34a Drayton Gardens,

West Drayton, UB7

Daylight and Sunlight Assessment

Job No: 6770

Issued: November, 2025

Issue No.: 1

Contents

Document Prepared By:	Document Authorised By:
Samuel Westover	Bernice Waterman
Dated:	Dated:
25.11.25	25.11.25
Signed:	Signed:

1.0 Introduction

1.1 This daylight and sunlight assessment has been prepared to support the planning application for the development at 34a Drayton Gardens, West Drayton, UB7.

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.

1.4 However, 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. It has been developed in conjunction with daylight and sunlight recommendations in BS EN 17037: 'Daylight in Buildings'

1.5 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

2.1 The proposal site is at to the rear of 34a Drayton Gardens, West Drayton, UB7 and it is currently unoccupied.

2.2 The proposal is for a the construction of a pair of semi-detached two bedroom dwellings.

2.3 The impacts of the scheme have been assessed, in line with BRE guidance. Generally, it is the impacts on residential neighbours which are of primary concern.

2.4 Further details on the location of the assessed neighbours and their windows are given in Section 5.0.

2.5 In addition to assessing the impacts of the scheme on neighbours, daylight within the proposed new dwellings within the extension has also been assessed.

Site Location

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 impacts and Target Daylight Factor (DF_T) for daylight within the proposal
- Annual Probable Sunlight Hours and Winter Probable Sunlight Hours (WPSH) (APSH) for sunlight impacts

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.

3.5 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.

3.6 Only windows which face within 90° of due south need be assessed for sunlight. This is looked at in Section 8.

3.7 APSH can also be used to assess the impact on external spaces such as gardens. This is looked at in Section 9.0.

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. This allows us to analyse the impact of the proposal when compared to the existing condition.

4.2 2D drawings have been provided by the design team. These drawings are used to construct a 3D analysis model which is exported into the specialist daylight software. Calculations are then run, for both existing and proposed scenarios.

4.3 The existing scenario has been modelled with the theatre on site as the neighbouring windows would have experienced this level of daylight for an extended period and the empty site is only a recent scenario.

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

4.5 Information on the properties has been provided to us by the design team in the form of drawings and a model giving the site as existing and proposed and photographs of the site and surroundings.

4.6 Web-based mapping sources and planning records for neighbouring buildings have also been used.

5.0 BRE Guidance Targets

5.1 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.

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

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

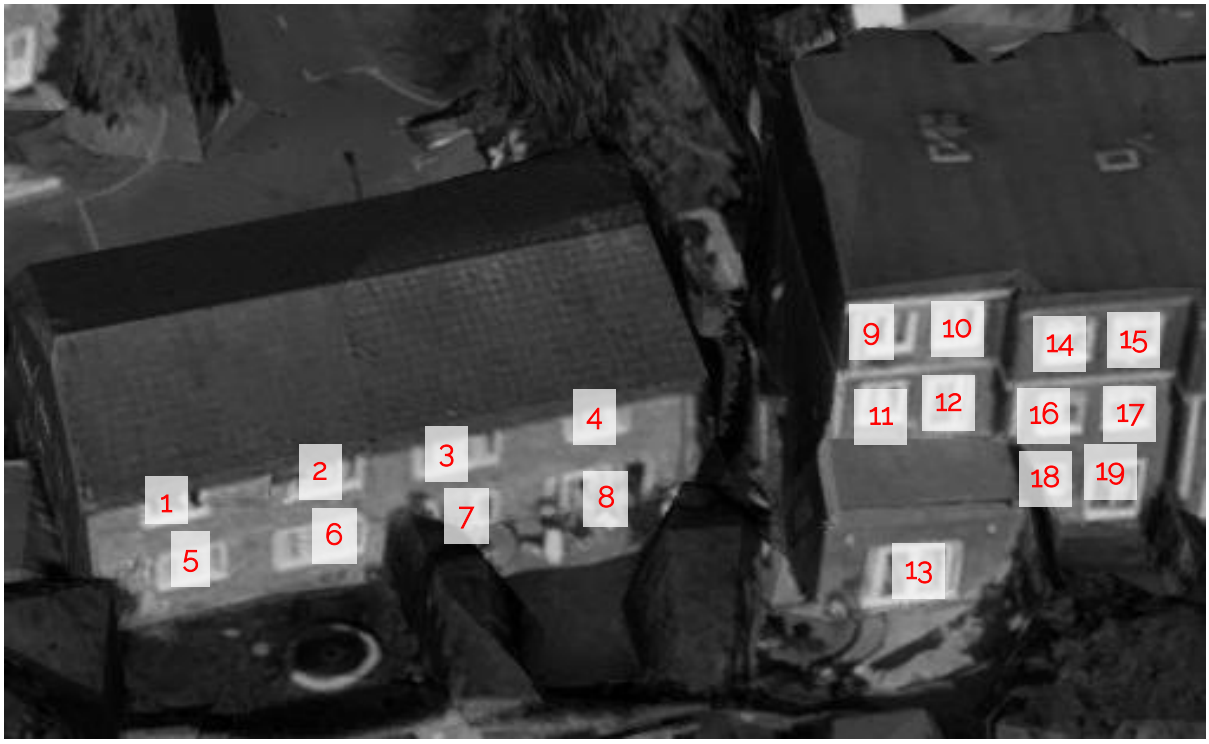
5.4 "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the developer.

