10 Evelina Road, SE15

Daylight and Sunlight Assessment for Planning

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Contents

Document Control

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1.0 Introduction

1.1 This daylight and sunlight assessment has been prepared to support a planning application for the proposed development of 10 Evelina Road, SE15.

1.2 The report assesses the proposals in respect of daylight, sunlight and overshadowing matters, having regard to industry standard guidance. The report concludes that the proposal is acceptable and in accordance with planning policy requirements in relation to daylight and sunlight.

1.3 There is no existing specific National Planning Policy relating to the prospective impacts of developments on daylight and sunlight on their surrounding environment. However, the BRE Report 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' 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. It has been developed in conjunction with daylight and sunlight recommendations in BS 8206: Part 2: 'Lighting for Buildings - Code of Practice for Daylighting'

1.4 This reference document is accepted as the authoritative work in the field on daylight, sunlight and overshadowing and is specifically referred to in many Local Authorities' planning policy guidance for daylighting. 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

Site Location

2.1 The site is at 10 Evelina Road, SE15. It is currently occupied by a three storey building with a commercial unit at ground floor and residential at first and second floor.

2.2 The proposal is for the demolition of the existing three storey building and replace it with a a four storey building consisting of 7 self contained units.

2.3 The impacts on all of these potentially affected neighbours have been assessed within this report.

2.4 Further details on the location of neighbours and their windows is given in Section 5.0

3.0 Methodology

3.1 For this analysis, we have undertaken the most common calculations for the change in daylight and sunlight to existing buildings, as recommended in BRE Digest 209. These are:

- Vertical Sky Component (VSC) for daylight
- Annual Probable Sunlight Hours and Winter Probable Sunlight Hours (WPSH) (APSH) for sunlight

3.2 The VSC method measures the general amount of light available on the outside plane of the window as a ratio (%) of the amount of total unobstructed sky viewable following introduction of visible barriers such as buildings. The maximum value is just under 40% for a completely unobstructed vertical wall.

3.3 The VSC is calculated using computer simulation under a CIE overcast sky. This works by simulating the amount of visible sky from the centre point of each window. It is not affected by orientation and so all potentially affected windows are assessed.

3.4 Annual Probable Sunlight Hours (APSH) and Winter Probable Sun light Hours (WPSH) are a measure of the amount of potential direct sunlight that is available to a given surface. APSH covers sunlight over the whole year and WPSH from September 21st to March 21st. The number of total available hours is calculated from a data file in the software, built up over a number of years of actual weather data records.

3.5 Only windows which face within 90° of due south need be assessed for sunlight.

3.6 APSH can also be used to assess the impact on external spaces such as gardens. In this instance the gardens to the most affected neighbours to the north and west of the site have been assessed.

4.0 Modelling & Data Sources

4.1 The first stage of the analysis is to create the analysis model of the existing site condition and the proposal.

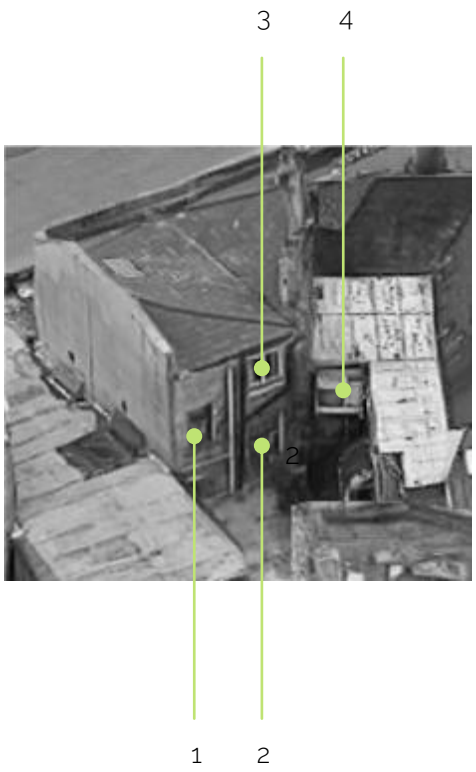
4.2 A 3D model has been produced from 2D drawings provided by the Architect. This model is exported into the specialist daylight analysis software. Calculations are then run, for both existing and proposed scenarios so that a comparison between the two can be made.

