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The Netley Project, Sustainability Plan.

Issue/Revision:	Draft	Final
Date:	14/07/14	15/07/2014
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File Reference:	550547ra11Jul14_Netley Project Sustainability Plan_V01	550547ra15Jul14_Netley Project Sustainability Plan_V02

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1.0 EXECUTIVE SUMMARY

1.1 This Sustainability 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 Sustainability Plan S106 obligations set forth.

1.3 The identified sustainability measures include:

- 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
- 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 Sustainability Plan are achievable and satisfy the aims and objectives of the Council's strategic policies on sustainability contained within its Development Plan; and
- 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 Sustainability Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation.

1.4 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 Sustainable Development

6.0 S106 Agreement Sustainability Plan

2.0 INTRODUCTION

2.1 Greengage Environmental LLP were commissioned by the London Borough of Camden (the 'applicant') to prepare this Sustainability Plan for the Netley Project, within the London Borough of Camden (LB Camden).



2.2 The purpose of the report is to provide an independent verification that the project has taken the appropriate measures in regards to meeting the requirements for sustainability as laid out in the S106 agreement.

2.3 This report presents the outcome of the sustainability appraisal of the proposed development and details the approach that the applicant and the design team have collectively taken towards achieving a high standard of sustainable development and environmental performance. This Sustainability Plan outlines the features that have been incorporated into the design proposals and the measures that will be implemented during the construction and operation phases, which aim to reduce the environmental impact of the scheme and contribute positively to sustainable development.

2.4 The purpose of the Sustainability Plan is to provide an independent verification that the design of the proposed development is in accordance with the sustainable objectives of relevant planning policy at all levels and is an example of good practice in sustainable design. This Sustainability Plan reports the performance of the proposed development using national and local level guidance on sustainability indicators from both government and industry.

2.5 This report includes:

- A brief description of the proposed development;
- A definition of sustainable development;
- A summary of the relevant international, national, and local sustainable development policy drivers; and

3.0 THE EXISTING SITE

- 3.1 The Netley School development site is located in the London Borough of Camden (LBC) (OS 529162, 182609) and is surrounded on all sides by residential development. 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 three interconnected sites namely:
- Netley School
 - 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.

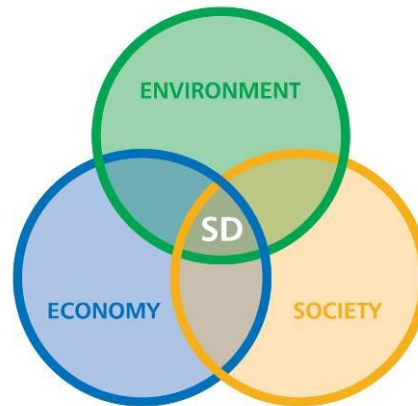
WOODHALL GARDENS RESIDENTIAL DEVELOPMENT SITE 2

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

5.0 SUSTAINABLE DEVELOPMENT

WHAT IS IT?

5.1 The past 20 years have seen a growing realisation that the current model of development is unsustainable. In other words, we are living beyond our means. From the loss of biodiversity due to the felling of rainforests or over-fishing, to the negative effect our consumption patterns are having on the environment and the climate; our way of life is placing an increasing burden on the planet.



