SHIRE OF WEST ARTHUR
LOCAL PLANNING SCHEME NO.2

NOTICE OF PUBLIC ADVERTISEMENT OF PLANNING PROPOSAL

Planning and Development Act 2005
Shire of West Arthur

The local government has received an application to use and/or develop land for the following purposes and public comments are invited.

Property Address: Lot 8 on Plan 16210 Trigwell Bridge Road, Bowelling.

Proposal: Construction and use of a proposed new temporary meteorological mast on an approximately 0.9175 hectare portion of the abovementioned property. The proposed mast will have an overall height of 122 metres and will be used for a period of up to six (6) years to gather meteorological data to help plan for a future possible wind farm in the immediate locality.

Details of the proposal including various documentation and plans are attached.

Comments on the proposal are now invited and can be emailed to shire@westarthur.wa.gov.au or posted to the Shire's Chief Executive Officer at PO Box 112 DARKAN WA 6392 by no later than **Monday 16 February 2026**. All submissions must include the following information:

- Your name, address and contact telephone number;
- How your interests are affected; whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property;
- Address of property affected (if applicable); and
- Whether your submission is in support of, or objecting to the proposal and provide any arguments supporting your comments.

All submissions received may be made public at a Council meeting and included in a Council Agenda which will be available on the Shire's website unless a submission specifically requests otherwise.

Vin Fordham Lamont
Chief Executive Officer
Shire of West Arthur
19 January 2026

999 Hay Street, Level 10
Perth, Western Australia 6000
Australia
ghd.com

Our ref: 12672815

19 December 2025

Vin Fordham Lamont
Chief Executive Officer
Shire of West Arthur

Application for Development Approval – Meteorological Mast

Dear Mr Lamont,

Vestas Development Australia Pty Ltd (Vestas) is seeking Development Approval to construct a single meteorological mast (met mast) under the Shire of West Arthur (the Shire) Local Planning Scheme No. 2 (LPS2) at the location described in Table 1.

The purpose of the met mast is to support investigations of wind resource for the Bowelling Wind Farm; a renewable energy facility with a power generation capacity of up to 500 megawatts. Bowelling Wind Farm is proposed to be located generally to the north east of Muja Conservation Park and approximately 80 kilometres east of Bunbury.

This letter provides the following information to support the application for development approval:

– Description of the proposed works, including the location and specifications of the met mast
– Justification for the project against the applicable legislation and planning frameworks of the State government and the Shire
– Discussion of relevant environmental and social factors associated with the proposed met mast.

This application is supported by the following appendices:

– Signed development application form (refer **Attachment 1**)
– Certificate of title (refer **Attachment 2**)
– Development plans (refer **Attachment 3**)
– Aviation Impact Assessment (refer **Attachment 4**).

Met mast location

The met mast is proposed to be situated at the land parcel and location described in Table 1 and illustrated in Figure 1. The location is approximately 13.5 kilometres south of Bowelling townsite. The location is accessible via Trigwell Bridge Road. Trigwell Bridge Road connects to Collie-Lake King Road at Bowelling siding.

The met mast location is approximately 3.5 kilometres south of the boundary with Bennelaking Conservation Park. The location is approximately 1.6 kilometres from the near dwelling, located west of Trigwell Bridge Road.

The land comprises a mixture of cleared farmland, small gulleys and waterways, as well as Eucalyptus wandoo plantation. A copy of the certificate of title for the lot is provided as **Attachment 2.**

Table 1 Met mast location & lot details

Coordinates (MGA50)	Lot	Plan	Volume / Folio	Street Address	Proprietor	Area (ha)
Easting: 116° 32′ 3.10″ E	8	P016210	1953/982	N/A	The Water Resources Ministerial Body	278.7441 ha
Northing: 33° 31′ 55.69″ S						

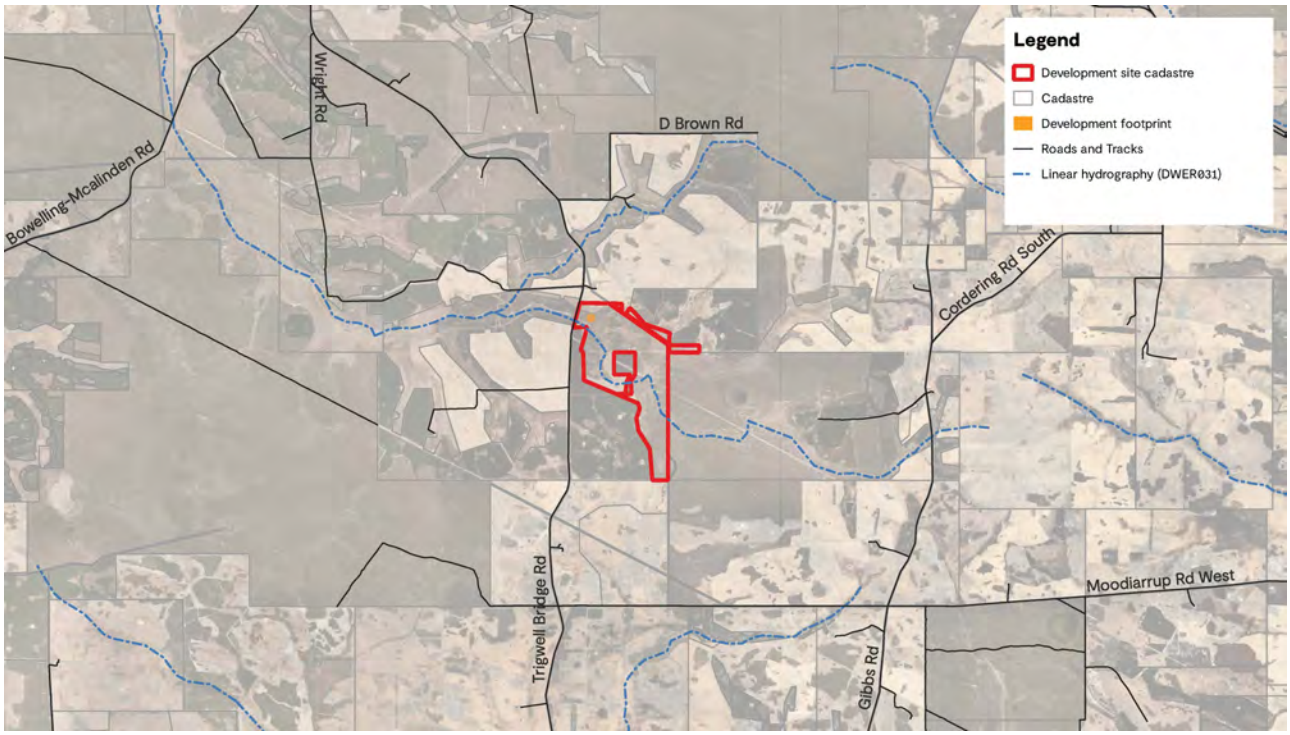


Figure 1 Proposal location

Met mast specifications

The proposal comprises the installation of a 120 metre (hub height) guyed lattice mast and wind monitoring system. The met mast includes medium intensity flashing red lights at a height of approximately 110 metres and a lightning finial extending to approximately 122 metres.

The development footprint comprises approximately 0.9175 hectares (ha), as illustrated in Figure 2. Clearing of this footprint will be required for met mast installation and laydown, and to connect and maintain guy wires. Not all of this 0.91 ha comprises mature vegetation (refer *Environmental and social considerations*).

Construction of the met mast is anticipated to occur over two weeks, whereby concrete foundations will be poured, and the mast will be installed section by section. Guy wires will be mounted at two heights and anchored into the ground between 40 metres and 80 metres from the mast. The mast will operate for up to 6 years before decommissioning. Following decommissioning, the mast sections and concrete foundations will be removed so that no component of the installations will remain on site. There will be no ancillary facilities required for personnel during the operation of the met mast. Specification diagrams of the proposed met mast are provided in **Attachment 3**.

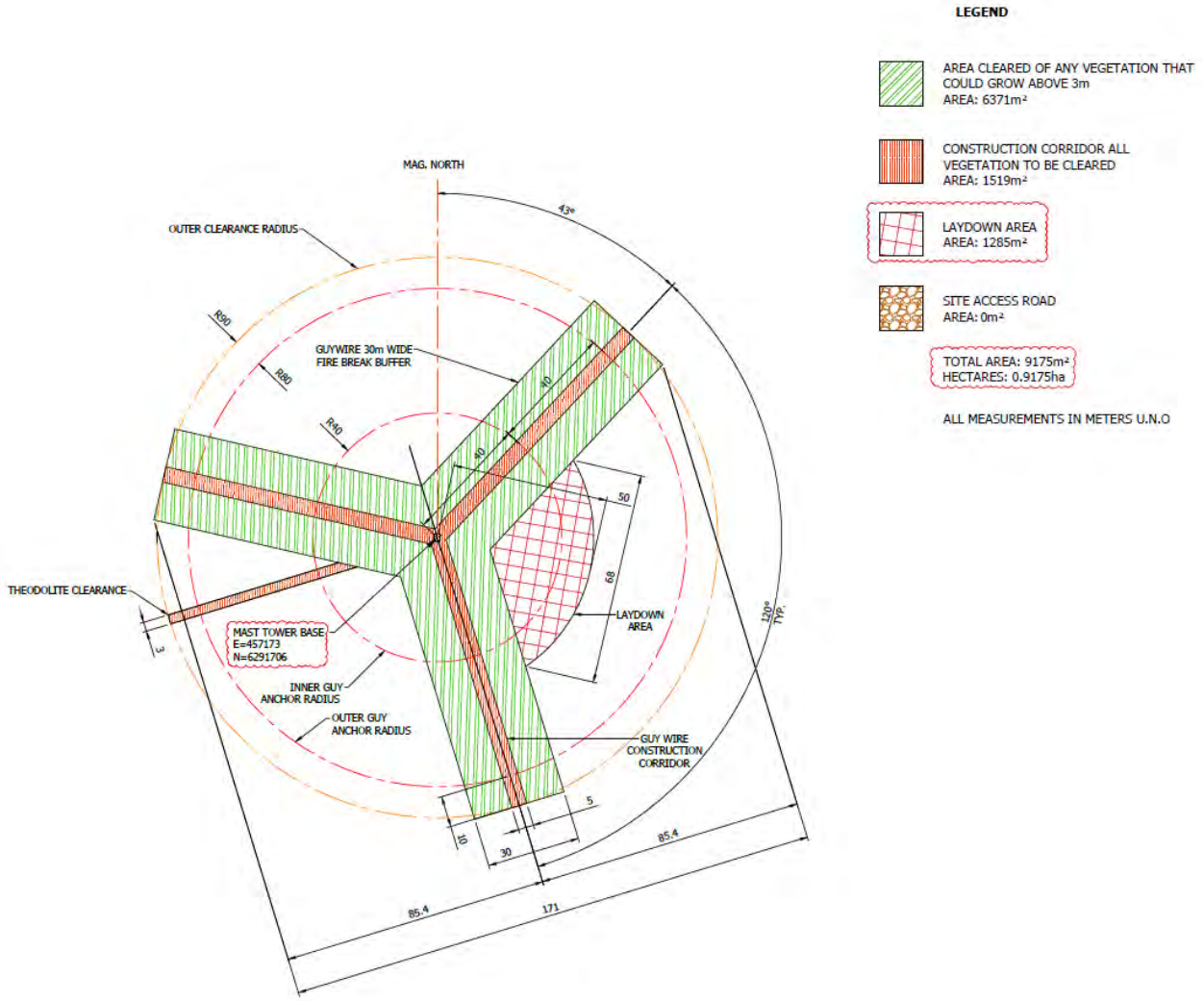


Figure 2 *Proposal layout and footprint (Source: ART Group)*

Planning considerations

Table 2 *Summary of planning considerations*

Framework	Proposal consideration
Legislation	
Planning and Development Act 2005	The PD Act sets the basis of the planning system including the role and functions of decision-makers. Section 4 (Terms Used) of the PD Act provides that: '*development means the development or use of any land, including —* *a) any demolition, erection, construction, alteration of or addition to any building or structure on the land;* *b) the carrying out on the land of any excavation or other works'* The carrying out of works for the project will involve the excavation of land and the installation of structures. Works that are consistent with the term development are subject to development approval.
The Environmental Protection (Clearing of Native Vegetation) Regulations 2004	If clearing of native vegetation is proposed, a permit from either the Department of Water and Environmental Regulation (DWER) or the Department of Local Government, Industry Regulation and Safety (LGIRS) is required, unless a suitable exemption applies. *The Environmental Protection (Clearing of Native Vegetation) Regulations 2004* address a number of matters related to clearing of native vegetation:

Framework	Proposal consideration
	– Regulation 5 – Prescribed clearing, outlines clearing activities that do not require a permit if occurring outside of an environmentally sensitive area declared under section 51B of the Environmental Protection Act 1986 (EP Act). – Regulation 5, Item 12, provides an exemption for clearing for vehicular tracks, done by or with prior authority of the owner of the property on which the clearing is to take place. **Vestas will obtain a Native Vegetation Clearing Permit before undertaking any clearing of native vegetation which is not exempt.**
Civil Aviation Safety Regulations 1998	The Civil Aviation Safety Regulations 1998 (CASR) provide regulatory controls for aviation safety in Australia. Regulation 129.165 provides the scenarios in which the Civil Aviation Safety Authority (CASA) must be notified of proposed objects and structures: *(1) This regulation applies if a person proposes to construct or erect an object or structure that:* *a) will have a height of 100 metres or more above ground level;* *(2) The person must, as soon as practicable after forming the intention to construct or erect the proposed object or structure, give written notice to CASA of the following:* *a) the proposal;* *b) the proposed height and location of the object or structure;* As noted, the proposed met masts are greater than 100 metres. Details regarding consultation and safety measures taken by the Proposal in relation to aviation impact are provided in Table 3.
State Planning Policies and Position Statements	
SPP 2.5 – Rural planning	State Planning Policy 2.5 – Rural Planning (SPP2.5) seeks 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. This policy applies to the Proposal, which is located on land zoned Rural use under LPS2. The proposal would have an insignificant impact on rural land supply and value within the Shire, due to its small footprint. The proposal does not involve any activities or land uses that would impact or constrain the use of surrounding rural land.
SPP 3.7 – Bushfire	State Planning Policy 3.7 – Bushfire (SPP3.7) seeks to guide the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure. It applies to all land designated as bushfire prone by the Department of Fire and Emergency Services (DFES) Commissioner as highlighted on the Map of Bush Fire Prone Areas. While the proposal is nearby to designated bushfire prone areas, it does not involve buildings/structure that are subject to regulation under the guidance of SPP3.7. Construction management during controlled bushfire risk situations is discussed further in this report.
Position Statement – Renewable Energy Facilities	The Position Statement guides the planning approval process for renewable energy facilities, guiding their development whilst minimising impacts to the natural environment and landscape. The Position Statement identifies matters to be considered in assessment of development applications for renewable energy facilities. The Proposal's consideration of these factors is provided in Table 3.
Shire of West Arthur Local Planning Strategy	
Strategic Plan	The Shire's Local Planning Strategy was endorsed in 2025, providing the planning context, objectives and intentions for long-term growth and change within the local government area. The Strategy emphasises a focus on pressures for change which may impact the rural economy and environment. A vision statement is defined to 'To foster sustainable growth and development within the Shires of Wagin, West Arthur and Williams by embracing our rich agricultural heritage, enhancing our vibrant communities, and preserving our unique natural landscapes.'

Framework	Proposal consideration
	In regard to rural land, the Local Planning Strategy encourages the diversification of agricultural production, as well as other land uses which complement and do not interfere with established farming. The Proposal encourages the diversification of rural land uses by supporting the progression of the Bowelling Wind Farm project. The Proposal will not interfere with established farming or other surrounding rural land uses.
Shire of West Arthur Local Planning Scheme No. 2	
Land use class and permissibility	The proposal does not align with any use class listed under LPS2 and is expected to be considered a 'use not listed' by the Shire. As according to LPS2: If a person proposes to carry out on land any use that is not specifically mentioned in the Zoning Table and cannot reasonably be determined as falling within the type or class of activity of any other use the local government may: *a) determine that the use is consistent with the objectives of the particular zone and is therefore permitted; or* *b) determine that the proposed use may be consistent with the objectives of the particular zone and thereafter follow the advertising procedures of clause 9.4 in considering an application for planning approval; or* *c) determine that the use is not consistent with the objectives of the particular zone and is therefore not permitted.* Assessment of the Proposal against zone objectives is provided in below.
Zone and objectives	The site is zoned 'Rural' under LPS2. Clause 4.2 of LPS2 sets out the objectives of the Rural zone: – *To ensure the continuation of broad-hectare agriculture as the principal land use in the district, encouraging where appropriate the retention and expansion of agricultural activities.* – *To provide for intensive agricultural uses and diversified farming which retain the rural character and amenity of the locality, and which are consistent with land suitability.* − *To help protect rural land from land degradation and further loss of biodiversity by:* • *minimising clearing of remnant vegetation* • *encouraging retention and protection of remnant vegetation* • *encouraging development and protection of vegetation corridors* • *encouraging development of sustainable surface and sub-surface drainage works* • *encouraging rehabilitation of salt-affected land* • *encouraging soil conservation through land management measures* • *encouraging identification and protection of wetlands* – *To consider non-rural uses where they can be shown to be of benefit to the district and not detrimental to the natural resources or the environment.* – *To allow for facilities for tourists and travellers, and for recreation uses.* – *To have regard to use of adjoining land at the interface of the rural zone with other zones to avoid adverse effects on local amenities* The Proposal is a non-rural land use, but does not interfere with the objectives of the Rural zone. Given the structure and small footprint of the met mast, it will not adversely affect the environment, natural resources or surrounding rural land uses.
General development requirements	Clause 5.18 of LPS2 sets out the site and general development requirements for the Rural zone. A minimum setback of 20 metres from all lot boundaries is required for development within the Rural zone, which is achieved by the Proposal.
Local Planning Policy 5 – Wind farms	LPP5 articulates the Council's strategic position in relation to location, scale, design, and development of wind farms within the municipality. LPP5 encourages proposals for wind farms involve engagement with key agencies, including Department of Defence, CASA and Air Services Australia. LPP5 notes the need to consider visual impacts from key heritage listed places and conservation reserves.

Environmental and social considerations

Table 3 Summary of environmental considerations

Consideration	Project alignment
Environmental impact	An initial desktop of environmental constraints identified: – No Environmentally Sensitive Areas (DWER-046) – No Threatened or Priority flora, fauna or ecological communities (DBCA-036; DBCA-037; DBCA-038) – No contaminated sites (DWER-059) A revelle/site assessment for the Bowelling Wind Farm area was completed in August 2025. The area of the proposed met mast was not surveyed but was observed as Eucalyptus wandoo plantation with some regrowth Eucalyptus rudis in lower areas over introduced (weed) grasses. The vegetation is likely in Completely Degraded condition. Further assessment of vegetation will occur in 2026. Where further applications are required to remove native vegetation, Vestas' will obtain relevant approvals prior to works.
Cultural heritage	A search of the Aboriginal Cultural Heritage Inquiry System found no registered places of Aboriginal cultural heritage significance within or in proximity to Lot 8. A search of the inHerit database found no registered places of European cultural heritage significance within or within proximity to Lot 8. The Site lies within the South West Settlement Native Title Determination, and the Gnaala Karla Booja Indigenous Land Use Agreement (WI2015/005).
Public and aviation safety	An Aviation Impact Assessment (AIA) has been prepared by Aviation Projects to support this Proposal (refer **Attachment 4**). The AIA does not identify any significant aviation risks associated with the met mast. It is noted that the AIA was prepared on the basis of a different met mast location that has now been deemed unsuitable for reasons unrelated to aviation impact. The different location is less than 2 km to the north of the current location. While the met mast has been re-sited, there are no additional or differing aviation impacts arising from the relocation. Vestas will continue to engage with Air Services Australia and CASA to ensure appropriate registration of the met mast. The met mast is located a considerable distance from Hillman Airstrip to avoid interaction with activities undertaken by the Royal Australian Air Force. The AIA notes the specific considerations outlined in LPP5 relating to air safety. **Vestas has referred preliminary information about the project to CASA, with advice returned from CASA summarised as follows:** – CASA confirms the proposed WMT site is outside any Obstacle Limitation Surface (OLS) protection area. The nearest certified aerodrome is Bunbury Airport, approximately 81 km west. – CASA is unaware of any Aeroplane Landing Area (ALA) near the site; the closest identified ALA is Wagin airfield, about 79 km east. – The WMT is outside the 7 nm RAAF transport aircraft buffer and 5 nm paratrooper buffer for Hillman Farm Airstrip. – The WMT is a guyed mast with alternating markings on the top third. CASA recommends adding marker balls, flags or sleeves on upper guy wires for visibility. – CASA supports low-intensity steady red lighting for safety during agricultural flying and poor light conditions. Medium-intensity flashing red lighting is acceptable if preferred. – Lighting impacts during night hours should be assessed and managed. – CASA advises notifying Airservices to confirm no impact on airspace procedures, ATC or CNS facilities.
Visual amenity	The met mast is not expected to have a significant impact to the visual amenity of the surrounding rural landscape. Despite their significant height, the structure has a small ground footprint, is slim and designed with a lightweight lattice structure. The met mast will be visible from local access roads but are not located in proximity to residential dwellings or public spaces. It is noted that safety measures such as aviation safety markers, painting or lighting, will increase the visibility of the structure to some extent. These features are required for compliance with aviation safety standards. The masts are temporary structures and will be decommissioned after a maximum period of 6 years.

