Theodore Wind Farm

Planning Report

PREPARED FOR

Theodore Energy Development Pty Ltd

DATE
26 September 2024

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0661706

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SIGNATURE PAGE

Theodore Wind Farm

Planning Report

0661706

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS AND ABBREVIATIONS

Acronyms	Description
AIA	Aviation Impact Assessment
APZ	Asset Protection Zone
ASA	Aviation Services Australia
BESS	Battery Energy Storage System
CEMP	Construction Environment Management Plan
CHMP	Cultural Heritage Management Plan
Council	Banana Shire Council
DAAT	Development Assessment Advisory Team

Acronyms	Description
DAF	Department of Agriculture and Fisheries
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DoD	Department of Defence
DoR	Department of Resources
DHLGPPW	Department of Housing, Local Government, Planning and Public Works
DTMR	Department of Transport and Main Roads
EA	Environmental Authority
EMI	Electromagnetic interference
EP Act	*Environmental Protection Act 1994*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPC	Engineer Procurement and Construction
EPP	Environmental Protection Policy
ERM	Environmental Resources Management Australia Pty Ltd
ESCP	Erosion and Sediment Control Plan
ft	Feet
FTE	Full time equivalent
Ha	Hectares
LSALT	Lowest safe altitude
LVIA	Landscape and Visual Impact Assessment
ML	Megalitres
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
MSA	Minimum safe altitude
NC Act	*Nature Conservation Act 1992*
nm	Nautical miles
OEM	Original Equipment Manufacturer
OLS	Obstacle Limitation Surfaces
OMF	Operations and maintenance facility
PANS-OPS	Procedures for Air Navigation Services Aircraft Operations
Planning Act	*Planning Act 2016*
Planning Regulation	Planning Regulation 2017
Planning Scheme	Banana Shire Planning Scheme 2021
Proposed Development	Theodore Wind Farm
RWE	RWE Renewables Australia Pty Ltd

Acronyms	Description
SARA	State Assessment and Referral Agency
SDAP	State Development Assessment Provisions
SMP	Species Management Plan
State Code 16	State Code 16: Native vegetation clearing
State Code 23	State Code 23: Wind farm development
VM Act	*Vegetation Management Act 1999*
WTG	Wind turbine generator

EXECUTIVE SUMMARY

Theodore Energy Development Pty Ltd (TED) proposes to develop, construct and operate the Theodore Wind Farm (Proposed Development) on land located approximately 22 km east of Theodore in the Banana Shire Council Local Government Area. The Project Area includes nine (9) lots, and is approximately 46,830 hectares (ha) in size, with the land tenure for the lots being freehold and leasehold (currently being converted to freehold). The Proposed Development consists of the construction and operation of up to 170 wind turbine generators (WTG), and associated infrastructure including, but not limited to, wind turbine foundations and hardstand areas, on-site accommodation, access tracks, overhead and underground electrical cabling, substations and Battery Energy Storage Systems (BESS), permanent meteorological masts, construction compounds and laydown areas, concrete batching plants and a central operation and maintenance facility.

As per the *Planning Act 2016* (Planning Act), the Proposed Development is considered an assessable development and requires a Development Permit for a Material Change of Use (Wind Farm) and Operational Works (Native Vegetation Clearing). The Development Application includes this Planning Report, and technical assessments provided in the appendices, which has been prepared in response to the requirements of the State Development Assessment Provisions (SDAP), specifically, State Code 16: Native Vegetation Clearing (State Code 16) and State Code 23: Wind Farm Development (State Code 23), while also having consideration for the requirements of the Banana Shire Council Planning Scheme 2021. This Planning Report seeks to describe the Project Area and its land uses, the legislative framework for approval, and the various components of the Proposed Development. This report also provides a synopsis of technical impact assessments undertaken, and how they demonstrate compliance to the relevant Performance Outcomes (POs) of State Code 16 and State Code 23 (where applicable).

The design of the Proposed Development has been carried out with consideration of State Code 23 and has been refined on a number of occasions through an iterative process including environmental, wind resource, constructability, landowner and network considerations. The design refinement process focused on the avoidance and minimisation of environmental impacts through the various stages of layout planning. The layout of the Proposed Development was determined from the constraints identified via the preliminary impact assessment.

The Proposed Development footprint is anticipated to have a maximum area of 1,932.2 ha, which is approximately 4.1 % of the Project Area, and includes the clearing of 818.12 ha of Regulated Vegetation associated with clearing for relevant infrastructure purposes.

The Theodore Wind Farm will result in the generation of clean energy, assisting Queensland to meet its 70% renewable energy target by 2032 as part of the Queensland Energy and Jobs Plan, provide a revenue for involved landholders for up to 35+ years, and provide approximately 300-500 construction jobs during the peak phase and approximately 10-50 ongoing full time equivalent (FTE) jobs.

The Proposed Development is considered to meet the requirements of State Code 16 and State Code 23, and it is recommended that the Development Application be approved subject to reasonable and relevant conditions.

1. INTRODUCTION

This Planning Report has been prepared by Environmental Resources Management Australia Pty Ltd (ERM) on behalf of Theodore Energy Development Pty Ltd (TED) (the Applicant), a wholly owned subsidiary of RWE Renewables Europe & Australia (RWE), in support of a combined Development Application (DA) for Material Change of Use (Wind Farm) and Operational Works (Clearing Native Vegetation) under the *Planning Act 2016* (Planning Act).

The Proposed Development is located in the Banana Shire Council Local Government Area with the assessment manager for the DA being the Chief Executive of the Department of Housing, Local Government, Planning and Public Works (DHLGPPW), in accordance with Schedule 10 of the Planning Regulation 2017.

This report sets out details of the Proposed Development, the background to the application and addresses relevant issues arising from the Proposed Development. A detailed assessment has been undertaken with respect to relevant State Development Assessment Provisions (SDAP) and other relevant matters of state and local interest.

1.1 DEVELOPMENT APPLICATION DETAILS

The details of the Development Application are outlined in Table 1-1.

TABLE 1-1 APPLICATION DETAILS

Site Details	
Real Property Description	• Lot 4 on SP131475 (Freehold) • Lot 2 on RP617749 (Freehold) • Lot 1 on RP617748 (Freehold) • Lot 8 on DW2 (Lands Lease) • Lot 18 on DW550 (Freehold) • Lot 17 on DW49 (Freehold) • Lot 19 on DW551 (Freehold) • Lot 11 on DW446 (Freehold) • Lot 20 on SP100500 (Freehold)
Road Reserves	• Part of Defence Road (Access) • Part of Crowsdale Camboon Road (Access) • Unnamed Road Reserves (Access)
Project Area	46,830 hectares (ha)
Local Government	Banana Shire Council
Planning Scheme	Banana Shire Council Planning Scheme 2021
Zone	Rural Zone
Easements	• Easement Y on SP269121 • Easement V on SP269121 • Easement CC on SP270706 • Easement W on SP269121 • Easement AC on SP270706 • Easement AB on SP270706 • Easement BB on SP270706 • Easement X on SP269121

Site Details	
Development Application Summary	
Description of Proposal	Material change of use for a wind farm including up to 170 wind turbine generators (WTGs) and associated infrastructure including, but not limited to, wind turbine foundations and hardstand areas, access tracks, overhead and underground electrical cabling, electrical infrastructure, substations and BESS' and operations and maintenance facilities. Additionally, operational work relating to vegetation clearing for constructing wind farm infrastructure. The Proposed Development Layout Plan is included as Appendix A.
Application Type	• Development Permit for a Material Change of Use (Wind Farm) • Development Permit for Operational Work (Clearing Native Vegetation)
Assessment Manager	Department of Housing, Local Government, Planning and Public Works
Applicant	Theodore Energy Development Pty Ltd c/- Environmental Resources Management Australia Pty Ltd
Proposed Development	Wind Farm
Level of Assessment	Code Assessable
Referral	• Department of Resources (DoR) (Clearing of Native Vegetation)
Advice Agencies	• Department of Defence (DoD) • Civil Aviation Safety Authority (CASA) • Airservices Australia (ASA) • Department of Transport and Main Roads (DTMR) • Banana Shire Council (Council)
SDAP Codes	• State Code 16: Native vegetation clearing • State Code 23: Wind Farm Development
Regional Plan	Central Queensland Regional Plan

1.2 CONSULTATION ACTIVITIES

TED has engaged with stakeholders regarding the Theodore Wind Farm since 2021. TED has focused on building transparent and constructive relationships with landholders, near neighbours, the community, Traditional Owners, and other interested parties.

Engagement began with landholders and near neighbours in 2021. TED sent personal letters to neighbours who have property within 2.5 km of the Project Area followed up with a wider effort, hand delivering flyers and newsletters to homes within 10 km of the Proposed Development. This approach ensured every household within 10 km is informed and has the opportunity to engage.

Engagement to date has included formal presentations to Banana Shire Council including councillors, and planning officers. TED has discussed community benefits and workforce accommodation during construction, road upgrades, community opportunities and impacts, among other topics. TED has engaged with Mr Colin Boyce MP and seeks to provide regular updates to all levels of government and take on board feedback to direct the engagement process.

TEDs commitment to working closely with the Wulli Wulli People, the Traditional Owners of the Project Area, has been demonstrated through regular meetings since 2022. TED have signed

an early works agreement, and various site visits have been undertaken by Wulli Wulli Elders, WWNAC board members and cultural heritage monitors. TED have also agreed to undertake additional survey works in collaboration with the Wulli Wulli People and are preparing discussions around a Cultural Heritage Management Plan (CHMP) under Part 7 of the *Aboriginal Cultural Heritage Act 2003* (Qld).

Public drop-in sessions have provided valuable forums for community feedback. About 60 people attended our two community engagement sessions in August 2023 and about 30 in February 2024. Topics of interest have included worker accommodation options, transmission line infrastructure, community benefits and sponsorship opportunities.

TED remains committed to providing accessible information about the Proposed Development and will seek to maintain a regular community presence. TED will continue to host regular drop-in sessions to ensure effective community consultation.

Other engagement initiatives have included a community survey, and a dedicated website (https://au.rwe.com/projects/theodore-wind-farm/) that includes project information, news and updates and engagement opportunities.

As the Proposed Development progresses through the planning and approvals stage, TED will continue to undertake authentic and transparent engagement with all stakeholders.

1.3 ABOUT TED

The Proposed Development was conceived and explored by TED in 2021. TED negotiated and secured agreement with the landholders to participate in the Proposed Development. TED are aiming to begin early construction works for the Proposed Development in 2025.

TED is a wholly owned subsidiary of RWE. Background information relevant to RWE is provided below:

- RWE is one of the largest energy utilities in Europe and now operates in 18 countries around the world;
- RWE's business model is to develop, own and operate renewable energy projects;
- RWE have a history of developing strong relationships with landowners and other community stakeholders, ensuring a strong alignment of interest over the project lifetime;
- Australia is a key growth market for RWE;
- RWE entered the Australian market in 2018 initially to support the delivery of the Limondale Solar Farm;
- RWE are currently developing over 3.0GW of non-publicly announced wind, solar and storage projects across QLD, NSW, and VIC.

1.4 PLANNING DRIVERS AND BENEFITS

Factors that influence the development of a wind farm are numerous. The main driving forces for the Proposed Development location include:

- Good wind resource and generation profile complementary to market demand and Solar generation;
- Proximity to transmission network with available grid export capacity;
- Low population density in immediate vicinity of the Proposed Development, as represented by its rural zoning and low number of dwellings within 10km;
- Landholders willing to host project infrastructure;
- Appropriate ability for turbines to be distant from Neighbouring Dwellings and Communities
- Good access from port to the Proposed Development;
- Minimal ecological constraints; and
- Constructability of the landforms.

Considering the above factors, the Project Area is highly suited to the Proposed Development.

The Proposed Development will result in the following environmental and community benefits:

- The generation of clean energy;
- Assisting Queensland in meeting its 70% renewable energy targets by 2032 and reducing the CO2 emissions from electricity generation sources;
- Reliability of electricity generation by inclusion of storage infrastructure and a strong generation profile complementing Solar generation;
- Supporting the land use of agriculture by providing diversified complementary revenue to the farmers involved in the Proposed Development as host landholders and neighbours;
- Community Benefits Fund of a minimum of $500,000.00 per annum established for the local community and intended to be administered by an established local community group.;
- Employment opportunities – both direct and indirect. Approximately 300-500 jobs during construction Approximately 10-50 full time equivalent (FTE) jobs during operation
- Local materials and skills utilised where practical; and
- Potential for training and business opportunities in the region.

1.5 PRE-LODGEMENT MEETING

A pre-lodgement meeting for the Proposed Development was held on 12 April 2023 with the State Assessment Referral Agency (SARA). This meeting was attended by representatives of the Department of State Development, Infrastructure, Local Government and Planning (now DHLGPPW), ERM and TED. A copy of the pre-lodgement meeting is provided in Appendix B.

2. PLANNING FRAMEWORK

2.1 PLANNING APPROVALS PROCESS FOR WIND FARMS

The *Planning Act 2016* (Planning Act) provides the overarching statutory framework for the planning and development system in Queensland. DHLGPPW is responsible for delivering a coordinated, whole-of-government approach to the State's assessment of Development Applications for wind farms by providing a single agency lodgement and assessment point where the State has jurisdiction.

As per Schedule 10, Part 21, Division 2 of the Planning Regulation 2017 (Planning Regulation), this DA is code assessable in compliance with Table 1 as follows:

> (a) *all wind turbines for the wind farm are at least 1,500 metres from a sensitive land use on a non-host lot; or*
>
> (b) *one or more wind turbines for the wind farm are less than 1,500 metres from a sensitive land use on a non-host lot and the owner of the non-host lot has, by deed, agreed to the turbines being less than 1,500 metres from the sensitive land use.*

State Code 23 applies to a material change of use for a new or expanding wind farm. It is intended to protect individuals, communities and the environment from adverse impacts as a result of the construction, operation and decommissioning of wind farm development. In achieving this purpose, the code outlines that wind farms should be appropriately located, sited, designed, constructed and operated to ensure:

- The safety, operational integrity and efficiency of air services and aircraft operations;
- Risks to human health, wellbeing and quality of life are minimised by ensuring acceptable levels of amenity and acoustic emissions at sensitive land uses;
- Development avoids, or minimises and mitigates, adverse impacts on the natural environment (fauna and flora) and associated ecological processes;
- Development does not unreasonably impact on the character, scenic amenity and landscape values of the locality; and
- The safe and efficient operation of local transport networks and road infrastructure.

It is noted that Operational Works are required as the Proposed Development involves the clearing of native vegetation to facilitate the wind turbines and associated infrastructure. As such, the Proposed Development will need to demonstrate compliance with State Code 16 and State Code 23. It is noted that if required, waterway barrier works will be addressed under a separate approval process.

Further detail and assessment of the legislative requirements are provided in Section 5.

2.2 OTHER APPROVALS

The below table details relevant legislation and / or secondary approvals that are applicable to the Proposed Development.

