energycounsel
engineering sustainable buildings

Our ref: Z57053
12th June 2026

Jon Scurr
R&M Property Group
7 Brockley Avenue
Manchester
M14 7BP

Dear Jon,

Building Regulations Part O (2021) Compliance
8No. Apartments & 5No. Houses @ Cross Lane and Varey Street, Salford

We have completed the following Building Regulations Part O 2021 assessment on the development at the above site. The CIBSE TM59 (2017) methodology is used for the overheating assessment as required by Part O of the Building Regulations (2021), which is intended for dwellings that will be continuously occupied throughout the year. Modelling and calculations have been carried out against the drawings and data previously issued to Energy Counsel. We have carried out calculations on apartments.

CIBSE TM59 (2017) Results

Plots 2-4 & 8 have been assessed to provide results for the four 'worst case' apartments based on the proposed design. As per the results below, all spaces within the development comply with the CIBSE TM59 (2017) criteria for the proposed weather scenario listed and therefore comply with the requirements set out within Approved Document O (2021).

Overall

Passed	13 rooms
Failed	0 rooms
Unoccupied	26 rooms

Data

Building category	Category II (new builds.)		
Weather file	Manchester_DSY1_2020High50_.epw		
Days data	365	01-Jan	31-Dec
Days (summer)	153	01-May	30-Sep
Data OK?	OK	Full summer	

Mechanical Ventilation

All bathrooms/WCs and kitchen areas are provided with continuous mechanical ventilation. The bathrooms/WCs and combined kitchen/living areas are provided with minimum continuous flow rates in line with Building Regulations Part F (2021) as outlined below:

- Kitchens: 13 l/s
- Bathrooms: 8 l/s
- WC: 6 l/s

Openable windows are also provided to alleviate overheating. Openings to all dwelling areas have been applied in line with the security recommendations detailed within Section 2.6 of Approved Document O (2021).

Directors
M GIBSON C.Eng, C.Env, B. Eng (Hons) M.E.I, M.I.E.T SocEnv | **M ADAMS** B. Eng (Hons) LCEA
Energy Counsel is a Trading Style of EC Energy Ltd.
Registered in England and Wales No: 5615580 VAT No: 803266746
Registered Office: Viridor House, No.3 Bolholt Terrace, Bury, BL8 1PP
Telephone: 0161 762 1055 Fax: 0161 761 1094
E-mail: Matthew.Gibson@energycounsel.co.uk Web: www.energycounsel.co.uk

The Table below shows the opening profiles modelled. In accordance with Part O, the windows have been modelled to be openable to a maximum of 400mm. The Noise Impact Assessment produced by Azymuth Acoustics UK confirms that due to the assessed noise levels, windows must be closed at night.

Time	Window modelled as open or closed
Ground Floor – 8am-11pm	Open
Ground Floor – 11pm-8am	Closed
First Floor – 8am-11pm	Open
First Floor – 11pm-8am	Closed

Please note that confirmation of Building Regulations Part O (2021) compliance does not automatically confirm that compliance with the purge ventilation requirements of Building Regulations Part F (2021) is achieved. Assessment of any purge ventilation rates required for Building Regulations Part F (2021) are outside the scope of this report and should be reviewed by the design team.

The building envelope fabric performance values used within the analysis are tabulated below:

Component	**U-value (W/m².K)**	**G-value**
Plane Roof	0.09	N/A
Ground Floor	0.12	N/A
External Wall	0.18	N/A
Glazed Windows and Doors	1.3	0.41
Doors	1.0	N/A
Infiltration Rate	0.20 ac/hr	N/A

A full results output report is provided following this summary letter. A combination of the above information and the introduction on the report below cover all information required in Appendix B Part 2b.

No spaces require mechanical cooling.

Part 3 can be found at the rear of the report for Builder and Building Control sign off.

If you have any queries, please do not hesitate to contact us.