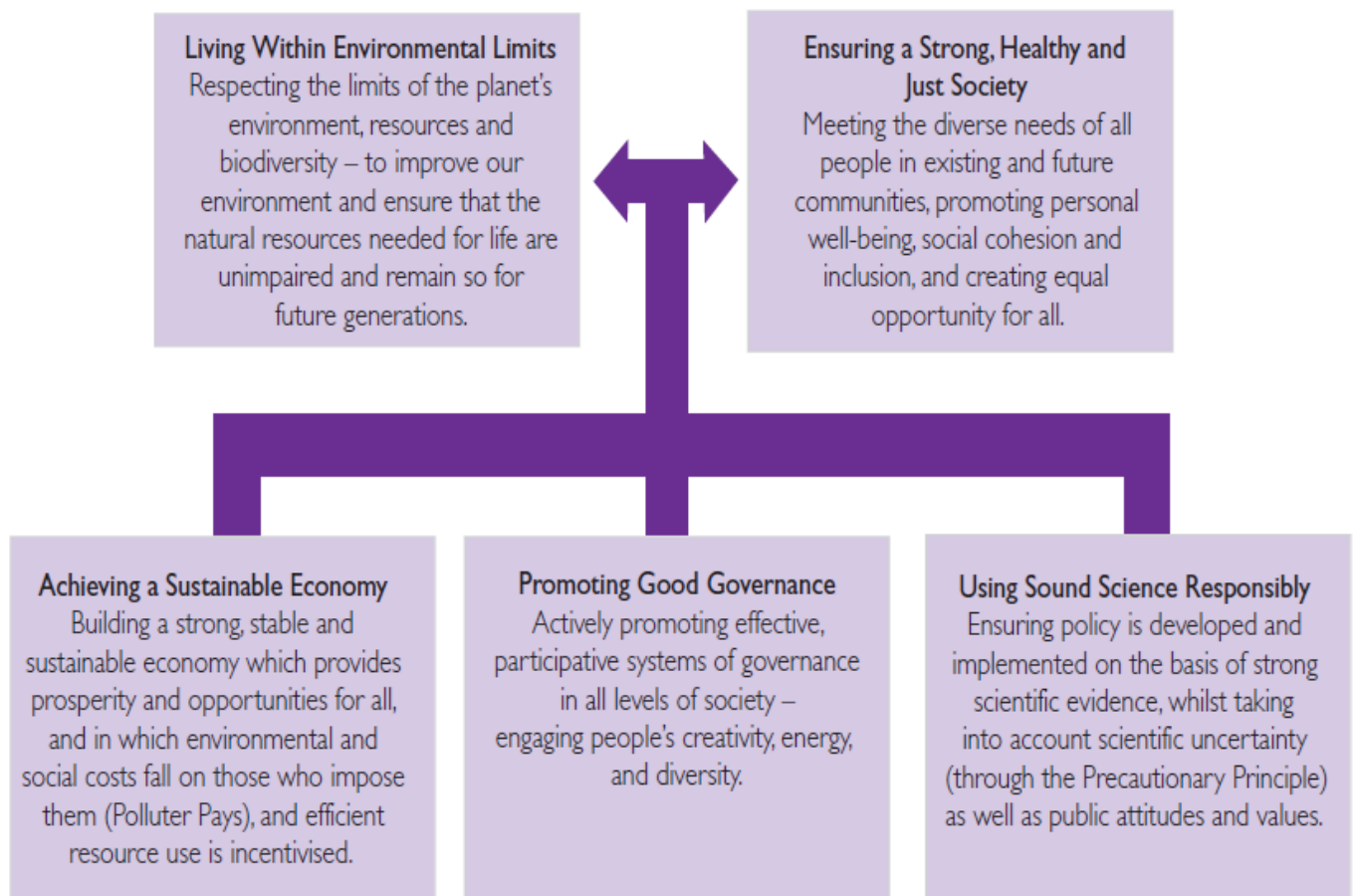
5.2 The goal of sustainable development, therefore, is to seek to simultaneously progress economic, social and environmental goals and policies in ways that develop and maintain a good quality of life for us all and enable future generations to do the same.

5.3 In the UK, the Government and devolved administrations have clearly set out what sustainable development means for them and the approach they will take to pursue their goal. They offer the following interpretation:

'Sustainable development is about positive growth'-making economic, environmental and social progress for this and future generations.

5.4 To provide a clearer picture of what they mean in practice, such definitions are often underpinned by key principles that serve to guide policy-making and decisions. The UK Government has outlined a shared set of guiding principles for sustainable development in the UK Framework for Sustainable Development, *One future - different paths* - they are the '*Five principles of sustainable development*' (see Figure 5.1 below).