Legislation	Description	Project Applicability
Commonwealth		
Environment Protection and Biodiversity Conservation Act 1999	The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Australian Government's central piece of environmental legislation. The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places—defined in the EPBC Act as matters of national environmental significance (MNES).	An assessment of the potential impacts to MNES has been undertaken and provided as part of the Ecological Impact Assessment (refer to Appendix J). The Proposed Development has been referred to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the EPBC Act (EPBC Number: 2024/09842). On the 9 July 2024, the Minister determined the Proposed Development to be a 'controlled action' and assessed by a Public Environment Report.
State		
Nature Conservation Act 1992	Regulates impacts on plants and animals through the protected plants framework and species management program requirements. Restrictions apply to impacts to native species and their breeding places (for animals). A permit (separate from this Development Application) may be required to enable certain intrusive activities.	There is a small section of the eastern portion of Project Area that has been identified as a high risk area per the NC Act flora survey trigger map. The Proposed Development has been designed to avoid the identified area, noting that an Exempt Clearing Permit will be required for the infrastructure located on properties identified within the flora survey trigger mapping. Should endangered, vulnerable or near-threatened native plants be located, micro-siting will be undertaken to ensure that these species are avoided where practicable. Where this is not possible, a Clearing Permit under the NC Act will be required. Additionally, a Species Management Program (SMP) is required where the Proposed Development impacts places of breeding for protected animals.
Aboriginal Cultural Heritage Act 2003	Provides a duty of care process not to harm Aboriginal cultural heritage either by assessment or an approved Cultural Heritage Management Plan (CHMP). Works disturbing ground conditions e.g. geotechnical or soils investigations, or access to cultural significant sites (if present), will need to be carried out in accordance with the Duty of Care Guidelines. This process is separate to the Development Application.	A Duty of Care Assessment was undertaken which determined potential for Category 5 impacts associated with the Proposed Development. Consultation with the Wulli Wulli Nation Aboriginal Corporation is underway with the intent for a Cultural Heritage Management Plan (CHMP) to be reached to manage cultural heritage.

Legislation	Description	Project Applicability
Transport Infrastructure Act 1994	Provides restrictions on works within existing rail corridors and State Controlled Roads. Site access from a State Controlled Road will require prior approval to enable access to these areas and approval with any condition imposed on the access permit. This is a separate construction approval process which is likely form part of the approval conditions.	The Proposed Development will seek access approval and licenses on an as needed basis for any impacts associated with the use of local roads in and around the Project Area, and State roads as part of the transport route. This will be sought at a later stage but will likely include the approvals and licenses surrounding the upgrades of intersections of State roads required for regional and site access.
Water Act 2000	Limits the taking or interfering with water, clearing riparian vegetation, and excavating or placing fill in waterbodies. If applicable this is assessed as part of the Development Application.	A Riverine Protection Permit may be required before the clearing of native vegetation in watercourses, unless the exemption requirements are met as per the 'Riverine protection permit exemption requirements'.
Vegetation Management Act 1999	Clearing of native vegetation communities is regulated by this legislation, which is assessed as part of the development application.	The Proposed Development will involve the clearing of native vegetation, as discussed in Section 4.2. As part of the Development Application process, a Relevant Purpose Determination was sought and approved by DoR on 5 July 2024, which demonstrates that any clearing associated with the Development Application is for the purpose of installing infrastructure.
Fisheries Act 1994	A Waterway Barrier Works approval is required for the construction of access crossings for watercourses identified under the Fisheries Act 1994.	During the design and construction of the development, access tracks will cross waterways. The extent of works is expected to be minimised so that impacts to existing vegetation and bank stability is managed in compliance with the 'Waterway barrier works accepted development requirements' that is constructing or raising waterway barrier works. Any access crossing that do not comply with these accepted development requirements will require an Operational Works Development Permit.
Environmental Protection Act 1994	Provides protection policies is the principal environmental legislation in Queensland. The *Environmental Protection Act 1994* (EP Act) specifies the 'general environmental duty', outlining that a person must not perform their duties in a manner which will cause, or is likely to cause, environmental harm unless the person takes all reasonable and practical measures to prevent or minimise the harm. Compliance with this Act is mandatory and generally forms part of the approval conditions.	The Proposed Development is required to comply with the General Environment Duty requirements of the EP Act. In addition, temporary activities may be required during the construction phase permits under the EP Act may be require (Environmentally Relevant Activities) if thresholds are exceeded.

Legislation	Description	Project Applicability
Land Act 1994	The land act governs land tenure, and gazetted roads.	Consultation and engagement with the State Land Asset Manager and relevant landowner has been undertaken. The Applicant is currently in the process of converting Lot 8 on DW2 from leasehold to freehold. Owners consent from the State Land Asset Manager has been provided and attached as Appendix C.
Local		
Banana Shire Planning Scheme 2021	The Banana Shire Planning Scheme 2021 (Planning Scheme) outlines the future development direction in the Banana Shire Region. It sets out the preferred land uses for each property and identifies which areas should be protected to facilitate the support of long-term population and economic growth in the region.	A number of secondary approvals may need to be sought from the Banana Shire Council (Council) in accordance with the Planning Scheme. These secondary approvals may include: • Development Permit for Reconfiguring a lot (for the purpose of a lease) for the establishment of a lease for a term greater than 10 years • Development Permit for a Material Change of Use (medium or high impact industry) for the establishment of a concrete batching plant • Development Permit for a Material Change of Use (extractive industry) for the establishment of a quarry / borrow pit • Development Permit for Operational Work (filling and excavation & waterway barrier works) over the site. • Development Permit for Building Works • Development Permit for Plumbing and Drainage

3. PROJECT SITE

3.1 PROJECT AREA AND LOCATION

The Proposed Development involves the development, construction and operation of a large-scale wind farm approximately 22 km east of the township of Theodore and 50 km south of Biloela in the Banana Shire Council Local Government Area, Queensland. The closest major town is Gladstone, 150 km northeast of the Proposed Development, with Queensland's capital Brisbane located 380 km southeast of the Project.

The Project Area lies adjacent to and within the locality (10 km) of several state forests including Belmont State Forest to the east, Montour State Forest to the north and Trevethan State Forest to the south. The Project Area is located within the Rural Zone of the Banana Shire Council, with the predominant land use being cattle grazing (and associated homesteads).

The Project Area is the land/properties containing the Proposed Development. It is approximately 46,830 ha in size. The Project Area consists of nine lots on three properties. The total development footprint has a maximum area of 1,932.2 ha, which accounts for approximately 4.1% of the Project Area.

These property lots and sizes are shown in Table 3-1.

TABLE 3-1 PROJECT AREA PROPERTY LIST AND SIZE

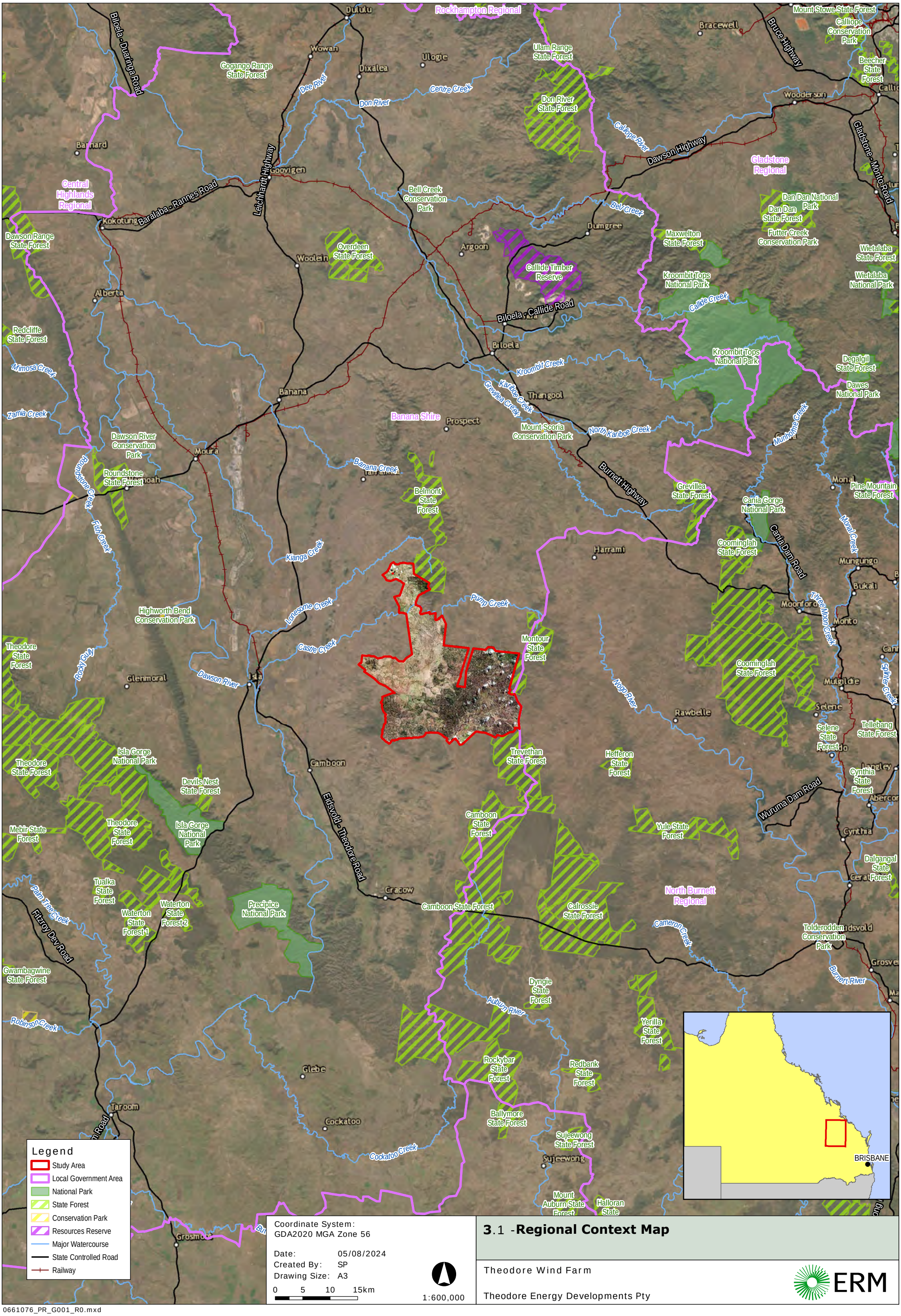
Property	Lot on Plan	Tenure	Size (ha)
Landowner 1	Lot 4 on SP131475	Freehold	1,392
	Lot 2 on RP617749	Freehold	1,311
	Lot 1 on RP617748	Freehold	1,072
	Lot 8 on DW2	Lands Lease (currently being converted to freehold)	4,553
Landowner 2	Lot 17 on DW49	Freehold	3,092
	Lot 18 on DW550	Freehold	4,617
Landowner 3	Lot 11 on DW446	Freehold	7,985
	Lot 19 on DW551	Freehold	3,099
	Lot 20 on SP100500	Freehold	19,594
Road Reserves	Part of Defence Road	Road Reserve	333
	Part of Crowsdale Camboon Road	Road Reserve	
	Unnamed Road Reserves	Road Reserve	
Total			**46,830 ha**

3.2 SITE CHARACTERISTICS

A description of the Project Area characteristics are outlined in Table 3-2 which also includes context mapping.

