JBS&G 67782 | 166,313 (0)

30 May 2025

Dale Stewart
Chief Executive Officer
Shire of Narrogin
Via email: enquiries@narrogin.wa.gov.au

Application for Development Approval – Meteorological Mast

Dear Dale,

Acciona Energy Australia Global Pty Ltd (hereon referred to as Acciona) is seeking Development Approval from the Shire of Narrogin (hereon referred to as the Shire) under the Local Planning Scheme No. 3 to construct and operate a Meteorological Mast (hereon referred to as Met Mast) at one proposed location within the Shire (Figure 1).

The purpose of constructing and operating the Met Mast is to undertake climatic monitoring and determine the suitability of the location for siting a future wind farm, referred to as Acciona's Bellwether Wind Farm project.

This supporting letter provides the following information to support Acciona's application for development approval (DA) (Attachment B):

- description of proposed works, including proposed location and specifications of the Met Mast
- summary of consultation undertaken to date regarding installation and operation of the Met Mast
- consideration of local planning and environmental requirements relevant to the proposed Met Mast.

Project Overview

Acciona is proposing to install one (1) Met Mast, in association with the future Bellwether Wind Farm, at the following location within the Shire (see Figure 1):

- (-33° 8' 7", 117° 7' 27") Lot 14184 (674) Hyde Road, Highbury WA

The Certificate of Title for Lot 14184 is provided in Attachment C.

The Met Mast will provide wind speed and direction data for the proposed location, which can then be used to determine suitability of the area for generating wind power. Construction of the Met Mast is likely to consist of a concrete foundation and metal lattice structure supported by guy wires. There are seven (7) excavated areas; one mast base of which size is dependent on engineering (approximately up to 1800 mm x 1800 mm x 600 mm), and six (6) anchors (3 inner and 3 outer). The size is dependent on engineering; however, approximately up to 1800 mm x 1800 mm x 1600 mm, based on sizes of recent met mast constructions. The installed Met Mast is intended to be temporary with a lifespan of 2 to 5 years and will consist of the following components (see Attachment D):

- galvanised steel framework with alternating contrasting bands of colour to at least top third of mast
- mounting boom for anemometers (to measure wind speed and direction)
- guy-fixing system (inner, intermediate and outer anchor footings and guy wires)

- cables for data and electrical purposes
- paint markers on mast, aviation marker balls and ground markers (i.e. guy wires) for aviation safety.

An indicative schematic diagram of a Met Mast is provided in Plate 1.

Plate 1: Example of Met Mast (Captains Mountain Wind Farm 2021)

Met Mast Specifications

Lot 14184 is approximately 131.83 ha (see Figure 1). The development footprint comprises approximately 2 ha, inclusive of the seven (7) excavated areas, mast base and anchors. This footprint will cause minimal disturbance on land that is already disturbed by farming activities. The met mast is proposed to be located more than 50 m from all lot boundaries. The Proponent has undertaken an environmental due diligence assessment to ensure that relevant environmental factors are appropriately considered prior to installation of the Met Mast, and to ensure that the correct approval pathways are followed for its installation and operation.

Construction time of the Met Mast is anticipated to be 8-10 days whereby concrete foundations will be poured and mast will be installed section by section (each section 3 m in length) to a total height of 120 m. Guy wires will be mounted at two heights and anchored into the ground between 40 m and 80 m from the mast. The operation phase of the Met Mast will be 2-5 years before decommissioning. Following decommissioning the mast sections and concrete foundations will be removed so that there is no component of the installation to remain on site. There will be no ancillary facilities required for personnel during operation of the Met Mast. Specification diagrams of the proposed met mast are provided in Attachment D.

Consideration of the planning and environmental context of Lot 14184 is detailed in the following sections.

P166274 14184
131.83 ha

Met Mast 1
Guy Wires
Proposed Vehicular Access Routes
20m Met Mast Access Area
Land Parcel
Cadastral Boundary (WA Gov)

ACCIONA Energy
Level 8, 11 Eastern Road,
South Melbourne, Victoria, 3205
Phone: +61 3 9027 1000

BELLWETHER WIND FARM

PROPOSED METEOROLOGICAL MAST SITE PLAN

Scale: 1:7,000 @ Page size: A3
Coordinate System: GDA 1994 MGA Zone 50
Date: 2025-05-07
File: 003_BWWF_MET_MAST_A3P_RevB
Revision: B
Created by: CG

N

0 km 0.2

Stakeholder Consultation

Acciona has engaged with several stakeholders relevant to this project. Outcomes of these engagements are summarised in Table 1.

Table 1: Summary of stakeholder engagement outcomes

Stakeholder engaged	Outcome of engagement
Shire of Narrogin	• Acciona has consulted with the Shire on several occasions, providing information about the proposed met mast installation, including the proposed location and how potential impacts of the proposal will be mitigated. • There have been no objections received regarding the proposal.
Landowners	• Acciona has consulted with the landowner regarding the proposed met mast installation and negotiated an appropriate location that would minimise impact to their operations. • The landowner is a signatory to this application and supports the DA, under the conditions that the met mast is a temporary monitoring device that will be completely removed once monitoring is completed.
Adjoining landowners	• Acciona has consulted with adjacent landowners that are located within 2 km of the site, regarding the proposed met mast installation. • There have been no objections received regarding the proposal.
Civil Aviation Safety Authority (CASA)	Acciona has notified CASA of the proposed met mast installation and received the following advice: • The proposal is outside CASA's formal regulatory framework for aerodromes, due to there being no certified aerodromes within 15 km of the proposed met mast location at Lot 14184. • Recommend consideration of guyed mast structure with a surface finish to distinguish the mast from background environment and placing marker balls on the upper third of guy wires to assist with visibility. • Recommend that all permanent obstacles 100 m or above ground level or that penetrate the obstacle limitation surface are reported to the Aeronautical Information Service provider, Airservices Australia.
Gnaala Karla Booja Aboriginal Corporation (GKBAC)	• Acciona met with GKBAC in November last year at their offices in Bunbury. The proposed met mast installation was discussed after which Acciona negotiated the Noongar Standard Heritage Agreement (NSHA). • The agreement was executed on 7 April 2025, and an Activity Notice for the met mast location was submitted on 29 May 2025.
Wider Shire community	• Acciona continues to undertake engagement in the wider community through Mobile Office Sessions held in September and October 2024, attendance at the Wagin Woolorama Agricultural Show in January 2025 and the Williams Gateway Expo in April 2025, in addition to providing ongoing project updates in local newspapers.

State and Local Government regulatory framework

Several state and local policies and schemes are relevant to the proposed construction and operation of a Met Mast, as described in the following section.

Planning and Development Act 2005

The *Planning and Development Act 2005* (Planning Act) provides a system of land use planning and development in WA.

Acciona is hereby making application to the Shire for development approval for construction and operation of the Met Mast under the Planning Act.

Local Planning Scheme No. 3

The Shire's LPS provides classification of different land zones and provides appropriate land uses for each zone. Under the LPS, Lot 14184 is zoned "Rural" and a Met Mast is not a defined land use under the LPS. However, the following sections demonstrate that the Project is appropriate for the Rural zone.

Table 2 demonstrates that the Project aligns with the Shire's LPS objectives of the Rural zone.

