# 23 RAVENSHAW STREET

# LONDON NW6 1NP

*SUSTAINABILITY STATEMENT*

For:

## Mr Chris Taylor

January 2017

Project no. 5237

# 23 RAVENSHAW STREET LONDON NW6 1NP

# SUSTAINABILITY STATEMENT

## Mr Chris Taylor

| REVISION | DATE | PREPARED BY | REVIEWED BY | COMMENTS |
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## Contents Page

# 1.0 Introduction

## 1.1 About C80 Solutions

C80 Solutions are independent Sustainability and Energy Consultants providing carbon reduction solutions to help the UK achieve its carbon emission reduction target of 80% by 2050 - as set out in the Government's Climate Change Act 2008.

Our comprehensive range of solutions for the construction industry are broken down into two sectors; i) Building Compliance and ii) Consultancy.

**Building Compliance:**
Our Building Compliance services include; Code for Sustainable Homes Assessments, SAP Calculations, On Construction Energy Performance Certificates, Water Efficiency Calculations, SBEM Calculations, Commercial EPCs, BREEAM assessments and Air Tightness Testing.

**Consultancy:**
Our experience and exposure to building compliance combined with previous experience and IEMA accredited training means we have built up a vast amount of knowledge which enables us to provide our clients with invaluable advice. Our Consultancy services include; Renewable Energy Feasibility Reports, Energy Statements for planning, Sustainability Statements and Building Compliance Advisory Reports.

## 1.2 Introduction to Development

C80 Solutions have been instructed by Mr Chris Taylor to prepare a Sustainability Statement for the proposed residential development of 23 Ravenshaw Street, London, NW6 1NP. The location of the proposed development can be seen in Figure 1.

The proposed scheme is for a demoition of the exisitng building and erection of a three – storey, plus basement level, residential dwelling of eight new flats comprsing: 4*2- beds and 4*3-beds. The plan and elevations of the proposed development can be seen in Figure 2 and 3 respectively.


**Figure 1: OS Map 1:1250**

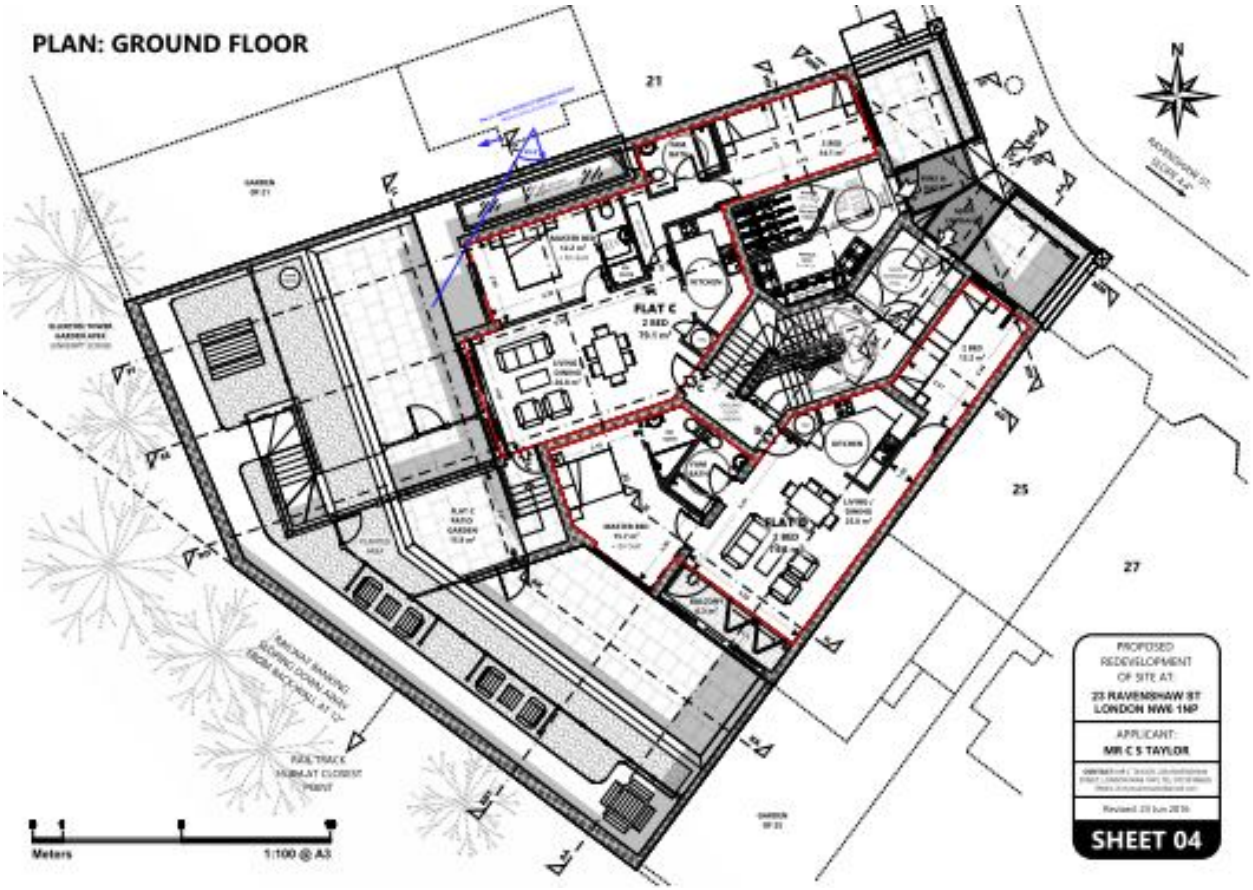


**Figure 2: Plan of the Proposed Development - Ground Floor**


**Figure 3: Front Elevations of the Proposed Development**

The statement will demonstrate how the projected development meets sustainability criteria set up by the London Borough of Camden Council, as specified in the Camden Core Strategy 2010 and Camden Development Policies 2010.

