mes buildingsolutions
Part of the FOCUS consultancy group

Sustainability Plan

1 Hampshire Street, London NW5 2TE

May 2020

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About *MES Building Solutions*

***MES Building Solutions* is an established consultancy practice specialising in providing building solutions throughout the UK.**

We offer a full range of services for both residential and commercial buildings from small individual properties through to highly complex mixed use developments.

We are an industry leader in delivering a professional, accredited and certified service to a wide range of clients including architects, developers, builders, housing associations, the public sector and private householders.

Employing highly qualified staff, our team comes from a variety of backgrounds within the construction industry with combined knowledge of building design, engineering, assessment, construction, development, research and surveying.

We are renowned for our creative thinking and provide a high quality, honest and diligent service.

MES Building Solutions maintains its position at the forefront of changes in planning, building regulations and neighbourly matters, as well as technological advances. Our clients, large or small are therefore assured of a cost effective, cohesive and fully integrated professional service.

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Section 1: Introduction

1.1 Executive Summary

MES Building Solutions have been retained to provide a Sustainability Plan to demonstrate how the proposed development at 1 Hampshire Street will comply with the requirements of the Section 106 agreement for this development. The purpose of this report is to provide an overview of how the development will comply with the existing Energy & Sustainability Statement and address the requirements as laid out in the Section 106 agreement.

Full details can be found in the main body of the report, but a summary of the main points can be found below;

a) The Energy & Sustainability Statement prepared by Build Energy Limited and dated 18th May 2017 contains a specific section relating to the sustainability measures proposed for the development. These are;
    - Consumption of potable water to be no more than 105 litres/person/day – see requirement b for further details
    - Materials used to construct the development will ensure that roofs, external walls, internal walls (including party walls), floors and windows will all achieve BRE Green Guide ratings of between A+ and D
    - All insulation used within the development will have a Global Warming potential (GWP) of <5
    - A Site Waste Management Plan (SWMP) will be created for the development and will set target benchmarks for resource efficiency and incorporate Camden's target of sourcing 15-20% of the total value of materials from recycled or re-used sources
    - Incorporation of a green roof into the scheme

    All of these elements are being incorporated into the development.
b) Full water calculations have been undertaken for the proposed development following the methodology set out in Approved Document G (2015 edition). This demonstrates that the development can achieve the required 105 litres/person/day target, including an allowance of 5 litres/person/day for external water use. The full calculations can be found in Appendix A.
c) This report should be taken as the pre-implementation review of the development. It has been produced by Andrew Gwynne, who is a licenced BREEAM assessor, experienced sustainability

consultant and holds full professional membership of the Chartered Institute of Builders.

d) At present it is too early in the detailed design process of the development for a fully formed maintenance and management strategy to be available. A green roof will be provided (see requirement a, above) but the exact specification of this has not been fully developed – this could be either an extensive or intensive roof, and the management required differs depending on the type of roof and the planting present within it. Consequently, it is proposed that the maintenance and management required will be developed during the detailed design and construction of the development and will form part of the information required to complete the Post-Construction Review – see requirements e and f, below.
e) A post construction review of the Development will be undertaken by an appropriately qualified recognised and independent professional in the form of a written report. This will include photographs and installation contracts demonstrating that the measures detailed in this Sustainability Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation. This review report will be made available to Camden Council following their production in line with requirement f, below.
f) It is proposed that the Owner of the development will provide additional information as required to the 'Planning Obligations Officer' as detailed in the Section 106 agreement under Definition 2.29.

It is considered, therefore, that the development as proposed meets the requirements of the S106 agreement and also the wider sustainability requirements of Camden's planning policies.

1.2 Section 106 & Planning Policy

A Section 106 agreement is in place for the proposed development at 1 Hampshire Street and this details a number of requirements of Sustainability Plan as part of definition 2.37. This Plan should provide;

a plan including a post construction review securing the incorporation of sustainability measures in the carrying out of the Development and its fabric and in its subsequent management and occupation which shall:-

a) achieve the targets set out in the submission document entitled Energy & Sustainability Statement prepared by Build Energy Limited and dated 18th May 2017 and sustainable design measure and climate change adaption measures in line with policies contained in the Council's Core Strategy

policy CS13 (Tackling climate change through promoting higher environmental standards) and Development Policy DP22 (Sustainable design and construction);

b) *achieve a maximum internal water use of 105 litres/person/day, allowing 5 litres/person/day for external water use;*
c) *include a pre-implementation review by an appropriately qualified and recognised independent professional in respect of the property certifying that the measures incorporated into the Sustainability Plan are achievable in the development and satisfy the Council's strategic policies on sustainability contained within its Development Plan;*
d) *details of maintenance and management relative to the sustainability measures included in the Sustainability Plan;*
e) *measures to secure a post construction review of the Development by an appropriately qualified recognised and independent professional in respect of the Property (including a written report, photographs and installation contracts) 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 (for avoidance of doubt, this post construction review does not relate to any BREEAM Excellent assessment/requirement on any commercial space within the Development); and*
f) *identifying means of ensuring the provision of information to the Council and provision of a mechanism for review and update as required for time to time.*

National Policy

In February 2019, the Government published the National Planning Policy Framework (NPPF) which superseded a number of planning policies including the Planning Policy Statement (PPS) suite.

The NPPF outlines the Government's planning policies for England. It provides a framework within which local people and accountable councils can produce their own distinctive local plan which reflect the needs and priorities of their neighbourhoods and communities. The purpose of the NPPF is to contribute to the achievement of sustainable development.

The NPPF aims to strengthen local decision making as a way to foster the delivery of sustainable developments. However, the NPPF also outlines that sustainable developments require careful attention to viability and costs in plan-making and decision-taking processes. Over everything else, plans should be deliverable. Therefore, the size and scale of

development within the plan should not be subjected to large scale obligations and burdens, so that their ability to be developed viably is threatened.

The NPPF guidance promotes planning for climate change. Chapter 14 of the NPPF, Meeting the Challenge of Climate Change, Flooding and Coastal Change (paragraphs 149 to 154) state that:

Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.

- New development should be planned for in ways that:
    - Avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and
    - Can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards.

- To help increase the use and supply of renewable and low carbon energy and heat, plans should:
    - Provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts);
    - Consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and
    - Identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.

- Local planning authorities should support community-led initiatives for renewable and low carbon energy, including developments outside areas identified in local plans or other strategic policies that are being taken forward through neighbourhood planning.

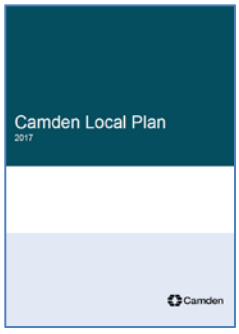
- In determining planning applications, local planning authorities should expect new development to:
  - Comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
  - Take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.

- When determining planning applications for renewable and low carbon development, local planning authorities should:
  - Not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and

Approve the application if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.

Camden Local Plan 2017

Policy CC1 Climate change mitigation



The Council will require all development to minimise the effects of climate change and encourage all developments to meet the highest feasible environmental standards that are financially viable during construction and occupation.

We will:
a. promote zero carbon development and require all development to reduce carbon dioxide emissions through following the steps in the energy hierarchy;

b. require all major development to demonstrate how London Plan targets for carbon dioxide emissions have been met;

c. ensure that the location of development and mix of land uses minimise the need to travel by car and help to support decentralised energy networks;

d. support and encourage sensitive energy efficiency improvements to existing buildings;

e. require all proposals that involve substantial demolition to demonstrate that it is not possible to retain and improve the existing building; and

f. expect all developments to optimise resource efficiency. For decentralised energy networks, we will promote decentralised energy by:

g. working with local organisations and developers to implement decentralised energy networks in the parts of Camden most likely to support them;

h. protecting existing decentralised energy networks (e.g. at Gower Street, Bloomsbury, King's Cross, Gospel Oak and Somers Town) and safeguarding potential network routes; and

i. requiring all major developments to assess the feasibility of connecting to an existing decentralised energy network, or where this is not possible establishing a new network.

To ensure that the Council can monitor the effectiveness of renewable and low carbon technologies, major developments will be required to install appropriate monitoring equipment.

Policy CC2 Adapting to climate change

The Council will require development to be resilient to climate change.

All development should adopt appropriate climate change adaptation measures such as:

a. the protection of existing green spaces and promoting new appropriate green infrastructure;

b. not increasing, and wherever possible reducing, surface water runoff through increasing permeable surfaces and use of Sustainable Drainage Systems;

c. incorporating bio-diverse roofs, combination green and blue roofs and green walls where appropriate; and

d. measures to reduce the impact of urban and dwelling overheating, including application of the cooling hierarchy.

Any development involving 5 or more residential units or 500 sqm or more of any additional floorspace is required to demonstrate the above in a Sustainability Statement.

