Infinite Energy
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Design and Access Statement for the siting of a Solar PV array on the roof of Philpot House Station Road, Rayleigh, Essex SS6 7HH

Client – Stuart Philpot, Philpot House Station Road, Rayleigh, Essex, SS6 7HH

This Supporting Planning, Design and Access Statement has been prepared by Infinite Energy (IEPV Ltd) on behalf of Stuart Philpot. It accompanies a planning application for the installation of approximately 25KW of solar panels on the flat roof of the office building of Philpot House.

1. Application Description

Planning permission for a 25kWp solar Photovoltaic array is sought to enable the applicants to reduce their properties carbon emissions and energy bills and to increase their self-sufficiency in terms of electricity production.

The installed capacity will also help to contribute towards the National target for renewable energy generation and meets with Essex Council 's policy on Renewable Energy which states in The Utilities Section of Rochford District Council's Local Plan:

POLICY UT3 – RENEWABLE ENERGY
Proposals for the development of renewable sources of energy, or proposals which include some element of renewable energy, will be encouraged, particularly where there are benefits to the local community. Renewable energy proposals will be permitted provided that the proposed development would not adversely affect:

i. **The special character of the Coastal Protection Belt, Special Landscape Areas, Areas of Ancient Landscape or sites of nature conservation (including avian flyways) or heritage conservation interest; and**
ii. **The amenity of nearby dwellings or residential areas;**

Proposals for development must be accompanied by adequate information to indicate the extent of possible environmental effects and how they can be satisfactorily mitigated.

Minor domestic renewable energy schemes will be encouraged providing they meet criteria i and ii.

2. Evaluation of the site and its characteristics

The office building is a 3 storey 1960's flat roofed building occupied by various small companies.

A PV array on the roof space has been identified as the only viable location for renewable energy technology. The panels will not be visible from ground level as they will be obscured by a parapet wall on the edge of the roof.

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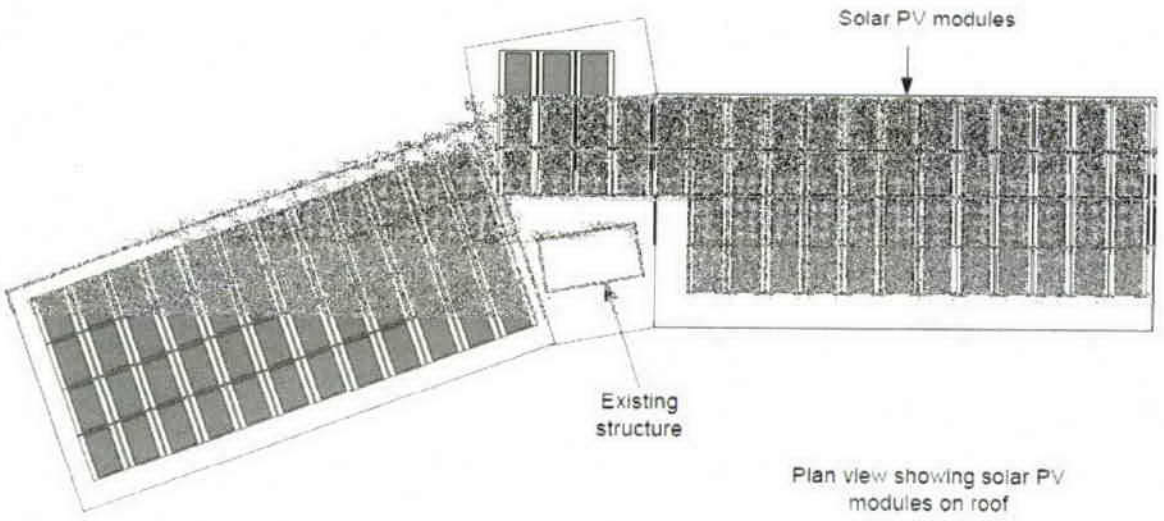
3. Site Location

The site is at Philpot House, Station Road, Rayleigh, Essex, SS6 7HH

4. Proposal

To install 25 KWp total of Photovoltaic array on the area outlined in red below.

The proposed array would be added to the flat roof of the building. The mounting system proposed will stand a maximum of 200mm above the existing roofing as shown in the figure below.



Plan view showing solar PV modules on roof

5. Array Dimensions and Technical Specifications

The proposed PV panels will be approximately 104 LDK 230Wp poly-crystalline panels. The panels are 1,665 x 941 x 50mm. A data sheet is attached.

The panels will be mounted on a plastic framework fixed onto the flat roof of the building. The panels will be angled at 10° to the roof and will not exceed 250mm above the roofline.

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6. Economic, Social and Environmental benefits of the proposed development

The proposed installation will generate approximately 18,800 kWh a year and based on 550 grams of CO2 per kWh from the grid will save 10.3 tonnes of CO_2 per annum. Based on on-site usage of 50%, the system will also reduce the electricity bill on-site by approximately £846 per annum.

7. Access

Access will be via Station Road and Castle Drive. Scaffolding will be erected to facilitate installation as required.

Infinite Energy and the electrical component suppliers provide detailed instructions for the safe sequencing and carrying out of the installation and commissioning works. These will be followed in detail and include the fixing of notices etc. to the completed work for its continued safe use. Prior approval will be obtained from the existing energy supplier to make the final grid connections.

Once the work is complete no special protection to the installation is required.

8. Conclusion

The site for the array has been chosen for practical reasons related to the size, shape and orientation of the existing roof it is to be mounted on. It will produce green energy that can be consumed on-site or exported to the grid.

