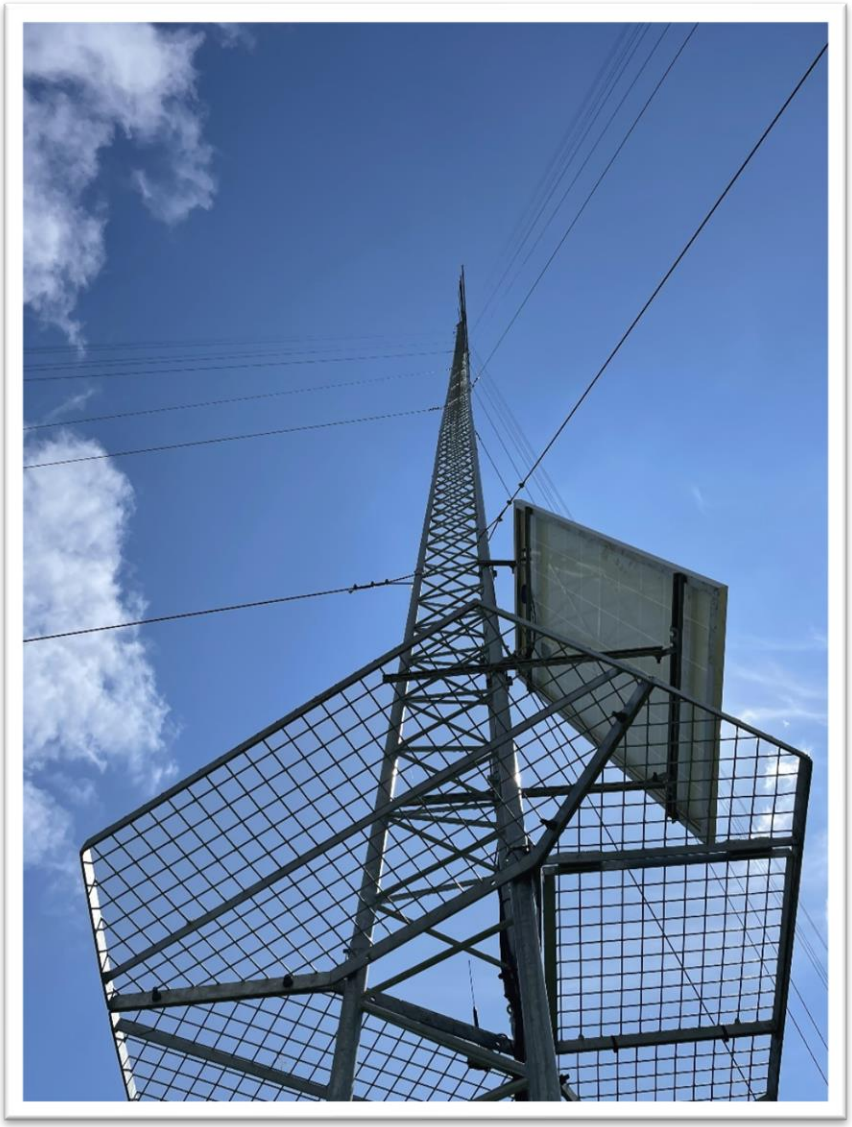
MetCom Innovative Technologies Limited

Abbeyhall Studio, Newtown Road
Celbridge, Co. Kildare,
Ireland, W23 NW58

MetCom
Innovative Technologies Ltd.

MAST INSTALLATION WORKS REPORT

Site ID: BALLYFASY - WRA Campaign
Client: NME Communications Ltd.



Proudly working on behalf of

Statement of Facts:

MetCom Innovative Technologies Limited t/a MetCom Group, company registered in Ireland, reg. no. 607670 believes that all information provided in this report is accurate (this includes some information previously provided to MetCom by client).

MetCom Innovative Technologies Ltd.

31st July 2022

Table of Contents

1. Site Details

DETAILS:	Coordinates:	Address/Remarks:
Mast Address:	Ballyfasy Upper, Co. Kilkenny Approx. 6km East of Mullinavat, Co. Kilkenny Approx. 13km West of New Ross, Co. Wexford.	
Mast: Location:	Latitude: 52°22'46.63"N Longitude: 7°05'55.03"W Elevation: ~199m ASL	
Site Entrance:	Latitude: 52°22'23.2"N Longitude: 7°05'49.9"W	
Parking:	In field adjacent to mast site, outside of exclusion zone	

1.1 Site Description

Site is in Co. Kilkenny, Ireland. It is approx. 6km East of Mullinavat town.

