



The Delta Building,

121 Kings Road, Reading

Daylight Assessment

(Within the Proposal)

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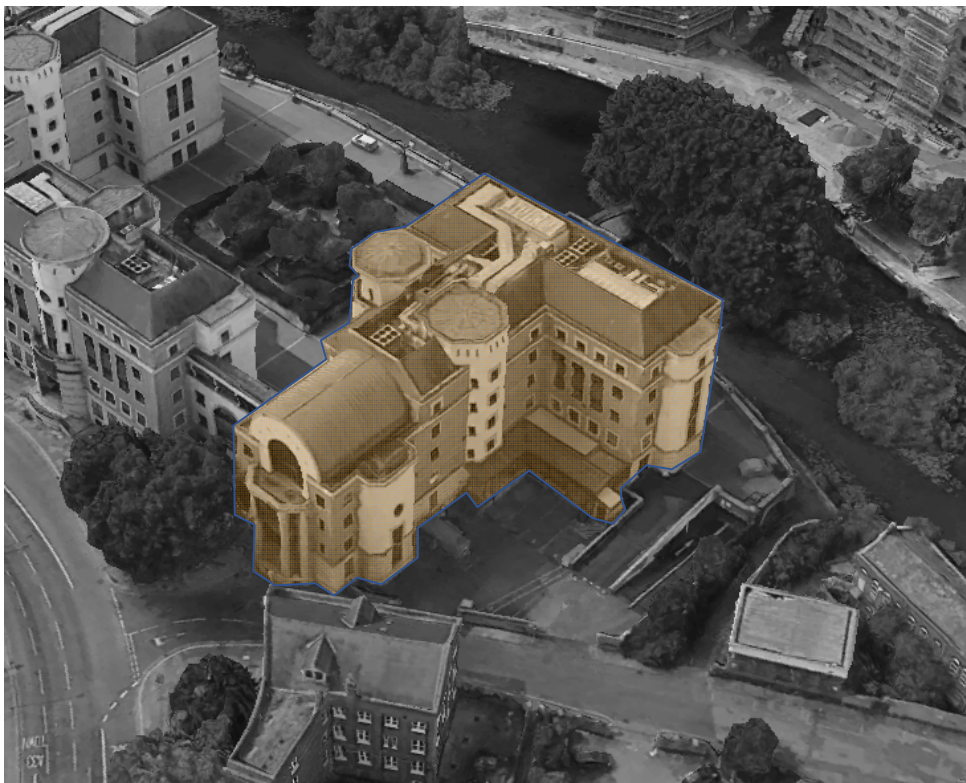
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1.0 Introduction

- 1.1 This internal daylight assessment has been prepared in relation to a Class MA application for the proposed conversion of the site known as The Delta Building, 121 Kings Road, Reading from offices to residential use.
- 1.2 The report assesses the proposals in respect of daylight matters within habitable rooms in the proposed scheme, having regard to industry standard guidance.
- 1.3 The report concludes that the proposal is acceptable and in accordance with planning policy requirements in relation to daylight and sunlight for those rooms and gardens assessed.
- 1.4 There is no existing specific National Planning Policy relating to the prospective impacts of developments on daylight and sunlight on their surrounding environment.
- 1.5 However, the NPPF, 2024 (Para 130(c)) does refer to daylight and sunlight in relation to density, encouraging Local Planning Authorities to take a flexible approach to applying policies and guidance relating to the impacts of proposals where they would otherwise inhibit making effective use of the site.
- 1.6 The BRE Report 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' (3rd Edition, 2022) is the established National guidance to aid the developer to prevent and/or minimise the impact of a new development on the availability of daylight and sunlight in the environs of the site and the assessment of light within proposed new dwellings.
- 1.7 It refers in turn to the daylight and sunlight recommendations in BS EN 17037: 2018+A1:2021 (with UK Annex): 'Daylight in Buildings'
- 1.8 These reference documents are accepted as the authoritative works in the field on daylight, sunlight and overshadowing and the BRE guidance specifically referred to in many Local Authorities' planning policy guidance for daylighting.
- 1.9 The methodology therein has been used in numerous lighting analyses and the standards of permissible reduction in light are accepted as the industry standards.

2.0 Project Summary

- 2.1 The site is a 5-storey office building, sited on Kings Road, Reading
- 2.2 The proposal is for the conversion of the building to residential use, creating 77 self-contained units.
- 2.3 The developer wishes to ensure that the habitable rooms in the new dwellings will receive sufficient daylight, for their intended uses, in excess of the minimum values prescribed by the BRE guidance and BS EN 17037: 2018+A1:2021
- 2.4 2D CAD drawings have been provided to us by the design team. These have been used to construct a 3D analysis model in order to assess the internal daylight levels within each room.
- 2.5 Computer simulation modelling has been used to produce the results, presented below.