Sustainable design and construction measures

The Council will promote and measure sustainable design and construction by:

e. ensuring development schemes demonstrate how adaptation measures and sustainable development principles have been incorporated into the design and proposed implementation;

f. encourage new build residential development to use the Home Quality Mark and Passivhaus design standards;

g. encouraging conversions and extensions of 500 sqm of residential floorspace or above or five or more dwellings to achieve "excellent" in BREEAM domestic refurbishment; and

h. expecting non-domestic developments of 500 sqm of floorspace or above to achieve "excellent" in BREEAM assessments and encouraging zero carbon in new development from 2019.

London Plan (2016)

Policy 5.2 Minimising Carbon Dioxide Emissions
Planning decisions

A Development proposals should make the fullest contribution to minimising carbon dioxide emissions in accordance with the following energy hierarchy:

1 Be lean: use less energy
2 Be clean: supply energy efficiently
3 Be green: use renewable energy

B The Mayor will work with boroughs and developers to ensure that major developments meet the following targets for carbon dioxide emissions reduction in buildings. These targets are expressed as minimum improvements over the Target Emission Rate (TER) outlined in the national Building Regulations leading to zero carbon residential buildings from 2016 and zero carbon non-domestic buildings from 2019.

Residential buildings:

Year	Improvement on 2010 Building Regulations
2010 – 2013	25 per cent (Code for Sustainable Homes level 4)
2013 - 2016	40 per cent
2016 - 2031	Zero Carbon

Non-domestic buildings:

Year	Improvement on 2010 Building Regulations
2010 – 2013	25 per cent
2013 - 2016	40 per cent
2016 - 2019	As per building regulations requirements
2019 - 2031	Zero Carbon

C Major development proposals should include a detailed energy assessment to demonstrate how the targets for carbon dioxide emissions reduction outlined above are to be met within the framework of the energy hierarchy.

D As a minimum, energy assessments should include the following details:

a calculation of the energy demand and carbon dioxide emissions covered by Building Regulations and, separately, the energy demand and carbon dioxide emissions from any other part of the development, including plant or equipment, that are not covered by the Building Regulations (see paragraph 5.22) at each stage of the energy hierarchy

b proposals to reduce carbon dioxide emissions through the energy efficient design of the site, buildings and services

c proposals to further reduce carbon dioxide emissions through the use of decentralised energy where feasible, such as district heating and cooling and combined heat and power (CHP)

d proposals to further reduce carbon dioxide emissions through the use of on-site renewable energy technologies.

E The carbon dioxide reduction targets should be met on-site. Where it is clearly demonstrated that the specific targets cannot be fully

achieved on-site, any shortfall may be provided off-site or through a cash in lieu contribution to the relevant borough to be ring fenced to secure delivery of carbon dioxide savings elsewhere.

Policy 5.3 Sustainable Design and Construction

Strategic

A The highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime.

Planning decisions

B Development proposals should demonstrate that sustainable design standards are integral to the proposal, including its construction and operation, and ensure that they are considered at the beginning of the design process.

C Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance and this should be clearly demonstrated within a design and access statement. The standards include measures to achieve other policies in this Plan and the following sustainable design principles:

a minimising carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems)
b avoiding internal overheating and contributing to the urban heat island effect
c efficient use of natural resources (including water), including making the most of natural systems both within and around buildings
d minimising pollution (including noise, air and urban runoff)
e minimising the generation of waste and maximising reuse or recycling
f avoiding impacts from natural hazards (including flooding)
g ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions
h securing sustainable procurement of materials, using local supplies where feasible, and
i promoting and protecting biodiversity and green infrastructure.

LDF preparation

D Within LDFs boroughs should consider the need to develop more detailed policies and proposals based on the sustainable design principles outlined above and those which are outlined in the Mayor's

supplementary planning guidance that are specific to their local circumstances.

Policy 5.6 Decentralised Energy in Development Proposals

Planning decisions

A Development proposals should evaluate the feasibility of Combined Heat and Power (CHP) systems, and where a new CHP system is appropriate also examine opportunities to extend the system beyond the site boundary to adjacent sites.

B Major development proposals should select energy systems in accordance with the following hierarchy:

1 Connection to existing heating or cooling networks;
2 Site wide CHP network;
3 Communal heating and cooling;

C Potential opportunities to meet the first priority in this hierarchy are outlined in the London Heat Map tool. Where future network opportunities are identified, proposals should be designed to connect to these networks.

Policy 5.7 Renewable Energy

Strategic

A The Mayor seeks to increase the proportion of energy generated from renewable sources, and expects that the projections for installed renewable energy capacity outlined in the Climate Change Mitigation and Energy Strategy and in supplementary planning guidance will be achieved in London.

Planning decisions

B Within the framework of the energy hierarchy (see Policy 5.2), major development proposals should provide a reduction in expected carbon dioxide emissions through the use of on-site renewable energy generation, where feasible.

LDF preparation

C Within LDFs boroughs should, and other agencies may wish to, develop more detailed policies and proposals to support the development of renewable energy in London – in particular, to identify broad areas where specific renewable energy technologies, including large scale systems and the large scale deployment of small scale systems, are appropriate. The identification of areas should be consistent with any guidelines and criteria outlined by the Mayor.

D All renewable energy systems should be located and designed to minimise any potential adverse impacts on biodiversity, the natural environment and historical assets, and to avoid any adverse impacts on air quality.

London Plan (December 2019) - Intend to publish version

A draft new London Plan was published by the Mayor for consultation in December 2017, although the current 2016 Plan is still the adopted Development Plan, the proposed document is given significant weight.

Policy SI 2 Minimising greenhouse gas emissions

A Major development should be net zero-carbon. This means reducing greenhouse gas emissions in operation and minimising both annual and peak energy demand in accordance with the following energy hierarchy:

1) be lean: use less energy and manage demand during operation
2) be clean: exploit local energy resources (such as secondary heat) and supply energy efficiently and cleanly
3) be green: maximise opportunities for renewable energy by producing, storing and using renewable energy on-site
4) be seen: monitor, verify and report on energy performance.

B Major development proposals should include a detailed energy strategy to demonstrate how the zero-carbon target will be met within the framework of the energy hierarchy.

C A minimum on-site reduction of at least 35 per cent beyond Building Regulations156 is required for major development. Residential development should achieve 10 per cent, and non-residential development should achieve 15 per cent through energy efficiency measures. Where it is clearly demonstrated that the zero-carbon target cannot be fully achieved on-site, any shortfall should be provided, in agreement with the borough, either:

1) through a cash in lieu contribution to the borough's carbon offset fund, or
2) off-site provided that an alternative proposal is identified and delivery is certain.

D Boroughs must establish and administer a carbon offset fund. Offset fund payments must be ring-fenced to implement projects that deliver carbon reductions. The operation of offset funds should be monitored and reported on annually.

E Major development proposals should calculate and minimise carbon emissions from any other part of the development, including plant or equipment that are not covered by Building Regulations, i.e. unregulated emissions.
F Development proposals referable to the Mayor should calculate whole life-cycle carbon emissions through a nationally recognised Whole Life-Cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions.

Policy SI 3 Energy infrastructure

A Boroughs and developers should engage at an early stage with relevant energy companies and bodies to establish the future energy and infrastructure requirements arising from large-scale development proposals such as Opportunity Areas, Town Centres, other growth areas or clusters of significant new development.

B Energy masterplans should be developed for large-scale development locations (such as those outlined in Part A and other opportunities) which establish the most effective energy supply options. Energy masterplans should identify:

1) major heat loads (including anchor heat loads, with particular reference to sites such as universities, hospitals and social housing)
2) heat loads from existing buildings that can be connected to future phases of a heat network
3) major heat supply plant including opportunities to utilise heat from energy from waste plants
4) secondary heat sources, including both environmental and waste heat
5) opportunities for low and ambient temperature heat networks
6) possible land for energy centres and/or energy storage
7) possible heating and cooling network routes
8) opportunities for futureproofing utility infrastructure networks to minimise the impact from road works
9) infrastructure and land requirements for electricity and gas supplies
10) implementation options for delivering feasible projects, considering issues of procurement, funding and risk, and the role of the public sector
11) opportunities to maximise renewable electricity generation and incorporate demand-side response measures.

