



Unit 32, Swanley Centre

Daylight Assessment

Prepared for: Sheet Anchor Evolve (London) Ltd

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1 Introduction

1.1 Introduction

- 1.1.1 Erban Consulting Limited was instructed by Sheet Anchor Evolve (London) Limited to prepare a daylight assessment for the proposed development at Unit 32, Swanley Centre, Swanley, Kent, BR8 7TQ.
- 1.1.2 The purpose of this report is to assess the daylight levels of the proposed new dwellings in accordance with guidance set out in *BRE Report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice, Third Edition, 2022 (BR 209)*.

1.2 Development Description

- 1.2.1 Conversion of the existing building from offices to 5 flats.

1.3 3D Model

- 1.3.1 A 3D model of the proposed development and existing nearby buildings, as shown in Figure 1, has been prepared using the following information:
- Building survey drawings prepared by Arena Property Services Limited.
 - A photogrammetric 3D model of the existing nearby buildings and terrain provided by Bluesky International Ltd.
 - Drawings of the proposed application prepared by Eady Architecture.
- 1.3.2 There is a current application for an upward extension at Swanley Centre. This has been included in the 3D model because it is recognised that this extension, if it is approved and built, would have an impact on the daylight levels of the 5 proposed flats.
- 1.3.3 Velux Daylight Visualizer, a program specifically developed to assess 3D models in accordance with guidance provided in BR 209, has been used.

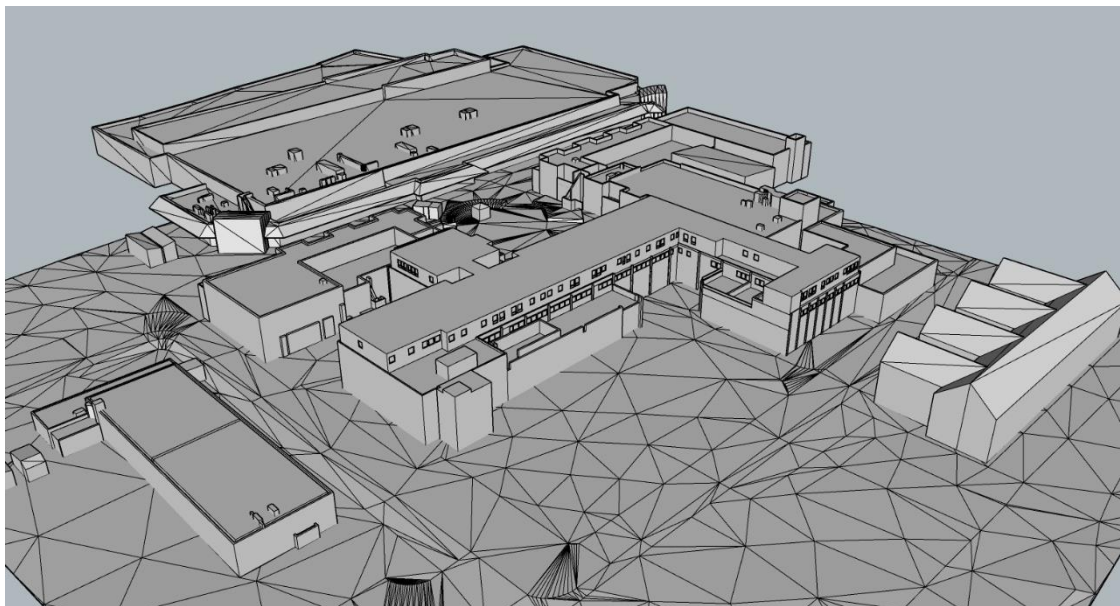


Figure 1: Proposed development and existing nearby buildings

2 Permitted Development Rights

- 2.1.1 *The Town and Country Planning (General Permitted Development) (England) Order 2015* is the principal order that sets out classes of development for which a grant of planning permission is automatically given, provided that no restrictive condition is attached or that the development is exempt from the permitted development rights.
- 2.1.2 Of relevance to this report, paragraph 7.17 of *Explanatory Memorandum No.632* to the Order states:

7.17 *The right requires prior approval consideration in respect of the provision of adequate natural light in all habitable rooms. The application for prior approval must therefore be accompanied by detailed floor plans indicating the dimensions and proposed use of each room, the position and dimensions of windows, doors and walls, and the proposed elevations of the homes. Local planning authorities are expected to exercise their planning judgement when considering the detailed floor plans and elevations in their assessment of adequate natural light in habitable rooms. The right contains a definition of habitable rooms which mirrors the definition set out in Regulation 19. Local planning authorities are required to refuse prior approval applications where inadequate natural light is provided.*

3 Assessment

3.1 Daylight – Habitable Rooms – New Development

3.1.1 BR 209 paragraphs C16 to C19 state:

C16 The UK National Annex [of BS EN 17037:2018] gives illuminance recommendations of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens. These are the median illuminances, to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours. The recommended levels over 95% of a reference plane need not apply to dwellings in the UK.

C17 Where a room has a shared use, the highest target should apply. For example in a bed sitting room in student accommodation, the value for a living room should be used if students would often spend time in their rooms during the day. Local authorities could use discretion here. For example, the target for a living room could be used for a combined living/dining/kitchen area if the kitchens are not to be treated as habitable spaces, as it may avoid small separate kitchens in a design. The kitchen space would still need to be included in the assessment area. Alternatively, in rooms with a particular requirement for daylight, such as bed sitting rooms in homes for the elderly, higher values such as those in tables C1 and C2 may be taken.

C18 The UK National Annex gives the latitude, median external diffuse and global illuminances for various UK locations, as well as the daylight factor targets corresponding to the target illuminances as shown in Table C3. The targets for the latitude nearest to the assessment site should be used.

C19 Table C3 shows the daylight factor targets to be achieved over at least 50% of the assessment grid in domestic habitable rooms with vertical and/or inclined daylight apertures. The UK National Annex gives alternative target values for rooms with diffusing horizontal rooflights.

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%

3.1.2 Table 1 provides a record of the assessment of the daylight factors of the habitable rooms of the proposed dwellings. The floor plans provided in appendix A show the locations of the rooms assessed.

3.1.3 The following inputs have been used in the daylight factor calculations:

- The reflectance of interior walls and ceilings has been taken as 0.80 (white painted).
- The reflectance of interior floors has been taken as 0.40 (light wood floor/cream carpet).
- The reflectance of exterior walls, obstructions and exterior ground has been taken as 0.20.
- The normal incidence transmittance, accounting for maintenance factors, has been assumed as 0.72 for vertical glazing not sheltered from rain.
- The targets from London (Gatwick Airport) have been used as this is the BR 209 location with the latitude nearest to the assessment site.