Yours sincerely,
On Behalf of Energy Counsel

Andrew Hogg

Andrew Hogg

Enc : Part O Compliance Software Output Report

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E-mail: Matthew.Gibson@energycounsel.co.uk Web: www.energycounsel.co.uk

Approved Document O report
Overheating risk in residential buildings
for
Cross Lane (Worst Case - Plots 2-4 & 8)

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Cross Lane (Worst Case - Plots 2-4 & 8)

Building details

Project name: Cross Lane (Worst Case - Plots 2-4 & 8)	Date: 12-06-2026 13:56:28
Location: Manchester Ap, United Kingdom	
Address: Varey Street, Manchester	
Building use: Residential	
Are there any security, noise, or pollution issues: All windows are closed at nighttime due to security and noise issues.	

Designer's details

Designer's name: Andrew Hogg
Designer's organisation: Energy Counsel
Designer's address: Viridor House, No.3 Bolholt Terrace, Bury, Greater Manchester, BL8 1PP

Dynamic thermal model

Software: IESVE version 2025.2.0.0	
Weather file: Manchester_DSY1_2020High50_.epw	
Results file: Cross Lane.aps	
Number of rooms analysed: 13	
TM59: summer elevated air speed: 0.1	
TM59: occupant category: Category II (normal)	
Overheating mitigation strategy: Mechanical ventilation to all kitchen and bathrooms.	
Has the building construction proposal been modelled accurately?	YES
Have the analysed rooms passed the assessment for Approved Doc O Dynamic Thermal Modelling Method (CIBSE TM 59)?	YES
Designer's signature:	

Cross Lane (Worst Case - Plots 2-4 & 8)

Summary

CIBSE TM59 overheating methodology for predominantly naturally ventilated rooms assesses against two criteria, (a) and (b) (for Category I occupancy, Tmax is reduced by 1K):

- Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours
- Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Approved document O applies limits to CIBSE TM59 section 3.3 (openings); these requirements are applied by appropriate assignment of MacroFlo types / scripted profiles in the model (see Modelled Openings Section).

CIBSE TM59 overheating methodology for predominantly mechanically ventilated rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

CIBSE TM59 also states that the inclusion of corridors in the overheating analysis is mandatory where community heating pipework runs through them. While there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of the total annual hours this should be identified as a significant risk.

Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
3B4P_GF_Kitchen / Dining	Pass	N/A	-	-
3B4P_GF_Lounge	Pass	N/A	-	-
3B4P_FF_Bedroom 2	Pass	Pass	-	-
3B4P_FF_Bedroom 3	Pass	Pass	-	-
2B3P_GF_Kitchen/Dining	Pass	N/A	-	-
2B3P_GF_Lounge	Pass	N/A	-	-
2B3P_FF_Bedroom 01	Pass	Pass	-	-
2B3P_FF_Bedroom 02	Pass	Pass	-	-
Flat_GF_Kitchen/Living	Pass	N/A	-	-
Flat_GF_Bedroom	Pass	Pass	-	-
Flat_FF_Kitchen/Living	Pass	N/A	-	-
Flat_FF_Bedroom	Pass	Pass	-	-
3B4P_FF_Bedroom 1	Pass	Pass	-	-

Cross Lane (Worst Case - Plots 2-4 & 8)

Naturally ventilated rooms – criterion (a)

Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours.

Room name	Occupied hours	No. hours ΔT ≥ 1°K	% Occupied hours ΔT ≥ 1°K	Criterion a check
3B4P_GF_Kitchen / Dining	1989	0	0.0	Pass
3B4P_GF_Lounge	1989	8	0.4	Pass
3B4P_FF_Bedroom 2	3672	12	0.3	Pass
3B4P_FF_Bedroom 3	3672	3	0.1	Pass
2B3P_GF_Kitchen/Dining	1989	2	0.1	Pass
2B3P_GF_Lounge	1989	0	0.0	Pass
2B3P_FF_Bedroom 01	3672	0	0.0	Pass
2B3P_FF_Bedroom 02	3672	0	0.0	Pass
Flat_GF_Kitchen/Living	1989	0	0.0	Pass
Flat_GF_Bedroom	3672	0	0.0	Pass
Flat_FF_Kitchen/Living	1989	0	0.0	Pass
Flat_FF_Bedroom	3672	0	0.0	Pass
3B4P_FF_Bedroom 1	3672	17	0.5	Pass

Naturally ventilated rooms – criterion (b)

Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Any rooms that are not bedrooms are therefore not assessed, hence the corresponding N/A values.

Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
3B4P_GF_Kitchen / Dining	N/A	N/A	N/A	N/A
3B4P_GF_Lounge	N/A	N/A	N/A	N/A
3B4P_FF_Bedroom 2	2	19	21	Pass
3B4P_FF_Bedroom 3	4	20	24	Pass
2B3P_GF_Kitchen/Dining	N/A	N/A	N/A	N/A
2B3P_GF_Lounge	N/A	N/A	N/A	N/A
2B3P_FF_Bedroom 01	4	10	14	Pass
2B3P_FF_Bedroom 02	8	14	22	Pass
Flat_GF_Kitchen/Living	N/A	N/A	N/A	N/A
Flat_GF_Bedroom	3	18	21	Pass
Flat_FF_Kitchen/Living	N/A	N/A	N/A	N/A
Flat_FF_Bedroom	2	0	2	Pass
3B4P_FF_Bedroom 1	4	26	30	Pass

Cross Lane (Worst Case - Plots 2-4 & 8)

Mechanically ventilated rooms

CIBSE TM59 overheating methodology for predominantly mech. vent. rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
No mech vent rooms	N/A	N/A	N/A

Communal corridors

CIBSE TM59 states that whilst there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of annual hours, then this should be identified as a significant risk within the TM59 overheating report.

Room name	No. hours > 28°C	% Annual hours > 28°C	Corridor overheating risk check
No corridors	N/A	N/A	N/A

Cross Lane (Worst Case - Plots 2-4 & 8)

Modelled details & overheating mitigation strategy

Approved document O: Providing Information & Appendix B requires information about the model and the overheating mitigation strategy. The following tables detail the modelling method and mitigation strategies applied to each analysed room. Where multiple active openings per space (windows & louvres) exist they are all listed. Occupancy, equipment and lighting profiles for occupied rooms comply with TM59 section 5.

Modelled occupancy

Room name	Floor area m²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
3B4P_GF_Kitchen / Dining	15.49	TM59 - 3 Bedroom - Kitchen	Kitchen Occupancy	Kitchen Equipment	18-23h
3B4P_GF_Lounge	12.37	TM59 - 3 Bedroom - Living	Living Occupancy	Living Equipment	18-23h
3B4P_FF_Bedroom 2	9.21	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
3B4P_FF_Bedroom 3	7.58	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
2B3P_GF_Kitchen/Dining	14.26	TM59 - 2 Bedroom - Kitchen	Kitchen Occupancy	Kitchen Equipment	18-23h
2B3P_GF_Lounge	13.94	TM59 - 2 Bedroom - Living	Living Occupancy	Living Equipment	18-23h
2B3P_FF_Bedroom 01	6.86	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
2B3P_FF_Bedroom 02	14.04	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Flat_GF_Kitchen/Living	22.26	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Flat_GF_Bedroom	13.33	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Flat_FF_Kitchen/Living	21.59	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Flat_FF_Bedroom	12.2	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
3B4P_FF_Bedroom 1	12.76	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

Cross Lane (Worst Case - Plots 2-4 & 8)