Table 2: Demonstration of project alignment with Rural zone objectives of the LPS (Part 3, Table 2)

Rural zone objective	Evidence of project alignment
Provide for the maintenance or enhancement of specific local rural character.	Due to the slim-line and transparent design of the Met Mast, there will be minimal impact to the natural landscape in the local rural area.
Protect broad acre agricultural activities such as cropping and grazing and intensive uses such as horticulture as primary uses, with other rural pursuits and rural industries as secondary uses in circumstances where they demonstrate compatibility with the primary use.	The proposed Met Mast is not located within a broad acre area of intensive agricultural land use and so will not impact such activities. The footprint of the Met Mast is relatively small in the context of the broad acre activities.
Maintain and enhance the environmental qualities of the landscape, vegetation, soils and water bodies, to protect sensitive areas especially the natural valley and watercourse systems from damage	The proposed Met Mast location will have no impact on sensitive areas due to the proposed location avoiding these areas.
Provide for the operation and development of existing, future and potential rural land uses by limiting the introduction of sensitive land uses in the Rural zone	The proposed Met Mast is not a sensitive land use.
Provide for a range of non-rural land uses where they have demonstrated benefit and are compatible with surrounding rural uses.	The proposed Met Mast is required to provide climatic data and determine suitability of a future wind farm, which is intended to have overall benefit to the community, providing a renewable energy source.

State Planning Policy 2.5 – Rural Planning (WAPC 2016)

The SPP 2.5 provides planning objectives of land zoned Rural under the LPS. Table 3 demonstrates that Acciona's proposed Met Mast aligns with SPP 2.5.

Table 3: Demonstration of project alignment with the SPP 2.5 Rural Planning

SPP 2.5 Rural Planning	Project alignment
SPP 2.5 is intended to protect rural land assets in WA and ensure compatibility between land uses on rural land. Objectives of the policy are to protect environmental, landscape and water resources, minimise land use conflicts, promote economic growth and development on rural land and protect land required for animal premises and food production.	The location of the proposed Met Mast shown in Figure 1 was selected due to the avoidance of environmental values and protection of the natural landscape. The initial due diligence assessment undertaken by Acciona ensured that sensitive receptors (i.e. residences) and environmental values (i.e. native vegetation, fauna habitat, heritage places) will be avoided by construction of the Met Mast.

Position Statement: Renewable Energy Facilities (WAPC 2020)

This position statement guides the planning approval processes for renewable energy facilities and facilitates their development whilst also minimising potential impacts to the environment and the natural landscape.

Table 4 demonstrates Acciona's consideration of the Position Statement.

Table 4. Summary of Acciona's consideration of the WAPC Position Statement: Renewable Energy Facilities

Position Statement Item	Evidence of Acciona consideration
Community consultation	Acciona has previously consulted with the Shire, the landowner of Lot 14184 and landowners of adjacent properties within 2 km of Lot 14184, in addition to the Gnaala Karla Booja Aboriginal Corporation (GKBAC) and CASA, as primary stakeholders of the proposed met mast. Outcomes of consultation are summarised in Table 1.
Environmental impact	Acciona has completed an initial desktop environmental due diligence assessment of Lot 14184 and the surrounding area. This assessment included consideration of land use, surrounding land uses, site topography and soils, acid sulfate soil (ASS) risk, presence of waterways and wetlands, environmentally sensitive areas (ESAs), legislated lands and waters, flora and vegetation, fauna and habitat, cultural heritage areas, land contamination and bushfire risk. Additional factors including visual landscape impact, traffic management and site security and access were considered. The initial due diligence assessment concluded that the proposed Met Mast will not have significant environmental impact, due to the proposed location of the Met Mast not requiring removal of any native vegetation, not being within a designated bushfire prone area, not at risk of ASS occurrence, and not containing or adjoining any waterways, ESAs, legislated lands and waters, contaminated sites or cultural heritage places. The nearest conservation area is approximately 1.8 km east of the Lot 14184 boundary.
Visual and landscape impact	There is anticipated to be negligible visual impact caused by the proposed Met Mast due to the slimline ad semi-transparent construction of the mast. The proposed location is not surrounded by sensitive receptors, i.e. residences. According to the Shire of Narrogin's *Local Planning Policy – Wind Farm/Turbines*, wind turbines should be located a minimum of 1.5 km from any dwelling or sensitive land use. The Met Mast may be considered similar to wind turbines in relation to the potential visual impact, and the Met Mast is proposed to be more than 1.5 km from any dwelling or sensitive land use. There will be painted markings on the mast, marker balls and ground markers (i.e. guy wires) installed as required by aviation safety.
Public and aviation safety	An Aviation Impact Assessment has been completed for the proposed Met Mast (Attachment E). Acciona have been in regular consultation with CASA and Aviation Projects regarding suitable approaches to take to ensure aviation safety of the proposed Met Mast installation and operation. A summary of findings of the AIA is provided below: • There are no certified and uncertified aerodromes located within 30 nm and 3 nm of the proposed met mast. • The proposed met mast will have no impact on controlled or designated airspace. • CASA is to be notified of the proposed met mast details. • Airservices Australia is to be provided with the final location and height details of met mast coordinates and elevation via their website*. • Several markings are recommended to ensure identification by pilots flying low in the area, including the following: o Painted markings for top third of the mast o Marker balls on guy wires o Ground markers/ guy wire ground attachment points in contrasting colours.
Heritage	According to Acciona's initial due diligence assessment, there are no Registered Places on the DPLH's Aboriginal Cultural Heritage Register, within or adjacent to Lot 14184, and there is no non-Indigenous heritage Places recorded with the Heritage Council.
Construction impact	Construction of the Met Mast is not anticipated to have significant site impact, with construction occurring over an 8–10-day period.

Position Statement Item	Evidence of Acciona consideration
	Any service access tracks and laydown areas required during construction, operation and decommissioning phases will be constructed and managed in consultation with the landowner. There will be minimal site disturbance during construction and appropriate measures will be taken to ensure stabilisation of topsoil, protection of surrounding native vegetation, and appropriately manage erosion and drainage from the construction site.
Additional considerations	
Bushfire management	The proposed Met Mast location is not within a designated bushfire prone area.
Traffic management	There is anticipated to be minimal increase in traffic during construction, operation and decommissioning of the Met Mast. Construction is expected to occur over a period of 8-10 days, including the installation and testing of all sensors and equipment. No personnel will be on site during operation of the Met Mast and minimal site access will be required to undertake routine maintenance during the operation phase.
Site access and security	The proposed Met Mast will be secured with a metal grill barrier and climb protection structures. Security fencing will be installed around the perimeter of the mast to deter unauthorised access.

*Acciona will engage separately with Airservices Australia (and Department of Defence [DoD]) prior to construction of the met mast.

Conclusion

The Met Mast proposed by this DA is necessary to collect climatic data to determine suitability of Acciona's future Bellwether Wind Farm location.

The Met Mast installation is temporary and according to this supporting letter, the installation and operation of the Met Mast is not likely to significantly impact the objectives of the "Rural" zone within the Shire's LPS.

The proposed Met Mast will not require clearing of native vegetation, is not located in a bushfire prone area, is not located near any conservation areas and waterways, and will not create negative impacts to the local traffic network, visual landscape amenity or public safety. Consultation with CASA and compliance with recommendations within the attached Aviation Impact Assessment (Attachment E) will ensure that aviation safety is appropriately managed. Outcomes of consultation with the DoD and Airservices Australia will be provided to the Shire once available.

Should you require clarification, please contact the undersigned on 0455 222 201 or by email ojohnston@jbsg.com.au.

Yours sincerely:

Olivia Johnston
Project Consultant
JBS&G Australia Pty Ltd

Reviewed/Approved by:

Benn Prowse
Principal
JBS&G Australia Pty Ltd

References:

Western Australian Planning Commission (WAPC) 2020, *Position Statement: Renewable Energy Facilities,* Department of Planning, Lands and Heritage (DPLH), Perth WA.

Western Australian Planning Commission (WAPC) 2016, *SPP 2.5 Rural Planning*, Department of Planning, Lands and Heritage (DPLH), Perth WA.

Captains Mountain Wind Farm 2021, *Development Application for Meteorological Masts.* [Online] Available at: https://www.captainsmountainwindfarm.com.au/development-application-for-meteorological-masts/.

