
Westchurch Homes

Louisa Street, Openshaw
Energy Statement (Rev B)



31.08.2022



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1.0 Introduction

1.1 Purpose of the Report

Instructions were received from Westchurch Homes to produce an Energy Statement for the proposed development at Louisa Street, Openshaw. This report has been produced to support the planning application to be submitted for the proposed development, which is situated within the boundaries of Manchester City Council.

This statement provides a response to the following relevant Manchester City Council documents and policies:

Manchester City Council – Core Strategy Development Plan Document (adopted 11th July 2012).

Manchester City Council – Full and Outline Planning Applications Validation Checklist (revised January 2020).

1.2 Site and Building Description

The development will be located at Louisa Street, Openshaw. The application seeks approval for the construction of 71 dwellings, consisting of 42 flats (ranging from 1 to 2 bed), and 29 houses (ranging from 3 to 4 bed), as well as associated parking and garden areas. A proposed site layout has been included in Appendix 1.

1.3 Methodology

The proposed specifications, representative housetype drawings and site plan were reviewed to gain a good understanding of the development; following this, SAP calculations for all proposed housetypes have been completed to determine the As Designed performance of the development. Due to the date of this application, it will be considered under the new Part L1A 2022 regulations. Therefore, the Elmhurst SAP 10 Beta software has been used to conduct the above calculations. The SAP Worksheets for the sample SAP Calculations can be provided to the planning department upon request.

2.0 Planning Policy

2.1 Manchester City Council

This statement provides a response to the relevant elements of the following Manchester City Council documents and policies:

Manchester City Council – Full and Outline Planning Applications Validation Checklist (revised January 2020).

Manchester City Council – Core Strategy Development Plan Document (adopted 11th July 2012).

Where it is clear that a previously relevant has been superseded by a new one, the newer one is considered to be relevant.

2.2 Manchester City Council – Full and Outline Planning Applications Validation Checklist (revised January 2020)

Environmental Standards Statement

As outlined within the City Council's Guide to Development in Manchester SPD/SPG (chapter 4) and Core Strategy Policies EN4 and EN6, an Environmental Standards Statement should be submitted with your application, which addresses sustainability ratings and the provision of renewable energy.

2.3 Manchester City Council – Core Strategy Development Plan Document (adopted 11th July 2012)

Policy EN4

Reducing CO2 Emissions by Enabling Low and Zero Carbon Development

The Council will seek to reduce fuel poverty and decouple growth in the economy, growth in CO2 emissions, and rising fossil fuel prices, through the following actions:

All development must follow the principles of the Energy Hierarchy, being designed:

- To reduce the need for energy through design features that provide passive heating, natural lighting and cooling*
- To reduce the need for energy efficient features such as improved insulation and glazing.*
- To meet residual energy requirements through the use of low or zero carbon energy generating technologies.*

Wherever possible, new development and retrofit projects, including energy generation plant, must be located and designed in a manner that allows advantage to be taken of opportunities for low and zero carbon energy supplies

Where appropriate, new development and retrofit projects will be required to connect to and / or make contributions to low or zero carbon energy schemes and / or incorporate provision to enable future connection to any existing / potential decentralised energy schemes.

The use of building materials with low embodied carbon in new development and refurbishment schemes.

Policy EN6

Target Framework for CO2 reductions from low or zero carbon energy supplies.

Applications for residential development of 10 or more units and all other development over 1,000 sqm will be expected as a minimum to meet the target shown in Tables 12.1 or 12.2, unless this can be shown not to be viable. This should be demonstrated through an energy statement, submitted as part of the Design and Access statement. Such a statement will be expected to set out the projected regulated energy demand and associated CO2 emissions for all phases of the development.

Target Area 3: Micro Generation Area - % Minimum Requirement - +15% increase on Part L 2010.

Where the CO2 emissions reduction required under any future revision of Part L of the building regulations becomes greater than the ' % Minimum requirement', the reduction required under building regulations would apply.

3.0 Policy Response

3.1 Manchester City Council – Core Strategy Development Plan Document (adopted 11th July 2012)

In efforts to reduce the overall carbon emissions associated with the development and to maximise the energy efficiency, the developer has a robust ‘fabric first’ approach to the build specification, which allows it to achieve Compliance with all metrics under Part L 2022.

This has been achieved through building fabric improvements with an uplift on the minimum requirements of Approved Document Part L 2022, and also through specification of efficient mechanical and electrical services. The specification includes for the use of Low / Zero Carbon technology in the form of Air Source Heat Pumps that will serve space and water heating to all plots.

