The Netley Project. The London Borough of Camden.
Energy Efficiency and Renewable Energy Plan. July 2014.

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The Netley Project, Energy Efficiency and Renewable Energy Plan.

Issue/Revision:	V01	V02
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File Reference:	550547JC11JUL2014_NETLEY_PROJECT_ENERGY EFFICIENCY AND RENEWABLE ENERGY PLAN	550547JC11JUL2014_NETLEY_PROJECT_ENERGY EFFICIENCY AND RENEWABLE ENERGY PLAN_V02

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1.0 EXECUTIVE SUMMARY

1.1 This Energy Efficiency and Renewable Energy Plan has been prepared by Greengage Environmental LLP on behalf of the London Borough of Camden to support the discharge of the Section 106 (S106) obligations associated with the redevelopment of the Netley School Site and the Adjoining Woodhall Garages, known as The Netley Project.

1.2 This report discusses the package of measures taken by the Netley Project in respect of the Energy Efficiency and Renewable Energy Plan S106 obligations set forth.

1.3 The identified energy efficiency and renewable energy measures include:

- Incorporation of renewable energy systems to achieve a carbon emissions reduction of 32%, when compared with Part L 2010,
- Achievement of BREEAM 'Excellent' and Code for Sustainable Homes 'Level 4' ratings, and the post construction certificates to be submitted to the local planning authority within 90 days of completion of the development; and
- Incorporation of energy monitoring and post occupancy commissioning measures to ensure the long term operation and maintainability of the Energy Efficiency and Renewable Energy Plan.

1.4 The outlined energy efficiency and renewable energy measures, when taken together are expected to fulfil the requirement of the Section 106 obligations for energy efficiency and renewable energy.

1.5 The structure of the report in the proceedings sections is set out below:

2.0 Introduction

3.0 The Existing Site

4.0 The Proposed Scheme

5.0 S106 Energy Efficiency and Renewable Energy Plan Requirements

6.0 Energy Efficiency and Renewable Energy Plan

2.0 INTRODUCTION

2.1 This Energy Efficiency and Renewable Energy Plan has been prepared by Greengage Environmental LLP on behalf of the London Borough of Camden (LBC) to support the discharge of the Section (S106) obligation in regards to the redevelopment of the Netley School Site and the Adjoining Woodhall Garages, known as the Netley project.

2.2 This report will discuss the package of measures taken by the Netley Project in respect of the Energy Efficiency and Renewable Energy Plan obligations set forth.

2.3 The purpose of the report is to provide an independent verification that project has taken the appropriate measures in regards to meeting the requirements for energy efficiency and renewable energy, as outlined in the S106 agreement.

3.0 THE EXISTING SITE

3.1 The Netley development site is located in the London Borough of Camden (LBC) (OS 529162, 182609) and is surrounded on all sides by residential deployment. Hampstead Road, William Road, Stanhope Street and Robert Street bound the site, and Everton Buildings runs along the northern section of the site.

3.2 The overall Netley Development comprises of two interconnected sites namely:

i. Netley School

ii. Woodhall garages/Everton Buildings

3.3 The existing buildings that occupy the site include the original Victorian school building including a new extension, the PPRU building, the new school building on the South of the site and a house used by the caretaker.

4.0 THE PROPOSED SCHEME

4.1 The scheme proposes to demolish the existing Primary School fronting William Road and Stanhope Street and construct a new Primary School, Nursery, PPRU and Community Learning Centre along the Stanhope Road elevation of the existing site at ground and first floor levels, with residential accommodation to the second, third and fourth floors above.

4.2 The Victorian school building will be retained, and include a new ground floor entrance from the playground and an accessible lift giving access to upper floors.

4.3 As stated above, the existing ASD unit will be retained, but will be upgraded to provide enhanced accommodation, meeting space and accessible toilet facilities.

4.4 Robson House and the caretaker's house will also be demolished. The proposals include new accommodations for the caretaker as part of the education space.

DEVELOPMENT DESCRIPTION

NETLEY SCHOOL DEVELOPMENT SITE 1

A new building block (block A) to house-

- The Primary Pupil Referral Units (PPRU),
- The Primary learning Support Services (PLSS),
- Netley School Foundation Unit,
- The Community Learning Centre (CLC),
- The main school halls & kitchen,
- Residential accommodation (34 flats on 3 floors above the school).