5.5 Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design.

5.6 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 0.8 times the 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), or, where this is not the case, 80% of its former value.

6.0 Window Schedules



354 – 360 High Street, Sutton (Rear Elevation)

Gateway Court (Rear Elevation)

7.0 Daylight Impact Results

7.1 The Vertical Sky Component has been calculated for each of the 25 assessed windows for both the existing and proposed conditions.

7.2 As can be seen in the results below, all windows retain 80% of their current values.

7.3 The scheme is therefore compliant with BRE recommendations in relation to daylight impacts.

Vertical Sky Component				
Window	Existing VSC	Proposed VSC	% Retained	Meets BRE Guidance?
1	38.44	36.38	94.64%	Yes
2	38.37	35.74	93.15%	Yes
3	38.18	35.93	94.11%	Yes
4	37.12	35.58	95.85%	Yes
5	36.08	32.36	89.69%	Yes
6	35.63	31.11	87.31%	Yes
7	35.04	31.36	89.50%	Yes
8	32.62	29.93	91.75%	Yes
9	39.15	38.73	98.93%	Yes
10	37.05	36.68	99.00%	Yes

7.0 Daylight Impact Results

Vertical Sky Component				
Window	Existing VSC	Proposed VSC	% Retained	Meets BRE Guidance?
11	38.50	37.38	97.09%	Yes
12	35.12	34.17	97.29%	Yes
13	35.52	33.43	94.12%	Yes
14	39.23	38.92	99.21%	Yes
15	37.52	37.27	99.33%	Yes
16	38.70	37.92	97.98%	Yes
17	36.19	35.55	98.23%	Yes
18	28.42	28.42	100.00%	Yes
19	29.32	28.89	98.53%	Yes
20	38.88	37.20	95.68%	Yes
21	38.46	37.13	96.54%	Yes
22	34.83	33.87	97.24%	Yes
23	39.15	38.41	98.11%	Yes
24	34.50	34.47	99.91%	Yes
25	21.20	21.20	100.00%	Yes

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, 19 assessed 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 of the assessed windows retain over 25% of annual hours and over 5% of winter hours.

