WATERLOW PARK CENTRE, N19
PV SOLAR PANEL INSTALLATION

Design and Access Statement

May 2018

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Drawings included in planning application (A3 unless otherwise noted)

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Design and Access Statement prepared by

AAB architects

Studio 9, Bickerton House
25 Bickerton Road
London N19 5JT
t. 020 7281 8955
mail@aabarchitects.co.uk
www.aabarchitects.co.uk

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Introduction 1.1

Summary

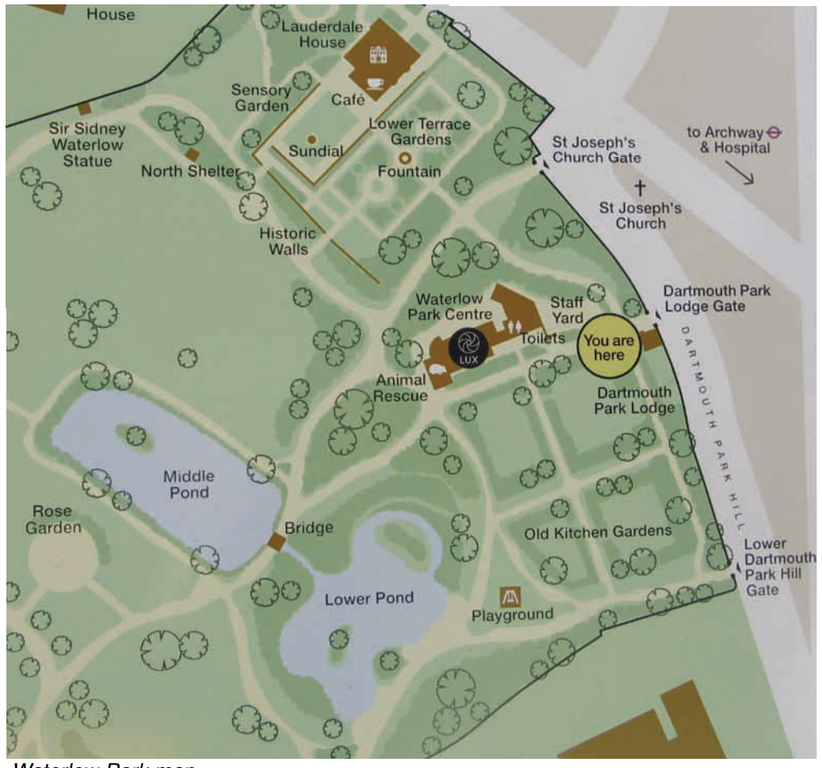
This Design and Access Statement has been prepared in support of the planning application for the installation of 127no. photo-voltaic solar panels on the roof of the existing Waterlow Park Centre, London N19 5JF.

The proposed installation has a capacity of 34.29 KWp and is estimated to provide 22.82 MWh of electricity which can be used on site to reduce energy costs, saving over 12T of carbon dioxide emissions.

Entrance to Waterlow Park Centre

1- View of entrance from west

2- View of entrance from east



Waterlow Park map

Waterlow Park

Aerial view of Waterlow Park, showing the Centre with Lauderdale House

Waterlow Park is a 26-acre park in the south east of Highgate Village, in north London. It was given to the public by Sir Sydney Waterlow, as "a garden for the gardenless" in 1889. It lies within the Highgate Conservation Area, and provides a mature and varied green landscape.

The Park is much enjoyed by people who live and work nearby, particularly families with young children. It is visited by many people who also come to Lauderdale House, which is within its grounds, and the neighbouring Highgate East and West Cemeteries. Lauderdale House is an Grade II* listed building which dates back to 1582; it runs primarily as an arts and education centre welcoming over 65,000 visitors annually. Waterlow Park Centre, located west of Dartmouth Park Lodge gate, is occupied by the arts organisation Lux. Nearby is St Joseph's Roman Catholic church.

The Waterlow Park Trust is held by Camden Council. A charity in its own right, the Trust is now directly supported by local stakeholders and the community with representatives serving as members of the Trust Advisory Group. The Trust Advisory Group has a strategic role on behalf of the Trust on all aspects of park governance and planning.