Consideration	Project alignment
Construction impact	**Workforce and accommodation** Up to 6 workers will be present on-site during construction. Workers will be accommodated off-site in the Collie district and drive to the project site. **On-site facilities** The project will maintain waste management at the site in accordance with Part 5 of the Shire's *Animal's Environment and Nuisance Local Law 2024*. Temporary toilets will be provided at the project location. Temporary toilets will capture waste, before being disposed of at an appropriate refuge facility. Machinery and equipment will be stored at the land during construction within a temporary construction laydown area. **Site access and deliveries** Major units are expected to be delivered by Class 3 (2 axel vehicles) with a general mass limit not exceeding 22.5 tonnes. Concrete will be delivered by a single 4-axel vehicle of similar maximum weight. Most other components will be delivered on trailers to utes and other similar vehicles. Access to site as well as all deliveries will occur via Coalfields Road, Bowelling-Duranillin Road and Trigwell Bridge Road. Lot 8 has direct frontage to Trigwell Bridge Road. No roadside clearing of vegetation or infrastructure is anticipated. **Ground disturbance** Any service access tracks and laydown areas required during construction, operation and decommissioning will be constructed and managed in consultation with the landowner. There will be minimal disturbance to the site occurring during construction, with appropriate measures being taken to ensure the stabilisation of topsoil, retention of surrounding native vegetation and appropriate management of erosion and drainage. **Safety in construction** ART will install the met mast on behalf of Vestas. ART maintains continuously reviewed: – Construction WHS Management Plan – Construction Emergency Management Plan – Safe Work Management Procedures. These procedures ensure the safe movement of plant and machinery around the work site. Adherence to ART's internal procedures ensures guy wires are not interacted with by plant, machinery or other forms of potential conflict during installation. ART's Construction WHS Management Plan includes provisions relating to the provision of firefighting equipment and adherence to emergency response plans. Vestas will ensure construction of the project complies with bush fire notices, harvest and burning bans issued by the Shire pursuant to the *Bushfire Act 1954*. This includes restrictions on the operation of forestry machinery and other plant/equipment during harvest bans.
Traffic management	Minimal additional vehicle movements are anticipated during the construction, operation and decommissioning of the met mast. Construction will occur over a short period approximately 2 weeks. No personnel will be required on site during the operation of the met mast. Minimal site access will be required to undertake routine maintenance during the operational phase.
Site access and security	The met mast will be secured with a metal grill barrier, climb protection and security fencing to deter unauthorised access.

Summary

This development applications proposes the installation of a met mast to support the development of the Bowelling Wind Farm.

The proposal is consistent with the applicable planning framework and will have negligible impacts on the amenity of the surrounding area. The siting of the met masts has considered and minimised potential impacts on the environment, cultural heritage values, visual amenity and aviation safety.

The met mast is proposed to be installed at the land for a period of up to 6 years. This recognises the temporary nature of the structures and will ensure removal, should the Bowelling Wind Farm project not proceed.

Kind regards,

Aaron Augustson
Technical Director - Planning

+61 8 62228424
aaron.augustson@ghd.com

Attachment 1

Signed application form

Application for Development Approval

Local Planning Scheme No 2

Planning and Development (Local Planning Schemes) Regulations 2015

Shire of West Arthur
PO Box 112
31 Burrowes Street
Darkan WA 6392
T: (08) 9736 2400
E: shire@westarthur.wa.gov.au

Material to Accompany a Development Application (As prescribed by Clause 63 of the regulations)

An application for development approval is to be accompanied by -

a) A plan or plans in a form approved by the local government showing the following –
   I. The location of the site including street names, lot numbers, north point, and the dimensions of the site.
   II. The existing and proposed ground levels over the whole of the land the subject of the application.
   III. The location, height and type of all existing structures and environmental features, including watercourses, wetlands, and native vegetation on the site.
   IV. The structures and environmental features that are proposed to be removed.
   V. The existing and proposed use of the site, including proposed hours of operation, and buildings and structures to be erected on the site;
   VI. The existing and proposed means of access for pedestrians and vehicles to and from the site;
   VII. The location, number, dimensions and layout of all car parking spaces intended to be provided;
   VIII. The location and dimensions of any area proposed to be provided for the loading and unloading of vehicles carrying goods or commodities to and from the site and the means of access to and from those areas;
   IX. The location, dimensions and design of any open storage or trade display area and particulars of the manner in which it is proposed to develop the open storage or trade display area;
   X. The nature and extent of any open space and landscaping proposed for the site; and
b) Plans, elevations and sections of any building proposed to be erected or altered and of any building that is intended to be retained; and
c) A report on any specialist studies in respect of the development that the local government requires the applicant to undertake such as site surveys or traffic, heritage, environmental, engineering or urban design studies; and
d) Any other plan or information that the local government reasonably requires.

Application Fee

The prescribed fee for a development application is based upon the estimated cost of the development as follows:

Development Cost	Application Fee
Less than 50,000	$147.00
> $50,000 but not more than $500,000	0.32% of the estimate cost of development
> 500,000 but less than $2.5m	$1,700 + 0.257% for every $1 in excess of $500,000
> $2.5 million but not more than $5 million	$7,161 + 0.206% for every $1 in excess of $2.5 million
> $5 million but not more than $21.5 million	$12,633 + 0.123% for every $1 in excess of $5 million

Note:

1. Developments with an estimated cost of $10 million or more must be referred to a Development Assessment Panel.
2. Developments with an estimated cost of $2 million or more and less than $10 million may be referred to a Development Assessment Panel by the applicant.

Owners Details

Name: THE WATER RESOURCES MINISTERIAL BODY

ABN (if applicable): 28 420 443 065

Postal Address: LOCKED BAG 10, JOONDALUP WA

Post Code: 6919

Email: imu@dwer.wa.gov.au

Mobile Number: 0422019329 Home Number:

Contact person for correspondence: NEIL SCANES - PROJECT OFFICER

Signature: Date:

Signature: B.Walker. Date: 17/12/2025

The signature of the owner(s) is required on all applications. This application will not proceed without that signature. For the purposes of signing this application an owner includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2).

Applicant Details (if different from owner)

Name: GHD Pty Ltd ABN (If Applicable): 39 008 488 373

Postal Address: Level 10, 999 Hay Street, Perth

Post Code: 6000

Email: Aaron.Augustson@ghd.com

Mobile Number: (08) 6222 8424 Home Number:

Contact person for correspondence: Aaron Augustson

The information and plans provided with this application may be made available by the local government for public viewing in connection with the application.

■ Yes ☐ No

Signature: A.Augustson Date: 12/12/25

Property Details

Lot Number: 8 House/Street Number: N/A Location Number: -

Diagram or Plan Number: P016210 Certificate of Title (Vol. Number): 1953

Folio: 982

Title encumbrances (e.g., easements, restrictive covenants): Refer certificate of title

Street name: TRIGWELL BRIDGE RD Suburb: BOWELLING

Nearest Street Intersection: TRIGWELL BRIDGE RD - D BROWN RD

Proposed Development *(see Note 1)*

Nature of development:

☐ Works ☐ Use ■ Works and Use

Is an exemption from development claimed for part of the development? *(see Note 2)*

☐ Yes ■ No

■ No ☐ Works ☐ Use

Description of proposed works and/or land use:
(refer to information on cover page) Use not listed (Meteorological monitoring mast)

Description of exemption claimed (if relevant): N/A

Nature of any existing buildings and/or land use: Rural

Approximate cost of proposed development: $200,000

Estimated time of completion: Early 2026

Notes

1. Council will determine the land use classification under the Scheme for the proposal.
2. Development which is exempt from needing approval is referenced in Clause 61, Schedule 2 of the Regulations and in Council's Local Planning Policies.
3. Please note the Shire of West Arthur reserves the right to request additional information for specific applications such as truck movements, plans, traffic reports, and acoustic reports. For larger applications the applicant is encouraged to organise an appointment with the Shire Planner prior to lodging.
4. Discussing your development proposal early in the process can avoid unnecessary delays in processing the application. **If you wish to make an appointment, please contact the Shire office on 9736 2222**
5. The publication is intended for general information only. Verification with the original local laws, local planning scheme, and other relevant documents is required for detailed references.
6. In making this application, the owner has acknowledged and agreed that Council Staff may enter the property to undertake a site inspection as part of the processing of this application.

Office Use Only

Acceptance Officer's Initials: _____ Date received: _____

Local government reference number: _____

Attachment 2

Certificate of title

WESTERN AUSTRALIA

TITLE NUMBER	
Volume	Folio
1953	**982**

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 8 ON PLAN 16210

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

THE WATER RESOURCES MINISTERIAL BODY OF PRIME HOUSE 8 DAVIDSON TERRACE JOONDALUP WA 6027
(A K890291) REGISTERED 25/3/2009

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

1. Q462627 PROFIT A' PRENDRE. CERTAIN RIGHTS AND INTERESTS TO FOREST PRODUCTS COMMISSION OF LEVEL 7 233 ADELAIDE TERRACE PERTH WA 6000 FOR A TERM OF 35 YEARS FROM AND INCLUDING 01.01.2024 AS TO PORTION ONLY - SEE DEPOSITED PLAN 429416 REGISTERED 17/6/2025.

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:	1953-982 (8/P16210)
PREVIOUS TITLE:	1953-981
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AUTHORITY:	SHIRE OF WEST ARTHUR
RESPONSIBLE AGENCY:	DEPARTMENT OF WATER AND ENVIRONMENTAL REGULATION (SWWC)

LT. 39

ORIGINAL – NOT TO BE REMOVED FROM OFFICE OF TITLES

Application F126870 WESTERN AUSTRALIA

Volume 1953 Folio 981

REGISTER BOOK
VOL. FOL.
CT 1953 982

CERTIFICATE OF TITLE

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

I certify that the person described in the First Schedule hereto is the registered proprietor of the undermentioned estate in the undermentioned land subject to the easements and encumbrances shown in the Second Schedule hereto.

Dated 5th March, 1993

REGISTRAR OF TITLES

ESTATE AND LAND REFERRED TO

Estate in fee simple in portion of each of Wellington Locations 3701 and 4131 and being Lot 8 on Plan 16210, delineated on the map in the Third Schedule hereto, limited however to the natural surface and therefrom to a depth of 60.96 metres.

FIRST SCHEDULE (continued overleaf)

~~Maringee Farms Pty. Ltd. of 39 Stirling Highway, Nedlands.~~

SECOND SCHEDULE (continued overleaf)

~~As to Wellington Location 4131 only:~~
~~1. MORTGAGE D150162 to Perth Building Society. Registered 19.11.85 at 3.05 o'c~~
Discharged F126856 5.3.93

~~As to Wellington Location 4131 only:~~
~~2. MORTGAGE D150163 to Perth Building Society. Registered 19.11.85 at 3.05 o'c~~
Discharged F126856 5.3.93

THIRD SCHEDULE (see overleaf)

NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

E65333/11/88—1 500—S/2860

LT: 39

FIRST SCHEDULE (continued)

NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	TIME	SEAL	CERT. OFFICER
Water Authority of Western Australia of 629 Newcastle Street, Leederville. Application G137095. The registered proprietor is Water and Rivers Commission of Hyatt Centre, 3 Plain Street, East Perth. By virtue of the Water Agencies Restructure (Transitional and Consequential Provisions) Act 1995. Registered 27th March, 1996 at 11:32 hours.	Transfer	F126871	5.3.93	10.52		

CERTIFICATE OF TITLE VOL. 1953 982

LT. 39/40

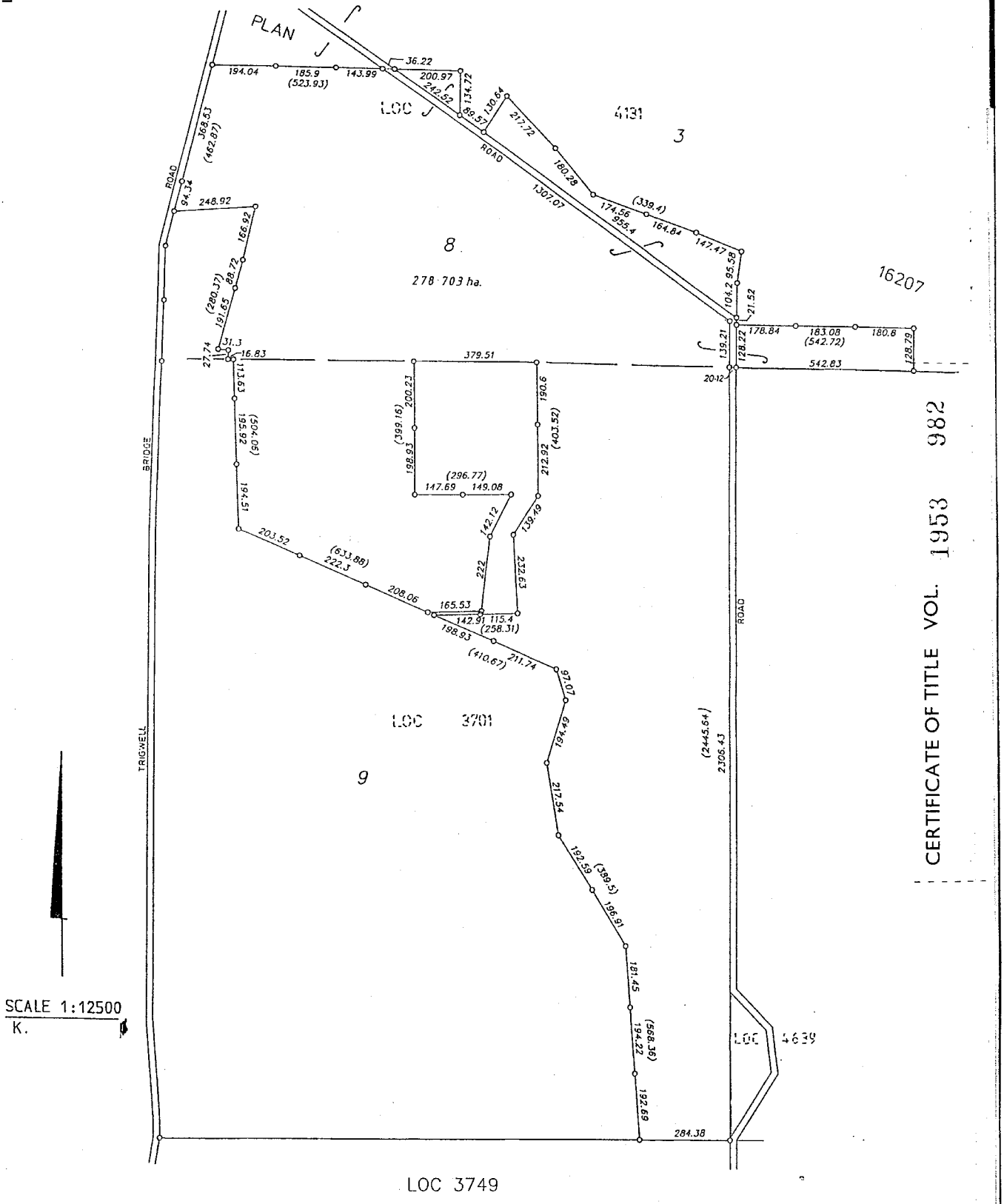
SECOND SCHEDULE (continued)

NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT		PARTICULARS	REGISTERED	TIME	SEAL	CERT. OFFICER	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL	CERT. OFFICER
NATURE	NUMBER										

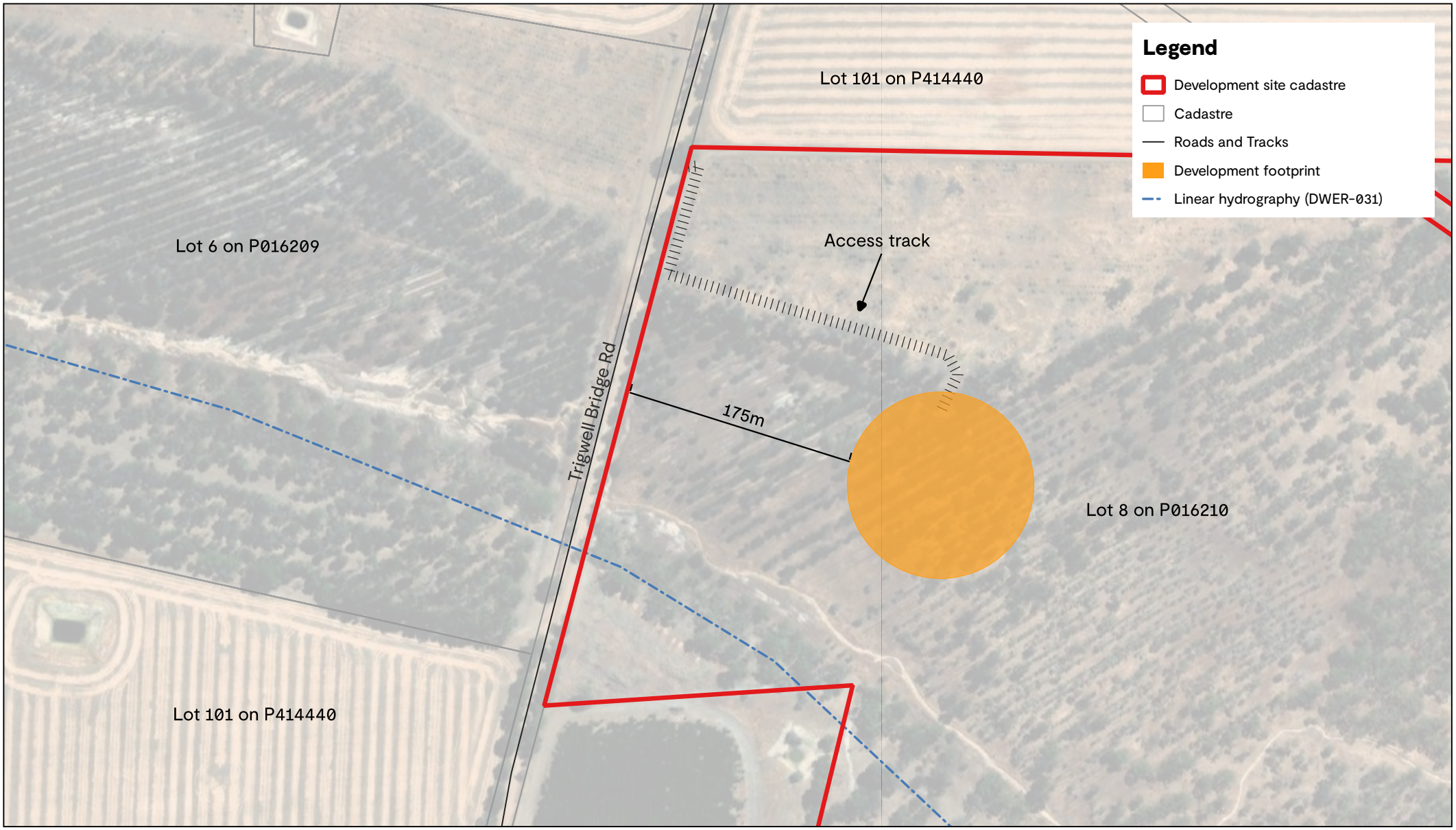
CERTIFICATE OF TITLE VOL. 1953 982

THIRD SCHEDULE



Attachment 3

Met mast drawings and specifications



0 100 200 300 400 500 m

Map Projection: Mercator Auxillary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxillary Sphere