Attachments:

Attachment A	Limitations
Attachment B	Application for Development Approval
Attachment C	Certificate of Title
Attachment D	Met Mast Drawings and Specifications
Attachment E	Narrogin Met Mast Aviation Impact Assessment

Attachment A Limitations

Scope of services

This report ("the report") has been prepared by JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

Reliance on data

In preparing the report, JBS&G has relied upon data and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise expressly stated in the report, JBS&G has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. JBS&G has also not attempted to determine whether any material matter has been omitted from the data. JBS&G will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to JBS&G. The making of any assumption does not imply that JBS&G has made any enquiry to verify the correctness of that assumption.

The report is based on conditions encountered and information received at the time of preparation of this report or the time that site investigations were carried out. JBS&G disclaims responsibility for any changes that may have occurred after this time. This report and any legal issues arising from it are governed by and construed in accordance with the law as at the date of this report.

Environmental conclusions

Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made, including to any third parties, and no liability will be accepted for use or interpretation of this report by any third party.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G or reproduced other than in full, including all attachments as originally provided to the client by JBS&G.

Attachment B Application for Development Approval

APPLICATION FOR DEVELOPMENT APPROVAL

(FDRS005)

Shire of Narrogin
Love the life

89 Earl Street
PO Box 1145
Narrogin WA 6312

(08) 9890 0900

www.narrogin.wa.gov.au
enquiries@narrogin.wa.gov.au

CASHIER HOURS:
8:30am – 4:30pm
MONDAY- FRIDAY

SHIRE OF NARROGIN – LOCAL PLANNING SCHEME NO.3 (LPS 3)

All applicants should complete this form and the checklist provided. Applicants seeking approval for Advertising Signage should also complete page 3, unless exempt under Schedule 5 of the LPS 3.

PROPERTY DETAILS

Lot No	14184	House No	674	Street Name	Hyde Road				
Suburb	Highbury		Nearest Street Intersection		Piesseville-Tarwonga Road				
Location No	14184	Plan or Diagram	166274	Certificate of Title	1575/564	Volume:	1575	Folio:	564
Title Encumbrances (e.g. Easements, Restrictive Covenants)	Not applicable								

LOT DIMENSIONS

Site area	1,319,215	Square metres
Frontage	900	Metres
Depth	2000	Metres

OWNER DETAILS

Full Name:	Chuckem Pastoral Co Pty Ltd		
ABN (If Applicable)	65 008 685 309		
Postal Address	1407 Chomley Road, Highbury 6313		
Telephone Number:	0429 859 070	Email:	wiese@activ8.net.au

Owner's Signature ..... Tim Wiese Digitally signed by Tim Wiese Date: 2025.05.08 14:10:31 +08'00' Date 8.5.2025

NOTE: All owners of the property must sign this application form.
Where property is owned by a company, at least two directors of the company must sign the application.

APPLICANT DETAILS (If different)

Full Name:	Acciona Energy Global Pty Ltd		
ABN (If Applicable)	54 600 910 647		
Postal Address	William Square Level 4, Suite 2, 45 Francis Street, Northbridge WA 6003		
Telephone Number:	03 9027 1000 / 0423 111 728	Email:	energy.melbourne@acciona.com

Applicant's Signature ..... Date 19/5/25

ADVERTISING

The information and plans provided with this application may need to be made available by the local government for public viewing in connection with the application. Do you consent to this?*

Yes ■ No ☐

* Public notification is required for certain development applications to ensure that the public is made aware of the development and have opportunity for relevant submissions. Council has right of refusal for applications that do not allow for public viewing should it be deemed necessary.

PROPOSED DEVELOPMENT

Nature of Development	☑ Works (New construction works with no change of land use) ☐ Use (Change of use of land with no construction works) ☐ Works and Use
NOTE: If the proposal involves advertising signage the Additional Information for Development Approval for Advertisements form must be completed and submitted with this application.	
Is an exemption from development claimed for part of the development?	Yes ☐ No ■
If yes, is the exemption for:	☐ Works ☐ Use
Description of proposed works and/or land use:	Construction and operation of meteorological mast
Description of exemption claimed (if relevant)	Not applicable
Nature of any existing buildings and/or land use:	Existing land use: agriculture and farming
Approximate cost of proposed development:	$350,000
Estimated time of completion:	November 2025

NOTE: This form is to be submitted together with copies of plans, comprising the information specified in the particulars required with the application outlined below. Additional information may be required at a later stage.

NOTE: The Development Application **must** be accompanied with the correct planning fees **(see current Schedule of Fees and Charges)**

This is not an application for a building permit. A separate application is required for a building permit.

OFFICE USE ONLY

File Reference		Application No	
Date Received		Date of Approval / Refusal	
Date of Notice of Decision		Officer's Signature	

Attachment C Certificate of Title

WESTERN AUSTRALIA

TITLE NUMBER	
Volume	Folio
1575	**564**

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 14184 ON DEPOSITED PLAN 166274

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

CHUCKEM PASTORAL CO PTY LTD OF 18 ST GEORGES TERRACE, PERTH
(XE A000001A) REGISTERED 1/1/0001

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

1. B769947 MORTGAGE TO NATIONAL BANK OF AUSTRALASIA LTD REGISTERED 22/8/1979.

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:	1575-564 (14184/DP166274)
PREVIOUS TITLE:	1575-564
PROPERTY STREET ADDRESS:	674 HYDE RD, HIGHBURY.
LOCAL GOVERNMENT AUTHORITY:	SHIRE OF NARROGIN

NOTE 1: O165176 DOCUMENT B769947 DETAILS UPDATED: LODGEMENT DATE/TIME = FROM (01/01/0001 00:00:00) TO (22/08/1979 09:13:00), LEGAL STANDING DATE/TIME = FROM (22/08/1979 00:00:00) TO (22/08/1979 09:13:00), REGISTRATION DATE/TIME = FROM (01/01/0001 00:00:00) TO (22/08/1979 09:13:00)

LANDS	L.T.O.
Entered	Land Permit Lease 1963/63 Name

R524/81

450 80 530

WESTERN AUSTRALIA

COPIED FOR INDEX

1575 564

Crown Grant

Elizabeth the Second, by the Grace of God, Queen of Australia and Her other Realms and Territories, Head of the Commonwealth. To all to whom these Presents shall come, GREETING: Know Ye that We, of Our especial Grace, certain knowledge, and mere motion, have given and granted, and We do by these Presents, for Us, Our heirs and successors, in consideration of the payment of the sum of $380.57 ------ and the fulfilment of the prescribed conditions to the satisfaction of Our Governor of Our State of Western Australia, Give and Grant unto Chuckem Pastoral Co Pty Ltd having its registered Office situate at 18 St Georges Terrace Perth