Site Location

3.0 Methodology

3.1 The BRE and BS EN 17037 guidance allows for two alternative methods to assess daylight within new dwellings. This report uses the following method:

- Target Daylight Factor (DF_T)

3.2 The DF_T method is a complex and representative calculation to determine natural internal luminance.

3.3 It takes into account such factors as window size, number of windows available to the room, room size and layout, room surface reflectance, and the angle of visible sky reaching the window.

3.4 The calculations have assumed a white ceiling, cream walls and mid-grey carpet or wooden floor using reflectance values taken from the BS EN 170437 Guidance.

3.5 As this is a conversion scheme, it falls under the category of "hard to light" dwellings and therefore an alternative target can be used. The minimum DF_T values for various UK locations and room types are provided below. The targets for London have been used for this site.

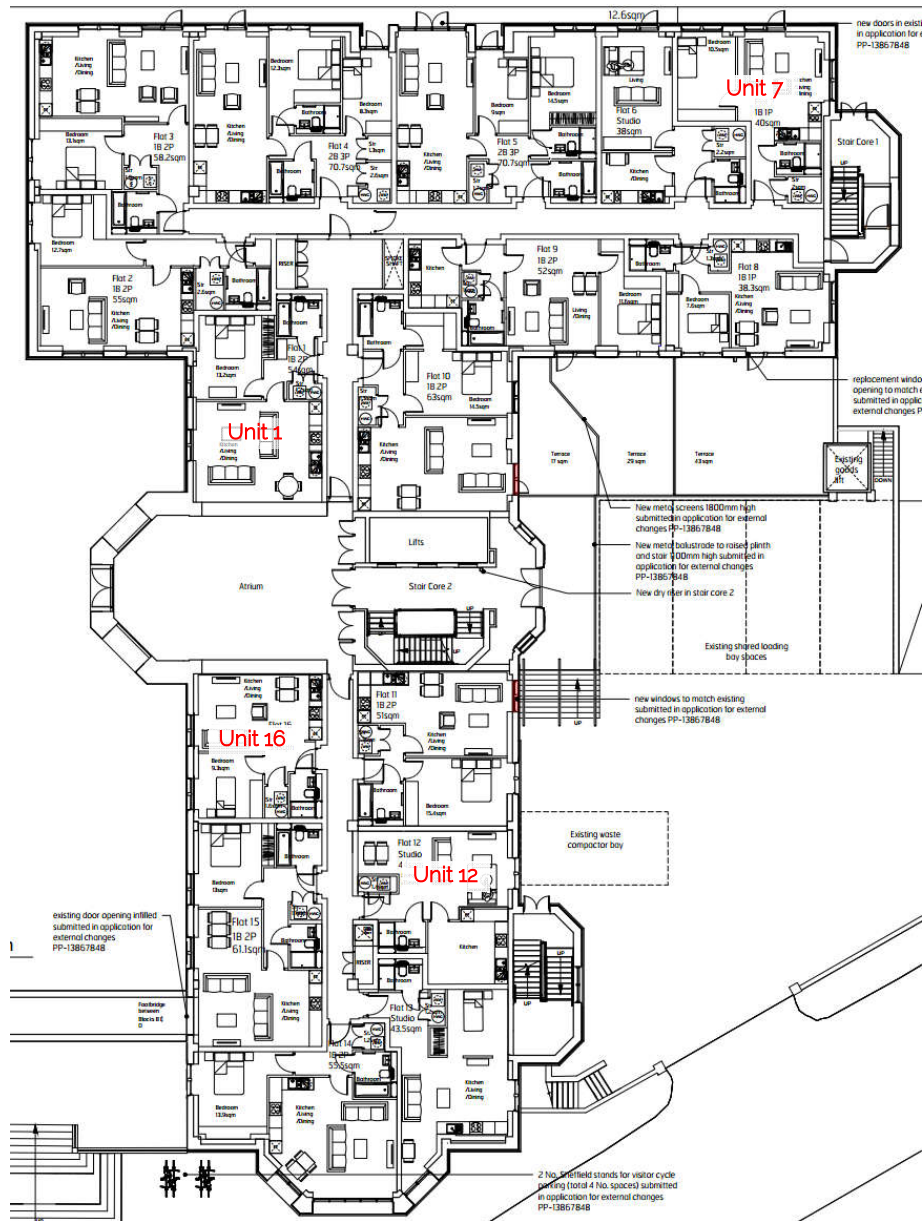
Table C3 – Target daylight factors (D_T) to achieve over at least 50% of the assessment grid in UK domestic habitable rooms with vertical and/or inclined daylight apertures			
Location	D_T for 100 lx (Bedroom)	D_T for 150 lx (Living room)	D_T for 200 lx (Kitchen)
St Peter (Jersey)	0.6%	0.9%	1.2%
London (Gatwick Airport)	0.7%	1.1%	1.4%
Birmingham	0.6%	0.9%	1.2%
Hemsby (Norfolk)	0.6%	0.9%	1.3%
Finningley (Yorkshire)	0.7%	1.0%	1.3%
Aughton (Lancashire)	0.7%	1.1%	1.4%
Belfast	0.7%	1.0%	1.4%
Leuchars (Fife)	0.7%	1.1%	1.4%
Oban	0.8%	1.1%	1.5%
Aberdeen	0.7%	1.1%	1.4%

