

Design and Access Statement

Planning Application for a Weather Station Mast

Location: Wakehurst, Ardingly, Haywards Heath, RH17 6TN

Applicant: Colin Cope, for and on behalf of Royal Botanic Gardens Kew

Date: 11 August 2025

1. Introduction

This Design and Access Statement supports an application for the erection of a weather station mast at Wakehurst. The proposed development comprises a **10 m galvanised steel monopole mast** with a **1 m lightning conductor**, giving an overall height of **11 m** plus a fenced enclosure to house the mast and other ground mounted equipment.

The mast will support meteorological sensors and equipment to facilitate long-term climate monitoring and ecological research at Wakehurst.

2. Site Context and Location

The site is located within a grassed field occasionally used for grazing cattle, on land owned by the Royal Botanic Gardens, Kew. It lies **outside the Registered Park and Garden** boundary of Wakehurst.

Coordinates for the proposed mast location are **51.07002, -0.08475**. The location has been selected in accordance with manufacturer's recommendations to site equipment at least **50m from any large obstruction** (e.g. mature trees) to ensure accurate readings.

The surrounding area is characterised by open pasture, with a public right of way nearby. The location is within the **High Weald Area of Outstanding Natural Beauty (AONB)**.

3. Design

The mast will be constructed from **galvanised uncoated steel**, weathering naturally to a neutral grey tone that will blend with the sky.

It is a **slim monopole design** rather than a lattice structure, reducing visual mass and making the installation less intrusive in the rural landscape.

The mast is hinged at its base to enable lowering for maintenance. A **Sussex post-and-rail fence** will enclose the mast and associated ground equipment, with light mesh attached to deter animal intrusion. The enclosure will include a small pedestrian gate positioned to allow the mast to be lowered through it.

Foundations will be a small, in-situ poured concrete base. An **anti-climb device** will be fitted to prevent unauthorised access.

All meteorological equipment will be mounted at heights recommended by the manufacturer and shown in **Appendix 1**. Colours will be either self-finished aluminium or technical white (to reduce heat absorption).

4. Access

Installation

- The mast and equipment will be delivered separately.
- A small excavator will dig the foundation.
- The mast will be erected, hinged down, fitted with equipment, and then raised upright.
- Installation is expected to take a few days.
- No electrical, drainage, or service connections are required.

Maintenance

Routine maintenance will be carried out by lowering the mast to the ground. Day-to-day access will be on foot; small off-road horticultural vehicles may occasionally be used to transport winching equipment.

A temporary ground protection matting system will be used if required to prevent soil compaction.

5. Justification and Policy Compliance

Purpose

The weather station is part of Kew's **Nature Unlocked** programme, which studies ecosystem services in the UK's semi-natural and managed habitats.

The purpose of this installation is to provide a permanent weather station at Wakehurst is essential for monitoring local climate conditions and understanding how weather and climate drive ecosystem service dynamics. Co-locating this infrastructure ensures the data accurately reflect site conditions—unlike existing stations such as Gatwick (~12 km away), which do not represent Wakehurst's semi-rural context.

Kew is committed to high-quality scientific research that informs land management, nature-based solutions, and environmental policy. The Nature Unlocked programme, based at Wakehurst, focuses on quantifying ecosystem services across semi-natural and managed habitats in the UK, with a particular emphasis on the West Sussex landscape. Local partnerships have been built to support this work.

The High Weald AONB Management Plan (2024–2029) sets out ambitions for nature recovery and net-zero, highlighting the need for supporting science and data (p. 39). This weather station directly supports these objectives by enabling local monitoring, open data sharing, and evidence-based land management.

The station will also contribute to national and local strategies such as the Environmental Improvement Plan and Local Nature Recovery Strategy. Kew's Nature Unlocked team collaborates with partners including Weald to Waves, with shared goals to underpin conservation with robust, place-based science.

All data will be made publicly available for use by researchers, local land managers, and NGOs.