## 1.3 Planning Policy

The following sustainability related planning policies are applicable to this development:

- **London Borough of Camden Core Strategy Policy CS13: '*Tackling climate change through promoting higher environmental standards*'**

***Reducing the effects of and adapting to climate change***
*The Council will require all development to take measures to minimise the effects of, and adapt to, climate change and encourage all development to meet the highest feasible environmental standards that are financially viable during construction and occupation by:*

*a) ensuring patterns of land use that minimise the need to travel by car and help support local energy networks;*
*b) promoting the efficient use of land and buildings;*
*c) minimising carbon emissions from the redevelopment, construction and occupation of buildings by implementing, in order, all of the elements of the following energy hierarchy:*
*- ensuring developments use less energy,*
*- making use of energy from efficient sources, such as the King's Cross, Gower Street, Bloomsbury and proposed Euston Road decentralised energy networks;*
*- generating renewable energy on-site; and*
*d) ensuring buildings and spaces are designed to cope with, and minimise the effects of, climate change.*

*The Council will have regard to the cost of installing measures to tackle climate change as well as the cumulative future costs of delaying reductions in carbon dioxide emissions.*

***Local energy generation***
*The Council will promote local energy generation and networks by:*

*e) working with our partners and developers to implement local energy networks in the parts of Camden most likely to support them, i.e. in the vicinity of:*
*- housing estates with community heating or the potential for community heating and other uses with large heating loads;*
*- the growth areas of King's Cross, Euston; Tottenham Court Road; West Hampstead Interchange and Holborn;*

*- schools to be redeveloped as part of Building Schools for the Future programme;*
*- existing or approved combined heat and power/local energy networks (see Map 4);*
*and other locations where land ownership would facilitate their implementation.*
*f) protecting existing local energy networks where possible (e.g. at Gower Street and Bloomsbury) and safeguarding potential network routes (e.g. Euston Road);*

***Camden's carbon reduction measures***
*The Council will take a lead in tackling climate change by:*
*j) taking measures to reduce its own carbon emissions;*
*k) trialling new energy efficient technologies, where feasible; and*
*l) raising awareness on mitigation and adaptation measures.*

- **London Borough of Camden Development Policy DP22: '*Promoting sustainable design and construction*'**

*The Council will require development to incorporate sustainable design and construction measures. Schemes must:*

*a) Demonstrate how sustainable development principles (…) have been incorporated into the design and proposed implementation; and*
*b) Incorporate green or brown roofs and green walls wherever suitable.*

*The Council will require development to be resilient to climate change by ensuring schemes including appropriate climate change adaptation measures, such as:*

*f) summer shading and planting*
*g) limiting run-off*
*h) reducing water consumption*
*i) reducing air pollution and*
*j) not locating vulnerable uses in basements in flood-prone areas*

- **London Borough of Camden Core Development Policy DP23: '*Water*'**

*The Council will require developments to reduce their water consumption, the pressure on the combined sewer network and the risk of flooding by:*

*a) Incorporating water efficient features and equipment and capturing, retaining and re-using surface water and grey water on-site*
*b) Limiting the amount and rate on run-off and waste water entering the combined storm water and sewer network (…).*
*c) Reducing the pressure placed on the combined storm water and sewer network from foul water and surface water run-off and ensuring developments in the areas*

*indentified by the North London Strategic Flood Risk Assessment as at being at risk of surface water flooding are designed to cope with the potential flooding;*

d) *Encouraging the provision of attractive and efficient water features.*

### 1.4 Methodology

The assessment was carried out based on the information provided by Mr Chris Taylor (the developer) following the guidance provided in the Camden Planning Guidance: Sustainability (CPG3).

Mitigation and compensation measures were selected based on the guidance provided in the Code for Sustainable Homes Technical Guide, Carbon Trust, Energy Saving Trust, Zero Carbon Hub, The London Plan Supplementary Planning Guidance: Sustainable Design and Construction and CIRIA guides, and other relevant industry literature.

## 2.0 Sustainability Assessment

The Sustainability Assessment demonstrates how the proposed development meet the sustainability criteria set by the London Borough of Camden Council, as specified in the Camden Core Strategy 2010 and Camden Development Policies 2010. The assessment is divided into the following key sections:

- Energy Efficiency
- Decentralised Energy Networks and Combined Heat and Power
- Renewable energy
- Water Efficiency
- Sustainable Use of Materials
- Brown Roofs, Green Roofs and Green Walls
- Flooding
- Adapting to Climate Change
- Biodiversity
- Local Food Growing

### 2.1 Energy Efficiency

Key Requirements:

- All developments are to be design to reduce carbon dioxide emissions by being as energy efficient as is feasible and viable
- Energy strategies are to be designed following the steps set out by the energy hierarchy
- Developments involving 5 or more dwellings and/or 500 sm (gross internal) floorspace or more are required to submit the energy statement which demonstrates how carbon dioxide emissions will be reduced in line with the energy hierarchy

**Compliance:**

As advised by the Camden Council, the following hierarchy was applied in the building design:

1. Use less energy
2. Supply energy efficiently
3. Use renewable energy


**Figure 4: The Energy Hierarchy**

### 2.1.1 Use Less Energy

The proposed building has been designed to reduce the amount of energy needed by the occupants of the dwelling whilst still maintaining or even improving the comfort conditions. These effects will be achieved by:

- Incorporating systems into design that can make the most of the natural occurring energy
- Ensuring high thermal performance of the building
- Incorporating energy efficient mechanical systems
- Introducing complementary energy-saving measures.

