Chester Road

Sustainability and HQM Statement

May 2020 | Rev C

Planning Policy

Introduction

This document is the Sustainability and HQM statement for the proposed Chester Road scheme, proposed by Camden Council.

The proposals include the construction of 50 new temporary accommodation units for vulnerable families, from studios to 2-bed dwellings.

Camden Council aims to reduce the environmental impact of the building and comply with planning policy and guidance. The requirements set by the Council have been used to inform the proposed scheme.

This Sustainability and HQM Statement summarises the policy background relevant to Sustainability and the work undertaken to reduce the future building's environmental impact through the Home Quality Mark.

It should be read in conjunction with the Energy Statement prepared by Ricthie + Daffin.

National Planning Policy Framework (July 2018)

The National Planning Policy Framework (NPPF) sets the planning context for sustainable design and construction. It states that the purpose of the planning system is to contribute to the achievement of sustainable development.

It notes that sustainable development comprises of three elements – economic, social and environmental - which cannot be considered in isolation as they are mutually dependent.

The NPPF states that the planning system should play an active role in guiding developments to sustainable solutions:

1. Protecting and enhancing our natural, built and historic environment;
2. Making effective use of land,
3. Helping to improve biodiversity,
4. Using natural resources prudently,
5. Minimising waste and pollution,
6. Mitigating and adapting to climate change, including moving to a low carbon economy.

London Environment Strategy (May 2018)

In response to the challenges faced by London, the Mayoral office have released a new vision which sets out an ambitious vision for improving London's environment for the benefit of all Londoners. The London Environment Strategy addresses several challenges London faces which are related to sustainability. These can broadly be summarised under the following topics:

- Air quality
- Green space
- Biodiversity
- Greenhouse gas emissions
- Energy use
- Waste
- Flood risk
- Heat risk
- Water scarcity
- River water quality
- Ambient noise

As well as setting out the key challenges, the mayoral office also set the following aims to be met by 2050:

Climate change and energy

London to be a zero-carbon city – with a zero emission transport network and zero carbon buildings.

Waste

London will be a zero-waste city. 65% of London's municipal waste will be recycled.

Adapting to climate change

London and Londoners will be resilient to severe weather and longer-term climate change impacts, such as flooding, heat risk and drought.

Green infrastructure

More than half of London's area will be green, and tree canopy cover will increase by 10%, by 2050.

Air quality

London will have the best air quality of any major world city by 2050, going beyond the legal requirements to protect human health and minimise inequalities.

Noise

The number of people adversely affected by noise will be reduced, and more quiet and tranquil spaces will be promoted.

Planning policy and guidance documents applicable to Chester Road

National Planning Policy Framework (2018)

London Plan (2016)

Draft New London Plan (2019)

London Environment Strategy (2018)

Sustainable Design and Construction SPG (2014)

Camden Local Plan (2017)

Camden Planning Guidance CPG3 Sustainability

Planning Policy

London Plan (March 2016)

One of the London Plan's main objectives is to improve the environment in London and tackle climate change by:

- Reducing CO_2 emissions from new developments;
- Increasing the proportion of energy generated by renewable energy;
- Managing flood risk,
- Ensuring water supply and quality;
- Improving sewerage systems;
- Improving London's recycling performance and waste management; and
- Protecting open spaces, making London more green and more pleasant.

Of particular relevance to Chester Road are Policies 5.2 and 5.3.

Policy ***5.2 – Minimising Carbon Dioxide Emissions*** requires developments to minimise carbon dioxide emissions through implementing the energy hierarchy:

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

Policy ***5.3 – Sustainable Design and Construction*** requires sustainable design standards to be integral to the development proposals and to be considered at the beginning of the design process. Sustainable design principles include:

- Minimising carbon dioxide emissions;
- Avoiding internal overheating and contributing to the urban heat island effect;
- Efficient use of natural resources (including water);
- Minimising pollution (including noise, air and urban runoff);
- Minimising the generation of waste and maximising reuse or recycling;
- Avoiding impacts from natural hazards (including flooding);
- Ensuring developments are comfortable and secure for users;
- Securing sustainable procurement of materials, using local supplies where feasible; and
- Promoting and protecting biodiversity and green infrastructure.

It also refers to the Mayor's supplementary planning guidance on Sustainable Design and Construction.

Draft New London Plan (2019)

A draft of the new London Plan is currently available and is expected to come into force in Spring 2020.

The draft document maintains key objectives to promote sustainable development and improve the city's green infrastructures defined in the current London plan, with additional focus on air quality outlined in Policy SI1.

Policy ***SI1 - Improving air quality*** requires development proposals to consider the following as part of the initiative to improving London's air quality:

- Minimise exposure to existing air pollution
- On-site measures to prevent further deterioration of existing poor air quality
- Air Quality Assessments (AQAs) to be carried out on all major developments
- Further reduce exposure risks in highly polluted areas with dense population or vulnerable people (Air Quality Focus Areas)

London Supplementary Planning Guidance on Sustainable Design and Construction (2014)

The first London SPG on Sustainable Design and Construction was published in 2007. A new version of the SPG was published and adopted in April 2014. It provides guidance in the following key areas:

- Land use;
- Site layout and building design;
- Energy and carbon dioxide emissions;
- Renewable energy;
- Water efficiency;
- Materials and waste;
- Nature conservation and biodiversity;
- Flooding;
- Pollution.

The SPG includes an update to the London Plan Policy 5.2 – Minimising Carbon Dioxide Emissions.

Camden Local Plan (2017)

Camden Local Plan aims to clarify the vision and strategy in sustainable design for existing and new developments. As more than 90% of the carbon dioxide emissions are produced by the operation of buildings in Camden, the Council has set a 40% borough wide CO_2 reduction.

For existing buildings the Plan advises sensitive energy efficiency improvements, without harming the character appearance of the area. The document includes a number of policies and recommendations in terms of environmental sustainability on environmental resources, health and wellbeing, flood risk and waste management.

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.

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 run- off 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.

Camden Planning Guidance 3 – Sustainability

The London Borough of Camden provides the Camden Planning Guidance 3 (CPG3) as part of the Local Development Framework, to outline information on ways to achieve carbon reductions and sustainable developments. The document covers areas such as:

- Energy efficiency
- Renewable energy
- Water efficiency
- Sustainable use of materials
- Brown roofs, green roofs and green walls
- Flooding
- Adapting to climate change
- Biodiversity & local food growing

Home Quality Mark Pre-assessment Summary

Why the Home Quality Mark?

Camden's Local Plan refers both to BREEAM and the Home Quality Mark.

As the Chester Road scheme is closer in energy terms to a residential development than a multi-residential development (e.g. student accommodation) it was agreed to use the Home Quality Mark instead of BREEAM.

The Home Quality Mark (HQM) has therefore been used to set the key sustainability aspirations of the scheme and will be used to ensure they are delivered at detailed design and on completion. They cover the following themes:

1. **Energy & Carbon Emission Reduction**
2. **Water, Drainage & Flood risk**
3. **Ecology & Biodiversity**
4. **Transport & Connectivity**
5. **Materials**
6. **Air Quality & Indoor Pollutants**
7. **Waste (Construction and Operational)**
8. **Daylight**
9. **Noise Levels**

Targeted HQM rating

A **4.5 Star rating** is targeted, with a score of 62.4%.

Energy & Carbon Emission Reduction

Ritchie+Daffin have been appointed as the Environmental and Building Services engineers for the project. They have developed the energy strategy for the scheme and prepared the Energy Statement.

The new building is targeting a 47% improvement over Part L 2013 with an energy efficient building fabric, electric underfloor heating, a communal air source heat pump for hot water and roof-mounted PVs. Please note that this result is expressed in SAP 2012 terms, it would be significantly better using the SAP 10 carbon factors).

The key proposals in terms energy performance are summarised below.

- **Wall insulation.** The targeted U-Value is 0.12 W/m^2.K.
- **Windows.** The targeted U-value is 1.2 W/m^2.K.
- **Air Tightness.** The design air permeability is 3.0 m^3/(hr.m^2) at 50Pa.
- **MVHR.** A whole house mechanical ventilation system in each unit with highly efficient heat recovery. It will also help to achieve better indoor air quality in each unit.
- **Heating.** Electric underfloor heating is proposed in each dwelling.
- **Hot water.** A communal CO_2 air source heat pump is proposed for the generation and provision of hot water to each unit.
- **Cooling.** There is no cooling provided.
- **Metering.** All energy consumption of heating, power and hot water will be metered separately with the information collected centrally for management.

It should also be noted that the Home Quality Mark majors on delivery and that some key credits in that category will help to address and reduce the performance gap. They include the following areas:

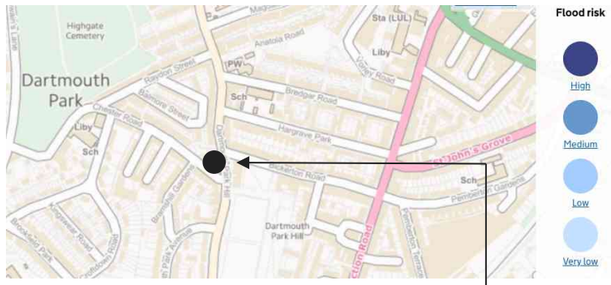
- Inspections
- Commissioning and testing
- Home information
- Post occupancy evaluation
- Aftercare

Water, Drainage & Flood Risk

- All new dwellings should meet a target of 105 litres per person per day
- It is assumed that the water consumption will be minimised by due to the fact that all water fitting categories meet the optional fittings standard in HQM.
- The **Flood Map** for planning of the site suggests that the site is located in an area with a low annual probability of flood risk from rivers and watercourses. (Flood Zone 1).

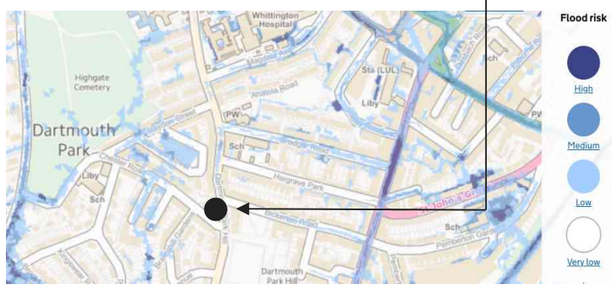
The site also has low risk of surface water flooding.

The proposed drainage layout is provided below.



Flood risk from rivers or the sea

[Long term flood risk information (GOV.UK)]



Flood risk from surface water

[Long term flood risk information (GOV.UK)]

Air Quality & Indoor Pollutants

- The heating system uses **electricity** and hot water will be supplied by an **air source heat pump system.** Therefore, they will not generate local pollution.
- The **formaldehyde concentration** in indoor air will not exceed (or is going to be reduced to) 0.1 mg/m^3 (100 µg/m^3), averaged over 30 minutes.
- The **TVOC (Total Volatile Organic Compounds) concentration** in indoor air will not exceed (or is going to be reduced to) 0.5 mg/m^3 (500 µg/m^3), averaged over 8 hours.
- RPS have prepared an Air Quality Assessment.

Home Quality Mark Pre-assessment Summary

Ecology & Biodiversity

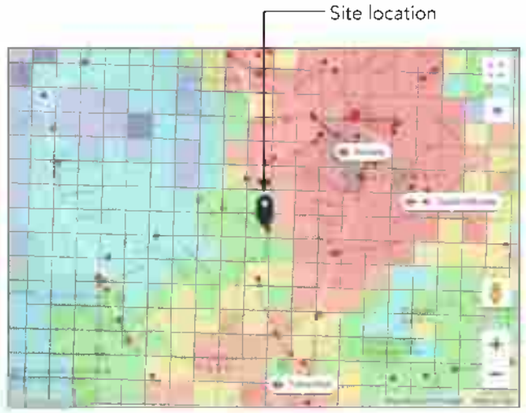
- *DF Clark Bionomique* have undertaken an ecology survey and provided early design advice on potential ecological enhancements.
- The redevelopment of the site may result in the loss of some existing trees within the current communal garden. However it is proposed that this will be mitigated through the planting of new trees.
- The negative impacts from site preparation and construction works will be managed and there will be no net loss of ecological value.
- A **Landscape and Ecology Management Plan** will be prepared.

Photographs of the existing communal garden.

Source: Bell Phillips Architects

Transport & Connectivity

- The site is located within the Dartmouth Park Conservation Area and has very good transport links and access to local amenities. The Accessibility Index (AI) for the site is 12.32, which is equivalent to a PTAL 3 rating.