TABLE 3-2 SITE CHARACTERISTICS

Site Characteristics	Description
Existing Land Use	The Project Area is within the Rural Zone of the Planning Scheme and is predominately used for rural purposes (grazing).
Existing Structures	There are nine host-lots within the Project Area. These are identified in Figure 3-2.
Access	Access to the Proposed Development is primarily from Defence Road, with crossings and smaller accesses from Crowsdale Camboon Road.
Topography and Views	The Proposed Development is located in the Brigalow Belt bioregion and includes a range of ecological and landscape features that are typical of the region; including eucalypt dominated open forest and woodlands on alluvial plains and igneous rock.
Existing Vegetation	The majority of the Project Area is mapped as Category X Regulated Vegetation with large areas of Category B 'Least Concern' Regulated Vegetation and small areas of Category R 'Least Concern' Regulated Vegetation, and Category B and R 'Of Concern' and 'Endangered' Regulated Vegetation.
Existing Waterways	The main watercourse within the Project Area is Castle Creek, however, there are several other tributaries associated with Castle Creek and the Dawson River within the Project Area. There are no wetlands of international importance associated with the Project Area. There are also no high ecological value waterways and wetlands, nor high ecological significance wetlands that occur within the Project Area. The Proposed Development has been designed to avoid Castle Creek and limit impacts to tributaries to linear infrastructure crossings.
Surrounding Land Uses	The Project Area lies adjacent to and within the locality (10 km) of several state forests including Belmont State Forest to the east, Montour State Forest to the north and Trevethan State Forest to the south. All infrastructure is setback a minimum of 150 m from the State Forests. The other surrounding land uses are rural industries, predominantly cattle grazing and associated dwellings.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Dululu
Rockhampton Regional
Mount Stowe State Forest
Bracewell
Bruce Highway
Calliope Conservation Park
Wowan
Ulogie
Dixalea
Ulam Range State Forest
Gogango Range State Forest
Dee River
Centre Creek
Don River
Don River State Forest
Beecher State Forest
Wooderson
Barnard
Calliope River
Dawson Highway
Gladstone Regional
Gladstone - Monto Road
Leichhardt Highway
Goovigen
Central Highlands Regional
Baralaba - Rannes Road
Bell Creek Conservation Park
Bell Creek
Dan Dan National Park
Dan Dan State Forest
Futter Creek Conservation Park
Kokotung
Dumgree
Maxwelton State Forest
Dawson Range State Forest
Overdeen State Forest
Argoon
Wietalaba State Forest
Wietalaba National Park
Woolein
Callide Timber Reserve
Kroombit Tops National Park
Alberta
Callide Creek
Biloela - Callide Road
Redcliffe State Forest
Biloela
Mimosa Creek
Kroombit Tops National Park
Degalgil State Forest
Kroombit Creek
Karboe Creek
Grevillea Creek
Dawes National Park
Banana
Thangool
Zamia Creek
Banana Shire
Prospect
Mount Scoria Conservation Park
North Karboe Creek
Munhomie Creek
Dawson River Conservation Park
Moura
Banana Creek
Burnett Highway
Roundstone Creek
Roundstone State Forest
Belmont State Forest
Grevillea State Forest
Monal
Pine Mountain State Forest
Cania Gorge National Park
Fish Creek
Kianga Creek
Harrami
Coominglah State Forest
Cania Dam Road
Mungungo
Monal Creek
Bukali
Highworth Bend Conservation Park
Pump Creek
Lonesome Creek
Moonford
Three Moon Creek
Monto
Theodore State Forest
Castle Creek
Montour State Forest
Rocky Gully
Glenmoral
Dawson River
Isla
Coominglah State Forest
Mulgildie
Spring Creek
Nogo River
Rawbelle
Selene
Selene State Forest
Tellebang State Forest
Isla Gorge National Park
Theodore State Forest
Camboon
Trevethan State Forest
Hefferon State Forest
Langley
Cynthia State Forest
Devils Nest State Forest
Wuruma Dam Road
Eidsvold - Theodore Road
Mebir State Forest
Theodore State Forest
Isla Gorge National Park
Camboon State Forest
Yule State Forest
Cynthia
Dalgangal State Forest
Tualka State Forest
Cracow
North Burnett Regional
Palm Tree Creek
Waterton State Forest 1
Waterton State Forest 2
Precipice National Park
Calrossie State Forest
Cameron Creek
Tolderodden Conservation Park
Eidsvold
Fitzroy Dev Road
Gwambagwine State Forest
Burnett River
Dyngie State Forest
Auburn River
Yerilla State Forest
Robinson Creek
Glebe
Rockybar State Forest
Redbank State Forest
Taroom
Ballymore State Forest
Cockatoo
Sujeewong State Forest
Cockatoo Creek
Sujeewong
Mount Auburn State Forest
Halloran State
BRISBANE
Legend
Study Area
Local Government Area
National Park
State Forest
Conservation Park
Resources Reserve
Major Watercourse
State Controlled Road
Railway
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GDA2020 MGA Zone 56
Date: 05/08/2024
Created By: SP
Drawing Size: A3
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3.1 -Regional Context Map
Theodore Wind Farm
Theodore Energy Developments Pty
ERM
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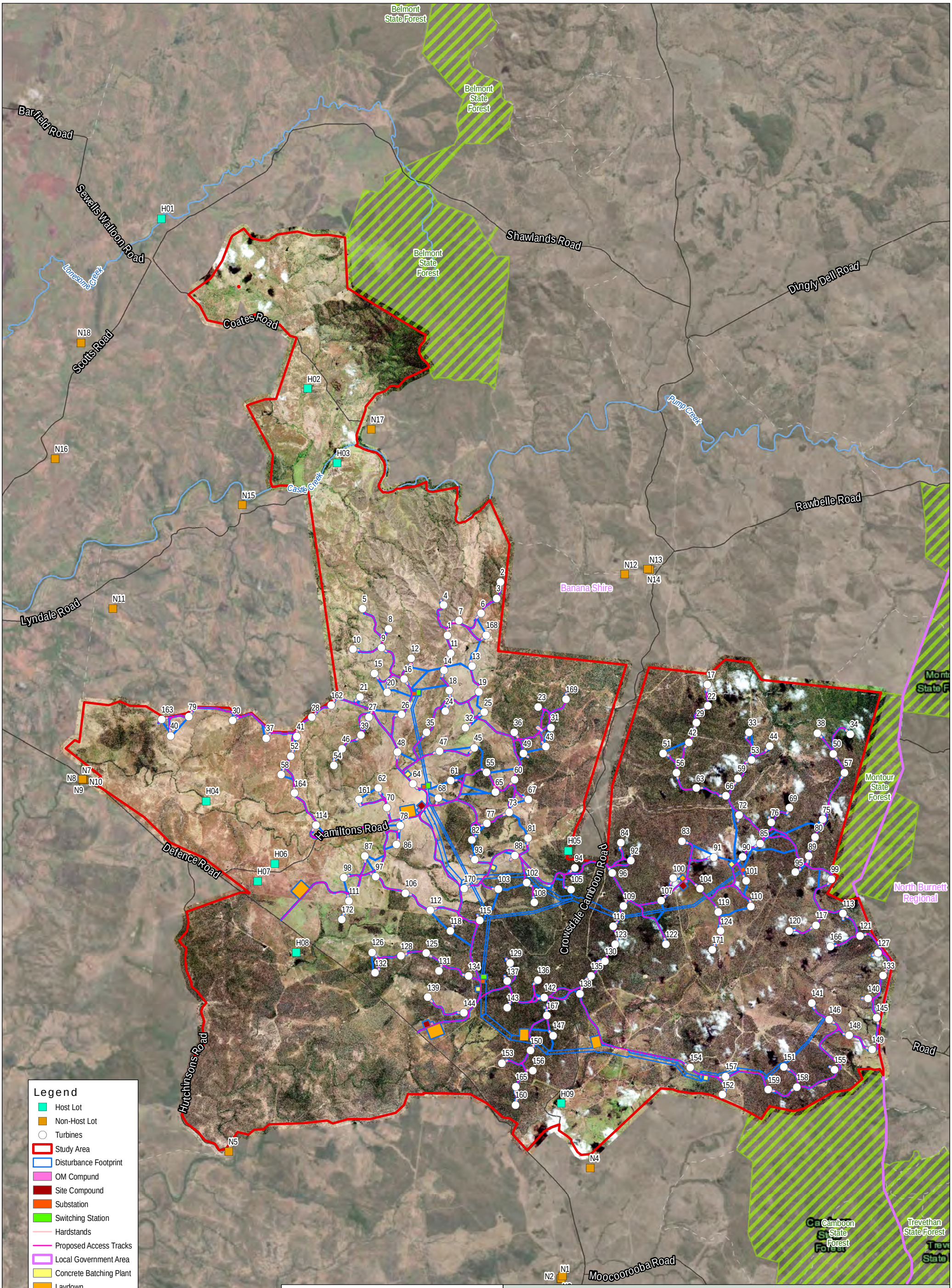

Coordinate System:
GDA2020 MGA Zone 56

Date: 12/09/2024
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Drawing Size: A3

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3.2 -Project Area Context

Theodore Wind Farm

Theodore Energy Developments Pty

ERM

0661076_PR_G002_R2.mxd

3.3 LAND TENURE

3.3.1 HOST LOTS

The Project Are consist of nine lots, all of which are freehold except Lot 8 on DW2 which TED is in the process of converting to freehold. Ongoing consultation with SLAM indicates the latest expected signing of the deed is 26 September 2024. As such, Owners Consent from DoR has been obtained (refer to Appendix C) as part of the application.

3.3.2 SENSITIVE LAND USES

There are six sensitive receptors on host lots identified within 3 km of the proposed WTGs. Host landowners and surrounding non-host landowners are identified in Figure 3-2 and Table 3-3.

TABLE 3-3 SENSITIVE RECEPTORS WITHIN LOCALITY

Sensitive Receptor ID	Lot Description	Status	Distance to nearest WTG (approx.)
H01	Lot 2 on SP131475	Associated Non-host Lot	15,767 m
H02	Lot 1 on RP617748	Host Lot	8,329 m
H03	Lot 8 on DW2	Host Lot	5,329 m
H04	Lot 17 on DW49	Host Lot	2,679 m
H05	Lot 11 on DY446	Host Lot	1,534 m
H06	Lot 18 on DW550	Host Lot	2,026 m
H07	Lot 18 on DW550	Host Lot	2,905 m
H08	Lot 20 on SP100500	Host Lot	2,021 m
H09	Lot 20 on SP100500	Host Lot	5,743 m
N1	Lot 4 on DW559	Non-host Lot	6,466 m
N2	Lot 4 on DW559	Non-host Lot	6,449 m
N3	Lot 4 on DW559	Non-host Lot	6,394 m
N4	Lot 22 on DW526	Non-host Lot	3,523 m
N5	Lot 10 on DW40	Non-host Lot	8,302 m
N6	Lot 15 on SP257659	Non-host Lot	5,094 m
N7	Lot 16 on DW388	Non-host Lot	3,495 m
N8	Lot 16 on DW388	Non-host Lot	3,525 m
N9	Lot 16 on DW388	Non-host Lot	3,515 m
N10	Lot 16 on DW388	Non-host Lot	3,537 m
N11	Lot 20 on DW2	Non-host Lot	4,357 m
N12	Lot 9 on DW19	Non-host Lot	4,472 m
N13	Lot 9 on DW19	Non-host Lot	5,387 m
N14	Lot 9 on DW19	Non-host Lot	5,311 m
N15	Lot 13 on DW2	Non-host Lot	3,720 m
N16	Lot 9 on DW198	Non-host Lot	10,124 m
N17	Lot 3 on RP617750	Non-host Lot	6,458 m
N18	Lot 26 on SP179635	Non-host Lot	13,860 m

4. PROPOSED DEVELOPMENT

4.1 OVERVIEW

The Theodore Wind Farm is proposed to consist of up to 170 WTGs with the following associated infrastructure:

- WTG foundations and hardstand areas
- Temporary infrastructure such as concrete batching plants, laydown areas, temporary construction offices and parking and on-site accommodation
- Access tracks and electrical reticulation
- Switching stations and substations
- Battery Energy Storage Systems (BESS)
- Temporary and Permanent meteorological masts and
- Permanent operations and maintenance facilities, with a variety of associated site facilities and storage laydowns around the proposed site.

The infrastructure design has been refined through an iterative process including environmental, wind resource, constructability, landholder, traditional owner, and transmission network considerations. The design refinement process focused on the avoidance and minimisation of environmental impacts through the various stages of layout planning and the coordination of these aspects with engineering design and wind resource restrictions.

The Proposed Development is proposed to be connected to the grid network via the Banana Range Wind Farm Connection project 275 kV transmission line approx. 50 km north of the Project Area, with the transmission line to be under separate ownership and subject to separate approvals.

The Proposed Development includes a maximum development footprint of 1,932.2 ha which includes the clearing of up to 790.72 ha of Category B Regulated Vegetation containing 'Least Concern' Regional Ecosystems, 7.20 ha of Category B Regulated Vegetation containing 'Of Concern' Regional Ecosystems and 1.68 ha of Category B Regulated Vegetation containing 'Endangered' Regional Ecosystems.

Existing land management practices will be largely unaffected by the Proposed Development as the host properties are able to continue to use the land for agricultural activities throughout the life of the project, including the shared use of access tracks and locations with landowners for the effective continuation of existing land use with potential for improved productivity.

4.1.1 WIND TURBINE GENERATORS (WTGS)

The final selection of turbine numbers, locations and dimensions will be determined as part of the detailed design. However, the Project Area has been designed to accommodate the following maximum turbine dimensions (Table 4-1) so that potential impacts on environmental values can be properly considered.

TABLE 4-1 KEY GENERATION AND TURBINE SPECIFICATIONS

Feature	Statistic
Estimated Project generation capacity	1152 MW *
Turbine electrical output	Up to 8.0 MW
Number of Turbines	Up to 170
Hub height**	Up to 185 m
Tip height**	Up to 270 m
Rotor diameter**	Up to 175 m

*The actual output of the wind farm will depend on the size and type of turbine chosen during the detailed design phase. Regardless of the size of the wind farm generation capacity, the Proposed Development will still need to comply with the Queensland Wind Farm State Code and supporting Planning Guidelines, particularly in relation to acoustic amenity and setback criteria.
**The specifications contained within the table are based on current, projected turbine size. Whilst they are an estimated maximum, changes in technology and constructability may result in larger turbines being installed

4.1.2 WTG FOUNDATIONS AND HARDSTAND FOUNDATIONS

Each WTG foundation will consist of a mass concrete footing or rock anchor foundation where suitable. WTG foundations may vary in size depending on the selected WTGs, imposed loadings, ground conditions, construction methodology and the drainage design. The detailed design of the foundations will be undertaken prior to construction of the Proposed Development and will be dependent on the final selection of WTG model to be installed at the Project Area.

The final design will also consider the geotechnical conditions identified through detailed site investigations. The ground surrounding the WTG will be finished, so it is tidy and usable for shared agricultural purposes. This may include mounding.

At each WTG site, a hardstand area may be established for the laydown of key WTG equipment including the crane boom laydown and assembly area, nacelle, tower sections, blades, and other WTG components. The hardstand is the area used for the assembly, construction, and erection of the WTG. Each WTG foundation and hardstand area will be up to approximately 2.67 ha in size. Where suitable, just in time delivery and tower cranes might be utilised which may result in a smaller hardstand area. The smaller hardstand area is dependent on geotechnical studies and detailed engineering design including construction methodology review.

4.1.3 TEMPORARY INFRASTRUCTURE

The preliminary layout includes 12 construction laydown areas, totalling at 102 ha in size. Temporary construction laydown areas are proposed for the storage of WTG components when initially delivered to site as well as other construction items, stockpiling of material and temporary amenities. These temporary laydown areas are also intended to be used for concrete batching plants (under separate Planning Act permitting process).

4.1.4 ACCESS AND UNDERGROUND CABLING AND OVERHEAD TRANSMISSION LINES

Up to 223 km of access roads will be required for the Proposed Development within the Project Area. Access tracks between the existing State-controlled road network and the wind farm components will be established and or upgraded to allow access to the site for construction and operational traffic. Considerations in the establishment of these routes will include load requirements, turning radii, topography of the land, soils, watercourse crossings, vegetation clearing and potential colocation of wind farm infrastructure. The onsite access road layout will be designed to utilise existing tracks where appropriate and usage does not significantly impact on planned agricultural activities.

The proposed access/infrastructure corridors are as narrow as reasonably practical given the design maturity. This width is necessary to accommodate the access road, elements of the electrical collection system between the WTGs and where co-located, parts of the transmission system. Proposed access/infrastructure corridors will be further refined in the detailed design phase prior to construction.

The road formation will generally not exceed 12 m in width (table drain – table drain), with regular widening to accommodate passing bays. The area of the corridors outside the road formation may be cleared for the installation of reticulation/overhead lines. Access corridors will be their widest during the construction phase, and areas outside the final road formation will undergo progressive restoration of grass species post construction activities.

4.1.5 ELECTRICAL CONNECTIONS, SUBSTATIONS AND POTENTIAL BATTERY ENERGY STORAGE SYSTEM

A cable system (33kV) will be installed to transfer the power from each WTG to a substation. Currently 4 substations are proposed. The reticulation will be installed in a mix of underground cables, and above-ground cables supported by poles.

The substations will include equipment necessary to collect the power flow from each WTG, increase the voltage and dispatch to the electricity grid. Hardware would include switches, breakers, transformers, meters, synchronous condensers (as needed), Battery Energy Storage Systems (BESS), the earthing grid, and other electrical equipment. The nominal size of the substations is approximately 1.5 ha each with potential for an adjacent switching station/BESS of up to 16 ha each to ensure space for the appropriate ability to isolate areas of the wind farm from the transmission system and ensure system stability as well as provision suitable BESS. A BESS for the storage of produced electricity may be installed at the substations/switching stations. The BESS would be designed to provide storage for export, system strength, and firming support. The voltage will be "stepped up" at the substations (up to 275kV) and transmitted to the transmission grid.

The planning approval for the export transmission line is outside the scope of this report and will be subject to a separate application submitted by a different proponent

4.1.6 PERMANENT METEOROLOGICAL MASTS

Three meteorological monitoring (met) masts have been erected within the Project Area, for data collection purposes for Project feasibility. The installed meteorological masts are 160 m in height.

Approximately 4 met masts are to be installed to monitor wind conditions for the operation of the wind farm. Proposed meteorological masts will be up to 200 m in height. The marking, lighting and notification requirements of the Aviation Study included in the Development Application will be adhered to.

