



## Design & Access Statement

For the proposed phased installation of a  
Solar PV system at:

Konstam Children's Centre  
75 Chester Road, London, N19 5DH

Status: Final (V1.4)

Date: June 2015



## 1.0 Introduction

- 1.1 The Design & Access Statement has been prepared in support of the proposal to install a solar photovoltaics (PV) array at Konstam Children's Centre.

## 2.0 Site Address & Description

- 2.1 The site address is: Konstam Children's Centre, 75 Chester Road, London, N19 5DH. The property is located within the Dartmouth Park Conservation Area.
- 2.2 The property is a two story Children's Centre which provides a range of services for children under five and their families, including childcare and education, family support, outreach and home visiting, health services and advice on training, employability and benefits. The building use shall remain unchanged.
- 2.3 The property was constructed in 1922 and its main entrance is located on Chester Road. The rear of the building faces an internal courtyard. There is no on-site parking at the property.
- 2.4 The building has a brick façade with a pitched pan tile roof. The rear of the building has a flat roof with a Sarnaflex roof covering.
- 2.5 An aerial photograph of the property is illustrated in Figure 2.5-A.



Figure 2.5-A Aerial Photograph of Konstam Children's Centre showing approximate site boundary

## 3.0 The Proposal

- 3.1 The London Borough of Camden is committed to reducing its carbon emissions and through The Camden Plan, the Council has committed to an ambitious target to reduce the Borough's carbon emissions as at 2010 by 27% by March 2017 and by 40% by March 2020.
- 3.2 In order to demonstrate sustainability leadership, the Council is concentrating on reducing its own carbon footprint by at least the target amount through energy-saving measures and micro-generation. The vast majority of the Council's carbon emissions arise from use of buildings, over a third from its growing schools estate.<sup>1</sup>
- 3.3 It is therefore proposed to install a solar panel system on the roofs of this Children's Centre to help reduce this figure. This is in conjunction with delivering other recent energy-saving measures, both at this site and other education sites.
- 3.4 Supported renewable energy technologies such as the proposed solar panels also contribute cumulatively to reducing the overall carbon intensity of the national electricity grid, indirectly further helping to reduce the Borough's carbon footprint.
- 3.5 The proposal will supply renewable electricity to the building and reduce its energy costs. As well as free electricity, the Council will benefit from the Government's Feed-in Tariff scheme, providing continued revenue for the next 20 years. Together these streams will pay back the system cost and generate surplus, assisting Camden's financial efficiency and tax-payer value-for-money goals.
- 3.6 The proposal is to provide a solar PV array totaling 15.93 kWp, to be split across 3 roofs as illustrated in Figure 3.6-A. Orientations range from south west to south east.

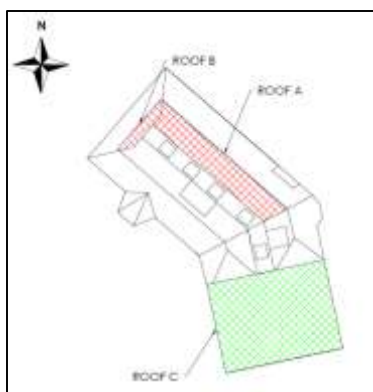


Figure 3.6-A Site plan indicating proposed roof areas

<sup>1</sup> Figures taken from LB Camden 'Carbon Management Plan' Reporting, 2014

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- 3.7 It is proposed to install the panels in two phases as indicated on the drawing. Phase 1 will comprise approximately 33 panels covering an area of up to 54.01 m<sup>2</sup> positioned centrally on roofs A & B within the valley. Phase 2 will provide a further approximately 26 panels covering up to 42.56 m<sup>2</sup>, mounted on the flat roof (roof C) to the rear of the property. These modules are to be free standing and angled at 15°. The panels will be linked to both the building and the national grid, with approximately half the energy produced used on site, and half sold back to the energy supplier.
- 3.8 An additional benefit of the solar panels will be the possibility of using the system as an educational and awareness tool for the staff and visitors to the site as well as the wider community. This will be achieved through the installation of a visual display unit, detailing energy produced and carbon emissions saved located within a prominent position within the interior of the building.