Source: Transport for London, Access level (PTAL)

- There will be 1 cycle space per 2 dwellings.
- There will be safe pedestrian route from the cycle storage to the entrance.

Ground Floor Plan, cycle store.

Source: Bell Phillips Architects

Materials

- The London Borough of Camden expects all developments to aim for at least 10% of the total value of materials used to be derived from recycled and reused sources.
- The **procurement of materials** will seek to favour responsibly sourced materials. Suppliers will be asked to supply, where feasible, evidence of compliance with the following schemes:
  - BES6001:2008 (Responsible Sourcing Standard)
  - CSA
  - Certified EMS
- All timber sourced for the project will come from a certified legal source (FSC, PEFC or equivalent).
- Additionally, all timber used will be sourced in accordance with the UK public procurement policy on timber.
- In line with the **Product Environmental Information** at least 10 products will be specified at the Design Stage, installed by the Post Construction Stage and will be covered by verified EPD certificates.
- The performed **Building Life Cycle Assessment** will ensure that the sufficient home's impact benchmark will be achieved.

Waste Management

- A communal bin store is being provided allowing space for general, recyclable and food waste to be collected.
- Dedicated space is also provided internally, with fixed units to store recyclable waste, is provided

for recycables for food waste

Lower Ground & Ground Floor Plans, residential waste store.

Source: Bell Phillips Architects

Appendix A – HQM pre-assessment

Chester Road

Home Quality Mark | 2018 | Pre-assessment

May 2020 | Rev D

Summary

This document is the Home Quality Mark (HQM) ONE 2018 pre-assessment for the Chester Road development.

It has been prepared by Etude and allows an evaluation of the likely rating to be achieved under a formal HQM assessment.

Home Quality Mark requirement

Camden currently does not have a formal policy suggesting which HQM target should be achieved. Initial correspondence with the Camden Council sustainability officer has suggested a **4.5 star rating should be achieved, with a score of 60%.** This has been confirmed by Camden Council.

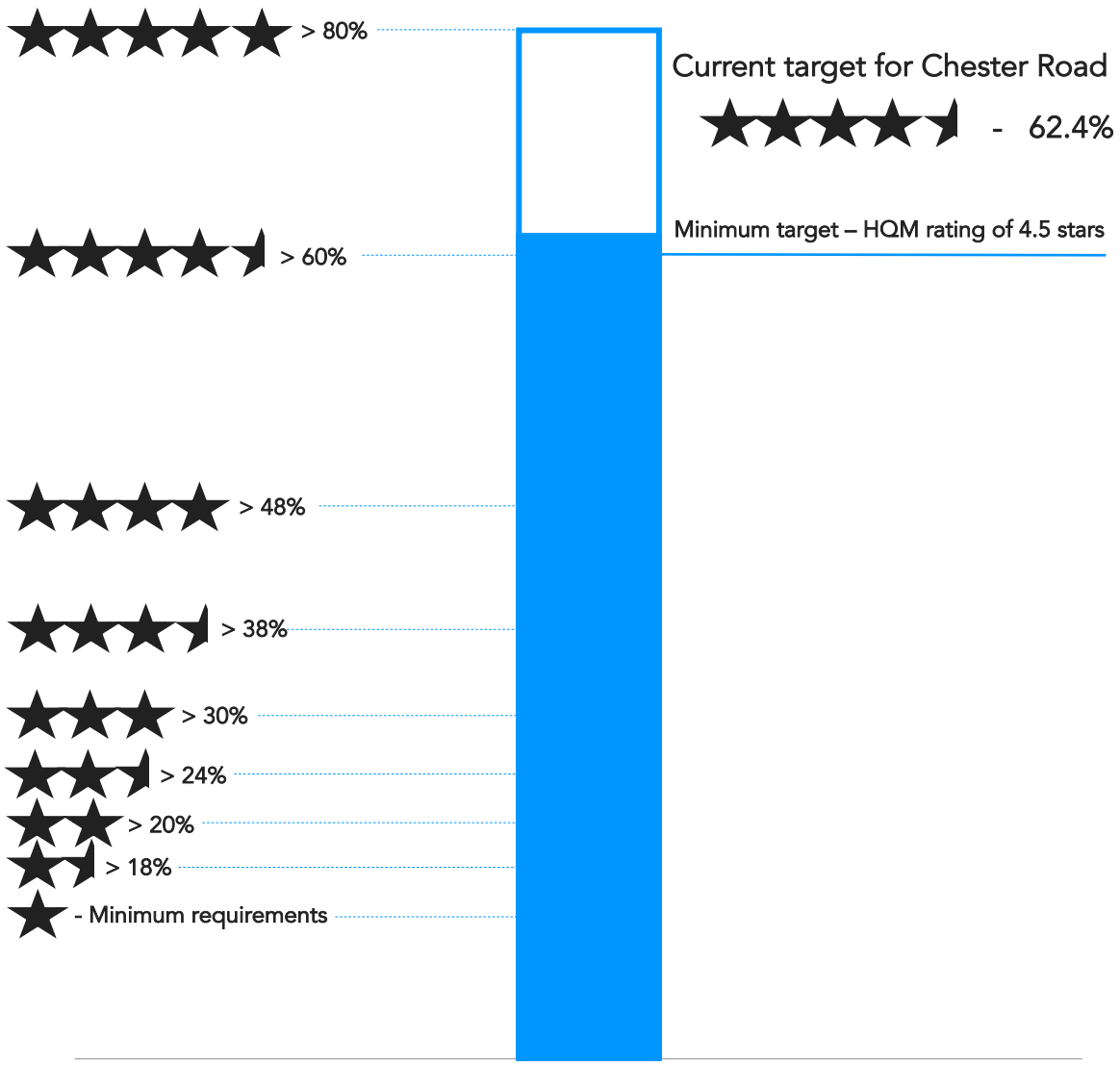
Home Quality Mark rating targeted

This pre-assessment indicates that a rating of HQM '**4.5 Stars**' can be achieved and it should be used as a guidance document so that the most relevant HQM credits can be incorporated into the design.

The type of building assessed falls under the 'Residential' HQM scheme and the type of HQM assessment assumed is 'new-build'.

Margin

The current targeted score is 2.4% above the initial target set by the Camden Council sustainability officer. Whilst this pre-assessment suggests a route to achieve a 4.5 star rating, the mix of credits to achieve the target may change as the design develops.



Boundary of HQM Assessment

The adjacent drawing indicates the footprint of the building and the site boundary.

It is assumed that the HQM assessment will cover the whole site. A HQM assessment must be undertaken for each dwelling, however there are several issues which will be considered in the context of the site boundary.

Chester Road site plan and project boundary
[Source: Bell Phillips Architects, Proposed Ground Floor Site Plan]

This document

Purpose

One page has been prepared for each applicable credit. Its aim is to summarise succinctly the credit name, its requirements, the number of credits assumed and the assumptions made at this stage of the design.

It is not a comprehensive list of all credit requirements.

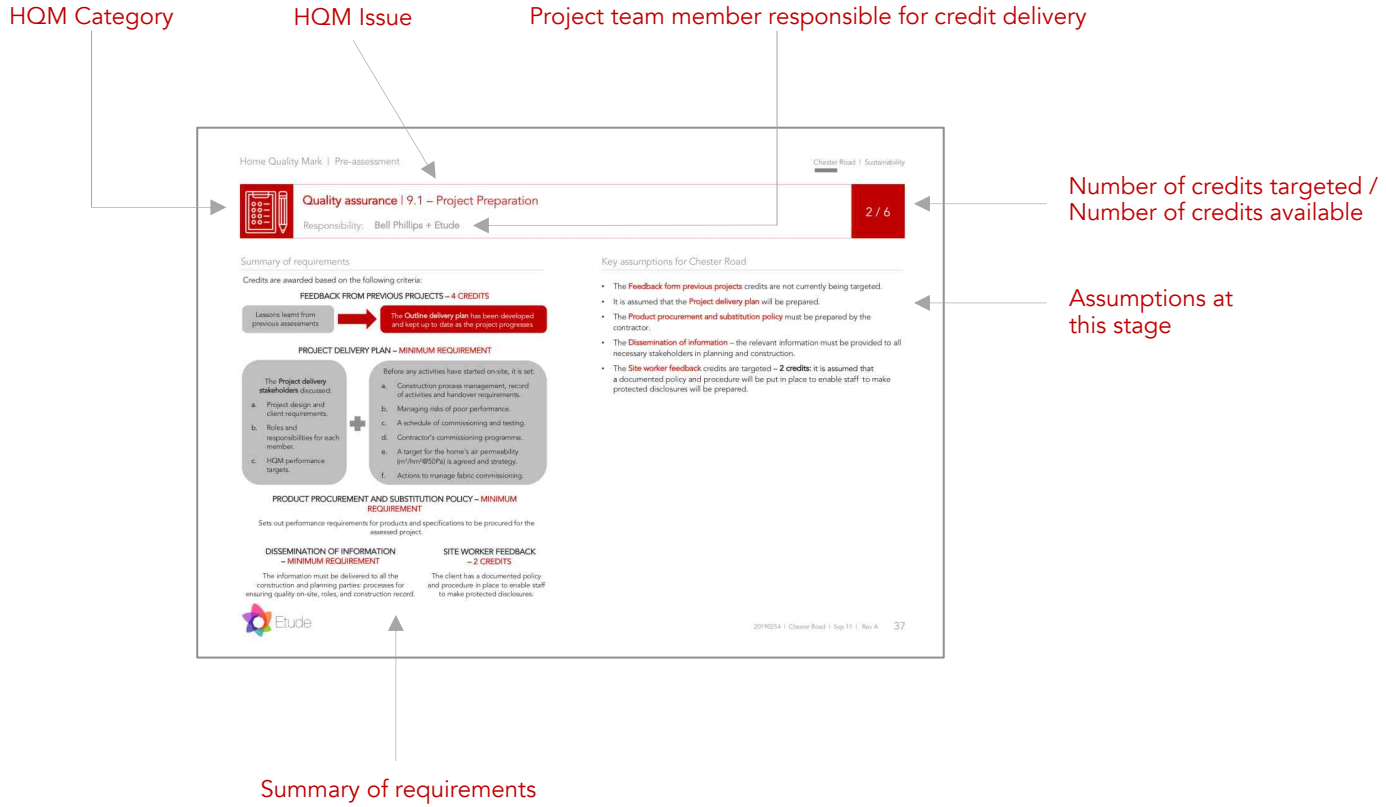
Caution

This document is a Home Quality Mark (HQM) pre-assessment report. Its aim is to indicate which credits could be targeted and to summarise the requirements associated with each credit.

For these credits to be delivered, it is crucial for all team members to review the full requirements associated with each credit contained in the HQM Technical Manual.