GHD

Vestas Development Australia

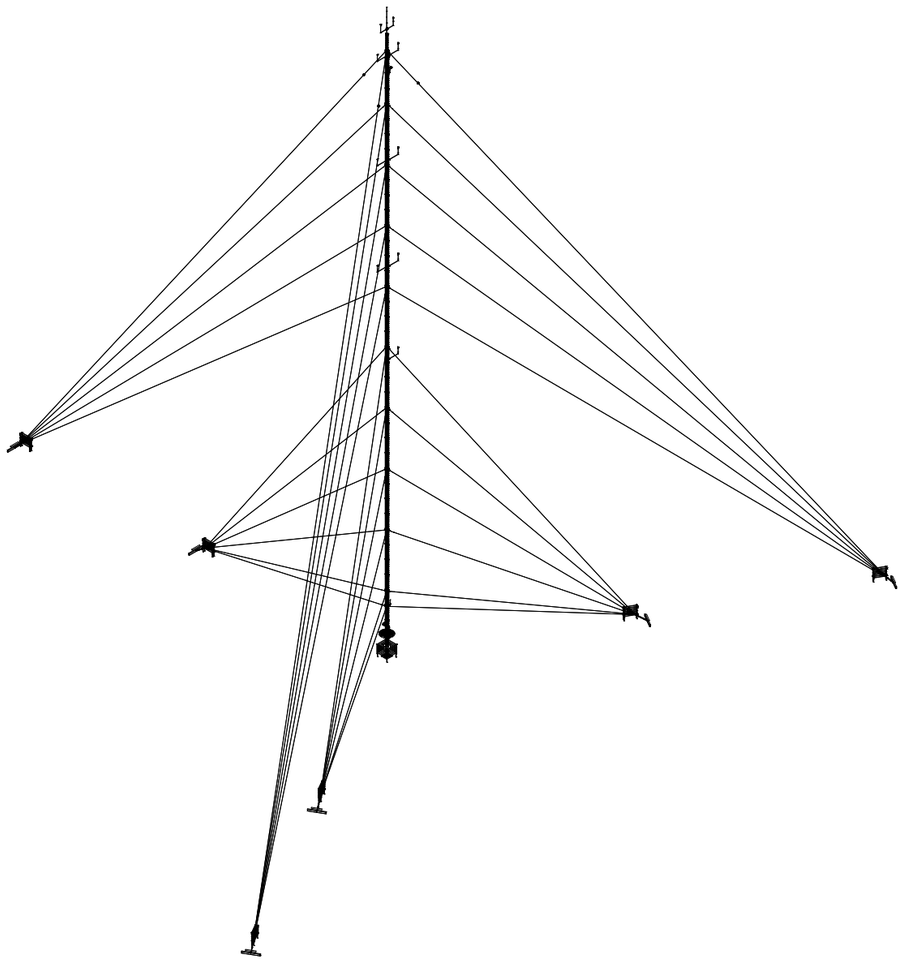
Bowelling Wind Farm Met Mast

Project No. **12672815**
Revision No. **C**
Date. **16.01.26**

Development Area

CLIENT:	VESTAS
SITE:	BOWELLING WIND FARM, WA
ART ASSET NUMBER:	AA00670
MAST NAME:	**MM1**
COORDINATES:	**UTM 50 H:** 457173, 6291706
	LAT/LONG: -33.513337°N, 116.538858°E
DESCRIPTION:	120m (NOM.) TEMPORARY GL55-36 GUYED LATTICE MAST

DRAWING REGISTER



1 / S-01 ISOMETRIC VIEW

NOTES

REV	DESCRIPTION	DATE
03	REVISED SH 4, 5, 6 & ADDED SH 13	30/10/25
02	REVISED SHEET 4, 5, 6, 10, 14	16/10/25
01	REVISED SH 1, 3, 4, 6. ADDED SH 13 & 14	29/09/25
00	ISSUED FOR CONSTRUCTION	19/09/25

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CLIENT: Vestas

PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

SHEET TITLE
TITLE SHEET & DRAWING REGISTER

STATUS
FOR CONSTRUCTION

SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION		
N.T.S.			
DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	CG	DN	XD

DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	1 / 13	03

GENERAL NOTES

1. ALL MAST STEELWORK COMPONENTS, ASSEMBLIES AND PARTS CALLED OUT ON DETAILS, SECTIONS AND BILLS OF MATERIALS ARE THE PROPRIETARY PRODUCTS OF ART GROUP UNLESS NOTED OTHERWISE (U.N.O). COMPLETE DETAILS AND INFORMATION OF THE ART GROUP PRODUCTS SHOWN ON PRODUCTION SHOP DRAWINGS.
2. ALL DIMENSIONS TO BE CHECKED ON-SITE BEFORE CONSTRUCTION.
3. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS U.N.O.
4. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING DRAWINGS.
5. ALL WORKMANSHIP AND MATERIALS SHALL BE AS PER THE CURRENT AUSTRALIAN STANDARDS AND THE BY-LAWS, AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.
6. ALL STRUCTURE AND TEMPORARY WORK SHALL BE MAINTAINED IN A STABLE CONDITION AT ALL TIMES. NO COMPONENT SHALL BE OVERSTRESSED.
7. INSTALL LAD-SAF FALL ARREST SYSTEM AS PER MANUFACTURER'S SPECIFICATIONS.

LOCATION

1. THE MAST LOCATION AND PROXIMITY TO PUBLIC ROADS, BUILDINGS AND OTHER INFRASTRUCTURE IS THE RESPONSIBILITY OF THE CLIENT AND RELEVANT LOCAL COUNCIL, STATE AND FEDERAL AUTHORITIES. UNLESS OTHERWISE STATED, ART IS NOT RESPONSIBLE FOR THE FINAL LOCATION IN REGARD TO COMPLIANCE WITH RELEVANT LOCAL COUNCIL, AND STATE AND FEDERAL AUTHORITIES.

EARTHING

1. UNLESS OTHERWISE SPECIFIED ART IS NOT RESPONSIBLE FOR THE SITE EARTHING SYSTEM COMPLIANCE TO AS/NZS 1768-2021 Cl 3.5.3 (EARTHING RESISTANCE RECOMMENDED VALUES) AS WELL AS THE PROVISION OF GEOTECHNICAL AND SOIL RESISTIVITY SURVEY DATA.
2. THE METAL GUY WIRES ARE CONSIDERED ADEQUATELY EARTHED AS THEY ARE ATTACHED TO BURIED STEEL ANCHOR RODS SET IN EARTH (REFER TO AS/NZS 1768-2021 APPENDIX I.5.1)
3. THE TOWER METALLIC STRUCTURE IS CONSIDERED A NATURAL DOWN CONDUCTOR AND REQUIRES NO ADDITIONAL DOWNCONDUCTOR (REFER TO AS/NZS 1768-2021 CI 3.3.3)

MAST ERECTION

1. MAST INSTALLATION DESIGNED FOR DERRICK-POLE OR CRANE ERECTION.
2. FOR DERRICK-POLE LIFTS, ONLY ONE SECTION AT A TIME TO BE RAISED WITH DERRICK-POLE.
3. FOR CRANE LIFTS THE PROPOSED LIFTING ARRANGEMENT SHALL BE CONFIRMED WITH THE STRUCTURAL ENGINEER.
4. GUYED LATTICE MASTS BY NATURE HAVE NO REDUNDANCY AND ARE A HIGH-RISK ACTIVITY TO ERECT. ONLY EXPERIENCED AND QUALIFIED RIGGERS (ADVANCED RIGGING HIGH RISK WORK LICENCED) WITH A PROVEN CONSTRUCTION METHODOLOGY AND A DEMONSTRATED HISTORY OF GUYED LATTICE MAST ERECTION SHALL BE ENGAGED FOR MAST ERECTION WORKS. SAFE WORK METHOD STATEMENTS (SWMS) SHALL BE DEVELOPED AND STRICTLY ADHERED TO ALONG WITH WHS REGULATIONS.

FOOTINGS & FOUNDATIONS

1. ALL TOPSOIL AND UPPER STRATA CONTAINING ORGANIC MATTER SHALL BE REMOVED.
2. IF MATERIAL ON-SITE IS NOT SUITABLE FOR STANDARD COMPACTION SPECIFICATIONS, THEN IMPORTED FILL OR BACKFILL SHALL CONSIST OF APPROVED MATERIAL INSTALLED AS PER COMPACTION SPECIFICATIONS.
3. GROUND COLLAPSE CONTROL MEASURES SHALL BE USED WHERE GROUND COLLAPSE MAY OCCUR BY APPLYING EITHER SHORING, BENCHING AND OR BATTERING. LOCAL WHS CODE OF PRACTICE SHALL BE ADHERED TO.
4. THE MINIMUM ALLOWABLE BEARING CAPACITY REQUIRED OF FOUNDATION MATERIAL SHALL BE 100kPa UNO. IN THE MAST DESIGN CRITERIA TABLE.
5. THE FOLLOWING GEOTECHNICAL DESIGN ASSUMPTIONS HAVE BEEN MADE UNO. IN THE GEOTECHNICAL REPORT:
   a. SOLID ROCK, LOOSE FILL AND SOFT CLAYS ARE NOT ENCOUNTERED
   b. WATER TABLE IS NOT ENCOUNTERED
   c. FINAL BACKFILL DENSITY IS AT LEAST 16kN/M3 OR HIGHER
   d. CLAYS HAVE A MINIMUM 5kPa SHORT TERM COHESION WITH FRICTION ANGLE 25° OR HIGHER
   e. SANDS ARE COHESIONLESS WITH FRICTION ANGLE 32° OR HIGHER
   f. AGGRESSIVE SOILS ARE NOT ENCOUNTERED

GUY ANCHOR COMPACTION SPECIFICATIONS

1. THE LEVEL OF TOLERANCE OF GUY ANCHOR FOOTING ELEVATION MAY VARY AS FOLLOWS (HIGHER/LOWER) WITHOUT ENGINEERING REVIEW MAINTAINING NOMINATED GUY ANCHOR ANGLES AS SPECIFIED BY THE STRUCTURAL ENGINEER.
   INNER FOOTING: 3.0m
   OUTER FOOTING: 5.0m
2. EXCAVATE THE ANCHOR PIT AND INSTALL STEEL ANCHOR BEAM, ANCHOR ROD AND ATTACHMENTS AS SPECIFIED IN THE DETAILS AND INFORMATION PROVIDED ON STRUCTURAL DRAWINGS.
3. CLAYS OR SILTS (BASED ON Φ=25° AND Cu=20kPa) OR SANDS (BASED ON Φ=32° MIN.) CAN BE USED AS FILL MATERIAL. MINIMUM SOIL PROPERTIES ARE AS STATED ABOVE UNLESS A GEOTECHNICAL REPORT IS PROVIDED IN WHICH CASE SPECIFIC SELECT FILL PARTICLES SIZE AND SHAPE IS TO SUIT COMPACTED LAYER THICKNESS AS PER THE GEOTECHNICAL REPORT SPECIFICATIONS.
4. ACHIEVE ADEQUATE COMPACTION BY PROVIDING A COMPACTED DENSITY EQUAL TO A CONTROLLED FILL CLASSIFICATION AS DEFINED IN AS2870. PLACE FILL IN LAYERS NO GREATER THAN 150mm WHEN COMPACTED. ACHIEVE REQUIRED COMPACTION BY MECHANICAL TAMPING SUCH AS COMPACTION BY RODDING, VIBRATING PLATE, SMOOTH DRUM ROLLER ATTACHED TO A BACKHOE/EXCAVATOR, OR WALK BEHIND WHACKER PACKER.
5. THE ANGLE OF THE ANCHOR ROD SHOWN ON THE GUY ANCHOR FOOTING SCHEDULE REFERS TO THE PRETENSION FORCE BEING APPLIED TO GUY WIRES AND RECOMPACTION OF LOOSE SOIL FOLLOWING PRETENSION.
6. COMPLIANCE WITH CONTROLLED FILL IS DEEMED TO BE ACHIEVED IN SANDY SOILS IF:
   a. A DYNAMIC CONE PENETROMETER (DCP) TEST (AS DEFINED BY AS. 1289.6.3.2) PRODUCES A BLOW COUNT OF 10 OR MORE FOR 300MM, OR; A PERTH SAND
   b. A PENETROMETER (PSP) TEST (AS DEFINED BY AS1289.6.3.3) PRODUCES A BLOW COUNT OF 7 OR MORE FOR 300MM, AND;
   c. NO FURTHER COMPACTION OCCURS WITH ADDITIONAL COMPACTION PASSES.

   FOR NON-SANDY AND CLAY SOILS, CONTROLLED FILL IS DEEMED TO BE ACHIEVED IF SOIL IS MOIST AND COMPACTED IN LAYER DEPTHS NOT MORE THAN 150MM WHEN COMPACTED.
7. WHERE SOILS DEPART FROM THE MINIMUM REQUIREMENTS IN THE COMPACTION SPECIFICATION, OR WHERE A WATER TABLE ABOVE ANCHOR DEPTHS IS ENCOUNTERED, OR WHERE THE SOILS DEPART FROM THE GEOTECHNICAL REPORT, THE DESIGN ENGINEER IS TO BE NOTIFIED FOR DESIGN REVIEW.

CONCRETE

1. ALL WORKMANSHIP AND MATERIALS SHALL BE AS PER AS3600.
2. PLACE CONCRETE WITH COMPRESSIVE STRENGTH F'c 32MPa AS DEFINED IN AS1379.
3. ALL CONCRETE SHALL HAVE 80MM SLUMP AND NOMINAL 20M AGGREGATE SIZE.
4. MAST BASE FOUNDATION: CONCRETE COVER OF 75mm MIN. TOP, BOTTOM AND SIDES.
5. GUY ANCHOR FOUNDATION: MIN. 50mm CONCRETE COVER AROUND THE STEEL ANCHOR BEAM; FOR TOTAL CONCRETE DEPTH REFER TO THE GUY ANCHOR FOOTING SCHEDULE.
6. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
7. REINFORCEMENT SYMBOLS:
   N - GRADE 500 NORMAL DUCTILITY DEFORMED BAR.
   SL/RL- DENOTES GRADE 500 LOW DUCTILITY RIBBED FABRIC
   THE NUMBER FOLLOWING THESE SYMBOLS INDICATES BAR DIAMETER IN MILLIMETRES U.N.O. REINFORCEMENT TO COMPLY WITH AS4671.

STEELWORK

1. ALL WORKMANSHIP AND MATERIALS SHALL BE AS PER AS4100 AND AS1554.
2. UNLESS NOTED OTHERWISE, THE FOLLOWING STEEL GRADES APPLY TO MAST SECTIONS:
   MAST CORD (LEGS) 500 MPa
   MAST WEBBING 300 MPa
   PLATES 250 MPa
3. WELDED CONNECTIONS BETWEEN STRUCTURAL MEMBERS ARE 6mm CONTINUOUS FILLET WELD (OR SIZE EQUIVALENT TO THE MINIMUM THICKNESS OF CONNECTION MEMBERS IF LESS THAN 6mm) U.N.O.
4. BOLT TYPES AND DESIGNATIONS WHERE USED ARE AS FOLLOWS:
   4.6/S-COMMERCIAL BOLTS TO AS1111 SNUG TIGHTENED.
   8.8/S HIGH STRENGTH STRUCTURAL ASSEMBLY (BOLTS, NUTS AND HARDENED WASHERS) TO AS1252 SNUG TIGHTENED.
5. M16 HIGH STRENGTH (8.8/S) BOLTS USED TYPICALLY IN ALL CONNECTIONS U.N.O. NOTWITHSTANDING THIS, NO STEEL-TO-STEEL CONNECTIONS ASSEMBLED WITH LESS THAN 2/M16 (8.8/S) BOLTS U.N.O.
   U-BOLTS (4.6/S) USED FOR ANCILLARIES INSTALLATION U.N.O.
6. BOLT HOLES IN STEEL-TO-STEEL AND STEEL-TO-CONCRETE CONNECTIONS WITH BOLT DIAMETER +2mm AND +3mm RESPECTIVELY. FOR BASE PLATES ALLOW A BOLT DIAMETER +6mm U.N.O.
7. ALL NUTS, BOLTS AND WASHERS SHALL BE GALVANIZED U.N.O.
8. WELD MATERIAL REQUIRES A NOMINAL TENSILE STRENGTH OF 490MPa AS PER AS4100:2020,TABLE 9.6.3.10(A)
9. ALL WELDS REQUIRE CATEGORY SP AS PER AS1554 PART 1 U.N.O.
10. PROTECTIVE SURFACE TREATMENT APPLIED TO STRUCTURAL STEELWORK AS FOLLOWS:
    GENERAL MAST FINISH:HOT-DIP GALVANIZE "HDG600" (AS2312).
    GUY ANCHOR BEAMS & ANCHOR RODS FINISH: HOT-DIP GALVANIZE "HDG600" (AS2312). BLACK STEEL MAY BE USED WHERE ANCHOR BEAM IS ENCASED IN CONCRETE.

MAST DESIGN CRITERIA	
WIND PARAMETERS (AS1170.2:2021 & AS3995-1994)	
WIND REGION	A1
TERRAIN CATEGORY	2
IMPORTANCE LEVEL (AS1170.0:2002)	1
TOPOGRAPHIC MULTIPLIER Mt	1.057
DIRECTIONAL MULTIPLIER Md	1.00
CLIMATE CHANGE MULTIPLIER Mc	1.00
REGIONAL WIND SPEED Vr (m/s)	38
SERVICE WIND Vs (m/s)	27
DEPLOYMENT TYPE	TEMPORARY
STRUCTURE SERVICE LIFE (1)	6 YEARS
MAST FOOTING & SOIL PROPERTIES	
SOIL ALLOWABLE BEARING CAPACITY REQUIRED (kPa)	100KPa

NOTES: (Δ)

1. DESIGN SERVICE LIFE FOR STRUCTURE, FOOTINGS AND PROTECTIVE COATINGS SUBJECT TO ROUTINE INSPECTION AND MAINTENANCE. CONTACT ART FOR RECOMMENDED MAINTENANCE SCHEDULE AND REQUIREMENTS.

* A LIVE LOAD OF 2 PERSONNEL (100KG EACH) CLIMBING THE STRUCTURE FOR MAINTENANCE HAS BEEN CONSIDERED. IN ACCORDANCE WITH AS. 3995, THE STRUCTURE IS CLASSIFIED AS A CLASS C STRUCTURE AND ALLOWS ACCESS ONLY FOR TWO EXPERIENCED AND QUALIFIED RIGGERS (ADVANCED RIGGING HIGH RISK WORK LICENCED).

11. CATHODIC PROTECTION IS RECOMMENDED FOR DIRECTLY BURIED STEEL STRUCTURES. ART IS NOT RESPONSIBLE FOR CORROSION OF THE BELOWGROUND STEEL ELEMENTS WHERE CATHODIC PROTECTION IS NOT USED.

