

DESIGN AND ACCESS STATEMENT

FOR

NEW ANTENNA INSTALLATION

AT THE

**UCL ROBERTS BUILDING,
1-19 TORRINGTON PLACE,
LONDON. WC1E 6BT.**

FOR

UNIVERSITY COLLEGE LONDON

POTTER RAPER PARTNERSHIP

Julco House
26-28 Great Portland Street
London
W1W 8QT

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LA505

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1.0 INTRODUCTION

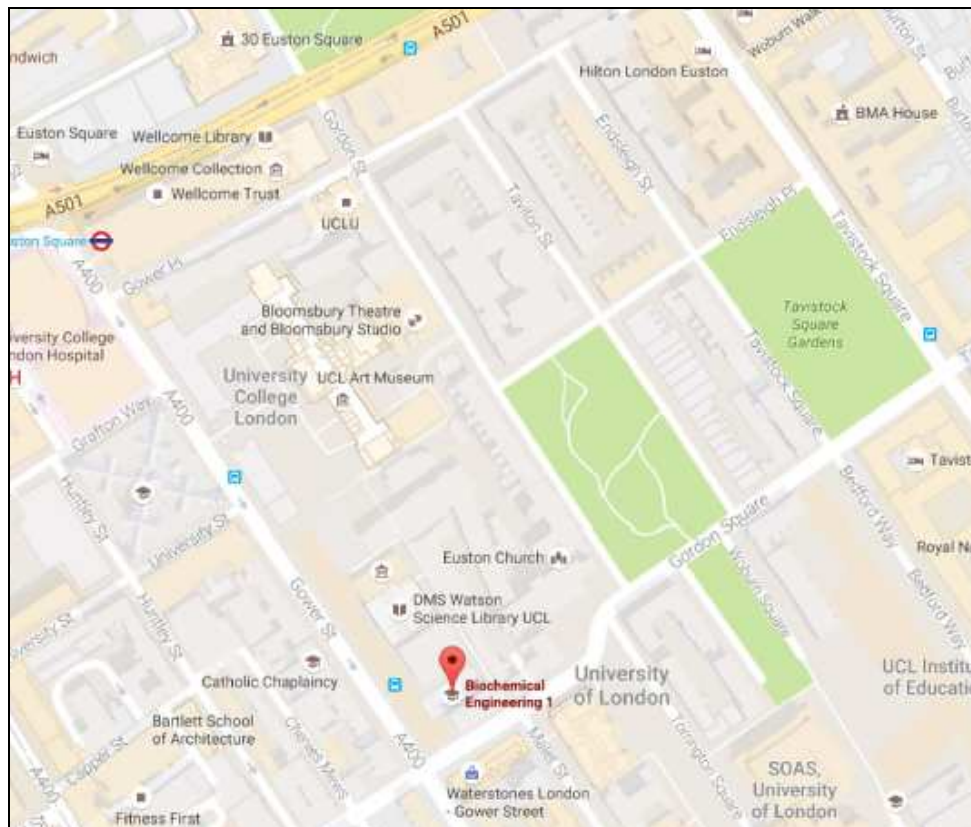
University College London (UCL) have provided Potter Raper Partnership (PRP) the following Clients Remit: -

1. To install a new antenna to the raised platform on the roof of the UCL Roberts Building.

The proposed installation is to be undertaken to the roof top (building services area), of the Roberts Building. It will protrude higher than the mansard roof it has therefore been deemed by Camden Planning to require Full Planning Consent.

This Design & Access Statement will be used to accompany the Full Plans application. Its aim will briefly set out the UCL need, access, design and reasoning behind the proposals and justification.

Location Map:



The address is:
University College London,
Roberts Building,
1-19 Torrington Place,
London. WC1E 6BT.

Previous Correspondence with Camden Planning:

- We have previously liaised with Fergus Freaney at the Camden planning.
- Camden Pre Planning Enquiry Ref: ENQ02500

2.0 DESCRIPTION OF THE SITE AND BUILDING

The Site

The Roberts Building forms part of the UCL higher education. UCL during 2014/15 recorded over 47,500 staff and students attended the University.

The UCL Roberts Building is located to the southern part of the main campus. The Grade 1 Listed Wilkins Building is located to the north on Gower Street. To the north is Gower Place and to the East is Gordon Street. Euston Square underground station is located approximately 500m away and Euston main land station is located approximately half a mile away.



