Wilde
CARTER·CLACK

University College London

Institute of Archaeology

Installation of Photovoltaics on the roof

Report on the Loadings applied to the roof structure.

Job No. 4868

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1. Introduction

It is proposed to install photovoltaic panels on an area of flat roof at the Institute of Archaeology.

Wilde Carter Clack were requested by Ciaran Jebb of UCL Estates to advise if the existing roof structure can safely carry the loads from the proposed new PV panels.

A visit to undertake an external visual inspection of the roof was made on 05.0716.

Only basic layout drawings of the building were available.

2. General

The UCL Institute of Archaeology is an 8-storey concrete framed building with a brick façade. This includes a level below the adjacent ground floor level. It is thought that the frame is concrete cased steelwork.

There is an area of unoccupied flat roof on the south west side of the building where it is proposed to locate the PV's.

SolarTech have provided information showing the proposed location of the PV's and advised that the total weight of each unit is 18.3 kg/m2.

3. Visual inspection

The area where is it is proposed to locate the PV's splits into 2 different parts. Towards the middle of the building there is an area of flat asphalted roof with a concrete slab and downstand beams.

On the south side there are concrete upstands that the PV units would need to be supported on.

4. Conclusion

The loads from the PV's are relatively light for a structure of this type which is therefore capable of carrying this load.

The minimum existing design roof loading will be 1.5 Kn/m2 generally and 7.5 Kn/m2 where plant is anticipated. The upstands will have to provide support to the roof plant and it is also quite possible that the adjacent flat area will have ben designed for similar loading.

The PV loads equate to less than 0.2 Kn/m2 which is not considered to be significant on this type of structure.

5. Recommendations.

Clearly the PV's will need to be securely fixed to the roof but it is important that the existing roof waterproofing is not damaged.

Where there existing concrete upstands, secondary framing will be required to support the PV's on the upstands.

6. Scope of the Investigation.

We have to advise that the investigation work is limited to that set out in the report. We have not inspected those parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect. Latent defects may exist in the structure which can only be discovered by further more detailed investigation.

We have not investigated for asbestos or for the decay of woodwork, insect attack or toxic mould.