(hereinafter called the Grantee), the natural surface and so much of the land as is below the natural surface to a depth of 60.96 metres of ALL THAT Tract or Parcel of Land situate and being in the District of Williams ---------------, in Our said State, containing 131.8364 hectares ---------------------------- more or less, and marked and distinguished in the Maps and Books of the Department of Lands and Surveys of Our said State as Williams Location 14184 -

and as the same is delineated and coloured green in the plan in the first schedule: TOGETHER with all Appurtenances whatsoever thereunto belonging, or in anywise appertaining: TO HAVE AND TO HOLD the said Tract or Parcel of Land to the depth aforesaid, and all and singular the Premises hereby granted, with their appurtenances, unto the said Grantee, in fee simple: YIELDING AND PAYING for the same to Us, Our heirs and successors, one peppercorn of yearly rent on the twenty-fifth day of March in each year, or so soon thereafter as the same shall be lawfully demanded: PROVIDED, NEVERTHELESS, that, subject to section 141 of the Land Act, 1933, it shall be lawful for Us, Our heirs and successors, or for any person or persons acting in that behalf by Our or their authority, to resume and enter upon possession of any part of the said land which it may at any time by Us, Our heirs and successors, be deemed necessary to resume for roads, tramways, railways, railway stations, bridges, canals, towing-paths, harbour or river improvement works, drainage, or irrigation works, or quarries, and generally for any other works or purposes of public use, utility, or convenience, and for the purpose of exercising the power to search for minerals hereinafter reserved, and such land so resumed to hold to Us, Our heirs and successors, as of Our or their former estate without making to the said Grantee, or any person lawfully claiming under him, any compensation in respect thereof, so nevertheless, that the land so to be resumed shall not exceed one-twentieth part in the whole of the lands aforesaid, and that no such resumption be made of the part of any lands upon which any buildings may have been erected, or which may be in use as gardens, or otherwise, for the more convenient occupation of any such buildings, or on which any other improvements as defined by the Land Act, 1933, have been made, without compensation: AND PROVIDED, ALSO, that it shall be lawful at all times for Us, Our heirs and successors, or for any person or persons acting in that behalf, by Our or their authority, to search and dig for and carry away any stones or other materials which may be required for making or keeping in repair any roads, tramways, railways, railway stations, bridges, canals, towing-paths, harbour works, breakwaters, river improvements, drainage or irrigation works, and generally for any other works or purposes of public use, utility, or convenience, without making to the said Grantee, or any person claiming under him, any compensation in respect thereof, and We do hereby save and reserve to Us, Our heirs and successors, all Mines, of Gold, Silver, Copper, Tin, or other Metals, Ore, and Minerals, or other substances containing Metals, and all Gems or Precious Stones and Coal or Mineral Oil and all Phosphatic Substances in and under the said land, with full liberty at all times to search and dig for and carry away the same; and for that purpose to enter upon the said land or any part thereof: and we do hereby, save and reserve to Us, Our heirs and successors all petroleum (as defined in the Petroleum Act, 1967, and all amendments thereof for the time being in force) on or below the surface of the said land with the right reserved to Us, Our heirs and successors and persons authorised by Us, Our heirs and successors to have access to the said land for the purpose of searching for and for the operations of obtaining petroleum in any part of the said land subject to and in accordance with the provisions contained in the Petroleum Act, 1967, and all amendments thereof for the time being in force.

IN WITNESS whereof We have caused Our trusty and well-beloved His Excellency THE HONOURABLE JOHN MARTIN LAVAN, Administrator, in and over the State of Western Australia and its Dependencies in the Commonwealth of Australia, to affix to these Presents the Public Seal of the said State.

Sealed this 26th *day of* September, *One thousand nine hundred and* eighty

Grant under the Land Act, 1933 as amended

Minister for Lands.

Administrator Governor

CERTIFICATE OF TITLE

UNDER THE "TRANSFER OF LAND ACT, 1893" AS AMENDED

The abovenamed Grantee is now the registered proprietor of an estate in fee simple in all the land described in this Grant subject to the easements and encumbrances shown in the Second Schedule hereto.

DATED THE 8th DAY OF October 1980 REGISTRAR OF TITLES

OFFICE OF TITLES WESTERN AUSTRALIA

Page 1 (of 2 pages) VOL. 1575 FOL. 564

PAID $ 5.30

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

FOR ENCUMBRANCES AND OTHER MATTERS AFFECTING THE LAND SEE SECOND SCHEDULE

94644/5/80-1,500-S/2852

FIRST SCHEDULE

Area and measurements on the Plan hereon are more or less, and a peg has been placed at each corner of the location.

Scale: 1 : 30000

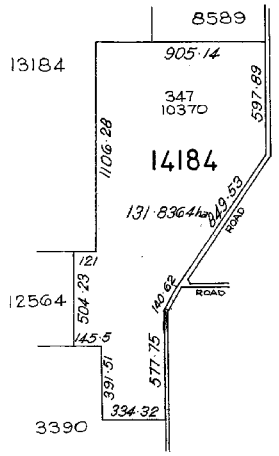
Survey: Diag. 66274

Surveyed: by D. C. Considine

Corr: 2452'54

Drawn: A. J. M.

Examined:



C/L 963/1963

SURVEYOR GENERAL.

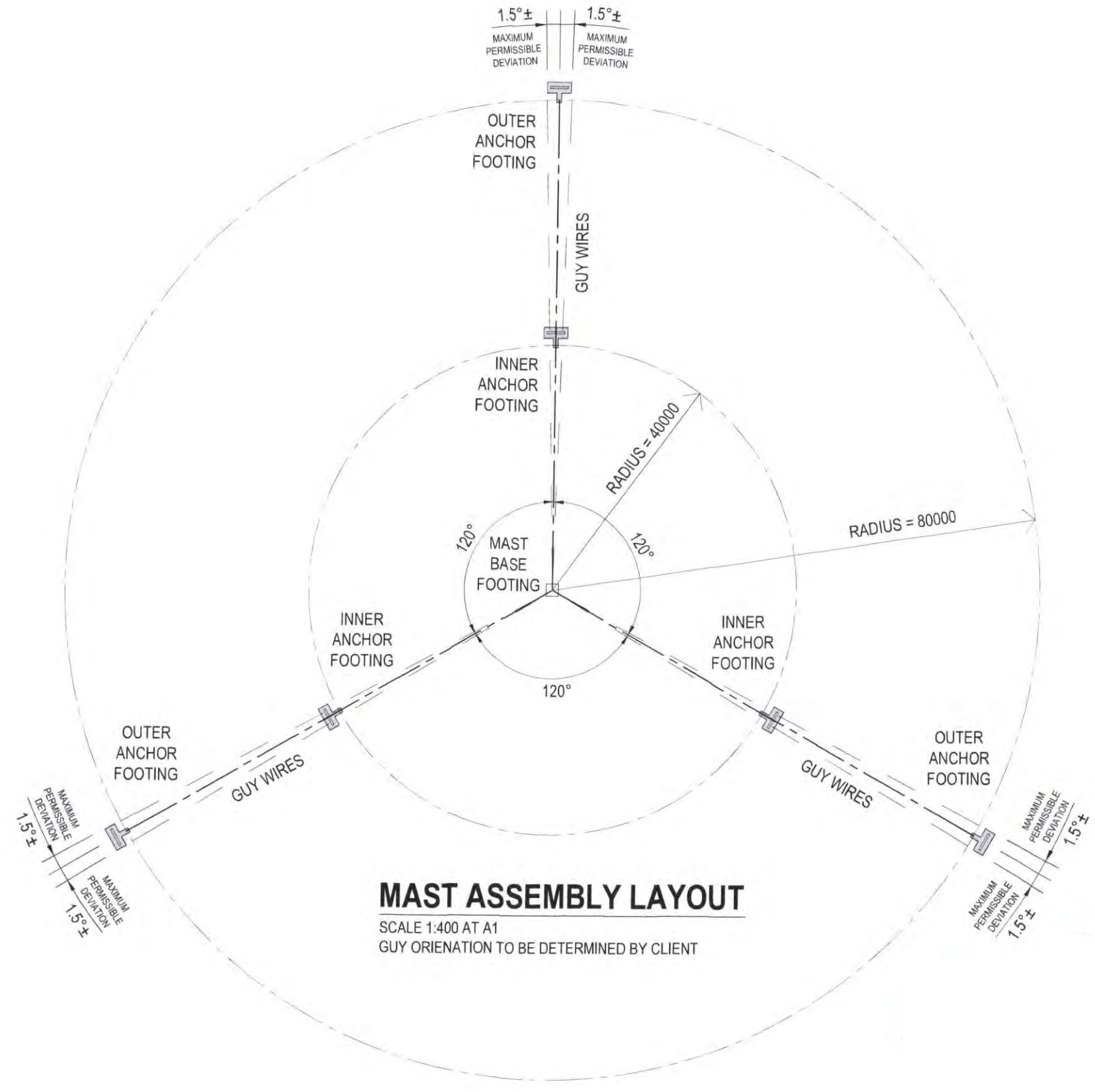
SECOND SCHEDULE

NOTE: RULING THROUGH AND SEALING WITH THE OFFICE SEAL INDICATES THAT AN ENTRY NO LONGER HAS EFFECT. ENTRIES NOT RULED THROUGH MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	INITIALS	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL	INITIALS
Mortgage	B769947	to The National Bank of Australasia Limited.	22.8.79	9.13							

