26 May 2026

Mr Craig Watts
Chief Executive Officer
Shire of Merredin
PO Box 42
Merredin WA 6415

Dear Mr Watts,

**RE: Application for development approval – Wind Monitoring Tower (WMT)**

Collgar Renewables is seeking Development Approval from the Shire of Merredin under the Shire of Merredin Local Planning Scheme No. 6 (LPS 6) to construct and operate one wind monitoring tower (WMT) for the proposed Tandegin Wind Farm. Collgar Renewables believes that the proposed WMT is consistent with the objectives of the General Farming zone (as it is defined within the Shire of Merredin LPS 6) and so should be permitted without needing to be advertised prior. The WMT is a 160m guyed lattice tower of radio tower design and as such should be classed 'Telecommunications Infrastructure' as per Table 1 LPS6.

The purpose of constructing and operating the WMT is to collect a range of weather data at various heights, in particular wind speed and direction, to determine the suitability of the location for siting the proposed Tandegin Wind Farm.

The development application includes the information listed below.

- A completed Application for Planning Approval form (Local Planning Scheme No. 6 – Schedule 6 – Clause 9.1.1).
- A description of the proposed wind monitoring tower, including the proposed install location and proposed construction and operational activities.
- A summary of consultation completed to date for the wind monitoring tower.
- An assessment of planning considerations relevant to this development application, including the Shire of Merredin LPS 6 and other relevant regulations, policies, and guidelines.
- A Certificate of Title for the respective property.
- General arrangement drawings of the proposed wind monitoring tower.
- An aviation impact assessment for the proposed wind monitoring tower.

Yours sincerely,

[redacted]
Project Engineer

**OFFICE** Level 2, 1008 Hay St, Perth WA 6000 | PO Box 7522 Cloisters Square PO, Perth WA 6850
**COLLGAR WIND FARM** 945 Bulls Head Road, Norpa WA 6415
**T** +61(0)8 6465 9100 | **E** enquiries@collgar.com.au | **ABN** 44 659 724 384

COLLGAR RENEWABLES

# TWF-PC0000-090-GEN-APP-0001
# Tandegin Wind Farm – Wind Monitoring Tower Development Application

**Document Approval Process**

| Responsibility | Name | Position |
|---|---|---|
| Prepared by | [redacted] | Project Engineer |
| Reviewed by | [redacted] | Project Developer |
| Approved by | [redacted] | Project Manager |

| Issue | Revised Date | Description | Author | Reviewed By | Approved By |
|---|---|---|---|---|---|
| 0 | 26/05/2026 | Issued for use. | [redacted] | [redacted] | [redacted] |

CONFIDENTIAL

# Contents

# 1 Project Location and Description

Collgar Renewables Pty Ltd (the Company) proposes to install a single wind monitoring tower (WMT) at the approximate location described in **Table 1** and shown on **Figure 1**. The certificate of title for the respective land parcel is shown in **Appendix B**. A completed Application for Planning Approval form is provided in **Appendix A**.

**Table 1: proposed WMT install location details**

| Coordinates | Land parcel | Certificate of Title (Volume/Folio) | Local Government Area |
|---|---|---|---|
| Option 1:<br>31°40'00.7"S<br>118°28'03.7"E<br><br>Option 2:<br>31°38' 09.2" S<br>115°54' 29.6" E | LOT 19107 ON DEPOSITED PLAN 229683 | 334/140A | Shire of Merredin |

The primary objective of the WMT is to obtain detailed wind speed and direction data for the surrounding area. The data collected would be used, in conjunction with long-term data from the existing Collgar Wind Farm and on-site LiDAR units, to validate the wind resource and inform the design and decision-making process for the proposed Tandegin Wind Farm.

The proposed WMT would be of triangular steel lattice construction, approximately 500 mm in width at each face. Anchor footings and a guy wire system would be used to provide stability to the WMT structure. The WMT would be equipped with anemometers and other sensors at various heights, allowing for the measurement of wind speed, wind direction, wind shear, wind turbulence, and air density. The WMT anchor points would encompass an area of approximately 1 ha, with cropping and livestock grazing being able to continue within most of this area (in between guy wire anchor points and under guy wires). The WMT is intended to be temporary and remain in place for a period of up to 10 years, after which time it would be dismantled and removed.

The WMT would comprise:

- A 160-metre lightweight galvanised steel mast framework with guy wires and buried anchor footings.
- Weather monitoring sensors mounted on booms at various heights.
- Installation by a team of up to 10 people over a two-week period using a combination of a crane, gin pole, and winch.
- Excavations for anchor the system using an excavator (approximately 8 tonne), with concrete being poured into excavations.
- Alternative bands of red and white paint on the top one third of the mast.
- 3 x visual marker balls on outer guy wires.

- Guy wire ground attachment points in contrasting colours to the surrounding ground / vegetation.
- A low-intensity obstacle light of 200 candela at the highest point of the WMT.

The indicative designs for the WMT general arrangement are provided in Appendix C.

All components and construction materials for the WMT would be transported to the site via public roads and the WMT would be assembled on-site. Construction and delivery access would be via existing property entrances and tracks. No clearing of native vegetation would be undertaken, with temporary construction laydown and facilities proposed to be situated adjacent to the selected WMT install location within previously cleared paddocks.

The WMT would not be manned during operation, aside from annual and ad-hoc maintenance inspections. An example of a similar constructed WMT is shown in Figure 1.

