



2nd Floor, Chancery Exchange
10 Furnival Street
London
EC4A 1AB

T: +44 (0) 20 7148 6290
E: info@eb7.co.uk
W: www.eb7.co.uk

BEEHIVE CENTRE REDEVELOPMENT, CAMBRIDGE

TOPIC PAPER 4 : DAYLIGHT, SUNLIGHT, OVERSHADOWING &
OUTLOOK

20th May 2025 (V2)
APP/Q0505/V/25/3360616
LPA Ref: 23/03204/OUT

Contents

1	Introduction	3
2	Matters in Dispute	3
3	Technical and Policy Background	3
4	Key properties for daylight / sunlight review	6
5	Other considerations	8

1 Introduction

- 1.1.1 This is a topic paper prepared, on request of the Inspector, in respect of the proposals for the redevelopment of the Beehive Centre, Cambridge (LPA Ref 23/03204/OUT / PINS Ref APP/Q0505/V/25/3360616). This paper sets out the technical background and issues agreed as key considerations in matters of daylight, sunlight, overshadowing and outlook.
- 1.1.2 The paper has been produced jointly by experts acting for Railway Pension Nominees Limited (Railpen) ["the Applicant"] and Cambridge City Council ["the Council"], the Local Planning Authority ["the LPA"].

2 Matters in Dispute

- 2.1.1 The reason for refusal states:

"By virtue of the scale, massing, and positioning of the maximum building parameters, the proposed development fails to keep potential reductions in daylight and sunlight to a minimum in St Matthew's Gardens, Silverwood Close and other adjacent properties and gardens. The extent and degree of harm would be both wide ranging, significantly adverse and acutely felt by existing occupants. Many habitable rooms would feel poorly lit, colder, and gloomier, particularly where living rooms are concerned. Multiple gardens would also feel less pleasant and enjoyable, due to the significant increase in overshadowing that would be experienced. Moreover, the proposed development would be overly dominant and imposing on neighbouring properties, particularly in St Matthew's Gardens and Silverwood Close, resulting in an oppressively enclosed outlook. The overall harm to residential amenity would be significantly adverse and permanent, contrary to policies 55, 56, 57 and 60 of the Cambridge Local Plan (2018) and paragraph 135 (f) of the National Planning Policy Framework (2024)."

The following matters are agreed as being in dispute between the applicant and the LPA:

- 2.1.2 Where effects exceed those contained in the BRE guidance, whether those effects are, nonetheless, acceptable on the second stage of the required two-stage test.
- 2.1.3 The role and effect of the Daylight, Sunlight and Overshadowing effects of the scheme in the wider planning balance.

3 Technical and Policy Background

- 3.1.1 Policy 60 of the Local Plan addresses the potential amenity effects upon neighbouring properties as follows:

"Any proposal for a structure that breaks the existing skyline and/or is

significantly taller than the surrounding built form will be considered against the following criteria:

d. amenity and microclimate – applicants should demonstrate that there is no adverse impact on neighbouring buildings and open spaces in terms of the diversion of wind, overlooking or overshadowing, and that there is adequate sunlight and daylight within and around the proposals;”.

- 3.1.2 This policy does not require full compliance with the numerical targets set out in the BRE guidance, and it is common ground between the experts that the meaningful redevelopment of the site may inevitably result in some reductions in daylight and sunlight below the BRE guideline values.
- 3.1.3 The appropriate technical assessment methodologies and guideline target criteria are those set out in document BRE209: Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (June 2022) (the BRE Guide) (CD8.01).
- 3.1.4 The relevant tests and respective numerical target criteria in the BRE guidelines are:

Daylight

- 3.1.5 The BRE guidance outlines two detailed methods for calculating daylight within properties neighbouring a proposed development: the Vertical Sky Component (VSC) and the No-Sky Line (NSL) tests.
- 3.1.6 The VSC test measures the amount of sky that is visible on the outside face of the external walls, usually at the centre point of a window. Where a room is served by multiple windows, an ‘area-weighted’ Vertical Sky Component may be derived for the room based on the size of each window, subject to the methodology within the BRE Guide.
- 3.1.7 The NSL test calculates the distribution of daylight within rooms by determining the area of the room at desk / work surface height (the ‘working plane’) which can and cannot receive a direct view of the sky and hence ‘sky light’. Accurate calculation of the NSL requires an understanding of the room layouts whereas VSC requires modelling only of the window position (although VSC on a ‘room weighted’ basis does require provision of further details).
- 3.1.8 For the above methods, the guidance suggests that existing daylight may be noticeably affected by new development if: -
- Windows achieve a VSC below 27% and are reduced to less than 0.80 times their former value (para. 2.2.7); and / or:
 - Levels of NSL within rooms are reduced to less than 0.80 times their former value (para 2.2.11)

Sunlight

- 3.1.9 The Annual Probable Sunlight Hours (APSH) test calculates the percentage of probable hours of sunlight received by a window or room over the course of a

year.