3.6 It is deemed by the guidance that if the minimum DF criteria are met, then the occupiers of the dwelling will have sufficient daylight.

3.7 As can be seen from the results below that all assessed habitable rooms meet and exceed the minimum levels of internal daylight.

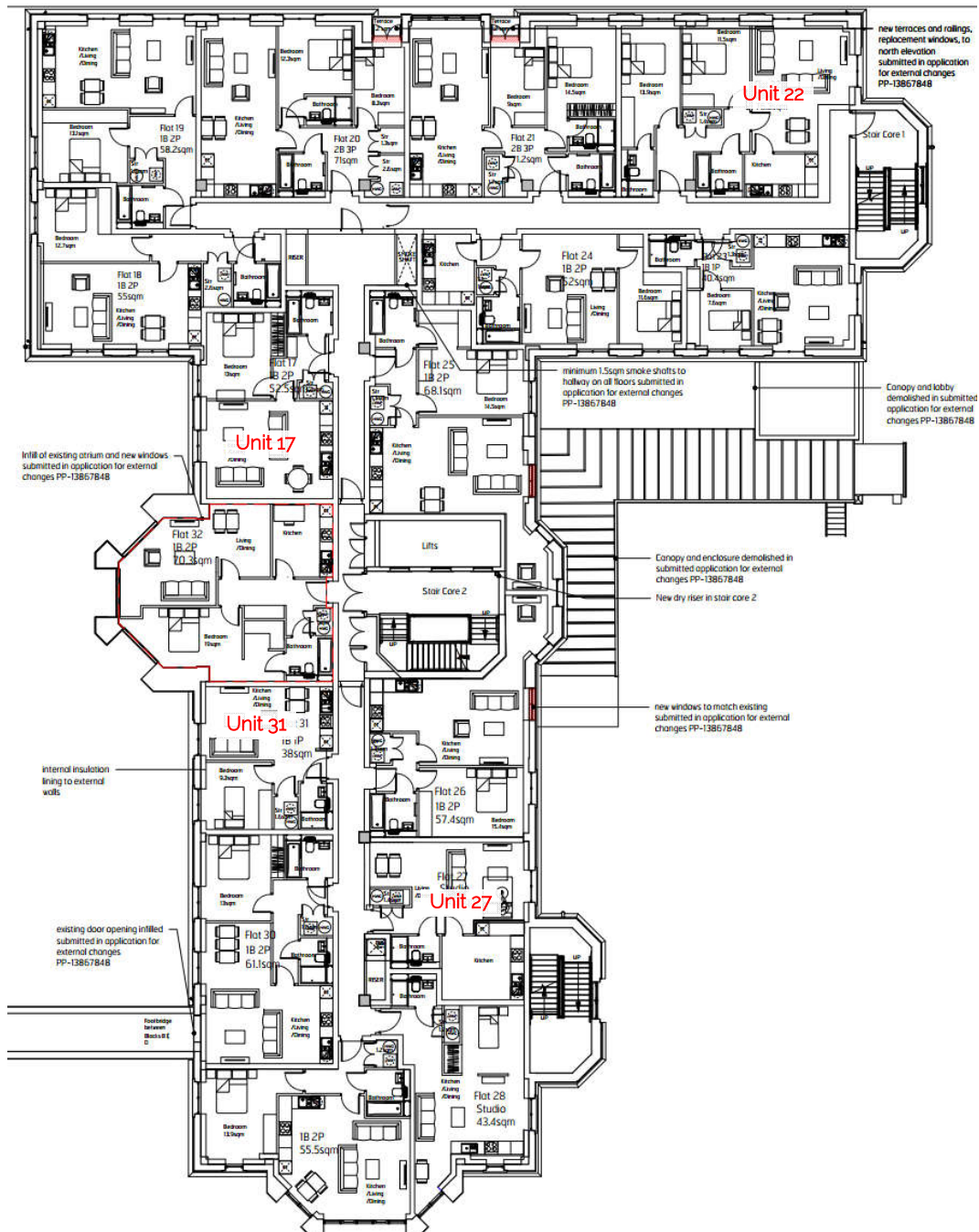
3.8 Note that for clarity, not all units are numbered in the plans shown below.