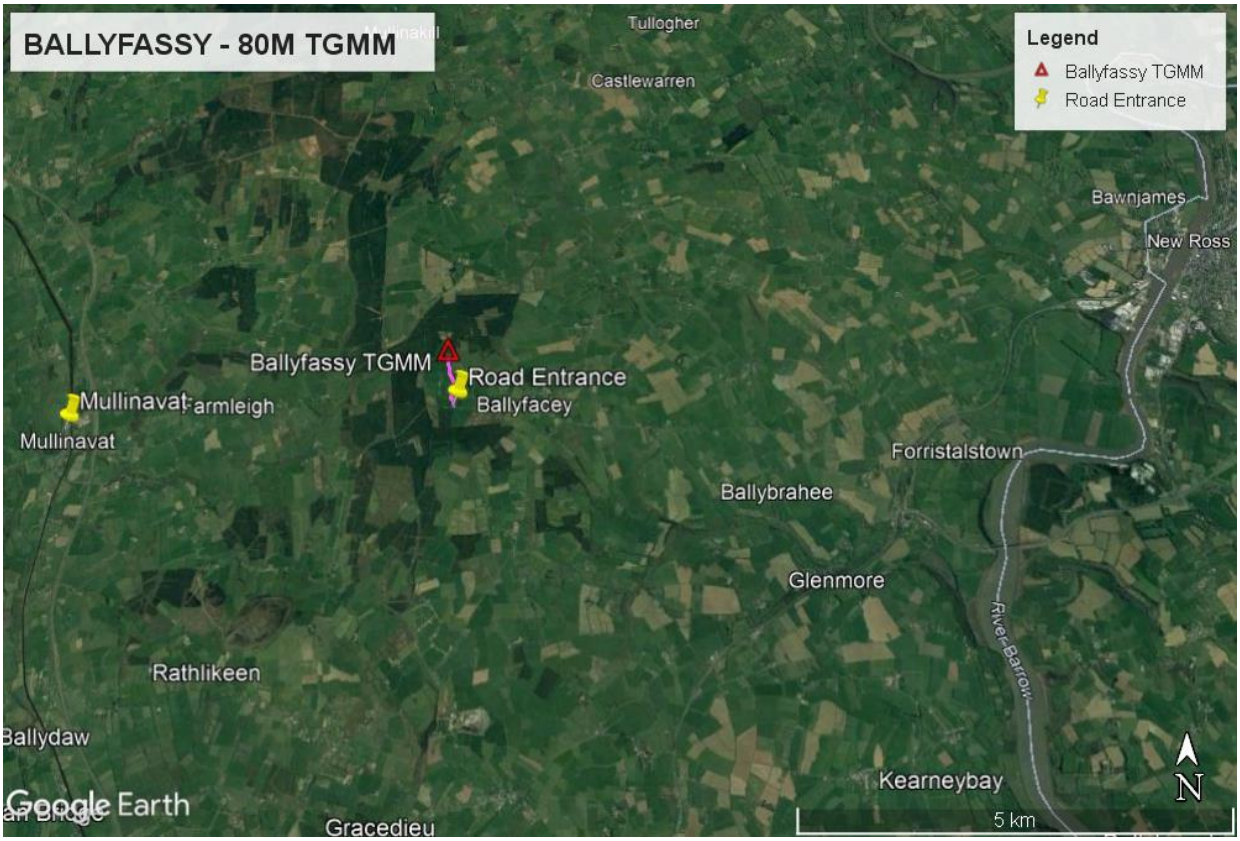
The site is in green field with flat terrain.

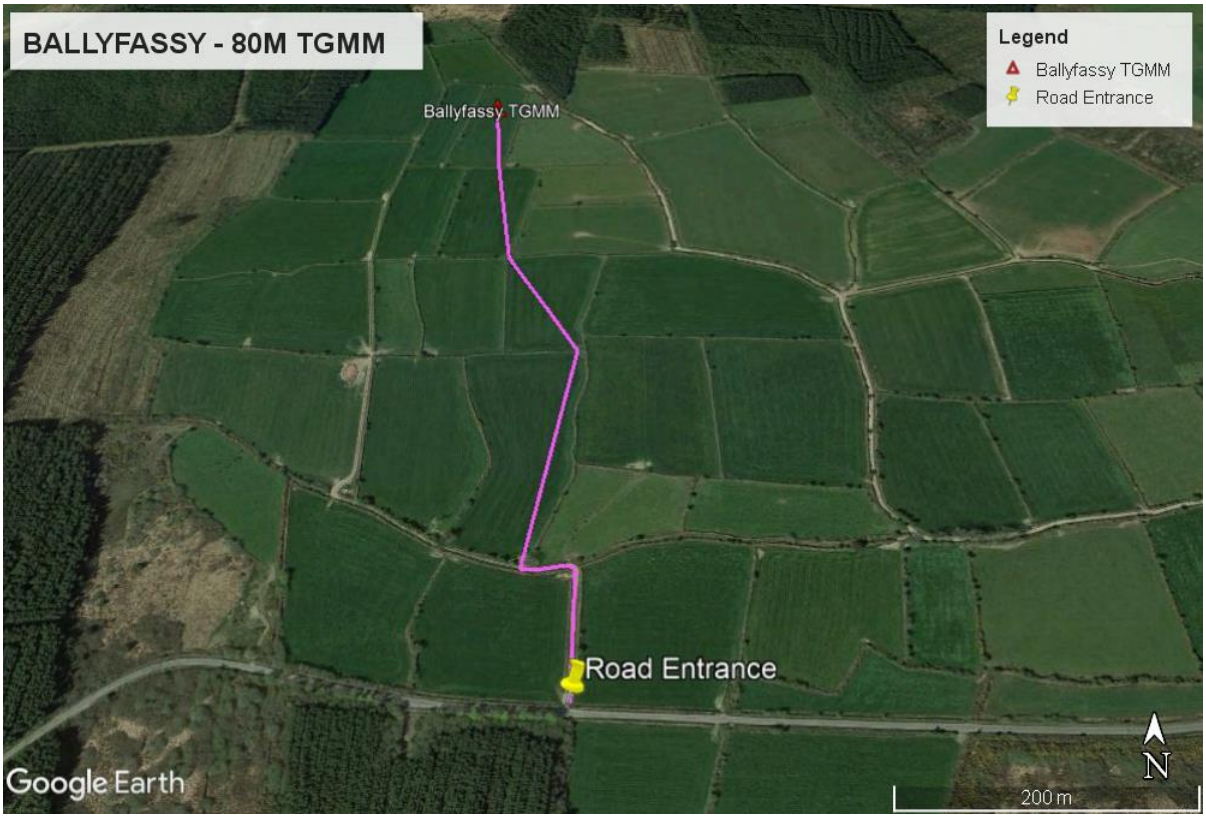
The closest treeline is to the Northeast @ approx 65m, there is also another plantation @ approx 200m from NNE - W, approx tree heights are 10-15m.

As the location is on an active farm, there may be a possibility of interference or damage to the installation by the farm animals, therefore it is our recommendation that the mast & anchor locations are fenced off to mitigate against any damage.

