

Trenchard Drive

Planning Condition 5,

ORIGINAL APPLICATION NO: 111674/JO/2016/S2

VARIATION OF CONDITION NO.2: NEW APPLICATION NO: 118924/JO/2018

Verification / implementation of guidance in AES Southern Energy Statement – February 2016

Planning condition 5 states:

“The development hereby approved shall be implemented in full accordance with the measures as set out within the Energy Statements (AES Southern Ltd) stamped as received by the City Council as local planning authority on 23rd March 2016, including measures to secure predicted carbon emissions and the attainment of specified environmental efficiency and performance.

Within 3 months of the completion of the construction of the authorised development a verification statement shall be submitted to and approved in writing, by the City Council as local planning authority, confirming the incorporation of the specified measures at each phase of the construction of the development, including dated photographic documentary evidence of the implementation and completion of required works.”

The original condition relates to a Code for Sustainable Homes certification which has now been superseded with changes within the building regulations and the Housing standards review.

To discharge this condition a previous contractor (Galliford Try) commissioned the Energy Statement dated February 2016 which now forms the condition 5 detailed above.

Keyworker Homes Ltd, commenced on site in September 2020. To comply with the Energy Statement and planning condition the following items have been included within the construction process and evidenced in each section.

Improved Fabric Specification.

The table below demonstrates the improvements to the building fabric that have been made above the requirements of the 2016 initial parameters.

Table 1	2016 Part L1 Parameter U-value	Constructed Fabric U-value
External wall	0.3 W/m ² K	0.17 W/m ² K
Party wall	0.2 W/m ² K	0.0 W/m ² K
Roof	0.2 W/m ² K	0.11 W/m ² K
Ground floor	0.25 W/m ² K	0.16 W/m ² K
Windows	2.0 W/m ² K	1.4 W/m ² K
Doors	2.0 W/m ² K	0.8 W/m ² K
Air permeability	10 m ³ /h.m ² @ 50Pa	4 m ³ /h.m ² @ 50Pa
Thermal bridging	Default ψ value of 0.150	Approved construction details and robust details used throughout

This clearly indicated that the fabric specification has been improved throughout the build and the design has considered heat loss.

This is further evidenced below:



Photograph showing insulation installed to the internal studs of the timber frame on external elevations and party wall. Photograph taken April



Photograph showing PIR insulation fixed externally to the timber frame. Cavity wall insulation.

Photograph taken April 21

Product Range

GRP Composite Security Doorsets

GRP (Glass-reinforced plastic) is an immensely resilient lightweight but durable composite material. GRP has become the preferred choice of door specifiers, particularly when the client's design priorities include enhanced security, high thermal efficiency and long term best value.

Insulated Timber ECO Doorsets

Our ECO is specifically designed to exceed the ever more stringent industry sustainability standards. Featuring a 54mm thick door leaf, comprising an insulating polystyrene core, sealed between two 6mm aluminium stabilising sheets and cross banded veneers, providing exceptional durability, stability and a most impressive **U value of only 0.8** for the unglazed leaf.

Mortice and Tenon Doorsets

These superb doors are made to the highest standard from FSC Hardwood or Accoya®. Manufactured by our team of highly skilled joiners, the 54mm thick doors provide exceptional stability, security and insulation.

Louvre Doorsets

Our Louvre doors can be offered as either GRP Composite, Timber flush doors fitted with aluminium louvered grilles which house internally, either a stainless steel insect mesh or a heavy duty bird guard, ideal for Bin Stores. Louvres are available in a mill finish or full PPC paint finish to match door facing. Mortice & Tenon (Sapele) timber slatted louvre doors are also available, please speak

Extract from PDS Doors specification showing a U value of 0.8

Specification

OPTIMA PROFILE 22 70mm White PVCu Windows/Doors with overall **U value not exceeding 1.4**

Document Q has been included within this quotation

28mm Dg Units (manufactured to BS1279) Low E, argon gas filled units, warm edge spacer bar

One skin of 6.8mm laminate glass has been included to were deemed necessary

25mm white horizontal Georgian bar to were shown on drawings

A 50mm add-on has been included to the heads of all frames which require an acoustic vent

8000mm trickle vents to all habitable rooms only, 4000mm trickle vents to all non habitable

White Locking Handles, Non-Locking To Fire Escapes

External cills included (110mm and 180mm)

Easy clean hinges as standard to all side hung windows

Window board channel to all windows (excluding wet rooms)

Toughened glass has been included to were deemed necessary.