4.0 Room Schedules



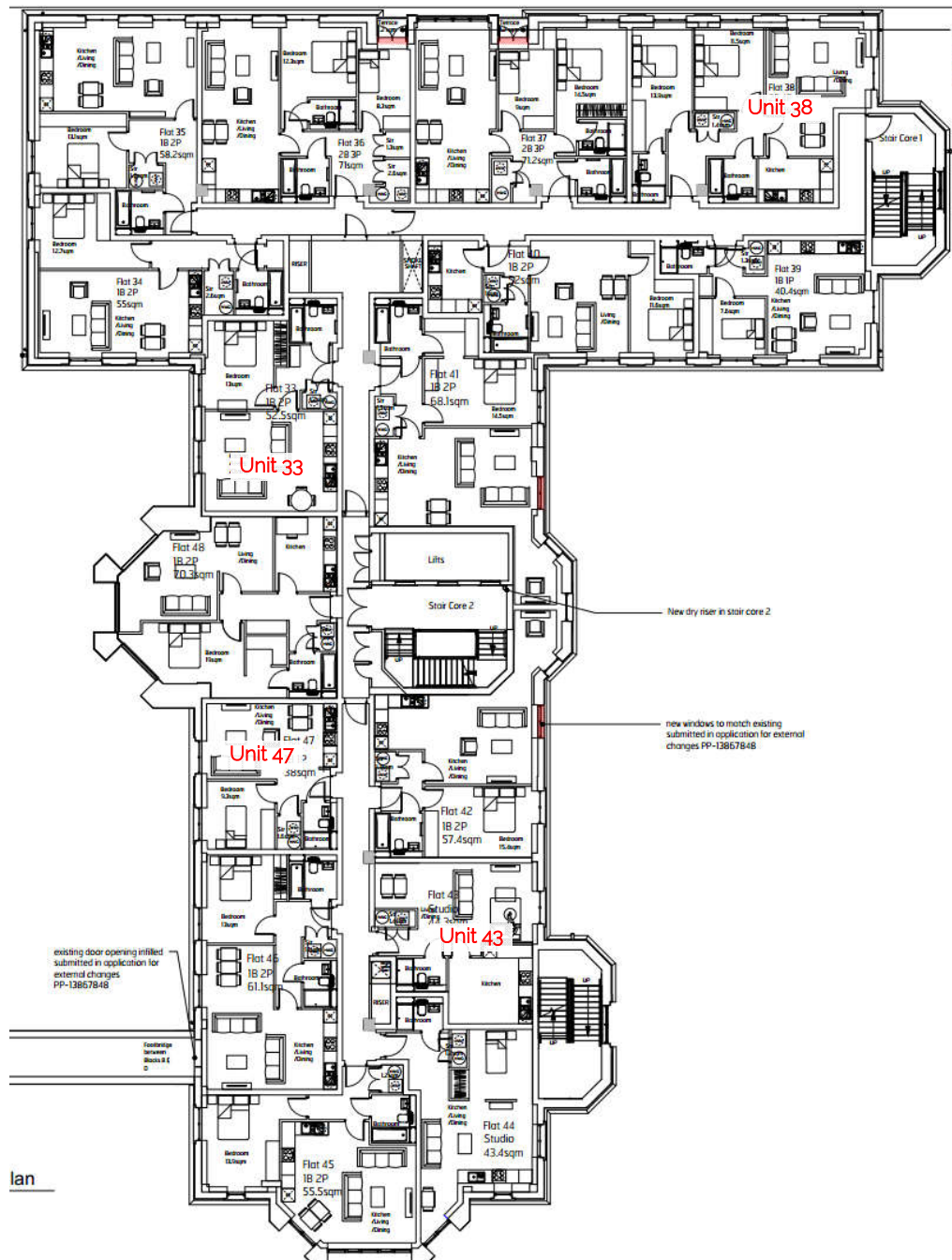
Ground Floor as Proposed

4.0 Room Schedules



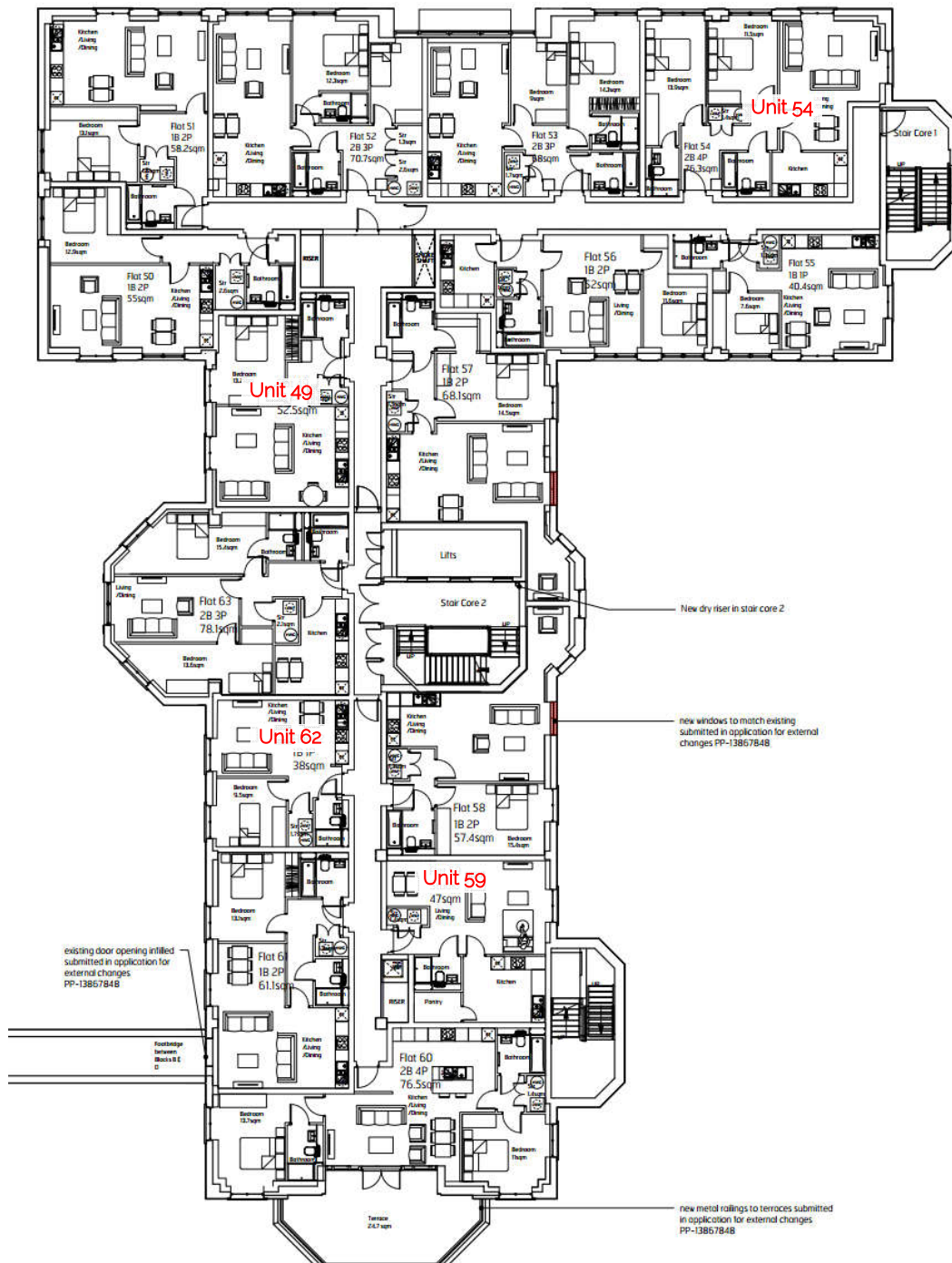
First Floor as Proposed

4.0 Room Schedules



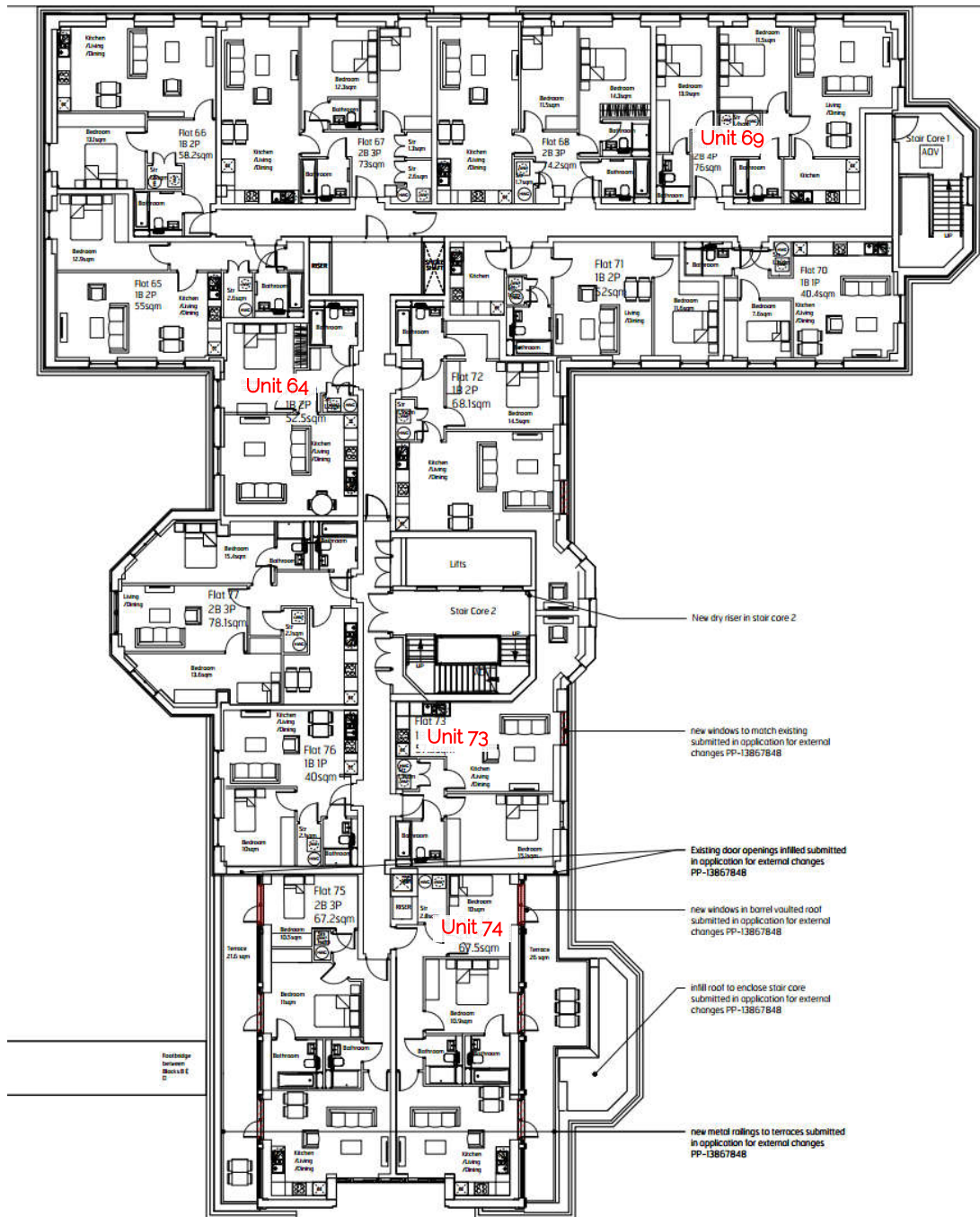
Second Floor as Proposed

4.0 Room Schedules



Third Floor as Proposed

4.0 Room Schedules



Fourth Floor as Proposed

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
1	Kitchen/Living/Dining	1.4%	59.2%	Yes
1	Bedroom 1	0.7%	61.3%	Yes
2	Kitchen/Living/Dining	1.4%	74.5%	Yes
2	Bedroom 1	0.7%	66.2%	Yes
3	Kitchen/Living/Dining	1.4%	75.9%	Yes
3	Bedroom 1	0.7%	68.4%	Yes
4	Kitchen/Living/Dining	1.4%	54.7%	Yes
4	Bedroom 1	0.7%	77.1%	Yes
4	Bedroom 2	0.7%	69.3%	Yes
5	Kitchen/Living/Dining	1.4%	60.2%	Yes
5	Bedroom 1	0.7%	77.2%	Yes
5	Bedroom 2	0.7%	69.7%	Yes
6	Studio	1.1%	62.7%	Yes
7	Kitchen/Living/Dining	1.4%	81.8%	Yes
7	Bedroom 1	0.7%	77.2%	Yes
8	Kitchen/Living/Dining	1.4%	82.4%	Yes
8	Bedroom 1	0.7%	75.9%	Yes
9	Kitchen/Living/Dining	1.4%	58.9%	Yes
9	Bedroom 1	0.7%	71.4%	Yes
10	Kitchen/Living/Dining	1.4%	53.8%	Yes
10	Bedroom 1	0.7%	72.6%	Yes
11	Kitchen/Living/Dining	1.4%	52.1%	Yes
11	Bedroom 1	0.7%	69.7%	Yes
12	Studio	1.1%	53.8%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
13	Studio	1.4%	69.0%	Yes
14	Kitchen/Living/Dining	1.4%	100.0%	Yes
14	Bedroom 1	0.7%	71.7%	Yes
15	Kitchen/Living/Dining	1.4%	52.8%	Yes