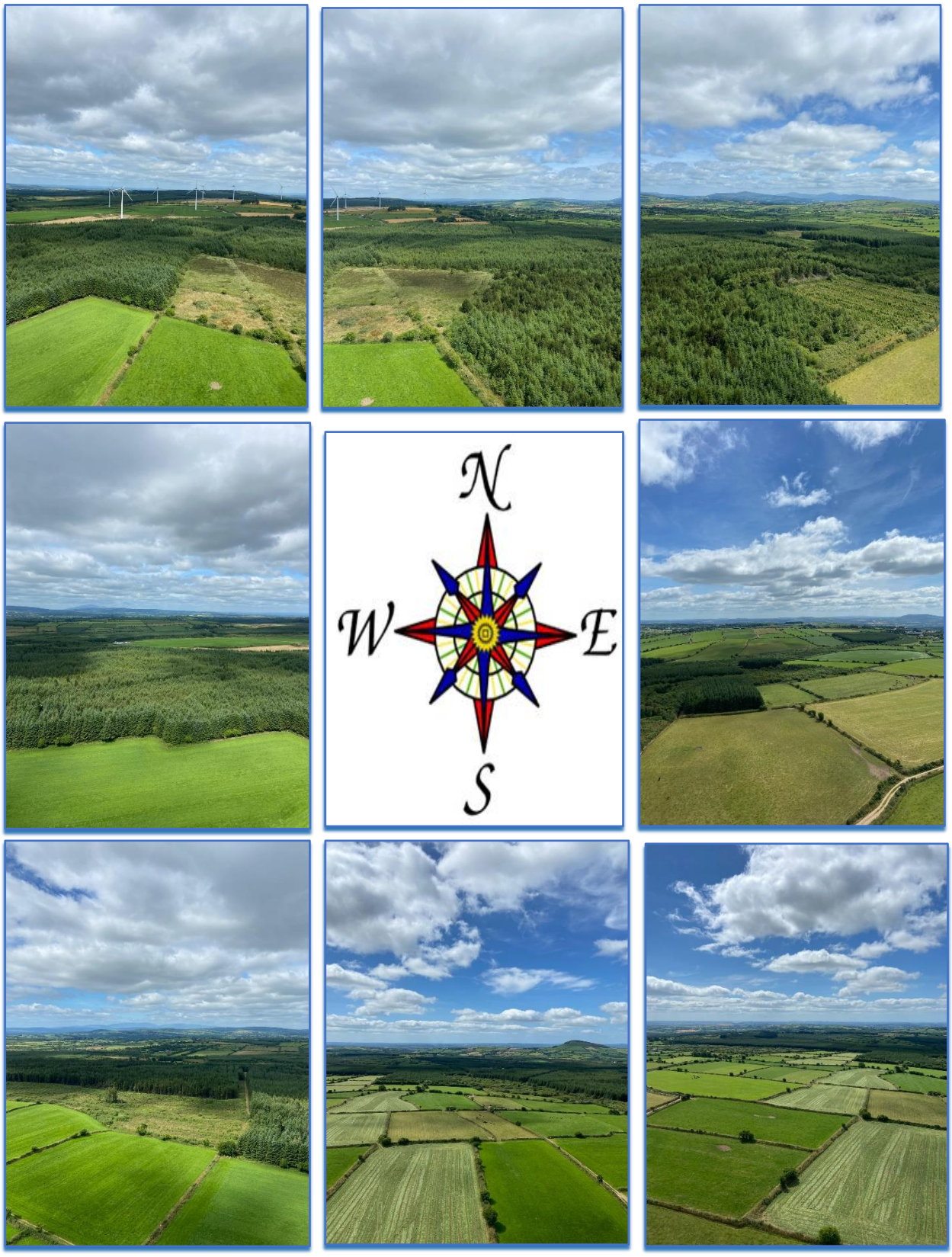
1.2 Client Contact Details

Contact:	Company	Phone	Email
Niall Keogh	NME Communications	+353 86 8369862	niall@nmecommunications.com


BALLYFASSY - 80M TGMM
Legend
Ballyfassy TGMM
Road Entrance
Tullogher
Castlewarren
Bawnjames
New Ross
Ballyfassy TGMM
Road Entrance
Ballyfacey
Mullinavat
Mullinavat
Forristalstown
Ballybrahee
Glenmore
River Barrow
Rathlikeen
Ballydaw
Kearneybay
Gracedieu
Google Earth
5 km
N

