

Vistry Group: Countryside Properties (UK) Ltd c/o Vistry South East

7117Burgess Hill Phase 3

Part O Compliance Checklist – Dynamic Method

AES Sustainability Consultants Ltd

Rev 00

01/2025



Part 1 – Building Details and Declarations

1.1 Building and site details	
Residential building name/number	Burgess Hill Phase 3
Street	Eastbridge Avenue
Town	Burgess Hill
County	Sussex
Postcode	RH15 8DQ
Proposed building use/type of building	Residential
Are there any security, noise, or pollution issues?	No issues
1.2 Designer's details	
Designer's name	Ahamed Hassan
Company	AES Sustainability Consultants
Address line 1	4b Tiverton Way
Address line 2	Tiverton
Postcode	EX16 6TG
Telephone number	01884 242050
Email address	info@aessc.co.uk

Revision	Author	Date	Comment
Rev 00	Ahamed Hassan	02.01.2025	First Issue
Rev 01			
Rev 02			
Rev 03			

Part 2 – Design Details

Part 2b – Dynamic Thermal Modelling Method

2b.1 Modelling details	
Dynamic software name and version	IES virtual environment, Version 2024.0.1.0
Weather file location used, including any additional, more extreme weather files	London_GTW_DSY1_2020High50.epw
Number of sample units modelled, including an explanation of why the size/selection has been chosen	The assessment consists of 20 sample units. These units have been chosen to provide a comprehensive representation of the various flat type designs and constraints affecting the site. Consideration has been given to: - Any security concerns affecting the plots. E.g. ground floor bedrooms. - Flat type design, considering geometry, adjacent buildings and floor level within apartment blocks. - Orientation of the flat types on site. The orientation of a given flat type has been chosen to test the worst-case scenario in terms of maximum solar gains.
2b.2 Modelled occupancy	
Has the project passed the assessment described in CIBSE's TM59, taking into account the limits detailed in paragraphs 2.5 and 2.6?	YES
Details of the opening profiles used	APPENDIX B
2b.3 Modelled overheating mitigation strategy	
Free areas	APPENDIX B
Infiltration and mechanical flow rates	APPENDIX A
Window g-value	APPENDIX B
Shading strategy	APPENDIX A
Mechanical cooling	N/A
2b.4 Modelling results	
Has the project passed the assessment described in CIBSE's TM59, taking into account the limits detailed in paragraphs 2.5 and 2.6?	YES
What is the overall overheating strategy (i.e. what design features are key to the project passing)?	Natural ventilation through opening windows Mechanical ventilation Auxiliary Ventilation

2b.5 Designer's declaration	
Has the building construction proposal been modelled accurately?	YES
Designer's name	Ahamed Hassan
Designer's organisation	AES Sustainability Consultants
Designer's signature	Ahamed Hassan

Registration number (if applicable)	N/A
Date of design	02.01.2025

APPENDIX A – Inputs

Architectural Drawings			
Provider	COUNTRYSIDE and TREME DESIGN		
	Drawing number	Revision	Issue Date
Plans, Elevations and Sections	S0035_HB3_BLK 8_0101 S0035_HB3_BLK 10_0101 S0035_HB3_BLK 12_0101 S0035_HB3_BLK 13_0101	T1	06.2024

Building Fabric

Construction Elements	U-value in [W/ m²K]	Kappa in (kJ/m²K)
Ground Floor	0.11	75
External Wall	0.15	Ground floor 110 Upper floors 60
Flat Roof	0.20	9
Pitched Roofs	0.09	9
Int. Ceiling & Floor	N/A	9
Internal Partitions	N/A	9
Walls facing the communal corridors – Ground floor	0.28	60
Walls facing the communal corridors – Upper floors	0.24	110
Windows	1.00 Triple glazing	0.4 G-glazing (BS EN410)
French doors	1.4 Double glazing	0.4 G-glazing (BS EN410)
Rooflights	1.3	0.55 G-glazing (BS EN410)
External Doors	1.0	N/A

Natural Ventilation

Natural Ventilation	
Window opening profiles	Appendix B

Thermal Comfort Category

CIBSE TM52 Thermal Comfort Category	Explanation	Modelled within assessment
I	High level of expectation only used for spaces occupied by very sensitive and fragile persons.	☐
II	Normal expectation (for new buildings and renovations).	☒
IV	Values outside the criteria for the above categories (only acceptable for a limited periods).	☐

As per CIBSE TM59 guidance, Category III for existing buildings should not be used for the purposes of overheating assessments and has therefore been excluded from the above table.

Ensuring the Overheating Mitigation Strategy is Usable

Protection from falling	
Windows considered in the overheating assessment that may pose a higher risk of falls from height and can be opened wider than 100mm, meet the minimum requirements for protection from falling within table 3.1 of Approved Document O.	☐
Guarding is to be introduced to all windows not meeting the minimum requirements for protection from falling.	☒
Window handles on windows that open outwards are not more than 650mm from the inside face of the wall when the window is at its maximum openable angle.	☒
Shading Strategy	
The building uses shading devices in the form of external shutters with means of ventilation/reduced g-value glazing/brise soleil/overhangs.	☐
The building does not use any shading devices.	☒
Security	
Windows above canopies and oriel bay roofs are accessible.	☒
Windows above canopies and oriel bay roofs are <u>not</u> accessible. Certification shall be provided by the client to demonstrate that they cannot bear the weight of a person.	☐

Background Ventilation

Background Ventilation	
Proposed Ventilation system	MVHR
Maximum airflow required (trickle flow rate)	N/A

Modelled Ventilation – habitable rooms

Modelled Ventilation		
Room name	Infiltration rate ACH	Modelled ventilation flow rate* L/s
Block 8_Plot 159_GF_DBL Bedroom 1	0.25	18
Block 8_Plot 159_GF_DBL Bedroom 2	0.25	15
Block 8_Plot 160_GF_DBL Bedroom 1	0.25	25
Block 8_Plot 160_GF_DBL Bedroom 2	0.25	20
Block 8_Plot 161_GF_DBL Bedroom 1	0.25	20
Block 8_Plot 161_GF_DBL Bedroom 2	0.25	10
Block 8_Plot 162_GF_DBL Bedroom 1	0.25	20
Block 8_Plot 162_GF_DBL Bedroom 2	0.25	20
Block 10_Plot 266_GF_DBL Bedroom 1	0.25	25
Block 10_Plot 266_GF_DBL Bedroom 2	0.25	20
Block 10_Plot 269_GF_DBL Bedroom 1	0.25	20
Block 10_Plot 269_GF_DBL Bedroom 2	0.25	20
Block 10_Plot 270_GF_DBL Bedroom 1	0.25	10
Block 10_Plot 270_GF_DBL Bedroom 2	0.25	15
Block 12_Plot 314_GF_DBL Bedroom 1	0.25	20
Block 12_Plot 314_GF_DBL Bedroom 2	0.25	15
Block 12_Plot 315_GF_DBL Bedroom 1	0.25	10
Block 12_Plot 315_GF_DBL Bedroom 2	0.25	15
Block 12_Plot 316_GF_DBL Bedroom 1	0.25	10
Block 13_Plot 352_GF_DBL Bedroom 1	0.25	10
Block 13_Plot 355_GF_DBL Bedroom 1	0.25	18
Block 13_Plot 355_GF_DBL Bedroom 2	0.25	15

*Modelled ventilation refers specifically to additional mechanical ventilation to mitigate overheating.