8.5 The scheme is therefore compliant with BRE guidance in relation to sunlight impacts.

8.0 Sunlight Impact Results

	Annual Sunlight Hours			Winter Sunlight Hours			
Window	Ex. Hrs Received (%)	Prop. Hrs Received	% Retained	Ex. Hrs Received	Prop. Hrs Received	% Retained	Meets Guidance?
1	62.44	60.15	96.34%	22.52	20.24	89.85%	Yes
2	61.26	59.74	97.51%	21.34	19.82	92.86%	Yes
3	60.50	60.08	99.31%	20.65	20.30	98.32%	Yes
4	55.51	55.51	100.00%	15.66	15.66	100.00%	Yes
5	60.98	55.93	91.70%	21.07	17.01	80.73%	Yes
6	60.43	55.79	92.32%	20.51	16.42	80.07%	Yes
7	58.63	55.30	94.33%	18.78	17.67	94.10%	Yes
8	50.17	48.09	95.86%	11.23	11.23	100.00%	Yes
9	57.66	57.66	100.00%	18.50	18.50	100.00%	Yes
10	50.59	50.59	100.00%	11.43	11.43	100.00%	Yes
11	53.98	53.98	100.00%	15.18	15.18	100.00%	Yes
12	42.07	42.07	100.00%	10.88	10.88	100.00%	Yes
13	56.27	54.68	97.17%	18.85	18.85	100.00%	Yes
14	57.80	57.80	100.00%	18.71	18.71	100.00%	Yes
15	50.03	50.03	100.00%	11.16	11.16	100.00%	Yes
16	55.79	55.79	100.00%	17.19	17.19	100.00%	Yes
17	41.51	41.51	100.00%	10.88	10.88	100.00%	Yes
18	50.38	50.38	100.00%	16.49	16.49	100.00%	Yes
19	37.01	37.01	100.00%	6.38	6.38	100.00%	Yes

9.0 Sunlight to Neighbouring Gardens

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 gardens of the nearest neighbouring property to the site were assessed using this methodology.

9.4 As can be seen, the neighbouring gardens retain over 80% of their existing values and the scheme is therefore compliant with BRE guidance

Amenity Sunlight Hours				
Garden	Existing Area Receiving 2 Hours	Proposed Area Receiving 2 Hours	% Retained	Meets BRE Guidance?
G1	86%	83%	96.51%	Yes
G2	70%	69%	98.57%	Yes

10.0 Daylight within the Proposal

10.1 This 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_1)

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

10.3 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.

10.4 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.

10.5 The requirement is that a minimum of 50% of the floor area of each room should receive a specific daylight factor, based on the use of the room.

10.6 The minimum DF_T values for various UK locations and room types are provided below.

10.7 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%

10.8 It is deemed by the guidance that if the minimum DF criteria are met, then the occupiers of the dwelling will have sufficient daylight. As can be seen from the results below that all assessed habitable rooms meet and exceed the minimum levels of internal daylight.

10.0 Daylight within the Proposal

Minimum Target Daylight Factor				
Unit	Use	Required DF_T Over 50% of Room Area	Area Of Room Receiving Required DF_T	Meets Standards?
1	Kitchen/Living/Dining	1.4%	82.4%	Yes
1	Bedroom 1	0.7%	90.5%	Yes
1	Bedroom 2	1.1%	91.2%	Yes
2	Kitchen/Living/Dining	1.4%	80.7%	Yes
2	Bedroom 1	0.7%	90.8%	Yes
2	Bedroom 2	0.7%	91.3%	Yes

11.0 Conclusions

11.1 Using industry standard methodology, we have made numerical analyses to ascertain the effects of the proposal at 34a Drayton Garden, West Drayton, UB7 and the levels of change in daylight and sunlight for the windows of the neighbouring properties.

11.2 The main criteria used in this analysis to show compliance are the Vertical Sky Component for daylight impacts and Annual and Winter Probable Sunlight Hours for sunlight impacts

11.3 As has been shown, the effect on VSC is within the 80% guidance value for the all of the assessed windows.

11.4 We conclude that these impacts are considered acceptable and within the BRE guidance recommendations.

11.5 In terms of sunlight, the assessed windows retain 80% of their existing value.

11.6 All the neighbouring amenity spaces retain 80% of their existing values on March 21st.

11.7 The scheme is therefore compliant with BRE guidance in relation to sunlight impacts.

11.8 The new residential rooms will benefit from daylight levels in excess of the requirements of BS EN 17037:2018 recommendations.

11.9 From a planning perspective therefore, it is the conclusion of this report that the proposed development is entirely acceptable in daylight and sunlight terms.

T16 Design Ltd.

T: 01206 572452

E: info@t16design.com

W: www.t16design.com