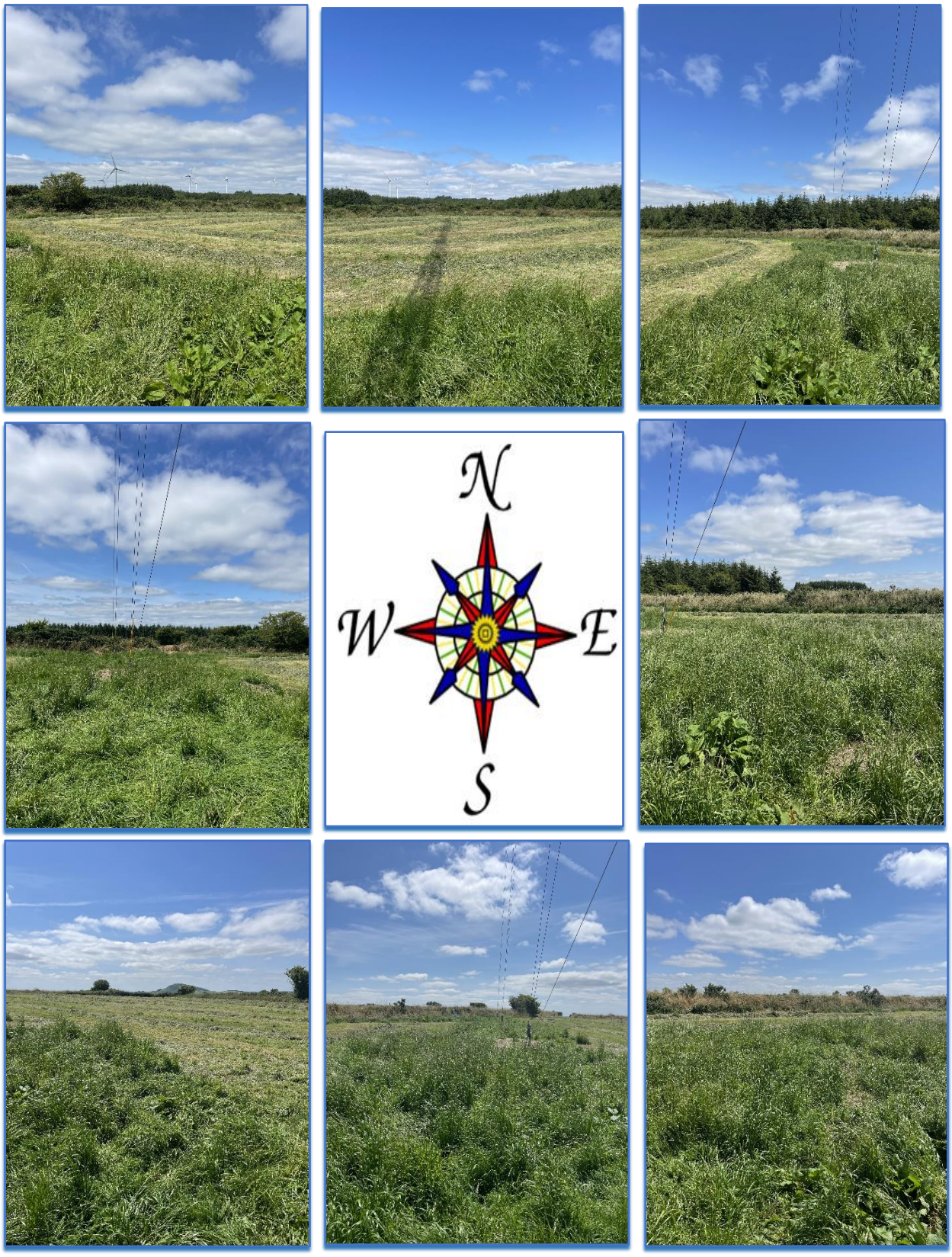

BALLYFASSY - 80M TGMM
Legend
Ballyfassy TGMM
Road Entrance
Ballyfassy TGMM
Road Entrance
Google Earth
200 m
N

2. Panoramic Pictures – Aerial



Directional pictures of area taken from top of mast position, looking out in 45° angles from 0° North and moving clockwise.

1. Panoramic Pictures – Ground



Directional pictures of area taken from base of mast position, looking out in 45° angles from 0° North and moving clockwise.

2. Works Log

Works Completed	Complete by	Date	Reference
Met Mast Installation	MetCom	13-15/07/2022	MC-0228

3. Met Mast Specifications

Structure Type:	Triangular Guyed Lattice Mast
Sections Height (meters):	3.0
Structure Height (meters):	78.0
Sections Quantity (pcs):	26
Sections Face Width C-C (mm):	450
Anchoring	Ground buried steel plate
Guy Wire	8mm, Wire - Galvanised 6/19 1960n/mm2 FC RHOL
Note:	The Lattice sections and booms were free issue, a new top central pole was fabricated to ensure IEC compliance for the top instrument arrangement. New anchor plates & a lightning finial were also fabricated by MetCom.

	Guy Lane Orientation	Distance #1	Distance #2	Distance #3
Anchor lane #1	45°	15m	30m	45m
Anchor lane #2	165°	15m	30m	45m
Anchor lane #3	285°	15m	30m	45m

	Height	Anchor #
Guy Wire Level #1	6.0m	1
Guy Wire Level #2	15.0m	
Guy Wire Level #3	24.0m	
Guy Wire Level #4	33.0m	2
Guy Wire Level #5	42.0m	
Guy Wire Level #6	48.0m	
Guy Wire Level #7	57.0m	3
Guy Wire Level #8	66.0m	
Guy Wire Level #9	75.0m	

4. Installed Sensors List – Anemometers

NOTE: ***All boom and sensor orientations are relative to Magnetic North.***

An 1	**Sensor ID**	**An1_80_315**	**Installation Height**	**80.75m**
	Sensor Type	Vector A100LK	**Sensor Installation Date**	**14/07/2022**
	Model	A100 LK	**Boom Length**	1400 mm
	Serial Number	20598/GGBL	**Boom Diameter Ø**	40mm
	Calibration No.	22.US2.1399	**Upstand Height**	1038 mm
	Calibration Date	06/01/2022	**Upstand Diameter Ø**	33mm & 25mm Stub
	Slope	Ref. Client	**Orientation**	315°
	Offset	Ref. Client	**Structure width**	Top Pole (60mm)
An 2	**Sensor ID**	**An2_80_135**	**Installation Height**	**80.62m**
	Sensor Type	Thies First Class Advanced	**Sensor Installation Date**	**14/07/2022**
	Model	4.3352.10.000	**Boom Length**	1400 mm
	Serial Number	04224482	**Boom Diameter Ø**	40mm
	Calibration No.	IDR 36522AC	**Upstand Height**	1035 mm
	Calibration Date	05/2022	**Upstand Diameter Ø**	33mm
	Slope	Ref. Client	**Orientation**	135°
	Offset	Ref. Client	**Structure width**	Top Pole (60mm)
An 3	**Sensor ID**	**An3_60_315**	**Installation Height**	**60.04m**
	Sensor Type	Vector A100LK	**Sensor Installation Date**	**14/07/2022**
	Model	A100 LK	**Boom Length**	2500 mm
	Serial Number	20599/GGBM	**Boom Diameter Ø**	40mm
	Calibration No.	22.US2.14001	**Upstand Height**	1028 mm
	Calibration Date	06/01/2022	**Upstand Diameter Ø**	33mm & 25mm Stub
	Slope	Ref. Client	**Orientation**	315°
	Offset	Ref. Client	**Structure width**	450 mm
An 4	**Sensor ID**	**An4_60_135**	**Installation Height**	**59.94m**
	Sensor Type	Thies First Class Advanced	**Sensor Installation Date**	**14/07/2022**
	Model	4.3352.10.000	**Boom Length**	2500 mm
	Serial Number	04224483	**Boom Diameter Ø**	33mm
	Calibration No.	IDR 36523AC	**Upstand Height**	1035 mm
	Calibration Date	05/2022	**Upstand Diameter Ø**	40mm
	Slope	Ref. Client	**Orientation**	135°
	Offset	Ref. Client	**Structure width**	450 mm
An 5	**Sensor ID**	**An5_46_315**	**Installation Height**	**45.91m**
	Sensor Type	Vector A100LK	**Sensor Installation Date**	**14/07/2022**
	Model	A100 LK	**Boom Length**	2500 mm
	Serial Number	20600/GGBN	**Boom Diameter Ø**	40mm
	Calibration No.	Ref. Client	**Upstand Height**	1028 mm
	Calibration Date	06/01/2022	**Upstand Diameter Ø**	33mm & 25mm Stub
	Slope	Ref. Client	**Orientation**	315°
	Offset	Ref. Client	**Structure width**	450 mm