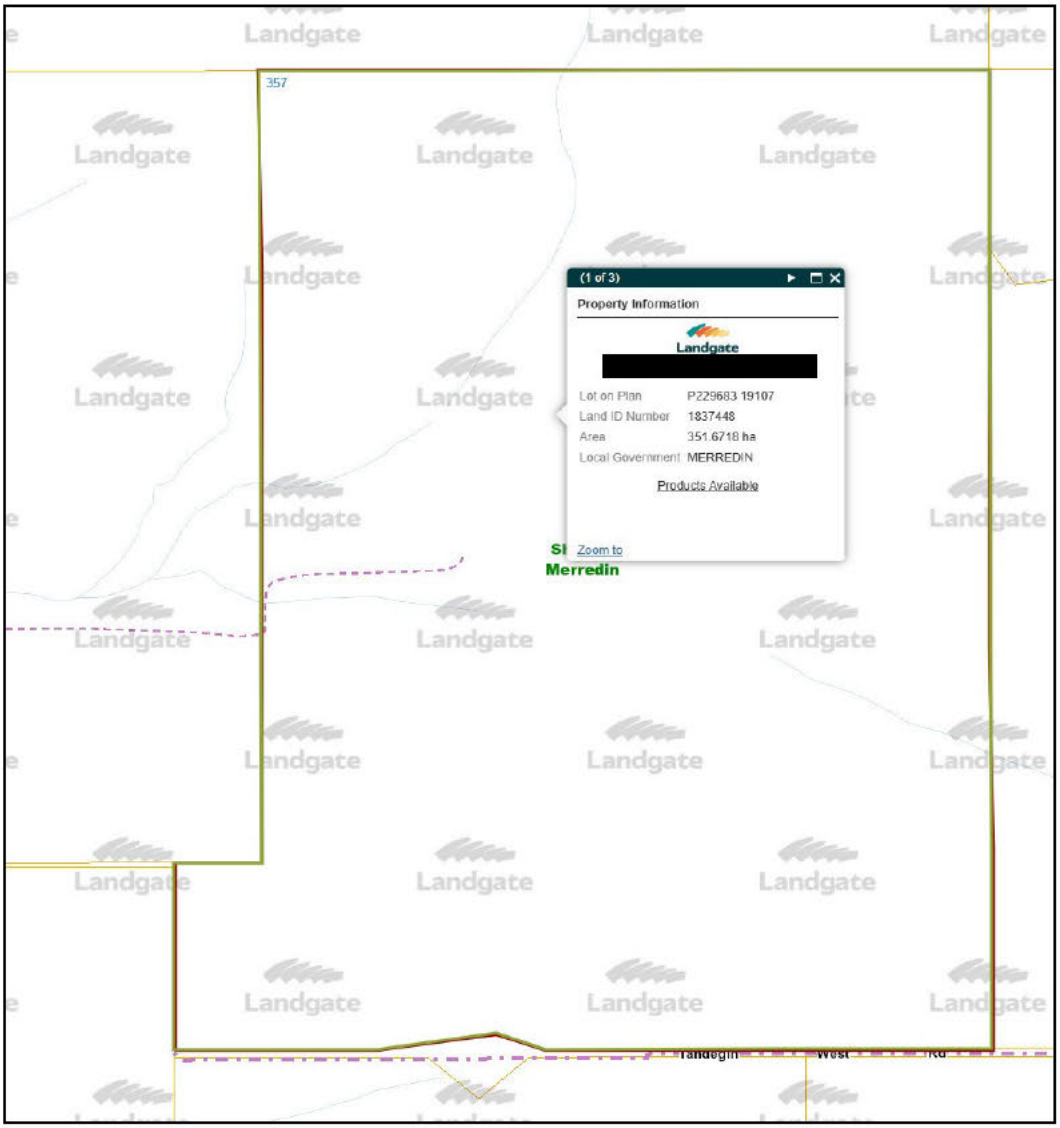



*Figure 1 - Landgate Determination*

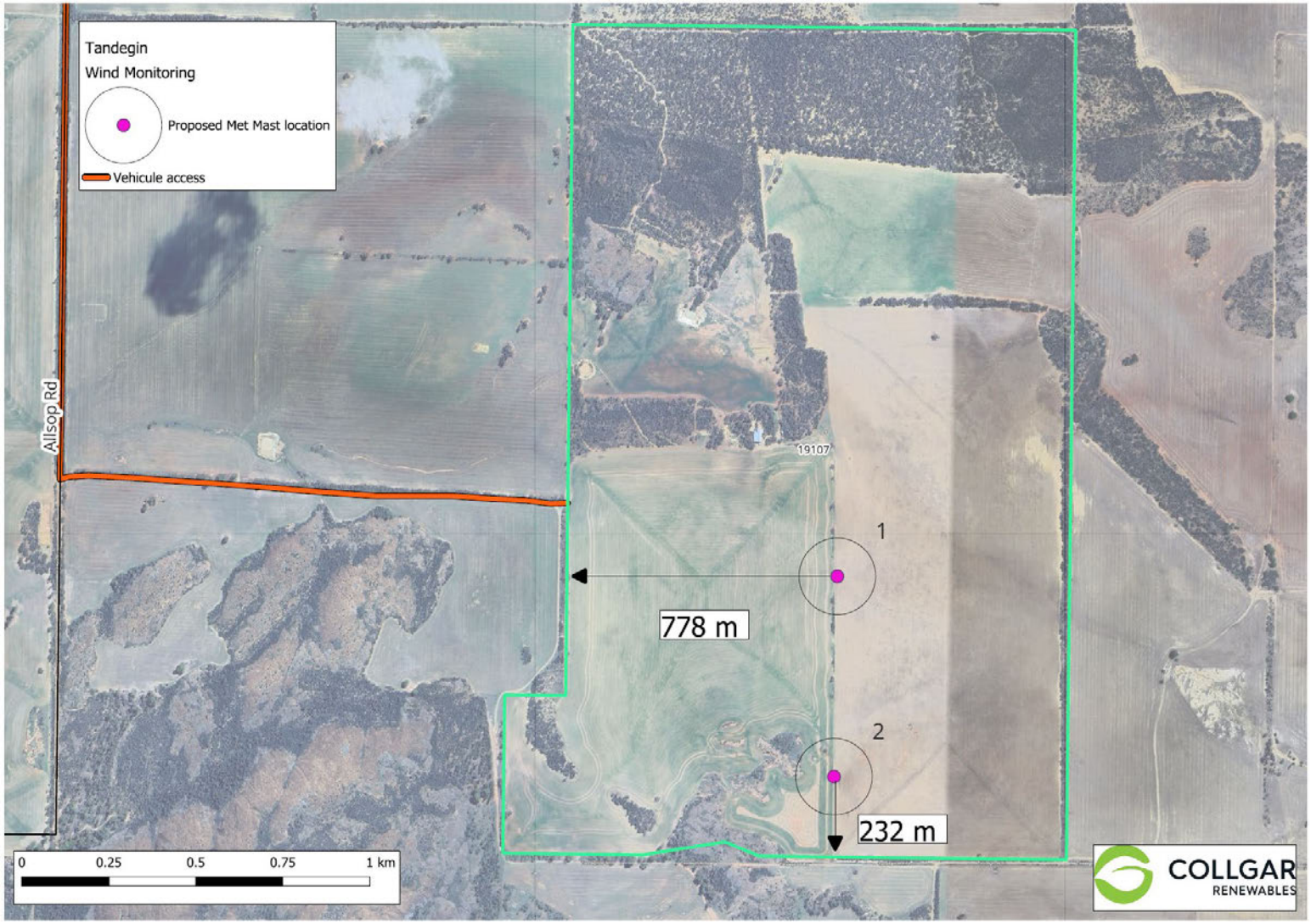



*Figure 2 - Met Mast Locations 1 and*

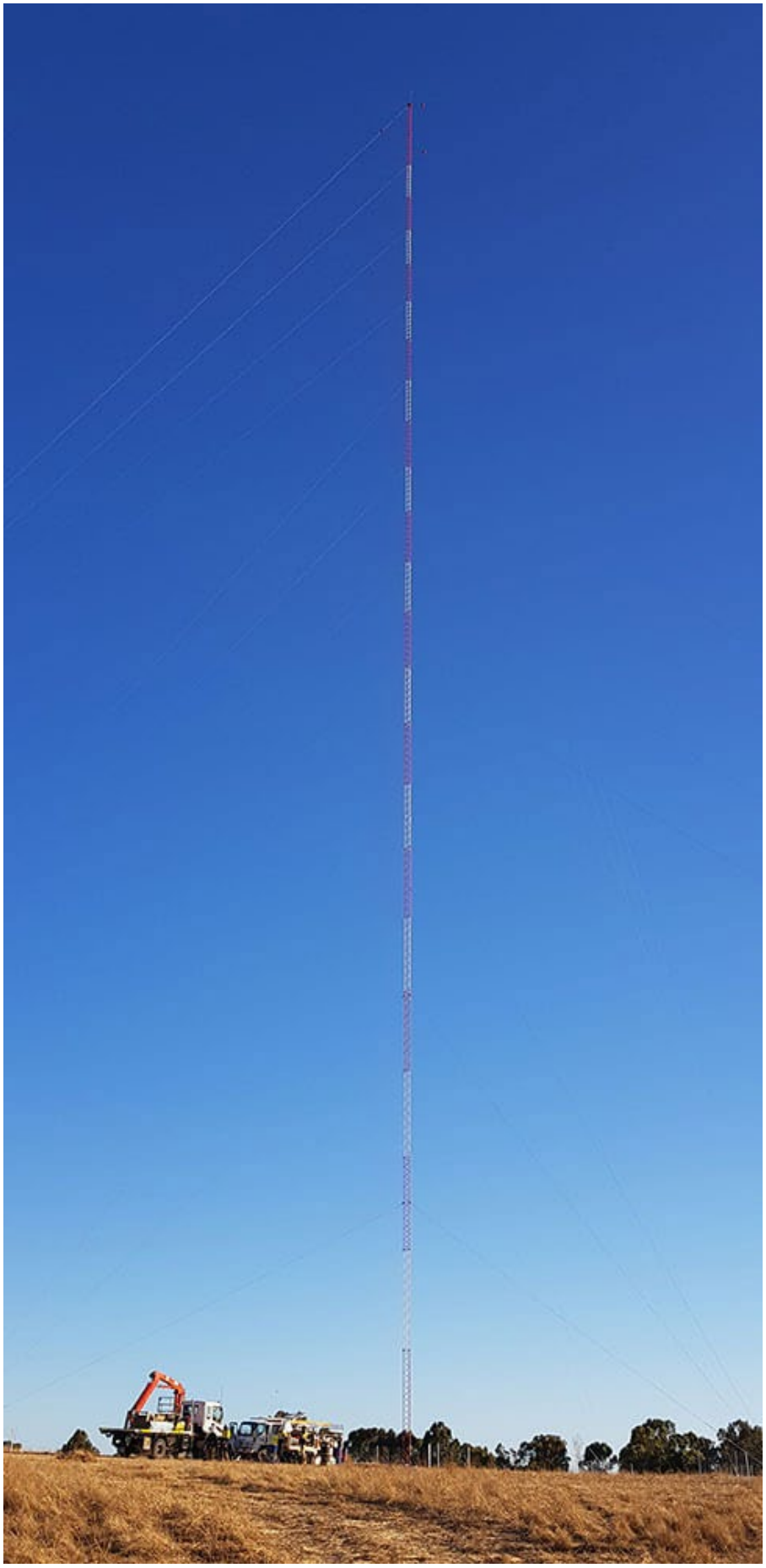


*Figure 3 - 160m Met Mast*

# 2 Pre-Submission Consultation

The Company has engaged with relevant stakeholders over recent months to discuss the proposed WMT and Tandegin Wind Farm, as summarised in **Table 2**.

**Table 2: pre-submission consultation summary**

| Stakeholder | Date | Consultation summary |
|---|---|---|
| Host landowner | Apr 2026 | Proposed location for the WMT discussed and agreed upon with the respective landowner. A long-term land tenure agreement (Access Deed and Lease) that allows for the installation of a WMT has been in place with the respective landowner since August 2025. |
| Neighbouring Land Owners | 20th May 2026 | Email sent to all neighbouring landowners [redacted] on 20th May 2026. Both land owners are participants in Tandegin Wind Farm project. |
| Traditional Owner representatives | Apr and May 2026 | Discussed the proposed Tandegin Wind Farm development and WMT installation with Ballardong Aboriginal Corporation and Njaki Njaki representatives. The Company intends to engage the relevant Aboriginal representatives to complete heritage surveys for the proposed WMT install location prior to commencing site works. |
| Civil Aviation Safety Authority (CASA) | - | WMT details would be provided to CASA prior to construction commencing. |
| Airservices Australia (ASA) | - | WMT details would be provided to ASA prior to construction commencing. |

# 3 Planning Considerations

Relevant aspects of the Western Australian planning framework — including the Shire of Merredin Local Planning Scheme No. 6 (LPS 6), the Planning and Development (Local Planning Schemes) Regulations 2015, and other state planning policies — have been considered for this Development Application and are further discussed in the following sections.

## 3.1 Local Planning Scheme No. 6

LPS 6 classifies land zoning across the Shire of Merredin and the permissibility of land uses within each zone. It also provides objectives for the overall scheme and different zones, describes general development requirements, and outlines requirements for planning.

### 3.1.1 Land Use and Zoning

The coordinates listed in **Table 1** above are located on land zoned as "General Farming" under LPS 6. The objectives of the General Farming zone as outlined in LPS 6 (Schedule 1 / Table 1 of the Scheme — to be confirmed against the most recently consolidated Scheme Text) are listed below.

- To provide for a range of rural pursuits that are compatible with the capability of the land and retain the rural character and amenity of the locality.
- To protect land from urban uses that may jeopardise the future use of that land for other planned purposes that are compatible with the zoning.
- To support sustainable farming practices and the retention of remnant vegetation.
- To prevent any development that may affect the viability of a holding.
- To encourage small scale, low impact tourist accommodation in rural locations.
- To encourage a diversification of rural activities that will reduce the dependency of the rural sector on traditional crops.
- To support the creation of homestead lots in accordance with adopted Local Planning Policy.
- To support mining activities where an environmental management plan has been prepared and is acceptable to the local government and the Environmental Protection Authority.
- To preclude the disposal of used tyres or any other material that may be detrimental to the quality of the land.

WMTs or similar structures are not listed explicitly in the Zoning Table of LPS 6 but as a guyed lattice meteorological mast is closest classified as a telecom tower under Table 1 – Zoning Use Classes. This means that approval is possible under condition D – Local Government discretion by Development Approval.

| | ZONES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **USE CLASSES** | **RESIDENTIAL** | **TOWN CENTRE** | **COMMERCIAL** | **HIGHWAY SERVICE** | **LIGHT INDUSTRY** | **GENERAL INDUSTRY** | **TOWNSITE** | **SPECIAL RESIDENTIAL** | **RURAL RESIDENTIAL** | **GENERAL FARMING** |
| Service utility | D | D | D | D | D | D | D | D | D | D |
| Telecommunications infrastructure | A | D | D | D | P | P | D | A | A | D |

The proposed WMT is consistent with the objectives of the General Farming zone and should be permitted without needing to be advertised due to the reasons listed below.

- The mast base and guy wire anchor points would take up a relatively small area and any cropping and livestock grazing could still occur within most of the overall footprint of the WMT.
- Renewable energy generation has already become a significant industry in the Shire of Merredin, which hosts the existing Collgar Wind Farm (Western Australia's largest operating wind farm), the Merredin Solar Farm and the Merredin Battery Energy Storage System. The Shire of Merredin Local Planning Strategy expressly identifies the Shire's objective of becoming a centre of excellence for renewable energy. The proposed Tandegin Wind Farm has been awarded Critical Project Status by Western

Power and will, if developed, materially contribute to the Shire's renewable energy generation capacity. The installation of this WMT is required to facilitate the development of the proposed Tandegin Wind Farm.

- The WMT would not require any clearing of native vegetation or water extraction for it to be installed and operated.
- It is not likely that the WMT would impact neighbours, tourists, or travellers.

### 3.1.2 General Development Requirements

An assessment of the Project's alignment with the General Development Requirements under LPS 6 is summarised in **Table 3**.

**Table 3: Project alignment with General Development Requirements**

| General Development Controls | Project Alignment |
|---|---|
| **Setback Distances** | LPS 6 prescribes minimum lot boundary setbacks under the Development Table. Note: in respect of land within the General Farming zone, the LPS 6 Development Table does not generally prescribe specific setbacks; setbacks are typically considered on a case-by-case basis. The proposed WMT install location is at least 200m from any lot boundary as shown in Figure 1, which exceeds the length of the WMT and is substantially greater than any comparable rural setback requirement. |
| **Carparking** | Temporary parking for light vehicles, transport vehicles, and vehicles used in the installation of the WMT is proposed to be adjacent to the proposed install location for the WMT within the respective private landholding. Parking would only be required temporarily during construction activities that are anticipated to take 2 weeks. |

## 3.2 State Planning Policy 2.5 – Rural Planning

State Planning Policy 2.5: Rural Planning (SPP 2.5) aims to "protect and preserve Western Australia's rural land assets due to the importance of their economic, natural resource, food production, environmental and landscape values". The objectives of SPP 2.5 are listed below.

- Support existing, expanded and future primary production through the protection of rural land, particularly priority agricultural land and land required for animal premises and/or the production of food;
- provide investment security for existing, expanded and future primary production and promote economic growth and regional development on rural land for rural land uses;
- outside of the Perth and Peel planning regions, secure significant basic raw material resources and provide for their extraction;
- provide a planning framework that comprehensively considers rural land and land uses, and facilitates consistent and timely decision-making;
- avoid and minimise land use conflicts;
- promote sustainable settlement in, and adjacent to, existing urban areas; and

- protect and sustainably manage environmental, landscape and water resource assets.

Given the relatively small land area that the proposed WMT would take up, the relatively low ground disturbance required for its construction, and that no native vegetation would be impacted by its construction; the proposed WMT is anticipated to be consistent with the objectives listed above.

## 3.3 Position Statement – Renewable Energy Facilities (WAPC, 2020)

The Position Statement – Renewable Energy Facilities "identifies assessment measures to facilitate appropriate development of renewable energy facilities. It seeks to ensure these facilities are in areas that minimise potential impact upon the environment, natural landscape and urban areas while maximising energy production returns and operational efficiency".

Relevant policy measures of the Position Statement – Renewable Energy Facilities for the proposed WMT are summarised in **Table 4**.