C Development Plans should:
1) identify the need for, and suitable sites for, any necessary energy infrastructure requirements including energy centres, energy storage and upgrades to existing infrastructure

2) identify existing heating and cooling networks, identify proposed locations for future heating and cooling networks and identify opportunities for expanding and inter-connecting existing networks as well as establishing new networks.
D Major development proposals within Heat Network Priority Areas should have a communal low-temperature heating system:
1) the heat source for the communal heating system should be selected in accordance with the following heating hierarchy:

a) connect to local existing or planned heat networks
b) use zero-emission or local secondary heat sources (in conjunction with heat pump, if required)
c) use low-emission combined heat and power (CHP) (only where there is a case for CHP to enable the delivery of an area-wide heat network, meet the development's electricity demand and provide demand response to the local electricity network)
d) use ultra-low NOx gas boilers

2) CHP and ultra-low NOx gas boiler communal or district heating systems should be designed to ensure that they meet the requirements in Part B of Policy SI 1 Improving air quality 3) where a heat network is planned but not yet in existence the development should be designed to allow for the cost-effective connection at a later date.

E) Heat networks should achieve good practice design and specification standards for primary, secondary and tertiary systems comparable to those set out in the CIBSE/ADE Code of Practice CP1 or equivalent.

Policy SI 4 Managing heat risk

A Development proposals should minimise adverse impacts on the urban heat island through design, layout, orientation, materials and the incorporation of green infrastructure.

B Major development proposals should demonstrate through an energy strategy how they will reduce the potential for internal overheating and reliance on air conditioning systems in accordance with the following cooling hierarchy:

1) reduce the amount of heat entering a building through orientation, shading, high albedo materials, fenestration, insulation and the provision of green infrastructure
2) minimise internal heat generation through energy efficient design
3) manage the heat within the building through exposed internal thermal mass and high ceilings

4) provide passive ventilation
5) provide mechanical ventilation
6) provide active cooling systems.

Policy SI 12 Flood risk management

A Current and expected flood risk from all sources (as defined in paragraph 9.12.2) across London should be managed in a sustainable and cost-effective way in collaboration with the Environment Agency, the Lead Local Flood Authorities, developers and infrastructure providers.
B Development Plans should use the Mayor's Regional Flood Risk Appraisal and their Strategic Flood Risk Assessment as well as Local Flood Risk Management Strategies, where necessary, to identify areas where particular and cumulative flood risk issues exist and develop actions and policy approaches aimed at reducing these risks. Boroughs should co-operate and jointly address cross-boundary flood risk issues including with authorities outside London.

C Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.

D Developments Plans and development proposals should contribute to the delivery of the measures set out in Thames Estuary 2100 Plan. The Mayor will work with the Environment Agency and relevant local planning authorities, including authorities outside London, to safeguard an appropriate location for a new Thames Barrier.

E Development proposals for utility services should be designed to remain operational under flood conditions and buildings should be designed for quick recovery following a flood.

F Development proposals adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading. Unless exceptional circumstances are demonstrated for not doing so, development proposals should be set back from flood defences to allow for any foreseeable future maintenance and upgrades in a sustainable and cost-effective way.

G Natural flood management methods should be employed in development proposals due to their multiple benefits including increasing flood storage and creating recreational areas and habitat.

Government's ministerial statement (March 2015)

"The government's policy is that planning permissions should not be granted requiring, or subject to conditions requiring, compliance with any technical housing standards other than for those areas where authorities have existing policies on access, internal space, or water efficiency".

From 1 October 2015: Existing Local Plan, neighbourhood plan, and supplementary planning document policies relating to water efficiency, access and internal space should be interpreted by reference to the nearest equivalent new national technical standard. Decision takers should only require compliance with the new national technical standards where there is a relevant current Local Plan policy.

Where policies relating to technical standards have yet to be revised, local planning authorities are advised to set out clearly how the existing policies will be applied in decision taking in light of this statement.

Section 2: Description of development

2.1 Location

The application site is that of two existing two storey buildings located at 1 Hampshire Street, NW5 2TE.

The site is to the east of Torriano Avenue and approximately 3miles to the North of the city of London.

There are excellent transport links close to the development site with a PTAL rating of 5 being achieved. Caledonian Road underground station to the east and Kentish Town railway station to the west are both within walking distance. Regular bus routes are also available on York Way and Camden Road.

Figure 2.1: Site location. (Google Maps)

2.2 Details of development

The proposed mixed-use redevelopment will consist of three new commercial units at ground floor and 16 residential flats with landscaping, cycle and waste storage will also be incorporated.

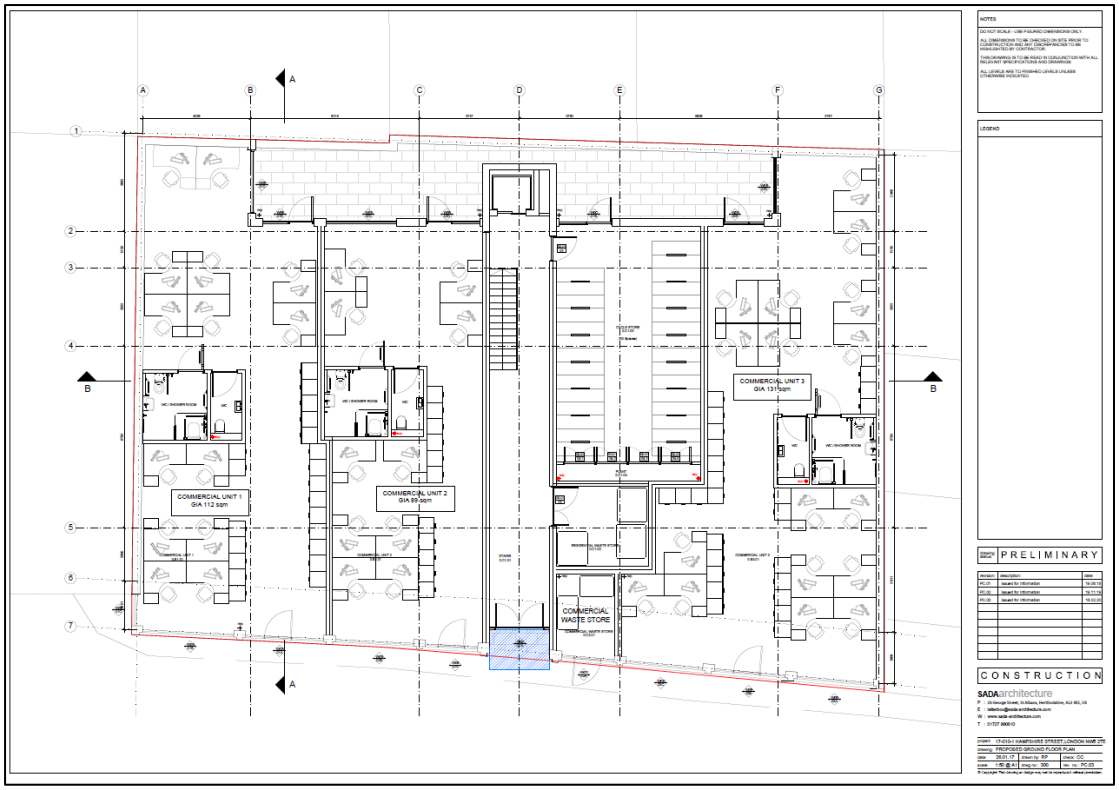
The proposed commercial units at ground floor level fronting Hampshire Road are each with an area of 89-131sqm (332sqm total). The development is designed in a way to ensure flexibility within this floor space, allowing units to be used by a range of potential occupiers to meet the operational requirements of their business

There will be no off-street car parking as the development proposes a car-free approach.

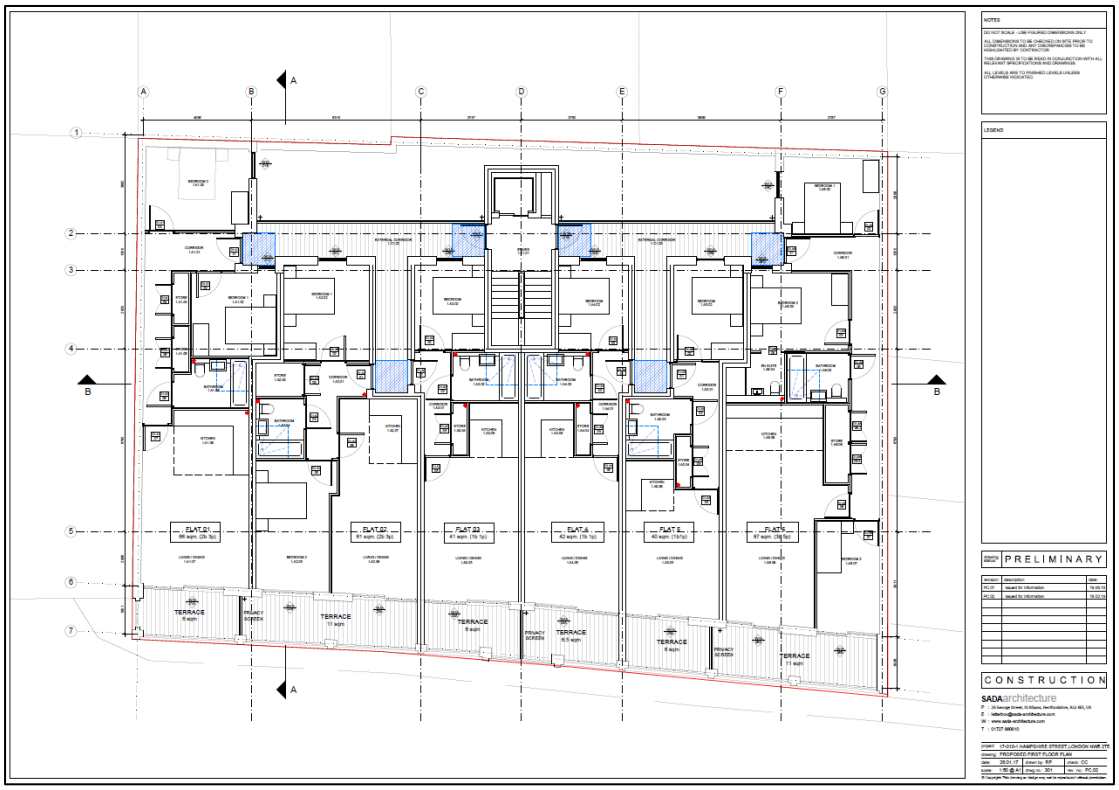
Secure cycle storage will provide 30 storage spaces, in accordance with London Plan 2016.

