

ORDINARY MEETING

AGENDA

9 DECEMBER 2025

Your attendance is required at an Ordinary meeting of Council to be held in the Council Chambers, 232 Bolsover Street, Rockhampton on 9 December 2025 commencing at 9:00 AM for transaction of the enclosed business.

CHIEF EXECUTIVE OFFICER

2 December 2025

Next Meeting Date: 20.01.26

Please note:

In accordance with the *Local Government Regulation 2012*, please be advised that all discussion held during the meeting is recorded for the purpose of verifying the minutes. This will include any discussion involving a Councillor, staff member or a member of the public.

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1 OPENING

- 1.1 Acknowledgement of Country
- 1.2 Opening Prayer

2 PRESENT

Members Present:

The Mayor, Councillor A P Williams (Chairperson)
Deputy Mayor, Councillor M D Wickerson
Councillor S Latcham
Councillor E W Oram
Councillor C R Rutherford
Councillor M A Taylor
Councillor G D Mathers
Councillor E B Hilse

In Attendance:

Mr E Pardon - Chief Executive Officer

3 APOLOGIES AND LEAVE OF ABSENCE

Apologies have been received from Councillor Edward Oram and Councillor Grant Mathers.

4 CONFIRMATION OF MINUTES

Minutes of the Ordinary Meeting held 25 November 2025

5 DECLARATIONS OF INTEREST IN MATTERS ON THE AGENDA

6 BUSINESS OUTSTANDING

6.1 BUSINESS OUTSTANDING TABLE FOR ORDINARY COUNCIL

File No: 10097

Attachments: 1. December 2025

Authorising Officer: Evan Pardon - Chief Executive Officer
Author: Evan Pardon - Chief Executive Officer

SUMMARY

The Business Outstanding Table is used as a tool to monitor outstanding items resolved at previous Council or Committee meetings. The current Business Outstanding Table for Ordinary Council is presented for Councillors' information.

OFFICER'S RECOMMENDATION

THAT the Business Outstanding Table for Ordinary Council be received.

BUSINESS OUTSTANDING TABLE FOR ORDINARY COUNCIL

December 2025

Meeting Date: 9 December 2025

Attachment No: 1

Co	vision: mmittee: Ordinary Council icer:	Date From: Date To:
Action Sheets Report		Printed: Tuesday, 2 December 2025 10:54:51 AM

Meeting Date	Subject	Resolution	Officer	Target Date	Notes
28/06/2022	CMP Updates - Heritage Management Strategy	COUNCIL RESOLUTION THAT Council resolves that the matter lay on the table until further consultation with the community.	Wyatt, Cameron	31/01/2026	03 Oct 2025 8:53am Wyatt, Cameron Study to be presented to Council on 28 October 27 Nov 2025 12:18pm Conrad, Trudi Cam Wyatt: Report going to Council January 2026 27 Nov 2025 12:19pm Conrad, Trudi - Target Date Revision Target date changed by Conrad, Trudi from 30 June 2025 to 31 January 2026
13/12/2022	Draft Community Engagement Framework	COUNCIL RESOLUTION THAT Council: 1. Adopts the draft Community Engagement Framework as detailed in the report; and 2. Approves officers to revise policy and procedure for further consideration by Council.	Yelland, Rebekah	02/03/2026	27 Feb 2025 12:32pm Conrad, Trudi - Reallocation Action reassigned to Stafford, Lucy by Conrad, Trudi - Emma Brodel on maternity leave 17 Apr 2025 2:39pm Stafford, Lucy - Target Date Revision Target date changed by Stafford, Lucy from 30 June 2023 to 30 September 2025 - Scheduled for later this calendar year pending resource capacity 26 Nov 2025 12:16pm Conrad, Trudi - Reallocation Action reassigned to Yelland, Rebekah by Conrad, Trudi - reassigned to Bek Yelland following departure of Lucy Stafford. Report to come back to Council early 2026. 26 Nov 2025 12:17pm Conrad, Trudi - Target Date Revision Target date changed by Conrad, Trudi from 30 September 2025 to 02 March 2026
23/07/2024	Telecommunica tions Policy Review	COUNCIL RESOLUTION THAT Council review the Telecommunication Facilities on Council Land Policy.	Roberts, Kellie	28/02/2026	02 Sep 2025 3:59pm Roberts, Kellie - Target Date Revision Target date changed by Roberts, Kellie from 30 September 2025 to 19 December 2025 - ongoing review 25 Nov 2025 2:20pm Roberts, Kellie - Target Date Revision Target date changed by Roberts, Kellie from 19 December 2025 to 28 February 2026 - Presenting policy to a Council Briefing session in February 2026

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		Division: Committee: Ordinary C Officer:	ouncil			Date From: Date To:
Action She	ets Report					Printed: Tuesday, 2 December 2025 10:54:51 AM
08/04/2025	Potential Lease of Unused Portion of Water Allocation	COUNCIL RESOLUTION THAT the matter lay on the considered at a Briefing Sec		Taylor, Marnie	15/12/2025	O1 Sep 2025 1:56pm Taylor, Marnie - Target Date Revision Target date changed by Taylor, Marnie from 31 August 2025 to 31 October 2025 - Resourcing is impacting the finalisation of a report to Council. 28 Oct 2025 4:01pm Taylor, Marnie - Target Date Revision Target date changed by Taylor, Marnie from 31 October 2025 to 15 December 2025 - Further work to occur, now that Bulk Water Agreement matter with LSC has an outcome.
10/06/2025	Temporary Local Planning Instrument	THAT Council: 1. resolves to prepare Planning Instrument with section 23 of the F 2. Undertake public consproposed TLPI, prior to State Government.	(TLPI) in accordance Planning Act 2016; and sultation regarding the	Wyatt, Cameron	28/11/2025	31 Jul 2025 3:15pm Wyatt, Cameron Drafting has commence on the TLPI. Consultation to begin on 11 August 2025 02 Sep 2025 9:40am Wyatt, Cameron Public consultation has been concluded on 1 September. The responses will be reviewed an a briefing session held with Councillors 03 Oct 2025 8:54am Wyatt, Cameron Report to be presented to Council on 14 October 27 Nov 2025 12:19pm Conrad, Trudi TLPI has been approved by Council on 25 November 2025 and will take effect from 28 November 2025. 27 Nov 2025 12:19pm Conrad, Trudi - Target Date Revision Target date changed by Conrad, Trudi from 24 June 2025 to 28 November 2025
24/06/2025	Use of Council Bus	COUNCIL RESOLUTION THAT the matter lay or additional information as recto Council.		Dorman, Kerri	08/07/2025	01 Oct 2025 8:40am Dorman, Kerri Further information being collated by Community Relations Officer for report back to Council in the near future. 04 Nov 2025 7:30am Dorman, Kerri Awaiting advice from QPS. Please extend target date out to 31 January 2026.

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		Division: Committee: Ordinary Council Officer:			Date From: Date To:
Action Sheets Report					Printed: Tuesday, 2 December 2025 10:54:51 AM
22/07/2025	Material Recycling Facility Options Paper	COUNCIL RESOLUTION THAT Council: 1. Endorse the approach to further explore the current potential opportunity for a cross-regional Material Recycling Facility; and 2. Authorise the Chief Executive Officer to hold discussions with other regional Councils.	O'Keeffe, Michael	05/08/2025	O1 Sep 2025 2:00pm Winter, Amanda Manager RRWR has held discussions with the State regarding possible funding for a cross-regional MRF., Funding guidelines and criteria have not been released from the State to assess if funding will be available. 12 Sep 2025 11:41am Kofod, Peter Letter from CEO issued. 26 Nov 2025 12:36pm O'Keeffe, Michael Ongoing discussions with Mackay Regional Council. MRC will be considering a Report in early December regarding their future arrangements for the processing of kerbside recyclables.
22/07/2025	Property Matter	THAT: 1. Pursuant to section 236((1)(b)(i) of the Local Government Regulation 2012(Qld), Council approves the Lease of Lot 46 Waurn Street, Kawana (Lot 4 on CP900382) to The State of Queensland (represented by the Department of Transport and Main Roads) for a term of 3 years with 2 x 1 year options; and 2. Council authorises the Chief Executive Officer (Coordinator Property & Insurance) to negotiate the terms and conditions of the lease in preparation for the execution by the delegated officer, subject to the conditions	Roberts, Kellie	31/01/2026	25 Jul 2025 11:19am Roberts, Kellie - Target Date Revision Target date changed by Roberts, Kellie from 05 August 2025 to 31 January 2026 26 Nov 2025 10:42am Roberts, Kellie Negotiations still progressing via GM Regional Services to TMR.
12/08/2025	Proposed Easement/Sale of Council Land	outlined in the report. COUNCIL RESOLUTION THAT the Chief Executive Officer (Property and Resumptions Officer) be authorised to proceed with Option 1 outlined within the report.	Mills, Michelle	27/03/2026	26 Nov 2025 10:21am Mills, Michelle - Target Date Revision Target date changed by Mills, Michelle from 19 December 2025 to 27 March 2026 - Timeframe extended due to the requirements of Council's decision to proceed with option 1.

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Action She	ets Report	Division: Committee: Ordinary Council Officer:			Date From: Date To: Printed: Tuesday, 2 December 2025 10:54:51
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26/08/2025	Leases to State of Queensland - part of 10 Pilbeam Drive and 94-140 Agnes Street	COUNCIL RESOLUTION THAT: 1. Pursuant to Section 236(1)(b)(i) of the Local Government Regulation 2012 (Qld), Council approve the renewal of the freehold lease to the State of Queensland for the premises located at part of 10 Pilbeam Drive, Mt Archer (Lease 'E' and 'H' on SP271513 in Lot 10 on SP246217) for a term of 10 years;	Roberts, Kellie	31/01/2026	28 Aug 2025 11:52am Roberts, Kellie - Target Date Revision Target date changed by Roberts, Kellie from 09 September 2025 to 31 December 2025 - To allow time for lease prep, negotiations & registrations 26 Nov 2025 10:41am Roberts, Kellie - Target Date Revision Target date changed by Roberts, Kellie from 31 December 2025 to 31 January 2026 - Awaiting on response from QPS. Allow additional time over the end of year period.
		2. Pursuant to Section 236(1)(b)(i) of the Local Government Regulation 2012 (Qld), Council grant a trustee lease to the State of Queensland for the premises located at part of 94-140 Agnes Street, The Range (part Lot 322 on LN2810) for a term of 10 years; and			
		 Council authorises the Chief Executive Officer (Coordinator Property & Insurance) to negotiate the terms and conditions of the lease as outlined in the report, in preparation for execution by the delegated Officer. 			
02/09/2025	Place of Last Resort - Project Plan	COUNCIL RESOLUTION THAT: 1. Council endorse the Place of Last Resort Project Plan as attached to the report including the following amendments. Stage One A • Engage and consult with neighbouring properties around the potential use of the site and seek feedback over any likely objection to a formal MCU • Engage and consult with Service providers on preliminary design of site to		16/09/2025	01 Oct 2025 11:28am Scott, Doug intial pre-consultation engagment has comenced. Finalising consultation process with the aim to begin stakeholder engagment shortly. 05 Nov 2025 8:42am Scott, Doug Consultation has commenced and concludes Monday 17 November. Terms of reference for the advisory group currently being drafted with the aim to send to Council to adoption prior to the end of year. 27 Nov 2025 3:08pm Scott, Doug Due to the high number of responses received from the community consultation (647) it will take longer then planned to review the feedback ensuring the feedback is

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ensure safety of occupants as well as understanding their ability to provide wrap-around care.

Stage One B

- · Prepare detailed costs and budget
- Establishment of Site Rules for approximately 50 occupants
- Complete hazard assessment and identify and mitigate risks
- Implement traffic management plan
- Provision of internal services are in place (water, cleaning & maintenance etc)
- Service providers are able to provide wrap-around care

Stage Two

- Undertake capital repairs to the site in preparation for opening
- · Open site for use
- · Begin MCU process
- Council approve the commencement of community consultation in accordance with the Community Engagement Procedure and Matrix and run concurrently with Stage One A and Stage One B of the Project plan; and
- A further report be presented to Council detailing the feedback and outcome of the community consultation and draft copy of the site's operational plan and associated capital and operational costs prior to stage two of the project plan coming to Council for formal adoption of the service.

accurately captured. The aim is to now have the report to Council in Jan 2026 for the feedback to be considered, along with initial budgets, ToR and operational plan

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Antinu Cl		Division: Committee: Ordinary Council Officer:		Date From: Date To:
Action She	ets Report			Printed: Tuesday, 2 December 2025 10:54:51 AM
02/09/2025	Property Matter	COUNCIL RESOLUTION THAT the Chief Executive Officer (Coordinator Property & Insurance) be authorised to proceed with Option 2 as outlined in the report.	30/01/2026	18 Sep 2025 8:47am Roberts, Kellie - Target Date Revision Target date changed by Roberts, Kellie from 16 September 2025 to 30 January 2026 - Action taken in accordance with resolution as outlined in confidential report. Matter due to settle in January 2026
09/09/2025	Asset Management	THAT: 1. the update on Asset Management matters be 'received'. 2. A future presentation on R1 Dashboard be received by the Committee. 3. Inspection of the Water Treatment Plant and treatment of risks be undertaken at a future time. 4. A summary on the Asset Maturity assessment be reported to the Committee.	30/06/2026	11 Nov 2025 4:07pm Whitby, Andrew - Target Date Revision Target date changed by Whitby, Andrew from 23 September 2025 to 30 June 2026
09/09/2025	Memorandum of Understanding with CQUniversity	COUNCIL RESOLUTION THAT Council endorse the signing of the Memorandum of Understanding (MOU) between Rockhampton Regional Council and CQUniversity to support collaboration between both parties throughout the development of Rockhampton Sports Precinct.	23/09/2025	

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		Division: Committee: Ordinary Council Officer:			Date From: Date To:
Action She	ets Report				Printed: Tuesday, 2 December 2025 10:54:51 AM
14/10/2025	Future Bulk Water Supply Agreement between Rockhampton Regional Council and Livingstone Shire Council	COUNCIL RESOLUTION THAT Council commence negotiations of Livingstone Shire Council to enter into a new because a supply agreement with Livingstone Secouncil for a term of 10 years, commencing for 1 July 2026, for an annual allocation of up 6,100ML. Pricing will be subject to perior review, aligned with infrastructure investment of the property of	bulk hire rom o to odic nent and	28/10/2025	
28/10/2025	Annual Financial Statements 30 June 2025	COMMITTEE RECOMMENDATION THAT the Draft Financial Statements and D Management Representation Letter for the pe ended 30 June 2025 be received and feedback be provided to the Mayor and C Executive Officer prior to signing.	riod any hief	11/11/2025	
20/10/2025	2025 Closing Report	COMMITTEE RECOMMENDATION THAT: the Closing Report for the financial yended 30 June 2025 be received; a report be prepared and a risk assessme be undertaken on the deficiencies in intecontrols and other matters identified Section 4 of the report and presented to Committee at its first scheduled meeting 2026; and a self-assessment be undertaken regard the recommendations from Section 5 of report and a report be presented to Committee at its first scheduled meeting 2026.	nent rnal I in the g in ding the the	11/11/2025	

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		Division: Committee: Ordinary Council Officer:			Date From: Date To:
Action She	ets Report				Printed: Tuesday, 2 December 2025 10:54:51 AM
28/10/2025	QAO Briefing Paper	COMMITTEE RECOMMENDATION THAT the Queensland Audit Office Briefing Paper be received.	Simon, Tisin	11/11/2025	
28/10/2025	TENDER CONSIDERATI ON PLAN FOR ROCKHAMPT ON RIVER FESTIVAL 2026	COUNCIL RESOLUTION THAT pursuant to s230 of the Local Government Regulation 2012, Council receives this report for the preparation and adoption of the Tender Consideration Plan for the 2026 Rockhampton River Festival.	Wooley, Tanya	11/11/2025	
28/10/2025	TENDER CONSIDERATI ON PLAN FOR CAPRICON 2026	COUNCIL RESOLUTION THAT pursuant to s230 of the <i>Local Government Regulation 2012</i> , Council receives this report for the preparation and adoption of the Tender Consideration Plan for CapriCon 2026.	Wooley, Tanya	11/11/2025	
28/10/2025	Rockhampton Museum of Art Patron	COUNCIL RESOLUTION THAT the matter lay on the table pending additional information to be provided at the next Council meeting on 12 November 2025.	McBurnie, Jonathan	11/11/2025	

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		Division: Committee: Ordinary Council Officer:			Date From: Date To:
Action She	eets Report	Officer.			Printed: Tuesday, 2 December 2025 10:54:51 AM
28/10/2025	Delivery Partner Guarantee Deed Local Government with Department of Sport, Racing and Olympic and Paralympic Games	THAT Council: 1. Approves and endorses entering into the Delivery Partner Guarantee Deed between Rockhampton Regional Council and the State of Queensland (through the Department of Sport, Racing and Olympic and Paralympic Games) for the 2032 Olympic and Paralympic Games outlining Council's commitment and support towards the planning and delivery of the Olympic and Paralympic Games; 2. Delegates, pursuant to section 257(1) of the Local Government Act 2009, to the Chief Executive Officer, the power to exercise the powers of Council to negotiate, execute and manage the Delivery Partner Guarantee Deed and any related venue agreements on Council's behalf; and 3. Authorises the Chief Executive Officer to execute the final Delivery Partner Guarantee Deed on behalf of Council.	Ellis, Steven	11/11/2025	
28/10/2025	Proposed Fees and Charges for Local Laws and DAC 2025- 2026	COUNCIL RESOLUTION THAT in accordance with the requirements of the Local Government Act 2009, Council adopts the amendments to the Fees and Charges schedule for the 2025-2026 financial year.	Simon, Tisin	11/11/2025	

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		Division: Committee: Ordinary Council Officer:			Date From: Date To:
Action Sheets Report					Printed: Tuesday, 2 December 2025 10:54:51 AM
12/11/2025	Councillor Discretionary Fund Application - Meals on Wheels Rockhampton	COUNCIL RESOLUTION THAT Council approves the allocation of Councillor Discretionary Fund (CDF) to support Meals on Wheels Rockhampton totalling \$1,000 as follows: • \$500 from Mayor Tony Williams' Councillor Discretionary Fund, and • \$500 from Councillor Drew Wickerson's Councillor Discretionary Fund	De Klerk, Sharnie	26/11/2025	
12/11/2025	Request for REIQ Affiliate Corporate Membership	COUNCIL RESOLUTION THAT Council endorses Advance Rockhampton's request to purchase an REIQ Affiliate Corporate Membership.	Barnett, Jack	26/11/2025	
12/11/2025	Urban Development Institute of Australia Membership	COUNCIL RESOLUTION THAT Council endorses Rockhampton Regional Council, through Advance Rockhampton, becoming a member of the Urban Development Institute of Australia (UDIA) Queensland.	Duncan, Jack	26/11/2025	
12/11/2025	Flood barrier System Components - Transfer of Ownership	COUNCIL RESOLUTION THAT Council endorse the proposed action in relation to the relocation and possible acquisition of a Flood Barrier System from the State Government.	Crow, Martin	26/11/2025	

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Division: Committee: Ordinary Council Officer: Action Sheets Report				Date From: Date To: Printed: Tuesday, 2 December 2025 10:54:51 AM		
12/11/2025	Adoption of 2024/25 Annual Report	COUNCIL RESOLUTION THAT in accordance with the Local Government Act 2009, the Local Government Regulation 2012, and the Water Supply (Safety and Reliability) Act 2008, the 2024/25 Annual Report as presented be adopted.		26/11/2025		
12/11/2025	Sale of Council Land - Lot 2 Yeppoon Road, Limestone Creek (Lot 2 oN RP616741)	COUNCIL RESOLUTION THAT Council: 1. Authorises the Chief Executive Officer (Property and Resumptions Officer) to: a. Issue a public tender to dispose of Council land, situated at Lot 2 Yeppoor Road, Limestone Creek (Lot 2 or RP616741) in accordance with section 228(4) of the Local Government Regulation 2012; b. The sale be subject to all costs incurred being paid by the successful tenderer including but not limited to, stamp duty purchaser's legal costs (if applicable) and registration fees. 2. Receives a report on the tender submissions for consideration and Council approval.		27/02/2026	26 Nov 2025 10:37am Mills, Michelle - Target Date Revision Target date changed by Mills, Michelle from 26 November 2025 to 27 February 2026 - Time allowed for tender process.	

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6.2 LIFTING MATTERS FROM THE TABLE

File No: 11715 Attachments: Nil

Authorising Officer: Evan Pardon - Chief Executive Officer
Author: Evan Pardon - Chief Executive Officer

SUMMARY

This report is being presented in order for matters that have been laid on the table at previous meetings to be formally lifted from the table prior to being dealt with at this meeting.

OFFICER'S RECOMMENDATION

THAT the following matter be lifted from the table and dealt with accordingly:

Potential Lease of Unused Portion of Water Allocation

7 PUBLIC FORUMS/DEPUTATIONS

Nil

8 PRESENTATION OF PETITIONS

Nil

9 COMMITTEE REPORTS

9.1 AUDIT AND BUSINESS IMPROVEMENT COMMITTEE MEETING - 27 NOVEMBER 2025

RECOMMENDATION

THAT the Minutes of the Audit and Business Improvement Committee meeting, held on 27 November 2025 as circulated, be received and that the recommendations contained within these minutes be adopted.

(Note: The complete minutes are contained in the separate Minutes document)

9.1.1 ASSET MANAGEMENT

File No: 13900

Authorising Officer: Peter Kofod - General Manager Regional Services

Author: Andrew Whitby - Acting Manager Infrastructure

Planning

SUMMARY

Coordinator Assets and GIS presenting an update on Asset Management matters.

COMMITTEE RECOMMENDATION

THAT the update on Asset Management matters be 'received'.

Recommendation of the Audit and Business Improvement Committee, 27 November 2025

9.1.2 MAJOR PROJECTS UPDATE

File No: 13900

Authorising Officer: Peter Kofod - General Manager Regional Services

Author: Andrew Collins - Manager Project Delivery

SUMMARY

Project reports for October are present for the two current major projects.

COMMITTEE RECOMMENDATION

THAT the update on Major Projects be 'received'.

9.1.3 STRATEGIC RISK REGISTER AS AT 14 OCTOBER 2025 - UPDATE

File No: 8780

Authorising Officer: Travis Pegrem - Acting General Manager Workforce and

Governance

Author: Kisane Ramm - Senior Risk and Assurance Advisor

SUMMARY

This report presents the 14 October 2025 update of the Strategic Risk Register for the Committee's consideration and recommends its adoption by Council.

COMMITTEE RECOMMENDATION

THAT the Committee recommends Council adopt the risk register updates provided by management, dated 14 October 2025.

Recommendation of the Audit and Business Improvement Committee, 27 November 2025

9.1.4 LOSS / THEFT ITEMS - AUGUST TO OCTOBER 2025

File No: 3911

Authorising Officer: Megan Younger - Manager Corporate and Technology

Services

Marnie Taylor - General Manager Organisational

Services

Author: Kellie Roberts - Coordinator Property and Insurance

SUMMARY

This report presents details of the Loss/Theft Items for the period August to October 2025.

COMMITTEE RECOMMENDATION

THAT the Committee receives the Loss/Theft Items – August to October 2025 report.

9.1.5 COUNCIL'S INSURANCE COVER 2025/2026

File No: 1902, 1903

Authorising Officer: Megan Younger - Manager Corporate and Technology

Services

Marnie Taylor - General Manager Organisational

Services

Author: Kellie Roberts - Coordinator Property and Insurance

SUMMARY

This report provides a summary of Council's insurance portfolio for the 2025/26 Financial Year.

COMMITTEE RECOMMENDATION

THAT the Committee receives the Council's Insurance Cover 2025/2026 report.

Recommendation of the Audit and Business Improvement Committee, 27 November 2025

9.1.6 AUDITED FINANCIAL STATEMENTS INCLUDING INDEPENDENT AUDITOR'S REPORT

File No: 8151

Authorising Officer: Marnie Taylor - General Manager Organisational

Services

Author: Tisin Simon - Manager Finance

SUMMARY

The certified Financial Statements for the period ended 30 June 2025 are presented.

COMMITTEE RECOMMENDATION

THAT the certified Financial Statements for the period ended 30 June 2025 be received.

9.1.7 FINAL MANAGEMENT REPORT FOR ROCKHAMPTON REGIONAL COUNCIL 2025

File No: 8151

Authorising Officer: Marnie Taylor - General Manager Organisational

Services

Author: Tisin Simon - Manager Finance

SUMMARY

Following the certification of the Financial Statements for the period ended 30 June 2025, the Final Management Report was received from the Queensland Audit Office (signed by HLB Mann Judd as delegate).

COMMITTEE RECOMMENDATION

THAT the Final Management Report for the 2024/2025 financial audit of Rockhampton Regional Council be received.

Recommendation of the Audit and Business Improvement Committee, 27 November 2025

9.1.8 QAO BRIEFING PAPER

File No: 9509

Authorising Officer: Marnie Taylor - General Manager Organisational

Services

Author: Tisin Simon - Manager Finance

SUMMARY

A Briefing Paper from the Queensland Audit Office is provided for Committee review.

COMMITTEE RECOMMENDATION

THAT the Queensland Audit Office Briefing Paper be received.

9.1.9 SUMMARY BUDGET MANAGEMENT REPORT FOR THE PERIOD ENDED 30 SEPTEMBER 2025

File No: 8148

Authorising Officer: Marnie Taylor - General Manager Organisational

Services

Author: Tisin Simon - Manager Finance

SUMMARY

The General Manager Organisational Services/Chief Financial Officer presenting the Rockhampton Regional Council Summary Budget Management Report for the period ended 30 September 2025.

COMMITTEE RECOMMENDATION

THAT the Rockhampton Regional Council Summary Budget Management Report for the period ended 30 September 2025 be received.

Recommendation of the Audit and Business Improvement Committee, 27 November 2025

9.1.10 2025/26 ASSET REVALUATION AND CAPITALISATION OF CAPITAL WORKS IN PROGRESS UPDATE

File No: 5960

Authorising Officer: Marnie Taylor - General Manager Organisational

Services

Author: Tisin Simon - Manager Finance

SUMMARY

The Manager Finance providing an update regarding the status of capital works in progress and the 2025/26 asset revaluation program.

COMMITTEE RECOMMENDATION

THAT the 2025/26 Asset Revaluation and Capitalisation of Capital Works in Progress Update report be received.

9.1.11 INTERNAL AUDIT PROGRESS REPORT

File No: 5207

Attachments: 1. Internal Audit Progress Report - November

2025

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Travis Pegrem - Acting General Manager Workforce and

Governance

SUMMARY

The attached report provides an update for the Audit and Business Improvement Committee on the progress of the internal audit function.

COMMITTEE RECOMMENDATION

THAT the Internal Audit Progress Report be received.

Recommendation of the Audit and Business Improvement Committee, 27 November 2025

9.1.12 AUDIT ISSUES MANAGEMENT, MONITORING & REGISTER IMPROVEMENT PROJECT

File No: 5207

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Travis Pegrem - Acting General Manager Workforce and

Governance

SUMMARY

Audit Issues Management, Monitoring & Register Improvement Project is presented for the Committee's discussion and consideration.

COMMITTEE RECOMMENDATION

THAT the Audit Issues Management, Monitoring & Register Improvement Project be received.

9.1.13 WHS CULTURAL MATURITY ASSESSMENT REVIEW REPORT

File No: 5207

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Travis Pegrem - Acting General Manager Workforce and

Governance

SUMMARY

WHS Cultural Maturity Assessment review report is presented for the Committee's consideration.

COMMITTEE RECOMMENDATION

THAT:

- the WHS Cultural Maturity Assessment report be received; and
- a further report be presented to the second Audit and Business Improvement Committee meeting in 2026, outlining the progress towards development of an Action Plan and Strategy.

Recommendation of the Audit and Business Improvement Committee, 27 November 2025

9.1.14 ANNUAL COMPLAINTS SUMMARY REPORT 2024-25

File No: 5207

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Travis Pegrem - Acting General Manager Workforce and

Governance

SUMMARY

The attached report provides an overview and analysis of employee and administrative complaint statistics.

COMMITTEE RECOMMENDATION

THAT the Annual Complaints Summary Report 2024-25 be received.

9.1.15 ANNUAL SELF-ASSESSMENT BY AUDIT AND BUSINESS IMPROVEMENT COMMITTEE - 2024-2025 FINANCIAL YEAR

File No: 7678

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Travis Pegrem - Acting General Manager Workforce and

Governance

SUMMARY

Audit and Business Improvement Committee's annual self-assessment for the 2024-25 financial year is presented for the information of the committee.

COMMITTEE RECOMMENDATION

THAT the completed annual Audit and Business Improvement Committee's self-assessment, covering the 2024-25 financial year, as attached to the report, be received and the member's comments be noted for improvement or action where relevant and appropriate,

Recommendation of the Audit and Business Improvement Committee, 27 November 2025

9.1.16 WATER MANAGEMENT PRACTICES, INCLUDING SCADA SECURITY REVIEW REPORT

File No: 5207

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Travis Pegrem - Acting General Manager Workforce and

Governance

SUMMARY

Water Management Practices, including SCADA Security review report is presented for the Committee's consideration.

COMMITTEE RECOMMENDATION

THAT:

- the Water Management Practices, including SCADA Security review report be received; and
- a further report be presented to the second Audit and Business Improvement Committee meeting 2026, outlining management responses; and
- management determine if the Asset Management Plan and Asset Management Information System requires review.

9.1.17 WORK HEALTH & SAFETY UPDATE

File No: 4868

Authorising Officer: Travis Pegrem - Acting General Manager Workforce and

Governance

Author: Tony Hauenschild - Coordinator Safety, Training and

Wellbeing

SUMMARY

Coordinator Safety, Training, and Wellbeing presenting an update on work health and safety matters for the information of the committee.

COMMITTEE RECOMMENDATION

THAT the Work Health and Safety update be received.

Recommendation of the Audit and Business Improvement Committee, 27 November 2025

9.1.18 INVESTIGATION AND LEGAL MATTERS PROGRESS REPORT

File No: 1830

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Travis Pegrem - Acting General Manager Workforce and

Governance

SUMMARY

Coordinator People and Capability presenting an update of financial year to date Investigative Matters and the current Legal Matters progress report.

COMMITTEE RECOMMENDATION

THAT the update of Investigation and Legal Matters Progress report be received.

10 COUNCILLOR/DELEGATE REPORTS

10.1 SPONSORSHIP PROPOSAL - FITZROY RIVER LIONS CLUB 2026 CONVENTION

File No: 12534 Attachments: Nil

Authorising Officer: Justin Kann - Manager Office of the Mayor

Evan Pardon - Chief Executive Officer

Author: Nicole Semfel - Executive Assistant to the Mayor

SUMMARY

This report considers a request for the use of the Council minibus and Gracemere Community Centre to support the Rockhampton Fitzroy River Lions Club deliver the Lions District 201 Q4 Convention 2026.

OFFICER'S RECOMMENDATION

THAT Council:

- Approve in-kind support for the use of the Council minibus and Gracemere Community Centre for the Lions District 201 Q4 Convention dinner on Saturday 24 October 2026; and
- 2. Authorise the Chief Executive Officer or delegated officer to coordinate the necessary arrangements for this support.

COMMENTARY

Rockhampton Regional Council has received a request from Rockhampton Fitzroy River Lions Club Convention Committee seeking in-kind support for the use of the Council bus and Gracemere Community Centre for the Lions Club Convention being held in Rockhampton from 23 to 25 October 2026. This request aligns with Council's ongoing commitment to supporting community events and access to inclusive facilities.

BACKGROUND

The Rockhampton Fitzroy River Lions Club is a well-established community service organisation that plays an active role in supporting local residents through a variety of charitable, social, and volunteer initiatives. Their work contributes to community wellbeing, social inclusion, and youth development, reflecting a strong commitment to making a positive impact across the region.

Rockhampton has been selected to host the 2026 Lions District Convention which brings significant benefits to the local community. These events attract attendees from across the region and State, providing a boost to the local economy through increased demand for accommodation, dining, transport, and tourism services.

PREVIOUS DECISIONS

Nil

BUDGET IMPLICATIONS

Nil

LEGISLATIVE CONTEXT

Nil

LEGAL IMPLICATIONS

Nil

STAFFING IMPLICATIONS

Nil

RISK ASSESSMENT

All standard risk management procedures and booking protocols will be followed to ensure the safe and appropriate use of Council assets.

CORPORATE/OPERATIONAL PLAN

This proposal supports Council's strategic objectives to promote community wellbeing, inclusion, and access to services.

CONCLUSION

The request for the use of the Council bus and Gracemere Community Centre is consistent with Council's support for community groups and events. Approval of this request will enable the Rockhampton Fitzroy River Lions Club to successfully facilitate the Lions District 201 Q4 Convention 2026, contributing to community engagement and social inclusion.

11 OFFICERS' REPORTS

11.1 DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

File No: D/25-2025

Attachments: 1. Locality Plan

- 2. Site Plans<u>↓</u>
- 4. Traffic Impact Statement 4.
- 5. Site Based Stormwater Management Plan6. Bushfire Risk Assessment and Management

7. Landscape Concept Package !

8. Noise Assessment J.

9. Hazard Incident Management Plan

10. Lanscape Character and Visual Impact

Assessment U

11. Photomontages J.

12. Agricultural Land Assessment 13. Response to Further Advice

Authorising Officer: Amanda O'Mara - Coordinator Development

Assessment

Doug Scott - Manager Planning & Regulatory Services

Damon Morrison - Acting General Manager

Communities and Lifestyle

Author: Kathy McDonald - Principal Planning Officer

SUMMARY

Development Application Number: D/25-2025

Applicant: Capricorn BESS Pty Ltd as Trustee for

Capricorn BESS Trust c/- Environmental

Resources Management Australia Pty Ltd

Real Property Address: Lot 2 on RP613051 and Lot 1 on RP610887

Common Property Address: Lot 742 Cherryfield Road, Gracemere and

52949 Burnett Highway, Bouldercombe

Area of Site: 128.656 hectares

Planning Scheme: Rockhampton Region Planning Scheme 2015

(v4.4)

Planning Scheme Zone: Rural Zone and Special Purpose Zone

Planning Scheme Overlays: Biodiversity Areas Overlay

Bushfire Hazard Overlay

Steep Land Overlay

Existing Development: Lot 1 on RP610887 – Bouldercombe Substation

Lot 2 on RP613051 – The subject of Development Permit D/18-2017 for a Renewable Energy Facility (solar park) Approved but not yet constructed. Valid until

June 2027

Approval Sought: Development Permit for a Material Change of

Use and Reconfiguring a Lot for Undefined use (Battery Energy Storage System) and Reconfiguring a Lot for a Lease (exceeding 10

years)

Category of Assessment: Assessable subject to Impact assessment

Submissions: 173 submissions received

Referral Agency: Department of State Development,

Infrastructure and Planning (State Assessment

and Referral Agency) and Powerlink

OFFICER'S RECOMMENDATION

RECOMMENDATION A

THAT in relation to the application for a Development Permit for a Material Change of Use for an Undefined Use (Battery Energy Storage System) and Reconfiguring a Lot for a Lease (24 years), made by Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust c/Environmental Resources Management Australia Pty Ltd, located at Lot 742 Cherryfield Road, Gracemere and 52949 Burnett Highway, Bouldercombe, described as Lot 2 on RP613051 and Lot 1 on RP610887, Council resolves to provide the following reasons for its decision:

STATEMENT OF REASONS

Description of the development

Material Change of Use for an Undefined Use (Battery Energy Storage System) and Reconfiguring a Lot for a Lease (24 years)

Reasons for Decision

- a) Assessment of the development against the relevant zone purpose, planning scheme codes and planning scheme policies demonstrates that the proposed development will not cause significant adverse impacts on the surrounding natural environment, built environment and infrastructure, community facilities, or local character and amenity; and
- b) On balance, the application should be approved because the circumstances favour Council exercising its discretion to approve the application even though the development does not comply with an aspect of the assessment benchmarks.

Assessment Benchmarks

The development was assessed against the following assessment benchmarks:

- Local Government Infrastructure Plan;
- Strategic Framework;
- Rural Zone Code:
- Special Purpose Zone Code;
- Telecommunications Facilities and Utilities Code;
- Access, Parking and Transport Code;
- Landscape Code:
- Stormwater Management Code;
- Waste Management Code:
- Water and Sewer Code:

- Reconfiguring a Lot Code; and
- Bushfire Hazard Overlay Code.

Compliance with assessment benchmarks

The development was assessed against all of the assessment benchmarks listed above and complies with all of these with the exceptions listed below.

Assessment Reasons for the approval despite non-compliance with Benchmark benchmark Strategic Framework 3.8 Natural Resources and Economic Development 3.8.4 Element - Rural Land 3.8.4.1 Specific Outcome (1) The proposed development does not comply with Specific Outcome (1) of 3.8.4 Element - Rural Land because the lease area is located on land identified on the Agricultural Land Classification (ALC) overlay maps, where Specific Outcome (1) requires land with productive capacity and land suitable for intensive horticulture or any emerging productive rural use is protected. The Agricultural Land Assessment completed for the subject site indicates that the development will impact on 7% of this mapped area which does not result in the alienation or fragmentation of surrounding agricultural land. A further response to the developments conflict with the Agricultural Land Classification (ALC) overlay is provided under the Rural Zone Code, Performance Outcome 14. The proposed development does comply with the remaining of the Strategic Outcomes of the Natural Resources and Economic Development theme as the proposed development is considered to strengthen the regions capacity to provide an alternative energy solution and provides the community with a diverse and new employment opportunity; and Complies with the remaining Strategic Framework themes: - Settlement pattern: - Natural environment and hazards; - Community identity and diversity; - Access and mobility: and - Infrastructure and services Therefore, on balance the proposed development is not anticipated to compromise the Strategic Framework of the Rockhampton Region Planning Scheme 2015. **Rural Zone Code** Performance Outcome (PO) 14 The proposed development conflicts with PO 14 and no Acceptable Outcome (AO) are nominated. PO 14 states Development that does not involve rural uses: (a) is located on the least productive parts of a site and not on

overlay maps;

land identified on the agricultural land classification (ALC)

- (b) does not restrict the ongoing safe and efficient use of nearby rural uses; and
- (c) is adequately separated or buffered where it is likely to be sensitive to the operational characteristics associated with rural uses, rural industries or extractive industries.

The lease area for the development footprint, excluding the access easement is approximately 18.18 hectares. Of these 18 hectares approximately 5 hectares is outside the overlay and considered poor agricultural land whilst 12 hectares is located within the Agricultural Land Overlay resulting in the conflict with outcome (a) above.

An Agricultural Land Assessment report was provided and indicated that the 12 hectares is situated on the boundary of two broad agricultural land classifications being a Class B (limited agricultural land) mapped area of 173 hectares and Class C1 (pastureland) mapped area of 41 hectares.

The lease area for the development impacts approximately 7% of the Class B mapped area (173 hectares) which is a negligible portion and is not considered to result in the alienation or fragmentation of agricultural land. Furthermore, the remaining 161 hectares of mapped agricultural land can continue to be utilised for suitable rural uses.

Therefore, the development is not considered to limit the ability or productive capacity of the land for a rural use and is seen to comply with the overall purpose of the Rural Zone Code (s6.7.4.2) which states, under (1), (c) THAT, "prevent the establishment of development which may limit the productive capacity of the land".

The proposed development is furthermore considered to comply with the remaining outcomes (b) and (c) of PO14 because:

- The development does not restrict the ongoing safe and efficient use of nearby rural uses as the lease area will be fully fenced with a minimum 1.8-metre-high security fence; and
- is adequately buffered along the north boundary (adjoining rural land) where it may be sensitive to the operational characteristics associated with a rural use by a 43 metre setback which includes a landscaping strip, perimeter track, table drains and internal access roads.

Therefore, on balance the proposed development complies with the remainder of PO14 and overall outcome (c) of the Rural Zone Code's purpose.

Rural Zone Code

Performance Outcome (PO) 15

The proposed development may present conflicts with PO 15 and no Acceptable Outcome (AO) is nominated. PO 15 states that uses that require isolation from urban areas are accommodated only where:

(a) they cannot be more appropriately located in an industrial or other relevant zone;

- (b) they can be adequately separated from sensitive land use(s) (whether or not in the rural zone); and
- (c) potential impacts can be appropriately managed.

In response to (a) above, the purpose of the Rural Zone Code (s6.7.4.2) states under (2), (k) THAT, "renewable energy facilities are located on sites that are large enough to accommodate appropriate buffering from sensitive land use(s) and minimise adverse impacts on the natural environment".

This being considered, the Rural Zone Code contemplates renewable energy facilities (including BESS facilities) within the rural area along with the Strategic Framework under s3.3.6.1 Rural - Specific outcome (16) that states "Renewable energy technology uses will be supported where there are no adverse impacts on adjoining and nearby uses, including impacts associated with noise, light, emissions, infrastructure requirements or transport movements on transport networks".

Reflective of this, a BESS facility is not considered an industrial use under the *Rockhampton Region Planning Scheme 2015* and would not necessarily be more appropriately located within an industrial or other relevant zone. Commercial scale renewable energy uses including BESS facilities require large land holdings generally found within rural areas and co-location near existing infrastructure.

In response to (b) above, the development site comprises 108.523 hectares (overall size of Lot 2 on RP613051) with the proposed development area being 18.18 hectares and located in the far northeastern corner of the site, approximately 610 metres from the nearest residence on Childs Avenue. This separation allows for any amenity impacts to be appropriately mitigated.

A further response to effective separation distances to sensitive land uses is provided as part of Performance Outcome (PO) 30.

In response to (c) above, 'the Capricorn BESS facility' has been designed to operate effectively to protect the safety of the public, avoid environmental harm and nuisance and mitigate amenity values.

A further response to how the potential impacts can be appropriately managed is provided as part of Performance Outcomes (PO) 16, 31 and 33.

To the extent any conflicts are identified with the assessment benchmark, regard to relevant matters is considered to outweigh those conflicts.

Rural Zone Code

Performance Outcome (PO) 16

The proposed development may present conflicts with PO 16 and no Acceptable Outcome (AO) is nominated. PO 16 states, Ecological values, habitat corridors and soil and water quality are protected, having regard to:

(a) maximisation of vegetation retention and protection of vegetation from the impacts of development;

- (b) avoidance of potential for erosion and minimisation of earthworks;
- (c) retention and protection of natural drainage lines and hydrological regimes; and
- (d)avoidance of leeching by nutrients, pesticides or other contaminants, or potential for salinity.

The specific lease area for the development on the subject site is <u>not</u> affected by the Biodiversity Overlay including matters of state or local environmental significance, biodiversity corridors, wildlife habitats, waterways or wetlands. Notwithstanding, there is a mapped waterway located on the overall subject site, west of the development lease area and a Stormwater Management Report was provided to address water quality.

In response to (a) above, the specific lease area for the development on the subject site is predominantly characterised by pastoral grassland and avoids areas of significant vegetation within the broader site, therefore maximising vegetation retention. No vegetation further to the lease area on the subject site is required to be removed.

<u>In response to (b) above</u>, drainage channels and culverts are proposed at each side of the proposed access road and tracks to collect and divert surface runoff from the project area, with the intent of being implemented effectively with the existing terrain this will minimise the potential for cut and fill volumes and minimise earthworks.

In response to (c) and (d) above, the Stormwater Management Report identified that water quality analysis for the proposed development was undertaken in accordance with the requirements of the State Planning Policy (SPP) and the Rockhampton Regional Council's Planning Scheme 2015.

- To reduce the exportation of pollutants via stormwater from the site, a stormwater quality improvement device (SQID) has been proposed being an on-site bio detention basin to effectively manage water quality. All internal site runoff is to be collected via pits and pipes and directed to the on-site detention basin.
- The bio basin and will effectively treat the runoff from the BESS facility and ensure retention within the lease area of the site from any potential contaminants entering waterways; and
- The existing pond will be maintained to maintain storage capacity in both pre- and post-development conditions, minimizing potential downstream impacts caused by changes in water storage volume and protect natural drainage lines.

Therefore, the proposed development is considered to effectively protect the ecological values, habitat corridors and soil and water quality of the overall site and complies with PO 16.

Rural Zone Code

Performance Outcome (PO) 30

The proposed development may present conflicts with PO 30 and no Acceptable Outcome (AO) is nominated. PO 30 states, effective separation distances are provided to minimise conflicts with sensitive land use(s).

A 610-metre separation distance is achieved to the nearest Dwelling House. This is considered an adequate buffer from the existing sensitive land use(s) on Childs Avenue and will minimise any potential adverse impacts in regard to amenity, noise, air quality and light.

- A five (5) metre wide earth mounded landscape strip along the north and east boundary lines will effectively provide a visual buffer. A further response to how the potential amenity impacts can be appropriately mitigated is provided as part of Performance Outcome (PO) 31.
- The development has been conditioned to comply with the requirements of the Noise Impact Assessment to ensure the BESS facility has an acoustic level that is below the criteria set out in the Environmental Protection (Noise) Policy 2019 (EPP) and is considered reasonable and acceptable at a sensitive receptor. Conditions have been imposed for a post-construction acoustic assessment by a suitably qualified acoustic engineer to ensure the development can achieve compliance with EPP and any recommendations post-construction assessment implemented to the satisfaction of Council. A further response to the potential noise impacts is provided as part (PO) Performance Outcome 15 of Telecommunications Facilities and Utilities Code.
- Each battery systems containerised design and in-built fire suppression system will provide effective mitigation for any adverse air quality concerns. A further response to the potential air quality impacts is provided as part of Performance Outcome (PO) 33.
- Lighting conditions have been imposed to ensure all lighting devices associated with the development must be designed, constructed and operated in accordance with Australian Standard AS4282 "Control of the obtrusive effects of outdoor lighting".

Therefore, the proposed developments design and mitigation measures are considered to minimise any conflicts or adverse impacts on existing or future residential premises and the development's location is effectively separated from sensitive land use(s) and complies with PO 30.

Rural Zone Code

Performance Outcome (PO) 31

The proposed development may present conflicts with PO 31 and no Acceptable Outcome (AO) is nominated. PO 31 states that development does not unduly impact on the existing amenity and character of the locality having regard to:

- (a) the scale, siting and design of buildings and structures.
- (b) visibility of buildings and structures when viewed from roads and other public view points; and

(c) any heritage places.

Where possible, BESS facilities are co-located with or near a transmission network connection point (such as a substation) to reduce infrastructure requirements and visually integrate the cumulative distribution of multiple facilities.

The subject site is located on the transmission network, zero metres (boundary to boundary) from the Bouldercombe Substation and an existing BESS facility. The development can achieve a direct connection to the Bouldercombe Substation underground therefore no additional overhead infrastructure is required.

The height of the buildings and structures on the subject site is not considered obtrusive with the tallest structure being for the operations and workshop building which is approximately 6.5 metres tall.

It is acknowledged that the BESS facility with a proposed land area size of 18.18 hectares will be visually prominent.

To mitigate the appearance, the following will be provided:

- The BESS containers will be significantly setback from public viewing places, located approximately 70 metres from the Burnett Highway (15 metre road reserve, plus 55 metre setback from the boundary); and
- A five (5) metre wide earth mounded landscape strip along the north and east boundary lines to mitigate the appearance to travellers along the Burnett Highway.

Conditions have been imposed to ensure the landscape buffer is installed prior to the commencement of any construction works on the site, and maintained at all times throughout the operational life of the facility and will ensure the development does not unduly impact on the existing amenity and character of the rural locality.

To the extent any conflicts are identified with the assessment benchmark, regard to relevant matters is considered to outweigh those conflicts.

Rural Zone Code

Performance Outcome (PO) 33

The proposed development may present conflicts with PO 33 and no Acceptable Outcome (AO) is nominated. PO 33 states that development is designed and managed so that it provides appropriate protection for community safety and health and avoids unacceptable risk to life and property.

Unacceptable risk

A situation where people or property are exposed to a predictable hazard event that may result in serious injury, loss of life, failure of community infrastructure, or property damage that would make a dwelling unfit for habitation.

The development proposes to use Lithium-iron phosphate (LFP) batteries which are considered to be the safest in the industry. The thermal rise of these batteries is significantly lower than other lithium ion battery chemistries, and are therefore largely unaltered by thermal runaway (the heating reaction of batteries under adverse external conditions).

Each container will be equipped with a Battery Management System (BMS), which provides constant monitoring and fault detection to shut-down, disconnect, isolate and prevent propagation to contain a hazard. Furthermore, all containers must be compliant with UL 9540 and associated UL 9540A, being the standard and testing requirements for energy storage systems and equipment.

In addition, the facility will operate 24/7 and be staffed during business hours Monday to Friday allowing action to be prompt if any abnormalities are detected. Monitoring 24/7 in case of an emergency outside of business hours will occur and the emergency management plan operated if necessary.

The BESS containers are appropriately separated from vegetation outside the lease area to avoid an external fire hazard along with the provision of a 150 kilolitre water storage for firefighting purposes on surrounding land.

Council has imposed conditions requiring the applicant to supply a full Emergency Management Plan (EMP), generally in accordance with the draft Hazard Incident Management Plan and Fire Risk Management Plan (FRMP) and Fire Safety Study (FSS) in consultation with Queensland Fire Department (QFD) be submitted for approval and prior to the installation of the battery units, the dedicated firefighting water supply and fire hydrants, internal separation distances, external fire trail and bio / detention basin, as required by the approved documents and plans, must be implemented and commissioned.

Therefore, the development is considered to be designed and managed so that it provides appropriate protection for community safety and minimises the risks to life and property and complies with PO 33.

Telecommunications Facilities and Utilities Code

Performance Outcome (PO) 13

The proposed development may present conflicts with PO 13 and no Acceptable Outcome (AO) is nominated. PO 13 states that development is designed to be visually unobtrusive and blend with the character of the locality by:

- (a) ensuring the bulk, height and scale of the facility is consistent with surrounding development;
- (b) extensive landscaping and building colours which blend with the landscape; and
- (c) ensuring transformers are not visible from the property boundary or public place.

Please refer to the response to the development's conflicts with amenity under the Rural Zone Code, Performance Outcome 30 and 31.

To the extent any conflicts are identified with the assessment benchmark, regard to relevant matters is considered to outweigh those conflicts.

Telecommunications Facilities and Utilities Code

Performance Outcome (PO) 15

The proposed development may present conflicts with Acceptable Outcome (AO) 15.1 (a) which states noise levels measured as the adjusted maximum sound pressure level LAmax, adj.T at a sensitive land use do not exceed:

- (i) background noise level plus 5dB(A) between the hours of 07:00 and 22:00; and
- (ii) background noise level plus 3dB(A) between the hours of 22:00 and 07:00.

The criteria, taking into account the plus levels above are:

daytime criteria is 37dB(A); and

nighttime criteria is 35dB(A).

The modelling results set out in the Noise Impact Assessment report for the development confirms that compliance with the assessment criteria established in accordance with the *Environmental Protection (Noise) Policy 2019* (EPP) can be achieved for all sensitive receptors within the area during the daytime, evening, and night-time periods under the meteorological conditions.

The Noise Impact Assessment report indicated that the facilities outdoor (free field) daytime (6am to 10pm) acoustic level is 35dB(A) and outdoor (free field) night-time (10pm to 6am) acoustic level is 29dB(A) which is well below the criteria specified.

Whilst the development can achieve the acceptable outcomes, it is acknowledged that BESS facilities do produce a constant hum. The primary cause of noise from a BESS facility is the constant hum of electricity coupled with the intermittent internal cooling systems (fans) for each container.

To ensure noise nuisance for the sensitive land use(s) in the surrounding area is mitigated, the following will be provided:

- A Noise Management Plan (**NMP**) addressing construction activities:
- Following the commissioning of the project, a postconstruction acoustic assessment has been conditioned to ensure the development achieves an acceptable acoustic outcome and compliance with the *Environmental Protection (Noise) Policy 2019*; and
- Any recommendations from the assessment must be implemented to the satisfactory of Council.

The overall PO states: Development prevents or mitigates the generation of unreasonable noise impacts to:

- (a) prevent noise nuisance; and
- (b) ensure ambient noise levels are consistent with the prevailing character of the area.

It is considered that the development's design, operational outcomes and Council imposed conditions in relation to noise monitoring and testing are preventative measures to ensure ambient noise levels do not cause nuisance to nearby

	sensitive receptors.		
	Therefore, the development is considered to comply with PO 15.		
Telecommunications Facilities and Utilities Code	Performance Outcome (PO) 16		
	The proposed development may present conflicts with PO 16 and no Acceptable Outcome (AO) is nominated. PO 16 states that: Development does not negatively impact on the natural environment, having regard to:		
	(a) sensitive habitat;		
	(b) remnant vegetation;		
	(c) soil erosion; and		
	(d) waterways.		
	Please refer to the response to the development's conflicts with Biodiversity under the Rural Zone Code, Performance Outcome 16.		

Relevant Matters

The proposed development was assessed against the following relevant matters:

- The 'Capricorn BESS' Project will support the achievement of the Queensland Government's 80% renewable energy target by 2035 and aligns with the Queensland Energy and Jobs Plan (September 2022), which among other things, outlines how the State's energy system will transform to deliver clean, reliable and affordable energy for future generations.
- The 'Capricorn BESS' Project is responsive to the Queensland Battery Industry Strategy (2024 - 2029) whereby battery storage projects, from manufacturing through to delivery, are a key component of the State's plan to achieve renewable energy targets.
- The 'Capricorn BESS' Project aligns with the State Government's policy direction and will:
 - o provide a large scale, standalone storage facility that will significantly increase storage capacity within Queensland; and
 - increase network capacity to support connection of additional renewable energy sources and contribute to achieving these renewable energy targets.
- The co-location of the proposed development to the Bouldercombe Substation will maximise the existing network infrastructure, reduce the need for excessive easements and ensure suitable separation from nearby residents.
- The Bouldercombe Substation has the capacity to support a large-scale BESS facility, and the Development Site is strategically located to service increased demand in Rockhampton and Gladstone.

Matters raised in submissions

The proposal was the subject of public notification between 9 September 2025 and 30 September 2025, in accordance with the requirements of the Planning Act 2016 and the Development Assessment Rules, and 169 properly made submissions and 4 not properly made submissions were received.

Submitter Concerns

Noise and Light Impacts

Submitters have concerns with noise and light impacts on nearby residences and indicated that the Noise Impact Assessment report failed to include the Bouldercombe Solar Park, a renewable energy facility (solar park) that is approved over Lot 2 on RP613051 (subject site) but not yet constructed.

Response

Noise measurements and assessment criteria set out in the Noise Impact Assessment report were undertaken in accordance with the requirements of the *Environmental Protection* (Noise) Policy 2019 (Qld).

The report indicates that the facilities outdoor (free field) night-time and day-time acoustic levels are well below the criteria specified. Refer to the response to the Telecommunications Facilities and Utilities Code, Performance Outcome 15.

Section 5.5 of the report also includes that the criteria considerations of cumulative impacts has taken into consideration the Bouldercombe Substation and BESS, Central BESS and Bouldercombe Solar Farm.

Council has imposed conditions addressing noise and requires the applicant to provide a Noise Management Plan (NMP) addressing construction activities and within 12 months of the commencement of the use, prepare a postconstruction acoustic assessment by a suitably qualified acoustic engineer, and submit to Council and make available to the public. If the post-construction acoustic assessment includes recommendations achieve to compliance with the Environmental Protection Policy (Noise) 2019 (Qld). those recommendations must be implemented to the satisfaction of Council.

Furthermore, lighting conditions have been imposed to ensure all lighting devices associated with the development must be designed, constructed and operated in accordance with Australian Standard AS4282 "Control of the obtrusive effects of outdoor lighting".

It is considered that the development's design, operational outcomes and Council imposed operational and environmental conditions apply preventative measures to significantly minimise impacts to the surrounding area and nearby sensitive receptors.

Cumulative Impacts

Submitters raised concerns there has been no regional cumulative impact assessment conducted by Council or the State Government. Each renewable energy project is being assessed in isolation, ignoring the compounded consequences for the community including assessment of

Under the *Planning Act 2016*, Social Impact Assessments are required for a wind farm or solar farm development including a BESS facility when ancillary to a wind or solar farm in accordance with the Social Impact Assessment Guidelines that came into effect July 2025.

For BESS projects not ancillary to a wind or solar farm, the local government remains the assessment manager, and the standard impacts on waste infrastructure, housing, traffic, land use, visual amenity, social services, and economic resilience.

assessment processes applies.

Regardless it is considered that each technical discipline e.g. noise, traffic and visual impact reports have all incorporated cumulative considerations consistent with accepted Queensland planning practice, including assessment of existing operations and approved but unconstructed developments where relevant.

Rural Character and Visual Amenity Impacts

Submitters have concerns that the development will result in the appearance of the surrounding area being altered from one of rural landscape to that of an industrial estate and is uncharacteristic in the area. Of most concern was the cumulative visual impacts from multiple proposed BESS facilities.

It is acknowledged that BESS facilities can be visually prominent. However, the Capricorn BESS facility is located on the same lateral location as the existing Bouldercombe substation and Genex BESS facility and the predominant land use is deemed as electricity and energy facilities directly surrounding the Bouldercombe substation. As a result, the facility may reflect as an extension to these existing facilities rather than a distinct unit. Furthermore, the design, the colour of the facility 'as conditioned' (muted green) and the perimeter landscaping proposed will assist in mitigating the visual impacts.

Refer to response as part of Rural Zone Code assessment and Performance Outcome (PO) 31

As a land use, battery storage facilities are comparable the energy storage to infrastructure of existing substations and utility installations. Where possible, BESS facilities are co-located with or near a transmission network connection point (such as substation) to reduce infrastructure requirements. The development's location in proximity to the Bouldercombe Substation does not make it uncharacteristic within the locality.

A BESS facility is not considered an industrial use under the *Rockhampton Region Planning Scheme 2015* and would not necessarily be more appropriately located within an industrial or other relevant zone. Commercial scale renewable energy uses including BESS facilities require large land holdings generally found within rural areas.

Refer to response as part of Rural Zone Code assessment and Performance Outcome (PO) 15

Vegetation Buffer

Submitters raised concerns that the proposed landscape and vegetation buffer is inconsistent with Permit D/18-2017 for a Renewable Energy Facility (solar park) that is approved over Lot 2 on RP613051 (subject site)

The landscaping requirements under the Rockhampton Region Planning Scheme (v4.4) and assessment benchmarks for this development is a minimum three (3) metre wide earth mounded landscape strip. The applicant has proposed an alternative outcome and increased the buffer to a five (5) metre

but not yet constructed. The solar park development offered a 7 metre buffer whilst this BESS development is only offering a 5 metre buffer.

wide earth mounded landscape strip along the north and east boundary lines.

The Renewable Energy Facility (solar park) is proposed over 706.22 hectares with over 2 kilometres of road frontage and directly adjoins rural residential established Dwelling Houses (Richmont Drive) for approximately 700 metres.

In comparison the Capricorn BESS facility lease area is 18.18 hectares with 400 metres of road frontage. A five (5) metre wide earth mounded landscape buffer is considered appropriate and is above the requirements of the Rockhampton Region Planning Scheme (v4.4)

Environmental Impacts

Submitters raised concerns regarding contamination environmental impacts that BESS facilities may produce groundwater e.g. contamination and natural drainage impacts to adjoining livestock and farmland. In addition submitters also mentioned noise and visual disturbances can affect wildlife populations negatively over time.

Water quality and assessment criteria set out in the Stormwater Management report was undertaken in accordance with the requirements of the State Planning Policy (SPP) and the Rockhampton Regional Council's Planning Scheme 2015.

The project layout has been designed to avoid key environmental features such as overland flow paths and drainage lines. A conventional bio-retention basin has been proposed to enable the site to meet Water Quality Objectives.

Council has imposed conditions addressing this and requires the applicant to supply revised stormwater quality modelling to be provided with the Operational Works application once the final earthworks and drainage design has been completed to demonstrate that the proposal still meets the required Water Quality Objectives.

Refer to response as part of Rural Zone Code assessment Performance Outcome (PO) 16 for groundwater contamination and natural drainage impacts.

The lease area is not affected by the Biodiversity Overlay under the Rockhampton Region Planning Scheme 2015 and therefore not considered to be of environmental significance. Regardless, the applicant acknowledges the community's interest in protecting local biodiversity and commits to preparing an Environmental Management Plan (EMP) during detailed design. The EMP will include measures to avoid or minimise incidental impacts on flora, fauna, and surface water during construction and operation.

In addition, due to design features the use proposes no contamination risk to groundwater.

Traffic Impacts

Submitters raised concerns the development will increase heavy vehicle traffic volumes in close proximity and impact safety concerns regarding the site's internal layout in regard to heavy vehicle swept paths and access design.

A Traffic Impact Statement prepared by Cambray Consulting, Traffic Engineering + Transport Planning who are Registered Professional Engineers of Queensland, confirms the traffic generated during the construction and operational phases is not expected to have an adverse impact on surrounding road network operations, including the safety of the Burnett Highway.

The Burnett Highway is a State controlled road and the Traffic Impact Assessment was assessed by the Department of Transport and Main Roads and a decision has been issued by State confirming approval of the application, subject to conditions.

Internal swept paths included in the Traffic Impact Statement indicate heavy vehicles will enter and exit the site in forward gear and will not be reversing or queuing on the state controlled road.

Inconsistent with the Rural Zone

Submitters raised concerns the proposed development is not consistent with the Rural Zone due to their industrial nature and would be more suited to zones designated for industrial activities rather than rural or agricultural areas.

The proposed development (BESS) is located within the Rural Zone under the *Rockhampton Region Planning Scheme* (v4.4 and v5) and within the Rural designation under the Strategic Framework. The following is stated for renewable energy uses under the Rural designation:

s3.3.6.1 Rural - Specific outcome

(16) Renewable energy technology uses will be supported where there are no adverse impacts on adjoining and nearby uses, including impacts associated with noise, light, emissions, infrastructure requirements or transport movements on transport networks.

Furthermore, the following is stated for renewable energy uses under the purpose of the Rural Zone Code:

s6.7.4.2 Purpose

- (2), (c) non-rural uses may be appropriate where they do not detract from the productivity or residential amenity of rural areas and can demonstrate:
- (iii) a need to be remote from urban uses as a result of their impacts. and
- (2), (k) renewable energy facilities are located on sites that are large enough to accommodate appropriate buffering from sensitive land use(s) and minimise adverse impacts on the natural environment.

In this regard, a BESS facility is contemplated within the Rural Zone and Rural designation under the strategic intent of the *Rockhampton*

Region Planning Scheme 2015 (v4.4).

The underlying Rural Zone will not change as a result of this development and the development will not limit the rural capacity of the subject site nor will it prohibit the establishment of new rural uses within the area.

Loss of Agricultural Land

Submitters raised concerns regarding the development's location on agricultural land.

Whilst the development may result in a loss of 12 hectares of mapped agricultural land classification, the Agricultural Land Assessment completed for the subject site suggests that the development will impact on 7% of this mapped area which does not result the alienation or fragmentation surrounding agricultural land. Therefore, the development is not considered to limit the ability or productive capacity of the land for a rural use.

Refer to response as part of Rural Zone Code assessment Performance Outcome (PO) 14

The BESS facility poses a hazard risk and risk of creating a fire hazard.

Submitters raised concerns the Hazard Incident Management Plan prepared for the development is inadequate and does not take into consideration adjacent high risk facilities and that Queensland Fire Services Emergency was not consulted in the preparation of the document.

Submitters also raised concerns of the facility's risk of bushfires within the rural area and the potential impacts and noted the development plans did not indicate a fire access trail facility surrounding and the inconsistency in water supply volumes.

The Hazard Incident Management Plan that has been developed incorporates emergency prevention, preparedness, mitigation and responses to a range of emergencies including fire initiating within the facility.

This document is in its draft form and is unable to be finalised until detailed design works are completed.

Council has imposed conditions addressing this and requiring the applicant to supply a full Emergency Management Plan (EMP), generally in accordance with the draft Hazard Incident Management Plan and Fire Risk Management Plan (FRMP) and Fire Safety Study (FSS) in consultation with Queensland Fire Department (QFD) be submitted for approval and prior to the installation of the battery units, the dedicated firefighting water supply and fire hydrants, internal separation distances and external fire trail, as required by the approved documents and plans, must be implemented and commissioned.

150 kilolitre water storage supply for firefighting purposes has also been conditioned to be provided this is in addition to two (2) smaller tanks for rainwater and potable water for operational activities.

It is considered that the development's design, operational outcomes and Council imposed risk and hazard mitigation conditions apply preventative measures to significantly minimise impacts to the surrounding area and nearby sensitive receptors. The EMP and risk management procedures will be adopted during the life of the development to ensure

any continuing hazards are contained.

Refer to response as part of Rural Zone Code assessment Performance Outcome (PO) 33.

Appropriate separation

Submitters raised concerns regarding the location of the BESS facility in relation to sensitive land uses (Dwelling Houses).

The proposed development's design and mitigation measures are considered to minimise any conflicts or adverse impacts on existing or future residential premises.

Refer to response as part of Rural Zone Code assessment Performance Outcome (PO) 30.

Waste Management

Submitters raised concerns regarding the effective waste management plan and the decommissioning of lithiumion batteries. Battery recycling is an emerging industry in Australia, and current policy seeks to ensure recycling infrastructure is established to support renewable energy developments.

It is noted that each battery has a 20-year guarantee, and it is expected that adequate recycling infrastructure will be available within this timeframe. Any faults in the batteries within this timeframe will require their return to the manufacturer for testing and assessment under the warranty period and therefore will not be disposed of.

It is considered the rehabilitation and decommissioning conditions imposed are satisfactory to ensure a strategy that includes broad principles and intended outcomes for the remediation of disturbed areas and the rehabilitation of the site following the cessation of the use.

Furthermore, waste management conditions imposed for waste not in relation to the batteries (packaging, timber, concrete and cabling) for the construction and operational phase of the development are considered satisfactory.

Poor community engagement and public consultation

Submitters raised concerns with the public notification period including the community engagement process and consultation between the applicant and community members since the development's layout changes.

An assessment was undertaken by Council Officers who confirm the public notification for the development application was undertaken in accordance with the requirements of the *Planning Act 2016*, which included notifying adjoining landowners with a common boundary by post, placing a notice in the newspaper circulating in the locality and placing notice signs along all road frontages of the development site. The public notification period was undertaken for 15 business days.

There is no requirement for the Applicant or Assessment Manager (Council) to consult with or undertake public notification beyond that required by the *Planning Act 2016*.

Regardless, the applicant has conducted additional community consultation outside of the formal public notification requirements which included:

- Creation of a project webpage with preliminary DA package details, timelines, community feedback form, contact details, FAQs, site map and assessments completed.
- Community information session held 24
 October 2024 outside of the public
 notification period to cover a wide range of
 topics informed by the results of the
 community survey and feedback form
 available via the webpage.
- Over 250 interactions (meetings, phone calls and emails) with key stakeholders 'Bouldercombe Renewable Energy Working Group', 'Darumbal Enterprises', 'Bouldercombe Progress Association' and 'Rockhampton Regional Council' (online and in person).

The level of engagement undertaken is considered above what is required, however appropriate for the scale and nature of the project and has resulted in changes to the development proposal to better reflect the needs of the community, this includes but is not limited to:

- Revised landscaping for the full length of the lease area frontage rather than adjacent the BESS containers only and with a 0.5 metre high mound to assist in mitigating any amenity impacts; and
- Additional technical information was prepared to address concerns regarding water surface runoff, bushfire management and visual impacts.

Health Impacts

Submitters raised concerns regarding the risks to human health and impacts from toxic smoke caused by fire, constant noise, possible water contamination from exposure to chemicals caused by leeching.

It is considered that the developments design, operational outcomes, and imposed conditions will ensure the development will:

- retain and protect environmental values.
- reduce the risk of natural hazard impacts.
- protect the health and well-being of individuals: and
- is sensitive to the amenity and safety of the surrounding community.

The developments proposal applies preventative measures to significantly minimise impacts to the surrounding area and nearby sensitive receptors to the greatest extent possible. Risk management procedures will be adopted during the life of the development to ensure any continuing hazards are contained.

Non-Planning matters

Submitters raised concerns the proposed development would devalue neighbouring rural residential properties and increase home insurance premiums.

Property value is not a matter Council can have regard to under the *Planning Act 2016* when assessing and deciding a development application.

In addition, there is no evidence the commercial installation of these facilities has impact upon home insurance policies.

Matters prescribed by regulation

- The Rockhampton Region Planning Scheme 2015 (version 4.4).
- Central Queensland Regional Plan 2013; and
- The common material, being the material submitted with the application.

RECOMMENDATION B

THAT in relation to the application for a Development Permit for a Material Change of Use for an Undefined Use (Battery Energy Storage System) and Reconfiguring a Lot for a Lease (24 years), made by Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust c/Environmental Resources Management Australia Pty Ltd, located at Lot 742 Cherryfield Road, Gracemere and 52949 Burnett Highway, Bouldercombe, described as Lot 2 on RP613051 and Lot 1 on RP610887, Council resolves to Approve the application subject to the following conditions:

Material Change of Use for an Undefined Use (Battery Storage Facility)

- 1.0 ADMINISTRATION
- 1.1 The development must be carried out in accordance with the following use definition:

Battery Storage Facility

"Means the use of a premises for the operation of one (1) or more battery storage devices."

- 1.2 The owner, the owner's successors in title, and any occupier of the premises is responsible for ensuring compliance with the conditions of this development approval.
- 1.3 Where these Conditions refer to "Council" in relation to requiring Council to approve or to be satisfied as to any matter, or conferring on the Council a function, power or discretion, that role may be fulfilled in whole or in part by a delegate appointed for that purpose by the Council.
- 1.4 All conditions, works, or requirements of this development approval must be undertaken, completed, and be accompanied by a Compliance Certificate for any operational works required by this development approval:
 - 1.4.1 to Council's satisfaction;
 - 1.4.2 at no cost to Council; and
 - 1.4.3 prior to the commencement of the use,

unless otherwise stated.

- 1.5 Infrastructure requirements of this development approval must be contributed to the relevant authorities, where applicable, at no cost to Council, prior to the commencement of the use, unless otherwise stated.
- 1.6 The following further Development Permits must be obtained prior to the commencement of any works associated with their purposes:
 - 1.6.1 Operational Works:

- (i) Parking Works;
- (ii) Stormwater Works;
- (iii) Roof and Allotment Drainage; and
- (iv) Site Works.
- 1.6.2 Plumbing and Drainage Works; and
- 1.6.3 Building Works.
- 1.7 All Development Permits for Operational Works and Plumbing and Drainage Works must be obtained prior to the issue of a Development Permit for Building Works.
- 1.8 All works must be designed, constructed and maintained in accordance with the relevant Council policies, guidelines and standards, unless otherwise stated.
- 1.9 All engineering drawings/specifications, design and construction works must be in accordance with the requirements of the relevant Australian Standards and must be approved, supervised and certified by a Registered Professional Engineer of Queensland.
- 1.10 All development conditions contained in this development approval about infrastructure under Chapter 4 of the *Planning Act 2016* should be read as being non-trunk infrastructure conditioned under section 145 of the *Planning Act 2016*, unless otherwise stated.
- 1.11 Provide written notice to Council of the intention to commence the use, at least ten (10) business days prior to commencement of the use, certifying that the development has complied with all conditions of this approval.

2.0 SCOPE OF APPROVED DEVELOPMENT

2.1 The approved use is for a 300MW Battery Energy Storage System. The operational life of the Battery Energy Storage System is 24 years from the date of this approval, unless an extension to the operational period is granted, after which the development must be decommissioned and the site rehabilitated pursuant to the conditions of this approval.

3.0 APPROVED PLANS AND DOCUMENTS

Approved Plans

3.1 Prepare and submit amendments to the plans listed below for confirmation that they constitute the approved plans for the purposes of this development approval. All amended plans must be submitted to Council for approval, prior to the lodgement of any application for operational works:

Plan/Document Name	Prepared by	<u>Date</u>	Reference No.	Version/ Issue
Site Layout	GHD	7 July 2025	12632774-GHD- GA-DRG-EL- 00001	P08
Site General Arrangement	GHD	7 July 2025	12632774-GHD- GA-DRG-EL- 00002	P08
Site Plan	GHD	6 June 2025	12632774-GHD- GA-01-DRG-AR- 00001	P02
GA – Floor Plan and Roof Plan – Office	GHD	6 June 2025	12632774-GHD- GA-01-DRG-AR- 00002	P02

Building Elevations and Sections - Office	GHD	6 June 2025	12632774-GHD- GA-01-DRG-AR- 00003	P02
GA – Floor Plan and Roof Plan – Workshop	GHD	6 June 2025	12632774-GHD- GA-01-DRG-AR- 00004	P02
Building Elevations and Sections – Workshop	GHD	6 June 2025	12632774-GHD- GA-01-DRG-AR- 00005	P02
BESS Yard Typical Layout	GHD	6 June 2025	12632774-GHD- GA-01-DRG-AR- 00006	P02

The following amendments must be included:

- (a) the perimeter fencing / landscaping and external fire trail must be amended to ensure that at the corners of the facility, the fire trail has curves with a minimum inner radius of 10 metres.
- (b) Council is not approving any gravel surface treatment for the parking, vehicle manoeuvring area and frequently used area. All the proposed parking and manoeuvring areas must be concrete paved or asphalt.
- 3.2 The approved development must be completed and maintained generally in accordance with the approved plans, except where amended by any condition of this approval.

Approved Documents

3.3 The approved development must be completed and maintained, incorporating the recommendations of, and otherwise generally in accordance with, the following approved documents, except where amended by any condition of this development approval or the approved plans referenced in condition 3.1:

Plan/Document Name	Prepared by	<u>Date</u>	Reference No.	Version/ Issue
Traffic Impact Assessment	Cambray Consulting	25 August 2025		
Conceptual Stormwater Assessment	ERM	21 August 2025	0729714	2.0
Site-based Stormwater Management Plan	GHD	22 August 2025	12650145	2.0
Bushfire Risk Assessment and Management Plan	SLR Consulting Australia	14 August 2025	630.032353. 00002	1.2
Landscape Concept Package pages 1 to 5	Covey	August 2025	244023	С
Capricorn BESS Noise Assessment	Marshall Day Acoustics	14 August 2025	Rp 001 R01 20241237	R01
Hazard Incident Management Plan	Riskcon Engineering	20 August 2025	RCE-24217	6

4.0 REFERRAL AGENCY CONDITIONS

4.1 Prior to the commencement of the use, provide written confirmation to Council that the conditions as per the State Assessment and Referral Agency Amended Referral Agency Response dated 10 October 2025 (Ref:2503-45187 SRA), and the Powerlink Queensland Referral Agency Response dated 4 June 2025 (Ref: DA6197) or as amended, have been complied with.

5.0 PARKING WORKS

- 5.1 A Development Permit for Operational Works (parking works) must be obtained prior to the commencement of any access and parking works on the development site.
- 5.2 All parking works must be designed and constructed in accordance with the approved plans (refer to conditions 3.1 and 3.3), Capricorn Municipal Development Guidelines, Australian Standard AS2890 "Parking facilities" and the provisions of a Development Permit for Operational Works (parking works).
- 5.3 All parking, internal access and vehicle manoeuvring areas must be paved or sealed to Council's satisfaction. Design and construction must be in accordance with the provisions of a Development Permit for Operational Works (access and parking works).
- 5.4 A minimum of ten (10) car parking spaces including one (1) being PWD (People with Disability) bay space must be provided on site.
 - Note: A minimum of twenty-one (21) temporary car parking spaces must be provided for the construction period. These temporary car parking spaces can be of a gravel surface and dust controlled.
- 5.5 Universal access parking spaces must be provided on-site in accordance with Australian Standard AS2890.6 "Parking facilities - Off-street parking for people with disabilities".
- Parking spaces must be line-marked in accordance with the approved Site Plan (refer to conditions 3.1 and 3.3) and in accordance with the *Australian Standard AS2890 "Parking facilities"* and the provisions of a Development Permit for Operational Works (access and parking works).
- 5.7 Any application for a Development Permit for Operational Works (parking works) must be accompanied by detailed and scaled plans, which demonstrate the turning movements/swept paths of the largest vehicle to access the development site.
- 5.8 All vehicle operations associated with the development must be directed by suitable directional, informative, regulatory or warning signs in accordance with Australian Standard AS1742.1 "Manual of uniform traffic control devices" and Australian Standard AS2890.1 "Parking facilities Off-street car parking".
- 5.9 Signage and pavement markings must be installed in accordance with *Australian Standard AS1742.1 "Manual of uniform traffic control devices"*.
- 5.10 All vehicle operation areas must be illuminated in accordance with the requirements of *Australian Standard AS1158 "Lighting for roads and public spaces"*.
- 5.11 All internal pedestrian pathways must be designed and constructed in accordance with Australian Standard AS1428 "Design for access and mobility".

6.0 PLUMBING AND DRAINAGE WORKS

6.1 All internal plumbing and drainage works must be designed and constructed prior to commencement of the use in accordance with the approved plans (refer to conditions 3.1 and 3.3), Capricorn Municipal Development Guidelines, Water Supply (Safety and Reliability) Act 2008, Plumbing and Drainage Act 2018, Council's Plumbing and Drainage Policies and the provisions of a Development Permit for Plumbing and Drainage Works.

6.2 A 150 kilolitre water storage supply for fire-fighting purposes must be provided, prior to commencement of the use, in accordance with the recommendations in the approved Bushfire Risk Assessment (refer to conditions 3.1 and 3.3). The fire-fighting protection must be certified by hydraulic consultant. The water storage must be easily accessible having regard to pedestrian and vehicular access.

7.0 STORMWATER WORKS

- 7.1 A Development Permit for Operational Works (stormwater works) must be obtained prior to the commencement of any stormwater works required by this development approval.
- 7.2 All stormwater drainage works must be designed and constructed in accordance with the approved plans (refer to conditions 3.1 and 3.3) subject to ensuring compliance and any alterations required by the *Environmental Protection Act 1994*, *Queensland Urban Drainage Manual*, *Capricorn Municipal Development Guidelines*, sound engineering practice and the provisions of a Development Permit for Operational Works (stormwater works).
- 7.3 All stormwater must drain to a lawful point of discharge and must not adversely affect surrounding land or infrastructure in comparison to the pre-development conditions, including but not limited to blocking, altering or diverting existing stormwater runoff patterns or having the potential to cause damage to other infrastructure.
- 7.4 Revised stormwater quality modelling must be provided with the Operational Works application once the final earthworks and drainage design has been completed to demonstrate that the proposal still meets the required Water Quality Objectives.
- 7.5 The proposed bio-basin(s) must be designed with the pre-treatment device to limit the amount of coarse sediment reaching the filter media. An appropriate pre-treatment method must be implemented i.e. Sediment Forebays.
- 7.6 All field inlets / pits must be fitted with gross pollutant traps and the installation of gross pollutant traps must be in accordance with relevant Australian Standards. All maintenance of the gross pollutant traps must be the responsibility of the property owner or body corporate (if applicable).
- 7.7 All proprietary stormwater quality treatment devices must be routinely checked, serviced and cleaned in accordance with the manufacturer's recommendations. Records of all maintenance activities undertaken must be kept and made available to Council upon request. Where replacement cartridges or other necessary components for the system become unavailable, an alternative system approved by Council, is required to be retrofitted into the development to achieve an equivalent pollutant reduction outcome. All maintenance cost must be borne by the site owner/operator.
- 7.8 Any application for a Development Permit for Operational Works (stormwater works) must be accompanied by engineering plans with details of any new drainage systems including retention systems, inlet and outlet structures, or the amendment and upgrading of existing drainage systems to implement the proposed drainage strategy.
- 7.9 The detention / bio basin as identified in the approved Stormwater Management Plan referenced in conditions 3.1 and 3.3 must be:
 - 7.9.1 hydromulched with grass seeds; and
 - 7.9.2 separated from the northern edge of the battery units by a separation area with a width of 6 metres.

Any application for a Development Permit for Operational Works (stormwater works) must be accompanied by detailed plans and specifications for the detention / bio basin and the design must maximise areas suitable for on-site infiltration of stormwater.

The detailed design of the detention / bio basin/s as identified in the approved Stormwater Management Plan must ensure the safety of the public and/or tenants and where applicable include all required safety measures and facilities (for example, child proof fences). A maintenance plan for the proposed detention basin system must be submitted as part of any application for a Development Permit for Operational Works (stormwater works).

8.0 ROOF AND ALLOTMENT DRAINAGE WORKS

- 8.1 A Development Permit for Operational Works (roof and allotment drainage works) must be obtained prior to the commencement of any drainage works on the development site.
- 8.2 All roof and allotment drainage works must be designed and constructed in accordance with the approved plans (refer to conditions 3.1 and 3.3), Queensland Urban Drainage Manual, Capricorn Municipal Development Guidelines, sound engineering practice and the provisions of a Development Permit for Operational Works (roof and allotment drainage works).
- 8.3 All roof and allotment runoff from the development must be directed to a lawful point of discharge and must not restrict, impair or change the natural flow of runoff water or cause an actionable nuisance or worsening to surrounding land or infrastructure.

9.0 SITE WORKS

- 9.1 A Development Permit for Operational Works (site works) must be obtained prior to the commencement of any site works on the development site.
- 9.2 All earthworks must be undertaken in accordance with *Australian Standard AS3798* "Guidelines on earthworks for commercial and residential developments".
- 9.3 Earthworks on the site should be designed to minimise the amount of site bypass catchments.
 - Note: Water Quality requirements can only be met where at least 80 per cent of the project area grades to the bio basin location for treatment.
- 9.4 Site works, fencing and landscaping must be constructed such that they do not, at any time, in any way restrict, impair or change the natural flow of runoff water, or cause an actionable nuisance or worsening to surrounding land or infrastructure.
- 9.5 The design surface levels for the battery storage facility must achieve 500 millimetre freeboard above the one (1) per cent Annual Exceedance Probability (AEP) flood levels.
- 9.6 All retaining structures above one (1) metre in height requires separate building approval and certification by a *Registered Professional Engineer of Queensland*.

10.0 BUILDING WORKS

- 10.1 A Development Permit for Building Works assessable under the Building Assessment Provisions must be obtained prior to the commencement of any building works on the site.
- 10.2 Structures must not be located within the on-site sewerage treatment and disposal area or conflict with the separation distances, in accordance with the *Queensland Plumbing and Wastewater Code*.
- 10.3 A minimum 1.8 metre high security fence must be erected surrounding the lease area of the development.
- 10.4 Public warning and information signs are to be erected on a boundary or perimeter security fence to comply with workplace health and safety requirements to prevent unauthorised or accidental public access to the site.

- 10.5 Each battery container and all associated buildings and infrastructure (including switch rooms and ancillary structures) must be constructed from non-reflective materials wherever applicable. Each battery container must be finished in a muted, low contrast natural green colour that blends with the surrounding landscape and to the satisfaction of Council.
- 10.6 Impervious paved waste storage area/s must be provided in accordance with the approved plans (refer to condition 3.1) and the *Environmental Protection Regulation* 2019 and must be:
 - 10.6.1 designed and located so as not to cause a nuisance to neighbouring properties;
 - 10.6.2 surrounded by at least a 1.8 metre high screen fence that obstructs from view the contents of the waste storage area by any member of the public from any public place;
 - 10.6.3 of a sufficient size to accommodate commercial type bins that will be serviced by a commercial contractor plus clearances around the bins for manoeuvring and cleaning;
 - 10.6.4 setback a minimum of two (2) metres from any road frontage; and
 - 10.6.5 provided with a suitable hosecock and hoses at the refuse container area, and washdown must be drained to the on-site sewerage facility via arrestor trap.

Note: As an alternative to a washdown facility, a fully contained commercial bin cleaning service is acceptable provided no wastewater is discharged to the on-site sewerage facility.

11.0 LANDSCAPING WORKS

- 11.1 All landscaping must be established generally in accordance with the approved plans (refer to condition 3.1 and 3.3). The landscaping must be installed prior to the commencement of any construction works on the site, and maintained at all times.
- 11.2 The landscaped areas must contain plant species that are suited to local climatic conditions and are expected to establish healthy growth and a reasonable degree of screening within 3 years of commencement of use.
- 11.3 The landscaped areas must be subject to:
 - 11.3.1 a watering and maintenance plan during the establishment moment; and
 - 11.3.2 an ongoing maintenance and replanting programme.

12.0 ELECTRICITY

12.1 Underground electricity services must be provided in accordance with the standards and requirements of the relevant service provider.

13.0 <u>TELECOMMUNICATIONS</u>

13.1 Telecommunications services must be provided to the development in accordance with the standards and requirements of the relevant service provider.

14.0 ENVIRONMENTAL

Erosion and Sediment Control Plan

- 14.1 Any application for a Development Permit for Operational Works must be accompanied by an Erosion and Sediment Control Plan that addresses, but is not limited to, the following:
 - (i) objectives;
 - (ii) site location and topography;
 - (iii) vegetation;

- (iv) site drainage;
- (v) soils;
- (vi) erosion susceptibility;
- (vii) erosion risk;
- (viii) concept;
- (ix) design; and
- (x) implementation, for the construction and post-construction phases of work.
- 14.2 The Erosion Control and Stormwater Control Management Plan prepared and certified by suitably qualified person (Certified Professional in Erosion and Sediment Control or a Registered Professional Engineer of Queensland), with appropriate knowledge and experience in erosion and sediment control design and implementation, in accordance with the State Planning Policy 2017 and Capricorn Municipal Design Guidelines requirements, must be:
 - implemented, monitored and maintained for the duration of the works, and until all exposed soil areas are permanently stabilised (for example, turfed, hydromulched, concreted, landscaped); and
 - 14.2.2 available on-site for inspection by Council Officers whilst all works are being carried out.

Construction Management Plan

- 14.3 Any application for a Development Permit for Operational Works must be accompanied by a Construction Management Plan (CMP).
- 14.4 The CMP must be prepared by a suitably qualified professional and include in particular:
 - (i) the type and height of perimeter security fencing and lockable gates to be used by vehicular and/or pedestrian traffic during construction;
 - (ii) details for the parking of site worker's vehicles;
 - (iii) details on the location of street lights, fire hydrants, sewer and stormwater pipes and manholes and footpaths around/across the perimeter of the site. Include details of any proposed service protection measures to be installed during works;
 - (iv) location and size of work zones for the loading and unloading of materials and deliveries and any construction zones or occupied space on the external verge or pavement within the road reserve;
 - (v) location and details of public information signs with contact name/s and phone numbers;
 - (vi) specific details for the storage of any hazardous or dangerous material on site and the particulars and location of any required signage as applicable;
 - (vii) details of how the general public and any surrounding residents will be informed of changes in traffic flows during construction, (newspaper, leaflet, community liaison meeting, etc.);
 - (viii) details of any proposed staging of works and the timing of deliveries inclusive of concrete pours;
 - (ix) details of any proposed temporary vehicle crossing points;
 - (x) details of how pedestrian movement around the site will be managed during and outside work hours:
 - (xi) details of traffic controllers required to coordinate traffic flow around surrounding roads and any specific controls for concrete pours or mobile crane lifting movements during building and construction works;

- (xii) hours of construction;
- (xiii) demonstrate how the general public will be protected from construction activities:
- (xiv) details on how the building site will be kept clean and tidy to maintain public safety and amenity including collection, storage and disposal of all waste materials;
- (xv) the provision of vehicle barrier(s) along the frontages of the land to ensure vehicles use approved crossovers;
- (xvi) measures and work practices to ensure non-recyclable debris transported from the site is disposed of at an approved waste facility;
- 14.5 Implement the CMP during all construction works at no cost to Council.

Dust Management Plan

- 14.6 Any application for a Development Permit for Operational Works must be accompanied by a Dust Management Plan (**DMP**) addressing construction activities.
- 14.7 The DMP must be prepared by a suitably qualified professional and include in particular:
 - (i) details of sources of dust and particulate emissions;
 - (ii) measures and work practices to be implemented to ensure the release of dust and particulate matter from construction activities does not cause an 'environmental nuisance' (within the meaning of that term set out in the *Environmental Protection Act 1994* (Qld)) at any sensitive receptor stated in schedule 1 of the *Environmental Protection (Noise) Policy 2019*;
 - (iii) procedures to be adopted for monitoring and reporting air emissions;
 - (iv) details of complaint response procedures that will be adopted; and
 - (v) procedures to be adopted for revision and review of the dust management plan.
- 14.8 Implement the DMP during all construction works at no cost to Council.

Noise Management Plan

- 14.9 Any application for a Development Permit for Operational Works must be accompanied by a Noise Management Plan (**NMP**) addressing construction activities.
- 14.10 The NMP must be prepared by a suitably qualified professional and include in particular:
 - (i) details of expected noise sources;
 - (ii) the measures and work practices to be implemented to ensure noise from construction activities does not cause an 'environmental nuisance' (within the meaning of the term set out in the *Environmental Protection Act 1994* (Qld)) at any sensitive receptor stated in schedule 1 of the *Environmental Protection* (Noise) Policy 2019 (Qld);
 - (iii) the measures and work procedures to monitor noise emissions;
 - (iv) details of complaint response procedures; and
 - (v) procedures to monitor and review the noise management plan.
- 14.11 Implement the NMP prior to any works commencing at no cost to Council.
- 15.0 ENVIRONMENTAL HEALTH
- 15.1 The development must be undertaken in accordance with the recommendations in the approved Bushfire Risk Assessment (refer to condition 3.3).