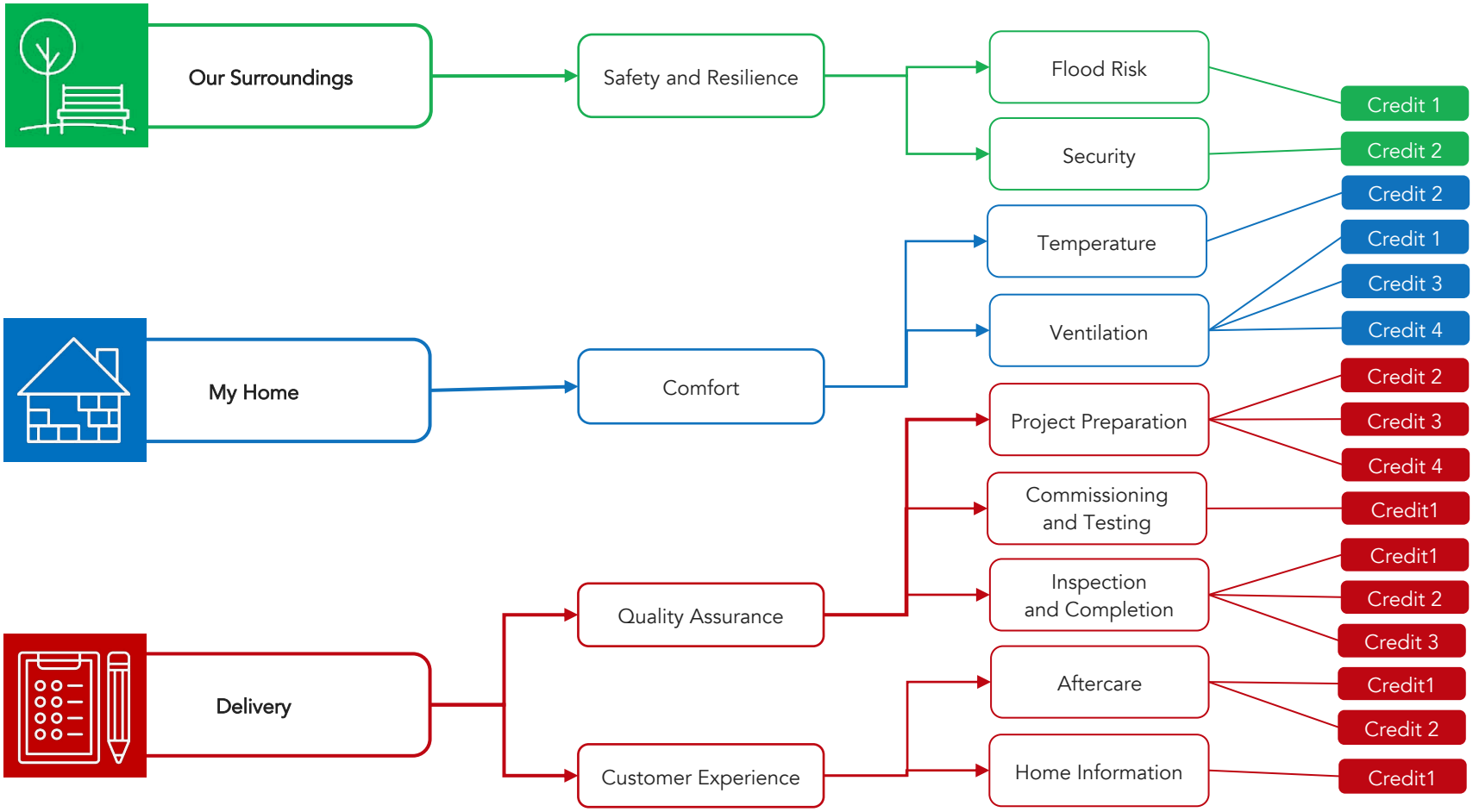
The latest version of this Manual (SD239 – 2018) has been used to prepare this pre-assessment and can be obtained online or by contacting Etude at london@etude.co.uk

It should also be noted that the assumptions made in this document are valid for this stage of the design and should be refined and re-evaluated as the design progresses so that their accuracy and validity reflect the design and the full credit requirements.



Minimum Requirements for Home Quality Mark

To achieve any level of Home Quality Mark certification, a series of minimum requirements must be met. Highlighted below are all the credits which include minimum requirements to be achieved. The details of these credits are provided in this pre-assessment.



Prerequisites for Home Quality Mark

There are also a number of pre-requisites which much be achieved as in order to gain credits within a particular issue. These are presented below.

CODE	MEANING
TRA	Transport and Movement
OUT	Outdoors
SAR	Safety and Resilience
COM	Comfort
NRG	Energy
MAT	Materials
SPC	Space
CUS	Customer Experience

Example decoding:

OUT04-CR3

=

Outdoors, topic 4 (Long Term Ecological Management and Maintenance), credit 3.
This would be "Liaison, review and management".

All criteria of this credit must be met to gain any credits in topic 4 of "Outdoors".

Our Surroundings

TRA02 – CR1 | OUT01 – CR1 | OUT01 – CR3 | OUT02 – CR1
OUT03 – CR2 | OUT04 – CR1 | OUT04 – CR2 | OUT04 – CR3
OUT05 – CR1 | SAR01 – CR2A | SAR02 – CR1 | SAR03 – CR1
SAR03 – CR3

My Home

COM01 – CR1 | COM01 – CR2 | COM05 – CR1
NRG01 – CR1 | NRG02 – CR1 | NRG02 – CR2
MAT01 – CR1 | SPC02 – CR1 | SPC03 – CR1

Delivery

CUS03 – CR1

Early Stage Credits: Actions required at RIBA Stages 1-3

The table below shows a list of the credits which require actions at an early part of the design process. A description of the input required is provided in the comments. Please note that additional appointments may be likely in order to achieve these credits.

Code	Credit	Responsibility	Comment	Stage
2.1	Identifying Ecological Risks and Opportunities Comprehensive	DF Clark Bionomique	A suitably qualified ecologist should be appointed to conduct an ecology survey	1
2.1	Identifying Ecological Risks and Opportunities Foundation	N/A	Without specialist input from an Ecologist the team should identify, appraise and agree measures to improve the level of biodiversity on site.	2
3.3	Security	Jim Cope	A Security Needs Assessment (SNA) must be carried out by a Security Specialist to produce a set of recommendations or solutions for the project	2
6.1	Responsible Sourcing	Camden Council/ Contractor	Produce a product procurement policy with procurement requirements for all suppliers and trades to adhere to relating to the responsible sourcing of construction products. (FSC, BES6001, CARES)	2
6.2	Environmental Impact of Materials	Camden Council/ Contractor	Produce a product procurement policy that sets out procurement requirements for all suppliers and trades to adhere to relating to the sourcing of construction products with lower environmental impact (EPDs).	2
6.3	Life Cycle Costing	N/A	A life cycle cost (LCC) analysis is undertaken by a suitably qualified cost consultant at a level of detail suitable for maintenance and operational costs	2
7.2	Access and Space	N/A	An Accredited Access Consultant is appointed to conduct an assessment and provide advice on the concept and detailed design stages	2
9.1	Project Preparation	Camden Council	An outline delivery plan (Project Brief) has been developed which is kept up to date as the project progresses. The Project team must meet to discuss the design and client requirements with regards to meeting HQM compliance.	1
10.4	Site Waste Management	Camden Council/ Contractor	A policy or strategy must be place which sets out procurement requirements relating to opportunities for minimising construction waste on-site for all suppliers and trades.	2
11.3	Smart Homes	N/A	A network infrastructure provider (BT-Openreach/Virgin/Sky etc.) is contacted during the planning stage to assess connection for internet and comms connection	3

Our Surroundings

Transport and Movement

Outdoors

Safety and Resilience

Transport and Movement | 1.1 - Public Transport Availability

Responsibility: **Etude**

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Summary of requirements

ACCESSIBILITY INDEX – UP TO 12 CREDITS

Credits are awarded based on the following criteria:

- Distance to/from public transport node(s)
- Public transport type(s), e.g. bus, rail
- Average number of service per hour
- Home information for local transport nodes is provided

These criteria are inputted into the HQM Transport calculator which determines the site's public transport Accessibility Index (AI). From this AI, the following number of credits are archivable:

Credits	AI Score in Rural Locations	AI Score in Urban Locations
4	1	2
6	2	4
8	4	8
12	6	12

IMPROVED LOCAL SERVICE – 3 CREDITS

Credits are awarded based on the following criteria:

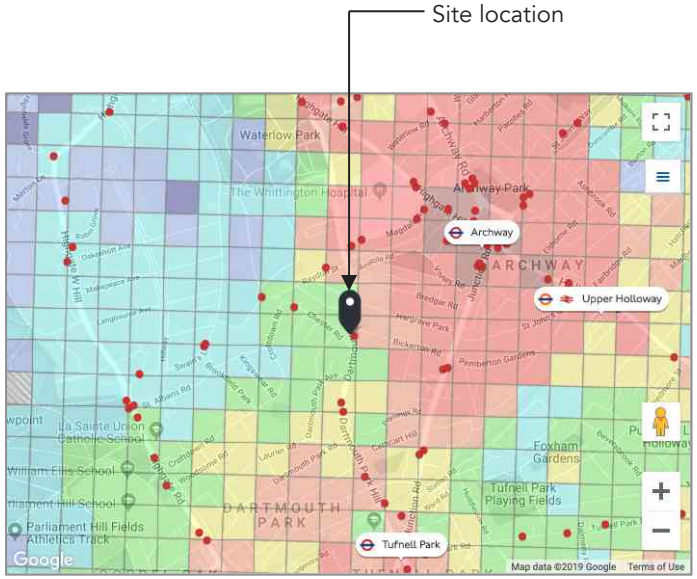
- Increase in existing AI score of at least 1.00 by increase of the local service development
- The increased service provision will be in place for a minimum of 5 years following building occupation

Key assumptions for Chester Road

The scheme is currently targeting **12 credits** under Accessibility Index for having a Public Transport Accessibility Index of **12.32**. The site is located in the London Borough of Camden within the Dartmouth Park Conservation Area and has excellent transport links in Urban Locations.

Services: *Buses – 134, 390, C11, 4*

London Underground Limited (LUL) – Archway, Tufnell Park



Source: Transport for London, Access level (PTAL)

The Improved local service credits are not targeted.

Transport and Movement | 1.2 - Sustainable Transport Options

Responsibility: Camden Council + Ritchie+Daffin + Etude

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Summary of requirements

Home information — Prerequisite

Credits are awarded based on the following criteria:

CYCLE STORAGE* – UP TO 6 CREDITS

	3 CREDITS	6 CREDITS
Studio or 1 bed home	1 space per 2 homes	1 space per home
2 or 3 bed home	1 space per home	2 spaces per home
≥ 4 bed home	2 spaces per home	4 spaces per home

There must be safe pedestrian routes from the cycle storage to the entrance of the home.

CYCLE NETWORK – 4 CREDITS

The home is connected to a safe cycle route via a safe pedestrian route.	Improvement and implementation plans of the local cycling network.

ELECTRIC CHARGING POINT – 4 CREDITS

Easy access to dedicated electric car charging point.	Electric vehicle charging points must be clearly marked.

CAR CLUB – 3 CREDITS

Access to car clubs within 650m (car pool, life sharing, car hire).	At least 60% of the vehicles from Car Club are hybrid or electric vehicles.

Key assumptions for Chester Road

The Sustainable Transport Options credits are targeted:

- The Cycle storage credits are targeted – **3 credits** for having 1 cycle spaces per 2 dwellings.
- The Cycle network credits are targeted – **4 credits** for the connection to a cycle route on Dartmouth Park Hill.
- The Electric charging point credits are currently not targeted.
- The Car club credits are targeted – **1 credits** for an access to a car club within 650m (Zipcar).

Etude

Transport and Movement | 1.3 – Local Amenities

Responsibility: Bell Phillips

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Summary of requirements

KEY LOCAL AMENITIES – 11 CREDITS

Up to 11 credits are available if the building is located in an area that meets the following requirements:

Three or more of the key local amenities are within walking distance (650m via safe pedestrian route) of the development.

Amenities:

- Post Office
- Bank, ATM
- Health services (e.g. GP)
- Pharmacy
- Small retail services

BENEFICIAL LOCAL AMENITIES – 5 CREDITS

Up to 5 credits are available if the building is located in an area that meets the following requirements:

Two or more of the amenities are located within 1.5 miles of the home via Safe pedestrian routes or 30 minute public transport journey.

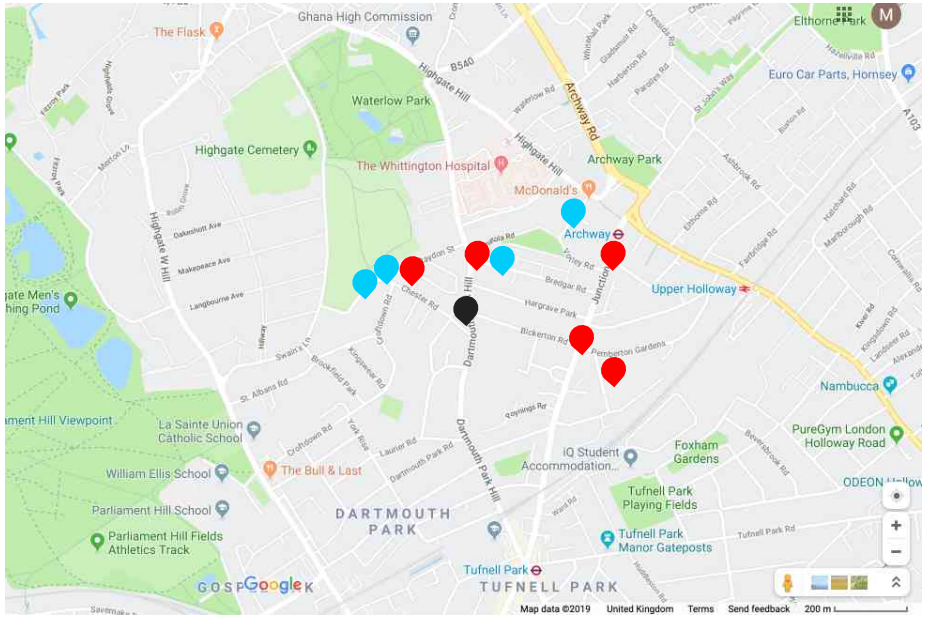
Amenities:

- Recreation or leisure facility
- Childcare facility or school
- Large scale retail
- Community facilities (e.g. library)

Key assumptions for Chester Road

The Local Amenities credits are currently being targeted for Chester Road. The map below shows the location of local amenities. The closest small retail *Olgan Ltd* is within 200m. Together with other amenities like ATM (400m), *Brookfield Park Surgery* (215m) and *Arkle Pharmacy* (602m) – provides **11 credits**.