Policy Support

This proposal supports:

- **NPPF Section 15** – Conserving and enhancing the natural environment by enabling evidence-based land management and climate resilience.
- **Mid Sussex Local Plan** – Policies DP37 (Trees, Woodland and Hedgerows), DP38 (Biodiversity), and DP48 (Climate Change) by providing data for sustainable environmental stewardship, commentary on policy compliance s follows;

DP37 – Trees, Woodland and Hedgerows

Policy aim: *To protect existing trees, woodland, and hedgerows, and encourage appropriate new planting to enhance biodiversity, landscape, and amenity value.*

Compliance:

- The mast location has been selected in **open pasture**, avoiding any encroachment into root protection zones or canopy spread of nearby trees and hedgerows.
- The development will not require **removal, pruning, or alteration** of any trees, woodland, or hedgerow.
- By positioning the mast at least **50 m from large obstructions**, the project avoids disturbance to natural features and maintains landscape integrity.
- The local climate data gathered will help **inform woodland and hedgerow management**, supporting their resilience under changing environmental conditions.

DP38 – Biodiversity

Policy aim: *To conserve and enhance biodiversity by ensuring that development avoids harm to protected species and habitats, and supports biodiversity gain where possible.*

Compliance:

- A site walkover has confirmed **no protected species or sensitive habitats** in the area of the works.
- Installation will be timed to **avoid bird nesting season** unless pre-checked by an ecologist.
- The mast's climate monitoring role will **directly support biodiversity research and habitat management** at Wakehurst and across the High Weald, enabling evidence-led habitat enhancement projects.

- Data will be shared openly, providing benefits to local land managers, conservation organisations, and biodiversity partnerships such as **Weald to Waves**.

DP48 – Climate Change

Policy aim: To ensure development contributes to climate change mitigation and adaptation.

Compliance:

- The weather station will produce **high-resolution local climate data**, vital for understanding the effects of climate variability on habitats, agriculture, and carbon storage.
 - This information will guide **adaptation strategies** at Wakehurst and in the wider West Sussex landscape, helping to protect ecosystem services and reduce climate-related risks.
 - The mast has **minimal operational carbon footprint**: it uses solar-powered equipment, has no mains connection, and produces no ongoing emissions.
 - The development directly supports the **High Weald AONB Management Plan 2024–2029** goals for climate resilience and nature recovery.
- **High Weald AONB Management Plan 2024–2029** – Objective G1 (“Support land management informed by robust environmental data”) and Objective L3 (“Contribute to climate change adaptation and mitigation”).

Data Use

All collected data will be publicly accessible, supporting research, local land management, and conservation partnerships such as **Weald to Waves**.

6. Impact Assessment

Visual Impact

The chosen location is set back from public roads, footpaths, and site boundaries, with at least 50 m separation from major visual receptors. The mast’s slim profile, neutral colour, and modest height relative to the landscape ensure a **low visual impact**.

Residential Amenity

There will be **no impact** on privacy, daylight, or noise levels. The mast has no moving parts and produces no emissions.

Heritage

The site is outside the curtilage of Wakehurst Mansion and not within the Registered Park and Garden boundary. There will be no harm to designated heritage assets.

Ecology

A walkover survey confirmed no protected species or sensitive habitats within the working area. Works will avoid the bird nesting season unless pre-checked by an ecologist.

7. Conclusion

The proposed weather station mast is a **modest, sensitively designed, and policy-compliant** development that will support nationally important climate research. Its siting, slim form, and neutral finish minimise visual impact while delivering substantial public and scientific benefits.

Approval is sought on the basis that the scheme aligns with national, local, and AONB objectives, and causes **no demonstrable harm** to landscape character, amenity, or ecology.