15	Bedroom 1	0.7%	69.1%	Yes
16	Kitchen/Living/Dining	1.4%	55.7%	Yes
16	Bedroom 1	0.7%	70.6%	Yes
17	Kitchen/Living/Dining	1.4%	61.8%	Yes
17	Bedroom 1	0.7%	64.0%	Yes
18	Kitchen/Living/Dining	1.4%	77.7%	Yes
18	Bedroom 1	0.7%	69.1%	Yes
19	Kitchen/Living/Dining	1.4%	74.7%	Yes
19	Bedroom 1	0.7%	71.4%	Yes
20	Kitchen/Living/Dining	1.4%	57.1%	Yes
20	Bedroom 1	0.7%	80.4%	Yes
20	Bedroom 2	0.7%	72.3%	Yes
21	Kitchen/Living/Dining	1.4%	62.8%	Yes
21	Bedroom 1	0.7%	80.5%	Yes
21	Bedroom 2	0.7%	72.7%	Yes
22	Kitchen/Living/Dining	1.4%	65.4%	Yes
22	Bedroom 1	0.7%	85.3%	Yes
22	Bedroom 2	0.7%	80.5%	Yes
23	Kitchen/Living/Dining	1.4%	86.0%	Yes
23	Bedroom 1	0.7%	79.2%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
24	Kitchen/Living/Dining	1.4%	61.4%	Yes
24	Bedroom 1	0.7%	74.5%	Yes
25	Kitchen/Living/Dining	1.4%	56.1%	Yes
25	Bedroom 1	0.7%	75.7%	Yes
26	Kitchen/Living/Dining	1.4%	54.4%	Yes
26	Bedroom 1	0.7%	72.7%	Yes
27	Studio	1.1%	55.6%	Yes
28	Studio	1.4%	100.0%	Yes
29	Kitchen/Living/Dining	1.4%	74.8%	Yes
29	Bedroom 1	0.7%	55.1%	Yes
30	Kitchen/Living/Dining	1.4%	72.1%	Yes
30	Bedroom 1	0.7%	58.1%	Yes
31	Kitchen/Living/Dining	1.4%	58.2%	Yes
31	Bedroom 1	0.7%	74.1%	Yes
32	Living/Dining	1.1%	88.4%	Yes
32	Bedroom 1	0.7%	95.9%	Yes
33	Kitchen/Living/Dining	1.4%	63.8%	Yes
33	Bedroom 1	0.7%	66.1%	Yes
34	Kitchen/Living/Dining	1.4%	80.3%	Yes
34	Bedroom 1	0.7%	71.4%	Yes