- 15.2 The development must be undertaken in accordance with the recommendations in the approved Capricorn BESS Noise Assessment (refer to condition 3.3).
- 16.0 RISK AND HAZARD MITIGATION
- 16.1 Prior to lodging any application for a development permit for operational works, submit to Council for approval:
 - 16.1.1 an Emergency Management Plan (**EMP**), generally in accordance with the draft Hazard Incident Management Plan prepared by Riskcon Engineering dated 20 August 2025, Job No. RCE-24217;
 - 16.1.2 a Fire Risk Management Plan (FRMP); and
 - 16.1.3 a Fire Safety Study (FSS).
- 16.2 Consult with the Queensland Fire Department (**QFD**) and local fire authorities in relation to the contents of the EMP, FRMP and FSS and incorporate any written advice from QFD and local fire authorities within the EMP, FRMP and FSS.
- 16.3 Prior to the installation of the battery units, the dedicated firefighting water supply and fire hydrants, internal separation distances, external fire trail and bio / detention basin, as required by the approved documents and plans, must be implemented and commissioned. The dedicated firefighting water supply and fire hydrants will be implemented and enabled by temporary power supply. Prior to the commencement of use, all other fire protection measures required by the EMP, FRMP and FSS approved by Council under condition 0 must be implemented and commissioned.
- 16.4 The occupier of the land, or where there is no occupier, the owner, must implement the EMP during an event or if there is a risk of fire near the land.
- 16.5 No contaminants are permitted to be released to land or water, including soil, silt, oils, detergents, chemicals etcetera.
- 16.6 Install a fully engineered lightning-protection system, designed and certified in accordance with AS/NZS 1768:2021 (Lightning Protection). Install a surge-protection system for all BESS enclosures, inverter-stations, control buildings and auxiliary services, incorporating Type 1 & 2 Surge Protective Devices to IEC 61643.11.
- 16.7 Design, install and test a site earthing and bonding grid (including equipotential bonding of all metallic parts and fencing) that meets touch- and step-voltage limits of AS 2067:2016 (High-voltage installations > 1 kV a.c.) and the earthing requirements of AS/NZS 3000:2018 for low-voltage circuits.
- 16.8 Provide arc-flash hazard analysis and mitigation for all LV and HV switchgear and battery-DC busbars using IEEE 1584-2018 methodology and implement suitably rated arc-flash detection relays / fast-acting interrupters. Post signs showing arc-flash boundary and personal protective equipment (PPE) category in accordance with NFPA 70E-2024. DC arc-flash calculations must be conducted in accordance with AS/NZS 5139:2019.
- 16.9 Provide a Battery-Management System (**BMS**) meeting the cell safety standard IEC 62619:2022. The BMS must autonomously disconnect, isolate and alarm on over-temperature, over-voltage, under-voltage or gas detection events. The BMS must include monitoring of the battery liquid cooling system including system pack temperatures and coolant leak detection. The BMS sensors and actuators must be designed as fail safe.
- 16.10 Apply industrial-control-system cybersecurity controls to Levels 0-4 in accordance with IEC 62443-2-1/3-3: network segmentation, firewalls, multi-factor authentication, secure remote-access gateway and quarterly vulnerability patching. Maintain a Cybersecurity Management Plan aligned with the Australian Energy Sector Cyber Security Framework (AESCSF). Access must be available for remote operation of the Supervisory Control and Data Acquisition (SCADA) system including operation and

- safe shutdown via remote access in the event that direct on-site access is unavailable.
- 16.11 Provide automatic DC and AC isolation devices (HRC fuses, contactors or circuit-breakers) rated and tested in accordance with AS/NZS 5139:2019 and AS/NZS 61439.2:2022. Isolation devices must achieve full disconnection within 3 seconds when commanded by BMS, fire-detection or manual emergency-stop.
- 16.12 Install fixed multi-criteria fire/gas detectors (photo-electric smoke, H₂, CO, VOC sensors) inside each BESS enclosure integrated with BMS and SCADA. Detection, alarm and control logic must meet AS 1670.1:2018 and provide automatic ventilation start, battery string isolation and notification to the site operator via SCADA.
- 16.13 Conduct annual thermographic and partial-discharge inspections of all cable joints, terminations, busbars and transformer windings. Inspections must be performed by a Level 2 thermographer or a suitable qualified electrical engineer, specialised in high voltage systems and documented in the maintenance records under AS/NZS 4836:2011 safe-work requirements.

17.0 OPERATING PROCEDURES

- 17.1 All construction materials, waste, waste skips, machinery and contractors' vehicles must be located and stored or parked within the development site.
- 17.2 Any lighting devices associated with the development, such as sensory lighting, must be positioned on the development site and shielded so as not to cause glare or other nuisance to nearby residents and motorists. Night lighting must be designed, constructed and operated in accordance with *Australian Standard AS4282 "Control of the obtrusive effects of outdoor lighting"*.
- 17.3 Operations on the site must have no significant impact on the amenity of adjoining premises or the surrounding area due to the emission of light, noise or dust.
- 17.4 All waste storage areas must be:
 - 17.4.1 kept in a clean and tidy condition; and
 - 17.4.2 maintained in accordance with Environmental Protection Regulation 2019.
- 17.5 When requested by Council, noise monitoring must be undertaken and recorded within three (3) months, to investigate any genuine complaint of nuisance caused by noise. The monitoring data, an analysis of the data and a report, including noise mitigation measures, must be provided Council within fourteen (14) days of the completion of the investigation. Council may require any noise mitigation measures identified in the assessment to be implemented within appropriate timeframes. Noise measurements must be compared with the acoustic quality objectives specified in the most recent edition of the *Environmental Protection (Noise) Policy 2019 (Qld)*.
- 17.6 Maintain a complaints register which records:
 - 17.6.1 the complainant's name and address (if provided);
 - 17.6.2 the time and date of the complaint, including a description of the complainant's concerns;
 - 17.6.3 the process undertaken to investigate the complaint and the outcome of the investigation, including any actions taken to resolve the complaint.
- 17.7 Provide a copy of the complaints register to Council upon request.
- 17.8 Within 12 months of the commencement of the use, a Post-Construction Acoustic Assessment must be prepared by a suitably qualified acoustic engineer, and submitted to Council and made available to the public. If the Post-Construction Acoustic Assessment includes recommendations to achieve compliance with the *Environmental Protection (Noise) Policy 2019* (Qld), those recommendations must be implemented to the satisfaction of Council.

18.0 REHABILITATION

- 18.1 Submit, as part of any operational works application, a Remediation and Decommission Strategy that includes broad principles and intended outcomes for the remediation of disturbed areas and the rehabilitation of the site following the cessation of the use. The Remediation and Decommission Strategy will be used as the basis for the preparation of the Remediation and Decommission Plan pursuant to Condition 0.
- 18.2 At least two (2) years prior to cessation of the use, submit and have endorsed by Council, a Rehabilitation and Decommission Plan prepared by a suitably qualified person that, at a minimum:
 - 18.2.1 Demonstrates the site will be restored to a standard capable of the level of productivity that was available prior to the development occurring;
 - 18.2.2 Clearly establishes the objectives of the Plan;
 - 18.2.3 Show adopted performance criteria for rehabilitation efforts;
 - 18.2.4 Includes an Action Plan, with timing for remedial work such as the removal of structures, removal of import materials, such as gravel and soil;
 - 18.2.5 Outlines a program for monitoring rehabilitation success using appropriate indicators.

19.0 DECOMMISSIONING

- 19.1 Provide written notice to Council of the intention to cease the use, four (4) months prior to the cessation taking effect.
- 19.2 Within 12 months of the cessation of the use:
 - 19.2.1 the site must be returned, as far as practicable, to its condition prior to the commencement of construction in consultation with relevant landowners in accordance with the approved Rehabilitation and Decommission Plan;
 - 19.2.2 provide to Council certification of completion for remediation and rehabilitation works in accordance with the approved Rehabilitation and Decommission Plan;
 - 19.2.3 all other elements associated with the development, including site roads, shall be removed unless otherwise agreed to in writing by Council.

ADVISORY NOTES

NOTE 1. Aboriginal Cultural Heritage

It is advised that under section 23 of the *Aboriginal Cultural Heritage Act 2003*, a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage (the "cultural heritage duty of care"). Maximum penalties for breaching the duty of care are listed in the Aboriginal cultural heritage legislation. The information on Aboriginal cultural heritage is available on the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism website https://www.tatsipca.qld.gov.au

NOTE 2. General Environmental Duty

General environmental duty under the Environmental Protection Act 1994 prohibits unlawful environmental nuisance caused by noise, aerosols, particles, dust, ash, fumes, light, odour or smoke beyond the boundaries of the development site during all stages of the development including earthworks, construction and operation.

NOTE 3. <u>Duty to Notify of Environmental Harm</u>

If a person becomes aware that serious or material environmental harm is caused or threatened by an activity or an associated activity, that person has a duty to notify Rockhampton Regional Council.

NOTE 4. Licensable Activities

Should an activity licensable by Rockhampton Regional Council be proposed for the development site, Council's Environment and Public Health Unit must be consulted to determine whether any approvals are required. Such activities may include storage of dangerous goods or environmentally relevant activities. Approval for such activities is required before 'fit out' and operation.

NOTE 5. General Safety of Public During Construction

The Work Health and Safety Act 2011 and Manual of Uniform Traffic Control Devices must be complied with in carrying out any construction works, and to ensure safe traffic control and safe public access in respect of works being constructed on a road.

NOTE 6. Infrastructure Charges Notice

This application is subject to infrastructure charges in accordance with Council policies. The charges are presented on an Infrastructure Charges Notice.

NOTE 7. Emergency Management Plan

Council does not accept any liability for loss of or damage to property, or injury, or loss of life as a result of any person using or relying on the Emergency Management Plan or failing to use the Emergency Management Plan during an event.

NOTE 8. Rating Category

Please note, a Material Change of Use approval may result in an adjustment to a property's rating category. Please contact Council's Rates Department should you require further information.

Reconfiguring a Lot for a Lease (24 years)

1.0 ADMINISTRATION

- 1.1 The Developer and their employee, agent, contractor or invitee is responsible for ensuring compliance with the conditions of this development approval.
- 1.2 Where these Conditions refer to "Council" in relation to requiring Council to approve or to be satisfied as to any matter, or conferring on the Council a function, power or discretion, that role may be fulfilled in whole or in part by a delegate appointed for that purpose by the Council.
- 1.3 All conditions, works, or requirements of this development approval must be undertaken and completed:
 - 1.3.1 to Council's satisfaction:
 - 1.3.2 at no cost to Council; and
 - 1.3.3 prior to the issue of the Survey Plan Approval Certificate,

unless otherwise stated.

1.4 The lease is valid for a maximum period of 24 years from the date of this approval. Lease documents must accompany the Survey Plan for endorsement by Council, prior to the issue of the Survey Plan Approval Certificate.

2.0 <u>APPROVED PLANS AND DOCUMENTS</u>

2.1 The approved development must be completed and maintained generally in accordance with the approved plans and documents, except where amended by any condition of this development approval:

Plan/Document Name	Prepared by	<u>Date</u>	Reference No.	Version/ Issue
Project Lease Area	ERM	21 August 2025	0729714_Capricorn BESS HYDRO_R2	R2

- 2.2 Where there is any conflict between the conditions of this development approval and the details shown on the approved plans and documents, the conditions of this development approval must prevail.
- 2.3 Where conditions require the above plans or documents to be amended, the revised document(s) must be submitted for approval by Council prior to the submission of the Survey Plan for endorsement.

3.0 ASSET MANAGEMENT

3.1 Any alteration necessary to electricity, telephone and/or public utility installations resulting from the development or in connection with the development, must be undertaken and completed at no cost to Council.

ADVISORY NOTES

NOTE 1. Aboriginal Cultural Heritage

It is advised that under section 23 of the *Aboriginal Cultural Heritage Act 2003*, a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage (the "cultural heritage duty of care"). Maximum penalties for breaching the duty of care are listed in the Aboriginal cultural heritage legislation. The information on Aboriginal cultural heritage is available on the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism website https://www.tatsipca.gld.gov.au

BACKGROUND

SITE AND LOCALITY

The site is located at Lot 742 Cherryfield Road, Gracemere and 52949 Burnett Highway, Bouldercombe, formally described as Lot 2 on RP613051 and Lot 1 on RP610887 and are large irregular shaped lots with a total site area of 128.656 hectares. Lot 1 on RP610887 is improved with the Bouldercombe Substation which is the subject of a Designation of premises for development of infrastructure for operating works under the *Electricity Act* 1994. Lot 2 on RP613051 is an unimproved vacant lot encumbered with five (5) high voltage powerline easements traversing from east to west servicing the adjoining Powerlink Bouldercombe substation.

An unmapped stream (possible branch from One Mile Creek) traverses Lot 2 on RP613051 in the northwestern corner of the site, the stream runs from north to south with dense vegetation surrounding the streams formation. This is also where the Biodiversity Overlay (waterway) and Bushfire Hazard (medium and buffer) are noted (these overlays do not affect the developments lease area).

The subject site is immediately bound by:

 North: Large vacant lot located within the Rural Zone. The subject of Development Permit D/18-2017 for a Renewable Energy Facility (solar park) approved but not yet constructed.

- East: Burnett Highway (State controlled road). Further east is a large vacant lot located within the Rural Zone being Lot 1 Burnett Highway, Bouldercombe the subject of Court Order Approval 148 of 2025 for Development Permit for a Material Change of Use – Undefined Use (Battery Storage Facility) and Reconfiguring a Lot for a lease (24 Years)
- South: Special Purpose Zone containing the Bouldercombe substation.
- West: Large vacant lot located within the Rural Zone. The subject of Development Permit D/18-2017 for a Renewable Energy Facility (solar park) Approved but not yet constructed.

The wider area to the north, east and west of the site is characterised by the Rural Zone and is largely vacant rural land. The area further to the south of the site is characterised by the Rural Residential Zone with established rural residential Dwelling Houses.

PROPOSAL

The Applicant seeks a Development Permit for a Material Change of Use for an Undefined Use (Battery Energy Storage System) and Reconfiguring a Lot for a Lease (24 years) to be located in the northeast corner of Lot 2 on RP613051.

Specifically, the proposal is referred to as 'The Capricorn BESS Project' and will comprise of a standalone 300-megawatt Battery Energy Storage System. The facility will operate 24/7 and will be staffed during business hours Monday to Friday and monitored 24/7 in case of an emergencies outside of business hours.

Notable components of the proposal include:

- 294 BESS units each unit/container will be organised in a three (3) x 22 pattern in an array of 66 containers and will enclose lithium-iron phosphate (LFP) batteries.
 - o BESS containers are 6.1 metres long, 2.5 metres wide and 3 metres tall.
- 98 BESS inverters and Ring Main Units (RMU) for up to 66 BESS containers there will be 22 inverters and 22 RMU.
 - BESS inverters (power connection equipment) are 6.1 metres long, 2.5 metres wide and 3 metres tall.
 - Ring Main Units (switchboard and controls) are 1.2 metres long, 2.5 metres wide and 2 metres tall.
- A small administrative and operations and maintenance building approximately 3.3 metres tall with a total gross floor area of 230 square metres and located in the northeast portion of the lease area. This will include the operator station (office, lunchroom and amenities), servers and security equipment. A warehouse and drive through workshop shed for maintenance and storage are also proposed on the northern side of the operations building with a total gross floor area of 470 square metres. The laydown area will be located in the southern portion of the lease area whilst the BESS containers will be central to the site and taper west.
- An 8 meter wide internal circulation track around the perimeter of the lease area will be provided, along with a 7 metre internal access road surrounding each cluster of BESS containers and associated asset equipment. Ten (10) permanent on-site car parking spaces will be located adjacent the operations and maintenance building.
- A new access point located in the northeast corner of the site from the Burnett Highway has been approved by the Department of Transport and Main Roads via a referral.
- A minimum 1.8 metre high security fence will be provided around the perimeter of the development with a 5 metre wide landscaping buffer to the north and east.

- Large water tanks will be provided throughout the site with a total capacity of 150,000 litres, specifically for fire-fighting purposes and two (2) smaller tanks for rainwater and potable water for operational activities.

The BESS is designed to store energy from the grid during times of low demand and distribute energy back into the grid during times of peak demand. This will help to stabilise the electricity grid and minimise the risk of power outages, improving the overall reliability of the transmission network.

PLANNING ASSESSMENT

MATTERS FOR CONSIDERATION

This application has been assessed by relevant Council planning, engineering, environmental health, and other technical officers as required. The assessment has been in accordance with the assessment process provisions of the Development Assessment Rules, based on consideration of the relevant State Planning Policy; State Government guidelines; the Council's Planning Scheme, Planning Policies and other general policies and procedures, as well as other documents as considered relevant.

Development Engineering Comments

Support, subject to conditions.

Public and Environmental Health Comments

Support, subject to conditions.

Strategic Planning Comments

The proposal for a Battery Storage Facility (BESS) is located within the Rural zone under the *Rockhampton Region Planning Scheme* (v5) and within the **Rural designation** under the Strategic Framework. Under the Strategic Framework the following is stated for renewable energy uses:

3.3.6.1 Rural - Specific outcomes

(16) Renewable energy technology uses will be supported where there are no adverse impacts on adjoining and nearby uses, including impacts associated with noise, light, emissions, infrastructure requirements or transport movements on transport networks.

Furthermore, the purpose of the Rural Zone Code (s6.7.4.2) states:

(2), (k) renewable energy facilities are located on sites that are large enough to accommodate appropriate buffering from sensitive land use(s) and minimise adverse impacts on the natural environment.

In this regard, Strategic Planning has no objections to the development regarding the strategic intent under the *Rockhampton Region Planning Scheme* (v4.4). However, to protect the future rural amenity and production values of the land following the end of the project's lifespan, appropriate rehabilitation and decommissioning conditions are recommended.

Support, subject to conditions.

TOWN PLANNING COMMENTS

State Planning Policy 2017

Section 2.1 of Rockhampton Region Planning Scheme 2015 noted the State Planning Policy 2017 is integrated in the planning scheme. The State planning interests are therefore addressed as part of this assessment of the development against the Rockhampton Region Planning Scheme 2015.

Central Queensland Regional Plan 2013

The Central Queensland Regional Plan 2013 is a statutory document which came into effect on 18 October 2013.

The Regional Plan is identified as being appropriately integrated with the Planning Scheme and therefore an assessment against the Planning Scheme is taken to be an assessment against the Central Queensland Regional Plan 2013.

Rockhampton Region Planning Scheme 2015

Rockhampton Regional Planning Scheme Codes

The following codes are applicable to this application:

- Rural Zone Code;
- Special Purpose Zone Code;
- Telecommunications Facilities and Utilities Code;
- Access, Parking and Transport Code;
- Landscape Code;
- Stormwater Management Code;
- Waste Management Code;
- Water and Sewer Code:
- Reconfiguring a Lot Code; and
- Bushfire Hazard Overlay Code.

An assessment has been made against the requirements of the abovementioned codes and the proposed development generally complies with the relevant Performance Outcomes and Acceptable Outcomes. Where the application is in conflict with an Acceptable Outcome and is not otherwise conditioned to comply an assessment of the Performance Outcomes is contained in the Statement of Reasons in **Recommendation A** of this report.

Rural Zone

The subject site is situated within the Rural Zone under the *Rockhampton Region Planning Scheme 2015*. The purpose of the Rural Zone identifies that:

- (1) The purposes of the rural zone code is to:
 - (a) ensure that land with productive capacity is maintained for a range of existing and emerging rural uses that are significant to the economy of the planning scheme area;
 - (b) recognise that different types of rural land are suited to specific uses such as animal industries, horticulture, cropping, intensive animal industries, intensive grazing and extractive industries;
 - (c) prevent the establishment of development which may limit the productive capacity of the land:
 - (d) provide for diversification of rural industries where impacts can be managed; and
 - (e) maintain the environmental values of all rural land.
- (2) The purpose of the zone will be achieved through the following outcomes:
 - (a) development in the zone accommodates predominantly rural uses;
 - (b) development:
 - (i) does not detract from the scenic landscape features of rural land including the Fitzroy River, floodplains, lagoons, wetlands, salt pans, mountains and ridges and the coastline:
 - (ii) is responsive to the environmental characteristics and constraints of the land, and minimises impacts on natural features such as waterways, wetlands and remnant vegetation;
 - (iii) has legal and practical access to the road hierarchy;
 - (iv) is serviced by infrastructure that is commensurate with the needs of the use; and

- (v) maximises energy efficiency and water conservation;
- (c) non-rural uses may be appropriate where they do not detract from the productivity or residential amenity of rural areas and can demonstrate:
 - (i) a direct relationship with the rural use in the immediate locality; or
 - (ii) the potential to make a contribution to primary production or the diversification of rural industries; **or**
 - (iii) a need to be remote from urban uses as a result of their impacts; or
 - (iv) they cannot be located in an urban area (for example, due to land area requirements);
- (d) transport and freight uses, which do not meet the definition of a home-based business, are not established in the rural zone:
- (e) development does not alienate or impact on the productive agricultural capacity of rural areas and agricultural land is protected from incompatible development;

Editor's note—Agricultural land classified as Class A or Class B is identified on the agricultural land classification overlay map OM-13.

- (f) all rural land is maintained in large land holdings to protect the agricultural production capacity. In this regard, the reconfiguration of land only occurs when lot size is 100 hectares unless otherwise stated in a precinct;
- (g) animal keeping (being kennels and catteries), intensive animal industries, intensive horticulture, aquaculture and rural industries establish where they:
 - (i) are located on sites that are large enough to accommodate appropriate buffering to sensitive land use(s), residential, township and emerging community zones.
 Intensive animal industries are preferred in proximity to the lower Fitzroy River, west of Ridgelands;
 - (ii) do not cause adverse impacts on sensitive land use(s) in relation to traffic, noise and air quality;
 - (iii) do not cause a negative impact on water quality;
 - (iv) protect natural, scenic and environmental values;
 - (v) do not diminish the productive capacity of other land nearby;
 - (vi) gain access from roads which are constructed to accommodate the traffic generated by the use; and
 - (vii) are not located in areas identified on the agricultural land classification (ALC) overlay maps (except for intensive horticulture);
- (h) Rural workers' accommodation is appropriate where:
 - (i) directly associated with the primary rural use undertaken at the site;
 - (ii) compatible with the rural character of the zone;
 - (iii) not compromising the existing or potential future operation of rural uses on adjoining lots; and
 - (iv) not located in areas identified on the agricultural land classification (ALC) overlay maps:
- (i) <u>urban and rural residential development is contained within the designated growth</u> <u>areas and does not expand into the rural zone:</u>
- (j) <u>sensitive land use(s) are adequately separated from animal keeping (being kennels</u> and catteries), intensive animal industry, aquaculture, rural industry, and industrial

zoned areas (including the Gracemere industrial area, Stanwell power station, Bajool explosives reserve and Bouldercombe brickworks):

- (k) <u>renewable energy facilities are located on sites that are large enough to accommodate appropriate buffering from sensitive land use(s) and minimise adverse impacts on the natural environment;</u>
- (I) <u>extractive industries (including Marmor limeworks) on rural land are protected</u> <u>from encroachment by incompatible uses;</u>
- (m) <u>extractive industry minimises environmental and traffic impacts. Once the operation has ceased the site is rehabilitated;</u>
- (n) <u>aquaculture activities may be integrated with horticulture operations, where benefits</u> <u>of diversification are evident and there are no adverse impacts on amenity, ecological</u> values and existing fish habitats; and
- (o) the establishment of two (2) precincts within the zone where particular requirements are identified:
 - (i) Alton Downs precinct; and
 - (ii) Cropping and intensive horticulture precinct.

An assessment of the proposal identifies that the development presents conflicts with elements of the Rural Zone Code. An assessment against the purpose of the Rural Zone Code is contained in the Statement of Reasons in **Recommendation A** of this report.

Strategic Framework

The subject site is situated within the Rural Area designation under the scheme's strategic framework map. The strategic framework themes and their strategic outcomes, as identified within Part 3 of the *Rockhampton Region Planning Scheme 2015* are applicable:

3.3 Settlement Pattern – Complies

3.3.6 Element - Rural

3.3.6.1 Specific Outcome (16) Renewable energy technology uses will be supported where there are no adverse impacts on adjoining and nearby uses, including impacts associated with noise, light, emissions, infrastructure requirements or transport movements on transport networks.

Response: The development proposal applies preventative measures to significantly minimise impacts to the surrounding area and nearby sensitive receptors.

3.4 Natural Environment and Hazards – Complies

- **3.4.1 Strategic Outcome (2)** Development does not create unsustainable impacts on:
- (a) the natural functioning of floodplains.
- (b) environmentally significant areas, including areas of state and locally significant vegetation, which provide fauna habitat and support biodiversity; and
- (c) the quality of water entering waterways, wetlands and local catchments.

Response: The specific lease area for the development on the subject site is not affected by any Biodiversity Area Overlay including corridors and wildlife habitats, waterways or wetlands.

3.5 Community Identity and Diversity – Not applicable

Response: The Community identity and diversity themes specific outcomes relate to housing diversity, safe design of communities and equitable access, heritage and character, sport and recreation and open space and social, arts and cultural infrastructure which are considered not relevant to this development.

3.6 Access and Mobility - Complies

3.6.1 Strategic Outcome (4) The safety and efficiency of transport infrastructure, including the Bruce and Capricorn Highways and other state and local roads, rail, airport and seaports, are not compromised by development.

Response: A Traffic Impact Assessment confirms the traffic generated during the construction and operational phases is not expected to have an adverse impact on surrounding road network operations, including the safety of the Burnett Highway.

The Burnett Highway is a State controlled road and the Traffic Impact Assessment was assessed by the Department of Transport and Main Roads and a decision has been issued by State confirming approval of the application, subject to conditions.

3.7 Infrastructure and Services – Complies

3.7.2.1 (2) Federal, state and approved private infrastructure networks are delivered in an integrated and coordinated way that support the settlement pattern.

3.7.2.1 (4) Utility installations and infrastructure services and their corridors including bulk water supply and networks, gas pipelines and electricity transmission and distribution lines, are protected from encroachment and impacts of development. The location of these installations will be considerate of the amenity and safety of sensitive land use(s) (as shown on the strategic framework maps SFM-9 to SFM-12).

Response: The development will support and stabilise the regions electricity grid and minimise the risk of power outages, improving the overall reliability of the transmission network within the region. By connecting to the Bouldercombe Substation, the Capricorn BESS is positioned near the electricity demand centres of Gladstone and Rockhampton as well as close to the large-scale renewable energy projects (solar and wind) being installed along the transmission lines between Nebo and Bouldercombe at Clarke Creek. It is considered that the amenity and safety impacts of the development have been addressed as part of this report.

3.8 Natural Resources and Economic Development - Conflict

3.8.4.1 Specific Outcome (1) Land with productive capacity including land identified on the Agricultural Land Classification (ALC) overlay maps and land suitable for intensive horticulture or any emerging productive rural use is protected.

Response: An assessment of the proposal identifies that the development presents a conflict with aspects of element 3.8 of the Strategic Framework. An assessment against this theme is contained in the Statement of Reasons in **Recommendation A** of this report.

TEMPORARY LOCAL PLANNING INSTRUMENT NO. 1 OF 2025 RENEWABLE ENERGY AND BATTERY STORAGE FACILITIES

Rockhampton Region Planning Scheme 2015

Whilst the Temporary Local Planning Instrument (TLPI) No. 1 of 2025 Renewable Energy and Battery Storage Facilities is not currently in effect, an informal assessment has been made against the requirements of the TLPI code, and the proposed development generally complies with the relevant Performance Outcomes and Acceptable Outcomes.

9.2.3.2 Purpose

- (1) the purpose of the renewable energy facilities and battery storage facilities code is to ensure renewable energy facilities and battery storage facilities are located, designed and operated to protect the safety of the public, avoid environmental harm and nuisance and protect scenic and landscape amenity values.
- (2) the purpose of the code will be achieved through the following overall outcomes:

- a. Development protects the character, amenity and scenic landscape values of the area through appropriate site location, design, setbacks and landscaping of the facility;
- b. Development protects people, surrounding sensitive land uses and environments from adverse impacts through appropriate site located, design, location and operation.
- c. Development is designed and operated to protect the safety of the public and avoid causing environmental harm or nuisance;
- d. Development is designed and operated to be safe before and after natural hazard events and during construction, operation and decommissioning; and
- e. Development co-locates at a site which has existing electricity infrastructure in circumstances where the potential cumulative effects of co-location do not compromise Overall Outcomes (a) to (d).

9.2.3.3 Specific Benchmarks for Assessment

Table 9.2.3.3.1 Development Outcomes for Assessable Development

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	COMMENTS	
Site characteristics			
PO1 Development is located on land that is suited for the purpose and: (a) maintains water quality and hydrogeological processes; (b) maintains ecological biodiversity and ecological connectivity; (c) prevents adverse effects on environmental and water quality values and receiving waters; (d) ensures a stabilised surface and maintains the natural topography for the land; (e) avoids character areas and heritage places; (f) avoids productive agricultural land; and (g) avoids natural hazards, or where it cannot be avoided, mitigates against the impact of natural hazards.	AO1.1 Renewable energy facility, energy generation infrastructure, battery storage facilities are located outside the: (a) Agricultural land classification overlay; (b) Biodiversity areas overlay; (c) Biodiversity corridors and wildlife habitats overlay; (d) Biodiversity waterways overlay; (e) Biodiversity wetlands overlay; (f) Bushfire hazard overlay; (g) Character overlay; (h) Coastal erosion prone area overlay; (i) Coastal hazard overlay; (j) Fitzroy River flood overlay; (k) Floodplain investigation area overlay (l) Heritage place overlay; (m) Local catchment flood overlay; (n) Special management area overlay; (o) Steep land overlay; and (p) Water resource catchments overlay.	AO1.1 Complies in part. The subject lease area is affected by the following overlays: - Agricultural land classification overlay; - Bushfire Hazard Overlay (Buffer) Alternatively, the Performance Outcomes have been addressed, and it is considered that the development complies with PO1. A further response to the developments mitigation measures for water quality, environmental, character and natural hazards is contained in the Statement of Reasons in Recommendation A of this report.	

PERFORMANCE **ACCEPTABLE OUTCOMES** COMMENTS **OUTCOMES Facility location** P₀2 AO2.1 AO2.1 Complies in part. Development is connected to the Batterv storage facilities are The lease area is located located towards the centre of power grid network that has regard in the northeastern portion to: the site and not adjacent to of the site, taking into sensitive land uses (a) safety of the network consideration the existing property boundaries. connection; and lot is 'L' shaped and AO2.2 heavily encumbered with (b) the location of the network Battery storage facilities multiple high voltage connection and associated public areas (e.g. road reserve easements in the western infrastructure and parks) or residential zones portion and closer are: Note—Compliance this sensitive land uses in the with less than 2.4 metres in Performance outcome may be (a) south it is considered the demonstrated by providina height; and most appropriate location. а technical assessment report (b) less than 4 metres in AO2.2 Not applicable including preliminary grid connection length. plans prepared by a suitably qualified AO2.3 Complies. AO2.3 professional. The proposed BESS units Battery storage facilities are are fitted with passive and designed to: active cooling systems that (a) maximise passive work to prevent system cooling; overheating. Each (b) use mechanical cooling container will have a ambient where the battery management temperatures could system which (BMS) cause battery explosion provides constant and fire: and monitoring and fault (c) contain battery detection to shut-down, explosions and fire. disconnect, isolate prevent propagation contain hazard. а Furthermore, all containers must be compliant with UL

Amenity

PO3

Development is located to protect and manage adverse effects on the amenity of surrounding sensitive land use and the existing streetscape and broader region, having regard to:

- (a) the intent of the zone and surrounding zones that may be affected;
- (b) the scenic landscape character of the location.
- (c) the significance of the visual and character values; and
- (d) the streetscape character.

Note—a visual impact assessment will be required for sites visible from

AO3.1

Development is setback:

- (a) 500 metres from Environmental Management and Conservation zone;
- (b) 1,500 metres from a Township zone, Rural residential zone, residential zone, emerging communities zone and any other surrounding sensitive land use; and

AO3.2

Battery storage facilities are

AO3.1 Complies in Part.

and equipment.

9540 and associated UL 9540A, being the standard and testing requirements for energy storage systems

The development site is not located in proximity to any Environmental, Township, Emerging Community or Residential Zone.

However, there is a Rural Residential Zone with established sensitive land use(s) within 600 metres of the development.

To mitigate the visual impact, the proposal provides a five (5) metre wide landscape buffer on

PERFORMANCE	ACCEPTABLE OUTCOMES	COMMENTS
public roads, public viewer places and sensitive land uses. Visual impact assessment is required to be undertaken in accordance with the Scenic Amenity Planning Scheme Policy. The visual impact assessment must also consider the cumulative impact of adjoining and nearby developments within the area.	located towards the centre of the site and located 30 metres from all property boundaries.	the north and east boundary lines of the development area. AO3.2 Complies. Whilst the lease area does incorporate the eastern boundary and frontage to the Burnett Highway, the facility itself (boundary to structure) is approximately 70 metres from the Burnett Highway (15 metre road reserve, plus 55 metre setback from the boundary).
PO4 Development has regard to: (a) the sensitivity of the landscape, visual intrusion from public roads, public viewer places and from sensitive land uses; (b) the size, height, scale, spacing, colour and surface reflectivity of the facility's components; (c) the number of facilities located close to each other within the same landscape; (d) the excessive removal, or planting of inappropriate species of vegetation; (e) the location, size, height and scale of other ancillary uses, buildings and works including major electricity corridor or easement, battery storage units and associated access roads; and (f) the proximity to environmentally sensitive areas such as public land, waterways and low-lying areas. Note—a visual impact assessment will be required for sites visible from public roads, public viewer places and sensitive land uses. Visual impact assessment is required to be undertaken in accordance with the Scenic Amenity Planning Scheme Policy. The visual impact assessment must also consider the cumulative impact of adjoining and nearby developments within the area. Note—an ecological assessment and environmental management plan in accordance with the ecological	No acceptable outcome is nominated.	(a) A 610-metre separation distance is achieved to the nearest Dwelling House to the southeast. This is considered an adequate buffer from the existing sensitive land use(s) and will minimise any potential adverse impacts in regard to amenity given the facilities site lines are further in distance from an existing substation and smaller BESS facility to these sensitive land use(s). (b) The height of the buildings and structures on the subject site is not considered obtrusive with the tallest structure being for the operations and workshop building which is approximately 6.5 metres tall. (c) The Capricorn BESS facility is adjacent an existing BESS facilities and large substation, a visual impact assessment was completed and concluded that the project can be undertaken without significantly impacting the existing landscape and character of the area and with little to no impact on nearby public and private viewing locations. (d) the subject lease area is characterised by pastoral grassland with no

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	COMMENTS
assessment planning scheme policy will be required for development removing vegetation from the site.		significant vegetation. (e) The subject site is located on the transmission network, zero metres (boundary to boundary) from the Bouldercombe Substation. (f) The subject lease area is not in proximity to environmentally sensitive area nor affected by the Biodiversity Overlay including corridors and wildlife habitats, waterways or wetlands.
PO5 Development minimises impacts on character, amenity and landscape values by: (a) locating: i. with other energy facilities in circumstances where the cumulative visual impacts resulting from colocation are negligible; or ii. where possible and practical, in areas where the predominant land uses are energy facilities, industrial or commercial uses; and (b) facilitate future co-location with other energy facilities.	No acceptable outcome is nominated.	PO5 Complies. The subject site is located zero metres (boundary to boundary) from the Bouldercombe Substation and an existing BESS facility. Further to this, there is an existing Development Approval (Ref: D18-2017) over the project area for the construction and operation of a Solar Farm facility. As the Capricorn BESS will be located on the same lateral location as these existing facilities it is considered that the predominant land use is electricity and energy facilities directly surrounding the Bouldercombe substation. As a result, the facility may reflect as an extension to these existing facilities rather than a distinct unit.
Acoustic assessment measures		
PO6 Development is located to protect	AO6.1 Development has an outdoor	AO6.1 Complies. The Noise Impact

Development is located to protect and manage adverse effects on the amenity of surrounding sensitive land uses, having regard to the outdoor (free field) daytime and night-time 'A' weighted equivalent acoustic level (Laeq), assessed at all noise affected existing or approved sensitive land uses.

Note—noise assessment is undertaken by a suitable qualified acoustic consultant. It is preferred

Development has an outdoor (free field) night-time (10pm to 6am) acoustic level that does not exceed:

- (a) 35dB(A); or
- (b) the background noise (LA90) by more than 3dB(A);

whichever is the greater.

AO6.2

Development has

The Noise Impact Assessment report indicates that the facilities outdoor (free field) night-time (10pm to 6am) acoustic level is 29dB(A) which is well below the criteria specified.

AO6.2 Complies.

The Noise Impact Assessment report

PERFORMANCE **ACCEPTABLE OUTCOMES** COMMENTS **OUTCOMES** an outdoor (free field) daytime that the person is a member of the indicates that the facilities Australian Acoustical Society, or the (6am to 10pm) acoustic level outdoor (free field) daytime organisation contracted should be a that does not exceed: (6am to 10pm) acoustic member of the Association level is 35dB(A) which is (a) 37dB(A); or Australian Acoustical Consultants well below the criteria (b) the background noise specified. (LA90) by more than 5dB(A); whichever is the greater. Public safety **PO7** A07.1 AO7.1 Complies. The development is designed to: The site is secured by a fence A minimum 1.8-metre-high to prevent unauthorised or (a) optimise security; security fence has been accidental public access to the conditioned to be erected (b) minimise public safety facility.

- incidents; and
- prevent unauthorised or accidental public access to the site.

Note—Compliance with this Performance Outcome may demonstrated by providing a design concept plan that is consistent with government Crime the State Prevention Through Environmental Design Guidelines for Queensland.

AO7.2

Public warning and information signs are erected on boundary or perimeter security fence to comply with workplace health and safety requirements.

A07.3

Battery storage facilities in public areas (e.g. road reserve and parks) are vandal proof.

surrounding the development area, see Condition 10.3.

AO7.2 Complies.

Public warning and information signs have been conditioned. SEE Condition 10.4.

AO7.3 Not applicable

Landscaping

PO8

Landscaping mitigates:

- (a) increases in heat on the microclimate:
- (b) minimises adverse visual impacts of the facility from the street, sensitive land uses and public viewer places; and
- (c) integrates existing native vegetation into the landscaping design in accordance with the Landscape design and street trees planning scheme policy.

AO8.1

Landscaping minimises increases in heat on the microclimate of the site and surrounds by:

- (a) locating landscaping around the Renewable energy facilities; and
- (b) including dense screen landscaping a minimum of 10 metre wide around the Renewable energy facilities.

AO8.2.1

Within the building setbacks, mature landscaping dense screens facilities from the surrounding public roads, sensitive land uses, or any other highly visible public vantage point.

OR

AO8.2.2

three-metre-high screen fence is provided to screen all facilities from public roads, surrounding sensitive land uses, or any other highly visible

AO8.1 Complies in Part.

An alternative outcome of a five (5) metre wide landscape buffer on the north and east boundary lines of the development area are proposed to mitigate the visual impact of the facility.

Given the facilities site lines from the south and west through an existing **BESS** substation and facility to any sensitive land use this reduced landscape buffer is considered appropriate.

In addition, the facility is located 70 metres from all public viewer places.

AO8.2.1 Complies

See response to AO8.1

AO8.2.2 Not Applicable.

Landscaping is being proposed rather than a screen fence to

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	COMMENTS
	public vantage point. AO8.3 Retention of mapped native vegetation areas may be used as dense screening where more than 10 metre wide.	compliment the rural landscape. AO8.3 Not Applicable. The subject site and lease area have no mapped native vegetation.
PO9 Facilities assist with the movement of wildlife through the site by: (a) incorporating wildlife corridors and habitat refuges; and (b) incorporating fencing that allows the passage of small animals without unreasonably compromising the security of the facility.	No acceptable outcome is nominated.	PO9 Not Applicable. The subject site and lease area are not located within a mapped wildlife corridor.
Hazards and Risk Mitigation		
PO10 Battery storage facilities are appropriately located, designed and separated to avoid harm or mitigate the risk of harm to people, surrounding land uses and environmental values by: (a) avoiding or where unable to avoid, minimise the risks of fire, explosion, thermal emission and containment release on and from the premises; (b) avoiding or where unable to avoid, mitigate the risks to the use of bushfire (including airborne debris), flood and vehicular impact; and (c) facilitating effective and efficient fire and emergency service response in the event of a fire, bushfire, explosion, contamination leak or other incident triggering an emergency service response. Note — Development applications must be supported by assessment material such as a risk management plan, fire and bushfire management plan and emergency plan. These plans must be prepared by a suitably qualified and experienced person. Consultation is to be undertaken with Queensland Fire Department. Note—Compliance with this Performance Outcome may be demonstrated by addressing CFA Design Guidelines and Model	No acceptable outcome is nominated.	PO10 Complies. The facility applies preventative measures to significantly minimise impacts to the surrounding area and nearby sensitive receptors to the greatest extent possible. Risk management procedures will be adopted during the life of the development to ensure any continuing hazards are contained. A Hazard Incident Management Plan has been developed for the facility and the subject site. This document is required to be updated prior to lodging any application for a development permit for operational works as per Condition 17.1.

PERFORMANCE OUTCOMES	ACCEPTABLE OUTCOMES	COMMENTS
Requirements for Renewable Energy Facilities.		
Emergency Management		
PO11 Development has an emergency management plan that addresses natural hazards and extreme events to ensure that the facility does not unduly burden Emergency services. Note—Compliance with this requirement may require the facilities to be consistent with AS.3745 Planning for emergencies in facilities battery explosion risk management	No acceptable outcome is nominated.	PO11 Complies. A Hazard Incident Management Plan has been developed for the facility and the subject site. This document is required to be updated prior to lodging any application for a development permit for operational works as per Condition 17.1.

Construction management

PO12

Development avoids, minimises or mitigates impacts on soils to ensure these can be maintained or returned to a pre-construction standard.

Note—Compliance with this Performance outcomes may be demonstrated by Transport impact assessment and management planhttps://eplan.lvrc.qld.gov.au/eplan/rules/0/25/0/0/o/crossrefhref-Rules/0/199/1/7933/0, for during both construction and operation of the Renewable energy facility.

AO12.1

Development on land mapped as ALC provide for removable options for the foundations instead of buried concrete foundations.

AO12.2

Construction management practices minimise impacts on soil such as:

- (a) storage of excavated ALC soils and replacing these as part of decommissioning;
- (b) maintaining a stabilised surface; and
- (c) identify
 site configurations to
 avoid land fragmentation
 and to manage overland
 flows
 and stormwater from any
 increase in impervious
 area.

AO12.1 Complies.

The Agricultural Land Assessment identified that the project area is located on the boundary of two broad ALC mapping polygons:

- a Class B polygon (~173 ha); and
- a Class C1 polygon (~41 ha).

The development affects only approximately 7% of the Class B area and does not result in the alienation or fragmentation of surrounding Class B agricultural land, as the site is not currently used for cropping and has been historically disturbed by cattle grazing.

AO12.2 Can Comply.

The following management plans have been conditioned to be prepared and accompany any application for a development permit for operational works:

- Erosion and Sediment Control;
- Construction Management;
- Dust Management; and
- Noise Management.

Decommissioning and rehabilitation

PERFORMANCE **ACCEPTABLE OUTCOMES** COMMENTS **OUTCOMES PO13** AO13.1 AO13.1 Can Comply. Following cessation of the use, the The development has This has been site is rehabilitated to a condition maximum operational lifespan of Conditioned, see Condition which is suitable for other uses 20 years, after this time the use which the 21 in compatible with the planning scheme shall be decommissioned, operational life of the zone of the site. unless otherwise approved by Battery Energy Storage Council. System is 24 years from AO13.2 the date of approval. The Restoration additional 4 years is to of land after decommissioning considers: account for the time required to carry out (a) who will be responsible preliminary works. for decommissioning the construction works and the facility: finalisation of access the (b) at what stage agreements with the responsible authority will appropriate energy service be advised the facility will providers, two (2) years be decommissioned: pre commissioning and two (c) the processes, plans and (2) years for dismantle and procedures for removing rehabilitation of the site all built form and for post decommissioning, restoring the land to its leaving 20 years in total for pre-developed or natural the operational lifespan. state: AO13.2 Can Comply. (d) where equipment will be disposed and if it can be This has been reused or recycled; and Conditioned, see Condition heading 21 timeline for Decommissioning. decommissioning work. AO13.3 AO13.3 Can Comply. Restoration of the land is This has been completed within 12 months Conditioned, see Condition after the use has ceased heading 20 Rehabilitation. operation and the facility is decommissioned.

INFRASTRUCTURE CHARGES

Charges Resolution (No. 2) of 2025 for **non-residential development** applies to the application. A Renewable Energy Facility (Undefined Use (Battery Storage Facility)) falls within the ambit of the "Other Uses" category under the Charges Resolution, for which Council has discretion to decide the applicable infrastructure charges at the time of assessment.

Based on an assessment of the use and the infrastructure demand it is likely to generate, officers have determined that a charge of 'Special Industry' should be applied.

The Infrastructure Charges are as follows:

- (a) A charge of \$64,225.00 for Gross Floor Area being 700 square metres (control room, office and maintenance);
- (b) A charge of \$1,060,772.50 for Impervious Area being 80,975 square metres (roof area of battery containers, transformers and parking area); and
- (c) An Infrastructure Credit of \$36,670.70, applicable for the existing undeveloped one (1) allotment (Lot 2 on RP613051).

The calculations are reflected in the below table:

Column 1	Column 1A	Colu	ımn 2	Column 3		
Use Schedule	Use	Adopted Infrastructure Charge for non-residential development		•		Calculated Charge
		(3	\$)			
		(a)	(b)			
		per m ² of Gross Floor Area (GFA)	per m ² Impervious to Stormwater			
Other Uses	Renewable Energy Facility	Decided by Local Government at time of assessment				
		'Special	Industry'			
		91.75		\$64,225.00		
			13.10	\$1,060,772.50		
			\$1,124,997.50			
			Total Credit	\$36,670.70		
		TOTA	L LEVIED CHARGE	\$1,088,326.80		

Therefore, a total charge of \$1,088,326.80 is payable and will be reflected in an Infrastructure Charges Notice for the development.

CONSULTATION

The proposal was the subject of public notification between 9 September 2025 and 30 September 2025, in accordance with the requirements of the Planning Act 2016 and the Development Assessment Rules, and 173 submissions were received.

- 169 properly made submissions; and
- 4 not properly made submissions.

Of the 169 properly made submissions received approximately 3 of those submissions were from outside the Rockhampton Region locality. Furthermore, of the 169 properly made submissions received 167 submitters are against the development proposal and 2 submitters are for the development proposal.

The issues raised and how they were considered, and addressed are outlined in the Statement of Reasons in **Recommendation A** of this Report.

REFERRALS

The application was referred to the Department of State Development, Infrastructure and Planning (State Assessment and Referral Agency) as a Concurrence. The Department assessed the application and provided a changed referral agency response with conditions on 10 October 2025.

The application was also referred to Powerlink as an Advice Agency. The Agency assessed the application and provided advice with conditions on 4 June 2025.

CONCLUSION

THAT the proposed development is not anticipated to compromise the Strategic Framework of Rockhampton Region Planning Scheme 2015. Furthermore, the proposal generally complies with the provisions included in the applicable codes. The proposal is therefore, recommended for approval in accordance with the approved plans and subject to the conditions outlined in the recommendation.

DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Locality Plan

Meeting Date: 9 December 2025

Attachment No: 1

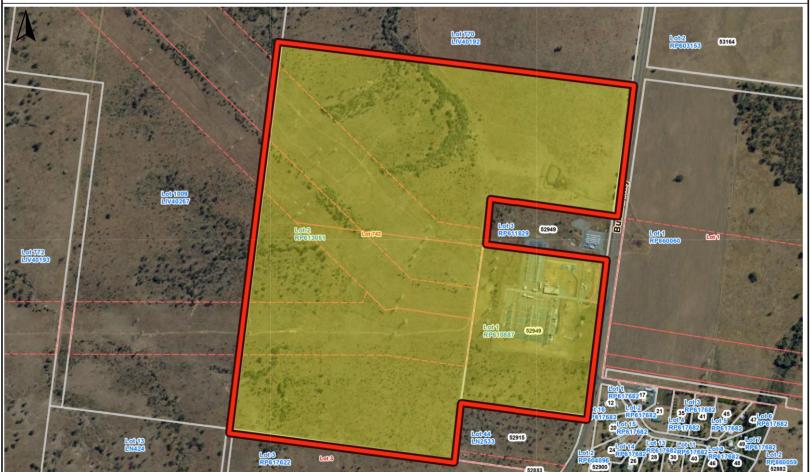


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D/25-2025 - Locality Plan

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DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Site Plans

Meeting Date: 9 December 2025

Attachment No: 2





LEGEND: BATTERY BLOCK

RING MAIN UNIT (RMU)
POWER CONVERSION UNIT

OVERALL LEASE BOUNDARY

BESS SPECIFICATIONS	
DESCRIPTION	QTY
RATED POWER AT POC (MW)	300
RATED ENERGY AT POC (MWh)	арриок. 1200
BESS DURATION	approx. 4h
BESS CONTAINER MODULE	TBO
NUMBER OF BESS CONTAINERS	арргон. 294
BESS CONTAINER CAPACITY (MWh)	approx. 5 to 6
POWER CONVERSION EQUIPMENT	TED
NUMBER OF POWER CONVERSION EQUIPMENT	арргок, 98
POWER CONVERSION EQUIPMENT POWER (MW)	ерргик 3.8
UNDERGROUND TRANSMISSION LINE (m)	арргон, 715

AREA SCHEDULE				
DESCRIPTION	AREA			
LEASE AREA (EXCLUDING THE UNDERGROUND TRANSMISSION LINE EASEMENT)	166,464m2			
TOTAL GROSS FLOOR AREA	700m2			
IMPERVIOUS AREA	80,975m2			

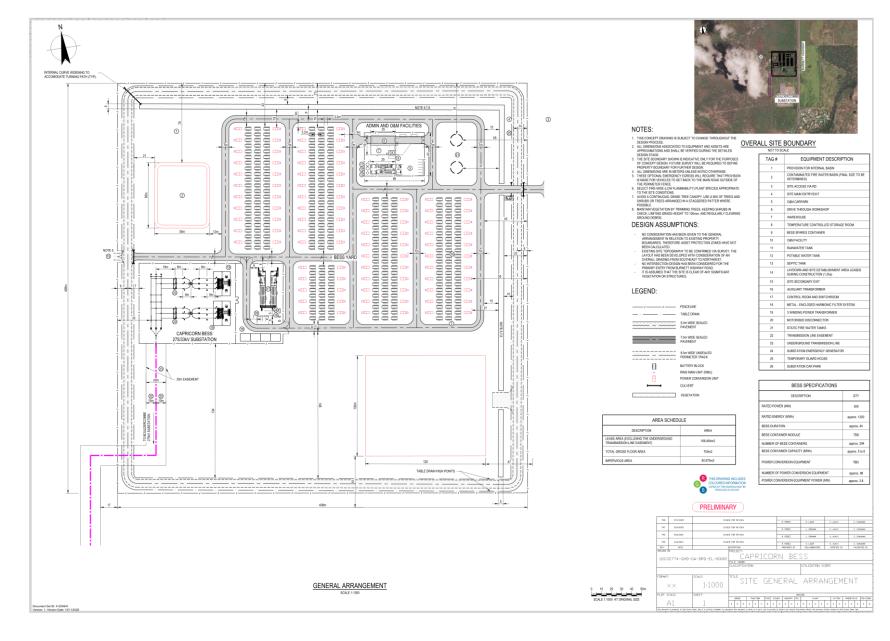


PRELIMINARY

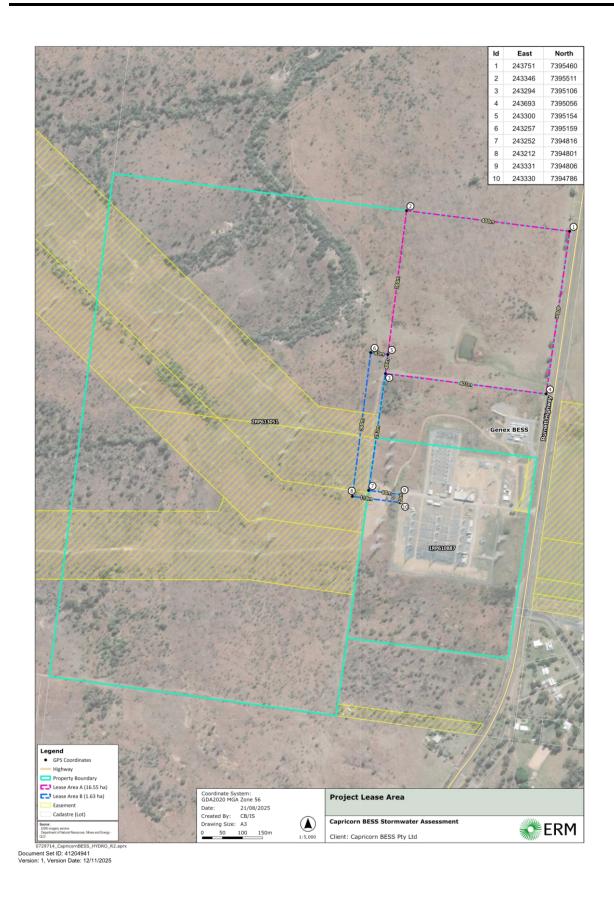
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SITE LAYOUT

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DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Elevations

Meeting Date: 9 December 2025

Attachment No: 3

Potentia Energy CAPRICORN BESS



MODEL DESCRIPTION	RECENT MODEL CHANGES
KEY CONTACTS	
PROJECT DIRECTOR Chetan Chauhan	
PROJECT MANAGER Shirish Gupta	
PROJECT BIM MANAGER	
MODEL MANAGER	

DISCLAIMER REGARDING THE USE OF DIGITAL DELIVERABLE (DD) FILE

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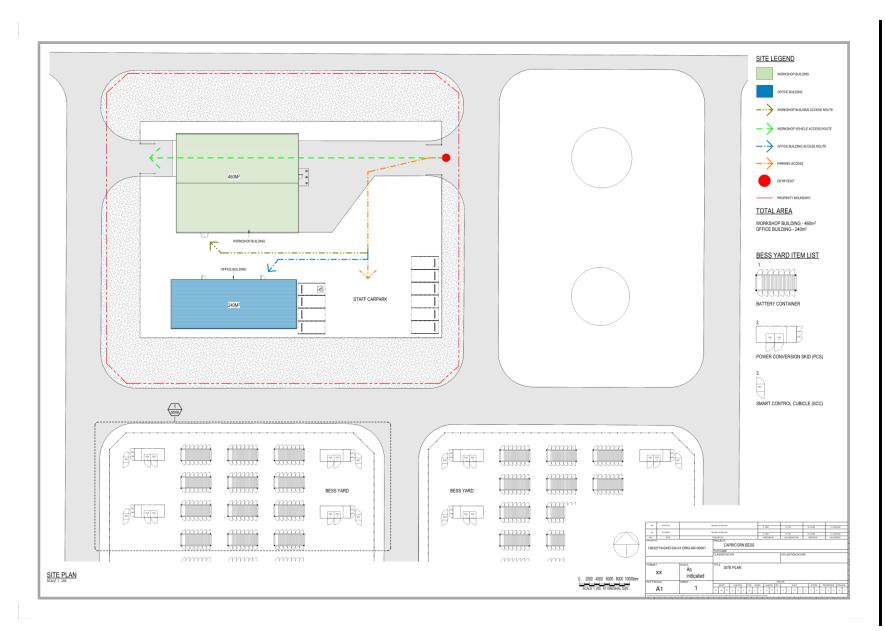
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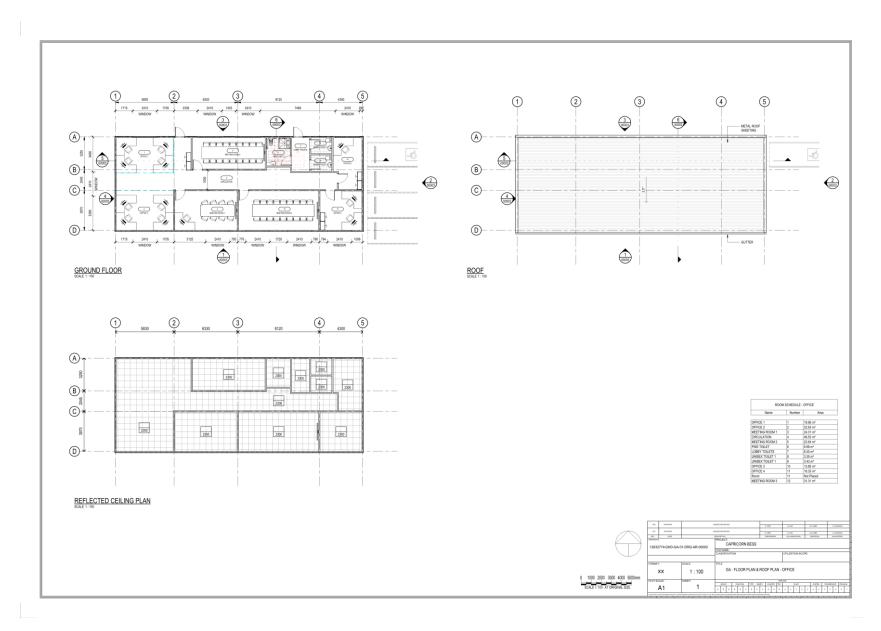
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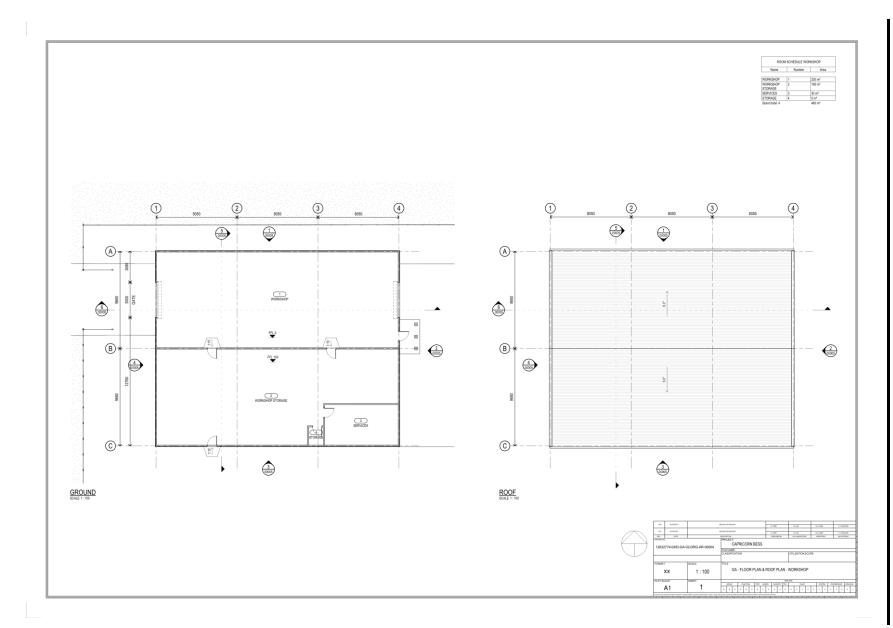
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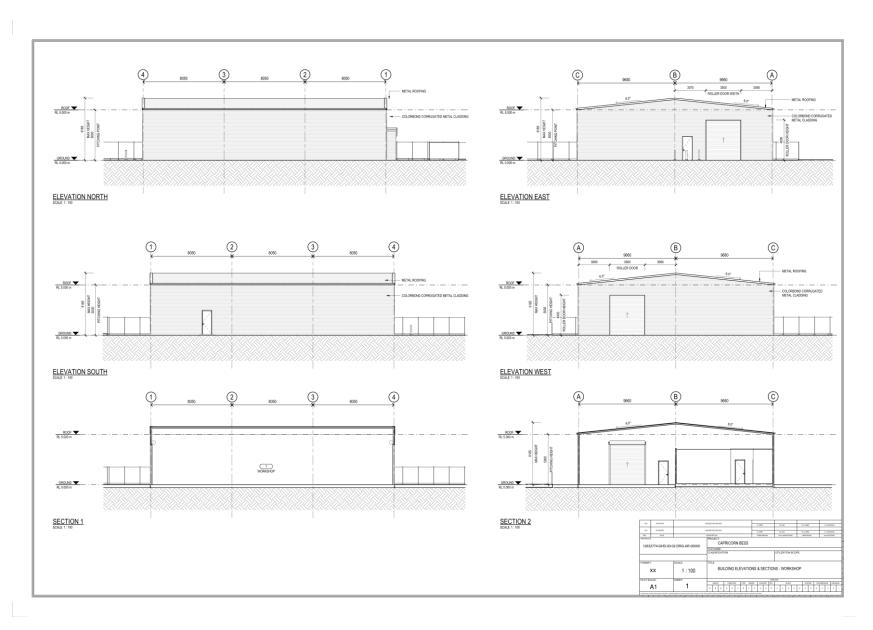
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Sheet Name	Sheet Number	SHEET_DesignStatus	Current Revision
Model Information	00000		P02
SITE PLAN	00001	ISSUED FOR REVIEW	P02
GA - FLOOR PLAN & ROOF PLAN - OFFICE	00002	ISSUED FOR REVIEW	P02
BUILDING ELEVATIONS & SECTIONS - OFFICE	00003	ISSUED FOR REVIEW	P02
GA - FLOOR PLAN & ROOF PLAN - WORKSHOP	00004	ISSUED FOR REVIEW	P02
BUILDING ELEVATIONS & SECTIONS - WORKSHOP	00005	ISSUED FOR REVIEW	P02
BESS YARD TYPICAL LAYOUT	00006	ISSUED FOR REVIEW	P02

		Model Revision					
No.	No. Date Revision						
P01	20.05.25	ISSUED FOR REVIEW					
P02	06.06.25	ISSUED FOR REVIEW					
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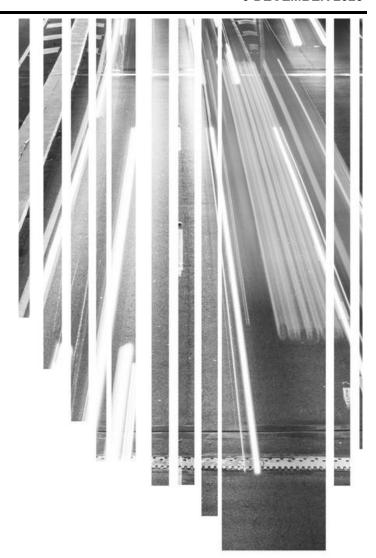


DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Traffic Impact Statement

Meeting Date: 9 December 2025

Attachment No: 4



CAMBRAY CONSULTING TRAFFIC ENGINEERING + TRANSPORT PLANNING

Capricorn BESS Project TRAFFIC IMPACT STATEMENT

Prepared For Environmental Resources Management (ERM) 25 August 2025

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Appendices

Appendix A

Capricorn BESS Project Layout Plan

Appendix B

High-level Project Area Access Concept &

Swept Path Assessment



1.0 Introduction

Cambray Consulting Pty Ltd (Cambray) has been engaged by ERM in relation to the Capricorn Battery Energy Storage System (BESS) Project (The Project), which is the neighbouring property to the north of the Bouldercombe Substation located on the Burnett Highway.

1.1 Limits of Report

This report takes into account the particular instructions and requirements of our client. Cambray Consulting has taken care in the preparation of this report, however, it neither accepts liability nor responsibility whatsoever in respect of:

- Any use of this report by any third party;
- Any third party whose interests may be affected by any decision made regarding the contents of this report; and/or
- Any conclusion drawn resulting from omission or lack of full disclosure by the client, or the clients' consultants.

1.2 Safety in Design

Within our scope, we have identified safety in design issues and potential hazards, whenever reasonably practicable within our field of expertise. It is not considered reasonably practicable to identify all potential hazards which may occur throughout the life of a project, including during detailed design and construction activities. It is strongly recommended that safety in design issues be reviewed during all ensuing design and construction stages of the project.

1.3 Qualifications

This report was prepared by:

- Andrew Douglas, Director BE Civil (Hons), MSc Env Man, FIEAust, CPEng, RPEQ 6691; and
- Rhys Trotman, Senior Transport Engineer BE Civil (Hons).

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2.0 Context

2.1 Project Area

The Project area is located on the western side of the Burnett Highway in Bouldercombe, is located within the Rockhampton Regional Council (Council) local government. The Project Area is formally identified as Lot 2 on RP613051.

2.2 Surrounding Road Network

The key characteristics of the adjacent road network are summarised in **Table 2.1** and illustrated in **Figure 2.1**

Table 2.1 Existing Road Network

Road	Authority	Hierarchy	Speed Limit	
Burnett Highway	State-Controlled Road	Motorway	100km/h	
Childs Avenue	Council	Rural Access	50km/h	

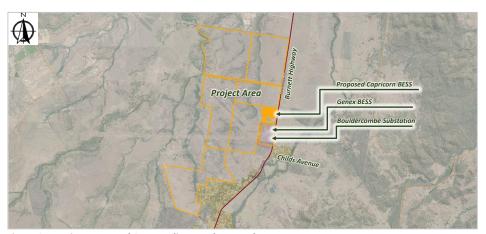


Figure 2.1 Project Area and Surrounding Road Network



3.0 Project Review

The Project proposes to construct a Battery Energy Storage System (BESS) directly north of the existing Powerlink substation and recently constructed BESS system within the substation property.

The proposed BESS is a 300MW / 4h system consisting of the following:

- 294 BESS containers;
- 98 Inverters and Medium Voltage (MV) Power Stations; and
- One (1) High Voltage (HV) Substation and associated infrastructures.

A copy of the Project plans is included in Appendix A and reproduced in Figure 3.1.

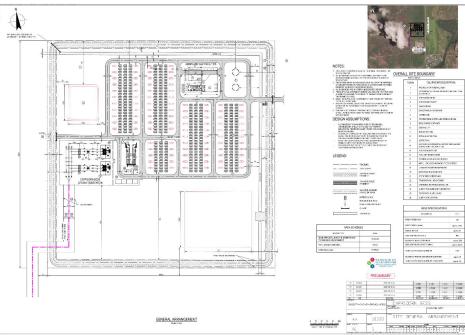


Figure 3.1 Capricorn BESS Project Plans

3.1.1 Construction Phase Traffic Generation

The Construction phase is of most relevance in terms of potential traffic related impacts, with the assessment of significance due to the traffic associated with:

- Components moving between the State Controlled Road (SCR) Network and the Project area;
- Materials and equipment moving between population centres and the Project area; and
- Construction workers moving between population centres and the Project area.



The following summarises the estimated traffic volumes for this Project:

Civil Works Phase (6 months)

- 40 45 trucks per day for delivery of machinery and construction materials;
 - o I.e., 80 90 two-way heavy vehicle trips per day; and
- 45 50 light vehicles per day for the movement of staff during the civil works period;
 - o I.e., 90 100 two-way light vehicle trips per day.

Installation Phase (15 months)

- 25 30 trucks per day for delivery of machinery and construction materials;
 - o I.e., 50 60 two-way heavy vehicle trips per day; and
- 25 30 light vehicles per day for the movement of staff during the civil works period;
 - o I.e., 50 60 two-way light vehicle trips per day; and
- Delivery of 730 TEU containers to the Project area over ten (10) months, 3 deliveries every day,
 - o i.e., six (6) two-way trips every day.

Commissioning Phase (3 months)

- 2-3 trucks per week for the removal of machinery;
 - o I.e., one (1) one-way truck trip every three (3) days; and
- 20 light vehicles per day;
 - o i.e., 40 two-way light vehicle trips per day.

Operational Phase (ongoing)

- 1 truck per month to cater for maintenance; and
- 10 light vehicles per day;
 - o i.e., 20 two-way light vehicle trips per day.

3.1.2 Operations Phase Traffic Generation

During the operational phase of the Project, the number of daily movements will be insignificant in the general context of the Project. It is anticipated that daily movements may be in the order of 10 vehicle trips a day with a service vehicle visiting the base of operations 1 to 2 times a week for refuse collections and occasional large deliveries.

3.1.3 Project Transport Route

During the construction period, there may be a need for low loaders for machinery delivery, truck and dog tippers, 26m B-Double side tippers, and up to 26m B-Double in length for the delivery of components. The delivery of construction machinery and BESS components will travel along the State Controlled Road (SCR) Network to the Project area.

A high-level review of movements from the Port of Gladstone has been undertaken to determine the capacity of the road network in the vicinity to the Project Area.



3.2 State Controlled Road Network Summary

The Project intends to utilise the SCR network in order to access the Project area of which includes the following roads:

- Gladstone Port Access Road (183);
- Gladstone Mount Larcom Road (181);
- Bruce Highway (Benaraby Rockhampton) (10);
- Gavial Gracemere Road (450); and
- Burnett Highway (Mount Morgan Rockhampton) (41F).

3.2.1 State Controlled Road Network Heavy Vehicle Routes and Restrictions

A review of the SCR network for Heavy Vehicle Routes and Restrictions was undertaken in order to understand the potential limitations of access to the Project Area.

Extracts from the SCR Heavy Vehicle Routes and Restrictions mapping are illustrated in **Figure 3.2** to **Figure 3.4** and indicate the extent of routes pre-approved for the following heavy vehicle classes:

- 25/26m B-Double and PBS 2A (B25/26) which include;
 - Vehicles configured to be up to 26 metres in length and 62.5 tonnes;
- Higher mass limits (HML) of which;
 - Is a mass exception allowing an increase in mass limit for specific single axles or axle groups of heavy vehicles; and
- The Queensland Critical Road Network.

Further, Oversized and Overmass (OSOM) vehicles up to 35.0m in length may be required to transport construction equipment and components to the Project Area. These OSOM vehicles are defined in Queensland as Special Purpose Vehicles (SPV) which is governed by the *National Class 1 Load Carrying Vehicle Dimension Exemption Notice 2024 (No.1)*.

The parameters of allowable SPV Prime mover and trailer combination are summarised in **Table 3.1** and the route found on the National Heavy Vehicle Regulator (NHVR) is illustrated in **Figure 3.5.**

Table 3.1 SPV Prime Mover and Trailer Combinations for OSOM Movements

Maximum Vehicle Length	Condition#	Critical Road Width	Other Roads Width	Pilot Required	Escort Required
26.0m*	5. Day	3.5m	3.5m	No	No
20.0111	6. Night	3.1m	3.1m	No	No
35.0m	7. Day	4.5m	5.5m	Yes	Yes

^{*}Maximum length on B-Double approved routes

National Class 1 Load Carrying Vehicle Dimension Exemption Notice 2024 (No.1).



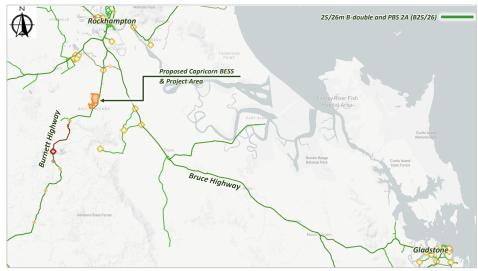


Figure 3.2 25/26m B-Double and PBS 2A (B25/26) Network - NHVR

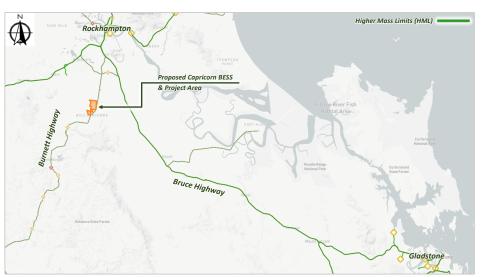


Figure 3.3 Higher Mass Limits Network - NHVR



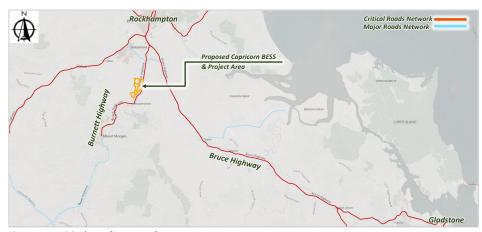


Figure 3.4 Critical Roads Network - DTMR

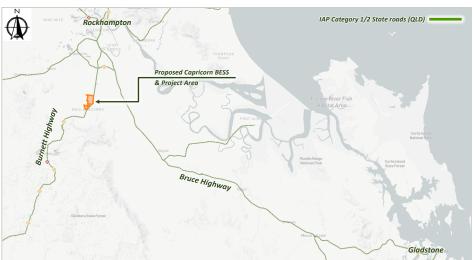


Figure 3.5 IAP Category 1/2 State roads (QLD) – NHVR

Figure 3.2 and **Figure 3.4** demonstrates the capacity of the SCR network in proximity to the Project area allows the following combinations:

- 25/26m B-Double and PBS 2A (B25/26) appearing to be approved between Gladstone to Rockhampton and Rockhampton to the Project area;
- Higher Mass Limits (HML) vehicle combinations between the Port of Gladstone and The Project Area; and
- The roads are listed on the Queensland Critical Road Network.

Further, the SCR network appears to have the capacity to carry up to and including 26m B-double combinations 'as of right' and OSOM combinations of up to 36.0m in length and 4.5m (**Figure 3.5**) on the Critical Road network during the day under pilot and escort.

4.0 Project Area Access

The Project will be accessed from the Burnett Highway via proposed access location at the north-east corner of Lot 2 on RP613051. The proposed access location is illustrated **Figure 4.1** in relation to the surrounding road network.



Figure 4.1 Proposed Project Area Access Location

The existing turn treatments on the Burnett Highway in proximity to the Project area access location, includes:

- Bouldercombe Sub-Station;
 - A Basic Right Turn Treatment (BAR);
 - TMR Standard Drawing SP-02 'Property Access Main Roads AADT > 2000vpd';
- Childs Avenue;
 - o A Basic Left Turn Treatment (BAL); and
 - o A Basic Right Turn Treatment (BAR).

A Street view of the proposed access location is illustrated in Figure 4.2.



Figure 4.2 Street View of proposed Project Area Access Location



An easement across the Project lease area will be provided along the northern boundary of Lot 2 on RP613051 as the proposed project area will be located, as follows:

- North to South between Lot770 on LIV40192 and Lot 3 on RP611829; and
- East to West from the eastern property boundary and to the same extents of Lot 3 on RP611829 for the western boundary.

The Project area in relation to the surrounding lots and proposed easement is illustrated in Figure 4.2.



Figure 4.2 Surrounding Lots and Proposed Easement

Swept path assessments for light and heavy vehicles using the easement have been included in **Appendix B**. A B99 has been selected to represent light vehicles. A HRV has been selected to represent heavy vehicles – which are likely to include emergency vehicles such as a fire brigade pumper. Cambray has been advised that vehicles larger than a HRV are not required to access the rural land use on the balance parcel.

4.1.1 Sight Distance

A desktop sight distance review was conducted for the Project site access location on the Burnett Highway. The recommended Safe Intersection Sight Distance (SISD) to / from this intersection is summarised in **Table 4.1**.

Table 4.1 Sight Distance Review

Parameter	Requirement	
Posted Speed limit	100km/h	
Design Speed (Posted +10km /h)	110km/h	
Reaction Time	2.5 sec	
Required SISD AGRD4a	300m	

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The required sight distances to/from the Project site access location on the Burnett Highway are illustrated in **Figure 4.3**.

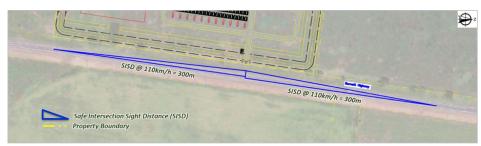


Figure 4.3 Sight Distances to/from the Project Site Access location

The sight distances to the north and south of the Project Site access location are illustrated in **Figure 4.4** and **Figure 4.5**.



Figure 4.4 Burnett Highway Facing North



Figure 4.5 Burnett Highway Facing South

Based on the desktop review of Project site access location on the Burnett Highway, and the design speed of 110km/h at a 2.5 second reaction time, the available sight distances appear consistent with AGRD4a guidelines.

4.2 Internal Layout Provisions

The site office and light vehicle parking will be located to the north of the BESS infrastructure. The light vehicle parking will be accessed via the internal road network as shown in **Figure 4.6.**

The car park will include ten (10) spaces and will be dimensioned in accordance with AS2890.1, as follows:

- Nine (9) car park spaces measuring 2.6 x 5.4m min.;
- A PWD space of 2.4 x 5.4m with a 2.5 x 5.4m Shared Zone; and
- Aisle width of 6.6m min.

The proposed car parking supply is considered suitable from a traffic engineering perspective.

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Figure 4.6 Proposed Car Parking Provision



5.0 Traffic Generation and Distributions

5.1 Overview

We have undertaken a review of the Project's traffic impacts may have on the existing transport network surrounding the Project Area over the 24-month construction period, broken down into the following phases:

- Civil Works;
- Installation;

- · Commissioning; and
- Operation.

The construction phase traffic is generated by the following vehicle types and uses:

- Light vehicles associated with staff accessing the Project area;
- Heavy vehicles which include;
 - o Medium and Heavy rigid vehicles which deliver materials and smaller plant equipment;
 - o Truck and Dog vehicles used for earthworks and movement of material;
 - o Class vehicles i.e. mobile cranes; and
 - Up to and including 26m B-double vehicles for the delivery of materials, components and to transport larger plant to the Project area.

The inputs which form the basis of our review are outlined in the following sections.

5.2 Background Traffic Volumes

The 2023 Annual Average Daily Traffic (AADT) for the Burnett Highway has been sourced from DTMR traffic census data at count site 60008 and is summarised in **Table 5.1**.

Table 5.1 2023 DTMR Census Data for the Burnett Highway

Direction	AADT	% of HV	Description	Road Name/Segment ID	10 Year Growth
Combined	3427		670m N of Childs Ave	(Mount Morgan – Rockhampton ID 41F)	3.36%
Gazettal	1695	11.27%			
Against Gazettal	1732				

The growth rate over the last 10 years is listed as 3.36% in the AADT traffic census data. The 10-year growth has been adopted and applied to the background traffic volume as linear.

5.2.1 Peak Hour Review

A review of the hourly profile was undertaken for Traffic Count Site 60008 to determine the peak hour Annual Average Daily Traffic percentage (AADT %) for the potential through movements along the Burnett Highway. The 2020 segment data for the count site has been reviewed as the 2021 to 2023 segment data is not currently available and is illustrated in **Figure 5.1**

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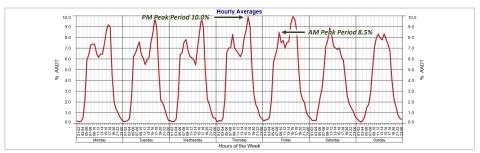


Figure 5.1 Hourly AADT% for Peak Hour movements at Traffic Count Site 60008

The peak hour AADT % adopted from the 2020 segment data for the count site 60008, is as follows:

- AM Peak Period = 8.5%; and
- PM Peak Period = 10.0%

5.2.2 Background Traffic Volumes Summary

The 2023 DTMR Traffic Census at count site 60008 is in the order of 3427 at a growth of 3.36% over the last 10 years. An AM and PM peak period of 8.5% and 10.0% respectively will be applied to the background traffic for the Gazettal and Against Gazettal AADT summarised in **Table 5.1**.

5.3 Project Traffic Volumes

A first principles' approach to the volume of light, and heavy vehicle movement has been adopted from similar BESS projects and has been used to estimate traffic volumes for the construction and operational phase, as follows:

- Construction commencement in 2026;
- 24 months total Construction Phase working Six (6) day working week;
- Civil works (delivery of dozers, loaders, graders, concrete deliveries, etc. arrives during civil works period);
- In the order of 500 Total Equivalent Units (TEU) containers to be delivered to the Project area, which may include;
 - o 294 BESS containers;
 - o 98 Inverters and Medium Voltage (MV) Power Stations; and
 - o 2 High Voltage (HV) Transformer Substation and associated infrastructures.

The Light and Heavy Vehicle movements based off similar BESS facilities are summarised in Table 5.2.



Table 5.2 Civil Works Phase Traffic: Estimated Average Week & Average Day

Vehicle Type	Move	ion Phase ements (one-way)	Civil Works Movements per day (one-way)		
	Daily (vpd)	Weekly (vpw)	Daily (vpd)	Weekly (vpw)	
Shuttle Bus	6	36	12	72	
MRV/HRV (6-13m long Rigid Vehicle)	8	50	12	72	
Truck and Dog	8	50	14	86	
Crane	1	7	1	7	
Oversize Overmass (OSOM) vehicle	1	7	1	7	
B-Double	1	7	2	14	
Heavy Vehicle Sub Total	26	158	43	259	
Light vehicle (car/4WD)	25	151	48	287	
Total	51	309	91	546	

The following sections summarises the scaled and revised traffic volumes for this Project, as follows:

Civil Works Phase (6 months)

- 40 45 trucks per day for delivery of machinery and construction materials;
 - o I.e., 80 90 two-way heavy vehicle trips per day; and
- 45 50 light vehicles per day for the movement of staff during the civil works period;
 - o I.e., 90 100 two-way light vehicle trips per day.

Installation Phase (15 months)

- 25 30 trucks per day for delivery of machinery and construction materials;
 - o I.e., 50 60 two-way heavy vehicle trips per day; and
- 25 30 light vehicles per day for the movement of staff during the civil works period;
 - o I.e., 50 60 two-way light vehicle trips per day; and
- Delivery of 730 TEU containers to the Project area over ten (10) months, 3 deliveries every day,
 - o i.e., six (6) two-way trips every day.

Commissioning Phase (3 months)

- 2-3 trucks per week for the removal of machinery;
 - o I.e., one (1) one-way truck trip every three (3) days; and
- 20 light vehicles per day;
 - o i.e., 40 two-way light vehicle trips per day.

Operational Phase (ongoing)

- 1 truck per month to cater for maintenance; and
- 10 light vehicles per day;
 - o i.e., 20 two-way light vehicle trips per day.

Table 5.3 and **Table 5.4** Summarises the estimated average weekly and daily potential vehicle trips expected to access the Project area during the approximate 4-month (16 week) Civil Works Phase and the Installation Phase. This considers a six (6) day work week, with an average number of component deliveries and no substantial delays due to weather.

Table 5.3 illustrates the indicative vehicle trips expected to access the Project area during the peak week/day during the Civil Works Phase.

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Table 5.3 Civil Works Phase Traffic: Estimated Average Week & Average Day

Average Period	Heavy Vehicles	Light Vehicles	Total Vehicles	Estimated Total Trips (In + Out)
Weekly	259	287	546	1092
Daily	43	48	91	182

Table 5.4 illustrates the indicative vehicle trips expected to access the Project area during the peak week/day during the Construction Phase.

Table 5.4 Installation Phase Traffic: Estimated Peak Week & Peak Day

Peak Period	Heavy Vehicles	Light Vehicles	Total Vehicles	Estimated Total Trips (In + Out)
Weekly	158	151	309	618
Daily	26	25	51	103

5.4 Traffic Generation and Distribution

We have adopted the Civil Works Phase as the peak traffic generation given the higher traffic generation to determine the developments impact on the SCR and Local road networks.

A traffic distribution split of Heavy and light Vehicle traffic arriving during the AM and PM peak periods is summarised in **Table 5.5.**

Table 5.5 Adopted Peak Period Traffic Distribution Splits

Troffic Tuno	AM	Peak	PM Peak	
Traffic Type	In	Out	In	Out
Material and Equipment Deliveries	20%	0%	0%	20%
Light Vehicle (Workforce)	80%	0%	0%	80%

Based on **Table 5.4** and **Table 5.5**, **Table 5.6** provides a summary of the traffic generated during the AM and PM peak periods accessing and egressing the development during the Civil Works Phase and Installation Phase.

Table 5.6 Peak Period Civil Works and Installation Traffic Generation

Tueffie Tues	AM	Peak	PM Peak	
Traffic Type	In	Out	In	Out
Civil Works	Phase – First 4	l-Months		
Material and Equipment Deliveries	9	0	0	9
Light Vehicle (Workforce)	38	0	0	38
Total	47	0	0	47
Installation	Phase – Last 2	0-Months		
Material and Equipment Deliveries	5	0	0	5
Light Vehicle (Workforce)	20	0	0	20
Total	25	0	^	25

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5.4.1 External Traffic Distribution

The external traffic distribution we adopted for both the construction and operational phases was based on a review of trip attractors and generators surrounding the Project and is summarised in **Table 5.7.**

Table 5.7 Adopted External Traffic Distributions

Direction	%
North (towards Rockhampton)	90%
South (towards Bouldercombe)	10%

The above external traffic distribution equates to the following movements on the Burnett Highway:

- AM Peak Period;
 - o 42 movements from the North;
 - o 5 Movements from the South;
- PM Peak Period;
 - o 42 movements to the North; and
 - o 5 Movements to the South.

5.4.2 Operational Phase Traffic Estimate

During the operational phase of the Project, the number of daily movements will be insignificant in the general context of the Project. It is anticipated that daily movements may be in the order of 10 vehicle trips a day with a service vehicle visiting the base of operations 1 to 2 times a week for refuse collections and occasional large deliveries.

It is expected that the operational traffic will provide a negligible effect on the operation of the Burnett Highway.

6.0 Traffic Impact Statement

A turn warrant assessment was undertaken at the Burnett Highway and Project area access in accordance with Austroads *Guide to Road Design Part 4A* and the Department of Transport and Main Roads' (DTMR) *Road Planning and Design Manual*. The turn warrants assessment identified the turnlane treatment/s that may be required to support turning volumes during Project construction and operation.

For the purpose of the assessment, the construction phase will be commencing in 2026 and to be in the order of 24 months duration. We have adopted the Civil Works Phase outlined in **Table 5.2** as a highly conservative approach and have incorporated the following:

- The 2023 AADT traffic census data was applied for Gazettal and Against Gazettal directions from (Table 5.1):
 - o Directions were applied in the AM peak and reversed in the PM peak periods;
- The AM and PM peak periods % was adopted from the 2020 AADT traffic census data for the
 peak hours and applied to the Gazettal and Against Gazettal volumes (Figure 5.1);
- The first principals review of the Civil Works Phase which equates to approximatly 91 daily vehicle trips (Table 5.3);
- The adopted peak period traffic distribution splits as summarised in Table 5.5;
- The adopted Peak Period Civil Works and Installation Traffic Generation as summarised in Table
 5.6; and
- The adopted directional traffic distribution splits as summarised in Table 5.7.

The background traffic volumes and Civil Works Phase traffic generation is illustrated in Figure 6.1.

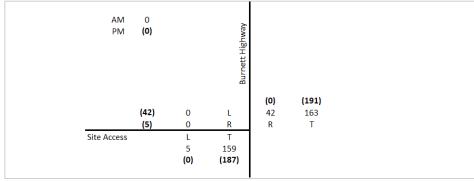


Figure 6.1 Background Traffic and Civil Works Phase Traffic Generation

A turn warrant assessment based on the 100km/h posted speed limit was undertaken for the Background Traffic and Civil Works Phase Traffic Generation and is provided in **Figure 6.2.**

Table 6.2 summarises the turn warrant treatments identified in Figure 6.2.



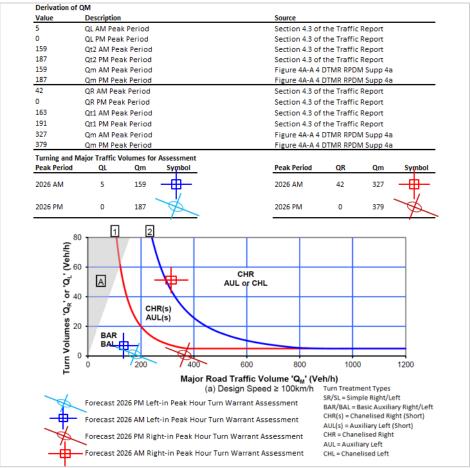


Figure 6.2 Turn warrant analysis results for background traffic and peak construction traffic generation QR* is the volume or right turn movements taken from Figure 6.1 and Figure 6.2.

Qm** is the summary of the through movements along the Burnett Highway and left turn movements into each assessed road taken from Figure 6.1.

Lines 1 and 2 represents the change from a lower order turn treatment to the next level of turn treatment requirements.

Table 6.2 Turn Warrant Findings Summary

Traffic Scenario	Left-	Turn	Right-Turn		
Traffic Scenario	AM	PM	AM	PM	
Civil Works Traffic Scenario	BAL	BAL	CHR	BAR	

The turn warrants analysis indicates that a BAL/CHR type turn treatment may be required for access into the Project area based on the existing TMR traffic census volumes and Civil Works Phase traffic during the AM and PM peak period.

The Project site access will be new and therefore, the next section will discuss the possible implementation of a BAL and a CHR turn treatment arrangement from the Burnett Highway.

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7.0 Project Access and Turn Treatment

As indicated by the turn warrant assessments, BAL and CHR turn treatments have been identified as a required upgrade based on the proposed Project traffic volumes for the site access proposed from the Burnett Highway.

Based on the Burnett Highway characteristics, the design speed of 110km/h and the available sight distances summarised in **Table 4.1**, the requirements of Austroads *Guide to Road Design Part 4a* for a Channelised Right Turn Lane Treatment is summarised in **Table 7.1**.

Table 7.1 Project Site Access Turn Lane Parameters

Parameter	Access
Design Speed	110km/h
Stop Condition	2.5m/s ²
Deceleration Length	185m
Taper Length	35m

The Project Site and Burnett Highway High-level Site Access Concept is included in **Appendix C** and reproduced in **Figure 7.1.**

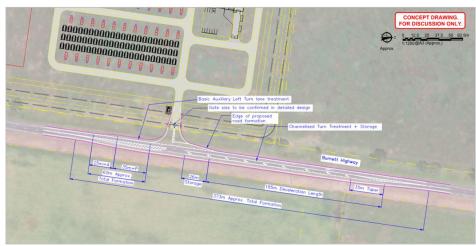


Figure 7.1 Burnett Highway High-level Site Access Concept

It is proposed to provide turn lane treatments into each of the sites access as follows:

- Channelised Right-hand turn lane (CHR) treatment for vehicle approaching from the north; and
- A Basic Auxiliary Left Turn lane treatment for vehicles approaching from the south.

During the construction period, it is proposed to lower the speed limit to 80km/h within the vicinity to the site. The reduced construction period speed limit will further improve sight lines and provide increased time to decelerate into the turn lanes and access to the site.



