinforcing bars.
Substation	Power Transformer(s)	Steel tank, copper windings, insulating oil, radiators	De-energise and isolate. Drain and remove oil for reuse or disposal. Disconnect electrical connections and lift transformers onto transport vehicles using cranes. Recycle steel and copper components where practicable.
	Switchgear and High Voltage Equipment	Circuit breakers, disconnectors, busbars, instrument transformers, surge arresters, steel support structures	Isolate and disconnect all equipment. Recover any insulating gases where applicable. Dismantle and segregate metals for recycling. Remove support structures and foundations if required.
	Control Building and Auxiliary Equipment	Prefabricated building, protection and control panels, SCADA equipment, HVAC systems, cabling	Remove electrical and communications equipment. Dismantle building structure and remove associated services. Recycle metals and dispose of electronic waste through licensed facilities.
	Foundations, Earthing and Underground Services	Reinforced concrete foundations, copper earthing grid, underground power and communications cables, cable trenches	Excavate and remove foundations where required. Recover earthing conductors and cables where practicable. Break out concrete structures and backfill excavations with suitable material before site rehabilitation.
132 KV OHTL	Conductors and Overhead Hardware	Aluminium conductor, steel-core conductor (where applicable), insulators, crossarms, fittings, vibration dampers	De-energise and isolate line. Remove conductors using tensioning equipment and reels. Dismantle insulators and hardware. Segregate aluminium and steel components for recycling.
	Concrete Poles	Precast reinforced concrete poles, pole-top hardware	Remove attached conductors and fittings. Extract poles using crane or excavator. Poles may be reused, recycled as aggregate, or disposed of at an approved facility.
	Concrete Foundations	Reinforced concrete footings, anchor blocks (if present)	Excavate foundations to the depth required by EODMP. Break up concrete and recover reinforcing steel for recycling. Backfill and compact excavations.
Hardstand	BESS, substation and O&M	Compacted granular material / concrete plinths	If not retained by the landowner, remove using excavators, dumper trucks and/or tipper trucks. Remove offsite via tipper trucks.

Key Element	Components	Constituents	Indicative Removal / Disassembly Methodology and Options
Underground cables	Cables	Copper, aluminium, fibre optic, plastic and rubber sheaths	Remain in situ if >0.6 m below ground and do not pose a contamination or safety risk (to be reassessed in the EODMP). For cables to be removed: - Remove using excavator to pull out of trench or duct and load onto tipper trucks - Clean soil and topsoil to be temporary stockpiled and used as fill after cables are removed - Remove offsite via tipper truck.

Source: Welstead, Hirst, Keogh, Robb, & Bainsfair, 2013; Electric Power Research Institute, 2017; NYSERDA, 2021; Australian Battery Recycling Initiative & Clean Energy Council, n.d.

7.4 Traffic Management

A Traffic Impact Assessment (TIA) has been prepared by Cambray Consulting (Cambray Consulting, 2026d). The TIA considers the anticipated access and traffic generation impacts during construction, operation and decommissioning phases of the Project. The TIA includes the following:

- Overview of the Route Assessment and Project Transport Route Options
- Location and form of intersections between the State Controlled Road Network and the Local Road Network expected to be used by construction and operational traffic
- Review of the proposed access to the BESS site from the Local Road Network
- Summary of existing road features (turn treatments and road corridors)
- Overview of the background traffic at key locations
- Anticipated traffic generation for the construction and operational phases
- Qualitative assessment of the development generated traffic impact
- A turn warrant assessment from State Controlled Road Network into Local Road Network.

Engagement with relevant regulatory authorities will be undertaken prior to construction and end of operations decommissioning to determine whether any approvals are required, including:

- CCRC and other relevant local governments (if applicable) to understand concerns and requirements from decommissioning haulage on local roads.
- DTMR to discuss impacts of decommissioning traffic on state transport infrastructure (road and rail), including:
 - OSOM loads (if required)
 - mitigation requirements
 - any separate approvals required directly from DTMR (for example constructing upgrades or placing third-party electricity infrastructure in state-controlled roads).
- Relevant railway managers to discuss approval requirements for taking OSOM loads over railway corridors or interfering with railway corridors (if required)
- The National Heavy Vehicle Regulator regarding approvals for OSOM movements (if required).

A Traffic Management Plan will also be prepared prior to the commencement of the decommissioning activities.

7.5 Waste Management

As discussed in **Section 4.3**, the Project will seek to maximise the recycling, repurposing and/or reuse of materials during the decommissioning process at the end of construction and end of operations. Accordingly, a key objective is to minimise materials destined for landfill and to implement the full decommissioning of the project as efficiently and sustainably as possible.

End of waste codes will be reviewed while preparing the ECDMP, EODMP or associated Waste Management Plans to determine whether any waste generated by decommissioning activities can be used as a resource under the WRR Act. Currently, there do not appear to be any relevant end of waste codes that relate to decommissioning activities covered by this report.

7.5.1 Waste Streams

Waste generated from decommissioning at end of construction and end of operations of the Project will primarily consist of the following overarching waste streams:

- Construction and demolition waste: inert waste such as bricks, pavers, ceramics, concrete, glass, steel, or general waste that does not biodegrade or decompose. This waste may be suitable for recycling, resource recovery, or reprocessing.
- Regulated waste: waste that contains hazardous characteristics and is classified as regulated waste under the EP Regulation. There are two categories of regulated waste: Category 1 (highest risk) and Category 2 (moderate risk). Regulated waste includes electrical waste (e-waste).
- General waste: waste that does not fit into the above categories, including organic and putrescible wastes.

7.5.2 Reuse, Recycling and Recover Options (Batteries)

A Preliminary Battery Recycling Strategy (Attexo, Preliminary Battery Recycling Strategy: Tully Battery Energy Storage System, 2026f) has been prepared for the Project. Specifically, this report addresses the decommissioning outcomes applicable to the reuse, recycling and recovery of battery component within *State Code 27: Battery storage facility development* (State Code 27) under the Planning Act's *State Development Assessment Provisions* (v3.6).

This high-level strategy is intended to be flexible and will be further refined throughout the operational life of the Project as new technologies and recycling processes emerge.

7.6 Contamination and Remediation

Management plans for the construction (e.g. Construction Environmental Management Plan) and operation (e.g. Operational Environmental Management Plan) of the Project contain details on the procedures and protocols for responding to unexpected environmental incidents. Procedures and protocols will be included in the Project's Construction Environmental Management Plan. These protocols include responding to unexpected environmental incidents, such as accidental spills, ensure quick, effective action to minimise harm to people, wildlife, and the environment, while maintaining compliance with regulatory requirements. Similar protocols would also be included in the ECDMP, EODMP, or related management plans.

Any potential contamination during the decommissioning process will be identified and cleaned up / remediated, as required (refer **Section 4.2**).

7.7 Rehabilitation

This Section discusses high-level overarching rehabilitation principles for the end of construction and end of operations of the Project.

Rehabilitation activities and associated outcomes will be carried out to "make good" the land in accordance with development conditions and future land use opportunities.

In accordance with State Code 27 PO11 the BSF will be constructed to maintain the fertility and soil attributes of high-quality agricultural land and to enable decommissioning at the end of operations to return the land to pre-construction agricultural land productive value.