The flat layouts fulfil the space requirements of the London Mayors Housing SPD 2011 and Lifetime Homes Standards July 2010.

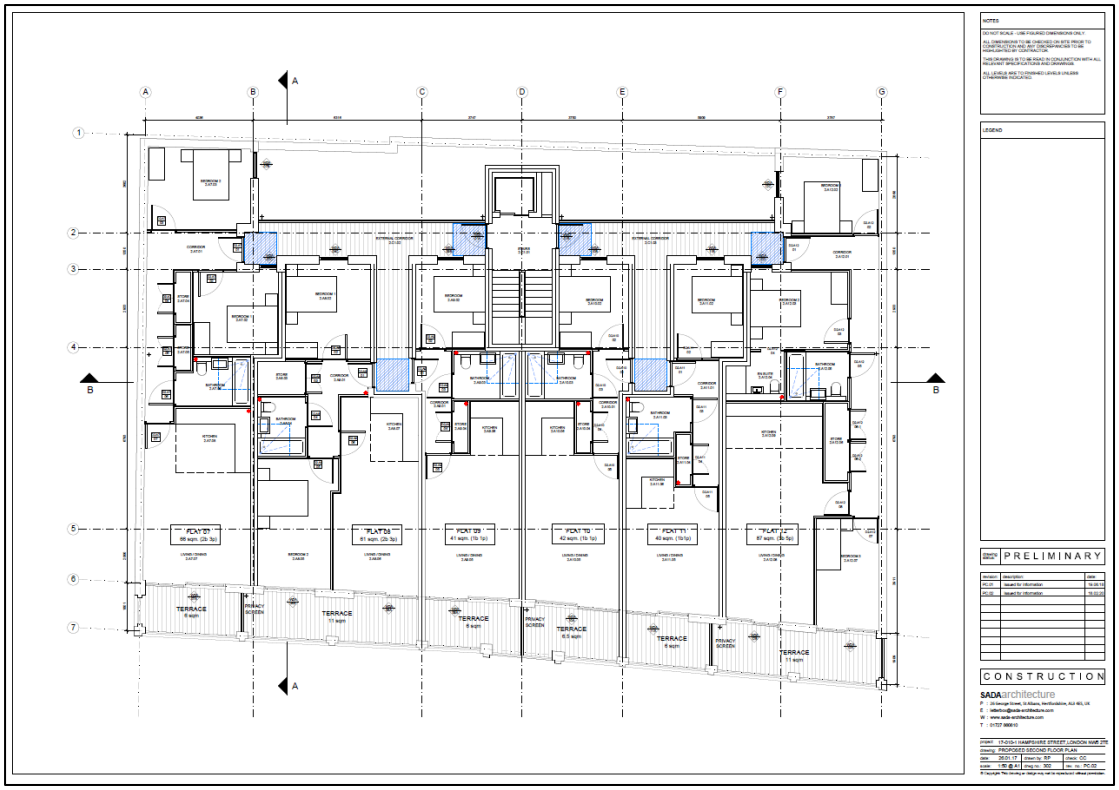
Proposed Site Plan



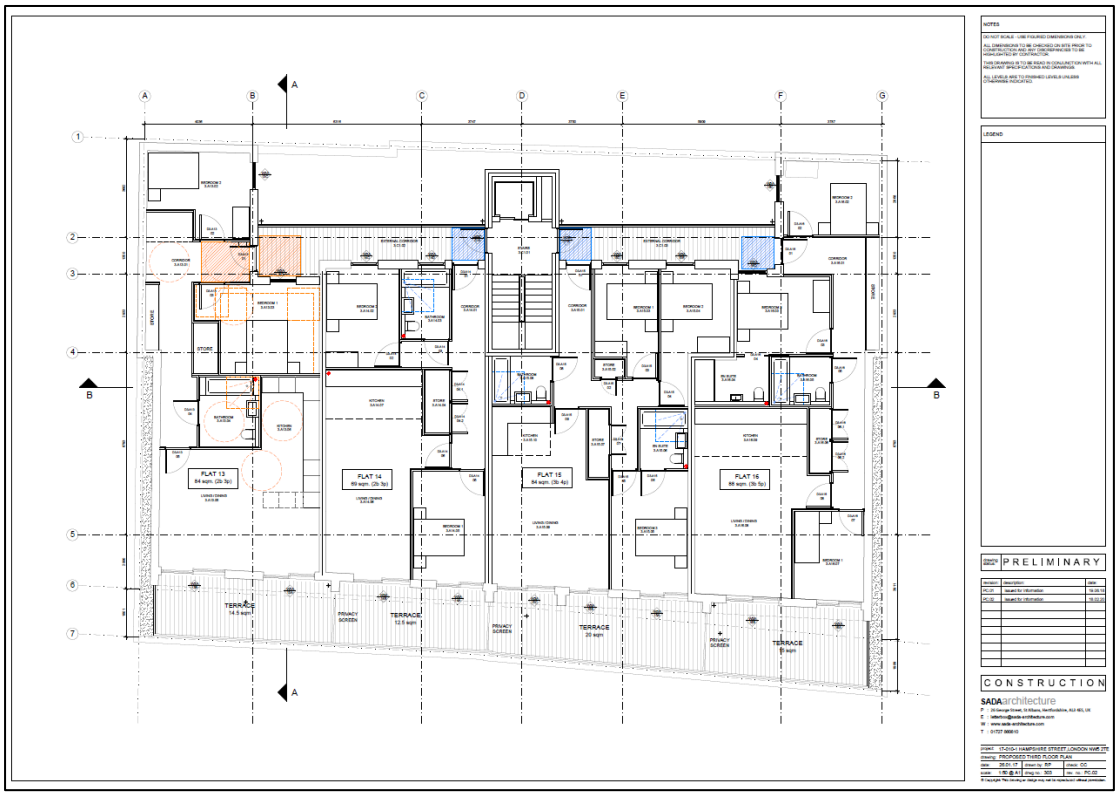
Proposed Ground Floor Plan



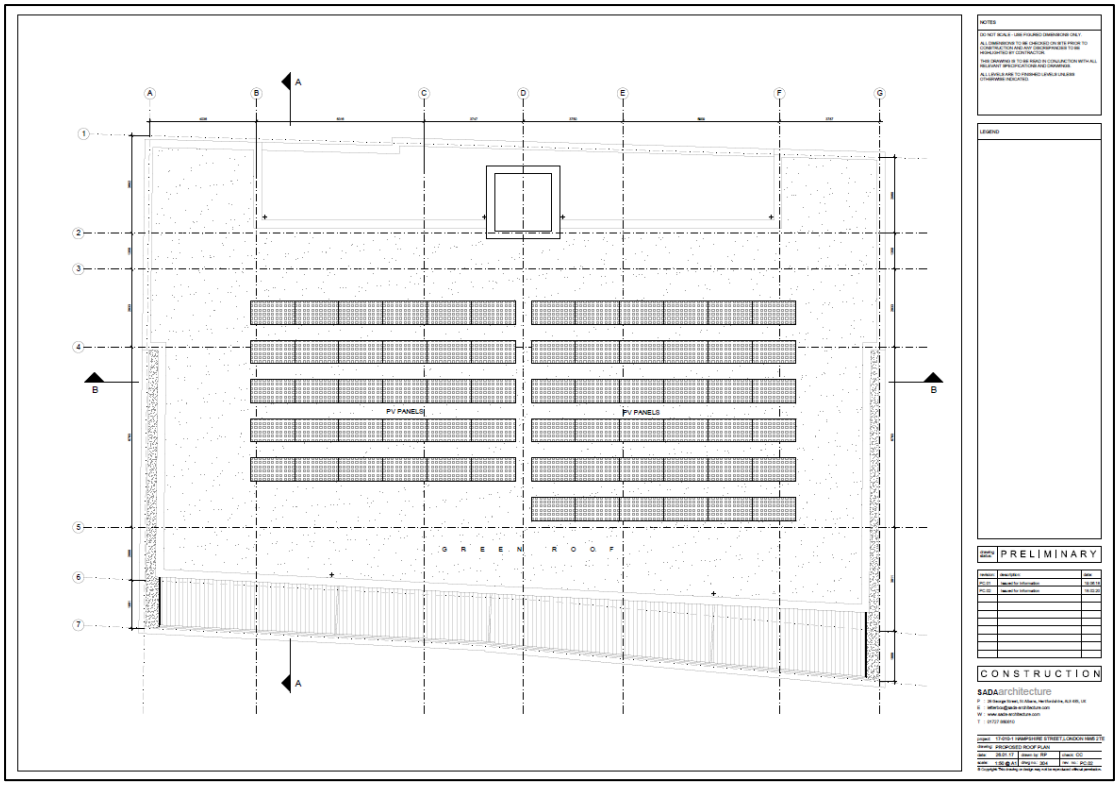
Proposed First Floor Plan



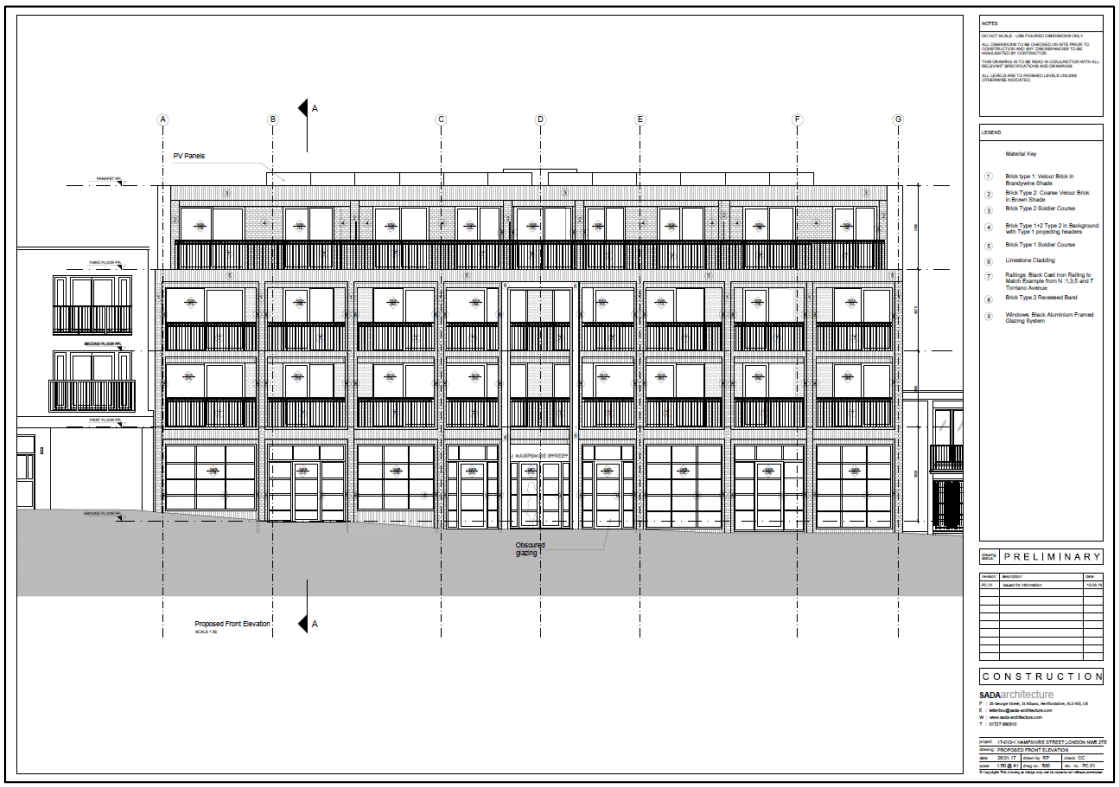
Proposed Second Floor Plan

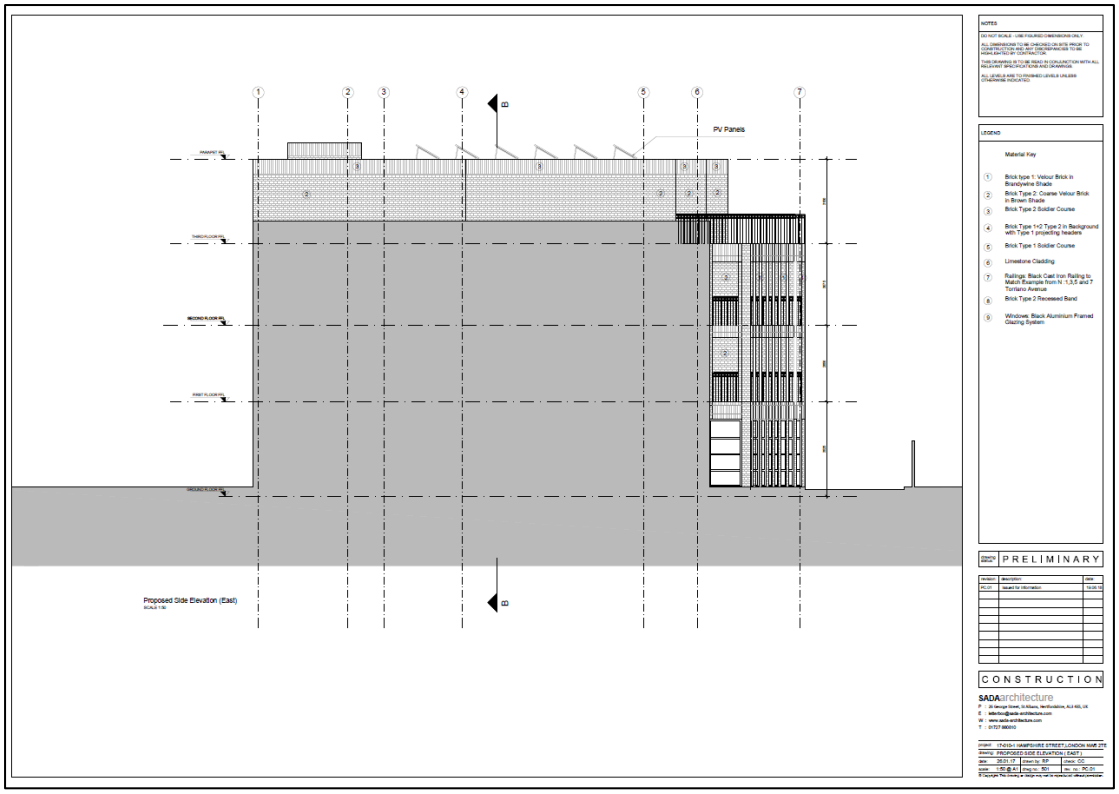


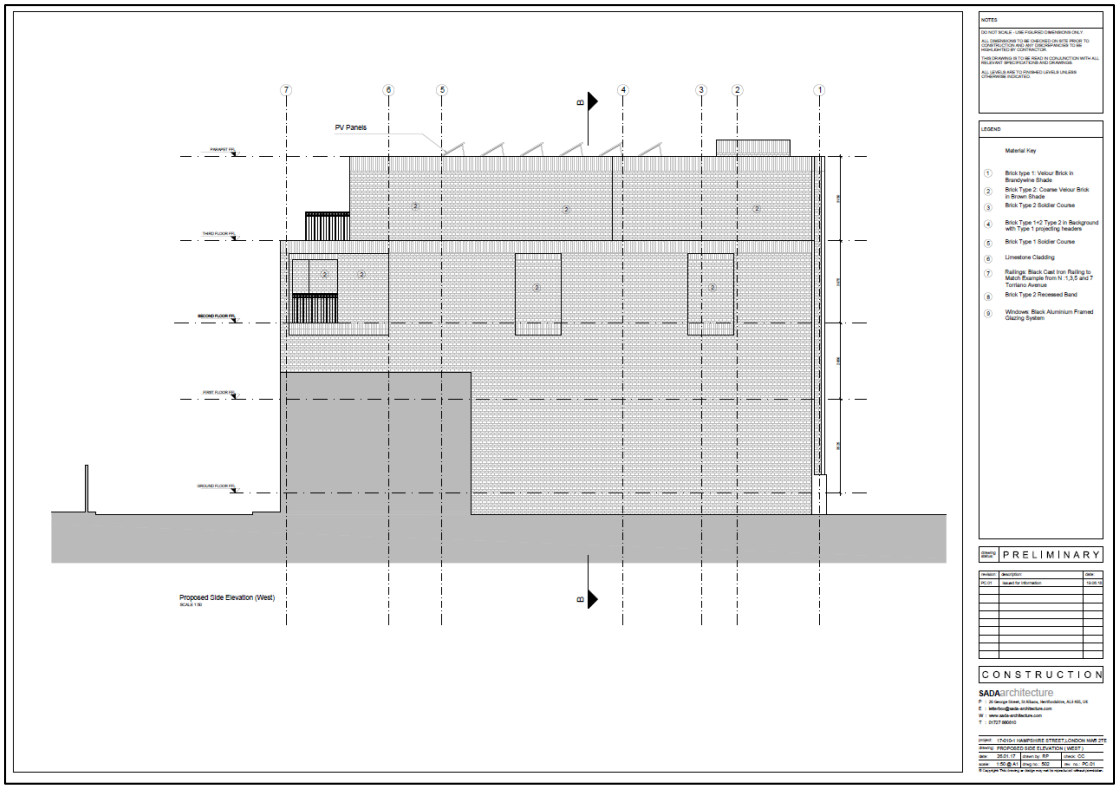
Proposed Third Floor Plan

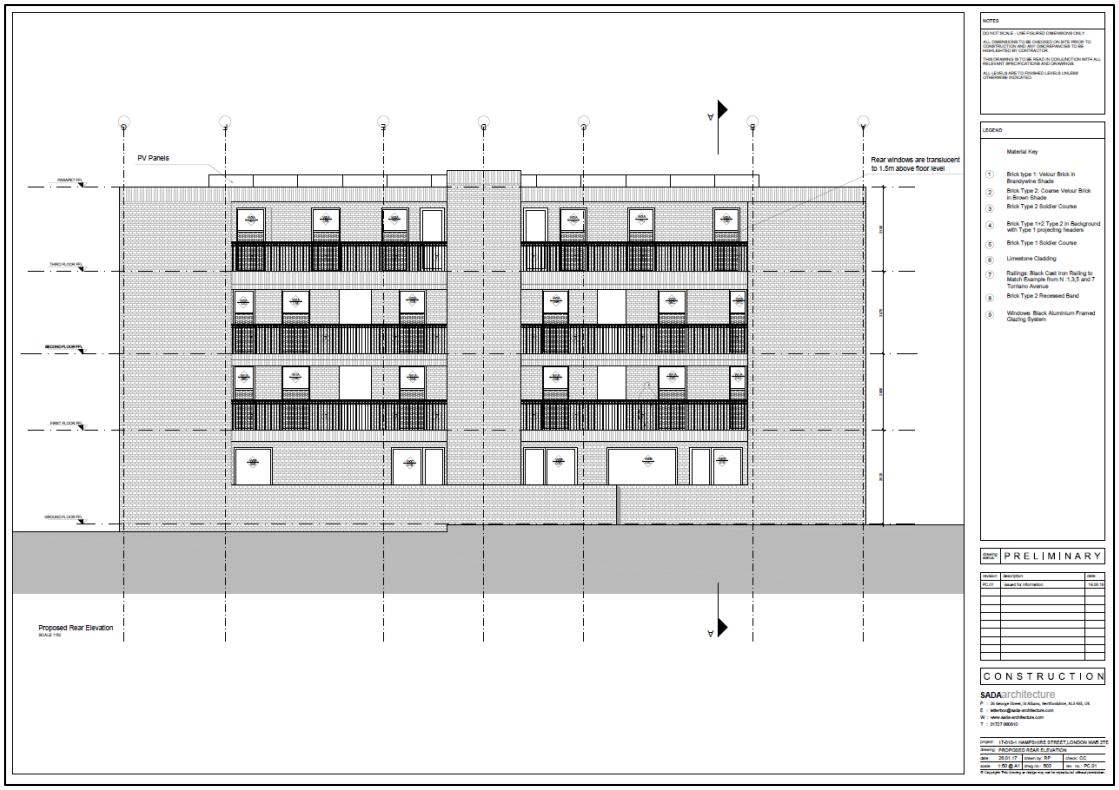


Proposed Roof Plan




PV Panels
Proposed Side Elevation (East)
PRELIMINARY
CONSTRUCTION
SADAarchitecture


PV Panels
Proposed Side Elevation (West)
PRELIMINARY
CONSTRUCTION
SADAarchitecture



Proposed Elevations

Section 3: Sustainability Plan

A). Achieves targets set out in the 'Energy & Sustainability Statement' dated 18th May 2017

The Energy & Sustainability Statement prepared by Build Energy Limited and dated 18th May 2017 contains a specific section relating to the sustainability measures proposed for the development. These are;

i. Consumption of potable water to be no more than 105 litres/person/day
ii. Materials used to construct the development will ensure that roofs, external walls, internal walls (including party walls), floors and windows will all achieve BRE Green Guide ratings of between A+ and D
iii. All insulation used within the development will have a Global Warming potential (GWP) of <5
iv. A Site Waste Management Plan (SWMP) will be created for the development and will set target benchmarks for resource efficiency and incorporate Camden's target of sourcing 15-20% of the total value of materials from recycled or re-used sources
v. Incorporation of a green roof into the scheme

All of these elements are being incorporated into the development, as detailed below;

i. See requirement b, below, for further details.