8.0 Code Compliance Response

The proposed development has been assessed against the State Development Assessment Provisions v3.3 State Code 1: Development in a state-controlled road environment. Provision of responses to Vehicular access to a state-controlled road or within 100 metres of a state-controlled road Intersection Performance Outcomes PO15 to PO20 are summarised in Table 8.1.

Table 8.1 State Code 1 V3.3 Response

Performance Outcomes	Response
PO15 The location, design and operation of a new or changed access to a state-controlled road does not compromise the safety of users of the state-controlled road.	The location of the new access is proposed to be located on a straight section of the Burnett Highway sufficiently separated from adjacent intersections and provides a high level of access than other intersections in the vicinity.
	Therefore, the project complies with PO15.
PO16 The location, design and operation of a new or changed access does not adversely impact the functional requirements of the state- controlled road.	The Project proposes to provide a full length CHR for vehicles approaching from the north with appropriate storage.
	Therefore, the project complies with PO16.
PO17 The location, design and operation of a new or changed access is consistent with the future intent of the state-controlled road	The new access location is providing a high level of access and is consistent with the future intent of the state-controlled road
	Therefore, the project complies with PO17.
PO18 New or changed access is consistent with the access for the relevant limited access road policy:	The Burnet Highway where it passes the project site is not listed as a Limited Access Road
 LAR 1 where direct access is prohibited; or LAR 2 where access may be permitted, subject to assessment. 	Therefore, the project complies with PO18.
PO19 New or changed access to a local road within 100 metres of an intersection with a state-controlled road does not compromise	The new access location is located more than 100m from intersections in either direction.
the safety of users of the state-controlled road.	Therefore, the project complies with PO19.
PO20 New or changed access to a local road within 100 metres of an intersection with a state-controlled road does not adversely	The new access is located circa 900m north of Childs Avenue which is accessed off the Burnet Highway.
impact on the operating performance of the intersection.	The development proposes to provide a Channelised Right turn treatment to separate BESS vehicle traffic from the regular traffic on the Burnet Highway.
	The significant separation from Childs Avenue and the provision of a high standard of turn treatment would not adversely impact the operating performance of the intersection.
	Therefore, the project complies with PO20.

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TIS_Capricorn BESS



9.0 Summary

Key findings are summarised below:

- The Project is proposed to be accessed from the state-controlled road network via access from the Burnett Highway;
- Burnett Highway is identified as a 25/26m B-double and PBS 2A (B25/26) Network;
- The SCR has the capacity to carry up to 35.0m OSOM vehicles to deliver construction equipment and BESS components;
- The turn treatment is proposed to be provided as a;
 - Channelised Right-hand turn lane (CHR) treatment for vehicle approaching from the north; and
 - o A Basic Auxiliary Left Turn lane treatment for vehicles approaching from the south.
- Sight distances to/from the Project area access appears sufficient to/from the north to meet the
 design speed in accordance with Austroads Guide to Road Design Part 4a;
- The proposed access configuration caters for heavy vehicle access;
- Internal access tracks are intended to be utilised for the project and improvements to the
 existing flat Project area may be undertaken for set down and car parking arrangements; and
- The peak traffic generating period does not appear to require any turn treatment upgrades based on the highly conservative traffic generation assessment.

In light of the above, we recommend that the Project be approved with reasonable and relevant conditions as set out above.

Please do not hesitate to contact the undersigned on 07 3221 3503 if you have any queries regarding the above.

Yours faithfully,

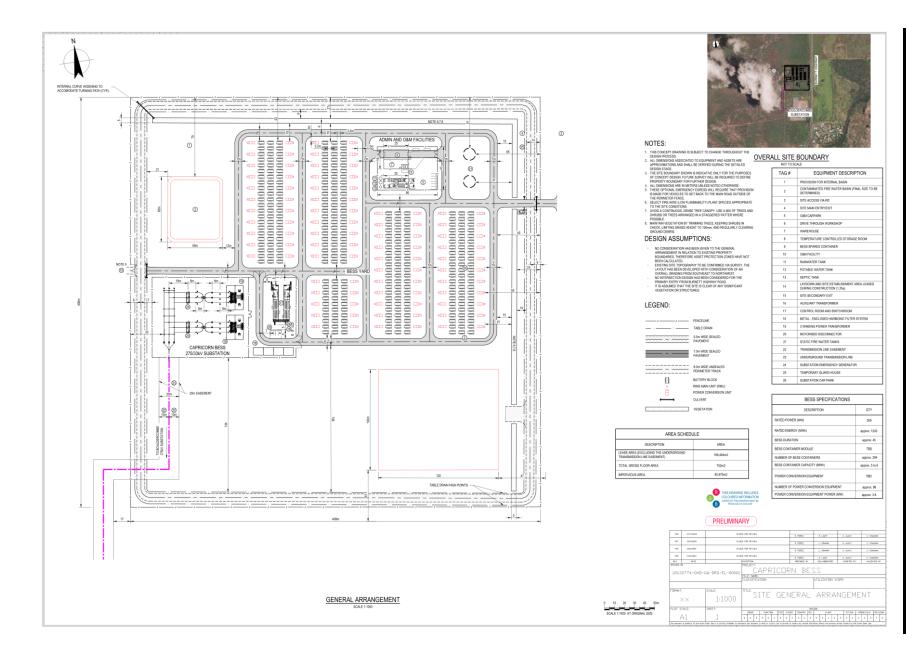
Andrew Douglas

Director | Cambray Consulting Pty Ltd BECivil (Hons) | MSc (Env Man) FIEAust | CPEng | RPEQ 6691

APPENDIX A

Capricorn BESS Project Layout Plan

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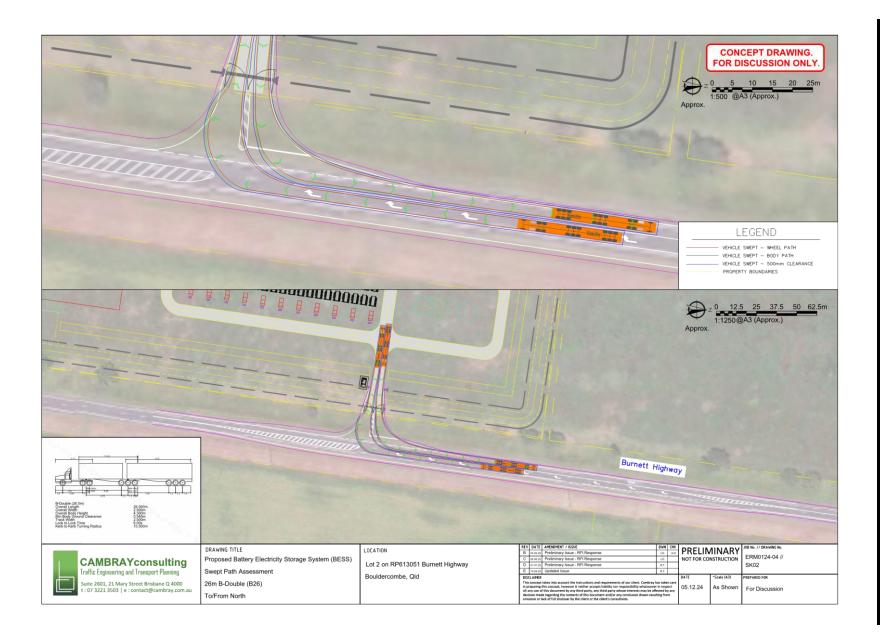


APPENDIX B

High-level Project Area Access Concept & Swept Path Assessment

Cambray Consulting Pty Ltd







CAMBRAY CONSULTING PTY LTD

Suite 2601 | 21 Mary Street Brisbane QLD 4000 07 3221 3503 contact@cambray.com.au cambray.com.au

DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Site Based Stormwater Management Plan

Meeting Date: 9 December 2025

Attachment No: 5



Site-based Stormwater Management Plan (SSMP)

Capricorn Battery Energy Storage System (BESS)

Potentia Energy Pty Ltd 22 August 2025

→ The Power of Commitment



Project na	ame	Potentia Energy Support						
Document title		Site-based Stormwater Management Plan (SSMP) Capricorn Battery Energy Storage System (BESS)						
Project nu	umber	12650145						
File name		12650145-REP_Capricorn BESS SSMP_Rev_2.docx						
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S3	0	S. Seyed Ghasemi S. Terpstra	H. Chen M. Grim					
S4	1	S. Seyed Ghasemi S. Terpstra J. Grey	H. Chen C. Base					
S4	2	S. Seyed Ghasemi S. Terpstra	H. Chen C. Base	Q.	K. Jarvie	y)-	22/08/2025	

GHD Pty Ltd | ABN 39 008 488 373

Contact: Sama Seyed Ghasemi, Senior Water Resources Engineer | GHD

145 Ann Street, Level 9

Brisbane, Queensland 4000, Australia

T +61 7 3316 3000 | F +61 7 3319 6038 | E bnemail@ghd.com | $\mathbf{ghd.com}$

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Appendices

Appendix A Flood maps

Appendix B Development plans

Appendix C Flood Afflux Maps for Sensitivity Scenarios

1. Introduction

1.1 Purpose of this report

GHD Pty Ltd (GHD) has been engaged by Potentia Energy Pty Ltd for engineering services associated with the proposed development of the Capricorn Battery Energy Storage System (BESS) located on Lot 2 on RP613051 in Bouldercombe, Queensland. The proposed BESS will be connected to the Bouldercombe Substation.

GHD has been commissioned to prepare a Site-Based Stormwater Management Plan (SSMP) for the proposed BESS project area. The scope of work includes an assessment to provide support document for the development application approval, of stormwater quantity, through a hydrologic and hydraulic assessment, and stormwater quality, through MUSIC modelling of the proposed development.

1.2 Scope and limitations

This report: has been prepared by GHD for Potentia Energy Pty Ltd and may only be used and relied on by Potentia Energy Pty Ltd for the purpose agreed between GHD and Potentia Energy Pty Ltd as set out in Section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than Potentia Energy Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer Section 1.3 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared the TUFLOW ("Model") for, and for the benefit and sole use of, Potentia Energy Pty Ltd to support hydraulic assessment and must not be used for any other purpose or by any other person.

The Model is a representation only and does not reflect reality in every aspect. The Model contains simplified assumptions to derive a modelled outcome. The actual variables will inevitably be different to those used to prepare the Model. Accordingly, the outputs of the Model cannot be relied upon to represent actual conditions without due consideration of the inherent and expected inaccuracies. Such considerations are beyond GHD's scope

The information, data and assumptions ("Inputs") used as inputs into the Model are from publicly available sources or provided by or on behalf of the Potentia Energy Pty Ltd, (including possibly through stakeholder engagements). GHD has not independently verified or checked Inputs beyond its agreed scope of work. GHD's scope of work does not include review or undate of the Model as further Inputs becomes available.

The Model is limited by the mathematical rules and assumptions that are set out in the Report or included in the Model and by the software environment in which the Model is developed.

The Model is a customised model and not intended to be amended in any form or extracted to other software for amending. Any change made to the Model, other than by GHD, is undertaken on the express understanding that GHD is not responsible, and has no liability, for the changed Model including any outputs.

Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

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1.3 Assumptions

This assessment has been completed based on the following assumptions:

- Project hydrology has been undertaken in accordance with Australian Rainfall and Runoff (2019) guidelines.
- This study has assessed storm events of 50%, 20%, 10%, 5%, 2%, and 1% AEP based on the meeting held on 27/11 and the development application request (D/124-2024). No climate change assessment has been conducted at this stage (Concept Design).
- Hydraulic model extents need to be large enough, and the grid element sizes small enough, to capture the hydraulic characteristics of the overland flow. This is offset by the need to have a model able to run in an acceptable amount of time. For this assessment, the hydraulic model was run with a two (2) meter cell size with sub-grid sampling distance of one (1) meter for computational efficiency. It has been assumed that the adopted model resolution is adequate to identify relevant hydraulic features.
- Unless stated, flood grids presented in this report are based on estimated peak values of flow, depth, and velocity for each storm event, considering median temporal pattern for each duration of the design storm events. This means the value presented for each cell is based on the maximum computed value which has occurred over the durations of the simulated design events. Hence, a presentation of peak values does not represent an instantaneous point in time, but rather an envelope of maximum values.
- Hydrologic estimates have been validated against empirical estimates. Calibration of the hydrologic or hydraulic model was not conducted.
- Identifiable crossing structures (e.g. culverts) have been assumed based on visual observation of aerial imagery.
- Culvert length and width has been assumed based on the areal imagery, culvert height and invert levels are
 inferred from the provided 500 mm DEM. It is recommended to capture the culvert information via a detail
 survey or similar in the next stage of the project.
- Proposed design string provided for flood modelling in 2D DWG format. The proposed levels are initial and added to the flood model using TUFLOW layers (2d_zsh).
- The table drains surrounding the site follow the existing site topography.
- For the design surface, it is assumed that:
 - Roads are sealed/ asphalt
 - Design surfaces (except the road) are compacted soil with gravel at the top
- Detailed design, drawings or costings of required stormwater infrastructure is outside the scope for the purposes of this study.
- Obtaining any approvals associated with the recommended works infrastructure is outside the scope for the purposes of this study

Additional and specific assumptions are provided in the relevant sections of this report.

1.4 Design changes

The Capricorn BESS updates from Rev0 to Rev1 include changes in the design surface and access roads, a revision of the culverts design and an increase in width at the North and East vegetation strips. Figure 1.1 and Figure 1.2 show the difference between the previous design from Rev 0 and the updated design for Rev 1.

The Capricom BESS has been updated from Rev1 to Rev2 to include the relocation of the site entrance from previous design (Rev1) position to the south, in order to avoid the removal of existing trees. Figure 1.2 and Figure 1.3 show the different between two proposed designs.



Figure 1.1 Proposed design for Rev 0

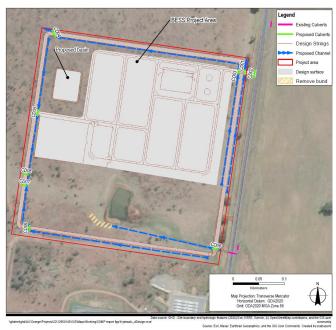


Figure 1.2 Proposed design for Rev 1

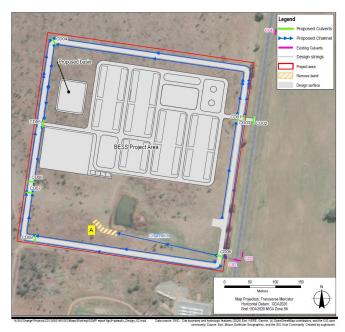


Figure 1.3 Updated proposed design for Rev 2

2. Available data

2.1 Topography

- 0.5 m DTM undertaken by Aerometrex dated May 2024 provided to GHD by the client.
- 1-metre LiDAR dated 2015 extracted from ELVIS (Elevation and Depth Foundation Spatial Data) website.

2.2 Imagery

Google Maps satellite aerial imagery was used throughout the assessment for both the hydrologic and hydraulic assessments.

2.3 Development layout

The design layout is based on the provided design by Potentia Energy based on the Preliminary General BESS layout for Capricorn Creek BESS dated 01/08/2025 which included:

- BESS and on-site infrastructure.
- Sealed access roads within the BESS footprint.
- For more details refer to Appendix B.

2.4 Datum

The Australian Height Datum (AHD) was adopted for all hydraulic modelling levels cited in this report.

3. Site description

3.1 Existing site (Pre-development)

The Project Area consists of approximately 17 hectares and encompasses the entire area associated with the Project footprint which includes part of Lot 2 on RP613051. The Project area is located north of Bouldercombe within the Rockhampton Regional Council Local Government Area (LGA). The existing site is currently dominated by rural land and low density vegetation. The Bouldercombe Substation and Bouldercombe BESS are located directly south of the site. The topography of the site is relatively flat but grades to the north-west corner of the property. Four Mile Creek is located immediately west of the site and flow in northerly direction. The existing site locality is illustrated in Figure 3.1.

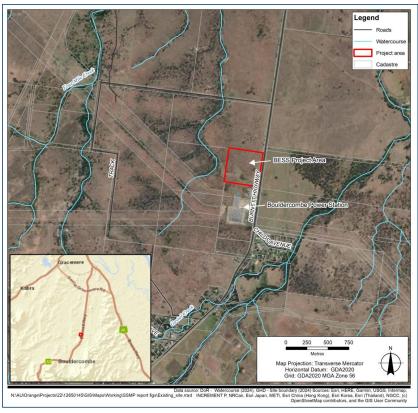


Figure 3.1 Existing site locality

3.2 Proposed site

The proposed development includes the following infrastructure:

- BESS and on-site infrastructure.
- Sealed access roads within the BESS footprint.
- Bioretention basin for water quality

Detailed plans of the Project area and proposed development infrastructure are provided in Appendix B.

4. Stormwater quantity

4.1 Hydrologic modelling

An XP-RAFTs (2018 version) hydrologic model was set-up and run in Storm Injector as part of the hydrologic assessment of the site. This section of the report presents the details of the hydrologic modelling undertaken.

4.1.1 Catchment hydrology

The subject site is located approximately 2.5 km from Bouldercombe in the Rockhampton Regional Council Local Government Area. The contributing catchment area to the local area near the site is approximately 384 ha. The terrain to the site is dominated by rural land and bushland.

A total of 26 sub-catchments were delineated using CatchmentSIM near the site. Figure 4.1 shows the catchment delineation undertaken for the local hydrologic model. Catchment parameters are summarised in Table 4.1.

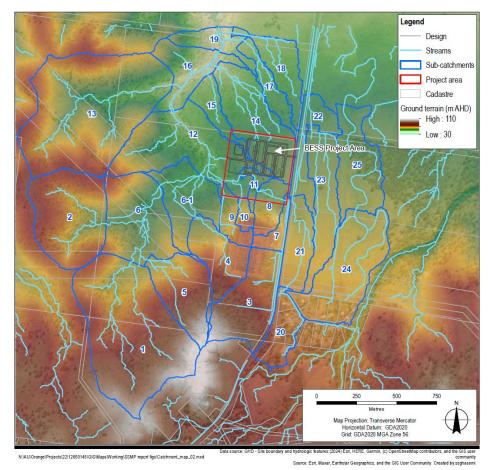


Figure 4.1 Catchment map

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Table 4.1 Hydrology sub catchment parameters

ID	Area (ha)	Average Slope (%)	Impervious Percentage (%)
1	47.88478	1.95	0
2	24.45269	1.54	0
6-1	13.35944	1.15	0
3	17.62951	1.48	18
4	11.76855	2.37	21
5	14.57373	2.78	0
6	20.75634	1.19	0
7	3.237078	1.85	72
8	5.656706	1.97	23
9	4.411649	2.57	0
10	1.76114	3.74	0
11	1.85106	0.61	0
12	28.0546	0.98	0
13	52.53716	0.91	0
14	19.75952	1.38	0
15	5.307085	1.3	0
16	11.10127	0.91	0
17	5.6319	0.68	0
18	9.008311	0.73	0
19	5.920578	2.1	0
2	24.45269	1.54	0
20	7.925759	0.56	0
21	9.315272	1.02	0
22	8.774422	0.65	20
23	14.24854	0.63	0
24	23.75471	0.56	22
25	15.58462	0.46	0

4.1.2 Design rainfall, temporal patterns and losses

Rainfall Intensity-Frequency-Duration (IFD) data was obtained from the Bureau of Meteorology (BOM) (2016) and is presented in Figure 4.2 for the different Annual Exceedance Probability (AEP) events.

For the purposes of this assessment, design storms were simulated for the BOM IFD data using design storm durations of 10 minutes to 540 minutes for six (6) AEP events (50%, 20%, 10%, 5%, 2%, 1% AEPs).

The ten (10) standard Australian Rainfall and Runoff 2019 (ARR19) temporal patterns were applied in the hydrologic model.

The losses from the ARR19 Datahub were adopted for this assessment.

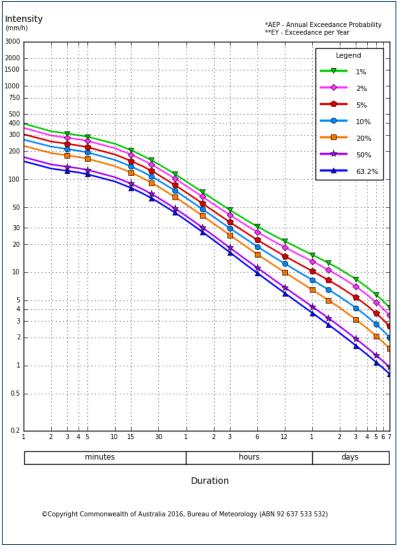


Figure 4.2 Design rainfall intensity (Bureau of Meteorology, 2016, Extracted 11 December 2024).

4.1.3 Results

Table 4.2 presents a summary of the hydrology model results for peak total flow rate for critical duration and median temporal pattern in accordance with AR&R 2019. to three likely outlet locations: Subcatchment 19, Subcatchment 22 and Subcatchment 25.

Table 4.2 Hydrology model peak flow summary

AEP	Subcatchment 19		Subcatchment 22		Subcatchment 25	
	Peak flow (m³/s)	Critical storm duration	Peak flow (m³/s)	Critical storm duration	Peak flow (m³/s)	Critical storm duration
50%	8.9	9 hours	0.7	4.50 hours	1.2	4.50 hours
20%	16.3	9 hours	1.3	4.50 hours	2.2	4.50 hours
10%	21.9	3 hours	1.7	2 hours	2.8	3 hours
5%	28.0	3 hours	2.2	2 hours	3.5	4.50 hours
2%	30.7	6 hours	2.7	1.50 hour	4.2	1.50 hour
1%	38.2	2 hours	3.3	1.50 hour	5.0	1.50 hour

4.1.4 Validation

An empirical flow estimation using the Rational Method has been used to the validate the hydrologic model results at the following four locations within the catchment:

- Subcatchment 7
- Subcatchment 11
- Subcatchment 6-1
- Subcatchment 12

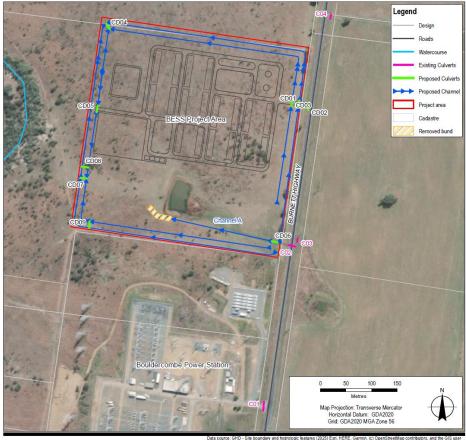
The Modified Friend's equation has been used to calculate the time of concentration at each of the four locations. This equation is appropriate as the catchment has an area less than 25 km².

Table 4.3 summarises the 1% AEP peak flows estimated from the hydrologic validation and the hydrologic model. The Rational Method results are generally within appropriate variance bounds for the 1% AEP event at the validation location. The hydrologic results are considered reasonable for applying as inflows to the hydraulic model.

Table 4.3 Summary of peak flow estimates from hydrologic validation

Validation location	1% AEP Peak Flow Rate (m³/s)				
	XP-RAFTs	Rational Method	Difference (%)		
Subcatchment 7	6.8	8.4	-19%		
Subcatchment 11	7.4	9.1	-19%		
Subcatchment 6-1	19.0	25.3	-25%		
Subcatchment 12	29.2	39.3	-26%		

Diversion drains and culverts have been proposed to divert flow from upstream of the site to downstream to the unnamed creek, aiming for minimising flood impacts. Figure 4.3 showed the proposed hydraulic infrastructures locations.



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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community Created by:ssghasemi

Figure 4.3 Proposed design drains and culvert

4.1.5 Culverts

Eight (8) culverts were proposed under the design access road and proposed tracks. Refer to Figure 4.3 for the locations of the proposed culverts. The geometry of these culverts was modelled in HY-8 software to determine the optimum size and number of culvert barrels to convey the required flow whilst maintaining a reasonable velocity. Design parameters for the modelling of the culverts are displayed in Table 4.4.

Table 4.4 Proposed design culverts sizes

Culvert ID	Design storm event	Design Flow (m³/s)	Geometry (No. x Width(m) x Height(m))	Туре	Minimum road level (m AHD)
CD01	1% AEP	0.5	2x1200x600	RCBC	45.9
CD02	1% AEP	0.3	2x450	RCP	46.3
CD03	1% AEP	0.2	2x600	RCP	45.8
CD04	5% AEP	1.5	2x600	RCP	44.6
CD05	1% AEP	1.0	2x600	RCP	44.1

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Culvert ID	Design storm event	Design Flow (m³/s)	Geometry (No. x Width(m) x Height(m))	Туре	Minimum road level (m AHD)
CD06	1% AEP	5.1	3x1200x900	RCBC	47.2
CD07*	5% AEP	2.5	2x1200x600	RCBC	43.8
CD08*	5% AEP	2.5	2x1200x600	RCBC	43.8

^{*} The design of Culverts CD07 and CD08 aims to redirect runoff flow from the project area toward the downstream creek, with the goal of managing flow rates to minimize flood impacts downstream. It should be based on the two existing flow paths downstream and the 2D TUFLOW hydraulic model results, the proposed 4x1200x600 RCBC culverts are split into two locations to align with the existing flow paths downstream and minimise flood impacts.

Culvert CD09 has been designed to partially redirect surface runoff toward culverts CD07 and CD08, helping to mitigate flood impacts on the Bouldercombe BESS and downstream properties.

4.1.6 Channel

New drainage infrastructure is proposed to divert flows from existing culvert (C02) outlet under Burnett Highway to the western side of the project area toward the unnamed creek, with the intent of being implemented effectively with the existing terrain to minimise the potential for cut and fill volumes to minimise flood impacts. The proposed alignment of new drains is represented in Figure 4.3 (Channel A).

The channel sizing was designed through solving the Manning's flow equation for trapezoidal channels to calculate the required depth for a given discharge. The channel has been designed for 1% AEP flow rate. A typical open channel drain section is presented in Figure 4.4. The calculated drainage channel sizing parameters are summarised in Table 4.5. Please note that the reported depth does not include freeboard, it is recommended to add 300 mm freeboard to the estimated depth.

The proposed design drains sizes were validated using TUFLOW hydraulic model. For more details and results please refer to Section 4.2.3.

Table 4.5 Drain design parameters and results

Drain ID	Peak flow rate (m ³ /s)	Longitudinal slope (%)	Base width (m)	Depth (m)	Side slope (V:H)
Channel A	6.5	1%	1.5	0.9	1:3

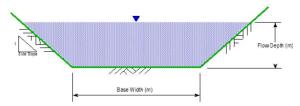
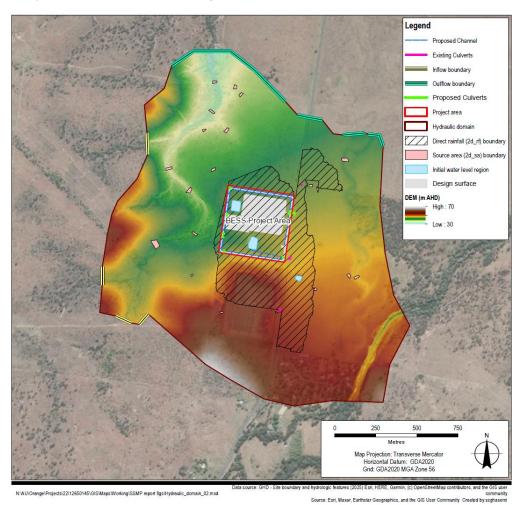


Figure 4.4 Typical open channel drain section

Drainage channel and culverts are proposed at each side of the proposed access road and tracks to collect and divert surface runoff toward the creek downstream of the project area, with the intent of being implemented effectively with the existing terrain to minimise the potential for cut and fill volumes to minimise flood impacts.

4.2 Hydraulic modelling

A TUFLOW hydraulic model (version 2023-03-AE-iSP-w64) using the HPC solution scheme was set-up to model the extent of local inundation and to estimate peak flood levels, depths and velocities affecting the BESS site. TUFLOW HPC solves the Shallow Water Equations (SWE) using a finite volume numerical technique on the central nodes of a fixed grid, which is used to schematise the area of interest.



The hydraulic model set-up is illustrated in Figure 4.5.

Figure 4.5 Hydraulic model domain

4.2.1 Model set-up

4.2.1.1 Geometry

The model was developed using a 2 m cell size with sub-grid (SGS) sampling to 1 m for computational efficiency. SGS functionality was enabled to more accurately represent the storage and conveyance in the hydraulic model. Rather than using a single elevation value for each model grid cell elevation, SGS uses the DEM elevations to determine a water surface elevation vs volume and wetted perimeter relationship for each model grid cell. This essentially allows the hydraulic model to sample the full resolution of the provided DEM regardless of the model grid cell size.

The 1 m LiDAR DEM (2015) and the 0.5 m survey DEM (05/2024), detailed in Section 2.1, were included in the hydraulic model to represent the existing ground terrain. No terrain modifications were undertaken.

4.2.1.1.1 Design Geometry

The proposed initial design provided for flood modelling using 2D-DWG format (refer to Section 2.3). The proposed design surface levels are initial and based on 0.5m freeboard for 1% AEP flood levels. The proposed design surface Manning's roughness is based on compacted soil with gravel on top, except for the proposed access road, which has been assumed to be sealed.

The proposed design surface and design drains have been added to the hydraulic model using the 2d zshape layers, it is acknowledged that these do not capture the exact geometric features due to the cell size in the model and are a simplified representation of the proposed design. Figure 4.6 shows proposed design features.

- Design surface has been added to the model using 2d zshape layers.
- Location A: removal of the existing bund at southern side of the existing pond to divert flow toward unnamed creek

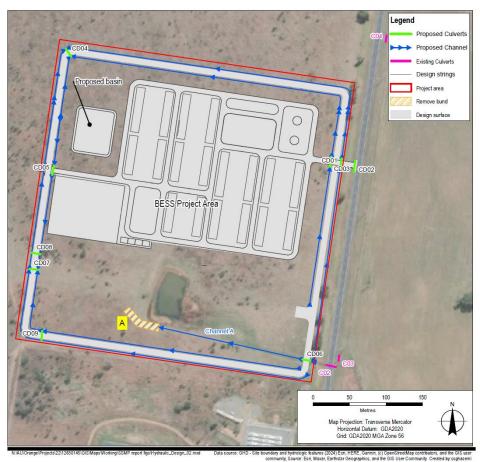


Figure 4.6 Post-developed site conditions

4.2.1.2 Boundary conditions sensitivity

A combination of boundary conditions was used in the model domain and are illustrated in Figure 4.5. These include:

- Four (4) flow-time (QT) boundaries for inflows.
- Four (4) normal-depth (HQ) boundaries for outflows with slopes ranging from 1 in 125 to 1 in 333 m/m.
- Twenty-three (23) source-area (SA) boundaries for local inflows near the site.
- One (1) direct gridded rainfall (RF) boundary for inflows on the site where no distinctive flow channels were observed. Rainfall losses have been applied for the direct rainfall section of the model in accordance with ARR19.

4.2.1.3 Hydraulic roughness

The Manning's 'n' coefficient for roughness was estimated from aerial imagery. The Manning's 'n' values for different surface types which were adopted in the hydraulic model are summarised in Table 4.6 and illustrated in Figure 4.7 and Figure 4.8 for pre- and post-development conditions of the site. It should be noted that the proposed design access road assumed sealed, and the proposed design surface has been assumed as compacted soil with a gravel top.

Table 4.6 Manning's 'n' roughness coefficients

Land Use	Manning's 'n' Roughness Value			
Farm / low vegetation	0.045			
Road	0.025			
Dam / pond / waterway	0.035			
Industrial	0.050			
Buildings	0.100			
Dense vegetation	0.080			
Medium vegetation	0.060			
Design pads- Compacted soils	0.040			
Electricity facility with piles	0.090			

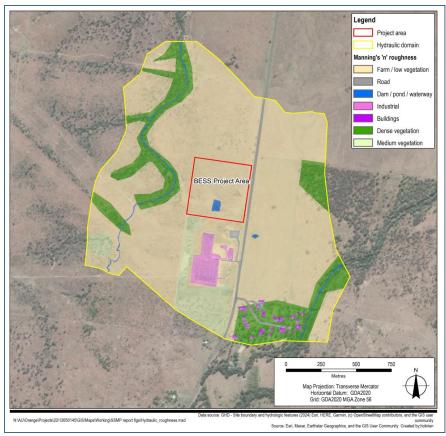


Figure 4.7 Hydraulic roughness – pre-developed condition

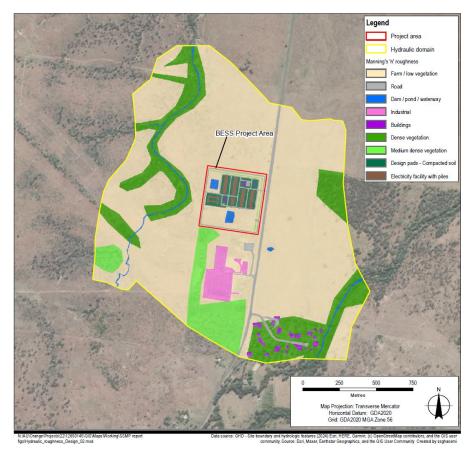


Figure 4.8 Hydraulic roughness – post-developed condition

4.2.1.4 Hydraulic structures

Hydraulic structures in the model domain were identified and estimated using aerial imagery. The structures were implemented in the model using 1D network (1d_nwk) pipe networks. Culvert length and width has been measured based on the areal imagery, culvert height and invert levels are extracted based on the provided 0.5m DEM. It is recommended to update the culvert information in the next stage of the project. Assumed hydraulic structure details used in the modelling are shown in Table 4.7 and illustrated in Figure 4.3.

Table 4.7 Hydraulic structure details

Culvert ID	Length (m)	Upstream invert (m AHD)	Downstream invert (m AHD)	Diameter (m)	Number of barrels	Existing / Proposed
C01	20	51.67	51.50	0.3	2	Existing
C02	16	46.85	46.56	1.2 x 0.6 (W x H)	2	Existing
C03	9.5	47.24	47.24	0.375	1	Existing
C04	11	44.77	44.52	0.3	1	Existing

For proposed design culverts refer to Section 4.1.5 and Table 4.4.

4.2.2 Scenarios

The following six design events have been assessed (50%, 20%, 10%, 5%, 2%, 1% AEP) using storm durations ranging from 10 minutes to 540 minutes for the 10 standard temporal patterns. Modelling has been conducted for pre- and post-development site conditions.

4.2.2.1 Sensitivity scenarios

A sensitivity run involving a 10% variation in Manning's roughness coefficient (n) is conducted in hydraulic modelling to assess the impact of changes in surface roughness on flow characteristics. In these scenarios, the roughness coefficient is adjusted by 10% higher and lower its baseline value, scenario S01 and S02 respectively. This assessment allowing quantify the uncertainty for the evaluation of sensitivity of the flood results due to roughness parameters such as flood water level.

The sensitivity scenarios have been assessed for 1% AEP storm events for 10% increase (S01) and 10% decrease (S02) in adopted Mannings values. Refer to Table 4.8 for the manning's roughness value for sensitivity scenarios.

Table 4.8	Manning's roughness value for sensitivity scenarios	

Land Use	10% increase – S01 Manning's 'n' Roughness Value	10% decrease – S02 Manning's 'n' Roughness Value
Farm / low vegetation	0.0405	0.0495
Road	0.0225	0.0275
Dam / pond / waterway	0.0315	0.0385
Industrial	0.045	0.055
Buildings	0.09	0.11
Dense vegetation	0.072	0.088
Medium vegetation	0.054	0.066
Design pads- Compacted soils	0.036	0.044
Electricity facility with piles	0.027	0.033

4.2.3 Results

The flood result maps (flood depth and velocity of flow) for the pre-development condition of the site are presented in Figures A1.1 to A1.12 in Appendix A. Below is a summary of the pre-development flood results:

- The pre-developed flood results show that the Burnett Highway has 10% AEP flood immunity. Flood results for 5% showed that the existing Highway is partially inundated. It should be noted that the highway levels are based on the provided 0.5 m DEM, and the existing culvert information has been assumed from aerial imagery and the 0.5 m DEM (refer to Section 1.3). To ensure a more accurate assessment of the road's flood immunity, it is recommended that this information be updated with a detailed survey in the next stage of the project.
- Flow depth across most of the project area is shallow, except for the existing pond, which has a flood depth of approximately 1.1 meters.
- Flood velocity across most of the site is less than 1.0 m/s, except for the existing flow path, where velocities range from 1.0 to 2.0 m/s in 1% AEP storm event.
- The flow rate estimated using the TUFLOW model has been validated against the hydrology model results for the outlets of Catchments 7 and 12. The 1% AEP flow rates at the catchment outlets are 6.5 m³/s for Catchment 7 and 39.4 m³/s for Catchment 12.

The pre- and post-development conditions have been assessed to identify any flood impacts on neighbouring properties, as well as changes to the immunity of the existing Burnett Highway To maintain flood immunity and minimize property impacts in the post-developed condition, the following measures have been implemented:

- The existing pond will be maintained to provide similar storage capacity in both pre- and post-development conditions, minimizing potential downstream impacts caused by changes in water storage volume.
- An opening in the embankment of the existing pond.
- A diversion channel from design culvert CD06 to the removed embankment.
- Table drains surrounding the site.
- A bio-detention basin is proposed at the northwest corner of the site to manage water quality (refer to Section 5 for more details).

The post-developed condition flood maps results (flood depth and velocity) are presented in Figures A2.1 to A2.12 in Appendix A for the proposed design scenario (excluding temporary pad) unless otherwise specified. Flood level afflux mapping is provided in Figures 3.1 to A3.6. The following observations were made:

- The flood immunity for Burnett Highway remains the same.
- The velocity on the south-western side of the existing pond increased (up to 1.6 m/s in 1% AEP) due to the
 proposed embankment opening. It is recommended to install rock protection at this location to minimise the
 risk of erosion.
- The velocity on the property boundary, near the outlet of existing culvert C02 and the inlet of design culvert CD06, increased by 0.5 m/s, from 1.7 m/s to 2.2 m/s for the 1% AEP storm event due to the proposed channel A elevation. It is recommended to install rock protection at this location to minimise the risk of erosion.
- No significant changes in flood velocity are observed on surrounding properties.
- Change in flow rate:
 - The flow rate slightly decreased downstream of the existing pond towards the unnamed creek downstream of the proposed design surface.
 - The flow rate showed about a 1 decrease (from approximately 7.8 m³/s in the pre-developed condition to around 7.7 m³/s in the post-developed condition)
 - Immediately downstream of the project boundary. This difference gradually increased
 - Downstream of the project boundary the flow rate increased, reaching a 4% variation 200 meters downstream of the project boundary.
- The flood afflux results indicate that the increase in water level downstream of the project area is less than 50 mm for most surrounding areas, with the following exception:
 - Immediately downstream of the proposed culvert CD04, afflux is up to 20 mm for 1% AEP storm event.
 - Upstream of culvert CD02, modelling results showed an afflux of 152 mm in 1% AEP storm event at the
 culvert inlet due to the proposed access road in this location, However, the change in water level is
 localised and does not change the Burnett Highway immunity.
 - Upstream of design culverts CD07 and CD08, and downstream of the bund, modelling results showed an
 afflux of up to 790 mm in the 1% AEP storm event. This afflux is located within the project boundary and
 does not impact neighbouring properties.

Table 4.9 summarised flood level results for pre and post development condition of the site for nominated points. Refer to Figure 4.9 for the point locations.

Table 4.9 Water level results (mAHD) for nominated points. Refer to Figure 4.9 for point ID locations

	1%	AEP	2%	AEP	5%	AEP	10%	AEP	20%	AEP	50%	AEP
ID	Pre- develop't	Post- develop't										
L1	47.71	47.71	47.67	47.67	47.63	47.63	47.55	47.55	47.43	47.43	47.31	47.32
L2	47.91	47.92	47.89	47.89	47.85	47.85	47.79	47.79	47.68	47.68	47.42	47.42
L3	47.79	47.79	47.78	47.78	47.75	47.76	-	-	-	-	-	-
L4	47.55	47.56	47.53	47.54	47.5	47.51	47.49	47.49	47.46	47.46	47.35	47.35
L5	47.14	46.81	47.13	46.79	47.12	46.76	47.11	46.71	47.09	46.65	47.03	46.42
L6	47.13	-	47.13	-	47.12	-	47.12	-	47.11	-	-	-
L7	47.13	47.51	47.12	47.50	47.12	47.47	47.12	47.44	47.11	47.42	47.11	47.33
L8	45.89	45.65	45.87	45.63	45.85	45.60	45.83	45.57	45.81	45.53	45.74	45.48
L9	45.89	45.64	45.87	45.62	45.85	45.59	45.83	45.56	45.8	45.53	45.73	45.43
L10	45.77	45.59	45.75	45.57	45.74	45.54	45.72	45.51	45.71	45.48	45.65	45.45
L11	43.31	43.92	43.3	43.81	43.28	43.70	43.27	43.61	43.25	43.52	43.2	43.30
L12	42.75	42.76	42.74	42.75	42.73	42.74	42.71	42.73	42.7	42.72	42.67	42.68
L13	41.78	41.79	41.69	41.71	41.61	41.63	41.52	41.54	41.43	41.45	41.25	41.26
L14	43.55	43.52	43.54	43.52	43.54	-	43.53	-	43.53	-	43.52	-
L15	46.51	46.51	46.47	46.47	46.44	46.44	46.38	46.38	46.31	46.31	46.22	46.22
L16	46.17	45.98	46.16	45.91	46.16	45.88	46.15	45.85	46.14	45.83	46.13	45.81
L17	46.17	46.17	46.16	46.16	46.15	46.15	46.14	46.14	46.13	46.13	46.12	46.12
L18	43.35	43.35	43.34	43.33	43.33	43.31	43.32	-	43.31	-	43.29	-

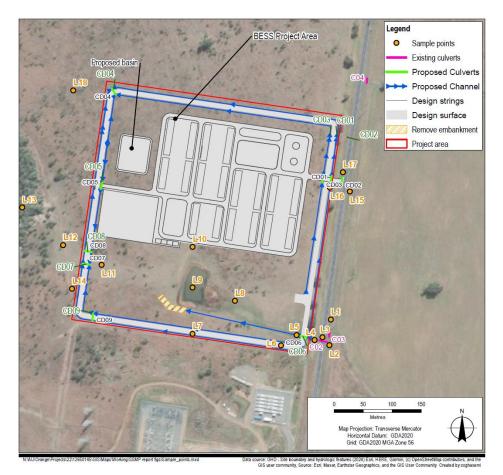


Figure 4.9 Hydraulic model results sample locations

4.2.3.1 Sensitivity Results

The results of the sensitivity analysis, with a 10% variation in Manning's roughness coefficient, showed minor changes. A 10% increase in roughness (S01) led to a slight decrease in flow velocity (~0.1 m/s) and a rise in water level (~10 mm to ~60 mm) for 1% AEP storm event. Within the project site a decrease of approximately 20 mm was seen in the south-west corner.

In contrast, a 10% reduction in roughness (S02) resulted in a modest increase in flow velocity (~0.1 m/s) and decrease in water level (~10 mm to ~60 mm) for the 1% AEP event outside the project site. Within the project site an increase of approximately 20 mm was seen in the south-west corner. The flood level impact on the surrounding area remained almost the same for both the sensitivity scenarios and the adopted Manning's roughness. Refer to Appendix C for the flood level afflux maps for sensitivity scenarios for 1% AEP storm event.

5. Stormwater quality

GHD has undertaken a stormwater quality assessment of the proposed development post construction. The following standards and guidance documentation has been adopted for the review:

- WaterByDesign MUSIC Modelling Guidelines (November 2018)
- Queensland State Planning Policy (July 2017)
- Queensland State Planning Policy Interactive Mapping System

5.1 Water quality objectives (WQOs)

The ultimate development must achieve the relevant water quality objectives as given in the State Planning Policy (2017). This includes the following minimum reductions in mean annual loads compared with untreated stormwater runoff from the developed part of the site:

Total Suspended Solids: 85% Reduction
 Total Phosphorous: 60% Reduction
 Total Nitrogen: 45% Reduction
 Gross Pollutants: 90% Reduction

These WQOs have been adopted for this design

5.2 Water quality modelling

A MUSIC model has been prepared to determine the performance of the proposed treatment devices in achieving the required pollutant reduction loads. The software package MUSIC (Model for Urban Stormwater Improvement Conceptualisation) was used to model the pollutant exportation for the industrial allotment and associated roads in their mitigated and unmitigated post-development condition.

Pollutant export rates for Total Suspended Solids (TSS), Total Nitrogen (TN), Total Phosphorus (TP) and Gross Pollutants (GP) were available in MUSIC to model the water quality discharge from the site. Accordingly, these pollutants became the focus of the analysis to compare the unmitigated development discharge to the mitigated development discharge and the required percentage reduction of the median loads for the following indicators (WQOs):

- Suspended solids (SS)
- Total Nitrogen (TN), and
- Total Phosphorus (TP).
- Gross Pollutants (GP).

MUSIC was used to model the exportation rates of the relevant pollutants, and the effect that the selected treatment train had on the reduction of these pollutants from the site stormwater runoff.

5.2.1 MUSIC modelling

The parameters adopted for the MUSIC analysis of the site have been taken from the MUSIC Modelling Guidelines (November 2018). Table 5.1 lists the parameters of the adopted Land Use node in MUSIC.

Table 5.1 Land use parameters

	Parameter		
Impervious Area Properties	Rainfall Threshold (mm/d)	1	
	Soil Storage Capacity (mm)	100	
Pervious Area Properties	Initial Storage (% Capacity)	30	
	Field Capacity	100	

	Parameter	Land Use Value (Industrial)
	Infiltration Capacity Coefficient A	200
	Infiltration Capacity Coefficient B	1
	Initial Depth (mm)	10
Craundwater Properties	Daily Recharge Rate (%)	4
Groundwater Properties	Daily Baseflow rate (%)	2
	Daily Deep Seepage Rate (%)	0.4

5.2.2 Meteorological data

Rainfall data with a six-minute time step has been obtained from the Bureau of Meteorology (BOM) for the Rockhampton AERO Station 039083 from 31/03/2000 to 31/03/2010. The corresponding evapotranspiration rates for the various months were also obtained from BOM, utilising the average annual and monthly evapotranspiration maps.

Climate data, including rainfall intensity, duration, and frequency, is based on historical averages. Rainfall intensity is not assumed to increase.

5.2.3 Source Nodes

The Industrial source node in MUSIC has been modelled with a 'lumped catchment land use'. The pollutant export parameters for the industrial source node have been adopted in line with MUSIC Modelling Guidelines (2018).

Baseflow and stormflow pollutant export parameters used in the analysis are provided in Table 5.2.

Table 5.2 Pollutant generation parameter

Land Use TSS log10 Valu		¹⁰ Values	TP log ¹⁰ Values		TN log ¹⁰ Values	
(lumped)	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev
Baseflow	0.78	0.45	-1.11	0.48	0.14	0.2
Stormflow	1.92	0.44	-0.59	0.36	0.25	0.32

Catchment details for source nodes are shown in Table 5.3 below. The impervious percentage was estimated based on the current site layout at the time of writing this report (refer to Figure 5.1). The nominated 90% impervious percentage falls within the recommended range of 70% to 95% for industrial sites, as per the MUSIC Modelling Guidelines (2018). This is in line with the guidelines, which account for the higher levels of imperviousness typically associated with industrial developments.

Table 5.3 Catchment Area

Catchment	Area (ha)	Surface Type	Impervious Percentage (%)
Total Site Area	11.000	Urban - Industrial	90

Please refer to Figure 5.1 for the assumed extents of the catchment. Please refer to Appendix B for site specific details.

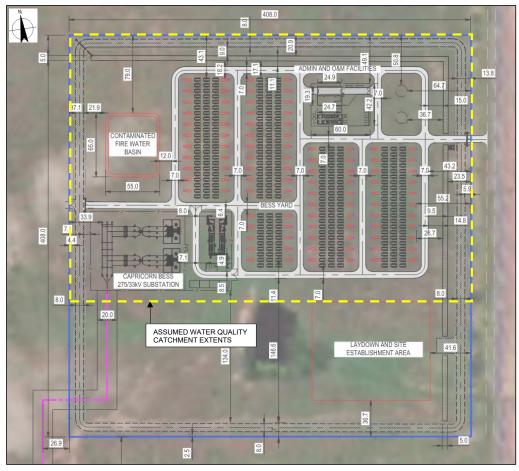


Figure 5.1 Assumed water quality catchment extent (in yellow)

5.2.4 Stormwater Quality Treatment

To reduce the exportation of pollutants via stormwater from the site, some Stormwater Quality Improvement Devices (SQIDs) were integrated into the development. The selection process for the SQIDs considered the treatment efficiencies of the SQIDs in reducing TSS, TN and TP, effectiveness in peak flow attenuation, cost, site restrictions and footprint required.

A conventional bio-retention basin with a 600 mm filter depth has been modelled for pollutant reduction. It is assumed that all surface runoff within the assumed water quality catchment extent can be directed into this bio-retention basin. At this early stage of design, the bioretention basin is assumed to have a square shape (equal length and width) for the purpose of determining the surface area. This assumption simplifies calculations and provides a baseline for further refinement as the design progresses.

The parameters of the bio-retention basins modelled in MUSIC are shown below:

Table 5.4 Bio-retention basin details

Design Properties	Value
Extended Detention Depth	0.3 m
Surface Area	1903.84 m²
Filter Area	1750 m²
Saturated Hydraulic Conductivity	200 mm/h
Filter Depth	0.6 m
TN Content of Filter Media	400 mg/kg
Orthophosphate Content of Filter Media	30 mg/kg
Exfiltration Rate	0 mm/hr
High Flow Bypass	100 m³/s
Lining, Vegetation and Outlet Properties	Unlined basin, with an underdrain present and vegetation with effective nutrient removal plants.

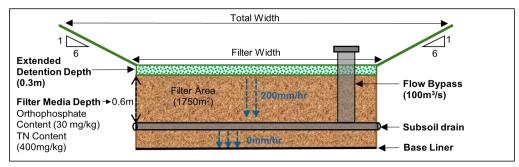


Figure 5.2 Bio-retention basin typical layout

5.2.5 Mitigated post development case

A MUSIC analysis has been undertaken with the incorporation of the bio-retention system discussed in Section 5.2.4. The MUSIC model layout is provided in Figure 5.3, while the resulting annual pollutant load reductions are provided in Table 5.5.

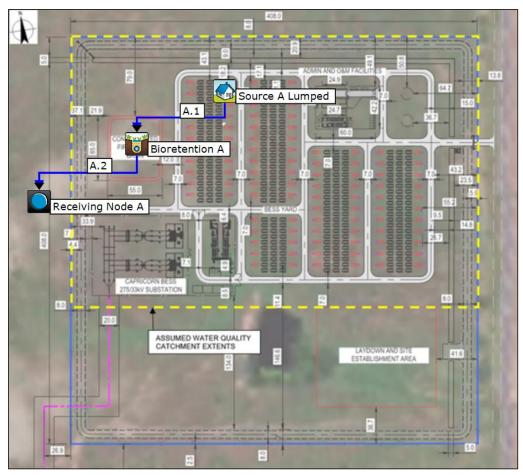


Figure 5.3 MUSIC Model Layout

Table 5.5 Mitigated post development results

Pollutant	Source Load	Residual Load	WQO	Achieved Reduction
Total Suspended Solid (kg/year)	8545	1241	>85%	85.48%
Total Phosphorous (kg/year)	21.94	8.628	>60%	60.67%
Total Nitrogen (kg/year)	139.8	60.23	>45%	56.92%
Gross Pollutants (kg/year)	1541	0	>90%	100.00%

The results in Table 5.5 indicate that through the incorporation of the bio-retention basin, the proposed development achieves the required WQO's.

5.2.6 Model Sensitivity to Bypass Flows

The bio-retention basin parameters proposed in Section 5.2.4 assumes that this area of the site can convey all surface water to the bio-retention basin. It is expected that future design phases will develop the site earthwork and drainage models which would likely include an underground piped network and open channels. A sensitivity analysis was undertaken to determine the impact to the required bio-retention filter area sizes with increasing site bypass catchments. Table 5.6 indicates the minimum bio-retention basin filter area required with 5%, 10% and 20% site bypass catchments.

Table 5.6 Water quality sensitivity analysis

Site Bypass Catchment (%)	Bio-retention Filter Area (m²)	TSS Reduction (%)	TP Reduction (%)	TN Reduction (%)	GP Reduction (%)
WQO	NA	>85	>60	>45	>90
0% Site bypass catchment	1 750	85.48	60.67	56.92	100.00
5% Site bypass catchment	2 300	85.51	61.04	59.08	95.00
10% Site bypass catchment	3 750	85.09	61.24	62.59	90.00
20% Site bypass catchment	10,000 m ² bioreten to achieve WQO's.	tion did not achieve r	eduction targets. Co	nsider alternative or a	additional SQIDs

The results in Table 5.6 indicated that increasing site bypass catchments resulted in exponentially larger bioretention filter areas to compensate and still meet the site WQO. It is recommended that future earthwork and drainage designs minimise the amount of site bypass catchment flows, by ensuring positive fall and grading to the proposed bioretention basin. This will minimise the required bioretention filter area and/or avoid the introduction of additional SQIDS to meet the target water quality objectives.

5.3 Maintenance

The ongoing maintenance, including but not limited to the maintenance of the bio-retention vegetation, will be the responsibility of the site owner/operators and should be undertake as outlined below. Due to the project's climatic region, it is recommended that the detailed design of the bio-retention basin utilises a submerged zone via an elevated underdrainage outlet. This will maintain more moisture within the bio-retention, improving vegetation health and minimising potable irrigation requirements.

A bio-retention filter should only be installed once the majority of the sediment producing activities for the proposed development has been completed. To minimise the accumulation of sediment within the vegetation and to improve maintenance, it is recommended that a sediment forebay is incorporated within the detailed design of the bio-retention basin.

The following sections provide expected maintenance requirements for the bio-retention basin.

5.3.1 Short term (weekly – monthly)

Short term maintenance of bio-retention systems shall be undertaken by the Proponent or its approved sub-contractor, and it should comprise mainly of:

- Weeding
- Watering
- Mowing (batters)

5.3.2 Medium term (half yearly/yearly)

To be completed by the Proponent or its approved sub-contractor on a biannual/annual or event-based trigger. Items to be checked and/or maintained include:

- Erosion
- Grass condition
- Flow conveyance/blockage
- Sedimentation
- Evidence of ponding
- Back-washing of filter material
- Cleanout of sediment forebay

5.3.3 Long term (replacement)

Triggered by the results of medium-term assessment, the long-term replacement of bio-retention systems will occur from gross failure caused by large storm events or long-term use. Replacement and/or rectification works shall be completed by the Proponent or its approved sub-contractor. This work should generally include some or all of the following:

- Removal of accumulated sediment
- Replacement of underdrain system
- Replacement of filter material
- Grading of basin invert
- Replacement of surface vegetation

6. Conclusion and recommendations

This report outlined the stormwater quantity and stormwater quality assessments undertaken by GHD for the proposed BESS project site. As part of the stormwater quantity assessment, existing site conditions (predevelopment) were assessed to provide an understanding of the flood behaviour across the project site. Additionally, post-development conditions were assessed to evaluate potential flood impacts on neighbouring properties and immunity of the Burnett Highway.

6.1 Stormwater Quantity

The flood analysis for both pre- and post-development conditions at the project site indicates that the proposed design will effectively manage flood risks while minimising downstream impacts. The Burnett Highway will maintain flood immunity. It should be noted that the existing highway levels and existing culverts' invert levels extracted from provided 0.5 m DEM, it is recommended to update the levels and culverts details in the next stage of the project using detailed survey. The retention of the existing pond ensures similar storage capacity between pre- and post-development conditions, mitigating potential flood risks downstream.

Based on the flood velocity results appropriate measures such as rock protection at the culvert outlets and inlets have been recommended to reduce erosion risks. Additionally, the proposed access track adjustments and culvert placements will address local flood conditions without significantly impacting surrounding properties.

The proposed design effectively manages flood risks and minimises adverse effects on the surrounding areas. The flood afflux results indicate that the increase in water level downstream of the project area is less than 50 mm for most surrounding areas, except for outlet of proposed culvert CD04 and upstream of proposed culvert CD02.

Overall, the assessment indicated that the proposed design would maintain the existing immunity of the Burnett Highway and no adverse impacts on surrounding properties.

6.2 Stormwater Quality

A stormwater quality analysis was undertaken in MUSIC for the proposed development.

The site was modelled with the inclusion of a bio-retention basin with a filter media area of 1750 m², to achieve the Water Quality Objectives (WQO) for the site. This assumes that all surface water is able to be directed to the basin and hence there is 0% site bypass catchments.

A sensitivity analysis was undertaken to investigate the effect of increasing site bypass catchments on the required bioretention filter area. This analysis indicated that if 5% of the site catchment bypasses the bioretention basin, the basin filter area would need to be increased to 2300 m² to still achieve the site's WQO. Similarly for a 10% site catchment bypass, the basin filter area would need to increase to 3750 m². When bypass catchments grew to 20% of the site, results indicated that the bioretention filter area would need to increase to greater than 10,000 m² to achieve the sites WQO, which was not considered to be practical.

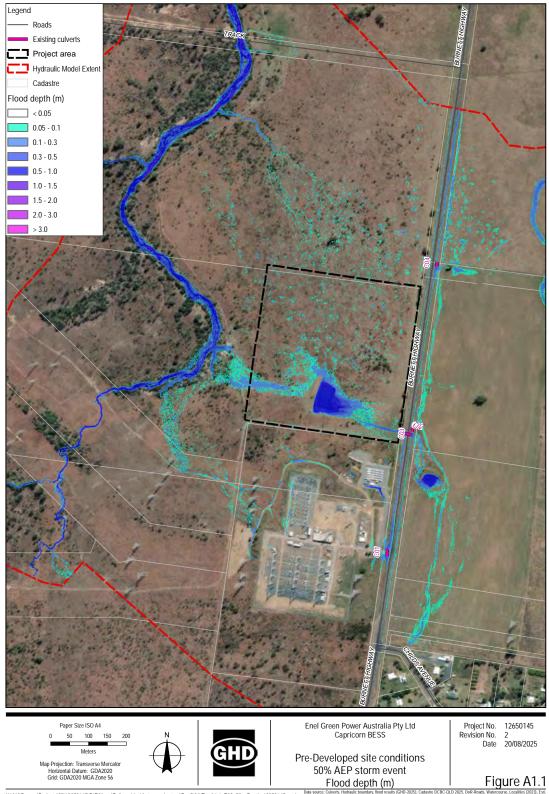
It is recommended that future earthwork and drainage designs minimise the amount of site bypass catchments, by ensuring positive fall and grading to the proposed bioretention basin. This will minimise the required bioretention filter area and avoid the introduction of additional SQIDS to meet the target water quality objectives.

It is recommended that once earthwork and pipe drainage designs are progressed, the MUSIC model is updated to incorporate the final design areas and bypass catchments to ensure that the bioretention basin still achieves the required site WQOs.

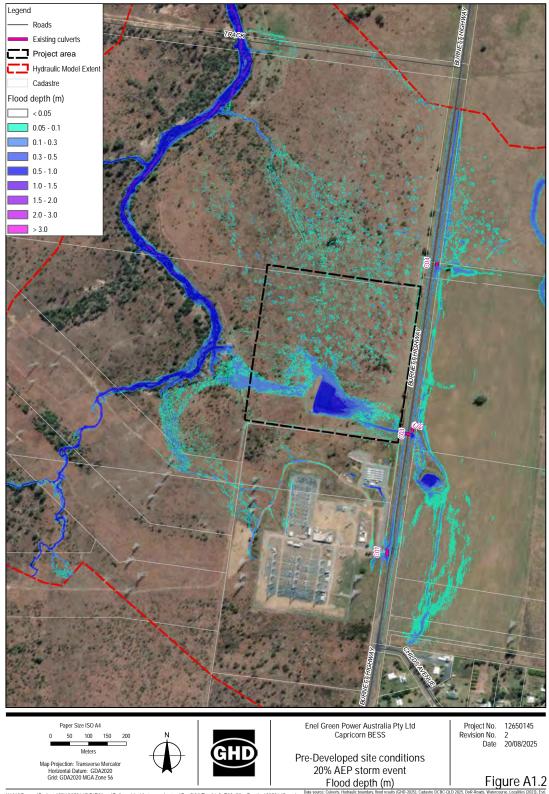
Appendices

Appendix A

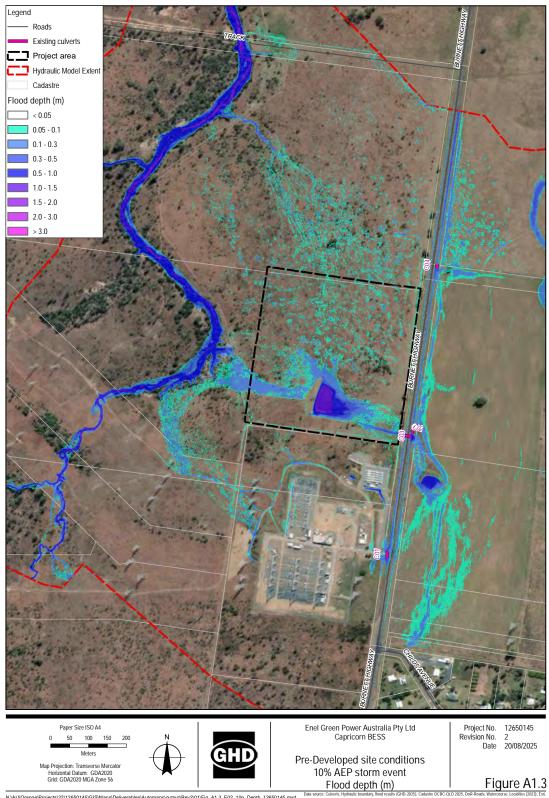
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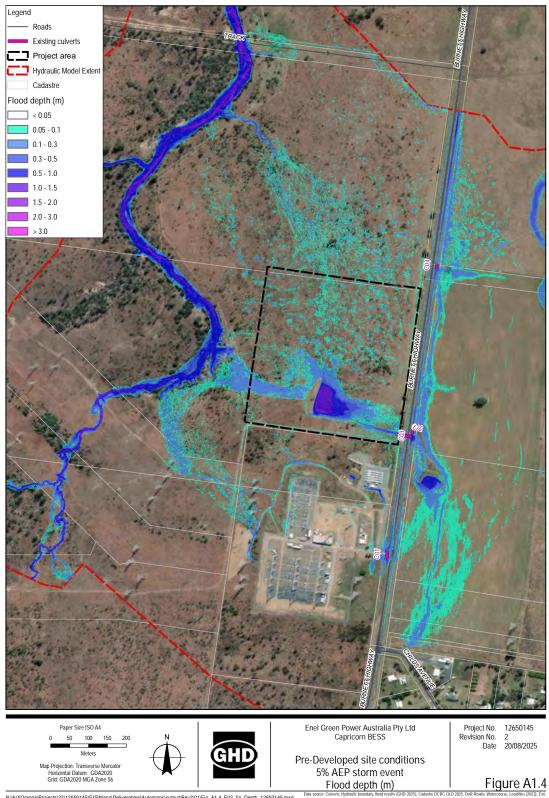


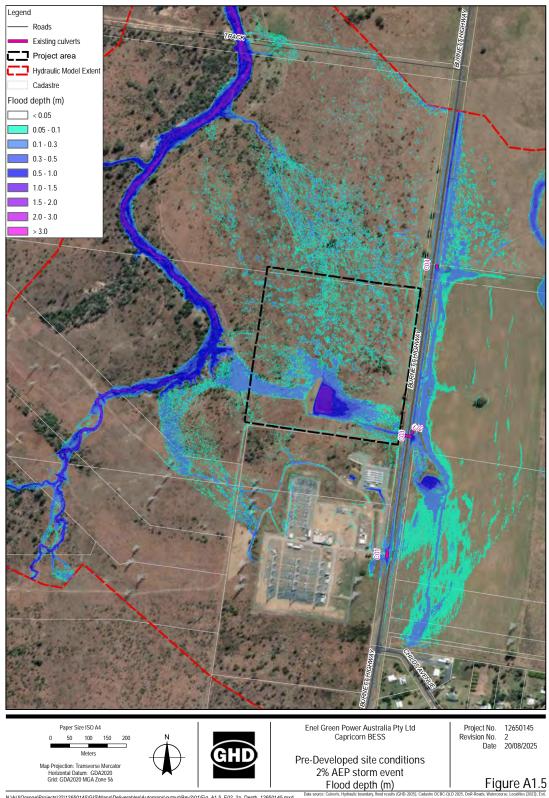
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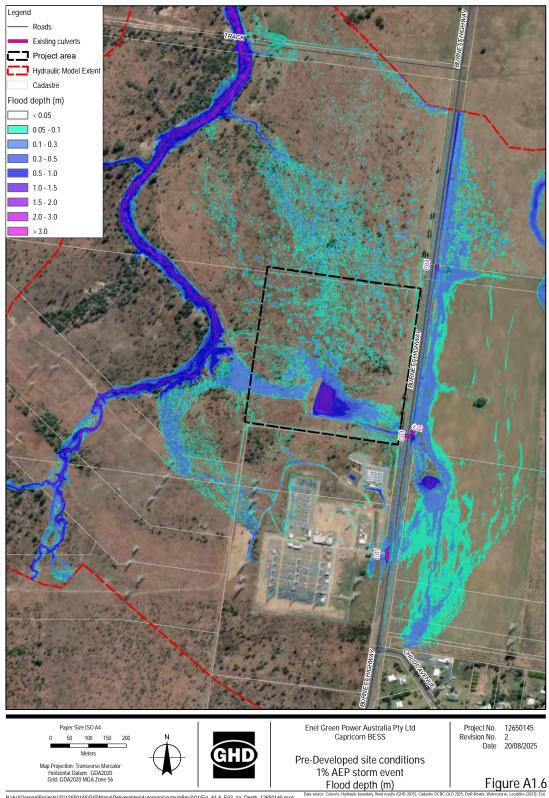


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Horizontal Datum: GDA2020 Grid: GDA2020 MGA Zone 56

Pre-Developed site conditions 50% AEP storm event Flood Velocity (m/s)

Project No. 12650145 Revision No. 2 Date 20/08/2025

Figure A1.7



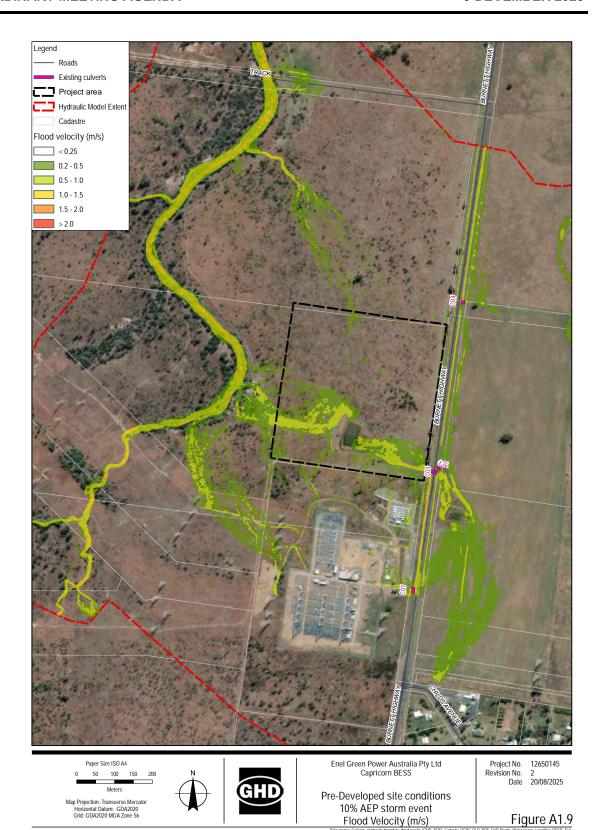
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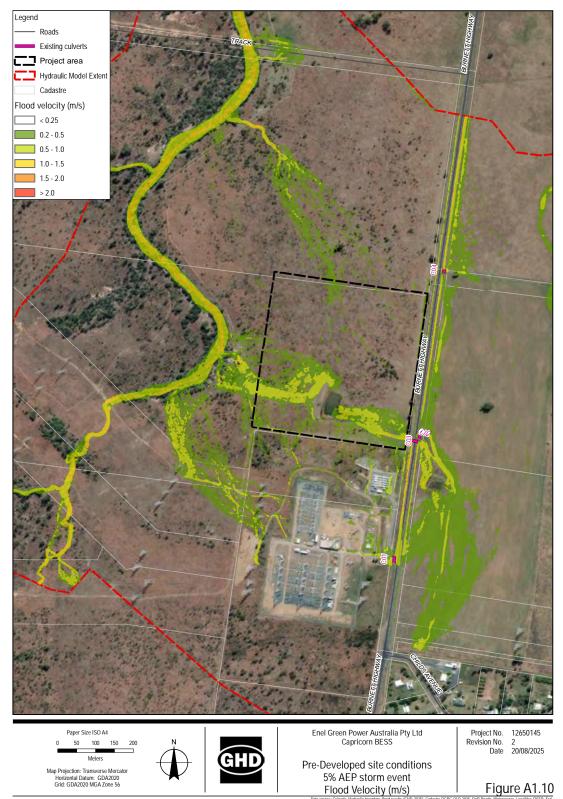
Pre-Developed site conditions 20% AEP storm event Flood Velocity (m/s)

Project No. 12650145 Revision No. 2 Date 20/08/2025

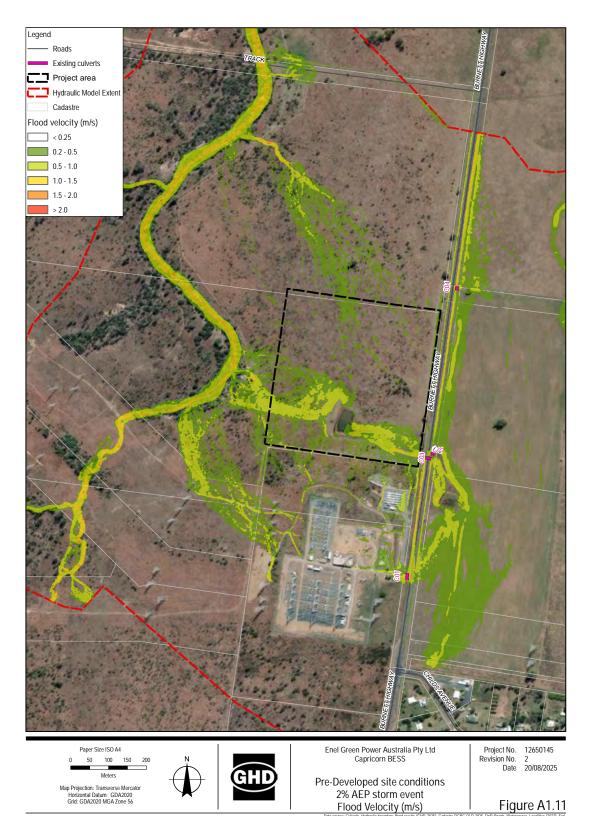
Figure A1.8



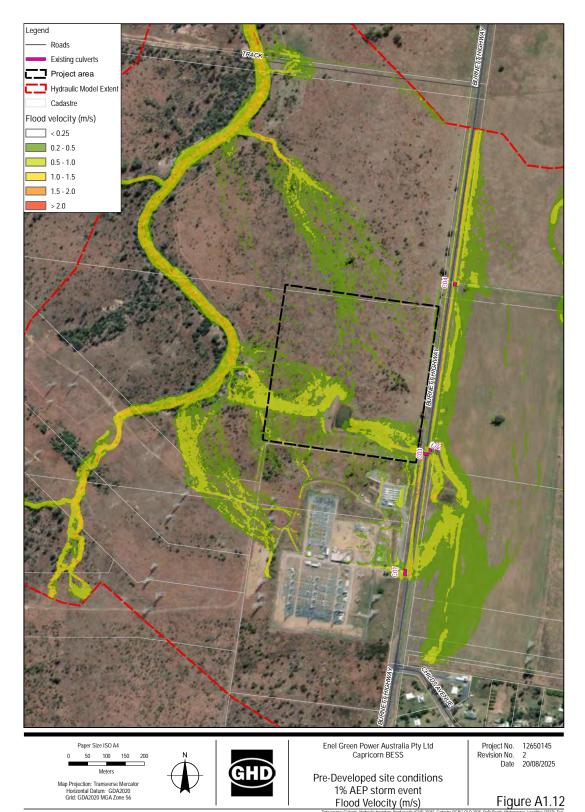
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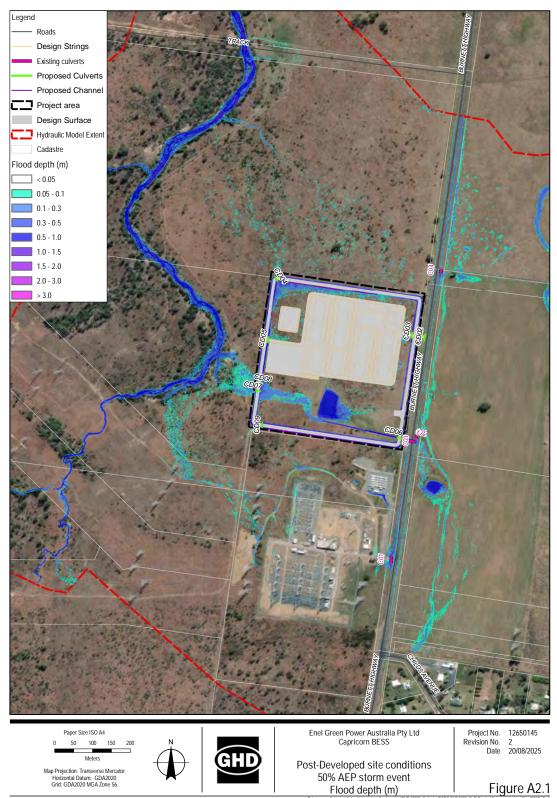
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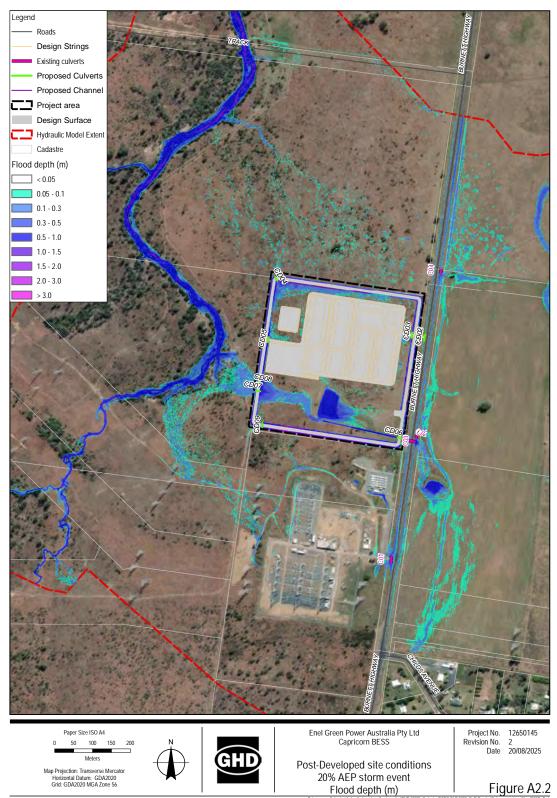
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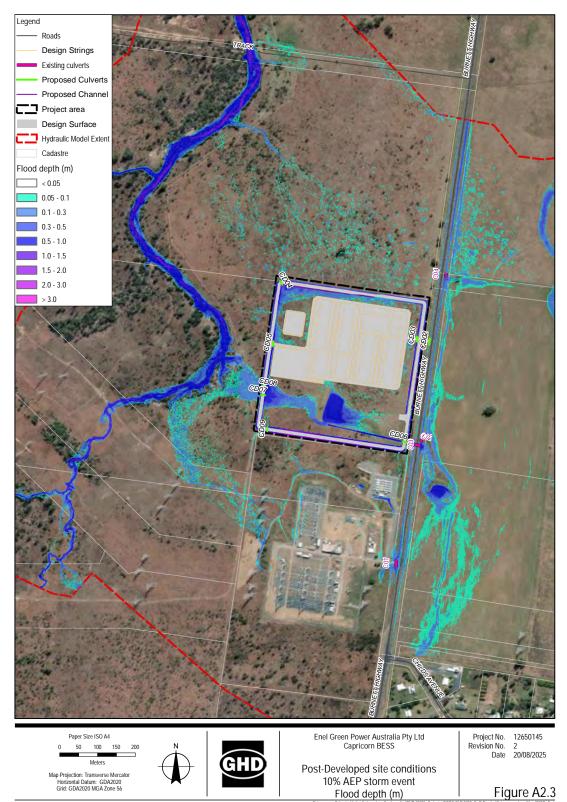


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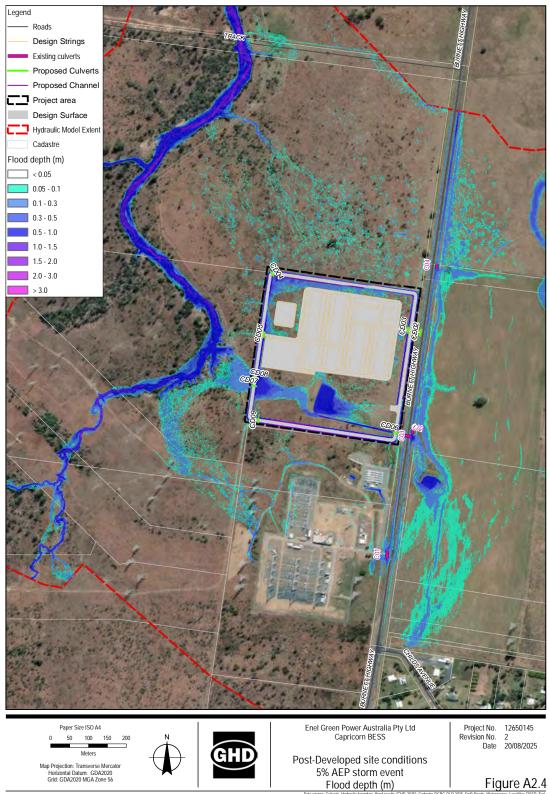


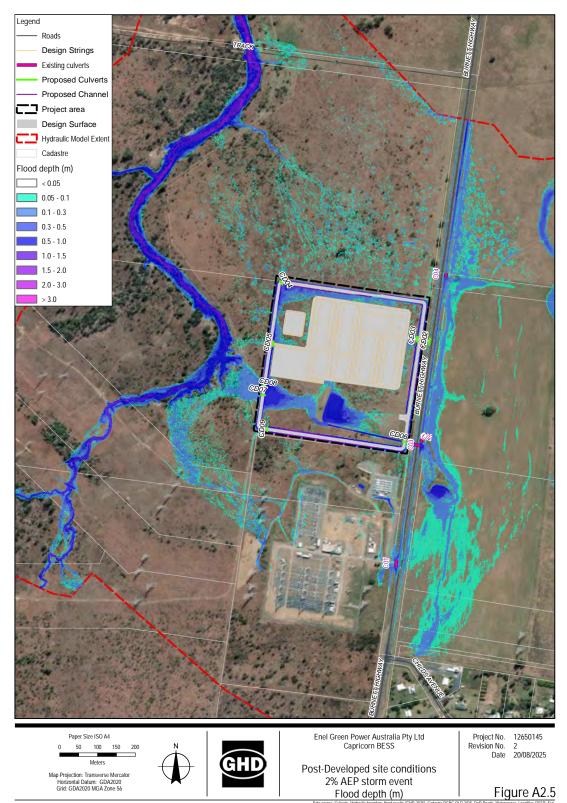
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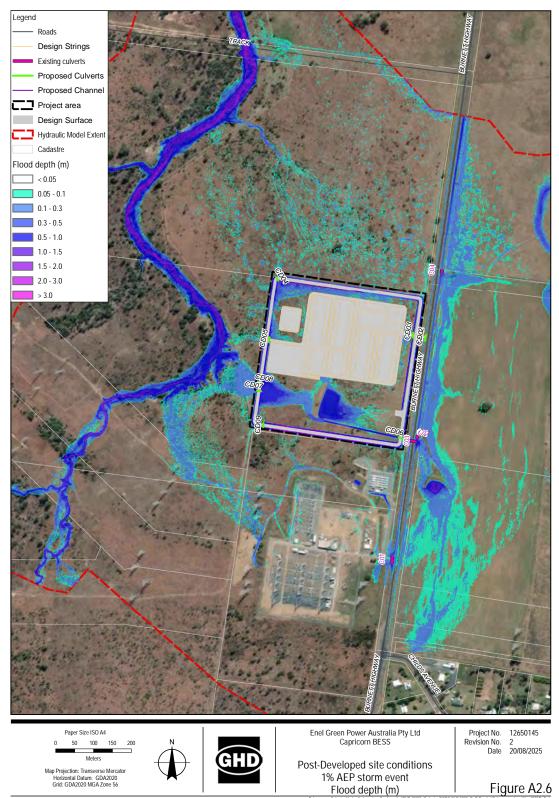
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HERE, Garmin, (c) OpenStreeMap contributors, and the GIS user community. Source: Esrl, Maxar, Earthstar Geographics, and the GIS User Community. Created by: ssghasem



Enel Green Power Australia Pty Ltd Capricorn BESS

Post-Developed site conditions 50% AEP storm event Flood Velocity (m/s)

Project No. 12650145 Revision No. 2 Date 20/08/2025

Figure A2.7



Enel Green Power Australia Pty Ltd Capricorn BESS

Post-Developed site conditions 20% AEP storm event Flood Velocity (m/s)

Project No. 12650145 Revision No. 2 Date 20/08/2025

Figure A2.8



Post-Developed site conditions 10% AEP storm event Flood Velocity (m/s)

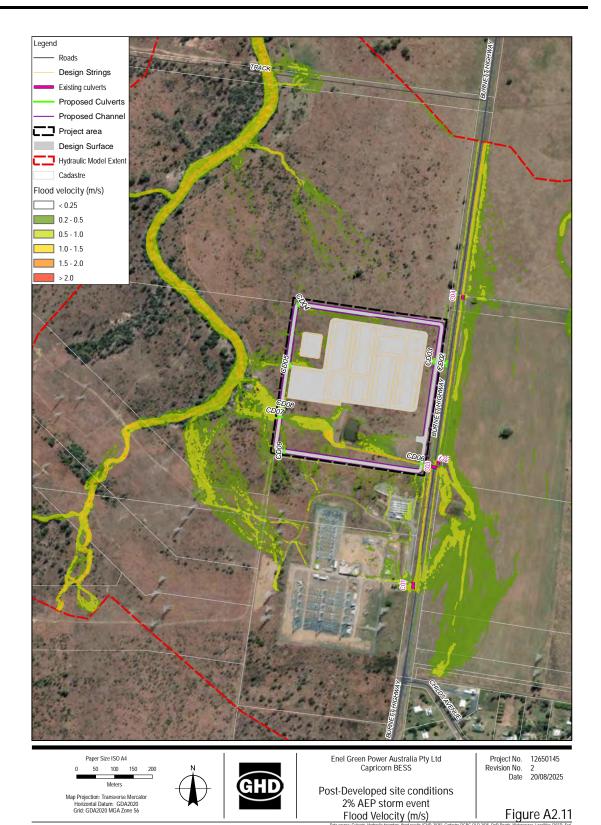
Project No. 12650145 Revision No. 2 Date 20/08/2025

Figure A2.9

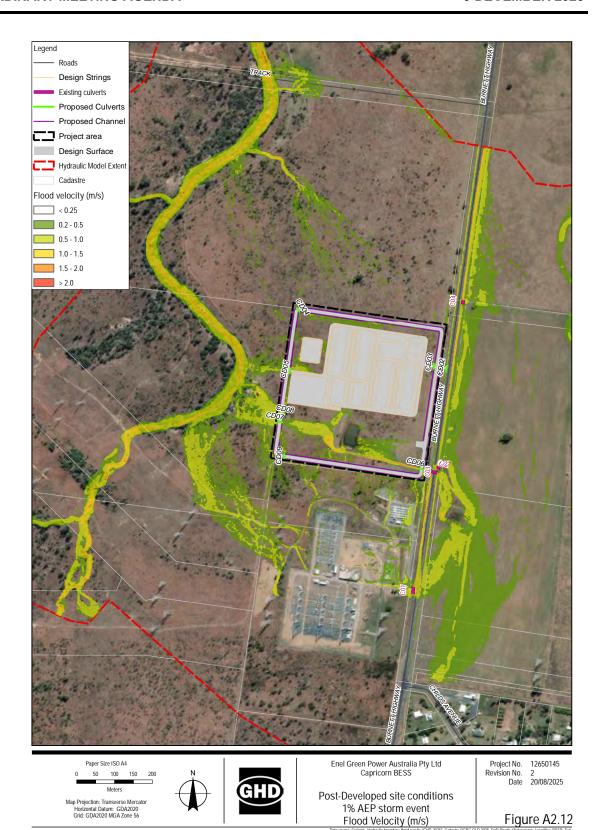


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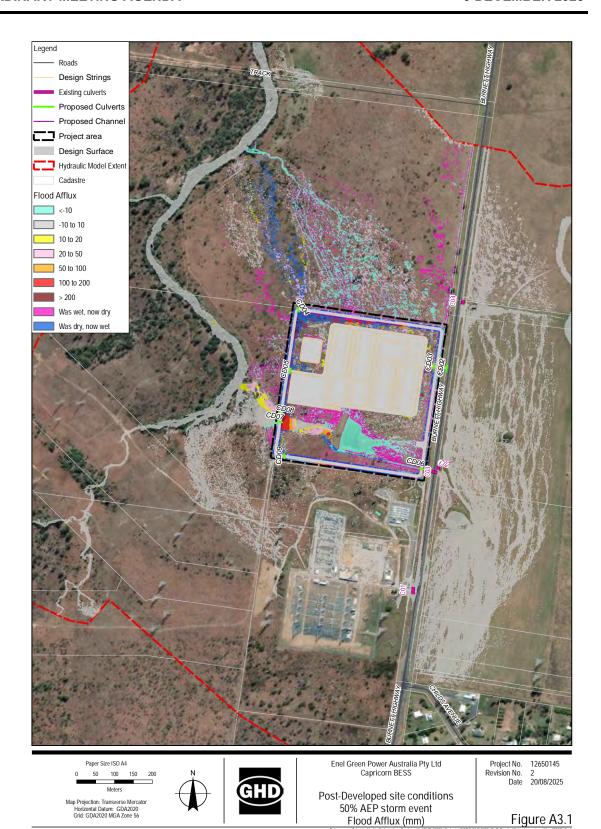
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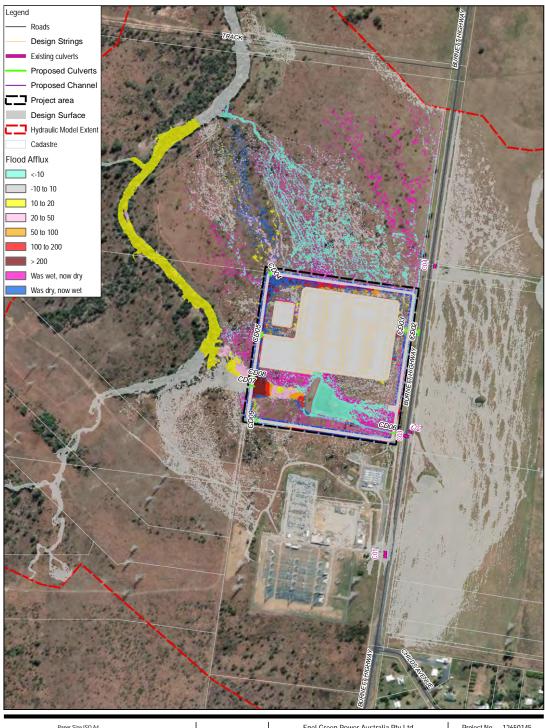
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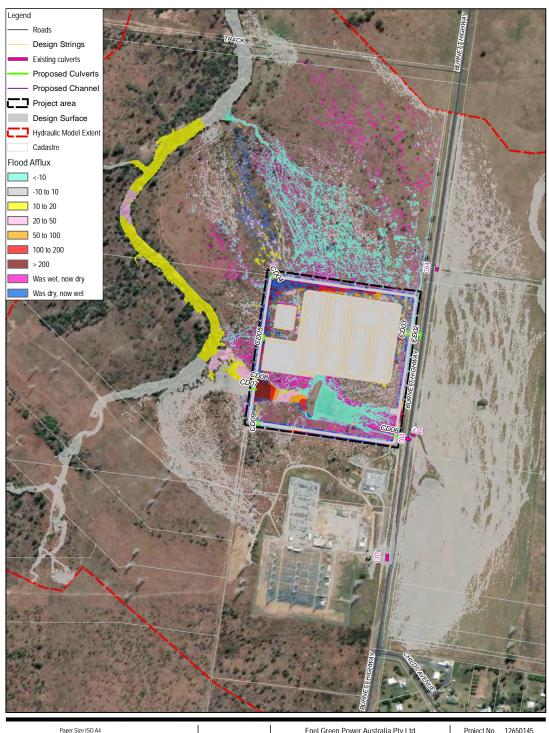


Enel Green Power Australia Pty Ltd Capricorn BESS

Post-Developed site conditions 20% AEP storm event Flood Afflux (mm)

Project No. 12650145 Revision No. 2 Date 20/08/2025

Figure A3.2



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0 50 100 150 200

Meters

Man Projection: Transverse Mercator

Horizontal Datum: GDA2020 Grid: GDA2020 MGA Zone 56

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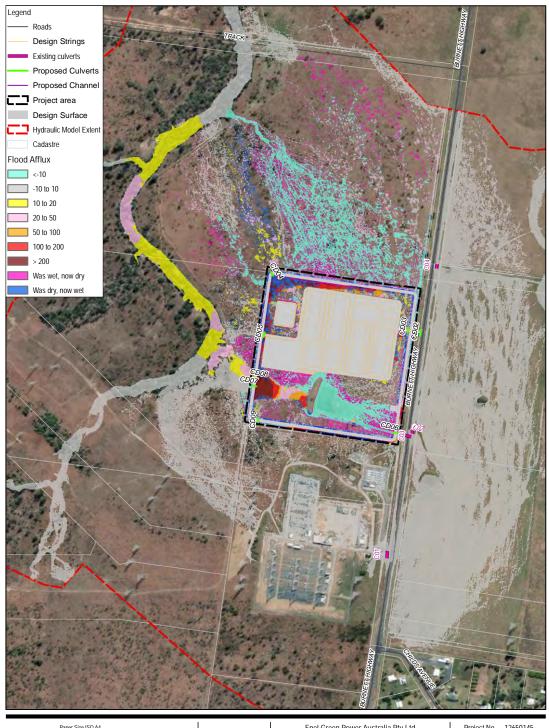
Post-Developed site conditions 10% AEP storm event Flood Afflux (mm) Project No. 12650145 Revision No. 2 Date 20/08/2025

Figure A3.3

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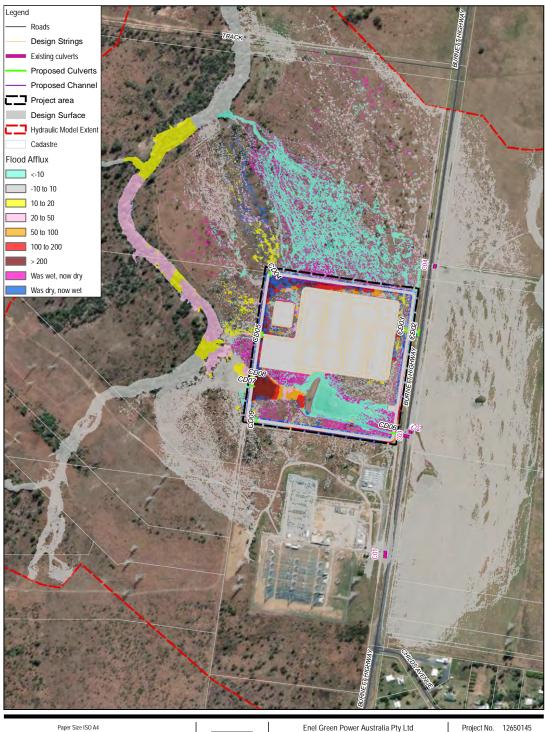
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Enel Green Power Australia Pty Ltd Capricorn BESS

Post-Developed site conditions 5% AEP storm event Flood Afflux (mm)

Project No. 12650145 Revision No. 2 Date 20/08/2025

Figure A3.4



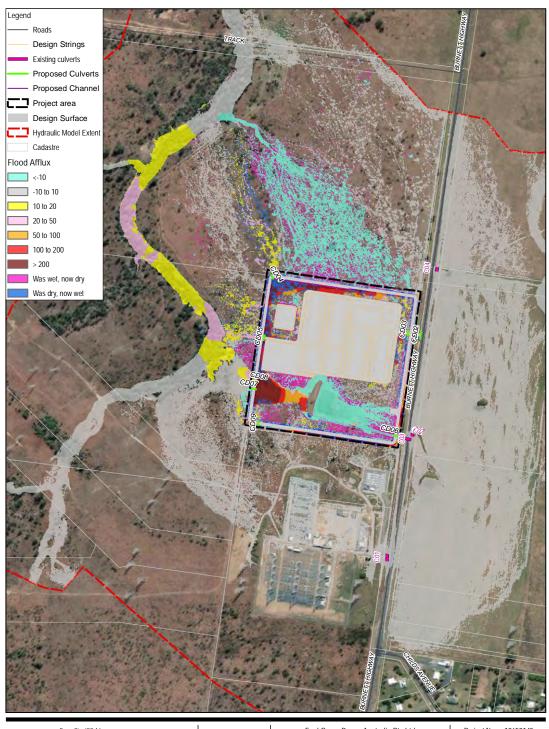


Enel Green Power Australia Pty Ltd Capricorn BESS

Post-Developed site conditions 2% AEP storm event Flood Afflux (mm)

Project No. 12650145 Revision No. 2 Date 20/08/2025

Figure A3.5



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Horizontal Datum: GDA2020 Grid: GDA2020 MGA Zone 56

Enel Green Power Australia Pty Ltd Capricorn BESS

Post-Developed site conditions 1% AEP storm event Flood Afflux (mm)

Project No. 12650145 Revision No. 2 Date 20/08/2025

Figure A3.6

Appendix B

Development plans



Page (191)



BESS SPECIFICATIONS	
DESCRIPTION	QTY
RATED POWER AT PGC (MW)	300
RATED ENERGY AT POC (MWh)	арриок. 120
BESS DURATION	approx. 4h
BESS CONTAINER MODULE	TBD
NUMBER OF BESS CONTAINERS	арргон. 294
BESS CONTAINER CAPACITY (MWh)	approx. 5 to
POWER CONVERSION EQUIPMENT	TBD
NUMBER OF POWER CONVERSION EQUIPMENT	арргок, 98
POWER CONVERSION EQUIPMENT POWER (MW)	ерргик, 3.8
UNDERGROUND TRANSMISSION LINE (m)	арргон, 715

AREA SCHEDULE		
DESCRIPTION	AREA	
LEASE AREA (EXCLUDING THE UNDERGROUND TRANSMISSION LINE EASEMENT)	166,464m2	
TOTAL GROSS FLOOR AREA	700m2	
IMPERVIOUS AREA	80,975m2	



PRELIMINARY

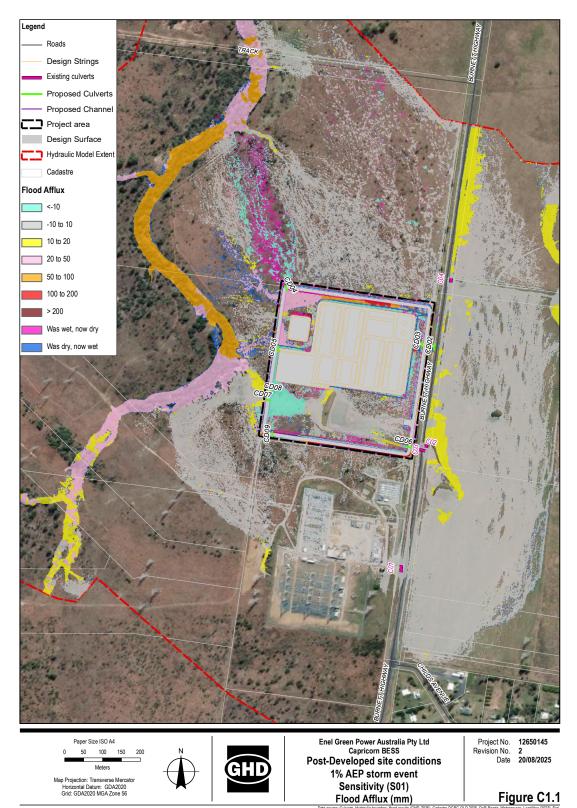
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SITE LAYOUT

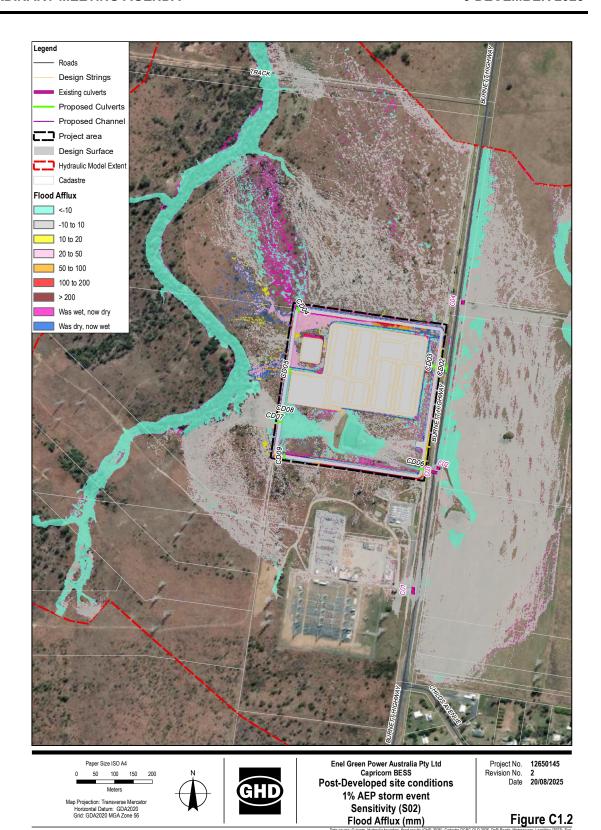
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Appendix C

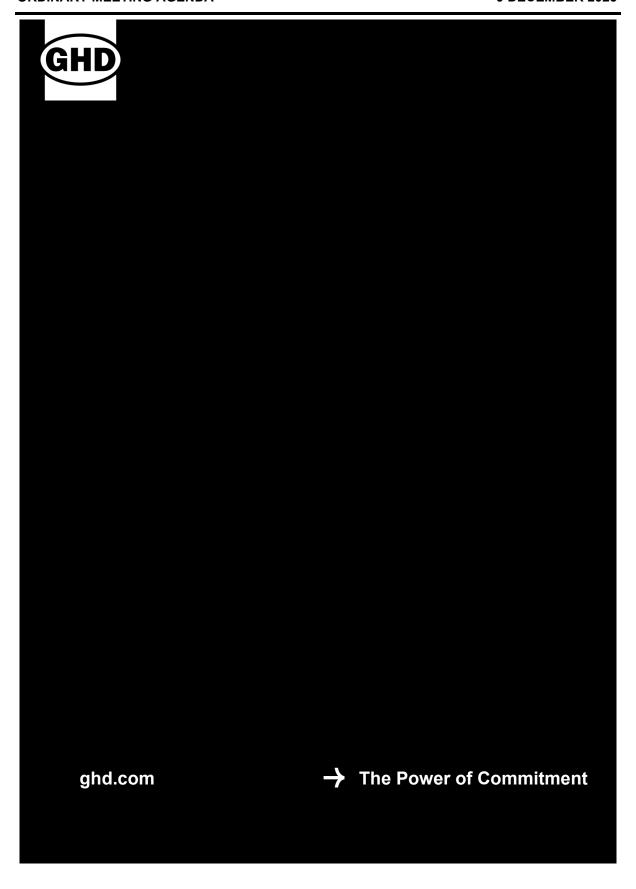
Flood Afflux Maps for Sensitivity Scenarios



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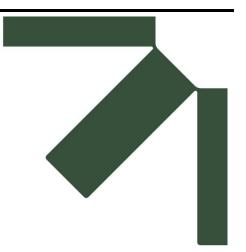


DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Bushfire Risk Assessment and Management Plan

Meeting Date: 9 December 2025

Attachment No: 6





Bushfire Risk Assessment and Management Plan

Capricorn BESS, Bouldercombe QLD 4702

Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust

Suite 23.05 One International Towers, 100 Barangaroo Avenue, Sydney NSW 2000

Prepared by:

SLR Consulting Australia

SLR Project No.: 630.032353.00002

Revision: R01-v1.2

14 August 2025

Making Sustainability Happen

14 August 2025 SLR Project No.: 630.032353.00002 SLR Ref No.: 630.032353.00002-R01-v1.2 Bushfire Management Plan 20250814.docx

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
R01-v1.1	8 August 2025	Dr Peter Georgiou	Dr Craig Simpson	Dr Craig Simpson
R01-v0.1	18 June 2025	Dr Peter Georgiou	Dr Craig Simpson	Dr Craig Simpson

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.