4.1.7 CENTRAL OPERATIONAL AND MAINTENANCE FACILITIES

The Proposed Development includes 2 operations and maintenance facilities, which are approximately 8.5 ha in total size. The operational infrastructure for the Proposed Development will include management offices, workshops, storage, equipment laydown, and warehousing facilities.

4.1.8 ON-SITE ACCOMODATION CAMP

The Proposed Development includes an on-site accommodation camp of more than 50 beds, which will have a maximum size of 10 ha. The accommodation camp will be sited and located to avoid areas of Regulated Vegetation.

4.2 VEGETATION CLEARING

The Proposed Development involves the clearing of up to 818.12 ha of Regulated Vegetation to facilitate the construction of the WTGs and associated infrastructure. The applicant has obtained a 'Relevant Purpose Determination' (RPD) under Section 22A of the *Vegetation Management Act 1999* (VM Act) for the clearing of Category B Regulated Vegetation, with the Proposed Development considered to be relevant infrastructure activities. It is noted that the RPD included clearing of up to 889.9 ha of Category A or B Regulated Vegetation. Since the RPD process was completed, further project design refinements have resulted in a reduction of the total impact with the key contributor being the reduction in access corridor widths from 50 m to 40 m. The regulated vegetation impacts associated with this DA are within the approved Area A locations included in Appendix G.

TABLE 4-2 REGULATED VEGETATION IMPACT SUMMARY

Value	RPD Impact (ha)	DA Impact (ha)
Total Category A or B Regulated Vegetation	889.9	799.6
Category A or B Least Concern REs	*880.72*	*790.72*
Category A or B Of Concern REs	*7.4*	*7.20*
Category A or B Endangered REs	*1.78*	*1.68*
Total Category C or R Regulated Vegetation	-	18.52
Category C or R Least Concern REs	-	*12.79*
Category C or R Of Concern REs	-	*1.02*
Category C or R Endangered REs	-	*4.71*
Total Regulated Vegetation	**-**	**818.12**
Regulated Vegetation Intersecting a Watercourse	7.6	6.08
Regulated Vegetation Containing Essential Habitat	0.53	0

The majority of area of impact to Category B Regulated Vegetation is to 'Least Concern' REs, with 790.72 ha of Least Concern REs proposed to be cleared. The remainder proposed to be cleared consists of 7.20 ha of 'Of Concern' REs, 1.68 ha of 'Endangered' REs and 6.08 ha of Regulated vegetation intersecting with a watercourse. This represents the maximum disturbance to regulated vegetation, following detailed design prior to construction it is likely that the extent of disturbance to Regulated Vegetation will decrease.

The Proposed Development design has been through a rigorous design review phase to ensure there is minimal vegetation disturbance to MSES. This process included the following steps:

1. Identification of environmental constraints from desk based and field investigations including Matters of State Environmental Significance (MSES) and MNES identification of environmental constraints of the site;
2. Consultation with affected landowners;
3. Review of wind yield data to prepare concept design;
4. Undertake impact assessments in accordance with State Code 16, and State Code 23; and
5. Optimisation of the layout including input from landowners, environmental constraints and wind yield data.

The Proposed Development layout has been developed with consideration given to engineering issues, ground stability, operational requirements, landowner requirements, minimising environmental disturbance and ongoing site management requirements (bushfire setbacks). Whilst the Applicant has not selected a specific WTG model or WTG supplier for the Proposed Development, the layout has been designed based on the largest onshore wind turbine available, with conservative spacing between the WTGs to accommodate for any increases in turbine sizing throughout the development lifecycle. The intent of this approach is to provide assurance to the Proposed Development that the proposed WTG locations are adequate for the current modern-day WTG and allow provision for the next generation of large onshore WTGs. This should result in no major adjustments required to the WTG layout prior to construction.

The key component of the vegetation management strategy is avoidance through layout design. The avoidance strategy will occur in two phases. The first design phase is based on avoidance and/or minimisation of vegetation and potential habitat mapped as a result of the field investigation conducted, and subsequent constraints identified. The second design phase will involve pre-clearance surveys which includes on the ground micro siting at each location proposed for infrastructure (such as wind turbines). The pre-clearance surveys will assess the localised environmental values, including threatened species breeding habitat and protected plants to determine if micro-siting can be used to avoid key values. Several more avoidance measures have been implemented, including, but not limited to, the following:

- Avoidance of woodland patches by locating infrastructure outside of these areas where possible;
- Clearly delineation of approved vegetation clearance areas / work zones to prevent over-clearing; and
- WTGs will maximise the use of areas that are less vegetated, to avoid and minimise clearing of mature trees. This can be achieved across many parts of the Project Area given the open nature and scattered trees of the landscape with low density of larger patches of remnant vegetation. This is included in the micro siting pre-clearance phase.

As such, the Project design specifically aims to avoid disturbance to Endangered and Of Concern REs where possible, with disturbance limited to isolated areas where impacts associated with linear infrastructure cannot be avoided. Overall, the Project disturbance footprint within State mapped Regulated Vegetation is 818.12 ha.

4.3 TRANSPORT NETWORK

WTG components will be imported by ship and hauled to site. As per the Site Access and Route Assessment (refer to Appendix D) a number of route options were investigated to find the most viable option for the haulage of WTG components to the Project Area. It is anticipated Proposed Development components will be transported to site from the Port of Gladstone.

The Proposed Development is to be primarily accessed via two locations along Defence Road, as depicted in the Site Access and Route Assessment (refer to Appendix D). Additionally, for smaller accesses the Project Area may be accessed from Crowsdale Camboon Road.

4.4 CONSTRUCTION DETAILS

4.4.1 CONSTRUCTION METHODS

The detailed construction methodology will be delivered by the WTG supply and install contractors and the balance of plant contractors, in alliance with TED. A Preliminary Construction Environment Management Plan (CEMP) has been prepared in support of this DA (refer to Appendix E), and it is expected this will be updated following detailed design prior to construction. The final CEMP will include details of the construction program, construction methodology, mitigation measures to control construction impacts, contact details for site representatives, and a complaints and incident reporting procedure. The CEMP will be implemented in accordance with best practice principles and regulatory requirements.

4.4.2 EQUIPMENT AND MACHINERY

It is anticipated that the construction work (subject to geotechnical conditions) may include the following:

- Cut and fill earthworks (including excavating, hammering, ripping, crushing, material haulage, blasting, compacting, moisture conditioning, testing etc.);
- Erection of turbines (including component delivery, cranage, fitting of ancillary items);
- Cabling works (including trenching and laying of cables by various methods);
- Substation construction;
- Vegetation clearing (utilising appropriate methods);
- Construction of site compounds, camps and facilities; and
- Delivery of various Project components.

It is anticipated that an on-site borrow pit will be utilised to source much of the required construction material, where possible.

4.4.3 WATER SUPPLY

The provision of water is essential for the construction of the proposed development. The construction activities likely to require water are:

- Bulk earthworks and material conditioning;
- Concrete batching;
- Dust suppression; and
- Drinking water for personnel and water for ablution facilities.

Water demand will vary over time, depending on the stages of the work and required water quality standards for each activity. Potable water fit for human consumption will be required at the site offices, while both medium (suitable for use in the concrete batching) and low-quality raw water (for earthworks and dust suppression) may be used for construction purposes. Water will be tested from various supply options and allocated to the most appropriate use.

A water sourcing strategy will be developed so that water used during the construction phase does not cause issues to adjacent landowners or other stakeholders. Where possible, potable water will be obtained from the local government water reticulation network or otherwise trucked to the site.

Lower quality water (for earthworks and dust suppression) is likely to be locally sourced from:

- Groundwater – to include artesian and sub-artesian.
- Rainwater – to be sourced from dams or collection ranks.
- Offsite – to be sourced offsite and trucked in.

Construction water supply options will be determined during the detailed design of the proposed development and confirmed with DoR prior to construction. Appropriate permits and approvals will be sourced to ensure compliance where required.

4.5 OPERATIONS AND MAINTENANCE FACILITY

The power output from an operational wind farm at any given time largely depends on the strength of the wind blowing across the site. During the operation of the Proposed Development, the WTGs will automatically start, stop and alter their output as determined by wind speed and other environmental, operational, maintenance, and electrical conditions.

It is anticipated that existing land management practices will be largely unaffected by the Proposed Development, with the participating properties continuing to be used for grazing and animal husbandry activities To monitor and maintain the wind farm facility, a number of permanent operations and maintenance facilities (OMF) will be established on site. The OMF will include administrative areas, control buildings, workshops, warehousing, parts storage and ablution facilities, etc.

4.6 REHABILITATION AND DECOMMISSIONING

4.6.1 POST CONSTRUCTION REHABILITATION

A Preliminary Post-Construction Rehabilitation Plan (refer to Appendix F) has been prepared which identifies areas of disturbance associated with construction which may be rehabilitated. It is anticipated those areas not required for ongoing operational disturbance will be rehabilitated / regenerated after construction. Post-construction will result in two types of rehabilitation:

- Type 1 – Revegetation restricted to low shrubbery and grass; and
- Type 2 – Revegetation reinstated of equivalent pre-construction vegetation without height restrictions.

Rehabilitation objectives have been developed with consideration for the existing condition, potential ongoing direct and indirect impacts, the need to maintain setbacks to reduce bushfire risk, and the need for disturbance for decommissioning. It is expected that rehabilitation will be required following end-of-life decommissioning of the Proposed Development.

It is of note that the total area proposed to be rehabilitated after the construction phase is 1,314 ha, whilst the Proposed Development construction footprint is 1,932.2 ha such that the anticipated Proposed Development operational footprint is 625.8 ha.

4.6.2 END OF LIFE DECOMMISSIONING AND REHABILITATION

Following the completion of the construction phase of the Proposed Development, construction laydown areas and widened access tracks not required for operation will be rehabilitated in accordance with good practice at the time and where not required for ongoing grazing or agricultural practices.

At the end of life, the WTGs towers and other above ground infrastructure will be removed, and the area rehabilitated in accordance with good practice at the time and where not required for ongoing grazing or agricultural uses.

Rehabilitation activities will be undertaken at the post-construction phase as well as at end of life decommissioning phase. A detailed Rehabilitation and Decommissioning Plan will be prepared during the early stages of operation as a part of the post-construction activities, and will include overarching principles for the decommissioning phase, to be reviewed prior to decommissioning of the Proposed Development.

5. PLANNING ASSESSMENT

5.1 ASSESSMENT MANAGER

As per Part 4, Division 2 Section 21(2)(b)(i) of the Planning Regulation the chief executive is the assessment manager for a material change of use for a wind farm. Additionally, Schedule 8, Table 4, Item 3(b), identities the chief executive as the assessment manager for operational works that involves the clearing of native vegetation. As such, the assessment manager for this application is DHLGPPW.

5.2 CATEGORY OF ASSESSMENT

5.2.1 MATERIAL CHANGE OF USE (WIND FARM)

As per Schedule 10, Part 21, Division 2, Table 1, Column 2 of the Planning Regulation a material change of use for a wind farm is code assessable if:

a. *All wind turbines for the wind farm are at least 1500 m from a sensitive land use on a non-host lot; or*

b. *1 or more wind turbines for the wind farm are less than 1500 m from a sensitive land use on a non-host lot and the owner of the non-host lot has, by deed, agreed to the turbines being less than 1500 m from the sensitive land use.*

As per Figure 3-2, the WTGs for the wind farm are at least 1,500 m from any existing and/or approved sensitive land use on a non-host lot. Therefore, the Proposed Development is considered code assessable development as defined in Section 45(3) of the Planning Act.

5.2.2 OPERATIONAL WORKS (CLEARING NATIVE VEGETATION)

As per Schedule 10, Part 3, Division 1, Item 4(1) of the Planning Regulation operation works involving the clearing of native vegetation is prohibited development to the extent the work:

a. *Is not for a relevant purpose under the Vegetation Management Act 1999, Section 22A; and*

b. *Is not exempt clearing work; and*

c. *Is not accepted development under Schedule 7, Part 3, Section 12.*

The Proposed Development is not exempt clearing work or accepted development. As such, a Relevant Purpose Determination has been granted for the proposed clearing, the proposed clearing is code assessable as per Schedule 10, Part 3, Division 3, Table 1, Column 2 of the Planning Regulation, see Appendix G.

5.3 ASSESSMENT BENCHMARKS

5.3.1 CENTRAL QUEENSLAND REGIONAL PLAN

The Central Queensland Region consists of the following local government areas:

- Banana Shire Council;
- Central Highlands Regional Council;
- Gladstone Regional Council;
- Rockhampton Regional Council;
- Livingstone Local Government Area; and
- Woorabinda Aboriginal Shire Council.

The Proposed Development is located within the Banana Shire Council Local Government Area.

The Regional Plan is a mechanism for providing strategic direction and policies to deliver regional outcomes which align with the state's interests in planning and development. Specifically, the Regional Plan aims to achieve this by:

- Enabling opportunities for economic growth to ensure regions are resilient and prosperous;
- Protecting areas of regionally significant agricultural production from incompatible resource activities while maximising opportunities for co-existence and of resource and agricultural land uses;
- Safeguarding the areas required for the growth of towns;
- Driving the region's economic diversity and opportunity;
- Identifying infrastructure outcomes that will support economic growth;
- Facilitating tourism pursuits across the region;
- Avoiding the introduction of additional unnecessary regulation; and
- Recognising and respecting the role of the local government to plan for their local areas.

These are supported by three desired regional outcomes contained within the Regional Plan:

- Agriculture;
- Infrastructure; and
- Liveable communities.

The Proposed Development is consistent with the above desire regional outcomes, this is demonstrated in Table 5-1.

TABLE 5-1 COMPLIANCE WITH REGIONAL PLAN

Desired Regional Outcome	ERM's Response
Agriculture	• The Proposed Development is not located on land classified as Priority Agricultural Area. • The Proposed Development will allow agricultural activities to continue on the Project Area during operation and is unlikely to affect surrounding agricultural land uses during construction or operation.
Infrastructure	• The Proposed Development will not impact on important infrastructure identified by the Regional Plan. • The Proposed Development is a renewable energy facility (wind farm), and therefore will be an energy alternative for the region and assist in achieving the priority outcome for electricity infrastructure identified within the Regional Plan.
Liveable communities	• The Proposed Development is located 22 km east of the township of Theodore, an identified Priority Living Area. The Proposed Development will not impose on the designation of land for development and expansion of Theodore. Furthermore, the Proposed Development will create an opportunity for the expansion (growth and jobs) in the town of Theodore, therefore supporting this Desired Regional Outcome of the Regional Plan.

5.3.2 STATE PLANNING POLICY

The State Planning Policy (SPP) outlines the guiding principles and State interests that underpin the delivery of local and regional plans, and development that will advance the social, economic and environmental needs of Queensland.

The purpose of the SPP and the state interest policies are to secure a liveable, sustainable and prosperous Queensland. It requires that State interests are integrated in local planning instruments, regional plans and development decisions in order to strengthen the Queensland economy, promote strong communities, protect the environment, wisely manage resources and inform and respond to investment in infrastructure.