Extract from SG Windows specification showing U value 1.4

Design Measures

Measures included within the design and specification of the project include the following items.

- No hot water storage
- High efficiency combi boilers
- Energy efficient lighting

Hot Water:

The properties have been specified with a combi boiler which eliminates the need for hot water storage.

The boiler specified is a Valient Eco Tec Sustain Boiler which has a low NOx burner and fan. The full specification can be found in the documents at the end of the report.

Photograph showing boiler being fitted. Photograph taken August 21



Lighting

It has been estimated that power for lighting accounts for about 20% of the total UK power generation.

To reduce the power usage by lights low energy lamps and fittings have been used along with the external lighting being low energy controlled by dusk to dawn sensor, PIR and from within the dwelling by switch override.

Full lighting specification can be found at the end of the report.

Sustainable design

Minimising Energy Consumption:

The 2016 report calls for all dwellings to meet and exceed the requirements of building regulation's part L1A 2013. As can be seen from the table 1 above, we are exceeding these requirements along with construction being in accordance with building regulations in force in 2013.

Moderating internal temperature:

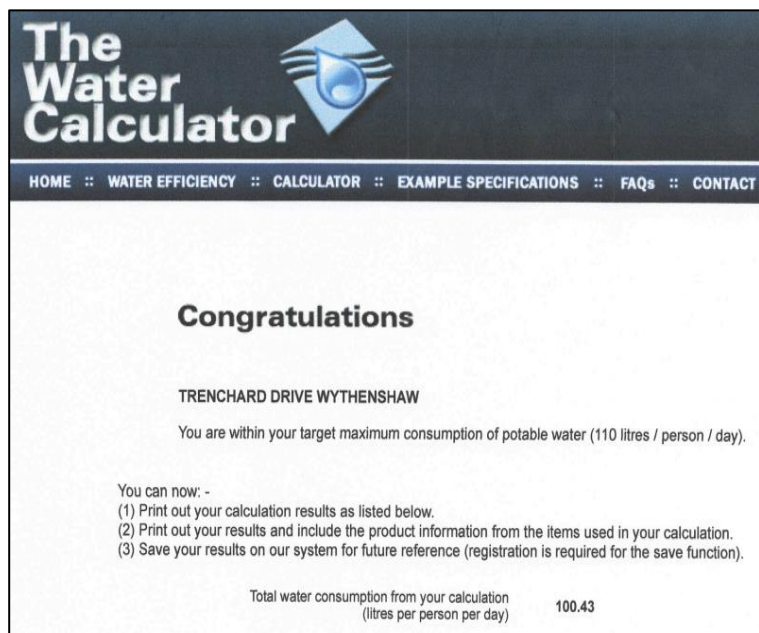
The construction type is timber frame. To moderate the internal temperature fleece insulation has been used internally and PIR board used externally.

Low E argon filled window units have been installed. The movement of warm air is slowed down which helps the double-glazed unit to keep heat in and not escape through the outer pane of glass.

Water saving:

Low flow fixtures and dual flush Sandringham 21 toilets have been used throughout the developments. The report limits the usage to 125 litres/ person/ per day.

We have achieved a usage rate of 100.43 litres/ person/ per day.



Sustainable drainage:

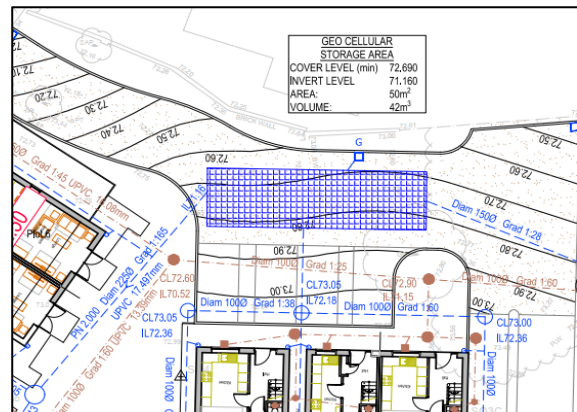
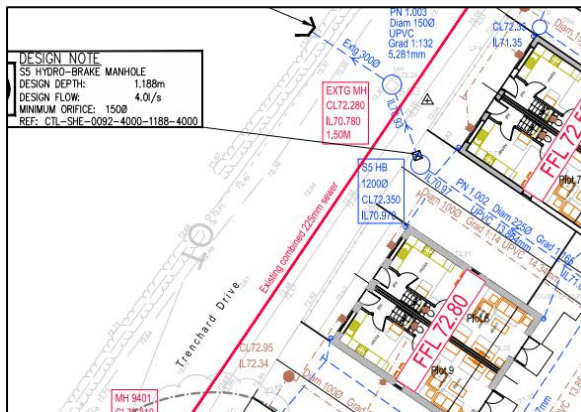
The SuD's principles that have been incorporated and applied across the site are:

- storing run off and releasing it slowly (attenuation)
- allowing water to soak into the ground (infiltration)

As can be seen on the layout drawing below, paved areas have been limited to driveways and footpaths around the properties allowing rainfall to soak away in the gardens (shown green). Any grey water collected is held in a large attenuation tank prior to slowly being released into a culvert via a hydro-break manhole.