**Table 4: Consideration of the Project against the Position Statement – Renewable Energy Facilities**

| Policy Measure | Project Alignment |
|---|---|
| **Local planning framework** | The proposed WMT aligns with the local planning framework as discussed in **section 3.1** and **section 3.2**. |
| **Community consultation** | The Company has discussed the proposed WMT with relevant stakeholders as shown in **Table 2**. |
| **Environmental impact** | The proposed install location for the WMT is on cleared farmland and would not require clearing of native vegetation. The Company has completed a comprehensive flora and fauna assessment for the broader Tandegin Wind Farm area between July and October 2025, with bird and bat surveys progressing through Winter and Spring 2025; including desktop mapping of vegetation, flora, fauna, ecological communities, water, and soils. This information has been used to select the proposed install location for the WMT to avoid impacts to ecology. |
| **Aviation/Air Safety** | The Company has engaged Aviation Projects to complete an Aviation Impact Assessment (AIA) for the proposed WMT (see **Appendix D**). Key findings / recommendations from the AIA are listed below.<br>• There are no certified airports located within 30 nm (56 km) of the Project Site.<br>• There are no uncertified aerodromes identified within 3 nm of the proposed Met Mast locations.<br>• The two (2) proposed Met Mast locations would not affect any Grid or airway route LSALT.<br>• The two (2) proposed Met Mast locations would be within Class G airspace, which would be outside of controlled airspace, and outside of all Prohibited, Restricted, and Danger Areas.<br>• The two (2) proposed Met Mast locations would not impact the aviation navigation, communication, and surveillance facilities.<br>• Marking the proposed met mast is not mandatory, but the provision of obstacle marking should be considered to ensure |

| Policy Measure | Project Alignment |
|---|---|
| | the narrow mast can be readily identified by pilots flying at low level in the area around them. The following markings are recommended to be implemented in consideration of potential day VFR aerial work operations in accordance with NASF Guideline D.<br>• The top 1/3 of wind monitoring towers to painted in alternating contrasting bands of colour. In areas where aerial agriculture operations take place, marker balls or high visibility flags can be used to increase the visibility of the towers;<br>• Marker balls or high visibility flags or high visibility sleeves placed on the outside guy wires;<br>• Ensuring the guy wire ground attachment points have contrasting colours to the surrounding ground/vegetation;<br>• There is no regulatory requirement to provide obstacle lighting on the met mast that is not within the vicinity of an aerodrome. Generally, for Met Mast that would be installed prior to WTG installation and Met Mast that are not in close proximity to a WTG, the voluntary provision of obstacle lighting should be considered to ensure visibility in low light and deteriorating atmospheric conditions. CASA will review the Met Mast for potential hazards to aircraft operations and may recommend lighting the proposed Met Mast.<br>• Details of WMTs 100 m or more AGL, it must be reported to CASA as soon as practicable after forming the intention to construct or erect the proposed object or structure, in accordance with CASR 139.165(1)(2). The notification should be provided to CASA via email to Airspace.Protection@casa.gov.au.<br>• Final details of met mast coordinates and elevation should be provided to Airservices Australia at least two weeks prior to construction commencing, by submitting the form at this webpage: https://www.airservicesaustralia.com/wp-content/uploads/ATS-FORM0085_Vertical_Obstruction_Data_Form.pdf to the following email address: vod@airservicesaustralia.com..<br>. |
| **Bushfire Hazard Management** | The proposed install location is on cleared agricultural land and is outside any bushfire prone vegetation. As the WMT is unmanned and does not increase habitation, the proposal is exempt from the assessment provisions of State Planning Policy 3.7 – Planning in Bushfire Prone Areas. |
| **Visual and landscape impact** | The WMT is expected to have a low level of visibility and resulting visual impact to surrounding dwellings or publicly available areas due to the slim lattice design of the mast. |
| **Heritage** | A heritage desktop assessment of the project area for the proposed Tandegin Wind Farm (that includes the proposed install location for the WMT) concluded that there are no registered heritage sites over the proposed WMT location. The Company intends to engage the relevant |

| Policy Measure | Project Alignment |
|---|---|
| | Noongar representative bodies to complete heritage surveys for the proposed WMT install location prior to commencing site works. |
| **Traffic and transport** | There would be a minimal increase in traffic during the construction and operation of the proposed WMT. The WMT is anticipated to be constructed over a two-week period by a team of up to 10 personnel. The WMT would not be manned during operation, aside from annual and ad-hoc maintenance inspections. |
| **Safety and site access** | Site safety measures would include:<br>• An anti-climb barrier to prevent unauthorised personnel from climbing the WMT;<br>• Alternative bands of red and white paint on the top one third of the mast;<br>• 3 x visual marker balls on outer guy wires;<br>• Guy wire ground attachment points in contrasting colours to the surrounding ground / vegetation;<br>• A low-intensity obstacle light of 200 candela at the highest point of the WMT; and<br>• Livestock fencing at the mast base and anchor points. |

## 3.4 Shire of Merredin Local Planning Strategy

The Shire of Merredin Local Planning Strategy expressly identifies the Shire's objective of becoming a centre of excellence for renewable energy. The Strategy notes the Shire's strategic position within the Central Wheatbelt, its existing renewable energy generation assets (including the Collgar Wind Farm, Merredin Solar Farm and Merredin Battery Energy Storage System) and the role of renewable energy in supporting economic diversification.

Relevant Strategy considerations for the proposed WMT are summarised in **Table 5**.

**Table 5: Consideration of the Shire of Merredin Local Planning Strategy**

| Strategy Aspect | Project Alignment |
|---|---|
| **Centre of excellence for renewable energy** | The proposed WMT directly supports the Shire's objective of becoming a centre of excellence for renewable energy by enabling validation of the wind resource at the proposed Tandegin Wind Farm site. |
| **Continuation of agricultural practices** | The proposed WMT would take up a relatively small land area and would require a relatively low level of ground disturbance. Cropping and livestock grazing can continue within most of the overall footprint. |
| **Property boundary setbacks** | As shown in Figure 1, the proposed install location for the WMT is well separated from any lot boundary, providing substantial buffer to neighbouring properties. |
| **Environmental impacts** | The WMT would not require any clearing of native vegetation or water extraction for it to be installed and operated. Site selection |

| Strategy Aspect | Project Alignment |
|---|---|
| | has been informed by comprehensive flora, fauna, bird and bat surveys completed for the broader Tandegin Wind Farm area in 2025. |
| **Bushfire** | The proposed WMT install location is on cleared agricultural land, outside any bushfire prone vegetation. The unmanned nature of the structure does not increase habitation or bushfire vulnerability on the site. |
| **Aviation / Air Safety** | An AIA concluded that the WMT at the proposed location would not create an adverse impact to aviation safety in the surrounding area, including in respect of Merredin Airport (ICAO: YMDN). |

# 4 References


Shire of Merredin Local Planning Scheme No. 6 (LPS 6)
https://www.merredin.wa.gov.au/documents/town-planning

Planning and Development (Local Planning Schemes) Regulations 2015
https://www.legislation.wa.gov.au/legislation/statutes.nsf/law_s46246.html

State Planning Policy 2.5: Rural Planning (SPP 2.5)
https://www.wa.gov.au/system/files/2021-06/SPP_2-5_Rural_Planning.pdf

Planning Position Statement – Renewable Energy Facilities (WAPC, 2020)
https://www.wa.gov.au/system/files/2021-07/POS-Renewable-energy-facilities-position-statement.pdf

Shire of Merredin Local Planning Strategy
https://www.merredin.wa.gov.au/documents/21419/shire-of-merredin-local-planning-strategy-part-2

# Appendices

## Appendix A — Application for Planning Approval

SHIRE OF MERREDIN
HEART OF THE WHEATBELT

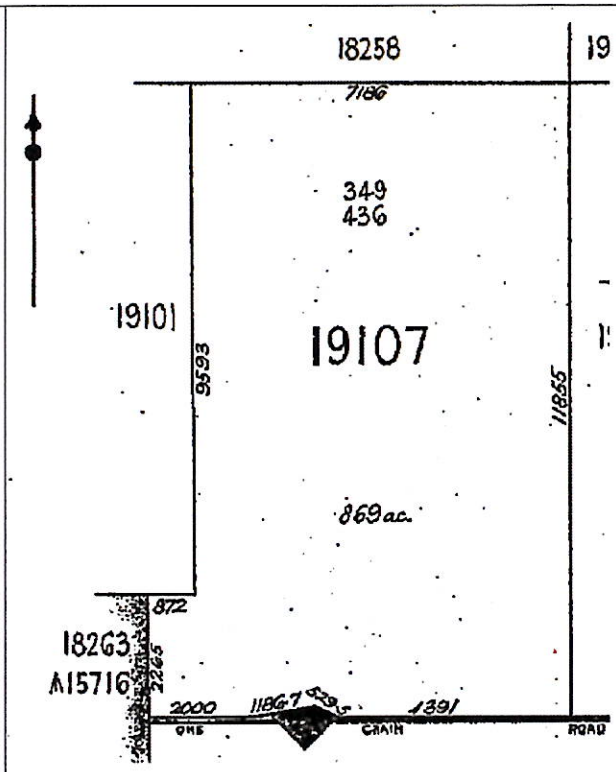
**APPLICATION FOR PLANNING APPROVAL**

**LOCAL PLANNING SCHEME No. 6 - SCHEDULE 6 - (CLAUSE. 9.1.1)**

| OWNERS DETAILS | | | |
|---|---|---|---|
| Name/s: | [redacted] | | |
| Address: | LOT 19107 ON DEPOSITED PLAN 229683 | | |
| | [redacted] | | Post Code: 6415 |
| Phone work: | N/A | Phone home: N/A | Fax: N/A |
| Mobile: | [redacted] | [redacted] | |
| Signature: | [redacted] | Date: | 22-05-26 |
| Signature: | | Date: | |
| NB: The owner/s signature/s are required for your application to be processed. | | | |

| APPLICANTS DETAILS | | | |
|---|---|---|---|
| Name: Collgar Renewables Pty Ltd | | | |
| Address: | Level 2, 1008 Hay Street, Perth WA | | |
| | Postal: PO Box 7522 Cloisters Square PO, Perth WA 6850 | | Post Code: 6000 |
| Contact person for correspondence | [redacted] | | |
| Phone work: | (08) 6465 9100 | Phone home: N/A | Fax: N/A |
| Mobile: | [redacted] | Email: | [redacted] |
| Signature: | [redacted] | Date: | 20/5/2026 |

| PROPERTY DETAILS | | | | | |
|---|---|---|---|---|---|
| Lot No: | LOT 19107 ON DEPOSITED PLAN 229683 | House/Street No: | [redacted] | Location No: | Option 1: 31°40'00.7"S 118°28'03.7"E<br>Option 2: 31°38' 09.2" S 115°54' 29.6" E |
| Street name: | N/A | | | | |
| Suburb: | Tandegin | | | Post Code: | 6415 |
| Nearest street intersection: | Allsop Road and Tandegin West Road | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Diagram or plan: |  <br>See plan attached | Certificate of title: | 334 | Folio: | 140A |

Title encumbrances (e.g. easements, restrictive covenants)

1. L591265 CAVEAT BY COLLGAR WIND FARM PTY LTD LODGED 31/3/2011.

N440616 CHANGE OF SERVICE OF NOTICE ADDRESS REGISTERED 22/9/2016.

| PROPOSED OR EXISTING BUILDING/LAND USE | |
|---|---|
| Description of proposed development and/or land use: | Works: One (1) temporary 160-metre guyed lattice Wind Monitoring Tower (WMT) and associated anchor footings and guy wire system, to collect site-specific wind speed, wind direction and other meteorological data for a period of up to 10 years to inform the feasibility and design of the proposed Tandegin Wind Farm. |
| Nature of any existing buildings and/or land use: | Broadacre agricultural cropping. Presence of a shed on the property. |
| Approximate cost of proposed development: | $ 400,000.00 (ex GST) |
| Estimated time of completion: | Construction over a two-week period at a date to be confirmed (target Q3 2026); the WMT is intended to remain in place for up to 10 years from commissioning, after which it will be dismantled and removed. |

| *OFFICE USE ONLY* | |
|---|---|
| *Acceptance Officer's initials :* | *Date received:* |
| *Local government reference no:* | |

# Appendix B — Certificate of Title

WESTERN AUSTRALIA

| TITLE NUMBER | |
|---|---|
| Volume | Folio |
| **334** | **140A** |

# RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

BGRoberts
REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

**LAND DESCRIPTION:**

LOT 19107 ON DEPOSITED PLAN 229683

**REGISTERED PROPRIETOR:**
(FIRST SCHEDULE)

[redacted]

(T A902571 ) REGISTERED 10/12/1974

**LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:**
(SECOND SCHEDULE)

1. L591265 CAVEAT BY COLLGAR WIND FARM PTY LTD LODGED 31/3/2011.
N440616 CHANGE OF SERVICE OF NOTICE ADDRESS REGISTERED 22/9/2016.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