14 August 2025 SLR Project No.: 630.032353.00002 SLR Ref No.: 630.032353.00002-R01-v1.2 Bushfire Management Plan 20250814.docx

Executive Summary

Background

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust (the Client) to develop a Bushfire Risk Assessment and Management Plan (BRAMP) for a proposed 300 MW/4-hr Battery Energy Storage System (BESS) and associated infrastructure, herein the "Project", connecting via an underground 275 kV transmission line to the 132kV/275kV Bouldercombe Substation operated by Powerlink.

- The site address for the Project is 52949 Burnett Highway, Bouldercombe QLD 4702.
- The BESS component of the Project would be located within Lot 2/RP613051.
- The BESS will connect to the nearby 132 kV/275kV Bouldercombe Substation via an underground 275 kV transmission line, whose proposed easement forms part of the Project. The development's transmission line would be located within a portion of Lot 2/RP613051 and Lot 1/RP610887.
- Associated ancillary infrastructure will include security fencing, landscaping, access and internal roads, water supply, temporary parking and vegetation screening.

To facilitate the Project, Development Approval is being prepared in accordance with the QLD Government's *Planning Act 2016*. This study forms part of the associated planning application material.

The Development lies within the Rockhampton Regional Council Local Government Area (LGA). Accordingly, this BRAMP has been developed in accordance with:

- Rockhampton Regional Council Planning Scheme 2015 version 5:
 - o SC6.5 Bushfire Management Planning Scheme Policy:
 - Bushfire Hazard Overlay Map OM-4 & OM-7
 - Bushfire Hazard Overlay Code.

The BRAMP comprises the following two areas:

- Part I of the BRAMP assesses the bushfire risk to the Project with consideration to the bushfire hazard overlay code.
- Part II of the BRAMP identifies the bushfire protection measures to mitigate bushfire risk at the site per the guidance set out in Rockhampton Council's SC6.5.



14 August 2025 SLR Project No.: 630.032353.00002 SLR Ref No.: 630.032353.00002-R01-v1.2 Bushfire Management Plan 20250814.docx

PART I - BUSHFIRE RISK ASSESSMENT

Project Site in Relation to Bushfire Prone Land

It has been concluded that the Project Site lies adjacent to bushfire prone land – refer **Section 3.1**.

Accordingly, a comprehensive bushfire risk assessment has been undertaken for the Project.

Vegetation Characteristics at the Site Relevant to Bushfire Risk

The QLD Globe online source has been used to assist in determining vegetation types surrounding the Project Site.

This information was used in the determination of the BAL (Bushfire Attack Level) of the Site.

BAL (Bushfire Attack Level)

In **Section 4** of this report, BAL calculations were made for the Site.

For the Capricorn BESS site, a BAL-12.5 level target has been recommended, given the critical infrastructure nature of the facility.

This BAL target would ensure that the maximum exposure at any point of a facility will be below 10 kW/m². The latter will ensure the safety of firefighters and other emergency workers to safely defend the facility, evacuate personnel if needed and allow access to and from all areas within the Site, appropriate for critical infrastructure required to survive an emergency scenario such as a major bushfire.

APZ (Asset Protection Zone) at the Site

The recommended APZ distances, which are satisfied by the proposed development, are shown in **Figure 12**.



14 August 2025 SLR Project No.: 630.032353.00002 SLR Ref No.: 630.032353.00002-R01-v1.2 Bushfire Management Plan 20250814.docx

PART II - BUSHFIRE MITIGATION and MANAGEMENT

Bushfire Management Mitigation

Section 5 of this report details the management and mitigation measures that address bushfire risk at the site – including the following:

- Asset Protection Zones (APZs) to minimise the impact of radiant heat and flame contact – refer Section 5.1.
- Construction Standards and Design to minimise building vulnerability to bushfire flames, radiation and embers – refer Section 5.2.
- Access and egress for the public and for firefighters and their equipment refer Section 5.3.
- Adequate water supply for fire suppression refer Section 5.4.
- Vegetation management refer Section 5.5.
- Management of bushfire Initiators refer Section 5.5.

Bushfire Mitigation Measures

Section 6 and Table 6 list the key measures which will manage bushfire risk at the Site.

These measures will form the basis of the Construction Bushfire Management Plan for the Project.

Compliance of the BRAMP with the Bushfire Overlay Code

Section 7 and **Table 7** detail the compliance of the BRAMP with Rockhampton's Bushfire Overlay Code.



14 August 2025 SLR Project No.: 630.032353.00002 SLR Ref No.: 630.032353.00002-R01-v1.2 Bushfire Management Plan 20250814.docx

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Acronyms and Abbreviations

APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BESS	Battery Energy Storage System
BRAMP	Bushfire Risk Assessment and Management Plan
FDI	Fire Danger Index
FTE	Full-Time Equivalent
LGA	Local Government Area
QFES	Queensland Fire and Emergency Service
PIC	Person in Charge
SLR	SLR Consulting Australia Pty Ltd

Units

kL	Kilolitre (1,000 litres)	
km	Kilometre (1,000 metres)	
kV	Kilovolt (1,000 volts)	
kVA	Kilovolt Amps	
kW	Kilowatt (1,000 watts)	
m	Metre	
MW	Megawatt (1 x 10 ⁶ watts)	
MWh	Megawatt-Hour	



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1.0 INTRODUCTION

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust (the Client) to undertake a Bushfire Risk Assessment and Management Plan (BRAMP) for a proposed 300 MW/4-hr Battery Energy Storage System (BESS) and associated infrastructure, herein the "Project", connecting via an underground 275 kV transmission line to the 132kV/275kV Bouldercombe Substation operated by Powerlink.

- The site address for the Project is 52949 Burnett Highway, Bouldercombe QLD 4702.
- The BESS component of the Project would be located within Lot 2/RP613051.
- The BESS will connect to the nearby 132 kV/275kV Bouldercombe Substation via an
 underground 275 kV transmission line, whose proposed easement forms part of the
 Project. The development's transmission line would be located within a portion of
 Lot 2/RP613051 and Lot 1/RP610887.
- Associated ancillary infrastructure will include security fencing, landscaping, access and internal roads, water supply, temporary parking and vegetation screening.

To facilitate the Project, Development Approval is being prepared in accordance with the QLD Government's *Planning Act 2016*. This study forms part of the associated planning application material.

The Development lies within the Rockhampton Regional Council Local Government Area (LGA). Accordingly, this study has been undertaken in accordance with:

- Rockhampton Regional Council Planning Scheme 2015 version 5:
 - o SC6.5 Bushfire Management Planning Scheme Policy:
 - Bushfire Hazard Overlay Map OM-4 & OM-7
 - Bushfire Hazard Overlay Code

1.1 Structure of Report

The BRAMP comprises the following two areas:

- Part I of the BRAMP assesses the bushfire risk to the Project with consideration to the bushfire hazard overlay code.
- Part II of the BRAMP identifies the bushfire protection measures to mitigate bushfire risk at the site per the guidance set out in Rockhampton Council's SC6.5.

The remainder of this BRAMP is structured as follows:

• Section 2 Description of the Project

Part I - Bushfire Risk Assessment

- Section 3 Site and Surrounds: Vegetation and Ground Slopes
- Section 4 Bushfire History and Bushfire Zoning of the Site
- Section 5 Determination of the BAL (Bushfire Attack Level) and APZ (Asset Protection Zone) for the Project.



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Part II - Bushfire Protection Measures

- Section 6 Bushfire Mitigation and Controls
- Section 7 Recommendations for the Project's Bushfire Management Plan

Compliance with Bushfire Overlay Code

• Section 8 Compliance with Council's Bushfire Hazard Overlay Code



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2.0 DESCRIPTION OF THE PROJECT

2.1 Site Location

The Capricorn BESS, herein "the Project", will involve the development, construction, operation, and eventual decommissioning of a 300 MW/4-hr BESS connecting via transmission line directly to the nearby 132 kV/275kV Bouldercombe Substation operated by Powerlink - refer **Figure 1**.

- The Project BESS component is located within Lot 2/RP613051.
- The 275 kV Transmission Line easement component is located within a portion of Lot 2/RP613051 and Lot 1/RP610887.

The BESS site and Transmission Line site are herein referred to as the "Subject Sites".

Figure 1 Capricorn BESS Site Location



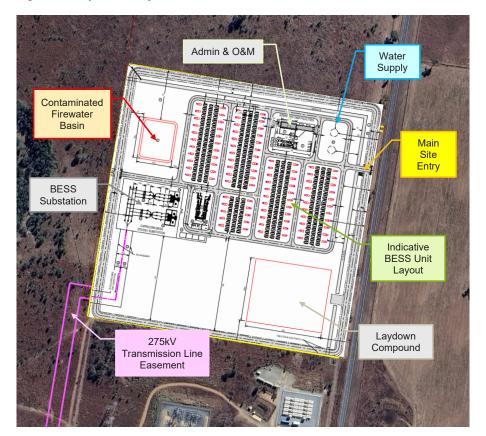


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2.2 Project Site Layout

The layout of the Project is shown in **Figure 2**, showing the concept configuration of individual BESS units and their Inverters within the BESS Lease Area, as well as other key site compounds (BESS substation, water supply, etc).

Figure 2 Project Site Layout





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2.3 Development Description

2.3.1 Construction

Construction of the Project would require heavy vehicles, plant, and equipment for the transportation of components and installation of the components on the subject site. The Project is likely to require earth-moving equipment for civil and road works, cable trenching equipment, forklifts, and cranes subject to detailed design to install the BESS and complete ancillary works.

It is anticipated that the construction and commissioning phase will last approximately 18 to 24 months. Over that time, the main construction activities will include:

- Transport of construction personnel, associated heavy and light vehicles, and
 materials to and from the Subject Sites on a day-to-day basis, dependent on
 construction schedule. The workforce will reach a maximum of approximately
 100 personnel at the peak period of construction.
- Establishment of a chainmesh security fence and access gates and associated security lighting (to remain post-construction).
- Site establishment works including vegetation clearing within the BESS fencing boundary and Transmission Line easement, bulk earthworks, and temporary construction compound.
- Road works to formalise internal site access roads to accommodate heavy vehicles.
- Construction of hardstand, paved internal roads, control room and switch gear, auxiliary transformer, battery containers, inverters and transformer stations.
- Construction of underground 275 kV Transmission Line and switch building to facilitate connection to the nearby 132kV/275kV Bouldercombe Substation operated by Powerlink.
- Construction of ancillary works including parking areas, water tanks, a storage structure, stormwater management and firewater containment.
- Construction water during the construction phase for dust suppression, general
 construction, and maintenance activities, brought to site in water tankers.
- Removal of temporary construction facilities, and rehabilitation of disturbed areas following completion of construction of the Project.

2.3.2 Operation

The Project is proposed to self-operate 24 hours a day 7 days a week and the facility will be restricted to the public. Minimal plant and equipment will be required for operation of the facility, primarily for staff access and maintenance vehicles.

During operation, it is anticipated that approximately 5 to 10 full-time equivalent (FTE) staff will be required on-site, involved in the following activities.

- Maintenance and management of equipment, site buildings and landscaping.
- · Receipt of equipment or goods deliveries.
- Waste removal related to maintenance and operational activities.



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Emergency responses and maintenance activities may be required to be undertaken out of hours, eg for emergency response drills.

The operational life of the Project will be determined by the evolving nature of the technology. It is currently envisaged that the lifespan will be approximately 20 to 30 years.

Key Access Characteristics:

- Access to and from the BESS site would be provided near the northeast corner of the site accessed directly from Burnett Highway. Approach to the site would be from both the north and the south.
- Internal roads are proposed to accommodate firefighting access during an emergency situation.

2.3.3 Decommissioning

The Project is proposed to be decommissioned and the infrastructure removed following the End of Life (EOL) of the facility, with works required to return the subject site as close as possible to its original state and use.

All decommissioning, recycling and restoration activities would be in accordance with permits, approvals and regulatory requirements at the time.

The standard construction hours and HV's, plant, and equipment required for the construction of the Project would also apply to the decommissioning phase.

2.3.4 BESS Facility Equipment

Key equipment specifications for the proposed BESS facility are shown in **Table 1**, with an example of a BESS module installation shown in **Figure 3**.

Table 1 BESS Facility Specifications

Equipment	Detail
BESS Container	BESS Unit, likely in the 5-6MWh range . this will be finalised during detailed design
BESS Container: No	Up to 294 battery containers
BESS Container: Dimensions	6.06m (~20ft) x 2.44m x 2.90m
BESS Unit related	98 MVPS 4.4 MVA Transformers coupled with 98 Inverters
BESS Substation	2 x 180 MVA Transformers



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An indicative image of a BESS site is shown in Figure 3.

Figure 3 Indicative Image of BESS Modules



2.3.5 Transmission Line (TL)

A new underground 275 kV TL will be constructed to connect the BESS Site (and its own substation) to the nearby 132kV/275kV Bouldercombe Substation operated by Powerlink.

- The route of the development transmission line is shown in Figure 2.
- A 20 m total width easement will be provided for the new TL.

2.3.6 Removal of Vegetation

The proposed facility, external access and internal roads and connecting transmission line easement will require minimal clearing of site vegetation.

2.3.7 Water Usage

Construction-Related

Water will be required during the construction phase for dust suppression, general construction, and maintenance activities.

- This water will be brought to site in water tankers.
- It is anticipated that this water will be sourced from the council's bulk water supply.

Wastewater during construction will be captured and appropriately removed from site and disposed of in accordance with the council/water authority requirements.

Potable water may be transported to site in bottles or trucks for use by the construction workforce.



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Firefighting- Related

A 150 kL water supply dedicated for firefighting purposes will be constructed at an early stage of the construction phase.

 This water supply will NOT be used for any of the above activities but remain available for firefighting purposes only, during the construction, operation and decommissioning phases of the project.



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Part I

Bushfire Risk Assessment



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3.0 Characteristics Relevant to Bushfire Risk of the Site and Surrounds

3.1 Bushfire Prone Land

Figure 4A is the Rockhampton Regional Council's Overlay Mapping: OM-07.

- OM-7 indicates that the BESS compound has a small overlap with the buffer of bushfire prone land associated with the creek to the west of the site.
- The nearest indicated areas of bushfire prone land lie to the west along the creek running past the site and to the east on the other side of Burnett Highway.
- The hazard classification of these nearest areas of bushfire prone land is "Medium".

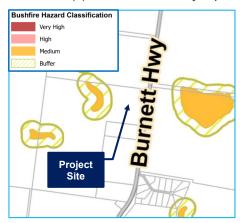
This categorisation matches the vegetation characteristics in the area:

- Figure 4B shows an aerial view of the site.
- The two areas of bushfire prone land can be seen to the west and east of the site.
 They are located approximately 90 m and 360 m respectively from the nearest equipment compounds within the BESS Site.

Figure 4 Bushfire Prone Land Adjacent to Site

(A) OM-7 Bushfire Overlay Map







The above suggests that the Project Site may be exposed to bushfire prone land, especially along the western perimeter of the site close to the nearby creek bed.



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3.2 Vegetation Characteristics of Site and Surrounds

Vegetation types surrounding the Subject Sites – refer **Figure 5** – have been sourced from:

https://qldglobe.information.qld.gov.au/

https://apps.des.qld.gov.au/regional-ecosystems/

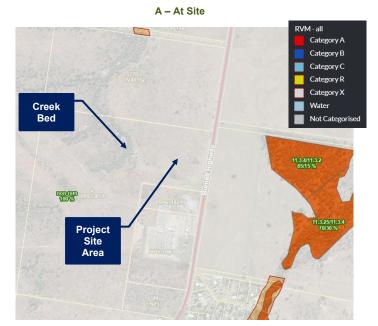
Figure 5A shows the vegetation immediately adjacent to the site.

- The bushfire prone land to the east of the site (REC 11.3.4/11.3.2) can be seen marked in ochre.
- The bushfire prone land along the creek bed to the west of the site however is not categorised.

Figure 5B shows the vegetation categories just to the north of the site.

 In this case, the bushfire prone land along the creek bed to the west of the site is categorised (REC 11.3.4/11.3.2/11.3.25) seen marked in light ochre.

Figure 5 Regional Ecosystem Classification for Project Surrounds





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(Fig.5 cont'd)





SLR concludes that the vegetation located along the creek bed to the west of the site should be considered as per the categorisation just to the north and in line with the bushfire prone status from Rockhampton Regional Council's Overlay Mapping: OM-07.

The key vegetation types relevant to the site and their characteristics are provided in **Table 2**.

Table 2 Vegetation Categories of Project Surrounds

Direction	Regional Ecosystem Classification	Fire Management & AS3959:2018 Category
West	11.3.4/11.3.2/11.3.25	Eucalyptus tereticornis and/or Eucalyptus. Management of this vegetation type throughout Queensland is generally based on maintaining vegetation composition, structural diversity, fauna habitats (in particular hollow-bearing trees and logs) and preventing extensive wildfire and loss of hollow trees. AS3959 Classification: Woodland
North, South, East	Non-remnant vegetation (100%)	na



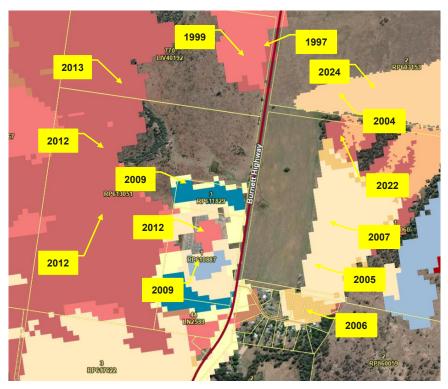
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3.3 Bushfire History

The QLD Globe website provides a fire scarring map of the Project surrounds – refer **Figure 6**. The data extends back to 1987 and shows the following:

 There have been numerous bushfires surrounding the Subject Sites since 1987, including bushfires that have occurred out of season.

Figure 6 QLD Globe Fire Scarring Mapping (1987-present)



The above suggests a medium/high bushfire risk profile for the site and surrounds and reflects the potential risk suggested by Rockhampton Regional Council's Overlay Mapping: OM-07.



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3.4 Meteorological Influences

Reference is made to:

http://www.bom.gov.au/qld/rockhampton/climate.shtml#:~:text=The%20prevailing%20winds%20are%20predominately,relief%20from%20the%20higher%20temperatures

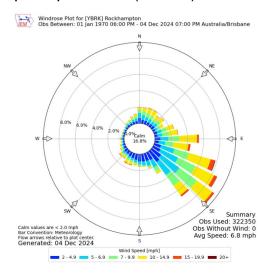
Rockhampton is situated on the Tropic of Capricorn and its climate may be classified as Subtropical.

- The average annual rainfall is a little over 800 mm, with a distinct wet season December to March and a dry season June to September.
 - Typical daytime temperatures range from 22°C to 32°C in the summer/wet season and 9°C to 23°C in the winter/dry season.
- Rockhampton lies within the southeast trade wind belt, too far south to experience regular northwest monsoonal influence, and too far north to gain much benefit from higher latitude cold fronts.
 - o Accordingly, prevailing winds are overwhelmingly southeast.
 - o Northeast sea breezes can occur during spring and summer
 - There can also be infrequent instances of southwesterly wind during winter and early spring.

The above wind patterns are evident in the long-term windrose obtained from Rockhampton Airport located just over 16 km north of the Project Site.

On the basis of the above, southeast winds are the most likely to be occurring during a bushfire event, suggesting preferred access to the Site from the north for firefighting and emergency services.

Figure 7 Rockhampton Airport Windrose (1970-2024)





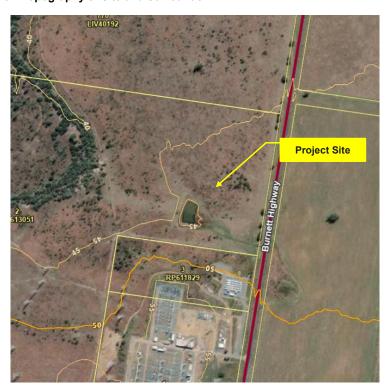
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3.5 Topography of the Site and Surrounds

Contour elevations of the Project surrounds are shown in Figure 8.

- The topography is generally flat across the site with a gently fall from the southeast to the northwest.
- The drop in elevation towards the creek bed to the west of the site is slightly more pronounced.

Figure 8 Topography of Site and Surrounds



In terms of bushfire risk:

- The immediate land surrounding the BESS site boundary can be taken as:
 - o Essentially flat (0° slope) to the north, south and east; and
 - $_{\odot}$ $\,$ Downhill to the west, average 3° slope.



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4.0 Bushfire Threat

4.1 Bushfire Attack Level (BAL)

A key input in the assessment of bushfire risk is to determine the BAL (Bushfire Attack Level) of the project site of interest. The Capricorn BESS BAL has been assessed according to:

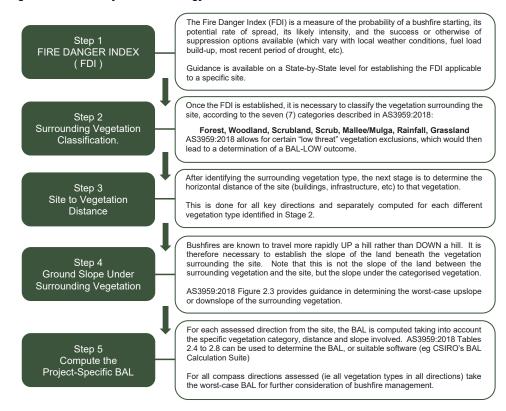
 Australian Standard AS3959:2018, "Construction of Buildings in Bushfire-Prone Areas"

In AS3959:2018, BAL is defined as:

 A means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kW/m², and the basis for establishing the requirements of construction to improve protection of building elements from attack from bushfire.

The steps involved in assessing a site specific BAL are shown in Figure 9.

Figure 9 BAL Analysis Methodology





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Table 3 lists the BAL levels defined in AS3959:2018.

Table 3 AS3959:2018 Bushfire Attack Levels (BALs)

BAL: Bushfire Attack Level	Radiant Heat Flux Exposure Threshold	Description of Predicted Bushfire Attack and Levels of Exposure
BAL - LOW		There is insufficient risk to warrant specific construction requirements
BAL - 12.5	≤ 12.5 kW/m ²	Ember Attack
BAL - 19	> 12.5 kW/m² and ≤ 19 kW/m²	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux
BAL - 29	> 19 kW/m² and ≤ 29 kW/m²	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux
BAL - 40	> 29 kW/m² and ≤ 40 kW/m²	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux with the increased likelihood of exposure to flames
BAL - FZ	> 40 kW/m²	Direct exposure to flames from fire front in addition to heat flux and ember attack

4.2 BAL Inputs

4.2.1 BAL Assessment Step 1: FDI

The FDI for the Capricorn BESS site has been determined to be 70.

This was based on the Fire Severity Map – refer Figure 9 – sourced from:

 Leonard, J., Newnham, G., Opie, K., and Blanchi, R. (2014), "A new methodology for state-wide mapping of bushfire prone areas in Queensland", CSIRO, Australia.

4.2.2 BAL Assessment Step 2: Vegetation Classification

The vegetation types surrounding the Project were discussed in Section 3.2.

The vegetation categories defined in AS3959:2018 are listed in **Appendix A** along with descriptive summaries.

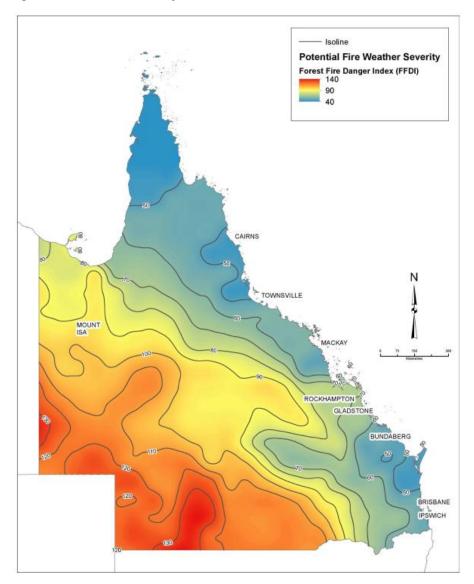
Of specific interest in relation to the BAL calculation are:

- Woodland to the west of the Site
- Grassland all other directions areas.



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Figure 10 Fire Weather Severity for Queensland





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4.2.3 BAL Assessment Steps 3 and 4: Distance to Vegetation and Slope Under Vegetation

As shown in **Section 3.5**, the topography surrounding the Project site is generally flat to the north, south and east, and downhill towards the creek (to the west).

Table 4 lists the distance to vegetation distance and slope parameters used in the BAL calculations. The distance is taken from the Site boundary for the BESS Site.

Table 4 Vegetation Distance and Slope Parameters used for the BAL Calculations

Direction	Regional Ecosystem Classification	Distance from Site Perimeter to Vegetation	Site Slope / Slope Under Vegetation
BESS Site WEST	Grassland Woodland	0 m Varies 75 m +	SS & SUV: Downslope - 3°
BESS Site NORTH, SOUTH, EAST	Grassland	0 m	SS & SUV: Flat - 0°

4.3 BAL Calculations

The BAL Calculation for the site has been carried out using:

CSIRO's BALA (Bushfire Attack Level Assessment) Tool

https://research.csiro.au/bushfire/assessing-bushfire-hazards/bal-assessment/

Vegetation categories, and distances and slopes to the nearest vegetation have been based on **Table 4**.

The results are shown in Figure 10.

Comment on Target BAL Recommended for Site

Most bushfire guidelines provide recommendations for a target BAL-29 level for residential development and, in some cases, a more stringent target, eg BAL-12.5, for special fire protection facilities such as hospitals, nursing homes, etc. This includes:

- BRC-2019 (QFES, Bushfire Resilient Communities: Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience -Bushfire', October 2019)
- PBP-2019 (NSW RFS, Planning for Bushfire Protection, November 2019).

Such bushfire guidelines do not include specific recommendations for National Construction Code (NCC) Class 5 to 8 buildings – these include offices, shops, factories, warehouses, public car parks and other commercial and industrial facilities.

Equipment at the Capricorn BESS site would fall under the NCC Class 8 category. The NCC does not provide for any bushfire specific performance requirements for this class. As such AS 3959-2018 and the NASH Standard (National Association of Steel-Framed Housing: *Steel Framed Construction in Bush Fire Areas*, 2014) are not considered as a set of Deemed to Satisfy provisions.

However, compliance with AS 3959 and the NASH Standard must be considered when meeting the aims and objectives of bushfire guidelines such as BRC-2019 and PBP-2019.



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As a result, a risk-based approach is recommended to achieve the following broad objectives in relation to key bushfire management aspects such as access, water supply and services, and emergency and evacuation planning:

- to provide safe access to/from the public road system for firefighters providing property protection during a bushfire and for occupant egress for evacuation;
- to provide suitable emergency and evacuation (and relocation) arrangements for occupants of a development;
- to provide an adequate water supply for the protection of buildings during and after the passage of bushfire;
- to locate gas and electricity so as not to contribute to the risk of fire to a building; and
- to provide for the storage of hazardous materials away from the hazard wherever possible.

For the Capricorn BESS, a BAL-12.5 level is recommended for the following reasons:

- The facility would be considered critical infrastructure in the event of an emergency event (NCC Importance Level 4) and would be expected to remain operational in such a circumstance.
- The facility lies close to bushfire prone land and is located in an area which has a
 documented fire history refer Figures 5 and 6.

A BAL-12.5 would mean that the maximum exposure at any nearest equipment (BESS Container, Inverter, Main Transformers, etc) would be below 10 kW/m². This will enable firefighters and other emergency workers to safely defend the facility, evacuate personnel if needed and allow access to and from all areas within the Site.

In relation to the buildings at the site:

- Habitable buildings would be NCC Class 5 Buildings.
 - o This would include the Switchroom/ Control Room and the O&M Building.
- Storage buildings would be NCC Class 7b Buildings.
 - o This would include the Warehouse.

4.4 BAL Summary

BESS Site - NORTH, SOUTH, EAST and WEST Perimeters

- A target BAL-12.5 is achieved at a distance of 17 m.
- This would apply from the site boundary to the nearest equipment location throughout the site.

BESS Site - WEST Perimeter (with respect to the creek bed vegetation)

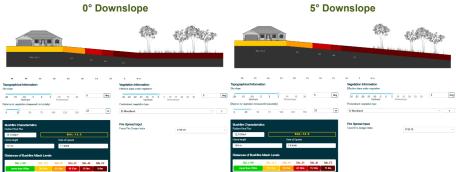
- A target BAL-12.5 would be achieved at a distance of 30 m. This has been based on an average 3° Downslope.
- It is noted that the vegetation of concern (the "Woodland" category vegetation along the creek bed) is located over 70 m from the western site boundary.
- A default target BAL-12.5 (based on the grassland vegetation running along the western perimeter of the site) would be achieved at a distance of 17 m.



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Figure 11 BAL Calculation using the CSIRO BALA Tool

BESS Site WEST



BESS Site NORTH, SOUTH and EAST





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Part II

Bushfire Mitigation and Project Commitments



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5.0 Bushfire Mitigation

The requirements needed to address a potential bushfire attack at the Project Site fall into the categories shown in **Table 5**.

Table 5 Bushfire Mitigation Categories

Mitigation Category	Refer
Asset Protection Zones (APZs) to minimise the impact of radiant heat and flame contact	Section 5.1
Construction Standards and Design to minimise building vulnerability to bushfire flames, radiation and embers	Section 5.2
Access and Egress for the public and for firefighters and emergency services and their equipment	Section 5.3
Adequate Water Supply for fire suppression	Section 5.4
Vegetation Management	Section 5.5
Management of activities at the site itself through all stages of the Project – Construction, Operation and De-Commissioning	Section 5.6
Emergency Response and Management – Preparedness and Planning	Section 5.7

5.1 Asset Protection Zone

The recommended APZ was developed in accordance with guidance contained in:

- QLD Govt, "Natural Hazards, Risk and Resilience Bushfire", State Planning Policy
 State Interest Guidance Material, December 2019, www.dsdmip.ql.gov.au.
- CSIRO & QLD Govt, "Bushfire Resilient Building Guidance for Queensland Homes", QRA (Queensland Reconstruction Authority), July 2020.
- QLD Govt & QFES, "Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest 'Natural Hazards, Risk and Resilience – Bushfire", Queensland Fire Emergency Services, October 2019.

The Asset Protection Zone proposed for the Site comfortably achieves the recommended APZ distances in **Section 4.4** – refer **Figure 12**.

The Site APZ satisfies the following:

- The APZ is located wholly within the BESS site lease boundary and is situated on cleared ground with essentially flat ground.
- The APZ creates a total separation from the nearest piece of equipment on the site to the nearest vegetation easily satisfying a BAL-12.5 target. This also applies to the O&M Building and Switchroom/Control Building.
 - Accordingly, the BESS site will experience a radiant heat flux level less than 10 kW/m² at all footprint plan equipment positions.
- The APZ will enable site access for firefighting personnel and equipment to all areas
 of the facility: BESS unit sub-areas, substation compound, laydown areas, etc.



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Figure 12 Recommended Asset Protection Zone for the BESS Site



Benefits of the APZ and Potential Radiant Heat Impact

- A radiant heat flux of 10 kW/m² is the threshold for piloted ignition of dry timber and failure of plain glass, and more generally is a target maximum exposure at any point of a building wall or façade. This is also the threshold where firefighters and other emergency services can operate, for both firefighting and evacuating occupants from threatened buildings.
- Limiting radiant heat flux level to 10 kW/m² at the BESS site boundary forms a critical element of the risk management for what are termed "vulnerable" uses, which includes community infrastructure for essential services.
- Accordingly, the facility's proposed APZ achieves a performance-based outcome relevant to both Queensland Government and Rockhampton Regional Council guidelines.
- APZ areas not dedicated to access roads or perimeter vegetation will be maintained as either completely cleared land or a mown area with a grass height of less than 100 mm.



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5.2 Construction Standards and Design

The National Construction Code (NCC) is a performance based code which comprises the Building Code of Australia (BCA) as Volumes 1 and 2 and the Plumbing Code of Australia as Volume 3.

• The NCC contains Performance Requirements and Deemed-to-Satisfy provisions relating to the construction of buildings in bushfire prone areas.

The construction requirements of AS3959:2018 and the National Association of Steel-framed Housing (NASH) Standard contain Deemed-to-Satisfy solutions in the NCC, (can be varied State-to-State), for buildings in designated bush fire prone areas.

The general requirements for the construction of buildings specified in AS3959:2018 are separated according to the relevant BAL at the site of interest.

For the Capricorn BESS facility (BAL-12.5 achieved), the relevant code sections are Sections 3 and 5.

Relevant Areas of AS3959:2018 Section 3

The guidance in AS3959:2018 pertains mainly to standard building construction, with a focus on external features prone to ember attack, covering items such as attached structures, garages, carports, external mouldings, bushfire shutters, glazing, etc.

None of these is relevant to the BESS design.

Relevant Areas of AS3959:2018 Section 5 (Clauses 5.2 to 5.8)

The guidance in AS3959:2018 Section 5 pertains mainly to standard building construction for structures located in a BAL-12.5 zone, with a focus on external features prone to ember attack, covering items such as attached exposed floor supports, floor slabs, walls, external glazing, doors, roofs, verandas, etc.

This would apply to the Control Room for the BESS site and other stand-alone ancillary structures (eg Storage/Maintenance Shed).

Of relevance:

- Clause 5.8 states that any above-ground, water supply pipes shall be metal.
- Clause 5.8 also covers gas pipes and fittings not relevant to the BESS design.

5.3 Access

Access requirements are crucial to the enabling of adequate firefighting capability and for emergency planning purposes (eg emergency evacuation).

Reference is made to:

 QLD Govt & QLD Fire and Emergency Services (QFES), "Fire Hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial Lots", 2019.



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The following general principles and QFES-compliant design will ensure that firefighting vehicles are provided with safe, all-weather access to the proposed BESS facility.

- BESS site firefighting access roads should be two-wheel drive, all-weather roads and appropriately sign-posted.
- Maximum grades for sealed roads should not exceed 15° with an average grade of not more than 10° or another gradient specified by QLD DTMR's "Road Planning and Design Manual" (2021).
- It is necessary to ensure the integrity of the primary access route into the site going forward. Otherwise, there may be a need in the future to establish a secondary access route during a future emergency situation.
- Passing bays should be provided every 200 m, where required.
- Road widths accessing the site and within the site and turning circles must be sufficient to accommodate firefighting vehicles.
 - For example, for medium rigid fire-fighting appliances, road widths need to be a minimum 4 m width with minimum 12 m outer radius turning circles.

• QFES OBJECTIVE:

- Constructed roads must be as specified in QLD DTMR's "Road Planning and Design Manual" (2021).
- Similarly, all access roads and internal roads must be constructed to facilitate the safe passage of a fully laden fire truck in all weather conditions.

• QFES OBJECTIVE:

- Roads must be constructed to a standard so that they are accessible in all weather conditions and capable of accommodating a vehicle of 15 tonnes for the trafficable road width as specified in QLD DTMR's "Road Planning and Design Manual" (2021).
- Generally, any dead end roads should be kept to a maximum length of 200 m and appropriately sign-posted. Provision should be made for fire trucks to turn at the end of dead end roads, with a recommended minimum 12 m outer radius turning circle.

• QFES OBJECTIVE:

 Constructed roads more than 60m in length from the nearest intersection must have a turning circle with a minimum radius of 8m (including roll-over kerbs if they are provided). Other solutions using T or Y heads of specified dimensions are also appropriate – refer examples in QLD DTMR's "Road Planning and Design Manual" (2021).



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QFES Vehicle Specifications

For specific details on QFES fire trucks, including recommended turning circles, please refer to **Appendix B**. Additional resources can be found at:

www.qfes.qld.gov.au/buildingsafety/Pages/default.aspx.

Given current trends in the latest firefighting appliances, it is recommended that road carrying capacity, turning circles, etc, into and within the site will be designed for fully loaded firefighting vehicles of up to 23 tonnes.

BESS Site Access

Access provisions to the Capricorn BESS site are shown in Figure 12.

External Project Site Access

Where practical and feasible, "back-up" access roads to a facility are recommended for consideration. The off-site approach paths and access to the Subject Sites are shown in **Figure 12**.

- Access is enabled from the NORTH along Burnett Highway from Rockhampton.
- Access is enabled from the SOUTH along Burnett Highway from Bouldercombe (and Mount Morgan).

Accordingly, firefighting resources have two approach paths to access the site in the advent of an emergency situation.

Internal Project Site Access

The site features a comprehensive internal road network that satisfies QFES objectives – refer **Figure 12**.

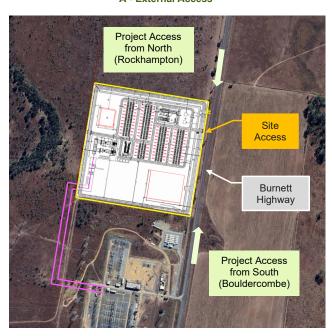
- The site's perimeter road is 8 m wide, with appropriate turning circles.
- Other internal roads are 7 m wide, with appropriate turning circles.



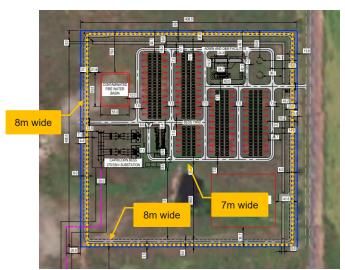
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Figure 13 Project Site Access Roads

A - External Access



B - Internal Access





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5.4 Water Supply

Reticulated water is NOT available at the site.

Accordingly, an appropriate static water supply must be provided to support effective emergency services response.

The water tank(s) proposed for the site:

- Will be clearly identified by directional signage at all access points to the facility.
- Will be readily accessible by firefighting appliances.
- Will be located as close as possible to the BESS facility security perimeter at the site entry.
- Will have a volume in accordance with AS2304:2011 / AS2419-1-2021.
- Will be constructed of concrete or metal; all connecting above-ground water service pipes and taps being metal.
- Will be located in an area such that medium rigid vehicles (eg a 15-tonne fire appliance) have clear access within 4 m of the tank and with sufficient parking adjacent for other emergency service vehicles.
- Will be provided with IPA-rated rural fire brigade tank fittings including a 65 mm Storz outlet valve and relevant coupling.
 - Ball valves and pipes should be adequately sized for water flow and shall be constructed of metal. The supply pipes from the tank to the ball valve should have the same bore size to ensure flow volume.
- If relevant, underground tanks should have an access hole of 200 mm to allow tankers to refill direct from the tank.
- Raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F AS 3959).

Given the size of the development footprint, the following is recommended:

• Provide a 150 kL dedicated water supply for firefighting purposes, complying with the above water tank requirements – refer location currently proposed in **Figure 14**.

The above recommendation addressed firefighting needs for both (i) a bushfire event, and (ii) a BESS fire event. For a BESS fire, a risk-based approach relevant to current BESS-firefighting protocols has been adopted, namely:

In a BESS Fire event, firefighting water would not be used directly on the BESS unit
on fire but would be used to cool the equipment immediately surrounding that BESS
and for control of any associated smoke plume.

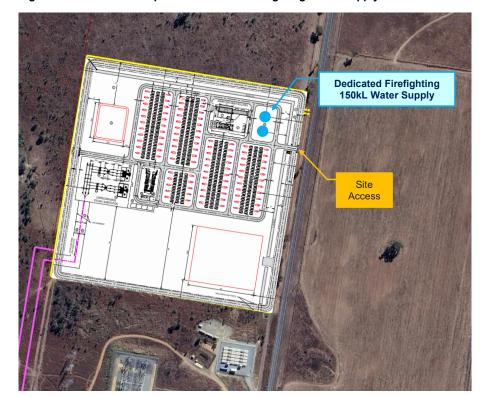
The 150 kL water supply therefore enables the following:

- Bushfire Event
 - o 2 appliances x 2 hours of firefighting x 10 L/sec waterflow.
- BESS Fire Event
 - o 1 appliance x 12 hours of firefighting x 5 L/sec waterflow x 70% usage.



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Figure 14 Location of Proposed Dedicated Firefighting Water Supply





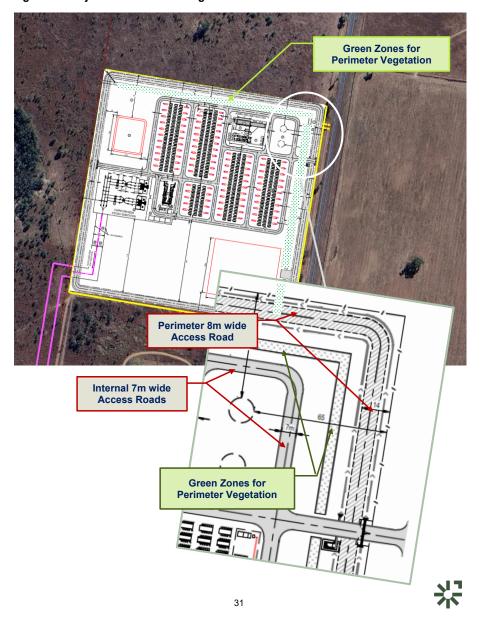
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5.5 Vegetation Management

Green zones have been allocated for perimeter vegetation close to the Project Site northern and eastern site perimeters – refer **Figure 15**.

• The zones are located between the 8 m wide perimeter roads at the Site and the nearest 7 m wide internal access roads.

Figure 15 Project Site Perimeter Vegetation



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Vegetation management is critical for the APZ zones around the BESS site.

Areas around the Site not within the green perimeter vegetation zones:

- Bushfire mitigation measures forming part of the Bushfire Management Plan shall contain a provision pertaining to the management of all cleared areas at the Site surrounding all equipment compounds (including during construction).
- Specifically, the Bushfire Management Plan shall contain a provision preventing any vegetation from taking hold within these areas, thereby reducing the bushfire hazard risk and maintaining adequate access to firefighting personnel and equipment.
- In areas which are not maintained as completely cleared land, the grass height should be kept to a height of less than 100 mm. Note that the area has a fire history spanning almost every month of the year, not just the nominal Queensland fire season which extends from around July to February.

Areas around the Site within the green perimeter vegetation zones:

Regarding the landscape screening proposed for the Site, the following is recommended:

- The landscaping should have a width no greater than 5 m this has now been confirmed in the latest layout design – refer Figure 15.
- This will result in a minimum spacing of 20 m between any BESS units (or their Inverters) and the landscaping.
- This spacing EXCEEDS the required 17 m APZ at the Site.

Regarding the landscape design:

The following recommendations are being followed regarding the proposed landscaping.

Trees

- Canopy cover should be less than 50% and canopies should be separated by a minimum 2 m
- Fire-wise plant species with fire resilience characteristics should be chosen. Low
 flammability species are characterised by high moisture content and low oil/resin
 content with smooth bark. Such species shed bark and leaves infrequently.

Shrubs

- Shrub cover should form no more than 50% of ground cover.
- Grass should be kept mown to a height of less than 100mm

General Ground Debris

 Leaf and other debris capable of becoming potential bushfire initiators should be removed at regular intervals.

The latest landscaping layout design follows the above recommendations.



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5.6 Management of Bushfire Risk Initiators

Potential "internal" bushfire risk initiators will vary according to the stage of the Project. Ignition of bushfires may result from:

- · Lightning strike;
- Vehicle accident;
- Electrical faults during testing;
- · Electrical sparks and sparks from vehicles;
- Hot parts of vehicles and or equipment coming into contact with dry/combustible vegetation;
- Sparks from activities such as hot works, vegetation slashing and use of grinders (refer Section 5.6.2);
- Inappropriate storage of fuels and chemicals (refer Section 5.6.5);
- · Chemical fires;
- Use of diesel-powered equipment (refer Section 5.6.7);
- · Use of open flames;
- · Inappropriate discarding of lit cigarettes; and
- Arson

All of the above risks can be mitigated to a greater or lesser extent through the Project's Bushfire Management Plan (BMP).

5.6.1 Work Scheduling

Ongoing reviews of site conditions will guide the site team on when it is safe to conduct hot works and works more generally. These reviews will be used to plan works and will be enabled via a combination of the resources outlined below. Site supervisors are responsible for monitoring these resources daily and communicating any changes or heightened risks during pre-start briefings.

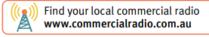
Online Tools Available to Site Supervisors















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5.6.2 Hot Works

Hot works involves any activity that involves high temperatures, including the following:

- · Grinding;
- Welding; and
- · Thermal or oxygen cutting or heating.

A Hot Work Permit will be required prior to commencing hot works in accordance with the Contractor's Hot Works Procedures. The permit will include:

- Details of the proposed work, including date, location and work type.
- · Firefighting equipment at hand, based on a risk assessment involving:
 - o The activities to be undertaken at the site;
 - o The vegetation, geography and topography of the site and surrounding area;
 - o The prevailing and forecast weather conditions; and
 - Any other conditions that apply to undertaking the works.

Controls implemented during or prior to Hot Works can include the following:

- Firefighting equipment (fire hose, water trucks, fire extinguisher) or similar must be present at the location of the hot works.
- Water trucks will be located in proximity to the works and be fitted with hoses and rural fire grade service nozzles.
- Water trucks will have a capacity suitable for the type of works. This will be determined via the risk assessment mentioned above.
- The work area must be cleared of combustible materials prior to commencing any Hot Works activity. Any non-removable combustible materials must be covered or controlled to prevent ignition.
- Personnel undertaking Hot Works will be provided with the appropriate level of training on how to operate fire extinguishing equipment in a safe and effective manner to provide a rapid response to extinguish minor fires that may occur.

5.6.3 Fire Watch Observer

Fire watching involves continuous inspection/observation of the work site and its vicinity by nominated personnel. The decision to appoint a dedicated fire watch observer is made based on the risks on the particular day. The fire watch observer will be trained in their roles and responsibilities prior to undertaking the works.

In general, a fire watch observer will undertake the following:

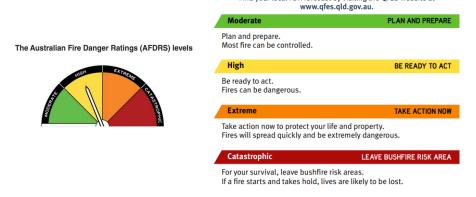
- Do not allow Hot Work to proceed outside the specified area.
- Immediately review the work if a hazardous condition is observed.
- Take immediate action to combat any outbreak of fire that may occur.
- Be alert for fire hazards. On any day above a Moderate Fire Danger Rating (refer Figure 16), monitoring for fire outbreaks should occur up to one (1) hour after the cessation of hot works activities.



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Find your local FDR forecast by visiting the QFES website at

Figure 16 Fire Danger Ratings



5.6.4 Total Fire Ban Days

For high fire risk activities (eg welding, grinding or any activity likely to cause sparks), the Construction Contractor will develop a specific procedure detailing any exceptions allowed to proceed during Total Fire Ban days, including, but not limited to, required liaison with the local Fire Authority. This specifically applies to Hot Works activities scheduled to occur during Total Fire Ban days.

5.6.5 Management of Flammable Chemicals

The inappropriate storage of incompatible or flammable chemicals has the potential to cause a chemical fire or explosion. Storage and maintenance of flammable material will be in accordance with the safety data sheet given by the manufacturers or importers and generally in accordance with AS 1940-2017 *The Storage and Handling of Flammable and Combustible Liquids*. Hazards and risk will be identified through a risk assessment form and where hazards are identified, the risk shall be reduced as far as practicable by through the preferred order of control methods (hierarchy of controls).

All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions, any relevant legislations or Australian Standards or the applicable guidelines.

Appendix C includes a Dangerous Goods Segregation Chart compliant with AS 1940-2017.

5.6.6 Motor Vehicle and Machinery Use

Operating vehicles and trucks in off-road environments is a potential fuel hazard due to the high operating temperatures, auto burn functions, or catalytic converters that ignite dry grass fuel. Specific advice should be given to field employees on the use of such vehicles commonly used for construction activities and the operation of earth-moving machinery in rock terrain. This should include a formal hazard assessment that covers fire initiation, before such vehicles are allowed to operate away from formed roads.



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5.6.7 Small Engines and Hot Equipment

Under conditions where there is a high fire risk or there are work activities with the potential to start fires with equipment such as generators, chainsaws, brush cutters, metal cutting or welding, precautions must be taken to isolate fuel from the possible ignition source.

The potential for activities that can ignite fires, particularly during a Local Fire Ban or Fire Emergency periods is to be considered in risk assessments conducted as part of startup work activities

It is noted that the Hazard Assessment undertaken for the Project has recommended consideration of substitute fuels with higher flashpoints in lieu of diesel which would assist in minimising this source of ignition risk.

5.7 Planning and Preparedness

5.7.1 Fire-Fighting Supplies and Equipment

During the Construction phase of the Project, fire-fighting equipment, including fire extinguishers, water carts, and hoses, will be provided on-site and in vehicles to ensure the safety of the public and property in compliance with all relevant State legislation. This equipment will be regularly checked.

Relevant site supervisory personnel will have the appropriate level of training on how to operate fire extinguishing equipment safely and effectively.

Some of the above will also apply to the Operational phase of the Project.

All of the above will apply to the De-Commissioning phase of the Project.

5.7.2 Preparedness – Level 1 (Low Fire Danger)

The Site Supervisor must ensure the following:

- Site works proceed under standard procedures, including compliance with Hot Works Permit conditions. Induction and briefings include ignition prevention and fire response actions.
- Fire Danger is assessed for that day and the Forecast Fire Danger is considered for the next three to four days in programming work and in setting any work limitations.
- · All Site personnel are notified of the outcome.

5.7.3 Preparedness – Level 2 (High Fire Danger)

Each vehicle, workplace centre or mechanical plant must have available for immediate use:

- At least one rake hoe in serviceable condition.
- A 2 kg fire extinguisher.

Vehicles and mechanical plant must:

- Be clean of surplus oil and vegetation around surfaces heated by the exhaust or motor and have their electrical and exhaust systems in good order.
- Have fire blankets for each occupant where a risk assessment determines them
 necessary (e.g. a person working >30 minutes from a bushfire refuge or an area that
 does not provide secondary access/egress).



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Depending upon the proximity of the fire risk, additional actions may be needed:

- The Site Supervisor or Person-in-Charge (PIC) will undertake the following:
 - Maintain a *listening watch* for fire warnings or changes to forecast weather, and any imminent change likely to the Fire Danger Rating.
 - o Be ready to alter work limitations as needed.

5.7.4 Preparedness – Level 3 (Very High Fire Danger)

A two-way radio (or mobile phone where reception is adequate) must be present at the worksite and in contact with a base with phone reception.

A mobile water unit (fully serviceable) must be present at each work location with:

- Tanks kept full
- Pump fully fuelled
- Minimum 60 m of hose
- Fill and outlet hoses with 65mm Storz fittings

There should be two operators trained in the use of the mobile water unit equipment at each location and in the procedure to put out fires.

A fire watch person will monitor fire risk work and Hot Works activities in hazardous areas. More than one fire watch person may be needed depending on the works being undertaken.

Hourly monitoring of the Fire Danger Rating should be undertaken by the Site Supervisor or PIC, who will be responsible for suspending works and leaving the Site. Relevant management measures will be implemented for the proposed up and coming shift activities under such circumstances.

5.7.5 Preparedness – Level 4 (Total Fire Ban Days)

In the event that QFES declares a Total Fire Ban (TOBAN), the Construction Contractor will implement their TOBAN Procedures, which will likely include:

- Evacuation of the Site by all non-essential personnel unless notified otherwise.
 Exceptions would include the Site Fire Wardens who may be required to remain on site and assist QFES firefighting personnel.
- Cessation of all outdoor work activities except in accordance with a Total Fire Ban exemption permit (if obtained from QFES).



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6.0 Construction Bushfire Management Plan (CBMP)

The Project will develop a Construction Bushfire Management Plan (CBMP) prior to commencement of any site activities.

The CBMP will be aligned with the CEMP (Construction Emergency Management Plan).

The key mitigation measures comprising the CBMP are listed in Table 6.

6.1 QFES Engagement

 The CBMP should be developed in consultation with the QFES with final approved copies stored locally within an appropriate "emergency cabinet" securely located within the Project site.

6.2 Community Engagement

 The CBMP will include recommendations to be passed on to the ultimate BESS Operator (if not the Proponent) covering surrounding resident education and awareness.

6.3 Local Firefighting Resources

- The CBMP will provide a listing of the nearest local firefighting resources, phone/email contacts, etc, namely
 - o ROCKHAMPTON (Permanent Station) 113 Kent Street
 - o GRACEMERE (Auxiliary Station) 9 Russel Street
 - o MOUNT MORGAN (Auxiliary Station) 32 Morgan Street

https://www.fire.qld.gov.au/contact-us/find-us

6.4 Alignment of the CBMP with Other "Plans"

Finally, it is important that the Project's CBMP is aligned with other related (post-approval) plans, including:

- Project Emergency Management Plan (EMP) so there is no conflict between activities such as the risk control measures adopted for minimising electrical hazards for firefighters attending emergency situations on-site.
- Project Fire Safety Study (FSS) for the Project which aligns the relevant firefighting elements (eg access routes, water supply etc) for both an (external) bushfire response and (internal) fire response.
- Project Bushfire Management Plan (Operations) developed for the operational phase, which will continue the mitigation measures in the CBMP relevant to ongoing operations.



ID	Management measure	When to implement	Responsibility for implementation	Reference or Source	Evidence of Implementation
BFM-1	Training will be provided to all project personnel, including relevant sub-contractors on bushfire prevention and management measures and the requirements from this plan through inductions, toolboxes and targeted training.	Pre-construction During Construction	Contractor to nominate the relevant personnel: Site Manager Site Superintendent Health and Safety Manager Chief Warden for Site	Best practice	Induction records Toolbox talk records
BFM-2	All staff and contractors to have access to online resources (QFES, BOM, etc) to be aware of fire danger alerts.	Induction stage	Contractor Induction Supervisor	Induction Program	Induction records
BFM-3	Adequate access and egress for fire-fighting vehicles and staff will be provided during and post-construction.	During Construction Ongoing	Contractor to nominate the relevant personnel: Site Manager Site Superintendent Chief Warden for Site	Construction and Operational Traffic Management Plan	Traffic Management records
BFM-4	Requirements for first-response capabilities, including fire extinguishers, water carts and hoses to be provided during construction, as needed. Permanent 150 kL water supply tanks.	During construction. Ongoing for the permanent water supply.	Contractor to nominate the relevant personnel: Site Manager Site Superintendent Site General Superintendent Senior Project Engineer	Fire and Emergency Management Plan	Inspection records Audit reports



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ID	Management measure	When to implement	Responsibility for implementation	Reference or Source	Evidence of Implementation
BFM-5	Dangerous goods and hazardous materials will be stored in accordance with supplier's instructions and relevant legislation, AS1940-2017 and applicable guidelines; and may include bulk storage tanks, chemical storage cabinets/containers or impervious bunds.	Construction Operations	Contractor to nominate the relevant personnel: Site Manager Site Superintendent Site General Superintendent Site Health & Safety Officer	Risk Management Plan (RMP)	RMP Audit reports
BFM-6	APZ to be managed and maintained throughout the Construction, Operational and De-Commissioning phases of the Project	Construction Operations De- Commissioning	Contractor to nominate the relevant personnel: Site Manager Site Superintendent Site General Superintendent Site Senior Project Engineer	This BMP	Regular audits
BFM-7	Fire risk activities: eg Hot Works. A Hot Work Permit will be prepared and implemented. Emergency provisions shall be determined in order to minimise the effect of potential incidents.	Construction	Contractor to nominate the relevant personnel: Site Manager Site Superintendent Site General Superintendent Site Health & Safety Officer	Best practice	Hot Work Permits



14 August 2025 SLR Project No.: 630.032353.00002 SLR Ref No.: 630.032353.00002-R01-v1.2 Bushfire Management Plan 20250814.docx

ID	Management measure	When to implement	Responsibility for implementation	Reference or Source	Evidence of Implementation
BFM-8	Preparedness protocols for the management of bushfire risk depending on Fire Danger level – refer Section 5.7	Construction	Contractor to nominate the relevant personnel: Site Manager Site Superintendent Site General Superintendent	Construction Emergency Management Plan (CEMP)	CEMP Audit reports
BFM-9	Emergency response and management will be undertaken in accordance with the project Emergency Management Plan.	Prior to construction Construction	Contractor to nominate the relevant personnel: Site Regional Manager Site Manager Site Superintendent Site General Superintendent Site Health & Safety Officer	Construction Emergency Management Plan (CEMP)	CEMP Audit reports



14 August 2025 SLR Project No.: 630.032353.00002 SLR Ref No.: 630.032353.00002-R01-v1.2 Bushfire Management Plan 20250814.docx

7.0 STUDY ALIGNMENT WITH BUSHFIRE OVERLAY CODE

This assessment has been undertaken in alignment with Rockhampton Regional Council's Bushfire Overlay Code.

The purpose of the Code is to ensure that the proposed BESS facility has a bushfire strategy whose objective is to ensures that the risk to life, property, community and the environment during bushfire events is minimised and to ensure that the facility does not increase the potential for bushfire damage.

This is achieved through the following overall outcomes:

- The design of the proposed facility is compatible with the nature of the hazard;
- The risk to people, property and the natural environment from bushfire hazard is minimised; and
- The facility will not result in a material increase in the extent, duration or severity of bushfire hazard.

Table 7 shows the Sections within this assessment relevant to the Code requirements.

Table 7 Alignment of Study with Bushfire Overlay Code

Code Clause	Performance Outcome	Section of this Report Addressing the Overlay Code Requirements
P01	Development ensures that the location, siting, and design of development and associated driveways and access routes property. 1. avoid for entrapment during a bushfire; 2. facilitate safe and efficient emergency services to access and egress the site during a bushfire; and 3. enables safe evacuation of the site during a bushfire for site occupants.	Addressed through: . the BAL target used to establish the proposed APZ - refer Section 5.1 access roads for the facility - refer Section 5.3 .
P02	Development provides adequate and accessible water supply for firefighting purposes which is safely located and freely accessible for firefighting.	Addressed through: . dedicated on-site water supply located at the site entry - refer Section 5.4 .
P03	Public safety and the environment are not adversely affected by the impacts of bushfire on hazardous materials.	Addressed through: . provisions detailed in the Hazard and Risk Assessment study for the site the BAL target used to establish the proposed APZ - refer Section 5.1 .
P04	The development is compatible with the level of risk associated with the bushfire hazard.	Addressed through: . the BAL target used to establish the proposed APZ - refer Section 5.1 .



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Code Clause	Performance Outcome	Section of this Report Addressing the Overlay Code Requirements
P05	Essential community infrastructure and community facilities are vulnerable development are located, designed and sited to: 1. protect the safety of people during a bushfire; 2. not increase the exposure of people to the risk from a bushfire event; 3. minimise the risk to vulnerable populations; and 4. ensure essential community infrastructure can function effectively during and immediately after bushfire events.	Addressed through: . the BAL target used to establish the proposed APZ - refer Section 5.1 access roads for the facility - refer Section 5.3 dedicated firefighting water supply for the facility - refer Section 5.4 provisions within the BMP for the facility – refer Section 6.
P06	Where reconfiguration is undertaken a separation distance from hazardous vegetation is provided.	Addressed through: . the BAL target used to establish the proposed APZ - refer Section 5.1 provisions within the BMP for the facility with regard to vegetation management – refer Section 6.
P07	In urban areas development includes a constructed perimeter road between the lots and hazardous vegetation with reticulated water supply. The access is available for both firefighting and maintenance works.	na
P08	In non-urban areas development includes a perimeter road or an all-weather fire access trail which is available for both firefighting and maintenance/hazard reduction works.	Addressed through: . the access provisions (internal and external) for the proposed facility - refer Section 5.3 provisions within the BMP for the facility access roads (internal and external) – refer Section 6.
P09	Road widths and construction within the development are adequate for fire emergency vehicles.	Addressed through: . the access provisions (internal and external) for the proposed facility - refer Section 5.3 provisions within the BMP for the facility access roads (internal and external) – refer Section 6.

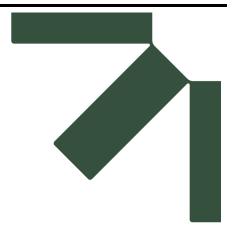


Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust
Bushfire Risk Assessment and Management Plan Capricorn BESS

14 August 2025 SLR Project No.: 630.032353.00002 SLR Ref No.: 630.032353.00002-R01-v1.2 Bushfire Management Plan 20250814.docx

Code Clause	Performance Outcome	Section of this Report Addressing the Overlay Code Requirements
P10	Development facilitates the safe and efficient access and egress of emergency services during a bushfire event.	Addressed through: . the access provisions (internal and external) for the proposed facility - refer Section 5.3 .
		. provisions within the BMP for the facility access roads (internal and external) – refer Section 6 .





Appendix A Vegetation Descriptions taken from AS3959:2018

Bushfire Risk Assessment and Management Plan

Capricorn BESS, Bouldercombe QLD 4702

Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust

SLR Project No.: 630.032353.00002

Revision: R01-v1.2

14 August 2025



Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust
Bushfire Risk Assessment and Management Plan Capricorn BESS

14 August 2025 SLR Project No.: 630.032353.00002 SLR Ref No.: 630.032353.00002-R01-v1.2 Bushfire Management Plan 20250814.docx

AS3959:2018 - Table 2.3 CLASSIFICATION OF VEGETATION

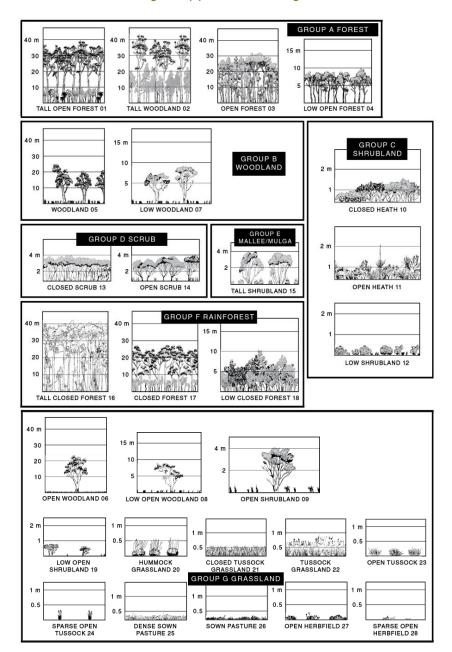
Vegetation classification	Vegetation type	Figure No. in Figures 2.4(A) to 2.4(H)	Typical characteristics
A Forest	Tall open forest Tall woodland	01 02	Trees over 30 m high; 30%–70% foliage cover (may include understorey ranging from rainforest species and tree ferns to low trees and tall shrubs). Found in areas of high reliable rainfall. Typically dominated by eucalypts with a sub-dominant tree layer.
	Open forest Low open forest	03 04	Trees up to 30 m high; 30%–70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris. Includes eucalypt plantations.
	Pine plantation	Not shown	Trees 30 m in height at maturity, generally comprising Pinus species or other softwood species, planted as a single species for the production of timber.
B Woodland	Woodland Low woodland	05 07	Trees up to 30 m high; 10%–30% foliage cover dominated by eucalypts and/or callistris with a prominent grassy understorey. May contain isolated shrubs.
C Shrubland	Closed (low) heath Open heath	10 11	Found in wet areas and/or areas affected by poor soil fertility or shallow soils. Shrubs 1 m-2 m high. Wet heaths occur in sands adjoining dunes of the littoral (shore) zone. Montane heaths occur on shallow or water-logged soils.
Sirubiand	Low shrubland	12	Shrubs <2 m high; greater than 30% foliage cover. Understoreys may contain grasses. Acacia and Casuarina often dominant in the arid and semi-arid zones.
D Scrub	Closed scrub (Tall heaths)	13	Found in wet areas and/or areas affected by poor soil fertility or shallow soils; >30% foliage cover. Dry heaths occur in rocky or sandy areas. Shrubs >2 m high Typical of coastal areas and tall heaths up to 6 metres in height. May be dominated by Banksia, Melaleuca or Leptospermum with heights of up to 6 metres.
	Open scrub	14	Shrubs greater than 2 m high; 10%-30% foliage cover with a mixed species composition.
E Mallee/Mulga	Tall shrubland	15	Vegetation dominated by low trees or tall shrubs (especially eucalypts and acacias) some with a multi-stemmed habit (mallee); usually greater than 2 m in height; <30% foliage cover. Understorey of widespread dense low shrubs or sparse grasses and generally found in the arid and semi-arid zones, but not within the rangelands.
F	Tall closed forest	16	Trees >90% foliage cover; understorey may contain a
Rainforest	Closed forest Low closed forest	17 18	large number of species with a variety of heights. Not dominated by eucalypt species.
	Open woodland	06	
	Low open woodland	08	
	Open shrubland	09	
	Low open shrubland	19	
	Hummock grassland	20	All forms (except tussock moorlands), including
	Closed tussock grassland	21	situations with shrubs and trees, if the overstorey foliage cover is less than 10%. Includes pasture and
G	Tussock grassland	22	cropland.
Grassland	Open tussock	23	NOTE: Grassland managed in a minimal fuel condition
	Sparse open tussock	24	and non-curing cropland is regarded as low threa vegetation for the purposes of Clause 2.2.3.2.
	Dense sown pasture	25	regention 251 the purposes of clause 2.2.5.2.
	Sown pasture	26	
	Open herbfield	27	
	Sparse open herbfield	28	
H Tussock Moorland	Tussock Moorland	Not shown	All forms of vegetation where the overstorey is dominated by the species Buttongrass (Gymnoschoenus sphaerocephalus). Only occurs as a significant vegetation type in Tasmania.



Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust Bushfire Risk Assessment and Management Plan Capricorn BESS

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AS3959:2018 - Figure 2.4(A) Classification of Vegetation - SUMMARY

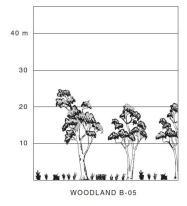


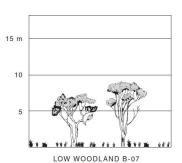


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AS3959:2018 - Figure 2.4(C) Classification of Vegetation - WOODLAND (Group B)



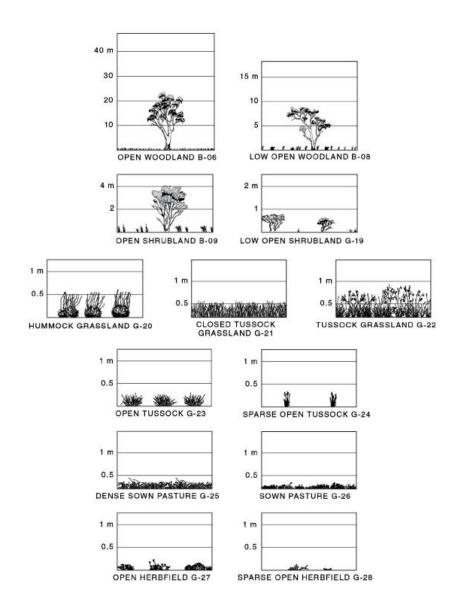


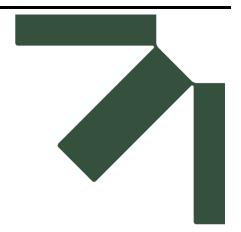


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AS3959:2018 - Figure 2.4(H) Classification of Vegetation - GRASSLANDS (Unmanaged)





Appendix B QFES Vehicle Specifications

Bushfire Risk Assessment and Management Plan

Capricorn BESS, Bouldercombe QLD 4702

Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust

SLR Project No.: 630.032353.00002

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14 August 2025

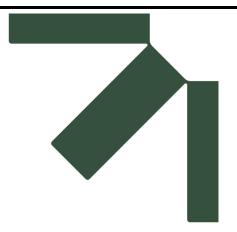


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Appendix C Dangerous Goods Segregation And Storage Requirements

Bushfire Risk Assessment and Management Plan

Capricorn BESS, Bouldercombe QLD 4702

Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust

SLR Project No.: 630.032353.00002

Revision: R01-v1.2

14 August 2025



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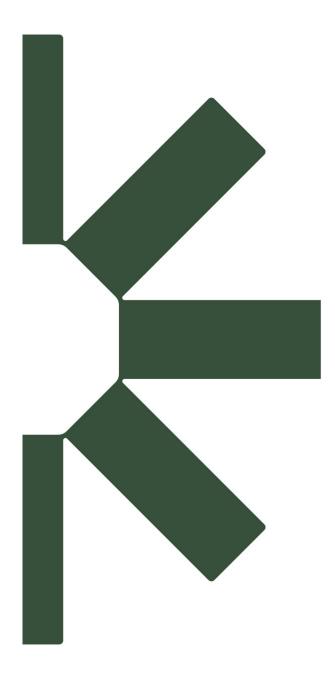
HEALTH & SAFETY DANGEROUS GOODS SEGREGATION AND STORAGE REQUIREMENTS

This chart is designed to provide the user with practical guidance for the storage of dangerous goods. It is not intended for use for minor quantities. The segregation chart shows the dangerous goods class diamond and the equivalent pictogram adopted by Workplace Health and Safety legislation. Where signs and/or placards are required, in Victoria class diamonds used.

								Danger	ous Good	s Class Di	amonds						
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×	Most classes of explosives cannot be stored with different classes of explosives. Refer to AS 2187.1: Explosives – Storage, transport and use and the Dongerous Goods (Explosives) Regulations 2011 (Vic.) for more information
✓	Dangerous goods of the same class are normally considered compatible and can be stored together. Dangerous goods of different classes and normally unreactive with, can be stored together but consideration should be given to an escalation of risks in the event of fire etc.
	If the Class 2.2 has a subsidiary risk of 5.1, then do not store together.
	Normally these can be stored together. There may be some exceptions and the SDS should be consulted for compatibility.
	If the Class 6.1 or 9 is a fine risk then don not store with oxidizing agents. In the case of an explosive [Class 1], it relates only to Class 9.
٨	Cannot be stored together when both classes are in bulk (A container with a capacity exceeding 500 L or 500 kg. If the dangerous goods are solids, an undivided quantity not exceeding 500 kg)
	If one material is a concentrated strong acid and the other a concentrated strong alkali they cannot be stored together.
.	When both classes are in bulk they must be segregated. Bulk is defined in the Congerous Goods (Storage and Handling) Regulations 2012 (Vic) as: (a) in a container with a capacity exceeding 500 L or net mass of more than 500 kg; or (b) if the dispression scools are a solid, an undivided quantity exceeding 500 kg.





Making Sustainability Happen

DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Landscape Concept Package

Meeting Date: 9 December 2025

Attachment No: 7



Landscape Concept Package



Capricorn Battery Energy Storage System (BESS)

Burnett Highway, Bouldercombe QLD August 2025 - Issue C

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LC03 - BUFFER DETAILS

LC04 - PLANTING PALETTE



Site context plan

Proposed Battery Energy Storage System (BESS), Bouldercombe for Potentia Energy



Powerlink's Transmission Line Easement Powerlink's Bouldercombe Substation New Capricorn BESS Site

New cable connection and easements between site and substation

Landscape buffer

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Landscape concept plan

Proposed Battery Energy Storage System (BESS), Bouldercombe for Potentia Energy

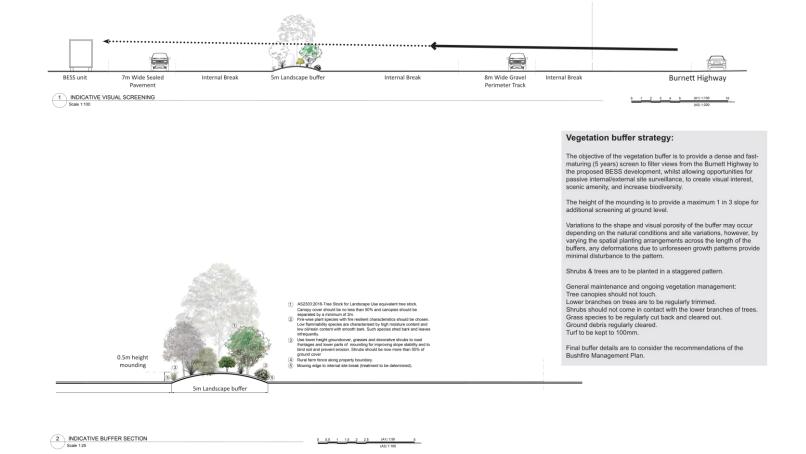




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Vegetation buffer details

for Potentia Energy

Proposed Battery Energy Storage System (BESS), Bouldercombe



Planting palette

Proposed Battery Energy Storage System (BESS), Bouldercombe for Potentia Energy



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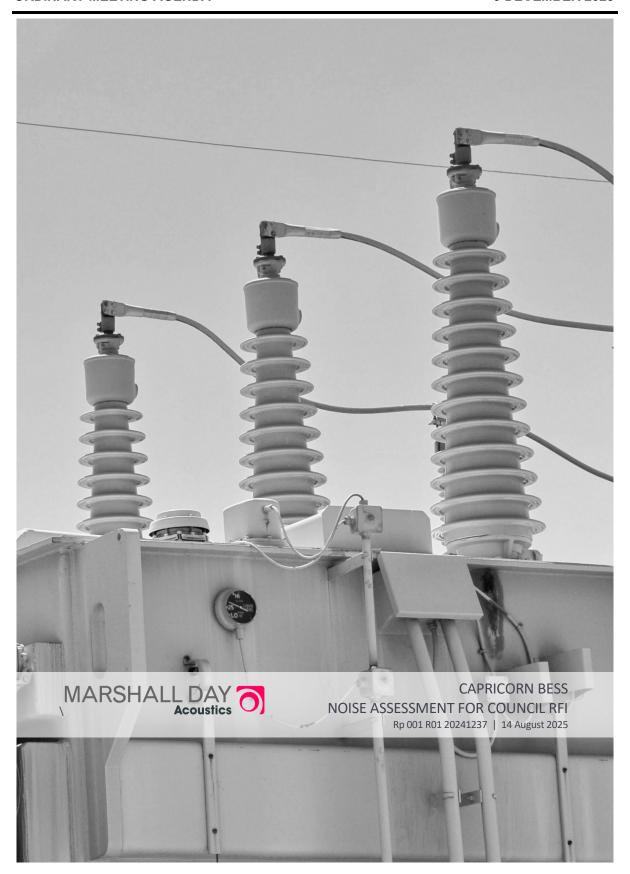
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DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Noise Assessment

Meeting Date: 9 December 2025

Attachment No: 8





Marshall Day Acoustics (Australia) Pty Ltd
ABN: 42 687 698 184
10/50 Gipps Street
Collingwood VIC 3066
T: +613 9416 1855
www.marshallday.com

Project: CAPRICORN BESS

Prepared for: Potentia Energy Pty Ltd as the trustee for Potentia Energy Trust

One Internation Towers Suite 23.05/100 Barangaroo Ave Barangaroo NSW 2000

Attention: David Keohane

Report No.: Rp 001 R01 20241237

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Document Control

Status:	Rev:	Comments	Date:	Author:	Reviewer:
Superseded	-	-	13 Aug 2025	L Kemp	A Stoker
Complete	R01	Update Appendix B	14 Aug 2025	L Kemp	A Stoker

Rp 001 R01 20241237 - Capricorn BESS - Noise Assessment for Council RFI.docx



SUMMARY

Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust, a wholly owned subsidiary of Potentia Energy Pty Ltd (Proponent) is proposing to develop a grid-scale battery energy storage system (BESS) facility known as Capricorn BESS (Project) within the Rockhampton Regional Council (RRC) local government area.

Marshall Day Acoustics (Australia) Pty Ltd (MDA) has been commissioned by the Proponent to undertake an updated assessment of operational noise associated with the Project, to address an Information Request issued by RRC. ¹

Assessment of operational noise from the Project has been conducted with regard to:

- Queensland Government's Environmental Protection (Noise) Policy 2019 (EPP)2
- Rockhampton Region Planning Scheme (RRPS), including the Telecommunications facilities and utilities code (TFUC)³
- RRC's Draft Temporary Local Planning Instrument (Draft TLPI)⁴
- The Planning Report and other public planning reports for projects in the area, including the Central BESS NIA 5

Operational noise levels from the Project have been predicted using the environmental sound propagation method specified in ISO 9613-2.6

The assessment summarised in this report is based on the layout and equipment selections available at this stage of Project development. It is intended to demonstrate Project feasibility in accordance with the relevant policy requirements based on representative Project infrastructure.

The following noise mitigation measures have been incorporated and assumed as part of the noise modelling:

- All battery units are oriented such that the cooling equipment is located on the side of the unit that faces
 west.
- Noise control kits are fitted to all power conversion systems' inverters.
- All transformers must be procured to achieve the noise levels equal to or lower than those summarised in Table 10 under all operating conditions, inclusive of cooling equipment.

The predicted noise levels indicate that the Project is capable of being designed and operated in compliance with all derived Project criteria. This includes the requirements of the EPP, RRPS and Draft TLPI.

Rp 001 R01 20241237 - Capricorn BESS - Noise Assessment for Council RFI.docx

¹ D25-2025 – Information Request (Information Request), issued by Rockhampton Regional Council, on 27 March 2025

² Environmental Protection (Noise) Policy 2019 Subordinate Legislation 2019 No. 154 (EPP) made under the Environmental Protection Act 1994;

³ Rockhampton Region Planning Scheme 2015 Version 5, (effective date 28 March 2025), Section 9.2.2 Telecommunications facilities and utilities code (TFUC)

⁴ Rockhampton Regional Council Ordinary Meeting Agenda, 22 July 2025 Section 11.1 (Draft TLPI)

Noise Impact Assessment: The Central BESS (Central BESS NIA) D59-2024, prepared by AE dated 15 May 2024

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)



As the TFUC criteria is predicted to be achieved, the acceptable outcome AO15.1 would also be met meaning that performance outcome PO15 is satisfied. Per the specifics of the TFUC this would mean that potential noise nuisance would be prevented, and that noise from the Project would be considered consistent with the character of the area.

The assessment in this report details one of several ways in which the Project could be designed and delivered whilst maintaining compliance with the applicable noise limits.

Where changes from any aspect of the assessment detailed in this report occur, e.g. during design development, tender or procurement, the changes must be reviewed to verify continued compliance of the Project. In particular, given the early stage of Project design development, it is expected that further noise assessment will be carried out upon finalisation of all key noise generating equipment.