The infiltration rates quoted in this table are the **minimum permissible values**. The actual infiltration rates must be equal or higher than these values at construction stage to ensure compliance.

Ventilation strategy

Ventilation strategy	
Modelled ventilation operation	On continuously
Adjacent condition	External air
Mechanical boost mode	Not modelled

The ventilation strategy described above is a performance requirement only. The full system design, including fan selection, ductwork layouts, attenuation and controls should be carried out by a suitably qualified engineer. AES sustainability consultants are not suitably qualified to comment on the ventilation design and installation.

Modelled Ventilation – corridors

Modelled Ventilation		
Room name	Infiltration rate ACH	Modelled ventilation flow rate* ACH
N/A	N/A	N/A

Ventilation to communal corridor(s) is provided for reference purposes. CIBSE TM59 states that there is no mandatory target for communal corridors. If the operative temperature in the communal corridor(s) exceeds 28°C for 3% of annual hours, this should be identified as a significant risk. Mechanical ventilation to alleviate this risk can be provided at the Client's discretion.

Mechanical Cooling

Mechanical Cooling	
Mechanical cooling was modelled in the assessment.	☐
Mechanical cooling was <u>not</u> modelled.	☒

APPENDIX B – Modelled Openings

The g-values quoted in this table are the **maximum permissible values**. The actual g-values of glazing must be equal or lower than these values at construction stage to ensure compliance.

Internal doors in habitable rooms are modelled as open during the daytime and closed when the occupants are sleeping, as per TM59 section 3.3.

Opening profile “ADO.Section_26a” references the opening criteria of Building Regulations Approved Document O, pages 8-9, section 2.6 a.

Profile “ADO.Section_26ab” references the opening criteria of Building Regulations Approved Document O, pages 8-9, sections 2.6 a. + 2.6b.

Profile “ADO.Section_26c” references the opening criteria of Building Regulations Approved Document O, pages 8-9, section 2.6 c.

Further details of the precise opening conditions can be found in the Approved Document and CIBSE TM59.

Room name	Window to wall ratio %	Window g-value (EN410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block 12_Plot 314_GF_Kitchen/Living (2bed)	17.58	0.4, 0.4, 0.4	0.99, 2.18, 1.58, 1.02, 0.56, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0	24.36	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 12_Plot 314_GF_DBL Bedroom 2	16.83	0.4	1.09, 0.79, 1.6	80.0, 80.0, 80.0	22.93	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 12_Plot 314_GF_DBL Bedroom 1	35.97	0.4	1.46, 1.06, 0.76, 1.6, 1.6	80.0, 80.0, 80.0, 80.0, 80.0	39.36	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 12_Plot 315_GF_Kitchen/Living(2 Bed)	23.43	0.4, 0.4, 0.4	1.87, 1.87, 0.82, 0.59, 1.09, 0.79, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	23.38	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 12_Plot 315_GF_DBL Bedroom 1	44.4	0.4	1.46, 1.06, 0.76, 1.6, 1.6	80.0, 80.0, 80.0, 80.0, 80.0	37.06	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 12_Plot 315_GF_DBL Bedroom 2	22.42	0.4	1.09, 0.79, 1.6	80.0, 80.0, 80.0	23.14	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 12_Plot 316_GF_Kitchen/Living (1 bed)	33.97	0.4, 0.4, 0.4	0.99, 2.11, 1.68, 1.1, 0.58, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0	26.2	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 12_Plot 316_GF_DBL Bedroom 1	14.79	0.4	1.09, 0.79, 1.6	80.0, 80.0, 80.0	19.37	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 13_Plot 352_GF_Kitchen/Living (1 Bed)	18.45	0.4, 0.4, 0.4	0.96, 2.12, 1.68, 0.99, 0.69, 1.8	80.0, 80.0, 80.0, 80.0, 80.0, 80.0	26.34	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 13_Plot 352_GF_DBL Bedroom 1	15.19	0.4	1.13, 0.79, 1.8	80.0, 80.0, 80.0	21.23	off continuously, ADO.Section_ 26a, Internal doors; Open daytime

Room name	Window to wall ratio %	Window g-value (EN410)	Opening gross area m²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block 13_Plot 355_GF_Kitchen/Living (2 Bed)	30.03	0.4, 0.4, 0.4, 0.4	1.09, 0.79, 2.06, 1.04, 0.72, 2.11, 1.68, 0.99, 0.69, 1.78	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	30.72	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 13_Plot 355_GF_DBL Bedroom 2	30.85	0.4	1.13, 0.79, 1.78	80.0, 80.0, 80.0	24.58	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 13_Plot 355_GF_DBL Bedroom 1	45.1	0.4	1.48, 1.05, 0.75, 1.78	80.0, 80.0, 80.0, 80.0	31.85	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_Plot 163_ 1F_Kitchen/Living(2bed)	31.81	0.4, 0.4, 0.4	1.0, 1.46, 1.06, 0.76, 1.03, 2.11, 1.68, 1.68, 1.65	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	40.8	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_Plot 163_ 1F_DBL Bedroom 1	28.39	0.4	1.49, 1.09, 0.76, 1.65, 1.65	80.0, 80.0, 80.0, 80.0, 80.0	38.92	ADO.Section_ 26ab, off continuously, Internal doors; Open daytime
Block 8_Plot 163_ 1F_DBL Bedroom 2	17.04	0.4	1.09, 0.79, 1.65	80.0, 80.0, 80.0	22.57	ADO.Section_ 26ab, off continuously, Internal doors; Open daytime
Block 8_Plot 164_ 1F_Kitchen/Living(2bed)	42.07	0.4, 0.4, 0.4	1.09, 0.79, 1.6, 1.68, 2.11, 1.1, 0.59	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	24.83	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_Plot 164_ 1F_DBL Bedroom 1	40.04	0.4	1.49, 1.09, 0.76, 1.6, 1.6	80.0, 80.0, 80.0, 80.0, 80.0	39.7	ADO.Section_ 26ab, off continuously, Internal doors; Open daytime
Block 8_Plot 164_ 1F_DBL Bedroom 2	36.56	0.4	1.49, 1.1, 0.76, 1.6	80.0, 80.0, 80.0, 80.0	33.28	ADO.Section_ 26ab, off continuously, Internal doors; Open daytime
Block 12_Plot 317_1F_Kitchen/Living(2 bed)	18.0	0.4, 0.4, 0.4	0.99, 2.18, 1.58, 1.02, 0.56, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0	24.36	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 12_Plot 317_1F_DBL Bedroom 2	17.22	0.4	1.09, 0.79, 1.6	80.0, 80.0, 80.0	22.93	ADO.Section_ 26ab, off continuously, Internal doors; Open daytime
Block 12_Plot 317_1F_DBL Bedroom 1	36.82	0.4	1.46, 1.06, 0.76, 1.6, 1.6	80.0, 80.0, 80.0, 80.0, 80.0	39.36	ADO.Section_ 26ab, off continuously, Internal doors; Open daytime
Block 12_Plot 318_1F_Kitchen/Living(2 Bed)	23.98	0.4, 0.4, 0.4	1.87, 1.87, 0.82, 0.59, 1.09, 0.79, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	23.38	off continuously, ADO.Section_ 26a, Internal doors; Open daytime