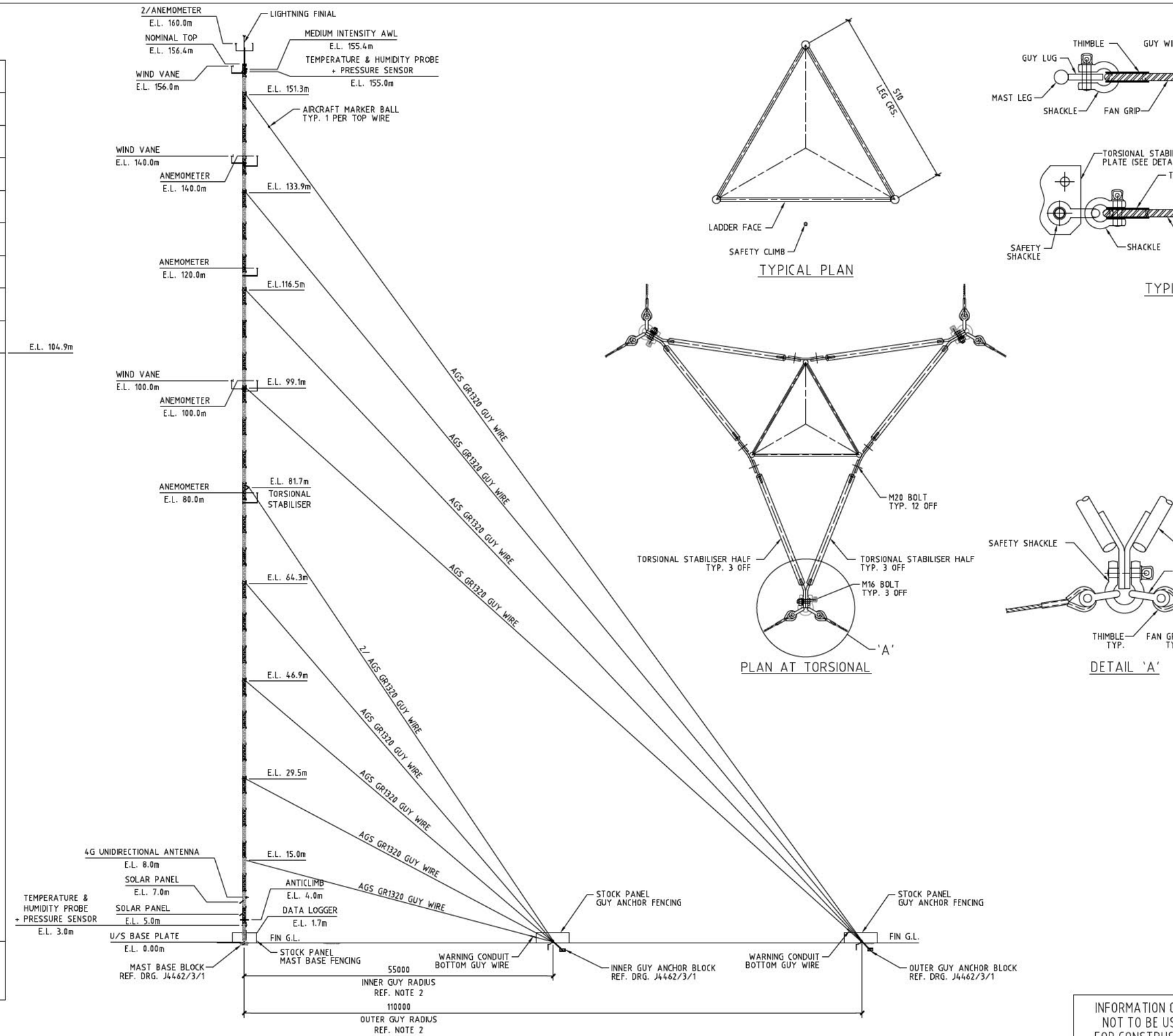
----------END OF CERTIFICATE OF TITLE----------

**STATEMENTS:**

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 334-140A (19107/DP229683)
PREVIOUS TITLE: 334-140A
PROPERTY STREET ADDRESS: [redacted].
LOCAL GOVERNMENT AUTHORITY: SHIRE OF MERREDIN

# Appendix C — 160 m Guyed Lattice Mast General Mast Elevation and Assembly Layout



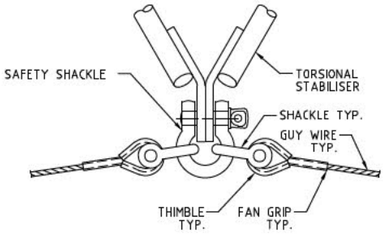

ELEVATION



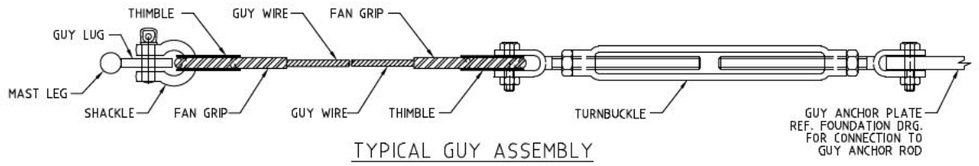

TYPICAL PLAN



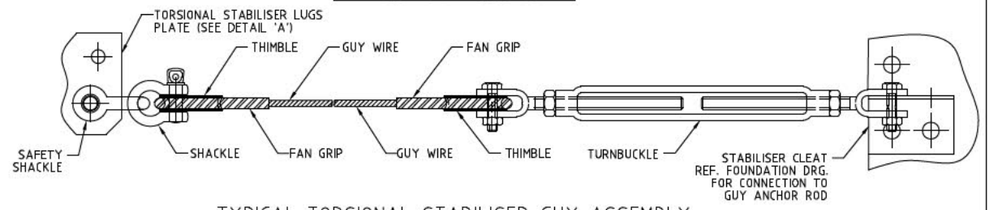

PLAN AT TORSIONAL



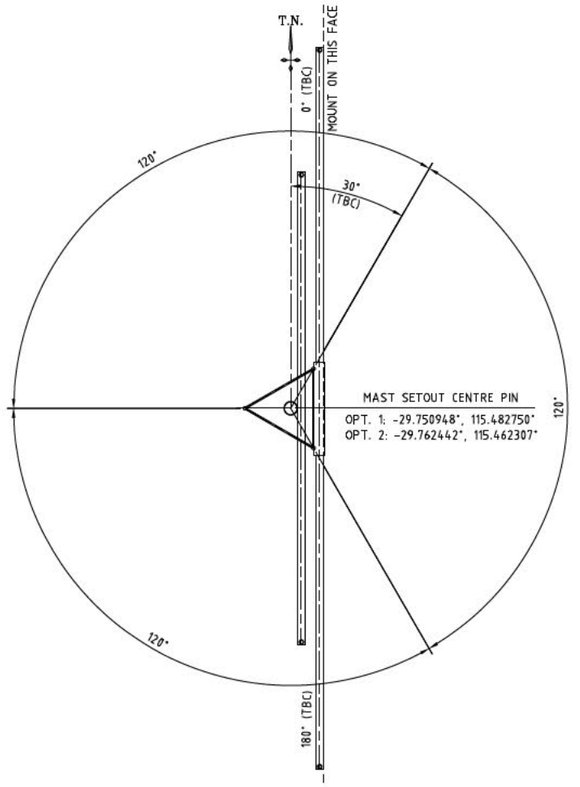

DETAIL 'A'




TYPICAL GUY ASSEMBLY




TYPICAL TORSIONAL STABILISER GUY ASSEMBLY




MAST LAYOUT

INFORMATION ONLY
NOT TO BE USED
FOR CONSTRUCTION

## GENERAL NOTES

1. REFER TO FEC STANDARD NOTES F1/1/SN.
2. GUY RADII GIVEN ARE BASED ON LEVEL GROUND
3. REFER TO DRAWING J4462/2/1 FOR EQUIPMENT MOUNT ARRANGEMENT.

| DRAWING No. | DESCRIPTION |
|---|---|
| J4462/3/1 | FOUNDATION DETAILS |
| J4462/2/1 | EQUIPMENT ARRANGMENT |
| F1/1/SN | FEC STANDARD NOTES |

REFERENCE DRAWINGS

| REF | DESCRIPTION | DATE | APPv. |
|---|---|---|---|

REVISIONS

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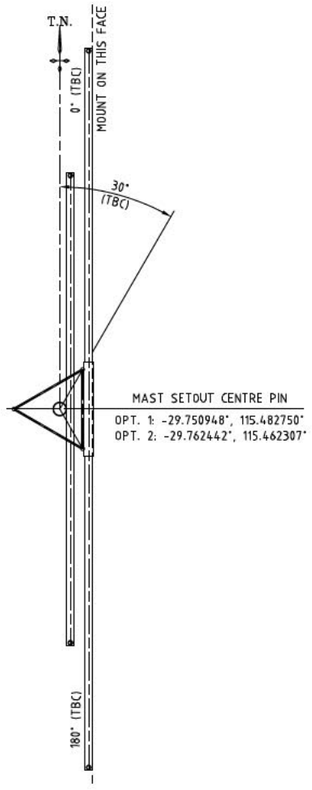
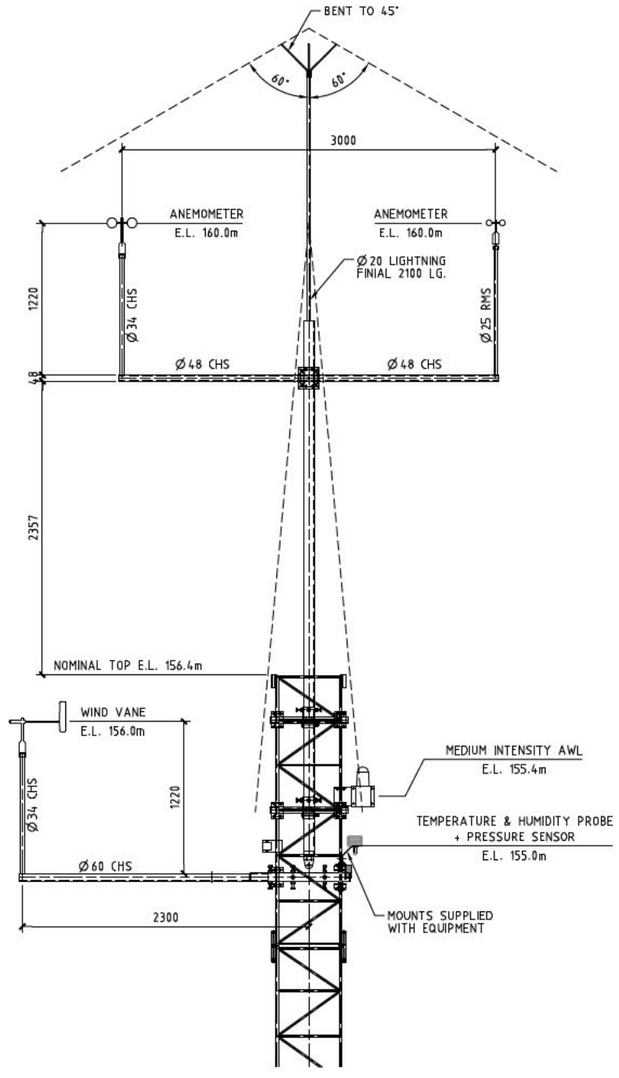
DRAWN: MP | ENG.:
CHECKED: | APPv.:

COLLGAR RENEWABLES
ENEABBA WIND FARM
160m HUB METEOROLOGY MAST
GENERAL ARRANGEMENT

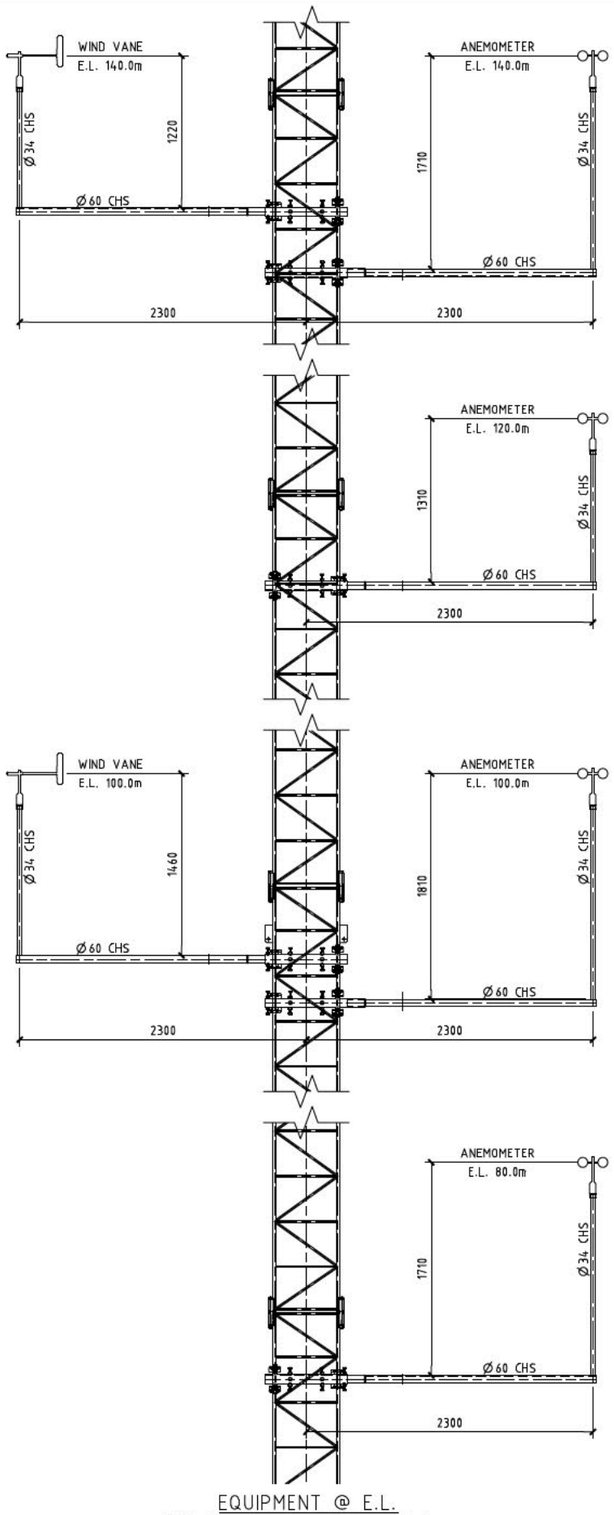
DATE: 24-11-25 | SHEET: A1 | SCALE: NTS | DWG No.: J4462/1/1 | REV:



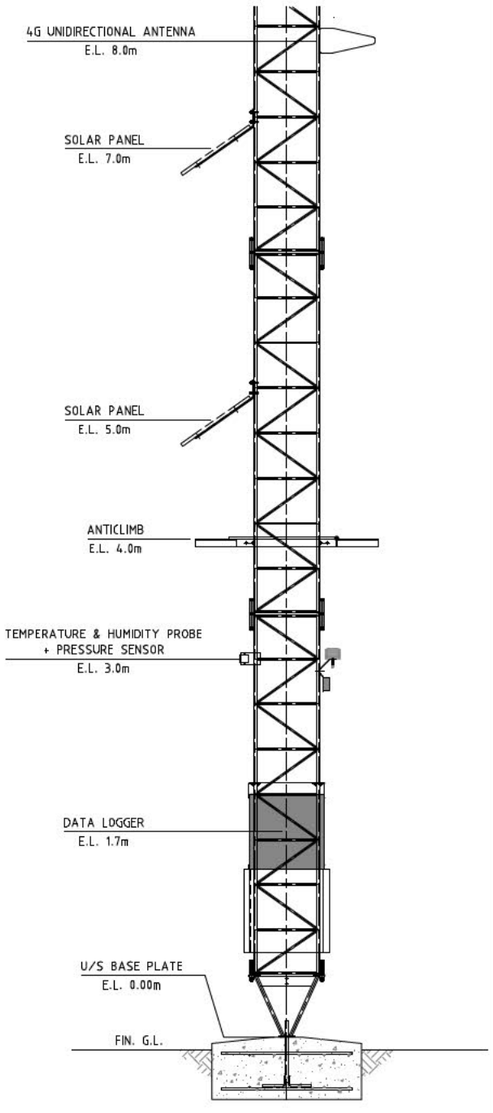

PLAN VIEW OF EQUIPMENT




EQUIPMENT @ E.L.
160.0m, 156.0 & 155.0m
FACING EQUIPMENT FACE




EQUIPMENT @ E.L.
140.0m, 120.0. 100.0 & 80.0m
FACING EQUIPMENT FACE




EQUIPMENT @
E.L. 8.0m, 7.0m, 5.0
4.0., 3.0 & 1.7m

INFORMATION ONLY
NOT TO BE USED
FOR CONSTRUCTION

## GENERAL NOTES

1. REFER TO FEC STANDARD NOTES F1/1/SN.

| DRAWING No. | DESCRIPTION | DRAWING No. | DESCRIPTION |
|---|---|---|---|
| J4462/1/1<br>F1/1/SN | GENERAL ARRANGEMENT<br>FEC STANDARD NOTES | | |

REFERENCE DRAWINGS

| REF | DESCRIPTION | DATE | APPv. |
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COLLGAR RENEWABLES
ENEABBA WIND FARM
160m HUB METEOROLOGY MAST
EQUIPMENT ARRANGEMENT

| DATE: | SHEET: | SCALE: | DWG No. : | REV: |
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| 25-11-25 | A1 | NTS | J4462/2/1 | |

INFORMATION ONLY
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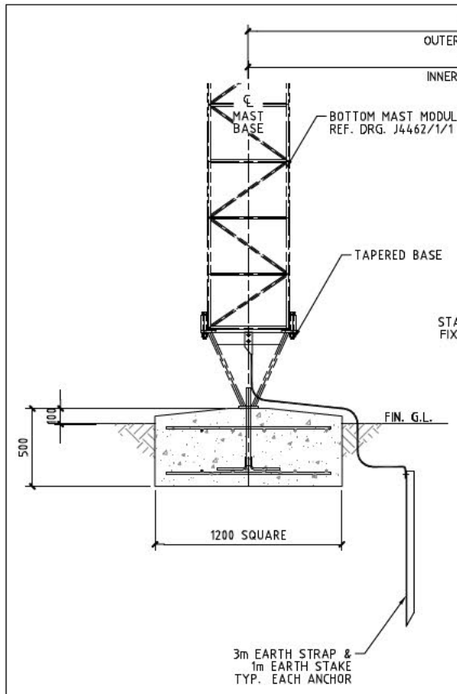
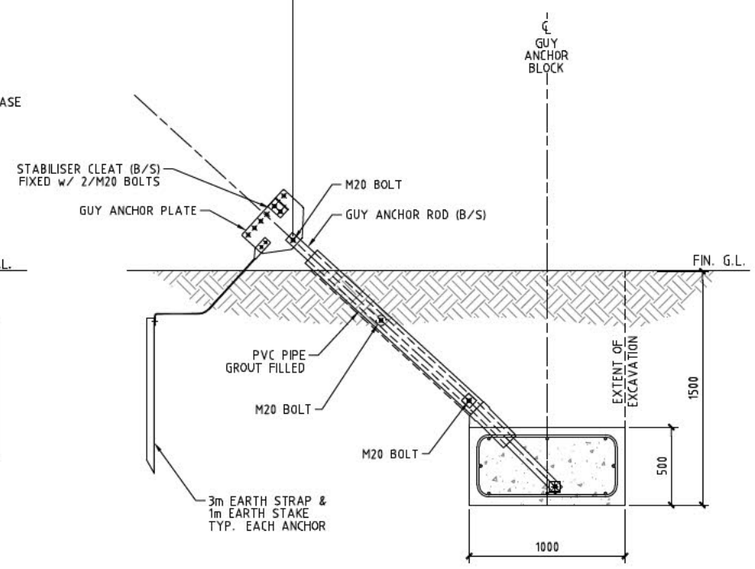
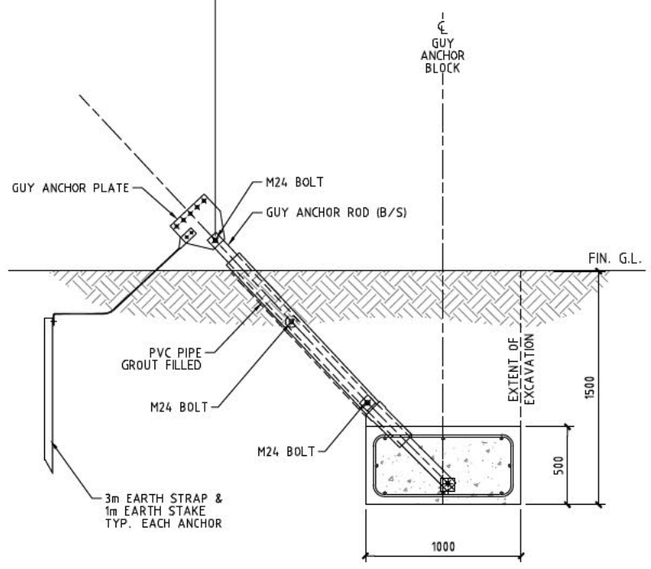
FOR CONSTRUCTION




MAST BASE




INNER ANCHOR BLOCK

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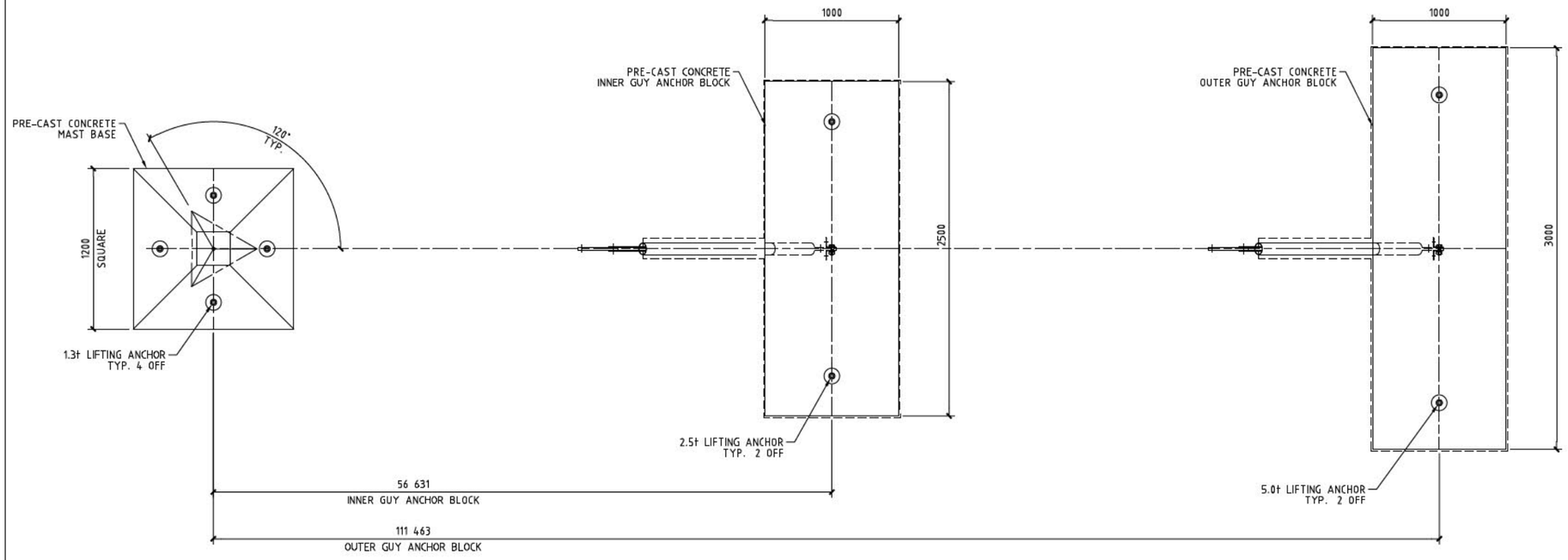


FOUNDATION LAYOUT

## GENERAL NOTES

1. REFER FEC STANDARD NOTES, DWG F1/1/SN.
2. CONCRETE DESIGNED TO AS3600:
   MINIMUM COMPRESSIVE STRENGTH = 32 MPa
   COVER = 75mm U.O.N.
3. ASSUMED SOIL PARAMETERS:
   Ø = 30°, SOIL DENSITY = 18 kN/m$^3$ , COHESION = 0 kPa.
   MINIMUM REQUIRED ALLOWABLE BEARING CAPACITY, $Q_{all}$ = 150 kPa.
4. FOUNDATION BASES TO BE LEVELLED AND COMPACTED.
5. GROUT TO BE 3:1 SAND CEMENT DRY PACK MORTAR OR NON-SHRINK GROUT.
6. GUY RADII GIVEN ARE BASED ON LEVEL GROUND.

| DRAWING No. | DESCRIPTION | DRAWING No. | DESCRIPTION |
|---|---|---|---|
| J4462/1/1<br>F1/1/SN | GENERAL ARRANGEMENT<br>FEC STANDARD NOTES | | |

REFERENCE DRAWINGS

| REF | DESCRIPTION | DATE | APPv. |
|---|---|---|---|

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| DRAWN: | ENG.: | |
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| MP | | COLLGAR RENEWABLES |
| CHECKED: | APPv.: | ENEABBA WIND FARM |
| | | 160m HUB METEOROLOGY MAST |
| | | FOUNDATION DETAILS |

| DATE: | SHEET: | SCALE: | DWG No. : | REV: |
|---|---|---|---|---|
| 24-11-25 | A1 | NTS | J4462/3/1 | |

# Appendix D — Wind Farm Monitoring Tower – Aviation Impact Assessment

AVIATION PROJECTS

May 2026

[redacted]
Project Developer
Collgar Renewables Pty Ltd

By email: [redacted]

Our reference: 1010303-01

Dear [redacted]

**Re: Tandegin Wind Farm Met Mast – Aviation Impact Assessment**

Collgar Renewables (Collgar) proposed to install one (1) Met Mast from two (2) proposed locations within Tandegin Wind Farm, which is located within the Shire of Merredin Local Government Area (LGA), Western Australia.