4.3 Sufficient detail is added to the model for the analysis. In accordance with BRE recommendations, trees and foliage have been omitted from the calculations.

4.4 A good level of detail on the site and neighbours has been made available for the analysis.

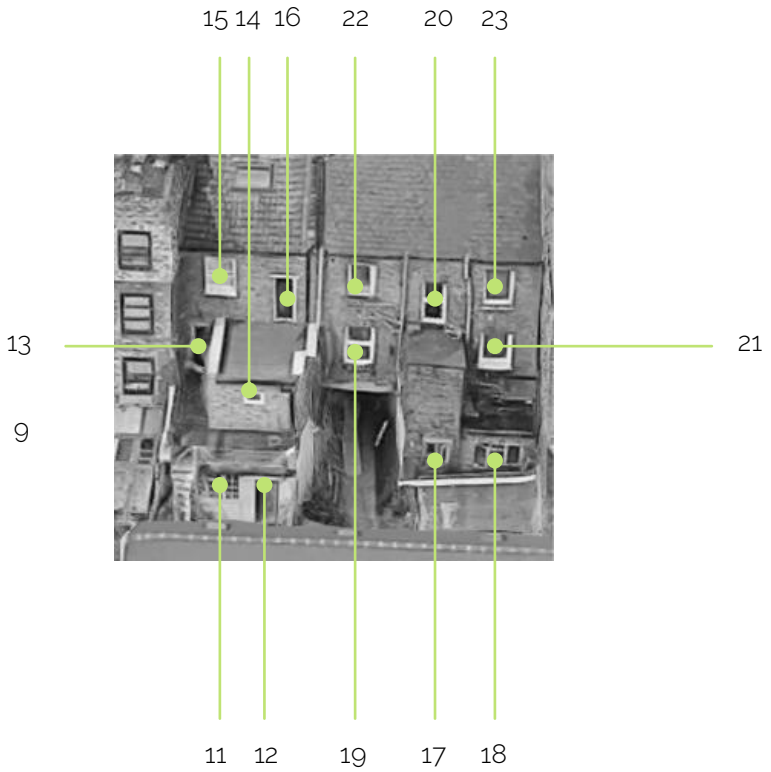
4.5 Drawn information on the properties has been provided to us by the design team in the form of 2D drawings giving the site as existing and proposed. Web-based mapping sources and photographs of the site and neighbours have also been used.

5.0 Window Schedules



12 – 16 Evelina Road (Rear)

16 Evelina Road (Side)



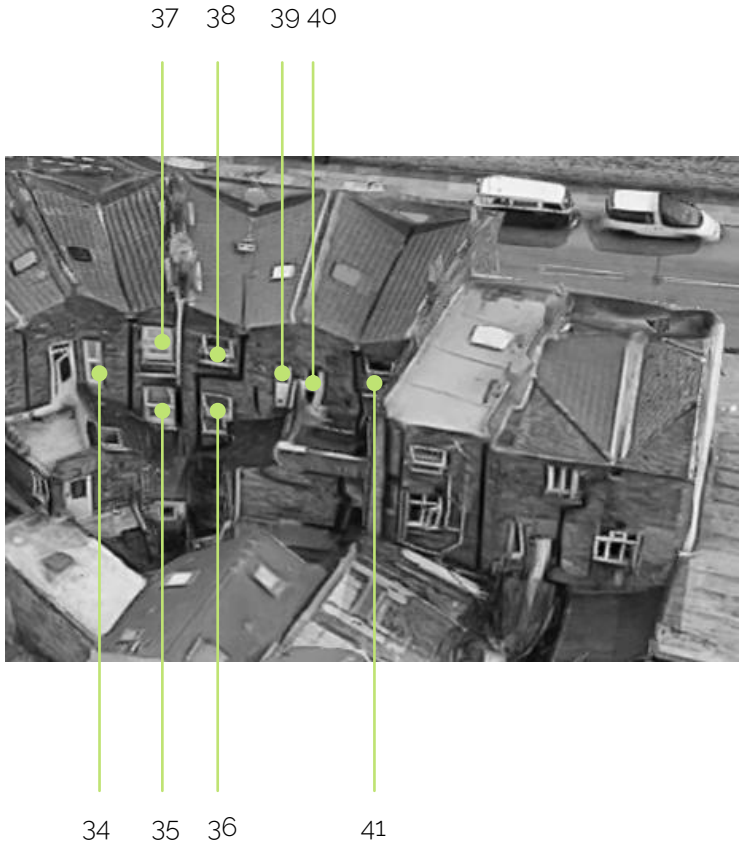
37 Gautrey Road (Rear)