Room name	Window to wall ratio %	Window g-value (EN410)	Opening gross area m²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block 12_Plot 318_1F_DBL Bedroom 1	45.45	0.4	1.46, 1.06, 0.76, 1.6, 1.6	80.0, 80.0, 80.0, 80.0, 80.0	37.06	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 12_Plot 318_1F_DBL Bedroom 2	22.95	0.4	1.09, 0.79, 1.6	80.0, 80.0, 80.0	23.14	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 13_Plot 353_1F_Kitchen/Living (2 Bed)	18.37	0.4, 0.4, 0.4	2.12, 1.68, 0.99, 0.69, 0.96, 1.8	80.0, 80.0, 80.0, 80.0, 80.0, 80.0	25.5	off continuously, ADO.Section_26a, Internal doors; Open daytime
Block 13_Plot 353_1F_DBL Bedroom 2	17.72	0.4	1.13, 0.79, 1.8	80.0, 80.0, 80.0	22.98	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 13_Plot 353_1F_DBL Bedroom 1	34.62	0.4	1.46, 1.06, 0.76, 1.8	80.0, 80.0, 80.0, 80.0	25.01	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 13_Plot 354_2F_Kitchen/Living (2 Bed)	18.56	0.4, 0.4, 0.4	2.12, 1.68, 0.99, 0.69, 0.96, 1.8	80.0, 80.0, 80.0, 80.0, 80.0, 80.0	25.5	off continuously, ADO.Section_26a, Internal doors; Open daytime
Block 13_Plot 354_2F_DBL Bedroom 2	17.9	0.4	1.13, 0.79, 1.8	80.0, 80.0, 80.0	22.98	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 13_Plot 354_2F_DBL Bedroom 1	34.99	0.4	1.46, 1.06, 0.76, 1.8	80.0, 80.0, 80.0, 80.0	25.01	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 8_Plot 159_ GF_Kitchen/Living (2bed)	26.63	0.4, 0.4, 0.4	1.0, 0.76, 0.97, 1.03, 2.11, 1.68, 1.68, 1.65	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	35.72	off continuously, ADO.Section_26a, Internal doors; Open daytime
Block 8_Plot 159_ GF_DBL Bedroom 1	27.73	0.4	1.49, 1.09, 0.76, 1.65, 1.65	80.0, 80.0, 80.0, 80.0, 80.0	38.92	off continuously, ADO.Section_26a, Internal doors; Open daytime
Block 8_Plot 159_ GF_DBL Bedroom 2	16.64	0.4	1.09, 0.79, 1.65	80.0, 80.0, 80.0	22.57	off continuously, ADO.Section_26a, Internal doors; Open daytime
Block 8_Plot 160_ GF_Kitchen/Living (2bed)	41.1	0.4, 0.4, 0.4	1.09, 0.79, 1.6, 2.11, 1.68, 1.1, 0.59	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	24.83	off continuously, ADO.Section_26a, Internal doors; Open daytime
Block 8_Plot 160_ GF_DBL Bedroom 1	39.12	0.4	1.49, 1.09, 0.76, 1.6, 1.6	80.0, 80.0, 80.0, 80.0, 80.0	39.7	off continuously, ADO.Section_26a, Internal doors; Open daytime

Room name	Window to wall ratio %	Window g-value (EN410)	Opening gross area m²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block 8_Plot 160_GF_DBL Bedroom 2	35.71	0.4	1.49, 1.1, 0.76, 1.6	80.0, 80.0, 80.0, 80.0	33.28	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_Plot 161_GF_Kitchen/Living (2bed)	38.54	0.4, 0.4	1.13, 0.79, 1.13, 0.79, 1.65, 2.11, 1.68, 1.68	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	31.17	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_Plot 161_GF_DBL Bedroom 2	46.19	0.4	1.45, 1.12, 0.78, 1.65	80.0, 80.0, 80.0, 80.0	31.47	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_Plot 161_GF_DBL Bedroom 1	19.44	0.4	2.06, 1.04, 0.72, 1.4, 1.65	80.0, 80.0, 80.0, 80.0, 80.0	42.44	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_Plot 162_GF_Kitchen/Living (2bed)	26.78	0.4, 0.4, 0.4	1.03, 0.78, 1.02, 0.99, 2.11, 1.68, 1.68, 1.7	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	36.12	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_Plot 162_GF_DBL Bedroom 2	17.12	0.4	1.13, 0.79, 1.6	80.0, 80.0, 80.0	22.69	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_Plot 162_GF_DBL Bedroom 1	28.68	0.4	1.45, 1.12, 0.78, 1.6, 1.6	80.0, 80.0, 80.0, 80.0, 80.0	39.91	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_2F_Plot 170_Kitchen/Living (2 Bed)	33.58	0.4, 0.4, 0.4	1.68, 2.11, 1.69, 1.13, 0.79, 1.13, 0.79, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	31.23	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_2F_Plot 170_Bedroom 2	39.4	0.4	1.45, 1.12, 0.78, 1.6	80.0, 80.0, 80.0, 80.0	30.82	ADO.Section_ 26ab, off continuously, Internal doors; Open daytime
Block 8_2F_Plot 170_Bedroom 1	16.86	0.4	2.06, 1.04, 0.72, 1.6, 1.6	80.0, 80.0, 80.0, 80.0, 80.0	43.64	ADO.Section_ 26ab, off continuously, Internal doors; Open daytime
Block 8_2F_Plot 171_Kitchen/Living (1 Bed)	35.14	0.4, 0.4, 0.4	1.13, 0.79, 1.68, 2.11, 1.1, 0.59, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	28.55	off continuously, ADO.Section_ 26a, Internal doors; Open daytime
Block 8_2F_Plot 171_Bedroom 1	34.09	0.4	1.49, 1.1, 0.76, 1.6	80.0, 80.0, 80.0, 80.0	28.23	ADO.Section_ 26ab, off continuously, Internal doors; Open daytime
Block 12_Plot 322_2F_Kitchen/Living (2Bed)	24.26	0.4, 0.4, 0.4, 0.4	1.0, 1.0, 2.18, 1.58, 1.02, 0.56, 1.0, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	31.2	off continuously, ADO.Section_ 26a, Internal doors; Open daytime