ii. The development will commit to ensuring all construction elements achieve a Green Guide rating of between A+ and D. However, the detailed design of the development has not yet progressed to a point at which the construction specification for each element has been fixed. Consequently, it is proposed that the assessment of each element and the provision of evidence relating to their Green Guide ratings will form part of the information required to complete the Post-Construction Review – see requirements e and f, below.
iii. The development will commit to ensuring all insulation used in the construction elements has a GWP of less than 5. However, the detailed design of the development has not yet progressed to a point at which the construction specification for each element has been fixed. Consequently, it is proposed that the assessment of each insulation product used and the provision of evidence relating to their GWP will form part of the information required to complete the Post-Construction Review – see requirements e and f, below. However, the development

will use products that are intrinsically low GWP – such as mineral wool – wherever possible and where PIR insulation is required then this will be a Kingspan product, as the vast majority of Kingspan insulation has a GWP of less than 5.

iv. A SWMP will be developed by the main contractor when they are appointed. As the project has yet to progress to this stage, a fully developed SWMP has not been developed. However, the main contractor will be required to produce SWMP that sets target benchmarks for resource efficiency. The SWMP will be developed, and target benchmarks set, in line with guidance from DEFRA, WRAP & BRE and KPIs from either Envirovise or Constructing Excellence. The contractor will also be required to ensure the SWMP incorporates Camden's target of sourcing 15-20% of the total value of materials required for the development from recycled or re-used sources