Another **5 credits** are targeted for the Beneficial local amenities within 1.5 mile – *Aquaterra Premier Gym* (544.43m), *Brookfield Primary School* (340m), *Hargrave Park School* (200m) and *Highgate Library* (260m).



Legend: Site location | Local amenities | Beneficial local amenities

Source: Google Maps

Outdoors | 2.1 – Identifying Ecological Risks and Opportunities

Responsibility: Bell Phillips + DF Clark Bionomique

Summary of requirements

ASSESSMENT ROUTE SELECTION — Prerequisite

An Assessment Route for the project has been determined, and the client or contractor confirms compliance. It is, or will be, monitored against all relevant UK and EU or International legislation relating to the ecology of the site.

SURVEY AND EVALUATION & DETERMINING ECOLOGICAL OUTCOMES – UP TO 7 CREDITS

Credits are awarded based on the following criteria:

Foundation Route

Prerequisite

HQM Ecology Risk Evaluation Checklist indicates assessment Foundation Route can be used.

2 CREDITS

The project team identifies, appraises and agrees on actions for the project that will achieve optimal ecological outcomes in line with the first two points of the mitigation hierarchy: avoidance and protection.

OR

Comprehensive Route

3 CREDITS

A Suitably Qualified Ecologist (SQE) is appointed to conduct ecology survey in line with GN34 and GN36 providing recommendations to protect, maintain and enhance ecology. Information and data are collated and shared with the project team.

3 CREDITS

The project team identifies, appraises and agrees on actions for the project that will achieve optimal ecological outcomes in line with five points of the mitigation hierarchy: avoidance, protection, reduction or limitation of negative impacts, on-site compensation and enhancement.

1 CREDIT

The wider site sustainability-related activities and the potential for ecosystem service related benefits.

Key assumptions for Chester Road

The Identifying Ecological Risks and Opportunities – Survey and evaluation & determining ecological outcomes credits are targeted.

- The Survey and evaluation credits are targeted – **3 credits**: it is assumed that the homes are going to be assessed under the Comprehensive Route and DF Clark Bionomique will be appointed to conduct ecology survey and provide early design advice.
- The Determining Ecological Outcomes credits are targeted – **3 credits**: it is assumed that DF Clark Bionomique will advise on the optimal ecological outcomes in line with five points of the mitigation hierarchy.
- The Wider Site Sustainability credit is targeted – **1 credit**: it is assumed that the further ecosystem service and sustainability activities will be provided.

Outdoors | 2.2 – Managing Impacts on Ecology

Responsibility: Bell Phillips + DF Clark Bionomique + Contractor

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Summary of requirements

ECOLOGICAL RISKS AND OPPORTUNITIES — Prerequisite

The Identifying Ecological Risks and Opportunities issue credits have been achieved via either the foundation or comprehensive routes. The site will be monitored against all relevant UK and EU or International legislation relating to the ecology of the site.

LIAISON, IMPLEMENTATION AND DATA – 3 CREDITS

Credits are awarded based on following criteria:

- Roles and responsibilities for the construction have been clearly defined, allocated and implemented.
- Site preparation and construction works have been planned for and implemented to achieve optimal ecological outcomes.
- The project team have liaised and collaborated with representative stakeholders.

ROUTES OF RIGOUR – MANAGING NEGATIVE IMPACTS – UP TO 6 CREDITS

Credits are awarded based on the following criteria:

Foundation Route

Negative impacts from site preparation and construction works have been managed by the Project Team Member.

OR

Comprehensive Route

Negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy with the consultation with the Suitably Qualified Ecologist.

- No overall loss of ecological value has occurred for 6 credits.

OR

- The loss of ecological value has been limited for 3 credits.

Key assumptions for Chester Road

- The Liaison, Implementation and Data credits are targeted – **3 credits:** by defining the roles and responsibilities for the construction, planning and implementing the site preparation and construction works, as well as collaborating and liaising with stakeholders.
- The Routes of Rigour credits are targeted – **3 credits**: by following the Comprehensive Route with consultation with the **Suitably Qualified Ecologist (SQE)**. It is assumed that DF Clark Bionomique will confirm that the negative impacts from site preparation and construction works will be managed and there will be no net loss of ecological value.

Outdoors | 2.3 – Ecological Change and Enhancement

Responsibility: Bell Phillips + DF Clark Bionomique

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Summary of requirements

Credits are awarded based on the following criteria:

PREVIOUSLY OCCUPIED LAND - 2 CREDITS → At least 75% of of the development's footprint has previously been occupied.

ROUTES OF RIGOUR: LIAISON, IMPLEMENTATION AND DATA - 2 CREDITS

ECOLOGICAL RISKS AND OPPORTUNITIES FOR THE PROJECT — Prerequisite

AND

Foundation Route	OR	Comprehensive Route
Project Team Member		Suitably Qualified Ecologist

MEASURING THE CHANGE IN ECOLOGICAL VALUE – UP TO 8 CREDITS

2 CREDITS	4 CREDITS	6 CREDITS	8 CREDITS
Minimising loss of ecology	No net loss of ecology	Net gain of ecology	Exceeds net gain

Key assumptions for Chester Road

- The Previously Occupied Land credits are targeted – **2 credits**: as the development's footprint has previously been occupied.
- The Comprehensive Route credits are targeted – **2 credits**: by consultation with the Suitably Qualified Ecologist (DF Clark Bionomique) and measuring the change in ecological value – minimising loss of ecology.

Outdoors | 2.4 – Long Term Ecological Management and Maintenance

Responsibility: Bell Phillips + DF Clark Bionomique + Contractor

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Summary of requirements

Credits are awarded based on the following criteria:

- Roles & responsibilities, implementation, statutory obligations — Prerequisite
- Home information — Prerequisite
- Liaison, review and management — Prerequisite

AND

4 CREDITS

LANDSCAPE AND ECOLOGY MANAGEMENT PLAN

A management plan is in place for the landscape and ecology according to the appropriate type of home an site being assessed.

Builds on the actions carried out for protecting and enhancing ecology, to ensure that commitments and efforts are retained and continued during handover and as far as possible, in-use.

4 CREDITS

MONITORING AND UPDATE

To ensure the continued relevance of actions, the following to be carried out:

- **Monitoring and reporting**
- **Arrangements for the ongoing management of landscape and ecology**
- **Maintaining the ecological value of the site**
- **Remedial or other management actions.**

Key assumptions for Chester Road

- The Landscape and ecology management plan credits are being targeted – **4 credits**: it is assumed that the Landscape and Ecology Management Plan will be prepared.
- The Monitoring and Update credits are targeted – **4 credits**: it is assumed that the commitment to mange landscape and ecology on the site through monitoring and updating the plan will be made.

Outdoors | 2.5 – Recreational Space

Responsibility: Bell Phillips

Summary of requirements

Credits are awarded based on the following criteria:

Home information → Prerequisite

ACCESSIBLE RECREATIONAL SPACES – 4 CREDITS

The home is within walking distance of *Recreational Spaces*.

PRIVATE SPACE – UP TO 6 CREDITS

8m² of external private space per 2 bed unit, 1m² for each additional bedroom.

COMMUNAL SPACE – UP TO 7 CREDITS

The homes are within *Close proximity* to *Communal space*. Credits are awarded based on requirements as a percentage of the gross development area (GDA).

	4 CREDITS	7 CREDITS
Flats or Apartments	5% of GDA	7.5% of GDA
Homes	7.5% of GDA	10% of GDA

GROWING SPACE – UP TO 3 CREDITS

	1 CREDIT	2 CREDITS	3 CREDITS
Flats or Apartments	1.5%	2.5%	3%
Homes	2%	3%	5%

GROWING SPACE (Expert input) – UP TO 3 CREDITS

Expert input is sought at the design stage to inform the design of the growing space.

Key assumptions for Chester Road

Forming a triangle in plan, the **Gross Development Area (GDA)** – the area on which the new apartments will stand and the surrounding area accessible by occupants, is approximately **2,780m²**.

The Recreational Space credits are currently being targeted for Chester Road:

- The Accessible Recreational Space credits are targeted – **4 credits**: the homes are within walking distance of Dartmouth Park.
- The Private Space credits are targeted – **4 credits.**
- The Communal Space credits are being targeted – **7 credits**: the communal spaces is approximately **335m²**, which equals 12% of the GDA.
- The Growing Space or Expert Input credits are not currently being targeted.

The Gross Development Area (GDA)
Source: Bell Phillips Architects' Report

Safety and Resilience | 3.1 – Flood Risk

Responsibility: Engineers HRW

19 / 19

Summary of requirements

Credits are awarded based on the following criteria:

FLOOD RISK ASSESSMENT (FRA) – Minimum Requirement

A site-specific **flood risk assessment (FRA)**[1] is undertaken **AND** must take all current and future sources of flooding into consideration.

+

The flood risk of the new home is communicated to the purchaser of the home before they make a decision on whether to buy the home.

FLOOD RISK – UP TO 19 CREDITS

19 CREDITS

LOW RISK

LOW: less than 1 in 1000 chance of river and sea flooding (< 0.1%).

OR

17 CREDITS

HIGH OR MEDIUM RISK

Home information → Prerequisite

MEDIUM: between 1 in 100 and 1 in 1000 chance of river flooding (1% – 0.1%) and between a 1 in 200 and 1 in 1000 chance of sea flooding (0.5% – 0.1%).

OR

HIGH: high probability 1 in 100 or greater chance of river flooding (> 1%) and a 1 in 200 or greater chance of flooding from the sea (> 0.5%).

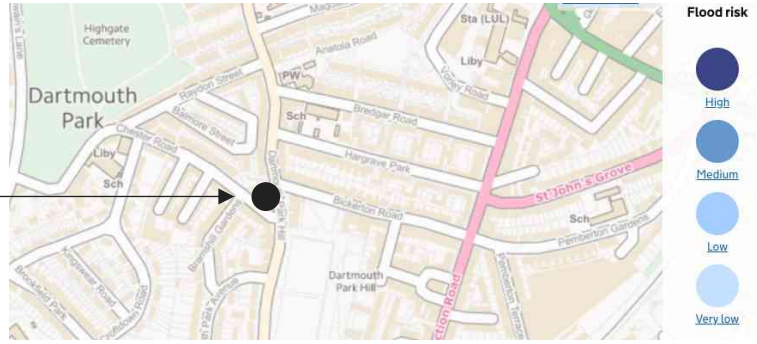
Ground level and access to both site and development are designed to have at least a 600mm threshold above the design floor level.

Recommendations made by a qualified professional in accordance with BS 8533:2011 hierarchy.

[1] *for sites of less than 2000 m², the FRA can be prepared by the Contractor's Engineer*

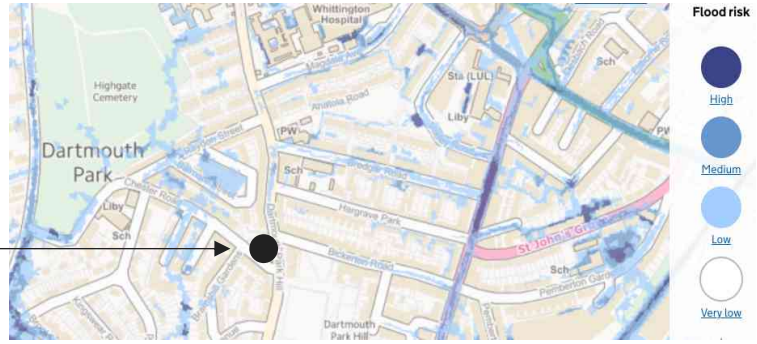
Key assumptions for Chester Road

The scheme is currently targeting **19 credits** under Flood Risk. The map below shows **very low flood risk** from the rivers or the sea and surface water in the Darthmouth Park Area. A flood risk assessment must be prepared.