A NEW RESIDENTIAL BUILDING (BLOCK B)

- 8 Story block of flats to provide 36 residential units.

EXISTING VICTORIAN SCHOOL (BLOCK C)

- Re-modelling works to the existing Victorian Netley school building (block c) and ASD unit.

WOODHALL GARDENS RESIDENTIAL DEVELOPMENT SITE 2

- New Houses- 10 new affordable family homes with play space and pocket parks (block E).

5.0 S106 AGREEMENT ENERGY EFFICIENCY AND RENEWABLE ENERGY PLAN REQUIREMENTS

5.1 The Energy Efficiency and Renewable Energy Plan should set out a package of measures by the Owner in the management of the Development with a view to reducing carbon energy emissions through (but not be limited to) the following:-

i. details of how the Owner will further reduce the Development's carbon emissions from renewable energy technologies located on the Property ensuring the Owner will target a reduction of at least 25% in carbon emissions relation to the Property using a combination of complementary low and zero carbon technologies;

ii. separate metering of all low and zero carbon technologies to enable the monitoring of energy and carbon emissions and savings;

iii. a building management system being an electronic system to monitor the Development's heating cooling and the hours of use of plant;

iv. measures to enable future connection to a local energy network at the boundary of the Property;

v. include a pre-implementation review by an appropriately qualified and recognised independent verification body in respect of the Property certifying that the measures incorporated in the Energy Efficiency and Renewable Energy Plan are achievable in the Development and satisfy the aims and objectives of the Council's strategic policies on the reduction of carbon emissions contained within its Development Plan;

vi. measures to secure a post construction review of the Development by an appropriately qualified and recognised independent verification body in respect of the Property certifying that the measures incorporated in the Energy Efficiency and Renewable Energy Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation; and

vii. identifying means of ensuring the provision of information to the Council and provision of a mechanism for review and update as required from time to time.

5.2 Section 6.0 outlines how each measure is achieved for The Netley Project.

6.0 ENERGY EFFICIENCY AND RENEWABLE ENERGY PLAN

Measure (i)

'Details of how the Owner will further reduce the Development's carbon emissions from renewable energy technologies located on the Property ensuring the Owner will target a reduction of at least 25% in carbon emissions relation to the Property using a combination of complementary low and zero carbon technologies'.

6.1 An energy strategy was prepared by WSP UK Ltd. (The Netley Project, Energy Report; March 2012) in support of the Netley Project planning application submission. The energy report considered the viable strategies to achieve the requirements of the London Plan, Code for Sustainable Homes and BREEAM.

6.2 An energy strategy was prepared in accordance with and to address local planning policy in order to satisfy the following energy targets:

- A 25% reduction in carbon emissions, when compared with Part L (2010),
- Code for Sustainable Homes 'Level 4',
- BREEAM 'Excellent' and 6 credits within Ene 1 (Education buildings only), and
- An EPC rating of less than 25 (Education buildings only).

6.3 The target carbon emission reduction was quantified by analysing the overall proposed development using a detailed dynamic simulation model (utilising the IES software package), which enabled the baseline emission rate to be determined. The energy strategy was developed in accordance with energy hierarchy principles "Be Lean, Be Clean and Be Green".

6.4 The resulting energy strategy and implemented design identified the following low and zero carbon, and renewable energy measures for incorporation in The Netley Project:

- 70kW$_T$ Combined Heat and Power (CHP) serving the Education and Residential Plots, and
- A roof-mounted Photovoltaic array (118m² panel array) serving the Education Building.

6.5 The incorporation of these systems in the development provides for a significant proportion of The Netley Project's annual energy demand, and results in an overall carbon emissions reductions of 32%, in excess of the 25% carbon emissions reduction target. A breakdown of the calculated carbon emissions reductions is shown in Table 6.1.

Table 6.1 Carbon emissions reductions by building type

Building type	Carbon emissions reduction
Education	36.1%
Flats	28.0%
Houses	33.9%
Overall carbon emissions reduction	**32%**

Measure (ii)

'separate metering of all low and zero carbon technologies to enable the monitoring of energy and carbon emissions and savings'.