The SPP recognises that mitigating and adapting to climate change is also an important consideration for planning at all levels. All State interests should be applied and considered in the context of a changing climate to support Queensland's people, economy, and the environment.

As per the Planning Regulation 2017 and Part B of the SPP, the SPP applies to the extent where relevant, when an assessment manager or referral agency other than local government is assessing a development application.

The application for a development approval for the Proposed Development will be assessed by the State Government, and in this regard Part C Purpose and Guiding Principles and Part D State Interest Statements of the SPP apply, where state policy mapping has identified a state interest within the Project Area, as shown in Appendix H. An assessment of how the Proposed Development complies with the relevant SPPs is provided in Table 5-2.

TABLE 5-2 ASSESSMENT OF SPPS

State Interest	State Interest Statement	State Policy Mapping Triggers	ERM Response
Economic Growth			
Agriculture	The resource that agriculture depends on are protected to support the long-term viability of the agricultural sector.	• Stock Route Network	The Proposed Development will not impede on the Stock Route Network on Crowsdale Camboon Road. Given the nature of the proposal, it is able to co-exist with agricultural activities with minimal impact on the stock route.
Environment and Heritage			
Biodiversity	Matters of environmental significance are valued and protected, and the health and resilience of biodiversity is maintained or enhanced to support ecological processes.	• MSES – Wildlife habitat (endangered or vulnerable) • MSES – Wildlife habitat (special lease concern animal) • MSES – Regulated Vegetation (category B) • MSES – Regulated Vegetation (category C) • MSES – Regulated Vegetation (category R) • MSES – Regulated Vegetation (essential habitat)	The Proposed Development has been designed to minimise impacts to the environment. Matters of National, State and local environmental significance have been identified and assessed and are included in the Ecological Assessment Report provided in Appendix J. Native vegetation will be cleared for the construction of the wind farm. The development footprint represents the maximum extent of vegetation clearing required for the Proposed Development. Detailed designed will be undertaken prior to construction, likely reducing the development footprint. Additionally, during construction WTGs may be micro-sited to avoid impacts to higher quality native vegetation. This is assessed in line with the state

State Interest	State Interest Statement	State Policy Mapping Triggers	ERM Response
		• MSES – Regulated Vegetation (wetland) • MSES – Regulated Vegetation (intersecting a watercourse)	development codes and accompanied with a clearing plan within the Proposed Development Layout Plan (refer to Appendix A).
Cultural Heritage	The cultural heritage significance of heritage places, including places of Aboriginal and Torres Strait Islander cultural heritage, is conserved for the benefit of the community and future generations.	• N/A	The Proposed Development is required to comply with the *Aboriginal Cultural Heritage Act 2004* 'Duty of Care Guidelines', with the Proposed Development identified as Category 5, requiring consultation with the registered cultural heritage bodies, being the Wulli Wulli Nation Aboriginal Corporation RNTBC. TED have committed undertake additional survey works in collaboration with the Wulli Wulli people and are in discussions around a CHMP under Part 7 of the Aboriginal Cultural Heritage Act 2003 (Qld).
Water Quality	The environmental values and quality of Queensland waters are protected and enhanced.	• N/A	Impacts to waterways as a result of the Proposed Development will be minimal due to the following management and mitigation matters: • All wind turbines will be located no less than 50 m from a major waterway; • All wind turbines have been located in areas that avoid a 1% Annual Expedient Probability (AEP) flooding event. Erosion and sediment control measures will be installed during the construction phase as outlined in the Stormwater Assessment (refer to Appendix M).
Safety and Resilience to Hazards			
Emissions and Hazardous Activities	Community health and safety, and the natural and built environment, are protected from potential adverse impacts of emissions and hazardous activities. The operation of appropriately established industrial development, major infrastructure,	• High pressure gas pipeline	The Applicant is consulting with Australia Pacific LNG/Origin to ensure the Proposed Development will not impact the high pressure gas pipeline. The Proposed Development complies with the noise criteria within the Code as outlined in State Code 23 response available in Appendix I, and as such is considered that will not impact on the community health and safety of nearby sensitive receptors.

State Interest	State Interest Statement	State Policy Mapping Triggers	ERM Response
	and sport and recreation activities is ensured.		
Natural hazards, risk and resilience	The risk associated with natural hazards, including the projected impacts of climate change, are avoided or mitigated to protect people and property and enhance the community's resilience to natural hazards.	• Flood hazard area – Level 1 – Queensland floodplain assessment overlay • Flood hazard area – Local Government flood mapping area • Bushfire prone area	A Natural Hazard Risk Assessment (NHRA) has been prepared for the Proposed Development (refer to Appendix N).As per the NHRA, the Proposed Development footprint has a sufficient area to allow the required asset protection zone widths (refer to Appendix N, Table 3-7) to be implemented within the design layout. From a radiant heat level perspective, the bushfire hazard and risk to the Proposed Development is considered to be acceptable, subject to compliance with the prescribed Asset Protection Zone (APZ) widths. The NHRA concluded that the Proposed Development does not increase the vulnerability of people, assets and environment to potential bushfire impact. A detailed Bushfire Management Plan will be developed to manage the risk of fire during the construction, operation and decommissioning phases of the Proposed Development. Impacts to natural drainage patterns of watercourses that flow through, and within the Proposed Development footprint have been minimised to linear infrastructure. An assessment was undertaken to determine the extent of disturbance upon watercourses (refer to Appendix M). Additionally, the disturbance footprint has been designed to be located outside of the 1% AEP flooding extent.
Infrastructure			
Energy and Water Supply	The timely, safe, affordable and reliable provision and operation of electricity and water supply infrastructure is supported and renewable energy development is enabled.	• N/A	The Proposed Development will not impact an existing water or energy supply within the Project Area. The Proposed Development is the development of a renewable energy facility.

State Interest	State Interest Statement	State Policy Mapping Triggers	ERM Response
Transport Infrastructure	The safe and efficient movement of people and goods is enabled, and land use patterns that encourage sustainable transport are supported.	• N/A	As part of the Proposed Development, a Site Access & Route Assessment was undertaken (refer to Appendix D). The Site Access & Route Assessment identified roads which allow for the safe and efficient movement of the WTG components, which will not impact on the movement and safety to people and land use patterns.

5.3.3 STATE DEVELOPMENT ASSESSMENT PROVISIONS

The applicable SDAPs for the Proposed Development are State Code 16 and State Code 23.

State Code 16 provides the assessment criteria for an assessable development that is the clearing of native vegetation under the Planning Act. Its purpose is to assist the Applicant in preparing DAs for, or involving, the clearing of native vegetation. An assessment of the proposed operational works for native vegetation clearing against the State Code 16 has been undertaken and is provided in Appendix I.

State Code 23 applies to a material change of use for a new or expanding wind farm. It outlines the requirements for wind farm to be appropriately located, sited, designed, construction and operated with the intention to protect individuals, communities and the environment from adverse impacts. The Applicant must demonstrate compliance with the designated performance outcomes or acceptable outcomes within the code. These range from location and design to noise and shadow flicker impacts. An assessment of the proposed Material Change of Use for the Wind Farm against State Code 23 has been undertaken and is provided for reference in Appendix I.

5.3.4 BANANA SHIRE PLANNING SCHEME 2021

5.3.4.1 STRATEGIC OUTCOMES

TABLE 5-3 APPLICABLE STRATEGIC OUTCOMES

Strategic Outcomes	ERM's Response
Settlement	
SO7 The amenity of existing communities and the productive capacity of agricultural land, mining and extractive resources is protected by maintaining adequate separation distances between incompatible land uses.	The Proposed Development will not impede on current agricultural land uses surrounding and within the Project Area. The Proposed Development as a renewable energy facility is compatible with agricultural land uses within the area. Separation distances of at least 1,500 m between sensitive land uses and wind turbines was an important aspect of the turbine layout.
Rural Areas	
SO5	The Proposed Development will provide the local community with employment opportunities with 300-500 construction and 10-50 operation employees. The Proposed Development

Strategic Outcomes	ERM's Response
Major industries, community infrastructure and energy projects (such as liquid fuels, solar and wind) are supported where there are demonstrated economic benefits to the local community, local employment opportunities and impacts on cultural, rural and environmental values are managed in line with community expectation.	intends to seek goods and services from the local Banana Shire region. An Ecological Assessment Report has been provided in Appendix J outlining the ecological impacts of the Proposed Development. TED have also agreed to undertake additional survey works in collaboration with the Wulli Wulli people and are preparing discussions around a CHMP under Part 7 of the Aboriginal Cultural Heritage Act 2003 (Qld).
SO7 Non-rural uses must be of a nature that is unable to be accommodated in towns, bring major local or regional economic benefits and avoid or mitigate impacts on rural character, agricultural production, scenic values and water quality and have direct access to urban areas via high quality roads.	The Proposed Development as a renewable energy facility (wind farm) will provide positive economic impacts both locally and regionally. The Proposed Development will not impact on agricultural uses within the Project Area and surrounding area. Potential impacts of the Proposed Development will be managed through a number of management plans.
SO11 Development does not result in any diminishing of the values that contribute to the significance of the Shire's scenic assets.	A Landscape and Visual Impact Assessment (Appendix Q) was conducted to understand the visual impact of the Proposed Development. A detailed assessment was undertaken for a total of 26 public viewpoint locations within the Project Area. The assessment identified opportunities to view the Proposed Development varied and the visual impact ratings were generally low. A total of five (5) photomontages were prepared to illustrate the potential visual impacts from representative public viewpoint locations.
Strong Communities	
SO2 Development occurs in a manner that provides access to a range of employment, commercial, cultural, recreational, education and community opportunities in serviceable locations throughout the Shire that respond to community needs.	The Proposed Development will provide a diversification of income for host landowners and will provide employment opportunities for the region. It is estimated that there will be 10-50 employees during operation and 300-500 construction employees.
SO5 Community health and safety, and the natural and built environment, are protected from potential adverse impacts of emissions and hazardous activities.	A Noise Impact Assessment (Appendix O) was undertaken to ensure compliance with State Code 23. The Proposed Development did not exceed noise criteria at existing or approved sensitive land uses on host and non-host lots.
SO6 Cultural heritage, including that significant to Aboriginal and Torres Strait Islander peoples, is acknowledged and protected to maintain the link between the current community and the values that contributed to its establishment.	The Proposed Development is required to comply with the *Aboriginal Cultural Heritage Act 2004 'Duty of Care Guidelines'*, with the Proposed Development identified as Category 5, requiring consultation with the registered cultural heritage bodies, being the Wulli Wulli Nation Aboriginal Corporation RNTBC. TED have also agreed to undertake additional survey works in collaboration with the Wulli Wulli people and are preparing discussions around a CHMP under Part 7 of the Aboriginal Cultural Heritage Act 2003 (Qld).

Strategic Outcomes	ERM's Response
Natural Systems and Hazards	
SO1 The natural environment and its assets, connectivity, ecological processes and biodiversity values are conserved, enhanced, restored and protected from incompatible development to avoid or otherwise minimise significant adverse impacts on their values.	The Proposed Development has been designed to minimise impact to the environment. Matters of National, State and local environmental significance have been identified and assessed and are included in the Ecological Assessment Report provided in Appendix J. Native vegetation will be cleared for the construction of the wind farm, however each turbine may be micro-sited before construction to ensure minimal clearing.
SO2 Development within or adjacent to an area of environmental significance minimises disturbance to the natural landform, ecology and wildlife habitats and contributes to ecosystem health, liveability and prosperity.	
SO3 Water resources such as those associated with the main river systems of the Dawson, Dee and Don Rivers and sub-artesian resources are managed and protected. Natural drainage, groundwater and landscape features are protected or enhanced.	The Proposed Development design focuses on the construction of pads for the wind turbines and infrastructure for the conveyance of electricity produced across the site. Due to the small total area impacted as part of the development, the quantity and quality of all stormwater leaving the site is not expected to be of a different quality or quantity of receiving water, prior to the development. The provided design indicates limited works, other than minor access tracks, are proposed in defined watercourses. These two components when considered together indicates limited works, other than minor access tracks, are proposed in defined watercourses. These two components considered together indicate a small potential negligible impact as a result of the development but over a well-defined small total area.
SO4 Development ensures storm water quality and flow is managed and risk of erosion is mitigated to protect the ecological properties of waterways and the functioning of the aquatic ecosystem. Wastewater and solid waste disposal activities and facilities take into account topography and the potential impacts on groundwater resources.	Stormwater quality best management practices are feasible and valid for the Proposed Development, and once designed and implemented, will be sufficient to manage the stormwater quality reporting to receiving waters. Further details are provided in Stormwater Assessment in Appendix M. Additionally, the Proposed Development footprint is classified as low or moderate soil erosion risk, with erosion and sediment generated as a result of the Proposed Development considered to be manageable with simple erosion and sediment control. Best practice erosion and sediment control strategies should be employed. Further details are provided in the Stormwater Assessment in Appendix M**.**
SO6 Development is designed, located, constructed and operated to manage the impacts of hazards, while natural processes and biodiversity are protected, managed and rehabilitated.	The wind turbines have been micro-sited to ensure minimal clearing. Natural hazards such as flood and bushfire were taken into account when designing the proposed layout. The Stormwater Assessment (refer to Appendix M), the Proposed Development will not worsen any existing conditions in terms of flooding. The NHRA (refer to Appendix N) has also determined that the Proposed Development does not increase the vulnerability of people, assets and environment to potential bushfire impact.

Strategic Outcomes	ERM's Response
	A detailed Bushfire Management Plan will be developed to manage the risk of fire during the construction, operation and decommissioning phases of the Proposed Development.
SO7 New development acknowledges the potential impacts of climate change and is designed to reduce the carbon footprint of the Shire and demonstrates a commitment to the reduction in reliance on non-renewable resources and the generation of greenhouse gas emissions.	The Proposed Development as a renewable energy facility (wind farm) acknowledges climate change and therefore the development of the wind farm will assist with Council's commitment to the reduction of greenhouse gases in the local government area.
Strong Economy	
SO14 Growth in the development and use of renewable energy resources such as solar, biomass and wind power contribute to the diversification of the Shire's economy and provide alternative employment opportunities for the local workforce.	The Proposed Development as a renewable energy facility (wind farm) will provide diversification of income for landowners but will also provide alternative employment opportunities to the local community. The Proposed Development will require goods and services from Theodore as well as larger regional centres.
Infrastructure and Servicing	
SO1 Infrastructure reflects community expectations and needs, contributes to community wellbeing and prosperity, meets engineering and environmental standards, continues to function effectively during and immediately after natural disasters, and has been provided in an orderly and cost effective manner.	The Proposed Development will contribute to the growing energy needs of the region by providing a clean energy source. The layout of the wind turbines takes into account natural hazards such as flood and bushfires to ensure the Proposed Development does not increase the likelihood.

5.3.4.2 ZONING

The Project Area is located within the Rural Zone of the Planning Scheme, the purpose of the Rural Zone as per the Planning Scheme is as per the below.