The installation of this solar PV array we believe will provide valuable economic and environmental benefits. This taken with the demonstration of no harm, it is considered that this development is appropriate for the location and purpose for which it is designed.

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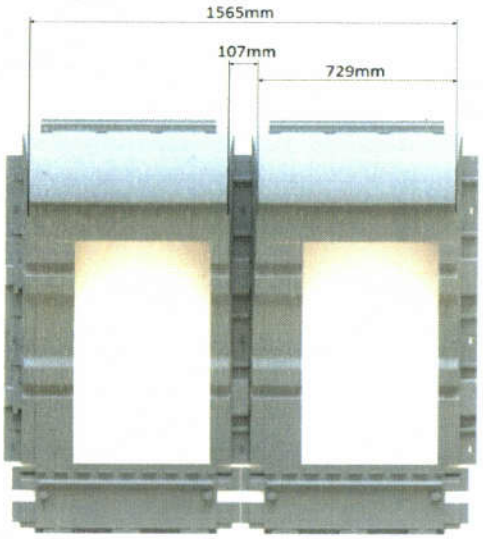
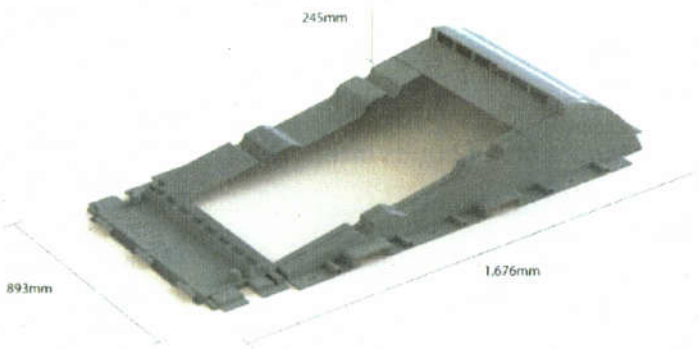
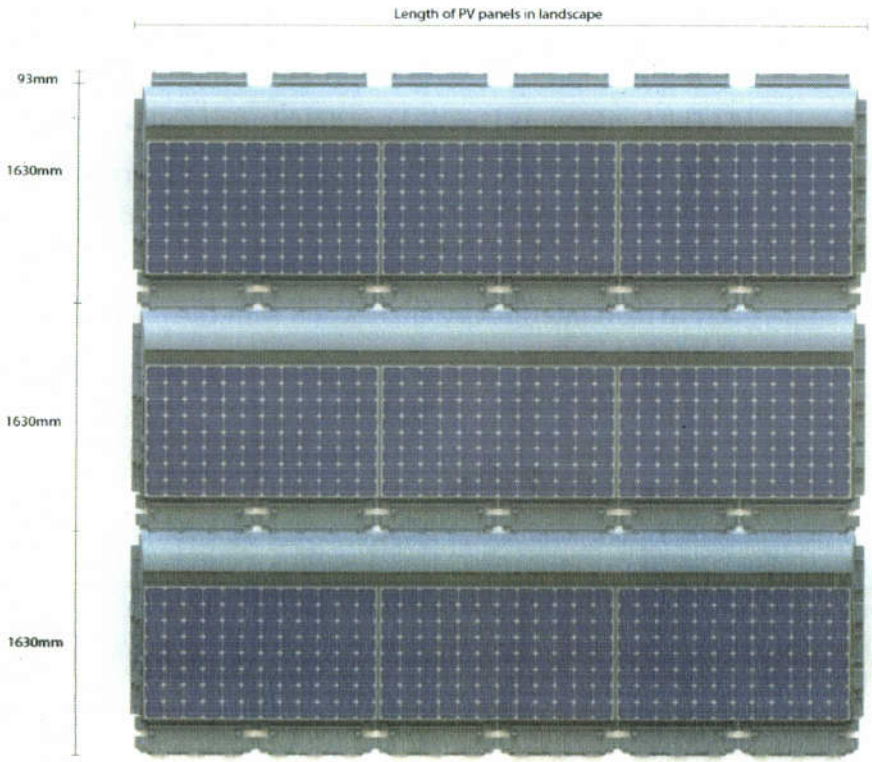


Full unit size

Modular unit size





- **Withstand 120 mph wind**
- **No roof Penetration**
- **Fast installation**
- **1 modular unit**
- **Interlocking units**
- **Low Loading (10 kg/m^2)**
- **10° tilt angle**
- **20 years guarantee**
- **Easy to transport (10kW$_p$/pallet)**
- **PV Height 960-1060mm**
- **PV Width Universal**

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Specification Sheets

Compatible PV panel dimensions:

X-direction:	**Any PV panel length**
Y-direction:	**960 – 1060 mm**
Depth :	**35 – 50mm**

Average modular unit area:	**1.497 m^2**
Average full SunMount area (2 units interlock):	**2.80 m^2**
Average weight of full SunMount:	**9.53 kg**
Average roof loading with PV module:	**10 kg/m^2**
SunMount tilt angle:	**10^0 for best ratio of power generation to surface area exploitation for European climate.**
Maximum certified wind speed uplift resistance:	**112 mph**
SunMount Material:	**Polypropylene UV stabilised.**
Product life guarantee:	**20 years.**
Transport:	**47 Full SunMounts (10kW_p) per double size pallet**
PV cable connection:	**Easy cabling connection/disconnection can be carried out from the top and placed in recesses with covering strips.**
Aesthetics:	**Flush modules give an integrated appearance.**
Interlocking method:	**Left to right interlock by latches and with Overlapping of front to back.**

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