33 – 35 Gautrey Road (Rear)

5.0 Window Schedules

90 Lausanne Road (Rear)

2 Evelina Road (Rear)



4- 8 Evelina Road (Rear)

6.0 BRE Guidance Targets

6.1 The reference document for this analysis, BRE Digest 209, gives the methodology for undertaking the calculations. It also provides benchmark figures for the acceptable reduction in the daylight on existing properties which might be affected by development.

6.2 Specifically, the guidance gives figures for the VSC and APSH, as a percentage reduction that is "permissible" for the effect on existing windows.

6.3 It is worth noting the following statement in the Guidance introduction:

- *"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the developer.*
- *Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design."*

6.4 The relevant BRE recommendations for daylight and sunlight are:

- The Vertical Sky Component measured at the centre of a window should be no less than 27, or if reduced to below this, no less than 80% of its former value
- The window should receive at least 25% of available annual sunlight hours and more than 5% during the winter months (September 21st to March 21st), and 80% of its former value.

7.0 Daylight Impact Results

7.1 The Vertical Sky Component has been calculated for each of the 41 assessed windows for both the existing and proposed scenarios.

7.2 As can be seen in the results below, all of the assessed windows retain in excess of 80% of current daylight levels.

7.3 The scheme is fully compliant with BRE guidelines for daylight and there will therefore be no noticeable impact on neighbouring residents in terms of daylight.

7.0 Daylight Impact Results

Vertical Sky Component			
Window	Existing VSC	Proposed VSC	% Retained
1	33.938	33.409	98.44%
2	26.313	26.08	99.11%
3	36.439	36.338	99.72%
4	26.469	25.909	97.88%
5	21.986	20.876	94.95%
6	26.866	25.387	94.49%
7	26.559	24.541	92.40%
8	34.334	33.006	96.13%
9	38.263	37.172	97.15%
10	39.592	39.166	98.92%
11	24.084	23.078	95.82%
12	22.274	21.555	96.77%
13	15.986	15.35	96.02%
14	34.976	34.012	97.24%
15	31.756	31.175	98.17%
16	37.242	36.535	98.10%
17	29.474	29.245	99.22%
18	32.129	31.985	99.55%
19	33.519	33.461	99.83%
20	37.211	36.777	98.83%
21	36.765	36.497	99.27%

Vertical Sky Component			
Window	Existing VSC	Proposed VSC	% Retained
22	38.188	37.684	98.68%
23	38.462	38.167	99.23%
24	23.712	23.693	99.92%
25	33.628	32.997	98.12%
26	34.575	33.959	98.22%
27	30.378	29.916	98.48%
28	37.237	36.621	98.35%
29	36.484	35.941	98.51%
30	36.515	35.815	98.08%
31	35.866	35.119	97.92%
32	38.721	38.291	98.89%
33	38.48	37.783	98.19%
34	35.806	35.444	98.99%
35	34.717	33.546	96.63%
36	36.097	34.616	95.90%
37	38.544	37.885	98.29%
38	38.6	37.829	98.00%
39	34.062	31.537	92.59%
40	30.797	27.793	90.25%
41	23.258	19.406	83.44%