An 6	**Sensor ID**	**An6_46_135**	**Installation Height**	**45.82m**
	Sensor Type	Thies First Class Advanced	**Sensor Installation Date**	**14/07/2022**
	Model	4.3352.10.000	**Boom Length**	2500 mm
	Serial Number	04224485	**Boom Diameter Ø**	40mm
	Calibration No.	IDR 36525AC	**Upstand Height**	1035 mm
	Calibration Date	05/2022	**Upstand Diameter Ø**	33mm
	Slope	Ref. Client	**Orientation**	135°
	Offset	Ref. Client	**Structure width**	450mm
An 7	**Sensor ID**	**An7_30_315**	**Installation Height**	**29.97m**
	Sensor Type	Vector A100LK	**Sensor Installation Date**	**14/07/2022**
	Model	A100 LK	**Boom Length**	2500 mm
	Serial Number	20601/GGBP	**Boom Diameter Ø**	40mm
	Calibration No.	22.US2.14000	**Upstand Height**	1028 mm
	Calibration Date	06/01/2022	**Upstand Diameter Ø**	33mm & 25mm Stub
	Slope	Ref. Client	**Orientation**	315°
	Offset	Ref. Client	**Structure width**	450mm
An 8	**Sensor ID**	**An8_30_135**	**Installation Height**	**29.98m**
	Sensor Type	Thies First Class Advanced	**Sensor Installation Date**	**14/07/2022**
	Model	4.3352.10.000	**Boom Length**	2500 mm
	Serial Number	04224484	**Boom Diameter Ø**	40mm
	Calibration No.	IDR 36524AC	**Upstand Height**	1035mm
	Calibration Date	05/2022	**Upstand Diameter Ø**	33 mm
	Slope	Ref. Client	**Orientation**	135°
	Offset	Ref. Client	**Structure width**	450mm

5. Sensors List – Wind Vanes

Vn 1	**Sensor ID**	**Vn1_76_315**	**Installation Height**	**76.05 m**
	Sensor Type	Thies Compact TMR	**Sensor Installation Date**	**14/07/2022**
	Model	4.3129.70.71	**Boom Length**	2500 mm
	Serial Number	02200966	**Boom Diameter Ø**	40 mm
	Calibration No.	n/a	**Upstand Height**	926 mm
	Calibration Date	n/a	**Upstand Diameter Ø**	33 mm
	Slope	Ref. Client	**Boom Orientation**	315°
	Offset	Ref. Client	**North Point Orientation**	135°
	North Point Offset	Ref. Client	**Structure width**	450 mm
Vn 2	**Sensor ID**	**Vn2_56_315**	**Installation Height**	**55.95 m**
	Sensor Type	Thies Compact TMR	**Sensor Installation Date**	**14/07/2022**
	Model	4.3129.70.71	**Boom Length**	2500 mm
	Serial Number	03200967	**Boom Diameter Ø**	40 mm
	Calibration No.	n/a	**Upstand Height**	926 mm
	Calibration Date	n/a	**Upstand Diameter Ø**	33 mm
	Slope	Ref. Client	**Boom Orientation**	315°
	Offset	Ref. Client	**North Point Orientation**	135°
	North Point Offset	Ref. Client	**Structure width**	450 mm

Vn 3	**Sensor ID**	**Vn3_40_315**	**Installation Height**	**40.05 m**
	Sensor Type	Thies Compact TMR	**Sensor Installation Date**	**14/07/2022**
	Model	4.3129.70.71	**Boom Length**	2500 mm
	Serial Number	03200968	**Boom Diameter Ø**	40 mm
	Calibration No.	n/a	**Upstand Height**	926 mm
	Calibration Date	n/a	**Upstand Diameter Ø**	33 mm
	Slope	Ref. Client	**Boom Orientation**	315°
	Offset	Ref. Client	**North Point Orientation**	135°
	North Point Offset	Ref. Client	**Structure width**	450 mm

6. Sensors List – Temperature & Relative Humidity Sensor

T/RH 1	**Sensor ID**	**TRH1_76**	**Installation Height**	**76.00m**
	Sensor Type	Galltec + mela	**Sensor Installation Date**	**14/07/2022**
	Model	KPC1.S/6-ME	**Boom Length**	Bracket
	Serial Number	226995	**Boom Diameter Ø**	n/a
	Slope (Temp)	100.00	**Upstand Height**	n/a
	Offset (Temp)	-30.00	**Upstand Diameter Ø**	n/a
	Slope (RH)	100.00	**Orientation**	n/a
	Offset (RH)	0.00	**Structure width**	450 mm

7. Sensors List – Pressure Sensor

P 1	**Sensor ID**	**Baro_2m**	**Installation Height**	**2.0m**
	Sensor Type	Barometric air pressure	**Sensor Installation Date**	**14/07/2022**
	Model	AB60	**Boom Length**	Inside logger cabinet
	Serial Number	B20-0118	**Boom Diameter Ø**	n/a
	Calibration No.	n/a	**Upstand Height**	n/a
	Calibration Date	n/a	**Upstand Diameter Ø**	n/a
	Slope	60.00	**Orientation**	n/a
	Offset	800.00	**Structure width**	n/a

8. Sensor Configuration

Datalogger configured by client, configuration details not available to MetCom

9. Data Acquisition, Communication and Power System

9.1 Data Logger

	Site ID	**BALLYFASY**
	Data logger	Ammonit
	Model	Meteo 40M
	Serial Number	D201094
	Software Revision	N/A
	Installation Height	1.5m
	Logger Installation Date	14/07/2022
	Configuration file	N/A
	Calibration No.	N/A