Photo 1: The UCL Roberts Building is located behind the Engineering Building that fronts Torrington Place.

Roberts Building

The UCL Roberts Building was first listed in 1958 and is located within the main UCL campus as well as being within the Bloomsbury Conservation Area. The Roberts Building is a non-listed building The UCL Roberts Building is a medium rise building consisting of 12 stories (including a basement) and is approximately 38.5 meters above ground floor level.

The roof of the Roberts Building is a Mansard design, but with a recessed middle. The depth of the recess is approximately 2.5 meters down from the mansard roof ridge. The recessed roof is flat and contains extract flues and ventilation.

A raised metal platform is located to the middle of the flat roof and consists of the mesh floor and key clamp handrails. The height of the raised metal platform floor is approximately 1 meter higher than the mansard roof ridge. The height of the handrails are approximately 1meter above the grated floor.



Photo 2 and 3: The UCL Roberts Building Roof (showing services and raised platform).

3.0 DESIGN

The design of the proposed antenna is based on the existing antenna design. It is simply a pole with receiver rods at the top. A single cable will run directly down through the grated floor to an Ethernet box (used instead of main wired power).



Photo 4 and 5: The existing antenna fixed to the kee klamp handrail of the raised platform floor. The new antenna will match the existing design.

4.0 ACCESS

Front access in to the Roberts Building is via Mallet Place. Access around the building is secure and a security card reader is required. To access the roof requires the UCL Estates Team to issue an Access Permit.

Access from the reception area to the roof can be gained via the lifts. The security card will need to be read to allow the lift to operate.

Access to the raised floor is via a CAT ladder with loops (as seen of photo 2).

5.0 SCALE OF THE PROPOSED DEVELOPMENT

Approximate size is as follows:

- Height of pole antenna: 1.5meters from raised platform floor level.
- Height of pole antenna: approximately 2.5meters from mansard roof ridge.
- Diameter of mount pipe: 25mm – 55mm diameter.

NOTE: The proposed antenna will **not** be higher than the existing flue pipes.

6.0 APPEARANCE OF THE PROPOSED DEVELOPMENT

Proposed Specification

- Metal pole 25mm – 55m dia.
- Power will be taken from the Ethernet.
- Lighting protection will be included.

7.0 JUSTIFICATION

UCL is one of the most selective British universities and consistently ranks highly in national and international league tables. In the 2015 Academic Ranking of World Universities, UCL is ranked joint 18th in the world (and 3rd in Europe).

The proposed antenna will be used for research purposes, by UCL. It is vital that the University have this antenna to allow Students and Staff access to research data.

The proposed works will help UCL provide research information to students and staff, as expected of a world class university.



APPENDIX A
PROPOSED ANTENNA PRODUCT

everynet

Network Gateway V2.0

FEATURE SET

- LoRaWAN™ network compliant
- Compact size 145 x 93 x 64 mm
- Simple to mount and install
- Integrated GPS and 3G antennas
- PoE IEEE 802.3af Class A, 48V
- Integrated backup battery
- Ruggedized housing
- White Label options



DESCRIPTION

The everynet Network Gateway product is a very compact, fully featured LoRaWAN™ compliant network base station. It has been designed to offer low cost, simple to install and to run LoRaWAN network infrastructure. With integrated GPS and 3G antennas, a PoE main supply with an integrated backup battery; both resilience and dual backhaul capabilities have been provisioned. The Gateway has a range of >15Km LoS and >2Km in dense urban environments.

The LoRaWAN™ Network Controller and all network management and monitoring is provided by the everynet Core Network Platform.

HARDWEAR:

- CPU: 454MHz, ARM926
- RAM: DDR2, 128Mb
- FLASH: NAND, 512Mb
- Battery powered Real time clock
- Temperature sensor
- CPU Temperature sensor
- Humidity sensor
- Battery voltage sensor
- Hardware watchdog
- Advanced power management (ability to cut power off any peripherals)

COMMUNICATION:

- Ethernet 10/100 Base T
- HSDPA/UMTS 900/2100MHz, DL 21 Mbps, UL 5.76 Mbps
- UART for debug terminal
- LED indication
- Secured VPN, no need of external IP-address
- LoRaWAN™ compliant (EU868, USA915)
- LoRa™ Sensitivity -141dB, 49 LoRa channels
- LoRa™ Antenna: gain - 10dB, polarization - vertical,
- More than 15km range LoS and 2km in dense urban environment