- 3.1.10 In assessing sunlight effects from the proposal to neighbouring buildings, review relates to windows facing within 90 degrees of south with focus upon main living rooms and conservatories..
- 3.1.11 The guide provides an annual target of 25% APSH with at least 5% achieved between 21st Sept and 21st March ('winter sun'). Occupiers may notice the loss of sunlight if the APSH, is reduced below 25% APSH and less than 0.80 times former value and for 'winter sun', if reduced below 5% of APSH and less than 0.80 times former value; and also having a sunlight reduction for the whole year greater than 4% APSH (para. 3.2.7).

Sun on Ground / Shading

- 3.1.12 A 2-hour 'sun on ground' test is recommended for quantifying sunlight availability to amenity areas such as gardens, parks and playing field with a decrease in available sunlight indicating greater shading from development.
- 3.1.13 The guidelines suggest at para. 3.3.7 that if at least 50% of an amenity area receives at least 2hrs of sun on 21st March, then it is likely to be adequately lit throughout the year. If open space receives less than 50%, then the guidelines suggest that the loss in sunlight may be noticeable if it is reduced below 0.80 times its former value.

Acceptability of numerical impacts / adequacy of retained amenity

- 3.1.14 The technical assessment of daylight / sunlight reductions is the first stage in a two-stage approach to the acceptability of the effects as confirmed in *Rainbird, R (on the application of) v The Council of the London Borough of Tower Hamlets* [2018] EWHC 657 (Admin). Where the daylight, sunlight and shading effects of the proposal meet the numerical criteria set out in the BRE guidelines they are considered to be acceptable.
- 3.1.15 Where the BRE targets are not met the second stage is to consider whether the identified impacts would be "unacceptable". This second stage of the test requires the consideration wider factors including the requirement of policy 60 of the Local Plan for there to be adequate sunlight and daylight within and around the proposals.
- 3.1.16 The second question in the two-stage approach may be informed by the guidance within Appendix F and Appendix H of the BRE document in respect of alternative targets and assigning significance to the effects. Other relevant factors may relate to the site context, relevant comparative typologies, where there are special circumstances in accordance with paragraph 1.6 of the BRE guidance, consideration of alternative targets, and any other source documents considered to be applicable alongside the consideration of the planning balance.

Outlook and visual enclosure

- 3.1.17 The impact on the outlook of residential properties, including enclosure and

overbearing, is a matter of planning judgement. It is a judgement principally formed through an appreciation of local character and context; changes in the land use; the opportunity to make more efficient use of previously developed land; separation distances between the respective buildings; the scale of built-form; building articulation and orientation of the facing part of the proposed building; the cumulative perception of height, massing, and proximity in relation to neighbouring properties; any difference in ground levels and whether any intervening buildings or structures sit within the outlook of the property;; the sensitivity of the affected living spaces, with greater weight given to the impacts on habitable rooms; the degree of change to the existing situation; and the lived experience of residents, including how the development would be perceived day-to-day from within dwellings and gardens. The Applicant and LPA differ in their opinion regarding the role of landscaping in the consideration of outlook and visual enclosure. The Applicant considers that landscaping is capable of playing a role in the experience and perception of outlook and visual enclosure. The LPA does not.

- 3.1.18 It is a matter that can be considered within a wider judgement on the overall quality of residential amenity and will feed into the planning balance.
- 3.1.19 The focus of the planning evidence in regards to outlook will be the run of properties that abut the part northern / part western shared boundary of the site, being the rear facing properties to St Matthew's Gardens, the series of terrace rows at Silverwood Close that adjoin the site boundary, and the properties within Sleaford Street that immediately adjoin the southern site boundary.

4 Key properties for daylight / sunlight review

- 4.1.1 The relationship between the proposals and the neighbouring properties are set out in the image below.