The purpose of the Rural Zone Code is to-

a) Provide for rural uses and activities; and

b) Provide for other uses and activities that are compatible with:

i. Existing and future rural uses and activities; and

ii. The character and environmental features of the Zone; and

c) *Maintain the capacity of rural land for rural uses and activities by protecting and managing significant natural resources and processes.*

An assessment of the overall outcomes of the Rural Zone Codes are provided in Table 5-4. From the assessment, the Proposed Development is considered to support the purpose and outcome of the Rural Zone as the Proposed Development has been designed with the intention to have minimal impact on the existing land management practices within the Project Area. The participating properties will be able to continue agricultural activities throughout the construction and operational phases of the Proposed Development.

Furthermore, the Proposed Development has been designed to be responsive to environmental constraints on the land and minimises the amount of clearing required to facilitate the WTGs and associated infrastructure.

TABLE 5-4 RURAL ZONE OVERALL OUTCOMES ASSESSMENT

Rural Zone Overall Outcomes	ERM's Response
1. intensive animal industries minimise or avoid adverse impacts on surrounding land uses;	The Proposed Development is for a renewable energy facility and therefore this overall outcome is not applicable.
2. development is sensitive and responsive to the rural character and scenic amenity and maintains vegetation cover in significant areas;	The Proposed Development has been designed to minimise impacts to character, amenity and vegetation. Specific technical assessments are provided in Appendix J, Appendix O and Appendix Q.
3. development, having regard to its location and design, protects people and premises from natural hazards and contamination;	As per the Stormwater Assessment (refer to Appendix M), the Proposed Development will not worsen any existing conditions in terms of flooding. As per the NHRA (refer to Appendix N) the Proposed Development footprint has a sufficient area to allow the required asset protection zone widths (Appendix N, Table 3-7) to be implemented within the design layout. From a radiant heat level perspective, the bushfire hazard and risk to the Proposed Development is considered to be acceptable, subject to appropriate assessment of APZ widths during detailed design and compliance with the prescribed APZ widths. The NHRA concluded that the Proposed Development does not increase the vulnerability of people. Assets and environment to potential bushfire impact. A detailed Bushfire Management Plan will be developed to manage the risk of fire during the construction, operation and decommissioning phases of the Proposed Development.
4. extractive industries and associated processing occur in a way that significant environmental impacts are contained within the site and provides for the effective site rehabilitation;	The Proposed Development is for a renewable energy facility and therefore this overall outcome is not applicable.
5. development adjacent to an extractive resource or transport route permits the efficient extraction of the entire resource, the safe and efficient transport of materials to and from the site and provides effective	The Proposed Development is not located adjacent to an extractive resource or transport route therefore this overall outcome is not applicable.

Rural Zone Overall Outcomes	ERM's Response
and on-going separation of extractive industry activity from any sensitive uses;	
6. non-resident workforce accommodation is incompatible with the purpose of the Rural Zone and are located in a more suitable zone;	The Proposed Development is for a renewable energy facility and therefore this overall outcome is not applicable.
7. tourism uses only locate where they have a nexus with the surrounding rural activities or places with high environmental values;	The Proposed Development is for a renewable energy facility and therefore this overall outcome is not applicable.
8. infrastructure is provided at a standard normally expected in rural locations and is allowed to operate safely and efficiently without interference by incompatible uses or works;	The Project Area and surrounding area is used for agricultural purposes, specifically grazing. The Proposed Development will be able to safely and efficiently operate in conjunction with agricultural purposes.
9. development is separated from existing and potential industry land uses located in rural areas including established uses identified in the Special Industry Zone;	The Proposed Development is separated from existing and potential industry land uses.
10. and where affected by an overlay for: a. agricultural land: i. the productive viability of agricultural land is not reduced due to the intrusion of incompatible land uses or unnecessary fragmentation or alienation; ii. development is compatible with the viability, integrity, operation and maintenance of the stock route network.	The Proposed Development is located within the agricultural land overlay, however, will not impede on the Stock Route Network on Crowsdale Camboon Road. Given the nature of the proposal, it is able to co-exist with agricultural activities with minimal impact on the stock route.
b. Biodiversity: i. Adverse impacts on ecological features and processes are avoided or minimised through the location, design and management of development and activities; ii. Development retains the biodiversity and ecological connectivity functions of natural features such as waterways, wetlands and bushland; iii. areas of significant ecological and environmental value are protected from the intrusive impacts of adjacent development. iv. development includes effectual biosecurity management practices.	The Proposed Development has been designed to minimise impact to the environment. Matters of National, State and local environmental significance have been identified and assessed and are included in the Ecological Assessment Report provided in Appendix J. Native vegetation will be cleared for the construction of the wind farm, however, each turbine will be micro-sited before construction to ensure minimal clearing. Current land management practices will be retained through the operation of the Proposed Development.
c. Bushfire or flood risk: i. the use and works support and do not unduly burden disaster management response or recovery activities, providing for access for evacuation resources and efficient evacuation of sites during emergency events; ii. development minimises the exposure of people or property to	The wind turbines have been micro-sited to ensure minimal clearing. Natural hazards such as flood and bushfire were taken into account when designing the proposed layout. The Stormwater Assessment (refer to Appendix M), the Proposed Development will not worsen any existing conditions in terms of flooding. The NHRA (refer to Appendix N) concluded that the Proposed Development does not increase the

Rural Zone Overall Outcomes	ERM's Response
unacceptable risk from exposure to natural hazards and environmental constraints affecting the land through consideration of location, siting, design, construction and operation; iii. development that intensifies occupancy of a site in Theodore responds to the elevated flood risk hazard by ensuring that emergency management plans allow appropriate responses to emergency measures having consideration to the numbers and capabilities of existing and future users of the development; iv. works do not contribute to an increase in the severity of natural hazard events and are designed, located and operated to minimise risk to people and damage to property, disruption to development function and re-establishment time following an event; v. development involving the manufacture or storage in bulk of hazardous materials does not adversely impact on public safety or the environment; vi. works retain the natural processes and protective function of landforms and vegetation in natural hazard areas.	vulnerability of people. Assets and environment to potential bushfire impact. A detailed Bushfire Management Plan will be developed to manage the risk of fire during the construction, operation and decommissioning phases of the Proposed Development.
d. Extractive or mining resources: i. the establishment, continuation and productivity of mining tenements and designated Key Resource Areas is facilitated and protected from irreversible alienation; ii. uses and works for extractive industry are located, designed and managed to contain significant environmental impacts within the site, maintain safety on and off the site, avoid significant adverse effects on the natural environment and minimise impacts on existing incompatible uses in the surrounding area; iii. development for mining tenements or extractive resources provides access from transport infrastructure of a standard suitable to the volume and weight of traffic generated by the development; iv. existing or future development of mining tenements and within designated Key Resource Areas and their identified transport routes is not prejudiced by the intrusion of incompatible uses;	The Proposed Development Project Area is not located within the extractive or mining resources overlay.

Rural Zone Overall Outcomes	ERM's Response
v. land used for extractive industry is effectively rehabilitated on cessation of extraction activities so the environmental, social and economic value of the land is restored.	
e. Heritage i. the cultural heritage values, the context and setting of a heritage place are conserved and (where feasible) enhanced ii. development on a heritage place facilitates the appropriate use (including adaptive reuse) of the place; iii. demolition of identified buildings and structures only occurs where there is no prudent and feasible alternative to the demolition or removal; iv. development adjoining a heritage place is sympathetic to the cultural heritage significance of that place and does not have an adverse impact in terms of visibility, public accessibility or physical change.	The Proposed Development is not located within the Heritage Overlay, however, it is required to comply with the Aboriginal Cultural Heritage Act 2004 'Duty of Care Guidelines', with the Proposed Development identified as Category 5, requiring consultation with the registered cultural heritage bodies, being the Wulli Wulli Nation Aboriginal Corporation RNTBC. TED have also agreed to undertake additional survey works in collaboration with the Wulli Wulli people and are preparing discussions around a Cultural Heritage Management Plan (CHMP) under Part 7 of the Aboriginal Cultural Heritage Act 2003 (Qld).
f. Historical subdivisions i. land included in the Historic Subdivisions Overlay remains undeveloped for non-rural purposes where it is unable to access a reasonable level of service without direct intervention from Council.	The Proposed Development is not located in the Historical Subdivision Overlay.
g. Infrastructure i. the viability of essential community infrastructure is protected by requiring on-site buffering and separation of new development on adjoining sites that could limit the on-going operation of existing infrastructure; ii. an appropriate level of amenity is maintained for development in the vicinity of identified infrastructure; iii. the interaction between transport infrastructure and sensitive land uses is managed to maintain the efficiency of the transport network and to protect community health and amenity.	The Proposed Development will not impede on current infrastructure identified in the Infrastructure Overlay. Appropriate buffers were considered as part of the design process to ensure amenity, health and safety is not affected.
h. water resources i. water supply catchments are protected from activities that may endanger the quality of drinking water supplies and the groundwater management areas; ii. development does not adversely impact on the recharge capacity of	The Proposed Development is not located within the Water Resources Overlay, however, the design focuses on the construction of pads for the wind turbines and infrastructure for the conveyance of electricity produced across the site. Due to the small total area impacted as part of the development, the quantity and quality of all stormwater leaving the site is not

Rural Zone Overall Outcomes	ERM's Response
the groundwater management areas.	expected to be of a different quality or quantity of receiving water, prior to the development. The provided design indicates limited works are proposed in defined watercourses other than minor access tracks. These two components when considered together indicates limited works, other than minor access tracks, are proposed in defined watercourses. These two components considered together indicate a small potential negligible impact as a result of the development but over a well-defined small total area.
11. for land in the Muirs Road Precinct: i. development does not result in an increase to unacceptable risk to people or property as a result of exposure to flood hazard associated with Callide Dam water releases.	The Proposed Development is not located within the Muirs Road Precinct and therefore this overall outcome is not applicable.

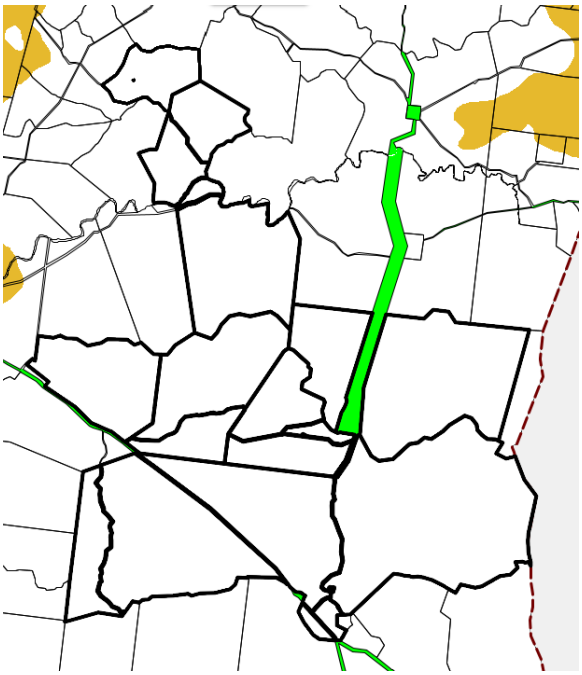
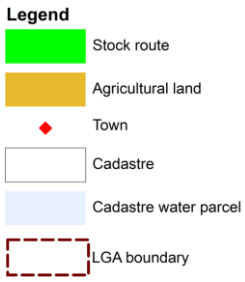
5.3.4.3 OVERLAYS

The following overlays detailed below are relevant to the Project Area. All applicable overlays have a code associated. The local planning scheme mapping was reviewed and was found to be consistent with the SPP mapping. As a result, an assessment against the overlay codes is not required.

Agricultural Land Overlay

As depicted in Table 5-5, the subject site is located within the Agricultural Land Overlay.

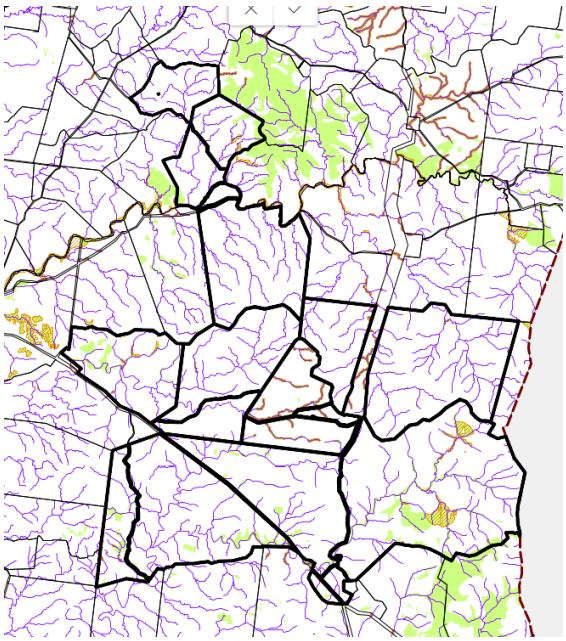
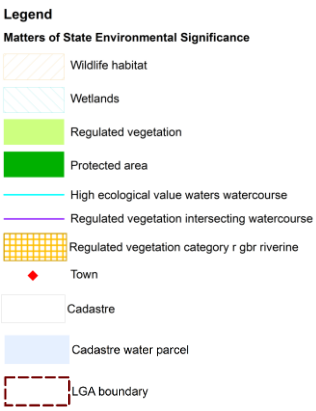
TABLE 5-5 AGRICULTURAL LAND OVERLAY

Overlay	Mapping Legend
	

Biodiversity Overlay

As depicted in Table 5-6, the subject site is located within the Biodiversity Overlay.

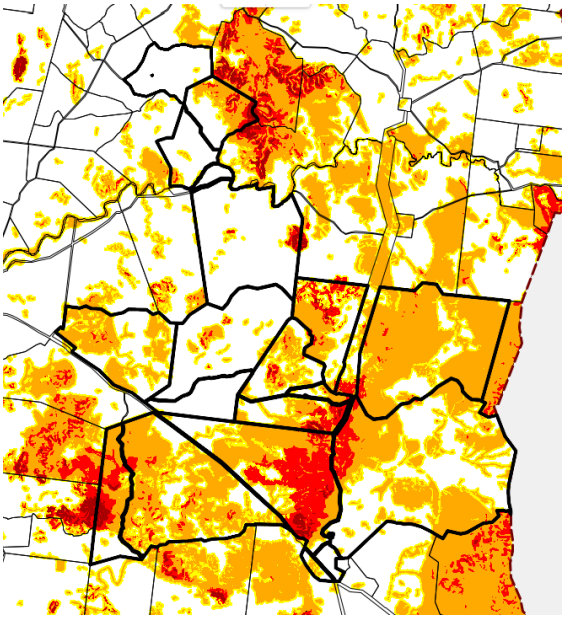
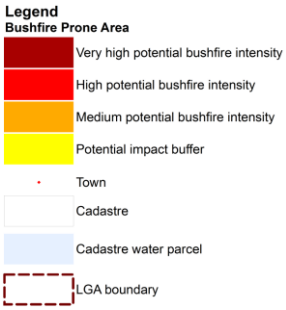
TABLE 5-6 BIODIVERSITY OVERLAY

Overlay	Mapping Legend
	

Bushire Hazard Overlay

As depicted in Table 5-7, the subject site is located within the Bushfire Hazard Overlay.