Flood risk from rivers or the sea *[Long term flood risk information (GOV.UK)]*

Site location



Flood risk from surface water *[Long term flood risk information (GOV.UK)]*

It is assumed that a formal Flood Risk Assessment from the Engineers HRW will be prepared to confirm the flood risk classification as per HQM requirements.

Safety and Resilience | 3.2 – Managing Rainfall Impacts

Responsibility: Engineers HRW + Contractor

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Summary of requirements

Home information — Prerequisite

MANAGING THE RATE AND VOLUME OF RUN-OFF – UP TO 14 CREDITS

Credits are awarded based on the following criteria:

3 CREDITS

Foundation Route

Reduction in impermeable area:

≥ 25% 1 CREDIT

> 50% 3 CREDITS

OR

UP TO 14 CREDITS

Comprehensive Route

Peak-rate of run-off from site to watercourse is no greater for the developed site than:

3 CREDITS		5 CREDITS
The pre-development site.	OR	The equivalent run-off for a greenfield site.

Volume of run-off for a 100-year 6-hour event is no greater for the developed site than:

6 CREDITS		9 CREDITS
The pre-development site.	OR	The equivalent run-off for a greenfield site.

WATER QUALITY – 3 CREDITS

Pollution prevention treatment is provided using appropriate SuDS techniques, depending on level of water quality risk.

DESIGNING FOR O&M – 2 CREDITS

Long term operation and maintenance of all SuDS for the design life of the development.

Key assumptions for Chester Road

Engineers HRW have reviewed the drainage strategy for the site in line with the HQM requirements. They have confirmed that the following credits can be achieved.

- The Peak-rate of Run-off credits are targeted – **3 credits**: it is assumed that the drainage measures will ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) will be no greater for the developed site than for the pre-developed one.
- The Volume of Run-off credits are targeted – **6 credits**: it is assumed that drainage design measures will ensure that the post development volume of run-off, for the 100-year 6-hour storm event is no greater than the pre-development volume of run-off. The flood risk consultant will need to confirm this.
- The Water quality credits are targeted – **3 credits**: These credits can be achieved through the use of some or all of the following strategies:
  - rain gardens,
  - tanked permeable paving ,
  - bio retention areas,
  - bio mats in the cellular storage system.
- The Designing for Maintenance and Operation credits are targeted – **2 credits.** The client must commit to the long term operation and maintenance of all SuDS for the design life of the development. It is understood that Engineers HRW will provide a operation and maintenance for Camden to review.

Safety and Resilience | 3.3 – Security

Responsibility: Bell Phillips + Camden Council

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Summary of requirements

Home information	Prerequisite
Approved Document Q compliance	Minimum requirement
Security Needs Assessment (SNA)	Prerequisite

SECURITY FEATURES – UP TO 9 CREDITS

Credits are awarded based on the following criteria:

SECURITY NEEDS ASSESSMENT:

The SQSS develops a set of recommendations or solutions during or prior to early design stages – *RIBA Stage 2 or equivalent.*

Recommendations implemented:

50% 4 CREDITS
100% 9 CREDITS

Key assumptions for Chester Road

The Security Features credits are currently being targeted for Chester Road.

The **Suitable Qualified Security Specialist (SQSS)** must develop a set of recommendations or solutions during RIBA Stage 2 and 100% of recommendations must be implemented for **9 credits** to be awarded.

Bell Phillips Architects have met with the secure by design officer Jim Cope and will review the comments and recommendations.

My Home

Comfort

Energy

Materials

Space

Water

Etude

Comfort | 4.1 – Indoor Pollutants

Responsibility: Ritchie+Daffin + Bell Phillips + Contractor

Summary of requirements

Home information	Prerequisite
Minimising emissions from space and water heating	Prerequisite

MINIMISING THE EFFECTS OF COOKING – UP TO 2 CREDITS

Naturally ventilated homes

An extractive cooker hood is provided.

OR

Mechanically ventilated homes

A re-circulating cooker hood is provided.

Cooking fuel

Only cooking appliances with zero emissions from the fuel are specified.

MINIMISING EMISSIONS FROM BUILDING PRODUCT TYPES – UP TO 4 CREDITS

Credits are awarded where building product types meet the emission limits and testing requirements. The quantity of credits awarded is based upon how many product types meet these requirements.

MINIMISING AIRBORNE FORMALDEHYDE – 3 CREDITS

The formaldehyde concentration in indoor air does not exceed (or is going to be reduced to) 0.1 mg/m^3 (100 µg/m^3), averaged over 30 minutes.

MINIMISING AIRBORNE TVOCs (TOTAL VOLATILE ORGANIC COMPOUNDS) – 3 CREDITS

The TVOC concentration in indoor air does not exceed (or is going to be reduced to) 0.5 mg/m^3 (500 µg/m^3), averaged over 8 hours.

Key assumptions for Chester Road

- The Cooker Hood credit is targeted – **1 credit** for a re-circulating cooker hood assumed to be provided.
- The Cooking Fuel credit is targeted – **1 credit**: it is assumed that the electric cooking appliances will be specified (e.g. induction).
- The Minimising Emissions from Building Product Type credits are assumed – **1 credit**: it is assumed that at least one building product type has met the emission limits and testing requirements. Requirements to be included in Employer's Requirements.
- The Minimising airborne Formaldehyde credits are currently targeted – **3 credits:** it is assumed that the formaldehyde concentration in indoor air will not exceed 100 µg/m^3, averaged over 30 minutes. Requirements to be included in Employer's Requirements.
- The Minimising airborne TVOCs (total volatile organic compounds) credits are currently targeted – **2 credits:** it is assumed that the TVOC concentration in indoor air will not exceed 500 µg/m^3, averaged over 8 hours. Requirements to be included in Employer's Requirements.

Comfort | 4.2 – Daylight

Responsibility: Bell Phillips

Summary of requirements

Credits are awarded based on the following criteria:

AVERAGE DAYLIGHT FACTOR (KITCHENS) – 5 CREDITS

Credits are awarded when all kitchens achieve minimum average daylight factor of at least: 2.0%

AVERAGE DAYLIGHT FACTOR (LIVING SPACES) – UP TO 5 CREDITS

Credits will be awarded based upon the minimum average daylight factor achieved for all living rooms, dining rooms and studies:

1 CREDIT	3 CREDITS	5 CREDITS
1.5%	1.8%	2.0%

VIEW OF SKY – 3 CREDITS

Credits are awarded based on the following criteria:

80.0% of the working plane in each kitchen, living room, dining room and study receives direct light from the sky.

Key assumptions for Chester Road

The Daylight credits are currently being targeted for Chester Road:

- A daylighting assessment is currently being undertaken. It is expected that each dwelling will achieve a minimum of **5 credits** based on the ADF levels in kitchens/living rooms or the View of Sky Credit. This will be validated once the daylighting report has been issued for review.

Comfort | 4.3 – Noise Sources

Responsibility: Hann Tucker Associates

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Summary of requirements

A Suitably Qualified Acoustician (SQA) is appointed.

+

INTERNAL NOISE LEVELS – 2 CREDITS

Noise levels of the internal functional space:

- 35-45 dB between 07:00 and 23:00
- 30-35 dB between 23:00 and 07:00

EXTERNAL NOISE LEVELS – UP TO 2 CREDITS

Noise levels of the external functional space:

- 55 dB between 07:00 and 23:00
- 50 dB between 23:00 and 07:00

↓

- A private garden.
- A communal garden or courtyard.
- Balconies.
- Roof terraces.
- Patios.

Key assumptions for Chester Road

The Noise Sources credits are currently being targeted for Chester Road.

An acoustician has prepared an environmental noise survey.

- The Internal noise levels credits are targeted – **2 credits.** The SQA must advise and confirm that the internal noise levels will not exceed the key requirements.
- The External noise levels credits are not currently targeted.

Comfort | 4.4 – Sound Insulation

Responsibility: Hann Tucker Associates + Bell Phillips + Contractor

0 / 9

Summary of requirements

Credits are awarded based on the following criteria:

SOUND INSULATION BETWEEN HOMES – UP TO 5 CREDITS

It must be demonstrated that the home achieves the targets set out as follows:

	Airborne sound insulation requirement – separating walls and floors between homes	Impact sound insulation – separating floors only between homes
1 CREDIT	48 dB	56 dB
3 CREDITS	50 dB	54 dB
5 CREDITS	53 dB	52 dB

SOUND INSULATION FOR INTERNAL WALLS AND FLOORS – UP TO 4 CREDITS

The targets set out in the table below for airborne sound insulation are met.

	Airborne sound insulation levels for internal walls and floors
2 CREDITS	44 dB
3 CREDITS	45 dB
4 CREDITS	48 dB

+

The Suitably Qualified Acoustician (SQA) passes on information to construction professionals outlining key issues to reduce sound insulation.

Key assumptions for Chester Road

- The Sound Insulation Between Homes credits are not currently being targeted.
- The Sound Insulation for Internal Walls and Floors credits are not currently being targeted.

It is understood that an acoustician has not been appointed to advise on internal noise levels or performance standards to achieve the impact and airborne insulation levels.

Comfort | 4.5 – Temperature

Responsibility: Camden Council + Ritchie+Daffin + Contractor

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Summary of requirements

Home information → Prerequisite

TEMPERATURE ANALYSIS – Minimum requirements

Thermal comfort analysis is carried out.
The results and recommendations are provided for the use of the home occupant (in line with the requirements in "Home information").

ROUTES OF RIGOUR - TEMPERATURE ANALYSIS – UP TO 17 CREDITS

Foundation route – 11 Credits

The HQM tool output confirms the threshold temperature is below 22°C using current or projected climate change weather data.

OR

Comprehensive route – 17 Credits

Current Conditions

Thermal modelling is carried out and provides full dynamic thermal analysis. The air-conditioned units meet CIBSE Guide A limit and naturally ventilated buildings – CIBSE TM59.

Predicted climate change environment

The thermal modelling demonstrates that the relevant requirements from Foundation Route are achieved.

Key assumptions for Chester Road

The Temperature Analysis credits are currently being targeted for Chester Road – the homes are assumed to be assessed under the **Comprehensive route:**

- the **Current Conditions** requirement is assumed to be met – **11 credits** for carrying out full dynamic thermal analysis. Moreover, the homes are assumed to be designed to **limit the risk of overheating** and meet CIBSE TM59 limit. Note, that an additional appointment will be required to demonstrate compliance for all dwellings.

Comfort | 4.6 – Ventilation

Responsibility: Ritchie+Daffin + Bell Phillips

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Summary of requirements

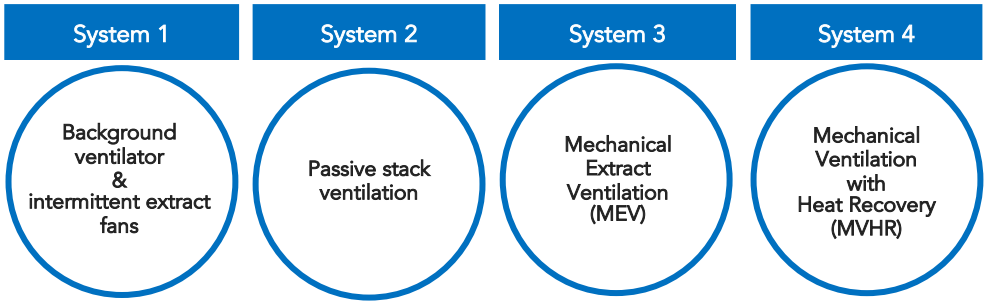
Information Sign & Home information — Minimum requirement

VENTILATION AIR INTAKES – 4 CREDITS

The home's ventilation air intakes should avoid drawing in pollution in accordance with CIBSE TM21.

VENTILATION RATES – 5 CREDITS

Suitably sized ventilation system and flow rates.



MAINTENANCE AND CONTROLS – 4 CREDITS

Credits are awarded based on the following criteria:

Any maintenance intended to be carried out by the occupant or building services engineer can be carried out safely.

+

For mechanical ventilation systems controls are provided to meet varying occupancy levels.