3- Lauderdale House seen from below terrace

4- View along path below terrace

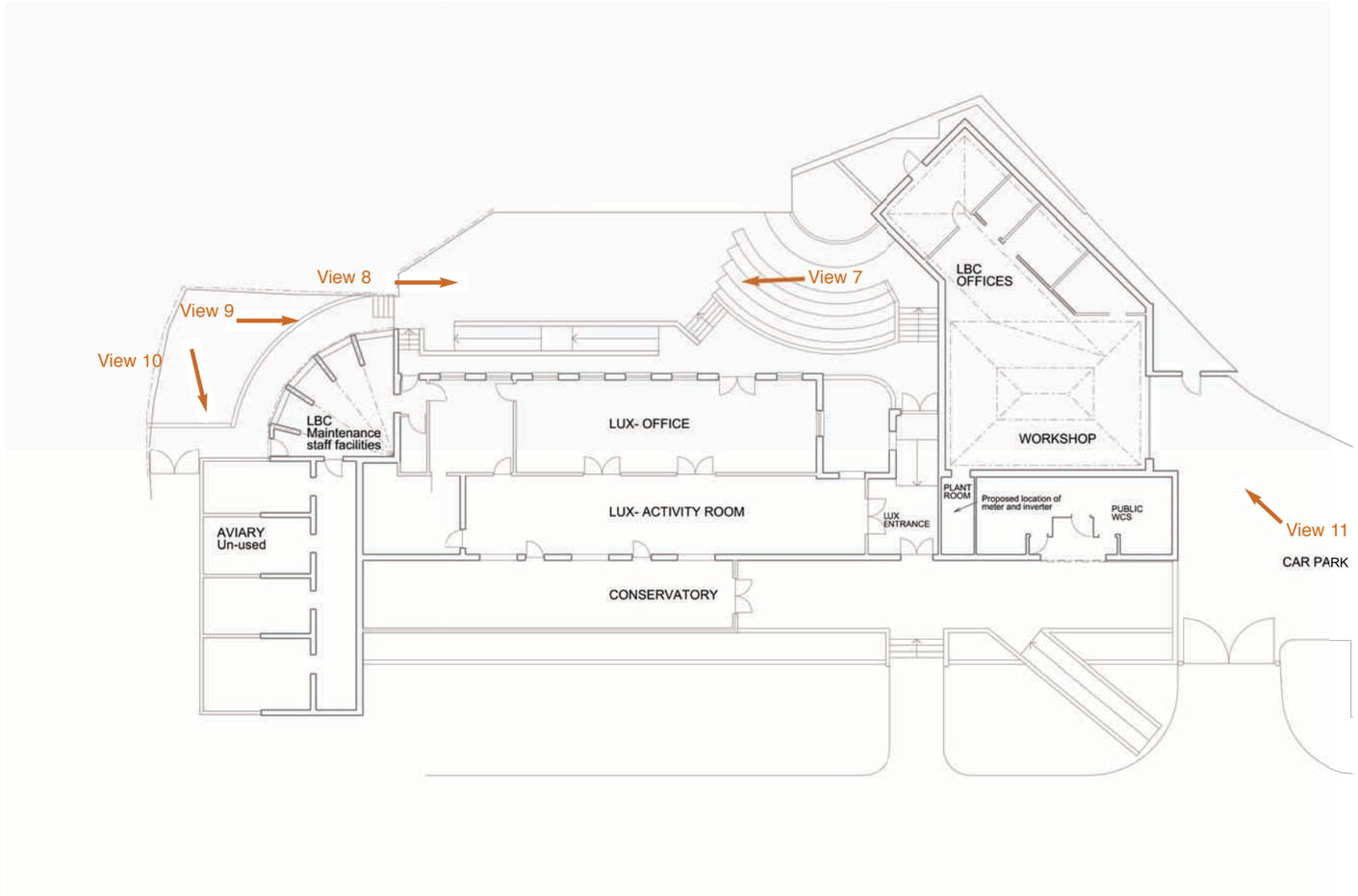
5- Steps to Lower terrace garden

6- View towards St Joseph's church

Waterlow Park Centre

Former 19th century park-keeper's outbuildings were converted in around 2003 for use as a visitor centre, incorporating a workshop and Council staff facilities. An aviary was been retained as part of the development. From July 2016 the centre has been occupied by Lux, an arts agency for the moving image, the rental income being re-invested in the park.