To assist the ongoing development of the Project the following recommendations are provided:

- Design development (including layout, equipment selections and noise mitigation measures) to align with the requirements of the EPP and RRPS (including TFUC) as the Project progresses.
- Additional post-approval noise survey works to be carried out, including detailed evaluation of noise levels from existing operational infrastructure (Bouldercombe Substation and Bouldercombe BESS).
- Where Project changes occur, acoustic compliance to be verified via updated noise modelling and reporting this may comprise a final, 'for construction' noise model and report.
- Preparation of an operational noise management plan and detailed compliance test plan.



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CRITERIA



1.0 INTRODUCTION

Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust, a wholly owned subsidiary of Potentia Energy (Proponent) is proposing to develop a grid-scale battery energy storage system (BESS) facility known as Capricorn BESS (Project) within the Rockhampton Regional Council (RRC) local government area.

A Planning Report has previously been prepared by other parties to support a development application (DA) for the Project. The Planning Report, including a preliminary noise assessment, was submitted to RRC in February 2025. Subsequent to the submission RRC issued an Information Request, requiring an updated noise assessment to be issued.⁸

Marshall Day Acoustics (Australia) Pty Ltd (MDA) has been commissioned by the Proponent to undertake an updated assessment of operational noise associated with the Project, to address the Information Request.

The Proponent has provided an updated Project design comprising a defined layout of inverters, medium voltage (MV) transformers, battery units, and high voltage (HV) transformers. Predicted operational noise levels at relevant sensitive receptors have been determined based on a noise model adopting the Proponent's Project design.

The predicted noise levels have been assessed against Project targets derived considering:

- Queensland Government's Environmental Protection (Noise) Policy 2019 (EPP)⁹
- Rockhampton Region Planning Scheme (RRPS), including the Telecommunications facilities and utilities code (TFUC)¹⁰
- RRC's Draft Temporary Local Planning Instrument¹¹
- The Planning Report and other public planning reports for projects in the area, including the Central BESS NIA.¹²

The assessment summarised in this report is based on the layout and equipment selections available at this stage of Project development. It is intended to demonstrate Project feasibility in accordance with the relevant policy requirements. It does not represent a finalised Project design or outcome, which is unfeasible prior to equipment procurement and tender.

Where changes from any aspect of the assessment detailed in this report occur, especially during design development, tender and procurement, the changes must be addressed by way of an updated noise model and associated reporting to verify continued compliance of the Project.

Acoustic terminology used in this report is presented in Appendix A.

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⁷ Planning Report Capricorn BESS Project (Planning Report), reference 072714, prepared by ERM on 28 February 2025

D25-2025 – Information Request (Information Request), issued by Rockhampton Regional Council, on 27 March 2025

⁹ Environmental Protection (Noise) Policy 2019 Subordinate Legislation 2019 No. 154 (EPP) made under the Environmental Protection Act 1994;

Rockhampton Region Planning Scheme 2015 Version 5, (effective date 28 March 2025), Section 9.2.2 Telecommunications facilities and utilities code (TFUC)

¹¹ Rockhampton Regional Council Ordinary Meeting Agenda, 22 July 2025 Section 11.1 (TLPI)

¹² Noise Impact Assessment: The Central BESS (Central BESS NIA) D59-2024, prepared by AE dated 15 May 2024



2.0 PROJECT OVERVIEW

2.1 Location

The Project is a proposed grid-connected 300 MW/4 h BESS, located at Lot 2 Cherryfield Road, Gracemere, adjacent to Burnett Highway and the existing Bouldercombe Substation.

The Project lies within the RRC local government area and is approximately 600 m north of residential dwellings on Childs Avenue, representing the northern-most extent of Bouldercombe township.

The Project site and surrounds are depicted in Figure 1.

For the purposes of this assessment, the Project site boundary is defined as the 16.65 ha portion of the larger 108 ha lot, which is proposed to be subdivided to facilitate the BESS.

2.2 Noise generating equipment

Based on a review of the Proponent's Project layout, key noise generating equipment included in this noise assessment comprise:

- 2 HV 33/275 kV transformers (180 MVA each)
- 98 inverters coupled with MV transformers (3.8 MVA) (collectively referred to as power conversion systems – PCS)
- 294 battery units.

The key noise generating equipment are shown in Figure 1. Each individual equipment item is represented by a single point denoting the centre of the item.

Noise from each equipment item is generated either by fan-based cooling systems or underlying electrical function. Equipment will therefore give rise to steady-state, continuous noise levels over a typical 1-hour period, that could informally be described as having humming characteristics. While noise levels may change throughout a typical 24 hr period, changes would be gradual and not associated with acoustic definitions of intermittency. Impulsive or instantaneous noises (bangs, clicks, clatters, or thumps) are not a characteristic of BESS operation.

At this stage, prior to planning approval, tender and procurement, it is not feasible to definitively determine equipment that will be installed at construction. This limitation is not unique to this Project and is typical of any large-scale utility or infrastructure project.

Significant care has been taken to ensure that the adopted Project design and equipment selections are representative of what is capable of being accommodated into the Project at later stages. This has been confirmed by the Proponent.

The Proponent has prepared a detailed plan of the Project which is reproduced in Appendix B.

2.3 Sensitive receptors

The EPP defines a sensitive receptor as being "an area or place where noise is measured", with specific associated land use definitions provided in Schedule 1 of the EPP.

Per the Schedule 1 sensitive receptors are dwellings, educational establishments, hospitals, parks, and other places or spaces at which environmental values are expected to be enhanced or protected. This broadly aligns with the sensitive land use definition indicated in the RRPS.

For the purpose of this assessment, the nearest sensitive receptors within 3 km of the Project site have been considered. Identification has been carried out by MDA with reference to publicly available aerial imagery and considering additional information set out in the Planning Report and the Central BESS NIA. The identified sensitive receptors are depicted in Figure 1.



2.4 Other projects

The Project is located close to other existing and proposed utility premises.

The premises within 1 km of the Project site, that are known of at the time of writing, are summarised in Table 1.

Table 1: Other projects

Name Existing/proposed		Relationship to Project site		
		Orientation	Distance, m	
Bouldercombe Substation	Existing	South	0	
Bouldercombe BESS	Existing	South	0	
Bouldercombe Solar Farm	Proposed (approved)	North, west, southwest	0	
Bouldercombe BESS (Extension)	Proposed	South	0	
Central BESS	Proposed	East	50	

2.4.1 Bouldercombe Substation, Bouldercombe BESS and Bouldercombe BESS (Extension)

The Bouldercombe Substation was originally built in the 1970's, undergoing a major refit of primary plant and equipment in 2019. The substation has been an environmental noise source in the area for over 40 years.

In 2023 a 50 MW/100 MWh BESS comprising Tesla Megapack 2.0 equipment was added to the site. The BESS is operated by Genex. High-level information in the public domain indicates that Genex is considering an extension of the existing BESS. No formal acoustic assessment was carried out as part of the development application.

2.4.2 Central BESS

Central BESS is a proposed 500 MW/1,000 MWh BESS for which a development application (DA/59-2024) was submitted to RRC in 2024, seeking a material change of use and reconfiguration of subject lots to facilitate the BESS.

The Central BESS NIA prepared to support the DA considered the EPP in defining noise limits, adopting a superseded method for quantitatively assessing background noise creep. 13 This resulted in more stringent noise level targets for the Central BESS project than may otherwise be developed under the current EPP.

While the Central BESS NIA adopted a stringent interpretation of EPP requirements, it did not directly address the requirements of the RRPS (version 4.4 being applicable at that time), specifically the noise requirements of the TFUC.

RRC refused the application, on the basis that the development did not comply with aspects of the assessment benchmarks, with RRC's reasons for refusal directly quoting a perceived conflict with the noise requirements set out in the TFUC.

The superseded 2008 version of the EPP detailed a requirement for numerical assessment of background creep broadly based on a background noise level +0 or +5 dB method. This numerical method was removed in the current 2019 version of the EPP. Further details are provided later in this report.



Council's assessment of the Central BESS DA is generally set out in the publicly accessible RRC Meeting Minutes. ¹⁴ The Central BESS NIA and associated RRC Meeting Minutes have been reviewed in detail to determine the assessment benchmarks that were considered by RRC in evaluating, and ultimately refusing, the Central BESS DA. The precedent set by the DA submission and refusal informs this assessment.

It is noted that the RRC Meeting Minutes do not directly include the EPP as an assessment benchmark.

2.4.3 Bouldercombe Solar Farm

Bouldercombe Solar Farm is a 280 MW solar facility that received DA approval in 2017 (DA/18-2017). The Project is currently owned by the Proponent but is yet to be developed.

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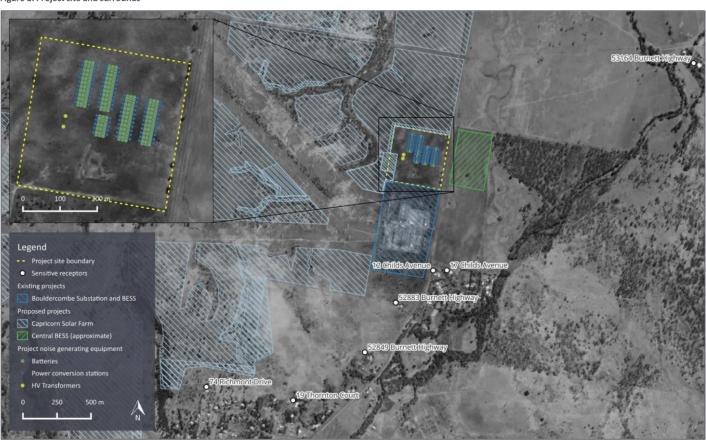
10

Rockhampton Regional Council Ordinary Meeting Minutes, 10 December 2024 Section 11.4



Figure 1: Project site and surrounds

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3.0 EXISTING NOISE ENVIRONMENT

MDA has not conducted any background noise monitoring as part of this assessment.

Information with respect to existing background noise levels at the Project and surrounding area are provided in both the Planning Report and the Central BESS NIA. These are discussed in the following sub-sections. Measurement locations referred to in these sections are shown in Figure 2.

3.1 Planning Report

Section 2 of the Preliminary Noise Assessment for Capricorn BESS, included in the Planning Report, details the results of an attended noise survey conducted in July 2024 at 4 locations. The locations include positions close to Bouldercombe Substation and Bouldercombe BESS, as well as 2 residential locations to Childs Avenue.

Table 2 details the short-term measured background noise levels at the noise survey locations.

Background noise levels are described using the $L_{\rm A90}$ descriptor, being the sound level exceeded for 90% of a given time period. The background level generally represents the sound that is continuously present in an outdoor location. Where traffic noise is present (e.g. from Burnett Highway) the background noise level would tend to represent the noise occurring in the absence of vehicle movements (unless traffic flows are continuous).

Table 2: Measured residential background noise levels in Planning Report, dB Lago, 10 min

	Background noise level ^a			
Measurement location	Day	Evening	Night	
PR 1	43	33	34	
PR 2	42	35	39	
PR 3	46	39	39	
PR 4	56	36	32	

a Day is 0700-1800 hrs, Evening is 1800–2200 hrs, Night is 2200–0700 hrs.

The Planning Report notes that noise from the existing Bouldercombe Substation was audible and measurable at the Childs Avenue residences (PR 1 and PR 2) during the evening and night measurements, during lulls in traffic on Burnett Highway.

The Preliminary Noise Assessment adopts the above background noise levels for the basis of setting Project noise criteria in the Planning Report. Further details are provided later in this report.

To provide additional context to the Planning Report noise survey, the short-term ambient noise levels are also summarised in Table 3. The ambient noise level can be described as the average sound level and is described by the L_{Aeq} metric. Noise measured using this metric would more readily represent the overall soundscape of a place and reflect the dynamic range of noise levels that might occur. In the case of the Project this would include variations due to traffic and local habitation noise.



Table 3: Measured residential background noise levels in Planning Report, dB LAeq, 10 min

	Background noise level ^a				
Measurement location	Day	Evening	Night		
PR 1	57	40	38		
PR 2	64	57	59		
PR 3	66	64	56		
PR 4	74	64	65		

a Day is 0700-1800 hrs, Evening is 1800–2200 hrs, Night is 2200–0700 hrs.

3.2 Central BESS NIA

Section 3 of the Central BESS NIA details the results of long-term unattended noise logging completed in March 2024. Only one measurement location was adopted, being an isolated position approximately 2.4 km north of the Childs Avenue residences.

Table 4 details the derived rating background level (RBL) derived from the measured background noise levels at the Central BESS NIA measurement location. 15

Table 4: Rating background level in Central BESS NIA, dB LA90

	Rating background level ^a			
Measurement location	Day	Evening	Night	
NIA 1	37	30	26	

a Day is 0700-1800 hrs, Evening is 1800–2200 hrs, Night is 2200–0700 hrs.

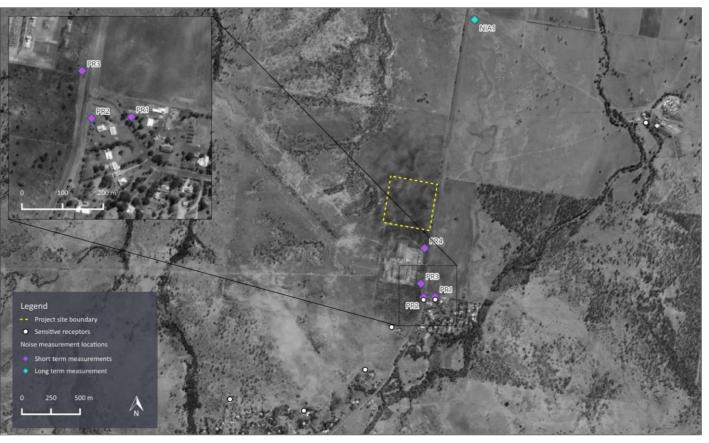
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The Central BESS NIA does not provide reference to a method for determining the RBL however it is assumed that the method set out in the repealed Queensland EPA *Planning for Noise Control* guideline has been adopted. The RBL is typically a lower i.e. more stringent derivation of background noise level than a typical measured La₉₀.



Figure 2: Measurement locations (aerial imagery: Metromap)

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3.3 Additional noise monitoring (future)

If development approval for the Project is granted, additional noise monitoring would be undertaken to supplement the noise monitoring summarised above.

The currently available data provide a reasonable level of detail upon which to base preliminary Project criteria. Adopting this data is a balanced approach at this stage.

The purpose of additional noise monitoring would be to supplement the existing data and thereby establish a more detailed understanding of the existing noise environment. This would include detailed evaluation of existing noise levels from Bouldercombe Substation and Bouldercombe BESS

A key aspect of future noise monitoring would be to emphasise long term measurements (over the course of a week or more) as opposed to short term measurements (less than an hour) within and around the noise sensitive areas. This information will be used to further contextualise the predicted noise levels from the Project at affected dwellings.

3.4 Summary

The noise measurement strategies adopted by the Planning Report and Central BESS NIA differ but together provide a broad indication of the noise environment in and around the Project.

The short-term noise measurements conducted at the Childs Avenue residences, as detailed in the Planning Report, provide an indication of the background and ambient noise levels at dwellings and residences in that area. These measurements include noise from the existing Bouldercombe Substation (as supported by commentary in the Planning Report). The substation could reasonably be considered part of the existing noise environment, having been operating in that location for over 40 years, however Bouldercombe BESS was built more recently.

Based on information provided by the Proponent it is understood that RRC have described a preference for background noise measurements to exclude noise from Bouldercombe Substation and Bouldercombe BESS, on the basis that there are periods for which these facilities will or do not operate or produce noise. In such cases noise levels at Childs Avenue and the surrounding residences would likely be dominated by local habitation noise and road traffic noise from Burnett Highway.

The Central BESS NIA adopts a single long-term unattended measurement location (NIA-1) a significant distance from Childs Avenue and the Bouldercombe Substation/BESS infrastructure. This results in lower day, evening and night-time noise levels This is due to two primary factors:

- The more remote location removes noise contributions from Bouldercombe Substation,
 Bouldercombe BESS and local habitation noise likely to be experienced at the Childs Avenue and surrounding residences
- The long-term method results in derivation of RBLs which are typically lower than short-term

 Lago measurements.

Given the similar distance of the measurement position to Burnett Highway, noise contributions at NIA-1 from road traffic on the highway are likely to be broadly similar to the Childs Avenue residences.

Given RRC's indicated preferences, this noise assessment adopts the RBLs set out in Section 3.2 as the basis of any background dependent noise criteria. This is a more conservative approach than set out in the Planning Report. Further details are provided in the following sections.



4.0 OPERATIONAL NOISE POLICY & GUIDELINES

The *Environmental Protection Act 1994* (EP Act) forms part of a legislative framework that regulates noise from domestic, commercial and industrial premises.

Local councils are generally responsible for responding to issues relating to noise that is regulated under the EP Act and have the ability to make local laws to manage specific noise issues in their local area.

On this basis relevant planning requirements set out by RRC in their RRPS must be considered by the noise assessment, however the EPP must also be considered, being the policy established to achieve the object of the EP Act.

In addition, as part of an Ordinary Meeting of RRC on 22 July 2025, Council published details of their Draft TLPI, specifically addressing renewable energy and battery storage facilities. The purpose of the Draft TLPI is to provide interim planning controls to manage the location and impact of renewable energy and battery storage facilities. While not currently in force, the Draft TLPI is due to go on public exhibition between 11 August and 1 September 2025. Where the Draft TLPI is approved and brought into use it would override corresponding requirements within the RRPS. Given this situation, it is prudent to consider the Draft TLPI in this assessment.

Appropriate Project noise criteria have already been considered in the Planning Report and component Preliminary Noise Assessment. This noise assessment is intended as an update to the existing Preliminary Noise Assessment to address the RRC Information Request.

It would be typical for noise criteria set out in the Preliminary Noise Assessment to be carried through to this assessment, however, multiple factors motivate a change in approach, including:

- The refusal by RRC of the Central BESS DA which provides critical context on RRC expectations for noise assessment outcomes, particularly the position of the TFUC as an assessment benchmark.
- RRC's indicated preference for background noise levels to exclude noise from Bouldercombe Substation and Bouldercombe BESS.
- The introduction of the Draft TLPI by RRC.

The above context must inform the updated noise assessment for the Project. Accordingly, the Project noise criteria have been revised. Broadly, the noise criteria for the Project have been revised to include:

- Alignment with long-term existing noise environment measurements set out in the Central BESS NIA, which exclude noise from Bouldercombe Substation and Bouldercombe BESS.
- Consideration of the RRPS and the noise requirements of the TFUC.
- Consideration of the Draft TLPI and associated noise requirements.

The above changes apply in addition to the need to meet the requirements of the EPP.

Details regarding operational noise policy, guidelines and resultant noise criteria are provided in the following sections.



4.1 Environmental Protection (Noise) Policy 2019 (EPP)

Summary information with respect to the EPP is provided in Appendix C. The following sections provide discussions of the application of the EPP to the Project.

4.1.1 Acoustic quality objectives

The acoustic quality objective for a sensitive receptor, means "the maximum level of noise that should be experienced in the acoustic environment of the sensitive receptor". It can therefore be considered a total noise amenity criterion for a sensitive receptor, considering the total noise from all sources. ¹⁶

Acoustic quality objectives applicable to the Project were previously derived in the Preliminary Noise Assessment and are reproduced in Table 5.

Table 5: Preliminary Noise Assessment acoustic quality objectives, dB LAeq,adj,1hr

Sensitive receptor	Acoustic quality objective	re .	
	Day and evening	Night	
Residence (outdoors)	42	37	

a Day/evening is 0700–2200 hrs, Night is 2200–0700 hrs.

MDA has reviewed the acoustic quality objectives and agrees with the method, process, derivations, and alignment with the intent and guidance of the EPP.

The acoustic quality objectives set out in the Central BESS NIA are identical during the evening and night, and slightly more relaxed (i.e. less onerous) during the day.

On this basis the acoustic quality objectives set out in the Preliminary Noise Assessment are carried through to this assessment.

4.1.2 Background creep

The currently applicable EPP (being the 2019 version) requires background creep to be assessed and provides guidance to do so, referencing a qualitative *management hierarchy* and *management intent* (refer Appendix C2).

Specific numerical criteria that were present in the repealed 2008 version of the EPP were deliberately removed from the current EPP.¹⁷ Despite this, it is not uncommon for noise assessments in Queensland to forego a qualitative assessment of background creep under the current EPP and alternatively conduct a numerical assessment adopting the repealed 2008 EPP criteria (refer Appendix D).

While this is not the stated intent of the current EPP (which is directed at preventing or minimising background creep to the extent that it is reasonable to do so), it will result in more stringent assessment requirements.

It is noted that both the Preliminary Noise Assessment and the Central BESS NIA adopted a numerical assessment of background creep, referencing the superseded 2008 version of the EPP.

Excluding noise sources described in Schedule 1, Part 1, Section 1 of the EP Act. For the Project this would primarily include noise from the ordinary use of public roads or State-controlled roads.

¹⁷ Queensland Government Environmental Protection (Noise) Policy 2008, SL No. 442 (EPP 2008) - which was repealed by the issue of the EPP 2019



To provide consistency, this assessment adopts the same background creep approach as that set out in the Planning Report, however the RBLs set out in Section 3.2 are adopted as the basis of the derivations, to align with RRC preferences. This will result in a more stringent assessment of background creep than that set out in the Planning Report or indicated to be required under the current EPP.

The Preliminary Noise Assessment adopts the variable noise background creep criteria set out in the 2008 EPP (refer Appendix D). This means that predicted noise levels from the Project cannot be more than 5 dB greater than the RBLs set out in Section 3.2.

Further detail is provided in Section 4.4.

4.2 Rockhampton Region Planning Scheme (RRPS)

The RRPS applies to all properties in the Rockhampton region and sets out a framework for managing development.

In reviewing the RRPS and the RRC Meeting Minutes, the primary noise related assessment benchmark applicable to the Project is the TFUC. It is noted that the RRC Meeting Minutes do not directly include the EPP as an assessment benchmark.

The TFUC (as of 4 June 2025) sets out general 'performance outcomes' supported by prescriptive 'acceptable outcomes' for developments including telecommunications facilities, utilities installations, substations and major electricity infrastructure where the code is identified as applicable in the tables of assessment.

Performance outcomes (PO) represent the overall expectations of a development code, while acceptable outcomes (AO) provide specific, measurable ways to achieve those outcomes. If a development complies with all applicable acceptable outcomes, it's considered to meet the corresponding performance outcome.

Regarding noise, PO15, applying to substations, utility installations and major electricity infrastructure states:

Development prevents or mitigates the generation of unreasonable noise impacts to:

a) prevent noise nuisance; and

 $b) \ ensure \ ambient \ noise \ levels \ are \ consistent \ with \ the \ prevailing \ character \ of \ the \ area.$

AO15.1 provides the following objective criteria:

Development provides that:

- a) noise levels measured as the adjusted maximum sound pressure level Lamax, adj.T at a sensitive land use do not exceed:
 - (i) background noise level plus 5db(A) between the hours of 07:00 and 22:00; and
 - (ii) background noise level plus 3db(A) between the hours of 22:00 and 07:00; and
- noise levels measured as the adjusted maximum sound pressure level Lamax, adj.T at a business premises does not exceed:
 - (i) background noise level plus 10db(A) between the hours of 07:00 and 22:00; and
 - (ii) background noise level plus 8db(A) between the hours of 22:00 and 07:00.

Based on the above, where the objective criteria set out in AO15.1 is achieved, noise from the Project would not be considered nuisance and would be consistent with the character of the area.

The RRC Meeting Minutes specifically reference PO15 and AO15.1 as being assessment benchmarks for noise, under the TFUC.



Per Section 2.2, the noise generation mechanisms associated with Project equipment items involve rotating cooling systems or reciprocating electrical behaviours with noise emissions from equipment being dominated by such sources. There are no significant sources of impulsive, instantaneous, or short duration transient noises (bangs, clicks, clatters, or thumps) associated with batteries, inverters, or transformers.

Considering the extended duration (hours) over which noise levels from the Project may change, it is expected that Project noise described in terms of L_{Areq} would be effectively the same as Project noise described in terms of L_{Armax} . This concept is adopted in this assessment.

In applying AO15.1 to the Project, the RBLs set out in Section 3.2 are considered, consistent with the derivation of EPP background creep criteria.

4.3 Rockhampton Regional Council Draft Temporary Local Planning Instrument (Draft TLPI)

The RRC Draft TLPI sets out performance outcomes and acceptable outcomes for 'Acoustic assessment measures' intended to apply to renewable energy facilities and battery storage facilities

Specifically, PO6 states:

Development is located to protect and manage adverse effects on the amenity of surrounding sensitive land uses, having regard to the outdoor (free field) daytime and night-time 'A' weighted equivalent acoustic level (Laeq), assessed at all noise affected existing or approved sensitive land uses.

With AO6.1 providing objective night-time criteria:

Development has an outdoor (free field) night-time (10pm to 6am) acoustic level that does not exceed:

(a) 35dB(A); or

(b) the background noise (LA90) by more than 5dB(A);

whichever is the greater.

And AO6.2 providing objective day-time criteria:

Development has an outdoor (free field) daytime (6am to 10pm) acoustic level that does not exceed:

(a) 37dB(A); or

(b) the background noise (LA90) by more than 5dB(A) whichever is the greater, for wind speed from cut-in to rated power of the wind turbine and each integer wind speed in between referenced to hub height.

It is clear that the wind speed aspect of AO6.2 b) is relevant for wind farm projects only and would not be relevant for the Project. AO6.2 b) would be addressed by considering 'the background noise (LA90) by more than 5dB(A) whichever is the greater' only.

Additionally, it is noted that AO6.1 and AO6.2 adopt 0600 hrs as being the end of the night and start of the day period. This is different to the EPP and RRPS TFUC which adopt 0700 hrs.

In applying AO6.1 and AO6.2 to the Project, the RBLs set out in are considered, consistent with the derivation of EPP background creep criteria and RRC TFUC criteria.



4.4 Project noise criteria

Based on the preceding sections, the following project noise criteria is adopted for assessment.

4.4.1 Acoustic quality objectives

The acoustic quality objectives are relevant for the assessment of cumulative noise at the subject sensitive receptor and are detailed in Table 6.

Table 6: Project acoustic quality objectives, dB LAeq,adj,1hr

Sensitive receptor	Acoustic quality objective				
	Day and evening	Night			
Residence (outdoors)	42	37			

a Day/evening is 0700–2200 hrs, Night is 2200–0700 hrs.

4.4.2 Background creep

For the purposes of background creep assessment, reliance has been placed on the long-term unattended measurements and derived RBLs set out in Section 3.2, adopted from the Central BESS NIA.

This approach provides an approximation of potential background noise levels at the Childs Avenue dwellings, in the absence of the operation of Bouldercombe Substation and Bouldercombe BESS. The background noise levels adopted are likely lower than would occur when the 2 facilities are not operating, as habitation noise that would occur in the Childs Avenue locale is also removed.

The Central BESS NIA RBLs are used as the basis for the derivation of a numerical background creep criteria. Per Section 4.1.2 a numerical assessment of background creep is not the intent of the current EPP (2019) however adopting such a method would result in more stringent noise assessment requirements.

Consistent with the Planning Report, the background creep criteria for noise that varies over time has been adopted. This provides a $L_{\rm A90}$ + 5 dB approach.

The resulting background creep criteria, applicable to the Project, is set out in Table 7.

Table 7: Project background creep criteria, dB LAeq,T

	Background creep criteria ^a			
Sensitive receptor	Day	Evening	Night	
All	42	35	31	

a Day is 0700 -1800 hrs, Evening is 1800 - 2200 hrs, Night is 2200 - 0700 hrs.



4.4.3 RRPS TFUC

TFUC noise criteria have been derived for the Project considering the Central BESS NIA RBLs set out in Section 3.2.

The criteria apply on the basis that noise from the Project will be steady-state and will not feature short or sudden high noise level events. The equivalent noise level (L_{Aeq}) will therefore be representative of the maximum noise level (L_{Amax}). Refer Section 4.2 for further commentary.

Accordingly, the Project TFUC noise criteria applicable at sensitive land uses (i.e. the identified sensitive receptors) are shown in Table 8.

Table 8: Project TFUC criteria, dB LAeq,T

	TFUC criteria ^a	
Sensitive receptor	Day/Evening ^b	Night
All	35	29

- a Day/evening is 0700-2200 hrs, Night is 2200-0700 hrs.
- b The evening RBL set out in Section 3.2 has been adopted, being lower (i.e. more stringent) than the day RBL

4.4.4 Draft TLPI

The draft TLPI criteria are set out in Table 9.

Table 9: Project Draft TLPI criteria, dB LAeq,T

	Draft TLPI criteria ^a		
Sensitive receptor	Day ^b	Night	
All	37	35	

- a Day is 0600–2200 hrs, Night is 2200–0600 hrs.
- b In determining the day Draft TLPI criterion the evening RBL set out in Section 3.2 has been adopted, being lower (i.e. more stringent) than the day RBL

4.4.5 Simplified criteria

A comparison of the 4 noise criteria applicable to the Project indicates that the TFUC criteria is the lowest i.e. most stringent, criteria for all time periods. Compliance with the TFUC criteria will inherently indicate compliance with the EPP acoustic quality objectives, the background creep criteria and the Draft TLPI criteria.

The TFUC criteria set out in Table 8 is therefore considered to be the controlling criteria and has been used as the basis of evaluating compliance in the following sections.



5.0 OPERATIONAL NOISE ASSESSMENT

5.1 Assessment method

Operational noise levels from the Project are predicted using:

- noise emission data for the relevant equipment. This has been obtained directly from
 equipment manufacturers for the candidate equipment. The data is subject to confidentiality
 agreements.
- a 3D digital model of the site and the surrounding environment.
- a digital noise model of the Project and the surrounding environment using proprietary noise modelling software SoundPLANnoise (version 9.1)
- implementation of the environmental sound propagation method specified in ISO 9613-2.¹⁸

The implementation of ISO 9613-2 within proprietary noise modelling software enables multiple sound transmission paths, including reflected and screened paths, to be accounted for in the calculated noise levels. ISO 9613-2 was designed to assume conditions that favour the propagation of noise from meteorological effects, described as a slight wind (1 to 5 m/s) blowing from source to receiver, or a well-developed moderate ground-based temperature inversion.

Publicly available 1 m resolution terrain data was used to extend the dataset provided by the Proponent to establish a terrain model encompassing all sensitive receptors and intervening noise propagation paths.¹⁹

PCS and HV transformers were modelled as omni-directional point sources, with points at heights equivalent to the top of the equipment.

Batteries were modelled using simplified cuboids representing battery containers, with the sound power of the cooling system applied to one face of the cuboid. This provides a technically robust approximation of the acoustic directivity of a battery unit. This method was informed by the manufacturer information which provided sound pressure level measurements at points surrounding the equipment, enabling the directivity pattern of battery noise model sources to be checked against the reference data.

Additional information with respect to noise modelling is provided in Appendix E.

22

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)

¹⁹ Sourced from Spatial Services via Elvis – Elevation and Depth – Foundation Spatial Data - https://elevation.fsdf.org.au/



5.2 Operational noise source information

At this stage, prior to planning approval, tender and procurement, it is not feasible to definitively determine equipment that will be installed at construction. This limitation is not unique to this Project and is typical of any large-scale utility or infrastructure project.

Significant care has been taken to ensure that the adopted Project design and equipment selections are representative of what is capable of being accommodated into the Project at later stages. This has been confirmed by the Proponent.

The Proponent has prepared a detailed plan of the Project which has been used as the basis of this assessment (refer Appendix B).

Noise data for the candidate equipment has been reviewed, with representative information adopted for the purposes of noise modelling. Since the details of manufacturer noise test documentation are confidential, only the octave band spectral information and the tested operational setpoint are reported herein.

Separate noise models have been created for day/evening and night periods on the basis that the Project will operate at lower cooling capacity during the night. This is in line with typical operations of a grid-scale BESS based at lower ambient temperatures.

During detailed design, the candidate equipment and associated assumptions must be reviewed, and the noise modelling and associated reporting should be updated where changes occur.

Sound power levels for individual Project equipment items, as used in the noise model, are detailed in Table 10.

Table 10: Sound power levels for Project equipment items (per unit), dB Lw

Item	Octave band centre frequency, Hz							
	63	125	250	500	1000	2000	4000	Α
Battery unit								
Day/evening operation	80	94	87	83	82	81	79	89
Night operation	76	89	81	77	76	74	70	82
PCS inverter (all times)	87	84	81	74	69	76	84	87
PCS MV transformer (all times)	61	72	68	63	53	46	41	64
HV transformer (all times)	87	97	94	89	79	71	67	90

 $\label{lem:control_def} \mbox{Additional information with respect to the source of the noise data is provided in Table 11.}$



Table 11: Noise data descriptions (per unit)

Item	Description
Battery unit	Third octave band sound power levels for the 4.7 MWh unit have been derived by MDA based on information provided in the manufacturer noise datasheet which adopts ISO 3746:2010 and provides third octave band sound pressure levels measured around the unit. ²⁰
	For the day and evening period, data associated with 100% cooling fan speed has been adopted based on expected elevated ambient temperatures.
	For the night period, data associated with 80% cooling fan speed has been adopted based on expected reduced ambient temperatures.
	In both cases MDA has included a +3 dB adjustment to account for derivation uncertainty.
PCS inverter	The Proponent has provided a manufacturer noise datasheet providing third octave band sound power levels measured in accordance with ISO 9614-2:1996. ²¹ No further derivations by MDA were necessary.
	Data associated with 100% apparent power and the application of a manufacturer noise reduction kit has been adopted for all time periods.
	In both cases MDA has included a +1 dB adjustment to account for test uncertainty.
PCS MV transformer	The overall A-weighted sound power level of the PCS transformer was provided to MDA by Proponent in the form of a noise measurement datasheet for a representative unit.
	Spectral data was estimated by considering Bies & Hansen corrections from Table 11.27, (Location 1a for outdoor transformer noise) and factory acceptance tests (FAT) in the MDA data library for similar capacity transformers. ²²
HV transformer	The "reduced maximum" sound power levels for the HV transformer were derived in accordance with AS 60076:10 based on the proposed power rating of 180 MVA (33/275 kV).
	Spectral data was estimated by considering Bies & Hansen corrections from Table 11.27, (Location 1a for outdoor transformer noise) and FATs in the MDA data library for similar capacity transformers.

 $^{^{20}}$ ISO 3746:2010 Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane

²¹ ISO 9614-2:1996 Acoustics — Determination of sound power levels of noise sources using sound intensity - Part 2: Measurement by scanning

²² Bies, & Hansen, C. H. (2009). Engineering noise control: theory and practice (Fourth edition.). p. 601



5.3 Operational noise mitigation

The following noise mitigation measures have been included in the noise modelling:

- All battery units are oriented such that the cooling equipment is located on the side of the unit that faces west.
- Noise control kits are fitted to all PCS inverters.
- All transformers must be procured to achieve the noise levels equal to or lower than those summarised in Table 10 under all operating conditions, inclusive of cooling equipment.

The mitigation measures detailed above represent a single way in which required mitigation can be achieved. Additional or alternative measures should be considered by the Project team as the design develops, and further Project specific details are known.

5.4 Predicted operational noise levels

Predictions of Project operational noise at the sensitive receptors have been conducted based on the method detailed in Section 5.1 and Appendix E, the Project design shown in Figure 1 and Appendix B, and the operational noise source information detailed in Section 5.2. The predictions include the noise mitigation measures set out in Section 5.3.

Although some items of equipment (PCS inverters and transformers) have the potential to exhibit tonal characteristics at source, such tonality will be partially, or in some cases completely, attenuated due to air absorption during sound propagation. On this basis tonality that may be apparent at source is commonly absent at receiver locations, particularly at larger distances.

In addition, the magnitude of the predicted noise levels from these sources is low in the context of the respective ambient and background noise environment at the sensitive receptors, as set out in the Planning Report (refer Section 3.1). Ambient and background noise levels would therefore be expected to provide effective masking of noise from these Project sources.

On this basis adjustments of the predicted noise levels for tonal character have not been deemed applicable at this stage. This would be reviewed as Project development progresses.

The predicted operational noise levels are presented in Table 12 and Table 13 and are assessed against the simplified Project criteria set out in Section 4.4.5, representing the TFUC noise criteria (being the lowest i.e. most stringent, criteria for all time periods).

Per Section 5.4 predicted noise levels below i.e. compliant, with the TFUC criteria will inherently mean the predicted noise levels are below i.e. compliant, with the EPP acoustic quality objectives, background creep criteria and the Draft TLPI criteria.



A full comparison of predicted noise levels and Project criteria is shown in Appendix F

Table 12: Predicted day/evening Project operational noise levels and simplified Project criteria, dB LAeq,T

Sensitive receptor	Predicted noise level	Project criteria	Compliance?
12 Childs Avenue	30	35	✓
17 Childs Avenue	30	35	✓
19 Thornton Drive	30	35	✓
74 Richmont Drive	29	35	✓
52849 Burnett Highway	34	35	✓
52883 Burnett Highway	35	35	✓
53164 Burnett Hwy	24	35	✓

Table 13: Predicted night Project operational noise levels and simplified Project criteria, dB LAeq,T

Sensitive receptor	Predicted noise level	Project criteria	Compliance?
12 Childs Avenue	27	29	✓
17 Childs Avenue	27	29	✓
19 Thornton Drive	24	29	\checkmark
74 Richmont Drive	23	29	✓
52849 Burnett Highway	28	29	\checkmark
52883 Burnett Highway	29	29	✓
53164 Burnett Hwy	19	29	✓

As shown in Table 12 and Table 13, operational noise from the Project is predicted to be below the simplified Project criteria, being the most stringent Project criteria set out in Section 4.4 (i.e. the TFUC criteria). This means that the EPP acoustic quality objectives, background creep criteria and Draft TLPI criteria would also be achieved.

As the TFUC criteria is achieved, the acceptable outcome AO15.1 would also be met meaning that performance outcome PO15 is satisfied. Per the specifics of the TFUC this would mean that potential noise nuisance would be prevented, and that noise from the Project would be considered consistent with the character of the area.



Cumulative noise 5.5

Per Section 4.4.1 the EPP acoustic quality objectives apply to the total noise from all sources (excluding road traffic), referred herein as cumulative noise. This would include the Project, Bouldercombe Substation and BESS, Central BESS and Bouldercombe Solar Farm.

Consideration of cumulative noise requires a clear understanding of noise levels from existing premises (Bouldercombe Substation and Bouldercombe BESS) and the predicted noise levels from proposed or future projects (Central BESS and Bouldercombe Solar Farm).

Notwithstanding the fact that Central BESS has not been approved, the Central BESS NIA provides an indication of potential noise levels from the operation of the facility, being 26 dB L_{Aeq} at the Childs Avenue residences. This is more than 10 dB below the EPP acoustic quality objectives.

MDA is not aware of a publicly available noise assessment for the approved Bouldercombe Solar Farm; however this facility is owned by the Proponent. This provides significant flexibility over the design development of the solar farm, allowing cumulative noise factors to be minimised, and maximising the potential for holistic integration of all projects.

As shown in Appendix F1, the predicted operational noise levels for the Project are at least 10 dB below the EPP acoustic quality objectives for all time periods at the Childs Avenue residences (being the nearest dwellings).23

Since noise from Bouldercombe Solar Farm is capable of being managed, and noise from both the Project and Central BESS are indicated to be significantly below the acoustic quality objectives, cumulative noise at the nearest receivers will be largely dependent and controlled by existing noise from Bouldercombe Substation and Bouldercombe BESS.

Attended measurements conducted for the Planning Report (refer Section 3.1) provide a high-level indication of noise from these facilities, however a thorough noise survey would be required to evaluate noise in detail. This is proposed as part of ongoing Project development (refer Section 3.3).

Where the existing facilities are emitting noise in an unreasonable manner, i.e. exceeding the acoustic quality objectives, then remediation of noise from these facilities would be the primary means of achieving significant noise reductions at the sensitive receivers.

The predicted noise levels indicated for Central BESS and the Project are sufficiently low (10 dB or more below the acoustic quality objective) that further reductions in Project noise level would not provide material improvements in cumulative noise outcomes.

Project noise levels at 52883 Burnett Highway and 52849 Burnett Highway are predicted to be higher than at the Childs Avenue sensitive receptors, however these locations will be less affected by noise from Bouldercombe Substation, Bouldercombe BESS and the other premises.



6.0 OPERATIONAL NOISE DISCUSSION AND RECOMMENDATIONS

The predicted noise levels shown in Section 5.4 indicate that, based on the information detailed in this report, the Project is capable of being designed and operated such that the derived Project criteria can be achieved, in all cases.

As the TFUC criteria is achieved, the acceptable outcome AO15.1 would also be met meaning that performance outcome PO15 is satisfied. Per the specifics of the TFUC this would mean that potential noise nuisance would be prevented, and that noise from the Project would be considered consistent with the character of the area.

The assessment in this report details one of several ways in which the Project could be designed and delivered whilst maintaining compliance with the applicable noise limits.

Where changes from any aspect of the assessment detailed in this report occur, e.g. during design development, tender or procurement, the changes must be reviewed to verify continued compliance of this Project. In particular, it is expected that further noise assessment should be conducted once a finalised Project design, equipment selections and associated manufacturer's noise data are determined.

To assist the ongoing development of the Project the following recommendations are provided:

- Design development (including layout, equipment selections and noise mitigation measures) to align with the requirements of the EPP and RRPS (including TFUC) as the Project progresses.
- Additional post-approval noise survey works to be carried out, including detailed evaluation of noise levels from current infrastructure (Bouldercombe Substation and Bouldercombe BESS).
- Where Project changes occur, acoustic compliance to be verified via updated noise modelling and reporting - this may comprise a final, 'for construction' noise model and report.
- Preparation of an operational noise management plan and detailed compliance test plan.



APPENDIX A GLOSSARY OF TERMINOLOGY

Term	Definition
A-weighting	A set of frequency-dependent sound level adjustments that are used to better represent how humans hear sounds. Humans are less sensitive to low and very high frequency sounds.
	Sound levels using an "A" frequency weighting are expressed as dB L _A .
Background sound	The sound that is continuously present in a room our outdoor location. Often expressed as the A-weighted sound level exceeded for 90 $\%$ of a given time period i.e. Lago.
dB	Decibel. The unit of sound level.
Frequency	Sound occurs over a range of frequencies, extending from the very low (e.g. thunder) to the very high (e.g. mosquito buzz). Measured in units of Hertz (Hz).
	Humans typically hear sounds between 20 Hz and 20 kHz. High frequency acuity naturally reduces with age most adults can hear up to 15 kHz.
Hertz (Hz)	The unit of frequency, named after Gustav Hertz (1887-1975). One hertz is one pressure cycle of sound per second.
	One thousand hertz – 1000 cycles per second – is a kilohertz (kHz).
L _{A90}	The A-weighted sound level exceeded for 90 $\%$ of the measurement period, measured in dB. Commonly referred to as the background noise level.
L _{Aeq}	The equivalent continuous A-weighted sound level. Commonly referred to as the average sound level and is measured in dB.
Lw	Sound Power Level. The calculated level of total sound power radiated by a sound source. Usually A-weighted i.e. L_{WA} .
Octave band	The interval between one frequency and its double. Sound is divided into octave bands for analysis. The typical octave band centre frequencies are 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz and 4 kHz.
Third octave band	One-third of an octave band. Used for more detailed analysis of sound frequency.

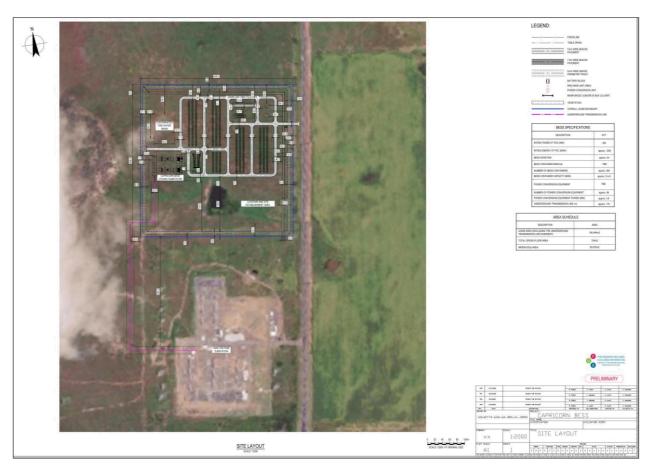
The basic quantities used within this document to describe noise adopt the conventions outlined in ISO 1996-1:2016 Acoustics - Description measurement and assessment of environmental noise – Basic quantities and assessment procedures.

Accordingly, all frequency weighted sound pressure levels are expressed as decibels (dB) in this report. For example, sound pressure levels measured using an "A" frequency weighting are expressed as dB L_A. Alternative ways of expressing A-weighted decibels such as dBA or dB(A) are therefore not used within this report, unless included in a direct quote of external documentation.



APPENDIX B CANDIDATE SITE LAYOUT DRAWING

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APPENDIX C ENVIRONMENTAL PROTECTION (NOISE) POLICY SUMMARY

The *Environmental Protection Act 1994* (EP Act) forms part of a legislative framework that regulates noise from domestic, commercial and industrial premises. Noise is regulated under the EP Act and subordinate legislation including the *Environmental Protection Regulation 2019* (EP Regulation), and the *Environmental Protection (Noise) Policy 2019* (EPP).

Local councils are generally responsible for responding to issues relating to noise that is regulated under the EP Act and have the ability to make local laws to manage specific noise issues in their local area, in addition to the EPP.

C1 Environmental values and acoustic quality objectives

The EPP provides a framework for making consistent and informed decisions that relate to the acoustic environment, specifically for the enhancement and protection of relevant environmental values.

The environmental values to be enhanced or protected include:

- (a) the qualities of the acoustic environment that are conducive to protecting the health and biodiversity of ecosystems; and
- (b) the qualities of the acoustic environment that are conducive to human health and wellbeing, including by ensuring a suitable acoustic environment for individuals to do any of the following:
 - (i) sleep;
 - (ii) study or learn;
 - (iii) be involved in recreation, including relaxation and conversation; and
- (c) the qualities of the acoustic environment that are conducive to protecting the amenity of the community.

The EPP defines acoustic quality objectives (assessed at sensitive land uses) to achieve the above environmental values. The acoustic quality objective for a sensitive receptor, means "the maximum level of noise that should be experienced in the acoustic environment of the sensitive receptor".

The acoustic quality objectives are derived from the WHO (World Health Organization) aspirational targets and exclude noise from transportation, safety devices, domestic, and occupational noise sources – i.e., they apply to noise from industrial/commercial/trade premises.

The relevant environmental value for residences (being the only sensitive receptor classification in the vicinity of the Project) are detailed in Table 14 alongside associated acoustic quality objectives.

Table 14: Acoustic quality objectives

Sensitive receptor	Time of day	Acoustic qua	ality objectives	Environmental value	
		L _{Aeq,adj,1hr}	L _{A10,adj,1hr}	L _{A1,adj,1hr}	
Residence (outdoors)	Day and evening 0700-2200 hrs	50	55	65	Health and wellbeing
Residence (indoors)	Day and evening 0700-2200 hrs	35	40	45	Health and wellbeing
Residence (indoors)	Night 2200-0700 hrs	30	35	40	Health and wellbeing, in relation to the ability to sleep

a Applicable at the sensitive receptor

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Due to the typical characteristics of noise generation associated with the Project, being steady state continuous noise generated by operation of inverters, battery units, transformers and their associated cooling systems, the Laeq, adj, 1hr descriptor is primarily relevant. The Laeq, adj, 1hr is the A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character or impulsiveness.

The EPP acoustic quality objectives provide objectives for both internal acoustic amenity within a residence and acoustic amenity for outdoor areas (e.g. relaxation and conversation outdoors). For this reason, no objective for external amenity is provided at night.

It is necessary to consider both the internal and external objectives since the outdoor objective is **not** the same as the "equivalent outdoor level" to the internal objective. Hence it is still possible to be exceeding the internal objectives even when the outdoor objectives are complied with.

Further guidance can be found in the Noise and Vibration EIS Information Guideline which states:²⁴

When assessing outdoor to indoor noise attenuation at sensitive receptors, do not use the World Health Organisation guideline's value of 25dB as it was developed for European buildings with double-glazed windows. Instead, use an outdoor to indoor attenuation value of 7dB, which is appropriate for typical Queensland buildings with open windows.

This has implications in defining external acoustic quality objectives applicable during the night and constraining acoustic quality objectives applicable during the day and evening periods, such that the indoor acoustic quality objectives can be achieved.

Based on the Noise and Vibration EIS Information Guideline the revised acoustic quality objectives relevant for assessment of the Project, applying outdoors at all nominated receptors are:

Residential

Day and evening: 42 dB L_{Aeq,adj,1hr}
 Night: 37 dB L_{Aeq,adj,1hr}

The EPP also does not define the actual point of assessment for external objectives. In some jurisdictions it is within 10 m of the dwelling or at the nearest boundary, whichever is closer, but given the large scale of many rural Queensland grazing or farming properties, the general industry practise is to conduct the assessment in the vicinity of the dwelling and not at a boundary, which in many cases might be several kilometres away from the dwelling.

The Noise Measurement Manual, as referenced in the EPP, prescribes the processes required to measure noise in accordance with the EP Act and relevant legislation and subordinate policies which include the EPP.²⁵ This includes procedures for adjusting measured noise levels for audible characteristics including tonality, impulsiveness, and low frequency noise.

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Noise and Vibration EIS Information Guideline, Queensland Government, dated 2022.

²⁵ Noise Measurement Manual, Queensland Government, dated 2020.



C2 Background creep

The EPP also defines the management intent for noise and states the following at clause (2) of Section 9:

- (a) To the extent it is reasonable to do so, noise must be dealt with in a way that ensures –the noise does not have any adverse effect, or potential adverse effect, on an environmental value under this policy; and
- (b) background creep in an area or place is prevented or minimised.

Clause (4) of Section 9 then states:

In this section -

background creep, for noise in an area or place, means a gradual increase in the total amount of background noise in the area or place as measured under the document called the 'Noise measurement manual' published on the department's website.

Further guidance with respect to background creep is provided in the EPP Explanatory Notes which state:²⁶

The intent is to prevent or minimise background creep so that the background noise does not increase higher and higher over time to a point where it is unreasonable for the area or place....

In some situations it may be reasonable to allow a greater increase to the background noise in an area or place. That may be the case in an area or place with very low background noise where an activity will increase the background noise levels but only to the extent the environmental values of the area are still protected.

Specific numerical criteria for the assessment of background creep are not provided in the current EPP. The EPP does however provide a management framework comprising a *management hierarchy* - which establishes an approach to avoiding, minimising or managing noise (to the extent that it is reasonable to do so), and the *management intent* - being matters that must be considered by the administering authority when making an environmental management decision. The framework is used to qualitatively evaluate the potential for background creep.

It is noted that the repealed 2008 version of the EPP previously provided direct numerical criterion for the assessment of background creep.²⁷ Further details are provided in Appendix D. These criteria were deliberately removed from the current EPP and are no longer relevant or applicable. The numerical criteria were replaced by alternative requirements in the EPP which are directed at preventing or minimising background creep to the extent that it is reasonable to do so.

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²⁶ Environmental Protection (Noise) Policy 2019 Explanatory notes for SL 2019 No. 154 (Explanatory Notes), Queensland Government

²⁷ Queensland Government Environmental Protection (Noise) Policy 2008, SL No. 442 (EPP 2008) -which was repealed by the issue of the 2019 version of the EPP



APPENDIX D REPEALED EPP BACKGROUND CREEP CRITERIA (NUMERICAL METHOD)

The 2008 version of the EPP was repealed on the publication of the current EPP in 2019.

Section 10 of the 2008 version of the EPP relates to controlling background creep and states:

- 2) To the extent that it is reasonable to do so, noise from an activity must not be--
 - a) for noise that is continuous noise measured by L_{A90,T} more than nil dB(A) greater than the existing acoustic environment measured by L_{A90,T}, or
 - b) for noise that varies over time measured by $L_{Aeq,adj,T}$ more than 5dB(A) greater than the existing acoustic environment measured by $L_{A90,T}$.



APPENDIX E NOISE MODELLING

E1 Noise prediction method

A computer model was created in the environmental noise modelling program SoundPLANnoise v9.1 to predict noise levels from the proposed development to relevant noise-affected receivers in the vicinity of the subject site. The noise model has been used to calculate noise levels at the nearest noise-affected premises in accordance with ISO 9613-2. 28

The noise model enables the calculation of noise levels over a wide area, and accounts for key considerations including site arrangement, terrain, and atmospheric conditions.

The ISO 9613-2 standard specifies an engineering method for calculating noise at a known distance from a variety of sources under meteorological conditions that are favourable to sound propagation. The standard defines favourable conditions as downwind propagation where the source blows from the source to the receiver within an angle of ± 45 degrees from a line connecting the source to the receiver, at wind speeds between approximately 1 m/s and 5 m/s, measured at a height of 3 m to 11 m above the ground. Equivalently, the method accounts for average propagation under a well-developed moderate ground based thermal inversion.

Accordingly, predictions based on ISO 9613-2 account for the instances when local atmospheric conditions at the site favour the propagation of sound to surrounding receptor locations. Under alternative atmospheric conditions, such as when the wind is blowing from a receiver location to the development site, the noise levels would be lower than calculated.

To calculate far-field noise levels according to ISO 9613-2, the noise levels of each source are firstly characterised in the form of octave band frequency levels. A series of octave band attenuation factors are then calculated for a range of effects including:

- geometric divergence
- air absorption
- reflecting obstacles
- screening
- ground reflections.

The octave band attenuation factors are then applied to the noise data to determine the corresponding octave band and total calculated noise level at relevant receiver locations.

In some case third octave band noise data is used to provide a preliminary assessment of potential tonality.

The geometries in the model are simplified representations of the built environment that have been configured to a level of detail that is appropriate for noise calculation purposes.

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²⁸ 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).



E2 Noise model configuration

The parameters detailed in Table 15 were utilised to develop the noise model.

Table 15: Noise model configuration

Feature	Description
Terrain data	Digital elevation model (DEM) with 1m grid size from publicly available information (Elvis Elevation and Depth) ²⁹
Environmental ground conditions	Ground conditions on the Project site were assigned a ground factor (G) of 0 representing 'hard ground'
	The surrounding area has been assigned a ground factor (G) of 1 to reflect ground 'suitable for growth of vegetation'.
	This aligns with guidance set out in Section 7.3.1 of ISO 9613-2.
Atmospheric conditions	Temperature 10 °C and relative humidity 70%.
	These represent conditions which result in relatively low levels of atmospheric sound absorption, resulting in slightly higher predicted noise levels.
Candidate Project layout	Provided by the Proponent.
Dwelling height	Assumed to be single storey (based on aerial observations).
Receiver height	1.5 m above ground.
Noise calculation method	Noise model calculated according to ISO 9613-2.
Noise data for all equipment	Detailed in Section 5.2.
	Noise data has been derived based on:
	candidate manufacturer data provided by the Proponent
	empirical standards
	• previous noise data from MDA's library.
Reflection order	5

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²⁹ Online at https://elevation.fsdf.org.au/



APPENDIX F COMPARISON OF PREDICTED PROJECT OPERATIONAL NOISE LEVELS WITH ALL PROJECT CRITERIA

F1 Project acoustic quality objectives

The predicted Project operational noise levels are below the acoustic quality objectives applicable to the Project, for all assessment periods, as shown in Table 16.

Table 16: Predicted Project operational noise levels and Project acoustic quality objectives, dB LAeq,T

	Day/evening ^a	Day/evening ^a			Night ^b			
	Predicted noise level	Acoustic quality objective	Compliance?	Predicted noise level	Acoustic quality objective	Compliance?		
12 Childs Avenue	30	42	✓	27	37	✓		
17 Childs Avenue	30	42	✓	27	37	✓		
19 Thornton Drive	30	42	✓	24	37	✓		
74 Richmont Drive	29	42	✓	23	37	✓		
52849 Burnett Highway	34	42	✓	28	37	✓		
52883 Burnett Highway	35	42	✓	29	37	✓		

a Day/evening is 0700-2200 hrs

b Night is 2200-0700 hrs



F2 Project background creep

The predicted Project operational noise levels are below the EPP background creep criteria derived for the Project, for all assessment periods, as shown in Table 17.

Table 17: Predicted Project operational noise levels and Project background creep criteria, dB LAeq,T

	Day ^a			Evening ^b			Night ^c		
	Predicted noise level	Criteria	Compliance?	Predicted noise level	Criteria	Compliance?	Predicted noise level	Criteria	Compliance?
12 Childs Avenue	30	42	✓	30	35	✓	27	31	✓
17 Childs Avenue	30	42	✓	30	35	✓	27	31	✓
19 Thornton Drive	30	42	✓	30	35	✓	24	31	✓
74 Richmont Drive	29	42	✓	29	35	✓	23	31	✓
52849 Burnett Highway	34	42	✓	34	35	✓	28	31	✓
52883 Burnett Highway	35	42	✓	35	35	✓	29	31	✓

a Day/evening is 0700-1800 hrs

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b Evening is 1800-2200 hrs

c Night is 2200-0700 hrs



F3 RRPS TFUC

The predicted Project operational noise levels are below the RRPS TFUC criteria derived for the Project, for all assessment periods, as shown in Table 18.

Table 18: Predicted Project operational noise levels and RRPS TFUC criteria, dB LAeq,T

	Day/evening ^a			Night ^b		
	Predicted noise level	RRPS TFUC criteria	Compliance?	Predicted noise level	RRPS TFUC criteria	Compliance?
12 Childs Avenue	30	35	✓	27	29	✓
17 Childs Avenue	30	35	✓	27	29	✓
19 Thornton Drive	30	35	✓	24	29	\checkmark
74 Richmont Drive	29	35	✓	23	29	\checkmark
52849 Burnett Highway	34	35	✓	28	29	✓
52883 Burnett Highway	35	35	✓	29	29	✓

a Day/evening is 0700-2200 hrs

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b Night is 2200-0700 hrs



F4 Draft TLPI

The predicted Project operational noise levels are below the Draft TLPI criteria derived for the Project, for all assessment periods, as shown in Table 19.

Table 19: Predicted Project operational noise levels and RRPS TFUC criteria, dB LAeq,T

	Day/evening ^a			Night ^b		
	Predicted noise level	Draft TLPI criteria	Compliance?	Predicted noise level	Draft TLPI criteria	Compliance?
12 Childs Avenue	30	37	✓	27	35	✓
17 Childs Avenue	30	37	✓	27	35	✓
19 Thornton Drive	30	37	✓	24	35	✓
74 Richmont Drive	29	37	✓	23	35	✓
52849 Burnett Highway	34	37	✓	28	35	✓
52883 Burnett Highway	35	37	✓	29	35	✓

a Day/evening is 0600-2200 hrs

b Night is 2200–0600 hrs

DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Hazard Incident Management Plan

Meeting Date: 9 December 2025

Attachment No: 9



Hazard Incident Management Plan
Capricorn BESS, QLD



Hazard Incident Management Plan

Capricorn BESS, QLD

Environmental Resources Management Australia Pty Ltd

Prepared by

Riskcon Engineering Pty Ltd 37 Pogson Drive Cherrybrook NSW 2126 www.riskcon-eng.com ABN 74 626 753 820

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Quality Management

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Executive Summary

Background

Environmental Resource Management Australia Pty Ltd (ERM) is preparing the planning application on behalf of Capricorn BESS Pty Ltd for the proposed Capricorn BESS (CB), a new 300 MW / 4 h Battery Energy Storage (BESS) facility in Bouldercombe QLD. The facility will be comprised of BESS units, electrical transformers and inverters, electrical cabling, telecommunications equipment, an electrical control room, connection to substation and perimeter fencing.

A Hazard Incident Management Plan (HIMP) is to be developed to support the CB Development Application. It has been proposed to adopt the methodology for the HIMP from the NSW HIPAP 2 (Ref.) in the absence of QLD guidelines. Due to BESS facility being an emerging power systems facility there is little regulation that directly aligns with the development of these facilities within Queensland. FRNSW have developed a comprehensive Fire Safety Guideline *Technical Information – Large scale external lithium-ion battery energy storage systems – Fire safety study considerations* this document will be consulted to further the safety provisions of the facility. In addition, the Electrical Safety Office Code of Practice (Ref.) and The Best Practice Guide: Battery Storage Equipment 2018 (Ref.) will be also considered in the assessment.

ERM on behalf of Capricorn BESS has commissioned Riskcon Engineering Pty Ltd (Riskcon) to prepare the HIMP for the facility. This document represents the HIMP study for the BESS facility located Burnett Highway - Bouldercombe, QLD 4702.

Conclusions

A HIMP per the HIPAP No. 2 guidelines was prepared for the proposed BESS Facility located at Lot 2 on RP613051 off Burnett Highway Bouldercombe, QLD 4702. The analysis performed in the HIMP was based on credible fire scenarios to assess whether the protection measures at the site were adequate to combat the hazards associated with the quantities and types of commodities being stored. Based on the assessment, it was concluded that the designs and existing fire protection adequately managed the credible fire risks at the site.

Recommendations

Based on the analysis, the following recommendations have been made:

- All site personnel shall be inducted in site procedures and emergency response protocols relevant to their roles.
- All site personnel who require training must undergo formal training in the required procedures and emergency response protocols relevant to their role.
- Necessary personnel to provide first aid are to be trained in accordance with the QLD Code of Practice for first aid in workplaces 2021– high-risk workplaces (Ref. [4][4]).
- A team of site personnel are to be trained in the use of the water cart and first-attack firefighting methods.
- Site management to prepare and maintain operational procedures to minimise the number of hazardous incidents and accidents on site and to mitigate the consequences of incidents regarding the handling of dangerous goods and chemicals.



- A site Emergency Response Plan per the requirements of HIPAP No. 1 shall be prepared and shall include measures to advise neighbouring premises in the event of an emergency with potential offsite impacts.
- Dangerous Goods (DG) documentation shall be prepared as required by the Work Health and Safety Regulation 2011 to demonstrate the risks associated with the storage and handling of DGs has been assessed and minimised.
- Any DGs stored at the site shall be stored and handled in accordance with the Work Health and Safety Regulation 2011 and any applicable storage and handling standards.



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Abbreviations

Abbreviation	Description
ADG	Australian Dangerous Goods Code
AS	Australian Standard
BESS	Battery Energy Storage System
ВММ	Battery Management Module
CBD	Central Business District
СВ	Capricorn BESS
DA	Development Application
DGs	Dangerous Goods
EMS	Environmental Management Strategy
ERM	Environmental Resources Management Australia
FCAS	Frequency Control Ancillary Services
FER	Fire Engineering Report
FRNSW	Fire and Rescue New South Wales
HVAC	Heating, Ventilation and Air Conditioning
HIPAP	Hazardous Industry Planning Advisory Paper
ISO	International Organization for Standardization
LEL	Lower Explosive Limit
NSW	New South Wales
MVPS	Medium Voltage Power Station
PCU	Power Conditioning Unit
QLD	Queensland
QFES	Queensland Fire and Emergency Services
RFS	Rural Fire Service
SEP	Surface Emissive Power
SMSS	Storage Mode Sprinkler System
SMU	Battery Management System Unit



1.0 Introduction

1.1 Background

Environmental Resource Management Australia Pty Ltd (ERM) is preparing the planning application on behalf of Capricorn BESS Pty Ltd for the proposed Capricorn BESS (CB), a new 300 MW / 4 h Battery Energy Storage (BESS) facility in Bouldercombe QLD. The facility will be comprised of BESS units, electrical transformers and inverters, electrical cabling, telecommunications equipment, an electrical control room, connection to substation and perimeter fencing.

A Hazard Incident Management Plan (HIMP) is to be developed to support the CB Development Application. It has been proposed to adopt the methodology for the HIMP from the NSW HIPAP 2 (Ref. [1]) in the absence of QLD guidelines. Due to BESS facility being an emerging power systems facility there is little regulation that directly aligns with the development of these facilities within Queensland. FRNSW have developed a comprehensive Fire Safety Guideline *Technical Information – Large scale external lithium-ion battery energy storage systems – Fire safety study considerations* this document will be consulted to further the safety provisions of the facility. In addition, the Electrical Safety Office Code of Practice (Ref. [2]) and The Best Practice Guide: Battery Storage Equipment 2018 (Ref. [3]) will be also considered in the assessment.

ERM on behalf of Capricorn BESS has commissioned Riskcon Engineering Pty Ltd (Riskcon) to prepare the HIMP for the facility. This document represents the HIMP study for the BESS facility located Burnett Highway - Bouldercombe, QLD 4702.

1.2 Objectives

The objectives of the HIMP are to:

- Review the site operations and DG storages for the potential to initiate or become involved in a
 fire including flammable materials which may be present at the site.
- Identify heat radiation impacts from potential fire sources at the site and determine the potential impacts on the surrounding areas and fire protection system, and
- Review the proposed fire safety features and determine the adequacy of the fire safety systems based on the postulated fires.

1.3 Scope of Services

The scope of work is for the preparation of a HIMP for the facility to assess the potential hazards at the site to ensure the fire protection systems are commensurate with the identified hazards. This document follows the methodology recommended in HIPAP No.2 (Ref. [1]).

The HIMP focuses on the storage of commodities associated with the new development at the site in addition to the existing operations at the site as required by HIPAP No. 2. A review of the following components of the HIMP are within the scope of work:

- Determination of risk and consequences from fire or explosion scenarios throughout the facility.
- The preparation of a report on fire prevention, fire detection, fire alarm and fire suppression systems for the site.
- Firewater storage capacity for compliance with Australian Standards and Regulations.



- External fire hydrant configuration and locations.
- Recommendations based upon the study for implementation in the final design.



2.0 Methodology

2.1 Hazard Incident Management Plan Approach

The following methodology was used in the preparation of the HIMP for the facility. The methodology is to follow items required by HIPAP No. 2 (Ref. [1]).

- The fire hazards associated with the facility were identified to determine whether there were
 any fire or explosion hazards that may impact offsite or result in a potential to escalate. Where
 fire hazards with the potential to impact offsite or escalate were identified, these were carried
 forward for consequence assessment.
- The heat radiation impacts or overpressure impacts (consequences) from each of the
 postulated incidents from the proposed equipment were then estimated and potential impacts
 on surrounding areas assessed.
- Impacts of the fires from the proposed equipment were plotted on a layout plan of the proposed
 facility, to determine whether heat radiation impacts any critical areas (i.e. adjacent storage
 areas, fire services, safety systems, etc.) and whether such impact affected the ability of
 firefighters to respond to the postulated fire. The heat radiation impact from incidents at adjacent
 sites on the buildings and structures at the facility were then assessed against the maximum
 permissible levels in HIPAP No. 4 (Ref. [5]).
- The firefighting strategies were then assessed to determine whether these strategies require
 update in light of the location of the proposed equipment and storage areas.
- The response times for Queensland Fire & Emergency Service (QFES) in the immediate vicinity
 were assessed. In addition, further outlying QFES stations were included to provide a 'back-up
 plan' in the event that the closest fire brigades were unable to attend.
- A report was then developed for submission to the client and the regulatory authority.

In addition, the FRNSW Fire Safety Guideline *Technical Information – Large scale external lithium-ion battery energy storage systems – Fire safety study considerations*, (Ref. [6]) herein referred to as the 'FRNSW BESS Guideline', was reviewed as part of the preparation of the HIMP coupled with the Electrical Safety Office Code of Practice Managing electrical risks in the workplace 2021 (Ref. [2]).

2.2 Limitations and Assumptions

In this instance, the HIMP is developed based on applicable limitations and assumptions for the development which are listed as follows:

- The report is specifically limited to the project described in Section 3.4 and the methodology and approach outlined in Section 2.1.
- The report is based on the information provided.
- The report does not provide guidance in respect of incidents that relate to sabotage or vandalism of fire safety systems.
- The assessment is limited to the objectives of the HIMP as provided in the guidelines issued as HIPAP No. 2 (Ref. [1]) and does not consider property damage such as building and contents damage caused by fire, potential increased insurance liability and loss of business continuity.

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- Malicious acts or arson with respect to fire ignition and safety systems are limited in nature and
 are outside the scope of this report. Such acts can potentially overwhelm fire safety systems
 and therefore further strategies such as security, housekeeping and management procedures
 may better mitigate such risks.
- This report is prepared in good faith and with due care for information purposes only and should not be relied upon as providing any warranty or guarantee that ignition or a fire will not occur.



3.0 Site Description

3.1 Site Location

The development site is located on Lot 2 on RP613051 off Burnett Highway Bouldercombe, QLD 4702 within the Rockhampton Regional Council LGA. The site is located approximately 2.5 km north of Bouldercombe and 16 km form Rockhampton, QLD.

Figure 3-1 shows the regional location of the site. The Project layout has been provided in **Figure 3-3**. The BESS layout is provided in **Figure 3-4**.



Figure 3-1: Site Location (Source - Google Maps)

3.2 Adjacent Land Uses

The land is located in a regional / rural area surrounded by the following land used which are adjacent to the site:

- North rural vacant land
- · South High voltage substation, rural vacant land and residential area
- East Burnett Hwy and rural vacant land
- West rural vacant land

3.3 Project Area

The project area context map is shown in Figure 3-2.





Figure 3-2: Project Area Context Map



3.4 General Description

CB will store dispatchable energy generated from renewable sources for the QLD Grid. The facility will operate to provide electricity during peak energy consumption. The CB will be managed by personnel during standard working hours. The facility will consist of BESS modules, electrical transformers and inverters, electrical cabling, telecommunications equipment, an electrical control room, the connection to Bouldercombe substation, security lighting, perimeter security fencing and site access gates.

The stored electricity will be exported through an underground transmission line 275 kV connection to the Powerlink's Bouldercombe Substation located approximately 100 m south of the CB site.

The Project comprises the construction, operation and decommissioning of a BESS facility and associated infrastructure. The Project includes:

- BESS Infrastructure
 - o BESS with a capacity of up to 300 MW / 4 h.
 - o 294 BESS containers (for this assessment and may differ to the final design)
 - o BESS container capacity of 5 MWh.
- Electricity infrastructure:
 - o 2 x 180 MVA Transformers.
 - o 98 MVPS 4.4 MVA Transformers coupled with 98 Inverters.
 - o Electrical cabling between BESS units and transformers.
 - o Underground transmission line connection to substation.
 - o Switching station.
- · Onsite permanent supporting infrastructure:
 - Site access road and entry.
 - o Internal access roads.
 - Operations and Maintenance (O&M) Facility including site offices, O&M buildings, amenities, equipment sheds, storage and parking areas, fire water tank and fire hydrants.
- · Off-site supporting infrastructure:
- · Existing public road and communications network; and
- Temporary supporting infrastructure:
 - o Construction facilities such as offices, car park and amenities.
 - o Fencing and landscaping works.
 - o Delivery of project components, such as battery modules.
 - Installation of underground and overhead cabling.
 - Water sourcing.
 - Installing maintenance and environmental management processes and equipment.

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A minimum 10-meter defendable space surrounding the BESS facility. This space should allow
unobstructed vehicle access to aid emergency services in the event of a nearby fire.
Additionally, the 10 meter spacing should manage the defendable space and BESS areas as
an Asset Protection Zone (APZ).

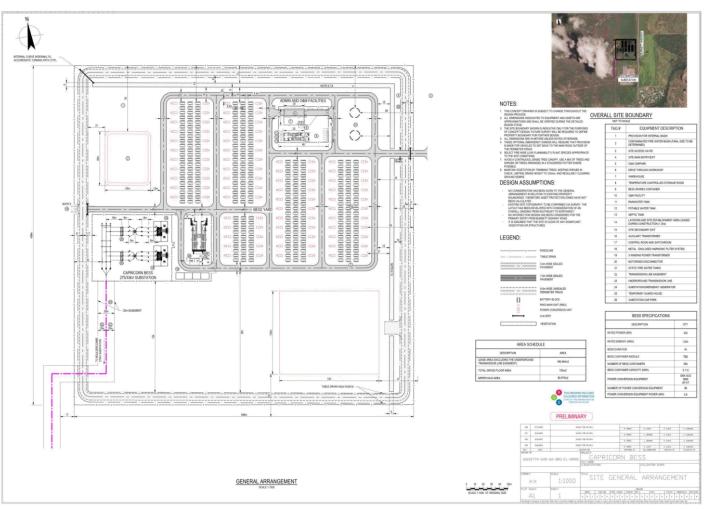


Figure 3-3: Project Layout

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BATTERY BLOCK RING MAIN UNIT (RMU)

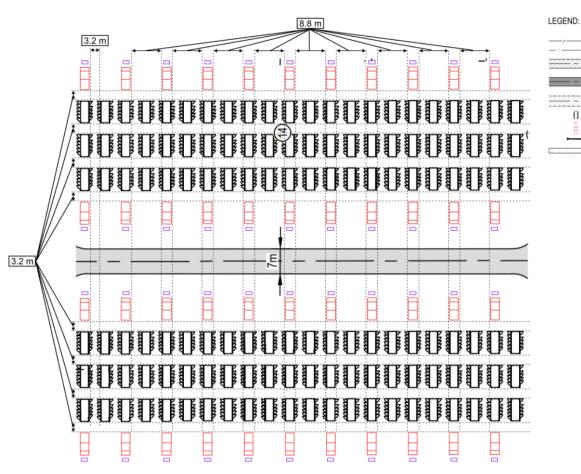


Figure 3-4: BESS Layout

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3.5 Detailed Description

The purpose of the project is to provide dispatchable energy to the QLD grid and contribute towards the goals of the QLD government's QLD Electricity Infrastructure Roadmap.

The electricity will be capable of storage in a 300 MW / 4h BESS which can be dispatched based on electricity demand fluctuations, providing the opportunity for greater supply dispatch flexibility when electricity demand is highest. This is enabled by the fast response times achievable through lithium-ion battery storage.

3.5.1 Battery Storage

The BESS will be located within the site compound, laydown and substation footprint area. The BESS converts electrical energy into chemical energy and stores the energy internally. It may also provide additional network support such as Frequency Control Ancillary Services (FCAS) assisting with transmission network grid stability. The SAFT Intensium Shift (I-Shift) BESS is shown in **Figure 3-5**. The OEM for the BESS has not yet been selected, therefore the SAFT I-Shift BESS shall provide a representative analysis of the system.



Figure 3-5: SAFT I-Shift BESS

The SAFT I-Shift BESS proposed for CB is housed in an ISO 20 ft container having a rating of IP64. The container is divided into 4 rooms:

- The battery room
- The control room
- The Battery Management Module (BMM) room
- The Heating, Ventilation and Air Conditioning (HVAC) room



The Battery Room houses Li-Ion battery modules arranged in 8 parallel strings, each consisting of 17 Lithium-Ion battery modules connected in series across 2 racks. These strings are organised into 9+8 parallel configurations. Each module, configured as 1P24S, is monitored by a Battery Management Module (BMM) located in the BMM room. The BMM tracks cell voltages and temperatures through a Battery Management System Unit (SMU) and ensures the stability of the batteries, preventing thermal runaway by isolating any cell that falls outside operating parameters. The BMM room also contains the fire suppression system.

Temperature and humidity within the container are regulated by a thermal power HVAC system, maintaining the environment at a consistent 20°C to 35°C. Each BESS unit comprises 3,400 lithium iron phosphate (LiFePO4, or LFP) cells. Each cell weighs 5.4 kg, making the total weight of the I-Shift BESS 18,360 kg.

The SAFT I-Shift contains heat and smoke detectors and a gaseous suppression system. In the event of thermal runaway, flammable gases are generated which can be detected to initiate a safety response. The SAFT I-Shifts are fitted with flammable gas detection which identifies flammable gases at 25% of the Lower Explosive Limit (LEL) which will activate a visual and audible alarm as well as opening the off gassing valve to prevent over pressurisation and activation of the ventilation system to clear flammable gases. The units are fitted with blast panels in the event that the flammable gas protection systems fail to operate, and the flammable gas exceeds the LEL and is ignited. The presence of the explosion vent mitigates against escalation into an explosion as it relieves the pressure preventing the acceleration of the combustion through the vapour cloud and subsequent detonation.

3.5.2 Protection Measures

The BESS is fitted with a range of fire protection systems including:

- · Gaseous fire protection system
- Thermal detection
- · Smoke detection
- Audible & Visual alarms
- Fire system emergency start
- Emergency stop
- Water Fire Safety System
- · Gass Fire Safety System
- · Pressure relief valve
- 6 blast panels
- Thermally insulated rockwool top and sides

The arrangement of the fire protection systems are shown in Figure 3-6.



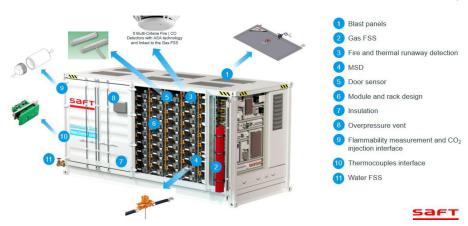


Figure 3-6: BESS Protection Systems

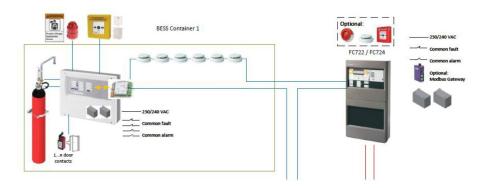


Figure 3-7: BESS Fire Protection Systems

3.6 Quantities of Dangerous Goods

The classes and quantities of DGs provided in Table 3-1.

Table 3-1: Maximum Quantities of Dangerous Goods Stored & Preliminary Risk Screening

Area	Class	Description	Quantity (L / tonne*)
BESS	9	Lithium Batteries	16,800 *
PCU Transformer	C2	Transformer oils	112,000 L
Substation Transformer	C2	Transformer oils	90,000
Control room generator	C1	Diesel	1,000



4.0 Hazard Identification

4.1 Introduction

A hazard identification table has been developed and is presented at **Appendix A**. Those hazards identified to have a potential fire or explosion impact are assessed in the following sections of this document.

4.2 Properties of Dangerous Goods

The type of DGs and quantities stored and used at the site has been described in **Section 3**. **Table 4-1** provides a description of the DGs to be stored and handled at the site, including the Class and the hazardous material properties of the DG Class.

Table 4-1: Properties* of the Dangerous Goods and Materials Stored at the Site

Class	Hazardous Properties
9 – Miscellaneous DGs	Class 9 substances and articles (miscellaneous dangerous substances and articles) are substances and articles which, during transport present a danger not covered by other classes. Releases to the environment may cause damage to sensitive receptors within the environment. It is noted that the Class 9s stored within this project are lithium-ion batteries which may undergo thermal runaway (i.e. escalating reaction resulting in heat which ultimately leads to failure of the battery and a fire).
Combustible Liquids	Combustible liquids are typically long chain hydrocarbons with flash points exceeding 60.5°C. Combustible liquids are difficult to ignite as the temperature of the liquid must be heated to above the flash point such that vapours are generated which can then ignite. This process requires either sustained heating or a high-energy ignition source.

^{*} The Australian Code for the Transport of Dangerous Goods by Road and Rail (Ref. [7])

4.3 Hazard Identification

Based on the hazard identification table presented in **Appendix A**, the following hazardous scenarios have been developed:

- · Li-ion battery fault, thermal runaway and fire.
- Li-ion battery fire, toxic smoke plume
- Electrical equipment failure and fire.
- · Transformer internal arcing, oil spill, ignition and bund fire.
- Transformer electrical surge protection failure and explosion
- Diesel release, ignition and pool fire.
- External fire impact.

Each identified scenario is discussed in further detail in the following sections.

4.4 Li-Ion Battery Fault, Thermal Runaway and Fire

Lithium ion (Li-ion) batteries are composed of a metallic anode and cathode which allows for electrons released from the anode to travel to the cathode where positively charged ions in the solute migrate to the cathode and are reduced. The flow of electrons provides the source of energy



which is discharged from a battery and used for work. In a Li-ion battery, the lithium metal composites (a composite of lithium with other metals such as cobalt, manganese, nickel, or any combination of these metals) oxidises (loses an electron) becoming a positively charged ion in solution which migrates through the battery separator to the cathode. At the same time, the lost electron travels through the circuit to the cathode. The lithium ions in solution then recombine with the electron at the cathode forming lithium metal within the cathodic metal composite. This process is shown in **Figure 4-1**.

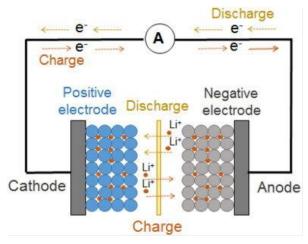


Figure 4-1: Cathode and Anode of a Battery (Source Research Gate)

Initial lithium batteries were designed around lithium metal (i.e. no composite structure) due to the high energy density yielded by the metal. However, when overcharging a battery, lithium ions can begin to plate on the anode in the form of lithium dendrites. Eventually, the dendrites pierce the separator within the battery resulting in a short of the battery which could result in heat, fire, or explosion of the battery. The technology evolved to move away from lithium metal to lithium ions (held within composite materials) which reduced the incidence of lithium dendrites forming resulting in an overall safer battery.

Despite the improvement in battery technology, there are several degradation mechanisms that are still present within the battery which can result in thermal runaway. These include:

- · Chemical reduction of the electrolyte at the anode
- · Thermal decomposition of the electrolyte
- Chemical reduction of the electrolyte at the cathode
- Thermal decomposition by the cathode and the anode
- · Internal short circuit by charge effects

These effects arise primarily as a result of high discharge, overcharging, or water ingress into the battery which results in a host of by-products being formed within the battery during charge and discharge cycles.



As a result, Li-ion batteries are equipped with several safety features to prevent the batteries from charging or discharging at voltages which result in battery degradation, leading to shorting of the battery and thermal runaway. Safety features generally include:

- · Shut-down separator (for overheating)
- Tear-away tab (for internal pressure relief)
- · Vent (pressure relief in case of severe outgassing)
- Thermal interrupt (overcurrent/overcharging/environmental exposure)
- Battery Management Systems (BMS) constant monitoring of the voltage, temperature and state of charge of individual cells to aid in early detection of a fault condition. Upon detection of cell fault, the BMS disconnects and isolates the cell to prevent propagation of the incident, and alarms the site Emergency Management System (EMS).
- Emergency stop
- Fire proteciton emergency start
- Gaseous fire protection system
- Explosion prevention vent

These features are designed to prevent overcharging or excessive discharge, pressurisation arising from heat generated at the anode or from battery contamination. Protection techniques for Li-ion batteries are standard; hence, the potential for thermal runaway to occur in normal operation is incredibly low with the only exceptions being where batteries are manufactured poorly or due to manufacturing faults, or battery damage (i.e. battery cell is ruptured as this can short circuit the battery resulting in thermal runaway) or in the event of an ancillary system failure during commissioning (i.e. while protection systems are being tested).

The battery product that has been proposed for this project is the I-Shift SAFT BESS units. The battery chemistry of the I-Shift units is lithium-Ion phosphate (LiFePO4, or simply LFP), which are considered to be one of the safest battery chemistries within the industry. The stability of the batteries is due to the cathode which does not release oxygen therefore preventing violent redox reactions resulting in rapid temperature rise as the oxygen oxidizes the electrolyte.

A UL9540A report was prepared for the I-Shift SAFT BESS which has been provided in **Appendix C**. It is noted that the testing involved 34 modules: A review of the report indicated that thermal-runaway in one cell would result in cell-to-cell propagation (i.e. between the cells within a single module). The maximum wall surface temperature (i.e. of a module) was measured at 30.3°C which was below the BESS threshold limit of 35°C. While cell-to-cell propagation was observed, module to module propagation did not occur. In addition, flaming of the cells was not observed and no explosion hazards were observed (i.e. no deflagration (flash fire), detonation (explosion), or accumulation (precursor to deflagration or detonation)). Therefore, it is considered that a thermal runaway even in the LFP batteries would not result in a BESS unit fire.

Additional testing for shock and damage to batteries (i.e. nail puncture test) has shown that LFP batteries when punctured through membranes typically results in a shorting of the battery, and fire does not result in ignition of the battery demonstrating that the battery chemistry is protected against shock damage. When exposed to external heat the thermal rise of typical lithium ion battery chemistries is 200-400 °C/min resulting thermal run away and fire which can then propagate to adjacent batteries escalating the incident to a full container fire. For LFP batteries, the thermal rise



of the batteries at peak is 1.5°C/min which results in a gradual temperature rise and does not result in fire and thus incident propagation to other batteries. The thermal rise of various battery chemistries is provided in **Figure 4-2** with a zoomed in temperature rise for LFP provided in the top right of **Figure 4-2**.

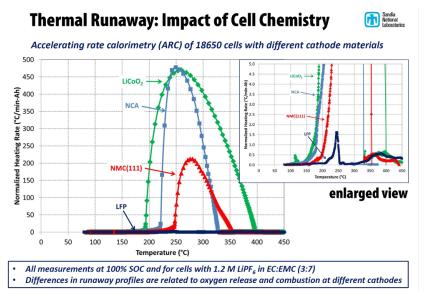


Figure 4-2: Temperature Rise of Lithium-Ion Battery Chemistries (Ref. [8]).

Although the LFP technology does not typically cause fire, there can be circumstances where battery modules catch fire due to leaking coolant or electric faults. In those cases, fire will be constrained by the enclosure. In the event that LFP chemistries do ignite, the combustion byproducts release carbon dioxide which reduces the oxygen concentration within a confined space reducing the combustion rate.

In conclusion, the LFP technology does not cause flaming fire during thermal runaway. Should fire be developed within one BESS enclosure it would not transfer to nearby enclosures due to the fire safety design features. In terms of physical damage, the batteries are contained within in modules which are located within a fenced area; therefore, there is a low potential for damage to occur to the batteries which may initiate an incident.

Notwithstanding this, for conservatism it has been assumed that a flaming fire could occur from a BESS unit which may impact firefighting equipment or result in propagation of the incident to adjacent units. Therefore, this incident has been carried forward for further analysis for conservatism.

4.5 Li-ion Battery Fire and Toxic Gas Dispersion

As noted in **Section 4.4**, there is the potential for a BESS failure to occur resulting in a fire which may result in toxic by-products of combustion to form. As part of the BESS testing the off gases generated from the thermally running away battery cells were captured and tested. Provided in the **Table 4-2** is a summary of the gases that were detected.



Table 4-2: Gas Composition from Battery Cell Thermal Runaway

Gas Component	Gas volume in Percentage (%)
Carbon Monoxide	8.268
Carbon Dioxide	21.177
Hydrogen	53.408
Methane	6.962
Acetylene	0.311
- Ethylene	6.101
Ethane	1.479
Propadiene (Allene)	0.001
Propylene	0.489
Propane	0.321
-	0.467
-	0.096
-	0.056
1-Heptene	0.005
Benzene	0.014
Toluene	0.002
Dimethyl Carbonate	0.645
Ethyl Methyl Carbonate	0.195
Diethyl Carbonate	0.003
Total	100

A review of the gases indicates they are predominantly flammable gases with the only gases of consideration for toxic impacts being carbon dioxide and carbon monoxide. These have been reviewed in further detail in the following subsections.

4.5.1 Carbon Dioxide

Carbon dioxide is a colourless, odourless, dense gas which is naturally forming and is present in the atmosphere at concentrations around 415 ppm (0.0415%). At low concentrations carbon dioxide is physiologically impotent and at low concentrations does not appear to have any toxicological effects. However, as the concentration grows it increases the respiration rate with Short Term Exposure Limit (STEL) occurring at 30,000 ppm (3%), above 50,000 ppm (5%) a strong respiration effect is observed along with dizziness, confusion, headaches, and shortness of breath. Concentrations in excess of 100,000 ppm (10%) may result in coma or death.

Carbon dioxide is a by-product of combustion where hydrocarbon or carbon-based materials are involved. A typical combustion reaction producing carbon from a hydrocarbon has been provided in **Equation A-1**. This reaction proceeds when there is an excess of oxygen to the fuel being consumed and is known as complete combustion as it is the most efficient reaction pathway.

$$C_3H_8(g) + 5O_2(g) \rightarrow 3CO_2(g) + 4H_2O(g)$$
 Equation A-1



The lithium-ion batteries are predominantly composed of metal structures. However, during a fire event ancillary equipment and materials within the batteries will be involved in the fire including wiring, plastics, anodes, etc. which will liberate carbon dioxide. However, a review of the toxicological impacts indicates high concentrations would be required to result in injury or fatality. Based upon a review of the sensitive areas, and the similar BESS fires (i.e. Victoria BESS fire), it is not considered that the formation of carbon dioxide in a fire would be sufficient to result in downwind impacts sufficient to cause injury or fatality. In other words, there would be insufficient production of carbon dioxide to generate a plume of sufficient concentration to displace the required oxygen for a significant downwind consequence to occur. Therefore, this incident has not been carried forward for further analysis.

4.5.2 Carbon Monoxide

Carbon monoxide an odourless, colourless gas which is slightly denser than air and occurs naturally in the atmosphere at concentrations around 80 ppb. Carbon monoxide is a toxic gas as it irreversibly binds with haemoglobin which prevents these molecules from carrying out the function of oxygen / carbon dioxide exchange. The loss of 50% of the haemoglobin may result in seizures, coma or death which can occur at concentration exposures of approximately 600 ppm (0.06%).

Carbon monoxide is by-product of combustion if there is insufficient oxygen to enable complete combustion. The reaction pathway for the formation of carbon monoxide is provided in **Equation A-1**

$$2C_3H_8(g) + 7O_2(g) \rightarrow 6CO(g) + 8H_2O(g)$$
 Equation A-1

As noted, in **Section 4.5.1** there is the potential for a fire to occur with the BESS units which could form carbon monoxide if there is insufficient oxygen to sustain complete combustion. However, it is noted that the combustible load within the BESS which could result in the formation of carbon monoxide is relatively low compared to the available oxygen in the surrounding atmosphere. Therefore, it is considered that the formation of carbon monoxide at levels which would result in a substantial downwind impact are not considered credible. Therefore, this incident has not been carried forward for further analysis.

4.6 Electrical Equipment Failure and Fire

Electrical equipment is located within the switch room which may fail resulting in overheating, arcing, etc. which could initiate a fire. In the event of a fire, it may begin to propagate to adjacent combustible materials (i.e. wiring). It is noted that electrical equipment fires typically start by smouldering before flame ignition occurs resulting in a slow fire development.