Figure 5.1 Five Principles of Sustainable Development



6.0 S106 AGREEMENT SUSTAINABILITY PLAN

- 6.1 The S106 Agreement Sustainability Plan is a plan including a post construction review securing the incorporation of sustainability measures in the carrying out of the Development in its fabric and in its subsequent management and occupation which shall:
- A) be based on a Building Research Establishment Environmental Assessment Method assessment with a target of achieving an Excellent or Outstanding rating and attaining at least 60% of the credits in each of Energy and Water and 40% of the credits in Materials categories;
 - B) Achieve at least Level 4 of the Code for Sustainable Homes attaining at least [50%] of the credits in each of the Energy Water and Materials categories to be carried out by a recognised independent verification body in respect of the Property;
 - C) include a pre-Implementation review by an appropriately qualified and recognised independent verification body in respect of the 21 Property certifying that the measures incorporated in the Sustainability Plan are achievable and satisfy the aims and objectives of the Council's strategic policies on sustainability contained within its Development Plan; and
 - D) 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 Sustainability Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation.

BREEAM Performance Analysis

- 6.2 The S106 agreement sets out specified performance requirements for the Energy, Water and Materials categories of the BREEAM certification. The requirements are to achieve at least 60% of the credits in the Energy and Water categories, and 40% of the credits in Materials category. The development performance in these categories are presented below.
- 6.3 In addition to the above, this analysis will demonstrate compliance with the 3rd and 4th criteria that are required by the S106 Agreement Sustainability Plan of LB Camden and are relevant with the pre-implementation and the post-construction review of the development.

Energy

Ene 1: The 'as designed' BRUKL Input file and BRUKL Output Document, produced by the Energy Assessors (Richard Mildener - LCEA130685). The Ene 01 Compliance Checker confirms that eleven credits are achieved.

Ene 2: One credit is achieved for this issue, the electrical specification includes for sub-metering to be provided for the appropriate systems.

Ene 3: One credit is achieved for this issue, the electrical specification incorporates:

- External lighting controlled by either a daylight sensor or time switch;
- External lighting for the building, access ways and pathways achieving a minimum of 50 lamp lumens/ circuit-watt;
- Lighting to car parking areas and associated roads, achieving a minimum of 70 lamp-lumens/ circuit-watt;
- Flood lighting and sign lighting, where present, achieving a minimum of 70 lamp lumens/ circuit-watt.

Ene 4:

- A LZC feasibility study, carried out at RIBA Stage C, analysed the feasibility of a number of LZC technologies, covering the relevant technical, economic and planning considerations. The study recommended the incorporation of a PV electrical generation system, which has been specified for the development, enabling one credit to be achieved.
- BRUKL energy modelling Output Documents confirm the BER with and without the incorporation of the LZCs, the modelling calculations confirm that a CO2 emission reduction of 37.58% is achieved. This is equivalent to two BREEAM energy credits and one innovation credit.
- Free cooling is also provided in teaching spaces of the education building via a bypass damper mechanism within the specified air handling units. This enables an additional one credit to be achieved.

In accordance with the above, four out of five credits are shown to be achieved under BREEAM issue Ene 04.

Ene 8: One credit is achieved for ensuring that new and existing electrical equipment meet the relevant energy efficiency standards, as defined within the BREEAM issue Ene 8.

Table 6.1 BREEAM Energy Section Ratings

Energy Credits	Credits available	Credits awarded
ENE 1	15	11
ENE 2	1	1

Energy Credits	Credits available	Credits awarded
ENE 3	1	1
ENE 4	5	4
ENE 8	2	2
TOTAL	24	19

Table 6.1 demonstrates that 19 out of 24 credits are achieved, representing 80% of the available credits. The BREEAM score for the Energy category is therefore compliant with the S106 requirement for 60% of the energy credits to be achieved.

Water

Wat 1: Three credits are achieved for this issue, Wat 1 requires the specification of taps, urinals, WCs and showers to consume less potable water in use than standard specifications for the same type of fittings. To achieve the credits, the design team have committed to specifying WC's, taps, showers, urinals and (where applicable) washing machines and dishwashers that will allow for a water consumption reduction between 12.5-40% over the notional baseline. A 12.5% reduction in internal water consumption is a mandatory requirement of achieving Excellent.

Wat 2: One credit is achieved for this issue, the development incorporates an appropriate level of water metering, which covers the provision of pulsed output meters connected to a BMS in the following areas; PPRU, Foundation Unit, Nursery, Reception and Community Areas (inc. Kitchen), CLC- Block B Landlords, Block A1 Landlords, and Block A2 Landlords.