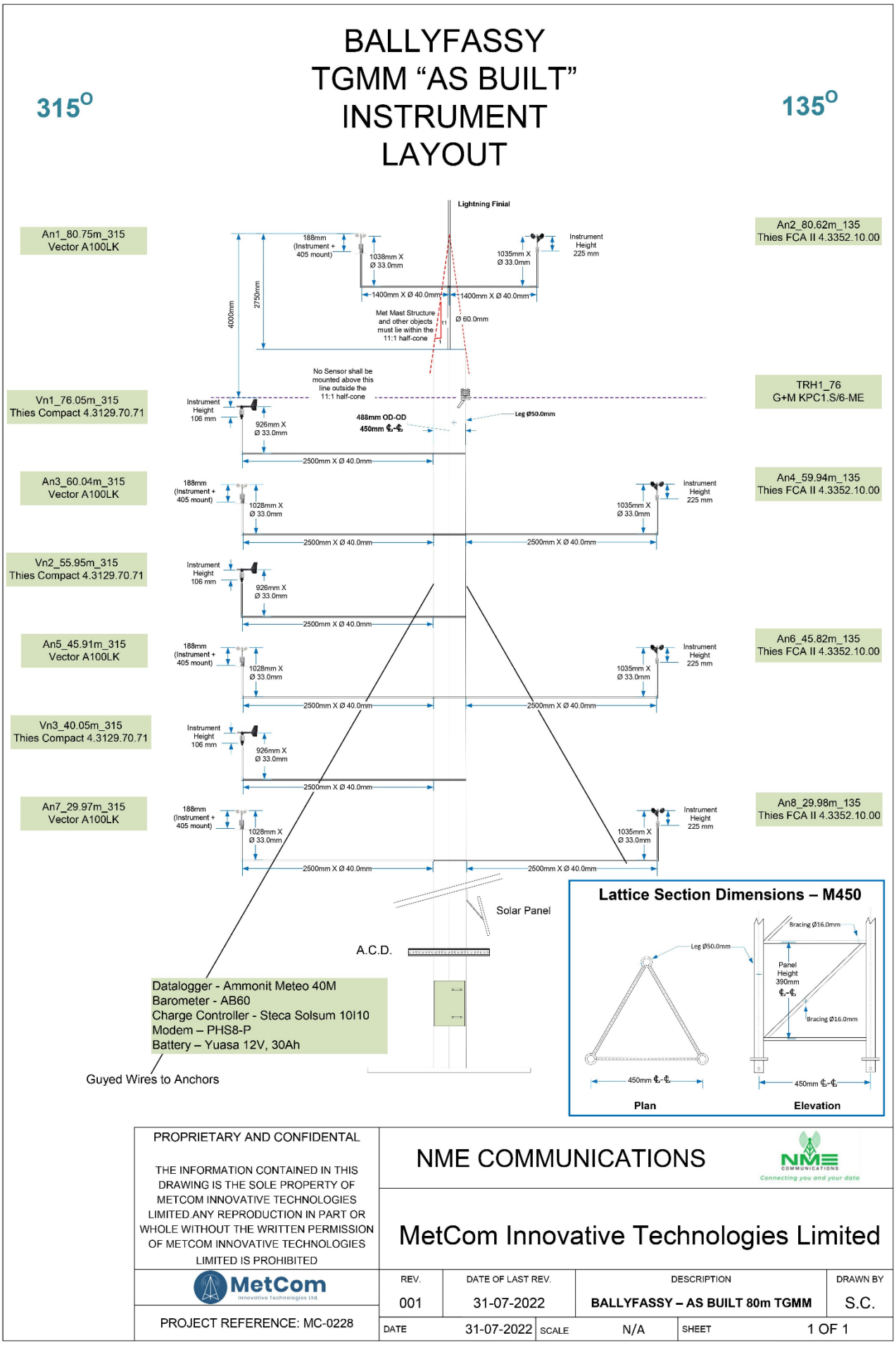
9.2 Communications

	Site ID	**BALLYFASY**
	Modem	GSM
	Model	PH8-S
	Serial Number MODEM	35810 80711 19027
	Serial Number SIM	N/A
	SIM Provider	Ref. Client
	Installation Height	1.5m (Inside the logger enclosure)
	Logger Installation Date	14/07/2022
	Online Time	Ref. Client
	Connectivity	AmmonitOR - Ref. Client
		Ammonit Tunnel - https://d201094.tunnel.ammonit.com/

9.3 Power System

	Site ID	**BALLYFASY**
	Charging controller	STECA - SOLSUM 10.10F
	Battery	Yuasa – Yucel Y24-12I, 12V 24 Ah

10. Instrument Layout



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	MetCom Innovative Technologies Limited			
MetCom Innovative Technologies Ltd.	REV. 001	DATE OF LAST REV. 31-07-2022	DESCRIPTION BALLYFASSY – AS BUILT 80m TGMM	DRAWN BY S.C.
PROJECT REFERENCE: MC-0228	DATE 31-07-2022	SCALE N/A	SHEET 1 OF 1	

11. Connection Plan

MetCom Innovative Technologies Limited
Allenwood Enterprise Park, ACDAL,
Station Road, Co. Kildare,
Ireland, W91 F141

MetCom
Innovative Technologies Ltd.