v. A green roof will be incorporated into the scheme. This is shown on the roof drawing, which can be found in Appendix B.

B). Achieves a maximum internal water use of 105 litres/person/day

Full water calculations have been undertaken for the proposed development following the methodology set out in Approved Document G (2015 edition). This demonstrates that the development can achieve the required 105 litres/person/day target, including an allowance of 5 litres/person/day for external water use. The full calculations can be found in Appendix A. This reduction in water use will be achieved through a combination of efficiency measures, including the specification of efficient fittings, lower capacity baths and dual flush toilets.

The below specification has been used for each flat type, covering all 16 flats in the development. This specification demonstrates that the target of 105 litres per person per day can be achieved without requiring rainwater or greywater harvesting, meeting the requirements of the S106 agreement.

Maximum design flow rates & capacities:

Taps (other than kitchen taps)		5.00(litres/min)
Kitchen and Utility Taps		5.00(litres/min)
Showers		8.00(litres/min)
Baths (with shower over)		160(litres to overflow)
WCs (Flush Volume)	Full Flush:	4.00(litres)

Part Flush:	2.60(litres)
Washing Machine (Where specified)	8.17(litres/kg dry load)
Dishwasher (Where Specified)	1.25(litres/place setting)
Sub Total	99.9 litres/person/day
External Water Use Allowance	5.00 litres/person/day
Total	***104.9 litres/person/day***

C). Pre-Implementation Review

This report should be taken as the pre-implementation review of the development. It has been produced by Andrew Gwynne, who is a licenced BREEAM assessor, experienced sustainability consultant and holds full professional membership of the Chartered Institute of Building.