35	Kitchen/Living/Dining	1.4%	77.2%	Yes
35	Bedroom 1	0.7%	73.7%	Yes
36	Kitchen/Living/Dining	1.4%	59.0%	Yes
36	Bedroom 1	0.7%	83.1%	Yes
36	Bedroom 2	0.7%	74.7%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
37	Kitchen/Living/Dining	1.4%	64.9%	Yes
37	Bedroom 1	0.7%	83.2%	Yes
37	Bedroom 2	0.7%	75.1%	Yes
38	Kitchen/Living/Dining	1.4%	67.6%	Yes
38	Bedroom 1	0.7%	88.2%	Yes
38	Bedroom 2	0.7%	83.2%	Yes
39	Kitchen/Living/Dining	1.4%	88.8%	Yes
39	Bedroom 1	0.7%	81.8%	Yes
40	Kitchen/Living/Dining	1.4%	63.5%	Yes
40	Bedroom 1	0.7%	77.0%	Yes
41	Kitchen/Living/Dining	1.4%	58.0%	Yes
41	Bedroom 1	0.7%	78.3%	Yes
42	Kitchen/Living/Dining	1.4%	56.2%	Yes
42	Bedroom 1	0.7%	75.1%	Yes
43	Studio	1.1%	58.9%	Yes
44	Studio	1.4%	100.0%	Yes
45	Kitchen/Living/Dining	1.4%	77.3%	Yes
45	Bedroom 1	0.7%	56.9%	Yes
46	Kitchen/Living/Dining	1.4%	74.5%	Yes
46	Bedroom 1	0.7%	60.1%	Yes
47	Kitchen/Living/Dining	1.4%	61.1%	Yes
47	Bedroom 1	0.7%	77.0%	Yes
48	Kitchen/Living/Dining	1.4%	91.4%	Yes
48	Bedroom 1	0.7%	99.1%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
49	Kitchen/Living/Dining	1.4%	65.9%	Yes
49	Bedroom 1	0.7%	68.2%	Yes
50	Kitchen/Living/Dining	1.4%	82.9%	Yes
50	Bedroom 1	0.7%	73.7%	Yes
51	Kitchen/Living/Dining	1.4%	79.7%	Yes
51	Bedroom 1	0.7%	76.1%	Yes
52	Kitchen/Living/Dining	1.4%	60.9%	Yes
52	Bedroom 1	0.7%	85.8%	Yes
52	Bedroom 2	0.7%	77.1%	Yes
