



DESIGN ENGINEER SUSTAIN

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101-105 New Victoria

Planning Condition 29

Carbon Compliance Margin



Document History

Issue	Date	Purpose	Author
First	17 th May 2023	Issued for Information	ND
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Approvals

This document requires the following approvals.
Signed approval forms are filed in the Management section of the project files.

Name	Signature	Title	Date of Issue	Version
Mike Perkins	<i>M Perkins</i>	Associate Director	17/05/2023	1
Mike Perkins	<i>M Perkins</i>	Associate Director	08/06/2023	1

Distribution

Name	Organisation	Role
D Rothwell	Vinci	Design Manager



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Statement – Planning Condition 29

- 1.1 This statement advises the status of the ‘post construction’ condition of the New Victoria Scheme, in response to planning condition 29, for planning ref: 128667/JO/2020.
- 1.2 Planning Condition 29 states:

The development hereby approved shall be carried out in accordance with the Environmental Standards statement prepared by Arup stamped as received by the City Council, as local planning authority on 15 April 2016. A post construction review certificate/statement shall be submitted for approval, within a timeframe that has been previously agreed in writing by the City Council as local planning authority.
- 1.3 The condition was amended by Deloitte Real Estate in their Memo dated 9th April 2020 (Appendix 1) and agreed to by Manchester City Council in their Decision Notice 126994/NMC/2020 dated 12th June 2020 (Appendix 2).
- 1.4 The change resulted in an approved Part L Carbon emissions compliance margin of 2.6% (Part L 2013 with 2016 amendments). This became the new Carbon Reduction Target.
- 1.5 The As built SAP calculations result in a 5.5% compliance margin on account of the excellent air test results achieved.
- 1.6 The as built SBEM calculations result in a 12.5% compliance Margin (assuming the target air test is achieved, as per the rest of the building (the air test to amenity areas is pending).
- 1.7 The overall area weighted Carbon emission compliance margin is therefore 6.8%, which is an improvement on the target of a 2.6% compliance margin.
- 1.8 The SAP Block Compliance reports for each floor and the SBEM BRUKLs for 101 retail, 103 amenity and 105 retail are listed in the appendix. The Calculation of the area weighted carbon compliance margin can also be found in the appendix.



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Memo

Date: 9 April 2020

To: Manchester City Council

From: Deloitte Real Estate

Subject New Victoria
Proposed Amendments

Introduction and Overview

The purpose of this note is to explain how the proposed energy and ventilation strategy has evolved and subsequently been optimised in response to necessary design adjustments to the New Victoria residential development proposals.

The context for this note is Planning Permission ref. 111777/FO/2016/C1 which relates to the construction of two residential buildings of 21 and 26 storeys for 520 apartments, and one eight storey office building comprising over 11,000 sq. m office space at the New Victoria Site on Corporation Street. Condition 2 of this permission lists the Environmental Standards Statement and Energy Statement prepared by Arup as approved documents and Condition 33 requires the development to be carried out in accordance with the Environmental Standards Statement prepared by Arup, and a post construction certificate be submitted to the City Council for approval.

Since planning permission has been granted, Muse Developments has been working extremely hard to arrive at a position where the proposed scheme can be delivered. As the Local Planning Authority will be aware, there has been a long history of attempts to successfully redevelop this important regeneration site which in reality date back over the last 10-15 years.

As this note will explain, in bringing forward a deliverable scheme, one of the design challenges that has been faced relates to the need to meet new building regulation requirements relating to overheating in residential developments. These requirements were introduced subsequent to the original grant of planning permission. Taking into account associated noise considerations, which are a specific issue and consideration for this Site, it has been necessary to introduce an alternative ventilation strategy which in turn has required the energy strategy for the building to be reviewed.

The outcome is that the percentage improvement on Part L (2013) is reduced due to the way it is calculated, however the actual carbon emissions for the scheme are slightly improved, i.e. emissions for the current proposals are 9 tonnes lower than the approved proposals.

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All options have been made to enhance the scheme as far as possible, taking into account Manchester's climate change agenda and Manchester's net zero carbon commitments. This has included the introduction of renewable energy sources which were not originally included in the form of Photovoltaics.

As a consequence, it can be concluded that the scheme remains ahead of Manchester's current planning policy requirements, is highly sustainable, and performs on a basis that is comparable to other residential schemes that are currently being delivered in Manchester. At the same time, crucially, the scheme remains viable and deliverable. In addition, the scheme uses electric heating and is therefore future proofed to take advantage of the future potential for decarbonisation of the electricity grid.

With regard to the critical issue of viability, and notwithstanding the C-19 situation, Muse Developments is in the very fortunate position of having PIC in place as funder who remain 100% committed to the development, with a desire to exchanging contracts as quickly as possible. The Muse Board is fully aligned with this and the agreement with Network Rail is almost concluded. A contract sum has been agreed with the main contractor Vinci and Muse are currently finalising T&C's in relation to C-19. Muse is hoping to exchange contracts April/May 2020 with a view to starting on site immediately following this.

New Victoria remains the highest priority development within the Muse Manchester office and Muse Developments is confident that they can secure a start on site Q2 this year notwithstanding the current situation with C19.

The remainder of this notes sets out in more detail a summary of the reasons for the changes and explains the efforts that have been made to optimise the outcome relative to Manchester's climate change agenda and carbon commitments.

Changes to the Ventilation and Energy Strategy

- The approved façade design, alongside a highly insulated façade, utilises natural ventilation to minimise the risk of overheating. The approved design targeted a 7.6% improvement on Part L (2013). The 7.6% improvement over Part L was based on the assumption that summer cooling would be provided by natural ventilation via openable windows.
- Following the approval of the planning permission, new guidance was released in relation to assessing overheating (CIBSE TM59 Assessments) in June 2017. This guidance sets more onerous targets for overheating.
- In addition, due to location of the site, it is subject to several noise sources, including Corporation Street, the adjacent rail and tram lines and the Arena. As such the frequency during which windows can be opened is limited and the ability to rely on natural ventilation to mitigate overheating significantly reduced.
- These factors affect the methodology of the overheating assessment which impacts the façade design, the Energy Strategy and acoustic mitigation considerations.
- In developing the detailed façade design, the project team have considered the potentially competing issues that determine the façade specification and importantly Part L. These include, but are not limited to:
 - Acoustic insulation – façade design to limit noise break-in and maintain internal noise criteria.
 - Overheating – a highly insulated façade limits natural heat loss, increasing the potential for overheating during warmer seasons.

- Heat loss – a highly insulated façade limits natural heat loss, to reduce energy requirements for heating during colder seasons.
 - Light ingress and higher G-value – solar gains through winter reduce heating requirements (lower CO2 emissions) but lead to increased summer time temperature leading to increased risk of overheating.
- A detailed options appraisal has been undertaken to balance the competing considerations this has included consideration of the following options:
 - Extent of glazing
 - Fabric U Values
 - Dwelling air tightness
 - Glazing shading coefficient
 - Heat loss between apartments to common areas
 - Thermal bridge details
 - Heating efficiency
 - Hot water efficiency and controls
 - Ventilation and heat recovery efficiency
 - Lighting efficiency
 - Renewable technology

Futureserv have been appointed from RIBA Stage 3 and have further pushed the efficiency of the building fabric and the efficiency of the ventilation and heat recovery units to reach the 2.6% improvement currently proposed

- Arup and Fisher Acoustics have undertaken detailed discussions with MCC Environmental Health and have agreed the maximum period of time openable windows can be used for purge ventilation and the control of summertime overheating. Whilst this assists in controlling overheating, the acoustic conditions of the site remain a constraint and mechanical cooling is still required. This has impacted on the ability to achieve the carbon reduction targets.
- In summary, due to the more stringent overheating guidelines, the orientation of the buildings, and the high level background noise levels at this location, the overheating assessment has fed into the detailed design, resulting in a reduced percentage improvement over Part L.
- Whilst the approved scheme achieved a 7.6% compliance margin, the actual total emissions of the approved scheme is higher than the current proposals (which achieves a 2.6% compliance margin).

The percentage improvement is calculated using an initial compliance target which is set by Part L of the building regulations, and based on assumptions at planning stage. The percentage is then calculated as an improvement on the compliance target.

The percentage figure is therefore based on an improvement on the compliance target rather than absolute numbers. The compliance target of the approved scheme included a number of assumptions which the current proposals have now confirmed through the detailed design process.

As such, the compliance target has become more onerous on account of the detailed design information available, for example, relating to façade specification and u-values. As the current proposals have to use a 'lower' or 'more onerous' compliance target, the percentage improvement has reduced, even though the actual emissions are lower for the current proposals.

The actual building proposal emissions for the approved scheme and the current proposals are:

- Approved scheme emissions = 774 tonnes
- Current proposals emissions = 765 tonnes

Emissions for the current proposals are 9 tonnes lower than the approved proposals, a reduction of 1.2% of the total emissions compared to the approved scheme.

Further, when comparing the current proposals with the approved compliance target, it results in an 8.87% margin of improvement, demonstrating the reduction in actual tonnes of carbon emissions.

- Due to the challenges with the façade design, the project team has considered other strategies to meeting sustainability targets and exceed policy requirements. In March 2020, MCC published its Climate Change Framework 2020-2025, and the measures incorporated in the New Victoria development have been considered in this updated context.

- **Priority Action 1 – Buildings**

A 'fabric led' material specification with high quality design and construction standards, which include:

- Water efficiency – fixtures will be selected with consideration of low water consumption.
- Improved hot water and mechanical ventilation specifications.
 - Mechanical Ventilation and Heat Recovery efficiencies.
- Enhanced lighting efficiency.
- Choice of materials to ensure they are responsibly sourced where possible to reduce the embodied carbon of the buildings.

- **Priority Action 2 – Renewable Energy**

- Solar Energy - The proposed amendments include the introduction of Photovoltaic Panels on the roof of the two residential buildings to generate electricity on site.
- The full electric servicing of the building allow them to take advantage of a decarbonised National Grid and potentially connecting to any future regional or city-wide renewable energy infrastructure.

The UK's grid will become less carbon intense over time, and as such the carbon emissions associated with full electric heating will become less.

The new 2020 Part L will be released later this year and it is envisaged that the calculations will recognise that the current Carbon Intensity of grid electricity which has improved significantly since 2010. This would support an all-electric heated development, such as New Victoria, in comparison with meeting improvement targets over 2010 and 2013.

- **Priority Action 3 – Transport and Flying**

- The Proposed Development is in a highly sustainable location within walking distance of the facilities available in Manchester City Centre, and adjacent to Manchester Victoria Station connecting with regional mainline rail services.
 - Cycle parking provision is 50% for the residential elements.
 - There is capacity to introduce electric vehicle & cycle charging points for the lower ground floor car parking, with passive provision for an additional 10 electric vehicle charging points being committed to at this time.
 - Providing the potential for residents to connect to high speed broadband operators, the Proposed Development could facilitate working from home, reducing the need to travel.
- **Priority Action 5 – The things we buy and throw away**
 - As part of the detailed design, the consideration of waste recycling facilities has been re-considered. The bin stores at lower ground level have been increased in size to ensure the provision complies with waste standards and will support recycling in the development.
 - **Priority Action 6 – Green infrastructure**
 - The proposals include significant improvements to existing public realm, including providing soft landscaping in planters and planting 13 new trees. As there is no existing green infrastructure on the Site, the development will result in an improvement in biodiversity on the Site.

Appendix 2 – MCC Decision Notice (Approval of new target)



Planning

Carolyn Parry
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P O Box 532 Town Hall
Manchester M60 2LA

Mr John Cooper
Deloitte LLP
PO Box 500
2 Hardman Street
Manchester
M3 3HF

Date: 12 June 2020

Dear Sir/Madam,

Application under Section 96a of the Town & Country Planning Act 1990 (as amended) for a Non-Material change to a planning permission

Application No: 126994/NMC/2020

Description: Application for a non-material amendment following a grant of planning permission under previously approved planning application 111777/FO/2016 to allow for a revision to some of the approved drawings and documents listed in condition 2

Location: New Victoria , Land At Corporation Street, Manchester, M3 1NX

I refer to your application for a non-material amendment to planning permission reference 111777/FO/2016/C1.

Following an assessment of the details submitted, I can confirm that the proposed amendment is considered to be of a non-material nature and acceptable to the City Council as Local Planning Authority. The City Council is satisfied that the proposed change will have no material impact upon the previously approved scheme.