CERTIFICATE OF TITLE VOL. 1575 564

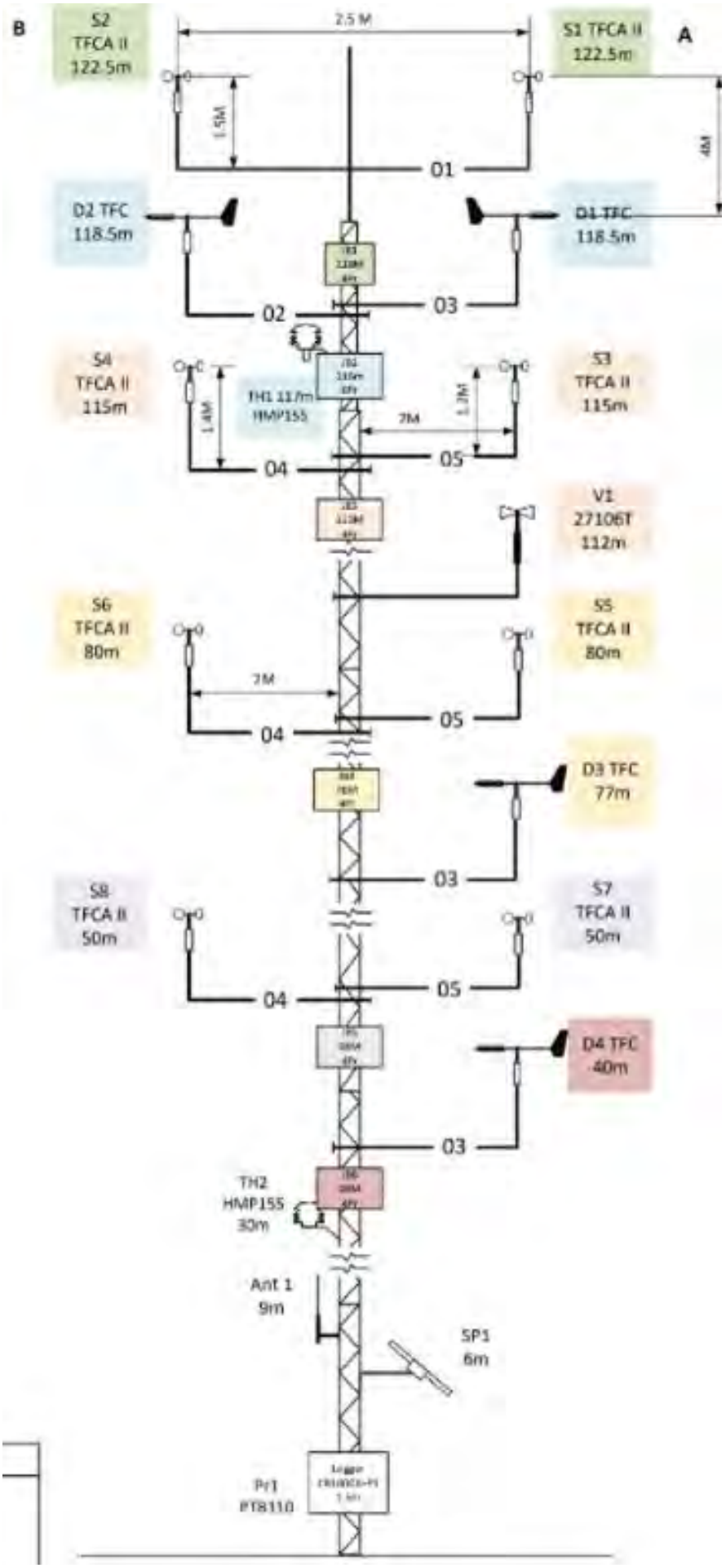
Attachment D Met Mast Drawings and Specifications

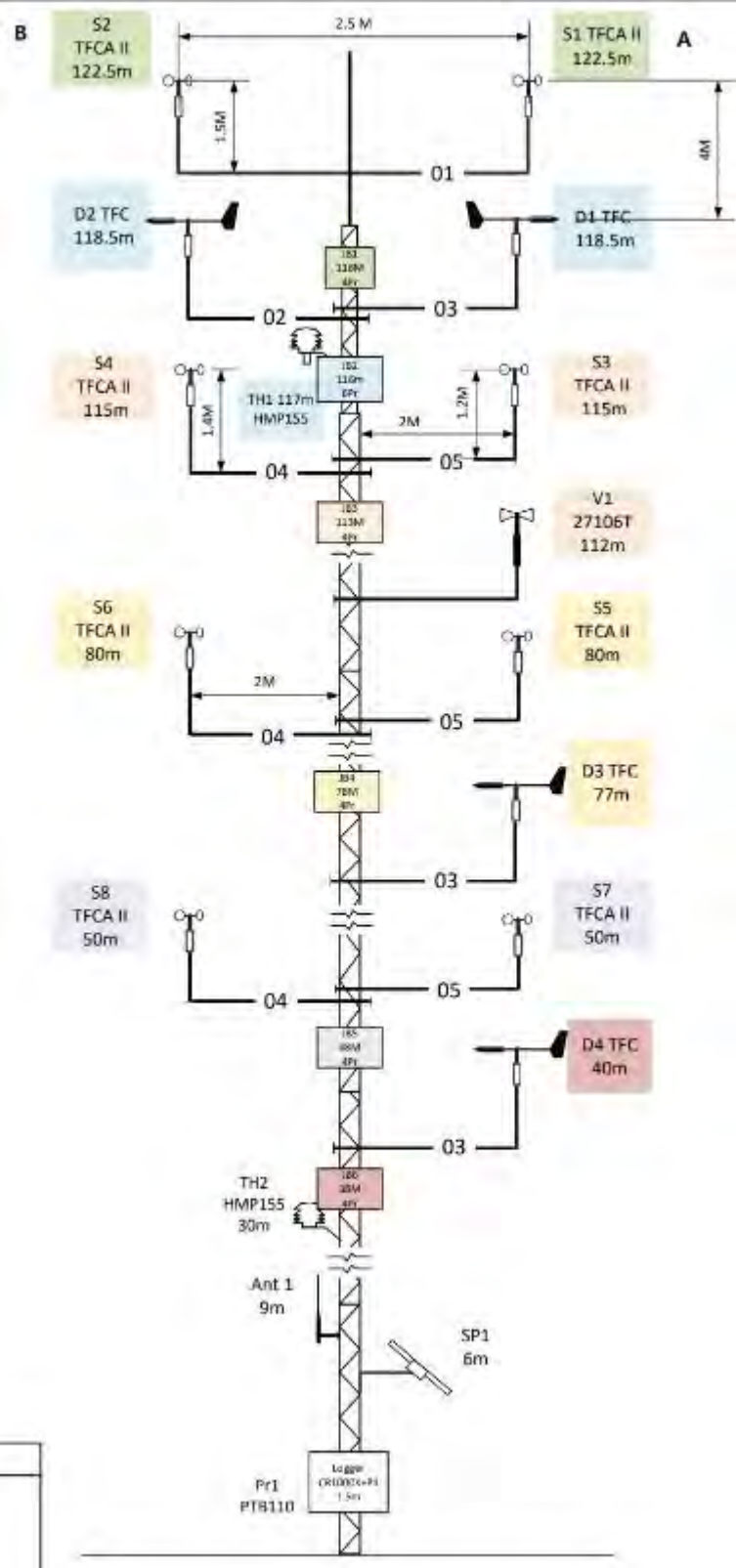


MAST ASSEMBLY LAYOUT

SCALE 1:400 AT A1

GUY ORIENATION TO BE DETERMINED BY CLIENT


B
S2
TFCA II
122.5m
2.5 M
S1 TFCA II
122.5m
A
1.5M
01
D2 TFC
118.5m
D1 TFC
118.5m
02
03
S4
TFCA II
115m
TH1 11m
HMP155
1.4M
7M
1.7M
S3
TFCA II
115m
04
05
V1
27106T
112m
S6
TFCA II
80m
7M
S5
TFCA II
80m
04
05
D3 TFC
77m
03
S8
TFCA II
50m
S7
TFCA II
50m
04
05
D4 TFC
40m
03
TH2
HMP155
30m
Ant 1
9m
SP1
6m
Pr1
PTB110