Room name	Window to wall ratio %	Window g-value (EN410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block 12_Plot 322_2F_Bedroom 2	16.73	0.4	1.09, 0.79, 1.6	80.0, 80.0, 80.0	21.27	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 12_Plot 322_2F_Bedroom 1	45.14	0.4	1.46, 1.06, 0.76, 1.6, 1.6	80.0, 80.0, 80.0, 80.0, 80.0	39.21	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 13_Plot 356_1F_Living/Kitchen (2 Bed)	30.95	0.4, 0.4, 0.4, 0.4	2.06, 1.04, 0.72, 2.12, 1.68, 0.99, 0.69, 1.13, 0.79, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	30.62	off continuously, ADO.Section_26a, Internal doors; Open daytime
Block 13_Plot 356_1F_Bedroom 2	29.87	0.4	1.13, 0.79, 1.6	80.0, 80.0, 80.0	21.91	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 13_Plot 356_1F_Bedroom 1	46.38	0.4	1.46, 1.06, 0.76, 1.6	80.0, 80.0, 80.0, 80.0	30.76	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 13_Plot 359_2F_Bedroom 1	25.68	0.4	1.46, 1.06, 0.76, 1.6	80.0, 80.0, 80.0, 80.0	25.55	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 13_Plot 359_2F_Living/Kitchen (1 Bed)	32.13	0.4, 0.4, 0.4, 0.4	1.0, 1.46, 1.06, 0.76, 2.12, 1.68, 0.99, 0.69, 1.0, 1.8	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	40.96	off continuously, ADO.Section_26a, Internal doors; Open daytime
Block 13_Plot 358_2F_Living/Kitchen (2 Bed)	31.27	0.4, 0.4, 0.4, 0.4	2.06, 1.04, 0.72, 2.12, 1.68, 0.99, 0.69, 1.13, 0.79, 1.6	80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0, 80.0	30.62	off continuously, ADO.Section_26a, Internal doors; Open daytime
Block 13_Plot 358_2F_Bedroom 2	30.18	0.4	1.13, 0.79, 1.6	80.0, 80.0, 80.0	21.91	ADO.Section_26ab, off continuously, Internal doors; Open daytime
Block 13_Plot 358_2F_Bedroom 1	46.86	0.4	1.46, 1.06, 0.76, 1.6	80.0, 80.0, 80.0, 80.0	30.76	ADO.Section_26ab, off continuously, Internal doors; Open daytime

APPENDIX C – Results

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. occupied hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion (a) check
Block 12_Plot 314_GF_Kitchen/Living(2bed)	1989	17	0.9	Pass
Block 12_Plot 314_GF_DBL Bedroom 2	3672	19	0.5	Pass
Block 12_Plot 314_GF_DBL Bedroom 1	3672	20	0.5	Pass
Block 12_Plot 315_GF_Kitchen/Living(2Bed)	1989	20	1.0	Pass
Block 12_Plot 315_GF_DBL Bedroom 1	3672	29	0.8	Pass
Block 12_Plot 315_GF_DBL Bedroom 2	3672	22	0.6	Pass
Block 12_Plot 316_GF_Kitchen/Living (1 bed)	1989	21	1.1	Pass
Block 12_Plot 316_GF_DBL Bedroom 1	3672	14	0.4	Pass
Block 13_Plot 352_GF_Kitchen/Living (1 Bed)	1989	15	0.8	Pass
Block 13_Plot 352_GF_DBL Bedroom 1	3672	6	0.2	Pass
Block 13_Plot 355_GF_Kitchen/Living (2 Bed)	1989	26	1.3	Pass
Block 13_Plot 355_GF_DBL Bedroom 2	3672	25	0.7	Pass
Block 13_Plot 355_GF_DBL Bedroom 1	3672	34	0.9	Pass
Block 8_Plot 163_1F_Kitchen/Living(2bed)	1989	29	1.5	Pass
Block 8_Plot 163_1F_DBL Bedroom 1	3672	19	0.5	Pass
Block 8_Plot 163_1F_DBL Bedroom 2	3672	15	0.4	Pass
Block 8_Plot 164_1F_Kitchen/Living(2bed)	1989	21	1.1	Pass
Block 8_Plot 164_1F_DBL Bedroom 1	3672	21	0.6	Pass
Block 8_Plot 164_1F_DBL Bedroom 2	3672	26	0.7	Pass
Block 12_Plot 317_1F_Kitchen/Living(2bed)	1989	14	0.7	Pass
Block 12_Plot 317_1F_DBL Bedroom 2	3672	16	0.4	Pass
Block 12_Plot 317_1F_DBL Bedroom 1	3672	20	0.5	Pass
Block 12_Plot 318_1F_Kitchen/Living(2Bed)	1989	20	1.0	Pass
Block 12_Plot 318_1F_DBL Bedroom 1	3672	22	0.6	Pass
Block 12_Plot 318_1F_DBL Bedroom 2	3672	21	0.6	Pass