Collgar Renewables has engaged Aviation Projects to prepare an Aviation Impact Assessment (AIA) for the proposed mat masts against relevant aspects of the applicable planning scheme, Civil Aviation Safety Regulations (CASR) Part 139 —*Aerodromes* and National Airports Safeguarding Framework (NASF).

### 1.1. References

The following information sources were referenced during the preparation of this report:

- Airservices Australia
    - Aeronautical Information Package (AIP), effective 09 July 2026.
    - Designated Airspace Handbook (DAH), effective 09 July 2026.
- Civil Aviation Safety Authority (CASA)
    - Civil Aviation Regulations 1988 (CAR).
    - Civil Aviation Safety Regulations 1998 (CASR).
    - Advisory Circular (AC) 91-02 V1.2, *Guidelines for aeroplanes with MTOW not exceeding 5700 kg – suitable places to take off and land*, dated November 2022.
    - AC 91-10 v1.7: *Operations in the vicinity of non-controlled aerodromes*, dated April 2026.
    - CASR Part 173 Manual of Standards (MOS) – *Standards Applicable to Instrument Flight Procedure Design*, version 1.8, dated August 2022.
    - CASR Part 139 MOS– *Aerodromes*, F2025L00663 compilation date 12 June 2025.
    - AC 139.E-01 v1.0—*Reporting of Tall Structures*, dated December 2021.
    - AC 139.E-05 v1.1 *Obstacles (including wind farms) outside the vicinity of a CASA certified aerodrome* (October 2022).

- Department of Infrastructure, Transport, Regional Development, Communications and Arts, Australian Government, National Airport Safeguarding Framework, Guideline D *Managing the Risk to aviation safety of wind turbine installations (wind farms)/Wind Monitoring Towers*, dated July 2012.
- International Civil Aviation Organization (ICAO)
    - Annex 14—*Aerodromes*.
    - Doc 8168 *Procedures for Air Navigation Services—Aircraft Operations* (PANS-OPS).
- OzRunways, aeronautical navigation charts extracts, dated April 2026.
- Western Australia, *Planning Position Statement: Renewable energy facilities* (14 Dec 2022).
- Other references as noted.

### 1.2. Project description

The proposed Met Mast locations would be within the Shire of Merredin LGA. The proposed mast's height would be 160 m (524.9 ft) above ground level (AGL), and the highest ground elevation of the proposed Met Mast locations would be approximately 398 m Australian Height Datum (AHD), based on the DEM 1 m data source with an additional 5 m buffer allowance applied. This results in a maximum height of approximately 558 m AHD (1830.7 ft above mean sea level (AMSL)).

Figure 1 Shows the proposed two (2) locations of the Met Mast (Source: Collgar, Google Earth).

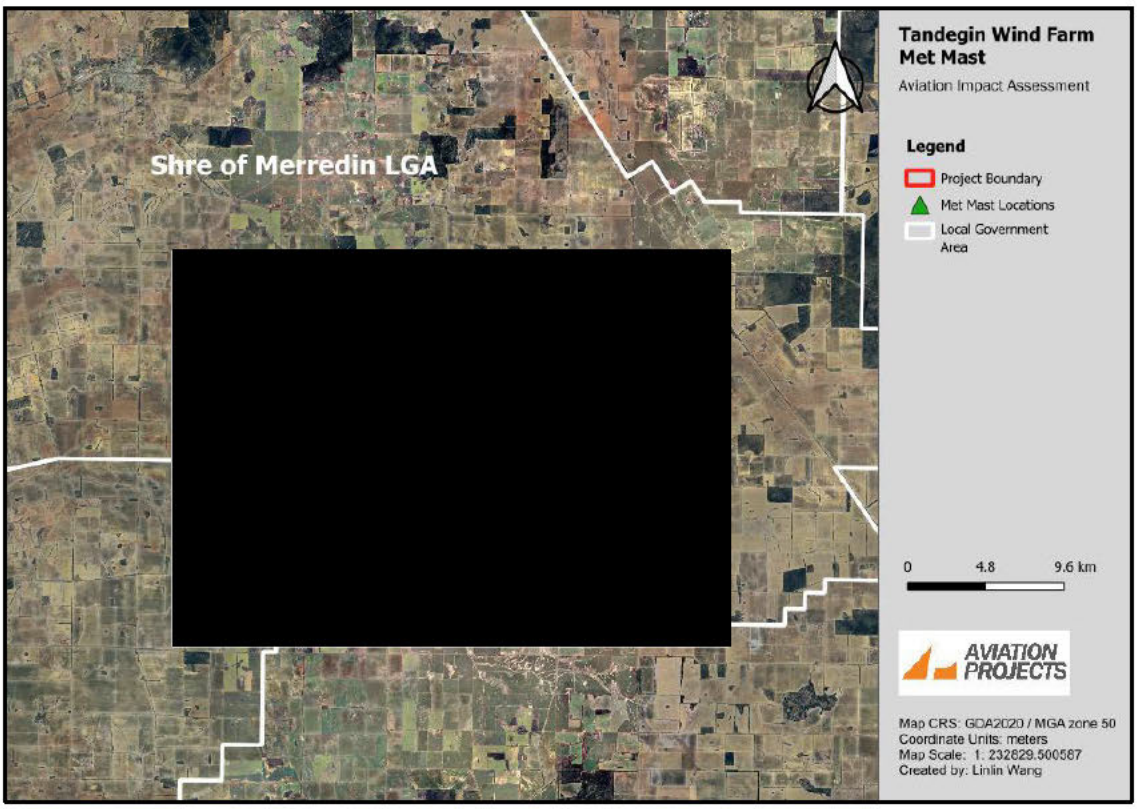


Figure 1 Proposed Met Mast locations

Details of the proposed met mast locations are provided in Table 1 (source: email from Collgar, dated 07 May 2025).

Table 1 Details of the proposed met mast Location.

| *Item* | *Proposed Met Mast Location 1* | *Proposed Met Mast Location 2* |
|---|---|---|
| Location (GDA2020 / MGA zone 50) | Easting: 639149<br>Northing: 6495504 | Easting: 639138<br>Northing: 6494928 |
| Highest Ground elevation of terrain (based on the DEM 1 m data source) | 382 m AHD | 393 m AHD |
| Buffer allowance | 5 m | 5 m |
| Height of the mast (AGL) | 160 m (524.9 ft) AGL | 160 m (524.9 ft) AGL |
| Height of the mast (AHD) | 547 m AHD (1794.6 ft AMSL) | 558 m AHD (1830.7 ft AMSL) |

Figure 2 Shows a typical steel lattice and guy wire construction.

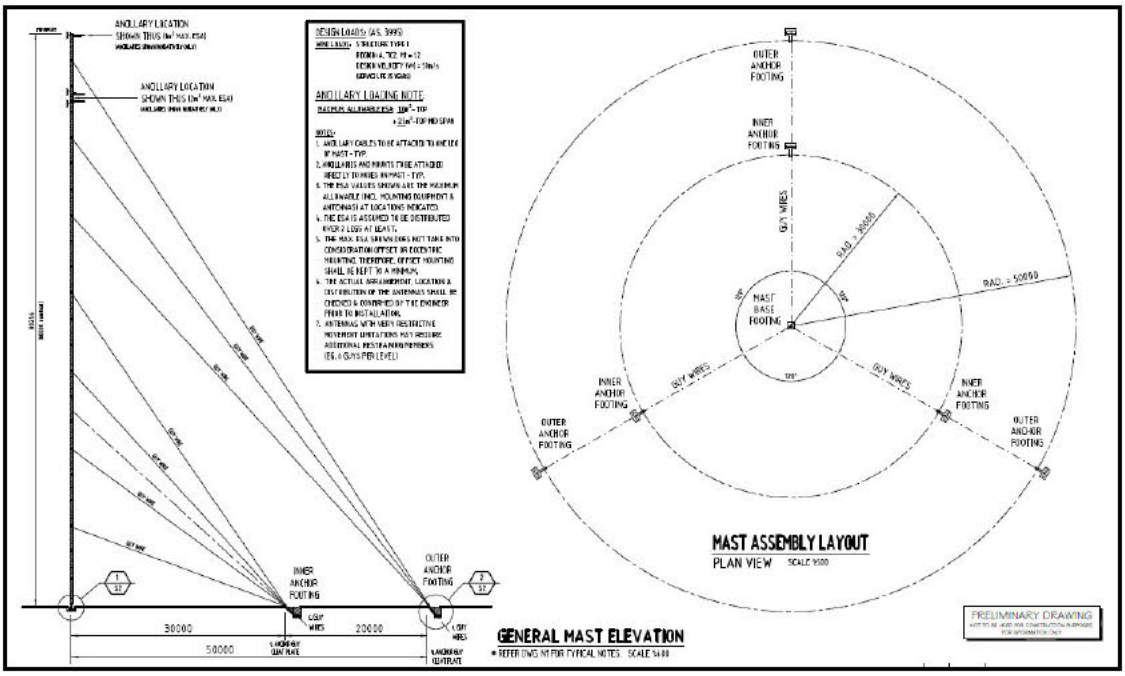


Figure 2 Typical Guyed Lattice Mast - general elevation

### 1.3. Western Australia Government, Department of Planning, Lands and Heritage

The Western Australian Planning Commission administers responsibility for approving renewable energy facilities through local councils. The Department of Planning, Lands and Heritage has published *Position Statement: Renewable energy facilities* (December 2022) on behalf the Western Australia Planning Commission. These guidelines provide advice to inform planning decisions about a wind energy facility proposal.

The intent of this position statement is to:

- Outline the Western Australian Planning Commission (WAPC) requirements to support the consistent consideration and provision of renewable energy facilities within Western Australia
- Identify assessment measures to facilitate appropriate development of renewable energy facilities.

The position statement applies to the preparation and assessment of planning instruments including regional and local planning schemes and strategies.

The position statement supersedes Planning Bulletin 67 Guidelines for Wind Farm Development (2004).

Section 5.3.1 *Community Consultation* and Section 5.3.5 *Public and Aviation safety* are relevant to this assessment and are extracted below:

> ***Section 5.3.1 Community Consultation***
>
> *Early consultation with the community and stakeholders by the proponents is encouraged to ensure that the proposal is compatible with existing land uses on and near the site. The local government should be consulted with respect to the community consultation program. Relevant stakeholders may include:*
>
> - *Air Services Australia ...*
> - *Civil Aviation Safety Authority ...*
> - *Department of Defence (Australian Government) ...*
>
> ***5.3.5 Public and aviation safety***
>
> *Proponents of wind turbine proposals should refer to the National Airports Safeguarding Framework (NASF) Guideline D: Managing the Risk to Aviation Safety of Wind Turbine Installation (Wind Farms) / Wind Monitoring Towers to determine any potential aviation safety risks and possible mitigation measures.*
>
> *Any potential aviation safety risks identified require consultation with Civil Aviation Safety Authority (CASA), Air Services Australia and/or the Commonwealth Department of Defence.*

The position paper defines Renewable energy facility as premises used to generate energy from a renewable energy source and includes any building or other structure used in, or relating to, the generation of energy by a renewable resource. It does not include renewable energy electricity generation where the energy produced principally supplies a domestic and/or business premises and any on selling to the grid is secondary.

An AIA would include consultation with relevant aviation stakeholders and address aviation-related matters included in the Position Statement.

CASA has previously advised in other consultation, that when referred by the planning authority, CASA will review the AIA and provide a response directly to the planning authority.

### 1.4. Nearby certified aerodromes

A certified aerodrome is an aerodrome regulated by the Civil Aviation Safety Authority (CASA) under Part 139 of the Civil Aviation Safety Regulations (CASR), with defined standards established in Part 139 (Aerodromes) Manual of Standards (MOS) 2019.

There are no certified aerodromes located within 30 nm of the proposed Met Mast Locations. The 30 nm radius represents the 25 nm minimum sector altitude (MSA) for aerodromes with terminal instrument flight

procedures. The 25 nm MSA is determined by assessing obstacles within 30 nm (25 nm plus 5 nm buffer) of the aerodrome reference point or navigational aid on which the MSA is based.

The locations of the proposed Met Mast relative to Cunderdin Aerodrome (YCUN) and Southern Cross Aerodrome (YSCR) are shown in Figure 3 (source: Collgar, Google Earth). The orange circle represents a 30 nm radius from the airport's aerodrome reference point (ARP).