Table 1: Daylight factors – proposed development

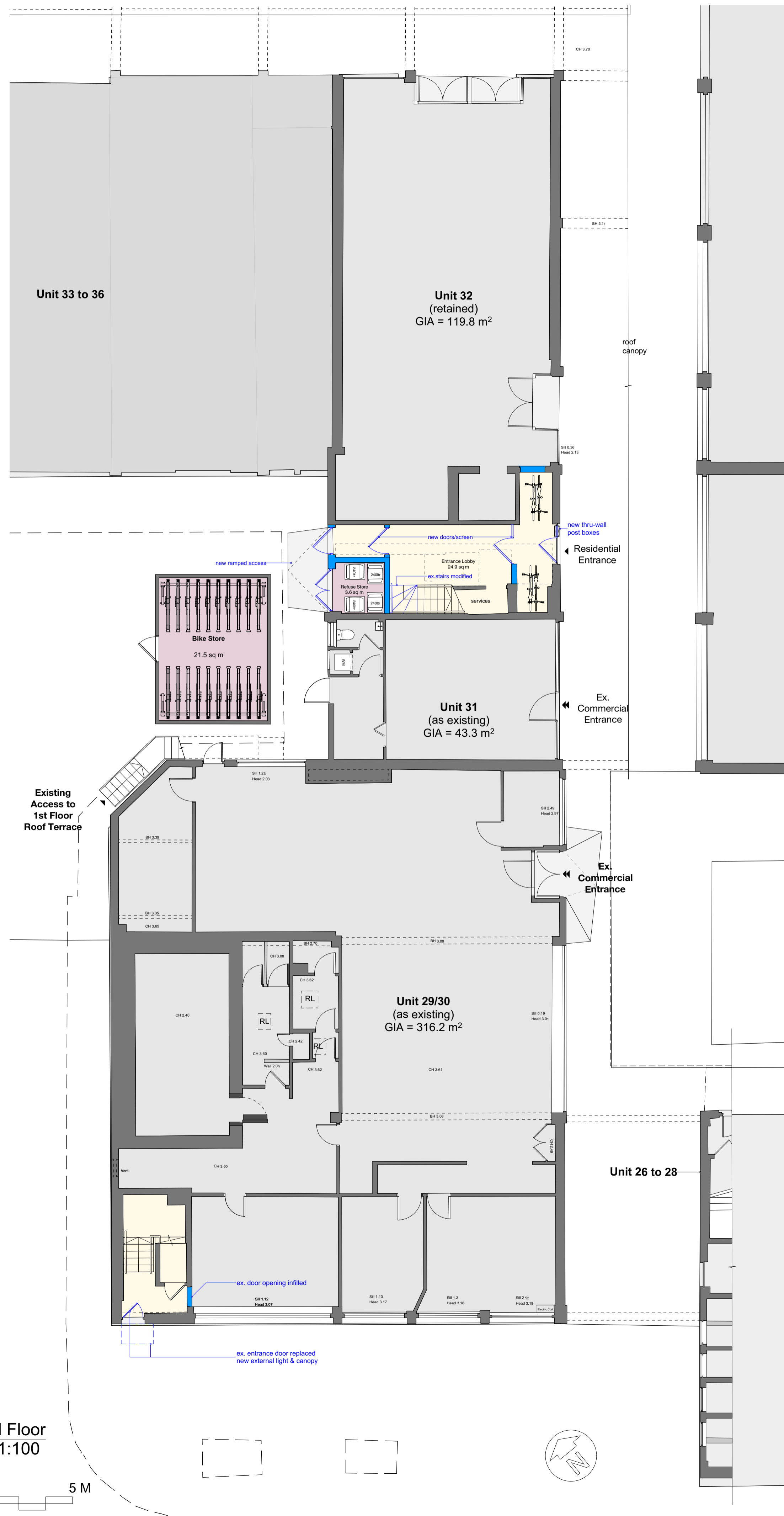
Habitable room (see appendix A)	Target daylight factor (D_T)	Daylight factor achieved (D)	Complies with BR 209 recommendations
Flat A Living/kitchen/dining	1.1% (recommended as 1.1% as opposed to 1.4% to avoid design of small separate kitchen)	2.7%	✓
Flat A Bedroom 11.6 sqm	0.7%	3.7%	✓
Flat A Bedroom 9.7 sqm	0.7%	3.3%	✓
Flat B Living/kitchen/dining	1.1% (recommended as 1.1% as opposed to 1.4% to avoid design of small separate kitchen)	3.6%	✓
Flat B Bedroom 12.1 sqm	0.7%	4.7%	✓
Flat B Bedroom 7.8 sqm	0.7%	4.2%	✓
Flat C Living/kitchen/dining	1.1% (recommended as 1.1% as opposed to 1.4% to avoid design of small separate kitchen)	2.7%	✓
Flat C Bedroom 12.5 sqm	0.7%	2.7%	✓
Flat D Living/kitchen/dining	1.1% (recommended as 1.1% as opposed to 1.4% to avoid design of small separate kitchen)	3.4%	✓
Flat D Bedroom 12.6 sqm	0.7%	3.4%	✓
Flat E Living/kitchen/dining	1.1% (recommended as 1.1% as opposed to 1.4% to avoid design of small separate kitchen)	1.5%	✓
Flat E Bedroom 14.7 sqm	0.7%	4.0%	✓
Flat E Bedroom 13.0 sqm	0.7%	2.6%	✓