B
A
S2
TFCA II
122.5m
2.5 M
S1 TFCA II
122.5m
1.5M
4M
01
D2 TFC
118.5m
D1 TFC
118.5m
02
03
S4
TFCA II
115m
TH1 117m
HMP155
1.4M
2M
1.2M
S3
TFCA II
115m
04
05
V1
27106T
112m
S6
TFCA II
80m
2M
S5
TFCA II
80m
04
05
D3 TFC
77m
03
S8
TFCA II
50m
S7
TFCA II
50m
04
05
D4 TFC
40m
03
TH2
HMP155
30m
Ant 1
9m
SP1
6m
Pr1
PTB110

Attachment E Narrogin Met Mast Aviation Impact Assessment

Benn Prowse
Principal
JBS&G Environmental Consultants
By email: bprowse@jbsg.com.au

May 2025

Our reference: 1010901-01

Dear Benn,

Re: Bellwether Wind Farm Meteorological Mast 1 Aviation Impact Assessment

Acciona Energy Australia Global Pty Ltd (Acciona) are installing a meteorological mast for the Bellwether Wind Farm approximately 25 km northwest of Arthur River, in the Shire of Narrogin Local Government Area (LGA).

JBS&G have engaged Aviation Projects to prepare an Aviation Impact Assessment (AIA) for Met Mast 1 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 12 June 2025
- Civil Aviation Safety Authority (CASA)
    - 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 v1.3: *Operations in the vicinity of non-controlled aerodromes*, dated January 2025
    - CASR Part 173 Manual of Standards (MOS) – *Standards Applicable to Instrument Flight Procedure Design*, version 1.8, dated 11 August 2022
    - CASR Part 139 MOS– *Aerodromes,* F2024L01671 dated 14 December 2024
    - 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,* dated 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 2025
- Shire of Narrogin Local Planning Scheme
- Other references as noted.

1.2. Client Material

JBS&G have provided the following material for the purpose of this analysis:

- 003_BWWF_MET_MAST_A3P_revA_Bellwether_1.pdf
- Email with Meteorological Mast Height and ground elevations dated 14/04/2025
- Met Mast Elevations.png

1.3. Project description

Acciona are proposing installing a meteorological mast for the Bellwether Wind Farm, Met Mast 1, with a maximum height of 125 m (410.1 ft) above ground level (AGL) in the Shire of Narrogin, in Western Australia.

Figure 1 Shows the location of the proposed Met Mast 1 and the project area (Source: JBS&G).

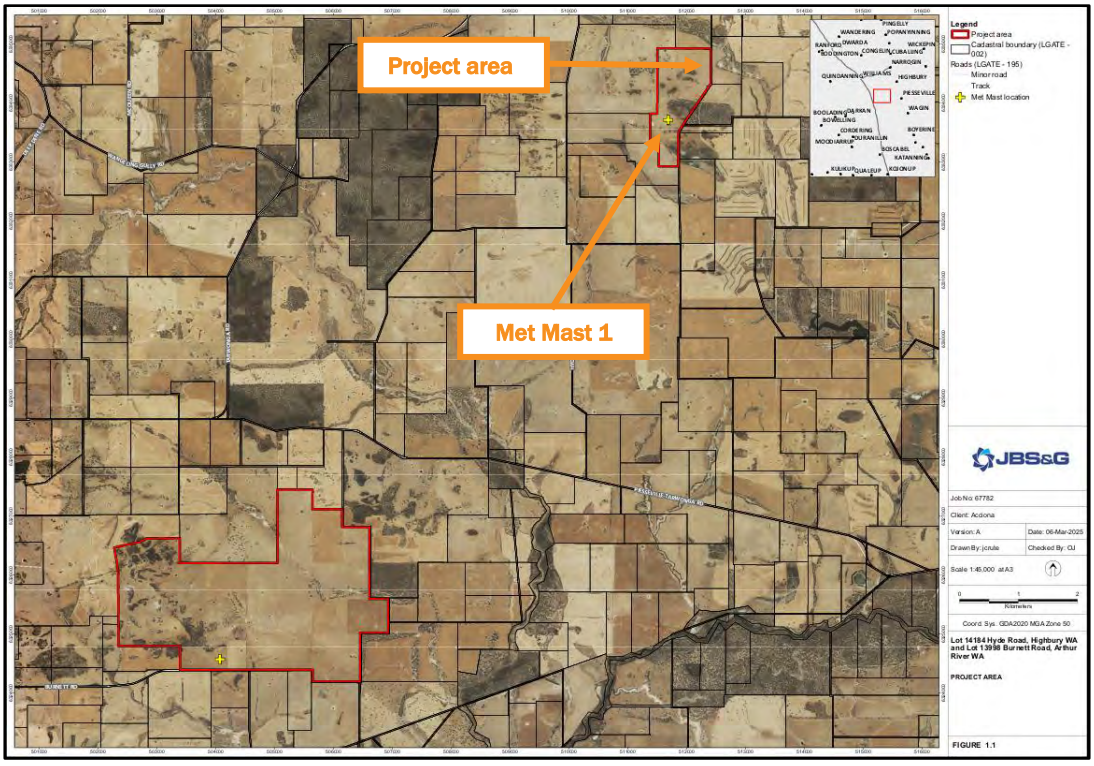


Figure 1 Location of Met Mast1

Table 1 provides the height and ground elevation of Met Mast 1 based on data provided by Acciona, who used public data for the ground elevations. Considering the accuracy of the of the public data available, a 10-metre buffer has been applied to the ground elevation for Met Mast 1 to allow for error.

Table 1 Met Mast 1 data

Mast	Max Mast Height (m AGL)	Max Mast Height (ft AGL)	Terrain Elevation (m AHD)	Terrain Elevation (ft AMSL)	Tolerance (m)	Total Mast Height (m AHD)	Total Mast Height (ft AMSL)
Met Mast 1	125	410.1	344	1128.6	10	479	1571.5

1.4. Nearby certified aerodromes

A certified aerodrome is an aerodrome regulated by the Civil Aviation Safety Authority (CASA) under CASR Part 139 with defined standards established in CASR Part 139 MOS.

There are no certified aerodromes located within 30 nm of the proposed Met Mast 1. The closest certified aerodrome is Katanning (YKNG), approximately 43.2 nm (80.0 km) southeast of Met Mast 1.

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 location of Met Mast 1 relative to Bunbury Airport (YBUN), Busselton Airport (YBLN) and Katanning Airport (YKNG) is shown in Figure 2 (Source: Acciona, Google Earth). The red circle represents a 30 nm radius from the airport's aerodrome reference point (ARP).