Lux was founded in 2002 as a charity and not-for-profit limited company. The organisation's main activities are distribution, exhibition, publishing, education, research, and professional development support for artists and arts professionals. Lux is a member of the Waterlow part Trust Advisory Group.



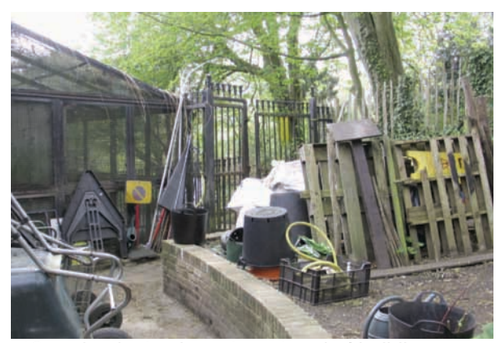
Ground plan of existing building showing views

11- carpark looking towards workshop entrance

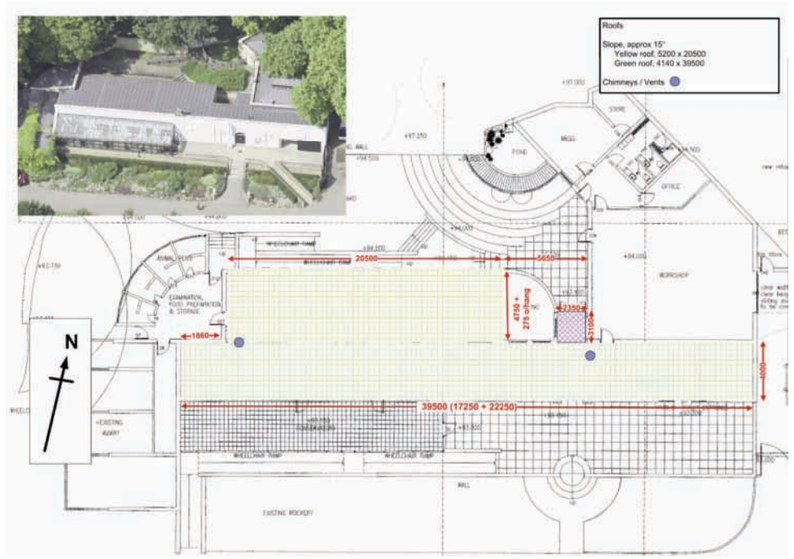
7- rear courtyard looking west

8- rear courtyard looking east

9- Camden staff accommodation



10- redundant aviary at west end of building



Waterlow Park Centre roof

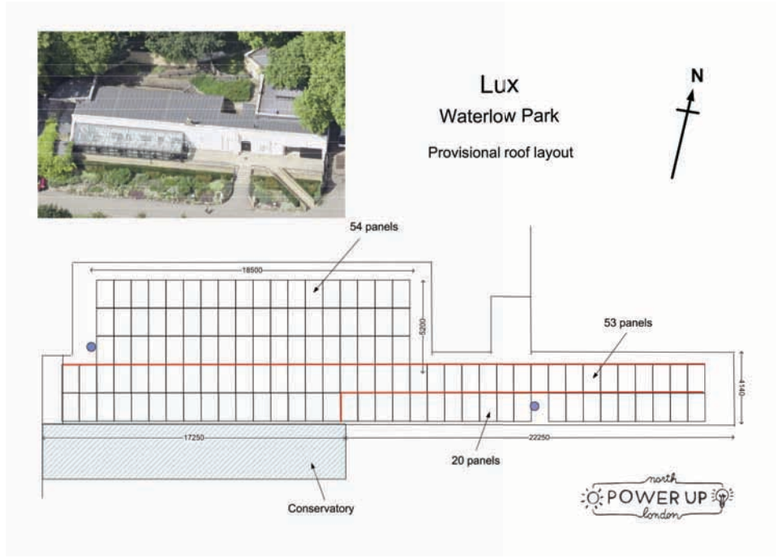
The roof the building has a 15 degree pitch, which faces north. It receives sufficient amount of sun to make the installation viable, as shown by a feasibility study carried out by Jo-ju Solar.