## 4.0 Phase 1

- 4.1 The first phase of the installation will comprise a solar panel array mounted on the pitched roof structures within the valley roof. These particular roofs were selected due to their discreet location on the site and their orientation in relation to due south to optimise energy yield, along with the lack of trees overshadowing the roof area, and the visual screening the roofs will provide. The panels will not be visible from the public highway (Chester Road) due to the layout of the site, ensuring the visual impact of the proposal is extremely limited.
- 4.2 The panels will be mounted on a pitched roof mounting system, angled at a pitch the same as the existing roof surface to gain maximum natural light exposure. There is capacity to provide up to 54.01 m<sup>2</sup> of solar panels (equating to approximately 33 modules, depending upon specified panels).
- 4.3 In accordance with principles of good non-domestic solar planning design, the selected siting minimises impacts on the appearance of the building and the amenity of the area. It will project no more than 200 mm from the roof slope. When no longer needed, it will be removed as soon as is reasonably practicable.

## 5.0 Phase 2

- 5.1 The second phase of the installation will comprise a solar panel array mounted on the flat roof to the rear of the building. This particular roof was selected due to its discreet location on the site and the orientation in relation to due south to optimize energy yield, along with the lack of trees overshadowing the roof area and the visual screening afforded by the adjacent pitched roofs. The panels will not be visible from the public highway (Chester Road) due to the layout of the site, ensuring the visual impact of the proposal is extremely limited.
- 5.2 The panels will be mounted on a 15° angled roof mounting system, to gain maximum natural daylight exposure whilst minimising visual intrusiveness. There is capacity to provide up to 42.56 m<sup>2</sup> of solar panels (equating to approximately 26 modules, depending upon specified panels).
- 5.3 In accordance with principles of good non-domestic solar planning design, the selected siting minimises impacts on the appearance of the building and the amenity of the area. Its highest point will be significantly less than 1 metre from the highest part of the roof and it will be separated by at least 1 metre from the external edge of the roof. When no longer needed, it will be removed as soon as is reasonably practicable.

## 6.0 System Summary

- 6.1 A total of approximately 59 modules are to be used as part of the development and the array shall be split across 3 roof spaces. Table 6.1-A summarises the number of modules and relative sub-system sizes per roof.

Table 6.1-A System sizes per roof

Roof	Number of Modules	Azimuth (°)	Pitch (°)	System Size (kWp)
<b>A</b>	30	SW	55	8.10
<b>B</b>	3	SE	55	0.81
<b>C</b>	26	SW	15	7.02
<b>Site Total</b>	59	N/A	N/A	15.93

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- 6.2 Each module measures 1650x992x35mm. The proposed modules are Microgeneration Certification Scheme (MCS) approved and are glass fronted with an aluminium frame. The modules will be specified to have an anti-reflective coating over the glass to enhance solar energy capture and therefore have a visually matt appearance in comparison to conventional module glass, with significantly reduced light reflection and glare.
- 6.3 Access to the site from the will not be affected as the installation works will take place to the rear of the main entrance. Temporary scaffolding and edge protection along the rear of building will be required for a few days during the installation works.
- 6.4 The new array will provide up to 15.93 kWp of power into the building. Over the course of the year it will provide 14,460 kWh of electricity, resulting in a carbon saving of 7,823 kg CO<sub>2</sub> per annum, equating to 156,454 kg of CO<sub>2</sub> over the 20 year system lifetime.