Key assumptions for Chester Road

- The Ventilation Air Intakes credits are targeted for Chester Road – **4 credits**: the air intakes are located to avoid the impact of air pollution by facing a courtyard, in accordance with CIBSE TM21.
- The Ventilation Rates credits are targeted – **5 credits:** it is assumed that the suitably sized Mechanical Ventilation with Heat Recovery system will be installed and will operate at the correct flow rates.
- The Maintenance and Controls credits are targeted – **4 credits**: it is assumed that the system being specified has humidity boost control built-in.

Energy | 5.1 – Energy and cost

Responsibility: Ritchie+Daffin + Bell Phillips + Contractor

Summary of requirements

Home information Prerequisite

ENERGY PERFORMANCE – UP TO 40 CREDITS

Credits are awarded according to the **home energy performance ratio (HEPR)** generated in the online assessment tool.

TOWARDS CARBON NEGATIVE – UP TO 6 CREDITS

The home achieves a HEPR ≥ 0.9 and zero net regulated CO_2 emissions.

+

Credits are awarded according to the percentage of the home unregulated operational energy consumption.

COST – UP TO 14 CREDITS

Credits are automatically awarded according to the outputs scored for cost. The cost output increases relatively between 0.064 (1 CREDIT) and 0.900 (14 CREDITS).

NOTE: **Home energy performance ratio (HEPR)** is a metric that is unique to the HQM that is calculated by the HQM energy engine. A single overall HEPR is determined by weighted ratios of the percentage energy improvement of each home compared against a best practice energy performance level. The homes actual performance is compared against the relevant National Building Regulations compliant standard and the comparison expressed as a percentage improvement.

Key assumptions for Chester Road

- The Energy Performance credits are currently being targeted for Chester Road – **11 credits:** the number of credits are estimated at this time – the initial energy modelling results should be reviewed to validate the targeted number of credits.
- The Towards carbon negative credits are not currently being targeted for Chester Road.
- The Cost credits are currently being targeted - **4 credits**: the number of credits are estimated at this time – the initial energy modelling results should be reviewed to validate the targeted number of credits.

Energy | 5.2 – Decentralised Energy

Responsibility: Ritchie+Daffin

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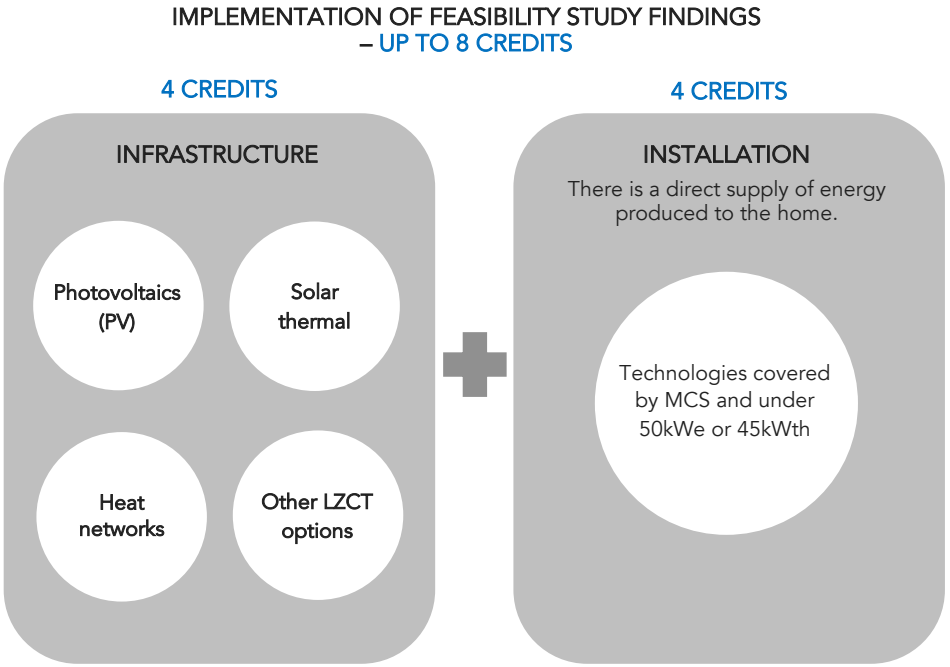
Summary of requirements

Home information — Prerequisite

Feasibility Study — Prerequisite

An independent assessment prepared by an **appropriately qualified professional** (AQP) is carried out to establish the most feasible recognised local **low or zero carbon** (LZC) energy sources for the home or development, as well as any suitable infrastructure for future retrofit.



Key assumptions for Chester Road

The Decentralised Energy credits are currently being targeted for Chester Road – **8 credits:** it is assumed that **LZC feasibility study will be be carried out in line with the HQM requirements** and **PVs will be installed**.

Energy | 5.3 – Impact on Local Air Quality

Responsibility: Ritchie+Daffin

15 / 15

Summary of requirements

IMPACT ON LOCAL AIR QUALITY – UP TO 15 CREDITS

Credits are awarded based on the following criteria:

15 CREDITS

Where all heating and hot water within a home is supplied by non-combustion appliances such as appliances powered by electricity.

OR

UP TO 10 CREDITS

The emission level from the powerplant must be provided by manufacturers, following the labelling requirements of the European directive 2009/125/EC for:

- Local space heaters
- Solid fuel local space heaters
- Boilers and combination heaters
- Solid fuel boilers

NOTE:

Any developments where any portion of the site is within a local authority **air quality management area (AQMA)** are automatically considered to be high pollution locations.

For developments that are wholly outside of an AQMA, the following levels define high pollution locations:

NO_X = >15µg/m^3 averaged over a year.

PM_{10} = >10µg/m^3 averaged over a year.

Key assumptions for Chester Road

The Impact on Local Air Quality credits are currently being targeted for Chester Road.

The heating and hot water is assumed to be supplied by an **air source heat pump system – 15 credits** are targeted.

Materials | 6.1 – Responsible Sourcing

Responsibility: Camden Council + Bell Phillips + Contractor

15 / 25

Summary of requirements

Legally harvested and traded timber — Prerequisite

All timber and timber-based products used in the buildings meet the definition of *Legally harvested and traded timber*.

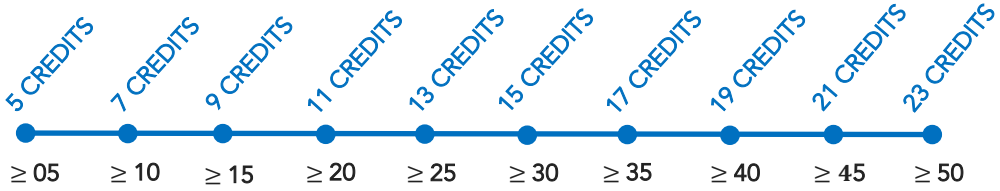
PRODUCT PROCUREMENT POLICY – 2 CREDITS

By the end of early design stage, the client or developer has a documented policy and procedure which:

- Sets out procurement requirements for suppliers and trades.
- Is disseminated to internal and external personnel.
- Is included within the construction contract.
- Encourages the responsible sourcing certification.

RESPONSIBLE SOURCING OF CONSTRUCTON PRODUCTS ASSESSMENT – UP TO 23 CREDITS

For each construction products, estimate the quantity, obtain responsible sourcing certification and determine material category for all materials comprising the substructure, frame, upper floors, roof, stairs and ramps, external walls, windows, internal walls, internal finishes, and external works. Credits are awarded as follows:



% of available points achieved

Key assumptions for Chester Road

- The Product Procurement Policy credits are targeted – **2 credits**: it is assumed that by the end of RIBA stage 2 the documented construction product procurement policy will be prepared. It is anticipated that this is be produced by Camden Council.
- The Responsible Sourcing of Construction Products Assessment: it is assumed that the homes are going to be assessed under the **Comprehensive route** - 25% of responsible sourcing available points and **13 credits** will be targeted.

Materials | 6.2 – Environmental Impact of Materials

Responsibility: Camden Council + Bell Phillips + Contractor

Summary of requirements

PRODUCT PROCUREMENT POLICY – 2 CREDITS

By the end of early design stage, the client or developer has a documented policy and procedure which:

- Sets out procurement requirements for suppliers and trades.
- Is disseminated to internal and external personnel.
- Is included within the construction contract.
- **Encourages an Environmental Product Declaration (EPD).**

PRODUCT ENVIRONMENTAL INFORMATION – UP TO 4 CREDITS

Credits are awarded on the basis of the number of products covered across product categories:

1 CREDIT	2 CREDITS	3 CREDITS	4 CREDITS
4 EPDs	6 EPDs	8 EPDs	10 EPDs

BUILDING LIFE CYCLE ASSESSMENT – UP TO 19 CREDITS

Foundation Route OR **Comprehensive Route**

Ecopoints (**Homes Impact Benchmarks**) depend on building lifecycle assessment of materials used, assessed using the HQM tool.

Credits awarded based on *ecopoints* per occupant.

Building lifecycle assessment needs to be done using IMPACT compliant tool in accordance with the methodology.

Credits are awarded based on the home's impact benchmark achieved.

Key assumptions for Chester Road

- The Product Procurement Policy credits are targeted – **2 credits**: it is assumed that by the end of RIBA stage 2 the documented construction product procurement policy will be prepared. It is anticipated that this is be produced by Camden Council.
- The Product Environmental Information credits are targeted – **4 credits**: it is assumed that at least 10 products will be specified at the Design Stage (DS), installed by the Post Construction Stage (PCS) and will be covered by verified EPD certificates.
- The Building Life Cycle Assessment credits are targeted: it is assumed that the homes are going to be assessed under the **Foundation route** – 61 available life cycle assessment points (*ecopoints*) and **7 credits** will be targeted.

Materials | 6.3 – Life Cycle Costing

Responsibility: -

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Summary of requirements

OCCUPANT'S LIFE CYCLE COST REPORT – 6 CREDITS

Life Cycle Cost (LCC) analysis

(to PD 156865:2008) is produced by suitably qualified cost consultant (SQCC)).

It informs the occupant of key maintenance and operational costs.

+

An **Occupant's report**,

based on the most up-to-date LCC analysis.

Includes: O&M costs and the most significant LCC findings.

=

A final version

of the **Occupant's report** is included within the **'Home Information'**.

It must be updated based on the final LCC analysis at the end of detailed design.

COMPONENT LEVEL LIFE CYCLE COST OPTIMISATION – 6 CREDITS

The SQSS carries out a component level LCC appraisal (to PD 156865:2008), by the end of detailed design.

→

Demonstration on how **LCC optimisation or specification influenced the design and O&M costs** to the occupant.

→

The analysis is provided as a report to the client.

Key assumptions for Chester Road

The Life Cycle Costing credits are not currently being targeted for Chester Road.

Camden council would need to appoint a specialist to undertake a life cycle costing exercise for the project.

Materials | 6.4 – Durability

Responsibility: Bell Phillips

7 / 7

Summary of requirements

The relevant building elements at risk of severe material degradation have been identified and appropriate measures incorporated into design and specification.

The credits are awarded as follows:

INTEGRAL ELEMENTS – 5 CREDITS

SUBSTRUCTURE	SUPERSTRUCTURE	SERVICES	EXTERNAL WORKS
foundations, lowest floor, basement and retaining walls	external finishes, external walls, external openings, stairs, roof, upper floors and balconies, internal walls etc.	piped supply systems – within ownership boundary	boundary fences – within ownership boundary, hardstanding, paving, car parking – within ownership boundary

FINISHING ELEMENTS – 2 CREDITS

EXTERNAL FINISHES	INTERNAL FINISHES	EXTERNAL FINISHES
cladding, render	floor coverings, wall finishes, skirting boards, architraves, trimmings, hinges etc.	sanitary fittings, built-in wardrobes, cupboards and stores

Key assumptions for Chester Road

The Durability credits are currently being targeted for Chester Road.

The primary focus for assessing this issue must be determining how the selection of materials has mitigated degradation – the factors that are likely to cause material degradation effects:

- The Integral Elements – **5 credits** are targeted.
- The Finishing Elements – **2 credits** are targeted.

The design and specification of materials must consider the requirements to limit the material degradation effects.

Space | 7.1 – Drying Space

Responsibility: Bell Phillips

Summary of requirements

EXTERNAL DRYING – 1 CREDIT

The drying space has a minimum length that meets the following requirements:

House with private external space	House without private external space	Flat or Apartment
30m	20m	20m

INTERNAL DRYING – 2 CREDITS

A tumble drier or washer dryer, that is energy efficient and has an acceptable level of condensation, is installed prior to handover.