D). Details of Maintenance and Management

At present it is too early in the detailed design process of the development for a fully formed maintenance and management strategy to be available. A green roof will be provided (see requirement a, above) but the exact specification of this has not been fully developed – this could be either an extensive or intensive roof, and the management required differs depending on the type of roof and the planting present within it. Consequently, it is proposed that the maintenance and management required will be developed during the detailed design and construction of the development and will form part of the information required to complete the Post-Construction Review – see requirements e and f, below.

E). Measures to Secure a Post-Construction Review

A post construction review of the Development will be undertaken by an appropriately qualified recognised and independent professional in the form of a written report. This will include photographs, installation contracts and any other relevant documentation required to demonstrate that the measures detailed in this Sustainability Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation. This review report will be made available to Camden Council following its production in line with requirement f, below.

F). Provision of Future Information

It is proposed that the Owner of the development will provide additional information as required to the 'Planning Obligations Officer' as detailed in the Section 106 agreement under Definition 2.29. This will be done at As-Built Stage, in line with requirement e, above.

Appendix A

Water Use Calculations

breglobal

Job no:	
Date:	28/05/2020
Assessor name:	Andrew Gwynne
Registration no:	200323
Development name:	1 Hampshire Street
Issue Date:	

Rainwater | Greywater | Results

WATER EFFICIENCY CALCULATOR FOR NEW DWELLINGS

(for use with the Code for Sustainable Homes issues Wat 1 for the May 2009 and subsequent versions)

Dwelling Description	Flat Type 1 (no en-suite) - Flats 1-5, 7-11, 13 & 14.

1st step - Select from options below:

Is a Rain and/or Greywater system specified?	**No**
Is a shower AND bath present?	**Yes**
Has a washing machine been specified?	**No**
Has a dishwasher been specified?	**No**

2nd step - Build spreadsheet (click button below)

BUILD SPREADSHEET

As soon as this button is pressed the spreadsheet will change according to the options selected previously in the 1st step. Scroll down to see the changes.

3rd step - Enter consumption details for the specified fittings

TAPS (excluding kitchen taps)	Fitting type	Flow rate (litres/min)	Number of fittings
1		5.00	1
2			
3			
4			
	Proportionate flow rate (litres/min)		3.50
	Consumption / person / day (Litres)		**9.48**

BATHS	Fitting type	Capacity to overflow (litres)	Number of fittings
1		160.00	1
2			
3			
4			
		Proportionate capacity to overflow (litres)	112.00
		Consumption / person / day (Litres)	**17.60**

SHOWERS	Fitting type	Flow rate (litres/min)	Number of fittings
1		8.00	1
2			
3			
4			
		Proportionate flow rate (litres/min)	5.60
		Consumption / person / day (Litres)	**34.96**

DISHWASHER		
Where no dishwasher is specified, a default consumption figure of 1.25 litres per place setting is used.		
	Consumption / person / day (Litres)	**4.50**

WASHING MACHINES		Number of fittings
Where no washing machine is specified, a default consumption figure of 8.17 litres per kilogram of dry load is used.		
Where no washing machines have been specified but plumbing for future supply of grey/rainwater was installed, please enter details:		
	Consumption / person / day (Litres)	**17.16**

WC's	Fitting Type	Flush Type	Volume**	Number of fittings
1		Full Flush	4.00	1
		Part Flush	2.60	
2		Full Flush		
		Part Flush		
3		Full Flush		
		Part Flush		
4		Full Flush		
		Part Flush		
		Average effective flushing volume (litres)		3.06
		Consumption / person / day (Litres)		**13.53**

KITCHEN SINK TAPS	Fitting Type	Flow rate (litres/minute)	Number of fittings
1		5.00	1
2			
3			
4			
	Proportionate flow rate (litres/min)		3.50
	Consumption / person / day (Litres)		**12.56**

WASTE DISPOSAL UNIT	
Is a waste disposal unit specified for the dwelling?	No
Consumption / person / day (Litres)	**0.00**

WATER SOFTENER	
Water Softener in use?	No
Total capacity used per regeneration (%)	
Water consumed per regeneration (litres)	
Average number of regeneration cycles per day (No.)	
Number of occupants served by the system (No.)	
Water consumed beyond 4% person / day (Litres)	**0.00**

4th step - Analyse Results

Go to Start

INTERNAL WATER CONSUMPTION		
NET INTERNAL WATER CONSUMPTION	(litres/person/day)	109.79
RAINWATER ONLY COLLECTION SAVING	(litres/person/day)	0.00
GREYWATER ONLY RECYCLING SAVING	(litres/person/day)	0.00
RAIN/GREYWATER COLLECTION SAVING (combined system)	(litres/person/day)	0.00
NORMALISATION FACTOR	(litres/person/day)	0.91
TOTAL WATER CONSUMPTION	(litres/person/day)	99.9
	CSH CREDITS ACHIEVED	3
	CSH MANDATORY LEVEL:	Level 3/4

17. K COMPLIANCE		
EXTERNAL WATER USE	(litres / person / day)	5.00
TOTAL WATER CONSUMPTION	(litres / person / day)	104.9
	17. K COMPLIANCE?	Yes

breglobal

Job no:	
Date:	28/05/2020
Assessor name:	Andrew Gwynne
Registration no:	200323
Development name:	1 Hampshire Street
Issue Date:	

Rainwater | Greywater | Results

WATER EFFICIENCY CALCULATOR FOR NEW DWELLINGS

(for use with the Code for Sustainable Homes issues Wat 1 for the May 2009 and subsequent versions)

Dwelling Description	Flat Type 2 (en-suite, no bath) - Flats 6, 12 & 16

1st step - Select from options below:

Is a Rain and/or Greywater system specified?	**No**
Is a shower AND bath present?	**Yes**
Has a washing machine been specified?	**No**
Has a dishwasher been specified?	**No**

2nd step - Build spreadsheet (click button below)

BUILD SPREADSHEET

As soon as this button is pressed the spreadsheet will change according to the options selected previously in the 1st step. Scroll down to see the changes.

3rd step - Enter consumption details for the specified fittings

TAPS (excluding kitchen taps)	Fitting type	Flow rate (litres/min)	Number of fittings
1		5.00	2
2			
3			
4			
		Proportionate flow rate (litres/min)	3.50
		Consumption / person / day (Litres)	**9.48**

BATHS	Fitting type	Capacity to overflow (litres)	Number of fittings
1		160.00	1
2			
3			
4			
		Proportionate capacity to overflow (litres)	112.00
		Consumption / person / day (Litres)	**17.60**

SHOWERS	Fitting type	Flow rate (litres/min)	Number of fittings
1		8.00	2
2			
3			
4			
		Proportionate flow rate (litres/min)	5.60
		Consumption / person / day (Litres)	**34.96**

DISHWASHER	
Where no dishwasher is specified, a default consumption figure of 1.25 litres per place setting is used.	
Consumption / person / day (Litres)	**4.50**

WASHING MACHINES	Number of fittings
Where no washing machine is specified, a default consumption figure of 8.17 litres per kilogram of dry load is used.	
Where no washing machines have been specified but plumbing for future supply of grey/rainwater was installed, please enter details:	
Consumption / person / day (Litres)	**17.16**

WC's	Fitting Type	Flush Type	Volume**	Number of fittings
1		Full Flush	4.00	2
		Part Flush	2.60	
2		Full Flush		
		Part Flush		
3		Full Flush		
		Part Flush		
4		Full Flush		
		Part Flush		
		Average effective flushing volume (litres)		3.06
		Consumption / person / day (Litres)		**13.53**

KITCHEN SINK TAPS	Fitting Type	Flow rate (litres/minute)	Number of fittings
1		5.00	1
2			
3			
4			
	Proportionate flow rate (litres/min)		3.50
	Consumption / person / day (Litres)		**12.56**

WASTE DISPOSAL UNIT	
Is a waste disposal unit specified for the dwelling?	No
Consumption / person / day (Litres)	**0.00**

WATER SOFTENER	
Water Softener in use?	No
Total capacity used per regeneration (%)	
Water consumed per regeneration (litres)	
Average number of regeneration cycles per day (No.)	
Number of occupants served by the system (No.)	
Water consumed beyond 4% person / day (Litres)	**0.00**

4th step - Analyse Results

Go to Start

INTERNAL WATER CONSUMPTION		
NET INTERNAL WATER CONSUMPTION	(litres/person/day)	109.79
RAINWATER ONLY COLLECTION SAVING	(litres/person/day)	0.00
GREYWATER ONLY RECYCLING SAVING	(litres/person/day)	0.00
RAIN/GREYWATER COLLECTION SAVING (combined system)	(litres/person/day)	0.00
NORMALISATION FACTOR	(litres/person/day)	0.91
TOTAL WATER CONSUMPTION	(litres/person/day)	99.9
	CSH CREDITS ACHIEVED	3
	CSH MANDATORY LEVEL:	Level 3/4

17. K COMPLIANCE		
EXTERNAL WATER USE	(litres / person / day)	5.00
TOTAL WATER CONSUMPTION	(litres / person / day)	104.9
	17. K COMPLIANCE?	Yes

breglobal

Job no:	
Date:	28/05/2020
Assessor name:	Andrew Gwynne
Registration no:	200323
Development name:	1 Hampshire Street
Issue Date:	

Rainwater | Greywater | Results

WATER EFFICIENCY CALCULATOR FOR NEW DWELLINGS

(for use with the Code for Sustainable Homes issues Wat 1 for the May 2009 and subsequent versions)

Dwelling Description	Flat Type 2 (en-suite, bath) - Flat 15

1st step - Select from options below:

Is a Rain and/or Greywater system specified?	**No**
Is a shower AND bath present?	**Yes**
Has a washing machine been specified?	**No**
Has a dishwasher been specified?	**No**

2nd step - Build spreadsheet (click button below)

BUILD SPREADSHEET

As soon as this button is pressed the spreadsheet will change according to the options selected previously in the 1st step. Scroll down to see the changes.