BALLYFASY - CONNECTION PLAN

NME Communications

METEO-40M - D201094
Rev: SC23072022R2

Sensor	Sensor ID	Sensor Height	Channel	Terminal	Colour	Function
Anemometer - Vector A100LK	An1 @ 80m_315	80m	C5	C1 CNT		Signal +
				GND L		Ground
				12V L		Voltage Supply
Anemometer - Thies First Class Advanced II - 4.3352.10.000	An2 @ 80m_135	80m	C1	C2 CNT		Signal +
				GND L		Ground
				12V L		Voltage Supply
Anemometer - Vector A100LK	An3 @ 60m_315	60m	C6	C3 CNT		Signal +
				GND L		Ground
				12V L		Voltage Supply
Anemometer - Thies First Class Advanced II - 4.3352.10.000	An4 @ 60m_135	60m	C2	C4 CNT		Signal +
				GND L		Ground
				12V L		Voltage Supply
Anemometer - Vector A100LK	An5 @ 46m_315	46m	C7	C5 CNT		Signal +
				GND L		Ground
				12V L		Voltage Supply
Anemometer - Thies First Class Advanced II - 4.3352.10.000	An6 @ 46m_135	46m	C3	C6 CNT		Signal +
				GND L		Ground
				12V L		Voltage Supply
Anemometer - Vector A100LK	An7 @ 30m_315	30m	C8	C5 CNT		Signal +
				GND L		Ground
				12V L		Voltage Supply
Anemometer - Thies First Class Advanced II - 4.3352.10.000	An8 @ 30m_135	30m	C4	C6 CNT		Signal +
				GND L		Ground
				12V L		Voltage Supply
Wind Vane - Thies Compact TMR 4.3129.70.701	V1 @ 76m_315	76m	D1	12V L		Voltage Supply
				GND L		Ground
				D1 IN		Data
				D1 CLK		Clock
Wind Vane - Thies Compact TMR 4.3129.70.701	V2 @ 56m_315	56m	D2	12V L		Voltage Supply
				GND L		Ground
				D2 IN		Data
				D2 CLK		Clock
Wind Vane - Thies Compact TMR 4.3129.70.701	V3 @ 40m_315	40m	D3	12V L		Voltage Supply
				GND L		Ground
				D3 IN		Data
				D3 CLK		Clock
Barometric Pressure Sensor - Ammonit AB60	P1 @ 1.5m	In Cabinet	A1	A1		Signal + (A1A)
				B1		Signal Ground (A1B)
				+ V		Supply
				Ground		Ground
Temperature & Humidity - Galltec+mela KPC1.S/6-ME	T-RH1 @ 76.0m	76.0m	A2 / A3	GND		Ground
				A3 B		Humidity Signal -
				A3 A		Humidity Signal +
				+V12		Voltage Supply 12V
				A2 B		Temperature Signal -
				A2 A		Temperature Signal +