Appendices

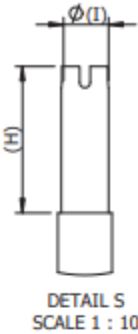
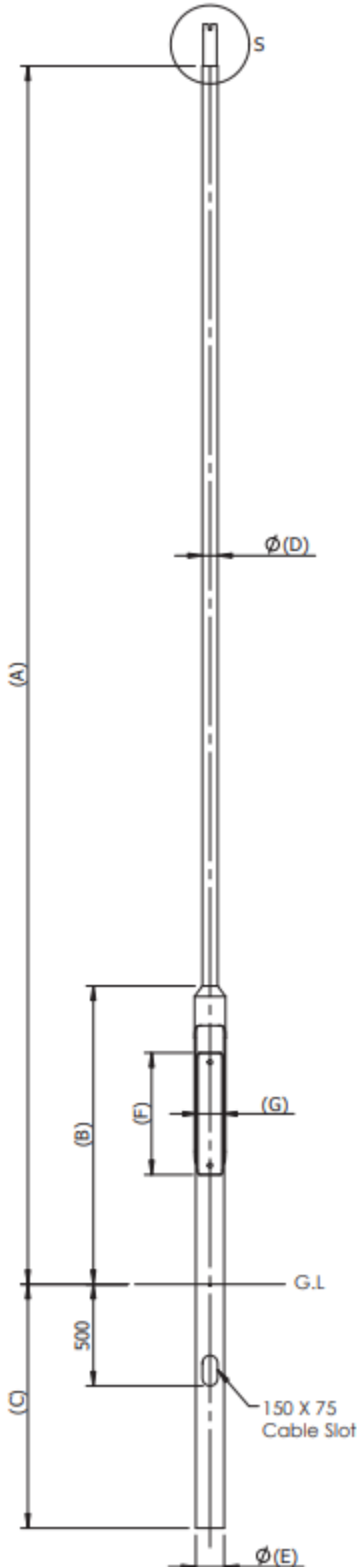
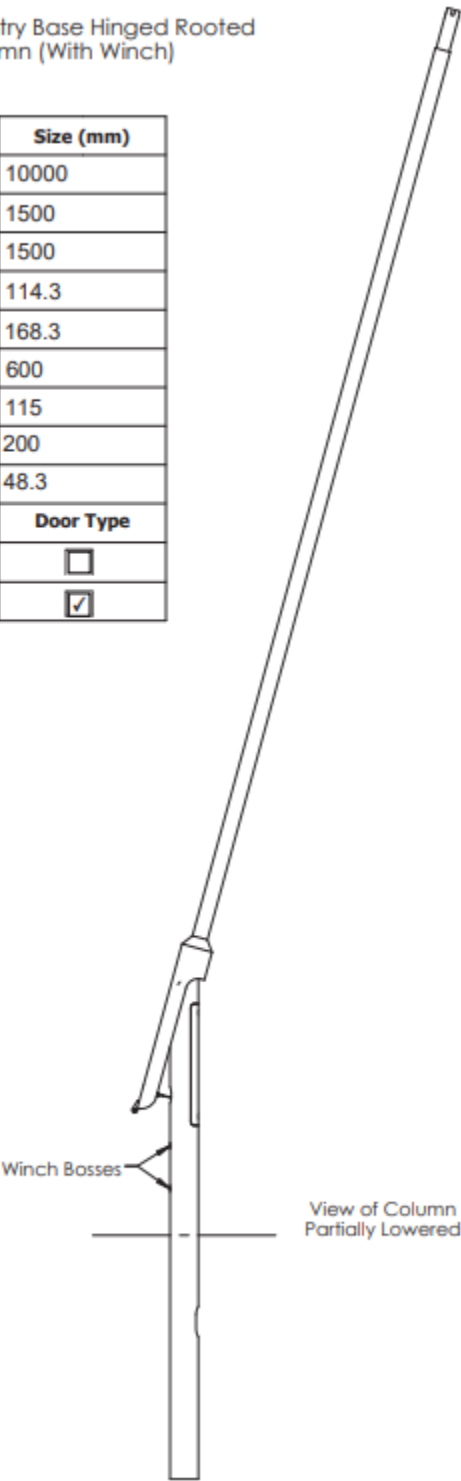
Appendix 1: Mast, Equipment and Fencing Details