Credits are awarded as follows:

2 CREDITS

Tumble Drier

Energy Efficiency Class:	A+
Condensation Efficiency Class:	B
Other:	Must vent moist air outside

1 CREDIT

Washer Drier

Energy Efficiency Class:	A

Note:

Washer dryers are covered by an older EU Energy label, they do not currently report a Condensation Efficiency Class. Due to the lack of data currently available, these achieve a reduced number of credits.

Key assumptions for Chester Road

The Drying Space credits are targeted for Chester Road:

- The Internal Drying credits are targeted – **1 credit**: it is assumed that an A rated washer drier will be incorporated within each dwelling. The requirements to be included in Employer's Requirements.

Space | 7.2 – Access and Space

Responsibility: Bell Phillips + Contractor + Camden Council

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Summary of requirements

Home information — Prerequisite

NATIONALLY DESCRIBED SPACE STANDARDS – 5 CREDITS

Credits are awarded based on the following criteria:

The home meets the Technical Housing Standards - Nationally Described Space Standard.

+

Where an improvement over the requirement stated in Technical Housing Standards – Nationally Described Space Standards by 0.5m has been shown.

ACCESSIBLE AND ADAPTABLE DESIGN – 3 CREDITS

The internal and external space of the home meet the requirements of the **Building Regulations in Approved Document M - Access to and use of buildings Category 2** *or* **Approved Document M, Category 3**.

+

An **Accredited Access Consultant (AAC)** is appointed prior to early design stages.

+

The **AAC:**
a. conduct an assessment and provides advice on the concept *and* detailed design stages,
b. communicates and agrees necessary changes within the design team.

ACCREDITED ACCESS CONSULTANT CONFIRMATION – 3 CREDITS

The **Accredited Access Consultant** confirms that the homes have been built based on:

1. Confirmation from the developer that the homes have been built to the final design.
2. Completion of a site inspection.
3. Completion of an as-built evidence review.

Key assumptions for Chester Road

The Home Information **is a prerequisite** and it must be prepared for the HQM assessment.

The Access and Space credits are not currently being targeted for Chester Road. Camden Council would need to appoint the **Accredited Access Consultant** prior to RIBA Stage 2.

Space | 7.3 – Recyclable Waste

Responsibility: Bell Phillips + Contractor + Camden Council

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Summary of requirements

Home information Prerequisite

CONSULTATION WITH THE WASTE COLLECTION AUTHORITY – 2 CREDITS

The waste collection authority is consulted to determine the waste collection patterns, identifying the:

1. Number of recyclable waste streams, for example, paper, plastic, glass, food waste, composting and general waste.
2. Type and size of waste collection containers (such as dedicated wheelie bins, boxes and communal bins).

INTERNAL WASTE STORAGE – 5 CREDITS

Credits are awarded based on the following criteria:

Dedicated internal space, with fixed units to store recyclable waste, is provided. Each individual bin must be a minimum of 10L in volume.

+

The combined capacity of internal recyclable waste facilities should be:

30 litres for 1-2 bedrooms

OR

40 litres for ≥ 3 bedrooms

&

Units for store food: 10 litres

COMPOSTING FACILITIES AND MANAGEMENT – 3 CREDITS

All homes are provided with composting facilities, for garden or food waste, in the form of one or more of the following:

Individual home-composting facilities + **Local communal facilities within 50m from the main entrance to the home.** + **Composting collection services run by the waste collection authority.**

Key assumptions for Chester Road

- The Consultation with the waste collection authority credits are targeted – **2 credits**.
- The Internal waste storage credits are targeted – **5 credits**.
- The Composting facilities and management credits are not currently being targeted for Chester Road.

Water | 8.1 – Water Efficiency

Responsibility: Ritchie+Daffin + Bell Phillips

Summary of requirements

Credits are awarded based on the following criteria:

WATER EFFICIENT FITTINGS – UP TO 11 CREDITS

Water Fittings: **WCs + showers + baths + basin taps + kitchen sink taps + dishwashers + washing machines and washer dryers**

5 CREDITS	OR	8 CREDITS	OR	11 CREDITS
6 water fitting categories in the Optional fittings standard & Modelled water consumption of **110 l/p/d**		**All water fitting categories** in the Optional fittings standard & Modelled water consumption of **110 l/p/d**		**All water fitting categories** in the Advanced fittings standard & Modelled water consumption of **100 l/p/d**

WATER RECYCLING – UP TO 6 CREDITS

Rainwater or greywater recycling systems offset the total demand for WC flushing for the home in accordance with **Appendix A of Approved Document G(133)** and the information below:

3 CREDITS	6 CREDITS
Total demand for WC flushing met by rainwater or greywater: **≥ 50%**	Total demand for WC flushing met by rainwater or greywater: **100%**

Key assumptions for Chester Road

- The **Water efficient fittings** credits are targeted – **8 credits:** it is assumed that all water fitting categories in the optional fittings standard and modelled water consumption of 110 l/p/d.
- The **Water recycling** credits are not currently being targeted.

Delivery

Quality assurance

Construction impacts

Customer Experience

Etude

Quality assurance | 9.1 – Project Preparation

Responsibility: Contractor + Bell Phillips + Etude

Summary of requirements

Credits are awarded based on the following criteria:

FEEDBACK FROM PREVIOUS PROJECTS – 4 CREDITS

Lessons learnt from previous assessments → The **Outline delivery plan** has been developed and kept up to date as the project progresses

PROJECT DELIVERY PLAN – MINIMUM REQUIREMENT

The **Project delivery stakeholders** discussed:

a. Project design and client requirements.

b. Roles and responsibilities for each member.

c. HQM performance targets.

+

Before any activities have started on-site, it is set:

a. Construction process management, record of activities and handover requirements.

b. Managing risks of poor performance.

c. A schedule of commissioning and testing.

d. Contractor's commissioning programme.

e. A target for the home's air permeability ($m^3/hm^2@50Pa$) is agreed and strategy.

f. Actions to manage fabric commissioning.

PRODUCT PROCUREMENT AND SUBSTITUTION POLICY – MINIMUM REQUIREMENT

Sets out performance requirements for products and specifications to be procured for the assessed project.

DISSEMINATION OF INFORMATION – MINIMUM REQUIREMENT

The information must be delivered to all the construction and planning parties: processes for ensuring quality on-site, roles, and construction record.

SITE WORKER FEEDBACK – 2 CREDITS

The client has a documented policy and procedure in place to enable staff to make protected disclosures.

Key assumptions for Chester Road

- The **Feedback form previous projects** credits are targeted – **4 credits**: it is assumed that the evidence which has informed the project will be provided and included in the **Outline Delivery Plan**.
- It is assumed that the **Project delivery plan** will be prepared.
- The **Product procurement and substitution policy** must be prepared by the contractor.
- The **Dissemination of information** – the relevant information must be provided to all necessary stakeholders in planning and construction.
- The **Site worker feedback** credits are targeted – **2 credits:** it is assumed that a documented policy and procedure will be put in place to enable staff to make protected disclosures will be prepared.

Quality assurance | 9.2 – Commissioning and Testing

Responsibility: Ritchie+Daffin + Contractor

Summary of requirements

Credits are awarded based on the following criteria:

COMMISSIONING BUILDING SERVICES AND CONTROL SYSTEMS – MINIMUM REQUIREMENT

All present building systems listed below are commissioned:

FABRIC PRE-TESTING – UP TO 4 CREDITS

A member of an appropriate body has been appointed to:

a. Determine the appropriate inspection and pre-testing methods for the site.

b. Provide quality assurance of the fabric performance (including continuity of insulation), through inspection and air permeability testing.

c. Outline recommendations.

d. Broaden the sample size and carry out additional pre-testing of more homes.

Credits awarded due to the proportion of homes that are inspected.

POST CONSTRUCTION TESTING – UP TO 7 CREDITS

Post-construction testing and inspection credits breakdown:

3 CREDITS
Air leakage paths (airtightness testing).

OR

4 CREDITS
Continuity of insulation and thermal bridging (e.g. thermographic survey).

OR

7 CREDITS
Air leakage paths, continuity of insulation and thermal bridging.

Key assumptions for Chester Road

The Commissioning and Testing credits are currently being targeted for Chester Road.

- The relevant building services and control systems are assumed to be commissioned.
- The Fabric pre-testing credits are targeted – **4 credits:** it is assumed that 100% of homes will be inspected. This requirement to be included in the Employer's Requirements.
- The Post construction testing credits are targeted – **7 credits**: it is assumed that the air leakage paths, continuity of insulation and thermal bridging will be tested. This requirement to be included in the Employer's Requirements.

Quality assurance | 9.3 – Inspections and Completion

Responsibility: Contractor

Summary of requirements

Credits are awarded based on the following criteria:

VISUAL DEFECTS INSPECTION – MINIMUM REQUIREMENT

Ensure the safe access to the home, no health hazards, active systems are installed, working electrics and plumbing.

CONSTRUCTION INSPECTIONS – MINIMUM REQUIREMENT

Systematic and scheduled inspections of design, warranty standards, regulations and planning permissions.

CONSTRUCTION RECORD – MINIMUM REQUIREMENT

Assurance the quality measures to meet the home's required performance characteristics.

RIGHT TO INSPECT – 2 CREDITS

Potential owners have the right to carry out their own, non-invasive, visual inspection or snagging check.

FEEDBACK DISSEMINATION – 1 CREDIT

The feedback on any lessons learnt and examples of good practice is provided.

THIRD PARTY VERIFICATION – 5 CREDITS

The person appointed to carry out role in the *02 Construction inspections* criteria is an ***Independent third party***.

EARLY INSPECTION VISIT – 4 CREDITS

Between four and six weeks after occupants have moved in – to verify the existing problems.

SEASONAL INSPECTION VISIT – 4 CREDITS

Eight to twelve months after the occupant has moved in – the same checks as in *07 Early inspection visit*.

Key assumptions for Chester Road

- The Visual Inspection **is the minimum requirement.** The contractor must appoint a specialist or ensure that regular and robust inspection takes place. These must cover and report on access, health hazard and building services installations.
- The Construction Inspection **is the minimum requirement .**The contractor must appoint a specialist or ensure that regular and robust inspection takes place. These must cover and report on construction site quality, design intent and issues of non-compliance associated with warranties, building regulations and potential impacts to planning permission.
- The Construction Record **is the minimum requirement** and it must be regularly updated for quality assurance purposes.
- The Right to inspect credits are not currently being targeted for Chester Road.
- The Feedback dissemination credits are not currently being targeted for Chester Road.
- The Third-party verification credits are not currently being targeted.
- The Early inspection visit credits are targeted – **4 credits:** it is assumed that the visit will be planned and set.
- The Seasonal inspection visit credits are targeted – **4 credits:** it is assumed that the visit schedule will be set.

Construction impacts | 10.1 – Responsible Construction Practices

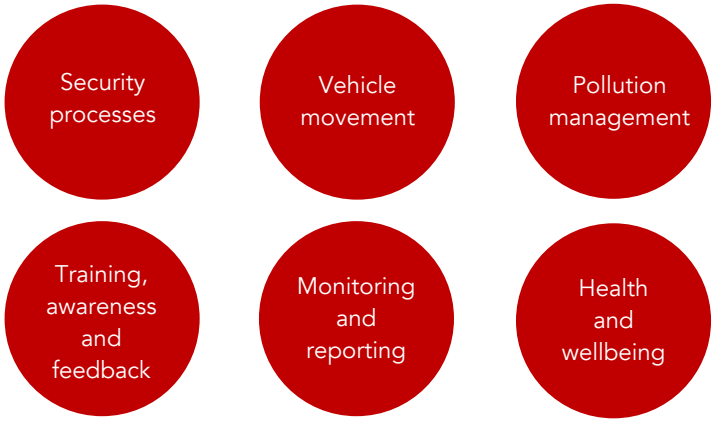
Responsibility: Contractor

Summary of requirements

Credits are awarded based on the following criteria:

RESPONSIBLE CONSTRUCTION MANAGEMENT
– 2 CREDITS

The principal contractor evaluates the risks (on site and off site), **plans and implements actions to minimise the identified risks**, covering the following, where appropriate:



The responsible construction management items

NOTE:

The additional 3 CREDITS are awarded based on the number of responsible construction management items achieved.

Key assumptions for Chester Road

4 credits are targeted under the Responsible construction practices.

Construction impacts | 10.2 – Construction Energy Use

Responsibility: Contractor

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Summary of requirements

Credits are awarded based on the following criteria:

CONTRACTOR'S ENERGY EFFICIENCY CHECKLIST – 2 CREDITS

The contractor's energy efficiency checklist (below) has been completed with a full record of decisions actions or justifications.