The new PV panels will be fixed to rails that are in turn fixed to proprietary fixing points through the roof membrane to the timber deck beneath.

Pitched roof to rear, with Sarnafil single ply membrane

Pitched roof to curved area at west end of building

Power Up North London and Lux



Power Up North London is a Community Benefit Society set up with the aim of promoting and generating locally-owned renewable energy, in order to reduce both harmful carbon emissions and the cost of energy. PUNL works with local Transition Town groups in Kentish Town, Dartmouth Park and Tufnell Park to develop and deliver projects, to help make communities stronger, greener and more self-reliant.

PUNL have recently completed a solar panel installation at St Anne's Church in Highgate. In its first year this scheme generated 17 MWh clean electrical energy. As well as reducing carbon emissions, the church benefits from discounted energy.

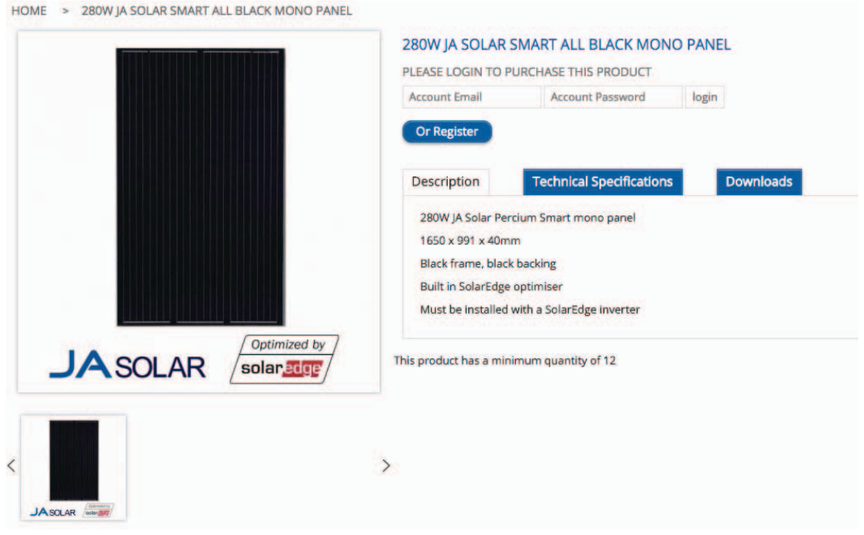
PUNL have worked with Lux to develop the proposal for Waterlow Park Centre, with the support of Camden Council. LUX is interested in the environmental and financial benefits from installing solar. As an office building and events space, LUX has high daytime energy usage. The combined electricity use of Lux and LB Camden is around 30MWh.

PUNL estimate between 60% to 70% of the 22.82 MWh generated by the panels can be used on site. This would result in financial savings for LUX and LB Camden, through reduced energy supply costs. The profit from the solar panel installation, after payment to investors, will be reinvested in community events and other energy efficiency initiatives. PUNL propose to investigate the possibility of installing battery storage to cover night-time electricity use, including the charging electric vehicles to help tackle pollution and clean up the air in the park.

PV solar panels

The panels proposed to be used at Waterlow Park Centre are black-framed, black-backed monocrystalline silicon panels, such as those manufactured by JA Solar (pictured). These have been selected for their efficiency and appearance (they are less noticeable than panels which incorporate silver frames).

The panels are 991 x 1650mm and are 35mm thick. They will be installed to proprietary aluminium rails, which are fixed to the structure of the roof following the existing profile.