For the avoidance of doubt, the condition below replaces the previous condition 2 on approved planning application 111777/FO/2016:

The development hereby approved shall be carried out in accordance with the following drawings and documents:

00- 5219-SI-00-002 E Location Plan 1:1250 A1
5219-SI-00-003 G Site Plan As Existing 1:250 A1
5219-SI-00-090 A Proposed Block Plan 1:500 A1

5219-SI-00-103 E Proposed Masterplan - Roof Plan 1:250 A1

5219-SI-00-110 D Existing Elevations 1:500 A1
5219-SI-00-111 D Existing Elevations 1:500 A1

5219-SI-00-120 C Existing Sections 1:500 A1

5219-SI-00-130 B Proposed Phasing Plan 1:1250 A1



5219-P3-20-199 G Office - Lower Ground Floor 1:100 A1
5219-P3-20-200 G Office - Ground Floor 1:100 A1
5219-P3-20-201 H Office - First Floor 1:100 A1
5219-P3-20-202 E Office - Second Floor 1:100 A1
5219-P3-20-203 E Office - Third Floor 1:100 A1
5219-P3-20-204 E Office - Fourth Floor 1:100 A1
5219-P3-20-205 E Office - Fifth Floor 1:100 A1
5219-P3-20-206 E Office - Sixth Floor 1:100 A1
5219-P3-20-207 E Office - Seventh Floor 1:100 A1
5219-P3-20-208 E Office - Eighth Floor (Roof Plant) 1:100 A1

Plot 1 5219-P1-20-301 D Residential 1 -Sections - Sheet 1 1:100 A1
Plot 2 5219-P2-20-301 D Residential 2 - Sections - Sheet 1 1:100 A1
Plot 3 5219-P3-20-301 E Office - Sections - Sheet 1 1:100 A1

5219-P1-20-411 F Residential 1 - Elevations - Sheet 1 1:200 A1
5219-P1-20-412 F Residential 1 - Elevations - Sheet 2 1:200 A1

5219-P3-20-411 E Office - Elevation P3-1 1:200 A1
5219-P3-20-412 E Office - Elevation P3-2 1:200 A1
5219-P3-20-413 E Office - Elevation P3-3 1:200 A1
5219-P3-20-414 F Office - Elevation P3-4 1:200 A1

5219-SI-21-401 A Bridge Study 1:50 A1

Plot 2 5219-P2-20-401 _ Residential 2 - Bay Study - Bottom Façade 1:20 A1
Plot 3 5219-P3-21-401 D Office - Typical Cladding Detail 1:20 A1

LANDSCAPE DRAWINGS

PL1487.112 _ Vehicular Access Lower Ground Floor
PL1487.113 _ Vehicular Access Ground Floor
PL1487.105 15 Landscape Masterplan - Lower Ground Floor Level
PL1487.106 14 Landscape Masterplan - Ground Floor Level
PL1487.108 3 Landscape Masterplan - Combined Lower GF level and GF level
PL1487.109 7 Landscape Masterplan Proposals for Phase 1
PL1487.110 3 Hardworks Ground Floor
PL1487.111 3 Softworks Ground Floor

Documents

Design and Access Statement - prepared by Sheppard Robson;
Heritage and Townscape Impact Appraisal - prepared by KM Heritage;
Environmental Standards Statement- prepared by Arup;
Energy Statement - prepared by Arup;
Ecological Assessment prepared by Penny Anderson Associates;
Transport Assessment prepared by Arup;
Travel Plan Framework prepared by Arup;
Crime Impact Statement - prepared by Greater Manchester Police;
Operational Waste Management Strategy prepared by Sheppard Robson and Arup;
Ventilation Strategy - prepared by Arup;
TV Reception Survey - prepared by Pager Power;
Lighting Assessment - prepared by Arup;
Viability Assessment - prepared by Muse (submitted in commercial confidence);
Residential Management Strategy - prepared by Owen Land and Property;
Statement of Community Consultation - prepared by Deloitte;



Environmental Statement plus Appendices- prepared by Deloitte; and
Environmental Impact Assessment Non-Technical Summary - prepared by Deloitte.

Amended drawings received 11 June 2020:

5210-SI-00-900 - Proposed Masterplan - Lower Ground Floor
5210-SI-00-901 - Proposed Masterplan - Ground Floor
5210-SI-00-902 - Proposed Masterplan - Typical Floor
5210-SI-00-915 - Proposed Elevations
5210-SI-00-916 - Proposed Elevations
5210-SI-00-925 - Proposed Sections
5219-P1-20-899 RESIDENTIAL 1 Lower Ground Floor
5219-P1-20-900 RESIDENTIAL 1 Ground Floor
5219-P1-20-901 RESIDENTIAL 1 1st - 22nd Floor Plan
5219-P1-20-923 A RESIDENTIAL 1 23rd Floor Plan
5219-P1-20-924 A RESIDENTIAL 1 24th Floor Plan
5219-P1-20-925 A RESIDENTIAL 1 25th Floor Plan
5219-P1-20-926 A RESIDENTIAL 1 26th Floor Plan
5219-P1-20-911 A RESIDENTIAL 1 Elevations Sheet
5219-P1-20-912 A RESIDENTIAL 1 Elevations Sheet 2
5219-P2-20-901 A RESIDENTIAL 2 1st -17th Floor Plan
5219-P2-20-918 A RESIDENTIAL 2 18th Floor Plan
5219-P2-20-919 A RESIDENTIAL 2 19th Floor Plan
5219-P2-20-920 A RESIDENTIAL 2 20th Floor Plan
5219-P2-20-911 A RESIDENTIAL 2 Elevations Sheet 1
5219-P2-20-912 A RESIDENTIAL 2 Elevations Sheet 2
5219-P2-20-900 A RESIDENTIAL 2 Ground Floor Plan
5219-P2-20-899 RESIDENTIAL 2 Lower Ground Floor Plan
5219-P2-20-921 A RESIDENTIAL 2 Roof Plan
5219-P1-20-951 A RESIDENTIAL 1 Sectional Elevations Sheet 1
5219-P1-20-952 A RESIDENTIAL 1 Sectional Elevations Sheet 2
5219-P2-20-951 A RESIDENTIAL 2 Sectional Elevations Sheet 1
5219-P2-20-952 A RESIDENTIAL 2 Sectional Elevations Sheet 2
5219-P2-20-910 A RESIDENTIAL 2 Sections
5219-P1-20-910 A RESIDENTIAL 1 Sections
5219-P1-21-901 A Bay Study Typical Facade
5219-P1-21-902 A Balcony Study - Middle Facade
5219-P1-21-903 Balcony Study Top Facade
5219-P1-21-904 Balcony Study Bottom Facade
5219-P1-21-905 Bay Study Parapet
5219-P1-21-906 Bay Study Penthouse Corridor Study
5219-P2-21-901 Bay Study Bottom Facade
PL1487-VW-112 - amended cycle parking layout - Lower Ground Floor
PL1487-VW-114 - amended cycle parking layout - Ground Floor

The New Victoria Planning Document - NMA, dated 23 March 2020, ref. 5219-NV-SRA-XX-XX-D-00950, REVISION P04 - 11th JUNE 2020

The New Victoria Part L Overheating and Noise Technical Note by Arup, dated 9 October 2019, Ref. 255644-00

The Technical Note P6449/6 Stage 4 Interim Part L Summary Technical Note by Futureserv, Ref. 17/6, dated 5 March 2020

Reason: To ensure that the appearance of the development is acceptable to the City Council as local planning authority in the interests of the visual amenity of the area within which the site is located, as specified in policies SP1 and DM1 of the Core Strategy.

Therefore I can confirm that the proposed amendments are hereby **approved**.

It should be noted that this letter of consent does not supersede the decision notice attached to planning permission 111777/FO/2016/C1. These documents should be read in conjunction with one another. Therefore, the conditions previously applied to approval 111777/FO/2016/C1 still apply to this development. However, due to the acceptance of the amendments outlined above, the following amended conditions also now apply:

Should you wish to discuss the matter further, please contact Carolyn Parry using the details above.

Yours faithfully,



Julie Roscoe
Director of Planning, Building Control & Licensing

Technical Note P6449/6

Project Name: New Victoria, Manchester

Design Phase: Stage 4 - Interim



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Tel: 0161 827 1760
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Title: Stage 4 Interim Part L Summary

Project Ref: P6449

Date: 5th March 2020

Ref: 17/6

Introduction

This technical note has been produced to provide an overview of the work undertaken with regard to Part L compliance, overheating assessment criteria and related acoustic studies following RIBA Stage 3, as part of the current Stage 4 Interim design and in support of MCC Planning Policy.

Part L Compliance

The position at Stage 3 prior to Futureserv involvement in terms of Part L compliance was that a pass level was achieved with a reduced margin in terms of the required percentage improvement for Manchester City Council planning policy (Building Regs 2013 without 2016 Amendments), less than that anticipated at planning stage, and following the introduction of CIBSE TM59 assessments of overheating risk.

Compliance at Stage 3 was based on use of a robust building fabric, with a highly insulated façade and triple glazing with inward opening windows. During design development the design has changed to include inward opening vent panels to increase natural ventilation rates, and the façade specification has changed to incorporate specific acoustic measures.

Futureserv have carried out further Part L calculations within this Stage 4 Interim period to enable specification development within the design team to arrive at the final SAP specification for the purposes of sub-contractor discussions. A compliant scheme has been developed based on the updated façade design, and continued developed specification of the following fabric and MEP services efficiencies:

Fabric

- The selection of glazing
- The Fabric U values
- The dwelling air tightness
- The glazing shading coefficient
- Heat loss between apartments
- Heat loss from apartments to common areas
- Thermal Bridge details

Services

- Heating efficiency
- Heating Controls
- DHW efficiency
- DHW Controls
- Ventilation and heat recovery efficiency
- Lighting efficiency
- The introduction of photovoltaic panels to both towers

Following RIBA Stage 3 the introduction of renewable energy through photovoltaic panels to both residential towers at roof level, and improved DHW and MVHR specifications, this has boosted the carbon efficiency. Due to the density in occupancy within apartments, there will be a fairly constant base electrical load prevalent on the building which will be mitigated in part by the use of Solar PV.

Technical Note P6449/6

Project Name: New Victoria, Manchester

Design Phase: Stage 4 - Interim

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The calculated building CO2 emissions rate (BER) is less than the target (TER). The landlord areas show an improvement over Part L 2013 of 15% in each block. When this is combined with the SAP results, an overall area-weighted pass of 2% is demonstrated for the development.

Given the constraints governed by achieving the rigorous fabric targets, overheating criteria and acoustic measures this shows some improvement within the Stage 4 interim design period where a coordinated design team approach including supply chain input has enabled further fabric and carbon efficiency.

The new 2020 Part L will be released later this year and it is envisaged SAP Calcs will incorporate the current Carbon Intensity of grid electricity which has improved massively since 2010. This may support an all-electric heated development such as New Victoria in comparison with meeting improvement targets over 2010 and 2013, however full details of the route to compliance are still to be confirmed.

CIBSE TM59 Overheating Analysis

At RIBA Stage 3 a natural ventilation strategy through opening windows was shown to work in previous analysis, but was expected that this would lead to acoustic issues due to the restricted window opening times. As part of the Stage 4 Interim design and façade engineering development, purge ventilation panels were introduced to keep the benefits of the natural ventilation strategy while minimising the number of hours allowable for façade openings.

Further design development was carried out in conjunction with additional and detailed acoustician testing reports, and refined façade and glass specification in order to identify viable MVHR selections and appropriate ventilation rates, and to establish the link between the overheating strategy and total vent panel opening hours.

The scheme now meets the requirements of CIBSE TM59 whilst conforming to the proposed revised acoustic criteria, which requires the vent panels to be closed between 11pm and 7am and the model was re-run with blinds pulled down and the windows/ vent panels closed.

The analysis identifies a few rooms which do not meet TM59 under the mechanically ventilated criteria. These rooms require the vent panels and windows to be open for up to a maximum of between 1 and 4 hours a day (depending on the room) in the summer months.

The results from the model indicate that:

- The worst-case room requires the vent panels to be open 14 days a year, and
- Of those 14 days a year; there are only 7 days a year when the vent panels need to be open for between 3 and 4hrs a day.
- For the other 7 days, the vent panels need to open for between 0.5 hrs and 2 hrs a day.

This criterion has been confirmed as acceptable to Manchester City Council.

Appendix 4 – As Built Carbon Reduction Calculation Summary

Level/ Area		Area (m2)	TER (kgCO2/m2 per annum)	DER			Compliance Margin
		31456.41	22.68183	713488.9	21.4386	674381.3	5.5%
SAP	0G	365.87	26.63	9743.118	27.07	9904.101	
	1	1434.66	24.1	34575.31	23.3	33427.58	
	2	1434.66	22.45	32208.12	21.07	30228.29	
	3	1434.66	22.48	32251.16	21.08	30242.63	
	4	1434.66	22.48	32251.16	21.03	30170.9	
	5	1434.66	22.48	32251.16	21.08	30242.63	
	6	1434.66	22.48	32251.16	20.92	30013.09	
	7	1434.66	22.48	32251.16	20.94	30041.78	
	8	1434.66	22.48	32251.16	20.99	30113.51	
	9	1434.66	22.48	32251.16	20.97	30084.82	
	10	1434.66	22.48	32251.16	20.92	30013.09	
	11	1434.66	22.48	32251.16	21.04	30185.25	
	12	1434.66	22.48	32251.16	21.01	30142.21	
	13	1434.66	22.48	32251.16	20.96	30070.47	
	14	1434.66	22.48	32251.16	21.03	30170.9	
	15	1434.66	22.48	32251.16	21.06	30213.94	
	16	1434.66	22.48	32251.16	21.05	30199.59	
	17	1434.66	22.48	32251.16	20.93	30027.43	
	18	1434.66	22.48	32251.16	21.63	31031.7	
	19	1220.06	22.81	27829.57	21.8	26597.31	
	20	1066.15	23.09	24617.4	22.96	24478.8	
	21	717.33	22.45	16104.06	21.1	15135.66	
	22	717.33	22.57	16190.14	21.19	15200.22	
	23	691.22	22.83	15780.55	22.1	15275.96	
	24	505.35	23.35	11799.92	22.88	11562.41	
	25	349.22	24.69	8622.242	27.51	9607.042	
		9552.2	8.446358	80681.3	7.393886	70627.88	12.5%
SBEM	Amenity (103)	9072	6.7	60782.4	6.3	57153.6	
	Retail 1 (101)	192.2	38.5	7399.7	27.4	5266.28	
	Retail 2 (105)	288	43.4	12499.2	28.5	8208	
Combined result		41008.61	19.36594	794170.2	18.16714	745009.2	6.2%