#### A. Natural systems

The proposed development has been designed to make the most of the sunlight/daylight and thus reduce the energy used for artificial lighting and heating:

- Window openings are sized and positioned to ensure the absolute maximum distribution of light possible. All the larger windows and patio doors, servicing living rooms, dining rooms and study rooms, are on the South-West elevation. While

North East facing windows and pitched roof Velux windows service bedrooms and the entrance hallways. Roof light s are also strategically incorporated to bring additional daylight into the flats wherever possible. As a result, living rooms, dining rooms and study rooms will have an average daylight factor of at least 1.5%, while kitchens of at least 2%.

- Light wells will allow sunlight to enter the basement flats reducing the reliance on artificial lighting and heating. Similarly, the skylight on the roof of the staircase will help reduce the need for artificial lighting in the circulation area (see Figure 5 below)

- The balconies are situated on the south side of the building. The balustrades are to be made of frosted glass to allow the sunlight get through

- The internal layout of the proposed building was designed to make to best of daylight. The rooms utilised less frequently and requiring less light (bathroom, wc, stairs) are located in the middle of the building, while rooms requiring daylight, such as sitting room and bedrooms have all glazed areas to maximise the use of daylight (see Figure 6).

- The development will incorporate solar technologies: solar thermal collectors and solar PVs will be installed on the roof of the building to provide hot water and electricity.

- The building will incorporate carefully selected and designed shading measures to prevent the overheating of the building and the reliance on artificial cooling. These will include balconies on the south side of the building equipped with exterior bypass shutters.

- The south side of the building will benefit from natural overshadowing from nearby trees

- The building will feature high performance double glazing: Centre Pane 1.0W/m2k Overall 1.5 W/m2k

- Incorporating elements of natural ventilation, such as openable bi-fold balcony doors

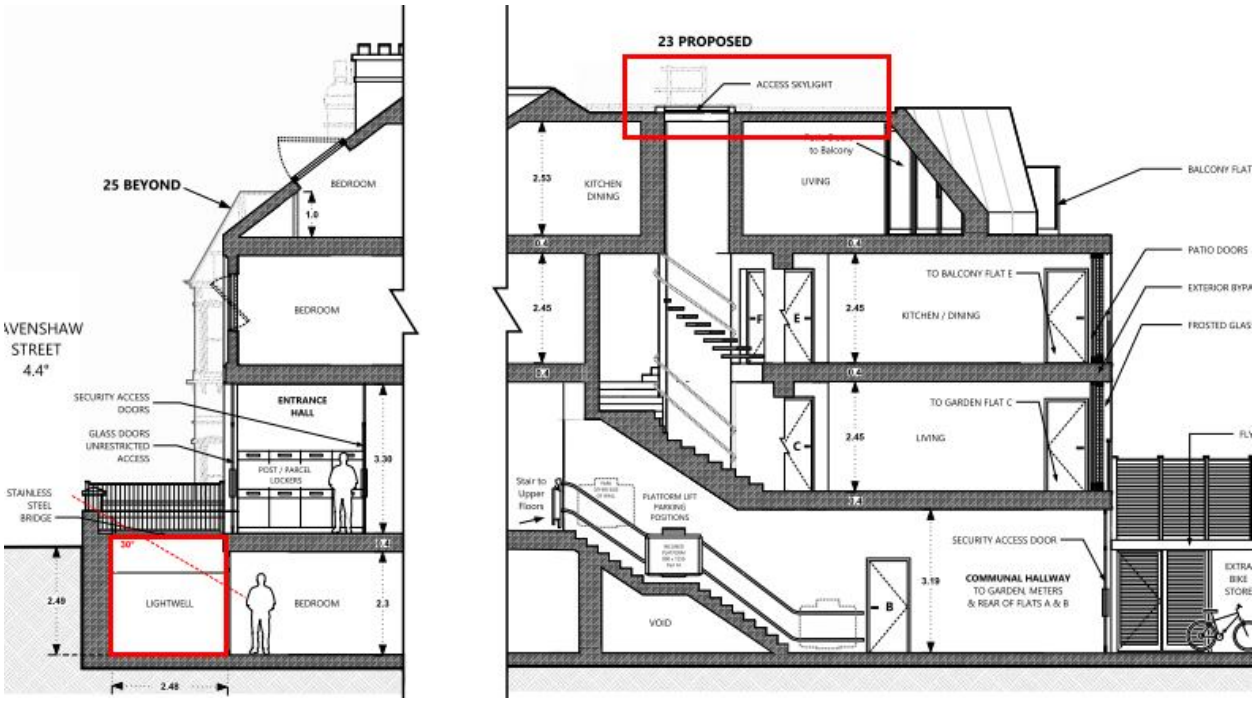


**Figure 5: Light Wells and Skylight Location**


**Figure 6: The Internal Layout**

**Figure 7: Balconies Located on the South West Elevation to Maximise the Use of Sunlight (visualisation)**

## B. Thermal performance

The thermal performance of the building will be enhanced by:

***Applying efficient thermal insulation*** - a high level of insulation is the most effective way to ensure new buildings are energy efficient. Therefore the building's floors, walls, party walls and flat roofs will be equipped with 100mm Celotex insulation.