Project rehabilitation activities are anticipated to include:

- Stockpiling topsoils and other suitable soils for use in rehabilitated areas with further information on soil management presented in **Section 7.7.2**
- Revegetation at reinstatement via hydroseeding, hydro-mulching or other suitable method for pasture establishment
- Site stabilisation in accordance with the Preliminary Erosion and Sediment Control Plan, Tully Battery Energy Storage System (Attexo, 2025a) and the *Best Practice Erosion and Sediment Control Manual* (IECA, 2025).

Overarching rehabilitation principles and management strategies for the end of construction and end of operations of the Project are discussed in the below sections.

7.7.1 Rehabilitation Principles

Overarching rehabilitation objectives include rehabilitating the land to a sustainable land use that is:

- Safe to humans, wildlife and livestock
- Non-polluting (i.e. no residual contamination)
- Stable
- Sustainable landform (over time).

The following principles will guide all rehabilitation activities:

- To reduce the risk of erosion, the Project will develop and implement a Sediment and Erosion Control Plan (ESCP) to meet the Best Practice Erosion and Sediment Control Standard (IECA, 2025). A Preliminary ESCP (Attexo, 2025a) has been prepared, which will be further developed by the Construction Contractor.
- The soil management objectives and measures in **Section 7.7.2** to assist in returning the land to pre-construction agricultural land productive value are to be incorporated into relevant construction and decommissioning management plans.
- An RMP will be prepared will be developed as part of the ECDMP and EODMP.
- A Site Stabilisation Plan – Operations (SSPO) will be prepared prior to commencement of Project operations and will be implemented during operations and end of operations decommissioning.
- Weed management measures will be required at all Project sites before, during and after revegetation activities, generally in accordance with the Vegetation and Fauna Management Plan.

7.7.2 Soil Management

The Project is located on high-quality agricultural land². To enable decommissioning at the end of operations and to return the land to pre-construction agricultural land productive value (State Code 27 PO11) the BSF will be constructed to maintain the fertility and soil attributes of high-quality agricultural land. Soils present on the Project Site, their characteristics and an agricultural land impact analysis is presented in the Agricultural Land Assessment report (Attexo, 2026g).

The objectives and measures outlined below (also contained in the Agricultural Land Assessment report) are to be incorporated into relevant construction management plans (e.g. ESCP, CEMP, RMP) and civil design of the Project. Attention will be given to the identification and protection of topsoil resources to enable the reinstatement of the site to maintain the fertility and soil attributes of the land.

Topsoil stripping is one of the most important soil management measure to enable effective rehabilitation. In general the aim is to recover as much topsoil as possible due to its importance in overall soil fertility, whilst minimising

² High quality agricultural land, means strategic cropping land, and priority agricultural areas, or Agricultural Land Classification (ALC) Class A and Class B land identified on the SPP interactive mapping system, Development assessment mapping system (DAMs) or local planning instruments.

introduction of any potentially constrained subsoil materials. The depth of stripping is therefore critically important to be able to maintain the soils fertility at reinstatement.

The objectives of soil management can be summarised as:

- Topsoil management
 - preserve as much of the topsoil as possible
 - ensure topsoil is not degraded during construction and following reinstatement
 - ensure topsoil is not contaminated with other soil and spoil materials
- Subsoil management
 - prevent contamination of topsoil
 - prevent degradation of the subsoil structure
 - avoid or ameliorate subsoil constraints immediately below topsoils
 - ensure reinstatement of soil horizons in the correct order and depths.
- Soil amelioration
 - used to correct a chemical constraint and is often used as a mitigation measure and / or to improve rehabilitation outcomes. The most common ameliorants are the use of gypsum to address sodicity and agricultural lime to neutralise acidic soils.
 - soil sampling may be required to understand the amelioration requirements for specific soils. The P-ESCP outlines soil sampling requirements for the Project.
- Long-term stockpiling
 - should be revegetated to protect from erosion and to maintain fertility (i.e. soil organic matter and biological activity). Long-term stockpiles need to be stable and be integrated into the site stormwater management where appropriate.
- Soil reinstatement
 - at reinstatement, whether that is at the end of construction or at the end of the Project, the site will be reprofiled to be consistent with the landform. Ripping or cultivation of the reinstated/reprofiled subsoil may be required to overcome any compaction that occurs during stockpiling and the reinstatement procedure.
 - upper subsoils may benefit from amelioration with gypsum to minimise the impact of sodicity. Subsoil should be covered with at least 0.1 m of topsoil. Where stripping and stockpiling of topsoils will potentially increase the sodicity and potential surface condition issues gypsum should be applied prior to stripping.
 - topsoil from long term stockpiles would benefit from the addition of fertilisers and organic material such as composts to boost fertility, improve structure and biological activity, particularly where stockpiles have been higher than about 0.3 m.

7.7.3 End of Construction Rehabilitation

Those areas which are not required for the ongoing operation of the Project will be rehabilitated to pre-disturbance land use, as soon as practicable following construction. Decommissioning and rehabilitation activities at the end of construction intend to support the effective continuation of existing agricultural land uses, with RWE currently looking to continue grazing cattle on the Project area following construction.

The approximate rehabilitation and revegetation opportunities are anticipated to include temporary construction disturbance such as areas surrounding the BSF that were used for erosion and sediment control (ESC) and construction works and temporary workspaces at each of the electrical pole footings associated with the construction of the OHTL.

Further details on rehabilitation aims and management measures are to be included in the RMP. Detailed rehabilitation objectives, completion criteria, and management actions will be developed as part of the ECDMP or related management plans (e.g. Rehabilitation Management Plan, Construction ESCP).

A Landscape Plan has also been prepared by Cusp Landscape Architecture + Urban Design and provides proposed landscaping treatments for the Project Site to appropriately screen Project infrastructure and minimise visual impacts.

7.7.4 End of Operations Rehabilitation

The following measures will be implemented to facilitate decommissioning of the Project area:

- An EODMP will be developed prior to the cessation of operations and will be implemented during the decommissioning phase.
- Sequential rehabilitation will be undertaken as soon as practicable following decommissioning activities.

At the end of the Project's operational life, infrastructure will be decommissioned and the Site rehabilitated to facilitate continuation of the current land use (i.e. agriculture), unless a viable alternative is identified through a review of end-of-life options (**Section 7.1**). This will occur in accordance with the relevant regulatory framework applicable at the time and in consultation with the relevant landowner. However, the following high-level outcomes consistent with the rehabilitation principles in **Section 7.7.1** are expected:

- Removal of all above ground infrastructure, except for any permanent roadways and other improvements as agreed by the landowner (e.g. access tracks, foundations, O&M buildings) as detailed in **Section 7.3**
- Areas which may present hazards to livestock during decommissioning will be temporary fenced to prevent livestock access and for safety reasons or the properties will be destocked
- Any potential contamination during the decommissioning process will be identified and cleaned up / remediated, as required
- Rehabilitate the land to restore any damage caused by infrastructure removal and restore the surface of the land to a suitable condition for pastoral or other agricultural use (soil management objectives and measures are presented in **Section 7.7.2**).
- Biosecurity risks and weeds are to be managed as per relevant legislation.
- Ensure the land is electrically safe and otherwise in a safe condition free from hazardous structures and material introduced as part of the Project.

Areas disturbed by the Project will be rehabilitated in accordance with the high-level principles and actions identified in **Section 7.7.1**. Detailed rehabilitation objectives, completion criteria, and management actions will be developed as part of the EODMP or related management plans (e.g. Rehabilitation Management Plan, Site Stabilisation Plan – Operations).