53	Kitchen/Living/Dining	1.4%	61.6%	Yes
53	Bedroom 1	0.7%	85.9%	Yes
53	Bedroom 2	0.7%	77.6%	Yes
54	Kitchen/Living/Dining	1.4%	69.8%	Yes
54	Bedroom 1	0.7%	91.0%	Yes
54	Bedroom 2	0.7%	85.9%	Yes
55	Kitchen/Living/Dining	1.4%	91.7%	Yes
55	Bedroom 1	0.7%	84.5%	Yes
56	Kitchen/Living/Dining	1.4%	65.6%	Yes
56	Bedroom 1	0.7%	79.5%	Yes
57	Kitchen/Living/Dining	1.4%	59.9%	Yes
57	Bedroom 1	0.7%	80.8%	Yes
58	Kitchen/Living/Dining	1.4%	58.0%	Yes
58	Bedroom 1	0.7%	77.6%	Yes
59	Studio	1.1%	61.0%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
60	Kitchen/Living/Dining	1.4%	92.4%	Yes
60	Bedroom 1	0.7%	100.0%	Yes
60	Bedroom 2	0.7%	100.0%	Yes
61	Kitchen/Living/Dining	1.4%	77.3%	Yes
61	Bedroom 1	0.7%	63.8%	Yes
62	Kitchen/Living/Dining	1.4%	64.1%	Yes
62	Bedroom 1	0.7%	80.9%	Yes
63	Kitchen/Living/Dining	1.4%	75.9%	Yes
63	Bedroom 1	0.7%	89.6%	Yes
63	Bedroom 2	0.7%	81.7%	Yes
64	Kitchen/Living/Dining	1.4%	67.3%	Yes
64	Bedroom 1	0.7%	69.7%	Yes
65	Kitchen/Living/Dining	1.4%	84.7%	Yes
65	Bedroom 1	0.7%	75.2%	Yes
66	Kitchen/Living/Dining	1.4%	81.4%	Yes
66	Bedroom 1	0.7%	77.7%	Yes
67	Kitchen/Living/Dining	1.4%	62.2%	Yes
67	Bedroom 1	0.7%	87.6%	Yes
67	Bedroom 2	0.7%	78.8%	Yes
68	Kitchen/Living/Dining	1.4%	68.4%	Yes
68	Bedroom 1	0.7%	87.7%	Yes
68	Bedroom 2	0.7%	79.2%	Yes
69	Kitchen/Living/Dining	1.4%	71.3%	Yes
69	Bedroom 1	0.7%	93.0%	Yes
69	Bedroom 2	0.7%	87.7%	Yes

