



PROJECT REF: BS 1038
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**ECOLE JEANNINE MANUEL 52-53 RUSSELL SQUARE
PHOTOVOLTAIC FEASIBILITY STUDY**



PREPARED BY :-

**NORMAN BROMLEY PARTNERSHIP LLP
BRIDGE HOUSE
97-101 HIGH STREET
TONBRIDGE
KENT TN9 1DR**

TELEPHONE NO: (01732) 773737
EMAIL: mail@normanbromley.co.uk

PROJECT REVISION SHEET

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0	15-06-2018	Draft Issue		PK	MD
1	15-06-2018	Draft Issue		PK	MD

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1. Introduction

This report has been produced to satisfy Camden's feasibility requirements to consider the use of photovoltaic panels on the roof of the new French School at 52-53 Russell Square, London. Condition 6 of the planning conditions states the following:

“Before the development commences:

- (i) A feasibility study considering how photovoltaic panels could be attached to the roof without harming the special interest of the listed building whilst providing the requisite sustainability benefits shall be submitted to and approved by the Local Planning Authority in writing.*
- (ii) Should the study conclude photovoltaics are acceptable in principle, detailed plans showing the location and extent of photovoltaic cells to be installed on the building shall be submitted to and approved by the Local Planning Authority in writing. The measures shall include the installation of a meter to monitor the energy output from the approved renewable energy systems. The cells shall be installed in full accordance with the details approved by the Local Planning Authority and permanently retained and maintained thereafter”.*

2. Feasibility Study

Photovoltaic (PV) panels produce electrical energy which can also be used to serve the building, with any excess exported to the electricity provider. Again though the location of PV panels on the roof of this property would be problematic.

Due to the Mansard roof style there is very limited useable roof space available, and suitable access has to be achieved for inspection and maintenance. The existing parapet walls would also cause significant shading to the panels. For these reasons PV panels are not considered a viable option for this property.

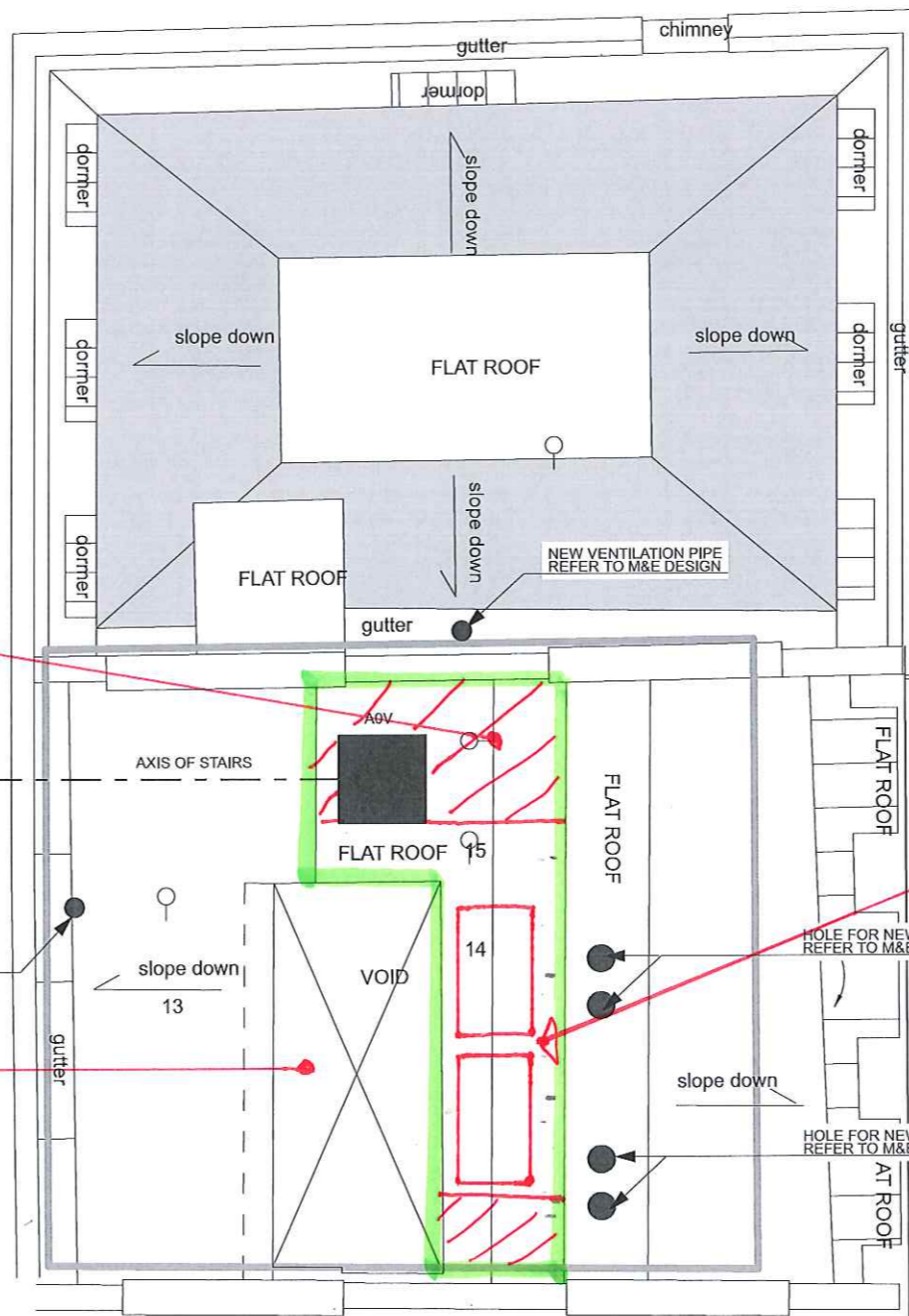
Flat roof for photovoltaics however significant shading will be caused by parapet on East and West elevations resulting in significant reduction in output (See photos below).