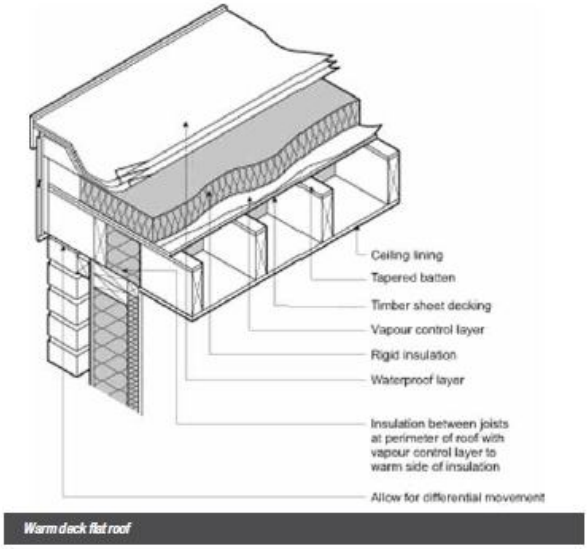


**Figure 8: Warm Deck Flat Roof Structure**

***Adopting principles of airtight construction and minimising air leakage –*** the building will be constructed of lightweight blocks with 20mm brick slips for external cladding and double glazed windows. The developer aims to take specific approaches to minimise air leakage:

- ***Blockwork*** - care will be taken to make sure all structural movement joints are suitably sealed and that all mortar joints are fully pointed.

- ***Windows and door frames*** - care will be taken to make sure that all jambs, cills and heads are sealed at the cavity and the inside surfaces of plaster are sealed, in order to ensure continuity of the specified air barrier to the inside face of the wall construction and not simply the external face of the building.

- ***Dry lining*** - the dry lining will be sealed at both top and bottom to the floor slab. Care will be taken to ensure service outlets such-as sockets or data outlets in the dry lining are well sealed.

- **Solid ceiling** will be applied in order to minimise air leakage.

***Using high thermal mass building materials for construction*** – materials with a high thermal mass e.g. concrete absorb and retain heat produced by the sun. The basement level of the building will constitute all solid concrete construction. The above ground structure will be made of thin joint blockwork. A heavy masonry building acts as a heat store reducing the seasonal temperature fluctuations experienced in lighter-weight constructions. This reduces the need for secondary heating and cooling equipment which has been shown to significantly reduce the CO2 emissions of a dwelling over its nominal lifetime.

### C. Mechanical systems

The building will be equipped with high efficiency mechanical systems, such as:

- Community boilers (mains gas) with solar thermal linked to water underfloor heating

- High efficiency mechanical ventilation (Airlflow Duplexvent DV72) will be used on each flat

- Solar PVs – no. 41 of Sunpower X21-345w panels will be installed on the roof of the building. According to SAP results, installation of 14.15 kWP of PV will generate 10,797 KWh/year.

- Solar PV battery storage - The model has not been decided as yet, but the developer's preference is toward new energy hybrid systems. Such systems, during

full sunny days will automatically power the house and simultaneously charge the batteries. If the solar panel generates more power than the load can use or can be charged to the batteries, the excess power will be sold to the grid. When full sun is not, or partially available, the system will distribute its energy to power the load first and send all additional power to charge batteries. When the batteries are fully charged, and the load is sufficiently powered, any additional power will be sold to the grid. If the solar panels can't generate sufficient energy to power the load, or charge the batteries, the grid will be engaged to power the load during off-peak times and all the power from the panels will be used to charge the batteries for use during on-peak times.

### D. Other energy efficient measures & technology

Other measures technologies include aimed at reducing energy consumption include:

- Energy-efficient lighting: 100% of all new lighting to be energy efficient (CFLs and LED) will be installed across the building
- Boilers controls: Programmer, Room thermostat and TRVs
- Energy efficient appliances (A-or AA rated fridges and freezers or fridge-freezers, washing machines)
- Electric induction hobs – electric ovens will be installed in all kitchens along with electric induction hobs, which transfer the heat directly to the pan, rather than the whole cooking area and therefore help save energy
- Each flat will be equipped with an energy display device for electric and primary heat source to control energy usage
- To conserve energy, each apartment will have its own mechanical heat recovery unit
- Provision of drying space: all flats will have either private garden or generous internal balconies plus access to drying lines in communal garden to minimise the use of energy –driven dryers.

## 2.2 Decentralised Energy Networks and Combined Heat and Power

Key Requirements:

- Where feasible and viable your development will be required to connect to a decentralised energy network or include CHP

Compliance:

The nearest operating decentralised energy network, Royal Free Hospital, is too far away from the development to make the connection feasible. Similarly, the nearest potential DE network at Swiss Cottage is not located close enough to make the connection viable.

The option of installing CHP technology has turned out not to be viable either (see Energy Assessment for more details).

The developer believes the most suitable solution in this situation is to install a gas-fired community heating system.

### 2.3 Renewable Energy

Key Requirements:

- Developments are to target a 20% reduction in carbon dioxide emissions from on-site renewable energy technologies

Compliance:

To meet this requirement, the developer aims to install 14.11 kWp of solar panels on the roof of the building; this is an equivalent of no. 41 x 345W solar panels.

According to SAP results, installation of 14.15 kWP of PV will generate **10,797** KWh/year and reduce the total CO2 emissions by **5,712** kgCO2/year (10,797 KWh/year*0.529 kg CO2/kWh[1]), with represents an equivalent of **54%** of the total projected CO2 emissions of the dwelling.

[1] Carbon Factors Used from SAP 2012: Electric = 0.529 kg CO2/kWh


Figure 4: Roof area suitable for installation of Solar PV

## 2.4. Water Efficiency

Key Requirements:

- The Council expects all developments to be designed to be water efficient by minimising water use and maximising the re-use of water
- The Council will require buildings with gardens or landscaped areas that require regular maintenance to be fitted with water butts

Compliance:

In order to ensure efficient water management, the following water efficiency measures will be installed on site:

- Dual flush toilets

- Self-closing taps
- Water saver showerhead with restrictors
- Water-efficient white goods.