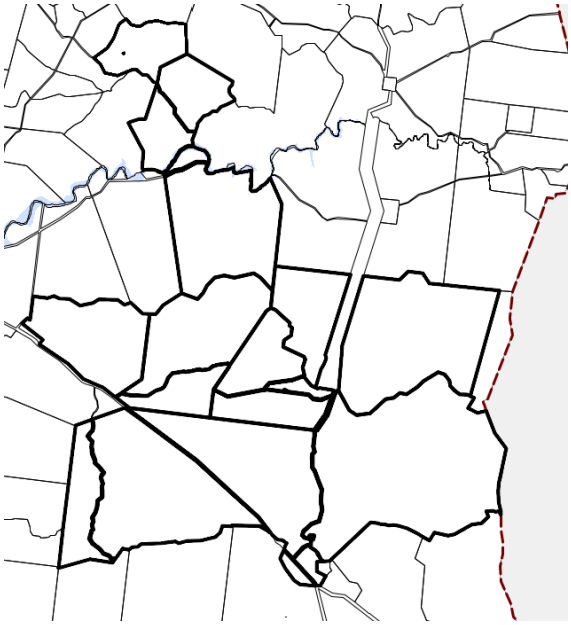
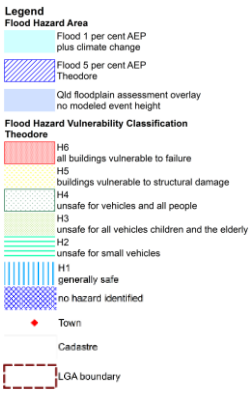
TABLE 5-7 BUSHFIRE HAZARD OVERLAY

Overlay	Mapping Legend
	

Flood Hazard Overlay

As depicted in Table 5-8, the subject site is located within the Flood Hazard Overlay.

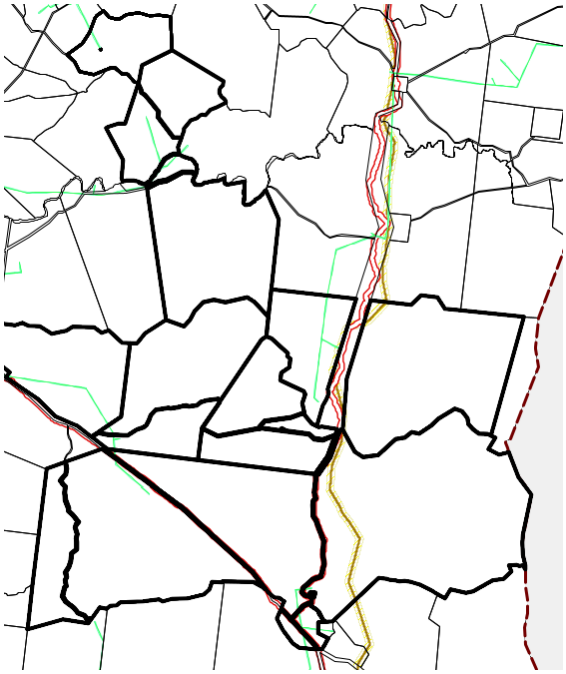
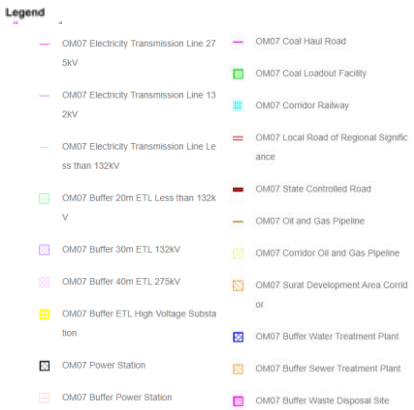
TABLE 5-8 FLOOD HAZARD OVERLAY

Overlay	Mapping Legend
	

Infrastructure Overlay

As depicted in Table 5-9, the subject site is located within the Infrastructure Overlay.

TABLE 5-9 INFRASTRUCTURE OVERLAY

Overlay	Mapping Legend
	

6. IMPACT ASSESSMENT

6.1 OVERVIEW

Detailed technical assessments have been undertaken for the Proposed Development to inform the design and to identify any impacts and associated management and mitigation measures that will be required in accordance with the performance outcomes of State Code 23 v3.0 and draft State Code 23. The technical assessments were undertaken based on the Project Area (refer to Section 3). Table 6-1 summarises the technical studies that have been completed to support the development approval.

TABLE 6-1 SUMMARY OF TECHNICAL STUDIES

State Code 23, v.3.0	Draft State Code 23	Technical Study	Consultant	Location Reference	Compliance
PO1 & PO2	PO21 & PO22	Aviation Impact Assessment	Aviation Projects	**Appendix T**	Complies
PO3	PO12	EMI Assessment	Middleton Group	**Appendix P**	Complies
PO4	PO13	Shadow Flicker Assessment	Moir Landscape Architecture	**Appendix Q**	Complies
PO5	PO1-PO4	Ecological Assessment Report	ERM	**Appendix J**	Complies
		Preliminary Vegetation and Fauna Management Plan		**Appendix K**	Complies
		Bird and Bat Management Plan		**Appendix L**	Complies
		Preliminary Post-Construction Rehabilitation Plan		**Appendix F**	Complies
PO6 & PO13	PO16 – PO20	Site Access and Route Assessment	Cambray	**Appendix D**	Complies
		Traffic Impact Assessment	Cambray	**Appendix S**	Complies
PO7 & PO8	PO5, PO7 & PO8	Stormwater Assessment	ERM	**Appendix M**	Complies
	PO6	Erosion Risk Assessment	ERM		Complies
PO9	PO15	Landscape and Visual Impact Assessment	Moir Landscape Architecture	**Appendix Q**	Complies
PO10 PO11 & PO12	PO10 & PO11	Noise Impact Assessment	Echo Acoustics	**Appendix O**	Complies
N/A	PO9	Natural Hazard Risk Assessment	Covey Associates	**Appendix N**	Complies
N/A	PO14	Accommodations Options Study	ERM	**Appendix R**	Complies

6.2 PO1 & PO2: AVIATION SAFETY, INTEGRITY AND EFFICIENCY

As part of the Proposed Development, Aviation Projects were engaged to assess the Proposed Development and compliance with State Code 23 v3.0 and draft State Code 23. The Aviation Impact Assessment (AIA) (refer to Appendix T) identifies potential impacts and provides aviation safety advice with respect to the relevant requirements for air safety regulations and procedures as well as other regulatory requirements.

The AIA concluded that based on the proposed layout, the Proposed Development:

- Will not penetrate OLS surfaces;
- Will not impact on circling areas of any certified airport;
- Will impact on both the 10 nm (increase by 500 ft to 3400 ft) and 25 nm (increase by 400 ft to 3600 ft) MSA surfaces associated with Theodore Airport;
- Will not impact on PANS-OPS surfaces, however, due to the requirement of increasing the 25 nm MSA the minimum altitude in some segments would need to be increased;
- There are no aircraft landing areas within 3 nm of the Project Area;
- Will not impact on the grid LSALT;
- Will impact on air route LSALT – W186 (increased by 200 ft to 3600 ft);
- Will impact on air route LSALT – UY490 (increased by 300 ft to 3600 ft);
- Will be wholly contained within Class G airspace; and
- Is outside of the clearance zones associated with civil aviation navigation aids and communication facilities.

Aviation Projects has undertaken a safety risk assessment of the Proposed Development and concluded that the proposed WTGs will not require obstacle lighting to maintain an acceptable level of safety to aircraft. It is recommended that obstacle marking is proposed for the wind monitoring towers in accordance with relevant standards (Section 1.13 of the Wind Monitoring Tower Aeronautical Study). It is also recommended that the WTG blades, nacelles, hubs and towers should be painted white, with no additional marking measures required. Micro-siting allowance is not expected to have any change in the maximum overall tip height, with no further assessment required.

As the Proposed Development will not have an adverse impact on the safety, operational integrity or efficiency of air services, and will remain compliant with all required lighting and marking recommendations outlined in the AIA (Appendix T), it is fully expected that the Proposed Development is compliant with State Code 23 v3.0 and draft State Code 23.

6.3 PO3: ELECTROMAGNETIC INTERFERENCE

Middleton Group were engaged to assess the potential electromagnetic interference impact of the Proposed Development. An Electromagnetic Interference (EMI) Assessment (refer to Appendix P) has been prepared to assess the impacts of the Proposed Development on the following services:

- Point-to-point microwave links;
- Meteorological radar;
- Mobile voice-based communications;
- Wireless and satellite internet services;

- Broadcast and digital radio;
- Broadcast, digital and satellite television;
- Trigonometry stations; and
- GPS.

After undertaking an assessment the EMI Assessment concluded:

- There are two Australian Communications and Media Authority sites and one Australian Communication and Media Authority link within the Project Area. It was confirmed it is unlikely that the Proposed Development will cause telecommunication interference;
- The closest metrological radar, Taroom, is located approximately 90 km from the Proposed Development. The Proposed Development complies with the World Metrological Organisation standards based on distance setbacks;
- All mobile towers are located outside of the Project Area. In the immediate vicinity of the WTG, some reduction in signal may occur, however, this can be mitigated by relocating the mobile phone received in the order of tens of meters. Beyond the Project Area, there will not be any significant impact on the signal;
- Given there are no dwellings within close proximity to the Project Area, it is unlikely to impact on satellite services;
- The Proposed Development does not intersect Broadcast Towers.

Stakeholder engagement was undertaken as part of the EMI Assessment to confirm the impact of the Proposed Development. The five stakeholders include:

- BoM – BoM undertook further technical assessment of potential impacts and have flagged potential impacts to the Taroom Radar as a 'high risk'. Ongoing consultation and impact assessment is currently being undertaken by BoM and the Applicant to reach agreement on suitable mitigation options, noting this is not isolated to one wind farm project;
- Geoscience Australia – confirmed no impact;
- Telstra – confirmed no impact;
- Optus – confirmed no impact; and
- Australia Pacific LNG / Origin – confirmed no impact.

Given the above, its considered that the Proposed Development is compliant with State Code 23 v.3.0 and draft State Code 23.

6.4 PO4: SHADOW FLICKER

Moir Landscape Architecture were engaged to prepare a Landscape and Visual Impact Assessment (LVIA), with a Shadow Flicker Assessment provided in Section 10.0 (refer to Appendix Q).

The Shadow Flicker Assessment has been based on the extent of the shadows from WTGs being 265 m x maximum blade chord (4.3 m) being 1,139.5 m. No host or non-host dwellings were identified within a distance of 1,139.5 m of the nearest WTG. Therefore, as per State Code 23, no assessment is necessary for dwellings beyond 1,139.5 m.

It is considered that the Proposed Development is compliant with State Code 23 v3.0 and draft State Code 23.

6.5 PO5: FLORA AND FAUNA

An Ecological Assessment Report (see Appendix J) has been prepared by ERM in order to demonstrate compliance with State Code 16 and State Code 23 v.3.0 and draft State Code 23. The ecological assessment was undertaken in accordance with the methodology presented in Appendix 3 of the State Code 23 v.3.0, with consideration for requirements under State Code 16.

The ecological assessment included eight (8) field survey events (between October 2022 and June 2024), and involved field surveys of terrestrial and aquatic habitats using techniques aligned with species specific survey guidelines.

The ecological assessment identified the following:

- The Project Area consist of six broad habitat types, which are as follows:
  - Grasslands and cultivated agricultural land
  - Eucalypt woodland and open forest
  - Brigalow woodlands
  - Riparian woodlands
  - Vine forest/ thickets and dry rainforest and
  - Waterbodies and drainage features.
- Regional Ecosystem mapping shows that the vegetation within the Project Area is classified as 'Least Concern', 'Of Concern' and 'Endangered' under the VM Act.
- The Proposed Development will occur across 1,932.2 ha, which is 4.1% of the Project Area, and will lead to a residual impact of:
  - 1,200.4 ha of koala habitat (884.3 ha preferred habitat and 315.7 ha general habitat);
  - 961.2 ha of squatter pigeon (southern subspecies) habitat (524 ha of preferred habitat and 437.2 ha of general habitat);
  - 877.4 ha of greater glider habitat (15.5 ha of preferred habitat and 861.9 ha of general habitat);
  - 886.3 ha of Large-eared pied bat habitat (886.3 ha of general habitat); and
  - 1,932.2 ha of potential habitat for Short-beaked echidna (entire Development Footprint).
- The clearing of 818.12 ha of Regulated Vegetation, including 1.68 ha of Category B Endangered REs, 7.20 ha of Category B Of Concern REs, 790.72 ha of Category B Least Concern REs, and 18.52 ha of Category R Regulated Regrowth Vegetation.
- The clearing of 6.08 ha of regulated vegetation interesting a watercourse.
- After the completion of a collision risk assessment and collision risk modelling (CRM), all potentially occurring MNES and MSES listed avifauna (including southern squatter pigeon, listed as known as per the likelihood of occurrence) were considered to be at a 'negligible' risk of collision with the exception of large-eared pied-bat, grey falcon, red goshawk, whit-throated needletail and fork-tailed swift, which have been considered as having 'low' collision risk. CRM results also indicate that less than one individual bird collision will occur per year from the operation of the Proposed Development.

Impacts to ecological values and processes will be further managed for the Proposed Development through the implementation of the following management plans:

- Post-Construction Rehabilitation Plan;
- Vegetation Management Plan;
- Fauna Management Plan; and
- Bird and Bat Management Plan.

Preliminary management plans have been prepared and included in the ecological assessment. It is expected these management plans will be further developed to manage impacts prior to commencement of construction.

It is therefore considered that the Proposed Development is compliant with State Code 23 v.3.0 and draft State Code 23.

6.6 PO6: TRANSPORT NETWORKS

6.6.1 ROUTE ASSESSMENT

A Site Access and Route Assessment (refer to Appendix D) has been prepared by Cambray Consulting for the Proposed Development. The Site Access and Route Assessment includes an assessment of the proposed haulage route from the Port of Gladstone in order to demonstrate compliance with State Code 23 v.3.0 and draft State Code 23 and is assessed in line with the proposed WTG used as part of this Project. The assessment has been prepared to identify the impacts of transporting the WTG components along the proposed haulage route from the Port of Gladstone to the Project Area. The assessment was undertaken based on readily available desktop information and a site visit. A haulage route to the Project Area was selected, this route is from the Port of Gladstone, via Mt Larcom to the Project Area. It is noted that an alternate route for oversize/overmass vehicles has been identified (via Leichhardt Highway) in the Site Access and Route Assessment.

This assessment has identified all potential road network functions during the construction phase, as well as the proposed routes, and measures to avoid, manage or mitigate the identified impacts. A Construction Traffic Management Plan will be prepared prior to construction activities to manage traffic-related impacts.