All black monocrystalline silicon pv panels installed

Visual impact assessment

HIGHGATE CONSERVATION AREA

Waterlow Park is located within the Highgate Conservation area. The conservation area appraisal refers to the park as follows:

The park is landscaped on the steep hillside with three ponds at different levels. The planned regularity of the tamed and relatively open landscape is in stark contrast with the Arcadian nature of the cemeteries. Notwithstanding, it is home to a large number of animal species, including foxes and bats. The parkland exploits the slope of the hillside, with level terraces for sport and more leisurely activities, including public tennis courts and a putting green inserted amongst the magnificent mature trees and vegetation. The south elevations of houses in Bisham Gardens, with their array of insensitive roof alterations, form a dramatic cliff edge against the northern skyline.

Some features survive from the former gardens of Lauderdale House, including the enclosing wall to the former parterre and the upper terrace (listed grade II). The old brickwork did suffer from neglect and ill-conceived repairs in which brick types and pointing mixes have been selected and applied without regard to the quality texture and character of the original. However, the hard and soft landscaping around the house have recently been sensitively restored and reinstated by the Council's Parks and Open Spaces section.

Waterlow Park Centre *Lauderdale House*

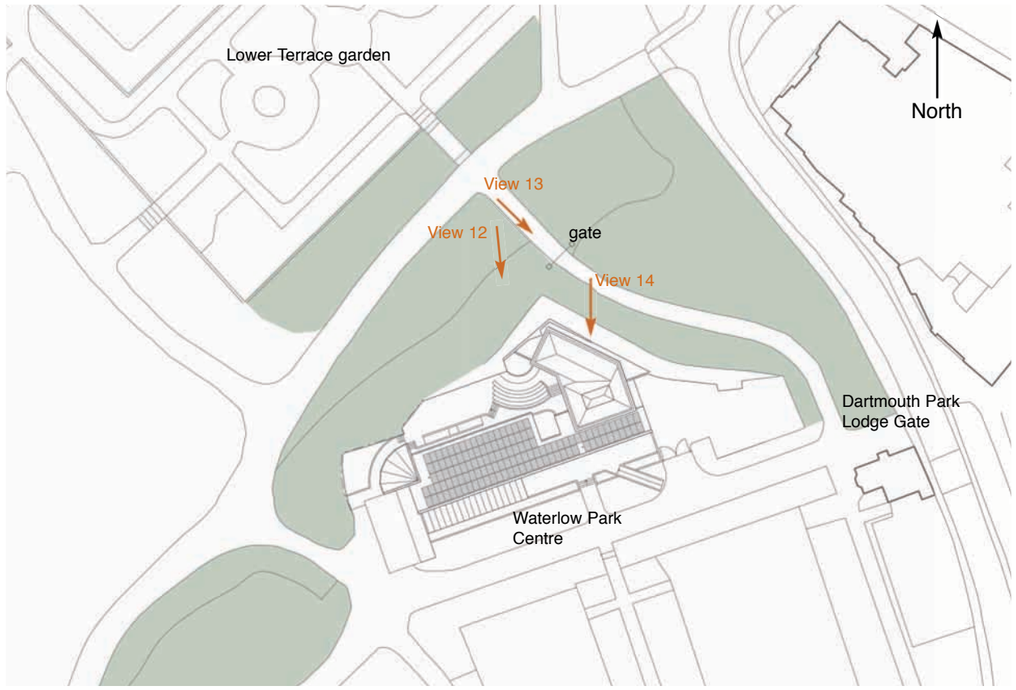
Waterlow Park Centre, showing retaining wall and planting to the north of the building

As stated in the conservation area appraisal, the existing centre building is 'tucked into the hillside in the southern portion of the park'. A retaining wall has been previously constructed to create a level area for the building, and the ground levels to the north are therefore appreciably higher. The change in level, together with the dense planting along this edge, conceals the building from view, as shown on pages 8. The roof is partly visible from some locations north west of the building, see page 9.