7.8 Decommissioning timeframes

7.8.1 End of construction

There will be progressive rehabilitation of temporary disturbed areas (as described in **Section 7.7.3**) in accordance with the stabilisation timeframes in the ESCPs and/or SSPO.

There are no specific standalone areas required to be decommissioned at the end of construction and any decommissioning works are contained within the operational footprint and undertaken during construction of the operational infrastructure.

End of construction decommissioning will occur following the completing of all civil and electrical installation work and will occur in parallel with site commissioning over approximately two (2) months. Monitoring of the rehabilitation and assessment of areas meeting the completion criteria will be undertaken in accordance with the Rehabilitation Management Plan (to be developed in future stages of the Project).

7.8.2 End of operations

Following the end of operations, decommissioning activities are estimated to take place over 38 weeks, plus an allowance for site mobilisation and demobilisation of up to 4 weeks based on the study report "2025 Energy Technology Retirement Cost & O&M Estimate Review: Retirement cost estimate and O&M review for existing NEM-connected plants and emerging technologies (GHD, 2025):

- 2 weeks for decommissioning
- 32 weeks for demolition and dismantling,
- 4 weeks for rehabilitation (GHD, 2025).

Monitoring of the rehabilitation and assessment of rehabilitated areas to ensure it meets the completion criteria will be undertaken in accordance with the final Rehabilitation Management Plan (to be developed in future stages of the Project).

In accordance with the Final Rehabilitation Management Plan, optioneering and waste and resource assessments will be undertaken prior to the end of operations. End of operations decommissioning activities and associated timeframes will be further discussed in the EODMP.

8. Indicative decommissioning cost estimation

The estimated cost of decommissioning at the end of construction will be included in the construction budget, and no construction-specific infrastructure separate from the operational infrastructure is proposed. Standard rehabilitation and stabilisation will be undertaken for temporary disturbance areas outside of the Project operational footprint that is standard practice for construction projects and in line with construction environmental management plans.

An indicative end of operations decommissioning cost estimation for this Project is based on a July 2025 study by GHD (GHD, 2025) on the Retirement cost estimate and O&M review for existing NEM-connected plants and emerging technologies developed for the Australian Energy Market Operator (AEMO). The GHD cost estimate is a high-level summary of the retirement and / or recycling cost of decommissioning BESS facilities and represents an assessment of cost (**Section 8.1**) based on a typical 200 MW/4 hr BSF.

It should be noted that processes to recycle lithium batteries is expected to significantly improve over coming years due to the size of the opportunity as will the ability for industry to handle larger volumes of batteries and that reduced costs and improve material recovery are likely outcomes that may materially affect these initial decommissioning cost estimates.

8.1 Cost Estimate for Standard BSF

The decommissioning cost estimate from the GHD July 2025 study for the AEMO is used in this report and a summary of the cost estimate for a 200 MW/4 hr BSF is provided in **Table 8.1**. The cost estimate was based on the following high level key assumptions for retirement of BESS technology:

- Cost estimates for battery retirement are to AACE Class 5 level.
- Estimates for longer duration batteries were based on assumed scaling of the elements of the cost buildup that are correlated with energy storage quantity (e.g. number of battery modules) but not those elements which scale more with power output (fixed in this case) or those which are fixed costs.
- 50% of the mass of copper cabling (including insulation) has been assumed to be recoverable as copper metal.
- 50% of the recoverable copper is tied to the AC side (power delivery). The remaining 50% is assumed to be on the DC side and therefore proportional to the total quantity of energy storage (which differs from case to case).
- Recycling value is assumed to be limited to the copper cabling, which is assumed to be saleable at a price which is at the midpoint of a publicly available published range³.
- It is assumed that the battery is located in relatively close proximity to a site for disposal and site for recycling (i.e. relatively close to a population centre, <100km).

Table 8.1: End of operations BESS decommissioning estimate (GHD, 2025)

	200MW/4hr	Total
Decommissioning, Demolition & Rehabilitation Costs (\$/MW)	\$76,000	\$15,200,000
Disposal Costs (\$/MW) ⁴	\$27,000	\$5,400,000
Recycling Costs (\$/MW) ⁵	(\$9,000)	-\$1,800,000
Retirement Costs (\$/MW)	\$94,000	\$18,800,000
OHTL removal (\$120k-\$180k per km) (assuming 0.75 km)		\$112,500
Total Cost Estimate⁶		\$18,912,500

³ Latest scrap metal prices | What is your scrap metal worth?

⁴ Positive value indicating this element has caused an increase in the Retirement Costs as shown

⁵ Negative value indicating this element has resulted in a reduction in the Retirement Costs as shown

⁶ Does not include repurposing of assets such as O&M buildings, hardstands, batteries, etc.

As noted previously should cost-effective recycling approaches be developed and be available at the time of decommissioning, the retirement cost could be significantly lower due to the significant proportion (21-31%) of the cost allocated to battery (GHD, 2025).

9. Decommissioning Security Framework

This section addresses Performance Outcome PO35 of State Code 27, which requires that:

"The decommissioning plans are secured by bonds or financial guarantees or other mechanism/s to safeguard compliance."

The decommissioning security arrangements in this report are an initial framework with the specific details to be provided in the final DSR [expected as a condition of approval] post approval. RWE will ensure that appropriate arrangements are in place to manage decommissioning and rehabilitation throughout the project lifecycle.

No separate Project-specific financial security is proposed during construction because the potential construction-phase decommissioning liability is limited in nature and scale and is materially different from the full decommissioning liability associated with the completed operational facility. Insurances and Warranties are considered sufficient to cover the financial assurance for early operation, and a Parent Company Guarantee is proposed for later in the operational life as determined when the decommissioning cost estimate exceeds the Net Asset Value (NAV).

RWE Renewables Australia Pty Ltd currently holds an option to acquire the Project land. Prior to construction, the Proponent will exercise the option and become the registered owner of the land on which the Project is located.

The Project is considered to present a relatively low risk of abandonment or premature failure requiring access to decommissioning security. This assessment is informed by the following characteristics:

- The Proponent is expected to own the Project land prior to construction
- The construction period is relatively short (estimated to be undertaken over an 18-month period)
- The Project has a relatively small disturbance footprint (total development footprint of approximately 9 ha)
- The Project will be developed, constructed and operated by an experienced international energy company
- The Proponent has substantial financial and technical capacity and experience in the development and operation of energy infrastructure, including battery energy storage systems.

The proposed BESS will be developed and operated by RWE, a large, established international energy company⁷ with substantial financial capacity, diversified operations and a strong investment-grade credit profile⁸. RWE also has an established track record of developing, constructing and operating utility-scale battery energy storage systems internationally. As of 2025, RWE operate approximately 1.2 GW of battery storage capacity, with a further 2.7 GW under construction⁹, and has successfully commissioned large-scale BESS projects in Europe and Australia, including the 50 MW/400 MWh Limondale BESS in New South Wales¹⁰. These characteristics indicate that RWE has substantial financial resources, technical capability and an established long-term presence in the energy sector. Accordingly, the risk of the project being abandoned, or RWE becoming insolvent and unable to meet its decommissioning and rehabilitation obligations, is considered low.

The proposed decommissioning framework includes:

- Provision of decommissioning security in accordance with the arrangements outlined in this DSR
- Preparation of an ECDMP prior to the completion of construction
- Preparation of an EODMP no later than six (6) months prior to the end of the Project's operational life
- Removal of Project infrastructure, equipment and associated facilities in accordance with relevant statutory requirements
- Implementation of decommissioning and rehabilitation measures identified in the EODMP.