Appendix 4 – SAP Block Compliance Results and BRUKL

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001022	Issued on Date	28/03/2023
Block Name	New Victoria L0G [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001022		Block Name: New Victoria L0G [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124190-001	1	62.3	29.35	27.67	-6.08 %
124191-001	1	62.3	22.92	23.24	1.39 %
124192-001	1	62.3	27.96	27.67	-1.05 %
124193-001	1	47.41	25.27	27.52	8.16 %
124194-001	1	47.41	25.39	27.52	7.73 %
124195-001	1	84.15	29.76	26.60	-11.87 %
Totals:	6	365.87	160.65	160.21	
Average DER = 27.07 kgCO ₂ /m ²		% DER/TER	FAIL		
Average TER = 26.63 kgCO ₂ /m ²		-1.65 %			

Block Compliance Report - DFEE

Block Reference: 001022		Block Name: New Victoria L0G [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DFEE (kWh/m ² /yr)	TFEE (kWh/m ² /yr)	% DFEE/TFEE
124190-001	1	62.3	44.93	50.62	11.24 %
124191-001	1	62.3	31.89	34.36	7.20 %
124192-001	1	62.3	42.29	50.62	16.46 %
124193-001	1	47.41	34.59	42.16	17.95 %
124194-001	1	47.41	34.65	42.16	17.80 %
124195-001	1	84.15	48.05	53.97	10.96 %
Totals:	6	365.87	236.41	273.89	
Average DFEE = 40.31 kWh/m ² /yr		% DFEE/TFEE	PASS		
Average TFEE = 46.43 kWh/m ² /yr		13.18 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001024	Issued on Date	15/03/2023
Block Name	New Victoria L01 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001024		Block Name: New Victoria L01 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO ₂ /m²)	TER (kgCO ₂ /m²)	% DER/TER
124250-001	1	47.41	20.24	23.95	15.51 %
124251-001	1	47.41	20.24	23.95	15.51 %
124252-001	1	69.74	24.33	23.61	-3.03 %
124253-001	1	62.3	22.69	22.97	1.23 %
124254-001	1	62.3	19.13	21.63	11.55 %
124255-001	1	47.41	19.52	23.18	15.78 %
124256-001	1	62.3	24.24	24.71	1.89 %
124257-001	1	47.41	19.57	23.18	15.56 %
124258-001	1	84.15	23.13	22.73	-1.75 %
124259-001	1	62.3	23.91	25.37	5.75 %
124260-001	1	62.3	19.66	22.23	11.57 %
124261-001	1	62.3	23.42	24.12	2.92 %
124262-001	1	47.41	20.23	23.95	15.55 %
124263-001	1	47.41	19.39	23.95	19.05 %
124264-001	1	69.74	23.69	23.60	-0.40 %
124265-001	1	62.3	23.98	25.60	6.31 %
124266-001	1	62.3	22.56	24.21	6.83 %
124267-001	1	47.41	21.09	25.77	18.17 %
124268-001	1	62.3	25.00	27.25	8.26 %
124269-001	1	47.41	21.32	25.77	17.28 %
124270-001	1	84.15	25.80	25.23	-2.27 %
124271-001	1	62.3	23.61	25.58	7.70 %
124272-001	1	62.3	19.65	22.23	11.62 %
124273-001	1	62.3	22.87	24.12	5.20 %
Totals:	24	1434.66	529.27	578.92	
Average DER = 22.30 kgCO ₂ /m²		% DER/TER	PASS		
Average TER = 24.10 kgCO ₂ /m²		7.47 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001026	Issued on Date	15/03/2023
Block Name	New Victoria L02 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001026		Block Name: New Victoria L02 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO ₂ /m²)	TER (kgCO ₂ /m²)	% DER/TER
124328-001	1	47.41	18.42	21.64	14.89 %
124329-001	1	47.41	18.70	21.64	13.60 %
124330-001	1	69.74	22.31	21.25	-5.01 %
124331-001	1	62.3	22.11	22.95	3.66 %
124332-001	1	62.3	18.85	21.63	12.84 %
124333-001	1	62.3	23.94	24.70	3.08 %
124334-001	1	47.41	19.57	23.18	15.56 %
124335-001	1	47.41	21.33	25.77	17.24 %
124336-001	1	84.15	23.73	22.64	-4.83 %
124337-001	1	62.3	22.19	22.94	3.25 %
124338-001	1	62.3	18.03	19.89	9.35 %
124339-001	1	62.3	21.69	21.83	0.62 %
124340-001	1	47.41	18.67	21.64	13.74 %
124341-001	1	47.41	18.66	21.64	13.79 %
124342-001	1	69.74	22.65	21.25	-6.61 %
124343-001	1	62.3	22.48	22.95	2.05 %
124344-001	1	62.3	19.10	21.63	11.69 %
124345-001	1	62.3	24.22	24.70	1.95 %
124346-001	1	47.41	19.56	23.18	15.61 %
124347-001	1	47.41	21.23	25.77	17.63 %
124348-001	1	84.15	23.60	22.64	-4.26 %
124349-001	1	62.3	21.15	22.94	7.78 %
124350-001	1	62.3	17.41	19.89	12.47 %
124351-001	1	62.3	20.91	21.83	4.19 %
Totals:	24	1434.66	500.51	540.10	
Average DER = 21.07 kgCO ₂ /m²		% DER/TER	PASS		
Average TER = 22.45 kgCO ₂ /m²		6.15 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001028	Issued on Date	28/03/2023
Block Name	New Victoria L03 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001028		Block Name: New Victoria L03 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124118-001	1	47.41	18.36	21.64	15.17 %
124119-001	1	47.41	18.49	21.64	14.57 %
124120-001	1	69.74	22.28	21.25	-4.87 %
124121-001	1	62.3	22.69	23.15	2.01 %
124122-001	1	62.3	18.85	21.63	12.84 %
124123-001	1	62.3	23.98	24.70	2.92 %
124124-001	1	47.41	19.57	23.18	15.56 %
124125-001	1	47.41	21.18	25.77	17.82 %
124126-001	1	84.15	23.59	22.64	-4.22 %
124127-001	1	62.3	21.80	23.14	5.79 %
124128-001	1	62.3	18.03	19.89	9.35 %
124129-001	1	62.3	21.44	21.83	1.77 %
124130-001	1	47.41	18.89	21.64	12.72 %
124131-001	1	47.41	18.82	21.64	13.05 %
124132-001	1	69.74	22.49	21.25	-5.86 %
124133-001	1	62.3	22.44	23.15	3.09 %
124134-001	1	62.3	19.08	21.63	11.78 %
124135-001	1	62.3	24.27	24.70	1.75 %
124136-001	1	47.41	19.57	23.18	15.56 %
124137-001	1	47.41	21.33	25.77	17.24 %
124138-001	1	84.15	23.71	22.64	-4.75 %
124139-001	1	62.3	21.28	23.14	8.04 %
124140-001	1	62.3	17.74	19.89	10.81 %
124141-001	1	62.3	20.94	21.83	4.06 %
Totals:	24	1434.66	500.82	540.92	
Average DER = 21.08 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m ²		6.23 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001030	Issued on Date	15/03/2023
Block Name	New Victoria L04 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001030		Block Name: New Victoria L04 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO₂/m²)	TER (kgCO₂/m²)	% DER/TER
124142-001	1	47.41	18.44	21.64	14.80 %
124143-001	1	47.41	18.49	21.64	14.57 %
124144-001	1	69.74	22.19	21.25	-4.45 %
124145-001	1	62.3	22.27	23.15	3.82 %
124146-001	1	62.3	18.63	21.63	13.86 %
124147-001	1	62.3	24.23	24.70	1.91 %
124148-001	1	47.41	19.53	23.18	15.74 %
124149-001	1	47.41	21.16	25.77	17.90 %
124150-001	1	84.15	23.37	22.64	-3.24 %
124151-001	1	62.3	22.21	23.14	4.02 %
124152-001	1	62.3	18.78	19.89	5.58 %
124153-001	1	62.3	21.58	21.83	1.12 %
124154-001	1	47.41	18.67	21.64	13.74 %
124155-001	1	47.41	18.58	21.64	14.16 %
124156-001	1	69.74	22.65	21.25	-6.61 %
124157-001	1	62.3	22.52	23.15	2.74 %
124158-001	1	62.3	19.13	21.63	11.55 %
124159-001	1	62.3	24.07	24.70	2.56 %
124160-001	1	47.41	19.57	23.18	15.56 %
124161-001	1	47.41	21.31	25.77	17.32 %
124162-001	1	84.15	23.06	22.64	-1.87 %
124163-001	1	62.3	21.26	23.14	8.12 %
124164-001	1	62.3	17.44	19.89	12.32 %
124165-001	1	62.3	20.67	21.83	5.29 %
Totals:	24	1434.66	499.81	540.92	
Average DER = 21.03 kgCO₂/m²		% DER/TER	PASS		
Average TER = 22.48 kgCO₂/m²		6.45 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001032	Issued on Date	15/03/2023
Block Name	New Victoria L05 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001032		Block Name: New Victoria L05 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124166-001	1	47.41	18.38	21.64	15.08 %
124167-001	1	47.41	18.70	21.64	13.60 %
124168-001	1	69.74	22.84	21.25	-7.51 %
124169-001	1	62.3	22.63	23.15	2.26 %
124170-001	1	62.3	18.99	21.63	12.19 %
124171-001	1	62.3	24.20	24.70	2.03 %
124172-001	1	47.41	19.40	23.18	16.30 %
124173-001	1	47.41	21.07	25.77	18.25 %
124174-001	1	84.15	22.97	22.64	-1.48 %
124175-001	1	62.3	22.08	23.14	4.58 %
124176-001	1	62.3	18.03	19.89	9.35 %
124177-001	1	62.3	21.61	21.83	0.99 %
124178-001	1	47.41	18.91	21.64	12.63 %
124179-001	1	47.41	18.64	21.64	13.88 %
124180-001	1	69.74	22.97	21.25	-8.12 %
124181-001	1	62.3	22.37	23.15	3.39 %
124182-001	1	62.3	18.87	21.63	12.75 %
124183-001	1	62.3	23.99	24.70	2.88 %
124184-001	1	47.41	19.96	23.18	13.88 %
124185-001	1	47.41	21.53	25.77	16.46 %
124186-001	1	84.15	23.31	22.64	-2.98 %
124187-001	1	62.3	21.30	23.14	7.95 %
124188-001	1	62.3	17.35	19.89	12.77 %
124189-001	1	62.3	21.01	21.83	3.74 %
Totals:	24	1434.66	501.11	540.92	
Average DER = 21.08 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m ²		6.23 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001034	Issued on Date	15/03/2023
Block Name	New Victoria L06 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001034		Block Name: New Victoria L06 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124352-001	1	47.41	18.38	21.64	15.08 %
124353-001	1	47.41	18.52	21.64	14.43 %
124354-001	1	69.74	22.83	21.25	-7.46 %
124355-001	1	62.3	22.67	23.15	2.09 %
124356-001	1	62.3	18.88	21.63	12.70 %
124357-001	1	62.3	24.26	24.70	1.79 %
124358-001	1	47.41	19.19	23.18	17.20 %
124359-001	1	47.41	21.23	25.77	17.63 %
124360-001	1	84.15	23.17	22.64	-2.36 %
124361-001	1	62.3	21.63	23.14	6.52 %
124362-001	1	62.3	18.03	19.89	9.35 %
124363-001	1	62.3	21.25	21.83	2.64 %
124364-001	1	47.41	18.64	21.64	13.88 %
124365-001	1	47.41	18.68	21.64	13.69 %
124366-001	1	69.74	22.31	21.25	-5.01 %
124367-001	1	62.3	21.91	23.15	5.37 %
124368-001	1	62.3	18.83	21.63	12.93 %
124369-001	1	62.3	24.12	24.70	2.36 %
124370-001	1	47.41	19.45	23.18	16.08 %
124371-001	1	47.41	21.33	25.77	17.24 %
124372-001	1	84.15	23.22	22.64	-2.58 %
124373-001	1	62.3	20.91	23.14	9.64 %
124374-001	1	62.3	17.25	19.89	13.27 %
124375-001	1	62.3	20.52	21.83	5.98 %
Totals:	24	1434.66	497.21	540.92	
Average DER = 20.92 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m ²		6.94 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001036	Issued on Date	15/03/2023
Block Name	New Victoria L07 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001036		Block Name: New Victoria L07 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO ₂ /m²)	TER (kgCO ₂ /m²)	% DER/TER
124376-001	1	47.41	18.38	21.64	15.08 %
124377-001	1	47.41	18.62	21.64	13.97 %
124378-001	1	69.74	22.50	21.25	-5.91 %
124379-001	1	62.3	22.19	23.15	4.17 %
124380-001	1	62.3	18.64	21.63	13.81 %
124381-001	1	62.3	23.81	24.70	3.61 %
124382-001	1	47.41	19.22	23.18	17.07 %
124383-001	1	47.41	21.19	25.77	17.78 %
124384-001	1	84.15	23.05	22.64	-1.83 %
124385-001	1	62.3	21.92	23.14	5.27 %
124386-001	1	62.3	18.03	19.89	9.35 %
124387-001	1	62.3	21.22	21.83	2.77 %
124388-001	1	47.41	18.48	21.64	14.62 %
124389-001	1	47.41	18.51	21.64	14.48 %
124390-001	1	69.74	22.64	21.25	-6.57 %
124391-001	1	62.3	22.07	23.15	4.68 %
124392-001	1	62.3	18.67	21.63	13.67 %
124393-001	1	62.3	24.16	24.70	2.19 %
124394-001	1	47.41	19.56	23.18	15.61 %
124395-001	1	47.41	21.33	25.77	17.24 %
124396-001	1	84.15	23.44	22.64	-3.55 %
124397-001	1	62.3	21.68	23.14	6.31 %
124398-001	1	62.3	17.59	19.89	11.56 %
124399-001	1	62.3	20.84	21.83	4.52 %
Totals:	24	1434.66	497.74	540.92	
Average DER = 20.94 kgCO ₂ /m²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m²		6.85 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001038	Issued on Date	15/03/2023
Block Name	New Victoria L08 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk	Assessor ID	E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001038		Block Name: New Victoria L08 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO ₂ /m²)	TER (kgCO ₂ /m²)	% DER/TER
124400-001	1	47.41	18.54	21.64	14.34 %
124401-001	1	47.41	18.68	21.64	13.69 %
124402-001	1	69.74	22.70	21.25	-6.85 %
124403-001	1	62.3	22.16	23.15	4.29 %
124404-001	1	62.3	18.79	21.63	13.12 %
124405-001	1	62.3	23.74	24.70	3.89 %
124406-001	1	47.41	19.37	23.18	16.43 %
124407-001	1	47.41	21.29	25.77	17.40 %
124408-001	1	84.15	23.08	22.64	-1.96 %
124409-001	1	62.3	22.21	23.14	4.02 %
124410-001	1	62.3	18.01	19.89	9.45 %
124411-001	1	62.3	21.64	21.83	0.85 %
124412-001	1	47.41	18.68	21.64	13.69 %
124413-001	1	47.41	18.66	21.64	13.79 %
124414-001	1	69.74	22.04	21.25	-3.74 %
124415-001	1	62.3	22.03	23.15	4.86 %
124416-001	1	62.3	19.12	21.63	11.59 %
124417-001	1	62.3	24.18	24.70	2.11 %
124418-001	1	47.41	19.54	23.18	15.69 %
124419-001	1	47.41	21.31	25.77	17.32 %
124420-001	1	84.15	23.61	22.64	-4.30 %
124421-001	1	62.3	21.04	23.14	9.07 %
124422-001	1	62.3	17.41	19.89	12.47 %
124423-001	1	62.3	21.04	21.83	3.60 %
Totals:	24	1434.66	498.87	540.92	
Average DER = 20.99 kgCO ₂ /m²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m²		6.63 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001040	Issued on Date	15/03/2023
Block Name	New Victoria L09 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001040		Block Name: New Victoria L09 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124424-001	1	47.41	18.34	21.64	15.26 %
124425-001	1	47.41	18.51	21.64	14.48 %
124426-001	1	69.74	22.97	21.25	-8.12 %
124427-001	1	62.3	22.06	23.15	4.73 %
124428-001	1	62.3	18.34	21.63	15.20 %
124429-001	1	62.3	23.56	24.70	4.62 %
124430-001	1	47.41	19.34	23.18	16.56 %
124431-001	1	47.41	21.11	25.77	18.09 %
124432-001	1	84.15	23.05	22.64	-1.83 %
124433-001	1	62.3	21.53	23.14	6.96 %
124434-001	1	62.3	17.61	19.89	11.46 %
124435-001	1	62.3	21.35	21.83	2.18 %
124436-001	1	47.41	18.62	21.64	13.97 %
124437-001	1	47.41	18.70	21.64	13.60 %
124438-001	1	69.74	22.93	21.25	-7.93 %
124439-001	1	62.3	22.08	23.15	4.64 %
124440-001	1	62.3	18.85	21.63	12.84 %
124441-001	1	62.3	24.25	24.70	1.83 %
124442-001	1	47.41	19.57	23.18	15.56 %
124443-001	1	47.41	21.32	25.77	17.28 %
124444-001	1	84.15	23.73	22.64	-4.83 %
124445-001	1	62.3	21.60	23.14	6.65 %
124446-001	1	62.3	17.61	19.89	11.46 %
124447-001	1	62.3	21.22	21.83	2.77 %
Totals:	24	1434.66	498.25	540.92	
Average DER = 20.97 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m ²		6.72 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001042	Issued on Date	15/03/2023
Block Name	New Victoria L10 [Feb23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001042		Block Name: New Victoria L10 [Feb23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124448-001	1	47.41	18.01	21.64	16.79 %
124449-001	1	47.41	18.43	21.64	14.85 %
124450-001	1	69.74	22.93	21.25	-7.93 %
124451-001	1	62.3	21.70	23.15	6.28 %
124452-001	1	62.3	18.76	21.63	13.26 %
124453-001	1	62.3	23.60	24.70	4.46 %
124454-001	1	47.41	19.40	23.18	16.30 %
124455-001	1	47.41	21.33	25.77	17.24 %
124456-001	1	84.15	22.84	22.64	-0.90 %
124457-001	1	62.3	21.70	23.14	6.22 %
124458-001	1	62.3	18.02	19.89	9.40 %
124459-001	1	62.3	21.44	21.83	1.77 %
124460-001	1	47.41	18.67	21.64	13.74 %
124461-001	1	47.41	18.67	21.64	13.74 %
124462-001	1	69.74	22.88	21.25	-7.70 %