RIGGING NOTES

1. THE SAFE WORKING LOAD (SWL) OR WORKING LOAD LIMIT (WLL) OF ALL RIGGING COMPONENTS INCLUDING SHACKLES, TURNBUCKLES AND TERMINATIONS SHALL MATCH OR EXCEED THE DESIGN CAPACITIES OF THE ADJOINING GUY WIRE. LIKEWISE, THE ULTIMATE CAPACITY OF THESE COMPONENTS SHALL EXCEED THE MINIMUM BREAKING FORCE (MBF) OF THE ADJOINING GUY WIRE.
2. RIGGING COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION AND UNDERGO PERIODIC MAINTENANCE AND INSPECTION AS PER SUPPLIER RECCOMMENDATIONS AND RELEVANT AUSTRALIAN STANDARDS.
3. GUY WIRE SPECIFICATION AND MINIMUM REQUIREMENTS FOR ADJOINING RIGGING COMPONENTS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE IN THE RIGGING SCHEDULE:

   a. 8.25mm GUY WIRES:
      7/2.5mm STRANDS G1320
      TENSILE STRENGTH = 1320MPa
      MINIMUM BREAKING FORCE (MBF) = 50kN
      PRE-TENSION TO 3.5kN
      TERMINATION – GFG-083-CL FANWRAP WHITE (MBF = 44.1kN)
      THIMBLE – 10mm PART NO. 302510 THIMBLE (MBF = 63.1kN)
      SHACKLE – 16mm GRADE 'S' BOW (SWL = 3.25t)
      TURNBUCKLE – 5/8" GRADE 'P'
      (WLL = 1.59t AND PROOF TESTED TO 2xWLL)

   b. 10mm GUY WIRES:
      19/2.00mm STRANDS G1320
      TENSILE STRENGTH = 1320MPa
      MINIMUM BREAKING FORCE (MBF) = 71kN
      PRE-TENSION TO 5kN.
      TERMINATION – GFG-100 FANWRAP YELLOW (MBF = 70.5kN)
      THIMBLE – 11mm PART NO. 302511 THIMBLE (MBF = 76.3kN)
      SHACKLE – 19mm GRADE 'S' BOW (SWL = 4.75t)
      TURNBUCKLE – 7/8" GRADE 'P'
      (WLL = 3.27t AND PROOF TESTED TO 2xWLL)

   c. 13.75mm GUY WIRES:
      19/2.75mm STRANDS G1320
      TENSILE STRENGTH = 1320MPa
      MINIMUM BREAKING FORCE (MBF) = 134kN
      PRE-TENSION TO 10.0kN
      TERMINATION – GFG-138 FANWRAP WHITE (MBF = 133kN),
      THIMBLE – 16mm PART NO. 302516 THIMBLE (MBF = 161kN)
      SHACKLE – 22mm GRADE 'S' BOW (SWL = 6.5t)
      TURNBUCKLE – 1" GRADE 'P'
      (WLL = 4.54t AND PROOF TESTED TO 2xWLL)

NOTES

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CLIENT
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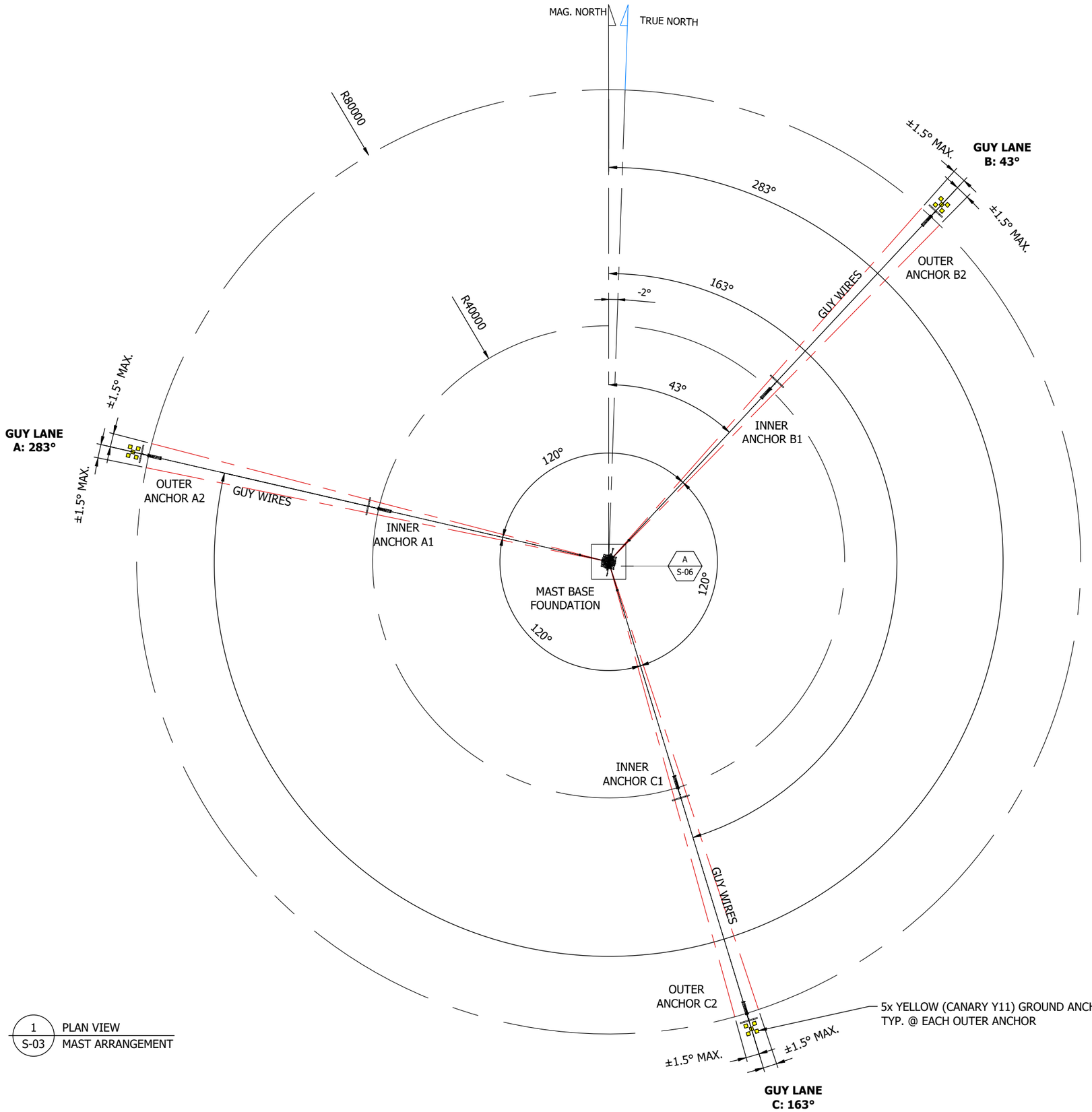
PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

SHEET TITLE
GENERAL NOTES

STATUS
FOR CONSTRUCTION

SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION		
N/A			
DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	CG	DN	XD

DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	2 / 13	03



1 / S-03 PLAN VIEW
MAST ARRANGEMENT

NOTES

REV	DESCRIPTION	DATE
03	REVISED SH 4, 5, 6 & ADDED SH 13	30/10/25
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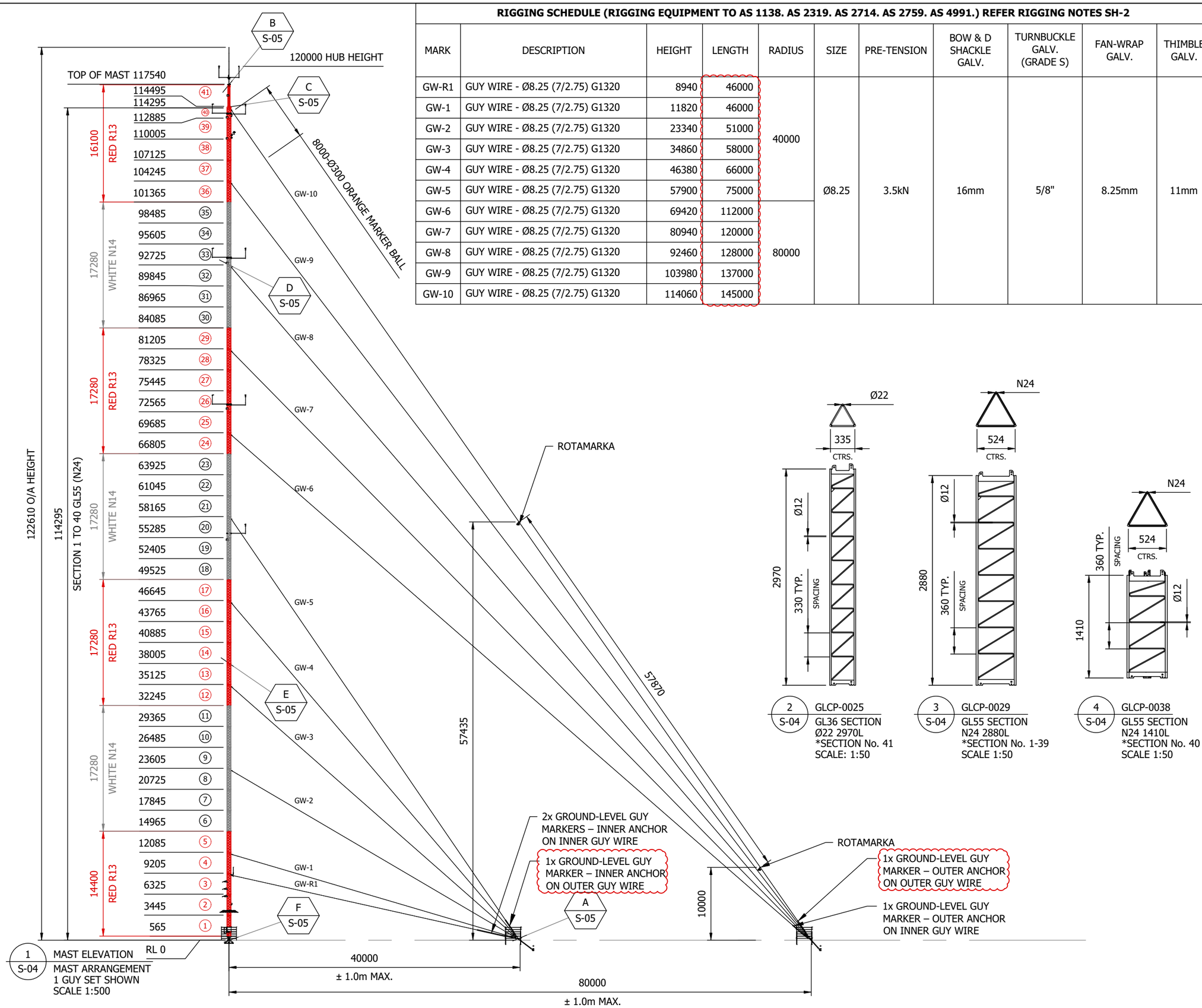
SHEET TITLE
MAST PLAN

STATUS
FOR CONSTRUCTION

SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION
1:650	

DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	CG	HK	XD

DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	3 / 13	03



1 / S-04 MAST ELEVATION
MAST ARRANGEMENT
1 GUY SET SHOWN
SCALE 1:500

RIGGING SCHEDULE (RIGGING EQUIPMENT TO AS 1138. AS 2319. AS 2714. AS 2759. AS 4991.) REFER RIGGING NOTES SH-2

MARK	DESCRIPTION	HEIGHT	LENGTH	RADIUS	SIZE	PRE-TENSION	BOW & D SHACKLE GALV.	TURNBUCKLE GALV. (GRADE S)	FAN-WRAP GALV.	THIMBLE GALV.
GW-R1	GUY WIRE - Ø8.25 (7/2.75) G1320	8940	46000	40000	Ø8.25	3.5kN	16mm	5/8"	8.25mm	11mm
GW-1	GUY WIRE - Ø8.25 (7/2.75) G1320	11820	46000							
GW-2	GUY WIRE - Ø8.25 (7/2.75) G1320	23340	51000							
GW-3	GUY WIRE - Ø8.25 (7/2.75) G1320	34860	58000							
GW-4	GUY WIRE - Ø8.25 (7/2.75) G1320	46380	66000							
GW-5	GUY WIRE - Ø8.25 (7/2.75) G1320	57900	75000							
GW-6	GUY WIRE - Ø8.25 (7/2.75) G1320	69420	112000	80000						
GW-7	GUY WIRE - Ø8.25 (7/2.75) G1320	80940	120000							
GW-8	GUY WIRE - Ø8.25 (7/2.75) G1320	92460	128000							
GW-9	GUY WIRE - Ø8.25 (7/2.75) G1320	103980	137000							
GW-10	GUY WIRE - Ø8.25 (7/2.75) G1320	114060	145000							

2 / S-04 GLCP-0025
GL36 SECTION
Ø22 2970L
*SECTION No. 41
SCALE: 1:50

3 / S-04 GLCP-0029
GL55 SECTION
N24 2880L
*SECTION No. 1-39
SCALE 1:50

4 / S-04 GLCP-0038
GL55 SECTION
N24 1410L
*SECTION No. 40
SCALE 1:50

NOTES

1. REFER TO GENERAL NOTES (SHEET 2) FOR MAST SPECIFICATIONS AND ART PROPRIETARY PRODUCT DISCLOSURE.
2. REFER TO MAST ANCILLARY DETAILS (SHEET 6) FOR ANCILLARY DETAILS AND INFORMATION.
3. REFER TO MAST FOOTING DETAILS (SHEET 7 & 8) FOR FOOTING DETAILS AND INFORMATION.
4. LADSAFE CABLE GUIDE ATTACHMENT POINTS FOR 130m MAST - SECTIONS 3, 6, 8, 11, 13, 16, 18, 21, 23, 26, 28, 31, 33, 36, 38.
5. GW-5: FROM THE CENTER OF THE INSTRUMENT TO GUY WIRE, CLEARANCE IS 1000mm.

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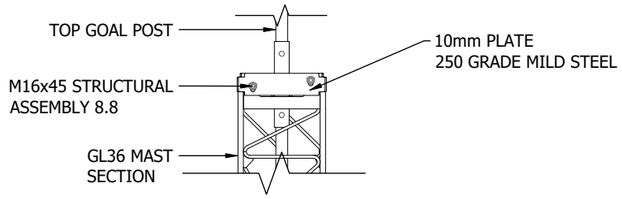
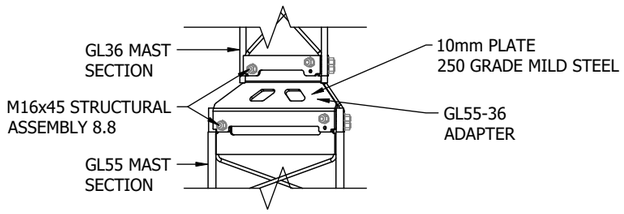
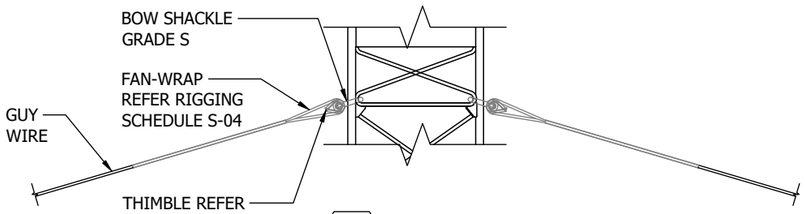


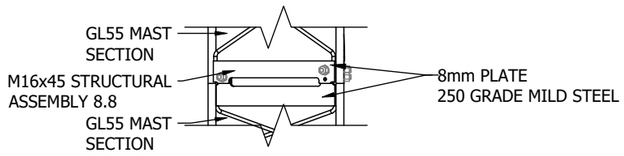
B / S-04 DETAIL VIEW
GOAL POST ADAPTER CONNECTION
TYPICAL DETAIL
SCALE 1:25



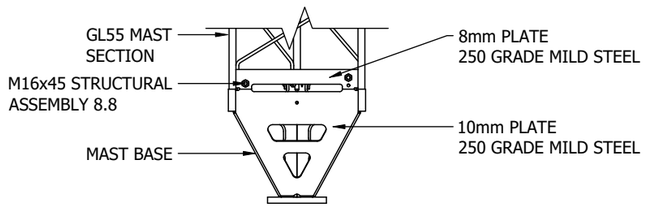
C / S-04 DETAIL VIEW
MAST ADAPTER CONNECTION
TYPICAL DETAIL
SCALE 1:25



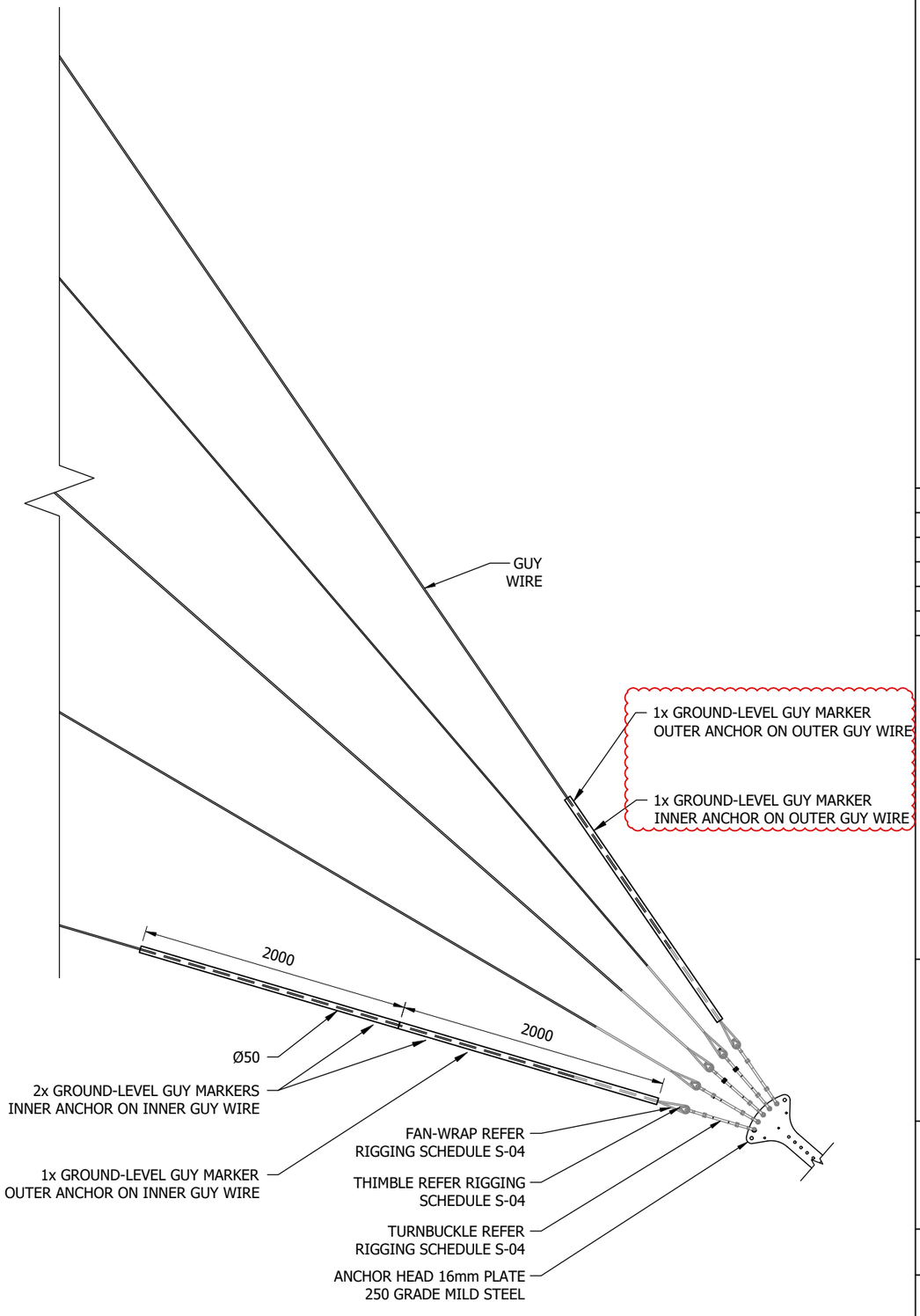
D / S-04 DETAIL VIEW
MAST GUY WIRE CONNECTION
TYPICAL DETAIL
SCALE 1:25



E / S-04 DETAIL VIEW
MAST CONNECTION
TYPICAL DETAIL
SCALE 1:25



F / S-04 DETAIL VIEW
MAST CONNECTION
TYPICAL DETAIL
SCALE 1:25



A / S-04 DETAIL VIEW
MAST GUY WIRE RIGGING
TYPICAL DETAIL
SCALE 1:25

NOTES

REV	DESCRIPTION	DATE
03	REVISED SH 4, 5, 6 & ADDED SH 13	30/10/25
02	REVISED SHEET 4, 5, 6, 10, 14	16/10/25
01	REVISED SH 1, 3, 4, 6. ADDED SH 13 & 14	29/09/25
00	ISSUED FOR CONSTRUCTION	19/09/25

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CLIENT
Vestas

PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

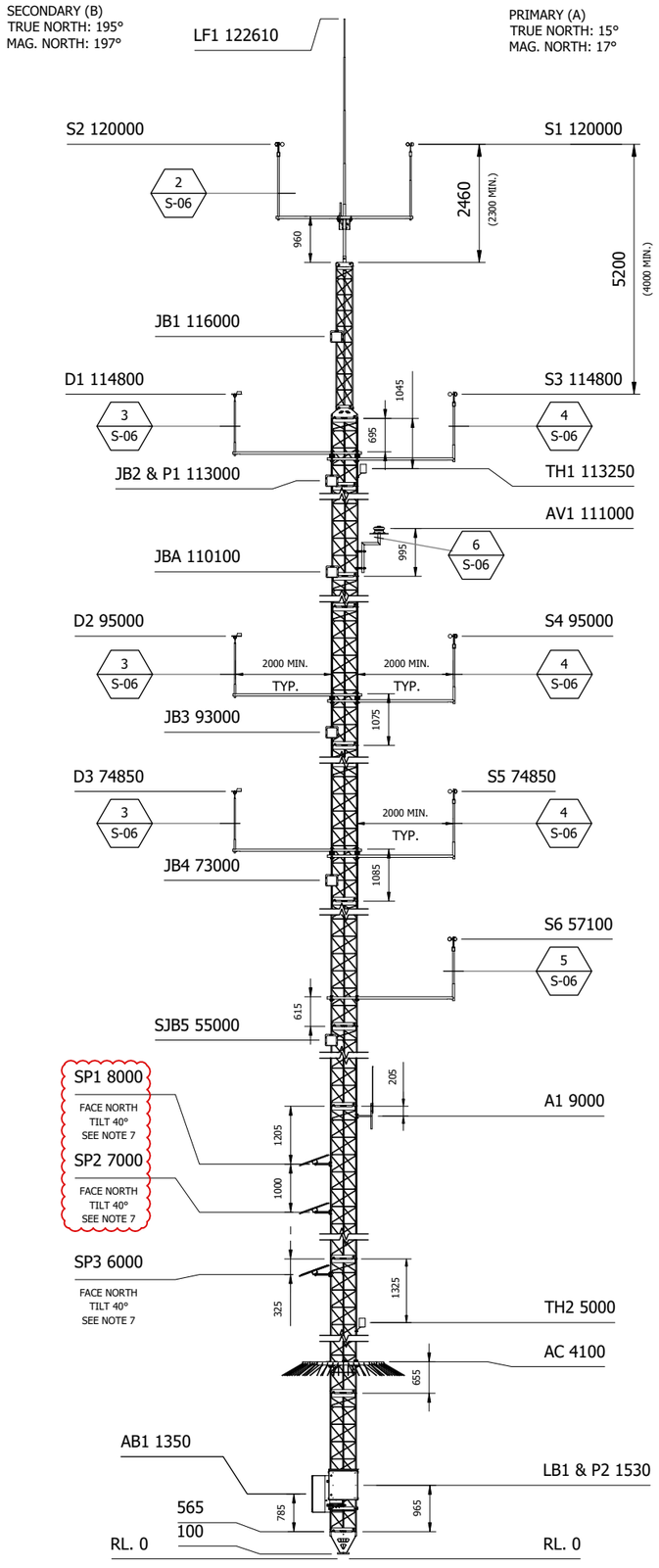
SHEET TITLE
MAST AND GUY WIRE CONNECTION DETAILS