Wat 3: Two credit are achieved for this issue, the development incorporate a major leak detection system connected to a BMS, which is programmed to provide major leak detection alerts. In addition, proximity detection shut off to the water supply in toilet areas is specified.

Wat 4: One credit is achieved for this issue, the Landscape consultant has confirmed that the proposed water efficient irrigation strategy for external planted areas, relies upon manual watering of individual trees and plant beds only.

Table 6.2 BREEAM Water Section Ratings

Water Credits	Credits available	Credits awarded
WAT 1	5	4
WAT 2	1	1
WAT 3	2	2
WAT 4	1	1
TOTAL	9	8

Table 6.2 demonstrates that 8 out of 9 credits are achieved, representing 88% of the available credits. The BREEAM score for the Water category is therefore compliant with the S106 requirement for 60% of the water credits to be achieved.

Materials

Mat 01: The specification and Green Guide rating for the relevant building elements have been assessed, and three credits are achieved.

Mat 02: One credit is achieved for this issue, at least 80% of hard landscaping and boundary protection achieves a Green Guide A/A+ rating.

Mat 03: Three credits are achieved for this issue, the principal contractor BAM has committed to ensure timber and non-timber based products are sourced in accordance with the BAM responsible sourcing policy.

Mat 04: Two credits are achieved for this issue, the embodied performance and responsible sourcing of building fabric and building services insulation have been verified in the BREEAM assessment.

Mat 05: One credit is achieved for this issue, the development incorporates appropriate internal building features which contribute to long term robustness (e.g. kick plates to doors, robust skirting).

Table 6.3 BREEAM Materials Section Ratings

Materials Credits	Credits available	Credits awarded
MAT 1	6	3
MAT 2	1	1

Materials Credits	Credits available	Credits awarded
MAT 3	3	3
MAT 4	2	2
MAT 5	1	1
TOTAL	13	10

Table 6.3 demonstrates that 10 out of 13 credits are achieved, representing 77% of the available credits. The BREEAM score for the Materials category is therefore compliant with the S106 requirement for 40% of the materials credits to be achieved.

Code for Sustainable Homes Performance Analysis

- 6.4 The S106 agreement sets out specified performance requirements for the Energy, Water and Materials categories of the CSH certification. The requirements are to achieve at least 50% of the credits in each of the Energy, Water and Materials categories. The development performance in these categories are presented below.
- 6.5 In addition to the above, this analysis will demonstrate compliance with the 3rd and 4th criteria that are required by the S106 Agreement Sustainability Plan of LB Camden and are relevant with the pre-implementation and the post-construction review of the development.

Energy

Ene 1: Four credits are achieved for this issue, the CSH assessment confirms that the design and specified heating systems will enable the mandatory requirement for a DER >25% better than the TER, as a minimum, to be achieved.

Ene 2: Three credits are achieved for this issue, the fabric energy efficiency performance has been assessed through SAP modelling.

Ene 5: One credit is achieved for this issue, white goods are being provided in line with the requirements CSH energy labelling requirements.

Ene 6: One credits is achieved for this issue, the development incorporates the provision of energy efficient external lighting in accordance with the CSH requirements.

Ene 7: Two credits are achieved for this credit, the incorporation of LZC technology enables a reduction in CO₂ emissions of at least 15% to be achieved.

Ene 8: One credit is achieved for this issue, compliant cycle storage facilities are incorporated in the development according to the following CSH benchmarks; Block A North: 24 spaces required, 40 spaces provided, Block B: 25 spaces required, 38 provided.

Ene 9: One credit is achieved for this issue, the development incorporates within each dwelling, compliant home office space for the location of a desk and filing cabinet/bookshelf.

Table 6.4 CSH Energy Section Ratings

Energy Credits	Credits available	Credits awarded
ENE 1	10	4
ENE 2	9	5
ENE 5	2	2
ENE 6	2	2
ENE 7	2	2
ENE 8	2	1
ENE 9	1	1
TOTAL	28	17

Table 6.4 demonstrates that 17 out of 28 credits are achieved, representing 60% of the available credits. The CSH score for the Energy category is therefore compliant with the S106 requirement for 50% of the Energy credits to be achieved.