Room name	Occupied hours	No. occupied hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion (a) check
Block 13_Plot 353_1F_Kitchen/Living (2 Bed)	1989	16	0.8	Pass
Block 13_Plot 353_1F_DBL Bedroom 2	3672	10	0.3	Pass
Block 13_Plot 353_1F_DBL Bedroom 1	3672	23	0.6	Pass
Block 13_Plot 354_2F_Kitchen/Living (2 Bed)	1989	22	1.1	Pass
Block 13_Plot 354_2F_DBL Bedroom 2	3672	17	0.5	Pass
Block 13_Plot 354_2F_DBL Bedroom 1	3672	15	0.4	Pass
Block 8_Plot 159_ GF_Kitchen/Living(2bed)	1989	25	1.3	Pass
Block 8_Plot 159_ GF_DBL Bedroom 1	3672	25	0.7	Pass
Block 8_Plot 159_ GF_DBL Bedroom 2	3672	18	0.5	Pass
Block 8_Plot 160_ GF_Kitchen/Living(2bed)	1989	26	1.3	Pass
Block 8_Plot 160_ GF_DBL Bedroom 1	3672	23	0.6	Pass
Block 8_Plot 160_ GF_DBL Bedroom 2	3672	35	1.0	Pass
Block 8_Plot 161_GF_Kitchen/Living(2bed)	1989	29	1.5	Pass
Block 8_Plot 161_GF_DBL Bedroom 2	3672	30	0.8	Pass
Block 8_Plot 161_GF_DBL Bedroom 1	3672	23	0.6	Pass
Block 8_Plot 162_GF_Kitchen/Living(2bed)	1989	30	1.5	Pass
Block 8_Plot 162_GF_DBL Bedroom 2	3672	23	0.6	Pass
Block 8_Plot 162_GF_DBL Bedroom 1	3672	25	0.7	Pass
Block 8_2F_Plot 170_Kitchen/Living (2 Bed)	1989	29	1.5	Pass
Block 8_2F_Plot 170_Bedroom 2	3672	29	0.8	Pass
Block 8_2F_Plot 170_Bedroom 1	3672	25	0.7	Pass
Block 8_2F_Plot 171_Kitchen/Living (1 Bed)	1989	27	1.4	Pass
Block 8_2F_Plot 171_Bedroom 1	3672	26	0.7	Pass
Block 12_Plot 322_2F_Kitchen/Living(2Bed)	1989	30	1.5	Pass
Block 12_Plot 322_2F_Bedroom 2	3672	26	0.7	Pass
Block 12_Plot 322_2F_Bedroom 1	3672	33	0.9	Pass
Block 13_Plot 356_1F_Living/Kitchen (2 Bed)	1989	20	1.0	Pass
Block 13_Plot 356_1F_Bedroom 2	3672	22	0.6	Pass
Block 13_Plot 356_1F_Bedroom 1	3672	26	0.7	Pass

Room name	Occupied hours	No. occupied hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion (a) check
Block 13_Plot 359_2F_Bedroom 1	3672	25	0.7	Pass
Block 13_Plot 359_2F_Living/Kitchen (1 Bed)	1989	43	2.2	Pass
Block 13_Plot 358_2F_Living/Kitchen (2 Bed)	1989	26	1.3	Pass
Block 13_Plot 358_2F_Bedroom 2	3672	26	0.7	Pass
Block 13_Plot 358_2F_Bedroom 1	3672	34	0.9	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 failure).

Room name	No. hours $> 26^\circ\text{C}$ 22:00-24:00	No. hours $> 26^\circ\text{C}$ 00:00-07:00	Total hours $> 26^\circ\text{C}$	Criterion (b) check
Block 12_Plot 314_GF_Kitchen/Living(2bed)	N/A	N/A	N/A	N/A
Block 12_Plot 314_GF_DBL Bedroom 2	12	18	30	Pass
Block 12_Plot 314_GF_DBL Bedroom 1	13	19	32	Pass
Block 12_Plot 315_GF_Kitchen/Living(2Bed)	N/A	N/A	N/A	N/A
Block 12_Plot 315_GF_DBL Bedroom 1	12	20	32	Pass
Block 12_Plot 315_GF_DBL Bedroom 2	11	19	30	Pass
Block 12_Plot 316_GF_Kitchen/Living (1 bed)	N/A	N/A	N/A	N/A
Block 12_Plot 316_GF_DBL Bedroom 1	12	16	28	Pass
Block 13_Plot 352_GF_Kitchen/Living (1 Bed)	N/A	N/A	N/A	N/A
Block 13_Plot 352_GF_DBL Bedroom 1	12	14	26	Pass
Block 13_Plot 355_GF_Kitchen/Living (2 Bed)	N/A	N/A	N/A	N/A
Block 13_Plot 355_GF_DBL Bedroom 2	13	18	31	Pass
Block 13_Plot 355_GF_DBL Bedroom 1	13	19	32	Pass
Block 8_Plot 163_ 1F_Kitchen/Living(2bed)	N/A	N/A	N/A	N/A
Block 8_Plot 163_ 1F_DBL Bedroom 1	10	7	17	Pass
Block 8_Plot 163_ 1F_DBL Bedroom 2	9	7	16	Pass
Block 8_Plot 164_ 1F_Kitchen/Living(2bed)	N/A	N/A	N/A	N/A
Block 8_Plot 164_ 1F_DBL Bedroom 1	10	7	17	Pass
Block 8_Plot 164_1F_DBL Bedroom 2	10	7	17	Pass
Block 12_Plot 317_1F_Kitchen/Living(2bed)	N/A	N/A	N/A	N/A

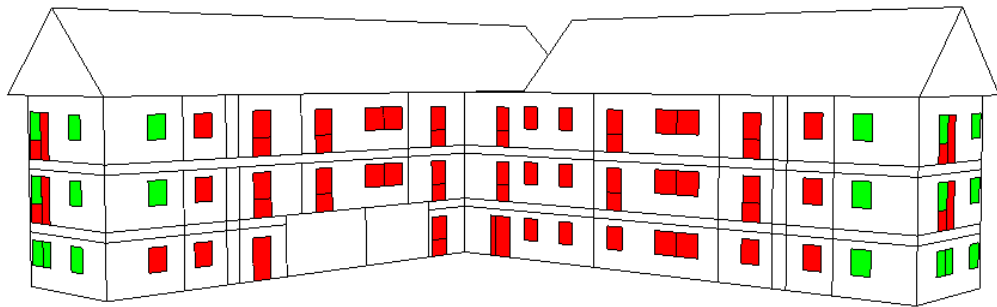
Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion (b) check
Block 12_Plot 317_1F_DBL Bedroom 2	10	6	16	Pass
Block 12_Plot 317_1F_DBL Bedroom 1	10	7	17	Pass
Block 12_Plot 318_1F_Kitchen/Living (2Bed)	N/A	N/A	N/A	N/A
Block 12_Plot 318_1F_DBL Bedroom 1	10	7	17	Pass
Block 12_Plot 318_1F_DBL Bedroom 2	10	6	16	Pass
Block 13_Plot 353_1F_Kitchen/Living (2 Bed)	N/A	N/A	N/A	N/A
Block 13_Plot 353_1F_DBL Bedroom 2	10	4	14	Pass
Block 13_Plot 353_1F_DBL Bedroom 1	13	5	18	Pass
Block 13_Plot 354_2F_Kitchen/Living (2 Bed)	N/A	N/A	N/A	N/A
Block 13_Plot 354_2F_DBL Bedroom 2	11	4	15	Pass
Block 13_Plot 354_2F_DBL Bedroom 1	12	7	19	Pass
Block 8_Plot 159_ GF_Kitchen/Living(2bed)	N/A	N/A	N/A	N/A
Block 8_Plot 159_ GF_DBL Bedroom 1	10	19	29	Pass
Block 8_Plot 159_ GF_DBL Bedroom 2	10	19	29	Pass
Block 8_Plot 160_ GF_Kitchen/Living(2bed)	N/A	N/A	N/A	N/A
Block 8_Plot 160_ GF_DBL Bedroom 1	13	18	31	Pass
Block 8_Plot 160_ GF_DBL Bedroom 2	15	17	32	Pass
Block 8_Plot 161_GF_Kitchen/Living(2bed)	N/A	N/A	N/A	N/A
Block 8_Plot 161_GF_DBL Bedroom 2	12	20	32	Pass
Block 8_Plot 161_GF_DBL Bedroom 1	10	21	31	Pass
Block 8_Plot 162_GF_Kitchen/Living(2bed)	N/A	N/A	N/A	N/A
Block 8_Plot 162_GF_DBL Bedroom 2	13	19	32	Pass
Block 8_Plot 162_GF_DBL Bedroom 1	12	19	31	Pass
Block 8_2F_Plot 170_Kitchen/Living (2 Bed)	N/A	N/A	N/A	N/A
Block 8_2F_Plot 170_Bedroom 2	13	7	20	Pass
Block 8_2F_Plot 170_Bedroom 1	13	8	21	Pass
Block 8_2F_Plot 171_Kitchen/Living (1 Bed)	N/A	N/A	N/A	N/A
Block 8_2F_Plot 171_Bedroom 1	14	7	21	Pass
Block 12_Plot 322_2F_Kitchen/Living (2 Bed)	N/A	N/A	N/A	N/A
Block 12_Plot 322_2F_Bedroom 2	12	7	19	Pass