STATUS
FOR CONSTRUCTION

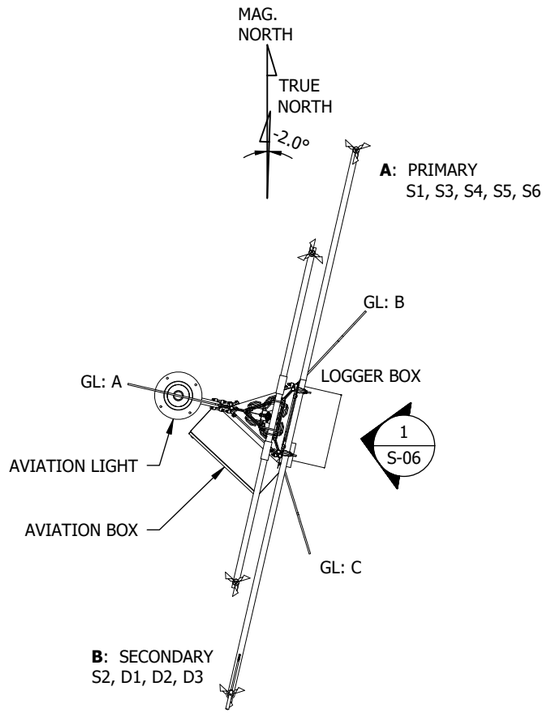
SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION
AS SHOWN	

DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	CG	DN	XD

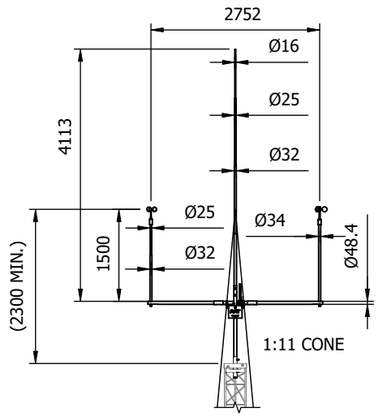
DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	5 / 13	03



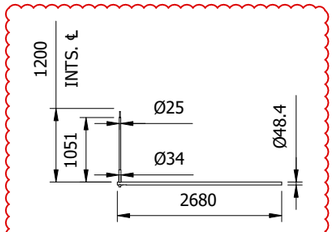
1 S-06 ELEVATION VIEW
MAST ANCILLARIES
SCALE 1:125



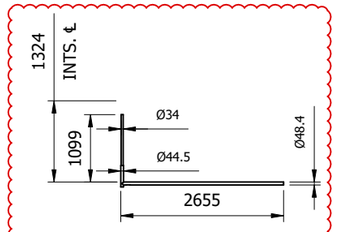
A S-03 PLAN VIEW
DETAIL A
BOOM ARM ORIENTATION
Scale: 1:50



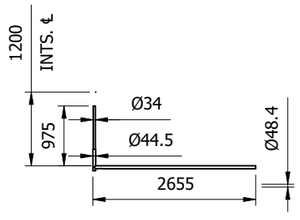
2 S-06 BAAS-0038
TOP GOAL-POST
25 & 34mm RISER - 60DEG
SCALE 1:100



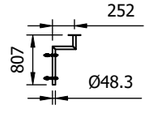
3 S-06 BACP-0114
BOOM ARM
NRG 200M - UPPER
SCALE 1:100



4 S-06 BACP-0117
BOOM ARM
TFC VANE / ANO - LOWER
SCALE 1:100



5 S-06 BACP-0116
BOOM ARM
TFC VANE / ANO
SCALE 1:100



6 S-06 MOAS-0016
BOOM ARM
AVIATION LIGHT MOUNT
SCALE 1:100

TABLE 1: MAST ANCILLARY & INSTRUMENTATION LIST LOADING

MARK	DESCRIPTION	HEIGHT	SECTION	ESA m²
LF1	LIGHTNING FINIAL	122610	TOP	0.56
S1	ANEMOMETER THIES FIRST CLASS TFCA II	120000		
S2	ANEMOMETER P2546D			
JB1	JUNCTION BOX	116000	41	0.06
D1	WIND VANE NRG 200M	114800	40	0.27
S3	ANEMOMETER THIES FIRST CLASS TFCA II			0.27
TH1	TEMP. & HUMIDITY GALTEC MELA KPC	113250		0.02
JB2	JUNCTION BOX	113000		0.06
P1	PRESSURE SENSOR VAISALA PTB110 (INSIDE JB2)			
AV1	MEDIUM INTENSITY - AV-OL-MI-DC-01 - 24h FLASHING RED LIGHT	111000	39	0.02
JBA	AVIATION LIGHTING JUNCTION BOX	110100		0.06
D2	WIND VANE NRG 200M	95000	33	0.27
S4	ANEMOMETER THIES FIRST CLASS TFCA II			0.27
JB3	JUNCTION BOX	93000		0.06
D3	WIND VANE NRG 200M	74850	26	0.27
S5	ANEMOMETER THIES FIRST CLASS TFCA II			0.06
JB4	JUNCTION BOX	73000		0.06
S6	ANEMOMETER THIES FIRST CLASS TFCA II	57100	20	0.02
SJB5	SMALL JUNCTION BOX	55000	19	0.06
A1	ANTENNA OMNI COL8195	9000	3	0.02
SP1	SYMMETRY 50W - SY2-M50W 12V	8000		0.33
SP2	SYMMETRY 50W - SY2-M50W 12V	7000		0.33
SP3	SYMMETRY 50W - SY2-M50W 12V	6000	2	0.33
TH2	TEMP. & HUMIDITY GALTEC MELA KPC	5000		0.02
AC	ANTI CLIMB TO SUIT GL55 N24 MAST SECTION	4100		0.27
LB1	CAMPBELL SCIENTIFIC DATA LOGGER CR1000X	1530	1	0.27
P2	PRESSURE SENSOR VAISALA PTB110 (INSIDE LB1)			
AB1	AVIATION LIGHT POWER ENCLOSURE	1350		0.27
	TOTAL ESA m²			4.23

NOTES

1. STRUCTURAL ALLOWANCE FOR BUNDLED CABLES DOWN MAST LEG(S).
2. ESA VALUES INCLUDE BOOM ARMS, BRACKETS AND INSTRUMENTS.
3. SIDE MOUNTED INSTRUMENT SEPARATION >20x BOOM DIAMETER.
4. INTERFERENCE CLEARANCE >30x GUY WIRE Ø.
5. ALL ANEMOMETERS SHALL BE CALIBRATED TO MEASNET.
6. MET MAST LAYOUT COMPLIES WITH IEC 61400-12-1 ED1 AND ED2.
7. SOLAR PANEL ANGLE SHALL BE SET FOR BEST AVERAGE PERFORMANCE THROUGHOUT THE YEAR. RECOMMENDED ANGLES SHOULD BE BASED ON LATITUDE.

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CLIENT
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PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

SHEET TITLE
MAST ANCILLARY

STATUS
FOR CONSTRUCTION

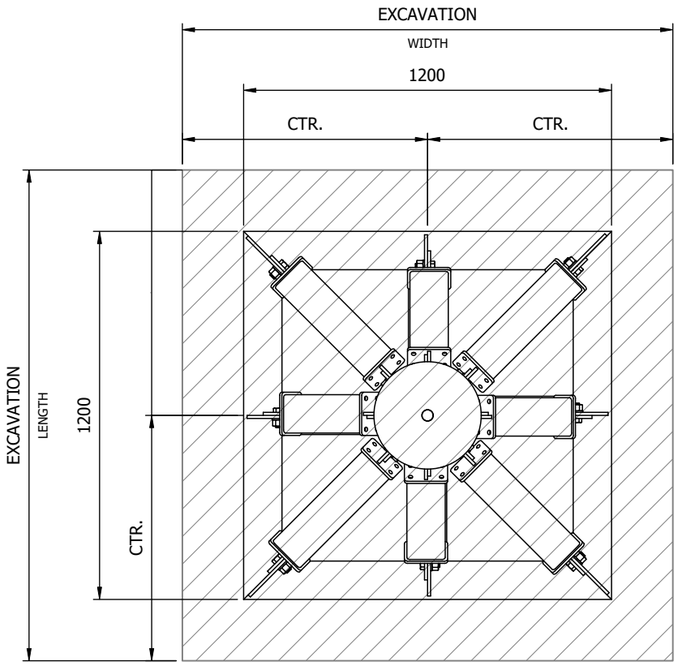
SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION
AS SHOWN	

DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	PB	HK	XD

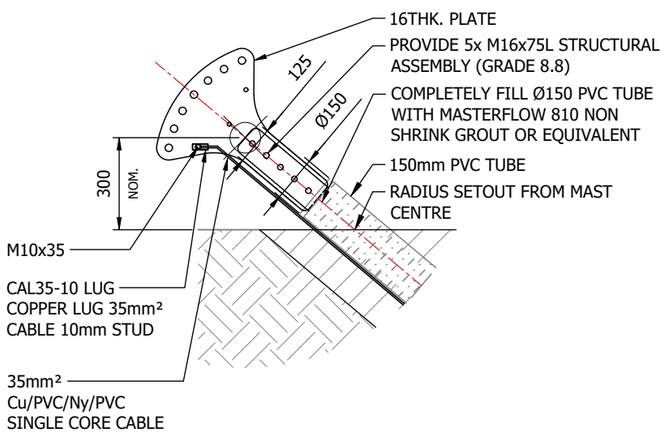
DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	6 / 13	03

MAST BASE FOUNDATION					
EXCAV. WIDTH	EXCAV. LENGTH	EXCAV. DEPTH	SELECT FILL DEPTH	BLUE METAL VOL. (m^3)	CEMENT (kg)
1800	1800	962	500	1.62m^3	391.5

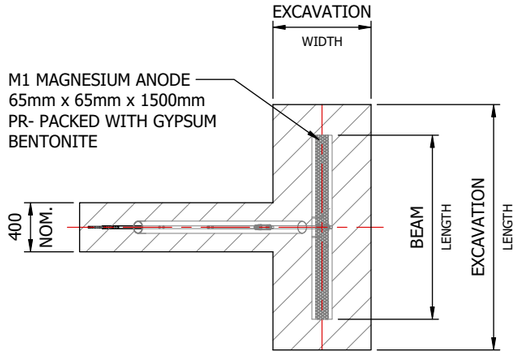
GUY ANCHOR FOOTING SCHEDULE												
FOOTING	RADIUS	EXCAV. WIDTH	EXCAV. LENGTH	EXCAV. DEPTH	BEAM LENGTH	ANGLE	DIM A	DIM B	DIM C	GROUT WEIGHT (kg)	PVC TUBE (mm)	ANCHOR HEAD
INNER	40000	800	4900	1500	4500	37°	1826	400	2700	80	2740	7 HOLE
OUTER	80000	800	4900	1800	4500	48°	1542	400	2570	78	2680	7 HOLE



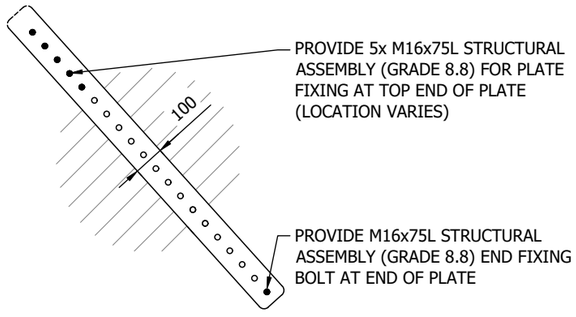
1 S-07 PLAN VIEW
BURIED STEEL MAST FOUNDATION
STEEL IS SHOWN FOR CLARITY
TYPICAL DETAIL



A S-07 DETAIL VIEW
ANCHOR HEAD ASSEMBLY
TYPICAL DETAIL

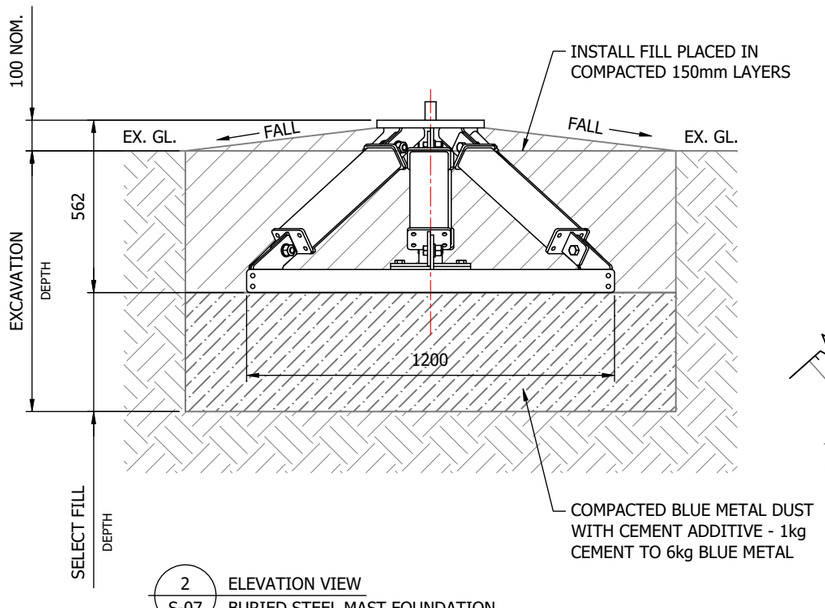


3 S-07 PLAN VIEW
GUY ANCHOR FOOTING
TYPICAL DETAIL

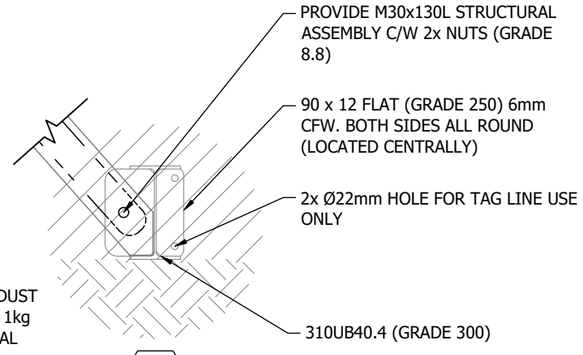


B S-07 DETAIL VIEW
ANCHOR ROD CONNECTION
PVC TUBE & EARTH NOT SHOWN FOR CLARITY
TYPICAL DETAIL

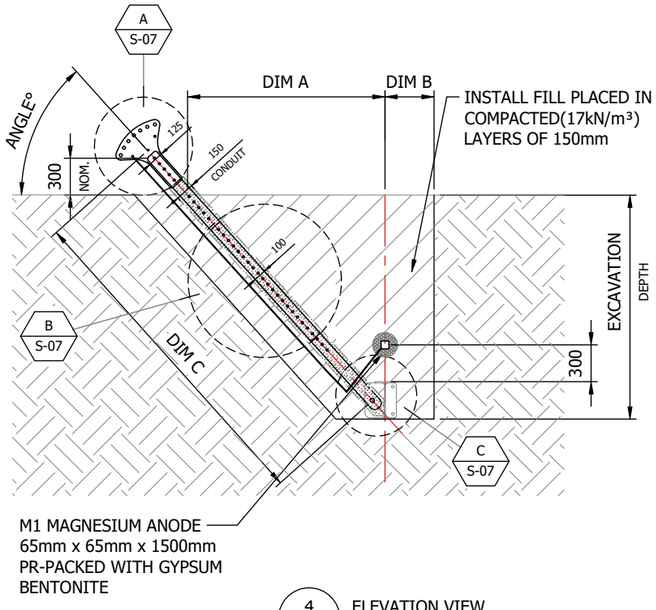
ANCHOR PLATE SCHEDULE (SEE NOTE 3)			
FOOTING	ANCHOR ARM BASE	ANCHOR BOLTED ARM CENTER	ANCHOR HEAD 7 HOLE
INNER	ANPA-0045_01	ANPA-0046_00	ANPA-0053_00
OUTER	ANPA-0073_01	ANPA-0074_00	ANPA-0053_00



2 S-07 ELEVATION VIEW
BURIED STEEL MAST FOUNDATION
STEEL IS SHOWN FOR CLARITY
TYPICAL DETAIL



C S-07 DETAIL VIEW
ANCHOR BEAM ASSEMBLY
TYPICAL DETAIL



4 S-07 ELEVATION VIEW
GUY ANCHOR FOOTING
ANCHOR ASSEMBLY SHOWN FOR CLARITY
TYPICAL DETAIL

NOTES

1. REFER TO GENERAL NOTES (SHEET 2) GUY ANCHOR COMPACTION SPECIFICATIONS.
2. IN ORDER TO MEET REQUIRED DEPTH, ANCHORS NEED CUSTOM ADJUSTABLE ANCHOR ARMS (SEE ANCHOR PLATE SCHEDULE TABLE)
3. DO NOT USE MORE THAN TWO ANCHOR PLATES PER ANCHOR. IF IN DOUBT CONSULT WITH ART ENGINEERING.

REV	DESCRIPTION	DATE
03	REVISED SH 4, 5, 6 & ADDED SH 13	30/10/25
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00	ISSUED FOR CONSTRUCTION	19/09/25

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CLIENT
Vestas

PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

SHEET TITLE
MAST FOOTING - BURIED

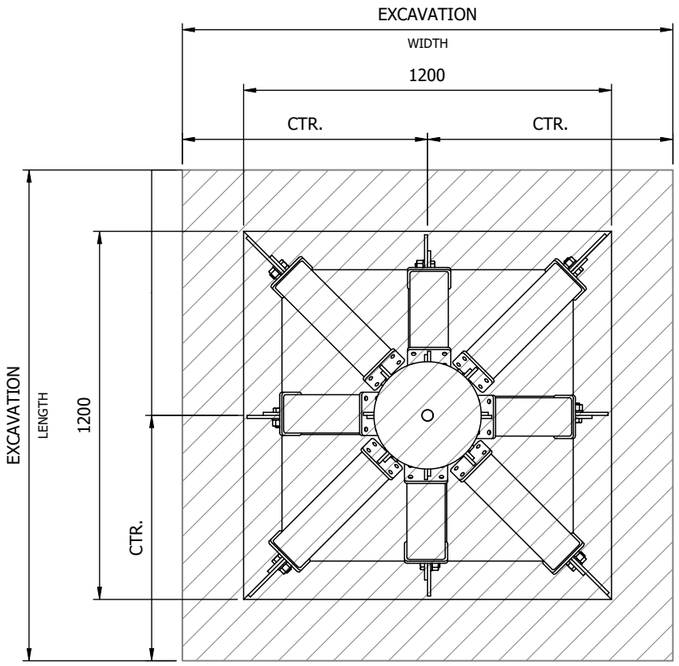
STATUS
FOR CONSTRUCTION

SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION
N.T.S.	