Water

Wat 1: Three credits are achievable for this issue, Wat 1 credits are awarded based on the predicted average household water consumption. Through use of efficient appliances and the fittings the lower the predicted average consumption, the more credits are awarded. The design team have confirmed that the internal water consumption will be less than or equal to 105 l/p/d. This is a Mandatory requirement for CSH level 4.

The reduction of internal water will be obtained through the specification of low water consuming sanitary fitting, such as dual flush WC's (2l/4l), aerating taps 3.3l/min, showers 6l/min with intrinsic flow restrictors, and small baths (100l). In addition White

Goods, will also be water conserving models; low water usage dish washers and, washing machines.

This demonstrates that 3 out of 5 credits are achieved, representing 60% of the available credits. The CSH score for the Water category is therefore compliant with the S106 requirement for 50% of the Water credits to be achieved.

Materials

Mat 1: The specification and Green Guide rating for the relevant building elements have been assessed, and nine credits are achieved.

Mat 2 & Mat 3: Four credits and three are achieved respectively for issue Mat 2 and Mat 3, the principal contractor BAM has committed to ensure timber and non-timber based products are sourced in accordance with the BAM responsible sourcing policy.

Table 6.5 CSH Materials Section Ratings

Materials Credits	Credits available	Credits awarded
MAT 1	15	9
MAT 2	6	4
MAT 3	3	3
Total	24	16

Table 6.5 demonstrates that 16 out of 24 credits are achieved, representing 66% of the available credits. The CSH score for the Materials category is therefore compliant with the S106 requirement for 50% of the Materials credits to be achieved.

7.0 INTEGRATING SUSTAINABILITY AND MEETING STRATEGIC LOCAL POLICES

With respect to sustainable development at Netley School, a number of key policy objectives have been identified at national and local level. This Sustainability Plan will therefore assess the performance of the proposed development against these key sustainability policies, and the policies of the LB Camden.

- 7.1 In addition, there are a number of other industry drivers that promote the delivery of sustainable built environments and these will also be considered for the proposed development in order to ensure that a holistic approach is taken towards design development, which considers all aspects of environmental and sustainability performance.
- 7.2 Within any of the adopted local policy documents, LB Camden do have specific targets relating to BREEAM for new non-domestic buildings. In other words, in order to demonstrate its commitment to sustainability, a BREEAM 'Excellent' rating should be achieved for the Netley School Development.
- 7.3 Residential schemes should achieve a minimum of Code for Sustainable Homes Level 4, in line with the London Plan.

BREEAM

- 7.4 The Building Research Establishment's Environmental Assessment Method (BREEAM) is a nationally recognised means of reviewing and improving the environmental performance of buildings. BREEAM is a performance based assessment method and certification scheme for new buildings and refurbishment works on existing buildings. BREEAM has been designed to cater to all common building types (offices, retail, industrial etc.).
- 7.5 Used as a design tool, BREEAM will assess the environmental performance of new build buildings and refurbishments, providing a framework for improvement and an auditable demonstration of good design practice.

The Netley Project has targeted an 'Excellent' certification under BREEAM New Construction 2011.

- 7.6 The BREEAM assessment provides a means of measuring the environmental impact of a building. The scoring is achieved under different categories relating to the buildings environmental and sustainability performance.
- 7.7 The BRE is an appropriately qualified and recognised independent verification body, and a pre-implementation review was undertaken at design stage.
- 7.8 BREEAM considers key global and local environmental issues and the internal environment for building occupants under various categories, covering:

- Management – rewards good construction site practises, provision of information to building occupants and security;
- Health & Wellbeing – promotes a healthy internal environmental;
- Energy – rewards energy efficiency and renewable energy generation;
- Transport – encourages locations with good access to public transport;
- Water – promotes water efficiency and water recycling;
- Materials – rewards the responsible sourcing of materials;
- Waste – encourages good waste management practices and recycling;
- Land Use & Ecology – encourages ecological enhancement and land already built on; and
- Pollution – promotes measures to reduce air and water pollution.