The decommissioning security framework outlined in **Table 9.1** ensures that the security required by State Code 27 PO35 is activated and in place at the point it is needed, preserving compliance to cover any scenario where it may be required.

⁷ <https://www.rwe.com/en/the-group/countries-and-locations/>

⁸ <https://www.rwe.com/en/investor-relations/debt-and-credit-ratings/credit-ratings/>

⁹ <https://www.rwe.com/en/press/rwe-generation/2026-01-29-rwe-constructs-a-battery-storage-system-in-lingen/>

¹⁰ <https://www.rwe.com/en/press/rwe-renewables-europe-australia/2026-05-27-rwe-gets-green-light-to-move-australias-first-eight-hour-battery-to-full-operations/>

Table 9.1: Decommissioning Financial Security Framework

Requirements	Project response
Project lifecycle stages and the decommissioning risks associated with each stage	Construction: Risk (low) associated with abandonment or cessation of construction before the BESS becomes operational, including removal of partially completed infrastructure and rehabilitation of disturbed areas. Operations: Risk (low) associated with premature cessation, abandonment, insolvency or failure to undertake required decommissioning and rehabilitation. End-of-life: Risk (low) that sufficient funds are not available to undertake the full decommissioning and rehabilitation liability when the Project reaches the end of its operational life.
Proposed financial security instruments for each stage	The final security arrangements will be established in accordance with the approved or conditioned DSR. The proposed framework is: Construction: No separate Project-specific financial security instrument is proposed. This reflects the limited and temporary nature of the foreseeable construction-phase decommissioning liability, the relatively short construction period, the relatively small disturbance footprint, the absence of substantial temporary construction infrastructure and the low likelihood of a material construction-phase decommissioning liability arising. The Proponent also has a strong financial capacity and track record for building and operating similar facilities in Australia and overseas. In the event that construction were to cease or be abandoned before the BESS becomes operational, the principal foreseeable liabilities would comprise the removal of partially completed Project infrastructure and construction equipment, removal of temporary construction facilities and rehabilitation of construction-related disturbance. The construction phase does not involve the accumulation of a full operational decommissioning liability. Additional overarching risk mitigation factors that lower the risk during this period include: • Construction of the Project will only commence once financial close has been achieved, meaning the Project will be fully funded before any ground-disturbing works begin. • Construction insurances will be in place including: ▪ Contract Works (Material Damage) – valid for the construction period through to Practical Completion and for full construction cost (total Capex) and covering the Defects Liability Period. ▪ Construction Liability - Valid for the construction period through to Practical Completion. Covers Public and Third Party Liability up to a cap. ▪ Standard Workers Compensation and Motor Vehicle Insurance¹¹. • Contracts for Balanced Of Plant (BOP) and original equipment manufacturer (OEM) contracts (or construction) will also have the typical “industry standard” clauses and obligations placed on our construction contractors relating to Performance Securities, Liquidated Damages, Defects Liability, Insurances and Warranties. Accordingly, the Proponent considers that a separate Project-specific financial security instrument during construction is not proportionate to the limited

¹¹ Construction contractors also had their own Workers Compensation, Motor Vehicle and public liability Insurances. But where covered under RWE Contract Works and Construction Liability insurance.

Requirements	Project response
	construction-phase decommissioning liability and the low likelihood of a material liability arising. This position does not remove the Proponent's obligation to undertake any required removal, make-good or rehabilitation works arising during construction. The construction phase will be subject to the decommissioning and rehabilitation obligations applicable under the development approval and other relevant statutory requirements. The operational financial security arrangements described below will be established before the Project commences operations. Operations The operational and end-of-life phases present a materially greater potential decommissioning liability (compared to the construction phase) because the Project will include the completed BESS, associated electrical infrastructure and other permanent Project infrastructure that will have a decreasing value. The Proponent will therefore establish and maintain an appropriate financial security arrangement for the operational and end-of-life phases in accordance with the final DSR and any applicable development approval conditions. The Proponent proposes a Parent Company Guarantee or other acceptable security mechanism at such time where the estimated decommissioning liability exceeds the relevant financial capacity or asset value (calculated using NAV) available to support the liability with an agreed prudential buffer. <u>Early operations:</u> No separate Project-specific financial security instrument is proposed for early operations. Insurance policies and equipment warranties will provide the mechanism to mitigate the risk while NAV exceeds decommissioning cost estimate. For the Operational Phase once a project reaches Commercial Operation Date (COD) or construction Practical Completion (PC) RWE will have the following insurances¹² in place to mitigation any potential risk during the operational phase including: • Material Damage - Coverage for well in excess of the total project Capex costs and decommissioning/rehabilitation costs. • Business Interruption - Covers for 12 months and has a cap that is well in excess of 12 months revenue and operating costs for the project. A Long Term Service Agreement (LTSA) will also be in place with the Battery OEM (Tesla) that will include warranty coverage for the BESS units. <u>Later operations to end-of-life:</u> A Parent Company Guarantee or other acceptable security mechanism is proposed where the estimated decommissioning liability exceeds the relevant financial capacity or asset value available to support the liability. The final instrument or combination of instruments will be legally enforceable, callable on defined trigger events and maintained for as long as the relevant decommissioning risk remains.
Who can call on the security if default or abandonment occurs	The nominated party identified in the final DSR will be able to access or call the security following a defined trigger event. Where the Proponent owns the Project land, the security arrangement will nevertheless be structured so that access to funds is not dependent solely on the Proponent's cooperation or ongoing solvency.

¹² Note this will be a combined policy that covers all of RWE's operational assets. These insurances are in place for RWE's other operational assets in Australia including the Limondale Solar Farm and Limondale BESS.

Requirements	Project response
	The landholder will be the party responsible for initiating the call and managing or procuring the required decommissioning and rehabilitation works.
The trigger events, through lifecycle stages for access to security funds	The general scenarios where the security would be used to cover the cost of decommissioning and site rehabilitation if the Project is abandoned or the proponent defaults. During operations to the end-of-life: - Abandonment of the BESS, including failure to maintain or operate the facility and failure to implement the approved decommissioning plan. - Proponent insolvency, administration, liquidation or bankruptcy where the proponent cannot meet its decommissioning and rehabilitation obligations.
The proposed method for estimating decommissioning costs over time	An indicative decommissioning cost estimate (\$18,912,500) and methodology is provided in Section 8. The decommissioning cost estimate will cover the reasonably foreseeable costs of decommissioning the Project and rehabilitating the site to enable the continuation of the existing or otherwise approved land use, unless a viable alternative end-of-life land use is identified and accepted through the relevant regulatory process. The estimate will clearly identify assumptions regarding salvage value, recycling revenue, residual asset value, disposal costs, inflation, contingency, timing of expenditure and the timing and quantum of financial security. The decommissioning cost estimate will be prepared or independently reviewed by a suitably qualified cost consultant, quantity surveyor or decommissioning specialist with demonstrated experience in utility-scale battery energy storage systems or comparable electrical energy infrastructure. The estimate will be informed by appropriately qualified technical, hazardous materials, waste and environmental specialists where required.
How the financial security and instruments will be reviewed and updated through project stages.	If the Project is sold it will immediately trigger a review and update to the financial security and instruments consistent with the final DSR. At the projected date where the decommissioning costs exceed the NAV, the security will be reviewed every five years for the remaining operational period and within six (6) months of the end-of-life decommissioning. Reviews will consider changes in profitability, asset values, disposal costs, inflation, battery technology, hazardous waste requirements, site conditions, salvage or recycling assumptions, and the remaining infrastructure.