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
Block 12_Plot 322_2F_Bedroom 1	13	6	19	Pass
Block 13_Plot 356_1F_Living/Kitchen (2 Bed)	N/A	N/A	N/A	N/A
Block 13_Plot 356_1F_Bedroom 2	11	7	18	Pass
Block 13_Plot 356_1F_Bedroom 1	11	7	18	Pass
Block 13_Plot 359_2F_Bedroom 1	10	6	16	Pass
Block 13_Plot 359_2F_Living/Kitchen (1 Bed)	N/A	N/A	N/A	N/A
Block 13_Plot 358_2F_Living/Kitchen (2 Bed)	N/A	N/A	N/A	N/A
Block 13_Plot 358_2F_Bedroom 2	12	4	16	Pass
Block 13_Plot 358_2F_Bedroom 1	12	6	18	Pass

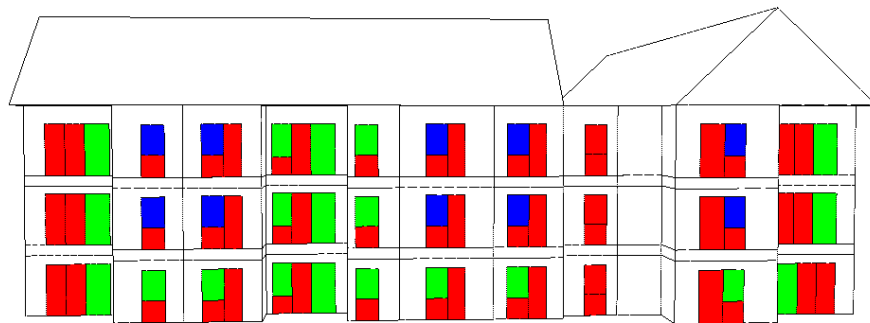
APPENDIX D – Model images

Block 8 MacroFlo opening profile images

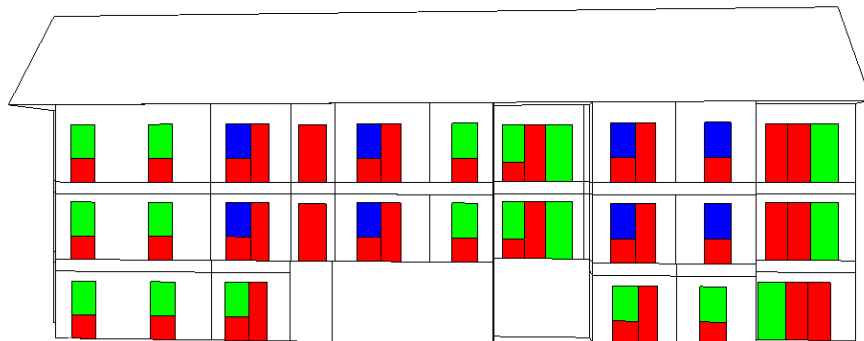
Degree Of Opening Profile
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 ■ SCRP0034: ADO.Section_26a
 ■ SCRP0035: ADO.Section_26ab
 ■ WEEK0037: Internal doors; Open daytime



Degree Of Opening Profile
 ■ OFF: off continuously
 ■ SCRP0034: ADO.Section_26a
 ■ SCRP0035: ADO.Section_26ab
 ■ WEEK0037: Internal doors; Open daytime

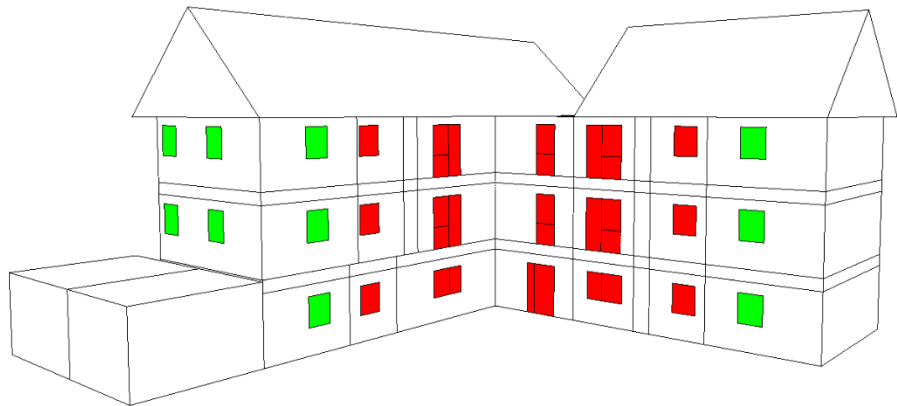


Degree Of Opening Profile
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 ■ SCRP0034: ADO.Section_26a
 ■ SCRP0035: ADO.Section_26ab
 ■ WEEK0037: Internal doors; Open daytime