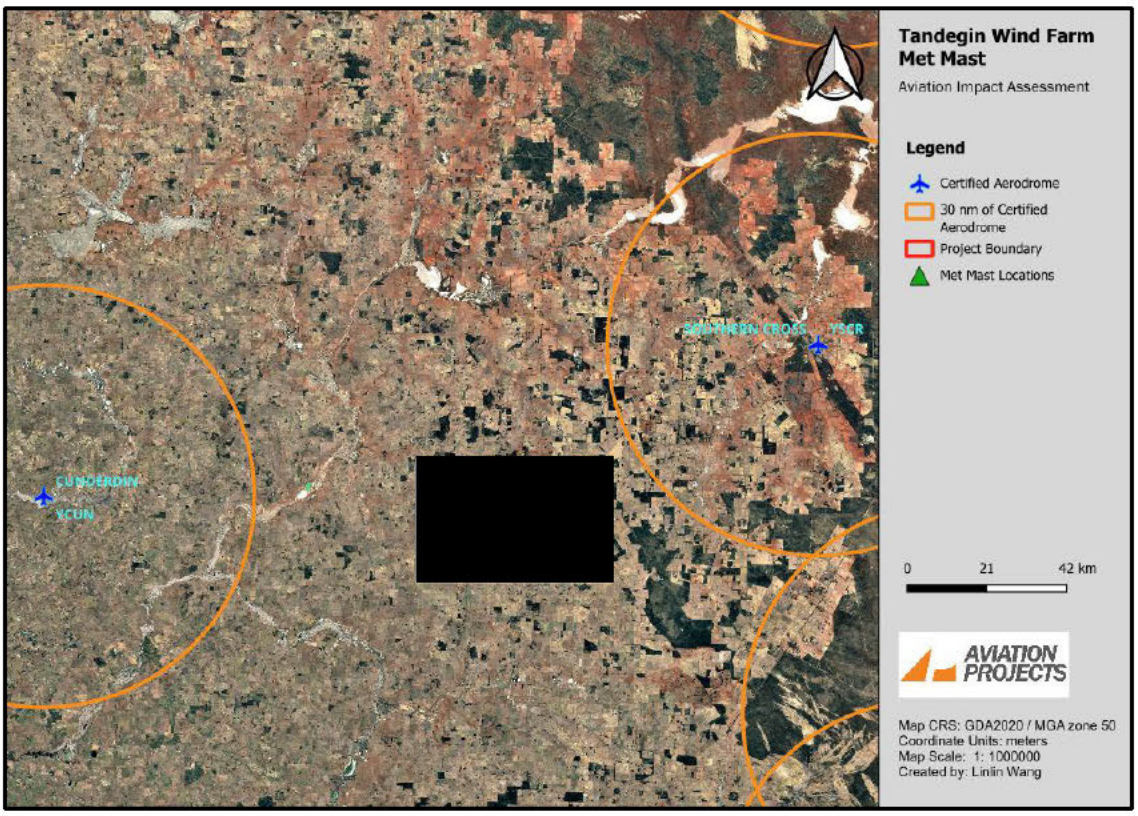


Figure 3 Location of the certified airport in relation to the proposed Met Mast locations

### 1.5. Nearby uncertified aerodromes

A search of the following aviation datasets was used to identify uncertified aerodromes (i.e. aerodromes that are not subject to CASA Part 139 regulations) near the project area:

- AIP aeronautical charts effective 09 July 2026
- OzRunways - which sources its data from Airservices Australia (AIP). The aeronautical data provided by OzRunways is approved under CASA CASR Part 175

As a guide, an area of interest within a 3 nm radius of an uncertified aerodrome is used to assess the potential impacts of proposed developments on aircraft operations at or within the vicinity of the uncertified aerodrome. The 3 nm radius is considered to be the area in which aircraft are making preparations to join the circuit prior to landing and within which to manoeuvre after take-off to depart from the aerodrome.

Figure 4 shows the location of nearby uncertified aerodromes relative to the proposed Met Mast locations and a nominal 3 nm buffer from the closer uncertified aerodromes (source: Collgar, Google Earth).

The two (2) proposed Met Mast locations would not be within 3 nm of any uncertified aerodromes.

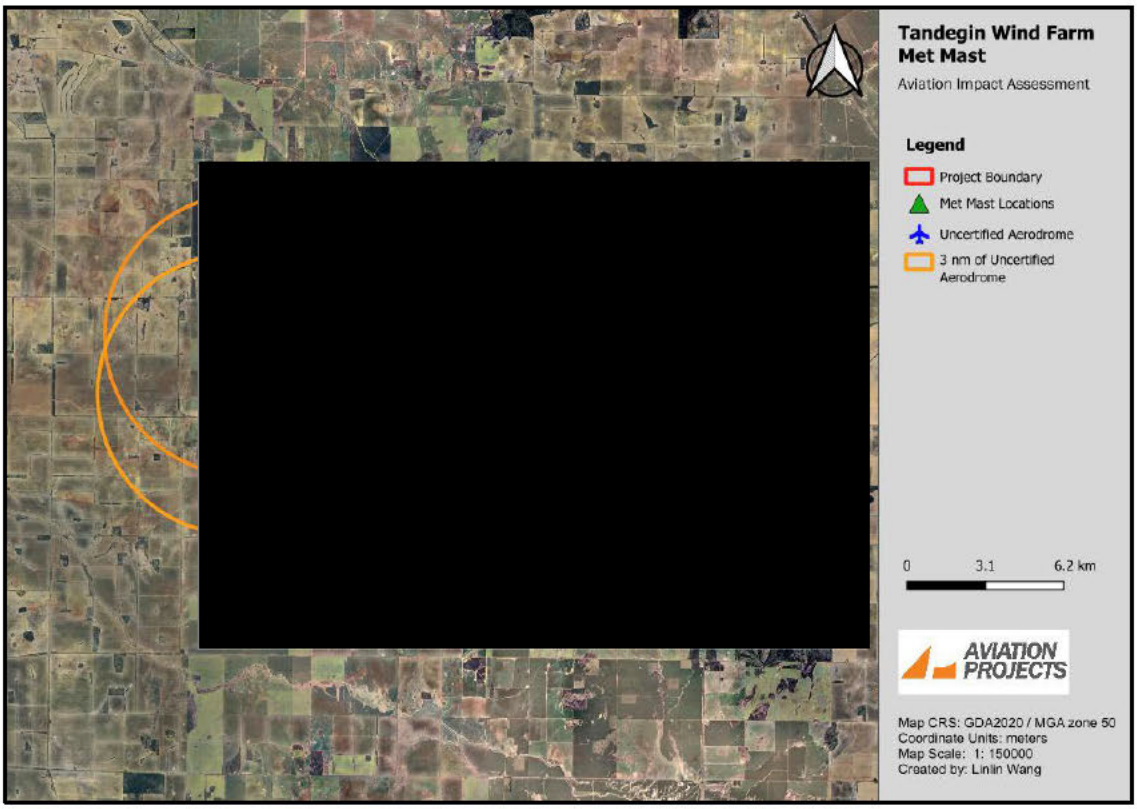


Figure 4 Uncertified aerodromes in the vicinity of the proposed Met Mast locations

### 1.6. Air routes and Grid LSALT

CASR Part 173 MOS requires that the published lowest safe altitude (LSALT) for a particular airspace grid or air route provides a minimum of 1000 ft clearance above the controlling (highest) obstacle within the relevant airspace grid or air route tolerances.

#### 1.6.1. Grid LSALT

The two (2) proposed Met Mast locations would be within the airspace grid LSALT of 3000 ft AMSL, which has a protection surface of 2000 ft AMSL.

Figure 5 shows the Grid LSALT in proximity to the proposed Met Mast locations (source: ERC Low National, OzRunways, Google Earth).

The highest proposed Met Mast's height would be 558 m AHD (1830.7 ft AMSL), below the 2000 ft protection surface.

Therefore, the two (2) proposed Met Mast locations would not impact the 3000 ft Grid LSALT.

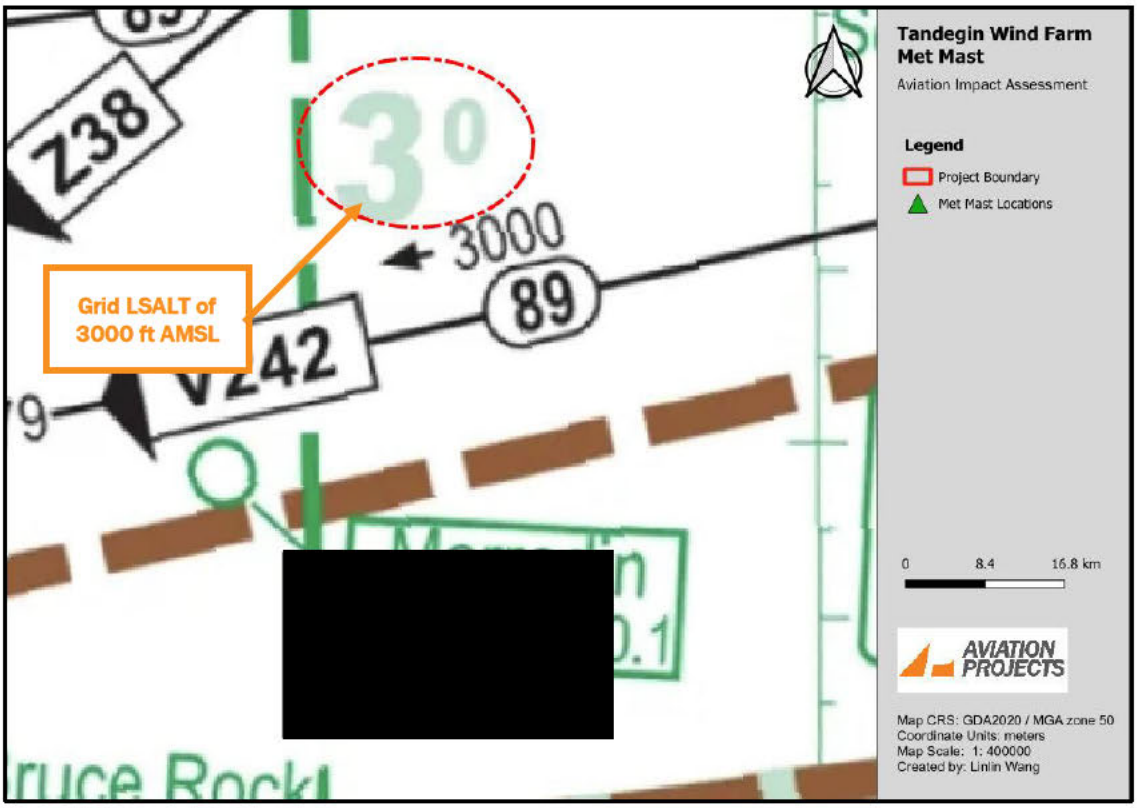


Figure 5 Grid LSALT in proximity to the proposed Mat Mast sites.

### 1.6.2. Air Route LSALTs

A protection area of 7 nm laterally on either side of an air route is used to assess the LSALT for the air route.

There are no air routes within 7 nm of the proposed Met Mast locations. Therefore, the two (2) proposed Met Mast locations would not impact any air route LSALT.

## 1.7. Airspace

The proposed Met Mast locations would be located within Class G airspace and outside of controlled airspace, and would not be located in any Prohibited, Danger, or Restricted Areas.

The two (2) proposed Met Mast locations would not affect controlled or designated airspace.

## 1.8. Aviation navigation facilities

NASF Guideline G, *Protection of Aviation Facilities - Communication, Navigation and Surveillance (CNS)* and CASR Part 139 MOS specify the area where development of buildings and structures has the potential to cause unacceptable interference to CNS facilities.

The proposed Met Mast locations would be located at a sufficient distance away from nearby certified aerodromes and aviation facilities and would not have an impact.

### 1.9. ATC Surveillance Radar Systems

Airservices Australia currently requires an assessment of the potential for wind farms to affect radar lines of sight.

The open lattice construction of slim wind monitoring towers does not impact ATC Surveillance Radar Systems.

### 1.10. Civil Aviation Safety Authority - regulatory context

CASA regulates aviation activities in Australia. Applicable requirements include the Civil Aviation Regulations 1988 (CAR), CASR 1998, Advisory Circular (AC) 139 E 0.1-v1.0, and AC.139 E 0.5-v1.1. Relevant provisions are outlined in further detail in the following section.

#### 1.10.1. CASR Part 139—Aerodromes

CASR 139.165 requires the owner of a structure (or proponents of a structure) that will be 100 m or more above ground level to inform CASA. This must be given in written notice and contain information on the proposal, the height and location(s) of the object(s) and the proposed timeframe for construction. This is to allow CASA to assess the effect of the structure on aircraft operations and determine whether or not the structure will be hazardous to aircraft operations.