124463-001	1	62.3	22.17	23.15	4.25 %
124464-001	1	62.3	18.99	21.63	12.19 %
124465-001	1	62.3	23.85	24.70	3.45 %
124466-001	1	47.41	19.54	23.18	15.69 %
124467-001	1	47.41	21.33	25.77	17.24 %
124468-001	1	84.15	23.13	22.64	-2.18 %
124469-001	1	62.3	21.40	23.14	7.52 %
124470-001	1	62.3	17.70	19.89	11.01 %
124471-001	1	62.3	20.83	21.83	4.56 %
Totals:	24	1434.66	497.32	540.92	
Average DER = 20.92 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m ²		6.94 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001044	Issued on Date	28/03/2023
Block Name	New Victoria L11 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001044		Block Name: New Victoria L11 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124472-001	1	47.41	18.21	21.64	15.86 %
124473-001	1	47.41	18.50	21.64	14.52 %
124474-001	1	69.74	22.94	21.25	-7.98 %
124475-001	1	62.3	21.73	23.15	6.15 %
124476-001	1	62.3	18.62	21.63	13.91 %
124477-001	1	62.3	23.72	24.70	3.97 %
124478-001	1	47.41	19.47	23.18	15.99 %
124479-001	1	47.41	21.10	25.77	18.13 %
124480-001	1	84.15	23.07	22.64	-1.92 %
124481-001	1	62.3	21.99	23.14	4.97 %
124482-001	1	62.3	18.03	19.89	9.35 %
124483-001	1	62.3	21.72	21.83	0.48 %
124484-001	1	47.41	18.67	21.64	13.74 %
124485-001	1	47.41	18.69	21.64	13.65 %
124486-001	1	69.74	22.64	21.25	-6.57 %
124487-001	1	62.3	22.45	23.15	3.04 %
124488-001	1	62.3	19.04	21.63	11.96 %
124489-001	1	62.3	24.24	24.70	1.87 %
124490-001	1	47.41	19.36	23.18	16.47 %
124491-001	1	47.41	21.33	25.77	17.24 %
124492-001	1	84.15	23.90	22.64	-5.59 %
124493-001	1	62.3	21.56	23.14	6.83 %
124494-001	1	62.3	17.45	19.89	12.27 %
124495-001	1	62.3	21.27	21.83	2.55 %
Totals:	24	1434.66	499.70	540.92	
Average DER = 21.04 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m ²		6.41 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001046	Issued on Date	28/03/2023
Block Name	New Victoria L12 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001046		Block Name: New Victoria L12 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124496-001	1	47.41	18.21	21.64	15.86 %
124497-001	1	47.41	18.64	21.64	13.88 %
124498-001	1	69.74	22.95	21.25	-8.02 %
124499-001	1	62.3	22.02	23.15	4.90 %
124500-001	1	62.3	18.35	21.63	15.15 %
124501-001	1	62.3	23.24	24.70	5.92 %
124502-001	1	47.41	19.45	23.18	16.08 %
124503-001	1	47.41	21.32	25.77	17.28 %
124504-001	1	84.15	23.06	22.64	-1.87 %
124505-001	1	62.3	22.02	23.14	4.84 %
124506-001	1	62.3	18.03	19.89	9.35 %
124507-001	1	62.3	21.56	21.83	1.22 %
124508-001	1	47.41	18.70	21.64	13.60 %
124509-001	1	47.41	18.65	21.64	13.83 %
124510-001	1	69.74	22.67	21.25	-6.71 %
124511-001	1	62.3	22.68	23.15	2.05 %
124512-001	1	62.3	19.11	21.63	11.64 %
124513-001	1	62.3	24.20	24.70	2.03 %
124514-001	1	47.41	19.52	23.18	15.78 %
124515-001	1	47.41	21.33	25.77	17.24 %
124516-001	1	84.15	23.39	22.64	-3.33 %
124517-001	1	62.3	21.36	23.14	7.69 %
124518-001	1	62.3	17.74	19.89	10.81 %
124519-001	1	62.3	21.09	21.83	3.37 %
Totals:	24	1434.66	499.29	540.92	
Average DER = 21.01 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m ²		6.54 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001048	Issued on Date	28/03/2023
Block Name	New Victoria L13 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001048		Block Name: New Victoria L13 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124520-001	1	47.41	18.15	21.64	16.14 %
124521-001	1	47.41	18.68	21.64	13.69 %
124522-001	1	69.74	22.97	21.25	-8.12 %
124523-001	1	62.3	21.60	23.15	6.71 %
124524-001	1	62.3	18.19	21.63	15.89 %
124525-001	1	62.3	22.99	24.70	6.93 %
124526-001	1	47.41	19.33	23.18	16.60 %
124527-001	1	47.41	20.84	25.77	19.14 %
124528-001	1	84.15	23.02	22.64	-1.70 %
124529-001	1	62.3	21.82	23.14	5.70 %
124530-001	1	62.3	17.87	19.89	10.16 %
124531-001	1	62.3	21.31	21.83	2.36 %
124532-001	1	47.41	18.64	21.64	13.88 %
124533-001	1	47.41	18.67	21.64	13.74 %
124534-001	1	69.74	22.70	21.25	-6.85 %
124535-001	1	62.3	22.72	23.15	1.88 %
124536-001	1	62.3	19.13	21.63	11.55 %
124537-001	1	62.3	24.30	24.70	1.63 %
124538-001	1	47.41	19.56	23.18	15.61 %
124539-001	1	47.41	21.33	25.77	17.24 %
124540-001	1	84.15	23.89	22.64	-5.54 %
124541-001	1	62.3	22.21	23.14	4.02 %
124542-001	1	62.3	17.41	19.89	12.47 %
124543-001	1	62.3	20.54	21.83	5.89 %
Totals:	24	1434.66	497.87	540.92	
Average DER = 20.96 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m ²		6.76 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001050	Issued on Date	28/03/2023
Block Name	New Victoria L14 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001050		Block Name: New Victoria L14 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124544-001	1	47.41	18.23	21.64	15.77 %
124545-001	1	47.41	18.57	21.64	14.20 %
124546-001	1	69.74	22.80	21.25	-7.32 %
124547-001	1	62.3	21.75	23.15	6.07 %
124548-001	1	62.3	19.13	21.63	11.55 %
124549-001	1	62.3	23.64	24.70	4.30 %
124550-001	1	47.41	19.57	23.18	15.56 %
124551-001	1	47.41	21.33	25.77	17.24 %
124552-001	1	84.15	23.46	22.64	-3.64 %
124553-001	1	62.3	21.99	23.14	4.97 %
124554-001	1	62.3	18.03	19.89	9.35 %
124555-001	1	62.3	21.30	21.83	2.41 %
124556-001	1	47.41	18.39	21.64	15.03 %
124557-001	1	47.41	18.30	21.64	15.45 %
124558-001	1	69.74	22.34	21.25	-5.15 %
124559-001	1	62.3	22.71	23.15	1.92 %
124560-001	1	62.3	18.97	21.63	12.29 %
124561-001	1	62.3	24.14	24.70	2.27 %
124562-001	1	47.41	19.57	23.18	15.56 %
124563-001	1	47.41	21.33	25.77	17.24 %
124564-001	1	84.15	23.89	22.64	-5.54 %
124565-001	1	62.3	21.68	23.14	6.31 %
124566-001	1	62.3	17.68	19.89	11.11 %
124567-001	1	62.3	20.57	21.83	5.75 %
Totals:	24	1434.66	499.37	540.92	
Average DER = 21.03 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m ²		6.45 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001052	Issued on Date	28/03/2023
Block Name	New Victoria L15 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk	Assessor ID	E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001052		Block Name: New Victoria L15 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO ₂ /m²)	TER (kgCO ₂ /m²)	% DER/TER
124568-001	1	47.41	18.56	21.64	14.25 %
124569-001	1	47.41	18.32	21.64	15.36 %
124570-001	1	69.74	22.96	21.25	-8.07 %
124571-001	1	62.3	21.96	23.15	5.16 %
124572-001	1	62.3	18.30	21.63	15.38 %
124573-001	1	62.3	23.41	24.70	5.23 %
124574-001	1	47.41	19.57	23.18	15.56 %
124575-001	1	47.41	21.31	25.77	17.32 %
124576-001	1	84.15	23.14	22.64	-2.23 %
124577-001	1	62.3	22.10	23.14	4.49 %
124578-001	1	62.3	18.00	19.89	9.50 %
124579-001	1	62.3	21.44	21.83	1.77 %
124580-001	1	47.41	18.57	21.64	14.20 %
124581-001	1	47.41	18.68	21.64	13.69 %
124582-001	1	69.74	22.80	21.25	-7.32 %
124583-001	1	62.3	22.24	23.15	3.95 %
124584-001	1	62.3	19.13	21.63	11.55 %
124585-001	1	62.3	24.20	24.70	2.03 %
124586-001	1	47.41	19.55	23.18	15.65 %
124587-001	1	47.41	21.30	25.77	17.36 %
124588-001	1	84.15	23.90	22.64	-5.59 %
124589-001	1	62.3	21.90	23.14	5.36 %
124590-001	1	62.3	17.85	19.89	10.26 %
124591-001	1	62.3	21.01	21.83	3.74 %
Totals:	24	1434.66	500.20	540.92	
Average DER = 21.06 kgCO ₂ /m²		% DER/TER	PASS		
Average TER = 22.48 kgCO ₂ /m²		6.32 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001054	Issued on Date	28/03/2023
Block Name	New Victoria L16 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001054		Block Name: New Victoria L16 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124592-001	1	47.41	18.53	21.64	14.39 %
124593-001	1	47.41	18.69	21.64	13.65 %
124594-001	1	69.74	22.83	21.25	-7.46 %
124595-001	1	62.3	21.97	23.15	5.12 %
124596-001	1	62.3	18.55	21.63	14.23 %
124597-001	1	62.3	23.78	24.70	3.73 %
124598-001	1	47.41	19.07	23.18	17.72 %
124599-001	1	47.41	21.28	25.77	17.43 %
124600-001	1	84.15	23.09	22.64	-2.01 %
124601-001	1	62.3	21.96	23.14	5.10 %
124602-001	1	62.3	18.03	19.89	9.35 %
124603-001	1	62.3	21.53	21.83	1.35 %
124604-001	1	47.41	18.56	21.64	14.25 %
124605-001	1	47.41	18.70	21.64	13.60 %
124606-001	1	69.74	22.95	21.25	-8.02 %
124607-001	1	62.3	22.60	23.15	2.39 %
124608-001	1	62.3	18.82	21.63	12.98 %
124609-001	1	62.3	24.13	24.70	2.32 %
124610-001	1	47.41	19.53	23.18	15.74 %
124612-001	1	84.15	23.90	22.64	-5.59 %
124613-001	1	62.3	21.86	23.14	5.53 %
124614-001	1	62.3	17.75	19.89	10.76 %
124615-001	1	62.3	20.68	21.83	5.25 %
Totals:	23	1387.25	478.79	515.14	
Average DER = 21.05 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.37 kgCO ₂ /m ²		5.90 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001056	Issued on Date	28/03/2023
Block Name	New Victoria L17 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001056		Block Name: New Victoria L17 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO ₂ /m²)	TER (kgCO ₂ /m²)	% DER/TER
124616-001	1	47.41	18.25	21.64	15.68 %
124617-001	1	47.41	18.53	21.64	14.39 %
124618-001	1	69.74	22.97	21.25	-8.12 %
124619-001	1	62.3	21.97	23.15	5.12 %
124620-001	1	62.3	18.61	21.63	13.95 %
124621-001	1	62.3	23.49	24.70	4.91 %
124622-001	1	47.41	19.57	23.18	15.56 %
124623-001	1	47.41	21.31	25.77	17.32 %
124624-001	1	84.15	23.39	22.64	-3.33 %
124625-001	1	62.3	22.51	23.63	4.74 %
124626-001	1	62.3	18.04	19.89	9.30 %
124627-001	1	62.3	21.62	21.83	0.97 %
124628-001	1	47.41	18.50	21.64	14.52 %
124629-001	1	47.41	18.50	21.64	14.52 %
124630-001	1	69.74	22.68	21.25	-6.75 %
124631-001	1	62.3	22.42	23.15	3.17 %
124632-001	1	62.3	18.91	21.63	12.56 %
124633-001	1	62.3	24.08	24.70	2.52 %
124634-001	1	47.41	19.57	23.18	15.56 %
124635-001	1	47.41	21.34	25.77	17.20 %
124637-001	1	62.3	22.00	23.63	6.90 %
124638-001	1	62.3	17.33	19.89	12.87 %
124639-001	1	62.3	21.60	22.28	3.07 %
Totals:	23	1350.51	477.19	519.73	
Average DER = 20.93 kgCO ₂ /m²		% DER/TER	PASS		
Average TER = 22.54 kgCO ₂ /m²		7.14 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001058	Issued on Date	28/03/2023
Block Name	New Victoria L18 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk	Assessor ID	E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001058		Block Name: New Victoria L18 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124640-001	1	47.41	18.54	21.64	14.34 %
124641-001	1	47.41	18.70	21.64	13.60 %
124642-001	1	69.74	22.97	21.25	-8.12 %
124643-001	1	62.3	21.80	23.15	5.85 %
124644-001	1	62.3	18.50	21.63	14.46 %
124645-001	1	62.3	23.82	24.70	3.57 %
124646-001	1	47.41	19.30	23.18	16.73 %
124647-001	1	47.41	21.32	25.77	17.28 %
124648-001	1	84.15	23.82	22.64	-5.23 %
124649-001	1	62.3	21.98	23.14	5.01 %
124650-001	1	62.3	18.03	19.89	9.35 %
124651-001	1	62.3	21.36	21.83	2.13 %
124652-001	1	47.41	18.65	21.64	13.83 %
124653-001	1	47.41	18.70	21.64	13.60 %
124654-001	1	69.74	22.64	21.25	-6.57 %
124655-001	1	62.3	23.74	23.65	-0.40 %
124656-001	1	62.3	18.72	21.63	13.44 %
124657-001	1	62.3	25.33	25.22	-0.44 %
124658-001	1	47.41	19.36	23.18	16.47 %
124659-001	1	47.41	21.34	25.77	17.20 %
124660-001	1	84.15	23.90	22.64	-5.59 %
124661-001	1	79.05	24.02	23.47	-2.35 %
124663-001	1	79.8	23.71	21.98	-7.87 %
Totals:	23	1406.61	490.25	522.52	
Average DER = 21.63 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.67 kgCO ₂ /m ²		4.59 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001060	Issued on Date	28/03/2023
Block Name	New Victoria L19 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001060		Block Name: New Victoria L19 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124664-001	1	47.41	18.67	21.64	13.74 %
124665-001	1	47.41	18.48	21.64	14.62 %
124666-001	1	69.74	22.81	21.25	-7.37 %
124667-001	1	62.3	21.98	23.15	5.07 %
124668-001	1	62.3	18.56	21.63	14.18 %
124669-001	1	62.3	23.84	24.70	3.49 %
124670-001	1	47.41	19.57	23.18	15.56 %
124671-001	1	47.41	21.25	25.77	17.55 %
124672-001	1	84.15	23.67	22.64	-4.57 %
124673-001	1	62.3	21.86	23.14	5.53 %
124674-001	1	62.3	17.95	19.89	9.75 %
124675-001	1	62.3	21.63	21.83	0.90 %
124676-001	1	47.41	18.60	21.64	14.06 %
124677-001	1	47.41	18.48	21.64	14.62 %
124678-001	1	69.74	23.88	21.66	-10.23 %
124679-001	1	79.9	25.18	23.59	-6.72 %
124681-001	1	79.3	25.53	25.17	-1.43 %
124682-001	1	47.41	19.58	23.18	15.52 %
124683-001	1	47.41	21.34	25.77	17.20 %
124684-001	1	84.15	24.68	23.03	-7.18 %
Totals:	20	1220.06	427.54	456.15	
Average DER = 21.80 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.81 kgCO ₂ /m ²		4.43 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001062	Issued on Date	28/03/2023
Block Name	New Victoria L20 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001062		Block Name: New Victoria L20 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124685-001	1	47.41	18.39	21.64	15.03 %
124686-001	1	47.41	18.54	21.64	14.34 %
124687-001	1	69.74	22.64	21.25	-6.57 %
124688-001	1	62.3	22.03	23.15	4.86 %
124689-001	1	62.3	18.30	21.63	15.38 %
124690-001	1	62.3	23.59	24.70	4.50 %
124691-001	1	47.41	19.57	23.18	15.56 %
124692-001	1	47.41	21.32	25.77	17.28 %
124693-001	1	84.15	23.77	22.64	-5.01 %
124694-001	1	62.3	21.96	23.14	5.10 %
124695-001	1	62.3	18.03	19.89	9.35 %
124696-001	1	62.3	21.55	21.83	1.26 %
124697-001	1	47.41	20.94	23.95	12.58 %
124699-001	1	119	28.04	23.00	-21.93 %
124702-001	1	47.41	22.23	25.77	13.75 %
124704-001	1	135	29.72	25.17	-18.09 %
Totals:	16	1066.15	350.62	368.35	
Average DER = 22.96 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 23.09 kgCO ₂ /m ²		0.56 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001064	Issued on Date	28/03/2023
Block Name	New Victoria L21 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk	Assessor ID	E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001064		Block Name: New Victoria L21 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124705-001	1	47.41	18.68	21.64	13.69 %
124706-001	1	47.41	18.70	21.64	13.60 %
124707-001	1	69.74	22.84	21.25	-7.51 %
124708-001	1	62.3	22.26	22.95	3.01 %
124709-001	1	62.3	18.47	21.63	14.60 %
124710-001	1	62.3	24.18	24.70	2.11 %
124711-001	1	47.41	19.25	23.18	16.94 %
124712-001	1	47.41	21.29	25.77	17.40 %
124713-001	1	84.15	23.38	22.64	-3.29 %
124714-001	1	62.3	22.10	22.94	3.64 %
124715-001	1	62.3	18.03	19.89	9.35 %
124716-001	1	62.3	21.50	21.83	1.49 %
Totals:	12	717.33	250.68	270.05	
Average DER = 21.10 kgCO ₂ /m ²		% DER/TER	PASS		
Average TER = 22.45 kgCO ₂ /m ²		6.01 %			