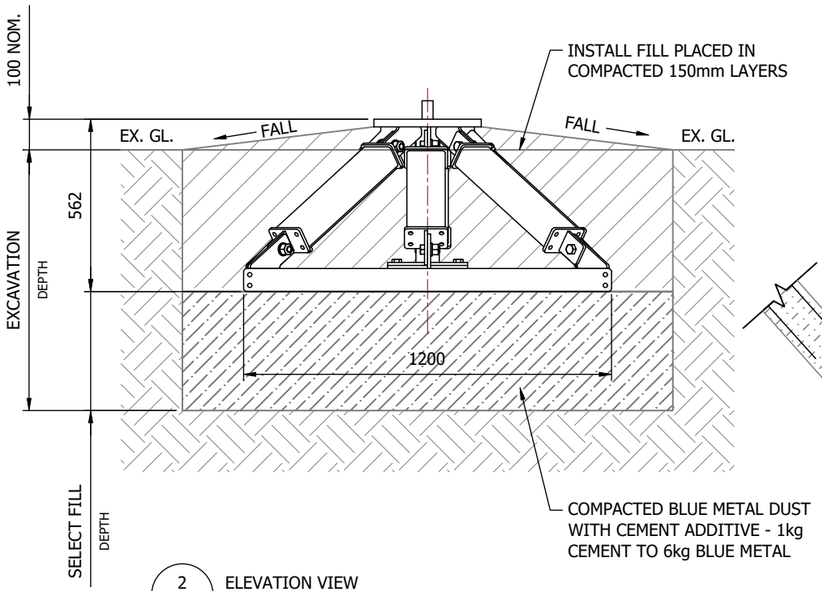
DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	CG	DN	XD

DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	7 / 13	03

MAST BASE FOUNDATION					
EXCAV. WIDTH	EXCAV. LENGTH	EXCAV. DEPTH	SELECT FILL DEPTH	BLUE METAL VOL. (m³)	CEMENT (kg)
1800	1800	962	500	1.62m³	391.5

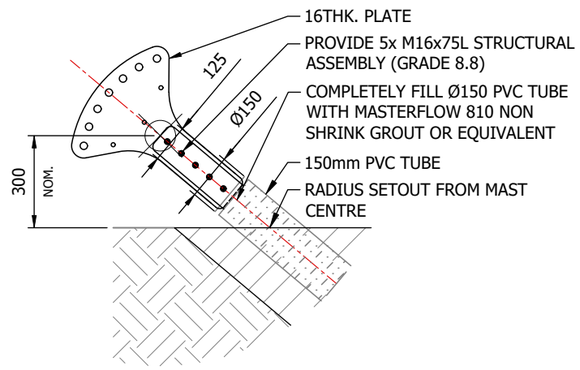


1 / S-08 PLAN VIEW
BURIED STEEL MAST FOUNDATION
STEEL IS SHOWN FOR CLARITY
TYPICAL DETAIL

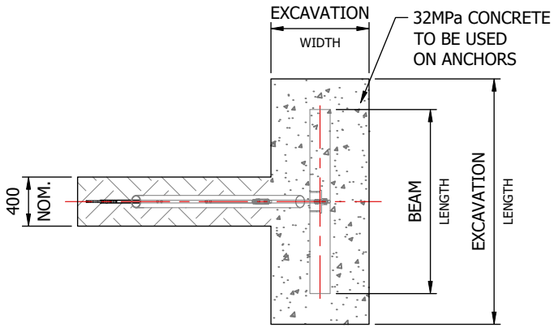


2 / S-08 ELEVATION VIEW
BURIED STEEL MAST FOUNDATION
STEEL IS SHOWN FOR CLARITY
TYPICAL DETAIL

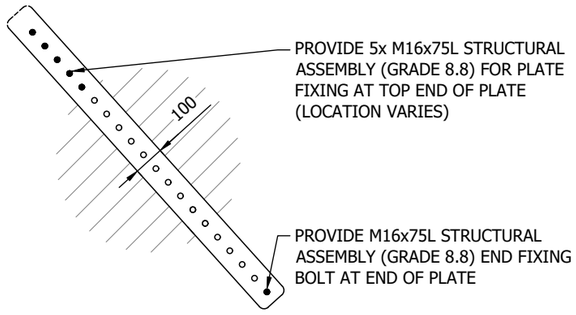
GUY ANCHOR FOOTING SCHEDULE														
FOOTING	RADIUS	EXCAV. WIDTH	EXCAV. LENGTH	EXCAV. DEPTH	BEAM LENGTH	CONC. DEPTH	CONC. VOL. PER ANCHOR	ANGLE	DIM A	DIM B	DIM C	GROUT WEIGHT (kg)	PVC TUBE (mm)	ANCHOR HEAD
INNER	40000	800	3400	1500	3000	500	1.36m³	37°	1826	400	2700	80	2740	7 HOLE
OUTER	80000	800	3400	1500	3000	500	1.36m³	48°	1272	400	2150	66	2260	7 HOLE



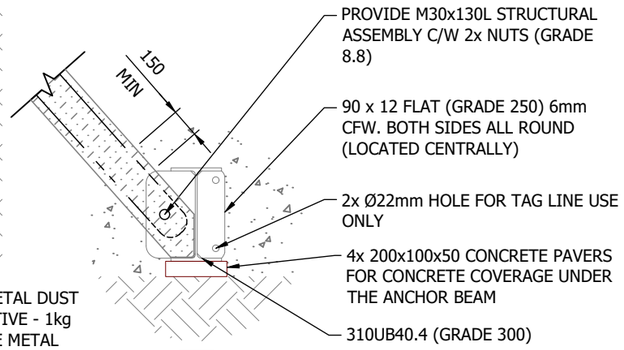
A / S-08 DETAIL VIEW
ANCHOR HEAD ASSEMBLY
TYPICAL DETAIL



3 / S-08 PLAN VIEW
GUY ANCHOR FOOTING
TYPICAL DETAIL

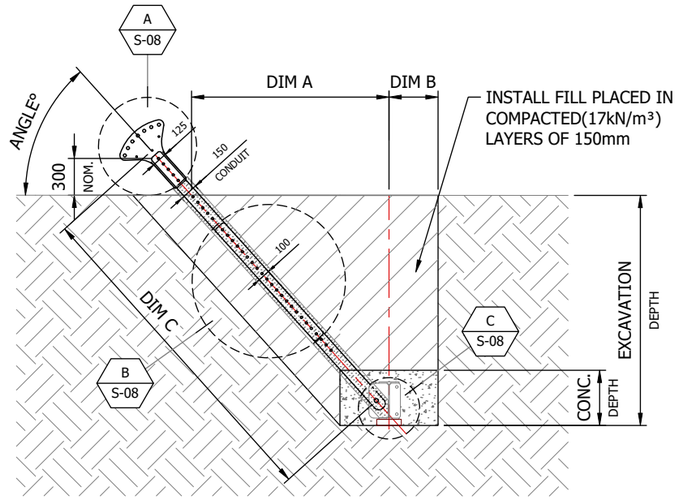


B / S-08 DETAIL VIEW
ANCHOR ROD CONNECTION
PVC TUBE & EARTH NOT SHOWN FOR CLARITY
TYPICAL DETAIL



C / S-08 DETAIL VIEW
ANCHOR BEAM ASSEMBLY
TYPICAL DETAIL

ANCHOR PLATE SCHEDULE (SEE NOTE 3)			
FOOTING	ANCHOR ARM BASE	ANCHOR BOLTED ARM CENTER	ANCHOR HEAD 7 HOLE
INNER	ANPA-0045_01	ANPA-0046_00	ANPA-0053_00
OUTER	ANPA-0073_01	ANPA-0074_00	ANPA-0053_00



4 / S-08 ELEVATION VIEW
GUY ANCHOR FOOTING
ANCHOR ASSEMBLY SHOWN FOR CLARITY
TYPICAL DETAIL

NOTES

1. REFER TO GENERAL NOTES (SHEET 2) GUY ANCHOR COMPACTION SPECIFICATIONS.
2. IN ORDER TO MEET REQUIRED DEPTH, ANCHORS NEED CUSTOM ADJUSTABLE ANCHOR ARMS (SEE ANCHOR PLATE SCHEDULE TABLE)
3. DO NOT USE MORE THAN TWO ANCHOR PLATES PER ANCHOR. IF IN DOUBT CONSULT WITH ART ENGINEERING.

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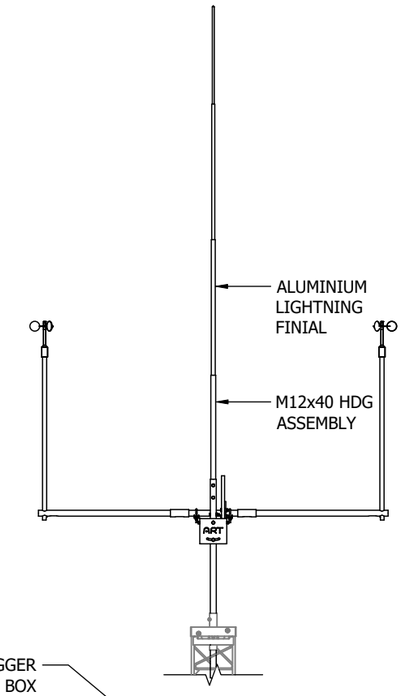
PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

SHEET TITLE
MAST FOOTING - CONC. IN-SITU

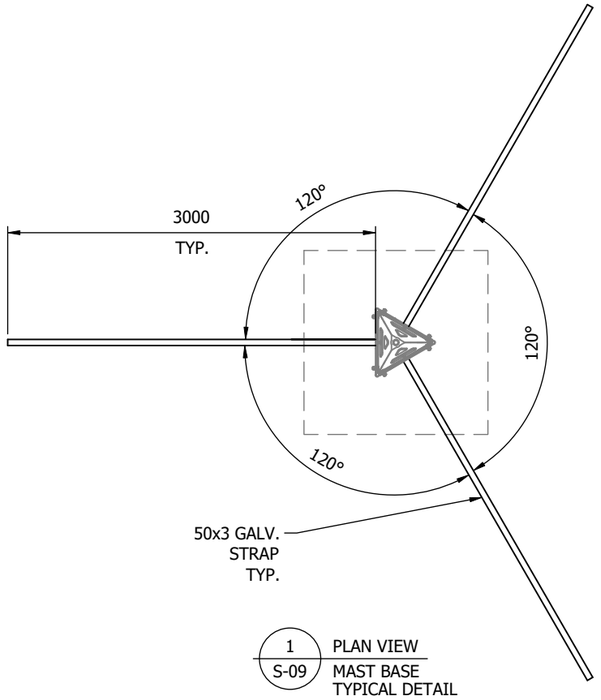
STATUS
FOR CONSTRUCTION

SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION		
N.T.S.			
DRAWN	CHECKED	APPROVED	PROJ. MANAGER
CG	DM	DN	XD

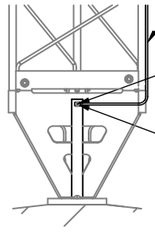
DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	8 / 13	03



2 / S-09 ELEVATION VIEW
MAST BASE
TYPICAL DETAIL
SCALE 1:50



1 / S-09 PLAN VIEW
MAST BASE
TYPICAL DETAIL
SCALE 1:50



A / S-09 DETAIL VIEW
MAST BASE
EARTHING CONNECTION
SCALE 1:50

NOTES

1. REFER TO GENERAL NOTES (SHEET 2) FOR EARTHING SPECIFICATIONS.

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Vestas

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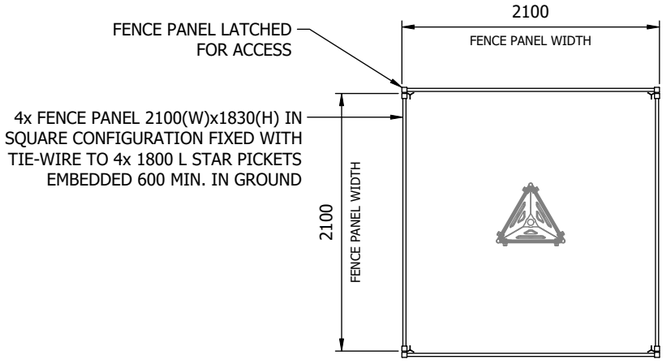
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

SHEET TITLE
EARTHING G.A.

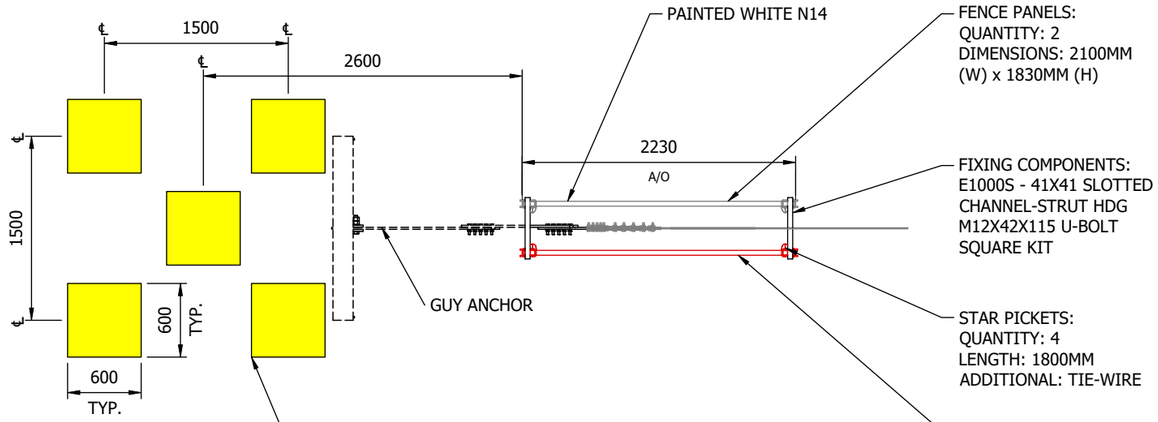
STATUS
FOR CONSTRUCTION

SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION		
AS SHOWN			
DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	CG	PB	XD

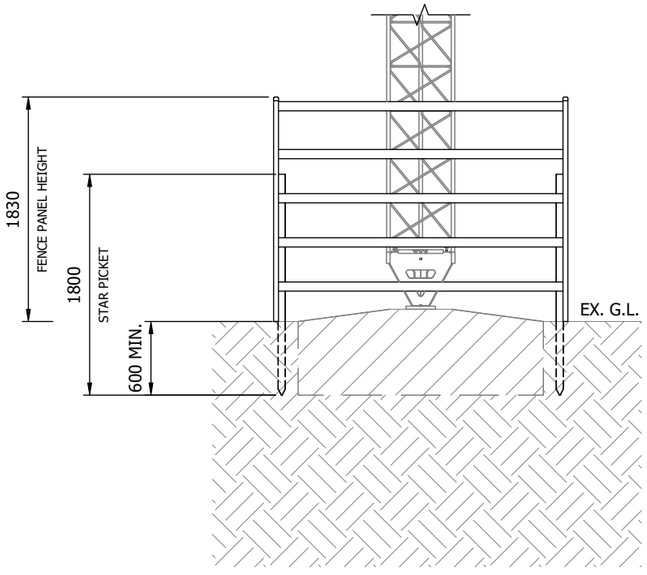
DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	9 / 13	03



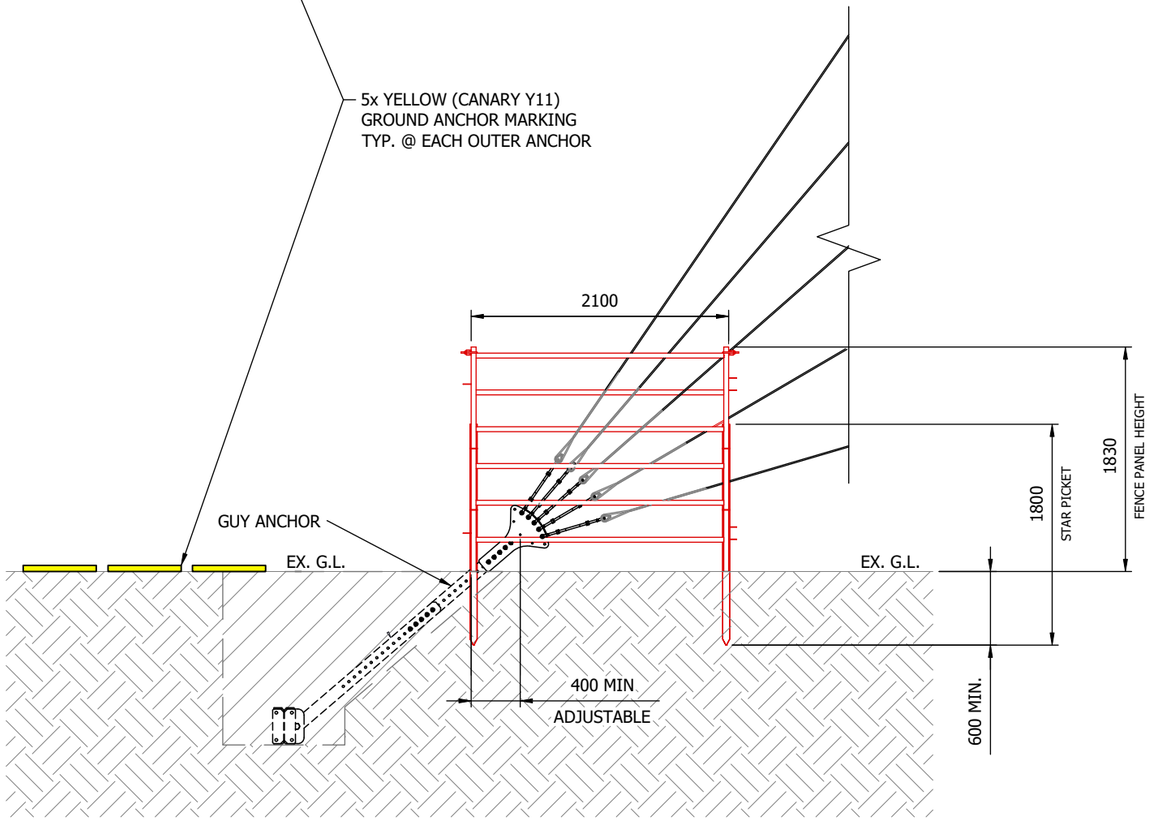
1 / S-10 PLAN VIEW
MAST BASE FENCING TYPICAL DETAIL



3 / S-10 PLAN VIEW
GUY ANCHOR FENCING TYPICAL DETAIL



2 / S-10 ELEVATION VIEW
MAST BASE FENCING TYPICAL DETAIL



4 / S-10 ELEVATION VIEW
GUY ANCHOR FENCING TYPICAL DETAIL

NOTES

1. POSITION STAR PICKETS BEHIND FENCE PANELS.
2. NO SHARP EDGES ON THE OUTSIDE OF FENCE PANELS.
3. INNER ANCHOR - 2PANELS & 4 STAR PICKETS (OPENING).
4. OTHER ANCHOR(S) - 2 PANELS & 4 STAR PICKETS.
5. FOOTINGS SHOWN FOR INDICATIVE PURPOSE ONLY REFER TO MAST FOOTING AND FOUNDATION DETAILS (SHEET 7 & 8).

REV	DESCRIPTION	DATE
03	REVISED SH 4, 5, 6 & ADDED SH 13	30/10/25
02	REVISED SHEET 4, 5, 6, 10, 14	16/10/25
01	REVISED SH 1, 3, 4, 6. ADDED SH 13 & 14	29/09/25
00	ISSUED FOR CONSTRUCTION	19/09/25

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W: www.art-group.com.au

CLIENT
Vestas

PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

SHEET TITLE
FENCING G.A.

STATUS
FOR CONSTRUCTION

SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION
N.T S.	