The table below demonstrates how the specification of the development at Louisa Street compares to the limiting values and minimum efficiencies allowed within Part L 2022:

Table 1: Proposed Specification		
Building Element	Limiting Part L 2022 Specification	Proposed Specification Part L
External Walls U-Value	0.26	0.18 U-Value
Roof U-Value	0.16	0.10 / 0.16 U-Value
Ground Floor U-Value	0.18	0.11 U-Value
Window U-Value	1.60	1.40 U-Value, 0.63 G-Value
Party Wall U-Value	0.20	0.00 U-Value
Heating Efficiency	300%	Average 325%
Pressure Test	8.00	3.50
Lighting Lumens	75 lm/w	80 lm/w

The development is proposed to adopt a ‘fabric first’ approach to the specification and as detailed above, the proposed U-Values are a significant uplift on the minimum requirements under Part L 2022.

The proposed build-up for the external wall for the apartments is a traditional masonry construction with a 100mm cavity fully filled with insulation, that generates a U-value of 0.18W/m²K. The proposed wall buildup for the houses is a timber frame system with 120mm PIR (0.022 W/mk) insulation to be utilised, which also achieves a U-value of 0.18W/m²K.

Robust, well insulated cavity walls, roof, floors and openings provide a comfortable environment within the development and reduce the buildings’ reliance on the main heating system. The air permeability target in the apartments is 3.50 m³/(h.m²), providing a significant improvement over the Notional Building target.

The use of enhanced, buildup-specific thermal bridge details will also ensure that thermal performance is enhanced by minimising heat and energy losses through thermal bridges and air gaps, with an overall Y-Value to be achieved that it is a very significant improvement over both the Default and Notional performance under Part L1A 2022.

Air Source Heat Pumps (ASHP) are proposed to serve space and water heating to all plots at the scheme. Air source heat pumps (ASHP) extract heat from the outdoor air, even when the outside temperatures are very low, for use in space heating and hot water systems. Heat from the air is absorbed into a fluid. This fluid then passes through a heat exchanger into the heat pump, which raises the temperature and then transfers that heat to water. This water can then be circulated using radiators or an underfloor system, to provide electric space heating at COP's of circa 300-400%.

Due to the continuing decarbonisation of the UK energy supply, electricity is increasingly becoming the low carbon choice for heating strategy, and it is expected this will continue as more renewable electricity sources become operational and fossil fuel sources are phased out. The current proposed notional dwelling for the Part L1A 2025 Future Homes Standard includes low carbon electric heating (which is presumed to be ASHP at this stage). Therefore, this scheme can be seen to be ahead of the curve on this element, future proofing the scheme when compared against future Part L regulation changes. All plots have ample outside space, either in the form of a private garden, or communal gardens for the maisonettes, to site the external elements of the ASHP.

To summarise, all of the main building elements outlined in Table 1 have been designed to provide a thermally efficient building envelope which, allied to efficient mechanical and electrical services, achieves an improvement on the minimum requirements set out within Part L1A 2022.

The below tables detail the performance of the proposed scheme against all relevant assessment metrics of Part L1A 2022. Table 2 demonstrates that the proposed scheme is predicted to achieve a Dwelling Emission Rate that improves over the Target Emission Rate by circa 60.13%. As the target under ENE 6 is a 15% improvement under 2010 Part L1A, and that Part L1A 2022 is in total a 37% uplift over Part L1A 2010 we can be confident that the proposed scheme would comfortably achieve the required ENE6 target.

Table 2: Part L 2022 Carbon Emissions

Domestic	Units (kg/CO ₂ /year/m ²)
Target Emission Rate (Average)	13.47
Dwelling Emission Rate (Average)	5.37
Percentage Reduction (%)	60.13

Table 3: Part L 2022 Primary Energy

Domestic	Units (kwh/ m ² /year)
Target Primary Energy Rate (Average)	71.02
Dwelling Primary Energy Rate (Average)	59.29
Percentage Reduction (%)	16.52

Table 4: Part L 2022 Fabric Efficiency	
Domestic	Units (kwh/ year/m2)
Target Fabric Energy Efficiency (Average)	38.15
Dwelling Fabric Energy Efficiency (Average)	35.25
Percentage Reduction (%)	7.60

Overheating

On that basis of the timescales of the scheme, it will be assessed against the requirements of the new Part O ADO regulations for overheating. Part O1 states that residential buildings must;

- (a) Limit unwanted solar gains in summer
- (b) Provide an adequate means to remove excess heat from the indoor environment.

Given the nature of the scheme, with all houses having potential for cross ventilation and the scheme not being situated in a high risk postcode, it is likely that the Simplified Method will be used to demonstrate Part O Compliance on the houses. This is based upon comparing window opening areas, and glazing areas against fixed limits, depending on the floor areas of the dwelling, and rooms within the dwelling. It is likely, given the nature of the building and apartments layout, that these will need to be assessed through the Dynamic Method.

As this scheme will be required to comply with the Part O regulations, it can be assumed that the scheme will apply suitable measures to mitigate any risk of overheating in all dwellings.