Block Compliance Report - DFEE

Block Reference: 001064		Block Name: New Victoria L21 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DFEE (kWh/m ² /yr)	TFEE (kWh/m ² /yr)	% DFEE/TFEE
124705-001	1	47.41	18.78	19.06	1.47 %
124706-001	1	47.41	18.80	19.06	1.38 %
124707-001	1	69.74	32.74	31.95	-2.48 %
124708-001	1	62.3	31.08	34.95	11.07 %
124709-001	1	62.3	23.36	29.09	19.69 %
124710-001	1	62.3	35.05	40.84	14.18 %
124711-001	1	47.41	21.45	27.47	21.92 %
124712-001	1	47.41	25.74	36.32	29.12 %
124713-001	1	84.15	37.21	40.69	8.54 %
124714-001	1	62.3	30.67	34.90	12.13 %
124715-001	1	62.3	20.47	21.53	4.95 %
124716-001	1	62.3	28.76	31.12	7.58 %
Totals:	12	717.33	324.12	366.99	
Average DFEE = 27.86 kWh/m ² /yr		% DFEE/TFEE	PASS		
Average TFEE = 31.33 kWh/m ² /yr		11.08 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001066	Issued on Date	28/03/2023
Block Name	New Victoria L22 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001066		Block Name: New Victoria L22 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO ₂ /m²)	TER (kgCO ₂ /m²)	% DER/TER
124717-001	1	47.41	18.34	21.64	15.26 %
124718-001	1	47.41	18.44	21.64	14.80 %
124719-001	1	69.74	22.97	21.25	-8.12 %
124720-001	1	62.3	22.22	23.15	4.04 %
124721-001	1	62.3	18.55	21.63	14.23 %
124722-001	1	62.3	23.81	24.70	3.61 %
124723-001	1	47.41	19.56	23.18	15.61 %
124724-001	1	47.41	21.32	25.77	17.28 %
124725-001	1	84.15	23.33	22.64	-3.07 %
124726-001	1	62.3	22.89	23.63	3.13 %
124727-001	1	62.3	18.01	19.89	9.45 %
124728-001	1	62.3	22.23	22.28	0.24 %
Totals:	12	717.33	251.67	271.41	
Average DER = 21.19 kgCO ₂ /m²		% DER/TER	PASS		
Average TER = 22.57 kgCO ₂ /m²		6.11 %			

Block Compliance Report - DFEE

Block Reference: 001066		Block Name: New Victoria L22 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DFEE (kWh/m²/yr)	TFEE (kWh/m²/yr)	% DFEE/TFEE
124717-001	1	47.41	18.47	19.06	3.11 %
124718-001	1	47.41	18.56	19.06	2.62 %
124719-001	1	69.74	32.81	31.95	-2.70 %
124720-001	1	62.3	31.06	35.63	12.84 %
124721-001	1	62.3	23.40	29.09	19.55 %
124722-001	1	62.3	34.85	40.84	14.68 %
124723-001	1	47.41	21.68	27.47	21.08 %
124724-001	1	47.41	25.76	36.32	29.07 %
124725-001	1	84.15	37.19	40.69	8.61 %
124726-001	1	62.3	32.54	37.22	12.59 %
124727-001	1	62.3	20.46	21.53	5.00 %
124728-001	1	62.3	30.63	32.67	6.25 %
Totals:	12	717.33	327.40	371.53	
Average DFEE = 28.15 kWh/m²/yr		% DFEE/TFEE	PASS		
Average TFEE = 31.72 kWh/m²/yr		11.25 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001068	Issued on Date	28/03/2023
Block Name	New Victoria L23 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk	Assessor ID	E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001068		Block Name: New Victoria L23 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO ₂ /m²)	TER (kgCO ₂ /m²)	% DER/TER
124729-001	1	47.41	18.29	21.64	15.50 %
124730-001	1	47.41	18.53	21.64	14.39 %
124731-001	1	69.74	22.88	21.25	-7.70 %
124732-001	1	62.3	23.06	23.44	1.62 %
124733-001	1	62.3	18.67	21.63	13.67 %
124734-001	1	62.3	25.12	25.22	0.39 %
124735-001	1	47.41	19.57	23.18	15.56 %
124736-001	1	47.41	21.25	25.77	17.55 %
124737-001	1	86.8	22.42	22.22	-0.92 %
124738-001	1	79.04	24.60	23.57	-4.35 %
124740-001	1	79.1	24.58	22.18	-10.83 %
Totals:	11	691.22	238.97	251.74	
Average DER = 22.10 kgCO ₂ /m²		% DER/TER	PASS		
Average TER = 22.83 kgCO ₂ /m²		3.20 %			