The proponent of the Met Mast is required to report the Met Mast to CASA in accordance with CASR 139.165, *as soon as practicable after forming the intention to construct or erect the proposed object or structure.*

The notification should be provided to CASA via email to Aerodromes@casa.gov.au and Airspace.Protection@casa.gov.au.

#### 1.10.2. AC 139.E-01 v1.0—Reporting of Tall Structures

AC 139.E-01 v1.0—*Reporting of Tall Structures*, CASA guides those authorities and persons involved in the planning, approval, erection, extension or dismantling of tall structures so that they may understand the vital nature of the information they provide.

> *2.2.1 The hazards that such buildings or structures may pose to aircraft requires assessment. CASA routinely performs such assessments however needs to be first notified of the obstacle, structure of source of a hazardous plume. The need to report such hazards is outlined in this AC.*
>
> *2.2.2 If you are the person who owns, controls or operates the object, structure or a source of a hazardous plume which is either present, imminent or has been approved for erection/construction, details need to be provided about:*
>
> *– the construction, extension or dismantling of tall structures if the top is:*
>
> *o 100 m or more above ground level*
>
> *or*
>
> *o affects the obstacle limitation surface of an aerodrome as defined in*
>
> *2.2.3 In addition, tall structures may pose a specific hazard for the operation of low-flying Defence aircraft or to the flight paths of arriving/departing aircraft (refer Paragraph 2.1.3). Therefore, the RAAF and Airservices Australia require information on structures that are 30 m or more above ground level—within 30 km of an aerodrome or 45 m or more above ground level elsewhere for the RAAF, or 30 m or more above ground level elsewhere for Airservices Australia.*

*2.2.4 Information provided for the database should be accurate and readily interpreted. The tall structure report form has been designed to help owners and/or developers in this respect. The form is available on the Airservices Australia website (including a spreadsheet for reporting multiple structures) at: https://www.airservicesaustralia.com/industry-info/airport-development-assessments/*

### 1.10.3.AC 139.E-05-v1.1 Obstacles including wind farms outside the vicinity of a CASA certified aerodrome – October 2022

AC 139.E-05-v1.1 provides advice about the lighting and marking of wind farms and other tall structures in submissions to planning authorities who are considering a wind farm or tall structure proposal.

*2.1.2 Regardless of CASA advice, planning authorities make the final determination whether a wind farm or a tall structure not in the vicinity of a CASA regulated aerodrome will require lighting or marking.*

*2.2.1 All wind turbine developments and tall structures should be assessed to determine whether they could be a risk to aviation safety. This AC augments the information in the National Aerodromes Safeguarding Framework (NASF) Guideline D and provides additional guidance on the assessment of wind farm developments and guidance for establishing what reasonable measures may be put in place to mitigate any adverse effect the wind farm development could be to aviation safety.*

*2.2.2 For the purposes of this AC, navigable airspace is considered to be the airspace above the minimum altitudes of VFR and IFR flight, including airspace required to ensure the safe take-off and landing of an aircraft. Generally, minimum altitude limits equate to 500 ft (152 m) or 1 000 ft (305 m) above ground level depending on the situation, i.e., whether or not the flying is over a populous area. The presence of wind turbines, wind monitoring masts and other tall obstacles may create a risk to the safety of flight, due to the risk of collision. An entity that is proposing to introduce a hazard into navigable airspace, such as a wind farm, must mitigate the risk of the hazard on airspace users to ensure an acceptable level of safety is maintained.*

*2.2.4.1 Part 139 of the Civil Aviation Safety Regulations 1998 (CASR), regulates obstacles within the vicinity of certified aerodromes. This is supported by Part 139 (Aerodromes) Manual of Standards (MOS) which provides the definition of an obstacle as well as the standards for marking and lighting of an obstacle. Any wind turbine (where the height is defined to be the maximum height reached by the tip of the turbine blades), wind monitoring mast or other tall structure that penetrates an Obstacle Limitation Surface (OLS) of an aerodrome will be assessed in accordance with the provisions of Part 139 of CASR and the MOS.*

*2.2.6.1 Outside the vicinity of an aerodrome, which is defined as being outside the OLS of an aerodrome, wind farms and other tall structures may constitute a risk to low-flying aviation operations which may be conducted down to 500 ft above ground level (AGL) over non-populous areas. Additionally, wind monitoring masts can also be hazardous to aviation, given they are very thin and difficult to see. Wind farms can also affect the performance of communications, navigation and surveillance (CNS) equipment operated by Airservices or the Department of Defence.*

*2.5 Aviation hazard lighting - International best practice*

*2.5.2 Australian regulations state that aircraft in uncontrolled airspace may operate under visual flight rules (VFR), which requires the pilot to remain clear of clouds and to adhere to visibility minima.*

> *- in Class G airspace below 3000 ft Above Mean Sea Level (AMSL) or 1000 ft AGL (whichever is the higher) – remain clear of cloud with minimum visibility of 5000 m.*

*– in Class G airspace below 10 000 ft AMSL (subject to the above) – remain 1000 ft vertically and 1500 m horizontally from cloud and with 5000 m visibility.*

*Note: Helicopters may be permitted to operate in lower visibility and that further exemptions may apply to special cases such as military, search and rescue, medical emergency, agricultural and fire-fighting operations.*

*2.5.4 2000 candela medium intensity obstacle lighting recommendation satisfies the 5000 m VFR visibility requirements, according to practical exercises undertaken by the FAA and documented in AC 70/7460-1L (FAA, 2015).*

*2.5.5 In Australia, CASA has accepted the use of 200 candela lighting in some circumstances due to a lack of back lighting in rural and remote areas, meaning that a lower intensity light is still visible to pilots at an acceptable distance to permit a pilot to see and avoid the obstacle.*

*2.6 Hazard Lighting*

*2.6.1 This describes the reasoning behind CASA's preference to recommend aviation hazard lighting for tall structures and aircraft detection systems for wind farms.*

*2.6.2 Hazard lighting for wind farms and other tall structures is intended to alert pilots, flying at low altitude, to the presence of an obstacle allowing them sufficient awareness to safely navigate around or avoid it. The pilot is responsible for avoiding other traffic and obstacles based on the "alerted" see-and-avoid principle.*

*2.6.3 Unless the wind farm or tall structure is located near an airport, it is not expected to pose a risk to regular public transport operations. The kind of air traffic that is usually encountered at low altitude in the vicinity of a wind farm or tall structure includes light aircraft (private operators, flight schools, sport aviation, agricultural, survey, fire spotting and control) and helicopters (military, police, medical emergency services, survey, fire spotting and control). Hazard lights are therefore designed to provide pilots with sufficient awareness about the presence of the structure(s), so they can avoid it. This means that the intensity of the hazard lights should be such that the acquisition distance is sufficient for the pilot to recognise the danger, take evasive action and avoid the obstacle by a safe margin in all visibility conditions. This outcome considers the potential speed of an aircraft to determine the distance by which the pilot must become aware of the obstacle to have enough time and manoeuvrability to avoid it.*

*2.7 CASA's commitment to aviation safety*

*2.7.1 CASA will consider the lighting intensity management and systems that achieve an acceptable level of aviation safety on a case-by-case basis during its assessment.*

*2.7.2 A CASA determination will consider the environmental setting when determining the need and level of lighting required on a wind farm or tall structure. This may include consideration of lower lighting intensities for obstacles away from an aerodrome. The backlighting of some locations is almost non-existent, meaning the risk of an aviation hazard light being compromised by background lighting from a rural and remote town is lower than would otherwise apply in a residential area closer to a city.*

### 1.11. National Airport Safeguarding Framework Guideline D

NASF Guideline D: *Managing the Risk to Aviation Safety of Wind Turbine Installation (Wind Farms)/Wind Monitoring Towers* provides guidance to State/Territory and local government decision-makers, airport operators and developers of wind farms to jointly address the risk to civil aviation arising from the development, presence and use of wind farms and wind monitoring towers.

*When wind turbines over 150 metres above ground level are to be built within 30 kms of a certified or registered aerodrome, the proponent should notify the Civil Aviation Safety Authority (CASA) and Airservices. If the wind farm is within 30km of a military aerodrome, Defence should be notified.*

*The Aeronautical Information Service of the Royal Australian Air Force (RAAF AIS) maintains a database of tall structures in the country. The RAAF AIS should be notified of all tall structures meeting the following criteria:*

- *30 metres or more above ground level for structures within 30km of an aerodrome; or*
- *45 metres or more above ground level for structures located elsewhere.*

*Marking and lighting of wind monitoring towers*

*Before developing a wind farm, it is common for wind monitoring towers to be erected for anemometers and other meteorological sensing instruments to evaluate the suitability or otherwise of a site. These towers are often retained after the wind farm commences operations to provide the relevant meteorological readings. These structures are very difficult to see from the air due to their slender construction and guy wires. This is a particular problem for low flying aircraft including aerial agricultural operations. Wind farm proponents should take appropriate steps to minimise such hazards, particularly in areas where aerial agricultural operations occur. Measures to be considered should include:*

- *the top 1/3 of wind monitoring towers to painted in alternating contrasting bands of colour. Examples of effective measures can be found in the Manual of Standards for Part 139 of the Civil Aviation Safety Regulations 1998. In areas where aerial agriculture operations take place, marker balls or high visibility flags can be used to increase the visibility of the towers;*
- *marker balls or high visibility flags or high visibility sleeves placed on the outside guy wires;*
- *ensuring the guy wire ground attachment points have contrasting colours to the surrounding ground/vegetation; or*
- *a flashing strobe light during daylight hours.*

### 1.12. Consultation

The following list of stakeholders was identified as requiring consultation:

- Airservices Australia
- Department of Defence

Details and results of the consultation activities will be provided in Table 2 once received.

### 1.13. Summary

The following list of findings summarises the outcome of this assessment. Based on the maximum height of the 160 m AGL, the highest Met Mast would be 558 m AHD (1830.7 ft AMSL):

- There are no certified aerodromes located within 30 nm (55.6 km) of the proposed Met Mast locations.
- There are no uncertified aerodromes identified within 3 nm of the proposed Met Mast locations.

- The two (2) proposed Met Mast locations would not affect any Grid or airway route LSALT.
- The two (2) proposed Met Mast locations would be within Class G airspace, which would be outside of controlled airspace, and outside of all Prohibited, Restricted, and Danger Areas.
- The two (2) proposed Met Mast locations would not impact the aviation navigation, communication, and surveillance facilities.
- Marking the proposed met mast is not mandatory, but the provision of obstacle marking should be considered to ensure the narrow mast can be readily identified by pilots flying at low level in the area around them. The following markings are recommended to be implemented in consideration of potential day VFR aerial work operations in accordance with NASF Guideline D.
    - *The top 1/3 of wind monitoring towers to painted in alternating contrasting bands of colour. In areas where aerial agriculture operations take place, marker balls or high visibility flags can be used to increase the visibility of the towers;*
    - *Marker balls or high visibility flags or high visibility sleeves placed on the outside guy wires;*
    - *Ensuring the guy wire ground attachment points have contrasting colours to the surrounding ground/vegetation;*
- There is no regulatory requirement to provide obstacle lighting on the met mast that is not within the vicinity of an aerodrome. Generally, for Met Mast that would be installed prior to WTG installation and Met Mast that are not in close proximity to a WTG, the voluntary provision of obstacle lighting should be considered to ensure visibility in low light and deteriorating atmospheric conditions. CASA will review the Met Mast for potential hazards to aircraft operations and may recommend lighting the proposed Met Mast.
- Details of WMTs 100 m or more AGL, it must be reported to CASA as soon as practicable after forming the intention to construct or erect the proposed object or structure, in accordance with CASR 139.165(1)(2). The notification should be provided to CASA via email to Airspace.Protection@casa.gov.au.
- Final details of met mast coordinates and elevation should be provided to Airservices Australia at least two weeks prior to construction commencing, by submitting the form at this webpage: https://www.airservicesaustralia.com/wp-content/uploads/ATS-FORM-0085_Vertical_Obstruction_Data_Form.pdf to the following email address: vod@airservicesaustralia.com.

If you wish to clarify or discuss the contents of this correspondence, please get in touch with me on 0491 739 503.

Kind regards

[redacted]

[redacted]

Aviation Specialist Consultant

15 May 2026.

Table 2 Stakeholder consultation details

| *Agency/Contact* | *Activity/Date* | *Response/ Date* | *Issues Raised During Consultation* | *Action Proposed* |
|---|---|---|---|---|
| Airservices Australia | | | | |
| Department of Defence | | | | |