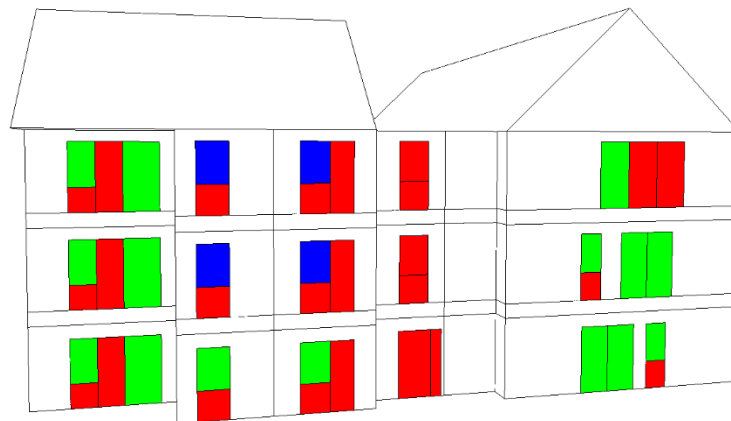


Block 12 MacroFlo opening profile images

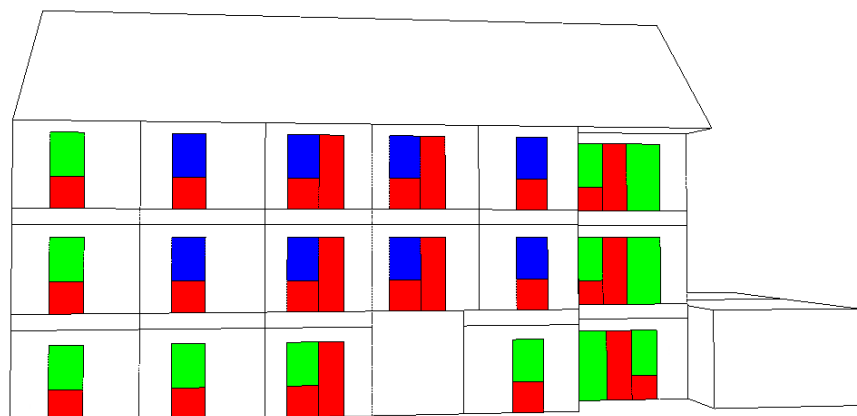
Degree Of Opening Profile
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 ■ SCRP0034: ADO.Section_26a
 ■ SCRP0035: ADO.Section_26ab
 ■ WEEK0037: Internal doors; Open daytime



Degree Of Opening Profile
 ■ OFF: off continuously
 ■ SCRP0034: ADO.Section_26a
 ■ SCRP0035: ADO.Section_26ab
 ■ WEEK0037: Internal doors; Open daytime

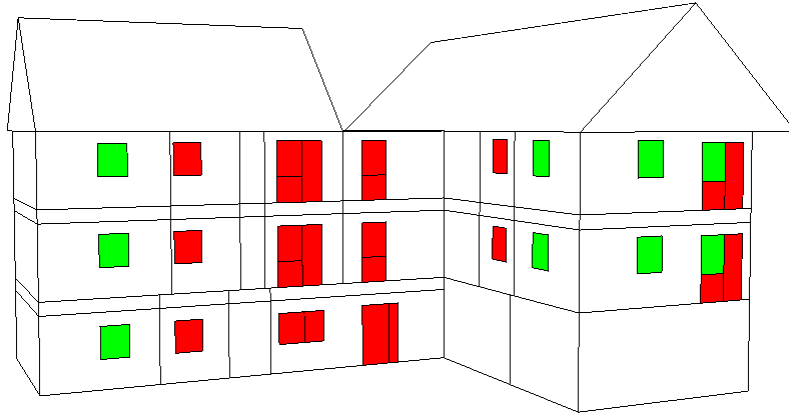


Degree Of Opening Profile
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 ■ SCRP0034: ADO.Section_26a
 ■ SCRP0035: ADO.Section_26ab
 ■ WEEK0037: Internal doors; Open daytime

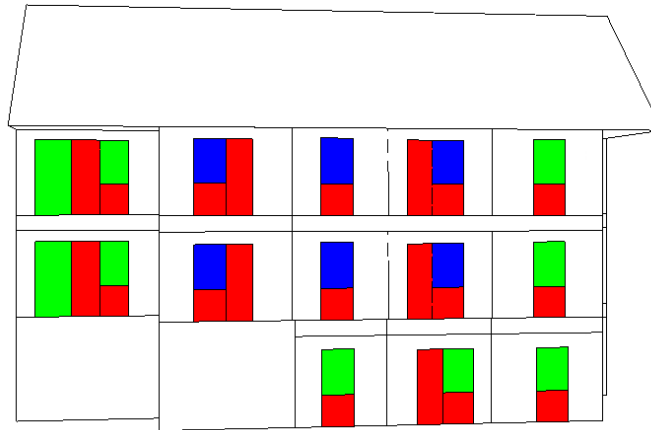


Block 13 MacroFlo opening profile images

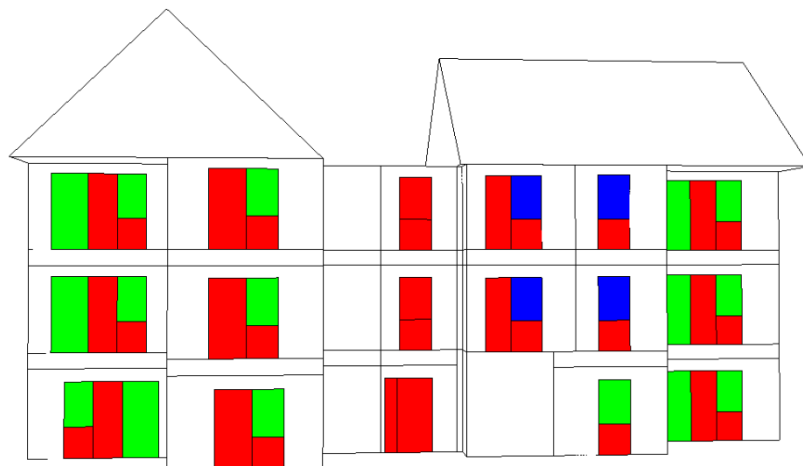
Degree Of Opening Profile
 OFF: off continuously
 SCRP0034: ADO.Section_26a
 SCRP0035: ADO.Section_26ab
 WEEK0037: Internal doors; Open daytime



Degree Of Opening Profile
 OFF: off continuously
 SCRP0034: ADO.Section_26a
 SCRP0035: ADO.Section_26ab
 WEEK0037: Internal doors; Open daytime



Degree Of Opening Profile
 OFF: off continuously
 SCRP0034: ADO.Section_26a
 SCRP0035: ADO.Section_26ab
 WEEK0037: Internal doors; Open daytime