10. References

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Appendix A

Decommissioning Guarantee

Appendix 1: Decommissioning Guarantee

1.1 Operational Life of the Project

- (a) The Project Entity must provide written notice to any Incoming Purchaser of the expected end of operational life of the Project no later than 18 months before the expected end of operational life.
- (b) This notice must specify:
 - (1) the date on which the Project Entity expects the operational life of the Project to end;
 - (2) whether the Project Entity (in its sole discretion) will take steps to extend the operational life of the Project; and
 - (3) a date that is 1 year before the end of the operational life (or the extended operational life), being the date on which the Guarantee Period will commence.

1.2 Provision of Security

- (a) The Decommissioning Guarantee shall be an on-demand guarantee provided by the [SPV or Related Entity] to the Incoming Purchaser.
- (b) The Decommissioning Guarantee shall be in the amount of the Decommissioning Amount.
- (c) [RWE Australia] must provide the Decommissioning Guarantee for the full Decommissioning Amount to the Incoming Purchaser within 14 days of the Guarantee Period date and keep the Decommissioning Guarantee in place until any end-of-life decommissioning obligations as specified in this DSR are discharged.

1.3 Return of Guarantee

- (a) The Decommissioning Guarantee must be returned to the [RWE Australia] once end-of-life decommissioning is completed in accordance with this DSR.

1.4 Breach and Remedy

- (a) If end-of-life decommissioning is not carried out in accordance with this DSR, any Incoming Purchaser must give the Project Entity a reasonable opportunity to remedy the breach before any draw down occurs.
- (b) If the breach is not remedied within a reasonable time, the draw down process under clause 1.5 may occur.

1.5 Draw Down

- (a) If the Project Entity fails to remedy outstanding end-of-life decommissioning works after being given a reasonable opportunity to do so by any Incoming

Purchaser, the Decommissioning Guarantee may be drawn down only to the extent of the costs required to complete those works.

- (b) Any unused funds must be returned, and invoices and receipts provided for all works undertaken.



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Attachment 12

CVs

Andy Jensen

Principal Ecologist

Andy has 16 years' consulting experience across a range of environmental disciplines and industries including mining, renewables, infrastructure, oil, and gas.

Key aspects of his work have included ecological reporting and leading field surveys, preparation of environmental impact statements, preparation of management plans, environmental offset plans, management of subcontractors and health and safety processes. Andy has also led preparation of a number of EPBC Act referrals including for large wind farms and resource/infrastructure projects.

Andy has helped plan and deliver several significant projects, including ecology surveys and management and offsets for wind farms, mine expansions and industrial developments. Andy's role as Principal Ecologist includes leading, developing and implementing ecological assessment projects from inception through to approvals, liaising with the client to ensure their needs are understood and met, managing timeframes and budgets, engaging with regulators, and authoring or peer reviewing a range of reports.

Andy routinely reviews environmental technical studies and has developed environmental management plans and negotiated environmental approval conditions for clients. Andy is a specialist fauna ecologist and familiar with survey guideline requirements at a State and Commonwealth level. Andy also has experience in preparation of habitat mapping criteria for threatened species and habitat quality scoring that satisfies regulator expectations.



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Qualifications & Certifications

Bachelor of Science (Hons), 2003, University of St Andrews

Career Summary

Attexo Group, Principal Ecologist	2024-present
EMM Consulting, Principal Ecologist	2019-2024
CDM Smith, Senior Ecologist	2017-2019
Coffey, Senior Environmental Scientist	2010-2017
Royal Haskoning, Environmental Scientist	2004-2009

Key Project Experience

- Pikedale Windfarm, Southern Downs, Squadron Energy – Project manager and terrestrial ecology surveys and reporting
- Collinsville Windfarm, Collinsville, Ark Energy – terrestrial ecology surveys and reporting
- Eidsvold Windfarm, Eidsvold, Allmontes – Project manager and terrestrial ecology survey design and reporting
- Callide BESS, Gladstone, CS Energy – EPBC Act referral and ecology technical report
- Kogan Power Station and BESS, Surat Basin, CS Energy – EPBC Act self-assessment and ecology technical report
- Pinnacles BESS, Townsville, Enervest – EPBC Act referral and ecology technical report



- Middle Creek Windfarm, Wandoan, Cubico – Bird and Bat Utilisation Survey
- Boomer Windfarm, Wandoan, Ark Energy – Bird and Bat Utilisation Survey
- Nebo BESS, Nebo, Ace Power – Ecology Surveys, EPBC Act referral and ecology technical report
- Koorakee Windfarm, Euston NSW, Squadron Energy – Bird and Bat Utilisation Survey
- Specimen Hill Windfarm, Gladstone, Epuron – Led seasonal terrestrial ecology surveys and technical reporting, preparation of Bird and Bat Management Plan, and EPBC referral including significant impact assessments, Flora & Fauna Management Plan, Cycas megacarpa Translocation Plan, Offset Strategy.
- Boulder Creek Windfarm, Mount Morgan, Epuron – Supported seasonal terrestrial ecology surveys and technical reporting, preparation of Bird and Bat Management Plan, EPBC referral including significant impact assessments.
- Cooloola Great Walk, Brisbane, Queensland Parks and Wildlife Services – Review of EPBC referral
- Blackwater North Mine Expansion, BHP – Led Seasonal Terrestrial Ecology Surveys, Technical Reports including habitat criteria and mapping, significant impact assessments for MNES and MSES
- ARTC Inland Rail Project, Brisbane and SEQ (ARTC) – Supplementary Fauna Surveys and reviewed technical reporting
- Olive Downs Coal Mine Project, Moranbah, Pembroke Resources – MNES surveys and monitoring including spotlighting, camera trapping, preparation of monitoring reports
- Townsville Energy and Chemicals Hub Project, Townsville, QPM – Terrestrial Ecology surveys and reporting, EPBC referral including significant impact assessments, Offset Strategy
- Townsville Energy and Chemicals Hub Project, Townsville, QPM – Identification of potential offset sites, surveying offset site to validate biodiversity values and determine management requirements, preparation of Environmental Offset Management Plan.
- Solquartz Project, Townsville, Solquartz – ecology surveys and technical reporting
- Eva Copper Mine, Cloncurry, Eva Copper – ecology support
- QPM Gas Pipeline, Moranbah, QPM – Terrestrial Ecology surveys and reporting, EPBC referral including significant impact assessments, Offset Strategy
- Queensland Coal Assets, Brisbane, BHP – Secondment to BHP supporting Environmental Approvals and Compliance Reporting.
- ARTC Inland Rail Project, Brisbane and SEQ (ARTC) – Preclearance surveys for Geotechnical Program
- Mole River Dam, Brisbane, Water NSW – Ecological Constraints Reports and Scoping Report
- Carmichael Coal Mine, Brisbane, Adani Mining – Secondment to Adani Mining
- Queensland Oil Refinery, Gladstone – Ecological Surveys
- Mount Fox Windfarm, Brisbane, Windlab – Ecological Constraints Report
- McPhillamys Gold Mine, Blayney NSW, Regis Resources – Ecological Surveys and Biodiversity Assessment Report
- Tipton West Dalby Pipeline, APA Group – Ecology Surveys
- Rugby Run Solar Farm, Brisbane/Moranbah, Adani Renewables – Secondment to Adani Renewables
- Reedy Creek Wallumbilla Pipeline, APA Group – Ecology Surveys
- Styx Coal Mine, Marlborough, Waratah Coal – Supplementary Ecology Surveys
- Bauxite Hills Mine, North of Weipa, Metro Mining – Ecological Surveys
- Williamtown Airport, Newcastle, Defence Australia – Expansions
- Elk Antelope Gas Field, Papua New Guinea, Total E&P PNG Limited – Preparation of ESIA