3G/ISM/GPS

- Internal GPS and 3G antennas
- Antenna lightning protection (V2.0)

GENERAL INFORMATION:

- Dimensions: 145 x 930 x 640 mm
- Weight: 750g
- Operating temperature: -40 °C/ +80 °C
- FCC&CE Certified

Preliminary Product Brief V1.0

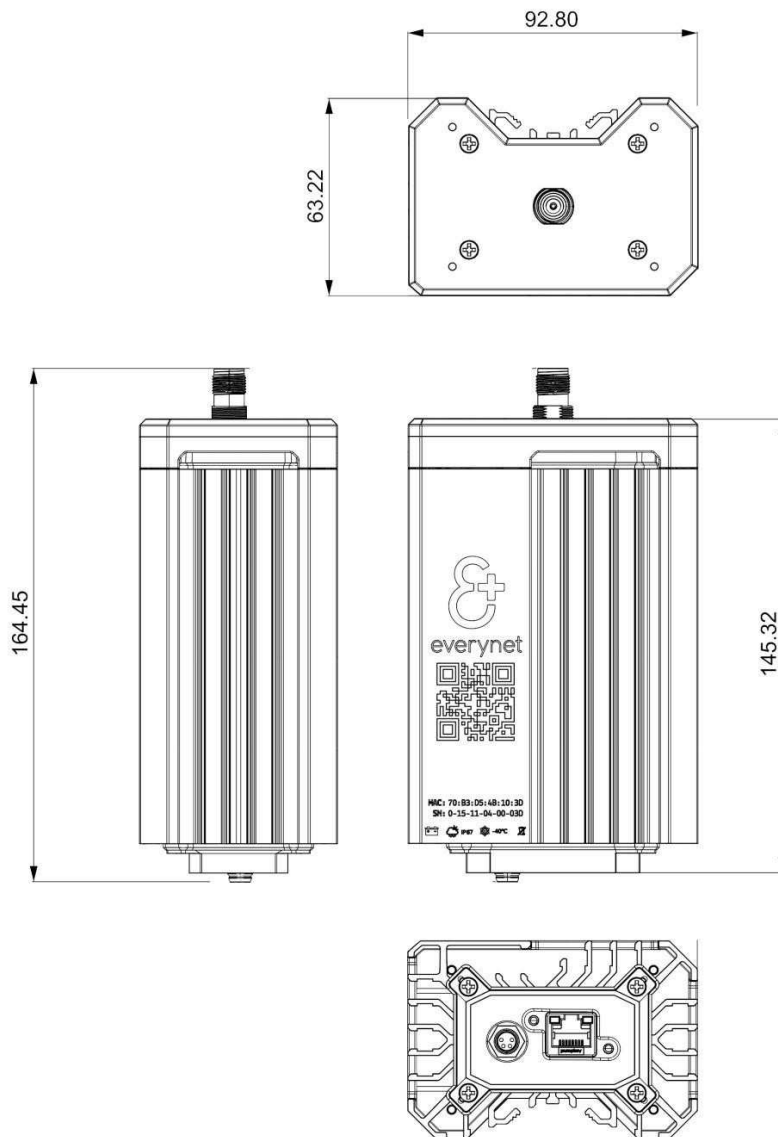
POWER:

- PoE IEEE 802.3af Class A, 48V
- Mains Supply 240V /110V
- Max. power consumption: 15W
- Internal 2000uAh Lo-Po battery (2-8 hours of operation)

ENVIROMENT:

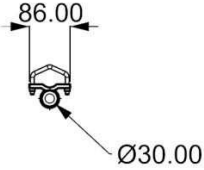
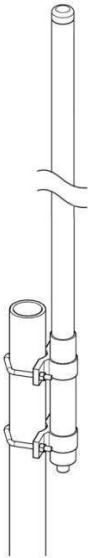
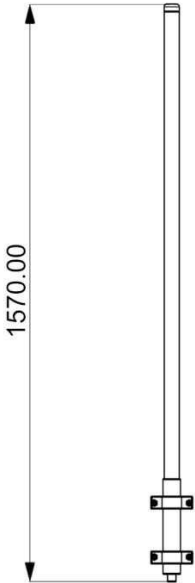
- Ingress protection IP67
- UV and Impact resistance

MECHACINAL DIAGRAM:



ANTENNA DETAILS:

ANTENNA MECHACNICAL DIAGRAM:



Mount: pipe \varnothing 25-55 mm
Weight: 750g