Modelled openings

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
3B4P_GF_Kitchen / Dining	15.5	0.4093	0.46, 0.46, 0.46, 1.65, 1.65, 0.0, 1.62	90.0, 20.0, 90.0, 90.0, 90.0, 80.0, 90.0	34.53	ADO.AlwaysOff, ADO.Section_26a, on continuously
3B4P_GF_Lounge	18.39	0.4093, 0.4093	0.9, 0.88, 0.88, 0.88, 0.0, 1.62	90.0, 90.0, 20.0, 90.0, 80.0, 90.0	32.56	ADO.AlwaysOff, ADO.Section_26a, on continuously
3B4P_FF_Bedroom 2	20.51	0.4093, 0.4093	0.9, 0.0, 0.56, 0.56, 0.56, 0.0, 1.62	90.0, 80.0, 20.0, 90.0, 90.0, 80.0, 90.0	36.79	ADO.AlwaysOff, ADO.Section_26a, on continuously
3B4P_FF_Bedroom 3	14.51	0.4093	0.56, 0.56, 0.56, 0.01, 1.62	20.0, 90.0, 90.0, 80.0, 90.0	34.12	ADO.AlwaysOff, ADO.Section_26a, on continuously
2B3P_GF_Kitchen/Dining	26.5	0.4093	1.31, 1.31, 0.46, 0.46, 0.46, 0.0, 1.62	90.0, 90.0, 90.0, 20.0, 90.0, 80.0, 90.0	33.21	ADO.AlwaysOff, ADO.Section_26a, on continuously
2B3P_GF_Lounge	26.66	0.4093	0.8, 0.8, 0.8, 0.0, 1.62, 1.62	90.0, 20.0, 90.0, 80.0, 90.0, 90.0	32.4	ADO.AlwaysOff, ADO.Section_26a, on continuously
2B3P_FF_Bedroom 01	14.97	0.4093	0.0, 0.56, 0.57, 0.57, 1.62	80.0, 20.0, 90.0, 90.0, 90.0	37.84	ADO.AlwaysOff, ADO.Section_26a, on continuously
2B3P_FF_Bedroom 02	28.32	0.4093	0.01, 0.56, 0.56, 0.56, 1.62	80.0, 20.0, 90.0, 90.0, 90.0	18.42	ADO.AlwaysOff, ADO.Section_26a, on continuously
Flat_GF_Kitchen/Living	8.46	0.4093, 0.4093	1.62, 0.69, 0.69, 0.0, 0.7, 0.69, 0.69, 0.01	90.0, 20.0, 90.0, 80.0, 90.0, 20.0, 90.0, 80.0	16.24	ADO.AlwaysOff, ADO.Section_26a, on continuously
Flat_GF_Bedroom	17.48	0.4093, 0.4093	0.7, 0.0, 1.62, 0.63, 0.63, 0.63, 0.0, 1.62	90.0, 80.0, 90.0, 90.0, 20.0, 90.0, 80.0, 90.0	36.05	ADO.AlwaysOff, ADO.Section_26a, on continuously
Flat_FF_Kitchen/Living	11.33	0.4093, 0.4093	0.69, 0.69, 0.0, 0.62, 0.62, 0.62, 0.01, 1.62	20.0, 90.0, 80.0, 20.0, 90.0, 90.0, 80.0, 90.0	16.05	ADO.AlwaysOff, ADO.Section_26a, ADO.Section_26ab, on continuously

Cross Lane (Worst Case - Plots 2-4 & 8)

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Flat_FF_Bedroom	22.98	0.4093	0.62, 0.62, 0.62, 0.0, 1.62	20.0, 90.0, 90.0, 80.0, 90.0	22.11	ADO.AlwaysOff, ADO.Section_26a, on continuously
3B4P_FF_Bedroom 1	14.92	0.4093	0.79, 0.79, 0.79, 1.62	90.0, 90.0, 20.0, 90.0	23.81	ADO.AlwaysOff, ADO.Section_26a, on continuously

Modelled ventilation

Room name	Infiltration rate ACH	Mech vent flow rate ACH
3B4P_GF_Kitchen / Dining	0.2	0
3B4P_GF_Lounge	0.2	0
3B4P_FF_Bedroom 2	0.2	0
3B4P_FF_Bedroom 3	0.2	0
2B3P_GF_Kitchen/Dining	0.2	0
2B3P_GF_Lounge	0.2	0
2B3P_FF_Bedroom 01	0.2	0
2B3P_FF_Bedroom 02	0.2	0
Flat_GF_Kitchen/Living	0.2	0.76
Flat_GF_Bedroom	0.2	0
Flat_FF_Kitchen/Living	0.2	1.0
Flat_FF_Bedroom	0.2	0
3B4P_FF_Bedroom 1	0.2	0

Part 3 – Completion details

3.1 Builders Declaration			
Has the residential building been constructed and completed according to the specifications set out in the above calculations.		Yes	No
Builder's name			
Builder's organisation			
Builder's signature			
Date of signature			

3.2 Building control body inspector's declaration			
Is the residential building's construction consistent with the details provided above in the calculations.		Yes	No
Inspector's name			
Inspector's signature			
Registration number (if applicable)			
Date of inspection			

Directors
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