AND

Measure (iii)

'a building management system being an electronic system to monitor the Development's heating cooling and the hours of use of plant'.

6.6 The development incorporates energy sub-metering for major energy consuming systems in accordance with the compliance requirements of BREEAM issue Ene 02, which are in line with the guidance of CIBSE TM39: Building Energy Metering. This includes energy sub-metering of low and zero carbon and renewable systems installed at the Netley Project.

6.7 A building management system for monitoring building systems and energy use is incorporated in the development, and credit is claimed for this under BREEAM issue Ene 02.

Measure (iv)

'measures to enable future connection to a local energy network at the boundary of the Property'.

6.8 The Netley Project incorporates a 70kW$_T$ Combined Heat and Power system, which serves the entire site from a central energy centre, supplying heat and power energy to the education facilities and residential units.

6.9 A feasibility assessment was presented in The Netley Project, Energy Report (WSP UK Ltd., March 2012), which identified a site wide CHP system as the most suitable means to deliver on-site thermal and electrical energy. A site wide infrastructure is therefore in place for future connection to a local energy network.

Measure (v)

'include a pre-implementation review by an appropriately qualified and recognised independent verification body in respect of the Property certifying that the measures incorporated in the Energy Efficiency and Renewable Energy Plan are achievable in the Development and satisfy the aims and objectives of the Council's strategic policies on the reduction of carbon emissions contained within its Development Plan'.

6.10 The Netley Project, Energy Report (WSP UK Ltd., March 2012) undertaken in support of the planning application submission, provides an independent review of the achievability of the energy efficiency and renewable energy measures. As highlighted under paragraph 6.2, the energy strategy was developed taking into account the aims and objectives of the Council's strategic policies on the reduction of carbon emissions.

Measure (vi)

'measures to secure a post construction review of the Development by an appropriately qualified and recognised independent verification body in respect of the Property certifying that the measures incorporated in the Energy Efficiency and Renewable Energy Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation'.

6.11 BREEAM and Code for Sustainable Homes (CSH) design and post construction stage certification assessments have been commissioned to provide an independent verification of the overall sustainability and energy performance of the development. In verifying achievement of the targeted BREEAM 'Excellent' and CSH 'Level 4' ratings, a carbon emissions reduction of at least 25% will be confirmed, as it is a minimum performance requirement for these rating levels.

6.12 The undertaking of the BREEAM/ CSH certification assessments will also provide confirmation of the incorporation of the renewable energy measures, and a commitment to undertake seasonal commissioning of building services systems over a minimum 12 month period, once the buildings become occupied, shall enable operability and maintainability to be verified.

6.13 The Netley Project BREEAM and CSH design stage certifications are expected to be achieved in the third/ fourth quarter of 2014, and followed thereafter by the post construction stage certifications.

Measure (vii)

'identifying means of ensuring the provision of information to the Council and provision of a mechanism for review and update as required from time to time'.

6.14 To provide an appropriate mechanism for provision, review and update of information to the Council. It is proposed that an annual review of energy efficiency performance is undertaken with key stakeholders/ occupiers of the site. The review shall provide

information/ data in relation to energy consumption and performance of the CHP, and renewable energy systems.

6.15 The review process shall be supported by the site Facilities Management provider and Residential Managing Agent, who will incorporate the principles of post occupancy evaluation in the annual review (as set out within BREEAM issue Man 04), and ensure the availably of energy performance information/ data through implementation of a regular monitoring and measurement procedure.

7.0 CONCLUSION

7.1 This Energy Efficiency and Renewable Energy Plan has outlined the package of energy efficiency and renewable measures to be delivered for The Netley Project. The identified measures respond to the S106 obligations, covering the areas of energy efficiency, renewable energy, BREEAM and CSH energy performance requirements, and energy performance in post occupancy. The achievement of BREEAM 'Excellent' and Code for Sustainable Homes 'Level 4' ratings will demonstrated by submission of the post construction certificates to the local planning authority within 90 days of completion of the development.

7.2 The energy efficiency and renewable energy measures, when taken together are expected to fulfil the requirement of the Section 106 obligations for energy efficiency and renewable energy.