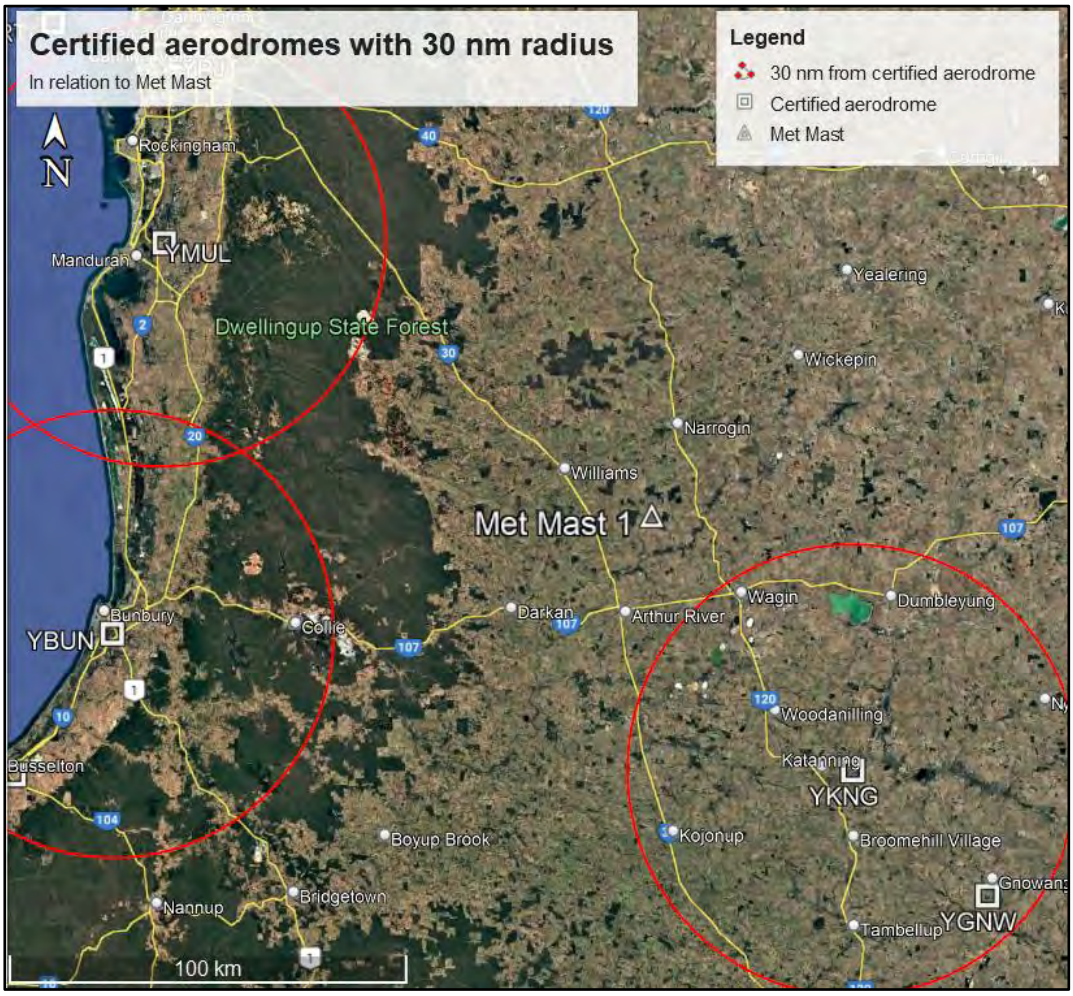


Figure 2 Location of certified airports in relation to the proposed Met Mast 1

1.5. Nearby uncertified aerodromes

A search of the following aviation datasets was used to identify uncertified aerodromes near the project area. They are not subject to CASR Part 139 regulations:

- AIP aeronautical charts effective 12 June 2025
- OzRunways - which sources its data from Airservices Australia (AIP). The aeronautical data provided by OzRunways is approved under CASA CASR Part 175
- Australian Government National Map website (www.nationalmap.com.au).

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 are no known uncertified aerodromes within 3 nm of Met Mast 1. Figure 3 shows the locations of nearby uncertified aerodromes relative to the Met Mast sites and a nominal 3 nm buffer from those aerodromes (source: Acciona, Google Earth).

Figure 3 Uncertified aerodromes in the vicinity of Met Mast 1

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 proposed Met Mast 1 is within the airspace grid LSALT of 3000 ft AMSL, which has a protection surface of 2000 ft AMSL.

Figure 4 shows the Grid LSALT in proximity to the Met Mast (source: ERC Low National, OzRunways, Google Earth).

Met Mast 1's height is 479 m AHD (1571.5 ft AMSL), which is below the protection surface.

Therefore, the Met Mast will not impact the Grid LSALT.

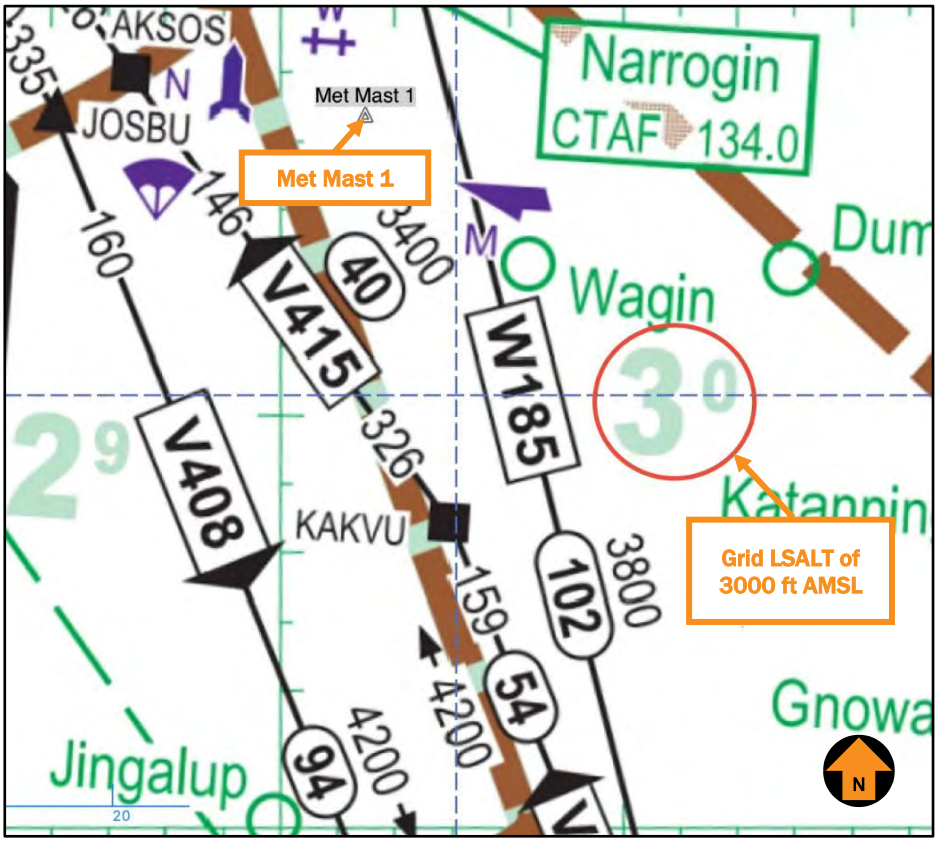


Figure 4 Grid LSALT in proximity of Met Mast 1

1.6.2. Air Route LSALTs

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

There are two air routes within the protection area of the Project Site. An impact analysis of the air routes is provided in Table 2.

Met Mast 1 is 479 m AHD (1571.5 ft AMSL), lower than the air route's protection surface. Therefore, the Met Mast will not impact any Air route LSALT.