Extracts below showing the location of the hydro-break and attenuation tanks. Full surface water drainage layout can be found in the evidential documents at the end of this report.



Ecology

Trees to the southwest corner of the site have been retained with additional tree planting undertaken on a site wide basis. Through out the construction period these trees have been protected with suitable fencing.

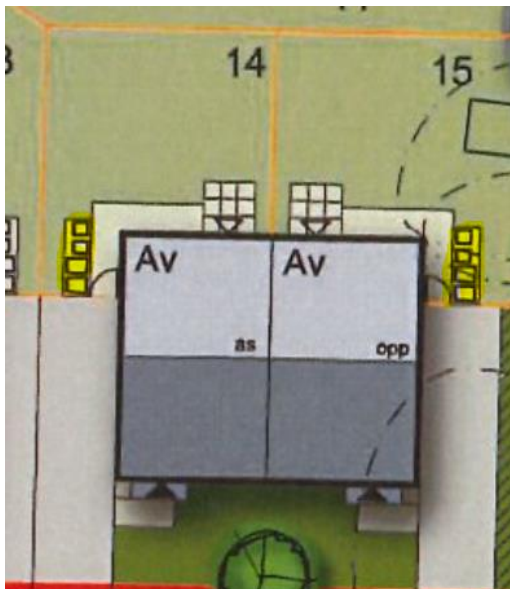
This is clearly demonstrated in images below :



Retained trees highlighted

Household waste:

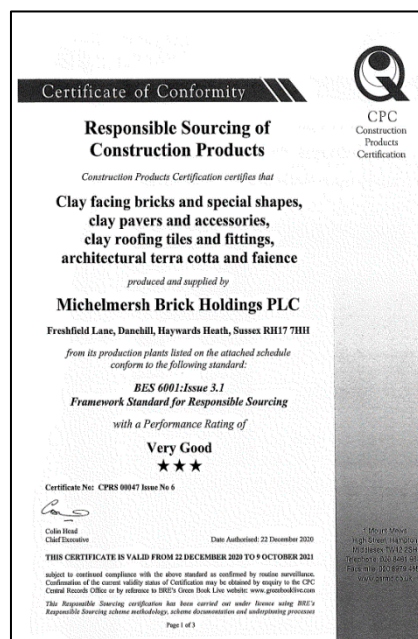
Suitable provision has been made in the design of the scheme with each property having suitable storage space for a range of bins.



External bin storage highlighted

Responsibly Sourced Materials:

All materials have been sourced through reputable merchants. Certificates of responsible sourcing can be found appended to this document.



Reduction of energy Demand

To reduce energy demand, a “fabric first” approach has been used concentrating on improving ‘U’ values, using energy efficient products, ensuring there is a good level of insulation and improving air tightness.

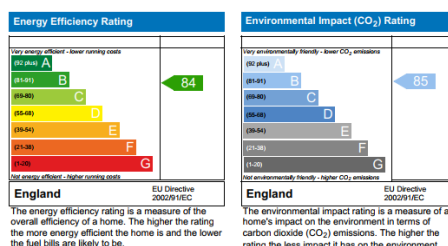
This has been demonstrated in previous sections of this document, but is further demonstrated by the EPC’s appended.

Plot 1 (Kington), Trenchard Drive,
Wythenshawe,
Manchester,
M22 5LZ

Dwelling type: House, Detached
Date of assessment: 12/11/2020
Produced by: EAS (Anglesey) Ltd
Total floor area: 119 m²
DRRN: 4020-3905-9906

This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

The energy performance has been assessed using the Government approved SAP2012 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.



This report has been produced by an accredited Elnhurst member whose work is subject to quality assurance audits. The data used to produce the report has been verified by the Elnhurst members' portal.



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Regs Region: England
Elnhurst Energy Systems
SAP2012 Calculator (Design
System) version 4.14/16