The addition of the proposed PV panels will not make an appreciable difference to the visual appearance of the building within the landscape setting of the park. The colour of the existing roof is dark grey; the existing roof material is a PVC membrane, a man-made material without inherent visual interest or character. The proposed pv panels are black with a subdued appearance; this will blend in with the surrounding foliage, much of which is evergreen. The panels will follow the profile of the roof and will not mask the line of the brick parapet, which is the highest part of the main building. For these reasons, it is considered that the proposed installation would not cause harm to the character and appearance of the host building or the surrounding area.

Retaining wall and change in level

visibility of roof from north and east

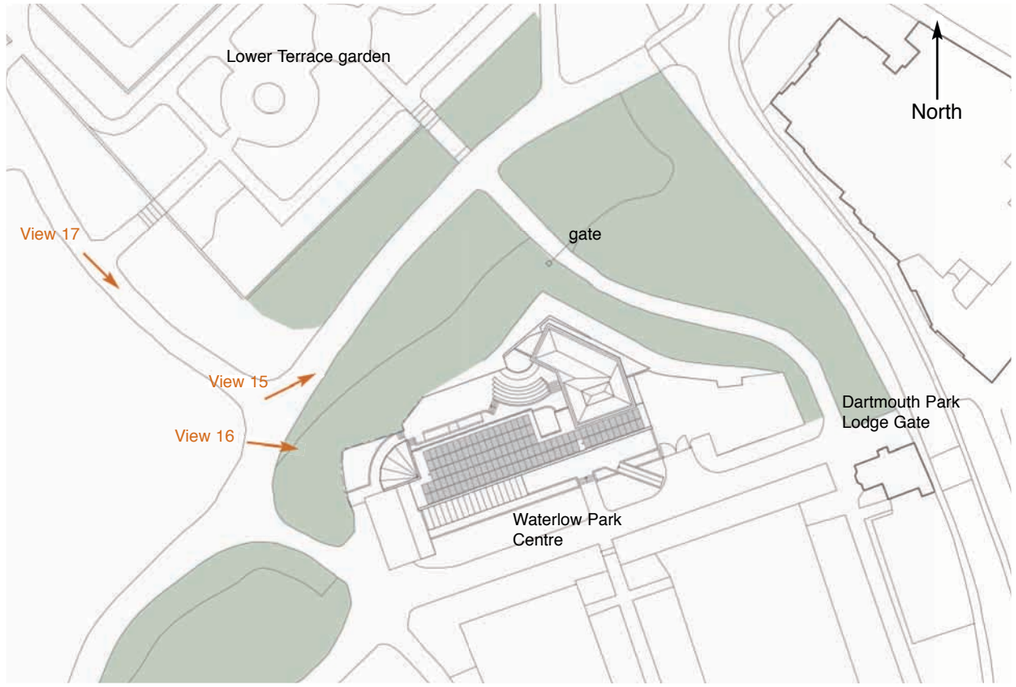


12- view from north

13- View walking south through gate

14- view from footpath

visibility of roof from north-west



15- view east along path north of Waterlow Park Centre

16- view from path

17- view from path

Solar Panels Maintenance Plan

Waterlow Park Centre, London N19 5JF

Solar PV systems comprise 4 main items, PV panel, Inverter, meters, and interconnecting cabling. The maintenance plan to be adopted is as follows;

PV Panels.

These are to be mounted on the existing roof and are easily seen from the ground. They will be visually inspected every 6 months with the results recorded in the site maintenance diary.

The need for cleaning will depend upon speed of fouling to the panel surfaces and would be shown by a reduction in the performance ratio (panel output compared to actual weather, often cleaning is not required for 3+ years. When needed the panels can be cleaned using a high reach pole system where the operative remains on the ground.

If access to the panels is required to say, replace a panel, then this can be achieved using a MEWP (Mobile Elevating Work Platform).

System Inspection.

The system will be inspected by a competent person every 5 years as a minimum in conjunction with other electrical installations at the site.

Condition Monitoring

The daily and 'total to date' production of electricity is to be displayed in the entrance area. This system will permit the daily generation of electricity to be compared over time with significant reductions caused by partial system failure flagging the need for additional inspection outwith the standard frequency.

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