CIBSE TM59 thermal template images

Block 8

- Thermal Template
- TM59 - 2 Bedroom - Living / Kitchen
 - TM59 - Bathroom
 - TM59 - Circulation - Corridors
 - TM59 - Circulation - in flats
 - TM59 - Double Bedroom - Two Bedroom flat
 - TM59 - En-suite
 - TM59 - Stairs
 - TM59 - Store

Level 00



- Thermal Template
- TM59 - 1 Bedroom - Living / Kitchen
 - TM59 - 2 Bedroom - Living / Kitchen
 - TM59 - Bathroom
 - TM59 - Circulation - Corridors
 - TM59 - Circulation - in flats
 - TM59 - Double Bedroom - One Bedroom flat
 - TM59 - Double Bedroom - Two Bedroom flat
 - TM59 - En-suite
 - TM59 - Stairs
 - TM59 - Store

Level 01



- Thermal Template
- TM59 - 1 Bedroom - Living / Kitchen
 - TM59 - 2 Bedroom - Living / Kitchen
 - TM59 - Bathroom
 - TM59 - Circulation - Corridors
 - TM59 - Circulation - in flats
 - TM59 - Double Bedroom - One Bedroom flat
 - TM59 - Double Bedroom - Two Bedroom flat
 - TM59 - En-suite
 - TM59 - Stairs
 - TM59 - Store

Level 02

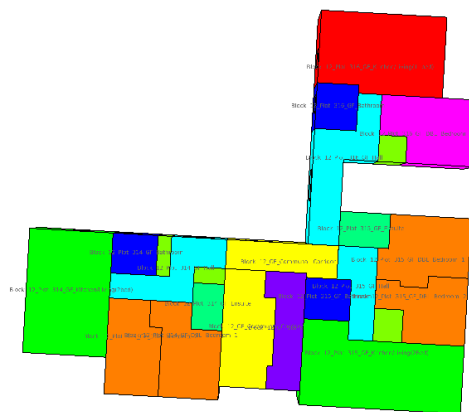


CIBSE TM59 thermal template images

Block 12

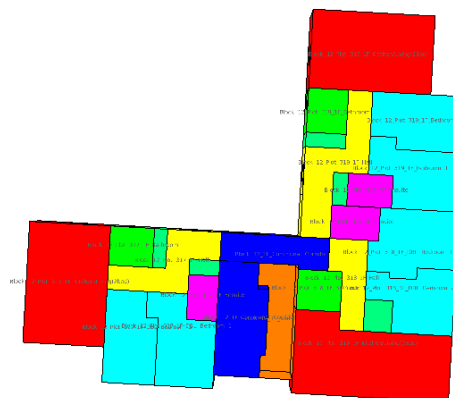
- Thermal Template
- TM59 - 2 Bedroom - Living / Kitchen
 - TM59 - Bathroom
 - TM59 - Circulation - Corridors
 - TM59 - Circulation - in flats
 - TM59 - Double Bedroom - Two Bedroom flat
 - TM59 - En-suite
 - TM59 - Stairs
 - TM59 - Store

Level 00



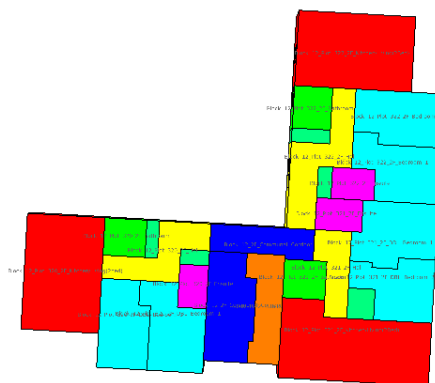
- Thermal Template
- TM59 - 1 Bedroom - Living / Kitchen
 - TM59 - 2 Bedroom - Living / Kitchen
 - TM59 - Bathroom
 - TM59 - Circulation - Corridors
 - TM59 - Circulation - in flats
 - TM59 - Double Bedroom - One Bedroom flat
 - TM59 - Double Bedroom - Two Bedroom flat
 - TM59 - En-suite
 - TM59 - Stairs
 - TM59 - Store

Level 01



- Thermal Template
- TM59 - 1 Bedroom - Living / Kitchen
 - TM59 - 2 Bedroom - Living / Kitchen
 - TM59 - Bathroom
 - TM59 - Circulation - Corridors
 - TM59 - Circulation - in flats
 - TM59 - Double Bedroom - One Bedroom flat
 - TM59 - Double Bedroom - Two Bedroom flat
 - TM59 - En-suite
 - TM59 - Stairs
 - TM59 - Store

Level 02

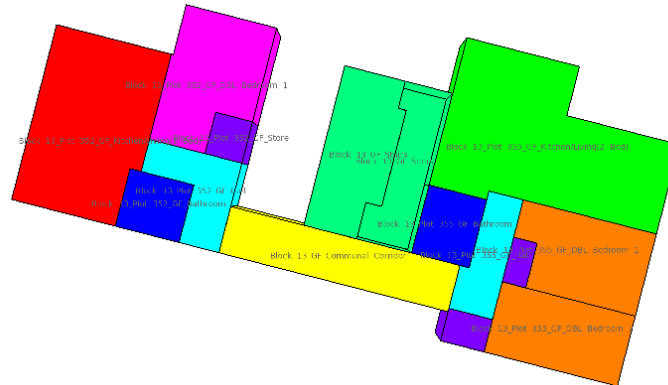


CIBSE TM59 thermal template images

Block 13

- Thermal Template
- TM59 - 2 Bedroom - Living / Kitchen
 - TM59 - Bathroom
 - TM59 - Circulation - Corridors
 - TM59 - Circulation - in flats
 - TM59 - Double Bedroom - Two Bedroom flat
 - TM59 - En-suite
 - TM59 - Stairs
 - TM59 - Store

Level 00



- Thermal Template
- TM59 - 1 Bedroom - Living / Kitchen
 - TM59 - 2 Bedroom - Living / Kitchen
 - TM59 - Bathroom
 - TM59 - Circulation - Corridors
 - TM59 - Circulation - in flats
 - TM59 - Double Bedroom - One Bedroom flat
 - TM59 - Double Bedroom - Two Bedroom flat
 - TM59 - En-suite
 - TM59 - Stairs
 - TM59 - Store

Level 01



- Thermal Template
- TM59 - 1 Bedroom - Living / Kitchen
 - TM59 - 2 Bedroom - Living / Kitchen
 - TM59 - Bathroom
 - TM59 - Circulation - Corridors
 - TM59 - Circulation - in flats
 - TM59 - Double Bedroom - One Bedroom flat
 - TM59 - Double Bedroom - Two Bedroom flat
 - TM59 - En-suite
 - TM59 - Stairs
 - TM59 - Store

Level 02