Traffic is to be controlled and mitigated through the Site Access and Route Assessment as required by State Code 23 v.3.0 and draft State Code 23. The Site Access and Route Assessment report indicates no significant adverse impact to transport networks and road infrastructure from the transportation of construction components, and outlines a preferred access route, manoeuvring areas and parking for the operation of the wind farm. As such, the Proposed Development is compliant with State Code 23 v3.0 and draft State Code 23.

6.6.2 TRAFFIC IMPACT ASSESSMENT

A Traffic Impact Assessment (refer to Appendix S) has been prepared by Cambray Consulting for the Proposed Development. The Traffic Impact Assessment includes an assessment of the operation and configuration of the existing transport network, including potential construction and operational traffic general and impacts to the roads to demonstrate compliance with State Code 23 v.3.0 and draft State Code 23.

As part of the Traffic Impact Assessment, several routes were reviewed for their viability and physical constraints assessed based on desktop or ground-truthed driven assessments:

- The route from Port of Gladstone to outer Gladstone has been utilised by the Clarke Creek Wind Farm and other proposed developments in the Banana region;
- The development is proposed to be accessed from the state-controlled road network via the Leichhardt Highway and Defence Road intersection;
- The existing Leichhardt Highway / Defence Road intersection configuration appears adequate based on the traffic generation information provided for the peak hourly construction traffic;
- Adequate sight distances to/from the intersection in accordance with Austroads Guide to Road Design Part 4a; and
- Internal access tracks are intended to be utilized for the Proposed Development and improvements to the existing flat site may be undertaken for set down and car parking arrangements.

In conclusion, the Proposed Development is complaint with the requirements of State Code 23 v3.0 and draft State Code 23.

6.7 PO7: NATURAL DRAINAGE PATTERNS

The Proposed Development has been designed to avoid impacts to mapped watercourses for all non-linear infrastructure. The access tracks associated with the Project intersect 60 watercourses, (Stream Order 1, 2, 3 and 4), as defined under the *Vegetation Management Act 1999*.

For the assessment, the following impacts to regulated vegetation intersecting a watercourse are anticipated:

- 30.3 ha within stream orders 1 & 2 10 m APZ;
- 4.7 ha within stream orders 3 & 4 25 m APZ.

Impacts to the watercourses associated with the Proposed Development do not result in a significant residual impact, as per the Significant Residual Impact Guidelines (DSDIP, 2014).

All other infrastructure within the Project Area boundary does not intersect with a watercourse.

All Project infrastructure (aside from access tracks) is outside the 1% AEP flood extent based on a review of Queensland Globe data.

An Erosion and Sediment Control Plan (ESCP) will be developed and implemented by the Principal Contractor to suit the detailed design of the Proposed Development and the proposed construction method and schedule. The ESCP will be in accordance with the International Erosion Control Association and Department of Environment and Science Guidelines. Clearing of vegetation is subject to the design layout of the Project Area. Further appropriate site-specific measures are expected to be included for protection of bank stability, water quality and habitat through suitable stormwater management and ESCP measures where vegetation clearing within drainage features are required.

6.8 PO8: STORMWATER MANAGEMENT AND EROSION RISK

A Stormwater Assessment (see Appendix M) has been undertaken for the Proposed Development by ERM to assess the potential impacts of stormwater discharge on surface water quality and quantity arising from a range of activities associated with construction, operation and decommissioning, with particular relevance to the proposed turbine layout. The Stormwater Assessment has been prepared in order to demonstrate compliance with State Code 23 v.3.0 and draft State Code 23.

The assessment looks at the potential impacts of the stormwater discharge as a result of the Proposed Development throughout the Proposed Developments lifespan and provides any required mitigation measures to ensure compliance with State Code 23 v.30 and draft State Code 23.

From the assessment, due to the development footprint being largely associated with the construction of pads for the WTGs, access roads and tracks and infrastructure for conveyance of electricity produced across the Project Area, the quantity and quality of all stormwater leaving the site is not expected to be of a different quality or quantity of receiving water, prior to the development. Works proposed within a defined watercourse are limited and focused on minor access tracks.

As such, the assessment considered the Proposed Development would result in a negligible increase in the fraction of impervious area post development. Mitigation and management measures are outlined in Section 2 of Appendix M and will ensure the protection of water quality objectives.

An Erosion Risk Assessment was undertaken (see Appendix M) under the Revised Universal Soil Loss Equation (RUSLE). From the RUSLE assessment it was concluded that the Proposed Development footprint is classified as low or moderate soil erosion risk, with erosion and sediment generated as a result of the Proposed Development considered to be manageable with simple erosion and sediment control. Best practice erosion and sediment control strategies should be employed. These strategies are detailed in Section 3 of Appendix M.

6.9 PO9: LANDSCAPE AND VISUAL IMPACT ASSESSMENT

The Proposed Development is not in an area identified by the Banana Shire Council as having high scenic amenity. This was determined through review of the local planning instrument, the Banana Shire Planning Scheme 2021.

Having regard for this, is it considered compliance with State Code 23 v3.0 and draft State Code 23 is achieved.

Notwithstanding the above, a Landscape and Visual Impact Assessment (LVIA) (refer to Appendix Q) has been undertaken by Moir Landscape Architecture which assesses the suitability of the wind farm development within the landscape context surrounding the Project Area and viewshed. It also considers the potential extent and degree of visual effects on people living in, and traveling through, the surrounding landscape.

The general character of the Project Area can be categorised as land utilised primarily for grazing native vegetation, with small parcels utilised for cropping. Areas nominated as production forestry border the Project Area to the southeast, east and north. Landform typically consists of undulating to steep ranges with elevations within the Project Area within the range of approx. 300 m - 540 m. Several creeks also form a part of the character of the

area. The most notable creeks in the area include Castle Creek, Seven Mile Creek and Nine Mile Gully. Several lower-order streams flow through the Project Area, draining the elevated regions. Dawson River flows approx. 22 km west of the Project.

The LVIA determined that there were limited opportunities to view the Proposed Development in its entirety on public land due to existing landscape features containing views towards the Proposed Development. Scattered vegetation, roadside vegetation, riparian vegetation associated with creeks, all assist in fragmenting views of the Proposed Development.

Whilst the Proposed Development will be visible from areas surrounding the Project Area, the landscape character of the area will be maintained.

6.10 PO10-PO12: ACOUSTIC AMENITY

As per Figure 3-2 and Table 3-3, all proposed WTGs are located a minimum of 1,500 m from existing and / or approved sensitive land uses and non-host lots.

Echo Acoustics were engaged to undertake the Noise Impact Assessment (Appendix O) in accordance with the acoustic criteria outlined in State Code 23 v.3.0. The purpose of the assessment was to demonstrate the Proposed Development did not exceed the noise criteria at existing or approved sensitive land uses on host lots and non-host lots.

The turbine model to be used as part of the Proposed Development is yet to be determined. Therefore, for the purpose of demonstrating compliance with the code, the Vestas V172-7.2MV with a maximum sound power level of 110.1 dB (A) and included an uncertainty factor of 2 dB(A).

The worst-case predicted noise levels at the nearest lots (host and non-host) were assessed against baseline limits and no exceedances were observed. As such, no noise monitoring was required.

In regard to the BESS, noise level predictions have been made and indicate that the noise level for the most conservative potential equipment operating at 100% capacity is 23dB(A) at the closest sensitive land use, being host lot H05. The predicted noise level at all other host lots will be less than 20dB(A) achieving compliance with the consolidated requirements of the Environmental Protection (Noise) Policy 2019.

Notwithstanding the above, background noise monitoring has been conducted to document ambient noise in the environment. This data will assist in the future noise monitoring plan and provide historical baseline information on the ambient environment as the Proposed Development progresses.

6.11 DRAFT CODE: NATURAL HAZARDS AND RISKS

A Natural Hazard Risk Assessment (NHRA) (see Appendix N) has been prepared by Covey Associates Pty Ltd to demonstrate compliance with draft State Code 23. The NHRA focuses on analysing the potential bushfire constraints and impacts for the Proposed Development. The Queensland Floodplain Assessment Overlay identifies Cattle Creek's flood plain as a flood hazard area. The Banana Shire Council Planning Scheme Overlay Flood Maps does not characterise the Project Area as a flood hazard area. Given the Proposed Development is located more than 2.5 km south of Cattle Creek flood plain, the impact flooding potential is not a concern.

The NHRA identified the following:

- The Proposed Development is located within an area of predominantly Medium Potential Bushfire Intensity, with High and Very High Potential Bushfire Intensity observed within more rugged terrain. The fire season for the region typically extends between August and January and is highly dependent on rainfall, with wet years resulting in increased fuel loading and dry years resulting in lower fuel loads due to decreased grass growth.
- Fuel loads for the site were determined through desktop analysis to vary between 9 t/ha and 20 t/ha for forest communities, with grasslands having a prescribed fuel load of 5 t/ha according to the Bushfire Resilient Communities Technical Guide.
- A potential bushfire impact analysis identified that under the design bushfire scenarios of the Bushfire Resilient Communities Technical Guide, the Proposed Development is not subject to unreasonable bushfire impact, should the Proposed Development ensure a minimum APZ outlined in Appendix N, Table 3-7.

The Proposed Development is likely to be impacted by wildfire during the expected operational life, however, the design of the development has been determined to not increase the vulnerability to potential bushfire impact.

Residual bushfire risks will be further managed for the proposed development via the implementation of a Bushfire Management Plan, which will be developed prior to the construction of the Proposed Development.

6.12 DRAFT CODE: SOCIAL IMPACTS

The draft State Code 23 has introduced an assessment for social impacts if there is on-site accommodation of greater than 50 beds. The requirement is that a Worker's Accommodation Options Report will be completed to accompany the Development Application.

The Proposed Development is proposing on-site accommodation greater than 50 beds and as per the draft State Code 23, an Accommodation Options Report has been prepared as part of this Development Application (refer to Appendix R).

The findings of the Accommodation Options Report assessed the options of on-site workforce accommodation, short-term accommodation and long-term accommodation, in which the following is recommended:

- The priority of accommodation options for the construction workforce is:
  - On-site workforce accommodation
  - Short-term accommodation
  - Long-term accommodation
- The Applicant is to encourage local employment as part of Construction Phase hiring practices, particularly for those located in the Primary Area of Influence.

Whilst preparing the Accommodation Options Report and recommending the above, the following was considered:

- The number of workers anticipated to be employed for the Construction Phase of the Project (i.e. between 300 and 500 workers);
- The limited number of short-term and long-term accommodation options available within the Primary Area of Influence and wider Banana Shire Local Government Area (i.e. 31 commercially operated short-term accommodation options);
- The extent of negative impacts likely to be experienced by the communities within the Primary Area of Influence as a result of the using short-term and long-term accommodation option scenarios, comparative to that of the on-site workforce accommodation option; and
- The potential for cumulative impacts to impact communities as a result of the other developments within the vicinity of the Project and/or those which overlap with the Project's Construction Phase.

In particular, it is important to note that the recommendation provided is not an 'all-in-one' solution, but rather a prioritisation. Whilst the main priority is for TED to construct and operate an on-site accommodation facility that will house most of the Project's Construction Phase workforce, the utilisation of short-term accommodation options will allow for economic benefits to be experienced by local communities, provide flexibility for TED at times of peak construction, and reduce the exposure of local community stakeholders within the Primary Area of Influence to the full extent of the negative social impacts identified in the key matters assessment.

Prior to implementing these priorities however, TED is recommended to engage in furthered discussion with the owners/operators of the existing Banana Accommodation Village as well as the mining companies who operate within the vicinity of the Project (i.e. Anglo American). The potential to use existing accommodation villages and/or workers camps within the Area of Influence of may also reduce the scale of the on-site workforce accommodation facility required for the Project, however this will be subject to future availability.

7. CONCLUSION

This Planning Report has been prepared by ERM on behalf of TED in support of a Development Permit for a Material Change of Use (Wind Farm) and Operational Work (Native Vegetation Clearing) for the proposed Theodore Wind Farm in accordance with the Planning Act.

Following a detailed assessment of the Proposed Development against the relevant assessment benchmarks, particularly State Code 16 and State Code 23, it is recommended that the Proposed Development is approved for the following reasons:

- The Proposed Development has been refined through its development process to define the most appropriate layout for wind resources, economics, constructability, and environmental constraints and considerations;
- The Proposed Development will generate clean, renewable energy helping to achieve the Queensland State Governments target of 50% renewable energy by 2030;
- The Proposed Development will provide economic stimulus and social benefit to the Banana Shire Region through the creation of 300-500 jobs (direct and indirect) during the construction and circa 10-50 FTE jobs during the operations phase as well as providing indirect socio – economic benefits to local businesses, contractors and suppliers;
- The Proposed Development will have a limited impact on the land during operations and can be readily restored for agricultural use post-construction;
- The construction phase of the Proposed Development will be appropriately managed to ensure impacts to the surrounding environment and community are minimised or managed;
- A suite of technical reports have been prepared to assess and determine the likely impacts of the Proposed Development and demonstrate the range of mitigation and management measures that can be implemented where necessary throughout the life of the Proposed Development; and
- The Proposed Development will positively contribute to the economy and community of the region and following approval, will be managed in accordance with the legislative requirements.

The Proposed Development is considered to comply with State Code 23. It is understood that conditions may be imposed to further mitigate any potential impacts.

Given the above, it is recommended that the DHLGPPW issues a Development Permit subject to reasonable and relevant conditions.

APPENDIX A PROJECT LAYOUT PLAN

APPENDIX B PRE-LODGEMENT MEETING MINUTES

APPENDIX C OWNERS CONSENT

APPENDIX D SITE ACCESS AND ROUTE ASSESSMENT

APPENDIX E PRELIMINARY CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

APPENDIX F PRELIMINARY POST-CONSTRUCTION REHABILITATION PLAN

APPENDIX G RELEVANT PURPOSE DETERMINATION

APPENDIX H SPP MAPPING

APPENDIX I SDAP CODE ASSESSMENT

APPENDIX J ECOLOGICAL ASSESSMENT REPORT

APPENDIX K PRELIMINARY VEGETATION AND FAUNA MANAGEMENT PLAN

APPENDIX L PRELIMINARY BIRD AND BAT MANAGEMENT PLAN

APPENDIX M STORMWATER AND EROSION RISK ASSESSMENT

APPENDIX N NATURAL HAZARD RISK ASSESSMENT

APPENDIX O NOISE IMPACT ASSESSMENT

APPENDIX P ELECTROMAGNETIC INTERFERENCE ASSESSMENT

APPENDIX Q LANDSCAPE AND VISUAL IMPACT ASSESSMENT

APPENDIX R SOCIO-ECONOMIC IMPACT ASSESSMENT AND ACCOMMODATION OPTIONS REPORT

APPENDIX S TRAFFIC IMPACT ASSESSMENT

APPENDIX T AVIATION IMPACT ASSESSMENT

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