The type of equipment used within the project is ubiquitous throughout the world and across industry segments and is therefore not a unique fire scenario. Based upon fire development within switch rooms the fire would be considered to be relatively slow in growth and would be unlikely to result in substantial impacts in terms of impacts to firefighting equipment and incident propagation. Therefore, this incident has not been carried forward for further analysis.

4.7 Transformer Internal Arcing, Oil Spill, Ignition and Bund Fire

Transformers contain oil which is used to insulate the transformers during operation. If arcing occurs within the transformer (e.g. due to a low oil level), the high energy passing through the coolant vaporises the oil into light hydrocarbons (methane, ethane, acetylene, etc.) resulting in rapid pressurisation within the reservoir. To minimise the likelihood of such occurrence,



transformers are fitted with a low oil pressure switch, oil temperature monitoring and switches, gas formation detectors and a pressure surge protection. These devices identify potential oil and pressure events within the transformer, isolating power and alarming operators.

Notwithstanding the protection systems, if the pressure rise exceeds the structural integrity of the reservoir, and the installed pressure relief devices, the reservoir can rupture allowing the release of oil into the bund. The rupture also allows oxygen to enter the reservoir. The temperature of the gases is above the auto ignition point, but this does not occur until oxygen is present. When oxygen enters the reservoir, the gases auto ignite which generates sufficient heat to ignite the oil in the bund.

The transformer to be used on site will be insulated using natural ester based insulating oil. Natural esters have a flash point exceeds 300°C (Ref. [9]) and are classified as non-dangerous goods under the Australian Dangerous Goods Code (Ref. [7]). Therefore, ignition of the fluid is extremely difficult, and a fire occurring from a natural ester insulated transformer is not considered a credible scenario. Furthermore, transformers are ubiquitous units with a low potential for failure.

Notwithstanding this, due to the number of transformers on site, this incident has been carried forward for further analysis for conservatism.

4.8 Transformer Electrical Surge Protection Failure and Explosion

Transformers generate large amounts of heat as a result of the high electrical currents that pass through them; hence, oil is used as an insulating material within the transformers to protect the mechanical components. However, if the transformer gets an extreme surge of energy, such as that which could occur due to a lightning strike, and the electrical surge protection measures fail, the mineral oil may start to decompose and vapourise, resulting in gas bubbles of hydrogen and methane (Ref. [10]) as temperatures above the autoignition of the gases.

The formation of gases will increase the pressure within the transformer which can result in the transformer structure rupturing which allows the ingress of oxygen. As the oxygen enters, the concentration of flammable gases falls within the explosive limits which are above their autoignition temperatures which ignite resulting in increased formation of hot gaseous products resulting in an explosion. The explosion may generate significant overpressure, sparks and fire and would result in a whole transformer fire, as discussed in **Section 4.7**.

In order to protect against overheating and explosions, transformers have surge protection, which programs them to shut down upon detection of an energy spike. However, the surge protection can have a slight delay. In the event of a major lightning strike, significant oil deterioration or physical damage such as a fallen tree, the surge protection may be too slow to stop an electrical overload (Ref. [11]).

However, the transformers will be protected against lightning as per the requirements of AS 2067:2016 (Ref. [12]). Furthermore, the transformers will use natural esters as the insulating liquid instead of mineral oil. As previously discussed, natural esters have a flash point exceeding 300°C (Ref. [9]), and so are classified as non-dangerous goods under the Australian Dangerous Goods Code (Ref. [13]).

Therefore, there is the potential for an explosion to occur which may result in impacts to fire protection equipment; however, as noted, these units are ubiquitous and have a low potential for failure. Therefore, this incident has not been carried forward for further analysis.



4.9 Diesel Release, Ignition and Pool Fire

A self-bunded diesel fuel tank (1,000 L) is provided to supply a backup generator for the control room will be located at the site. The diesel tank will be designed in accordance with AS 1940:2017 (Ref. [14]), including fitting the tank with level alarms and overfill sensors. In the event the operator fails to respond alarm during tank filling, this may result in a release of diesel. However, the tank is integrally bunded and hence will be capable of containing the full volume of the liquid within the secondary tank, should deterioration of the internal tank or overfill occur.

A significant release of diesel may also occur if a vehicle were to impact the tanks as this may damage both the primary and secondary tanks. The risk of vehicle collision will be mitigated by the use of impact protection (e.g. bollards, armco barriers) which will prevent any wayward vehicles from contacting the tank; hence, catastrophic damage is unlikely to occur.

Furthermore, diesel is classified as a combustible liquid (flash point above 61°C), and as such does not readily form a vapour cloud at ambient temperature and is difficult to ignite. Therefore, a subsequent flash fire or explosion is not a possible scenario. Although combustible liquids are difficult to ignite in ambient conditions, there is potential for a pool fire to occur if the spill has prolonged exposure to ignition sources. The diesel tank will be located away from ignition sources.

Therefore, as the diesel tank will be designed with appropriate control measures to prevent a release and diesel does not readily ignite at ambient temperature, a diesel pool fire is not considered to be a credible scenario. Based on the protections and the size of the diesel tank, this incident has not been carried forward for further analysis.

4.10 External Fire Impact

There is the potential for an external fire event to impact the BESS facility such as bushfire. The development area is adjacent to medium potential bushfire intensity prone land. **Figure 4-3** shows the location of the bushfire prone land that is in proximity to the site. The distance between this vegetation and the site is an estimated 200 m and is classified as a potential impact buffer; hence, the potential for direct radiant heat impact from a bushfire on the site is considered negligible.

Notwithstanding this, with prevailing winds, embers can travel several kilometres which may result in ignition of vegetation at the BESS facility. The site operates a vegetation management plan to prevent the accumulation of combustible loads; hence, in such an event any escalation would be expected to be a grass fire. Grass fires can move quickly; however, they tend to be short lived as the combustible load is exhausted. Subsequently, sustained radiant heat impacts at the site would not be expected and would be unlikely to result in sufficient heat to impact the BESS or other infrastructure such that incident propagation occurs.

In addition, during operations, the site has a 150 kL water tank dedicated to combating bushfires and cooling BESS Units in the event of a bush fire. The tank is fitted with a 65 mm Storz fitting in addition to a QFES compatible suction connection adjacent to the internal access road. It is expected that this water supply can be used to combat a grass fire or provide cooling to critical infrastructure if necessary.

Based on the discussion above, the potential for incident escalation as a result of an external fire impact to occur is considered negligible; hence, this incident has not been carried forward for further analysis.



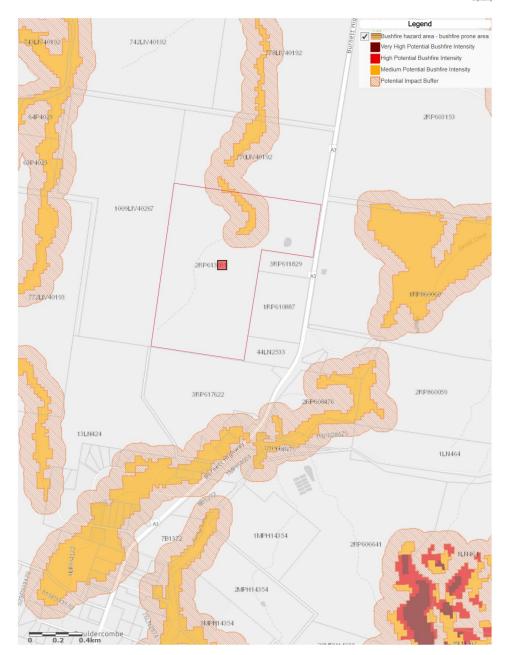


Figure 4-3: Bushfire Prone Land



5.0 Consequence Analysis

5.1 Incidents Carried Forward for Consequence Analysis

The following incidents were identified to have the potential to impact fire protection systems or to complicate firefighting interventions:

- Li-ion battery fault, thermal runaway and fire.
- Main transformer internal arcing, oil spill, ignition and bund fire.
- · Power conversion unit transformers, oil release, ignition and fire.

Each incident has been assessed in the following sections. A detailed analysis of each scenario is outlined in **Appendix B**, along with the criteria used to assess each incident.

5.2 Li-Ion Battery Fault, Thermal Runaway and Fire

There is potential that a Li-lon battery may fault resulting in thermal decomposition and fire which may spread throughout the whole fire unit if not isolated / protected. A detailed review of the test data for the BESS (Appendix C) was conducted in **Appendix B**. The testing conducted for the BESS indicated that the average cell venting temperature was 166°C and the average temperature at the onset of thermal runaway was 232°C with no flaming observed. This temperature value was adopted to determine the Surface Emissive Power (SEP) of the batteries undergoing thermal runaway. The calculation resulted in a SEP of 2.88 kW/m² which would be insufficient to result in incident propagation between BESS units.

The test data also identified that the maximum surface temperature of the BESS units under thermal runaway was 58.6°C which is consistent with a radiating surface with a low value. Based on the test data and the calculated SEP, it is considered that the potential for BESS propagation to occur is unlikely.

5.3 Transformer Internal Arcing, Oil Spill, Ignition and Bund Fire

There is potential that arcing may occur within the transformers which may lead to generation of gases and pressure above the structural integrity of the oil reservoir which may rupture leaking oil into the bund. As a result of the arcing and rupture, the oil may ignite leading to a bund fire within the dimensions of the bund. A detailed analysis has been conducted in **Appendix B** and the radiant heat impact distances estimated for this scenario are shown in **Table 5-1.** The radiant heat contours associated with a fire occurring within a transformer bund are shown in **Figure 5-1**.

Table 5-1: Radiant Heat from a Transformer Fire

Heat Radiation (KW/m²)	Distance (m)
35	17
23	19
12.6	24
4.7	34
3.0	40

The 23 kW/m² contour has been used to assess the potential for propagation of the incident. As shown in **Figure 5-1**, the 23 kW/m² contour does not impact any other critical infrastructure and so



incident propagation is not expected. There are no fixed fire protection systems in proximity to the transformer; hence, these are unimpacted by the 3 kW/m² contour.

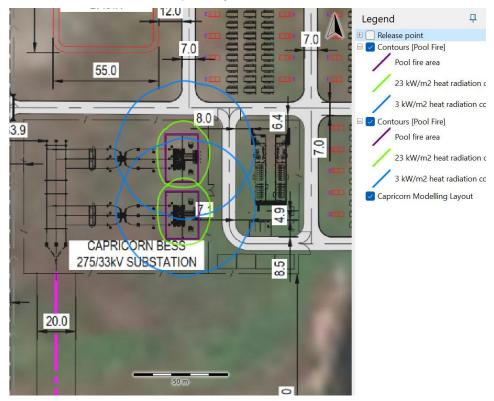


Figure 5-1: Transformer Fire Radiant Heat Contours

5.4 Power Conversion Unit Transformers, Oil Release, Ignition and Fire

There is potential that arcing may occur within the PCUs which may lead to generation of gases and pressure above the structural integrity of the oil reservoir which may rupture leaking oil into the bund. As a result of the arcing and rupture, the oil may ignite leading to a bund fire within the dimensions of the bund. An extremely conservative detailed analysis has been conducted in **Appendix B** and the radiant heat impact distances estimated for this scenario are shown in **Table 5-2**. The radiant heat contours associated with a fire occurring within the PCUs are shown in **Figure 5-1**

Table 5-2: Radiant Heat from a PCU Fire

Heat Radiation (KW/m²)	Distance (m)
35	5
23	5
12.6	6
4.7	9



Heat Radiation (KW/m²)	Distance (m)		
3.0	10		

The 23 kW/m² contour has been used to assess the potential for propagation of the incident. As shown in **Figure 5-1**, the 23 kW/m² contour does not impact any other critical infrastructure and so incident propagation is not expected. There are no fixed fire protection systems in proximity to the transformer; hence, these are unimpacted by the 3 kW/m² contour.

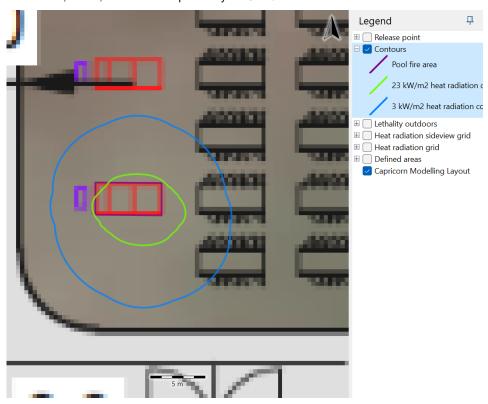


Figure 5-2: PCU Fire Radiant Heat Contours



6.0 Details of Prevention, Detection, Protection and Mitigation Measures

The fire safety systems at the site can be split into four main categories:

- Fire Prevention systems, installed to prevent the conditions that may result in initiating fire.
- Fire Detection systems installed to detect fire and raise alarm so that emergency response
 can be affected (both evacuation and firefighting)
- Fire Protection systems installed to protect against the impacts of fire or explosion (e.g. fire walls)
- **Fire Mitigation** systems installed to minimise the impacts of fire and to reduce the potential damage (e.g. fire water application)

Each category has been reviewed in the following sections, with respect to the existing systems incorporated into the design and those to be provided as part of the recommendations herein.

6.1 Fire Prevention

This section describes the fire prevention strategies and measures that will be undertaken at the site.

6.1.1 Control of Ignition Sources

The control of ignition sources reduces the likelihood of igniting a release of material. The site has a number of controls for ignition sources. These include controls for fixed potential ignition sources and controls for introduced ignition sources.

- A permit to work or clearance system will be used hot work will be controlled as part of the permit to work system.
- Designated smoking areas within the site (i.e. external from building areas).

Table 6-1 presents the potential ignition sources and incidents for the facility which may lead to ignition and fire. The table also summarises the controls that will be used to reduce the likelihood of these potential sources of ignition and incidents resulting in a fire.

Table 6-1: Summary of Control of Ignition Sources

Ignition Source	Control
Smoking	No smoking policy for the site with smoking only permitted in designated areas.
Electrical	Fixed electrical equipment to be designed and installed to AS/NZS 3000:2018 (Ref. [15]).
Arson	The site will have a security fence and monitored security cameras.
Hot Work	A permit to work system and risk assessment prior to starting work will be provided for each job involving the introduction of ignition sources.

6.1.2 Separation of Incidents

The separation of incidents is used to minimise the impacts of a hazardous incident on the surrounding operations or the generation of potential "domino" effects. The storage locations of products have been designed based upon whether a product can be adequately protected by the fire protection system. The BESS tests indicated that propagation between modules did not occur



from thermally running away battery cells. Therefore, propagation within the BESS is unlikely and therefore propagation between adjacent BESS units is not considered to be credible.

6.1.3 Housekeeping

The risk of fire can be significantly reduced by maintaining high standards of housekeeping. The site shall maintain a high housekeeping standard, ensuring all debris is cleaned up and removed from the areas. In addition, the site has vegetation management procedures to prevent accumulation of combustible vegetation in proximity to the site equipment and to minimise the potential for bushfire escalation.

6.1.4 Work Practices

The following work practices will be undertaken to reduce the likelihood of an incident. They include:

- DG identification
- Placarding & signage within the site
- · Forms of chemical and DG information
- Availability of Safety Data Sheets
- Compliance with the Work Health and Safety Regulation 2011 (Ref. [16]).
- Safe work practices adhered to
- · Personal Protective Equipment
- · Emergency response plan and procedures
- · Bushfire Management Plan
- · Training of personnel

6.1.5 Emergency Response Plan

Emergency management is critical in controlling and responding to an emergency. Therefore, to ensure that an appropriate emergency response plan is developed, the following recommendation has been made:

 An emergency response plan shall be prepared in accordance with HIPAP No. 1 – Industry Emergency Planning Guidelines (Ref. [17]).

6.1.6 Site Security

Maintaining a secure site reduces the likelihood either of a fire being started maliciously by intruders or by accident. Access to the site will be restricted at all times and only authorised personnel will be permitted within the site.

6.2 Detection Procedures and Measures

This section discusses the detection and protection from fires for the hazardous incidents previously identified. These include detection of fire pre-conditions, detection of a fire suppression activated condition and prevention of propagation. This assessment includes identification of the detection and protection systems required.



6.2.1 Fire Detection and Alarming

The site will utilise I-Shift SAFT BESS Units or equivalent. The I-Shift BESS Safety Manual (Appendix D) indicates that the BESS units are equipped with smoke detectors and thermal detectors to detect the early signs of a fire. In the event that elevated temperatures or smoke is detected, an audible fire alarm and visual fire strobes fitted on the BESS unit will be activated. In addition, corresponding alarms will be sent to the EMS systems to alert site personnel to begin emergency procedures.

6.2.2 Gas Detection and Alarming

The I-Shift BESSs are fitted with flammable gas detection which will alarm and activate the ventilation system. Flammable gases are a by-product of thermal runaway in the battery chemistries; hence, detection of the flammable gases provides another point to isolate BESS failure.

6.3 Fire Protection

The required fire protection systems are summarised below. All drawings associated with the fire protection systems are provided in **Appendix D**.

The I-Shift BESS units selected are fitted with a ceiling mounted aerosol fire suppression system. In the event of detection of a fire within the BESS unit, the aerosol suppression system is triggered, releasing a gaseous suppressant BESS.

The site is provided with water tanks that can be access to provide water supply in the event of fires to other sources of fire (i.e. transformers, site buildings, etc.).

6.4 Fire Mitigation

6.4.1 Fire Water Supply

The site is equipped with an 80,000 L water tank. The water tank is to have a 65 mm Storz fitting and QFES compliant suction connection. Based on the low potential for fire and / or propagation of a BESS fire it is considered that the water supply would be adequate to deal with the potential fire hazards at the site (i.e. propagation of a fire from the BESS noting that a BESS fire should not be fought with water). The water may also be used to supply combat measures for transformer fires or other building fires.

6.4.2 Ventilation

In the event of thermal runaway, flammable gases are generated which if ignited could result in an explosion. The units are fitted with an extraction system that activates when a flammable gas is detected. The purpose of this system is to extract the gases to prevent accumulation to the explosive limits to minimise the potential for an explosion to occur.

6.4.3 Explosion Venting

In the event the extraction system is unable to remove sufficient gases to maintain a concentration below the Lower Explosive Limit (LEL) the potential for an explosion exists as the gases are contained within a confined area which is a necessary requirement for an explosion. The I-Shift BESSs are fitted with an explosion vent which is designed to open under pressure. In the event of ignition, the pressure will begin to rise within the unit as the combustion propagates through the flammable gas atmosphere. When the pressure reaches the activation point of the explosion vent,



the vent opens relieving the pressure. With the pressure relieved, the combustion reaction slows prevent escalation to the point of detonation.



7.0 Local Brigade Access and Egress

7.1 Overview

In order to assess the likely fire brigade response times an indicative assessment of fire brigade intervention has been undertaken based on the methods defined in the Fire Brigade Intervention Model (FBIM, Ref. [18]). **Figure 7-1** illustrates the site layout with entry points to the site and fire services infrastructure.

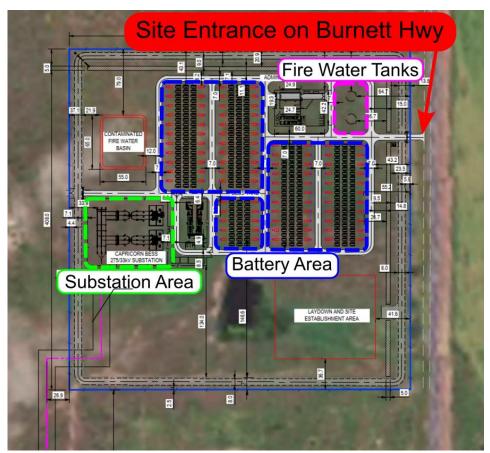


Figure 7-1: Fire Service Entry Point and Site Infrastructure

The closest fire stations to the site are described in **Table 7-1**. The expected routes from the stations to the site are illustrated in **Figure 7-2**.

Table 7-1: Station Locations

Station Name	Station Address	Distance (km)	Time (min)
Mount Morgan Fire Station	32 Morgan St, Mount Morgan, QLD	20	19
Gracemere Fire & Rescue Station	HF64+H5 Gracemere, QLD	14	11



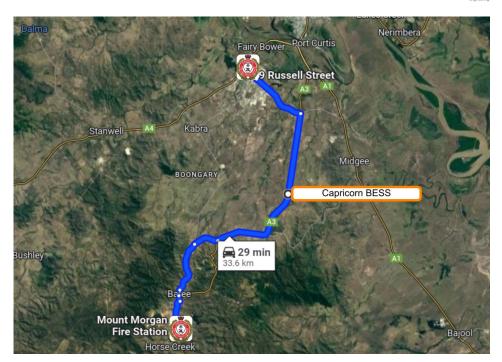


Figure 7-2: Location of Site with Respect to Closest Fire Stations

7.2 Response Time – Fire Brigade Intervention Model (FBIM)

Due to the nature of the Fire Brigade Intervention Model (FBIM, Ref. [18]), it is necessary to justify the results through the inclusion of assumptions. The accuracy of results weighs heavily upon the measure of which assumptions are made and the sources from which they are derived. The model produced details the time it will take for brigade personnel within the aforementioned location to receive notification of a fire, time to respond and dispatch resources, time for resources to reach the fire scene, time for the initial determination of the fire location, time to assess the fire, time for fire fighter travel to location of fire, and time for water setup such that suppression of the fire can commence. The following are details of the assumptions utilised in this FBIM:

7.2.1 Location of Fire

This FBIM will only be an indicative model of one fire scenario within the facility. For conservative purposes, the FBIM will consider a fire in the furthest incident from the point of entry.

7.2.2 Time between Ignition and Detection

- It is assumed that the initial brigade notification is via a direct contact by the site personnel.
- It was conservatively assumed that the time from ignition, detection and notification to fire brigade is 30 minutes, or 1,800 seconds, due to the remote nature of the site.

7.2.3 Time to Dispatch Resources

• The fire station is considered to be manned at the time of the fire.



Based on QFES response times statistics from the 2022/2023 annual report (Ref. [19]), the average time for the fire brigade to respond to an emergency call (including call processing, turnout time and travel time) is 8.2 minutes as shown in Figure 7-3. The 90th percentile of response time of approximately 12.5 minutes. However, as this is for inner city areas and the site is rurally located, it was assumed that RFS would respond 30 minutes later (1,800 s).

Service area: Fire and Emergency Services 2022-23 2021-22 2022-23 Performance measures **Notes** Target/ Actual Actual **Estimate** Rate of accidental residential 1, 2, 3 51.1 <60 48.0 structure fires reported (per 100,000 households) Response times to structure fires 3, 4, 5 including call taking time: 8.3 minutes <7.8 minutes 8.2 minutes • 50th percentile 12.9 minutes <14 minutes 12.5 minutes • 90th percentile

Figure 7-3: QFES Response Time from 2022/2023 Annual Report

- As the site is located in a rural area, additional travel time should be taken into account. The travel time has been assumed to be 25 minutes (1,500 seconds).
- Therefore, with a brigade call out time of 1,820 seconds, response time of 1,800 seconds, and travel time of 1,500 seconds (25 minutes), the fire brigade can be expected to arrive on site 5,120 seconds after fire ignition (85 minutes).

7.2.4 Time for Initial Determination of Fire Location

- On arrival, the fire location may not be visible to the approaching brigade personnel, thus
 requiring information to be obtained from the site emergency box.
- · Fire brigade personnel assemble at the office area.
- Fire brigade tactical fire plans will be provided.

7.2.5 Time to Assess the Fire

Horizontal egress speeds have been based on fire brigade personnel dressed in turnout uniform in BA. An average travel speed of 1.4 m/s with a standard deviation of 0.6 m/s as shown in Table 7-2. As such, for the purposes of the calculations, a horizontal travel speed of 1.40 – (1.28x0.6) = 0.63 m/s is utilised.

Table 7-2: FBIM data for Horizontal Travel Speeds

Graph	Travel Conditions		Speed		
Grapii	Haver Collutions	Mean	SD*		
Q1	Dressed in turnout uniform		1.4		
Q2	Dressed in turnout uniform with equipment		1.3		
Q3	Dressed in turnout uniform in BA with or without equipment	1.4	0.6		



Graph	Travel Conditions	Spe	eed
Grapn	Havei Conditions	Mean	SD*
Q4	Dressed in full hazardous incident suit in BA	0.8	0.5

^{*}Standard Deviation

Horizontal travel distances will include the following:

- Travel from the entrance to the main water tank is approximately 30 m. Assuming vehicles are travelling at 60 km/h, this results in a travel time of 2 s.
- From the water tank, the most northern west point of the site is approximately 464 m via internal
 access roads which would result in 28 s of travel time assuming a travel speed of 60 km/h within
 the site.
- It was assumed that RFS would only be required to travel approximately 100 m on foot. Coupled with an egress speed of 0.63 m/s results in a horizontal travel time of up to 63 seconds.
- Thus, the total horizontal travel time to respond to an incident in the farthest location would be expected to be in the realm of 93 s.

7.2.6 Time for Water Setup

- The first appliance would be expected to commence the initial attack on the fire.
- Time taken to connect and charge RFS tanker units to the water tanks and collect the water is based on Table X of the Fire Brigade Intervention Model Guidelines, which indicates an average time of 201.6 seconds, and a standard deviation of 115.6 seconds. Using a 90th percentile approach as documented in the FBIM (Ref. [18]), the standard deviation is multiplied by a constant k, in this case being equal to 1.28. Therefore, the time utilised in this FBIM is 201.6 + (1.28x115.6) = 350 s.

7.2.7 Search and Rescue

Search and Rescue of the site will consist of a perimeter search of the control building located adjacent to the BESS area. It was assumed this will provide firefighting personnel with an additional 500 m of travel.

At a speed of 0.63 m/s, this will take firefighting personnel approximately 315 seconds.

7.2.8 Summary

As summarised in **Table 7-3** the FBIM (Ref. [18]) indicates that the arrival times of the brigade from the nearest fire stations is approximately 96 minutes after fire ignition, and it is estimated that it takes another 9.7 minutes for the fire brigade to carry out activities including the determination of fire location and preparation of firefighting equipment. As such, the initial attack on the fire is expected to commence approximately 105.7 minutes after fire ignition (note rounding affects the basic addition of the reported figures).

Table 7-3: Summary of the Fire Brigade Intervention Model (FBIM)

Fire Station	Alarm	Travel	Time for Access &	Set-up	Time of	Time for Search
	Time	Time	Assessment	Time	Attack	& Rescue
Gracemere Fire &	1,800 s	3,300 s	93 s	350 s	6,322 s (125 minutes)	315 s



Fire Station	Alarm Time	Travel Time	Time for Access & Assessment	Set-up Time	Time of Attack	Time for Search & Rescue
Rescue Station						



8.0 Fire Water Supply & Contaminated Fire Water Retention

8.1 Detailed Fire Water System Assessment

Hydrants are not available at this site due to its rural location. Instead, fire water will be supplied by an 80,000 L water tank. AS 2419.1 places the minimum flow rate requirement for fire hydrants at 10 L/s. The site falls under the requirement of having two hydrants equating to a storage of 80,000 L for 60 minutes of firefighting operation.

The tank is located on the northern side of the site access road, next to the BESS area. This provides sufficient water to refuel a response tanker twenty times (each tanker having a capacity of 4,000 L) provided the tank is 100% full.

The site will not have fixed firefighting infrastructure other than the water supply from the tanks. The fire hazards have been assessed in **Section 5.0** which identified that there is a low potential for a fire to occur within the BESS units and that in the event of thermal runaway the radiant heat generated would be unable to result in incident propagation.

Based on this, the water demand required to combat fire incidents at the site is low and would be expected to be adequately managed by the provided water supply.

8.2 Contaminated Water/Fire Water Retention

Where materials are combusted in a fire, they may become toxic (i.e. formation of volatile organic compounds and aromatic hydrocarbons). Hence, when fire water is applied the materials may mix with the water resulting in a contaminated run off. To ensure environmental damage does not occur the facility is designed to contain a volume of liquid discharged from the site.

A risk assessment methodology is outlined by the NSW Department of Planning document "Best Practice Guidelines for Potentially Contaminated Water Retention and Treatment Systems" (Ref. [20]). This guide will be consulted to provide a conservative assessment of the site in the absence of an alternate guide provided by QLD regulation. Application of fire water to a BESS fire does not result in extinguishment as the fire will continue until the energy has been discharged from the battery. In addition, application of water can result in additional side reactions as the fire progresses which can form potentially toxic by-products. Therefore, the method for combatting a BESS fire is to prevent propagation to adjacent units / equipment.

Based on the test data, a flaming fire is not expected to occur; hence, the incident will likely be heated batteries which rupture resulting in the release of flammable gases which are handled by the ventilation system to prevent ignition. Therefore, it is expected the incident will mostly be contained within the BESS enclosure itself which will provide protection in the event that the incident occurs in the rain.

Vegetated areas around BESS are typically used for grazing of livestock; hence, the area will not be paved preventing any reasonable method for providing containment in the event that contamination does occur. However, given the protection systems incorporated into the BESS design, the likely outcome of thermal runaway not resulting in a flaming fire, the potential for contaminated water to be generated from this incident is considered low and that accommodating the unlikely formation of contaminated water would be disproportionately expensive to the risk of contamination



Based on the above discussion, no recommendations have been made with respect to contaminated water retention.



9.0 Conclusion and Recommendations

9.1 Conclusions

A HIMP per the HIPAP No. 2 guidelines was prepared for the proposed BESS Facility located at Lot 2 on RP613051 off Burnett Highway Bouldercombe, QLD 4702. The analysis performed in the HIMP was based on credible fire scenarios to assess whether the protection measures at the site were adequate to combat the hazards associated with the quantities and types of commodities being stored. Based on the assessment, it was concluded that the designs and existing fire protection adequately managed the credible fire risks at the site.

9.2 Recommendations

Based on the analysis, the following recommendations have been made:

- All site personnel shall be inducted in site procedures and emergency response protocols relevant to their roles.
- All site personnel who require training must undergo formal training in the required procedures and emergency response protocols relevant to their role.
- Necessary personnel to provide first aid are to be trained in accordance with the QLD Code of Practice for first aid in workplaces 2021– high-risk workplaces (Ref. [4]).
- A team of site personnel are to be trained in the use of the water cart and first-attack firefighting methods.
- Site management to prepare and maintain operational procedures to minimise the number of hazardous incidents and accidents on site and to mitigate the consequences of incidents regarding the handling of dangerous goods and chemicals.
- A site Emergency Response Plan per the requirements of HIPAP No. 1 shall be prepared and shall include measures to advise neighbouring premises in the event of an emergency with potential offsite impacts.
- Dangerous Goods (DG) documentation shall be prepared as required by the Work Health and Safety Regulation 2011 to demonstrate the risks associated with the storage and handling of DGs has been assessed and minimised.
- Any DGs stored at the site shall be stored and handled in accordance with the Work Health and Safety Regulation 2011 and any applicable storage and handling standards.



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Appendix A

Hazard Identification Table

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A1. Hazard Identification Table

ID	Area/Operation	Hazard Cause	Hazard Consequence	Safeguards
1	Battery Storage	Battery fault / failure Failure of Li-ion battery protection systems	Thermal runaway resulting in fire or explosion Incident propagation through battery cells Toxic smoke dispersion	 Batteries are tested by manufacturer prior to sale / installation Overcharging and electrical circuit protection Battery monitoring systems Batteries composed of subcomponents reducing risk of substantial component failure Batteries are not located in areas where damage could easily occur (i.e. within the fenced property) Electrical systems designed per AS/NZS 3000:2018 (Ref. [15]) Ventilation Explosion venting Smoke & gas detection Aerosol suppression system
2	Switch rooms, communications, etc.	Arcing, overheating, sparking, etc. of electrical systems	Ignition of processors and other combustible material within servers and subsequent fire	 Fires tend to smoulder rather than burn Isolated location Switch room separation from other sources of fire
3	Transformers	Arcing within transformer, vaporisation of fluid and rupture of fluid reservoir	Transformer fluid release spill, ignition and fire	Natural ester used as dielectric fluid – Natural esters have a high flash point (>300°C) such that ignition is very unlikely to occur. Transformers are bunded Electrical protection for transformer faults
				Control of ignition sources – no smoking / open flames around the transformers

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ID	Area/Operation	Hazard Cause	Hazard Consequence	Safeguards
4	Main transformer	Power surge to transformers (e.g. from lightning, fault, etc.)	Major failure of surge protection in transformer, vapourisation of mineral oil, ignition and explosion	Transformers have surge protection system to shut down upon detection of extreme energy input Lightning protection to prevent lightning strikes impacting transformers Control of ignition sources – no smoking / open flames around the transformers
5	Ancillary transformers	Power surge to transformers (e.g. fault)	Major failure of surge protection in transformer, vapourisation of mineral oil, ignition and explosion	Transformers are in containers which protect from lightning and cables are underground. Control of ignition sources – no smoking / open flames around the transformers
6	Generator tank	Release of diesel	Ignition and pool fire	 Integrally bunded tank complying with AS 1940:2017 Low volume of diesel stored (1,000 L) Separated from other site areas. Diesel is difficult to ignite as it's a combustible liquid.

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Appendix B

Consequence Analysis



B1. Incidents Assessed in Detailed Consequence Analysis

The following incidents are assessed for consequence impacts.

- Li-ion battery fault, thermal runaway and fire.
- Main transformer internal arcing, oil spill, ignition and bund fire.
- Power conversion unit transformers, oil release, ignition and fire.

Each incident has been assessed in the sections below.

B2. Radiant Heat Physical Impacts

Appendix Table B-1 provides noteworthy heat radiation values and the corresponding physical effects of an observer exposed to these values (Ref. [5]).

Appendix Table B-1: Heat Radiation and Associated Physical Impacts

Heat Radiation (kW/m²)	Impact
35	Cellulosic material will pilot ignite within one minute's exposure
	Significant chance of a fatality for people exposed instantaneously
23	Likely fatality for extended exposure and chance of a fatality for instantaneous exposure
	Spontaneous ignition of wood after long exposure
	Unprotected steel will reach thermal stress temperatures which can cause failure
	Pressure vessel needs to be relieved or failure would occur
12.6	Significant chance of a fatality for extended exposure. High chance of injury
	Causes the temperature of wood to rise to a point where it can be ignited by a naked flame after long exposure
	Thin steel with insulation on the side away from the fire may reach a thermal stress level high enough to cause structural failure
4.7	Will cause pain in 15-20 seconds and injury after 30 seconds exposure (at least second degree burns will occur)
3.0	FRNSW criteria to access equipment

B3. Gexcon - Effects

The modelling was prepared using Effects where appropriate, which is proprietary software owned by Gexcon which has been developed based upon the TNO Coloured books and updated based upon CFD modelling tests and physical verification experiments. The software can model a range of incidents including pool fires, flash fires, explosions, jet fires, toxic dispersions, warehouse smoke plumes, etc.

B4. View Factor Radiant Heat Model

The modelling for the BESS units was carried out using a manual view factor calculation method outlined below.

B4.1 Radiant Heat Flux

The heat flux (Q) for the view factor model is given by Equation B-1.

 $Q = \tau EF$ Equation B-1

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Where;

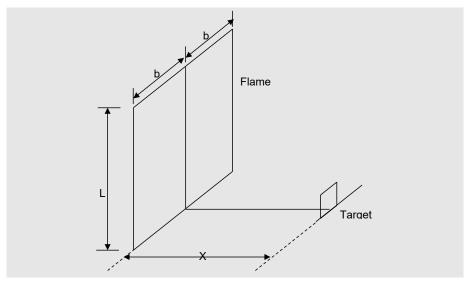
- Q = heat flux (kW/m²) at the target
- F = geometric view factor
- τ = transmissivity
- E = SEP (kW/m²)

Each of the required inputs is determined in the sections following.

B4.2 View Factor

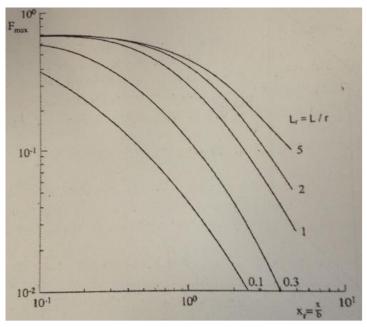
The view factor for a flat surface fire is estimated using the scenario shown in **Appendix Figure B-1** where the flame is the vertical surface of height L and length 2b with receiver located centrally and at a distance of X. Two dimensionless parameters are calculated, and the view factor read from **Appendix Figure B-2**. The dimensionless parameters are shown in **Equation B-2** and **Equation B-3**.

$$L_r = \frac{L}{b}$$
 Equation B-2
$$X_r = \frac{x}{b}$$
 Equation B-3



Appendix Figure B-1: Vertical Flame Geometry View Factor Geometry





Appendix Figure B-2: Vertical Flame Maximum View Factor (Ref. [21])

B4.3 Transmissivity

The transmissivity is estimated using Equation B-4.

$$\tau = 1.006 - 0.01171(\log_{10}X(H_2O) - 0.02368(\log_{10}X(H_2O))^2 - 0.03188(\log_{10}X(CO_2) + 0.001164(\log_{10}X(CO_2))^2$$
 Equation B-4

Where:

- $X(H_2O) = (R_H \times L \times S_{mm} \times 2.88651 \times 10^2)/T$
- X(CO₂) = L x 273/T

And;

- R_H = percentage relative humidity
- L = distance to target (m)
- S_{mm} = saturated water vapour pressure in mm mercury at temperature (at 200°C S_{mm} = 11549)
- T = temperature (473 K assumed air is heated to 200°C)

B5. Li-lon Battery Fault, Thermal Runaway and Fire

The BESS units selected are the I-Shift SAFT having 8 8+9 strings. Each module has dimensions of $0.525\,\mathrm{m}$ (W) x $0.876\,\mathrm{m}$ (D) x $0.250\,\mathrm{m}$ (H). They are arranged so that the cabinets open outwards; hence, the arrangement for the I-Shift BESS is conservatively (due to module between 8 and 9 stack heights to service the 17 module unit string) nine (8) x nine (2) x nine (9) yielding total dimensions of $4.2\,\mathrm{m}$ x $2.25\,\mathrm{m}$.

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To determine the radiant heat impacts from the BESS in the event of a fire it is necessary to assume the height of the flame. The rule of thumb for most flammable liquid fires is that the height is 2 times the width of the flame; however, a review of the Victorian Big Battery (VBB) fire indicates that it did not align with rule of thumb approach.

Based upon the VBB it has been assumed that the maximum height of the flame is 1 m above the height of the BESS unit. From the VBB it was apparent that only the flame through the roof was exposed as a radiant surface; hence, the assumed flame height of 1 m above the BESS container has been taken as the value of L for input into **Equation B-2**.

It is necessary to calculate the Surface Emissive Power (SEP) of the radiant surface to calculate the radiant heat at the target. The test data indicated the average temperature of the batteries at thermal runaway was 232°C or 505.15 K. Therefore, for the purposes of modelling this temperature has been used.

The following equation can be used to estimate the SEP of the flame:

$$SEP = \varepsilon \sigma T^4$$
 Equation B-5

Where:

- ε = flame emissivity (taken as 0.78 (Ref. [22]))
- $\sigma = 5.67 \times 10^{-11} \text{ kW/m}^2 \cdot \text{k}^4$
- T = Temperature (505.15 K)

Substituting into the above equation yields:

$$SEP = 0.78 \times 5.67 \times 10^{-11} \times 505.15^4 = 2.88 \frac{kW}{m^2}$$

B6. Main Transformer Internal Arcing, Oil Spill, Ignition and Bund Fire

Transformers contain oil to provide cooling and insulation. If arcing occurs within the transformer, the oil will rapidly heat generating gases above their auto ignition point. The pressure of the gases may rupture the reservoir allowing oxygen to enter resulting in the gases auto igniting. The oil is released from the reservoir and is ignited by the burning gases.

The transformer is bunded and so in the event of a spill and ignition, the pool fire will have dimensions of the bund. The inputs for the model are provided in **Appendix Table B-2**.

Appendix Table B-2: Main Transformer Fire Modelling Inputs

Input	Value	Justification		
Chemical name	Linoleic acid	Transformer oil to be used is a natural ester, which is typically a combustible liquid of some formulation which have high flash points. For the purposes of providing a conservative analysis, linoleic acid has been selected. This material has a flash point of approximately 200°C. Natural ester oils typically have flash points exceeding 330°C, thus this material selection is considered to be conservative.		
Type of pool fire calculation	Rew & Hulbert	The model has been developed for modelling fires based on the radiant heat emitted from the radiant surface. The model uses the clear and sooty portions of the flame to estimate the radiant heat at the target.		



Input	Value	Justification
		The terminology (i.e. pool fire) is because these models were originally developed from liquid pool fires. However, the model actually works by looking at the flame surface to estimate the radiant heat that is emitted from that surface. The flame surface is present irrespective of the material burning (i.e. a solid or liquid pool will have a flame that will have a clear and sooty portion). Based on the above discussion, it is considered that the Rew & Hulbert model is appropriate for modelling
		the fire.
Type of pool fire source	Instantaneous	Conservative as it assumes full fire immediately
Soot definition	Calculated	Calculated
Total mass released	45,000 kg	Mass of oil in the transformers
Temperature of pool	20°C	Conditions expected to be observed regularly. Also, negligible impact on results.
Type of pool	Polygon	Modelled based on transformer bund area.
Max pool surface area	14 m x 13 m	Scenarios to be modelled outlined above this table.
Height of confined pool above ground level	0 m	Modelled at ground level
Include shielding to bottom side of flame	No	No shielding provided in modelling.
Height of shielding	n/a	n/a
Wind speed	2 m/s	Fire seat enclosed in building and unlikely to be impacted by wind at fire seat.
Wind direction	Any direction	Toward infrastructure
Ambient temperature	20°C	Conditions expected to be observed regularly. Also, negligible impact on results.
Ambient pressure	1.0151 bar	Atmospheric pressure
Ambient relative humidity	60%	Typical humidity in the area
CO2 concentration	0.0004	CO2 concentration in atmosphere

The results of the analysis are shown in Appendix Table B-3.

Appendix Table B-3: Heat Radiation Impacts from a Transformer Bund Fire

Heat Radiation (KW/m²)	Distance (m)
35	17
23	19
12.6	24
4.7	34
3.0	40

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B7. Power Conversion Unit Transformers, Oil Release, Ignition and Fire

The PCUs contain oil to provide cooling and insulation. If arcing occurs within the transformer, the oil will rapidly heat generating gases above their auto ignition point. The pressure of the gases may rupture the reservoir allowing oxygen to enter resulting in the gases auto igniting. The oil is released from the reservoir and is ignited by the burning gases.

It has been assumed that the transformer has bund dimensions of the PCU; hence, if a spill from the transformer was to occur it would fill the base of the bund resulting in a pool fire with the dimensions of the bund. The inputs for the model are provided in **Appendix Table B-4**.

Appendix Table B-4: PCU Fire Modelling Inputs

Input	Value	Justification
Chemical name	Linoleic acid	Transformer oil to be used is a natural ester, which is typically a combustible liquid of some formulation which have high flash points. For the purposes of providing a conservative analysis, linoleic acid has been selected. This material has a flash point of approximately 200°C. Natural ester oils typically have flash points exceeding 330°C, thus this material selection is considered to be conservative.
Type of pool fire calculation	Rew & Hulbert	The model has been developed for modelling fires based on the radiant heat emitted from the radiant surface. The model uses the clear and sooty portions of the flame to estimate the radiant heat at the target. The terminology (i.e. pool fire) is because these models were originally developed from liquid pool fires. However, the model actually works by looking at the flame surface to estimate the radiant heat that is emitted from that surface. The flame surface is present irrespective of the material burning (i.e. a solid or liquid pool will have a flame that will have a clear and sooty portion). Based on the above discussion, it is considered that the Rew & Hulbert model is appropriate for modelling the fire.
Type of pool fire source	Instantaneous	Conservative as it assumes full fire immediately
Soot definition	Calculated	Calculated
Total mass released	1,065 kg	Mass of oil in the transformers
Temperature of pool	20°C	Conditions expected to be observed regularly. Also, negligible impact on results.
Type of pool	Polygon	Modelled based on transformer bund area.
Max pool surface area	4 m x 2.6 m	Dimension of PCU enclosure
Height of confined pool above ground level	0 m	Modelled at ground level
Include shielding to bottom side of flame	No	No shielding provided in modelling.
Height of shielding	n/a	n/a



Input	Value	Justification		
Wind speed	2 m/s	Fire seat enclosed in building and unlikely to be impacted by wind at fire seat.		
Wind direction	Any direction	Toward BESS units		
Ambient temperature 20°C		Conditions expected to be observed regularly. Also, negligible impact on results.		
Ambient pressure	1.0151 bar	Atmospheric pressure		
Ambient relative humidity	60%	Typical humidity in the area		
CO2 concentration	0.0004	CO2 concentration in atmosphere		

The results of the analysis are shown in Appendix Table B-5.

Appendix Table B-5: Heat Radiation Impacts from a PCU Fire

Heat Radiation (KW/m²)	Distance (m)
35	5
23	5
12.6	6
4.7	9
3.0	10

DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Lanscape Character and Visual Impact Assessment

Meeting Date: 9 December 2025

Attachment No: 10

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Capricorn BESS

Landscape Character and Visual Impact Assessment

moirstudio



We at Moir Studio acknowledge the traditional custodians of the lands and waters of Australia - most notably the Awabakal Nation in which our office resides and the Darumbal Nation, on whose traditional land this Project resides. As a practice, we recognise First Nations' ongoing contribution to Country and deep spiritual connection to Place. We pay our respects to Elders both past and present.



Capricorn BESS

Landscape Character and Visual Impact Assessment

Prepared for

Environmental Resources Management Australia Pty Ltd (ERM)

Project Number

2727

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Moir Landscape Architecture Pty Ltd (T/A Moir Studio) Studio 1, 88 Fern Street PO Box 111. Islington NSW 2296 admin@moirla.com.au Ph.(02) 4965 3500 www.moirstudio.com.au ACN: 097 558 908 ABN: 48 097 558 908



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moir STUDIO **Abbreviations**

Glossary of Terms

Bioregion

An ecologically and geographically defined area characterised by its combination of geological features, climate, flora and fauna.

Landscape Character and Visual Impact Assessment

A technical assessment to identify and assess the potential visual effects resulting from the Project on the landscape, individual receivers and on the overall visual amenity of the region in which the Project is sited.

Landscape

All the visible features, including landform, vegetation, buildings and infrastructure contained within a holistic area.

Landscape Character

Landscape character refers to the distinct and recognisable pattern of physical elements that occur consistently in a particular landscape. The landscape character of an area is generally defined by the most dominant landscape element or unique combination of elements that occur within that landscape. It reflects how particular combinations of geology, landforms, soils, vegetation, land use and human settlements create a particular sense of place for different areas within the landscape

Landscape Character Zones

An area of landscape with similar properties or strongly defined spatial qualities that are distinct from areas immediately nearby within the Study Area.

Planning Scheme

A statutory document adopted by Local Councils that outlines the strategic direction and detailed provisions for the use, development, protection, and conservation of land within the local government area.

The Project

The proposed development that is the subject of the LCVIA assessment.

Project Area

The site where the Project is proposed.

Study Area

The geographical region or area under consideration in the preparation in the LCVIA.

Viewpoint

A specific location from which a view or landscape is observed. A viewpoint location is the geographic location or physical position (in GPS format) where the viewpoint was captured.

A desktop assessment and onsite photographic surveys/fieldwork LCVIA that describes and captures the existing environmental conditions in which any future changes can be measured against.

The geographical area from which a particular view can be observed.

Visual Impact

The observable and measurable change in the visual catchment caused by the Project. This is determined by considering the visual sensitivity and magnitude of change.

Visual Magnitude

The degree of visual change resulting from the Project, including but not limited to the size, scale, compatibility and duration of

Visual Sensitivity

The susceptibility of a landscape or visual resource to absorb impacts from a Project, land use change or the introduction of a new element into the landscape.

Zone of Visual Influence

The extent of landscape area from which the Project can potentially be theoretically viewed based on topography alone.

Battery Energy Storage System

Department of Planning Housing and Infrastructure

Interim Biogeographic Regionalisation of Australia

kV

Kilovolt

Landscape Character and Visual Impact Assessment

Landscape Character Zone

LGA

Local Government Area

NSW

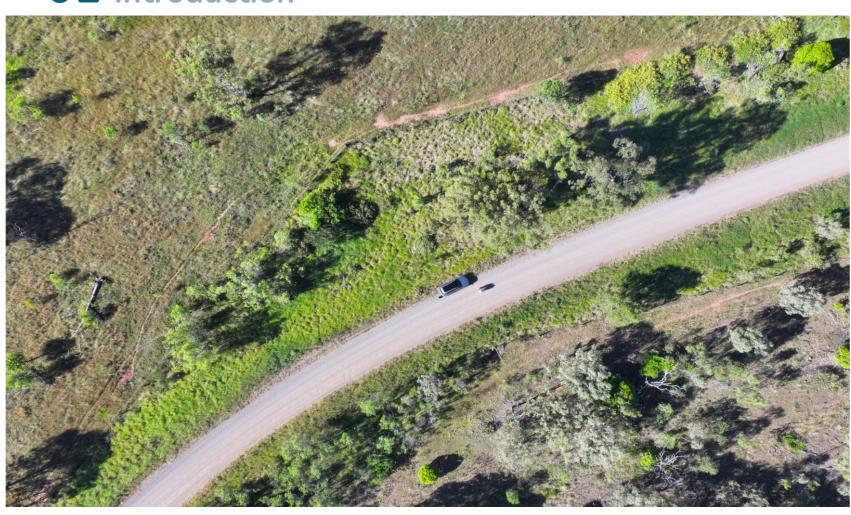
New South Wales

QLD

Queensland

Zone of Visual Influence

01 Introduction



1.0 Introduction

1.1 Introduction

Environmental Resources Management Australia Pty Ltd (ERM) has commissioned Moir Landscape Architecture Pty Ltd (trading as Moir Studio) to prepare a Landscape Character and Visual Impact Assessment (LCVIA) for Capricorn BESS (the Project) on behalf of Capricorn BESS Pty Ltd as Trustee for Capricorn BESS Trust, a wholly owned subsidiary of Potentia Energy (the Proponent),

This report supports a Development Application (D/25-2025) for a Material Change of Use and Reconfiguring a Lot (creation of a lease exceeding 10 years) under the *Planning Act 2016* (Planning Act), and an approval for access from a State-controlled Road under the *Transport Infrastructure Act 1994*. The report has been prepared in response to the Rockhampton Regional Council Information Request issued March 27th, 2025 requiring the submission of a visual impact assessment of the Proposed Development.

The Proponent is proposing the construction, operation and decommissioning of a 300MW/4h Battery Energy Storage System (BESS), and associated infrastructure.

1.2 Professional Experience

Moir Studio is a professional design practice and consultancy specialising in Landscape Architecture, Urban Design and Landscape Character and Visual Impact Assessment. Our team has extensive experience undertaking LCVIA's for large-scale infrastructure and renewable energy projects. Drawing on this experience in conducting LCVIA's, we have developed methodologies to ensure a comprehensive and qualitative assessment of the Project. Our relevant experience includes:

- Blue Grass BESS
- Wagga Wagga North BESS
- Deniliquin BESS
- Armidale East BESS
- Kingswood BESS

1.3 Report Structure.

The following table provides an outline of the LCVIA report structure. Detailed methodologies for each stage of the assessment have been included in the relevant sections of the report.

Section 2.0 Study Method	Overview of the Study Method utilised for the LCVIA
Section 3.0 Project Overview	Project description and overview of the components to be assessed in the LCVIA
Section 4.0 Landscape Character Assessment	Define the LCVIA Study Area and identify the existing landscape characteristics, their scenic quality and the key landscape features
Section 5.0 Visual Impact Assessment	Establish the Zone of Visual Influence and assess the potential visual impacts of the Project
Section 6.0 Mitigation Measures	Overview of the proposed mitigation measures and assessment of the effectiveness of screening extent

8 Capricorn BESS | Landscape Character and Visual Impact Assessment

Introduction

02 Study Method



2.0 Study Method

1.4 Overview of Study Method

The fundamental steps in undertaking an LCVIA for a BESS are outlined in Figure 01.

Key Receptor Analysis

Undertake assessments from

key viewing locations identified

within the 'visual catchment'

to determine the impact of

the Project. This includes an

assessment from public and

The use of visualisation tools

(including photomontages

Other Considerations

Assessment of other aspects

contribute to the visual impact.

This includes: an assessment

shadow flicker and night lighting

of associated infrastructure,

which have the notential to

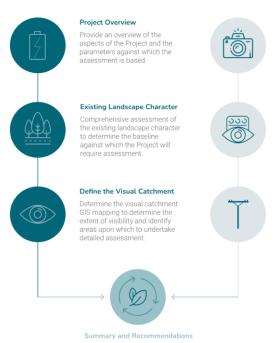
Project.

and wire frame diagrams) to

assist in the assessment of the

private viewing locations.

Visualisations



Summary of the findings of the report and preliminary recommendations for reducing the identified impacts.

Figure 01 LCVIA Process

1.5 Relevant Guidelines & Framework

Queensland does not have defined LCVIA guidelines specifically for the assessment of BESS proposals. The following provides an overview of the relevant frameworks and considerations of authorities utilised to form the methodology for this LCVIA.

1.5.1 AILA Guidance Note for Landscape & Visual Impact Assessment 2018

The Australian Institute of Landscape Architects (AILA) developed Guidance Notes for preparing LCVIAs. This document provides a practical framework for the practice of LCVIA among Registered Landscape Architects. The LCVIA process follows the best practice guidelines outlined in the Guidance Notes, which cover terminology, principles, and methodology.

1.5.2 Rockhampton Regional Council Planning Scheme 2015 Version 5

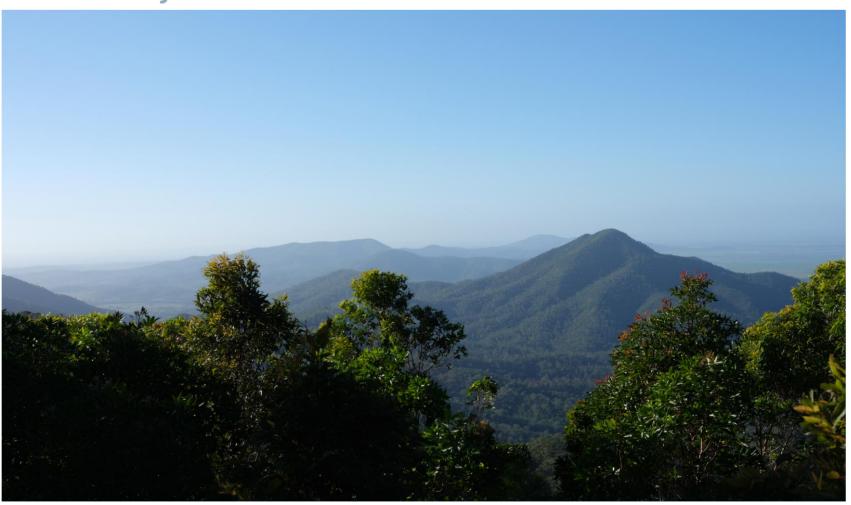
The Proposed Development is within the Rockhampton Regional Council Local Government Area, falling under the *Rockhampton Region Planning Scheme 2015 version 5* (Planning Scheme). In accordance with Section 5.4.6.4 of the Planning Scheme, a Material Change of Use Development Application for 'Undefined Use' within the Rural Zone is 'Impact Assessable Development.' As such, the Project is to be assessed against the entire Planning Scheme and requires public notification.

1.5.3 Department of Planning, Housing and Infrastructure - Large Scale Solar Energy Guideline 2024

Although the Project is situated in Queensland and is not directly governed by the NSW Department of Planning, Housing and Infrastructure's Large Scale Solar Energy Guideline and its associated Technical Supplement for Landscape and Visual Impact Assessment, Moir Studio has elected to refer to these methodologies. These NSW guidelines provide comprehensive guidance and tools for assessing, evaluating, and mitigating visual and landscape impacts, representing best-practice conditions for such assessments. Given that the scale and unit size of a BESS is similar to those of a solar development, their terminology and assessment frameworks have been incorporated into this LCVIA to ensure a robust evaluation.

Study Method

03 Project Overview



3.0 Project Overview

3.1 Regional Context

The Project Area is within the Rockhampton Regional Council Local Government Area, approximately 2.5km north of Bouldercombe and 16km south of Rockhampton, Queensland. Immediately south to the Project Area on an adjoining lot is the Bouldercombe (Powerlink) Substation, hosting connections to large scale overhead transmission lines and a BESS facility operated by Genex Power.

Landuse within the 2.5km Study Area is predominantly reserved for agricultural and rural purposes including cropping and grazing. The Project Area is in the Rural Zone and Special Purpose Zone of the Planning Scheme.

3.2 The Project

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The Project is located on L 2 RP 613051, Lot 742 Cherryfield Road, Gracemere QLD 4702. The Project Area includes an 18.09 ha portion of the larger combined 128.13 ha lot area, to be subdivided via Lease Lot (exceeding 10 years) to facilitate the BESS.

The Project includes a 300MW/4h BESS consisting of the following components:

- 294 BESS containers
- 98 inverters and Medium Voltage Power Stations
- · Underground transmission line
- Sealed roads and carpark
- Electrical equipment including primary transformers, high voltage substation, auxiliary transformers, harmonic filters and control rooms;
- Administrative and Operations and Maintenance buildings and facilities
- Vegetated Buffer
- Temporary laydown and site establishment area



Project Overview

Figure 02 Regional Context Basemap Source - Esri 2025



Project Layout

Refer to Section 3.2

LEGEND

- Project Area BESS Area
- Substation
- Admin and O&M Facilities
- Contaminated Fire Water Basin
- Laydown and Site Establishment
- Vegetated Buffer
- Internal Access Road
- Gravel Perimeter Track - - - Underground Transmission Line
- Bouldercombe Substation
- Bouldercombe BESS Existing Overhead Transmission
- Contours Watercourse

04 Landscape Character Assessment



4.0 Landscape Character Assessment

4.1 Landscape Character Assessment Overview

Landscape Character refers to the distinct and recognisable pattern of elements that occur consistently in a particular landscape. The Landscape Character of an area is generally defined by the most dominant landscape element or unique combination of elements that occur within that landscape. It 'reflects how particular combinations of geology, landforms, soils, vegetation, land use and human settlements create a particular sense of place for different areas within the landscape' (Landscape Institute, 2013).

The following provides an overview of the requirements of the landscape character assessment.

Step 1 - Baseline Analysis

A baseline study must be conducted to assess the landscape character of the area and its sensitivity. This study should be based on both desktop research and field visits, providing a descriptive and visual analysis of the site's qualities, key values, and potential challenges associated with the Project. An on-site field study was conducted in May 2025 using key viewpoints within the localised region defined as the Study Area in **Section 4.2**.

Step 2 - Identification of Landscape Character Zones

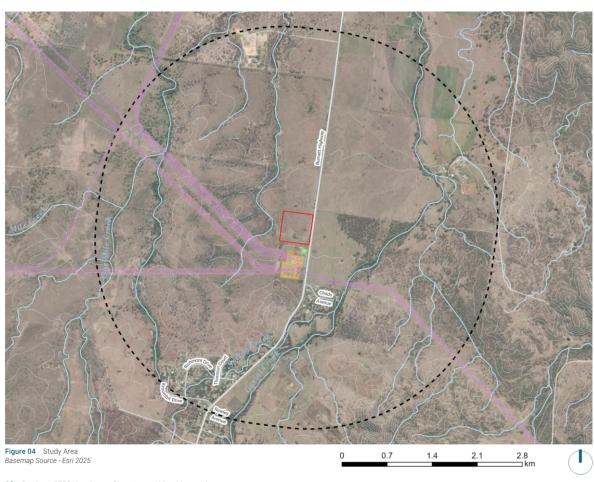
Where the landscape has distinct areas of differing qualities, the landscape should be divided into different Landscape Character Zones (LCZs).

Step 3 - Assess Landscape Character Impact

The identified LCZs are assessed to determine the sensitivity of the landscape in each zone and the magnitude of the Project's visual impact on the landscape.

4.2 Landscape Character Study Area

The Landscape Character surrounding the Project has been assessed at a regional, local and site scale. This assessment will utilise existing topographic maps, site imagery and land use maps using 2.5 km (kilometres) as the defined 'Study Area' from the Development Footprint.



Study Area

Refer to Section 4.2

Landscape Character Assessment

LEGEND

Project Area

- - Visual Impact Study Area (2.5km - - from Project Area)

Bouldercombe Substation

Bouldercombe BESS

Existing Overhead Transmission

Highway

Local Road

Contours

Watercourse

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4.3 Bioregion

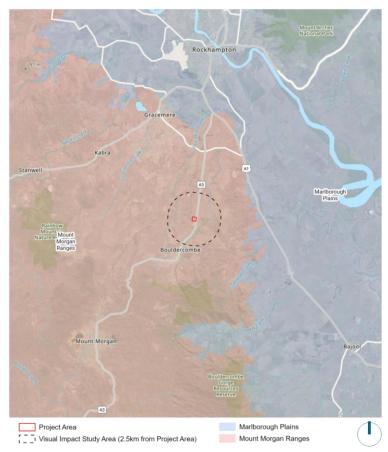
The Project Area is located within the Brigalow Belt South Interim Biogeographical Regionalisation for Australia (IBRA). The region covers over 27 million ha, extending from the south of Dubbo in central western NSW to Townsville in the mid-Queensland coast. A variety of landscapes are featured in the region including undulating to hilly areas with low ridges and deep valleys as well as flat alluvial plains in the south. Vegetation is predominantly mixed eucalypt woodland with areas of brigalow scrubs and open Mitchell grasslands. Approximately 80% of land in the bioregion is grazed, with large lowland areas cleared for agricultural purposes. (DCCEEW, n.d)

The entirety of the 2.5km Study Area falls within the Mount Morgan Ranges sub-bioregion as seen in Figure 05. Key characteristics of the sub-bioregion consist of the following:

Charactersitic Landforms: The region is a rugged to hilly province formed on the Paleozoic rocks of the coastal ranges from inland of Rockhampton extending south to the Eidsvold area.

Geology: The dominant rocks are volcanics, with areas of igneous rocks and small areas of folded metasediments.

Vegetation: Steeper areas are dominated by narrow-leaved ironbark (Eucalyptus crebra) woodlands with red bloodwood (Corymbia erythrophloia), spotted gum (C. citriodora) and rosewood (Acacia rhodoxylon). Silver-leaved ironbark (Eucalyptus melanophloia) forms a woodland on erosional lower slopes and gum-topped box (E. moluccana) forms a woodlans on colluvial slopes. Forest red gum (Eucalyptus tereticornis) and Moreton Bay ash (Corymbia tessellaris) occur on alluvial soils. (SEED,



Landscape Character Assessment

Figure 05 Sub-Bioregions Basemap Source - ESRI, 2025

4.4 Land Zoning

The Project Area is located within the Rockhampton Regional Council Local Government Area (LGA) where the Rockhampton Region Planning Scheme 2015 Version 5 applies. (RRC, 2015)

The following provides an overview of the land zoning and visual impact objectives outlined in the Rockhampton Region Planning Scheme within the immediate surrounds of The Project as shown in **Figure 06.**

4.4.1 Rural Zone Code

Majority of the landscape character Study Area and the entirety of the Project Area falls under the Rural Zone Code. As outlined in section 6.7.4 Rural zone code in the Planning Scheme, one visual objective identified for this zoning type is "development; does not detract from the scenic landscape features of rural land including the Fitzroy River, floodplains, lagoons, wetlands, salt pans, mountains and ridges and the coastline". (RRC, 2015)

4.4.2 Special Purposes

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Bouldercombe Substation and Bouldercombe BESS (Image 02) to the south of the Project Area are defined by the Special Purposes Code. As outlined in section 6.7.6 Special purpose zone code in the Planning Scheme, one visual objective identified for this zoning type is "development does not impact upon the character and amenity of the surrounding area" (RRC, 2015)



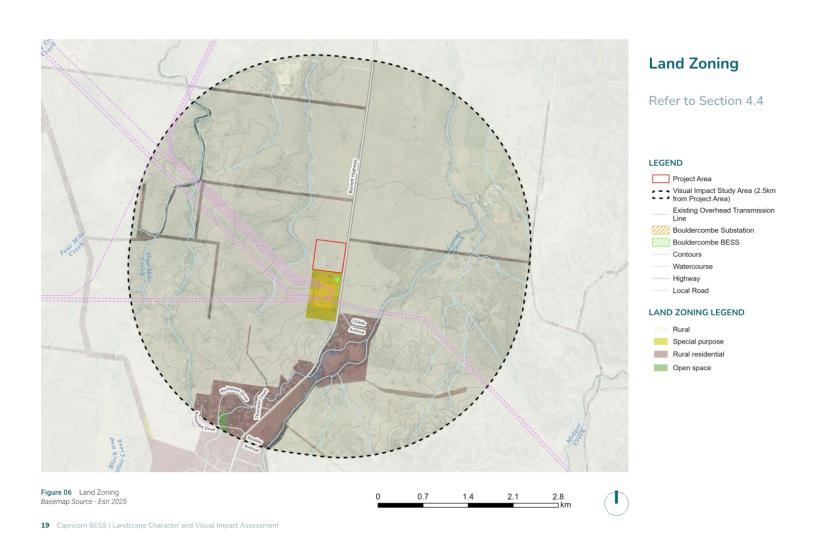
Landscape Character Assessment

Image 01 Agricultural Land within Study Area



Image 02 Bouldercombe Substation & Bouldercombe BESS





Landscape Character Assessment

4.5 Land Use

Land Use mapping within the Study Area as shown in Figure 06, is defined by land use mapping published by the Queensland Government in 2021 (QSpatial, 2021). Land use is classified according to the Australian Land Use and Management Classification.

Existing Land Use within the 2.5km Study primarily consists of:

- · Grazing Native Vegetation
- Cropping
- Residential
- Mining
- Utilities

The Study Area is primarily characterized by agricultural and rural land uses, as defined by Queensland Government land use mapping. To the south of the Project Area, the town of Bouldercombe is predominantly classified as 'residential' land use. Directly adjacent to the Project Area, the Powerlink-operated Bouldercombe Substation and the Genex-operated Bouldercombe BESS facilities are identified as 'utilities' under the land use classification. The Project Area is currently defined as 'Grazing Native Vegetation,' consisting of cleared areas with scattered vegetation.

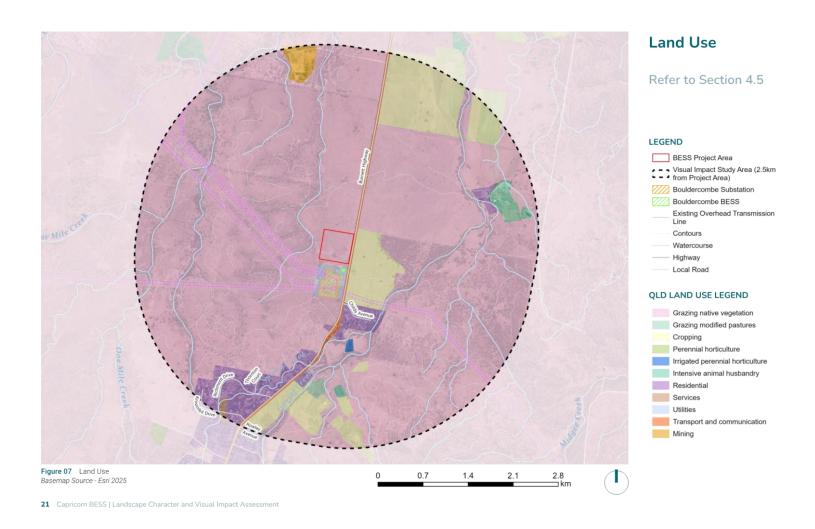


Image 03 Grazing Native Vegetation Pastures within the Study Area



Image 04 Residential Area in Bouldercombe





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Landscape Character Assessment

4.6 Key Landscape Features

4.6.1 Topographical Character

Within the Study Area, the landscape's topography varies from flat to gently undulating, supporting pastoral land used for cropping and native grazing. This predominantly flat agricultural environment features scattered patches of native vegetation across its cleared pastures. Distant vegetated ridgelines of the Bouldercombe Gorge Resource Reserve and Mount Archer National Park form a scenic backdrop, creating a distinct landscape feature and contributing to the area's scenic amenity.

The Project Area is relatively flat, with an elevation range between 42m - 46m (ASL).

4.6.2 Hydrological Character

A network of creeks flow thoughout the Study Area, supporting mature native vegetation, the distinct lines of riparian vegetation are visible landscape features across the pastoral land. Within the 2.5km Study Area, identified waterbodies include:

- · One Mile Creek
- Four Mile Creek
- Spring Creek

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Gavial Creek

4.6.3 Vegetation Character

The Study Area's vegetation reflects the alluvial soil conditions typical of the Mount Morgan Ranges sub-bioregion, as outlined in **Section 4.3**. The surrounding pastoral landscape, primarily used for native grazing, is characterized by its relatively flat topography interspersed with scattered patches of native vegetation. A prominent feature of this landscape is the network of riparian corridors formed by existing creeklines, which support dense stands of mature native vegetation (**Image 06**). Within the Study Area, the dominant Broad Vegetation Group is defined by woodlands and open woodlands, featuring species such as Eucalyptus coolabah, River Red Gum, Silver-leaved Ironbark, and Blue Gum. (DETSI, 2023)

Existing vegetation within the Project Area consists of scattered shrubs and lone trees bordering the Burnett Highway and Project Area on the eastern boundary.



Image 05 View of Vegetated Ridgelines



Image 06 Riparian Corridor in Pastoral Land

Located on the Burnett Highway approximately 8.9km southeast of the Project Area, Stoppford Way Lookout is a key scenic lookout offering views of the Mount Morgan Ranges and valleys (Image 07). The area is characterised by open forests to woodlands on undulating to hilly terrain with the lookout situated at an elevation of 228m (ASL). The distinct vegetated ridge lines are a visually distinct landscape feature visible within the 2.5km Study Area, contributing to the scenic amenity of the area.

Due to the extent of existing vegetation and intervening topography, views of the Project from the lookout are unavailable. Additionally, the scale and siting of the BESS will not impede on sight lines or alter the landscape feature.

4.6.5 Bouldercombe Gorge Resources Reserve

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4.6.4 Stoppford Way Lookout - Mount Morgan

Situated approximately 6.5 km south of the Project Area, the Bouldercombe Gorge Resource Reserve covers 3,970 hectares under the management of the Queensland Department of National Parks, Sport and Racing. The reserve's vegetation is characterized by dry to moist eucalypt woodlands and open forests that extend across its undulating to hilly topography, with the gorge incising the Razorback Range. The distinct vegetated ridge lines are a visually distinct landscape feature visible within the 2.5km Study Area, contributing to the scenic amenity of the area.

A notable feature of the reserve is its network of ephemeral creeks and waterholes (**Image 08**); that become active during the wet season, providing a popular scenic hiking route to observe the reserve's waterfalls.

Due to the extent of existing dense vegetation, views of the Project are unavailable from within the Bouldercombe Gorge Resources Reserve. Additionally, the scale and siting of the BESS will not impede on sight lines or alter the landscape feature.



Landscape Character Assessment

Image 07 Views from Stoppford Way Lookout



Image 08 Creekbed in Bouldercombe Gorge Resource Reserve

4.6.6 Roads

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The Project Area is bordered by the A3 Burnett Highway (**Image 09**), an inland rural highway that runs from its junction with the Bruce Highway at Gracemere to the D'Aguilar Highway in Nanango. Access to the Project Area is from the Burnett Highway via proposed site access on the frontage of the lot.

To the south of the Project Area is Bouldercombe, a rural township comprising of a number of sealed roads connecting residences to the Burnett Highway. Notable local residential roads include Childs Avenue, Thornton Court, Richmont Drive, Koombit Drive and Rowley Avenue. Throughout the broader Study Area, there are also unsealed private road networks primarily used for agricultural purposes.

There are no major scenic routes within the Study Area or immediate surrounds.

4.6.7 Infrastructure & Industry

Located immediately south of the Project Area is the Bouldercombe Substation operated by Powerlink and the Bouldercombe BESS operated by Genex (Image 10). The proposed development consists of a substation facility that will connect to the existing Bouldercombe Substation via underground or overhead cables. Existing overhead transmission lines traverse the Study Area running east-west and northeast-northwest across the pastoral landscape, connecting the the existing substation.

Located approximately 2km northwest of the Project Area is the Bouldercombe Quarries open cut quarry site. The quarry specialises in the provision of general fill, granite, top soil, sand and clay supplying Rockhampton and the Central Queensland Region. The area is heavily modified due to open cut quarrying activities, leading to the extensive clearing of vegetation and alteration of terrain.

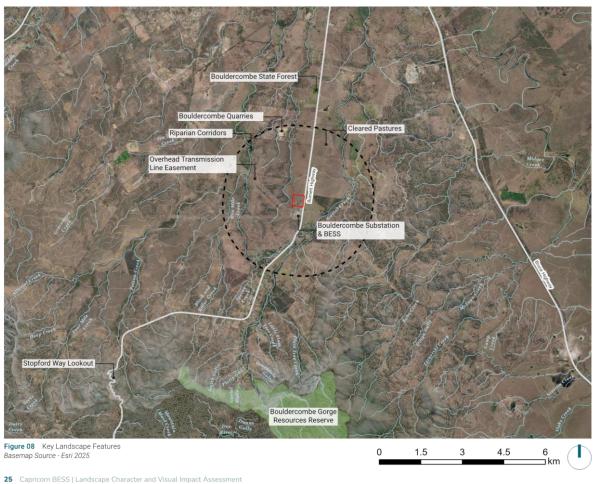


Landscape Character Assessment

Image 09 Burnett Highway



Image 10 Bouldercombe Substation from Burnett Highway



Key Landscape Features

Landscape Character Assessment

Refer to Section 4.6

LEGEND

Project Area

- - Visual Impact Study Area (2.5km - - from Project Area)

National Park

State Forest

Highway

Contours

Watercourse

4.7 Identify Landscape Character Zones

Landscape character zones should be defined based on shared visual characteristics, such as landforms and dominant land cover patterns. These patterns emerge from the interplay of vegetation, waterbodies, landforms, and land use, enabling the identification of key landscape features. **Figure 09** provides a schematic representation of what defines a Landscape Character Zone (LCZ).

4.8 Determining Scenic Quality

Scenic quality reflects the overall and relative scenic, cultural, or aesthetic value of the landscape within the viewshed. This assessment is based on the presence or absence of key landscape features that influence community perceptions of scenic quality, ranging from very low to high.

The baseline analysis and landscape character assessment have been used to inform the classification of scenic quality values. A scenic quality rating has been applied to each LCZ based on the Scenic Quality Frame of Reference and the visual reference for scenic quality values provided in the Technical Supplement (as presented in Table 01 and Table 02).

The scenic quality has assisted in determining the sensitivity of each LCZ, results are shown in **Table 08**.

4.9 Landscape Character Zones

Five (5) LCZs have been identified within the Study Area; LCZ01 - Riparian Corridor; LCZ02 - Rural Township; LCZ03 - Mining & Quarrying; LCZ04 - Energy Production & Reticulation and; LCZ05 - Agricultural Pastures & Rural Properties. The general extent of these LCZs is shown in **Figure 10**.

The methodology for assessing the visual sensitivity of each LCZ has been adapted from the NSW DPHI's Large Scale Solar Guideline Technical Supplement, as this represents best practice for visual sensitivity assessment.

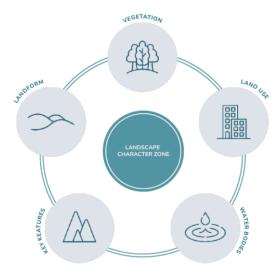


Figure 09 Defining Landscape Character Zones

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	Scenic Quality Frame of Reference										
Feature	Very Low Scenic Quality	Low Scenic Quality	Moderate High Scenic Quality Scenic Quality								
Landform	 Large expanses of flat or gently undulating terrain Indistinct, dissected or unbroken landforms that provide little illusion of spatial definition or landmarks with which to orient 	 Mostly flat or gently undulating terrain with isolated areas of undulating topography 	 Steep, hilly and undulating ranges that are not visually dominant Broad shallow valleys Moderately deep gorges or moderately steep valley walls Minor rock outcrops Isolated peaks, steep rocky ridges, cones or escarpments with distinctive form and/or colou contrast that become focal points Large areas of distinctive rock outcrops or boulders Well defined, steep sided valley gorges 								
Vegetation	Extensively cleared and cropped areas with very limited variation in colour and texture Pastoral areas, human created paddocks, pastures or grasslands and associated buildings typical of grazing lands	 Predominantly cleared and cropped areas with small areas of variation in colour and texture Mostly pastures or grasslands with small blocks of distinct native vegetation 	 Predominantly open forest or woodland combined with some natural openings in patterns that offer some visual relief Vegetative stands that exhibit a range of size, form, colour, texture and spacing including human influenced vegetation such as vineyards, and orchards Strongly defined patterns with combinations of native forest, naturally appearing openings, streamside vegetation and/or scattered exotics Distinctive stands of vegetation that may create unusual forms, colours or textures in comparison to surrounding vegetation 								
Waterform	Absence of natural waterbody Farm dams, irrigation canals or stormwater infrastructure	* Minor waterforms such as creeks and streams	 Intermittent streams, lakes, rivers, swamps and reservoirs Visually prominent lakes, reservoirs, rivers, streams, wetlands and swamps Presence of harbour, inlet, bay or open ocean 								
Social & Cultural	 Places of worship, cemeteries/memorial parks, private open spaces 	 Places of worship, cemeteries/memorial parks, private open spaces Local heritage sites 	 Local or state heritage sites Distinguishable entry ways to a regional city identified in the Transport and Infrastructure SEPP Culturally important sites, world heritage areas, national parks/reserves, World, national and state heritage sites 								
Human Presence	 Dominating presence of infrastructure, human settlements, highly modified landscapes and higher density populations such as regional cities, industrial areas, agricultural transport or electricity infrastructure 	 Highly modified landscapes with visible infrastructure such as transmission lines and railway corridors 	 Dispersed yet evident presence of human settlement such as villages, small towns, isolated pockets of production and industry, lower scale and trafficked transport infrastructure Natural/undisturbed landscape Minimal evidence of human presence and production 								

Table 01 Scenic Quality Frame of Reference

Landform Vegetation Waterforms Social & Cultural Human Presence

Table 02 Visual Reference of Scenic Quality

Landscape Character Zones

Landscape Character Assessment

Refer to Section 4.7

LEGEND

- Project Area
- - Visual Impact Study Area (2.5km - from Project Area)
- Bouldercombe Substation
- Bouldercombe BESS Existing Overhead Transmission
- Highway
- Local Road
- Contours
- Watercourse

LANDSCAPE CHARACTER ZONES LEGEND

- LCZ01 Riparian Corridor
- LCZ02 Rural Township
- LCZ03 Mining & Quarrying
- LCZ04 Energy Production &
- Reticulation
- LCZ05 Agricultural Pastures & Rural Properties

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Landscape Character Assessment

4.9.1 LCZ01 - Riparian Corridor

Land within the LCZ is characterised by a network of riparian corridors of perrenial and ephemeral water courses, most of which flows through pastures used for native grazing. The riparian corridor supports the establisment of mature native vegetation communities in the form of open forest to woodlands with species typically consisting of River Red Gum, Blue Gum and Coolibah. The clearing of pastoral land in the immediate surrounds of One Mile Creek, Four Mile Creek, Spring Creek and Gavial Creek has created a visually distinct line of dense vegetation across the agricultural landscape. See **Image 10**

The overall scenic quality of the LCZ is rated as Low.



Image 11 Creekbed in Study Area



Image 12 Riparian corridor in agricultural landscape

LANDSCAPE CHARACTER	KEY LANDSCAPE FEATURES	KEY VIEWPOINTS			Application of Sce	enic Quality Rating F	rame of Reference		
UNIT	(dominant features within this zone)			Landform	Waterform	Vegetation	Human Presence	Social & Cultural	SCENIC QUALITY RATING
	Open forest to woodlands vegetation class along One Mile Creek, Four Mile Creek, Spring Creek and Gavial	Rurnett Highway							Low
			н						
LCZ01 - Riparian Corridor			M						
EGZOT Riparian Comuci			L						
	Creek	VL							

Table 03 LCZ01 - Riparian Corridor

Landscape Character Assessment

4.9.2 LCZ02 - Rural Township

Land within the LCZ is defined by the rural properties and amenities of Bouldercombe, a rural town situated 22 km south of Rockhampton. The landscape within the LCZ is highly modified, with extensive areas cleared for development. Vegetation is a mix of native and non-native species, commonly found as street trees, in residential gardens, and within urban parks and community areas.

The overall scenic quality of the LCZ is rated as Very Low.



Image 13 Rural Properties & Residential Areas of Bouldercombe



Image 14 Leanne Hinchcliff Memorial Lions Park, Bouldercombe

LANDSCAPE CHARACTER	KEY LANDSCAPE FEATURES	KEY VIEWPOINTS		Application of Scenic Quality Rating Frame of Reference					SCENIC OLIALITY BATING
UNIT	(dominant features within this zone)			Landform	Waterform	Vegetation	Human Presence	Social & Cultural	SCENIC QUALITY RATING
Boulderoo	Bouldercombe residential	Burnett Highway, Childs Avenue, Thornton Court, Richmont Drive, Koombit Drive and Rowley Avenue	н						Very Low
LCZ02 - Rural Township	developments, commercial developments and urban infrastructure		М						
LOZOZ Marai TOWNOMP			L						
	imastructure	No.							

Table 04 LCZ02 - Rural Township

4.9.3 LCZ03 - Mining & Quarrying

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Land within the LCZ is defined by mining and quarrying activities associated with Boudercombe Quarries, an open cut quarry specialising in the provision of general fill, granite, top soil, sand and clay. The LCZ is heavily modified due to open cut quarrying activities, leading to the extensive clearing of vegetation and alteration of terrain.

Due to difficulty accessing the LCZ from public locations, a desktop assessment of aerial imagery has been conducted to support this lanscape character zone assessment.

The overall scenic quality of the LCZ is rated as Very Low.



Image 16 Bouldercombe Quarries Aerial Imagery

Aerial Source - Google Earth 2025



Image 15 Access to Bouldercombe Quarries from Burnett Highway

LANDSCAPE CHARACTER	KEY LANDSCAPE FEATURES	KEY VIEWPOINTS		Application of Scenic Quality Rating Frame of Reference					0051110 01111 1717 0171110
UNIT	(dominant features within this zone)			Landform	Waterform	Vegetation	Human Presence	Social & Cultural	SCENIC QUALITY RATING
	Bouldercombe Quarries open cut quarry	Bouldercombe Quarries private land	2						
			н						
LCZ03 - Mining & Quarrying			M						Very Low
			L						
			VL						

Table 05 LCZ03 - Mining & Quarrying

4.9.4 LCZ04 - Energy Production & Reticulation

Land within the LCZ is defined by energy production and infrastructure associated with the Bouldercombe Substation operated by Powerlink and Bouldercombe BESS operated by Genex. The LCZ is heavily modified with extensive areas cleared for the development of utilities associated with electrical reticulation and BESS units.

The overall scenic quality of the LCZ is rated as Very Low.

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Image 18 Bouldercombe Substation



Image 17 Bouldercombe Substation and Bouldercombe BESS from Burnett Highway

LANDSCAPE CHARACTER	KEY LANDSCAPE FEATURES			Application of Scenic Quality Rating Frame of Reference					
UNIT	(dominant features within this zone)	KEY VIEWPOINTS		Landform	Waterform	Vegetation	Human Presence	Social & Cultural	SCENIC QUALITY RATING
	Bouldercombe Substation and Genex BESS	Burnett Highway	н						
LCZ04 - Energy Production &			M						Very Low
Reticulation			L						,
			VL						

Table 06 LCZ04 - Energy Production & Reticulation

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Landscape Character Assessment

4.9.5 LCZ05 - Agricultural Pastures & Rural Properties

Land within the LCZ, is defined by native grazing and cropping practices, featuring scattered patches of native vegetation across a relatively flat pastoral landscape. Low-density rural properties and farm infrastructure are dispersed throughout the zone. The dominant Broad Vegetation Group consists of woodlands and open woodlands, with typical species including Eucalyptus coolabah, River Red Gum, Silver-leaved Ironbark, and Blue Gum. Existing overhead transmission lines, associated with the Bouldercombe Substation and Bouldercombe BESS, are considered key landscape features in the area.

The overall scenic quality of the LCZ is rated as Very Low.



Image 19 Native grazing pastures



Image 20 Pastures with overhead transmission lines

LANDSCAPE CHARACTER	KEY LANDSCAPE FEATURES	KEN MEMBONIE				Application of Sco	enic Quality Rating	Frame of Reference		
UNIT (dominant features within this zone)		KEY VIEWPOINTS	KET VIEWPOINTS		orm	Waterform	Vegetation	Human Presence	Social & Cultural	SCENIC QUALITY RATING
	Cleared pastures with scattered vegetation and transmission lines	Burnett Highway M L VL								Low
			н							
LCZ05 - Agricultural Pastures			M							
& Rural Properties			L							
			VL							

Table 07 LCZ05 - Agricultural Pastures & Rural Properties

Landscape Character Assessment

Landscape Character Assessment

The following provides an overview of determining the sensitivity of a LCZ and the magnitude of effect resulting from the Project. The overall level of landscape character impact on each LCZ has been rated as low, moderate or high.

4.10.1 Determine Magnitude Rating

The Technical Supplement states: "Applicants should consider the following when analysing and rating the magnitude of the project:

Size and scale including:

4.10

- the extent of landscape elements that may be lost and the contribution of those elements make to the landscape character;
- the extent to which the project becomes a minor or major element in the landscape and its dominance in the visual catchment; and
- the extent to which the project changes the key characteristics of the landscape that are critical to its distinctive character (including the removal of vegetation)
- Geographical area the area of the landscape that will experience the project's effects. This could vary from the immediate site setting to a larger scale, where the project may influence several landscape character zones" (DPHI, 2024b)

4.10.2 Determine Sensitivity

The Technical Supplement states: "Visual sensitivity refers to the quality of the view and how sensitive it is to the proposed change... Applicants should rate the sensitivity of the landscape character type based on the inherent capability of the area to absorb changes from the project" (DPHI, 2024b).

4.10.3 Determine Impact on LCZ

The overall level of landscape character impact has been determined through the combination of landscape sensitivity and visual magnitude. Results from the Landscape Character Assessment are shown in **Table 08.**

Landscape Character Assessment

	Landscape Character Zone Assessment									
LCZ:	Name:	Scenic Quality Rating:	Sensitivity:	Magnitude:	Landscape Character Impact Rating:					
			LOW This LCZ contains remnant riparian vegetation that is predominantly intact. Lack of access, nature reserves, public open spaces or lookouts limits the use of the LCZ by the general public.	LOW Opportunities to view the Project from within the LCZ are limited due to lack of public use and the dense vegetation associated with this LCZ which screens or fragments views toward the Project.						
LCZ01	Riparian Corridor	Low		The extent of this change is considered low due to the modified nature of the existing landscape and the fragmented views.	LOW					
LGZ02	Rural Township	Very Low	MODERATE The LCZ contains private rural dwellings, publically accessible green and open spaces, picnic areas, parks and public recreation areas.	LOW Opportunities to view the Project from within this LCZ are limited by intervening topography and vegetation along the Burnett Highway. Additionally, existing Bouldercombe Substation and Genex BESS facilities will screen views from the south. The extent of change is considered low due to existing major electricity infrastructure visible from the LCZ.	LOW					
LCZ03	Mining & Quarrying	Very Low	VERY LOW The LCZ is heavily modified due to open cut quarrying activities, leading to the extensive clearing of vegetation and alteration of terrain.	LOW Opportunities to view the Project from within the LCZ are limited due to intervening riparian vegetation along creeklines within adjacent agricultural fields. The extent of change is considered low due to the modified nature of the existing landscape and presence of major electricity infrastructure in the area.	VERY LOW					

Table 08 Overview of Landscape Character Assessment

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	Landscape Character Zone Assessment									
LCZ:	Name:	Scenic Quality Rating:	Sensitivity:	Magnitude:	Landscape Character Impact Rating:					
LCZ04	Energy Production & Reticulation	Very Low	VERY LOW The LCZ is heavily modified with extensive areas cleared for the development of utilities associated with electrical reticulation and BESS units.	MODERATE The Project will be highly visible from within this LCZ due to its close proximity to the Project Area and the lack of existing visual screening. However, the proposed substation and BESS are likely to integrate into the LCZ, leading to a very low magnitude of change	LOW					
LCZ05	Agricultural Pastures & Rural Properties	Very Low	VERY LOW The LCZ is a modified environment defined by land predominantly cleared to support agricultural activities such as grazing and cropping. Existing overhead transmission line infrastructure associated with the Bouldercombe Substation and Genex BESS facility are viewed as key landscape features in the area.	MODERATE The project is located within the LCZ and as a result, views towards the Project will be available at close range along the Burnett Highway. The extent of change is considered low due to the modified nature of the existing landscape and presence of major electricity infrastructure in the area. Additionally, proposed vegetative screening along the northern and eastern boundary of the Project Area will fragment views.	VERY LOW					

Table 08 Continued Overview of Landscape Character Assessment



5.1 Visual Impact Assessment Methodology

A Visual Impact Assessment evaluates the everyday visual effects of a project on both private and public views. Assessing the potential impacts of a project requires an understanding of an area's or viewpoint's sensitivity to change, as well as the scale and magnitude of the proposed project. The Visual Impact Assessment process should be proportionate to the anticipated impacts of the project.