To enable water re-use an underground 7,500L rainwater tank will be installed in the garden. The collected water will be fed to header tanks for W.C. flushing.

The rear garden will be planted with contain native vegetation adapted to local climate conditions and relying on natural rainfall. No water-intensive plant schemes are planned for the site.

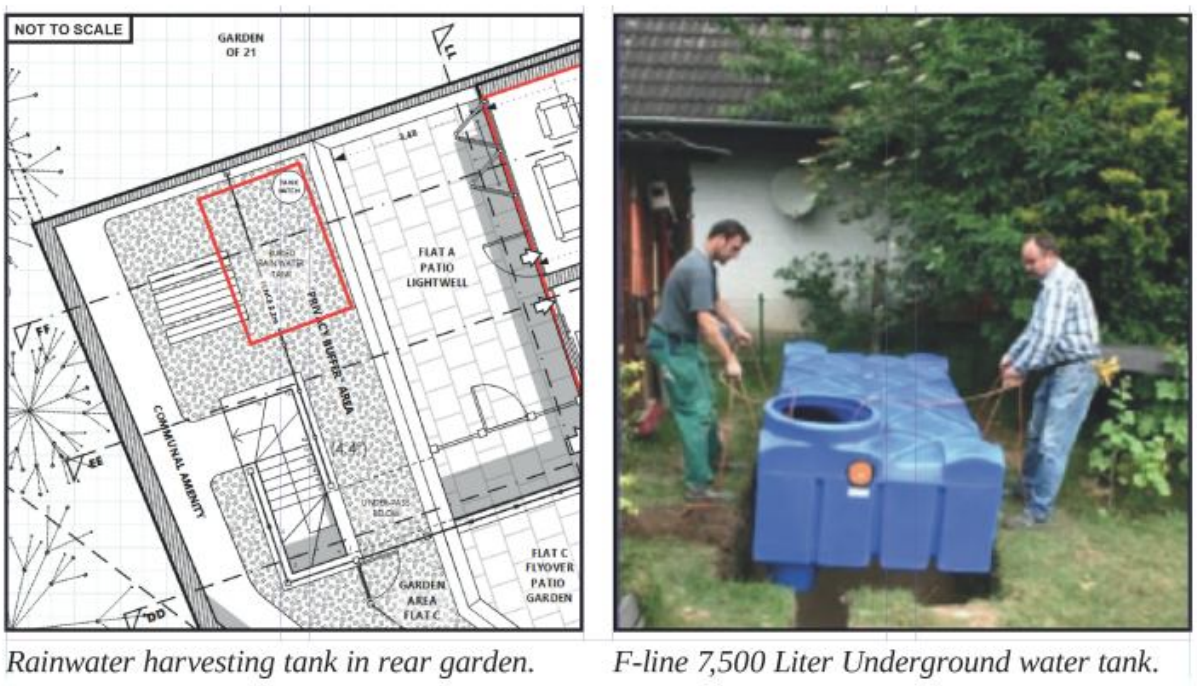


**Figure 10: An F-line 7,500 litre underground garden water harvesting system tank will be installed on site, accessible for maintenance, buried in the rear communal garden.**

## 2.5 Sustainable Use of Materials

Key Requirements:

- Reduce waste by firstly re-using your building, where this is not possible you should implement the waste hierarchy
- All developments should aim for at least 10% of the total value of materials used to be derived from recycled and reused sources.
- Source your materials responsibly and ensure they are safe to health

Compliance:

In line with the waste hierarchy, during the demolition phase, the developer is committed to take the following approach:

1. Prioritise on site reuse of demolition materials
2. Recycle materials on site, then off site
3. Disposal to landfill

Likewise, during the construction phase, the following approach will be taken:

1. The use of reclaimed materials
2. The use of materials with high levels of recycled content
3. The use of new materials

The site is currently occupied by a 3-storey house which will be demolished to give space for a new development. The bricks from the deconstructed house will be salvaged and collected by a local licensed waste management company to be sent for recycling. Other materials will be segregated into categories (timber waste, metal waste, concrete waste and general waste) to facilitate re-use/recycling process.

The Site Waste Management Plan will be produced for the site before the demolition work starts. The Plan will provide a framework for managing waste in line with the hierarchy by identifying types and quantities of materials for re-use/recycling.

The waste arising from new construction will be minimal due to economical use of construction materials (e.g. length of timber is right size and doesn't need cutting) and carefully planned deliveries to the site in order to avoid oversupply. The construction site will be supplied with labelled waste skips.


**Figure 11: The Waste Hierarchy**

The developer is committed to source materials for the new construction in a sustainable manner:

The main material used for construction will be Thomas Armstrong AIRTEC concrete blocks (or equivalent). joined with mortar AIRTEC blocks consist of over 90% recycled raw materials. They are ISO 14001:2004 Environmental Management certified (cert No. 09/E001), ISO 9001:2008 Quality Assured (cer no. 06/Q006) and British Board of Agrément certified (BBA cert no. 06/4309). Airtec external or internal walls achieve A to A+ ratings in the BRE Green Guide to Specification ratings system. The blocks can be cut, shaped and so any damaged blocks can be reused to minimise waste.

For external cladding Forterra 20mm Brick Slips (or equivalent) will be used. They are ISO 14001:2004 Environmental Management certified (cert No. CP E00044), ISO 9001:2008 Quality Assured (cer no. CP 00213) and British Board of Agrément certified (BBA cert no. 14/5114) and BS OHSAS 18001: 2007 certified (Cert no. CP OHS 00017).

Flat roof areas will be covered with Permaroof (or equivalent) EPDM rubber cover, manufactured in an ISO 9001 and ISO 14001 certified UK-based facility.

All other materials used in construction will be specified using BRE Green Guide to assure the best environmental performance.