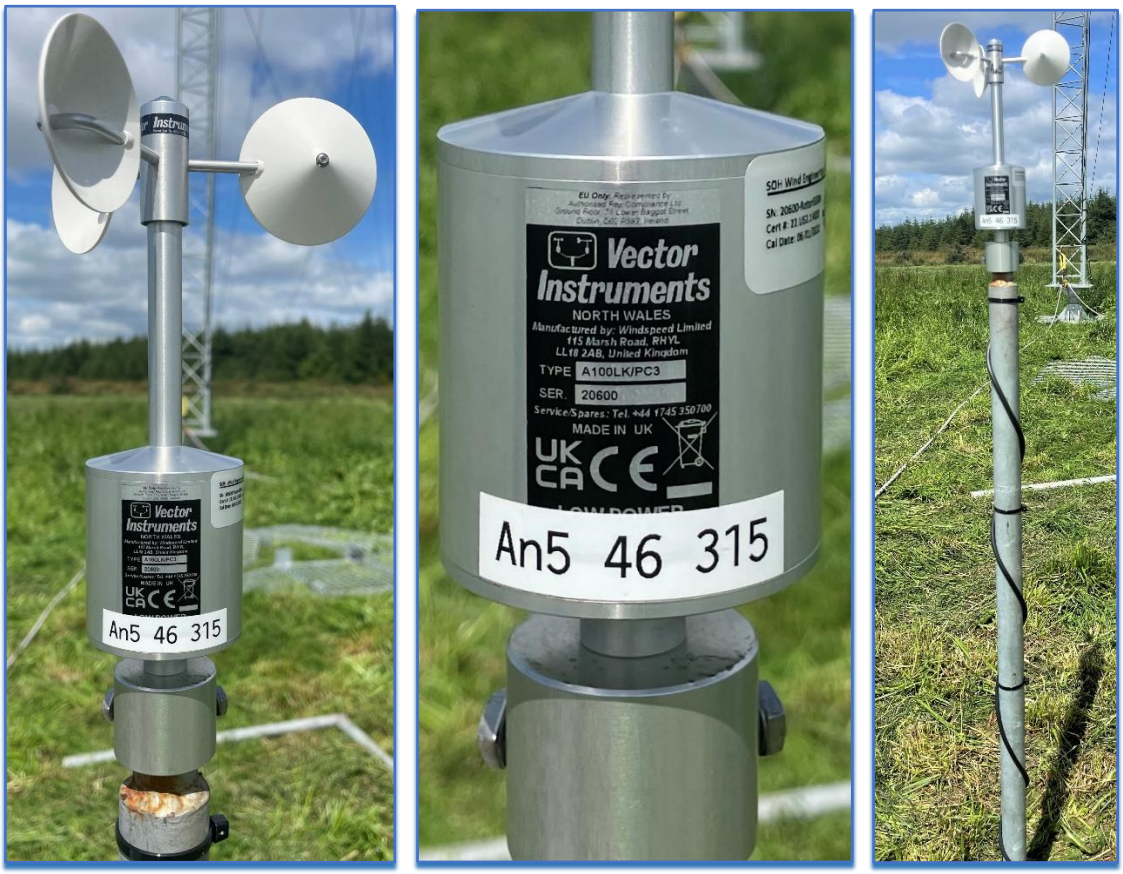
12. Sensor Pictures

An1_80.0m_315

An2_80.0m_135

An3_60.0m_315

An4_60.0m_135



An5_46.0m_315

An6_46.0m_135

An7_30.0m_315

An8_30.0m_135

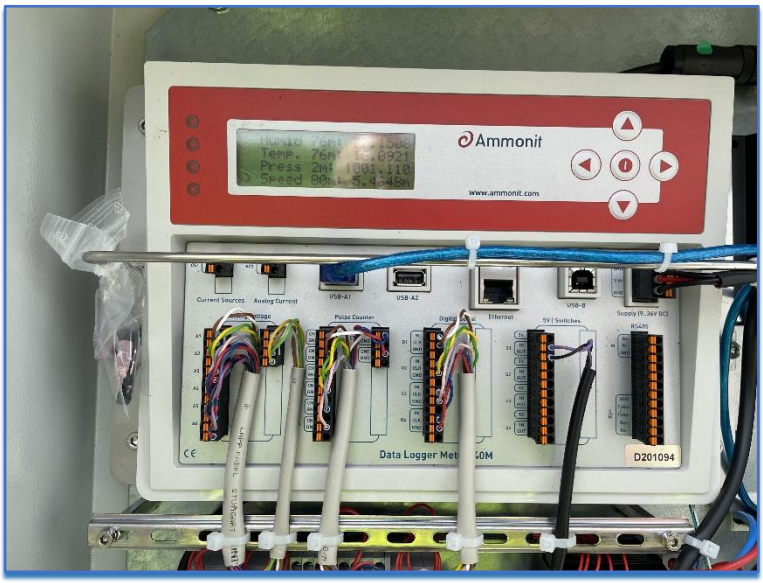

Vn1_76.0m_315


Vn2_56.0m_315

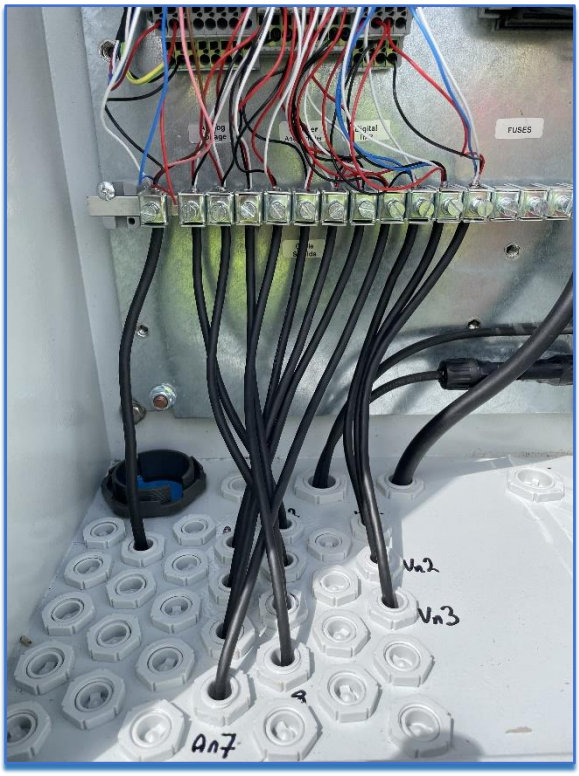

Vn3_40.0m_315

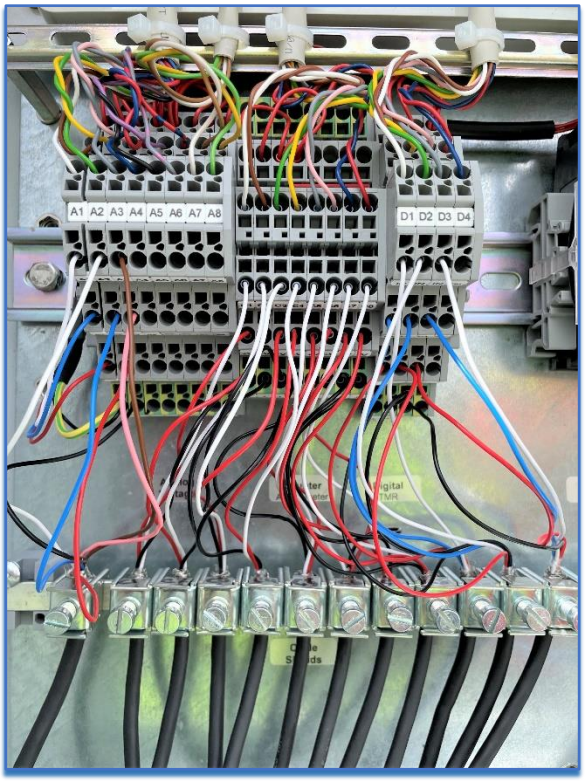
TRH1_76.0m

Baro_1.5m

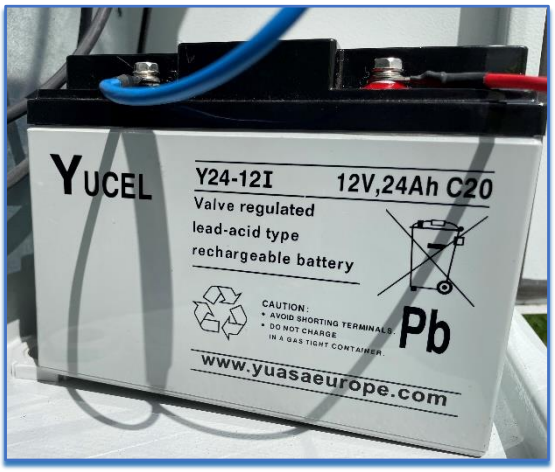


Datalogger – Meteo 40M D201094





Sensor Wiring



Charge Controller & Battery

Datalogger Cabinet

Base, ACD & PV Panel

Mast Base & Earthing

Guy Wire Anchors

13. Notes

1. The Mast Lattice structure was free issue
2. The Datalogger, cabinet, Modem/SIM, PV panel & battery were free issue
3. The Wind Vanes, Temperature/ Humidity & Barometer & associated cabling were free issue
4. The Anemometers are new & calibrated, these & associated cabling were free issue.
5. The Guy Anchor rods were supplied new by MetCom as were the turnbuckles, thimbles & wire grips.

Project Sign Off / Handover

Site: BALLYFASY TGMM

Job Ref: MC-0228

Structure: 1 x 80m Triangular Lattice Mast

MetCom Innovative Technologies Ltd. hereby handover the above Installation Report to **NME Communications Ltd**.

Note: This project comprised of the Installation of 1 x 80m Temporary Guyed Met Mast and associated Met Kit.

Note: if no request for changes is made within 14 days from Handover submission, it will be deemed that the works have been accepted in full.

Signature: _____ Date: 31st July 2022

Signed on behalf of **MetCom Innovative Technologies Ltd.**