Mast Details

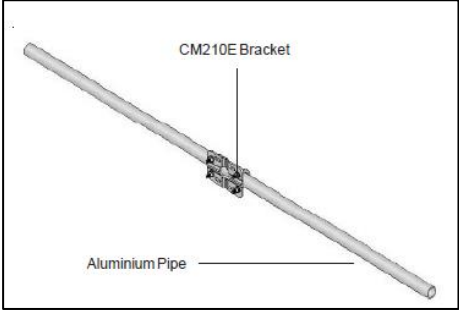
Item Number: 1

Description: Side Entry Base Hinged Rooted Raise & Lower Column (With Winch)

	Size (mm)
(A)	10000
(B)	1500
(C)	1500
Ø(D)	114.3
Ø(E)	168.3
(F)	600
(G)	115
(H)	200
Ø(I)	48.3
Door Type	
WRAP AROUND DOOR	☐
FLUSH DOOR	☒



Equipment mounted to Mast



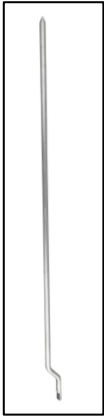
Mounting Cross arm



Potentiometer
Windvane



Switching
Anemometer



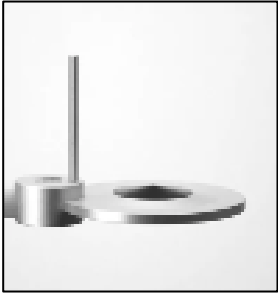
Lightning
Conductor



Mounting Cross arm



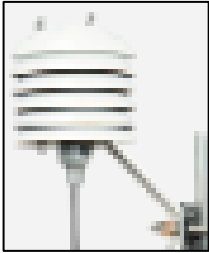
Pyranometer



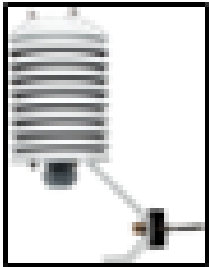
Net Radiometer



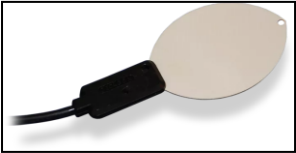
Mounting Cross arm



Shield and
temperature