Block Compliance Report - DFEE

Block Reference: 001068		Block Name: New Victoria L23 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DFEE (kWh/m²/yr)	TFEE (kWh/m²/yr)	% DFEE/TFEE
124729-001	1	47.41	18.43	19.06	3.32 %
124730-001	1	47.41	18.64	19.06	2.20 %
124731-001	1	69.74	32.77	31.95	-2.55 %
124732-001	1	62.3	33.01	36.58	9.76 %
124733-001	1	62.3	23.47	29.09	19.31 %
124734-001	1	62.3	37.02	42.55	12.99 %
124735-001	1	47.41	21.69	27.47	21.06 %
124736-001	1	47.41	25.72	36.32	29.20 %
124737-001	1	86.8	36.28	39.98	9.27 %
124738-001	1	79.04	38.77	42.94	9.71 %
124740-001	1	79.1	37.95	38.19	0.64 %
Totals:	11	691.22	323.74	363.20	
Average DFEE = 30.86 kWh/m²/yr		% DFEE/TFEE	PASS		
Average TFEE = 34.27 kWh/m²/yr		9.95 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001070	Issued on Date	28/03/2023
Block Name	New Victoria L24 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk	Assessor ID	E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001070		Block Name: New Victoria L24 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DER (kgCO₂/m²)	TER (kgCO₂/m²)	% DER/TER
124741-001	1	47.41	18.03	21.64	16.70 %
124742-001	1	47.41	18.69	21.64	13.65 %
124743-001	1	69.74	24.14	21.79	-10.79 %
124744-001	1	79.77	25.51	23.75	-7.42 %
124746-001	1	79.3	26.84	25.55	-5.07 %
124747-001	1	47.41	19.47	23.18	15.99 %
124748-001	1	47.41	21.09	25.77	18.17 %
124749-001	1	86.9	23.60	22.84	-3.33 %
Totals:	8	505.35	177.37	186.16	
Average DER = 22.88 kgCO₂/m²		% DER/TER	PASS		
Average TER = 23.35 kgCO₂/m²		2.01 %			

Block Compliance Report - DFEE

Block Reference: 001070		Block Name: New Victoria L24 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m²)	DFEE (kWh/m²/yr)	TFEE (kWh/m²/yr)	% DFEE/TFEE
124741-001	1	47.41	18.19	19.06	4.59 %
124742-001	1	47.41	18.79	19.06	1.41 %
124743-001	1	69.74	35.14	33.77	-4.05 %
124744-001	1	79.77	40.24	43.66	7.83 %
124746-001	1	79.3	43.49	49.43	12.03 %
124747-001	1	47.41	21.61	27.47	21.34 %
124748-001	1	47.41	25.61	36.32	29.48 %
124749-001	1	86.9	38.61	42.02	8.11 %
Totals:	8	505.35	241.67	270.79	
Average DFEE = 32.56 kWh/m²/yr		% DFEE/TFEE	PASS		
Average TFEE = 36.10 kWh/m²/yr		9.81 %			

BLOCK COMPLIANCE

Calculation Type: New Build (As Built)



Block Reference	001072	Issued on Date	28/03/2023
Block Name	New Victoria L25 [March23] SAP		
Assessor Details	Mr. Neville Duggan, Seven Consulting Limited, Tel: 01612093259, nev@7consulting.co.uk		Assessor ID
			E399-0001
Client			

Block Compliance Report - DER

Block Reference: 001072		Block Name: New Victoria L25 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
124750-001	1	47.41	22.66	25.15	9.88 %
124752-001	1	119.4	27.74	22.84	-21.46 %
124755-001	1	47.41	24.14	27.06	10.79 %
124757-001	1	135	30.19	25.33	-19.17 %
Totals:	4	349.22	104.73	100.38	
Average DER = 27.51 kgCO ₂ /m ²		% DER/TER	FAIL		
Average TER = 24.69 kgCO ₂ /m ²		-11.42 %			

Block Compliance Report - DFEE

Block Reference: 001072		Block Name: New Victoria L25 [March23] SAP			
Property-Assessment Reference	Multiplier	Floor Area (m ²)	DFEE (kWh/m ² /yr)	TFEE (kWh/m ² /yr)	% DFEE/TFEE
124750-001	1	47.41	28.27	33.93	16.67 %
124752-001	1	119.4	49.83	50.38	1.08 %
124755-001	1	47.41	31.56	40.63	22.32 %
124757-001	1	135	55.85	59.91	6.76 %
Totals:	4	349.22	165.52	184.84	
Average DFEE = 46.75 kWh/m ² /yr		% DFEE/TFEE	PASS		
Average TFEE = 50.50 kWh/m ² /yr		7.43 %			

BRUKL Output Document



Compliance with England Building Regulations Part L 2013

Project name

New Victoria

As built

Date: Wed May 17 16:38:18 2023

Administrative information

Building Details

Address: Retail 1 - New Victoria, 101 Corporation Street,
Manchester, M3 1NX

Certification tool

Calculation engine: SBEM

Calculation engine version: v5.6.b.0

Interface to calculation engine: Virtual Environment

Interface to calculation engine version: v7.0.19

BRUKL compliance check version: v5.6.b.0

Certifier details

Name: Futureserv

Telephone number: 0161 827 1760

Address: 10 Oxford Court, Manchester, M2 3WQ R92

Criterion 1: The calculated CO₂ emission rate for the building must not exceed the target

CO ₂ emission rate from the notional building, kgCO ₂ /m ² .annum	38.5
Target CO ₂ emission rate (TER), kgCO ₂ /m ² .annum	38.5
Building CO ₂ emission rate (BER), kgCO ₂ /m ² .annum	27.4
Are emissions from the building less than or equal to the target?	BER ≤ TER
Are as built details the same as used in the BER calculations?	Separate submission

Criterion 2: The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Values which do not achieve the standards in the Non-Domestic Building Services Compliance Guide and Part L are displayed in red.

Building fabric

Element	U _a -Limit	U _a -Calc	U _i -Calc	Surface where the maximum value occurs*
Wall**	0.35	0.25	0.25	"RT000001_W-1"
Floor	0.25	0.15	0.15	"RT000001_F"
Roof	0.25	0.11	0.11	"RT000001_C"
Windows***, roof windows, and rooflights	2.2	1.2	1.2	"RT000001_W6_O0"
Personnel doors	2.2	-	-	"No external personnel doors"
Vehicle access & similar large doors	1.5	-	-	"No external vehicle access doors"
High usage entrance doors	3.5	-	-	"No external high usage entrance doors"
U _a -Limit = Limiting area-weighted average U-values [W/(m ² K)] U _a -Calc = Calculated area-weighted average U-values [W/(m ² K)] U _i -Calc = Calculated maximum individual element U-values [W/(m ² K)]				
* There might be more than one surface where the maximum U-value occurs. ** Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows. *** Display windows and similar glazing are excluded from the U-value check. N.B.: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.				

Air Permeability	Worst acceptable standard	This building
m ³ /(h.m ²) at 50 Pa	10	10

BRUKL Output Document



Compliance with England Building Regulations Part L 2013

Project name

New Victoria

As built

Date: Wed May 17 15:30:32 2023

Administrative information

Building Details

Address: New Victoria, Manchester, M3 1NX

Certification tool

Calculation engine: Apache

Calculation engine version: 7.0.19

Interface to calculation engine: IES Virtual Environment

Interface to calculation engine version: 7.0.19

BRUKL compliance check version: v5.6.b.0

Certifier details

Name: Futureserv

Telephone number: 0161 827 1760

Address: 10 Oxford Court, Manchester, M2 3WQ R92

Criterion 1: The calculated CO₂ emission rate for the building must not exceed the target

CO ₂ emission rate from the notional building, kgCO ₂ /m ² .annum	6.7
Target CO ₂ emission rate (TER), kgCO ₂ /m ² .annum	6.7
Building CO ₂ emission rate (BER), kgCO ₂ /m ² .annum	6.3
Are emissions from the building less than or equal to the target?	BER ≤ TER
Are as built details the same as used in the BER calculations?	Separate submission

Criterion 2: The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Values which do not achieve the standards in the Non-Domestic Building Services Compliance Guide and Part L are displayed in red.

Building fabric

Element	U _{a-Limit}	U _{a-Calc}	U _{i-Calc}	Surface where the maximum value occurs*
Wall**	0.35	0.35	0.35	0100008D:Surf[1]
Floor	0.25	0.18	0.23	SP000003:Surf[4]
Roof	0.25	0.13	0.14	SP000003:Surf[3]
Windows***, roof windows, and rooflights	2.2	1.2	1.4	SP000003:Surf[2]
Personnel doors	2.2	-	-	No personnel doors in building
Vehicle access & similar large doors	1.5	-	-	No vehicle access doors in building
High usage entrance doors	3.5	-	-	No high usage entrance doors in building
U _{a-Limit} = Limiting area-weighted average U-values [W/(m ² K)] U _{a-Calc} = Calculated area-weighted average U-values [W/(m ² K)] U _{i-Calc} = Calculated maximum individual element U-values [W/(m ² K)]				
* There might be more than one surface where the maximum U-value occurs. ** Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows. *** Display windows and similar glazing are excluded from the U-value check. N.B.: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.				

Air Permeability	Worst acceptable standard	This building
m ³ /(h.m ²) at 50 Pa	10	3

BRUKL Output Document



Compliance with England Building Regulations Part L 2013

Project name

New Victoria

As built

Date: Wed May 17 16:31:19 2023

Administrative information

Building Details

Address: Retail 2 - New Victoria, 105 Corporation Street,
Manchester, M3 1NX

Certification tool

Calculation engine: SBEM

Calculation engine version: v5.6.b.0

Interface to calculation engine: Virtual Environment

Interface to calculation engine version: v7.0.19

BRUKL compliance check version: v5.6.b.0

Certifier details

Name: Futureserv

Telephone number: 0161 827 1760

Address: 10 Oxford Court, Manchester, M2 3WQ R92

Criterion 1: The calculated CO₂ emission rate for the building must not exceed the target

CO ₂ emission rate from the notional building, kgCO ₂ /m ² .annum	43.4
Target CO ₂ emission rate (TER), kgCO ₂ /m ² .annum	43.4
Building CO ₂ emission rate (BER), kgCO ₂ /m ² .annum	28.5
Are emissions from the building less than or equal to the target?	BER ≤ TER
Are as built details the same as used in the BER calculations?	Separate submission

Criterion 2: The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Values which do not achieve the standards in the Non-Domestic Building Services Compliance Guide and Part L are displayed in red.

Building fabric

Element	U _a -Limit	U _a -Calc	U _i -Calc	Surface where the maximum value occurs*
Wall**	0.35	0.25	0.25	"RT000002_W-1"
Floor	0.25	0.15	0.15	"RT000002_F"
Roof	0.25	0.11	0.11	"RT000002_C"
Windows***, roof windows, and rooflights	2.2	-	-	"No external windows/rooflights"
Personnel doors	2.2	-	-	"No external personnel doors"
Vehicle access & similar large doors	1.5	-	-	"No external vehicle access doors"
High usage entrance doors	3.5	-	-	"No external high usage entrance doors"
U _a -Limit = Limiting area-weighted average U-values [W/(m ² K)] U _a -Calc = Calculated area-weighted average U-values [W/(m ² K)] U _i -Calc = Calculated maximum individual element U-values [W/(m ² K)]				
* There might be more than one surface where the maximum U-value occurs. ** Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows. *** Display windows and similar glazing are excluded from the U-value check. N.B.: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.				

Air Permeability	Worst acceptable standard	This building
m ³ /(h.m ²) at 50 Pa	10	10

Muse Developments

New Victoria

Energy and Environmental Standards
Statement

issue | 30 March 2016

This report takes into account the particular instructions and requirements of our client.
It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 218128-00

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ARUP

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Appendices

Appendix A

BREEAM Pre-assessment Report

Appendix B

Operational Waste Management Plan

Appendix C

Construction Methodology and Programme

1 Introduction

1.1 Context

Ove Arup and Partners Ltd (Arup) has been commissioned by Muse Developments to prepare this Energy and Environmental Standards Statement to accompany a planning application for the Proposed Development known as New Victoria, located on the perimeter of Manchester City Centre immediately south of Manchester Victoria train station. This document also includes the Energy Statement prepared for the application.

The site is situated on the northern fringe of the City Centre on Corporation Street, as shown in Figure 1.

Figure 1: New Victoria site location



1.2 Scope of this report

This Energy and Environmental and Standards Statement (EESS) has been prepared to demonstrate how the proposed development relates to the environmental standards defined in Manchester City Council's (MCC) *Guide to Development in Manchester, Supplementary Planning Document and Planning Guidance Adopted April 2007* and the objectives in the adopted *Core Strategy Development Plan Document 2012*.

In line with Policy EN 6 of the Manchester Core Strategy, this document also incorporates an Energy Statement for the development (Section 5) detailing the energy saving and efficiency measures incorporated within the proposed development. Given their linkages, Environmental Standards Statement and Energy Statement, both planning validation requirements, have been combined into this single document.