- Cape River Substation, Pentland, Windlab – Vegetation Clearing Permit
- Frieda River Project, Papua New Guinea, PanAust – Aquatic Ecology Impact Assessment
- Kennedy Energy Park, Hughenden, Windlab – Ecological assessment and EPBC referral
- Chifley Road Upgrade, Roads and Maritime – Review of Environmental Factors
- Granville Platform Upgrade, NSW, Sydney Trains – Review of Environmental Factors
- Erksineville Platform Upgrade, NSW, Sydney Trains – Review of Environmental Factors
- Menangle Park gas pipeline, NSW, Jemena – Review of Environmental Factors
- Riverwood Bridge Upgrade, NSW, Sydney Trains – Review of Environmental Factors
- P'nyang Project appraisal well, Papua New Guinea, Oil Search – Preparation of ESIA
- P'nyang Project appraisal well, Papua New Guinea, Esso PNG P'nyang Ltd – Preparation of EIS
- Former Mary Kathleen uranium mine, near Mount Isa, Queensland Government – Environmental Condition and Rehabilitation Assessment
- Sarsfield Gold Mine Expansion, Ravenswood, Carpentaria Gold – Project Supplementary Report to the EIS
- PNG LNG Pipeline Project, Papua New Guinea, Spicapag – Preconstruction Environmental Surveys
- PNG LNG Project, Papua New Guinea, ExxonMobil – Preconstruction Environmental Surveys
- Moura Pipeline, Queensland Nitrates – Ecological Assessment and EPBC Referral
- Hillalong Project, Glenden, Shandong Energy – Ecological Surveys for reassignment of vegetation mapping
- Surat Basin Gas Project, Arrow Energy – Supplementary Report to the EIS
- Arrow LNG Plant, Brisbane/Gladstone, Arrow Energy – Supplementary Report to the EIS
- Moranbah Gas Project, Brisbane, Arrow Energy – Threatened Species Management Plan
- Arrow LNG Plant, Brisbane/ Gladstone, Arrow Energy – Preparation of EIS
- Pagham Harbour Coastal Defence Scheme, Pagham UK, Environment Agency – Preparation of EIS
- QE2 Teesport Berth Development, UK, PD Teesport – Preparation of EIS
- Round 3 Offshore Windfarms, Edinburgh UK, Airtricity – Review of Ecological Constraints
- Onshore Windfarm, Edinburgh UK, Enertrag – Bird Survey Methodology Design
- Dover Harbour Terminal 2 Development, UK, Dover Harbour Board – Preparation of EIS
- Dudgeon Offshore Windfarm, Edinburgh UK, Dudgeon Offshore Wind – Preparation of EIS
- Elgin Flood Alleviation Scheme, UK, Moray Council – Ecological Surveys
- Seaham Harbour Redevelopment, UK, Durham Council – Preparation of EIS
- Titchwell Managed Realignment, Norfolk UK, Royal Society for the Protection of Birds – Preparation of EIS
- Forres (River Findhorn) Flood Alleviation Scheme, Elgin UK, Moray Council – Ecological Surveys and Preparation of EIS
- Helix Project Phase II, Grangemouth UK, British Waterways – Ecological Surveys
- Forres (River Findhorn) Flood Alleviation Scheme, Elgin UK, Moray Council – Ecological Surveys
- Proposed Firth of Forth Windfarm, Edinburgh UK, Airtricity – Review of Constraints
- Seahouses seawall upgrade, UK, Northumbria Council – Ecological Surveys
- Thames Estuary Maintenance Dredging, Port of London Authority – Review of Ecological Data



- BERR Offshore Energy Strategic Assessment, Edinburgh UK, BERR – Review of Survey Method
- Bo'ness Harbour Development, UK, ING Estate – Wintering Bird Management Plan
- Brent Decommissioning, Edinburgh UK, Shell – Sensitivity Assessment and Environmental Risk
- Canvey Biodiesel Plant, UK, Sure Green Fuels – Preparation of EIS Addendum
- Barrow Waterfront Harbour Revision Order, UK, West Lakes Renaissance – Preparation of EIS
- Trow Quarry Remediation Project, UK, South Tyneside Council – Ecological Surveys and Preparation of EIS
- Isle of Grain Windfarm, UK, British Petroleum – Review of Ecological Data
- Newhaven Desalination Plant, UK, Clarity Ltd – Preparation of EIS
- Strangford Lough Marine Current Turbine, UK, SeaGen Ltd – Preparation of EIS
- Thanet Offshore Windfarm, UK, Warwick Energy – Preparation of EIS Addendum
- River Carron Forth Gateway Project, Grangemouth UK, British Waterways – Ecological Surveys

Steven Tarte

Divisional Director

Steven is a qualified Environmental Scientist with broad experience managing the impact assessments of large-scale projects in Queensland using an in-depth understanding of Queensland's planning and environment regulatory framework and Commonwealth environmental law.

Steven has considerable experience in the provision of strategic advice to guide proponents of projects through primary and secondary approvals phase to construction. Having held senior positions within government, Steven has a unique insight into project approvals pathways and the needs of regulators to approve and facilitate major projects. As an influential leader and experienced Director with the Office of the Queensland Coordinator-General, Steven has coordinated and delivered public and private projects across Queensland that supports the state's long-term economic, social, and environmental outcomes.

In Attexo Steven is responsible for the Environmental Assessment, Planning and Approvals, Environmental Management, and the Land Tenure and Heritage functions. Steven also manages a portfolio of projects across energy and infrastructure projects.



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Qualifications & Certifications

- Graduate Diploma in Public Sector Management Program, 2014, Flinders University
- Bachelor of Environmental Management, 2003, Griffith University

Career Summary

Attexo Group	2022-present
Senior Principal Consultant - Approvals	
Office of the Coordinator-General – State Development Department,	2013-2022
Various positions including Executive Director, Project Evaluation and Facilitation	
Department of Environment and Science	2003-2013
Various Position including Manager, Petroleum and Gas	

Key Project Experience

- Client Porfilio Manager and Project Director for several RWE BESS and wind farm developments, delivering ecology, State and Commonwealth Approvals across various scopes of work for the projects.
- Client Porfilio Manager and Project Director for several European Energy's solar farm, BESS and wind farm developments, delivering ecology, State and Commonwealth Approvals.
- Project Director for several OX2 solar farm and BESS developments, delivering ecology, State and Commonwealth Approvals.
- Project Director for Middle Creek and Marmadua Wind Farms delivering State and Commonwealth approvals.
- Project manager for Han Ho H₂ Hub developing the approvals strategy and leading studies to support the feasibility decisions for the project.