5.1.1 Determining Visual Sensitivity

Visual Sensitivity refers to the quality of the existing view and how sensitive the view is to the proposed change. The visual sensitivity is determined through the following three steps:

Step 1. Determine Viewpoint Sensitivity

Step 2. Determine Scenic Quality

Step 3. Calculate Overall Visual Sensitivity

5.1.2 Viewpoint Sensitivity

Viewpoint sensitivity relates to the relative importance of viewpoints and the value that the community or visitors may place on landscapes viewed from public use areas and public travelways and non-associated residences such as dwellings. The sensitivity of each viewpoint has been assigned as one of four (4) sensitivity ratings (very low, low, moderate, high) considering the examples in **Table 09**.

5.1.3 Scenic Quality

Scenic quality refers to the relative scenic, cultural or aesthetic value of the landscape within the viewshed based on the presence or absence of key landscape features known to be associated with community perceptions of very low, low, moderate, or high scenic quality. It is typically a complex process undertaken by experts in visual impact assessment and considers community values. The methodology for determining scenic quality is outlined in **Section 4.8**.

5.1.4 Overall Visual Sensitivity

Once the viewpoint sensitivity and scenic quality are determined, these can be combined using the visual sensitivity matrix in **Table 10** to determine the overall visual sensitivity of each identified viewpoint.

Viewpoint Type	Very Low sensitivity	Low sensitivity	Moderate sensitivity	High sensitivity
Private receptor	Private recreation areas and sporting fields	Secondary dwelling view from dwelling rural area, large lot residential and environmental and conservation zones	Primary view from dwellings in rural areas, large lot residential areas and environmental or conservation areas Tourist and visitor accommodation (bedand-breakfasts, motels and hotels) and places of worship	Dwellings in residential and rural villages, Historic rural homesteads/ residences on the national, state or local heritage list
Public viewpoint	State highways, freeways and classified main roads Local sealed and unsealed roads	Cemeteries, memorial parks Tourist roads and scenic drives. Significant entry ways to regional towns and cities. Walking tracks and navigable waterways	Tourist uses in tourist areas Publicly accessible green and open spaces, including picnic areas, parks, public recreation areas and lookouts Town centres and central business districts	n/a

Table 09 Viewpoint Sensitivity Levels and Examples

	VIS	JAL SENSITIVITY MATR	ıx	
Viewpoint Sensitivity Level	High Scenic Quality	Moderate Scenic Quality	Low Scenic Quality	Very Low Scenic Quality
HIGH	HIGH	HIGH	MODERATE	LOW
MODERATE	HIGH	MODERATE	MODERATE	LOW
LOW	MODERATE	LOW	LOW	VERY LOW
VERY LOW	VERY LOW	VERY LOW	VERY LOW	VERY LOW

Table 10 Visual Sensitivity Matrix

5.1.5 Determining Visual Magnitude

Visual magnitude refers to the extent of change that will be experienced by receptors. Factors that are considered when assessing the magnitude of change include: (AILA, 2018):

- · The proportion of the view / landscape effected;
- · 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.

The visual magnitude is assigned one of five (5) magnitude ratings (very low, low, moderate, high, very high).

5.1.6 Determining Overall Visual Impact

Once visual magnitude and visual sensitivity have been established for each viewpoint, the overall visual impact is determined by combining the magnitude and sensitivity ratings according to the matrix in **Table 11**.

Viewpoints with very low or low visual impact do not require mitigation. Viewpoints that have a moderate or high visual impact will require mitigation to reduce the visual impacts associated with the Project.

			VISUAL SENSI	TIVITY RATING	
		HIGH	MODERATE	LOW	VERY LOW
_o	VERY HIGH	HIGH	HIGH	MODERATE	MODERATE
RATING	HIGH	HIGH	MODERATE	MODERATE	LOW
	MODERATE	MODERATE	MODERATE	LOW	LOW
MAGNITUDE	LOW	MODERATE	LOW	LOW	VERY LOW
Σ	VERY LOW	LOW	LOW	VERY LOW	VERY LOW

Visual Impact Assessment

Table 11 Visual Impact Matrix

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5.2 Zone of Visual Influence

An initial visibility assessment was undertaken utilising Zone of Visual Influence (ZVI) mapping. This tool assists in defining the 'Visual Catchment' for the Project.

The ZVI represents the area over which a development can theoretically be seen, and is based on a Digital Terrain Model (DTM). The ZVI is a desktop tool intended to make the fieldwork and assessment more efficient by clearly excluding areas that are screened by topography. Fieldwork assessments are then undertaken predominantly within the areas with the potential for visual impacts.

The ZVI presents a bare ground scenario - ie. A landscape without screening, structures or vegetation, and is usually presented on a base map. It is also referred to as a zone of theoretical visibility. As accurate information on the height and coverage of vegetation and buildings is unavailable, it is important to note the ZVI is based solely on topographic information. This form of mapping is acknowledged as providing a worst case scenario and is used purely as a desktop assessment tool to determine areas for further investigation.

5.2.1 Zone of Visual Influence Summary

The ZVI for the Project has been prepared based on a the maximum height of the BESS modules at 3 m, which occupy the majority of the Development Footprint. Results are shown in **Figure 10**.

Summary of findings of the viewshed analysis:

- * The majority of the Burnett Highway has a potential theoretical view toward the Project.
- Areas to the south have low or no visibility of the Project due to intervening topography.

The ZVI has been used to identify areas of potential high visibility, which informs the on-site fieldwork and viewpoint analysis to identify locations that require further detailed analysis.

It is noted that the ZVI analysis provides a worst-case scenario as existing screening elements such as structures or vegetation are not considered in the ZVI mapping. Further assessment and fieldwork is required to determine whether existing screening elements in the landscape are able to reduce visual impacts to an acceptable level, or if further mitigation strategies are required.

Zone of Visual Influence

Visual Impact Assessment

Refer to Section 5.2

LEGEND

Project Area

- - Visual Impact Study Area (2.5km - - from Project Area)

Bouldercombe Substation Bouldercombe BESS

Existing Overhead Transmission Line

Highway

Local Road

Contours

Watercourse

ZVI LEGEND

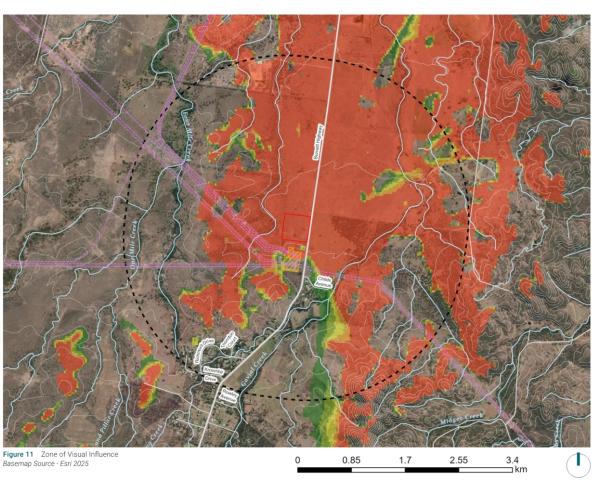
Up to 20% Visibility

20% - 40% Visibility

40% - 60% Visibility 60% - 80% Visibility

80% - 100% Visibility

Viewshed Map is a preliminary assessment tool representing a bare-ground scenario-i.e., a landscape without screening, structures, or vegetation. As accurate information on the height and coverage of vegetation and buildings is unavailable, it is important to note that the map is based solely on topographic information. Therefore, this form of mapping should be acknowledged as representing the worst-case scenario.



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5.3 Assessment Methodology for Public Viewpoints

The viewpoint analysis considers the likely visual impacts of the Project on the existing landscape character and visual amenity by selecting prominent sites, otherwise referred to as viewpoints,

Once the viewpoints were selected, panoramic photographs were taken on a level tripod at a height of 150cm (to represent eye level). Photographs were taken with a Canon EOS R5 Mirrorless Camera through a 50mm fixed focal lens which closely represents the central field of vision of the human

The visual impact of the viewpoint are then assessed both on site and with the topographic and aerial information to ensure accuracy. For each viewpoint, the potential visual impacts are analysed through a combination of the 3D terrain modelling, topographic maps and on site analysis. Viewpoint photographs and analysis have been included in the following pages. The findings of the viewpoint analysis have been quantified and are summarised in Table 10.

5.4 Viewpoint Selection

The selection of public viewpoints has been informed by topographical maps, fieldwork observations and other relevant influences such as access, landscape character and the popularity and sensitivity of vantage points. Viewpoints are selected to illustrate the following:

- Areas of high scenic value, or community value
- Views from public areas such as camp grounds, rest stops, lookouts, parks, community halls etc.
- Views from public roads
- · Range of distances from the Project
- · Range of elevations in relation to the Project
- Range of extent of visibility of the Project

A total of seven (7) viewpoints were selected from publicly accessible locations to represent a range of views surrounding the Project Area. Locations of the viewpoints are outlined in Figure 12.

5.5 Summary of Visual Impacts from Public Viewpoints

The Project will result in a Very Low to Low visual impact on the existing landscape character. Due to the extent of existing vegetation in the pastoral land adjacent to the Project Area and undulating topography, there are limited opportunites to view the Project from residential areas within the Bouldercombe locality.

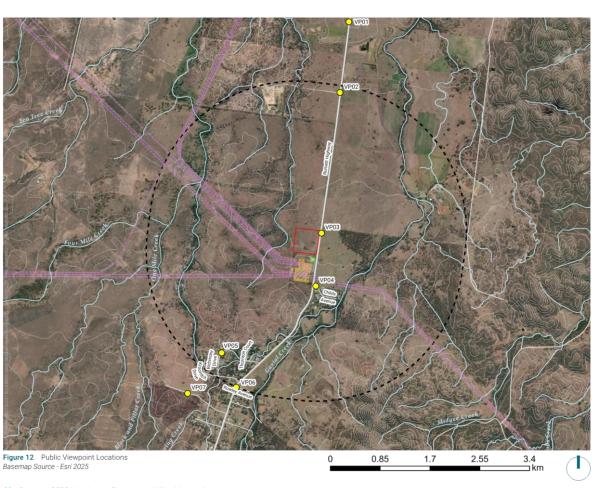
Visual Impact Assessment

Available views are limited to stretches of the Burnett Highway immediately adjacent to the Project Area. However, due to the presence of the Bouldercombe Substation and Bouldercombe BESS, the magnitude for change to the existing landscape character is low, as infrastructure associated with the reticulation of energy is an existing landscape feature. Additionally, proposed vegetative screening as outlined in Section 6.0 will fragment majority of these views.

The results from the visual impact assessment for public viewpoints are summarised in the table below.

Viewpoint	Location	Visual Sensitivity	Visual Magnitude	Visual Impact Rating
VP01	Burnett Highway, Bouldercombe	Very Low	Very Low	Very Low
VP02	Burnett Highway, Bouldercombe	Very Low	Very Low	Very Low
VP03	Burnett Highway, Bouldercombe	Very Low	Moderate	Low
VP04	Childs Avenue, Bouldercombe	Moderate	Low	Low
VP05	Richmont Drive, Bouldercombe	Moderate	Very Low	Low
VP06	Rowley Avenue, Bouldercombe	Moderate	Very Low	Low
VP07	Inslay Avenue, Bouldercombe	Low	Very Low	Very Low

Table 12 Public Viewpoint Assessment Results



Public Viewpoint Locations

Refer to Section 5.4

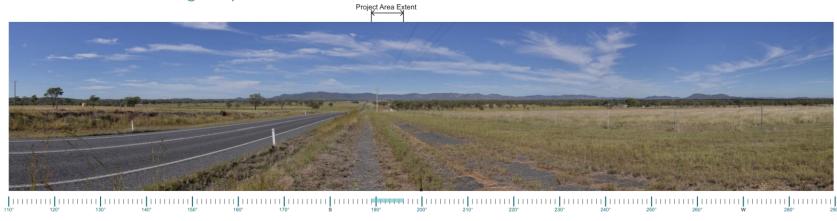
LEGEND

- Project Area
- → Visual Impact Study Area (2.5km- → from Project Area)
- Public Viewpoint Locations
- Bouldercombe Substation
- Bouldercombe BESS
- Existing Overhead Transmission Line
- Highway
- Local Road
- Contours
- Watercourse

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Viewpoint: **VP01** Burnett Highway, Bouldercombe



Extent of Potential Visibility

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Viewpoint Summary:	
Location:	Elevation:
Burnett Highway, Bouldercombe	43 m
Coordinates:	Distance to Project:
23°29'56.04"S 150°29'44.31"E	3.61 km
Viewing Direction:	
South	
Visual Sensitivity:	
Very Low	
Visual Magnitude:	
Very Low	
Visual Impact:	
Very Low	

Extent of Panorama Aerial Source: Google Earth, 2025

Highway. The view faces south towards the Project.
The surrounding landscape is defined by flat to undulating pastoral land used for native grazing and
cropping purposes. With pastures containing scattered to dense patches of native vegetation and dense lines
of mature vegetation along riparian corridors flowing
adjacent to the Burnett Highway. In the background of the view, the Bouldercombe Substation and Bouldercombe BESS are visible.
bouldercombe bess are visible.

Existing Landscape Character Description

The viewpoint is located approximately 3.61 km north

Vegetated ridgelines are visible in the distance.

The visual sensitivity of the viewpoint has been rated as

Potential Visual Impact:

Due to the distance from the Project Area the extent of existing vegetation and proposed vegetation buffer, any views of the proposed project are expected to be fragmented and minimal. Additionally, the siting and scale of the Project adjacent to existing energy infrastructure leverages an existing visual characteristic of the landscape. Consequently, any available views will not significantly alter the current visual character of the

Therefore the visual magnitude change is **Very Low** resulting in a **Very Low** visual impact.



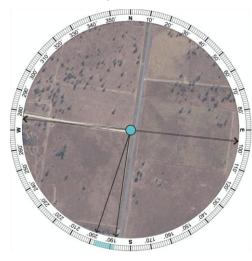
O VP Location



Project Area Extent

Extent of Potential Visibility

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Viewpoint Summary:	
Location:	Elevation:
Burnett Highway, Bouldercombe	31 m
Coordinates:	Distance to Project:
23°30'35.07"S 150°29'38.21"E	2.40 km
Viewing Direction:	
South	
Visual Sensitivity:	
Very Low	
Visual Magnitude:	
Very Low	
Visual Impact:	
Very Low	

٠	Extent of Panorama
>	Approximate Extent of Project
S	ource: Google Farth 2025

Existing Landscape Character Description: Poter

The viewpoint is located approximately 2.40 km north of the Project Area at the entrance of Bouldercombe Quarries along the Burnett Highway. The view faces south towards the Project.

The area is characterized by agricultural practices and prominent open-cut quarrying operations. Its immediate surroundings consist of pastures extensively cleared for both cropping and grazing, as well as quarrying activities. In the midground, the landscape is interspersed with scattered to dense riparian vegetation corridors that run adjacent to the Burnett Highway. In the background, fragemented views of the Bouldercombe Substation and associated transmission lines are fragmented.

Vegetated ridgelines are visible in the distance.

The visual sensitivity of the viewpoint has been rated as $\mbox{\sc Very Low}.$

Potential Visual Impact:

Due to the distance from the extent of existing vegetation, any views of the proposed project are expected to be fragmented and minimal. Additionally, the siting and scale of the Project adjacent to existing energy infrastructure leverages an existing visual characteristic of the landscape. Consequently, any available views will not significantly alter the current visual character of the area.

Therefore the visual magnitude change is **Very Low** resulting in a **Very Low** visual impact.



VP Location



Extent of Potential Visibility

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Viewpoint Summary:	
Location:	Elevation:
Burnett Highway, Bouldercombe	46 m
Coordinates:	Distance to Project:
23°31'52.76"S 150°29'25.61"E	0.03 km
Viewing Direction:	
Southwest	
Visual Sensitivity:	
Very Low	
Visual Magnitude:	
Moderate	
Visual Impact:	
Low	

Extent of Panorama → Approximate Extent of Project Aerial Source: Google Earth, 2025

Very Low.

The viewpoint is located adjacent to the Project Area on the Brunett Highway. The view faces southwest towards the Project.

Existing Landscape Character Description

Project Area Extent

The area is defined by its flat pastoral topography and existing energy infrastructure including the Bouldercombe Substation and Bouldercombe BESS and associated transmission lines. The immediate surrounds comprises of pastures extensively cleared for agricultural practices, the background is interspersed with scattered to dense riparian vegetation corridors that run adjacent to the Burnett Highway.

Vegetated ridgelines are visible in the distance.

The visual sensitivity of the viewpoint has been rated as

From this location, majority of the Project will be visible due to the close proximity. However, the proposed vegetative buffer will fragment these views. Additionally, the siting and scale of the Project adjacent to existing energy infrastructure leverages an existing visual characteristic of the landscape. Consequently, any available views will not significantly alter the current

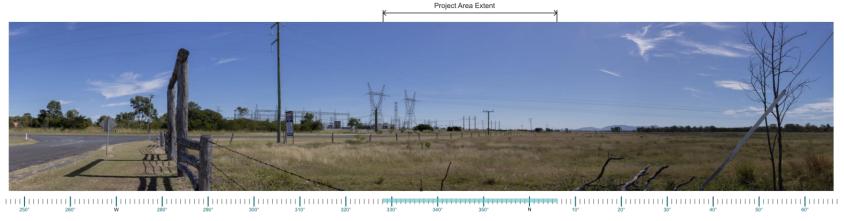
visual character of the area. Therefore the visual magnitude change is Moderate

resulting in a Low visual impact.



O VP Location

Viewpoint: **VP04** Childs Avenue, Bouldercombe



Extent of Potential Visibility

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Location:	Elevation:
Childs Avenue, Bouldercombe	53 m
Coordinates:	Distance to Project:
23°32'22.03"S 150°29'21.66"E	0.54 km
Viewing Direction:	
Northwest	
Visual Sensitivity:	
Moderate	
Visual Magnitude:	
Very Low	

Extent of Panorama Aerial Source: Google Earth, 2025

Existing Landscape Character Description The viewpoint is located in proximity to the intersection between Childs Avenue and the Burnett Highway approximately 0.54 km southeast of the Project Area. The view face northwest towards the Project. The surrounding landscape is characterised by cleared pastoral land and low density rural residential development. Large scale energy infrastructure including the Bouldercombe Substation and Bouldercombe BESS are prominant landscape features

in the foreground of the view. Scattered lines of vegetation are located along the Burnett Highway and between agricultural pastures.

The visual sensitivity of the viewpoint has been rated as

Due to the extent of existing energy infrastructure and intervening topography screens all views of the Project from Childs Avenue and adjacent private dwellings.

Therefore the visual magnitude change is Very Low resulting in a Low visual impact.



O VP Location

Viewpoint: **VP05** Richmont Drive, Bouldercombe



Extent of Potential Visibility

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Viewpoint Summary:	
Location:	Elevation:
Richmont Drive, Bouldercombe	70 m
Coordinates:	Distance to Project:
23°32'58.12"S 150°28'24.38"E	2.12 km
Viewing Direction:	
East	
/isual Sensitivity:	
Moderate	
/isual Magnitude:	
Very Low	
Visual Impact:	
_ow	
Extent of Panoran	
Approximate Exte	ent of Project
erial Source: Google Ear	rth, 2025

xisting Landscape Character Description

The viewpoint is located approximately 2.12km southwest of the Project Area on Richmont Drive, a sealed residential road providing access to rural properties within the Bouldercombe locality. The view faces east towards the Project.

The surrounding landscape is characterised by low density, rural residential development. A mix of native and non-native vegetation can be seen in the fore-mid ground of the view in the form of residential gardens and street trees.

The visual sensitivity of the viewpoint has been rated as

Intervening vegetation effectively blocks all views of the Project from Richmont Drive and from the front of rural dwellings situated on Richmont Drive.

Visual Impact Assessment

Therefore the visual magnitude change is Very Low resulting in a Low visual impact.



O VP Location





Extent of Potential Visibility

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Viewpoint Summary:	
Location:	Elevation:
Rowley Avenue, Bouldercombe	69 m
Coordinates:	Distance to Project:
23°33'17.32"S 150°28'32.83"E	2.50 km
Viewing Direction:	
Northeast	
Visual Sensitivity:	
Moderate	
Visual Magnitude:	
Very Low	
Visual Impact:	
Low	

Extent of Panorama → Approximate Extent of Project Aerial Source: Google Earth, 2025

Existing Landscape Character Description

The viewpoint is located approximately 2.50 km southwest of the Project Area on the intersection of the Burnett Highway and Rowley Avenue, an unsealed residential road providing access to rural properties within the Bouldercombe locality. The view faces northeast towards the Project Area.

The surrounding landscape is characterised by low density, rural residential development and cleared pastoral land. A dense line of riparian vegetation runs adjacent to the Burnett Highway in the midground of the view, with cleared pastoral land in the foreground. Additionally a mix of native and non-native vegetation can be seen in the fore-mid ground of the view in the form of residential gardens and street trees.

The visual sensitivity of the viewpoint has been rated as

Due to intervening vegetation views of the Project from Rowley Avenue and adjacent rural dwellings are effectively screened.

Therefore the visual magnitude change is Very Low resulting in a Low visual impact.



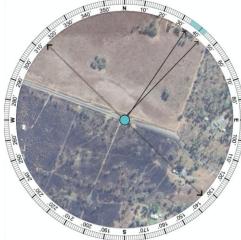
O VP Location



Project Area Extent

Extent of Potential Visibility

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Location:	Elevation:
Inslay Avenue, Bouldercombe	74 m
Coordinates:	Distance to Project
23°33'20.24"S 150°28'3.52"E	3.03 km
Viewing Direction:	
Northeast	
Visual Sensitivity:	
Low	
Visual Magnitude:	
Very Low	

Visual Impact: Very Low

→ Extent of Panorama
→ Approximate Extent of Project
Aerial Source: Google Earth, 2025

Existing Landscape Character Description: Poten

The viewpoint is located approximately 3.03 km southwest of the Project Area on Inslay Avenue, a sealed residential road providing access to rural dwellings and Bouldercombe Transferstation. The view faces northeast towards the Project Area.

The surrounding landscape is defined by cleared pastoral land and low density rural residential development. In the foreground, there are scattered patches of vegetation across the pastoral land, transitioning to denser lines of mature vegetation associated with riparian corridors in the background.

The visual sensitivity of the viewpoint has been rated as ${\bf Low.}$

Potential Visual Impact

Due to intervening vegetation and topography, views of the Project from Inslay Avenue and adjacent rural dwellings are effectively screened.

Therefore the visual magnitude change is **Very Low** resulting in a **Very Low** visual impact.



VP Location

5.6 Photomontages

A photomontage is a visualisation based on the superimposition of the Project onto a viewpoint photograph for the purpose of creating a realistic representation of proposed or potential changes to a view. Photomontages have been utilised in this LCVIA report to assist in the visual impact assessment of the Project and assess the effectiveness of the proposed landscape buffer strategy

5.6.1 Photomontage Development Process

The process for generating these images involves computer generation of a wireframe perspective view of the Project. This process includes:

- Capturing viewpoints with a Canon EOS 5D Mark IV digital SLR through a 50mm fixed focal lens;
- Building a wireframe model of the Project;
- Matching the wireframe model to the viewpoint using rendering software; and
- Rendering the model into viewpoint to a realistic level.

These photomontages are based on photography from key public viewpoints that are included within **Section 5.4**. It is noted that a 50mm fixed focal lens closely represents the central field of vision of the human eye. The process for photomontage development is demonstrated in **Figure 14**.

5.7 Photomontage Viewpoint Selection

Three (3) photomontages of The Project from VP01, VP03 and VP04 were selected as a key view and represent general visibility of the Project (refer to **Figure 15**). Viewpoints selected for the preparation of photomontages are generally those determined to have the greatest potential for visual magnitude change and overall visual impact. Two (2) photomontages have been prepared from locations along the Burnett Highway to represent the extent of the proposed vegetation buffer to mitigate potential views of the Project from the highway. One (1) photomontage has been prepared from Childs Avenue to represent any potential views from private dwellings.

Each viewpoint features two photomontages: one depicting the Project without mitigation, and a second illustrating the landscape buffer strategy after five years of growth. At this five-year mark, the fast-maturing species will effectively screen views of the Project.

Step 1: Develop 3D Model



Detailed 3D model of the Site is developed in a modelling software. The Project is modelled and sited in the 3D model to scale.



Step 2: Align Photograph and Model



The digital panorama is imported into the modelling software. Topography, control points, obstacle objects that can be used as reference to calibrate the model camera very precisely.



Step 3: Render Photomontage



The software calculates the position of the sun based on the time and date of photograph and renders the Project in accordance with the specific weather conditions and position of the sun. Once rendered, detailed removal of intervening elements (such as vegetation) is undertaken to provide an accurate representation of the Project.

Figure 13 Photomontage Development Process

Photomontage Locations

Visual Impact Assessment

Refer to Section 5.7

LEGEND

Project Area

- - Visual Impact Study Area (2.5km - - from Project Area)

Photomontage Locations

Bouldercombe Substation

Bouldercombe BESS
----- Existing Overhead Transmission Line

Highway

Local Road

Contours

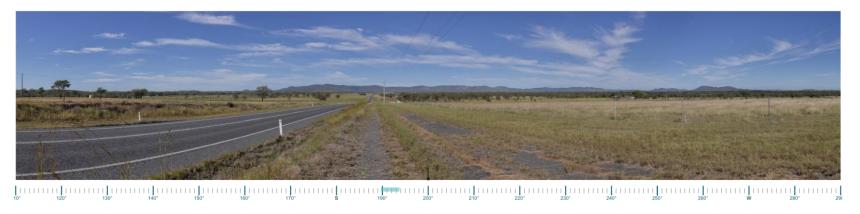
Watercourse

53 Capricorn BESS | Landscape Character and Visual Impact Assessment

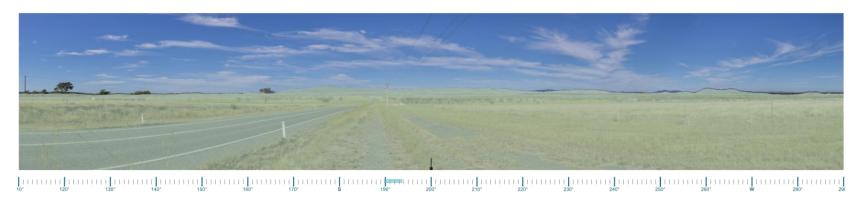
Page (421)

Photomontage:

PM01 Burnett Highway, Bouldercombe



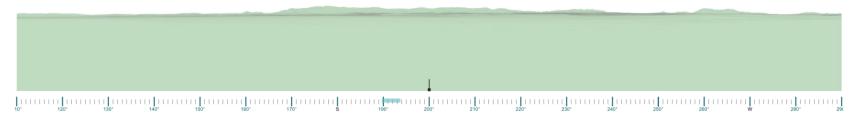
180° Existing View



180° Wireframe Overlay

Photomontage:

PM01 Burnett Highway, Bouldercombe



180° Wireframe Diagram



180° Proposed View No Mitigation

Photomontage:

PM01 Burnett Highway, Bouldercombe



180° Proposed View No Mitigation



180° Proposed View 5 year Vegetation Buffer

Note: The shown vegetation is indicative of the character and screening effect of proposed vegetation at 5 years (with an assumed height of 5m)

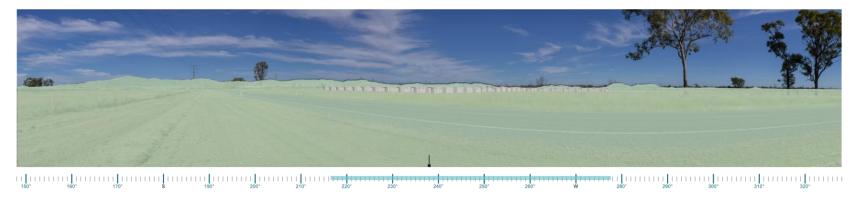
Photomontage:

PM02 Burnett Highway, Bouldercombe



180° Existing View

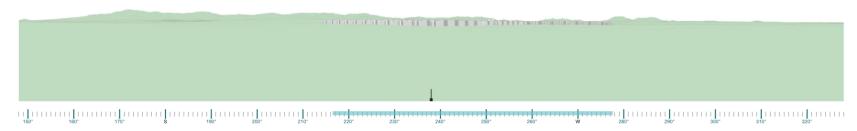
Page (425)



180° Wireframe Overlay

Photomontage:

PM02 Burnett Highway, Bouldercombe



180° Wireframe Diagram



180° Proposed View No Mitigation

Photomontage:

PM02 Burnett Highway, Bouldercombe



180° Proposed View No Mitigation



180° Proposed View 5 year Vegetation Buffer

Note: The shown vegetation is indicative of the character and screening effect of proposed vegetation at 5 years (with an assumed height of 5m)

Photomontage:

PM03 Childs Avenue, Bouldercombe



180° Existing View

Page (428)



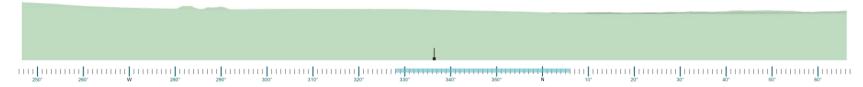
180° Wireframe Overlay

Note: Due to intervening topography all potential views of the Project are screened, a wireframe has been overlaid on top of a 180° panorama photo to indicate where the Project is located behind the topography. The green shade is the bareground topography and the dark shade is the proposed BESS infrastructure.

Visual Impact Assessment

Photomontage:

PM03 Childs Avenue, Bouldercombe



180° Wireframe Diagram



180° Wireframe Overlay

Note: Due to intervening topography all potential views of the Project are screened, a wireframe has been overlaid on top of a 180° panorama photo to indicate where the Project is located behind the topography. The green shade is the bareground topography and the dark shade is the proposed BESS infrastructure.

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5.8 Associated Infrastructure

While the BESS and its associated infrastructure have the potential to visually contrast with the existing landscape, this impact is significantly mitigated by the strategic co-location of the Proposed Development with similar existing infrastructure, specifically the Bouldercombe Substation and Bouldercombe BESS. The siting and scaling of the Project leverages an existing visual characteristic of the landscape. Consequently, any available views will not significantly alter the current visual character of the area.

An overview of the potential visual impact resulting from associated infrastructure and Project components is provided below. The ancillary infrastructure located within the Project Area includes the following items:

- 294 BESS containers
- 98 inverters and Medium Voltage Power Stations
- Underground transmission line
- Sealed roads and carpark
- Electrical equipment including primary transformers, high voltage substation, auxiliary transformers, harmonic filters and control rooms;
- Administrative and Operations and Maintenance buildings and facilities
- Vegetated Buffer
- Temporary laydown and site establishment area

5.8.1 Substation

The project includes the development of one (1) substation, to be located in the southwestern portion of the Project Area. Given its strategic proximity and comparable scale to the existing Bouldercombe Substation, the proposed substation will appear as an extension to the existing development when viewed from the Burnett Highway. Additionally, proposed screen planting along the Burnett Highway will fragment potential views. Therefore, the magnitude for change is Very Low.

5.8.2 Electrical Reticulation

The BESS containers will be connected to inverters, which convert direct current to grid compliant alternating current, then through medium voltage power stations into the BESS substation using buried cables. The BESS substation will be connected to the Bouldercombe Substation via an underground cable.

Visual Impact Assessment

Bouldercombe Substation and associated transmission lines are already an existing feature in the landscape, and are significantly larger than any electrical reticulation proposed in the Project. It is likely that the electrical reticulation associated with the Project will integrate with the existing landscape, and will largely be screened by proposed screen planting along the Burnett Highway. Therefore the magnitude for change is Very Low.

5.8.3 Site Access, Permanent & Temporary Facilities

Access to the Project Area is from the Burnett Highway via proposed site access on the frontage of the lot. Facilities for the operation phase of the Project include a carpark, storage areas, site fencing and lighting. During the Project construction phase, additional areas and amenities will temporarily be established for construction purposes, at completion of the phase these areas will be rehabilitated. The appearance of these facilities will be similar to that of the existing Bouldercombe Substation and Bouldercombe BESS. Therefore, the magnitude for change is Very Low.

06 Mitigation Measures



6.0 Mitigation Measures

6.1 Proposed Mitigation

Visual impacts from the Project are limited to specific stretches of the Burnett Highway, immediately adjacent to the Project Area, as discussed in Section 5.0. To mitigate visual impacts, the Project will include a proposed vegetation buffer along the eastern and northern boundaries of the Project Area. This buffer's objective is to provide a dense and fast-maturing screen, effectively filtering views of the Proposed Development from the Burnett Highway. The inclusion of proposed mounding will further enhance screening at ground level.

A Landscape Concept Package has been prepared by Covey Associates, detailing the extent of the landscape buffer and species selection.

6.2 Mitigation Assessment

The Landscape Concept Package developed by Covey Associates, outlines the proposed landscape buffer's extent and species selection, as detailed in Figure 15. The primary objective of this vegetation buffer is to establish a dense and fast-maturing screen within five years, effectively filtering views of the Project from the Burnett Highway. While achieving this screening, the design also allows for passive internal and external site surveillance, enhances visual interest and scenic amenity, and boosts local biodiversity.

Photomontages PM01 and PM02, presented in Section 5.7, illustrate the projected screening effectiveness of the landscape buffer strategy after five years of growth, assuming an average tree height of five meters. These visualisations demonstrate that the proposed mitigation measures will effectively fragment views of the Project from the Burnett Highway. Additionally the selected species are native to the area, ensuring the proposed planting retains the existing landscape character. The varied selection, including tree species, shrub species, and ground covers/grasses, further integrates the buffer into the local environment.

Based on these considerations, it has been determined that the proposed landscape buffer will effectively mitigate potential views of the Project from the Burnett Highway and will not negatively alter the existing landscape character.



Mitigation Measures

Image 21 Existing View of the Project Area from the Burnett Highway

Landscape Buffer Location

Refer to Section 6.1

Project Area BESS Area Substation Admin and O&M Facilities Contaminated Fire Water Basin Laydown and Site Establishment Area Vegetated Buffer Internal Access Road Gravel Perimeter Track - - - Underground Transmission Line Bouldercombe Substation Bouldercombe BESS Existing Overhead Transmission

> Contours Watercourse

65 Capricorn BESS | Landscape Character and Visual Impact Assessment

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Mitigation Measures

07 Conclusion



Conclusion

7.0 Conclusion

With all visual impact assessments the objective is not to determine whether the Project is visible or not visible, it is to determine how the Project will impact on existing visual amenity, landscape character and scenic quality. The intent of the LCVIA report is to determine if there is a potential for a negative impact on these factors, and investigated if and how this impact can be mitigated to the extent that the impact is reduced to an acceptable level.

Assessment of the existing landscape character of the Study Area determined Agricultural Pastures and Rural Properties as the prevailing landscape character. Land within this zone is primarily used for native grazing and cropping practices, interspersed with native vegetation along creeklines. The Project Area is situated within this landscape.

Crucially, the Proposed Development's strategic co-location with existing significant infrastructure, specifically the Bouldercombe Substation and Bouldercombe BESS immediately south of the Project Area, is a key mitigating factor. While new infrastructure can introduce visual contrast, the Project leverages and integrates with an established visual characteristic of the landscape. Given the highly modified nature of the land surrounding the Project Area, its siting, and scale, any available views will not significantly alter the current visual character of the area. As a result, the Project is not likely to impact the existing character of the Study Area or significantly modify the scenic quality of key landscape features.

Furthermore, the viewpoint assessment revealed limited opportunities to view the Project from publicly accessible land beyond the Burnett Highway. To further minimize visibility from this key transport corridor, the Proponent has committed to implementing a screening buffer along the eastern and northern boundaries of the Project Area. A Landscape Concept Package has been prepared by Covey Associates demonstrating the vegetation buffer extents and species selection. To indicate the mitigation effects, mitigation photomontages from PM01 and PM02 have been prepared, indicating the screening extent of vegetation after 5 years of growth. Assessment of the species selection and screening extent determined that the proposed landscape plan will not alter the landscape character of the area and will effectively fragment views of the Project from the Burnett Highway.

In conclusion, the assessment indicates that the Project can be undertaken without significantly impacting the existing landscape character of the area and with little to no impact on nearby public and private viewing locations.

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Maps and Figures

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DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Photomontages

Meeting Date: 9 December 2025

Attachment No: 11



Capricorn BESS

A photomontage is a visualisation based on the superimposition of the Project onto a viewpoint photograph for the purpose of creating a realistic representation of proposed or potential changes to a view. Photomontages have been utilised in this LCVIA report to assist in the visual impact assessment of the Project and assess the effectiveness of the proposed landscape buffer strategy

Photomontage Development Process

The process for generating these images involves computer generation of a wireframe perspective view of the Project. This process includes:

- Capturing viewpoints with a Canon EOS 5D Mark IV digital SLR through a 50mm fixed focal lens;
- Building a wireframe model of the Project;
- Matching the wireframe model to the viewpoint using rendering software; and
- * Rendering the model into viewpoint to a realistic level.

These photomontages are based on photography from key public viewpoints. It is noted that a 50mm fixed focal lens closely represents the central field of vision of the human eye. The process for photomontage development is demonstrated in **Figure 01**.

Photomontage Viewpoint Selection

Three (3) photomontages of The Project from VP01, VP03 and VP04 were selected as a key view and represent general visibility of the Project (refer to **Figure 02**). Viewpoints selected for the preparation of photomontages are generally those determined to have the greatest potential for visual magnitude change and overall visual impact. Two (2) photomontages have been prepared from locations along the Burnett Highway to represent the extent of the proposed vegetation buffer to mitigate potential views of the Project from the highway. One (1) photomontage has been prepared from Childs Avenue to represent any potential views from private dwellings.

Each viewpoint features two photomontages: one depicting the Project without mitigation, and a second illustrating the landscape buffer strategy after five years of growth. At this five-year mark, the fast-maturing species will effectively screen views of the Project.

Step 1: Develop 3D Model



Detailed 3D model of the Site is developed in a modelling software. The Project is modelled and sited in the 3D model to scale.



Step 2: Align Photograph and Model



The digital panorama is imported into the modelling software. Topography, control points, obstacle objects that can be used as reference to calibrate the model camera very precisely.



Step 3: Render Photomontage



The software calculates the position of the sun based on the time and date of photograph and renders the Project in accordance with the specific weather conditions and position of the sun. Once rendered, detailed removal of intervening elements (such as vegetation) is undertaken to provide an accurate representation of the Project.

Figure 01 Photomontage Development Process



Photomontage Locations

LEGEND

Project Area

- - Visual Impact Study Area (2.5km - - from Project Area)

 Photomontage Locations Bouldercombe Substation

Bouldercombe BESS

Existing Overhead Transmission Line

Highway

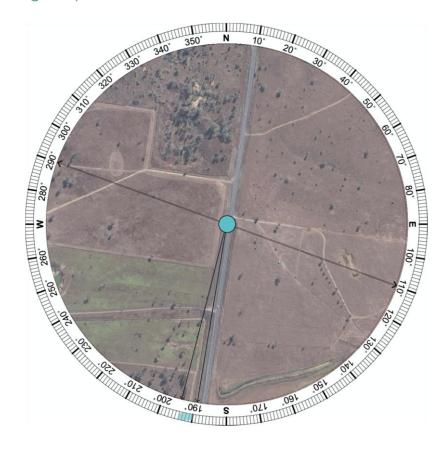
Local Road

Contours

Watercourse

Page (441)

PM01 Burnett Highway, Bouldercombe



Summary: Location: Burnett Highway, Bouldercombe

Coordinates: Distance to Project: 23°29'56.04°S 3.61 km 150°29'44.31°E Viewing Direction: Elevation: South 43 m

Viewpoint Capture Date & Time: May 8th 2025, 10.42am

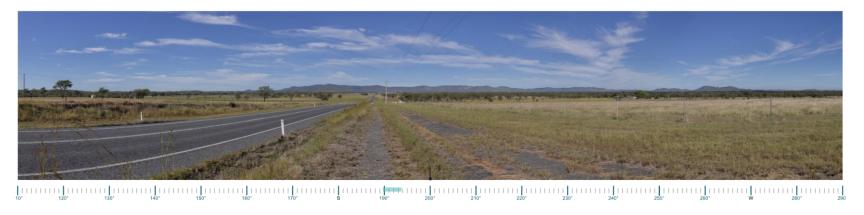
Photomontage Preparation Date: June 17th 2025

LEGEND

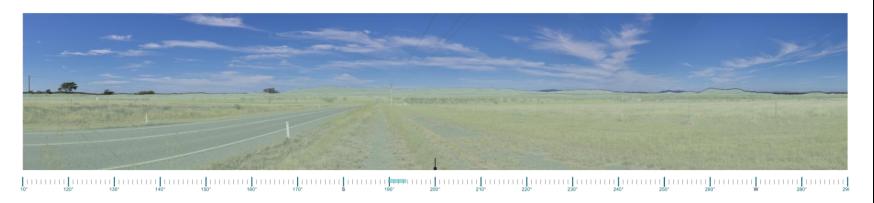
Extent of Potential Visibility
Extent of Panorama
Approximate Extent of Project

Aerial Image Source: Google Earth 2025

Photomontage:
PM01 Burnett Highway, Bouldercombe

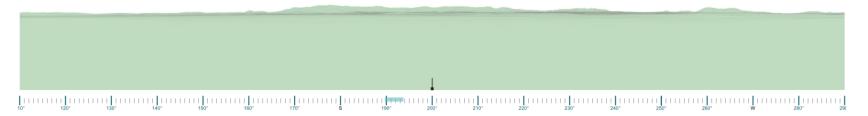


180° Existing View



180° Wireframe Overlay

PM01 Burnett Highway, Bouldercombe



180° Wireframe Diagram



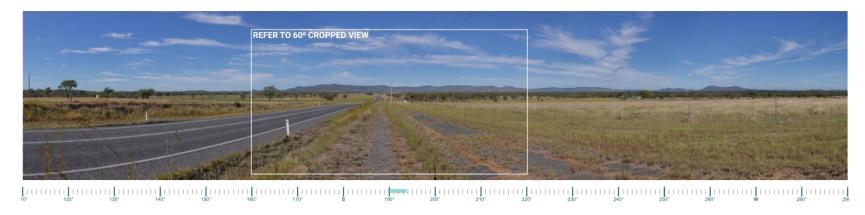
180° Proposed View No Mitigation

Photomontage:

PM01 Burnett Highway, Bouldercombe



180° Proposed View No Mitigation



180° Proposed View 5 year Vegetation Buffer

Note: The shown vegetation is indicative of the character and screening effect of proposed vegetation at 5 years (with an assumed height of 5m)

Page (445)

PM01 Burnett Highway, Bouldercombe

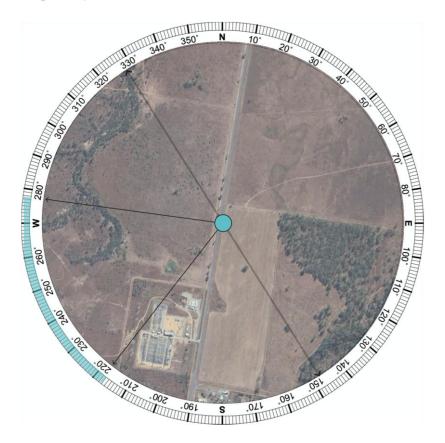


60° Cropped View

Note: The shown vegetation is indicative of the character and screening effect of proposed vegetation at 5 years (with an assumed height of 5m)

Page (446)

PM02 Burnett Highway, Bouldercombe





 Coordinates:
 Distance to Project:

 23°31′52.76′S
 0.03 km

 150′29′25.61′E
 Viewing Direction:

 Viewing Direction:
 Elevation:

 Southwest
 46 m

Viewpoint Capture Date & Time: May 8th 2025, 11.03am

Photomontage Preparation Date: June 17th 2025

LEGEND

Extent of Potential Visibility

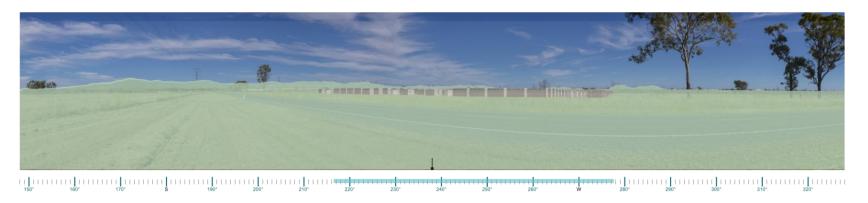
Extent of Panorama

Approximate Extent of Project

PM02 Burnett Highway, Bouldercombe



180° Existing View



180° Wireframe Overlay

Note: The shown vegetation is indicative of the character and screening effect of proposed vegetation at 5 years (with an assumed height of 5m)

PM02 Burnett Highway, Bouldercombe



180° Proposed View No Mitigation



180° Proposed View 5 year Vegetation

Note: The shown vegetation is indicative of the character and screening effect of proposed vegetation at 5 years (with an assumed height of 5m)

Photomontage:

PM02 Burnett Highway, Bouldercombe

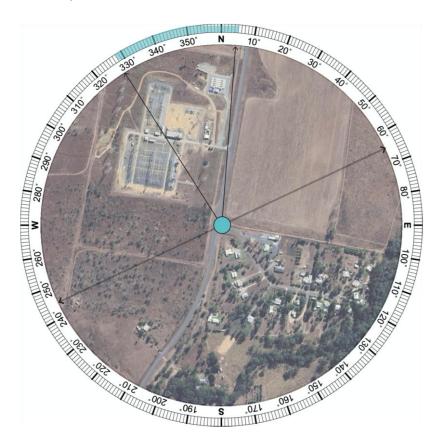


60° Cropped View

Page (449)

Note: The shown vegetation is indicative of the character and screening effect of proposed vegetation at 5 years (with an assumed height of 5m)

PM03 Childs Avenue, Bouldercombe



Summary: Location: Childs Avenue, Bouldercombe

Coordinates: Distance to Project: 23*32'22.03*S 0.54 kmm 0.54 kmm

Viewing Direction: Elevation: Northwest 53 m

Viewpoint Capture Date & Time: May 8th 2025, 11.41am

Photomontage Preparation Date: June 17th 2025

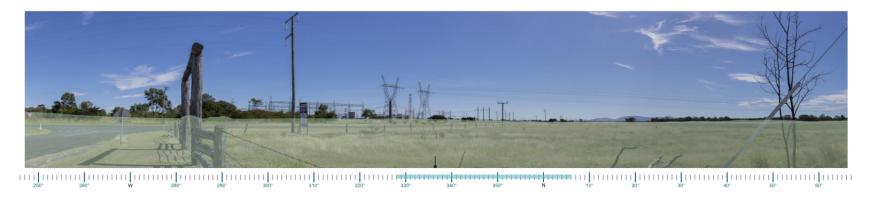
LEGEND

Extent of Potential Visibility
Extent of Panorama
Approximate Extent of Project

PM03 Childs Avenue, Bouldercombe



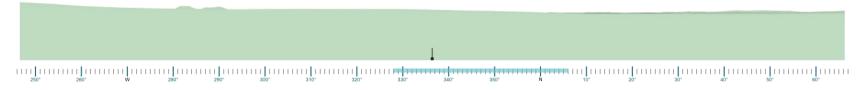
180° Existing View



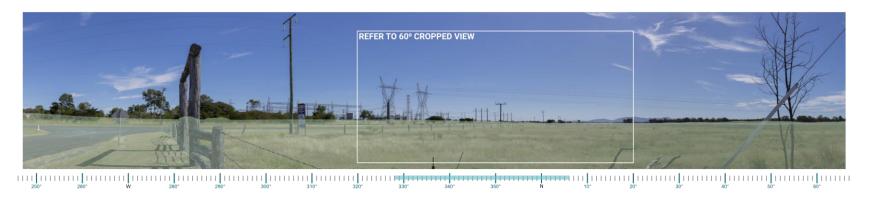
180° Wireframe Overlay

Note: Due to intervening topography all potential views of the Project are screened, a wireframe has been overlaid on top of a 180° panorama photo to indicate where the Project is located behind the topography. The green shade is the bareground topography and the dark shade is the proposed BESS infrastructure.

PM03 Childs Avenue, Bouldercombe



180° Wireframe Diagram



180° Wireframe Overlay

Note: Due to intervening topography all potential views of the Project are screened, a wireframe has been overlaid on top of a 180° panorama photo to indicate where the Project is located behind the topography. The green shade is the bareground topography and the dark shade is the proposed BESS infrastructure.

PM03 Childs Avenue, Bouldercombe



60° Cropped View

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Note: Due to intervening topography all potential views of the Project are screened, a wireframe has been overlaid on top of a 180° panorama photo to indicate where the Project is located behind the topography. The green shade is the bareground topography and the dark shade is the proposed BESS infrastructure.

DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Agricultural Land Assessment

Meeting Date: 9 December 2025

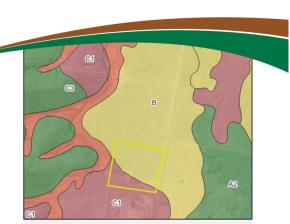
Attachment No: 12



CAPRICORN BESS: DESKTOP AGRICULTURAL LAND ASSESSMENT

Prepared for ERM

June 2025



QUALITY SCIENCE | PRACTICAL OUTCOMES



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The landscape is not uniform. Because of this non-uniformity, no monitoring, testing or sampling technique can produce completely precise results for any site. Any conclusions based on the monitoring and/or testing presented in this report can therefore only serve as a 'best' indication of the environmental condition of the site at the time of preparing this document. It should be noted that site conditions can change with time.

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TOOWOOMBA PERTH **NEWCASTLE** PO Box 57 PO Box 5175 PO Box 7017 HARLAXTON QLD 4350 REDHEAD NSW 2290 SOUTH LAKE WA 6164 Phone (08) 9494 2835 Phone (02) 4965 7717 Phone (07) 4613 1825

Landloch Pty Ltd A.C.N. 011 032 803 A.B.N. 29011032803

Web site: www.landloch.com.au Email: admin@landloch.com.au

Project Number: 1236.C25f

Report Title: Capricorn BESS: Desktop Agricultural Land Assessment

Client: ERM Consulting

Review History

Version Number	Prepared by:	Reviewed by:	Date
Rev O	L. Thompson	M. Crawford	12/06/2025
Rev 1	L. Thompson	M. Crawford	13/06/2025
Rev 2	L. Thompson		04/07/2025

QUALITY SCIENCE | PRACTICAL OUTCOMES



EXECUTIVE SUMMARY

Landloch Pty Ltd have been engaged by ERM Consulting to provide a desktop review of Capricorn Battery Energy Storage System (Capricorn BESS) project. The study area is located approximately 20 km south of Rockhampton on the Capricorn Coast, Queensland. The indicative project footprint is ~17 ha (study area). This review seeks to address section 7 of the request for information (RFI) issued by Rockhampton Regional Council for the material change of use development application.

The review was undertaken by Landloch to assess the agricultural capabilities of the study area. For the review, Landloch used publicly available data such as climate, topography (slope, elevation), hydrology (watercourses), surface geology, radiometrics, vegetation, and existing land resource information (soil and land studies).

From this review, 2 dominant Soil Profile Classes (SPCs) were identified overlying the study area. These SPCs were developed from the land resource assessments undertaken by the Queensland Government (McClurg, 1999) at a scale of 1:50,000.

The dominant SPCs overlying the study area are:

- Boongary (12 ha): weakly to strongly cracking grey clay, abundant surface cobble and occasional normal gilgai micro-relief (Vertosol).
- Voewood (5 ha): loamy surface over strongly alkaline dark grey clay subsoil (Sodosol).

The land resource study conducted by McClurg (1999) assessed each SPC against suitability criteria for several cropping systems common for the region. Generally, the more crops a soil is deemed suitable for, the higher the agricultural land classification. Utilising this resource, it indicated that within the study area, approximately 70% (12 ha) has limited agricultural land use (Class B). The remaining 30% (5 ha) is poor agricultural land (Class C1), and suitable for light grazing purposes only.

The Boongary soil is classified as Class B agricultural land and has limited land uses due to its abundant surface stone and saline and sodic subsoils which restricts internal drainage and reduces plant available water capacity. This soil is part of a broader mapping polygon of 173 ha, of which the BESS encapsulates ~7% of the total area. The BESS footprint lies on the boundary of the broader mapping polygon and will; therefore, not result in alienation or fragmentation of this class B agricultural land.

The Voewood soils are classified as Class C1 agricultural land and is suitable for light grazing purposes only. This soil unit is part of a broader mapping polygon of 41 ha, of which the BESS encapsulating ~12% of the total area. The BESS footprint lies on the boundary of the broader mapping polygon and will; therefore, not result in alienation or fragmentation of this Class C1 agricultural land.

The findings of the review suggests that there is a variety of soil characteristics, properties and types within the study area. However, the existing information does not delineate this variety due to limitations in scale. If more detail is needed, a field assessment at a finer scale (1:10,000) is required to identify and delineate the variety of soils for detailed project planning purposes. However, a soil survey is outside the scope of works for this desktop review.

QUALITY SCIENCE | PRACTICAL OUTCOMES

Capricorn BESS Agricultural Land Assessment | ii



The soils associated with the poor agricultural land have limitations such as high salinity, sodicity and high magnesium. These soils may have significant erosion issues and are likely to be susceptible to further stability issues when disturbed.

Soil sampling and laboratory analysis should be used to identify, map, and manage erosion risk of soils. Soil stripping and amelioration rates can be calculated and material managed appropriately and effectively. Soil sampling should ideally be undertaken prior to ground disturbance. Failing to do so, often results in poor planning and handling of soil material that can lead to excessive rehabilitation or remediation costs at a later date.

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1 INTRODUCTION

ERM Consulting (ERM) are engaged with Capricorn BESS Pty Ltd to provide environmental and planning support for the Capricorn Battery Energy Storage System (Capricorn BESS) project. As part of this, ERM requires input from a suitably qualified consultancy to undertake a desktop review of land and soil, including a land evaluation assessment. This report seeks to address section 7 of the request for information (RFI) issued by Rockhampton Regional Council.

1.1 Background

The Capricorn BESS is located approximately 20 km south of Rockhampton on the Capricorn Coast, Queensland. The indicative footprint of the proposed BESS of ~17 ha (the study area). The indicative project layout is presented in Figure 1.

1.2 Scope of works

The scope of works includes a review of agricultural land for the study area. The key project tasks are:

- 1. Undertake a review of publicly available land resource data to assess agricultural land.
- 2. Detail the findings of the review including the distribution of agricultural land across the study area.

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Figure 1. Project location and study area.



2 DESKTOP REVIEW

A variety of information sources were utilised to undertake the agricultural land evaluation for the extension study area. Readily available and accessible data such as: existing land resource information (soil and land studies), topography (slope, elevation), hydrology (watercourses), surface geology, radiometrics, vegetation, and climate data, were used to provide a better understanding of the soil and landscapes present within the study area. These data sets provided insight into their spatial distribution, physical and chemical composition; and ultimately, their agricultural land capabilities.

The data gathered for the review include the following information sources:

- Climate data, collected from Bureau of Meteorology, 2025;
- Topography data, collected from Intergovernmental Committee on Surveying and Mapping, 2021 (5 m grid digital elevation modelling);
- Hydrology data, sourced from Queensland Waterway Barrier Works, 2023;
- Surface geology data, sourced from Geoscience Australia, 2021 (1:100,000 scale);
- Radiometric data, sourced from Minty et al., 2009 (100 m resolution);
- Vegetation data, collected from Neldner et al., 2023 (1:1 million scale);
- Land resource data, collected from Speck et al, 1968 (1:250,000 scale); and McClurg, 1999 (1:50,000 scale).

This section details the findings of the review.

2.1 Climate

Climate records for the project area were used to define the broad climate of the region. Historical climate data was accessed from Bureau of Meteorology (BOM) recorded from the Rockhampton Airport weather station (site number: 039083), approximately 20 km north of the project area. This weather station has climate data spanning 86 years (1939 to present).

The project area is located on the tropic of Capricorn within the subtropical climatic zone. The climate is characterised by hot humid summers and mild dry winters. Rainfall is summer dominant, with a majority of rainfall falling between November to March and a mean annual rainfall of 803 mm. The high summer dominant rainfall is conducive to erosion.

Mean temperature and rainfall data for the project area is presented in Figures 2 and 3 respectively.

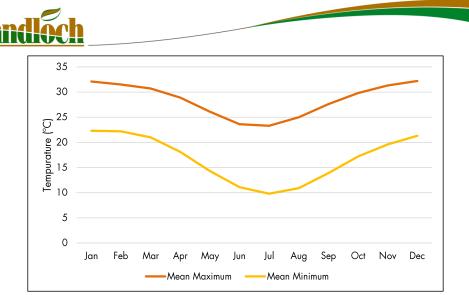


Figure 2: Mean maximum and minimum monthly temperatures for the project area (site number 039083). Adapted from BOM (2025).

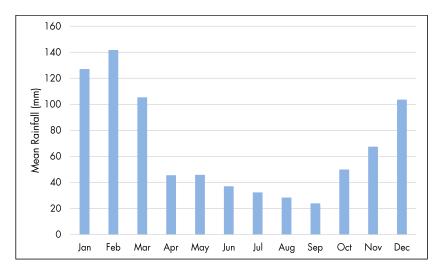


Figure 3: Mean monthly rainfall for the project area. Adapted from BOM (2025).

2.2 Topography and Hydrology

The study area is characterised by a flat plain with a maximum relief of approximately 10 metres and slopes of up to 4 % gradient. Beyond the western boundary exist several undulating rises, and to the south a prominent low hill. There is an unnamed tributary beyond the western boundary and Gavial Creek beyond the eastern boundary, both draining northwards.

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Topography (elevation, slope) and hydrology of the study area is presented in Appendix A Figures 1 – 3.

2.3 Surface geology

The study area is dominated by Quaternary alluvium and colluvium derived from the surrounding hills, mostly from the Bundaleer Tonalite formation. The alluvium is characterised by a mix of rounded surface cobbles of volcanic and sedimentary origin (McClurg, 1999). Broader plains are generally more recent and contain fine sediments, and narrower plains closer to existing landforms are generally older and characterised by coarse sediments (Speck et al., 1968).

A small section of the study area is underlain by the Bundaleer Tonalite lithological formation (Geoscience Australia, 2021). This formation is characterised by late Permian granitic intrusions forming undulating hills with dissected valleys, often with boulders outcropping on the upper slopes. Lower slopes and drainage depressions are sandy with common occurrence of weathered cobbles (Speck et al., 1968).

The surface geology underlying the study area is presented in Appendix A Figure 4.

2.4 Radiometrics

The radiometric, or gamma-ray spectrometric method, measures the natural variations in the gamma-rays detected near Earth's surfaces as a result of the natural radioactive decay of potassium (K), uranium (U), and Thorium (Th) (Minty et al., 2009). This can be useful in revealing where changes occur in surface geology, soil weathering, and surface soil texture.

The radiometrics of the study area show a distinct red and dark-red pattern with some occurrences of violet. These dark colours indicate an igneous parent material and clayey soils and appears to occur on the undulating hills. The red colour indicates a more weathered material than that of the dark red and appears to follow the plains. The soils here are likely of alluvial or colluvial composition derived from igneous materials. A small area of green exists to the eastern boundary. The green indicates material that is high in silica, such as granite, or may indicate a more weathering than surrounding

The Radiometrics of the study area is presented in Appendix A Figure 5.

2.5 Vegetation

The pre-clearance broad vegetation groups (BVGs) mapped across the study area presents a mix of open woodlands of *Eucalyptus camaldulensis* (river red gum) and *E. coolabah* (coolabah) species along drainage lines and alluvial plains. Woodlands of *E. populnea* (popular box) occur along footslopes of hills and ranges beyond the western boundary. The pre-clearance broad vegetation groups are detailed in Table 1 and presented in Appendix A Figure 6.

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Table 1: Pre-clearance broad vegetation groups within the study area. Adapted from Neldner et al., 2023.

BVG	Description
17a	Woodlands dominated by <i>Eucalyptus populnea</i> (poplar box) (or <i>E. brownii</i> (Reid River box)) on alluvium, sand plains and footslopes of hills and ranges.
16c	Woodlands and open woodlands dominated by <i>Eucalyptus coolabah</i> (coolibah) or <i>E. microtheca</i> (coolibah) or <i>E. largiflorens</i> (black box) or <i>E. tereticornis</i> (blue gum) or <i>E. chlorophylla</i> on floodplains.

2.6 Existing Land resource Information

A land resource survey was previously undertaken by the Queensland Government for the Gavial–Gracemere area (McClurg, 1999). McClurg (1999) completed the assessment at a scale of 1:50,000 and delineates map units with a minimum mapping size of 10 ha. Each map unit is defined by its dominant Soil Profile Class (SPC). Each SPC has a central concept with a range of values. The broader the survey scale, the more inclusive the SPC becomes.

The purpose of the SPC's is to define the soil types and their distribution within the area and inform of their agricultural capabilities. McClurg (1999) describes 23 SPCs within the Gavial–Gracemere area and recorded 243 soil profile observations. Soil observations within the vicinity of the study area are presented in Appendix A Figure 7.

Within the study area, 2 dominant SPCs, were identified, and are briefly described as (in order of dominance):

- Boongary (12 ha): weakly to strongly cracking grey clay, abundant surface cobble and occasional normal gilgai micro-relief (Vertosol).
- Voewood (5 ha): loamy surface over strongly alkaline dark grey clay subsoil (Sodosol).

The SPCs within the study area are illustrated in Figure 4. Their description is detailed in the sections below.

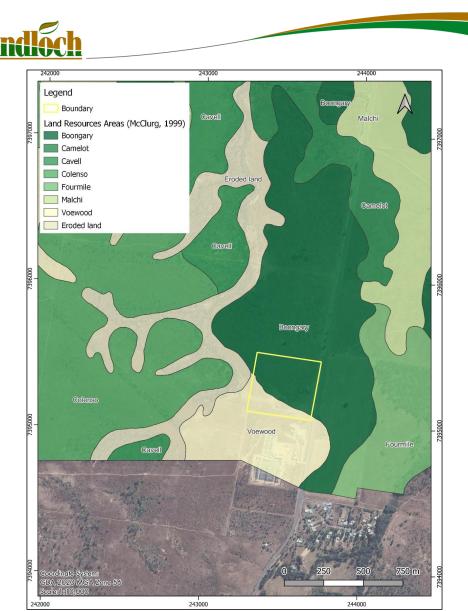


Figure 4: SPCs overlying the study area.

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2.6.1 Boongary

The Boongary SPC occupies ~70% of the study area (~12 ha) and is the dominant soil within the mapping unit. Boongary SPC is described as a very deep, weak to strongly cracking grey clay with a hard setting surface. Gilgai formation is generally weak with occasional normal gilgai mound and depression formations. The subsoil is generally saline at depth. For this reason, the soil has limited agricultural land uses.

2.6.2 Voewood

The Voewood SPC occupies approximately 30% of the study area (~5 ha) and is the dominant soil within the mapping unit. The Voewood SPC is described as a shallow to moderately deep texture contrast soil on mid to lower slopes and pediments below low hills and rises. They have a thin to moderately thick loamy to clay loam surface and grey to brown clay subsoil that grades into weathered granite at depth. These soils are strongly alkaline and sodic throughout, often with high salinity and magnesium levels. These soils are prone to erosion and are synonymous with areas of broken topography. The Voewood SPC is unfavourable for agricultural use due to the combined effects of the erosive nature, restricted drainage, and soil depth.

The mapped polygon of this unit within the study area includes up to 20% of the Cleethorpes SPC.

2.6.3 Cleethorpes

The Cleethorpes SPC exists as a minor unit within the Voewood SPCs. The soils of Cleethorpes are similar to Colenso with texture contrast profiles; however, these soils are mildly alkaline at depth and brown to grey in colour. They are also extensively used for cultivation in the region.

2.7 Agricultural Land Classification

Agricultural land classification in Queensland follows a simple hierarchical scheme that is applicable across the state (DSITI & DNRM, 2015). It allows the presentation of interpreted land evaluation data to indicate the location and extent of agricultural land that can be used sustainably for a wide range of land uses with minimal land degradation. Provision is also made to highlight areas that may be suitable for one specific crop considered important in a particular area. Three broad classes of agricultural land and one non-agricultural land classes are identified:

- Class A Cropping land
 - o A1 suitable for a wide range of broadacre and horticultural crops
 - A2 suitable for a wide range of horticultural crops only
- Class B limited cropping land
- Class C Pasture land
 - o C1 suitable for sown pastures on highly fertile soils
 - o C2 suitable for native pastures on lower fertility soils

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- C3 suitable for light grazing on native pastures in accessible areas, more suitable for forestry or catchment protection
- Class D Non-agricultural land

The method for assessment of Agricultural Land Class (ALC) is to use suitability data generated from the land suitability assessment (McClurg, 1999) completed at a scale of 1:50,000. This data is assessed against a range of criteria to determine the land class and thus, provide an assessment of the type of agriculture that the land is currently suitable for.

For the study area, there is approximately 12 ha of Class B agricultural land (70% of total area). The remaining 5 ha (30% of the area) is considered poor agricultural land (Class C1) and only suitable for light grazing practices.

Agricultural land classification is presented in Figure 5.

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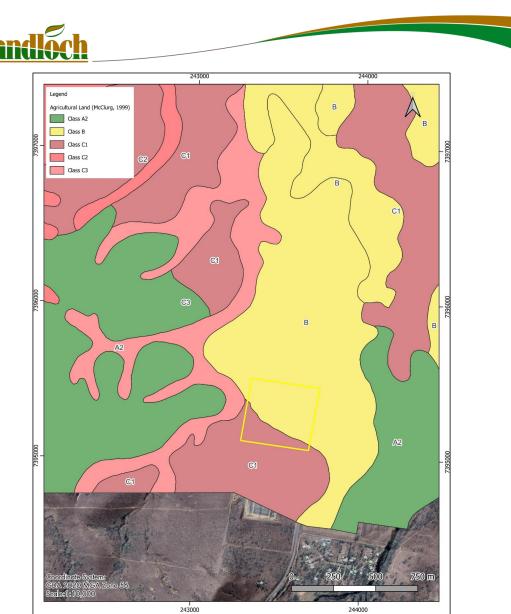


Figure 5. Agricultural land classification for the study area.

2.8 Strategic Cropping Land

The Regional Planning Interests Act 2014 (RPI Act) identifies and protects areas of regional interest from inappropriate resource or regulated activities. The Strategic Cropping Area (SCA) is a land are of regional interest under the RPI Act. Strategic Cropping Land (SCL) is land that is, or is likely to be, highly suitable for cropping die to a combination of the land's soil, climate and landscape features. SCL is identified on the

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SCL trigger map which is approved and published through the Department of Natural Resources and Mines.

The study area is located within the coastal Queensland SCA. Currently no SCL trigger mapping overlies the study area (Appendix A Figure 8).

2.9 Areas of interest

The information presented in this report is limited to the scale of the data collected. The broadest scale information collected is the radiometircs, with 100m grid size, and vegetation mapping at 1:1 million scale. Such broad scale data is useful for the purpose of regional scale planning and very extensive land use assessments (Mckenzie et al., 2008). However, they did not offer much use for refinement of mapping boundaries or assessment of land use potential for the study area.

Moderately high detailed land resource assessment, at a scale of 1:50,000 by McClurg (1999) provided the most useful data in this review. Further data such as land resource assessments by Speck et al (1968), surface geology mapping, and topography was used for the purpose of refining the information detailed by McClurg (1999) to the specific site characteristics of the study area.

The collection and refinement of data allowed 'areas of interest' to be identified within the study area. These 'areas of interests' describe where there is variability in the data that may warrant further investigation.

Soils associated with Class B agricultural land, the Boongary SPC, are identified as Vertosols. These soils are prone to shrink and swell action that can cause movement of infrastructure if built upon. These soils may have chemical limitations that may preclude their use for some land use types and may not meet the requirements of Class B agricultural land. The sodic nature of these soils indicates that they may become susceptible to erosion when disturbed.

The Boongary SPC is part of a broader mapping polygon of 173 ha, of which the BESS encapsulates ~7% of the total area. The BESS footprint lies on the boundary of the broader mapping polygon and will; therefore, not result in alienation or fragmentation of this class B agricultural land.

The soils associated with the poor agricultural land (Class C1) is the Voewood SPC. This soil unit has limited agricultural land use due to elevated salinity, sodicity and high magnesium. This SPC is likely to be susceptible to erosion when disturbed.

The Voewood SPC is part of a broader mapping polygon of 41 ha, of which the BESS encapsulating ~12% of the total area. The BESS footprint lies on the boundary of the broader mapping polygon and will; therefore, not result in alienation or fragmentation of this Class C1 agricultural land.

The soils associated with the poor agricultural land have limitations such as high salinity, sodicity and high magnesium. These soils may have significant erosion issues and are likely to be susceptible to further stability issues when disturbed.

Field sampling and laboratory analysis can be used to identify, map, and manage erosion risk of soils. Soil stripping and amelioration rates can be calculated and material managed appropriately and effectively. Soil sampling should ideally be undertaken prior



to ground disturbance. Failing to do so, often results in poor planning and handling of soil material that can lead to excessive rehabilitation or remediation costs at a later date.

The existing land resource mapping is limited to a scale of 1:50,000 which can delineate minimum areas of 10 ha. To refine the soil mapping further, a detailed assessment at a finer scale would be required. For example, a field assessment at a scale of 1:10,000 can be used for detailed site planning and can delineate minimum mapping areas of 0.4 ha.

3 CONCLUDING REMARKS

A desktop agricultural land review of the Capricorn BESS project was undertaken by Landloch in June 2025. The review seeks to address section 7 of the request for information (RFI) issued by Rockhampton Regional Council for the material change of use development application.

From the review, 2 dominant Soil Profile Classes (SPCs) were identified overlying the study area. These SPCs were developed from the land resource assessments undertaken by the Queensland Government (McClurg, 1999) at a scale of 1:50,000.

The dominant SPCs overlying the study area are:

- Boongary (12 ha);
- Voewood (5 ha);

Approximately 70% (12 ha) of the study area has limited agricultural land use (Class B). The remaining 30% (5 ha) is poor agricultural land (Class C1), and suitable for light grazing purposes only.

The study area is situated on the boundary of two broad ALC mapping polygons, with the Class B mapping polygon ~173 ha and Class C1 mapping polygon of 41 ha. The study area impacts approximately 7% of this Class B agricultural land mapping polygon and does not result in the alienation or fragmentation of surrounding Class B agricultural land.

The findings of the review suggests that there is a variety of soil characteristics, properties and types within the study area. However, the existing information does not delineate this variety due to limitations in scale. If more detail is needed, a field assessment at a finer scale (1:10,000) is required to identify and delineate the variety of soils for detailed project planning purposes. However, a soil survey is outside the scope of works for this assessment

The information presented in this report is ultimately limited to the scale of the land resource assessment completed by the QLD Government (McClurg, 1999) to the scale of 1:50,000. No field observations or samples were taken by Landloch.



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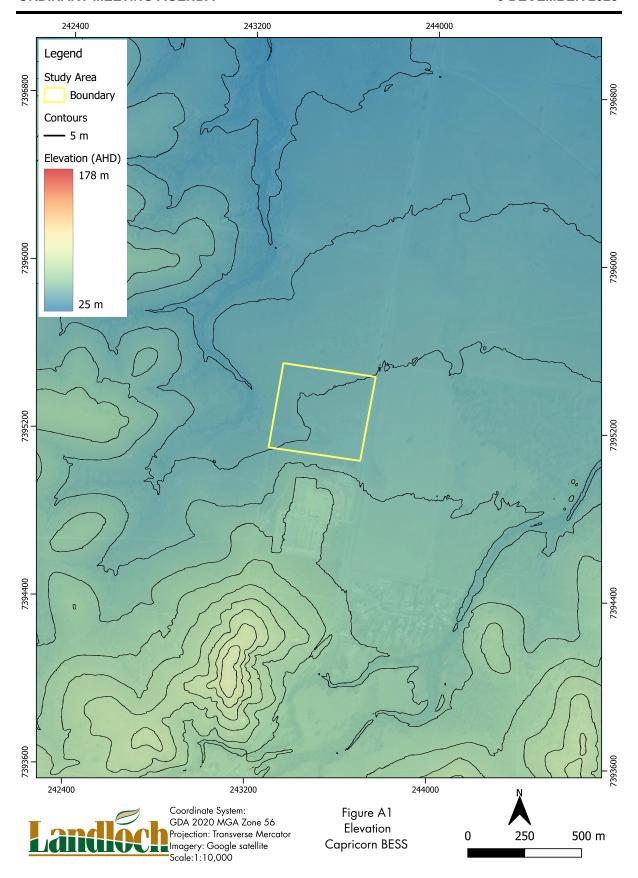
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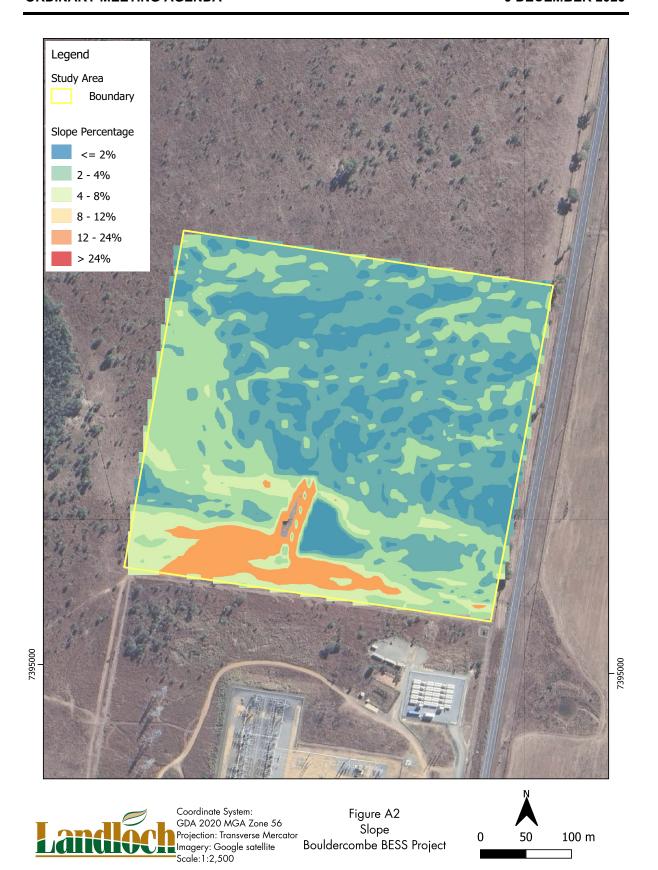


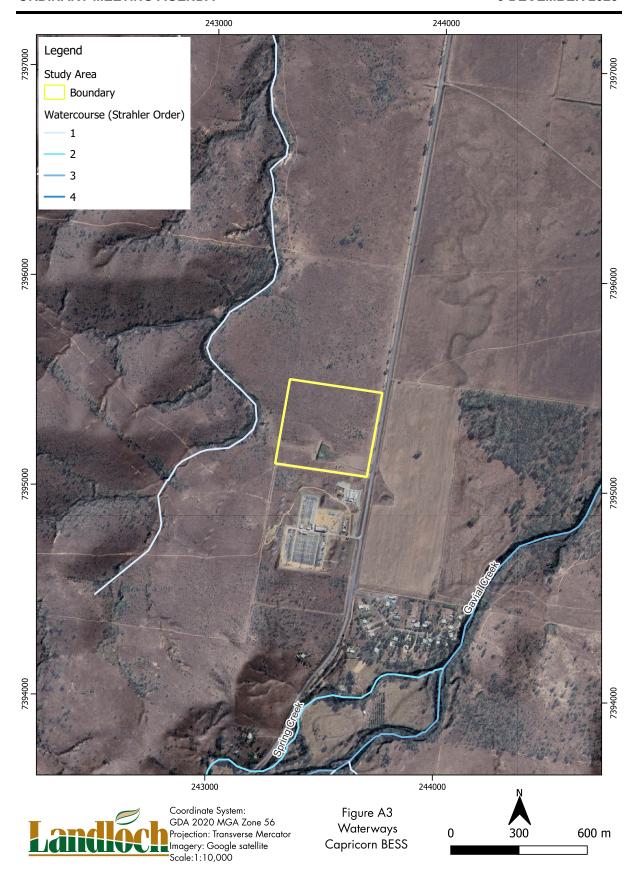
APPENDIX A: MAPS AND FIGURES

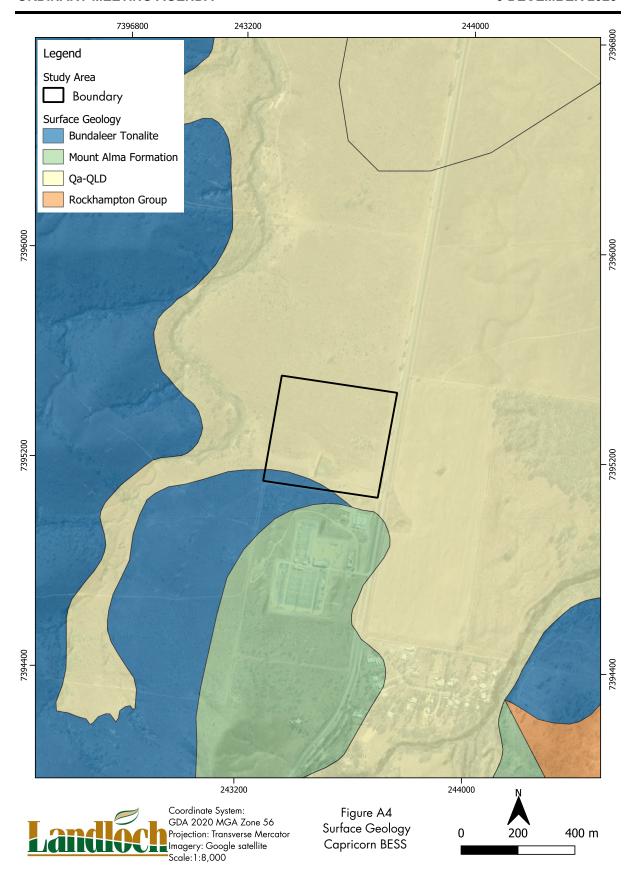
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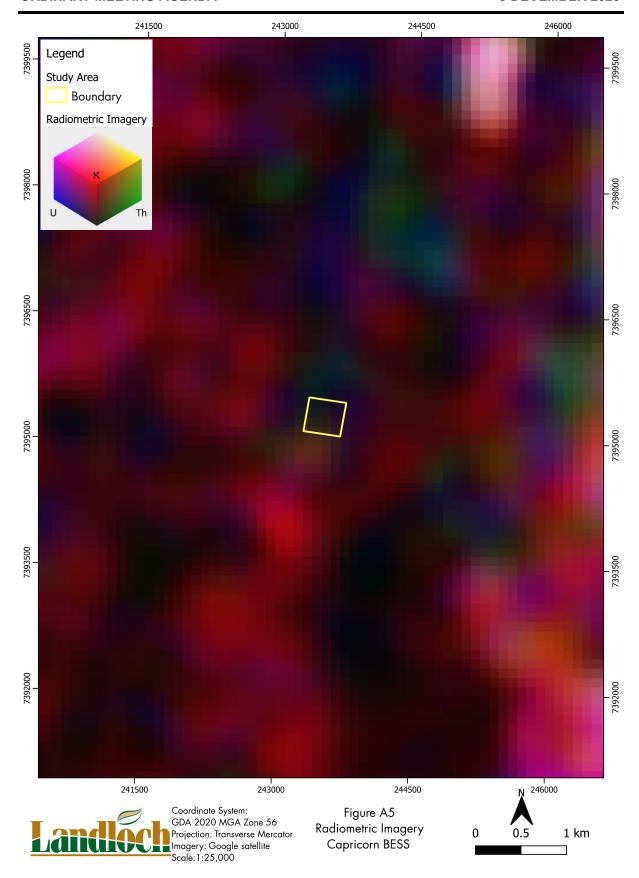
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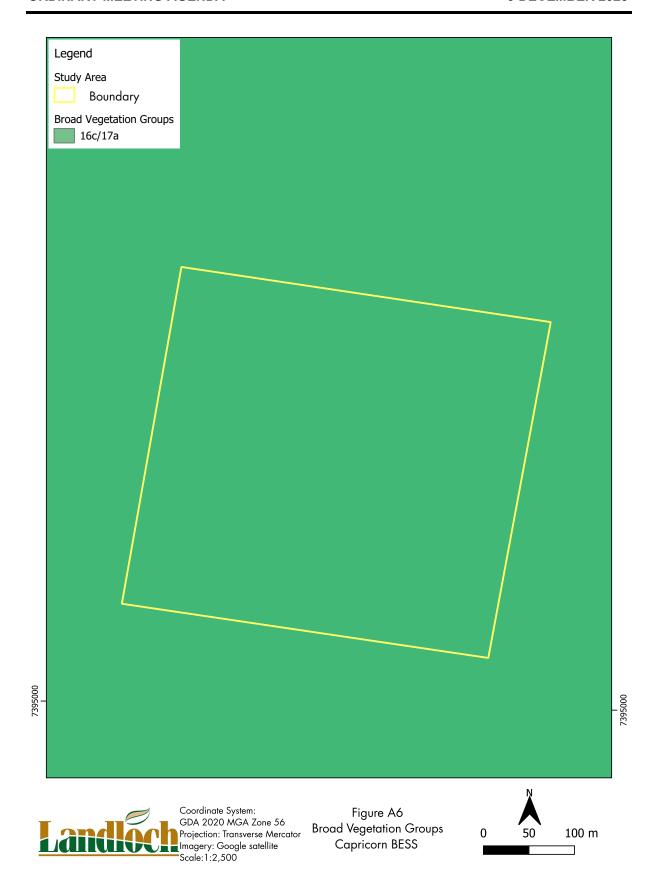




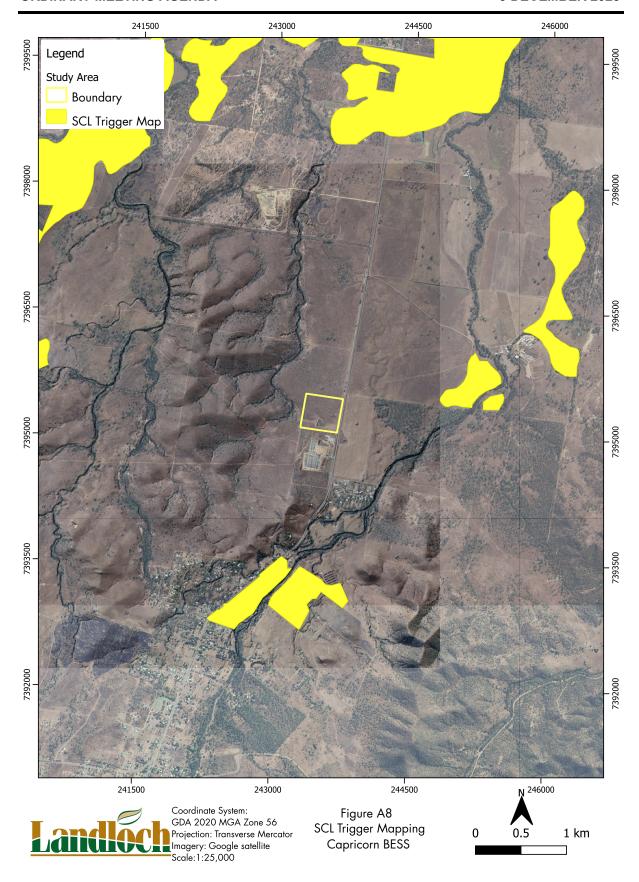












DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE FOR AN UNDEFINED USE (BATTERY ENERGY STORAGE SYSTEM) AND RECONFIGURING A LOT FOR A LEASE (24 YEARS)

Response to Further Advice

Meeting Date: 9 December 2025

Attachment No: 13



Evan Pardon Rockhampton Regional Council PO Box 1860 Rockhampton QLD 4700

21 November 2025

Dear Mr Pardon,

We refer to our development application (your reference **D/25-2025**) and in response to Council's email dated 19 November 2025 requesting further information. Our responses to the matters raised are provided below.

Cumulative Impact Assessment

We consider the substance of Council's request for an assessment of the cumulative impacts has been addressed in the technical reports submitted in support of the development application. Each technical discipline has incorporated cumulative considerations consistent with accepted Queensland planning practice, including assessment of existing operations and approved but unconstructed developments where relevant.

The Noise Impact Assessment includes cumulative modelling incorporating surrounding approved developments. No additional receptors or cumulative sources were identified that would change the modelled conclusions.

The Traffic Impact Assessment recognises the temporary nature of construction traffic and identifies that impacts can be managed through standard Traffic Management Plan measures. Coordination with nearby proponents (Genex, substation works and other developers) is already acknowledged. Notably, Department of Transport and Main Roads (DTMR) raised no concerns regarding cumulative impacts on the state-controlled road network, which is the critical determinant for traffic capacity and safety. Further detailed design considerations are subject to future Operational Works development application to be assessed by Council and DTMR prior to construction.

The Landscape and Visual Impact Assessment considers cumulative landscape change within the context of the existing environment, including the substation, transmission assets and adjacent BESS. No sensitive viewpoints were identified where cumulative effects change the assessed impact rating.

Given that cumulative considerations are already thoroughly considered in the technical reports, Council has sufficient information in order to progress the development application to a decision.

Suite 23.05,
One International Towers 100 Barangaroo Ave,
Sydney NSW 2000.
potentiaenergy.com.au

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Plume and Thermal Radiation Modelling, Emergency Scenarios and Evacuation Triggers

Council has requested plume and thermal radiation contours for a credible worst-case fire, along with shelter-in-place versus evacuation triggers and response-time modelling agreed with Queensland Fire Department (QFD).

This level of scenario-based fire engineering is ordinarily undertaken during detailed design as part of a Fire Safety Study and Emergency Response Plan, both of which are standard post-approval deliverables. The assessments require final, project-specific inputs which are not yet available, including:

- confirmed technology selection and enclosure specifications;
- final container spacing, suppression systems and site layout;
- vendor-specific technical data relating to thermal behaviour, venting and chemistry performance; and
- QFD review and feedback on final design arrangements.

Thermal radiation and plume modelling cannot be reliably completed using placeholder assumptions without risking inaccurate or misleading outcomes. Further, QFD has no statutory timeframes for technical review, meaning any modelling dependent on their input cannot be completed with certainty within a fixed timeframe.

Preparation of these analyses typically requires several weeks of modelling, multi-disciplinary engineering input and iterative discussions with QFD. Based on current timeframes and agency availability, it is not feasible to complete this work within a reasonable timeframe.

The appropriate and industry-standard approach is as follows:

- 1. Secure development approval.
- 2. Proceed to detailed design, and once technology selection is finalised, prepare:
 - o Fire Safety Study incorporating radiant heat and plume dispersion modelling
 - A Fire Risk Management Plan and Emergency Response Plan including evacuation / shelter-in-place trigger framework and response-time modelling incorporating QFD feedback
- 3. Submit these documents in response to conditions of approval prior to commissioning.

This sequencing reflects established standard industry practice for BESS developments and reflects the conditions proposed by Council.

We also note that the Hazard Incident Management Plan submitted with the development application assesses credible fire scenarios and demonstrates the adequacy of the proposed protection measures. The Bushfire Management Plan identifies the bushfire protection measures to mitigate risk at the site and outlines the collaborative preparation of management plans with OFD.

Suite 23.05,
One International Towers 100 Barangaroo Ave,
Sydney NSW 2000.
potentiaenergy.com.au

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Please contact us should you require any clarification or wish to discuss these matters further. We remain committed to working constructively with Council to progress the assessment and conclusion of this development application.

Yours sincerely,

Renzo Gaggioli

Head of Business Development

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11.2 COMMUNITY ENGAGEMENT PLAN - LOCAL GOVERNMENT INFRASTRUCTURE PLAN AND PLANNING SCHEME AMENDMENT

File No: 11344 AND RRPS/2025-01/03

Attachments: 1. Community Engagement Plan

Authorising Officer: Damon Morrison - Acting General Manager

Communities and Lifestyle

Author: Alyce James - Acting Coordinator Strategic Planning

SUMMARY

This report seeks formal endorsement of the Community Engagement Plan and to proceed to the public consultation stage under the Planning Act 2016 for the Local Government Infrastructure Plan Amendment (Package D1 - LGIP Amendment) and Planning Scheme Major Amendment (Package D2 - LGIP Alignment)

OFFICER'S RECOMMENDATION

- 1. THAT the Community Engagement Plan for the Public Consultation stage of making an LGIP amendment and planning scheme amendment as presented is received.
- 2. THAT public consultation of the proposed LGIP Amendment and Major Amendment to the Rockhampton Region Planning Scheme is undertaken in accordance with the *Planning Act 2016* and *Ministers Guidelines and Rules*.

COMMENTARY

Council submitted the LGIP Amendment (Package D1) and Planning Scheme Major Amendment (Package D2) to the Department of State Development, Infrastructure, Planning (DSDIP) for a State review on 27 August 2025.

DSDIP advised on 23 October 2025 and 20 November 2025 that Council may proceed to the public consultation stage for both amendments. No conditions were attached, as the Director-General was satisfied both proposed amendments appropriately integrates the relevant state interests.

As outlined in the Community Engagement Plan (attached), it is proposed the public consultation period commences Monday 12 January 2026 and ends on Friday 13 February 2026.

BACKGROUND

LGIP Amendment (Package D1)

The major changes to the LGIP amendment include:

- Update of planning assumptions to reflect changes to the Planning Scheme, 2021 census data, 2023 Queensland Government Statistician's Office (QGSO) population projections and available economic data. The planning assumptions state the assumptions about population and employment growth and about the type, scale, location and timing of development (up to 2046), including the demand for each trunk infrastructure network. The results are presented in the Planning Assumption Report version 4.
- Reduction of the priority infrastructure area (PIA) to align with the Planning Act 2016 and Minister's Guidelines and Rules with regard to accommodating no more than 15 years of urban growth, to be able to meet desired standards of service (DSS) and reduce Council's financial risk of delivering unplanned trunk infrastructure works. The PIA identifies the area Council has prioritised for the provision of trunk infrastructure to service the existing urban development and to accommodate 10 to 15 years of urban development growth.