Sustainable Construction

The development at Louisa Street, Openshaw will strive to incorporate sustainable design into the building. Material selection will endeavour to show preference to suppliers who operate responsible sourcing practices and have current environmental management certificates. Examples including FSC/PEFC certified timber products will be utilised, this ensures all products have been obtained from sustainable and legal sources.

Where possible, local suppliers of required building materials will be given preferred selection over those who operate at further distance from the development site. Through this approach, delivery materials will be transported lesser distance, reducing the associated CO₂ emissions and fuel use of delivery loads. The procurement of these materials closer to the site, will support local businesses & operations within the region. Where allowing, suppliers who possess environmental certifications such as BES 6001/ISO 14001 will be sourced from to further encourage the use of materials ascertained from responsible accredited supply chains.

Similarly, where contractors and site personnel are required to aid the construction efforts, they too will also be given preferential consideration where they are local to the site. This again will reduce the associated CO₂ emissions of travel, in addition to supporting the local economy.

Construction Waste

In efforts to reduce waste throughout the construction process, as part of the design development, the design team have implemented a number of measures to eliminate potential waste.

Westchurch Homes have an effective site waste management system adopting waste hierarchy principles of reduce, reuse, or recycle. All waste will be handled by a licensed waste contractor who will segregate and process waste produced.

Such waste will be separated into key waste groups and recycled at a waste processing plant to be refined into new products, or reused in other projects where they cannot be reformed.

Site hoarding or materials where safe and appropriate are transported from other sites for reuse. The design of the apartments looks to incorporate recycling facilities for residents further encouraging the principles of recycling.

The development design is to standard material dimensions to avoid waste generation. This contributes towards the standardisation of the dwellings which reduces waste not only at the manufacturing stage, but also during construction as it reduces the need to re-size materials on site. In addition, the use of standardised materials increases the likelihood that the materials will be reused in the eventuality that the site is redeveloped in the future.

4.0 Conclusion

This statement has reviewed the proposed development at Louisa Street, Openshaw which consists of 71 total dwellings, 42 flats (ranging from 1 to 2 bed), and 29 houses (ranging from 3 to 4 bed), as well as associated parking and garden areas, and has provided an assessment of the proposed scheme against the relevant elements of the following Manchester City Council documents and policies:

Manchester City Council – Full and Outline Planning Applications Validation Checklist (revised January 2020)

Manchester City Council – Core Strategy Development Plan Document (adopted 11th July 2012)

The statement has highlighted that the scheme currently proposes to utilise a thermally efficient envelope to minimise heat loss, with U-Values that are a significant improvement over the minimum Part L1A 2022 requirements.

The scheme will utilise Air Source Heat Pumps to provide space and water heating to all plots. Due to the continuing decarbonisation of the UK energy supply, electricity is increasingly becoming the low carbon choice for heating strategy, and the expected COPs of the ASHP (in excess of 300%) will allow for the provision of highly efficient, low carbon heating to the dwellings. As such, the proposed specification allows the scheme to comply with all metrics under the Part L 2022 Building Regulations and provide a level of low carbon driven performance that comfortably complies with the requirements of the ENE6 policy.

The statement has also detailed the client's proposed strategy for sustainable design and waste management for the site. These practices will support local businesses and help minimise the embodied carbon impact of the scheme.

The statement has also detailed that, due to the building regulations the scheme will be assessed against, a detailed Overheating assessment will be conducted for all plots at the scheme with mitigations applied where required. An electric vehicle charging point will be applied to each plot at the scheme, providing the easily accessible facility for the end user to operate an electric vehicle.

To summarise, this statement has demonstrated how the proposed scheme at Louisa Street will comply with all targets under Policy ENE4 and ENE6 of the Manchester City Council – Core Strategy Development Plan Document (adopted 11th July 2012).



Appendix 1

Proposed Site Plan



Proposed Site Plan

Scale 1:200

0 5 10 20

Project:

Louisa Street, Openshaw

Disclaimer:

Do not scale from this drawing. All dimensions and levels are to be checked on site. All areas are approximate and are for information only. This drawing is to be read in conjunction with all other relevant documents and all works are to comply with the current Building regulations, British Standards and Codes of Practice etc. All details of the existing structure are to be verified by others on site prior to any works commencing. The copyright of this drawing and all works executed from this drawing remain the property of View Associates Ltd. Any 3rd party survey information contained on this drawing is not the responsibility of View Associates Ltd.

Revision:	Description:	Date:	By:

Client:

Westchurch Homes Ltd

Drawing Title:

Proposed Site Plan

Drawing Number:

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Drawn By: **HH** Checked By: **IJ**

Stage:

Planning

Date: **25.07.2022** Scale: **1:200 @ A0**



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