All timber used for construction will be certified by Forest Stewardship Council (FSC) or by The Programme for the Endorsement of Forest Certification (PEFC). The developer is aimed to source certified timber locally (within 35 miles from the site) to reduce energy costs and related CO2 emissions associated with transport.

No products containing Volatile Organic Compounds (VOCs) will be used on site.

Detailed information of the selection of the construction materials will be provided in the separate ‘Design and Access Statement’ and ‘Construction Management Plan.’

### 2.6 Brown Roofs, Green Roofs and Green Walls

Key Requirements:

- The Council will expect all developments to incorporate brown roofs, green roofs and green walls unless it is demonstrated this is not possible or appropriate
- The appropriate roof or wall will depend on the development, the location and other specific factors
- Specific information needs to be submitted with applications for green/brown roofs and walls

Compliance:

As the most of the roof area is taken for solar PV and solar thermal installations, setting up a green or brown roof is not feasible.

However, the extant dwelling has 98.3m2 of fully permeable garden area and 34.4m2 semi-permeable garden paving. The application proposed 99.07m2 of fully permeable garden area and extensive rainwater collection measures covering much of the rest of the site.

Additionally, the developer is committed to introduce a green wall of approx. 97m2, planted along the back garden wall of the development, of native climbing species, such as: Honeysuckle (*Lonicera periclymenum*), Clematis (*Clematis vitalba*), Jasmin (*Jasmin* sp.), and Ivy (*Hedera helix*). The species will be planted into the ground and supported by a dedicated trellis structures. The location of the green wall is shown in Figure 12 below.

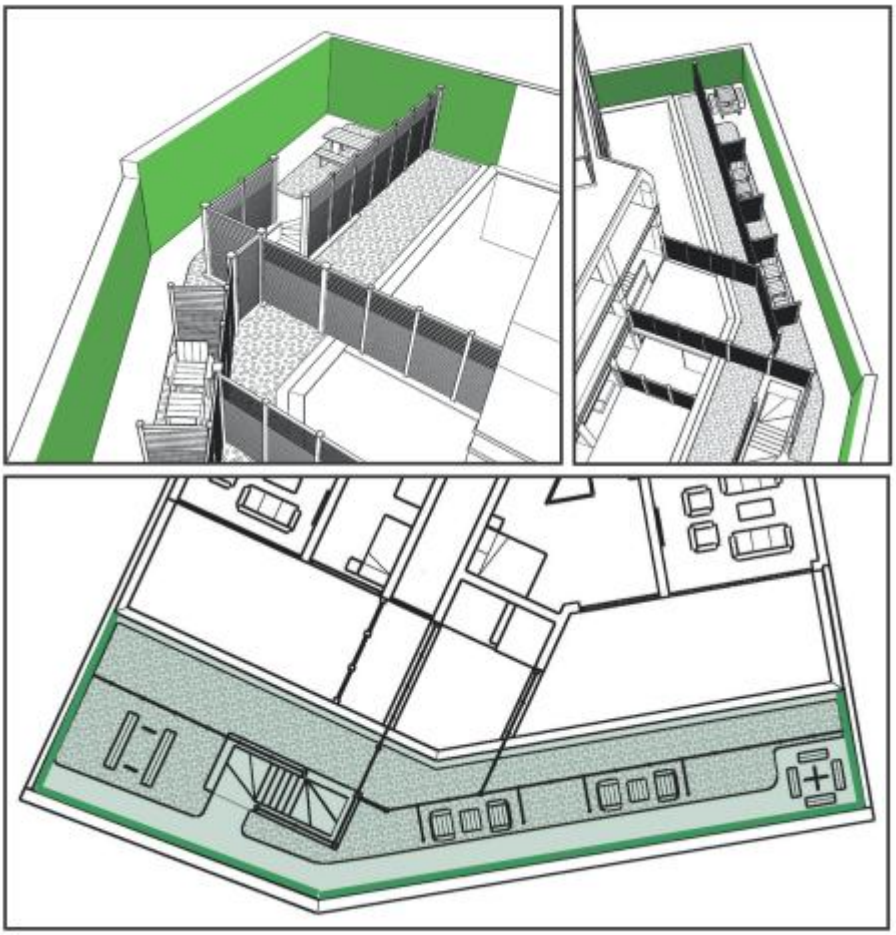

**Figure 12: 97m2 of Planted Green Wall Along the Back Garden Wall of the Development**

## 2.7 Flooding

Key Requirements:

- All developments are required to prevent or mitigate against flooding
- All developments are expected to manage drainage and surface water
- All developments are expected to manage drainage and surface water on-site or as close to the site as possible, using Sustainable Drainage Systems (SUDS)

Compliance:

In order to prevent the risk of flooding, the developer will implement Sustainable Urban Drainage Systems (SUDS), following the recommended by the Council hierarchy:

1. Use infiltration techniques
2. Collect and store rainwater in ponds or open water features for gradual release
3. Collect and store rainwater in tanks or sealed water feature for gradual release
4. Discharge water direct to a watercourse
5. Discharge rainwater to a surface water sewer/drain
6. Discharge water to the combined sewer

The ground under the building is solid clay and therefore there is very little possibility of water being able to soak away into the soil; therefore installation of permeable paving is not considered as feasible. Instead, the reduction in water run-off will be achieved though vegetation in the garden area, green wall along the garden perimeter and installation of a rainwater harvesting tank.