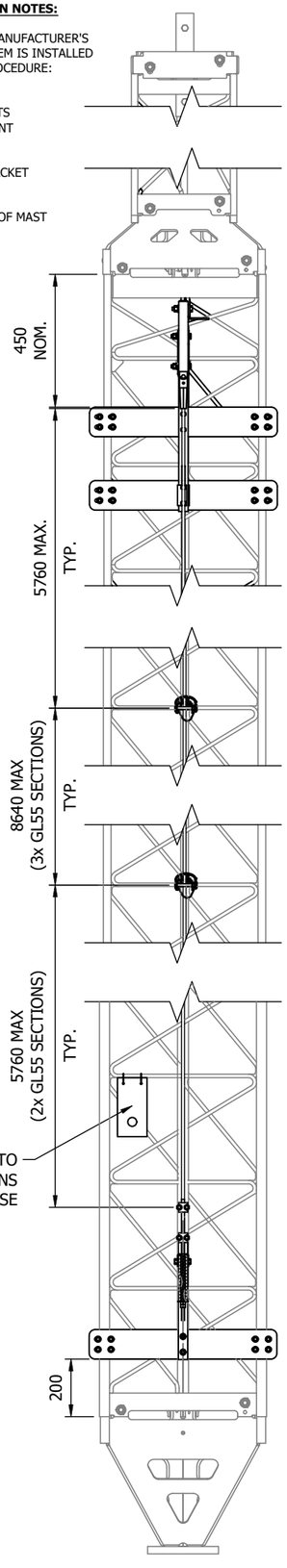
DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	CG	PB	XD

DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	10 / 13	03

LAD-SAF FALL ARREST SYSTEM INSTALLATION NOTES:

INSTALL LAD-SAF FALL ARREST SYSTEM AS PER MANUFACTURER'S SPECIFICATIONS. GENERALLY, THE LAD-SAF SYSTEM IS INSTALLED FROM THE TOP DOWN WITH THE FOLLOWING PROCEDURE:

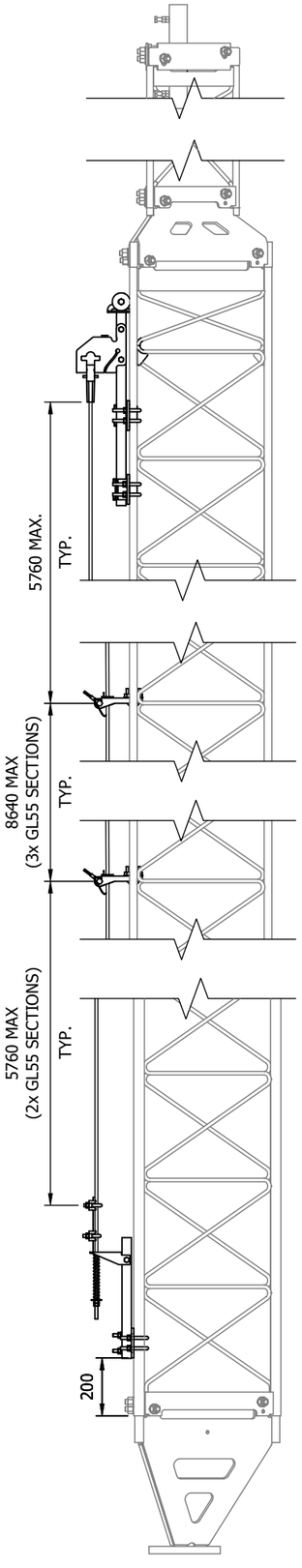
1. INSTALL THE TOP BRACKETS
2. INSTALL THE TOP COMPONENT TO BRACKETS
3. INSTALL THE CABLE TO THE TOP COMPONENT
4. INSTALL THE CABLE GUIDES
5. INSTALL THE BOTTOM BRACKET
6. INSTALL THE BOTTOM COMPONENT TO BRACKET
7. TENSION THE CABLE
8. INSPECT THE INSTALLATION
9. INSTALL THE i-SAFE RFID TAG AT BOTTOM OF MAST



1 / S-11 FRONT VIEW
LAD-SAF FALL ARREST
TOP ASSEMBLY
GL55/36 MAST
TYPICAL DETAIL

2 / S-11 FRONT VIEW
LAD-SAF FALL ARREST
CABLE GUIDE
GL55/36 MAST
TYPICAL DETAIL

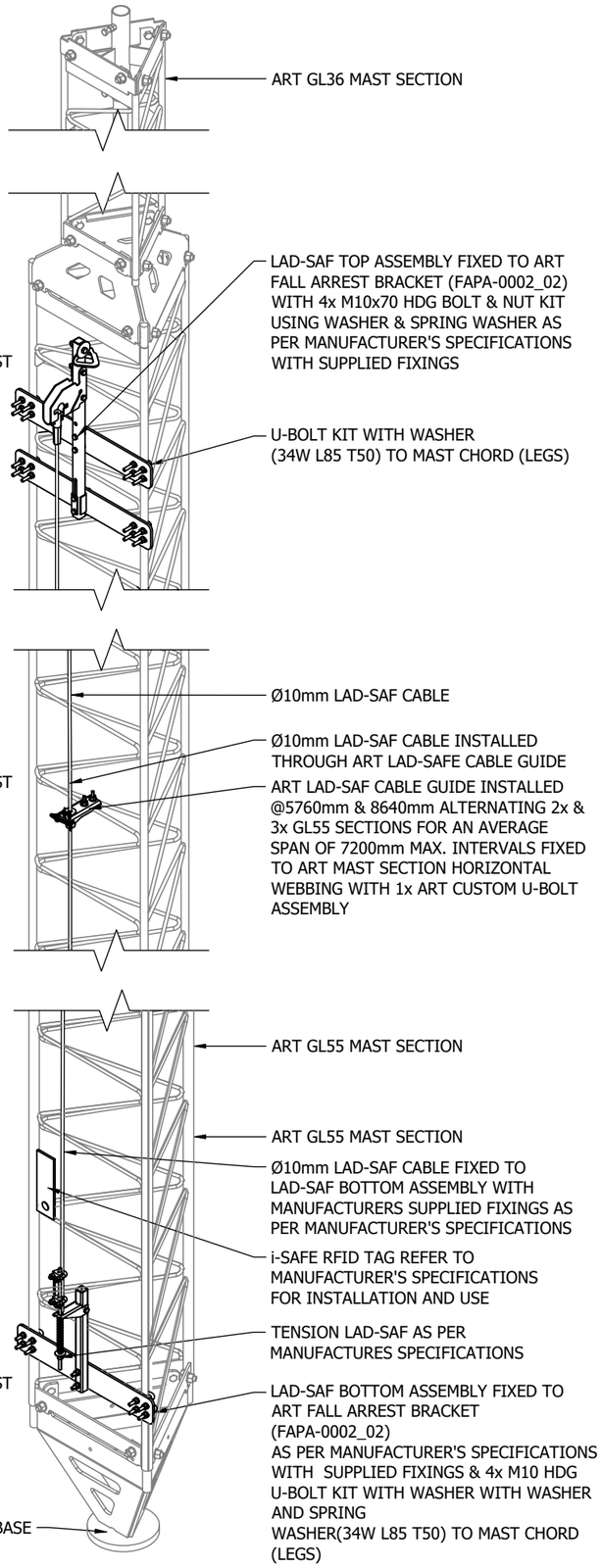
3 / S-11 FRONT VIEW
LAD-SAF FALL ARREST
BOTTOM ASSEMBLY
GL55/36 MAST
TYPICAL DETAIL



4 / S-11 SIDE VIEW
LAD-SAF FALL ARREST
TOP ASSEMBLY
GL55/36 MAST
TYPICAL DETAIL

5 / S-11 SIDE VIEW
LAD-SAF FALL ARREST
CABLE GUIDE
GL55/36 MAST
TYPICAL DETAIL

6 / S-11 SIDE VIEW
LAD-SAF FALL ARREST
BOTTOM ASSEMBLY
GL55/36 MAST
TYPICAL DETAIL



7 / S-11 ISOMETRIC VIEW
LAD-SAF FALL ARREST
TOP ASSEMBLY
GL55/36 MAST
TYPICAL DETAIL

8 / S-11 ISOMETRIC VIEW
LAD-SAF FALL ARREST
CABLE GUIDE
GL55/36 MAST
TYPICAL DETAIL

9 / S-11 ISOMETRIC VIEW
LAD-SAF FALL ARREST
BOTTOM ASSEMBLY
GL55/36 MAST
TYPICAL DETAIL

NOTES

1. USE SPRING WASHERS WHERE REQUIRED.
2. CHECK ALL FASTENERS ARE PROPERLY TIGHTENED.
3. CLEAN ALL SURFACES BEFORE APPLYING REFLECTORS.

REV	DESCRIPTION	DATE
03	REVISED SH 4, 5, 6 & ADDED SH 13	30/10/25
02	REVISED SHEET 4, 5, 6, 10, 14	16/10/25
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00	ISSUED FOR CONSTRUCTION	19/09/25

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CLIENT
Vestas

PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

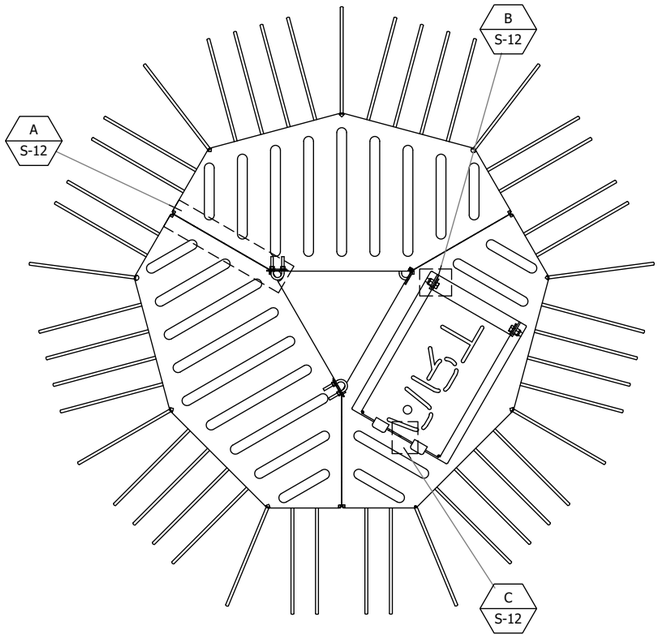
SHEET TITLE
FALL ARREST G.A.

STATUS
FOR CONSTRUCTION

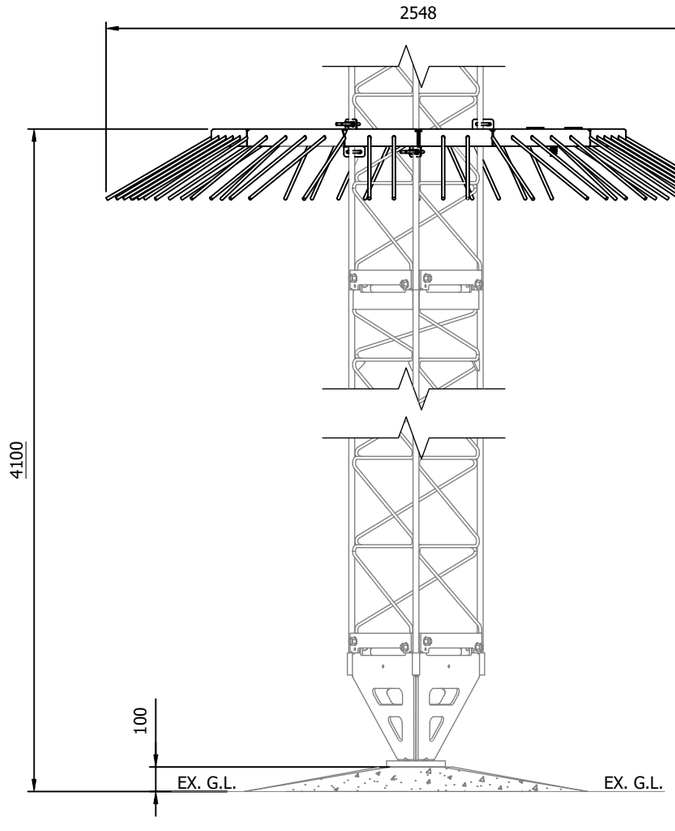
SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION
1:20	

DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	CG	DN	XD

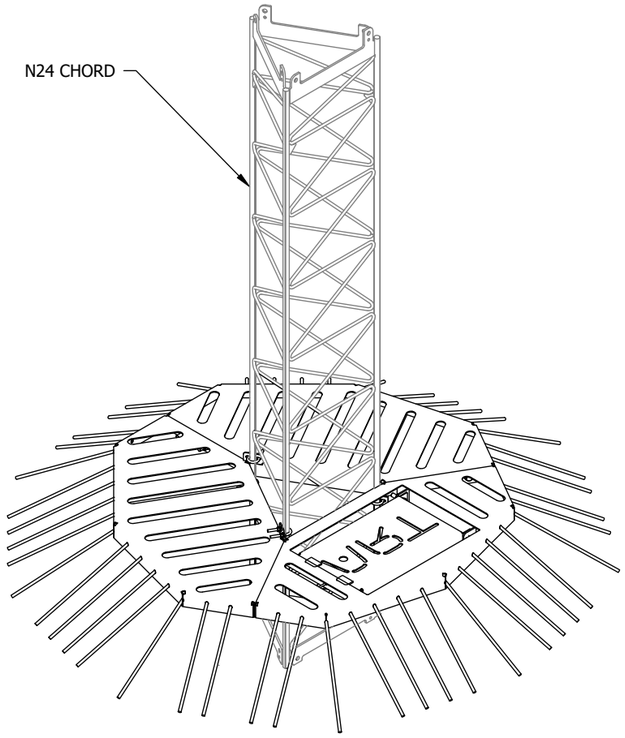
DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	11 / 13	03



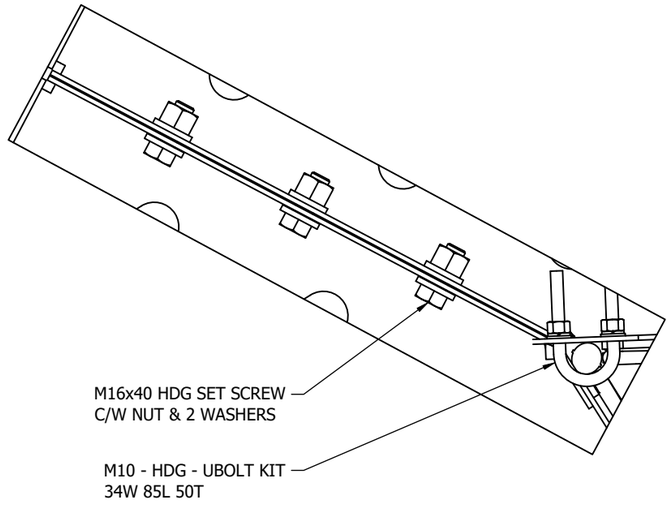
1 / S-12 TOP VIEW
GL55 N24 CHORD
SCALE 1:25



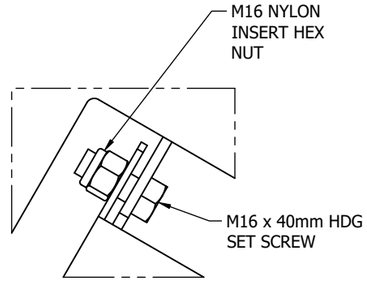
2 / S-12 TYPICAL ELEVATION
GL55 N24 CHORD
SCALE 1:25



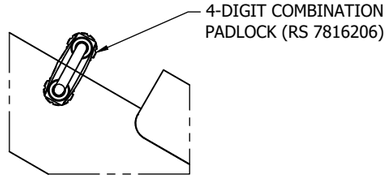
3 / S-12 ISOMETRIC VIEW
GL55 N24 CHORD
SCALE N.T.S.



A / S-12 DETAIL A
SCALE 1:5



B / S-12 DETAIL B
SCALE 1:5



C / S-12 DETAIL C
SCALE 1:5

NOTES

1. USE SPRING WASHERS WHERE REQUIRED.
2. CHECK ALL FASTENERS ARE PROPERLY TIGHTENED.
3. CLEAN ALL SURFACES BEFORE APPLYING REFLECTORS.

REV	DESCRIPTION	DATE
03	REVISED SH 4, 5, 6 & ADDED SH 13	30/10/25
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CLIENT
Vestas

PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

SHEET TITLE
ANTI CLIMB G.A.

STATUS
FOR CONSTRUCTION

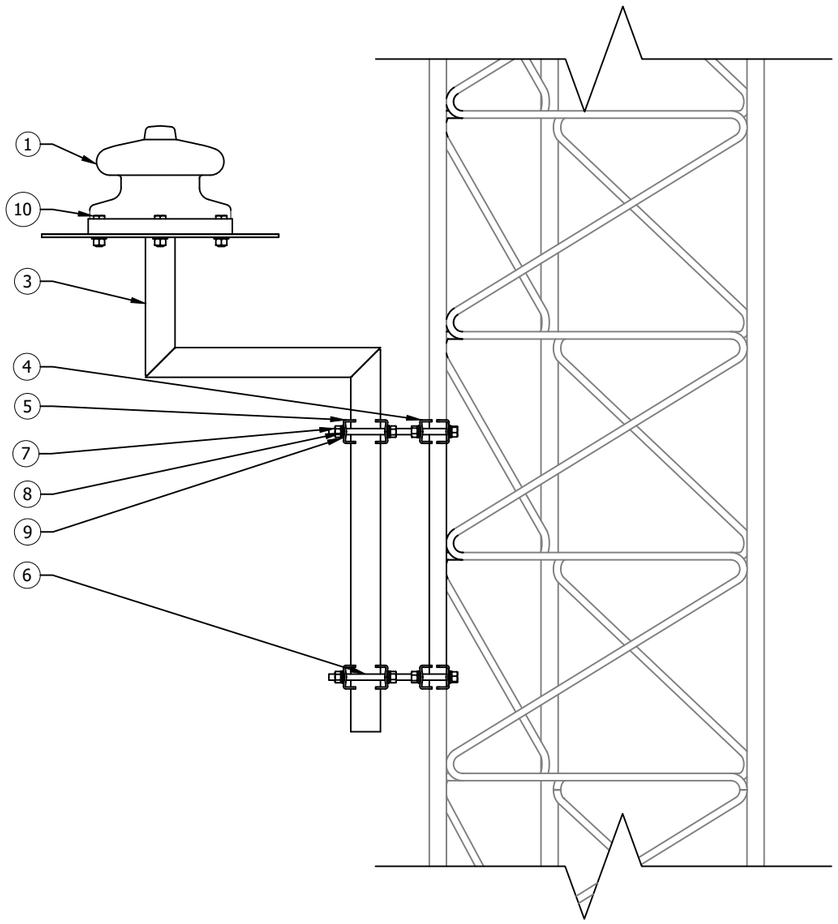
SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION
AS SHOWN	

DRAWN	CHECKED	APPROVED	PROJ. MANAGER
DM	CG	DN	XD

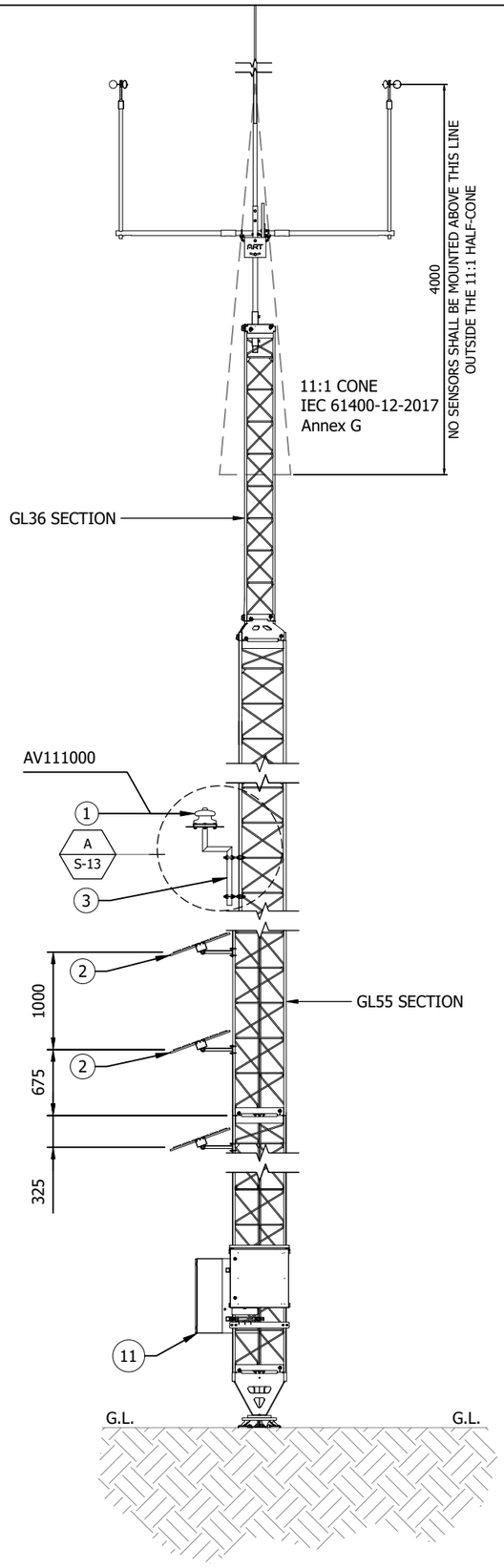
DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	12/13	03

MATERIAL LIST (TABLE 1)

ITEM No.	PARTNo.	DESCRIPTION	QTY.
1		AVIATION LIGHT (AVLIGHT AV-OL-MI-DC-01)	1
2		SOLAR PANEL SOLAWAT 50w FOR AVIATION LIGHT	2
3	MOAS-0016	STAND-OFF MOUNT	1
4	BRPA-0017	SQUASHED BOOM ARM BRACKET TO SUIT CHS 26.9 - 42.4	4
5	BRPA-0026	BACKING BRACKET TO SUIT Ø48.3 CHS TO Ø60.3 CHS	4
6	CLPA-0072	THREADED ROD M10 - 250L	4
7		M10 - HDG - ROUND WASHER - LIGHT STAND-OFF MOUNT	16
8		M10 - HDG - SPRING WASHER	16
9		M10 - HDG - HEX NUT - LIGHT STAND-OFF MOUNT	16
10		M12 x 60L BOLT C/W NUT & WASHER 4.6 GRADE HDG	4
11	1014500	AVIATION LIGHT POWER ENCLOSURE	1



A / S-13 DETAIL VIEW
TYPICAL DETAIL
SCALE 1:10



1 / S-13 MAST ELEVATION
SCALE: 1:60

NOTES

1. DETAILS & INFORMATION SHOWN ARE INDICATIVE ONLY.
2. AVIATION OBSTRUCTION LIGHT SHALL OPERATE IN MAXIMUM INTENSITY 24 HOUR FLASHING RED LIGHT.
3. SOLAR PANEL ANGLE SHALL BE SET FOR BEST AVERAGE PERFORMANCE THROUGHOUT THE YEAR. RECOMMENDED ANGLE IS 40°.
5. MAST BASE CATTLE FENCING NOT SHOWN FOR CLARITY.