5.0 Daylight Results

Minimum Target Daylight Factor				
Unit	Room	Required DF _T Over 50% of Room Area	Area Of Room Receiving Required DF _T	Meets Standards?
70	Kitchen/Living/Dining	1.4%	93.7%	Yes
70	Bedroom 1	0.7%	86.3%	Yes
71	Kitchen/Living/Dining	1.4%	66.9%	Yes
71	Bedroom 1	0.7%	81.2%	Yes
72	Kitchen/Living/Dining	1.4%	61.1%	Yes
72	Bedroom 1	0.7%	82.5%	Yes
73	Kitchen/Living/Dining	1.4%	79.2%	Yes
73	Bedroom 1	0.7%	56.8%	Yes
74	Kitchen/Living/Dining	1.4%	83.9%	Yes
74	Bedroom 1	0.7%	100.0%	Yes
74	Bedroom 2	0.7%	100.0%	Yes
75	Kitchen/Living/Dining	1.4%	83.2%	Yes
75	Bedroom 1	0.7%	97.9%	Yes
75	Bedroom 2	0.7%	100.0%	Yes
76	Kitchen/Living/Dining	1.4%	65.5%	Yes
76	Bedroom 1	0.7%	82.6%	Yes
77	Kitchen/Living/Dining	1.4%	77.5%	Yes
77	Bedroom 1	0.7%	91.5%	Yes
77	Bedroom 2	0.7%	83.4%	Yes

6.0 Conclusions

- 6.1 The proposed conversion of the site known as The Delta Building, Reading, has been assessed for internal daylight levels using the Target Daylight Factor (DF_T) as prescribed by the BRE guidance and BS EN 17037:2018.
- 6.2 The design team has endeavoured to ensure that the proposed habitable rooms have levels of natural light in excess of the minimum standards prescribed by the standards.
- 6.3 This has been successfully achieved, as demonstrated by the positive results presented within this report.
- 6.4 The assessed rooms meet the recommendations using the DF_T test for daylight.
- 6.5 This means the future occupants will enjoy a well-lit environment, with reduced reliance on artificial lighting and useable external spaces.
- 6.6 It is therefore the conclusion of this report that the proposals meet the guidance levels for daylight and sunlight and are therefore acceptable in planning terms.



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