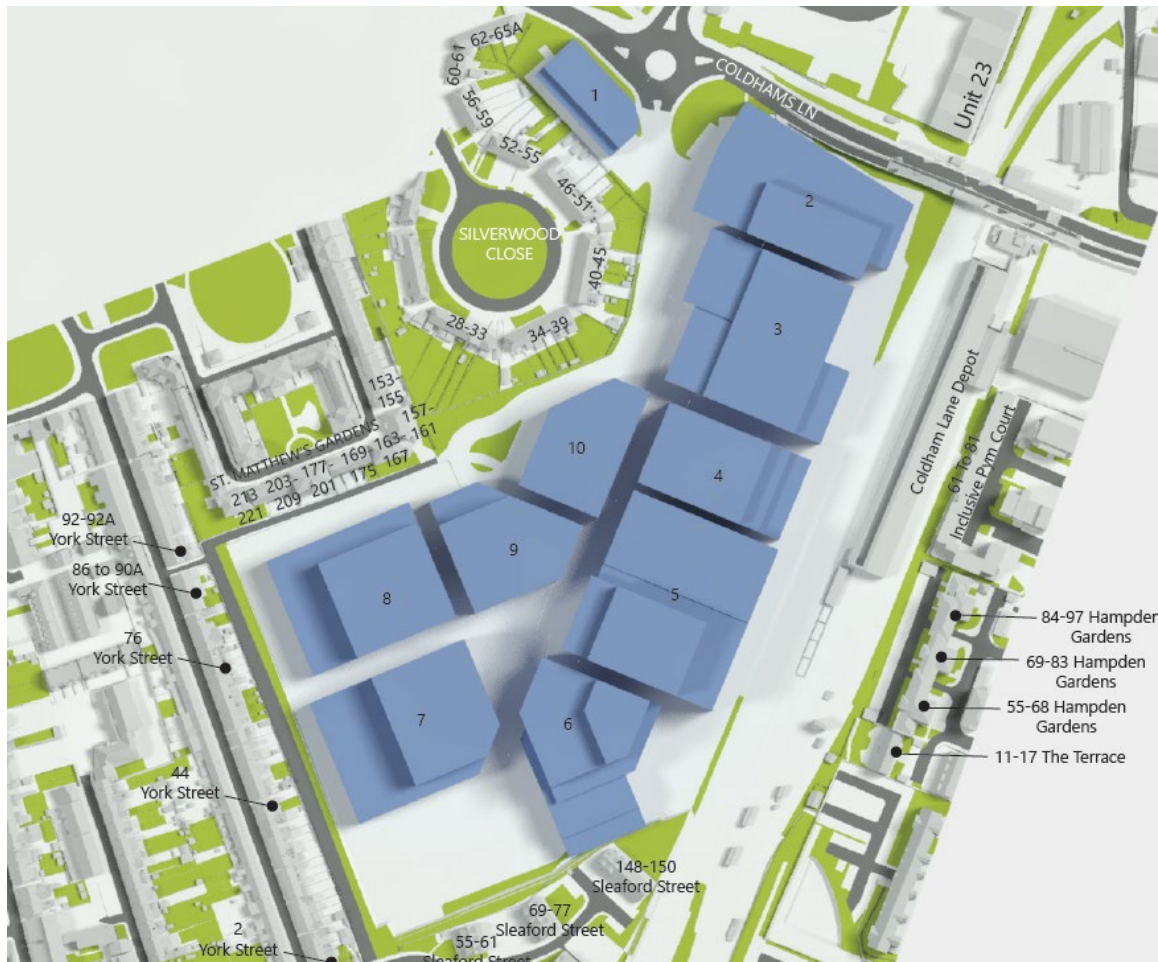


Image 1 - Plan of the parameter scheme and the neighbouring properties

- 4.1.2 The parties' respective cases as to the acceptability of the impacts and the adequacy of retained amenity are set out in their respective evidence.
- 4.1.3 The analysis presented to the inquiry, and agreed between the relevant experts, differs from that submitted prior to the planning committee in respect of both the parameter and illustrative scheme as a result of a number of factors, primarily including:
- Further research and the benefit of accessing a limited number of neighbouring properties (thereby, resulting in the updating / changing of some room arrangements and uses in comparison to that presented within the pre-committee analysis).
 - The submission of VSC analysis now also includes the detailed assessment of 'room weighted VSC' analysis. This relates to circa 40 No. rooms.
 - A number of limited and isolated errors have been corrected.
 - Some smaller analysis changes may relate to software upgrades between differing analysis dates.

- 4.1.4 In terms of both the pre-committee analysis and post-committee analysis, and for both the Maximum Parameters Scheme and Illustrative Scheme, adverse effects are related more to daylight than sunlight.
- 4.1.5 The majority of neighbouring properties affected with reductions not meeting BRE Guidelines relate to those which border the site on St Matthews Gardens and Silverwood Close. For the remaining neighbouring properties, other than those located on St Matthews Gardens and Silverwood Close, reductions in daylight and / or sunlight not meeting BRE Guidelines are typically more isolated

5 Other considerations

- 5.1.1 In addition to areas of effect noted above, the following are matters relevant to the areas of dispute between the parties:
- 5.1.2 **Adequacy of daylight, sunlight and overshadowing:** The acceptability of retained amenity and extent of any impact on the use and enjoyment of neighbouring properties.
- 5.1.3 **Comparators based local planning and appeal decisions:** The relevance of other local developments and broader appeal decisions to inform whether retained amenity levels may be considered adequate
- 5.1.4 **Adequacy of controls on design in limiting effects:** Whether the proposed design codes and wider restrictions on the parameter developments adequately control the potential for unacceptable effects in future reserved matters schemes.
- 5.1.5 **Effects of Illustrative Scheme:** Related to 5.1.4 the relevance of the illustrative scheme and subsequent harm that may arise in future reserved matters applications.
- 5.1.6 **Site / Property Specific Constraints:** The relevance of property specific sensitivities or constraints when assessing acceptability.