3.1.4 All proposed habitable rooms would achieve the daylight factors recommended in BR 209.

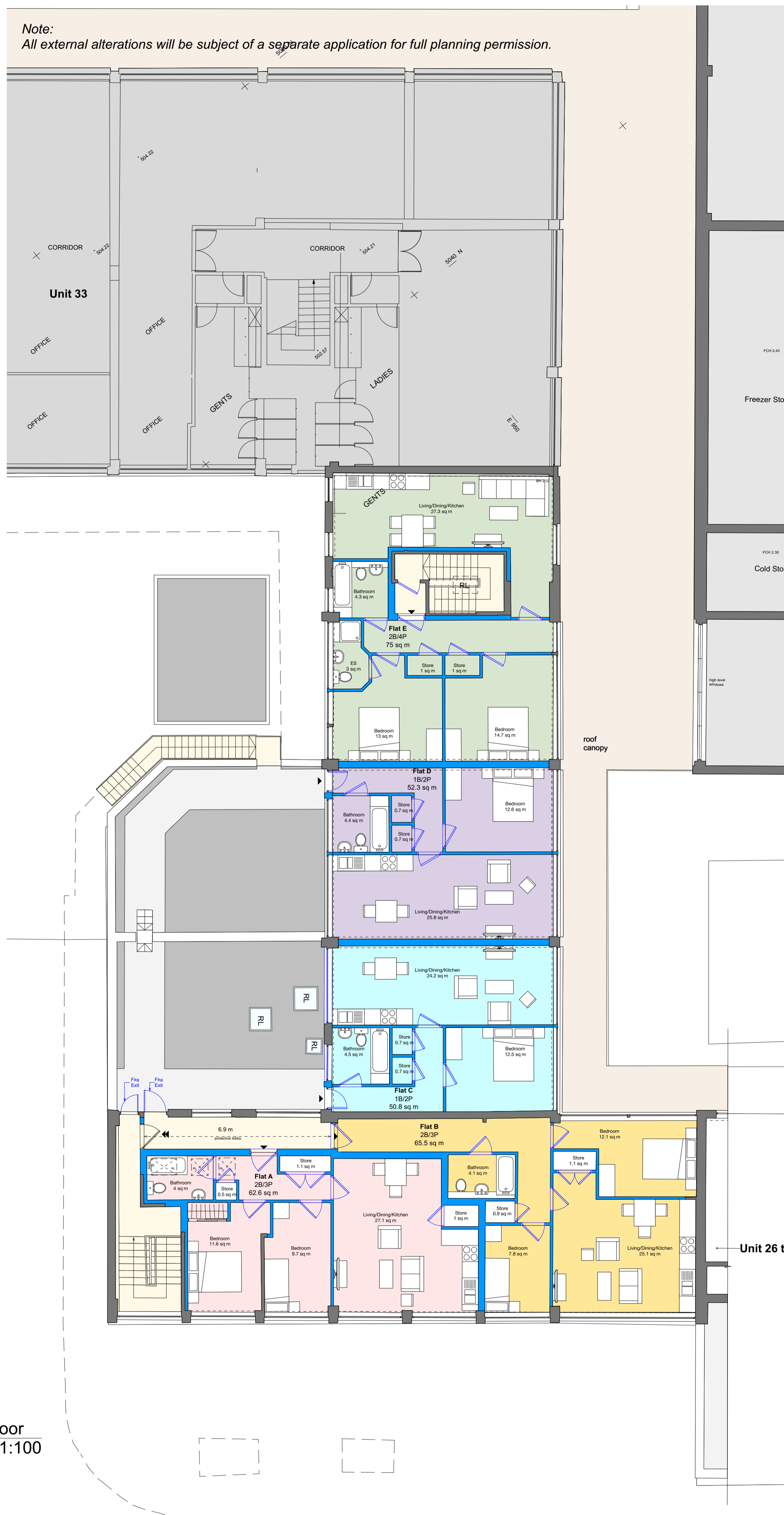
4 Conclusions

- 4.1.1 An assessment of the daylight levels of the proposed new dwellings at Unit 32, Swanley Centre has been undertaken in accordance with guidance set out in *BRE report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice, Third Edition, 2022 (BR 209)*.
- 4.1.2 All proposed habitable rooms would achieve the daylight factors recommended in BR 209.

5 Appendix A: Locations of proposed habitable rooms



1 Ground Floor
Scale: 1:100



2 First Floor
Scale: 1:100

Note:
All external alterations will be subject of a separate application for full planning permission.

NOTE

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DISCREPANCIES TO BE VERIFIED PRIOR TO
COMMENCEMENT OF WORKS

Rev	Date	Comments	D/B	Chk
A	17/09/23	Information updated	EW	EW

PLANNING

Scale: 1:100 @ A1
 Drawn: EW Checked: Date: Aug 23
 Client: SAE (London) Ltd

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Proposed Plans:
CLOPUD Application

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