- Strategic approvals advice and support as part of the owner's team for the Borumba Dam Pumped Hydro project. Including coordination and development of the Borumba Pumped Hydro Exploratory Works referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- Strategic approvals advice and support as part of the owner's team for the Pioneer-Burdekin Dam Pumped Hydro project. Including development of the Pioneer-Burdekin Pumped Hydro Energy Storage Project Approvals Strategy Document and the associated Mackay-Eungella Road Delivery Options Paper.
- Project manager and lead author of the Development Constraints Report for the CS Energy's 200 megawatt/400-megawatt hour grid scale Greenbank Battery Energy Storage System. Provision of technical advice and coordination of technical studies to support the amendment to the Ministerial Infrastructure Designation for the project.
- Project manager for the red flag assessment and Rapid Constraints Reports (4 separate projects) for the Ironbark Grid Scale Battery Energy and Storage systems in New South Wales and Queensland.
- Project manager and lead author of Approvals Pathway Document for BayWa r.e. AG offshore wind prospects in Queensland.
- Project Manager and approval advisor – Senex Urea Manufacturing Facility constraints assessment report evaluating suitable sites for the project.
- Approvals advisor and lead author – development of a collaborative program between ARTC and the State Government for the regulatory framework for the Inland Rail Project.
- Project manager and lead author Approvals Strategy and initial 12-month scope of work to deliver the approvals for the Han Ho Hydrogen Hub Project.
- Approvals advisor – variations to the exiting EPBC Act approvals and ad-hoc approvals advice to support secondary approvals requirements for the Olive Downs Mine Complex.
- Program management and leadership within the Office of the Queensland Coordinator-General – Executive Director or Director: responsible for the program and project management, resourcing, recruitment, stakeholder engagement and sector lead for renewables (particularly hydrogen) and resource recovery.
- Inland Rail project – Executive Director: led the evaluation of the draft Environmental Impact Statement for the projects; engagement with Coordinator-General, relevant senior government representatives, State and Federal Agencies and community members.
- CopperString 2.0 – Director: led the final EIS decision phase of the CopperString 2.0 project, managing State and Commonwealth agency and proponent expectations around biodiversity impacts and offsets requirements. Developed strategic approach to the evaluation to report to ensure a delivery focus for subsequent approvals.
- Cross River Rail change reports – Executive Director: led the evaluation of the change reports (4, 5, 6, 7, 8, 9, 10, 11) for the project; engagement with Coordinator-General, relevant senior government representatives. Ensured the timely delivery of key change reports tied to commercial negotiation for the delivery of the project.
- 15 Mile Irrigated Agricultural Development – Executive Director: led the evaluation of the Impact Assessment Report for the project; engagement with Coordinator-General, relevant senior government representatives and Minter's office.
- Kidston Pumped Storage Hydro project – Executive Director: led the evaluation of the Impact Assessment Report for the project; engagement with Coordinator-General, relevant senior government representatives and Minister's office.
- Olive Downs project – Executive Director: led the evaluation of the Environmental Impact Statement for the project; engagement with Coordinator-General, relevant senior government representatives.

Sue Walker

Principal – Statutory Planning and Approvals, MPIA

Sue is a qualified Urban and Regional Planner with over 20 years post graduate experience in Australia and the United Kingdom. With extensive experience in environmental and development assessment and regulatory approvals and land use planning across a range of sectors. Sue's most recent project experience is within the energy sector, including hydrogen, grid scale battery energy storage, solar farm and wind farm projects in Queensland, NSW, and Victoria.



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Sue has been involved in projects from feasibility and preparing preliminary assessments based on environmental and land use constraints, through to preparation of regulatory approval plans for projects to implementing these approvals plans, preparing planning and environmental assessments, and gaining secondary approvals for the construction of major projects. Sue's experience has provided her with a strong understanding of the planning framework and associated legislation, regulations and codes across Queensland, NSW, and Victoria.

Qualifications & Certifications

Graduate Diploma of Urban and Regional Planning, 2002 (Partial Completion), Queensland University of Technology

Bachelor of Built Environment (Urban and Regional Planning), 1999, Queensland University of Technology

Member Planning Institute of Australia

Career Summary

Attexo Group, Principal Consultant	2024-present
Senior Consultant – Statutory Planning and Approvals	2021-2024
SLR Consulting, Associate Planner	2019-2021
Jacobs (Formerly SKM), Senior Planner/ Team Leader	2009-2014
RPS London, Senior Planner	2005-2009
London borough of Bexley, Document Control Officer	2004-2005
Sinclair Knight Merz Pty Ltd, Urban and Regional Planner	2001-2004
Fisher Stewart Pty Ltd and Urbis Pty Ltd, Contract telecommunications Planner	2000-2001

Key Project Experience

Renewable Energy Infrastructure

- Tully BESS (2025 – current), RWE Australia Pty Ltd - Project Manager and Lead Planning Approvals: Preparation and submission of development application to Cassowary Coast Regional Council. However, with the changes to the regulatory approvals requirements for renewable energy projects, this project will now be subject to the new assessment procedures and SDAP State code 27. The Project will have a capacity of up to 200 MW / 800 MWh for a duration of up to 4 hours and is proposed to take electricity from the grid in periods of low demand, and



feed back into the grid at periods of high demand. The project has also involved a referral to the commonwealth Department of Climate Change, Energy, Environment and Water, this was determined to be a “not controlled action”

- Hughes Road BESS (2022 – current)), BayWa r.e – Project Manager and Lead Planning Approvals: Preparation and submission of development application to Gladstone Regional Council. However, with the changes to the regulatory approvals requirements for renewable energy projects, this project will now be subject to the new assessment procedures and SDAP State code 27. The Project includes a proposed BESS with a capacity up to 200 MW/ 800 MWh and associated infrastructure (e.g. access track, laydown areas, foundations, hard stand, parking and storage). The BESS and associated infrastructure will comprise a total Development Footprint of approximately 3.9 ha within the 29.11 ha property. The project has also involved a referral to the commonwealth Department of Climate Change, Energy, Environment and Water, this was determined to be a “controlled action” with assessment to proceed via Preliminary Documentation, Attexo are supporting BayWa with the PD and offsets scope.
- Upper Calliope Solar Farm (2023 – current), European Energy – Lead Planning Approvals: Responsible for the preparation and submission of development application to Gladstone Regional Council. European Energy is proposing to develop a ~1,300 megawatt (MWp) photovoltaic (PV) solar farm and associated infrastructure in Mount Alma, Queensland approximately 50 km to the southwest of Gladstone and north of the Dawson Highway. The development application was approved by Gladstone Regional Council in December 2025. Attexo scope continues with supporting European Energy with securing secondary approvals and discharge of conditions in advance of construction of the project.
- Tyrone Solar Farm and BESS (2024 – present) – European Energy – Lead Planning Approvals: Responsible for the preparation and submission of development application to the State, with assessment against the new State Development Assessment Provisions, State Code 26 and State Code 27.
- Boulder Creek Wind Farm (2024 – 2026), Aula Energy – Planning Lead: Responsible for the preparation and submission of secondary approvals for the Boulder Creek Wind Farm (BCWF). The BCWF is located approximately 40 km south-west of Rockhampton and 7.5 km southwest of Mount Morgan in Queensland. The BCWF Project straddles the boundary of Rockhampton Regional Council and Banana Shire Council local government areas. Sue led the preparation of development applications for Reconfiguring a Lot (RAL), associated with dividing land by agreement including a lease exceeding a term of 10 years with two application submitted to the LGAs. Additionally, sue oversaw the preparation of development applications Operation Works for the civil works associated with the construction of the wind farm with separate applications for each LGA.
- Marmadua Energy Park and Middle Creek Energy Hub (2024 – 2025), Cubico – Planning Lead: Responsible for the preparation of Planning Assessment for the proposed wind farms, under State Code 23.
- Burrenbring BESS (2024 – present), Iberdrola – Planning Lead: Responsible for the preparation of development application and supporting planning assessment for the proposed battery energy storage system at Burrenbring (near Nebo) in Queensland.
- Callide Wind Farm (2024), DP Energy – Planning Lead: Responsible for the preparation of Development Application for Reconfiguring a Lot (RAL) by subdivision of one lot into two lots. The proposed RAL is for the switching station and electrical export line on part of Lot 39 and for the consolidation of land parcels associated with the Callide Wind Farm.
- Blenheim Solar Farm (2023 – 2024), European Energy – Planning Lead: Responsible for the preparation constraints assessment for the proposed development of solar farm within Lockyer Valley Regional Council. Due to the identified constraints and following careful consideration, European Energy have reevaluated the project against its values of net benefits to communities, environmental stewardship and economic robustness and are not proceeding with a development application.
- Lotus Creek Wind Farm (2023 – 2024), Vestas and Zenvion – Planning Lead: Responsible for the preparation and submission of secondary approvals for the Lotus Creek Wind Farm (LCWF). Including application for Material Change of Use for temporary concrete batching plants, Operational works for construction waterway barrier