No access to mansard flat or pitched roof for installation and ongoing maintenance.

No access to pitched roof for installation and ongoing maintenance.





NOTE:
Contractor must review location of exhaust ducts to be in flat roof area above plant room

Approximate shading zone associated with chimney breast walls and parapet

Space for 2. No photovoltaic modules. Limited space for maintenance and still possibility of shading. Payback period with only 2 panels would be in excess of 25 years due to capital cost.

Indicative Roof Sketch
Photovoltaic feasibility Study
Norman Bramley Partnership

Existing heat pump units

REFER ALSO TO:
EWA ARCHITECTS, drawings and specifications
WGD, schedule of works
NBP M&E, design drawings

NOTE:
Contractor must check all dimensions

	DEMOLITION OF FLOOR COVERING, FITTINGS, ETC, ACCORDING TO SPECIFICATIONS		TENANTED AREA (OCCUPIED)
	PHASE 1 PERIMETER		DEMOLITION OF PARTITION AND WALLS (FOR DUCTS)



3. Conclusion

As can be seen from the drawing the maximum number of photovoltaic (PV) modules that could be installed to the flat roof is limited to two due to the automatic openable vent (AOV) and the zone at each end of the roof where modules cannot be installed due to shading.

In our opinion a maximum of two modules could be installed however access for installation and ongoing maintenance would be difficult due to the space restrictions.

Similarly, it is likely that even if photovoltaic modules were installed, they would be visible from Russell Square, and therefore have a negative and harmful impact on the Grade II listed building and wider conservation area.

A further reason for discounting the use of a photovoltaic installation is due to the high capital costs associated with the pay back periods that would be achieved with only two modules. The estimated supply and install cost would be in the region of £3,000.00 + VAT with a payback period predicted to be in excess of 25 years.

On this basis, we do not consider PV panels to be appropriate in this instance. Accordingly, details of PV panels have not been provided (Condition 6ii).