8.0 Sunlight Impact Results

8.1 BRE guidance states that only windows which face within 90° of due south need be assessed for sunlight provision. In this instance, 6 windows fall into this category. The Annual Probable Sunlight Hours has been calculated for each of these windows for both the existing and proposed conditions using the methodology described previously, both over the whole year, and through the "winter months" (September 21st until March 21st)

8.2 The BRE guidance states that the sun lighting may be adversely affected if the centre of the window:

- Receives less than 25% of annual hours or less than 5% of winter hours

and

- Receives less than 80% of its current sunlight hours during either period

and

- Has a reduction in sunlight over the whole year greater than 4%of annual probable sunlight hours.

8.3 It is clear from the wording of the above that all three clauses need to be met to qualify as an adverse impact. Thus, if the window does not meet any one of these criteria, the impact is acceptable.

8.4 The results below show that all windows retain greater than 80% of existing levels.

8.5 The scheme is therefore compliant with BRE guidance for sunlight and there will be no adverse effect on the sunlight received to the windows of neighbouring properties.

8.0 Sunlight Impact Results

Annual Probable Sunlight Hours			
Window	Existing Hrs Received	Proposed Hrs Received	Percentage Retained
24	18.93%	18.90%	99.83%
25	42.95%	40.46%	94.20%
26	44.33%	41.87%	94.45%
27	32.90%	30.97%	94.13%
28	50.00%	48.02%	96.05%
29	45.23%	43.30%	95.74%

Winter Probable Sunlight Hours			
Window	Existing Hrs Received	Proposed Hrs Received	Percentage Retained
24	0.39%	0.35%	N/A
25	11.91%	9.42%	N/A
26	12.96%	10.50%	N/A
27	7.76%	5.83%	N/A
28	17.66%	15.68%	N/A
29	15.05%	13.12%	N/A

9.0 Sunlight To Neighbouring Gardens

Site Location

9.1 Residential gardens are generally assessed using the sunlight hours test, but only on March 21st. The guidance describes a well lit space as being one which receives at least 2 hours of direct sunlight on this date over 50% of its area.

9.2 BRE guidance also uses the "80%" rule for this test, whereby the effects are considered acceptable if the remaining sunlight is in excess of 80% of the existing level. This clause applies if the space is reduced to less than 50% of the area well sunlit.

9.3 The rear gardens of 90 Lausanne Road and 35 Gautrey Road were assessed using this method as identified below. As can be seen, the neighbouring garden retains in excess of 80% of current sunlight levels and so the scheme is compliant with BRE recommendations.

Amenity Sunlight Hours			
Garden	Existing Area Receiving 2 Hours	Proposed Area Receiving 2 Hours	Percentage Retained
G1	15.9	12.9	81.13%
G2	5.5	5.5	100.00%

10.0 Conclusions

10.1 Using industry standard methodology, we have made numerical analyses to ascertain the effects of the proposal at 10 Evelina Road and the levels of change in daylight and sunlight for the windows and gardens of the neighbouring properties.

10.2 The main criteria used in this analysis to show compliance are the Vertical Sky Component and Annual Probable Sunlight Hours tests

10.3 As has been shown, the effect on VSC is within the 80% guidance value in all cases. There will therefore be no adverse impact on neighbouring residents in terms of daylight.

10.4 In terms of sunlight, all windows and gardens retain in excess of 80% of their current values and so the scheme accords with BRE guidance in relation to sunlight.

10.5 The neighbouring gardens retain in excess of 80% of current values.

10.6 There will therefore be no adverse impact on sunlight receipt to neighbouring properties.

10.7 From a planning perspective therefore, it is the conclusion of this report that the proposed development is entirely acceptable in planning terms without adverse impact on the neighbours.

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