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## 7.0 Local Information Statements

### **Affordable housing statement**

7.1 N/A

### **Air quality statement**

7.2 The application is for minor works and no impact on local air quality is expected.

### **Airport safeguarding zone details**

7.3 The site does not lie within any Airport Safeguarding Zone.

### **Biodiversity survey and report**

7.4 As minor works to an existing building, there will be no adverse effects on the local area.

### **Daylight/sunlight assessment**

7.5 None deemed necessary.

### **Economic statement**

7.6 Over the 20 year guaranteed lifetime of the system, the scheme is expected to provide an annual combined saving/income of £1,693 plus effect of inflation. The system is expected to pay back its installation costs within approximately 12 years. In line with well-maintained similar systems, all other things being equal, this scheme is expected to continue to generate electricity for many years beyond its guaranteed lifetime, at levels well in excess of guaranteed output.

### **Energy efficiency statement (including renewable energy statement)**

7.7 Energy efficiency and thermal measures will remain unaffected. The sole purpose of this installation is the provision of renewable energy directly into the building, totaling 14,460 kWh per annum, thereby reducing the Centre's carbon footprint.

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## **Environmental Impact Assessment**

7.8 The application is for minor works and no EIA is deemed necessary.

## **Flood Risk Assessment**

7.9 As minor works, no impact on flood risk is expected. The site does not fall within zone two or three of the Environment Agency's Flood Map.

## **Heritage Statement**

7.10 The building is located within the Dartmouth Park Conservation Zone and in consultation with the London Borough of Camden's 'Energy efficiency planning guidance for Dartmouth Park Conservation Area' document the arrangements and locations of the solar PV modules have been carefully considered.

7.11 The design of the sub-arrays ensures that the ensuing guidance has been followed:

- It is not on a roof or wall fronting the highway;
- It does not protrude more than 200mm from the roof slope;
- It is no higher than the pitched roof line (excluding chimney);
- It is sited, so far as practicable, to minimise its effect on the external appearance of the building and the amenity of the area;
- Solar panels no longer needed for microgeneration shall be removed as soon as reasonably practicable.

7.12 The proposed design of the solar PV arrays has maximized the use of valley roofs which are set behind parapet walls and are not visible from Chester Road. The flat roof located to the rear of the building is also proposed for a sub-array, ensuring that the modules are not visible from the public realm.

## **Land containment assessment**

7.13 No land contamination is known or expected from the installation of solar panels.

## **Noise assessment**

7.14 The solar arrays have no moving parts and operate completely silently. The solar inverter equipment will operate with minimal noise and will be inaudible from external ground level.



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## **Open space assessment**

7.15 The application does not affect any community open spaces.

## **Parking and access arrangements**

7.16 N/A

## **Refuse disposal details**

7.17 Collection of refuse is unaffected.

## **Section 106 Heads of Terms**

7.18 As minor works, a S106 is not deemed necessary.

## **Site waste management plan**

7.19 Any debris for the installation will be disposed of by the contractor's team at the Local Waste and Recycling Centre or an equivalent commercial destination.

## **Sustainability Statement**

7.20 All new building components where applicable will be sourced from sustainable sources.

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## Transport Assessment

7.21 No amendment to car parking or deliveries is proposed within this application.

## Travel plan

7.22 No amendments to travel arrangements are required by this application.

## Tree survey/arboricultural assessment

7.23 No trees will be affected on this site or within the local area, so no survey is deemed necessary.

## Ventilation extraction statement

7.24 No ventilation or extraction equipment is required.

# 8.0 Conclusions

- 8.1 The solar panel array will be a valuable addition to both the Children's Centre and the Council, ensuring there is a reduction in imported grid electricity, and providing a statement to the London Borough of Camden's residents that the Authority is serious about reducing its impacts upon the environment and raising awareness around energy conservation and supply.
- 8.2 The solar panels will also help the London Borough of Camden to meet stated carbon emission targets and is inspired by legislation supporting renewable energy.
- 8.3 Installation of the panels within the forthcoming financial year will enable the authority to benefit from significant revenue generation through the national Feed-In Tariff scheme.