CODE FOR SUSTAINABLE HOMES

7.9 The Code for Sustainable Homes (CSH) was introduced by the UK Government in April 2007 as a single national standard intended to facilitate a step change in the environmental performance of new housing. The CSH aims to encourage and reward best practice through the recognition of improvements made to the design of residential buildings. It evaluates buildings against a number of environmental criteria captured under nine key environmental categories, ranging from:

- Energy – rewards energy efficiency and renewable energy generation;
- Water – promotes water efficiency and water recycling;
- Materials – rewards the responsible sourcing of materials;
- Surface water run-off – encourages a reduction in surface water run-off from sites and management of flood risk;
- Waste – promotes best practice with regards to waste management including greater recycling of waste during construction, and the provision of facilities to enable household recycling throughout occupation;
- Pollution – promotes measures to reduce air and water pollution;
- Health and wellbeing – promotes a healthy and comfortable internal environment;
- Management – rewards good construction site practises, the provision of information to building occupants to encourage environmental awareness and addresses home security; and
- Ecology – encourages ecological protection and enhancement.

The CSH has six rating levels, which are awarded on the basis of achieving both a set of mandatory minimum standards and a minimum overall score.

CSH PERFORMANCE

- 7.10 A CSH pre-certification assessment was carried out with relevant members of the design team on the residential elements of the proposed development. During the pre-certification assessment, the opportunities and constraints of the application site and design were identified. The design team is committed to achieving a CSH Level 4 with a score of 68%, details of specific environmental and sustainability features to be included will be contained within the standalone Design Code.
- 7.11 By committing to the achievement of these CSH ratings, the design team have ensured that they have maximised the opportunities to enhance the environmental performance of the design and ultimately, that best practice sustainability standards demanded by the CSH will be implemented in practical terms within the proposed development.
- 7.12 The BREEAM and CSH frameworks have been included in standalone reports accompanying the planning application.
- 7.13 WSP have been commissioned to undertake both the design stage and the post construction stage assessment. These will be undertaken by a qualified BREEAM and CSH assessor(s) and will in both instances involve a post construction site inspection.

THE DEVELOPMENT'S FUTURE MANAGEMENT AND OCCUPATION

- 7.14 Under the BREEAM and CSH assessments of the proposed development, future tenants and residents of both the commercial and residential spaces will be supplied with a non-technical Building User Guide (commercial) or Home User Guide (residents), which will be designed to give information to the occupiers on the efficient operation and intended environmental performance of their occupied spaces.
- 7.15 Consequently, the Building/Home User Guides represent an important tool by which the team, who design and deliver a sustainable development on the ground, can ensure that the development is used in such a way as to maintain optimum environmental performance, not only in design but also during long-term operation.
- 6.17 The following environmental and sustainability appraisal will therefore include, where relevant, information to demonstrate how the operation of the building can be influenced via the Building/Home User Guides to bring about lasting environmental and sustainability performance for the proposed development.

8.0 CONCLUSION

8.1 This Sustainability Plan has outlined the package of sustainability measures to be delivered for The Netley Project. The identified measures respond to the S106 obligations, covering the areas of BREEAM and CSH, Energy, Water and Materials performance requirements. The BREEAM and CSH performance demonstrates that the measures incorporated in the Sustainability Plan are achievable, and satisfy the aims and objectives of the Council's strategic policies on sustainability contained within its Development Plans. These will also be maintainable in the Development's future management and occupation. The achievement of BREEAM 'Excellent' and Code for Sustainable Homes 'Level 4' ratings will be demonstrated by submission of the post construction certificates to the local planning authority within 90 days of completion of the development.

These sustainability measures, when taken together are expected to fulfil the requirements of the Section 106 obligations for sustainability.

9.0 REFERENCES

¹ Communities and Local Government (CLG), (2012); *National Planning Policy Framework*. ODPM.

² The Greater London Authority (GLA), (2011); *The London Plan*, GLA.

³ The Greater London Authority (GLA), (Feb 2004); *Green Light to Clean Power – The Mayor’s Energy Strategy*. GLA.

⁴ The Greater London Authority (GLA), (2006); *Sustainable design and construction SPG*, GLA.

⁵ Greater London Authority, (2007); *Sustainable Design and Construction Supplementary Planning Guidance*. GLA.

⁶ DCLG, (2008). *The Code for Sustainable Homes: Setting the Standard for Sustainability in New Homes*. CLG Publications.