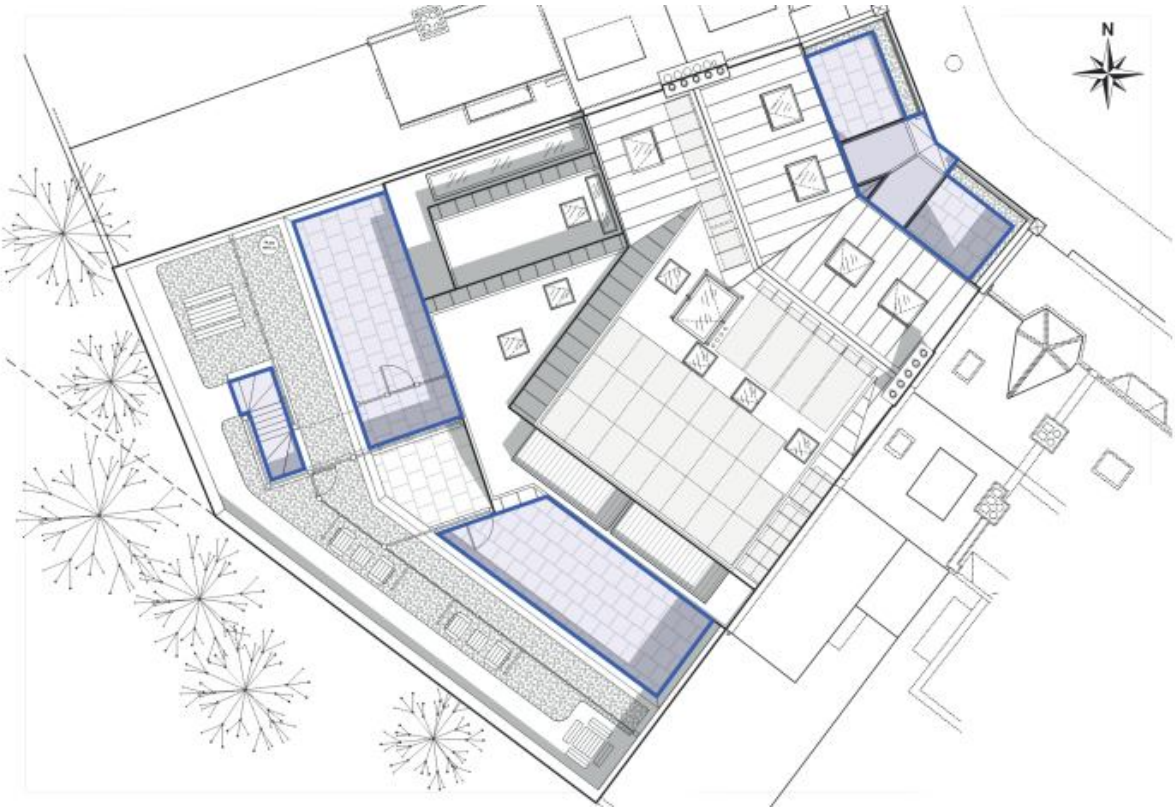


**Figure 13: Only areas of Lower Ground Floor Impermeable Paving - 90.14m² (18.6% of the site), are not subject to water harvesting (shown in Blue). All the rest, some 393.96m² (81.4% of the site) benefits from either a very high capacity Rainwater Harvesting System, fully permeable garden area or (at the front) deep steel planters.**

An F-Line 7,500 liter underground garden rainwater harvesting system tank will be installed on site, accessible for maintenance, buried in the rear communal garden (see Figure 14). The collected water will be fed to header tanks for W.C. flushing and garden/green wall irrigation.

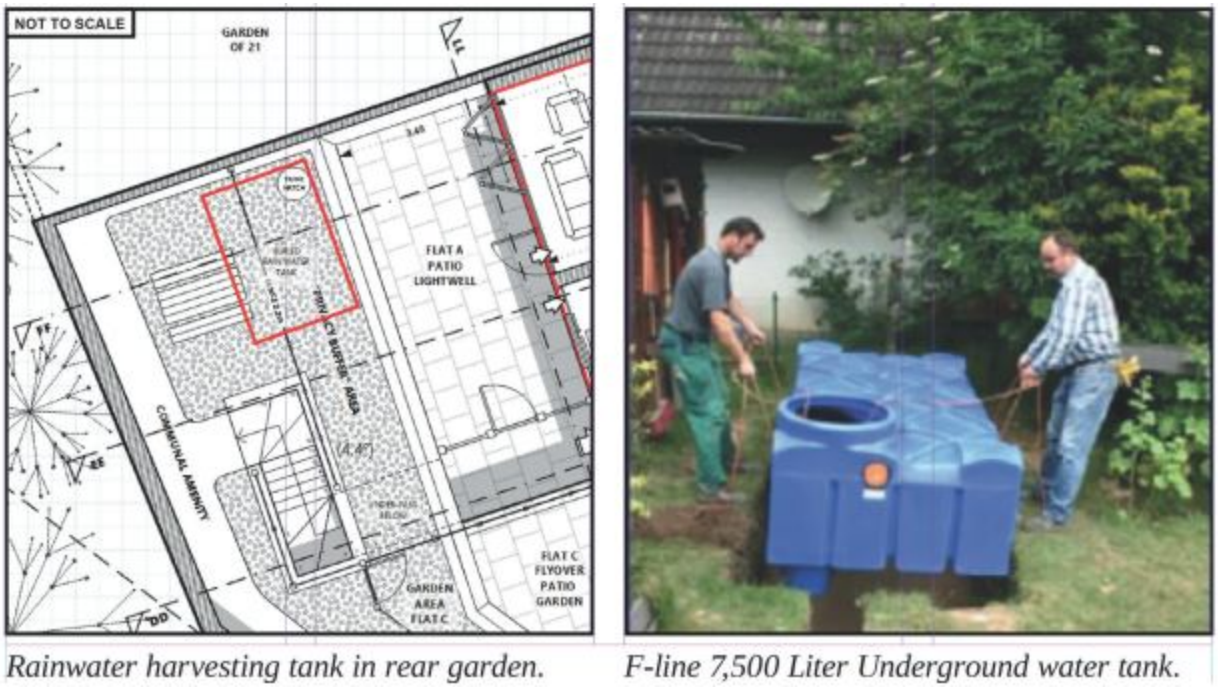


**Figure 15: An F-line 7,500 litre underground garden water harvesting system tank will be installed on site, accessible for maintenance, buried in the rear communal garden.**

By intercepting and slowing precipitation hitting the ground, vegetation in the garden along with a green wall will reduce the volume and rate of storm-water runoff by 76%.