Pre-construction phase

- Plan the energy requirements of the project.
- Procure low CO2 site accommodation.
- Specify energy efficient plant.
- Secure early, high capacity, electricity grid connection.
- Co-ordinate monitoring with phasing programme of work and set the intervals at which the reporting will be taken at.

Construction phase

- Deploy the right size generators (if generators are needed).
- Manage energy in a site office efficiently.
- Consider energy saving measures.
- Consider installing intelligent and efficient temporary electrics.
- Consider techniques which avoid forced drying of wet trades.
- Monitor and manage energy use.

ENERGY MONITORING AND REPORTING – 2 CREDITS

Target, monitor and report data on the principal contractor's and subcontractors' metered energy consumption.

WEEKLY DETAILED MONITORING AND REPORTING OF METERED ENERGY USE – 1 CREDIT

Conduct the monitoring and reporting of energy consumption data on a weekly basis.

Key assumptions for Chester Road

The Construction Energy Use credits are currently being targeted for Chester Road.

- The Contractor's energy efficiency checklist credits are targeted – **2 credits:** it is assumed that the contractor's energy efficiency checklist will be be prepared.
- The Energy monitoring and reporting credits are targeted – **2 credits.** The contractor must target, monitor and report all energy data on the principal contractor's and subcontractors' metered energy consumption.
- The Weekly detailed monitoring and reporting of metered energy use credits are targeted – **1 credit.** The contractor must conduct the monitoring and reporting of energy consumption data on a weekly basis.

Construction impacts | 10.3 – Construction Water Use

Responsibility: Contractor

Summary of requirements

Credits are awarded based on the following criteria:

CONTRACTOR'S WATER EFFICIENCY CHECKLIST – 2 CREDITS

The contractor's water efficiency checklist (below) has been completed with a full record of decisions actions or justifications.

Water efficiency actions

- Installing trigger guns to hoses.
- Using of efficient dust suppression techniques (general and road) such as fan misting systems.
- Using waste efficient wheel washing, e.g. drive on systems.
- For washing out and cleaning – using efficient systems such as high pressure (low flow) washers.
- For site accommodation, using of water efficient fittings for urinals, toilets and taps.
- Installing a rainwater harvesting system.

WATER MONITORING AND REPORTING – 2 CREDITS

Target, monitor and report data on the principal contractor's and subcontractors' potable water consumption (m^3).

WEEKLY DETAILED MONITORING AND REPORTING OF METERED WATER USE – 1 CREDIT

Conduct the monitoring and reporting of water consumption data on a weekly basis.

Key assumptions for Chester Road

The Construction Water Use credits are currently being targeted for Chester Road.

- The Contractor's water efficiency checklist credits are targeted – **2 credits:** it is assumed that the contractor's water efficiency checklist will be prepared.
- The Water monitoring and reporting credits are targeted – **2 credits.** The contractor must target, monitor and report all water data on the principal contractor's and subcontractors' metered water consumption.
- The Weekly detailed monitoring and reporting of metered water use credits are targeted – **1 credit.** The contractor must conduct the monitoring and reporting of water consumption data on a weekly basis.

Construction impacts | 10.4 – Site Waste Management

Responsibility: Contractor

Summary of requirements

Credits are awarded based on the following criteria:

PRODUCT PROCUREMENT POLICY – 1 CREDIT

The client or developer has a documented policy and procedure in place by the end of RIBA stage 2. The documented policy and procedure must encourage the specification of products which can help to minimise waste arisings.

CONSTRUCTION RESOURCE EFFICIENCY – UP TO 8 CREDITS

A **Resource Management Plan** (RMP) has been developed covering the non-hazardous waste related to on-site construction. Associated credits can be awarded as follows:

2 CREDITS	4 CREDITS	6 CREDITS	8 CREDITS
≤ 8.5 tonnes per 100m²	≤ 4.9 tonnes per 100m²	≤ 2.9 tonnes per 100m²	≤ 1.9 tonnes per 100m²

DIVERSION OF CONSTRUCTION & EXCAVATION WASTE FROM LANDFILL – UP TO 7 CREDITS

Waste materials will be sorted into separate key waste groups. Credits are awarded for the project's performance concerning the diversion of non-hazardous construction and demolition waste from landfill.

2 CREDITS		4 CREDITS	
CONSTRUCTION	DEMOLITION	CONSTRUCTION	DEMOLITION
80%	90%	90%	95%

+3 CREDITS: At least 95% of excavation waste is diverted from landfill.

Key assumptions for Chester Road

The **Site Waste Management** credits are currently being targeted for Chester Road.

- The **Product Procurement Policy** credits are targeted – **1 credit:** it is assumed that the construction product procurement policy will be prepared.

A **Resource Management Plan** (RMP) must be developed covering the non-hazardous waste related to on-site construction:

- The **Construction resource efficiency** credits are targeted – **4 credits:** it is assumed that less than 4.9 tonnes of waste will be generated on the site per 100m².
- The **Diversion of construction waste from landfill** credits are targeted – **4 credits:** it is assumed that 90% of construction waste and 95% of demolition waste is going to be diverted from the landfill.

Customer Experience | 11.1 – Aftercare

Responsibility: Contractor + Etude

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Summary of requirements

Credits are awarded based on the following criteria:

BUILDING WARRANTY – MINIMUM REQUIREMENT

The home is covered by a building warranty, from a warranty provider who is a member of and fully complies with 'The Consumer Code for Home Builders' or is recognised by the Trading Standards Institute.

HANDOVER VISIT – MINIMUM REQUIREMENT

A contracted commitment is in place for the following to be met:

Introduction to the home information available:
a. The quick start guide and HQM certificate.
b. Health and safety.
c. Operation and maintenance.
d. Support.

Operation and maintenance of active systems and passive design features:
a. Ventilation systems.
b. Heating and hot water systems.
c. Low and zero carbon technologies (LZCT).
d. Smart devices, monitors, control.

Provisionally agree dates for the 4–6 week and 8–12 month aftercare visits

The Post Occupancy Evaluations (POE) details,, involvement of occupants and provisional dates for POE visits.

ON-CALL SUPPORT – UP TO 4 CREDITS

The on-call support meets the following:

a. **Covers all parts of the home** – building fabric, systems and services.
b. **Is available for the whole duration of time** specified in the criteria.
c. **Is free** for occupants to use.
d. **Is available to whoever occupies the home**, as long as the support is available for.

→ 3 CREDITS
Availability: **2 years**

→ 4 CREDITS
Availability: **3 years**

Key assumptions for Chester Road

The Aftercare credits are not currently being targeted for Chester Road:

- The Building Warranty **is the minimum requirement** and it must be achieved for Chester Road for the HQM assessment.
- The Handover Visit **is the minimum requirement** and it must be undertaken for Chester Road for the HQM assessment.
- The On-call support credits are targeted – **4 credits**: it is assumed that the facility will have 24h support and the residents will be provided with a comprehensive handover before moving into a dwelling.

Etude

Customer Experience | 11.2 – Home Information

Responsibility: Contractor + Etude

0 / 0

Summary of requirements

Home information — Prerequisite

Where it is demonstrated that all applicable home information will be provided to occupants of all homes from the first day of moving in and the home information meets the following:

1. *Available in an accessible format.*
2. *Available in both a hard and soft copy.*
3. *Written in Plain English, which is jargon free and uses simple illustrations as appropriate.*
4. *Clearly communicates the following: the person or organisation responsible for anything referred to in the home information, and their contact details, or the person or company responsible for any queries regarding the home.*

Information as part of HQM minimum requirement:

- Operation and maintenance
- Health and safety (emergency services)
- Temperature
- Public transport
- Local amenities
- Support (guarantees, insurance policies)

Information required as part of meeting criteria in various technical issues:

- Sustainable transport options
- Long Term Ecological Management
- Recreational Space
- Flood Risk
- Managing Rainfall Impacts
- Security
- Indoor Pollutants
- Energy and cost
- Decentralised Energy
- Life Cycle Costing
- Access and Space
- Recyclable Waste
- Smart Homes
- Temperature

Key assumptions for Chester Road

The **Home information** **is a prerequisite** and it must be prepared for Chester Road for the HQM assessment.

Customer Experience | 11.3 – Smart Homes

Responsibility: Contractor

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Summary of requirements

Home information Prerequisite

Credits are awarded based on the following criteria:

CONNECTIVITY TO THE HOME – UP TO 2 CREDITS

Credits depend on the download speed of the broadband available to the home: super (24Mbit/s) or ultra-fast (100Mbit/s).

CONNECTIVITY WITHIN THE HOME – 1 CREDIT

Both installation and commissioning are done in accordance with PAS 35491 2017.

BASIC SMART HEATING – 1 CREDIT

Accessible smart home devices or systems have been installed at no additional cost to the occupant.

ADVANCED SMART HEATING – 1 CREDIT

Uses multi-zone heating; independently measures and controls the internal temperature of multiple zones for all principal rooms within the home.

BASIC SMART LIGHTING – 1 CREDIT

Accessible smart home devices or systems have been installed at no additional cost to the occupant.

SMART ENERGY MANAGEMENT – 1 CREDIT

Accessible smart home devices or systems have been installed at no additional cost to the occupant.

ADDITIONAL SMART SOLUTIONS – 1 CREDIT

Gesture control for smart devices, geofencing - ability to control devices based on the location of the user (for example, where they are within asset radius of the home).

Key assumptions for Chester Road

The Smart Homes credits are currently being targeted for Chester Road:

- The Home information **is a prerequisite** and it must be prepared for the HQM assessment.
- The Connectivity to the Home credits are targeted – **2 credits:** it is assumed that the download speed of the broadband for every home will be ultra-fast (100Mbit/s).
- The Basic Smart Heating credits are targeted – **1 credit:** it is assumed smart home devices will be installed at no additional cost to the occupant.
- The Basic Smart Lighting credits are not currently being targeted.
- The Connectivity within the Home credits are targeted – **1 credit**: dwellings with two bedrooms or less are compliant with this this criteria.
- The Advanced Smart Heating credits are not currently being targeted.
- The Smart Energy Management credits are not currently being targeted.
- The Additional Smart Solutions credits are not currently being targeted.

Customer Experience | 11.4 – Post Occupancy Evaluation

Responsibility: Contractor

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Summary of requirements

Credits are awarded based on the following criteria:

OCCUPANT SATISFACTION FEEDBACK AND BILL DATA – 2 CREDITS

An appropriately qualified professional to collect occupant feedback within 6 weeks of occupation and between 12 and 18 months after occupation. The feedback includes:

1. Public transport.
2. Alternative sustainable transport options.
3. Local amenities.
4. Local community overall.
5. Outdoor space.
6. Security.
7. Indoor air quality.
8. Indoor daylight levels.
9. Noise.
10. Thermal comfort.
11. Comfort overall.
12. Energy and water bills.
13. Running costs overall.
14. Indoor space (e.g. size, accessibility, etc.).
15. Active systems (see Aftercare definition).
16. Quality of build, fixtures and fittings.
17. Maintenance and operation of the home.
18. Aftercare support.
19. Home information.

ENERGY AND TEMPERATURE MONITORING – 3 CREDITS

Where an appropriately qualified professional has also been appointed to do the following:

Compare actual and predicted energy costs using the home's Energy Performance Certificate (EPC).

Collect and monitor **energy consumption data** in *kWh/person* or *kWh/m²* and **the internal temperature** in ℃ for at least one year, recorded hourly.

ADVANCED POE – 2 CREDITS

The appropriately qualified professional will also undertake at least one other POE method.

INDEPENDENT THIRD PARTY – 3 CREDITS

Where an independent third party has been appointed as the appropriately qualified professional and is contractually obliged to fulfil any POE commitments.

Key assumptions for Chester Road

- The Occupant satisfaction feedback and bill data credits are targeted – **2 credits:** it is assumed that the feedback is going to be collected.
- The Energy and temperature monitoring credits are targeted **– 3 credits**: it is assumed that the **energy consumption data** in *kWh/person* or *kWh/m²* will be collected and monitored and **the internal temperature** in ℃ for at least one year, recorded hourly, and the actual and predicted cost will be compared.
- The Advanced POE credits are targeted – **2 credits**: it is assumed that POE specialist will be employed.
- The Independent Third Party credits are not currently being targeted for Chester Road.