Document Verification

ARUP

Job title		New Victoria		Job number		218128-00	
Document title		Energy and Environmental Standards Statement				File reference	
Document ref							
Revision	Date	Filename					
Draft 1		Description	First draft				
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			Prepared by	Checked by	Approved by		
		Name					
		Signature					
Issue Document Verification with Document ☒							

This report should be read in conjunction with the full suite of supporting documents (which includes a statutory Environmental Impact Assessment) and drawings that form the planning application submission.

2 Policy and legislation

A number of statutory and non-statutory planning policies and guidance documents apply to the proposed development. These comprise of guidance produced at the national, regional and local levels.

The following environmental and planning policies are relevant to the proposed development:

National Planning Guidance

- The National Planning Policy Framework
- Planning Practice Guidance (including sections on Air Quality, Waste and Climate Change)

Local Planning Guidance

- Manchester Core Strategy 2012 – 2017
- Guide to Development in Manchester - Supplementary Planning Document and Planning Guidance (SPD)
- Stronger Together: Greater Manchester Strategy 2013.

3 The Site and the Proposed Development

3.1 The Site and its surroundings

The site is bounded by Corporation Street, Cheetham Hill Road and Manchester Victoria Station. Part of Hanover Street and Long Millgate are within the site.

The site area is approximately 0.84 hectares, and site has previously been used for surface level car parking, and most recently used by contractors of the adjacent Victoria Station redevelopment works.

Manchester Victoria railway station (Grade II Listed) occupies the majority of the area to the west and south west of the site, with the Manchester Arena beyond. To the south is the access to Manchester Victoria Station, with a vacant site and a building included within the NOMA Masterplan beyond. This building, known as City Buildings, is Grade II Listed.

To the east of the site on the other side of Corporation Street there are a number of buildings included within the NOMA Masterplan, known as Hanover Building, Old Bank Building and New Century House and Hall. All four of these buildings are Grade II Listed. There is also an area of public realm outside New Century House, adjacent to Corporation Street.

To the north of the site, across the Cheetham Hill Road railway bridge, lies an area of surface level car parking and the former Parker's Hotel (Grade II Listed) which is currently occupied by a Dental Clinic at ground floor level. In addition, on the junction between Corporation Street and Cheetham Hill Road is the Ducie Bridge public house adjacent to a number of vacant buildings and surface level car parking.

Beyond immediate frontage uses, the area to the north of the site comprises a mix of office and residential uses with some ground floor commercial units. The area to the north east is dominated by the NOMA Masterplan area which is currently undergoing significant regeneration. The area is not dominated by a single land use, but comprises a mix of town centre uses including retail, leisure and office uses. The NOMA Masterplan also proposed new residential uses.

3.2 Highways and transport

The site is bound to the north east by the A665, Manchester's Inner Ring Road. Manchester Victoria station bounds the site to the northwest and west of the site. To the east of the site lies Corporation Street, a main access point to Manchester's City Centre shopping district and to the south lies the Metrolink with access to the Manchester Victoria Metrolink station.

The Inner Ring Road connects all the major road routes into the City Centre and carries a high volume of traffic at all times of the day.

Manchester Victoria Station, located adjacent to the application site provides access to train and Metrolink services to destinations within Manchester City Centre, Greater Manchester and other Regional and National destinations.

Frequency and range of services will in the future be further enhanced through the completion of the Ordsall Chord Rail Link, which will connect the station to Manchester Piccadilly and Oxford Road Stations, as well as Salford Central.

Shudehill Bus Interchange is approximately 300m to the east of the site, a 4 minute walk, offering high frequency local and regional transportation.

The area also benefits from a high level of pedestrian and vehicular accessibility, and overall offers exceptional linkages to a variety of multi-modal public transport connections.

Additional benefits to this high level of connectivity mean that the site has good accessibility to Manchester Airport, the City's international gateway.

3.3 Proposed Development

The proposed development is split into three distinct plots. Plots 1 and 2 will accommodate the proposed residential buildings, and Plot 3 the proposed office building. Plot 1 will accommodate a 25 storey residential building with 293 apartments and Plot 2 a twenty storey residential building with 227 apartments.

Plot 3 will accommodate an eight storey office building comprising approximately 11,647 sq.m Gross Internal Area.

Each of the three buildings will include ground floor active uses and be set within an area of landscaped public realm. The development will also include cycle and car parking for the both the residential and office uses. A breakdown of the key development parameters is provided below in Table 1.

Table 1: Quantum of development

Proposed Development	Quantum
Proposed site area	1.14
Proposed development	Erection of mixed use office and residential development, comprising a mix of 1-3 bed apartments with ground floor commercial space and 11,647 sq. m (GIA) of office space.
Proposed height (approximate)	Plot 1 (residential) – 25 floors Plot 2 (residential) – 20 floors Plot 3 (residential) – 8 floors
Proposed units	520 residential apartments (mix of 1-3 bed apartments) 11,647 sq.m office floorspace (GIA)
Parking provision	36 car parking spaces and 32 cycle parking spaces provided on site for office development. 104 car parking spaces in the residential building, and 37 in the office. 286 cycle parking spaces will be provided on site for the residential development

Note: all areas, dimensions, boundaries and layouts are indicative and are subject to measured survey and confirmation

4 Review of the proposal in relation to Environmental Standards

4.1 Introduction

This section provides a review of the proposals against the Environmental Standards outlined in MCC's *Guide to Development in Manchester, Supplementary Planning Document and Planning Guidance (2007)*.

4.2 UK and Manchester policy context

On 25 March 2015 the Government issued a Ministerial Statement setting out the conclusion of the Housing Standards Review. This withdrew the Code for Sustainable Homes and set new policy on the application of technical housing standards that applies immediately to all local planning authorities. This has direct implications for the application of local planning policies concerned with Code for Sustainable Homes (CSH) and CO₂ emissions.

Policies EN 6 and DM 1 of the Manchester Core Strategy – which set targets for emissions reduction and CSH levels respectively – have been superseded. From March 2015 until approximately late 2016, the Government's policy is that local authorities can continue to set and apply performance policies related to energy and CO₂ emissions that exceed Building Regulations (though not exceeding CSH Level 4) where they have referenced the Code for Sustainable Homes in policy.

Given that MCC has existing policies in place, they are able to apply this interim measure which corresponds to an approximate 19% reduction in CO₂ emissions compared with the requirements of Part L (2013). As was the case with policies EN 6 and DM 1, MCC are likely to continue to consider the impact on viability so as not to unnecessarily stall or otherwise stifle development.

4.3 Energy efficiency

The energy hierarchy has been adopted for the development to ensure that the correct approach to design is taken to promote an energy-efficient low carbon solution. This has ensured that the benefits of less expensive methods of energy use reduction have been maximised first. The approach adopted is as follows:

- Minimise energy demand – The buildings will utilise a high performance envelope aspiring to standards over and above Part L requirements, which will in turn minimise the energy demand for space heating.
- Meet demands efficiently – With minimised energy demand, electric heating has been selected as the most efficient heating solution for the residential development and a high efficiency VRF system for the office development.

This approach responds to Policy EN 4 of the Manchester Core Strategy which seeks to maximise energy efficiency and reduce CO₂ emissions from new developments. The policy requires the application of the energy hierarchy to

ensure that passive measures, energy efficiency and low and zero carbon generation options are considered.

The following sections describe how this approach has been implemented in the design for the proposed development.

Fabric

Residential development

The residential blocks will utilise a high performance envelope aspiring to standards over and above Part L requirements. As a result of the high thermal performance of the walls, the use of highly efficient triple glazing, minimised thermal bridging, and infiltration of outside air by sealing the building envelope, the demand for space heating will be minimised.

Office development

Preliminary energy models have been produced to inform the viability of the office development. Seven credits is being targeted under BREEAM Ene 01 Reduction of Energy use and Carbon Emissions, which equates to approximately 17% reduction in CO₂ emissions arising from regulated building energy consumption. Developing a high-performing building envelope is an essential part to the design strategy.

Heating, cooling and ventilation

Residential development

For the residential blocks, due to the minimised energy demand, electric heating solution has been selected. The benefits of electric heating in this case include:

- Simplification of installation;
- Avoidance of inherent inefficiencies of water based systems in terms of “start-up” times and circulation of hot water around the buildings in order to provide domestic hot water on demand; and
- Avoidance of a single point of failure. Consequently, improve the reliability of the existing system and reduce the potential need for tenants to resort to secondary heating solutions.

Ventilation will be provided through Mechanical Ventilation and Heat Recovery (MVHR) in each apartment. The communal amenity spaces will either be naturally ventilated or provided with local MVHR or dedicated ventilation air handling unit depending on the type and size of amenity space.

Summer cooling will be provided by natural ventilation via openings in the façade or local high efficiency VRF fan coil units in the areas with high internal and external heat gains.

Office development

Air Handling Unit (AHU) with high efficiency heat recovery and heating coils will be utilised to provide ventilation for the majority of the commercial development.

Heating and comfort cooling for the office areas will be provided by high efficiency VRF systems connected to high efficiency outdoor heat pump condensing units.

Lighting

Energy efficient LED based lighting will be used throughout all landlord areas including external spaces and in all apartments.

4.4 Renewable energy

The potential for renewables and low carbon technologies such as photovoltaic panels to be incorporated into the proposed development has been considered and evaluated throughout the design process.

It was judged that increased investment in achieving a highly-efficient building fabric would have a greater impact on energy performance and greenhouse gas emissions than investing in renewable energy technologies. As such, the incorporation of renewable technologies is not considered to be suitable for this development.

4.5 CO₂ emissions and reduction**Residential development**

The residential blocks of the Proposed Development are expected to achieve an overall area weighted improvement of 7.6% compared with the requirements of Part L of the Building Regulations (2013), as shown in Table 2. This estimated percentage improvement is achieved by primarily focussing on delivering a high performing building envelope design.

Various other options, including renewables have been reviewed, however, the current design represents the maximum viable improvement result that can be achieved by the development.

Table 2: Estimated improvements over Part L (2013) (note: the non-residence areas include circulation areas and commercial space on the ground floor. This was modelled using IES for Part L2A compliance)

Dwelling Type	Floor area (m ²)	Number
2 bed corner - mid block level	66	162
2 bed middle - mid block level	65	81
2 bed end - mid block level	76	43
1 bed - mid block level	51	174

Dwelling Type	Floor area (m ²)	Number
1 bed - top block level	51	4
3 bed - mid block level	92	44
3 bed - top block level	92	12
Non dwelling areas	2714.8	1
Residential Plot 1 area weighted improvement		8.1%
Residential Plot 2 area weighted improvement		8.0%
Whole Building (including non-dwelling) area weighted improvement		7.6%

Office development

According to the BREEAM pre-assessment completed for the commercial building of the Proposed Development, seven credits is being targeted under Ene 01 Reduction of Energy use and Carbon Emissions based on the results from the preliminary energy models. This equates to approximately 17% reduction in CO₂ emissions arising from regulated building energy consumption.

4.6 Environmental design

As shown in Table 2, the fabric and energy efficiency measures deliver emissions reductions compared with Part L (2013). When considering the residential elements of development as a whole (i.e. the weighted average of all residential dwelling types based on floor area), an emissions reduction of 8.0% is achieved. When non-dwelling space is included in the average, a reduction of 7.6% is achieved.

As described above, the proposed development will achieve an emissions reduction of 7.6% compared with the requirements of Part L (2013). The design of the residential buildings have focussed on a façade first approach to minimise the demand. High efficiency electric space and water heating is proposed to deliver this minimised demand with minimised system losses thereby reducing the emissions.

For the office development, preliminary energy models have been produced, which indicates that approximately 17% reduction in CO₂ emissions arising from regulated building energy consumption can be achieved.

More detail on the energy performance of the development is included in the Energy Statement in Section 5.

4.7 Water management and weather resilience

4.7.1 Drainage design

The New Victoria site is located in Manchester's 'Critical Drainage Area' (CDA), as defined by Manchester City Council and the 2011 Manchester Strategic Flood

Risk Assessment. In accordance with guidance requirements, the drainage design for the Proposed Development will be as follow:

- On-site attenuation storage will be provided to accommodate a 1 in 100 year plus 20% climate change storm scenario and ensure a 50% reduction on existing surface-water discharge rates.
- SuDS shall be used in specific areas where they can be delivered to further reduce post development runoff and provide environment enhancements within public realm areas. A series of French drains, soft landscaping and bio retention tree pits are promoted which would overflow to the main drainage system when full.

In accordance with National Planning Policy Framework, the hierarchy of drainage methods has been considered for surface water disposal in order to reduce impacts associated with surface water run-off. For full details, refer to the submitted Flood Risk Assessment.

4.7.2 Flood risk

The site is located within an area of Flood Zone 1 which is subject to low flood risk from rivers and watercourses. The location of the site in relation to the sources of potential flooding means that the anticipated risk of the development being exposed to flooding is low.

4.7.3 Water efficiency

Residential development

The design is currently progressing based on achieving a consumption of 125 l/p/d as required by Part G of the Building Regulations. Fittings will be specified in the residential buildings to give a reasonable balance between low water consumption, performance and cost. This will allow the fixtures selected to have a proven track record of reliability, provide performance in line with the expectation of residents and to meet architectural aesthetic aspirations.

Office development

For the office building, water efficiency will be a consideration of the BREEAM assessment as detailed in the BREEAM Pre-Assessment (Appendix A).