## 2.8 Adapting to Climate Change

Key Requirements:

- All development is expected to consider the impact of climate change and be designed to cope with the anticipated conditions
- All development should consider how it can be occupied in the future when the weather will be different

Compliance:

Adaptation to warmer temperatures:

- Native plants and vegetation will be introduced to the development to take advantage of their cooling evaporative effect. The green wall made of native climbing species will be installed on site. Additionally climbing species will be introduced alongside the rear garden perimeter.

- The building will incorporate carefully selected and designed shading measures to prevent the overheating of the building and the reliance on artificial cooling. These will include balconies on the south side of the building equipped with exterior bypass shutters.

***Insulation***: construction materials are selected to prevent penetration of heat. The building's floors, walls, party walls and flat roofs will be equipped with 100mm Celotex insulation.

**Thermal materials**: materials with high thermal storage and capacity were selected to absorb heat during hot periods, which can be then dissipate during colder periods. The foundations and the basement level are to be made of reinforced/mass concrete and the above ground level construction of aerated blocks (thin joint construction).

Adaptation to heavy rainfalls:

- SUDS, being largely impractical in the site due to the heavy clay underneath the site are not being implemented, Instead, intensive rainwater harvesting system is being put in place. That, coupled with almost no reduction in the site's garden area will result in rainwater run-off reduction of approx. 76%.

- Incorporation water efficient fixtures and fittings: dual flush toilets, self-closing taps, water saver showerhead with restrictors, and water-efficient white goods.

- Collecting and reusing rainwater: an underground 7,500 Litre Tank will be installed in the garden area. The collected water will be fed to header tanks for W.C. flushing.

Adaptation to changing ground conditions:

- Strong retaining walls made of reinforce concrete designed to prevent erosion

- Extensive use of vegetation on site (green walls, garden) will counteract the erosion processes.

### 2.9 Biodiversity

Key Requirements:

Proposals should demonstrate:

- How biodiversity considerations have been incorporated into the development

- If any mitigation measures will be included; and

- What positive measures for enhancing biodiversity are planned

Compliance:

The developer commissioned a Preliminary Ecological Appraisal, which concluded the site represents very limited value in terms of biodiversity.

The application site is predominantly buildings and hard-standing areas with small areas of amenity grasslands, ornamental planting, scattered trees and scrub and a small ornamental pond. No priority habitats have been identified on site. Short-mown, highly disturbed amenity grassland is considered as unsuitable to support rare or protected plant species. The scrub area represents negligible ecological value; so does the artificial ornamental pond.

However, the site and its surroundings provide potential habitat for a number of protected species, such as bats, nesting birds and reptiles. In order to protect wildlife during the construction phase, the developer is committed to implement the following measures:

- No removal of trees, or scrubs, or demolition of building and other structures that may be used by breeding birds will be undertaken between 1st March and 31 August inclusive, unless a competent ecologist has undertaken a detailed check for active birds' nests immediately prior to clearance/demolition and provided written confirmation that no birds will be harmed and/or that there are appropriate measures in place to protect bird interests on site.

- The site clearance will be conducted between March and September, during the active season for reptiles. Prior to clearance, the site will be searched for the potential presence of reptiles. If any reptiles are identified on site, a qualified ecologist will be called on site to implement protection measures.

- All excavations left overnight will be either covered, or provided with a ramp to enable easy escape for hedgehogs and other fauna and will be checked each morning before the works recommence.

- British Standards and National |Joint Utilities Group Guidelines (NJYG) will be followed all times during the construction phase to eliminate or minimise negative impacts on habitats adjacent to the site. This includes protection of root zones.

In order to enhance the biodiversity value, the developer intends to implement the following measures:

- Swift (*Apus apus*) boxes will be installed under the eaves of the new building;

- Sparrow (*Passer domesticus*) terraces will be placed on the top of the wall to the rear of the development;

- Native species, such as selfheal (*Prunella vulgaris*), comfrey (*Symphytum officinale*), primrose (*Primula vulgaris*), or loosestrife (*Lysimachia* spp.) will be introduced in the garden area, as they are of particular benefit to bumblebees, bees and butterflies;

- The replacement boundary wall adjacent to the West Hampstead Rail Sides SNCI will incorporate habitat bricks to provide shelter and hibernation opportunities for insects, amphibians and reptiles;

- A green wall will be incorporated into the development, made on native wildlife-attracting species, such as: honeysuckle (*Lonicera periclymenem*), Clematis (*Clematis vitalba*), jasmine (*Jasminum* sp.) and ivy (*Hedera helix*). The climbing species will be also incorporated alongside the garden perimeter.

## 2.10 Local Food Growing

Key Requirements:

- We encourage food to be grown wherever possible and suitable

- Rooftops and shared spaces such as gardens and parks provide opportunities for food growing

Compliance:

While, due to space limitation, no specific area of the garden has been dedicated for the growing of edible species of plants, three of the flats have patio gardens and the remainder have generous balcony areas, so that residents will be able to grow edible plants of their choice in containers should they wish to do so.