and humidity
Sensor within



Shield and
Temperature
sensor within



Leaf Wetness
Sensor



Anti Climb Ring



Equipment box

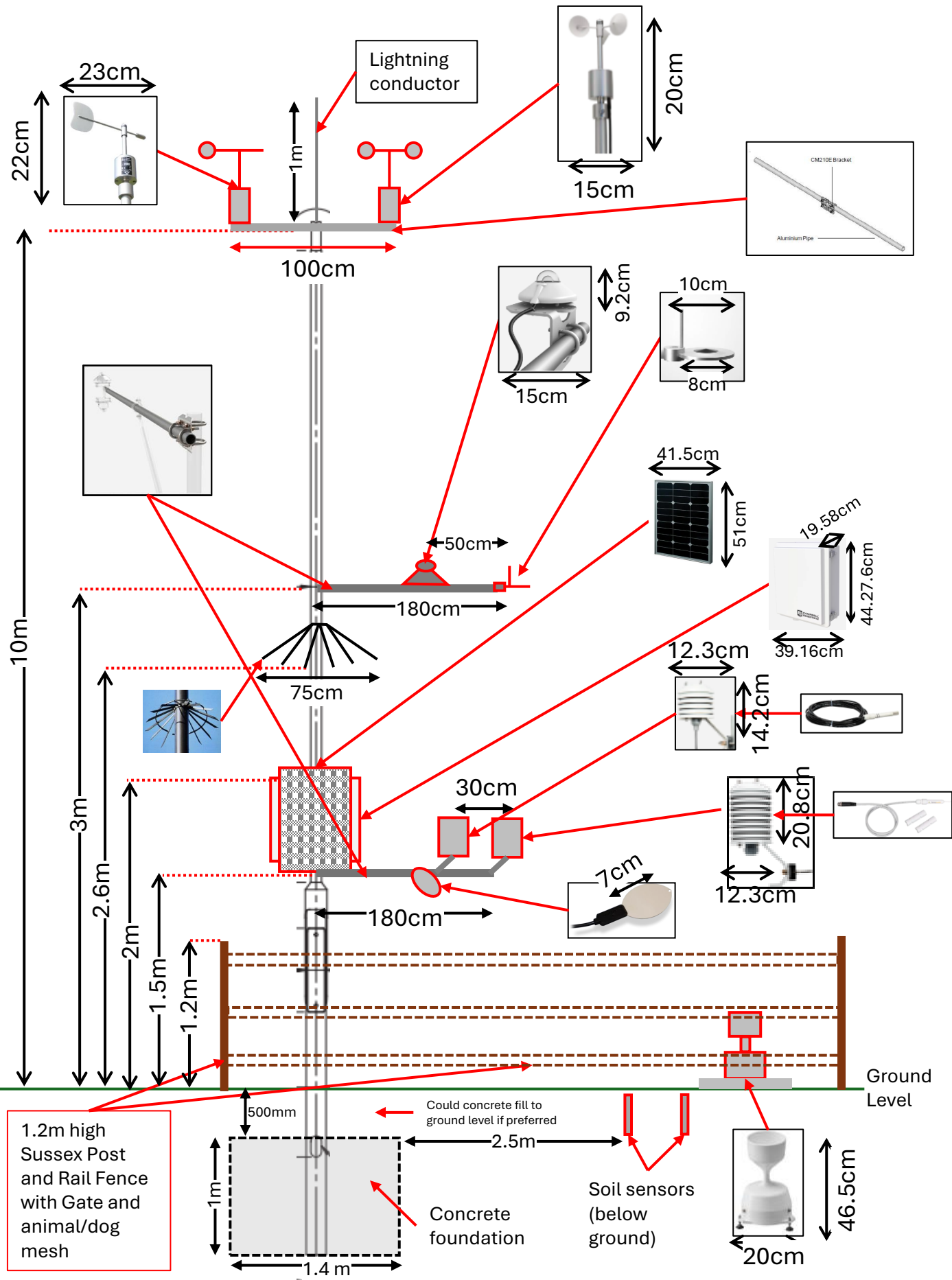


Solar Panel

Rain
Guage

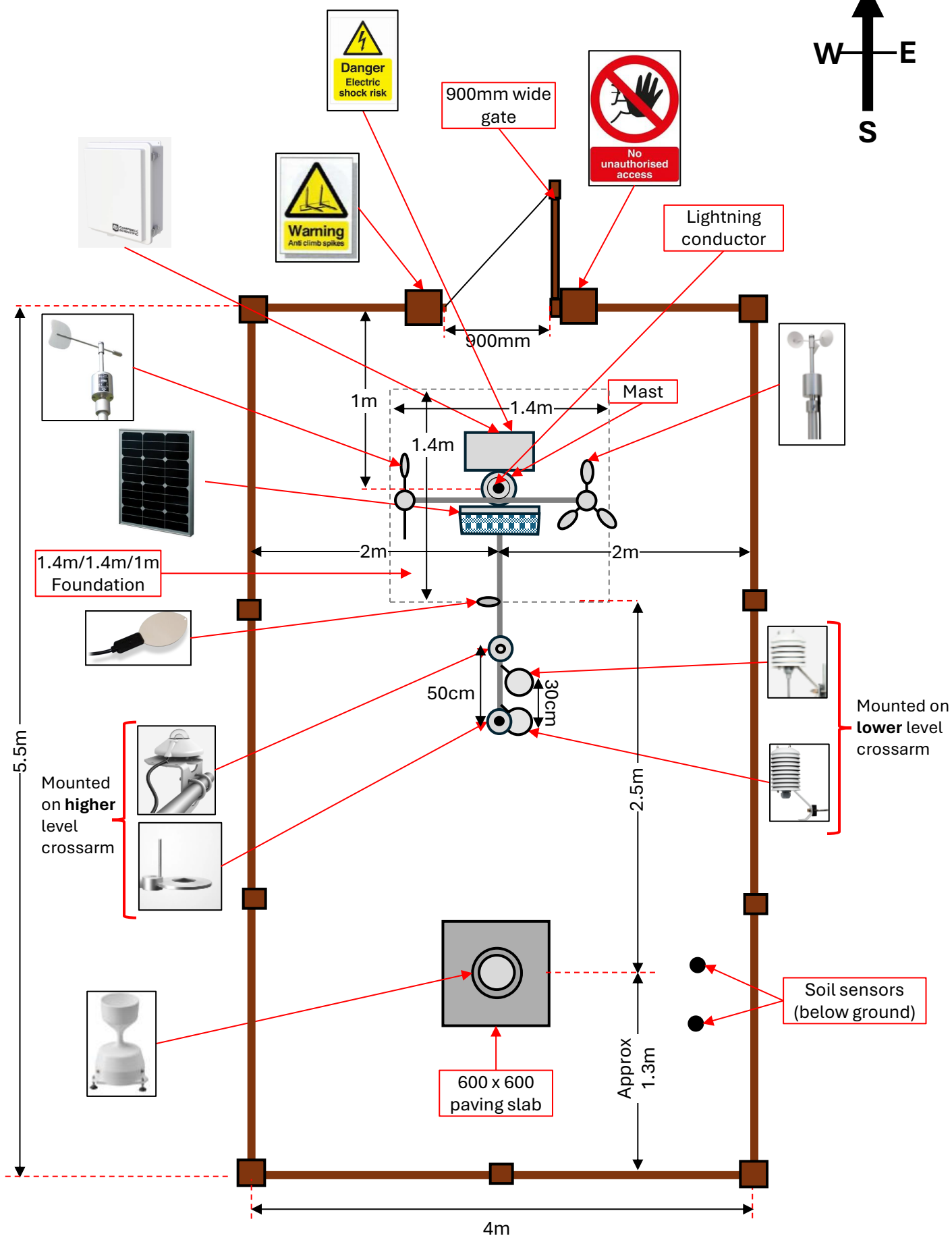
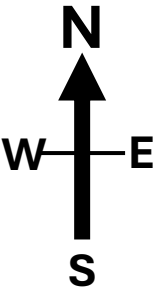


Elevation View (for exact orientation of equipment/sensors see Plan View)



NOT TO SCALE

Plan View



NOT TO SCALE

Fencing and Gate

Fence

Sussex post and rail fence 1.2m high (to keep livestock from using mast as a rubbing post)

<https://www.wealdenoak.co.uk/sussex-post-rail/>

The style of fence should be traditional post and rail with three split chestnut rails. The posts are sawn oak 150 x 100 standing at 1.2m above ground. The corner posts to be 150 x 150. The gate would be a 4ft pedestrian field gate style with 200 x 200 oak gate posts.



Dog/animal protection to be added e.g. wire mesh

Access gate

0.90m Uni-Gate Braced For Left Hand Hanging Planed Finish

https://www.jacksons-fencing.co.uk/product/sc_255000/0.90m-unigate-braced-for-left-hand-hanging-planed-finish-jakcured

Hanging System for Narrow Leaf Field Gate hung behind posts (Posts, Hinges, Auto Catch, Fitting of Irons) **NB. Order with large 200 x 200 posts as noted above and auto catch to take Hort padlock.**

https://www.jacksons-fencing.co.uk/product/sc_trhsslnac/hanging-system-for-narrow-leaf-field-gate-hung-behind-posts-posts-hinges-autocatch-fitting-of-irons