Table 2 Air route impact analysis

Air route	*Waypoint pair*	*Route LSALT*	*Protection Surface*	*Impact on airspace design*	*Potential solution*	*Impact on aircraft ops*
V415	KAKVU and AKSOS	3400	2400	Nil	Nil	N/A
W185	PAVSO and OCKLY	3800	2800	Nil	Nil	N/A

1.7. Airspace

Met Mast 1 is located within Class G airspace, outside of controlled airspace, and is not located in any Prohibited, Restricted and Danger areas.

Met Mast 1 will not have an impact on 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.

Met Mast 1 is located a sufficient distance away from nearby certified aerodromes and aviation navigation facilities to not have an impact.

1.9. ATC Surveillance Radar Systems

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

The open lattice construction of slim Met Mast does not impact ATC Surveillance Radar Systems.

1.10. Civil Aviation Safety Authority - regulatory context

The 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.

Requirements for the lighting of obstacles identified as hazards are only applicable to certified aerodromes.

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.

> *2.1.1 Part 139 of the CASR has a number of requirements:*
>
> - *Any object that extends to a height of 100 m or more above local ground level must be notified to CASA by the proponent or owner. (*others are not relevant*)*
>
> *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 Part 139 of CASR*

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 tall structures in submissions to planning authorities who are considering a 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.

2.4 Obstacles outside the vicinity of a CASA Certified aerodrome

2.4.1 The methodology for assessment of wind farms and other tall structures that are located outside the vicinity of a certified aerodrome and recommended mitigation measures for consideration are described below.

2.4.2 Early review by proponent

2.4.2.1 In the early stages of planning for a wind farm or tall structures, it is recommended that the proponent engages an aviation consultant to conduct an aeronautical study to determine if the proposed development will create a risk to aviation safety. It is critical for the proponent to consult with relevant aviation operators nearby to the proposed wind farms or tall structures to prevent potential adverse impacts to aviation. For example, the proposed location might be situated close to:

– a certified aerodrome or military aerodrome

– a high-density VFR lane or VFR reporting point

– an uncertified aerodrome(s) or landing area(s) used by the local community.

2.4.2.2 An aeronautical study will identify aviation safety risks, and the need for mitigation of those risks. The study should provide a detailed assessment of the potential impacts of the proposed development on aviation activities and demonstrate how an acceptable level of aviation safety can be maintained. The aeronautical study should:

– assess the impact of the wind farm on any aviation activity

– conduct a risk analysis using AS/NZS ISO 31000:2018 Risk Management and Guidelines

– consult with nearby aerodrome (certified and un-certified) operators and aircraft operators known to fly in the area (including those operators who carry out low flying activities that may include fire spotting and control)

– consult with Airservices and the Department of Defence to determine whether any nearby aeronautical communications, navigation or surveillance equipment may be affected

– provide details of proposed mitigations to ensure an acceptable level of safety and an analysis of the effectiveness of each risk control measure

– recommend operating procedures/restrictions or other means to mitigate risks.

2.4.2.3 All proposed mitigation measures should be assessed to demonstrate they are adequate to reduce aviation risks to an acceptable level.

2.4.3 Planning authority process

2.4.3.1 CASA understands that the proponent of a wind farm or tall structure is required to submit a development application to the relevant planning authority for approval. The planning authority will

assess the proposal and review the detailed aeronautical study that should be provided as part of the development application.

2.4.3.2 The planning authority may seek advice from CASA on the risk to aviation created by the development or the proposed mitigation plan if a risk has been identified.

2.4.3.3 CASA has no authority or regulatory powers in relation to a wind farm or tall structure approval outside the vicinity of a certified aerodrome but advice from CASA will inform the planning authority in regard to any decisions or conditions on any approval the planning authority might place on a development.

Regardless of any CASA advice, planning authorities make the final determination via conditions of consent as to whether a wind farm or tall structure not in the vicinity of a CASA regulated aerodrome will require lighting or marking.

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.

Characteristics of medium-intensity lights are specified in CASR Part 139 MOS Section 9.33:

1) Medium-intensity obstacle lights must:

a) be visible in all directions in azimuth; and

b) if flashing — have a flash frequency of between 20 and 60 flashes per minute.

2) The peak effective intensity of medium-intensity obstacle lights must be 2 000 ± 25% cd with a vertical distribution as follows:

a) for vertical beam spread — a minimum of 3 degrees;

b) at -1 degree elevation — a minimum of 50% of the lower tolerance value of the peak intensity;

c) at 0 degrees elevation — a minimum of 100% of the lower tolerance value of the peak intensity.

3) For subsection (2), vertical beam spread means the angle between 2 directions in a plane for which the intensity is equal to 50% of the lower tolerance value of the peak intensity.

4) If, instead of obstacle marking, a flashing white light is used during the day to indicate temporary obstacles in the vicinity of an aerodrome, the peak effective intensity of the light must be increased to 20 000 ± 25% cd when the background luminance is 50 cd/m² or greater.

There is no regulatory requirement to provide obstacle lighting on the Met Mast 1 due to its location outside the vicinity of a certified aerodrome. Generally, the voluntary provision of obstacle lighting should be considered to ensure visibility in low light and deteriorating atmospheric conditions.

Whilst the CASA and NASF guidelines recommend medium intensity lighting, CASA is likely to approve the provision of low intensity lighting due to the location of the proposed met masts in an area where the surrounding terrain is generally free from other light sources.

1.11. National Airport Safeguarding Framework Guideline D

NASF Guideline D 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

Acciona will be consulting with both Airservices Australia and the Department of Defence.

1.13. Summary

The following list of findings summarises the outcome of this assessment, based on the maximum height of the 125 m AGL Met Mast and 479 m AHD (1571.5 ft AMSL):

- There are no certified aerodromes located within 30 nm (55.6 km) of the Met Mast sites
- There are no uncertified aerodromes identified within 3 nm of the Met Mast sites.
- The Met Mast will not affect any Grid or airway route segment LSALT
- The Met Mast will not have an impact on controlled or designated airspace

- Whilst marking the Met Mast is not mandatory, 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 surrounding it.
- The following markings are recommended to be implemented in consideration of potential day VFR aerial work operations in accordance with NASF Guideline D, as shown in Figure 5 (Source: Part 139 MOS):
    - Obstacle marking for at least the top 1/3 of the mast and be painted in alternating contrasting bands of colour
    - Marker balls or high visibility flags or high visibility sleeves placed on the outside guy wires
    - Guy wire ground attachment points in contrasting colours to the surrounding ground/vegetation.

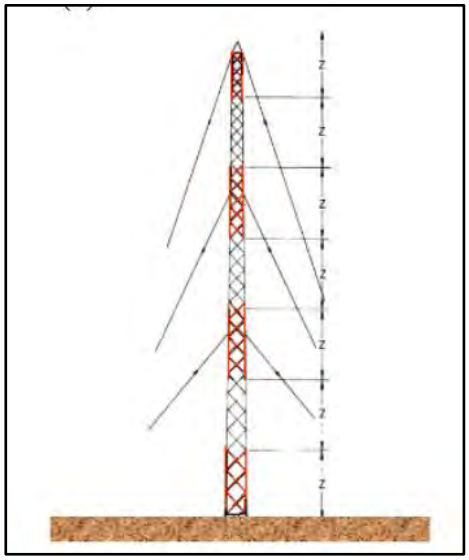


Figure 5 CASA Figure 8.110 (5) Markings

- Providing an obstacle light on top of the Met Mast is not mandatory, but the provision of obstacle lighting should be considered to ensure that the narrow mast can be more readily identified by pilots in low light atmospheric conditions and at night.
- Due to exceeding 100 m AGL, details of the Met Mast 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 Part 139.165(1)(2).
- Final location and height details of the Met Mast coordinates and elevation should be provided to Airservices Australia, 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: airport.developments@airservicesaustralia.com

If you wish to clarify or discuss the contents of this correspondence, please get in touch with me on 0424 110 501.

Kind regards

Peter White

Manager - Aviation Safeguarding

30 May 2025