The aspiration for the office building is to achieve BREEAM Excellent. As such, in compliance with the mandatory BREEAM requirement a water meter on the mains water supply to the building will be specified. In addition, a 25% improvement over baseline building water consumption has been targeted. This will be achieved through the specification of efficient water consuming components throughout the building.

Further improvements in the overall water efficiency may result from the specific designs and specification of the individual tenants.

To ensure water consumption can be monitored and managed, and therefore encourage reductions, separate sub-meter for each tenant area will be provided,

with pulsed output to the building's Building Management System to allow automated monitoring of water consumption.

4.8 Operational waste management

An Operational Waste Management Plan has been prepared to accompany the planning application for the development. This outlines how the design meets the requirements of both MCC's GD04 guidance document¹ and Building Regulations for residential and commercial waste management. The Operational Waste Management Plan is provided in Appendix B and should be referred to for full details.

4.8.1 Residential waste

MCC offers four types of containers for the segregation of recyclables and waste:

- Brown bin or bag for dry mixed recycling (glass, plastic bottles, tins & cans, foils);
- Blue bin or bag for paper and card;
- Green bin or kerbside caddy for food/garden waste;
- Black bin / authorised sack for general waste.

The Proposed Development provides convenient facilities for residents to recycle and dispose their waste. The provisions are summarised in Appendix B.

4.8.2 Commercial waste

In mixed developments, such as New Victoria, separate recycling and waste storage areas must be provided for residential and commercial waste. The details of provisions made for the commercial development are summarised in Appendix B.

The operators of commercial premises are required by legislation to enter into a commercial waste agreement with a registered waste carrier for the disposal of their waste.

4.9 Construction Management

4.9.1 Construction waste management, material and procurement

The development will seek to minimise the use of primary resources and materials and to minimise the generation of waste during construction works. Where feasible, the contractor will incorporate secondary and recycled materials with low embodied impacts.

¹ Manchester City Council (2014) GD 04 Waste Storage and Collection Guidance for New Developments Version 2.0

A Site Waste Management Plan (SWMP) will be prepared once the Principal Contactor has been appointed prior to the commencement of the development. The SWMP is an important tool to improve the environmental performance of a project. It will be used throughout the design process, to promote 'designing out waste'. It will also be used to monitor waste arisings and optimise waste strategy during construction.

4.9.2 Construction site environmental management

To ensure that suitable contractors are appointed, all potential contractors will have their environmental credentials vetted, and asked to submit their company Environmental Policies and Procedures.

During construction, best practice measures will be implemented to minimise potential impacts to sensitive local receptors resulting from emissions to air and water, noise and vibration and from site lighting. An Environmental Plan will be developed to address and monitor the following issues:

- Applicable environmental legislation;
- Pollution;
- Nuisance (noise, vibration, dust, emissions, light);
- Public Relations.

A Planning Construction Methodology and Programme has been prepared in support of the planning application and details high level information on the principles of construction management that will be implemented on site. The report is attached in Appendix C. A detailed Site Waste Management Plan will be prepared prior to the commencement of development that will specify the best practice measures that will be implemented to minimise potential impacts.

4.10 Biodiversity

4.10.1 Designations

An ecological report has been prepared for the Proposed Development by Penny Anderson Associates. The report is attached in Appendix D.

The desk study element of the report states that there are no Special Areas of Conservation (SAC) in the 1km search zone for the Site, with the closest SAC being Rochdale Canal which is immediately outside the search area becomes a SAC approximately 6.5km from the Site. The Canal has been designated as a SAC due to the presence of floating water plantain.

Sites of Biological Importance (SBI) are locally important for wildlife. They are the most important non-statutory sites for nature conservation in Manchester. SBIs have no legal protection, but do receive some protection through different policies and they must be taken into consideration by the planning authority when planning applications affect the site. Rochdale Canal, Stott's Lane - Ducie Street

Basin (1.1km from the Site to the north-east) and Ashton Canal to the north-east (1.2km from the Site) are both SBI.

No Regionally Important Geological and Geomorphological Sites (RIGS) were identified in close proximity to the site.

Species

There is one record of a badger sett within the search area approximately 250m from the Site. In addition, a number of records showing presence of different bird and bat species have been also been identified. Further details are shown in the ecology report.

Habitats

An Extended Phase 1 Habitat Survey was carried out as part of the ecology study. The Survey concludes that all protected sites and species identified within the study area are sufficiently distant and isolated from the site not to be impacted by the Proposed Development.

There are also no areas of habitat of nature conservation interest. No non-native invasive Schedule 9-listed plants were observed within the site boundary and negligible potential for roosting bats was found to be present and no evidence of roosting within the site.

The surrounding habitats were considered to be of low value to foraging and commuting bats. No active or disused birds' nests were observed and the Site is not considered suitable for use by nesting or foraging black redstart.

To ensure compliance with wildlife legislation and relevant planning policy, the report recommends the following further works are carried out:

- Site clearance - a watching brief should be in place to guard against harm to species such as bat, badger, hedgehog, reptiles and amphibians.
- Nesting Birds: Vegetation clearance should be undertaken outside the bird nesting season.

It is not anticipated that there will be significant impacts on ecology in the area as a result of the Proposed Development.

4.11 Waterways

The River Irk (an Environment Agency Main River) is located approximately 10m below the existing ground levels and flows through the site (from north-east to south-west) in a masonry brick arch culvert. Good practice pollution prevention and control will be implemented to ensure that indirect pollution from the site does not enter the river course.

5 Energy statement

5.1 Introduction

Policy EN 6 of the Manchester Core Strategy requires that developers prepare an Energy Statement. Although the emissions targets contained within this policy have now been superseded (as described in Section 4.5) this Energy Statement has been prepared in order to demonstrate the total regulated energy that the completed development will use and the associated carbon emissions.

Following the publication of the Ministerial Statement setting out the conclusion of the Housing Standards Review, the Government's policy is that local authorities can continue to set and apply performance policies related to energy and CO₂ emissions that exceed Building Regulations (though not exceeding CSH Level 4) where they have referenced the Code for Sustainable Homes in policy. Given that MCC has existing policies in place, they are able to apply this interim measure which corresponds to an approximate 19% reduction in CO₂ emissions compared with the requirements of Part L (2013).

However, as was the case with policies EN 6 and DM 1, the Council will continue to consider the impact on viability so as not to unnecessarily stall or otherwise stifle development.

Appendix A of the Manchester Core Strategy provides a guide to assist in completing the Energy Statement and sets out the methodology that should be followed. This consists of the following steps:

1. Set out baseline information including proposed uses and floor space.
2. Calculate regulated energy demand and associated CO₂ emissions of completed development assuming only compliance with Part L.
3. Apply the appropriate emissions reduction target.
4. Apply the energy hierarchy to identify opportunities to design out energy consumption and emissions and set out reductions achieved by each measure.
5. Consider appropriate low carbon, renewable or decentralised technologies.
6. Assessment of least cost option of meeting the reduction target.

This Section provides information in relation to these steps for the New Victoria development.

5.2 Development information

The Proposed Development will consist 520 residential apartments provided by two residential blocks. Table 3 details the number of each dwelling type and internal floor areas. Non-dwelling space refers to circulation space and commercial space in the residential blocks. The development also consist of an office block, which will provide 11,647 sq.m (GIA) office space.

Table 3: Proposed Development Accommodation Schedule

Dwelling Type	Floor area (m ²)	Number
2 bed corner - mid block level	66.0	162
2 bed middle - mid block level	65.0	81
2 bed end - mid block level	76.0	43
1 bed - mid block level	51.0	174
1 bed - top block level	51.0	4
3 bed - mid block level	92.0	44
3 bed - top block level	92.0	12
Non-dwelling areas	2714.8	1

5.2.1 Proposed specification

Residential development

As described in Section 4.3, the development uses a fabric-first approach to energy efficiency and make use of high-efficiency fixed services including MVHR. Table 4 presents fabric and fixed services specifications. Although there is variation between dwelling types, these figures are representative of the development as a whole.

Table 4: Fabric and fixed services specifications for residential blocks

Building element	Specification
Triple glazed curtain wall	U-value = 1.0 W/m ² K including frame effects
Glazed in opaque elements	U-value = 0.4 W/m ² K including frame effects
Roof	U-value = 0.11 W/m ² K
Y-value of façade	Y-value = 0.00 to east and west facades without balconies Y-value = 0.05 to north and south with balconies including thermal breaks
Airtightness	Less than 3m ³ /hr/m ² at 50 Pa
Hot water cylinder capacity	1 bed = 125 litres, 2 bed = 210 litres, 3 bed = 250 litres
MVHR Specific fan power	1 bed = 0.56, 2 bed = 0.66, 3 bed = 0.79
MVHR Heat recovery efficiency	1 bed = 86%, 2 bed = 85%, 3 bed = 84%

Office development

Table 5 presents the fabric and fixed services specifications for the office block used in the thermal model.

Table 5: Fabric and fixed services specifications for office block

Building element	Specification
Airtightness	<3m ³ /hr/m ² at 50 Pa
Glazing G-value	Where required g<0.28 Note: external shading recommended, and south facing glass limited to 40% of wall area
U-values Façade – Solid Façade – Glazed Roof	0.22-0.59 W/m ² K depending on the location and site orientation 1.4-1.55 W/m ² K including frame, depending on percentage glazing and site orientation 0.18 W/m ² K
Floor between conditioned areas and unconditioned spaces.	0.26 W/m ² K This includes party floors and external floors.
Party walls	0.14 W/m ² K between differently conditioned spaces. This includes between retail and residential for example.
Any floors on ground	0.22 W/m ² K

5.3 Emissions calculations

In order to demonstrate the environmental benefits associated with the fabric-first approach to energy efficiency, approved SAP software has been used to generate energy demand models for representative dwellings within the development. SAP calculations have been undertaken for the eleven dwelling types within the development. IES software has been used to model the non-dwelling space for Part L2A compliance.

5.3.1 Baseline: Part L compliance only

Residential development

SAP software calculates the regulated carbon dioxide emissions of the dwellings in accordance with the requirements of Building Regulations, Part L (2013) that the development will be designed and constructed in compliance with. Table 6 presents the baseline regulated Target Emissions Rate (TER) for each dwelling type, assuming that the development does not go beyond compliance with Part L (2013).

Table 6: Baseline TER (note: the non-residence areas include circulation areas and commercial space on the ground floor. This is modelled using IES for Part L2A compliance)

Model name	TER (kgCO ₂ /m ² /year)
2 bed corner - mid block level	25.07
2 bed middle - mid block level	24.29
2 bed end - mid block level	22.94
1 bed - mid block level	25.39
1 bed - top block level	28.09
3 bed - mid block level	24.59
3 bed - top block level	27.14
Non-dwelling areas	8.20

Office development

IES software has been used to model the office development for Part L2A compliance. Table 7 presents the baseline regulated Target Emissions Rate (TER) for each dwelling type, assuming that the development does not go beyond compliance with Part L (2013).

Table 7: Baseline TER for office development

Model name	System	TER (kgCO ₂ /m ² /year)
80% glazing (U-value 1.4W/m ² K)	High Efficiency VRF	14.3

5.3.2 Emissions under proposed specification (fabric and fixed services)

Residential development

Table 8 presents the estimated regulated emissions for each dwelling type, accounting for the fabric and fixed plant measures specified for the development, as described in Sections 4.3 and 5.2.1. It also presents the percentage estimated emissions reduction achieved compared with baseline emissions in Table 6.

Table 8: Estimated % reduction (note: the non-residence areas include circulation areas and commercial space on the ground floor. This is modelled using IES for Part L2A compliance)

Overall area weighted improvements	TER (kgCO ₂ /m ² /year)
Residential Plot 1 area weighted improvement	8.1%
Residential Plot 2 area weighted improvement	8.0%
Whole Building (including non-dwelling) area weighted improvement	7.6%

Fabric and energy efficiency measures deliver emissions reductions compared with Part L (2013) for all dwelling types and non-dwelling. When considering the residential elements of the development as a whole (i.e. the weighted average of all dwelling types based on floor area), an emissions reduction of 8.0% compared with the requirements of Part L (2013) is expected to be achieved. When non-dwelling space is included in the weighted average, a reduction of 7.6% is achieved.

This emissions reduction is not equivalent to the interim measure that MCC are now able to apply (a 19% reduction on Part L 2013, equivalent to CSH Level 4). On grounds of cost-effectiveness, it is considered that achieving additional emissions reductions from fabric and fixed services is not viable for the development.

Office development

According to the BREEAM pre-assessment completed for the commercial building of the Proposed Development, a 16.8% reduction in CO₂ emissions arising from regulated building energy consumption can achieve seven credits under Ene 01 Reduction of Energy use and Carbon Emissions, which is being targeted by the development.

5.3.3 Renewable energy measures

The potential for renewables and low carbon technologies such as photovoltaic panels to be incorporated into the proposed development has been considered and evaluated throughout the design process.

It was judged that increased investment in achieving a highly-efficient building fabric would have a greater impact on energy performance and greenhouse gas emissions than investing in renewable energy technologies. As such, the incorporation of renewable technologies is not considered to be viable for this development.

5.4 Conclusion

This Energy Statement has summarised the ways in which the Proposed Development achieves reductions in regulated emissions compared with Part L of the Building Regulations (2013).

The national interim measures for water and energy reflect the need to maximise sustainability performance without unnecessarily stalling or stifling development. The development adopts a fabric-first approach to energy efficiency and makes use of high-efficiency fixed services including MVHR. Fabric and fixed services measures deliver emissions reductions of 7.6% for the residential development and approximately 17% for the office development compared with Part L (2013). Energy efficiency and emissions reductions have been maximised for the development within the constraints of viability.