REV	DESCRIPTION	DATE
03	REVISED SH 4, 5, 6 & ADDED SH 13	30/10/25
02	REVISED SHEET 4, 5, 6, 10, 14	16/10/25
01	REVISED SH 1, 3, 4, 6. ADDED SH 13 & 14	29/09/25
00	ISSUED FOR CONSTRUCTION	19/09/25

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CLIENT
Vestas

PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

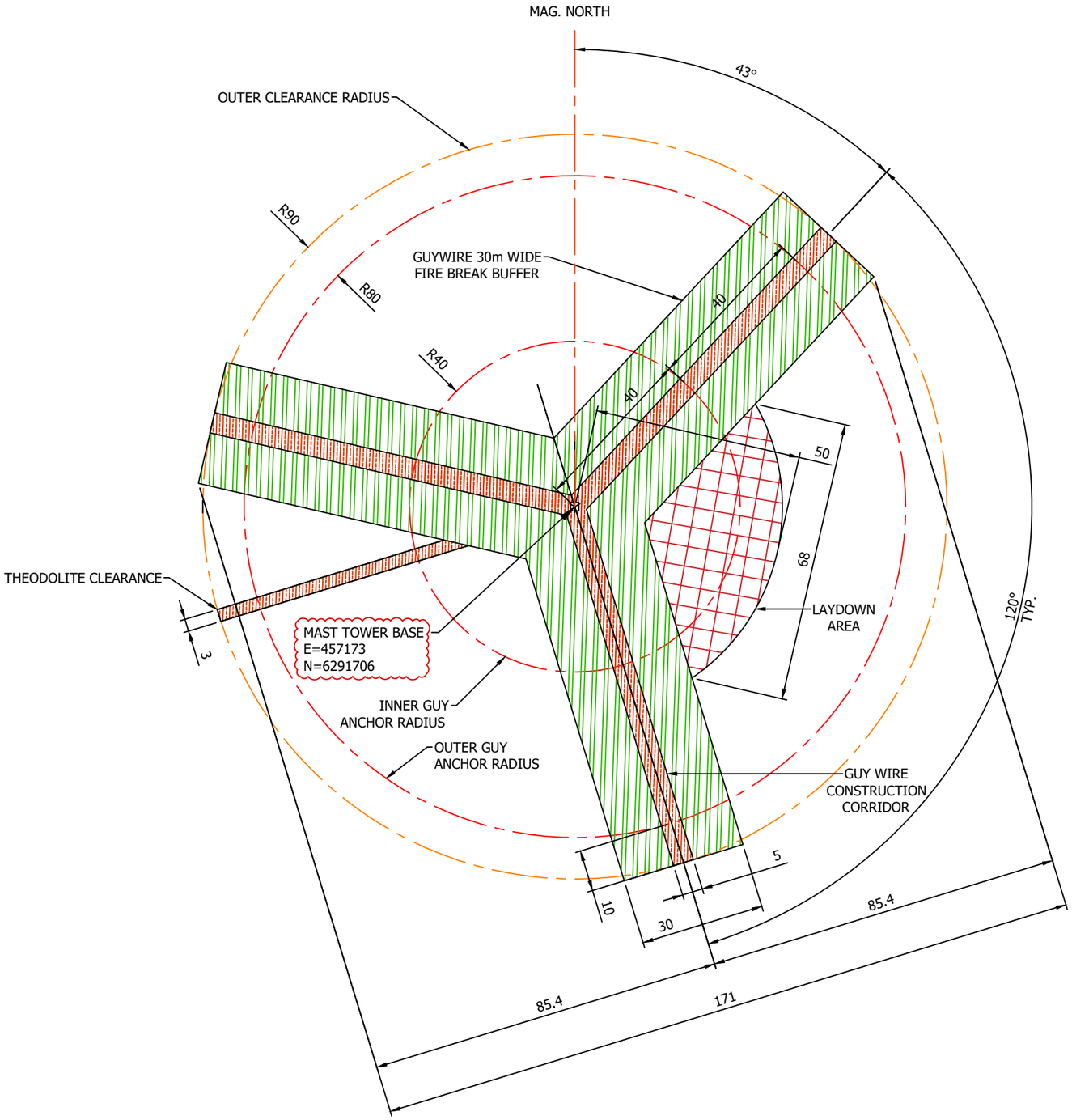
SHEET TITLE
AVIATION LIGHT G.A.

STATUS
FOR CONSTRUCTION

SCALE PLOTTED AT A3 | THIRD ANGLE PROJECTION

DRAWN	CHECKED	APPROVED	PROJ. MANAGER
CG	DM	HK	XD

DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-01	13/13	03



LEGEND

AREA CLEARED OF ANY VEGETATION THAT COULD GROW ABOVE 3m
AREA: 6371m²

CONSTRUCTION CORRIDOR ALL VEGETATION TO BE CLEARED
AREA: 1519m²

LAYDOWN AREA
AREA: 1285m²

SITE ACCESS ROAD
AREA: 0m²

TOTAL AREA: 9175m²
HECTARES: 0.9175ha

ALL MEASUREMENTS IN METERS U.N.O

REV	DESCRIPTION	DATE
B	REVISED LAYDOWN AREA & COORDINATES	30/10/25
A	ISSUED FOR APPROVAL	24/10/25

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Vestas

PROJECT
BOWELLING WIND FARM, WA
MM1 120M (NOM.) MET MAST
GL55-36 GUYED LATTICE MAST
TEMPORARY DEPLOYMENT

SHEET TITLE
BOWELLING SITE CLEARANCE

FOR APPROVAL

SCALE PLOTTED AT A3	THIRD ANGLE PROJECTION
1:1200	

DRAWN	CHECKED	APPROVED	PROJ. MANAGER
CG	DM	XD	XD

DRAWING NUMBER	SHEET	ISSUE
ART-250238-SGA-02	1 /1	B

Attachment 4

Aviation Impact Assessment

AVIATION PROJECTS

November 2025

Aaron Augustson
Technical Director - Planning
GHD

By email:

Our reference: 102308.01

Dear

Re: Bowelling Wind Farm Wind Monitoring Tower – Aviation Impact Assessment

GHD is mananging the devolpment process for the proposed Bowelling Wind Farm (the Project) in the Shire of West Arthur Local Government Area (LGA), Western Australia. GHD is currently proposing one (1) Meteorological Mast (WMT) to be installed within the Project Site.

Aviation Projects has prepared an Aviation Impact Assessment (AIA) for the WMT 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 27 November 2025.
    - Designated Airspace Handbook (DAH), effective 27 November 2025.
- 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 v1.6: *Operations in the vicinity of non-controlled aerodromes*, dated September 2025.
    - 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 November 2025.
- Planning Position Statement – Renewable energy facilities (14 Dec 2022).
- Shire of West Arthur's draft Planning Policy No 5 – Wind Farms.
- Other references as noted.

1.2. Project description

The proposed WMT is within the Shire of West Arthur LGA. The WMT's height is approximately 123 m (404 ft) above ground level (AGL), and the ground elevation of the WMT is approximately 268 m Australian Height Datum (AHD) (based on Google Earth data).

Considering the accuracy of the Google Earth database, a 5 m buffer error has been applied to the ground elevation. This results in a maximum height of approximately 396 m AHD (1299.2 ft above mean sea level (AMSL)).

Figure 1 Shows the location of the proposed WMT (Source: GHD, Google Earth).

Figure 1 WMT's location

Figure 2 Shows the proposed steel lattice and guy wire construction.

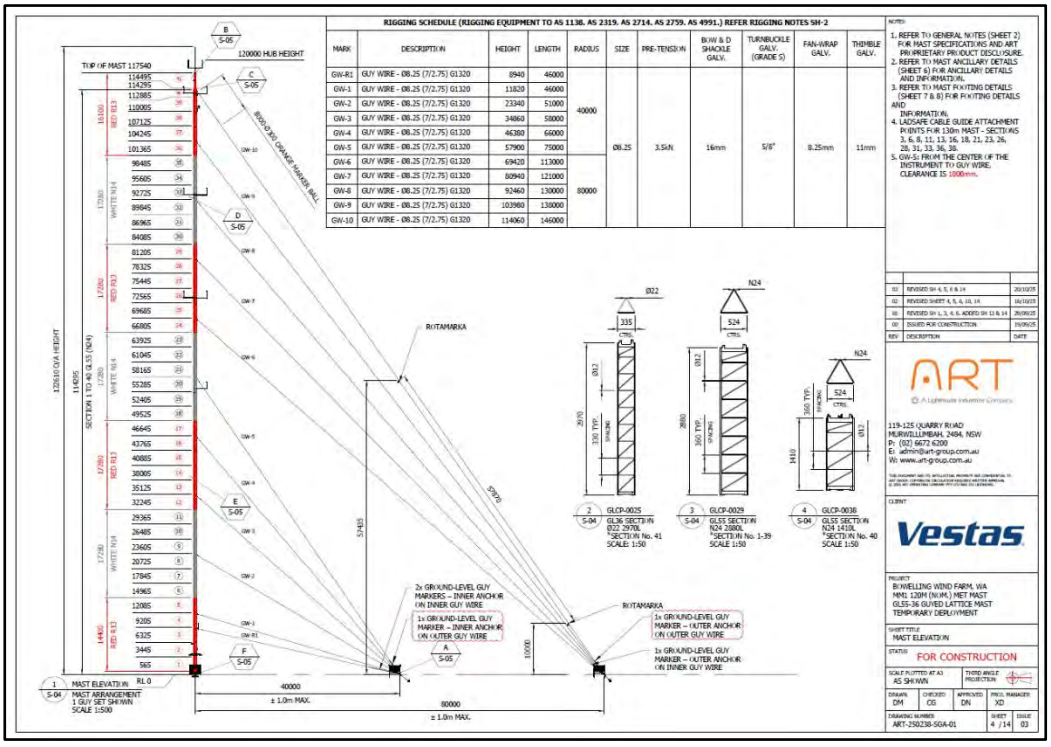

Figure 2 Proposed Guyed Lattice Mast

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*
> - *Australian Wind Alliance*
> - *Civil Aviation Safety Authority*
>
> ***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.

The comprehensive wind farm AIA will include consultation with relevant aviation stakeholders and address aviation-related matters included in the Position Statement.

1.4. Shire of West Arthur

The Shire of West Arthur prepared the Shire of West Arthur's draft Planning Policy No 5 – Wind Farms, which included:

> *Hillman Airfield*
>
> *Multiple submissions object to references that must not be located within the vicinity of Hillman Airfield as being too vague. Several of these recommend that an Aviation Impact Assessment should be required.*
>
> *There are two distinct issues associated with of Hillman Airfield being the potential impact on:*
>
> - *The aircraft landing and take-off operations; and*
> - *The sky diving and parachute training activities.*
>
> *Both of these issues have a greater impact because of the RAAF operations noting that:*
>
> - *RAAF transport aircraft require a 7nm (13km) buffer along the North / South axis of Hillman Farm airfield for approaches and take-offs, both in day and night.*

- *The military paratroopers require a min distance of 5nm (9kms) East / West of the axis of Hillman Farm airfield, due to long transit's, under canopy, from height both day and night.*

This area is shown below, and again, it is emphasised that this is not a prohibition, but any development in this area will have to consider the potential impacts on these operations.

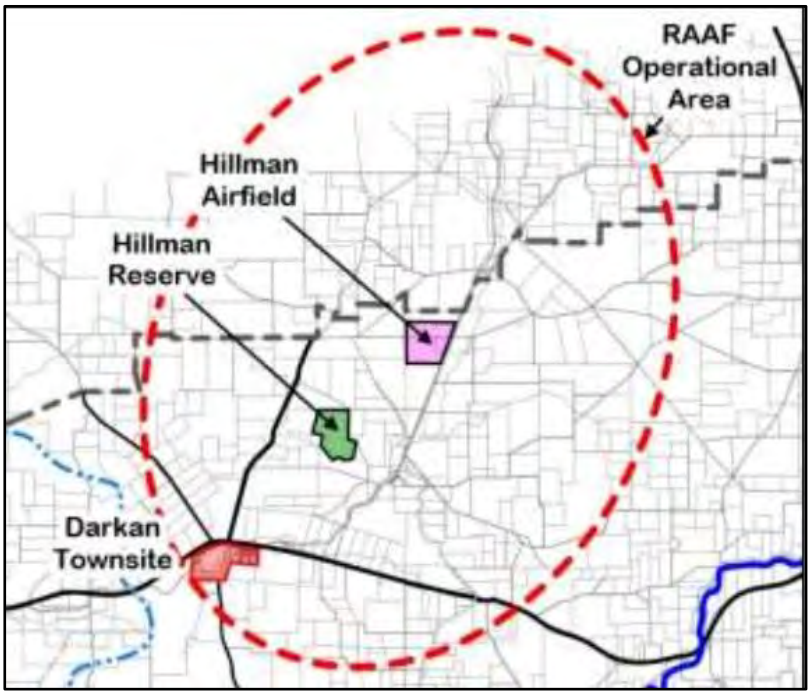

Figure 3 RAAF Operational Area

The WMT is located outside of the Hillman Farm RAAF area of interest

1.5. 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.

Figure 4 Location of certified aerodromes in relation to the proposed WMT

There are no certified aerodromes located within 30 nm of the proposed site. The closest certified aerodrome is Bunbury Airport (YBUN), approximately 81 km/43 nm west of the Project Site.

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 the WMT's site relative to Bunbury Airport (YBUN) and Busselton Airport (YBLN) is shown in Figure 4 (Source: GHD, Google Earth). The red circle represents a 30 nm radius from the relevant aerodrome reference point (ARP).

1.6. 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 27 November 2025
- 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.

There are no uncertified aerodromes located near the WMT.

1.6.1. Shire of West Arthur's draft Planning Policy No 5 – Wind Farms

As detailed in Section 1.4, the Shire of West Arthur has prepared the draft of planning policy No. 5, which included a 7 nm (13 km) buffer for RAAF transport aircraft operations and a 5 nm (9 km) buffer for military paratroopers. The WMT will not be within the buffer areas.

The WMT will not create a hazard to any uncertified aerodromes.

1.7. 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.

1.7.1. Grid LSALT

The proposed WMT is within the airspace grid LSALT of 2900 ft AMSL, which has a protection surface of 1900 ft AMSL.

Figure 5 shows the Grid LSALT in proximity to the WMT (source: ERC Low National, OzRunways).

The WMT's height is 396 m AHD (1299.2 ft AMSL), below the 1900 ft protection surface.

Therefore, the WMT will not impact the 2900 ft Grid LSALT.

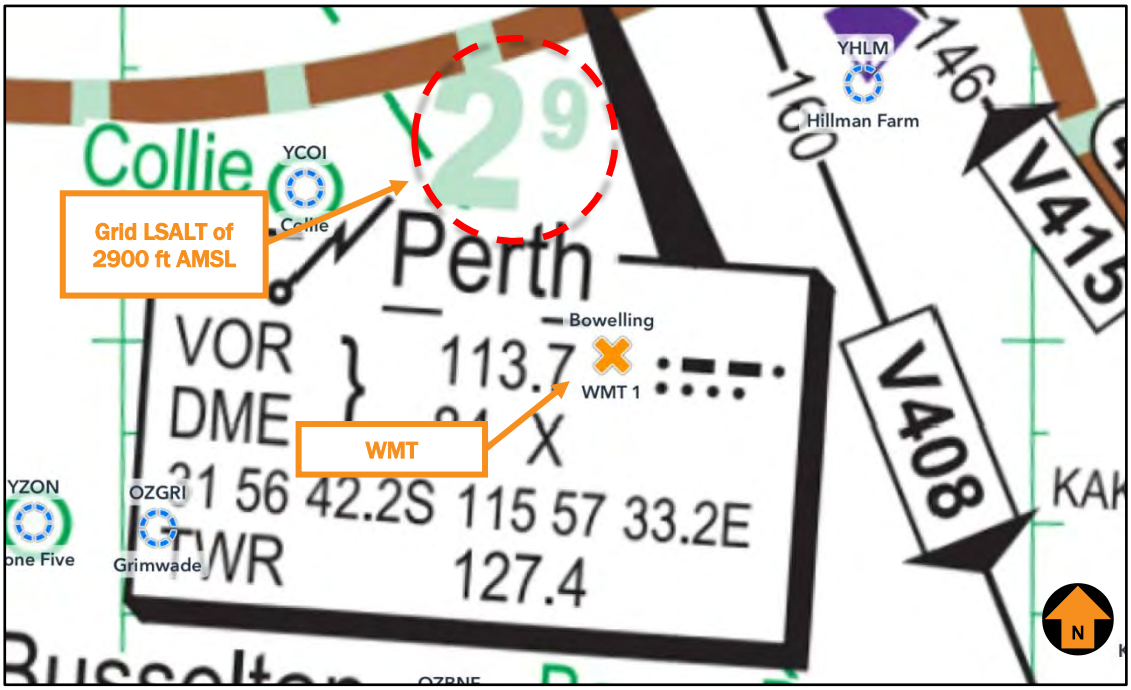

Figure 5 Grid LSALT in proximity to the WMT's site.

1.7.2. 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 is no air routes located within the area of interest. The WMT will not impact any nearby air route.

1.8. Airspace

The WMT is located outside of controlled airspace (wholly within Class G airspace) and is not located in any Prohibited, Restricted and Danger areas.

The WMT will not have an impact on controlled or designated airspace.

1.9. 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 WMT is located sufficient distance away from any nearby certified aerodromes or aviation facility and will not have an impact.

1.10. 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.

1.11. 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.

1.11.1. 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 WMT is required to report the WMT 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.

1.11.2. 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/

1.11.3.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.

There is no regulatory requirement to provide obstacle lighting on the proposed WMT that is not within the vicinity of an aerodrome. Generally, the voluntary provision of obstacle lighting should be considered to ensure visibility in low light and deteriorating atmospheric conditions. CASA will review the proposed WMT for potential hazards to aircraft operations and may recommend lighting the proposed WMT. The WMT is also less than 150 m AGL, which is outside of the navigable airspace mentioned in the AC above.

1.12. 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.*

1.13. Consultation

The following list of stakeholders was identified as requiring consultation:

- Airservices Australia
- Department of Defence

Details and results of the consultation activities have been provided in Table 1 below.

1.14. Summary

The following list of findings summarises the outcome of this assessment, based on the maximum height of 396 m AHD (1299.2 ft AMSL):

- There are no certified aerodromes located within 30 nm (55.6 km) of the WMT
- There are no uncertified aerodromes identified within 3 nm of the WMT's site.
- Shire of West Arthur prepared the draft of planning policy No. 5, which included a 7 nm (13 km) buffer for RAAF transport aircraft operations and a 5 nm (9 km) buffer for military paratroopers at Hillman Farm Airstrip. the WMT is outside the RAAF operation buffer area.
- The WMT will not affect any Grid or airway route segment LSALT
- The WMT will not have an impact on controlled or designated airspace.
- Marking the WMT 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. However, 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 6 (Source: Part 139 MOS 2019):
    - 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.

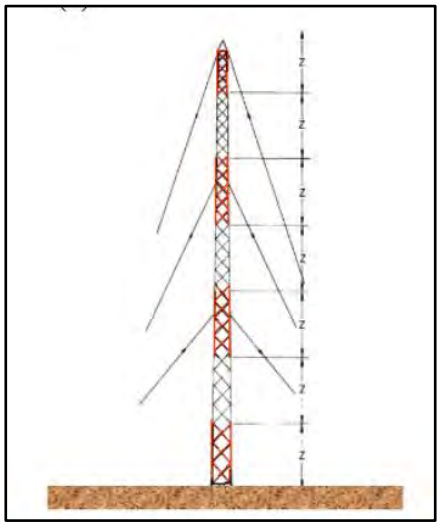

Figure 6 CASA Figure 8.110 (5) Markings

- CASA recommends that in addition to the above marking, low intensity obstacle lighting is recommended due to the potential for day time low level aerial agricultural flying, and during poor light and/or dusk. Consideration will need to be given to potential community impacts from the obstacle lighting during the hours of darkness.
- Due to exceeding 100 m AGL, details of the WMT 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). 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 .

Kind regards,

Brad O'Connor

Aviation Specialist Consultant

7 November 2025

Table 1 Stakeholder consultation details

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

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