- Update of Parks desired standards of service (DSS) which included changes to rate of land provision, accessibility standard and indicative embellishments. The DSS state the key standards of performance for a trunk infrastructure network.
- Updates to plans for trunk infrastructure (PFTI) to reflect changes to the trunk infrastructure provided, estimated timing of construction and estimated cost. The plans for trunk infrastructure identify the trunk infrastructure networks intended to service the existing and assumed future urban development at the DSS. The PFTIs are identified in the schedule of works and PFTI mapping.
- Removal of stormwater trunk infrastructure from the LGIP. The stormwater trunk network has been removed as the planning scheme policies and codes, namely the Stormwater management planning scheme policy and Stormwater management code, require developers to mitigate their stormwater impacts to pre-development conditions which eliminates the need for wider trunk stormwater infrastructure.
- Update of the schedule of works (SOW) model to reflect changes in planning assumptions, PFTIs and infrastructure charges. The SOW model uses a standardised process to estimate future expenditure on trunk infrastructure and projected revenue from infrastructure charges. This enables Council to identify any gaps between projected infrastructure charges revenue and proposed expenditure on trunk infrastructure.

Planning Scheme Major Amendment (Package D2 – LGIP Alignment)

While undertaking this LGIP review it was identified that there were additional changes required to the Planning Scheme outside of Part 4 and Schedule 3. A Planning Scheme Major Amendment (Package D2 – LGIP Alignment) is therefore proposed to include the following changes:

- Updating estimated resident population (ERP) figures, population projections and development assumptions in the Strategic Framework;
- Update Strategic Framework Map Settlement Pattern (Rockhampton) to reflect changes to identified sport and recreation areas;
- Update the Reconfiguring a lot code to strengthen provision of parks being required as part of large greenfield or brownfield development;
- Update the Reconfiguring a lot code to improve clarity on application of performance outcome 20 regarding provision of streetscape and landscape treatments when lot reconfiguration involves the creation of a new street (other than in a rural zone or the rural residential zone);
- Update the Structure Plan Planning Scheme Policy to require consideration of parks when developing a structure plan;
- Strengthening the Local Parks Planning Scheme Policy to ensure sufficient parks are provided as part of large greenfield or brownfield development, removing reference to infrastructure agreements and updating desired standards of service including embellishments;
- Update the Stormwater Management Planning Scheme Policy and Code for improved clarity and to reflect best practice as a result of removal of the Stormwater network from the LGIP; and
- Update the Landscape Code to provide additional clarity to provision to prevent previously experienced issue around impacts of development on watercourses.

PREVIOUS DECISIONS

On 19 August 2025, Council resolved to write to the Minister requesting a State review of the proposed LGIP amendment, in accordance with section 25 of the *Planning Act 2016*.

Council also resolved to undertake an amendment to the Rockhampton Region Planning Scheme, titled *Package D – LGIP Alignment Amendment*, and to submit the amendment for State Interest Review in accordance with section 18 of the *Planning Act 2016*.

BUDGET IMPLICATIONS

The costs associated with public consultation is currently funded in Council's 2025-26 Operational Budget.

LEGISLATIVE CONTEXT

The processes for undertaking a major amendment to the planning scheme and amendment to the LGIP are outlined under the Planning Act 2016 and the Ministers Guidelines and Rules.

LEGAL IMPLICATIONS

There are no known legal implications of updating the Planning Scheme in line with the Planning Act and Ministers Guidelines and Rules.

STAFFING IMPLICATIONS

Work associated with consultation for the amendments will be accommodated within the existing resources within Infrastructure Planning and Strategic Planning.

RISK ASSESSMENT

The proposed LGIP and planning scheme amendment has been developed in accordance with legislative requirements and has been independently checked by the Appointed Reviewer.

CORPORATE/OPERATIONAL PLAN

Goal 3.1 We plan for growth with the future needs of the community, business and industry in mind.

CONCLUSION

In conclusion, it is recommended that Council commence the public consultation of the major amendment to the *Rockhampton Region Planning Scheme* in accordance with the attached community engagement plan. The period of consultation will run from Monday 12 January 2026 to Friday 13 February 2026.

COMMUNITY ENGAGEMENT PLAN LOCAL GOVERNMENT INFRASTRUCTURE PLAN AND PLANNING SCHEME AMENDMENT

Community Engagement Plan

Meeting Date: 9 December 2025

Attachment No: 1

Community Engagement Plan

ROCKHAMPTON REGION PLANNING SCHEME

- Major Amendment Package D LGIP Alignment
- Amendment to the LGIP

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1. Trigger for Community Engagement

Under the *Planning Act 2016* and the *Minister's Rules and Guidelines* for making and amending planning schemes, public consultation is required for any proposed planning scheme amendment.

The trigger for community engagement occurs when the Minister (or delegate) approve Council to proceed to public consultation following the State Interest Review. This approval was granted on Thursday, 20 November 2025.

Council will formally resolve to undertake public consultation on:

- LGIP Amendment updating Part 4 and Schedule 3 of the Planning Scheme, including planning assumptions, Priority Infrastructure Area, trunk infrastructure plans, and schedule of works; and
- Planning Scheme Major Amendment (Package D) additional changes outside Part 4 and Schedule 3, including alignment with Schedule 12A of the Planning (Walkable Neighbourhoods) Amendment Regulation 2020.

It is intended that consultation for both amendments will occur in parallel, ensuring compliance with legislative requirements and providing the community with an opportunity to review and comment on the proposed changes.

2. Reason for Engagement

The reason for engagement is to notify the community of the proposed changes to Part 4 of the Planning Scheme and parts of the planning scheme that align with the LGIP amendment but 'sit' outside of Part 4 and Schedule 3.

In accordance with the *Planning Act 2016*, it is a legislative requirement for Council to undertake public consultation on the major amendment to the Rockhampton Region Planning Scheme for a minimum of twenty (20) business days or as determined by Council. The public consultation period can be extended if required.

3. Background

Rockhampton Regional Council is updating the Local Government Infrastructure Plan (LGIP) which forms part of the *Rockhampton Region Planning Scheme 2015* (Part 4 and Schedule 3). The LGIP identifies trunk infrastructure required to support urban development in a coordinated, efficient and financially sustainable way.

Council is proposing two amendments:

- 1. LGIP Amendment Changes to Part 4 and Schedule 3 of the Planning Scheme; and
- Planning Scheme Major Amendment Additional changes outside of Part 4 and Schedule 3.

The major changes to the two amendments include:

- Removal of the stormwater network from the LGIP;
- Reduction to the Priority Infrastructure Area (PIA). This results in 720 properties that were
 previously within the PIA now being located outside the PIA.
- Updating estimated resident population (ERP) figures, population projections and development assumptions in the Strategic Framework;

- Remove reference to Olive Street as a major sport and recreation area in the Strategic Framework and replace with the Rockhampton Sports Precinct at the CQU (current master planning exercise);
- Update Strategic Framework Map Settlement Pattern (Rockhampton) to reflect above change;
- Update the Reconfiguring a lot code to strengthen provision of parks being required as part of large greenfield or brownfield development;
- Update the Reconfiguring a lot code to improve clarity on application of performance outcome 20 regarding provision of streetscape and landscape treatments when lot reconfiguration involves the creation of a new street (other than in a rural zone or the rural residential zone);
- Update the Structure Plan Planning Scheme Policy to require consideration of parks when developing a structure plan;
- Strengthening the Local Parks Planning Scheme Policy to ensure sufficient parks are provided as part of large greenfield or brownfield development, removing reference to infrastructure agreements and updating desired standards of service including embellishments:
- Update Stormwater Management Planning Scheme Policy for improved clarity and to reflect best practice as a result of removal of the Stormwater network from the LGIP;
- Remove reference to bio-retention basin landscape construction and design from Landscape Design and Street Trees Planning Scheme Policy and include in the Stormwater Management Planning Scheme Policy;
- Update Landscape Code to provide additional clarity to provision to prevent previously
 experienced issue around impacts of development on watercourses; and
- Update Stormwater Management Code to provide additional clarity, reflect best practice and reflect changes to the associated Planning Scheme Policy.

4. Objectives

- To undertake public notification pursuant to the legislative requirements of the Planning Act 2016.
- To create community awareness about the formal consultation period and details of how to make a properly made submission to the LGIP Amendment and the Major Amendment (Package D) of the Rockhampton Region Planning Scheme.
- To undertake targeted consultation with property owners whose property has been affected by the reduction of the Priority Infrastructure Area.
- To communicate the reasons for, and benefits of, undertaking a major amendment to the planning scheme.
- To implement appropriate change management techniques that will assist the community to prepare for change – focusing on areas where significant change is proposed.
- To provide the community with a range of online and traditional information sources e.g. fact sheets and feedback/submission methods via Customer Service, Mail and Engage Rockhampton Region website.

5. Target Audiences

Community

- General community any person can make a properly made submission; and
- Property owners whose properties who were previously inside the PIA and are now located outside the PIA.

State Government Referral Agencies

 Department of State Development, Infrastructure, Local Government, Infrastructure and Planning coordinators referrals to relevant State agencies.



6. Key Messages

General	Community
---------	-----------

(Media messages)

Prior to consultation period commencing:

- Outline the nature and details of the LGIP amendment and major amendment including instructions on how to lodge a formal submission as outlined in Methods of Engagement; and
- Public consultation period is to commence for 20 business days.

During consultation period:

- View the planning scheme changes online from Council's website, Rock e Plan or at Customer Service Centres.
- Lodge a formal submission via mail, email, online via Engage Rockhampton Region website or in person at Council's Customer Service Centres.
- Find out about the major amendment to the planning scheme by visiting Council's website / social
 media pages, Engage Rockhampton Region website, visiting an information display or registering to
 attend a meeting with a planner at Customer Service Centres.

After consultation period concludes:

- All properly made submissions will be considered by Council and responded to via letter or email as per the legislative requirement.
- Update Council's website and social media pages to advise consultation has finished and that all submissions will be addressed.
- Development applications submitted after the adoption of the major amendment can be requested to be assessed by Council under the provisions of the superseded planning scheme for a period of 12 months.

Reduction of Priority Infrastructure Area	 Council has reduced the PIA to align with requirements of the Planning Act 2016 and to accommodate no more than 15 years of urban growth. This has been undertaken to ensure that land within the PIA is able to meet desired standards of service (DSS) and to reduce Council's financial risk of delivering unplanned trunk infrastructure works. Letters will be issued to 720 property owners who were previously inside the PIA and now being located outside the PIA. These letters will be issued the week commencing 12 January 2025.
Removal of Stormwater Network from LGIP	 The Planning Scheme requires developments to maintain pre-development stormwater conditions (no change in peak discharge, frequency, duration, velocity, volume, or quality). This removes the need for shared trunk stormwater infrastructure. Current levels of infill development are low and do not significantly alter stormwater flow characteristics or create demand for new or upgraded trunk infrastructure. Given these factors, the stormwater trunk network is no longer included in the Local Government Infrastructure Plan.

7. Level of Engagement

There are different public participation levels ranging from inform, consult, involve, collaborate and empower.



The community engagement for the LGIP amendment and Major Amendment to the Rockhampton Region Planning Scheme are deemed 'high regional' according to the Community Engagement Matrix. The engagement will involve 'informing' the local government area and 'consulting' with the impacted parties, also including a wider audience as any person from any location may make a submission. To inform and consult with the community and the wider audience, a range of traditional and social media methods will be used.

8. Methods of Engagement

Inform:

Public Notice (legislative requirement)

The CQ Today newspaper – Saturday prior to commencement of consultation period and 1 week minimum prior to conclusion.

• Council's Engage Rockhampton Region Website (legislative requirement)

RRPS Major Amendment Project Milestones

Fact sheet

Submission form

Frequently Asked Questions (FAQs)

• Customer Service Office Displays (legislative requirement)

A copy of the LGIP Amendment and Major Amendment must be made available at Customer Service Offices (Rockhampton office) supported by information resources (fact sheets and brochures. Council Officers to be available for meetings at Walter Reid (Corner of Derby and East Street, Rockhampton) during the consultation period.

Internal Communications

Inform the Leadership Team and Customer Service team. Inform internal departments (e.g. Development Assessment, Development Engineering, Customer Service, Advance Rockhampton).

Media Release

Issued prior to the commencement of the consultation period.

Social Media

RRC Facebook page - scheduled updates and advertising.

Direct Mail

Letters to impacted property owners will detail the consultation period commencement / conclusion dates, the reasons why the Priority Infrastructure Area has been reduced. The letter will enclose a fact sheet, and submission form.

Consult:

Formal Submission Form

Submitted via Customer Service, Mail and Council's Engage Rockhampton Region website. Properly made submissions are collated into a submission report which is considered by Council and a response provided to each submitter. The consultation report is provided to the Minister for State Development, Infrastructure and Planning for consideration and needs to be approved by the Chief Executive Officer before moving to the next step in the process.

Development Advice Centre and Customer Service Centre Displays

A Council Officer will be available at Walter Reid (Corner of East and Derby Street, Rockhampton) to provide information and assistance about how to make submissions throughout the consultation period. A full copy of the amendments will be made available at all Customer Service Offices supported by information resources (fact sheets and brochures) and a professional display.

9. Implementation Schedule - Public Notification and Response

Formal consultation period will commence on 12 January 2026 and will finish on 13 February 2026. The dates reflect the maximum timeframes for the Major Amendment Package D; the timeframes for the LGIP amendment are slightly shorter. Should the timeframes of the Major Amendment Package D extend, through longer state interest check or through significant public submissions, the LGIP amendment will proceed independently. The report is triggered by receiving the Chief Executive Officers advice and potential conditions to proceed after the State Interest Review.

Indicative timeline only. Dates are subject to change.

	What	When	Who
Planning and preparation	Draft requirements	October 2024 – May 2025	Strategic Planning Strategic Infrastructure Planning

State Interest Review (60	Submit to State Government	August 2025	Strategic Planning
business days)	State Interest Check	August 2025 – November 2025	Strategic Planning
uuyo,	Internal Staff update on proposed amendments (as required)	November 2025	Strategic Planning
	Respond to any further information request issued by the State	NA	Strategic Planning
	Update planning scheme with any conditions from the State	NA	Strategic Planning
Public consultation phase (20 business	Formal public notification and community consultation	12 January 2026 – 13 February 2026	Strategic Planning / Community Engagement
days)	Upload electronic public consultation version (Rock e Plan) of the planning scheme enabling planning scheme submissions and associated maps to Engage Rockhampton Region website.	12 January 2026	Strategic Planning / GIS / Community Engagement
	Draft fact sheets as outlined in Methods of Engagement section	December 2025	Strategic Planning Strategic Infrastructure Planning
	Customer Service Centres display / major amendment information provided	Week prior to commencement date	Strategic Planning Strategic Infrastructure Planning
	Formal public notice in CQ Today newspaper (including mandatory information as outlined in legislation)	Saturday 10 January 2026	Strategic Infrastructure Planning
	Formal notification on RRC website & Engage Rockhampton Region	12 January 2026	Community Engagement Officer / Strategic Planning
	Official Start of Public Consultation Phase – Must be at least 20 business days in duration in accordance with the <i>Planning Act 2016.</i>	12 January 2026	
	Media launch of public consultation	12 January 2026	Mayor / Councillors / General Manager / Strategic Planning

			Unit / Community Engagement Officer / Media Team
	Media Release (ongoing schedule)	12 January 2026 – On going	Strategic Planning / Community Engagement Officer / Communication Officer
	Facebook update (ongoing schedule)	12 January 2026 – On going	Community Engagement Officer / Communication Officer
	Mail – To relevant stakeholders	12 January 2026	Strategic Infrastructure Planning Administration
	Website update - Consultation period closes.	13 February 2026	Strategic Planning
	Response to Submissions and potential amendments		
	Acknowledgement of submission being received – response letter or email.	Within 1-2 weeks of receiving submission throughout consultation period.	Strategic Infrastructure Planning
	Submission summary – Council report.	February – March 2026	Strategic Planning
	Response to submissions – letter mailed or emailed.	March – April 2026	Strategic Planning Administration / Community Engagement Officer
	Submission Report sent for Ministerial Review.	April 2026	Strategic Planning
	Media Release updating community of progress.	March – April 2026	Strategic Planning / Community Engagement Officer
	Updates on RRC website.	TBD	Strategic Planning / Community Engagement Officer
Ministers Review	Response from Minister received and advises on next stage	April – May 2026	

	Council decision whether to proceed	May 2026	
Adoption	Final Drafting and Council Adoption	June 2026	
	Internal communications	Date TBA	Strategic Planning / Community Engagement Officer
	Media release	Date TBA	Strategic Planning / Community Engagement Officer
	Website / social media update	Date TBA	Strategic Planning / Community Engagement Officer
	Notice in the Government Gazette	Date TBA	Strategic Planning Administration
	Public notice in the local newspapers (including mandatory information as outlined in legislation). Also include contact phone number.	Date TBA	Strategic Planning Administration
	Website information updated must include information from public notice. Also include contact phone number.	Date TBA	Strategic Planning / Community Engagement Officer
	Contact all relevant stakeholders.	Date TBA	Strategic Planning Administration / Community Engagement Officer
	Update Rock e Plan (ICON) and PDF.	Date TBA	Strategic Planning Administration

COMMUNITY ENGAGEMENT PLAN I Rockhampton Region Planning Scheme - Major Amendment Package D I Page 11

10. Draft Letter to Residents



12 January 2026

Gracemere Office I Ranger St. Gracemere

71300 Regional Services 07 4932 9000 or 1300 22 55 77 07 4936 8662 or 1300 22 55 79 ortquiries@nc.qift.gov.au

Dear Sir/Madam,

ROCKHAMPTON REGIONAL COUNCIL LOCAL GOVERNMENT INFRASTRUCTURE PLAN AMENDMENT - PRIORITY INFRASTRUCTURE AREA (PIA)

I write to inform you that Rockhampton Regional Council is updating its Local Government Infrastructure Plan (LGIP). This plan is part of the Planning Scheme and sets out how Council provides essential trunk infrastructure, such as roads, water, sewerage and parks to support urban development in a coordinated, efficient and financially sustainable manner

The proposed changes include:

- Updates to latest development growth projections;
 Changes to infrastructure standards of service;
 Changes to proposed municipal infrastructure to service growth and associated costs;
 Removal of stormwater infrastructure from the LGIP, and
 A smaller PIA.

What is the PIA?

The PIA identifies an area of land that will be serviced by infrastructure to support urban development over the next 10-15 years. As part of this update, the PIA has been reduced to meet State planning requirements and ensure Council can provide services to the desired standard without unnecessary financial risk.

What does this mean for you?

Your property was previously inside the PIA but is now outside it under the proposed changes. This change will not affect the services you currently receive. However, if you choose to develop your property in the future, extra infrastructure costs or conditions may apply.

Council is inviting community feedback on these proposed changes during the consultation period from Monday 12 January 2026 to Friday 13 February 2026.

Submissions must be made in writing and can be lodged online at https://engage.rockhamptonregion.qld.gov.au, by email to enquiries@rrc.qld.gov.au, or by post to the details below.

Rockhampton Regional Council PO Box 1860. Rockhampton Q 4700 P: 07 4932 9000 or 1300 22 55 77 | Etenquireslimcald.gov.au | W; www.mcald.gov.au

COMMUNITY ENGAGEMENT PLAN I Rockhampton Region Planning Scheme - Major Amendment Package D I Page 12

11. Draft Fact Sheet



Rockhampton Regional Council has prepared an amendment package for the Rockhampton Region Planning Scheme 2015 (Planning Scheme) to ensure it stays up-to-date and effective.

What is a Local Government Infrastructure Plan?

Rockhampton Regional Council plans for infrastructure in many ways including via its' Local Government Infrastructure Plan (LGIP). The LGIP forms part of the Rockhampton Region Planning Scheme 2015 (Part 4 and Schedule 3) and identifies trunk infrastructure that is necessary to service urban development at the desired standards of service in a coordinated, efficient, and financially sustainable manner.

Trunk infrastructure is 'higher order,' or 'shared' development infrastructure required to ensure the efficient and safe functioning of the infrastructure networks that provide essential services for development. Trunk infrastructure provides service to 'catchment' areas with multiple users rather than servicing individual developments.

Trunk infrastructure can include:

- water supply
- sewerage
- transport
- parks and land for community facilities
- stormwater (removed from Council's LGIP)

What is in the amendment package?

Major proposed changes to the existing LGIP include the following:

- Updated planning assumptions to reflect changes to the Planning Scheme, 2021 census data, 2023 Queensland Government Statistician's Office (QGSO) population projections and available economic data;
- Reduction of the priority infrastructure area (PIA) to align with legislation and accommodate no more than 15 years of urban growth, to be able to meet desired standards of service (DSS) and reduce Council's financial risk of delivering unplanned trunk infrastructure works;
- Updated desired standards of service (DSS) for the parks network including changes to rate of land provision, accessibility standard and indicative embellishments;
- Updated plans for trunk infrastructure (PFTI) to reflect changes to the trunk infrastructure provided, estimated timing of construction and estimated cost;
- Updated schedule of works (SOW) model to reflect changes in planning assumptions, PFTIs and infrastructure charges;
- Removal of the stormwater trunk infrastructure network from the LGIP; and
- Updates to the planning scheme outside of Part 4 and Schedule 3 to align with the LGIP amendment.

Rockhampton Region Planning Scheme Phone 07 4932 6000 | PO Box 1860 Rockhampton QLD 4700 Email enquiries@no.qid.gov.eu | www.ric.qid.gov.eu

COMMUNITY ENGAGEMENT PLAN I Rockhampton Region Planning Scheme - Major Amendment Package D I Page 13

Why has the stormwater network been removed from the LGIP?

The planning scheme stormwater management code and stormwater management planning scheme policy ourrently require developers to mitigate their stormwater impacts to predevelopment conditions. i.e. no change in peak discharge, frequency, duration, velocity, volume or quality of regular stormwater flows once development has occurred.

This eliminates the need for shared trunk stormwater infrastructure solutions as each development is required to mitigate their own impacts.

Council is currently experiencing minimal infill development that will influence the current stormwater flow characteristics of existing developed catchments and require new or upgraded trunk infrastructure.

For these reasons, the stormwater trunk network has been removed from the LGIP.

Why has the priority infrastructure area been reduced?

The priority infrastructure area (PIA) is part of the LGIP and defines an area of properties serviced or intended to be serviced by development infrastructure networks to the desired standards of service. The PIA is limited to properties used or approved for urban land use purposes that will accommodate the forecast 10 to 15 years of growth. The PIA helps Council coordinate, prioritise and sequence infrastructure across all infrastructure networks in the most efficient manner to support development.

As part of this proposed LGIP amendment, Council has reduced the PIA to align with requirements of the Planning Act 2018 and to accommodate no more than 15 years of urban growth. This has been undertaken to ensure that land within the PIA is able to meet desired standards of service (DSS) and to reduce Council's financial risk of delivering unplanned trunk infrastructure works.

Have your say!

Council is seeking community feedback on the proposed changes to the Rockhampton Region Planning Scheme.

Public consultation will commence Monday 12 January 2026 and end on Friday 13 February 2026, providing 20 business days for you to have your say on the proposed changes.

Submissions must be properly made in writing and can be sent to Council by the following methods:

- Online submission: https://engage.rockhamptonregion.gld.gov.au/
- Posted to: Infrastructure Planning Rockhampton Regional Council PO Box 1860 ROCKHAMPTON OLD 4700
- Emailed to enquiries@mc.gld.gov.au

For more information visit Council's Engagement website at https://engage.rockhamptonregion.qld.gov.au

Rookhampton Region Planning Scheme Phone 07 4932 9000 | FO Box 1860 Rockhampton QLD 4700

COMMUNITY ENGAGEMENT PLAN I Rockhampton Region Planning Scheme - Major Amendment Package D I Page 14

11.3 AGRICULTURAL SHOW ADVISORY COMMITTEE TERMS OF REFERENCE

File No: 14298

Attachments: 1. Rockhampton Show Organising Advisory

Committee - Terms Of Reference - 2007

2. Rockhampton Ag Show Advisory Committee -

Clean Nov 25

Authorising Officer: John Webb - Manager Communities and Culture

Damon Morrison - Acting General Manager

Communities and Lifestyle

Author: Mark Millett - Coordinator Major Venues

SUMMARY

The Rockhampton Agricultural Show Committee provides advice and assistance to Rockhampton Regional Council on matters pertaining to the Annual Rockhampton Agricultural Show. The Agricultural Show Advisory Committee Terms of Reference are provided to guide the Committee offering strategic guidance, expert advice, and community insights to support the planning and delivery of the Rockhampton Agricultural Show.

OFFICER'S RECOMMENDATION

THAT Council endorses the Rockhampton Agricultural Show Advisory Committee Terms of Reference and the Rockhampton Agricultural Show Advisory Committee Terms of Reference be implemented.

COMMENTARY

The Agricultural Show Advisory Committee, since being taken over by Rockhampton Regional Council, have been operating without a formally documented processes or Terms of Reference. Implementing the Terms of Reference will provide a structure and process to guide the Rockhampton Agricultural Show Advisory Committee and provide a consistency of approach with membership and planning advice.

The Terms of Reference call for a Councillor to chair the meetings and ensure good order and conduct. It is intended that the Chair will be appointed by Council with consideration to Councillor divisions and portfolio.

When Terms of Reference are endorsed, an expression of interest calling for members through an open and transparent process. Membership will be shortlisted by the Events team according to the prescribed selection criteria within the Terms of Reference and presented to Council for endorsement

BACKGROUND

The Rockhampton Agricultural Show has alternated between Council and community organisations operation. The most recent exchange was after a community Show committee could no longer support the running of the Show after the 2018 event. Since 2019 the Rockhampton Agricultural Show has been in delivered by Rockhampton Regional Council's Advance Rockhampton Team.

For the past 5 years the Rockhampton Agricultural Show Committee has been included in planning and delivery of the event in an ad hoc basis without consistency in approach.

Research into prior Terms of Reference for the Committee have yielded a Council report outlining the Committee's Terms of Reference from 2007. Since 2007 the Committee has changed multiple times with no apparent update of documentation.

In order to provide consistency in approach and provide the Rockhampton Agricultural Show Advisory Committee a formal structure with which to operate, the attached Terms of Reference have been developed in consultation with Council officers and existing committee members.

It is noted that there is no legal, funding or formal requirement for Rockhampton Regional Council to have a Show Committee. The intent of maintaining a Show Committee is to provide a consistent approach and stability for the Agricultural Show. Should Council consider returning he Agricultural Show to an external organisation, a considered community orientated committee may inform a sustainable event.

PREVIOUS DECISIONS

16 April 2007 – Council adopted the Rockhampton Show Organising Advisory Committee - Terms of Reference (attached)

BUDGET IMPLICATIONS

Nil

LEGISLATIVE CONTEXT

Ensuring the members of the Rockhampton Agricultural Show Advisory Committee operate in accordance with Section 452 and 453 of the *Local Government Act*.

LEGAL IMPLICATIONS

Nil

STAFFING IMPLICATIONS

The Terms of Reference require a Council officer from the Events Team be responsible for delivery of the Rockhampton Agricultural Show. The Terms of Reference require a Councillor to chair the Committee.

RISK ASSESSMENT

No formal risk assessment has been undertaken.

CORPORATE/OPERATIONAL PLAN

Contributes to Goal 2.2 of the Corporate Plan 2022-2027 "We support our communities through our activities and Programs".

CONCLUSION

The Terms of Reference for the Rockhampton Agricultural Show Advisory Committee is a valuable refinement of the Agricultural Show event process and works toward providing a consistent approach of refinement and improvement to the delivery of the Agricultural show.

AGRICULTURAL SHOW ADVISORY COMMITTEE TERMS OF REFERENCE

Rockhampton Show Organising Advisory Committee – Terms Of Reference - 2007

Meeting Date: 9 December 2025

Attachment No: 1

COUNCIL RESOLUTION MEMO

GENERAL PURPOSES COMMITTEE ADOPTED BY COUNCIL

10 APRIL 2007 16 APRIL 2007

Action as per Resolution set out below					
Name	Acting Chief Executive Officer				
Action to be completed	In Accordance with the Resolution				
Date Resolution Sent	17 April 2007				
File Ref	Parks And Reserves\Meetings\Rockhampton\Show Organising Committee\3792				

Rockhampton Show Organising Advisory Committee - Terms Of Reference

File Ref: Parks And Reserves\Meetings\Rockhampton \Show Organising Committee\3792

Summary

The final terms of reference for the Rockhampton Show Organising Advisory Committee of Council have been completed and are now submitted for Committee's consideration.

COMMITTEE RESOLUTION

THAT the committee recommends to Council that pursuant to Council resolution, 7 July 2003, and in accordance with sections 452 and 453 of the *Local Government Act 1993*, the following terms of reference be adopted for the Rockhampton Show Organising Advisory Committee.

- 1. Advisory Committee Name: Rockhampton Show Organising Advisory Committee
- 2. Committee Objective: To perform an advisory role to Council on the effective and efficient operations and management of the Rockhampton Annual Show
- 3. Chairperson: Councillor Graeme Brady
- Other Councillors: Mayor Margaret Strelow, Councillor/s Swadling, Broad, Rutherford and Green
- 5. External members (with voting rights)

Darren Lawson - Rocky Idol Competition

Tony Hoffmann – Show Events (Woodchopping)

Brad Keyworth – Promotions and Marketing

Lorraine White - Volunteers

A representative from the Queensland Police Service - Security

Page 1 of 2

Document Set ID: 1458105 Version: 1, Version Date: 17/04/2007

COUNCIL RESOLUTION MEMO

Glen Guley – Sections Tony Cullen – Rockhampton Tourist & Business Information

- 6. Quorum: Half the number of members even if the majority is an odd number
- 7. Meeting Place: James Lawrence Pavilion, Rockhampton Show Grounds
- 8. Meeting Frequency: October, November, December, January One meeting per month February, March, April, twice meetings per month, May one meeting
- 9. Meeting time and day: Wednesdays from 10:00am 1:00pm
 - 11 April 2007
 - 24 April 2007
 - 16 May 2007
- 10. Committee Officer/s: Director Parks Sport and Recreation Tom Wyatt, Showgrounds Manager, Meegan Armstrong, Showgrounds Administration Officer Shaelene Lewis and Administration Coordinator Parks, Sport and Recreation Donna Thurecht

MOVED: Councillor Schwarten SECONDED: Councillor Brady MOTION CARRIED

AGRICULTURAL SHOW ADVISORY COMMITTEE TERMS OF REFERENCE

Rockhampton Agricultural Show Advisory Committee Clean November 25

Meeting Date: 9 December 2025

Attachment No: 2

Terms of Reference (ToR)

Rockhampton Agricultural Show Society Advisory Committee

1) Purpose

The Rockhampton Agricultural Show Advisory Committee ("the Committee") is established to provide strategic guidance, expert advice, and community insights to support Rockhampton Regional Council ("Council") with planning and delivery of the Rockhampton Agricultural Show ("the Show"). The Committee ensures the Show reflects local agricultural strengths, a community focus, and regional development goals as outlined in Council's Corporate Plan.

2) Objectives

The Committee's main objectives are:

- a) to advise Council, through the Council unit assigned responsibility for Council event delivery ("the Event Delivery Unit"), on matters related to agricultural programming, community engagement, and regional representation for the Show;
- to support the integration of local industry, education, and cultural elements into the Show;
- to identify and suggest opportunities for innovation, sustainability, and community engagement in planning, programming and activities for the Show; and
- d) to foster partnerships between Council and other stakeholders for the Show, including local producers, schools, community groups, and local businesses.

3) Membership Skills

Skills recommended for a position on the Committee include:

- a) strong support for the Rockhampton Region and the Show;
- b) strong appreciation of the role of agricultural shows and other community events for community enjoyment, education and wellbeing.
- c) capacity to think and act strategically and collaborate in team decisions and planning.
- achievement, experience, expertise or qualification in fields that demonstrate the ability to:
 - i) to support the planning and delivery of the Show; or
 - ii) engage and network with stakeholders within industries or fields relevant to the planning and delivery of the Show; and
- e) commitment and availability to attend regular Committee meetings as scheduled.

4) Committee Membership

The Committee consists of a total of 9 members at all times, consisting of 2 Identified Members and 7 Council Endorsed General Advisory Members ("General Advisory Members").

Committee roles and responsibilities Identified MembersGeneral Advisory Members

- (voting role, when voting is required) 7 roles filled by Rockhampton region community members, where possible, representing a combination of segments of the community relevant to the planning and delivery of the Show, including, but not limited to:
 - (1) Local agricultural industry.
 - (2) Education sector.
 - (3) Members of cultural communities present in the region, including, but not limited to Aboriginal and Torres Strait Islander peoples.
 - (4) Business and tourism sector; and
 - (5) Youth and volunteer representatives.
- ii) General Advisory Members will be responsible for:
 - (1) providing expert and community-based advice.
 - (2) participating in discussions and working groups.
 - (3) representing stakeholder interests and regional priorities; and
 - (4) assisting with volunteer and stakeholder engagement.

6) Appointment and Term of Office

- a) Identified Members
 - i) Identified Member Appointment
 - (1) Chairperson role filled by a Councillor as elected by Council.
 - (2) Ex-Officio Member role filled by member of the Event Delivery Unit as elected by Council.
 - ii) Identified Member Term of Office No set Term of Office for Identified Member roles.
- b) General Advisory Member
 - i) General Advisory Member Appointment
 - (1) Application Application to be appointed as a General Advisory Member shall be made by individuals via Council's standard Expression of Interest process
 - (2) Assessment Event Delivery Unit will assess applications against the Selection Criteria and select recommended applicants based on their suitability with the Selection Criteria and contribution to the Committee's balanced representation of the Rockhampton Region.
 - (3) Appointment

The Event Delivery Unit will present recommended applicants to the Council table for adoption.

(4) Rolling appointment

Expressions of Interest will be assessed and endorsed as General Advisory Member vacancies arise.

- (5) Selection Criteria for General Advisory Members
 - (a) Essential Criteria
 - (i) Demonstrated knowledge or experience in agriculture, agribusiness, education, community development, or competition management.
 - (ii) Strong connection to the Rockhampton Region, including local knowledge and community networks.
 - (iii) Ability to contribute constructively to strategic discussions and provide informed advice.
 - (iv) Commitment to the Agricultural Show Society.
 - (v) Availability to attend meetings and participate in committee activities.
 - (b) Desirable Criteria
 - Experience serving on advisory boards, committees, or community organizations.
 - (ii) Representation from diverse backgrounds including youth, Indigenous communities, and local business sectors.
 - (iii) Skills in stakeholder engagement, communication, or governance.
- ii) General Advisory Member Term of Office
 - (1) No set Term of Office for General Advisory Member roles.

7) Removal from Office

- a) A member position shall become vacant if the member:
 - i) resigns by writing to the Event Delivery Unit Coordinator ("Event Coordinator").
 - ii) is absent without prior leave granted by the Committee from four (4) consecutive meetings of the Committee for which due notice has been given;
 - iii) ceases to be qualified to continue as a Committee member; or
 - iv) is removed by formal resolution of the Council table.

8) Meetings

- a) Frequency of Meetings
 - The Committee will have scheduled quarterly meetings with dates, times and locations pre-set by the Chairperson of the Committee a minimum of 3 months in advance.
 - ii) Meeting frequency can be increased if business demands.
- b) Quorum
 - In order to have a quorum at any meeting, there must be a minimum of 4 General Advisory Members plus the Chairperson in attendance.

- ii) Recommendations are made by consensus or majority vote.
- c) Reporting
 - Committee recommendations are documented and presented in meeting minutes prepared by the Ex-Officio Member at each Committee meeting. If the Ex-Officio Member is absent from a Committee meeting, minutes will be prepared by a Committee member as agreed by a majority of members present at the current meeting.
 - ii) Committee recommendations and reporting from each Committee meeting will be provided to the Event Delivery Unit by the Ex-Officio Member in attendance at that meeting. If the Ex-Officio Member was absent from the meeting, the recommendations and reporting will be provided to the Event Deliver Unit by the Chairperson in attendance at the meeting.
 - iii) The Event Delivery Unit may decide not to enact Committee recommendations. If this is the case, upon request by the Committee, the Event Delivery Unit will offer reasoning to the Committee including, but not limited to: Safety concerns, budget constraints, timeframes for delivery.
- d) Disputes, Complaints and Grievances
 All disputes, complaints and grievances will be handled in accordance with Council's policies and procedures.

9) Review

These Terms of Reference:

- a) will be presented for endorsement by the Council table;
- b) will take effect upon endorsement by the Council table;
- c) may be changed by:
 - the Committee making recommendations for changes to the Terms of Reference by consensus during Committee meetings;
 - recommended changes to the Terms or Reference being submitted to the Event Delivery Unit;
 - iii) the Event Delivery Unit assessing the appropriateness of recommended changes;
 - iv) the Event Delivery Unit presenting recommended changes that they deem appropriate to the Council table for endorsement; and
 - recommended changes to the Terms of Reference being endorsed by the Council table.

10) Media

- The official spokespersons for the Council are the Mayor, Councillors, the Event Coordinator and selected Council officers.
- b) If the Committee wishes to make comment to media, it must first be presented through the Event Coordinator for approval.

11) Governance and Code of Conduct

- a) The Committee operates within the Terms of Reference, and applicable policy, procedures and guidelines of Council.
- b) Committee Members are bound by the Council Code of Conduct.
- c) The main liaison for contact between the Committee and Council is the Event
- d) Any matters proposed to be addressed at an upcoming meeting must be submitted the Event Coordinator at least 2 weeks before the meeting date in order to be included on the meeting agenda,
- e) Internal Council support services will be delegated to the Committee by the Event Coordinator as required.
- f) Insurance and public liability for the Committee are managed by Council.

11.4 REQUEST FOR EXEMPTION TO SHOWGROUNDS EVENT CURFEW - SALOON CAR CLUB EXTENSION

File No: 11039 Attachments: Nil

Authorising Officer: John Webb - Manager Communities and Culture

Damon Morrison - Acting General Manager

Communities and Lifestyle

Author: Mark Millett - Coordinator Major Venues

SUMMARY

The Rockhampton Saloon Car Club Inc. has requested Council amend the existing event curfew of the Rockhampton Showgrounds to enable the operation of the Saloon Car Club's Bar only until 11.59pm during their speedway events. Council granted a trial period during 2025 which has now ended. Council is requested to consider approving the exemption for the Saloon Car Club Inc. for the remainder of their current season ending in May 2026.

OFFICER'S RECOMMENDATION

THAT Council approves the alteration of the Rockhampton Showgrounds event program curfew of 10.30pm to midnight to permit the operation of the Saloon Car Club's Bar only. Racing, engine noise and amplified noise must cease by 10.30pm. This curfew exemption is the remainder of their 25/26 season as detailed in the report. Council shall revoke the exemption should noise not be managed to Council's satisfaction.

COMMENTARY

In March 2025, The Rockhampton Saloon Car Club Inc. requested alteration to the standard event curfew of 10.30pm to be extended to midnight to cover the extended operation of their bar only which operates out of the 'People's Bar' pavilion located close to Centre Ring. This was granted by Council for 2025 only as a trial period, with the view that any complaints received would result in Council revoking the decision.

The trial period has successfully operated on the following dates with no complaints registered to Major Venues:

- Saturday 29 March 2025
- Friday 3 May 2025
- Saturday 4 May 2025
- Saturday 27 September 2025
- Saturday 25 October 2025
- Saturday 29 November 2025

Under the proposed recommendation, it is expected that racing activity will cease at 10.30pm, with the Bar continuing to operate and sell alcohol for an additional 1 hour until 11.30pm. After 11.30pm (last drinks) a further 29 minutes is allocated to let patrons finish their drinks and arrange safe passage home. All activity will be ceased by midnight.

The terms of Council's consent to a liquor license will also define service times and locations when outside the standard 10.30pm curfew.

Should complaints be received from the public in relation to the bar activity, Council will reserve the right to revoke the exemption.

It is intended that the exemption only be in place for the current 25/26 Speedway Season.

It is expected that the Saloon Car Club Inc. will re-apply for an exemption for each season.

The remaining season Dates are as follows:

31 January 2026

28 February 2026

28 March 2026

2 May 2026

3 May 2026

BACKGROUND

The Saloon Car Club have in the past operated their bar until midnight. This activity was ceased in 2023 when Council officers became aware of the activity, and the Office of Liquor and Gaming began to seek qualification of Council endorsement.

Rockhampton Regional Council have a standard 10.30pm curfew for event programming in the Rockhampton Showgrounds. This has been in place since Council assumed operation of the site. The curfew is maintained with regular users, and touring events which keep activities within the curfew.

PREVIOUS DECISIONS

Since 2015 significant events have been granted extensions beyond 10.30pm as follows -

- Beef 2015 Thursday 7 May 11pm, Friday 8 May 11pm, Saturday 9 May 11.30pm
- Beef 2018 Sunday 6 May 11pm, Friday 11 May 11pm, Saturday 11 May 11.30pm
- One Hot Night (Busby Marou) 2017 Friday 29 December 11.30pm
- Black Dog Ball 2024 Saturday 7 October 12.00am
- Beef 2024 Sunday May 5 up to and including Saturday May 11 12.00am
- Blackball Australia Pool Association 2025 Australian National Championships 13 to 22 March 2025
- Saloon Car Club Speedway Events various dates 29 March 2025 -29 November 2025
- 2025 Australian 8 Ball Pool Championships 12 22 November 2025

There have been numerous relaxations for similar events including Beef prior to 2015.

BUDGET IMPLICATIONS

There are no budget implications to Council relevant to this report and recommendation under consideration.

LEGISLATIVE CONTEXT

There is no applicable legislation relevant to this matter

LEGAL IMPLICATIONS

The event operator and occupier of the Rockhampton Showgrounds is liable for adherence to noise regulation standards, and compliance with Liquor License requirements

STAFFING IMPLICATIONS

There will be no implications to Council permanent staffing levels if Council adopts the proposed recommendation.

RISK ASSESSMENT

While legal and reputational risks will reside with The Rockhampton Saloon Car Club Inc, there may be reputational risks to Council's perceived good governance if there are significant noise complaints within the community. Conversely there may be reputational risks with broader community and stakeholders if restrictions affect the perceived success of the event.

CORPORATE/OPERATIONAL PLAN

Our community -

- 2.1.1 We ensure community assets are utilised and appropriate for the needs of the community.
- 2.1.1 We encourage diversity of community events and innovative use of our places and spaces.

Our Economy

3.2.1 we support projects that strengthen the region's economic development.

CONCLUSION

That Council review the application for relaxation of curfew for the Rockhampton Saloon Car Club Inc. and considering the benefits of this community group to the broader community balanced against the risks to support the recommendation.

11.5 REQUEST FOR EXTENSION TO SHOWGROUNDS EVENT CURFEW - SMOKED FESTIVAL

File No: 11039

Attachments: 1. Smoked amplified noise curfew request

2. Smoked layout graphic !

Authorising Officer: John Webb - Manager Communities and Culture

Damon Morrison - Acting General Manager

Communities and Lifestyle

Author: Mark Millett - Coordinator Major Venues

SUMMARY

Capricorn Events are requesting Council amend the existing curfew of Rockhampton Showgrounds to include the operation of the 2026 Smoked Festival occurring in February 2026.

OFFICER'S RECOMMENDATION

THAT Council approve the alteration of the Rockhampton Showgrounds event program curfew of 10.30pm to 11.00pm to include the operation of the 2026 Smoked Festival from Friday 6 February 2026 to Saturday 7 February 2026.

COMMENTARY

Capricorn Events have requested alteration to the standard event curfew of 10.30pm to be extended to 11pm for 2 days to cover their 2026 Smoked Festiva' being held from Friday 6th February until Saturday 7th February 2026. The event is planned to occur at the Rockhampton Showgrounds in the following locations: Centre Ring, Cremorne Lawn, Walter Pierce Pavilion and Robert Schwarten indoor pavilion.

The event will be licenced and have alcohol available. Liquor service will cease at 10.30pm each night to allow final drinks to be consumed by the scheduled 11.00pm finish.

The terms of Council's consent to a liquor license will also define service times and locations when outside the standard 10.30pm curfew.

The event is utilising an external PA system for music and announcements, a Noise Management plan will be in use for the event to control amplified noise.

Capricorn events have provided examples of their noise management in the attached letter requestions the exemption.

BACKGROUND

Rockhampton Regional Council have a standard 10.30pm curfew for event programming in the Rockhampton Showgrounds. This has been in place since Council assumed operation of the site.

PREVIOUS DECISIONS

Since 2015 significant events have been granted extensions beyond 10.30pm as follows –

- Beef 2015 Thursday 7 May 11pm, Friday 8 May 11pm, Saturday 9 May 11.30pm
- Beef 2018 Sunday 6 May 11pm, Friday 11 May 11pm, Saturday 11 May 11.30pm
- One Hot Night (Busby Marou) 2017 Friday 29 December 11.30pm
- Black Dog Ball 2024 Saturday 7 October 12.00am
- Beef 2024 Sunday May 5 up to and including Saturday May 11 12.00am
- Blackball Australia Pool Association 2025 Australian National Championships 13 to 22 March 2025

- Saloon Car Club Speedway Events various dates 29 March 2025 -29 November 2025
- 2025 Australian 8 Ball Pool Championships 12 22 November 2025

There have been numerous relaxations for similar events including Beef prior to 2015

BUDGET IMPLICATIONS

Capricorn Events have approached Council for financial and in-kind support for the event.

LEGISLATIVE CONTEXT

There is no applicable legislation relevant to this matter

LEGAL IMPLICATIONS

The event operator and occupier of the Robert Schwarten Pavilion is liable for adherence to noise regulation standards.

STAFFING IMPLICATIONS

There will be no implications to Council permanent staffing levels if Council adopts the proposed recommendation.

RISK ASSESSMENT

While legal and reputational risks will reside with Capricorn Events there may be reputational risks to Council's perceived good governance if there are significant noise complaints within the community. Conversely there may be reputational risks with broader community and stakeholders if restrictions affect the perceived success of the event.

CORPORATE/OPERATIONAL PLAN

The facilitation of a successful 'Festival' at the Rockhampton Showgrounds supports the following –

Our community -

- 2.1.1 We ensure community assets are utilised and appropriate for the needs of the community.
- 2.1.1 We encourage diversity of community events and innovative use of our places and spaces.

Our Economy

3.2.1 we support projects that strengthen the region's economic development

CONCLUSION

That Council review the application for relaxation of curfew for identified dates for the Smoked Festival and considering the benefits of this event to the broader community balanced against the risks support the recommendation

REQUEST FOR EXTENSION TO SHOWGROUNDS EVENT CURFEW - SMOKED FESTIVAL

Smoked amplified noise curfew request

Meeting Date: 9 December 2025

Attachment No: 1



Date: 26th November 2025

Attention: Councillors Rockhampton Regional Council

We acknowledge the council's existing 10:00pm amplified noise curfew and understand the importance of protecting nearby residents from unreasonable disturbance. We also note that other major community events, such as the Beef Ball, have previously been granted approval to operate amplified sound until approximately 11.00pm, and we respectfully request our extension be until 10.30pm, liquor license application has been submitted to 10.30pm, patrons will disperse by 11.00pm.

To support this request, we have included the following Noise Mitigation Strategy and Patron Dispersal Plan.

1. Noise Management & Minimisation Measures

Stage & Speaker Orientation

- All stage and audio systems will be directionally focused away from residential areas, with speaker arrays angled downward to limit sound spill.
- Subwoofer placement will be planned to reduce low-frequency travel, which is often the main cause of residential disturbance.

Sound Level Monitoring

- A dedicated sound technician will monitor live decibel readings throughout the event to ensure volumes remain within agreed limits.
- A council-approved maximum dB reading can be implemented if required.

Program Scheduling

- The highest-energy and loudest acts will finish well before the requested extended period.
- After 10:00pm, amplified sound will shift to lower-impact audio, such as DJs at reduced levels or acoustic-style performances.



Barrier & Dampening Solutions

 Temporary soft barriers or sound baffles can be installed behind the stage area to reduce sound propagation toward sensitive locations.

2. Communication With Residents

- A letterbox drop will be delivered to surrounding residents at least 2 weeks prior, outlining:
 - o event dates and times
 - o expected noise levels
 - o contact number for event control for immediate concerns

3. Patron Dispersal & End-of-Night Management

Staged Shutdown

- Music volume will be progressively reduced leading up to the end time to encourage a calmer exit atmosphere.
- Food vendors will remain open past the music close to stagger departures.

Traffic & Transport Control

- Coordination with transport providers to ensure taxis, rideshare options are waiting on-site to minimise milling around. Patrons will exit gate 2.
- Clear directional lighting and signage guiding patrons to exits and transport points.

Security & Crowd Management

- Increased security presence positioned along exit routes to:
 - o encourage quiet departure
 - o prevent congregation
 - $\circ \quad \text{support safe movement toward transport} \\$
- Security will be briefed specifically on noise-sensitive behaviour during dispersal.



4. Overall Community Impact Mitigation

- Strict adherence to RSA and behaviour-management practices to reduce late-night noise outside the venue.
- Rubbish removal and cleanup conducted in a quiet, non-intrusive manner the following morning.
- Event Control will maintain communication with council officers throughout the event to address any issues immediately.

The Smoked Festival is expected to bring significant cultural and economic benefit to Rockhampton. With the implementation of the above management plans, we believe the event can operate safely, respectfully, and with minimal disruption, and we therefore request council consideration for an amplified-audio extension similar to other major community events.

REQUEST FOR EXTENSION TO SHOWGROUNDS EVENT CURFEW - SMOKED FESTIVAL

Smoked layout graphic

Meeting Date: 9 December 2025

Attachment No: 2



11.6 SPONSORSHIP OF THE 2026 SMOKED FESTIVAL

File No: 11715

Attachments: 1. Sponsorship Request

2. Application for Funding - Community Assistance Program - CONFIDENTIAL

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Damon Morrison - Acting General Manager

Communities and Lifestyle

SUMMARY

This report outlines a sponsorship opportunity for Council to sponsor the inaugural Smoked Festival at Rockhampton Showgrounds on 6 February and 7 February 2026.

OFFICER'S RECOMMENDATION

THAT Council declines the request to sponsor the 2026 Smoked Festival.

COMMENTARY

Representatives from Capricorn Events/ CQ Party Hire & Stage & Audio Event Solutions have approached Council requesting sponsorship support for the 2026 Smoked Festival. A copy of the latest request received is attached, alongside a separate confidential application for funding under Council's Community Assistance Program.

The latest request for support is outlined below:

- \$10,000 (plus GST) cash to assist in covering existing venue hire fees and other expenses such as waste bins cleaning, electricity etc.
- In-kind support for fees and charges incurred in additional venue hire of Showgrounds site for 2 weeks prior and 1.5 weeks post-event.

The request for access 2 weeks prior to the event cannot be accommodated due to preexisting bookings, including for a Speedway event the weekend prior to the proposed festival. The organisers have an existing booking of the venue from 4 February to 8 February inclusive. The earliest access would be able to be made available is from 2 February 2026.

Based on Council's adopted Fees and Charges, venue hire for a not-for-profit organisation for the areas of the Rockhampton Showgrounds required by the event organisers for the 1.5 weeks venue hire post-event are \$22,400.00.

The event organisers most recent request for Council's sponsorship support is attached, alongside an earlier confidential application request for funding under Council's Community Assistance Program.

Option One - Decline Sponsorship Request

This is the preferred option due to current budgetary constraints and operational realities.

The event organisers have confirmed that Council sponsorship and support is not a prerequisite for the event proceeding or otherwise for the event to be financially viabile, noting that their operational model is designed to be sustainable through multiple revenue streams and Council's support would reduce early-stage financial pressure and allow them to procure higher-quality resources.

The 2025/26 Event Attraction operational budget has limited funds remaining for sponsorship with a number of other event organisers already approaching Council for support associated with sporting and recreational activities. There is also conflict with existing venue hirers of the Rockhampton Showgrounds in the lead-up to the festival which will limit access to the site by the event organisers.

Option Two - Approve Sponsorship Request

This option allows Council to support the event based on the economic impact report submitted by the event organisers, which suggest a total economic output (direct + indirect) for the two-day event as \$2,302,000.00. However, should Council choose to support the festival it is recommended that support be limited to avoid operational conflicts and excessive budgetary overruns. Accordingly, this option recommends that Council:

- 1. approve sponsorship to the value of \$10,000 (plus GST) cash; and
- 2. provide in-kind support to the value of \$5,000 (excl. GST) towards venue hire of the venue.
- 3. authorise the Chief Executive Officer (Acting General Manager Communities and Lifestyle) to negotiate the full terms and benefits of the sponsorship.

If approved, sponsorship benefits in terms of promotion, branding and collateral recognising Council's contribution will be negotiated with the event organisers.

BACKGROUND

The Smoked festival is proposed as a two-day event to be held at the Rockhampton Showgrounds on 6 and 7 February 2026. Organised by Capricorn Events, the festival is described as a family-oriented, multi-dimensional BBQ event designed to celebrate the region's beef and cattle industry.

The event organisers have modelled the event on the "Meatstock" festival in Toowoomba, which attracts approximately 23,000 attendees. For this inaugural event in Rockhampton, organizers are projecting attendance of between 6,500 to 10,000 attendees.

The event aims to differentiate itself from past offerings by including educational demonstrations, diverse entertainment, including ABA sanctioned BBQ competition, Queensland Steak Championships, Competitive Eating Competition, Xtreme Bulls Australia, Fred Brophy's Boxing Troupe, Big Beer Festival, Wrestling Allegiance Rockhampton and Cowman Gaming Co (online gaming).

Council officers had previously declined an earlier request for sponsorship of this event due to the pre-existing launch and promotion of the event which was determined as limiting Council's recognition of sponsorship.

PREVIOUS DECISIONS

There are no previous decisions relating to this event.

BUDGET IMPLICATIONS

Taking into account committals, the 2025/26 operational budget for Event Attraction sponsorship has a balance of approximately \$15,500.00.

LEGISLATIVE CONTEXT

There is no legislation relevant to the options and recommendation presented for consideration.

LEGAL IMPLICATIONS

If option 2 is approved, an event sponsorship agreement will be prepared, with final terms negotiated prior to commitment, otherwise there are no other legal implications arising from the report.

STAFFING IMPLICATIONS

There will be no implications to Council permanent staffing levels if Council adopts either options outlined in this report.

RISK ASSESSMENT

Operational and Venue Conflict: As noted in the report, due to pre-existing venue hire commitments the earliest access will be available is 2 February 2026. This creates a risk that the event cannot be delivered to the proposed scale.

Safety and Compliance: The event features several high-risk activities which require strict safety management plans and risk assessments that have not yet been fully detailed to Council.

Asset Management: Due to the high-footfall nature of the event, there is a risk of damage to turf, particularly at the Cremorne Lawn which may require post-event rectification.

CORPORATE/OPERATIONAL PLAN

3.3.2.1 – Develop a diverse events calendar that supports livability and visitability within the Region.

CONCLUSION

While the event organisers have submitted an economic impact report outlining potential local procurement and tourism benefits, the event has been identified as commercially viable without Council sponsorship, and the request for extensive venue access is operationally impossible due to existing bookings. Given that the Event Attraction budget is nearly fully committed, it is recommended that Council decline the request on this occasion.

SPONSORSHIP OF THE 2026 SMOKED FESTIVAL

Sponsorship Request

Meeting Date: 9 December 2025

Attachment No: 1

 From:
 "Callan Buchholz" <callan@stage.net.au>

 Sent:
 Wed, 26 Nov 2025 09:46:22 +1000

To: "Evan Pardon" < Evan.Pardon@rrc.qld.gov.au>

Cc: "Mayor" <Mayor@rrc.qld.gov.au>

Subject: (ECM:41213844) Smoked - Feb 6 + 7 Operational Funding

Attachments: Smoked Map.jpg

Categories: ECM

[External Email] This email was sent from outside the organisation – be cautious, especially with links and attachments.



Good morning Evan,

Thank you for having a conversation around Smoked as well as the need for people like us to create and deliver events for our region outside of Advance's scope.

Just to further what support we are seeking for Smoked.

\$10k plus gst to assist in covering

- existing fees we have booked for use of showgrounds (wed 4th sun 8th)
- bins
- cleaning
- electricity
- additional admin fees etc

As well as in kind support for load in and out - (up to 2 weeks prior, 1.5 weeks after) Predicted internal charge value - \$15k-20k (working off councils chart of accounts)

As stated previously to a few councillors we are looking at around 50 plus trucks of gear required to deliver the event. With so many moving parts, for safety having flexibility around delivery and setup is crucial to get the job done.

Attached is a copy of the site map for reference of the predicted footprint.

Just so I am clear, I understand existing bookings exist on either side of the event. Ones I am aware of:-

- Artisan markets
- Advances' Aust Day
- Speedway

We are not wanting to impede on any of these bookings rather just utilise spaces that dont interfere with them and allow us to deliver and or setup.

I have a flurry of print media looking to go out in the next few weeks for our 8 week drive and really want to get it resolved as soon as possible.

Document Set ID: 41213844 Version: 1, Version Date: 26/11/2025 I am free to meet in person and or phone to feild any more questions or information.

I look forward to hearing from you.

Warm regards,

Callan Buchholz | Manager

CQ Party Hire & Stage & Audio Event Solutions ABN 21 088 424 720

P 07 4922 88 33 | M 0400 845 044 | E callan@stage.net.au
A 62 Bolsover Street Rockhampton Q 4700 | W stage.net.au
A 148-154 William Street Rockhampton Q 4700 | W capartyhire.com.au

Document Set ID: 41213844 Version: 1, Version Date: 26/11/2025



Document Set ID: 41213844 Version: 1, Version Date: 26/11/2025

11.7 ANNUAL GOODS AND SERVICES SPEND ANALYSIS

File No: 5883 Attachments: Nil

Authorising Officer: Marnie Taylor - General Manager Organisational

Services

Author: Megan Younger - Manager Corporate and Technology

Services

SUMMARY

Annual goods and services spend analysis for the period 1 November 2024 to 31 October 2025.

OFFICER'S RECOMMENDATION

THAT Council receives the annual goods and services spend analysis for the period 1 November 2024 to 31 October 2025.

COMMENTARY

Council's *Local Preference Policy* has been established to provide clear direction to buy local and support the local economy. The criteria within the Policy which supports the use of local businesses includes:

- 12% local preference weighting (reducing to 5% for projects greater than \$1M); and
- 10% Tenderer local content weighting for projects greater than \$200K in value. The full
 weighted score is awarded when the Tenderer nominates local suppliers and subcontractors for goods and services for use in the project to a minimum value of 50% of
 the tendered sum.

The spend analysis detailed in this report is based on Council's expenditure on goods and services for the twelve-month period from 1 November 2024 to 31 October 2025.

Goods and Services Spend Analysis

During the reporting period, Council spent **\$180M** on goods and services. Of that amount, **\$107.2M** has been spent within the RRC boundaries. That is, **60%** of Council's goods and services were acquired from local businesses.

Council's local spend on goods and services in this reporting period continued to be impacted by the number of significant capital water and wastewater infrastructure projects including:

- Upgrade of the North Rockhampton Sewage Treatment Plant; and
- Mount Morgan Water Supply Project.

The above-mentioned capital projects include the use of local suppliers and subsequent local expenditure, however due to the nature of the work a large portion of the work includes the purchase of specialist equipment as well as work carried out by the head contractor's personnel. If the above Contracts were excluded from this reporting period, the local expenditure results would increase to **73%**.

Plant Hire, Trade Services and Roadmaking Materials

Further analysis of Council's goods and services expenditure in the areas of Hire of Plant and Equipment, Trade Services and Roadmaking Materials shows that we have spent a total of \$23.8M, with **\$23M** (97%) spent on local businesses and locally supplied materials. These businesses represent the majority of our contracted small business operators.

Comparison with Previous Periods

Analysis Period	Total Goods / Services*	Total Local Spend	% Local	CQ Spend	Plant Hire, etc. Total	Plant Hire, etc. Local	Plant Hire, etc. CQ
Nov 15 – Oct 16	\$77.3M	\$59.6M	77%	\$2M	\$24.6M	\$23.7M (96%)	\$900K
Nov 16 – Oct 17	\$94.6M	\$71.8M	76%	\$2.9M	\$24.3M	\$23.3 (96%)	\$901K
Nov 17 – Oct 18	\$101M	\$74.7M	74%	\$1.4M	\$22.5M	\$21.6M (96%)	\$856K
Nov 18 – Oct 19	\$124M	\$96.4M	78%	\$5.9M	\$29.6M	\$27.1M (92%)	\$2.5M
Nov 19 – Oct 20	\$141.4M	\$113.3M	80%	\$4.5M	\$22.5M	\$21.8M (97%)	\$783K
Nov 20 – Oct 21	\$145.4M	\$116.4M	80%	\$2.3M	\$19.7M	\$18.4M (94%)	\$1.3M
Nov 21 – Oct 22	\$165.5M	\$122.8M	74%	\$3M	\$19M	\$18.2M (96%)	\$700K
Nov 22 – Oct 23	\$179.8M	\$104.8M	58%	\$3.2M	\$21.4M	\$20.9M (97%)	\$487K
Nov 23 – Oct 24	\$185.3M	\$110.2M	60%	\$5.7M	\$23M	\$21.4M (93%)	\$1.4M
Nov 24 – Oct 25	\$180M	\$107.2M	60%	\$3.7M	\$23.8M	\$23M (97%)	\$650K

^{*}Some data is excluded from this total, including but not limited to utilities, inurances and government charges etc.

Breakdown and Analysis of Total Spend

Summary breakdown of the total good and services spend:

Local: \$107,241,049
CQ: \$3,671,884
Rest of QLD: \$17,603,241
Interstate: \$51,559,707
Total Spend: \$180,075,881

Some of the other goods/services within the Rest of QLD and Interstate spend includes:

- Consultancy services to support the water and wastewater infrastructure upgrades;
- Bulk supply of water treatment chemicals;
- Control systems for water and wastewater infrastructure;
- Slurry seal works; and
- Event goods and services.

PREVIOUS DECISIONS

Nil applicable

BUDGET IMPLICATIONS

Nil applicable

LEGISLATIVE CONTEXT

Nil applicable

LEGAL IMPLICATIONS

Nil applicable

STAFFING IMPLICATIONS

Nil applicable

RISK ASSESSMENT

Nil applicable

CORPORATE/OPERATIONAL PLAN

Corporate Plan Goal 3.4 – We support our Region's economy through our projects and activities.

CONCLUSION

That Council receives the annual goods and services spend analysis for the period 1 November 2024 to 31 October 2025.

11.8 PLANNING ACT 2016 TEMPORARY DELEGATION OVER CHRISTMAS/NEW YEAR PERIOD

File No: 12660 Attachments: Nil

Authorising Officer: Shannon Jennings - Acting General Manager Workforce

and Governance

Evan Pardon - Chief Executive Officer

Author: Kerrie Barrett - Acting Coordinator Legal and

Governance

SUMMARY

The purpose of this report is to obtain a temporary delegation for the Chief Executive Officer to facilitate the statutory requirements of the Planning Act 2016 to accommodate the Council meeting recess over the December 2025 to January 2026 period.

OFFICER'S RECOMMENDATION

THAT Council resolves as per Section 257 of the *Local Government Act 2009* to delegate its powers as 'Assessment Manager' under the *Planning Act 2016* to the Chief Executive Officer for the period 10 December 2025 until 19 January 2026, both dates inclusive, subject to the following limitation:

- (a) The exercise of this delegation will only occur following consultation with, and written concurrence from, two elected members drawn from the below group:
 - Mayor or Acting Mayor;
 - ii. Deputy Mayor; or
 - iii. The Planning and Regulation Portfolio Councillor.

BACKGROUND

Council's role under the *Planning Act 2016* is both specific and time constrained as evidenced by the following sections of the *Planning Act 2016* and the *Development Assessment Rules*:

1. Planning Act 2016 s48(1) - Who is the assessment manager:

The assessment manager for a development application is the person prescribed by regulation as the assessment manager for the application and is responsible for the following:

- (a) administering and deciding a properly made development application; and
- (b) assessing all or part of a properly made development application.
- 2. Development Assessment Rules 22.1 The assessment manager must:

Assess and decide the application within 35 days (decision period) in accordance with section 60 and 61 of the *Planning Act 2016* or a further period agreed between the assessment manager and the applicant, from the end of the last relevant part in section 21.

Consequently, to ensure legislative compliance during this period, Council must consider the delegation of its powers as Assessment Manager.

This delegation can be achieved under sections 257(1), (3) and (4) of *Local Government Act* 2009 (the Act) which read as follows:

Delegation of local government powers

- (1) A local government may, by resolution, delegate a power under this Act or another Act to:
 - (a) the Mayor; or
 - (b) the Chief Executive Officer; or
 - (c) a standing committee, or joint standing committee, of the local government; or
 - (d) the chairperson of a standing committee, or joint standing committee, of the local government; or
 - (e) another local government, for the purposes of a joint government activity.
- (3) Also, a local government must not delegate a power that an Act states must be exercised by resolution.
- (4) A joint standing committee, of the local government, is a committee consisting of councillors of the local government and Councillors of 1 or more other local governments.

Delegations available to Council exist under section 257(1)(a) and (b) of the Act only as the provisions within section 257(1)(c), (d) and (e) of the Act do not apply.

In formulating a response to this need, consideration has been given to the following items:

- elected member availability;
- transparency of decision making;
- accountability of decision making;
- efficiency of decision making; and
- the following table developed to illustrate the interaction of various personnel groupings:

Delegation Interaction Table				
Delegation Group	Consultation Group (require 2 to be selected from this group)			
Chief Executive Officer	Mayor or Acting Mayor Initially the Deputy Mayor or another Councillor appointed for periods of absence of both the Mayor and Deputy Mayor.			
Acting Chief Executive Officer, as appointed for periods of absence	Deputy Mayor			
	Planning and Regulation Portfolio Councillor			

The recommendation as proposed is considered to provide the greatest flexibility to Council in meeting its statutory requirements over this period whilst maintaining the integrity, transparency and accountability of the administration of planning process.

LEGISLATIVE CONTEXT

The *Planning Act 2016* identifies Council as the Assessment Manager for certain types of development. This Act, including through the Development Assessment Rules prescribes the process and timeframes by which Council must discharge its obligations as an Assessment Manager.

Local Government Act 2009 provides the mechanism by which the Council may delegate its powers as Assessment Manager pursuant to the *Planning Act 2016*.

RISK ASSESSMENT

Failure to meet the statutory requirements of the *Planning Act 2016* is considered to be high in the absence of mitigating action. The action as proposed alleviates the risk.

CONCLUSION

Consequently, there is a period of approximately six weeks where some development applications may not be able to be processed in accordance with the requirements of the *Planning Act 2016.*

It is considered appropriate to provide a temporary delegation to the Chief Executive Officer, subject to the limitations identified in the recommendation, to facilitate the statutory requirements of the *Planning Act 2016*.

11.9 TRUSTEE LEASE RENEWAL - WIN TELEVISION QLD PTY LTD, 67B FORBES AVENUE

File No: 6507

Attachments: 1. Aerial Map

Authorising Officer: Megan Younger - Manager Corporate and Technology

Services

Marnie Taylor - General Manager Organisational

Services

Author: Kellie Roberts - Coordinator Property and Insurance

SUMMARY

Coordinator Property & Insurance reporting on request to renew the trustee lease to WIN TELEVISION QLD PTY LTD at 67B Forbes Avenue, Frenchville.

OFFICER'S RECOMMENDATION

THAT:

- Pursuant to Section 236(1)(c)(iii) of the Local Government Regulation 2012 (Qld), Council approve the renewal of the trustee lease to WIN TELEVISION QLD PTY LTD A.C.N 009 697 198 for the premises located at part of 67B Forbes Avenue, Frenchville (Lease 'B' in Lot 294 on CP897750 on SP190907) for a total term of 10 years, with rent commencing at \$17,000 + GST per annum (increased annually by CPI).
- Council authorises the Chief Executive Officer (Coordinator Property & Insurance) to negotiate the terms and conditions of the lease renewal as outlined in the report, in preparation for execution by the delegated Officer.

COMMENTARY

WIN TELEVISION QLD PTY LTD ("WIN TV") currently leases 32m2 of operational trust land at the Forbes Avenue Reservoir site at 67B Forbes Avenue from Council for the purpose of a television and telecommunications transmission facility. Council is trustee of the trust land which is dedicated for operational purposes of Local Government and Reservoir. There are two other existing telecommunication leases on this property to Telstra and Optus.

The current ten-year lease expires on 30 November 2025 and WIN TV has requested to renew the lease for a total period of ten years (5 years + 5 year option to renew). The attached map shows the location of the current leased site.

The current rent is \$10,427.65 per annum + GST, increased by CPI. Council and WIN TV have shared the cost of obtaining a market rent valuation report, which has determined the current market rent to be \$17,000 + GST per annum.

The trustee lease is proposed to be renewed substantially on the same conditions.

PREVIOUS DECISIONS

Council has previously resolved to renew this trustee lease in 2015 for a period of 10 years.

BUDGET IMPLICATIONS

FRW receives the revenue for this lease, as it's located on a reservoir site.

LEGISLATIVE CONTEXT

Section 236 of the *Local Government Regulation 2012* (Qld) details a series of exceptions when disposing of an interest (lease) in a valuable non-current asset (land).

Section 236(1)(c)(iii), (2), (3) and (5) describes the process for renewing a lease to an existing tenant of the land.

236 Exceptions for valuable non-current asset contracts

- (1) Subject to subsections (2) to (4), a local government may dispose of a valuable non-current asset other than by tender or auction if—
 - (c) for the disposal of land or an interest in land—
 - (iii) the disposal is for the purpose of renewing the lease of land to the existing tenant of the land
- (2) An exception mentioned in subsection (1)(a) to (e) applies to a local government disposing of a valuable non-current asset only if, before the disposal, the local government has decided, by resolution, that the exception may apply to the local government on the disposal of a valuable non-current asset other than by tender or auction.
- (3) A local government may only dispose of land or an interest in land under this section if the consideration for the disposal would be equal to, or more than, the market value of the land or the interest in land, including the market value of any improvements on the land.
- (5) For subsection (3), a written report about the market value of land or an interest in land from a valuer registered under the Valuers Registration Act 1992 who is not an employee of the local government is evidence of the market value of the land or the interest in land.

LEGAL IMPLICATIONS

Nil

STAFFING IMPLICATIONS

Resources within Property and Insurance can adequately manage the lease renewal process.

RISK ASSESSMENT

A risk assessment is not necessary in relation to this matter.

CORPORATE/OPERATIONAL PLAN

1.1.3 We have effective governance with accountable decision-making practices.

CONCLUSION

It is recommended that Council renew the trustee lease to WIN TV for a total period of 10 years, with rent commencing at \$17,000 + GST per annum, increased annually by CPI.

TRUSTEE LEASE RENEWAL – WIN TELEVISION QLD PTY LTD, 67B FORBES AVENUE

Aerial Map

Meeting Date: 9 December 2025

Attachment No: 1



11.10 LGAQ SPECIAL GENERAL MEETING 17 DECEMBER 2025

File No: 11092

Attachments: 1. Notice of Special Meeting !

2. Notice of Special Meeting & Explanatory

Notes.

3. Voting Paper !

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Evan Pardon - Chief Executive Officer

SUMMARY

The Local Government Association of Queensland (LGAQ) has called a Special General Meeting on 17 December 2025, to be conducted via postal ballot. The purpose is to seek member councils' positions on proposed legislative changes requiring councillors to resign if they nominate for election to the Queensland Parliament. This report outlines the background, implications, and recommended council response.

OFFICER'S RECOMMENDATION

THAT the LGAQ maintains its members' current policy position, held since 2012, that councillors should not automatically stop being a councillor, in the event that they nominate (and campaign) for election to the Queensland Parliament.

COMMENTARY

Local Government Association of Queensland Inc (LGAQ) have advised a Special General Meeting has been called for 17 December 2025 and it will be convened by postal vote (refer attached correspondence).

BACKGROUND

On 20 November 2025, the Local Government (Empowering Councils) and Other Legislation Amendment Bill 2025 was introduced to the Queensland Legislative Assembly. The Bill proposes that any Mayor or Councillor must automatically vacate their office if they nominate for State Parliament, either at a general election or by-election. This requirement does not apply to Federal elections.

The Bill can be accessed here and its Explanatory Notes can be accessed here.

Since 2012, LGAQ's policy has been that councillors should not be required to resign to run for State Parliament. The LGAQ Board is now seeking updated member views to inform its submission to the parliamentary committee process..

The proposed reform would automatically end a person's role as Mayor or Councillor in order to run for State Parliament at either a general election or State by-election. There is presently no such requirement in relation to Federal elections.

LGAQ advised that member views will be an important part of the consultation that the LGAQ will undertake with Councils to help inform their submission to the Bill and their participation in the parliamentary committee process.

The LGAQ Board has directed that a Special General Meeting will be held on 17 December 2025 via postal ballot:

- A vote "For" will signal that Queensland member Councils wish to <u>retain</u> their existing policy position and do not support having to resign to run for State Parliament;
- A vote "Against" will signal that Queensland member Councils have <u>changed their view</u> and believe the Mayors and Councillors should now have to resign in order to run for State Parliament.

PREVIOUS DECISIONS

No previous resolutions can be located on this matter.

BUDGET IMPLICATIONS

None identified.

LEGISLATIVE CONTEXT

- The legislative amendment was introduced on 20 November 2025.
- LGAQ is consulting members to inform its submission to the Bill and participation in the parliamentary committee process.
- The outcome will guide LGAQ's advocacy on this issue.

LEGAL IMPLICATIONS

The Bill, if passed, will require compliance. No immediate legal risks identified.

STAFFING IMPLICATIONS

None identified.

RISK ASSESSMENT

No significant risks identified.

CORPORATE/OPERATIONAL PLAN

Consistent with Council's commitment to fair representation and leadership development.

CONCLUSION

LGAQ are seeking member views on whether members still support the LGAQ's policy position, which reflects the view of members since 2012, that councillors should not be required to vacate their office as a councillor, in the event that they nominate (and campaign) for election to the Queensland Parliament.

It is recommended that Council vote "For" the proposed motion that LGAQ maintains its current policy position.

The Voting Paper must be received by LGAQ by 5pm on 17 December 2025.

LGAQ SPECIAL GENERAL MEETING 17 DECEMBER 2025

Notice of Special Meeting

Meeting Date: 9 December 2025

Attachment No: 1



25 November 2025

Mr Evan Pardon Chief Executive Officer Rockhampton Regional Council Evan.Pardon@rrc.qld.gov.au

Dear Evan,

RE: Notice of LGAQ 17 December special general meeting and postal voting

Earlier today I emailed you with advance notice of the LGAQ Board's direction to me to call a special general meeting convened by postal voting.

I am now writing to provide formal notification.

For your council I have enclosed in this email:

- A notice of 2025 special general meeting and explanatory notes
- A voting paper

The special general meeting, convened by postal vote, seeks to understand member council views about a reform that was introduced to State Parliament last week and which is contrary to the long held policy position of Queensland member councils since 2012.

The proposed reform would automatically end a person's role as Mayor or Councillor in order to run for State Parliament at either a general election or State by-election. There is presently no such requirement in relation to Federal elections.

(You can read about the Local Government (Empowering Councils) and Other Legislation Amendment Bill 2025 <u>here</u> and its Explanatory Notes can be accessed <u>here</u>).

Today the LGAQ Board has directed me to convene a special general meeting to gather members' views on this reform via postal voting.

- A vote "For" will signal that Queensland member councils wish to <u>retain</u> their existing policy
 position and do not support having to resign to run for State Parliament
- A vote "Against" will signal that Queensland member councils have <u>changed their view</u> and believe that Mayors and Councillors should now have to resign in order to run for State Parliament.

Enclosed is the notice of general meeting and explanatory notes, along with your council's voting paper – with a **5pm 17 December deadline**. Please note that papers can be emailed to the LGAQ returning officer prior to the 17th, but they will not be counted until after 5pm on 17 December.

The LGAQ is member-led and evidenced-based, and the LGAQ Board has requested this process for two reasons:

- To obtain member views to help inform the LGAQ's submission on the Bill and its participation in the parliamentary committee process
- To understand the majority views of Queensland councils about this reform, and whether that is to retain the existing policy position or to effect a different policy position.

P 07 3000 2222F 07 3252 4473W www.lgaq.asn.au

Local Government House 25 Evelyn Street Newstead Qld 4006 PO Box 2230 Fortitude Valley BC Qld 4006 Local Government Association Of Queensland Ltd. ABN 11 010 883 293 ACN 142 783 917



Please contact myself or LGAQ CFO/Company Secretary Darren Leckenby at Darren leckenby@lgaq.asn.au.

Yours sincerely,

Alison Smith CHIEF EXECUTIVE OFFICER

LGAQ SPECIAL GENERAL MEETING 17 DECEMBER 2025

Notice of Special Meeting & Explanatory Notes

Meeting Date: 9 December 2025

Attachment No: 2



Notice of Special General Meeting - Postal Vote

Proposed business: To ascertain whether the members support the State Government's proposed amendment to section 155 of the Local Government Act 2009

To be conducted by postal voting in accordance with rule 4.14 of the Constitution

In accordance with rule 4.1 of the LGAQ's Constitution, and following the decision of the LGAQ Board on 25 November, 2025, all members are notified of the holding of a Special General Meeting of LGAQ Ltd, to be convened at 5pm on 17 December, 2025 at LGAQ House, Evelyn Street Newstead.

In accordance with rule 4.14 of the LGAQ's Constitution, the chief executive officer has determined that this special general meeting be convened by postal voting, with the voting paper to be given to the chief executive officer by email.

As a consequence, the voting paper (as attached) <u>must be received by the chief executive officer, at returning officer@lgaq.asn.au by not later than 5.00 pm on 17 December 2025.</u>

The business of the Special General Meeting is to consider and vote on one motion, as follows:

Purpose of Motion: To seek the members' view on whether they still support the LGAQ's policy position, which reflects the view of members since 2012, that councillors should not be required to vacate their office as a councillor, in the event that they nominate (and campaign) for election to the Queensland Parliament.

Motion:

That the LGAQ maintains its members' current policy position, held since 2012, that councillors should not automatically stop being a councillor, in the event that they nominate (and campaign) for election to the Queensland Parliament.

P 07 3000 2222F 07 3252 4473W www.lgaq.asn.au

Local Government House 25 Evelyn Street Newstead Qld 4006 PO Box 2230 Fortitude Valley BC Qld 4006 Local Government Association Of Queensland Ltd. ABN 11 010 883 293 ACN 142 783 917



VOTING PAPERS MUST BE SIGNED BY THE MEMBER'S MAYOR OR CEO VOTING PAPERS MUST BE RETURNED BY 5:00PM ON 17 DECEMBER 2025 VOTING PAPERS MUST BE GIVEN BY EMAIL TO THE CHIEF EXECUTIVE OFFICER AT returning_officer@lgaq.asn.au

ANY VOTING PAPER RECEIVED AFTER 5:00PM ON 17 DECEMBER 2025 WILL BE INVALID AND OF NO EFFECT



EXPLANATORY NOTES TO MOTION

At present, the effect of section 155(3) of the Local Government Act 2009 is that councillors: -

- Can nominate for election as a State or Federal member of Parliament (and campaign for that election), without having to vacate their office as councillor; and
- Only after being successfully elected to either State or Federal Parliament, automatically stop being a local government councillor.

On 18 November 2025, the State Government introduced the Local Government (Empowering Councils) and Other Legislation Amendment Bill 2025 ("the LGOLA 2025 Bill") into Queensland Parliament

Clause 62 of the LGOLA 2025 Bill proposes to amend section 155 of the *Local Government Act 2009* such that, if the amendment is made, section 155 will read as follows: -

- (1) A person can not be a councillor while the person is a government member or electoral candidate.
- (2) A government member is-
 - (a) a member of a Parliament of the Commonwealth or a State (including Queensland); or
 - (b) a councillor of a local government of another State.
- (3) A person is an *electoral candidate* if, under the Electoral Act, section 93(3), the person becomes a candidate for an election of a member of the Legislative Assembly.
- (4) A person automatically stops being a councillor when the person becomes a government member or electoral candidate.

The effect of this amendment, if passed by Parliament, will be to automatically end a person's role as a Mayor or councillor at the time that their nomination for election to Queensland Parliament is accepted by the ECQ. That is, regardless of the success (or otherwise) of the person's attempt to be elected to Queensland Parliament, their role as councillor ends at the time that they nominate for the State election

The LGAQ's current policy position on this issue is that councillors should not be required to vacate their office as a councillor, in the event that they nominate (and campaign) for election to the Queensland Parliament.

The purpose of this motion is to ascertain whether the members still support the LGAQ's current policy position on this issue.

A member's vote for the motion means that the member supports the LGAQ'S current policy position on the issue (and does not support the State Government's proposed amendment).

A member's vote against the motion means that the member support the State government's proposed amendment (and no longer supports the LGAQ's current policy position on the issue).

LGAQ SPECIAL GENERAL MEETING 17 DECEMBER 2025

Voting Paper

Meeting Date: 9 December 2025

Attachment No: 3

VOTING PAPER

MEMBER: Rockhampton Regional Council

VOTING ENTITLEMENT: 4

PLEASE INDICATE YOUR VOTING INTENTION BY PLACING A MARK IN THE BOX ADJACENT TO THE WORD "FOR" IF YOU ARE FOR THE MOTION OR ADJACENT TO THE WORD "AGAINST" IF YOU ARE AGAINST THE MOTION

Motion:

That the LGAQ maintains its members' current policy position, held since 2012, that councillors should not automatically stop being a councillor, in the event that they nominate (and campaign) for election to the Queensland Parliament

MOTI	ON
FOR	
AGAINST	

SIGNATURE

(TO BE SIGNED BY THE MAYOR OR CEO)

VOTING PAPERS MUST BE RETURNED BY 5:00PM ON 17 DECEMBER, 2025.

VOTING PAPERS MUST BE GIVEN BY EMAIL TO THE CHIEF EXECUTIVE OFFICER AT returning officer@lgaq.asn.au

returning officer@lgaq.asn.au
ANY VOTING PAPER RECEIVED AFTER 5:00PM ON 17 DECEMBER, 2025 WILL BE INVALID AND
OF NO EFFECT



11.11 PROPOSED FEES AND CHARGES FOR AIRPORT 2025-2026

File No: 7816

Attachments: 1. Summary of proposed changes December

2025^U

Authorising Officer: Marnie Taylor - General Manager Organisational

Services

Author: Tisin Simon - Manager Finance

SUMMARY

The intention of this report is to submit minor amendments to Council's Fees and Charges Schedule for the 2025-2026 financial year.

OFFICER'S RECOMMENDATION

THAT in accordance with the requirements of the *Local Government Act 2009*, Council adopts the amendments to the Fees and Charges schedule for the 2025-2026 financial year.

COMMENTARY

The proposed amendments to the 2025-2026 fees and charges are provided in the attached schedule.

PREVIOUS DECISIONS

The 2025-2026 Fees and Charges schedule was adopted by Council on 27 May 2025.

BUDGET IMPLICATIONS

The proposed amendment is expected to have a positive financial impact by reducing fare avoidance and associated infrastructure repair costs. The increase in penalty fees may also generate additional revenue in cases of non-compliance.

LEGISLATIVE CONTEXT

The fees and charges in the schedules can be amended at any time throughout the year in accordance with legislation.

CONCLUSION

These minor amendments are recommended for inclusion in the 2025-2026 Fees and Charges Schedule. Upon approval by Council, these amendments to the 2025-2026 Fees and Charges Schedule are to be uploaded and presented on the Council website.

PROPOSED FEES AND CHARGES FOR AIRPORT 2025-2026

Summary of proposed changes December 2025

Meeting Date: 9 December 2025

Attachment No: 1

BACKGROUND

The key change relates to the penalty fee for taxi fare avoidance at Rockhampton Airport.

Currently, the penalty is set at \$12.00, which has proven ineffective in deterring non-compliance. Rockhampton Airport has experienced ongoing issues with taxi operators avoiding payment of access fees, resulting in lost revenue and physical damage to infrastructure. These actions have led to increased maintenance costs and operational disruptions.

To address this issue, Council engaged in consultation with representatives from taxi companies servicing the Airport. During these discussions, the companies acknowledged the problem and recommended a substantial increase in the penalty fee to \$100.00. While this represents a significant increase from the current fee, the recommendation is supported by industry stakeholders and is expected to act as an effective deterrent.

This recommendation is based on the following considerations:

- Deterrence: Taxi operators advised that a higher penalty would significantly reduce fare avoidance.
- Infrastructure Impact: Fare avoidance has caused damage to Council infrastructure, leading to additional repair and maintenance costs.
- Industry Consultation: The proposed amount was suggested by the taxi companies themselves as a reasonable and necessary deterrent.

Current Fee

Fee Number	Item name	GST Authority	2025/2026 Proposed Fee (incl GST) Descriptive if Required	2025/2026 Proposed Fee (incl GST) \$	Charge basis per unit (Optional)	Legislative Authority	Cost Recovery
AIR	Car Parking Fees						
AIR	Ground Transport Access Charge						
AIR98	Fare avoidance fee	Y		\$ 12.00	Each	Local Government Act 2009	Commercial

Propose fee

Fee Numbe	. Item name	GST Authority	2025/2026 Proposed Fee (incl GST) Descriptive if Required	2025/2026 Proposed Fee (incl GST) \$	Charge basis per unit (Optional)	Legislative Authority	Cost Recovery
AIR	Car Parking Fees						
AIR	Ground Transport Access Charge						
AIR98	Fare avoidance fee	Y		\$ 100.00	Each	Local Government Act 2009	Commercial

12 NOTICES OF MOTION

Nil

13 QUESTIONS ON NOTICE

Nil

14 URGENT BUSINESS/QUESTIONS

Urgent Business is a provision in the Agenda for members to raise questions or matters of a genuinely urgent or emergent nature, that are not a change to Council Policy and can not be delayed until the next scheduled Council or Committee Meeting

15 CLOSED SESSION

RECOMMENDATION

THAT Council move into Closed Session pursuant to section 254J(1) of the *Local Government Regulation 2012* and the meeting be closed to the public to discuss the following items, which are considered confidential in accordance with section 254J(3) of the *Local Government Regulation 2012*, for the reasons indicated.

16.1 Commercial Opportunity

In accordance with section 254J(3)(g) of the *Local Government Regulation 2012* it is considered necessary to close the meeting to discuss negotiations relating to a commercial matter involving the local government for which a public discussion would be likely to prejudice the interests of the local government.

16.2 Leasing Matter

In accordance with section 254J(3)(g) of the *Local Government Regulation 2012* it is considered necessary to close the meeting to discuss negotiations relating to a commercial matter involving the local government for which a public discussion would be likely to prejudice the interests of the local government.

16.3 Property Matter

In accordance with section 254J(3)(g) of the *Local Government Regulation 2012* it is considered necessary to close the meeting to discuss negotiations relating to a commercial matter involving the local government for which a public discussion would be likely to prejudice the interests of the local government.

16.4 Unused Portion of Council's Water Allocation - Fitzroy Barrage Water Supply Scheme

In accordance with section 254J(3)(g) of the *Local Government Regulation 2012* it is considered necessary to close the meeting to discuss negotiations relating to a commercial matter involving the local government for which a public discussion would be likely to prejudice the interests of the local government.

16 CONFIDENTIAL REPORTS

16.1 COMMERCIAL OPPORTUNITY

File No: 11092

Attachments: 1. Site map - Church Park

2. Site map - Larnach Street

Authorising Officer: Damon Morrison - Acting General Manager

Communities and Lifestyle

Author: Justin Kann - Manager Office of the Mayor

In accordance with section 254J(3)(g) of the *Local Government Regulation 2012* it is considered necessary to close the meeting to discuss negotiations relating to a commercial matter involving the local government for which a public discussion would be likely to prejudice the interests of the local government.

SUMMARY

A report to consider a commercial opportunity within the Rockhampton Region.

16.2 LEASING MATTER

File No: 12407 Attachments: Nil

Authorising Officer: Megan Younger - Manager Corporate and Technology

Services

Marnie Taylor - General Manager Organisational

Services

Author: Kellie Roberts - Coordinator Property and Insurance

In accordance with section 254J(3)(g) of the *Local Government Regulation 2012* it is considered necessary to close the meeting to discuss negotiations relating to a commercial matter involving the local government for which a public discussion would be likely to prejudice the interests of the local government.

SUMMARY

Coordinator Property & Insurance reporting on a leasing matter.

16.3 PROPERTY MATTER

File No: 15956, 16297

Attachments: 1. Confidential Report - 24 June 2025

Authorising Officer: Megan Younger - Manager Corporate and Technology

Services

Marnie Taylor - General Manager Organisational

Services

Author: Kellie Roberts - Coordinator Property and Insurance

In accordance with section 254J(3)(g) of the *Local Government Regulation 2012* it is considered necessary to close the meeting to discuss negotiations relating to a commercial matter involving the local government for which a public discussion would be likely to prejudice the interests of the local government.

SUMMARY

Coordinator Property & Insurance reporting on a property matter.

16.4 UNUSED PORTION OF COUNCIL'S WATER ALLOCATION - FITZROY BARRAGE WATER SUPPLY SCHEME

File No: 1267 Attachments: Nil

Authorising Officer: Evan Pardon - Chief Executive Officer

Author: Marnie Taylor - General Manager Organisational

Services

In accordance with section 254J(3)(g) of the *Local Government Regulation 2012* it is considered necessary to close the meeting to discuss negotiations relating to a commercial matter involving the local government for which a public discussion would be likely to prejudice the interests of the local government.

SUMMARY

Report seeking Council's endorsement to engage in a tender process to release an unused portion of Council's water allocation up to a maximum annual allocation of 6,100ML by way of a water supply agreement(s).

17 CLOSURE OF MEETING