3rd step - Enter consumption details for the specified fittings

TAPS (excluding kitchen taps)	Fitting type	Flow rate (litres/min)	Number of fittings
1		5.00	2
2			
3			
4			
	Proportionate flow rate (litres/min)		3.50
	Consumption / person / day (Litres)		**9.48**

BATHS	Fitting type	Capacity to overflow (litres)	Number of fittings
1		160.00	2
2			
3			
4			
		Proportionate capacity to overflow (litres)	112.00
		Consumption / person / day (Litres)	**17.60**

SHOWERS	Fitting type	Flow rate (litres/min)	Number of fittings
1		8.00	2
2			
3			
4			
		Proportionate flow rate (litres/min)	5.60
		Consumption / person / day (Litres)	**34.96**

DISHWASHER	
Where no dishwasher is specified, a default consumption figure of 1.25 litres per place setting is used.	
Consumption / person / day (Litres)	**4.50**

WASHING MACHINES	Number of fittings
Where no washing machine is specified, a default consumption figure of 8.17 litres per kilogram of dry load is used.	
Where no washing machines have been specified but plumbing for future supply of grey/rainwater was installed, please enter details:	
Consumption / person / day (Litres)	**17.16**

WC's	Fitting Type	Flush Type	Volume**	Number of fittings
1		Full Flush	4.00	2
		Part Flush	2.60	
2		Full Flush		
		Part Flush		
3		Full Flush		
		Part Flush		
4		Full Flush		
		Part Flush		
		Average effective flushing volume (litres)		3.06
		Consumption / person / day (Litres)		**13.53**

KITCHEN SINK TAPS	Fitting Type	Flow rate (litres/minute)	Number of fittings
1		5.00	1
2			
3			
4			
	Proportionate flow rate (litres/min)		3.50
	Consumption / person / day (Litres)		**12.56**

WASTE DISPOSAL UNIT	
Is a waste disposal unit specified for the dwelling?	Click to select
Consumption / person / day (Litres)	**0.00**

WATER SOFTENER	
Water Softener in use?	Click to select
Total capacity used per regeneration (%)	
Water consumed per regeneration (litres)	
Average number of regeneration cycles per day (No.)	
Number of occupants served by the system (No.)	
Water consumed beyond 4% person / day (Litres)	**0.00**

4th step - Analyse Results

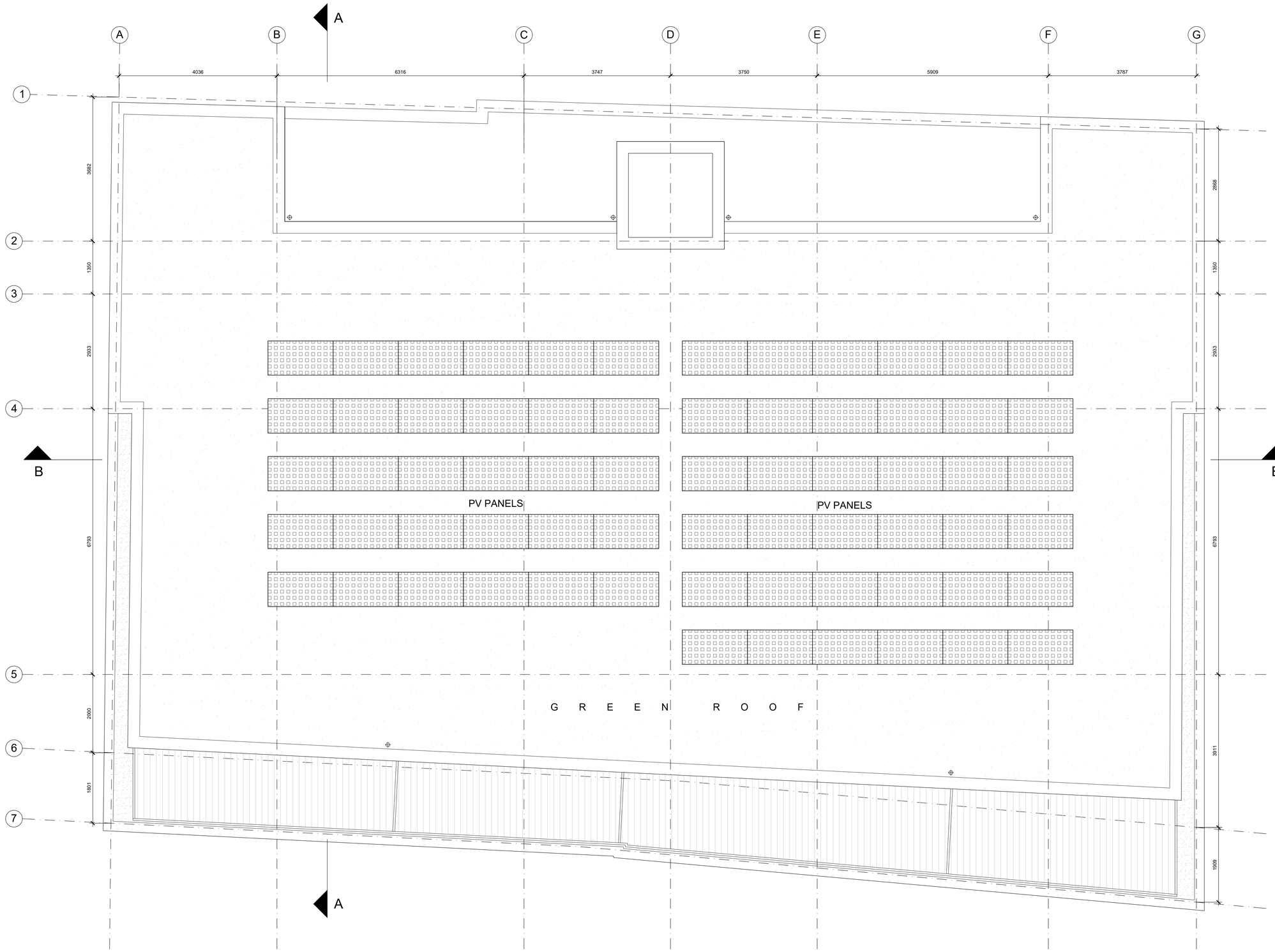
Go to Start

INTERNAL WATER CONSUMPTION		
NET INTERNAL WATER CONSUMPTION	(litres/person/day)	109.79
RAINWATER ONLY COLLECTION SAVING	(litres/person/day)	0.00
GREYWATER ONLY RECYCLING SAVING	(litres/person/day)	0.00
RAIN/GREYWATER COLLECTION SAVING (combined system)	(litres/person/day)	0.00
NORMALISATION FACTOR	(litres/person/day)	0.91
TOTAL WATER CONSUMPTION	(litres/person/day)	99.9
	CSH CREDITS ACHIEVED	3
	CSH MANDATORY LEVEL:	Level 3/4

17. K COMPLIANCE		
EXTERNAL WATER USE	(litres / person / day)	5.00
TOTAL WATER CONSUMPTION	(litres / person / day)	104.9
	17. K COMPLIANCE?	Yes

Appendix B

Roof Drawing



NOTES

DO NOT SCALE - USE FIGURED DIMENSIONS ONLY.

ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES TO BE HIGHLIGHTED BY CONTRACTOR.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS AND DRAWINGS.

ALL LEVELS ARE TO FINISHED LEVELS UNLESS OTHERWISE INDICATED.

LEGEND

drawing status:	PRELIMINARY

revision:	description:	date:
PC.01	Issued for Information	19.06.18
PC.02	Issued for Information	18.02.20

CONSTRUCTION

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drawing:	PROPOSED ROOF PLAN		
date: 26.01.17	drawn by: RP	check: CC	
scale: 1:50 @ A1	drwg no.: 304	rev. no.: PC.02	