works for upgrades to the St Lawrence-Croydon Road, Operational works for civils works for the construction of the wind farm.

- Tarong West Wind Farm (2023 – 2025), Vestas – Secondary Approvals and Advice: Provided approvals and advice for the development of the wind farm, including Operational works for construction or raising waterway barrier works for the construction of access tracks across the site. Advice regarding the development of borrow pits within the site for the purposed of winning material for the development of the wind farm, this will include approvals under the Planning Act 2016 and the Environmental Authority under the Environmental Protection Act 1994.
- Wambo Wind Farm (2023 – 2024), Vestas, Bielby and Fulton Hogan – Secondary Approvals and Advice: Provided approvals and advice for the construction contractors for the WBWF, including Operational works applications for civil works, Operational works for construction or raising waterway barrier works for the construction of access tracks across the site.
- Orana Wind Farm Fatal Flaws Assessment (2022) – Acciona Energy Australia – Planning Support: Preparation of Fatal Flaws assessment for the proposed wind farm which includes up to 77 wind turbine generators with an approximate nameplate generation capacity of 440 megawatts.
- Hydrogen Park Wagga Wagga (2021 – 2023), Australian Gas Infrastructure Group – Statutory Planning Approvals: Preparation of preliminary assessment of the planning and regulatory frameworks for the proposed Hydrogen Park in Wagga Wagga. The Project will produce renewable hydrogen for blending with natural gas up to volume of 10% within the existing Wagga Wagga gas distribution network. The Project is located within the Wagga Wagga Special Activation Precinct.
- Hydrogen Park Murray Valley (2021), Australian Gas Networks – Statutory Planning Approvals Support: Assisting with approvals and licencing requirements for Australian Gas Infrastructure Group's proposed Hydrogen Park Murray Valley project consisting of a 10MW electrolyser and associated infrastructure to blend hydrogen into the existing Albury/Wodonga gas distribution network at up to ten percent.
- Hydrogen Park Gladstone (2021), Australian Gas Infrastructure Group – Statutory Planning Approvals: Assisting with approval processes for AGIG's proposed Hydrogen Park Gladstone project consisting of a 175kW electrolyser and associated infrastructure to blend hydrogen into the existing Gladstone gas distribution network at up to ten percent. Initial application within Gladstone Regional Council, followed by second application within Gladstone Ports Corporation Land which was approved.
- Boulder Creek Wind Farm and Specimen Hill Wind Farm (2021), Epuron – Statutory Planning Approvals Support: Identification of likely required secondary approvals for two wind farm projects. Prepared various parts of the relevant Planning Reports.
- Dulacca Wind Farm (2021), MPK – Planning Approvals Support: Preparation of operational works development applications and environmental authority applications for temporary borrow pits for the construction of the Dulacca Wind Farm.
- Ashby Gravel Pit (2021), MPK – Planning Support: Preparation of Site Based Management Plan including Construction Environmental Management Plan for the development of temporary gravel pit.

Gas and Mineral Resources

- Blue Energy Approvals Plan (2020), Blue Energy – Planning Lead: Preparation of documentation setting out the development and environmental approvals pathways including likely approval triggers for the establishment of gas fired power plant in central Queensland.
- New Acland Stage 3 RIDA (2020), New Acland Coal Pty Ltd – Planning Lead: Preparation of the Regional Interests Development Application under section 29 of the Regional Planning Interests Act 2014 for the New Acland coal mine stage 3 project. The application complex and required consideration and integration of requirements for the activity within the priority agricultural area (PAA) and partly within a strategic cropping area (SCA) to the RPI Act. The assessment was in support to the Priority Agricultural Land Use (PALU) Assessment for the initial (5 years) of operation of the Project against Chapter 4 of the Darling Downs Regional Plan.



- Queensland Curtis Liquid Natural Gas Project at Curtis Island and associated facilities within the Port of Gladstone, Bechtel Permitting Plan, Bechtel – Planning Lead: Review and preparation of approvals required for the construction and operation of the Queensland Curtis Liquid Natural Gas Project at Curtis Island and associated facilities within the Port of Gladstone. The work involved the development of a project permitting strategy that guided the approval timings and requirements for the project.

Roads and Transport

- Major Road Upgrade Projects across South East Queensland (2020-2021), BG+E on behalf of Transport and Main Roads – Environmental Planning Lead: Preparation of Environmental Assessments Reports, as well as providing advice on the legislative requirements, including potential for approvals.
- Smithfield Bypass Project (2019-2020), BG+E HDR Joint Venture on behalf of Transport and Main Roads – Environmental Planning and Approvals Lead: Preparation of environmental documentation including Review of Environmental Factors, Environmental Management Plan (Planning) and Environmental Design Report. As well as identifying and securing design approvals including Water Licence (for diversion) and Waterway Barrier Works approvals for realignment of Avondale Creek and installation of numerous culvert groups.
- QRL New Generation Rollingstock (2010-2012), Queensland Rail – Planning Lead: Responsible for the preparation of an Inception Report for a potential QRL development site. The report set out the development application and approval requirements for a rolling stock maintenance and depot facility at a confidential site.

Water Infrastructure

- Burdekin Falls Dam Raising EIS (2020-2021), Sunwater Ltd – Planning Lead: Preparation of the land use and tenure inputs to the EIS. As well as providing advice on the legislative requirements and approvals required for the project.
- Bohle Water Treatment Plant EA Amendment (2019-2020), Veolia Environmental Services (Australia) Pty Ltd – Planning and Approvals Lead: Coordination of team and preparation of supporting material for seeking an amendment to the existing EA to allow for additional waste types to be treated at the site. Including liaison with state and local government agencies.
- Hinze Dam Stage 3 Development Approvals (2009-2010), Seqwater – Planner: Provided advice for the preparation of applications for Vegetation Clearing Environmental Relevant Activities and building works at the site. As well as providing a review role to various other planning and environmental approval applications.