SYNTEGRA CONSULTING

# Daylight, Sunlight & Overshadowing Report

Kingsway Mews,

Mortlake,

SW14 7HN

January 2015

Ref: 14-1175

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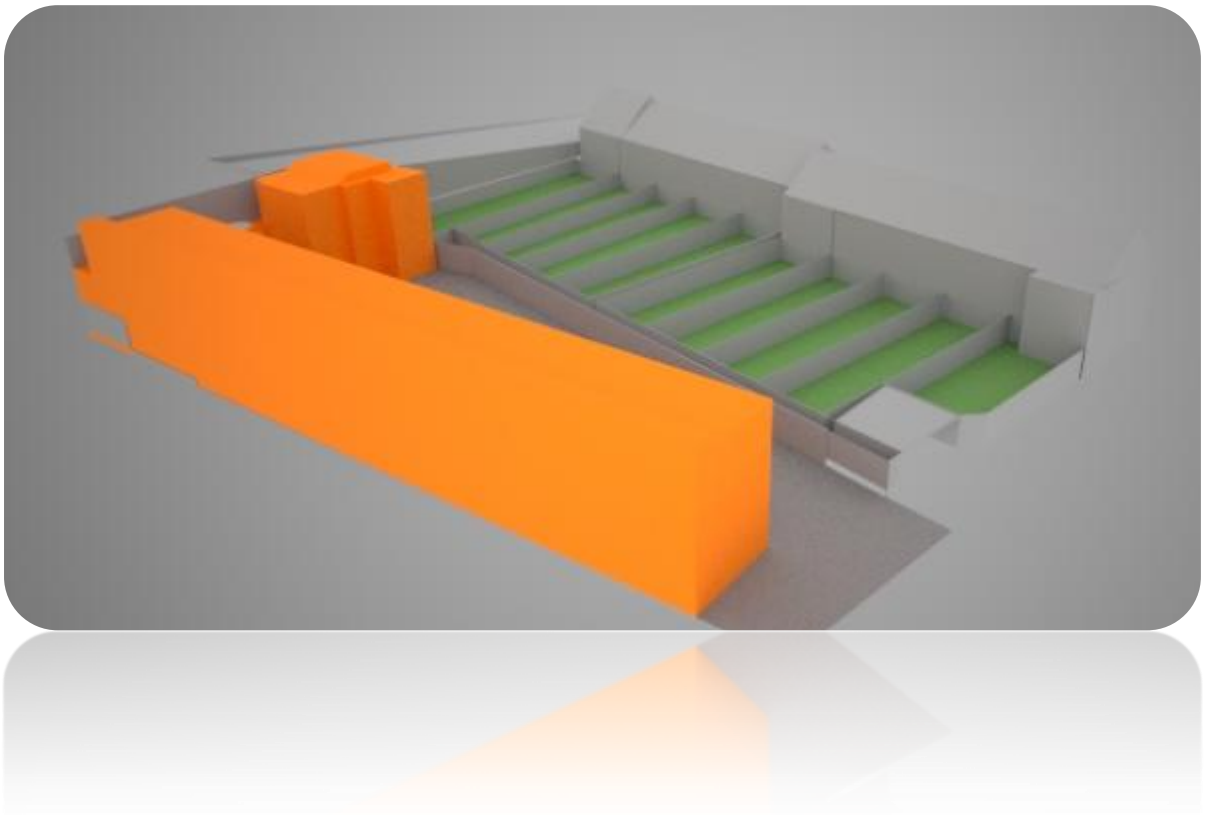
| 09/01/2015 | DC | AWK |



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| Date<br>Prepared by<br>Checked by<br>Authorised by | |

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## 1. Executive summary

This report demonstrates the impact of the proposed development **on the surrounding buildings and amenity areas/gardens/open spaces**.

The results of the assessment show that in terms of:

- Daylight, **the building at 129 to 147 Kingsway Yard** will not be adversely impacted by the proposed development.
- Sunlight, **the building at 129 to 147 Kingsway Yard** will not be adversely impacted by the proposed development.
- The existing amenity areas/gardens/open spaces located at the rear of **129 to 147 Kingsway Yard** will not be adversely impacted by the proposed development.

**The BRE criteria are met:** ☑

On balance, it can be concluded that the surroundings buildings **(129 to 147 Kingsway Yard)** will not be adversely impacted by the proposed development.

**The proposed scheme is acceptable.**

## 2. Introduction

This report has been prepared to support the planning application for the proposed development at Kingsway Mews, Mortlake SW14 7HN. The proposal is for the demolition of 44 garages including vehicle repair garage and the erection of seven x three bed residential units, incorporating two commercial units, with amenity space, off-street car parking and associated works. The report assesses the daylight, sunlight and overshadowing effect of the proposed development on the surrounding buildings and specifically focuses on the rear gardens of the residential buildings at 129 to 147 Kingsway Yard. The assessment is undertaken in accordance with ***"BRE 209 Digest: Site Layout Planning For Daylight and Sunlight – A Guide to Good Practice".***

The existing & proposed drawings (in AutoCAD format) of the project were provided by **Brookes Architects** on the **11th December 2014** and have been used in preparing this report.

The study has been undertaken by constructing a 3D IES model of the existing and proposed site and surrounding buildings in order to analyse the daylight, sunlight and overshadowing impact of the new development on the affected buildings. All images used in this report are technical 3D models created using 2D AutoCAD Drawings (floor plans, sections and elevations) and not 3D visualisation images.

## 3. Planning policy

Where the proposed development has the potential to negatively impact the existing levels of daylight or sunlight on neighbouring properties, a daylight and sunlight assessment has to accompany the planning application.

The daylight and sunlight assessment includes the necessary information to meet the criteria outlined in the Site layout planning for daylight and sunlight: a guide to good practice published by the Building Research Establishment (BRE).

## 4. Guidance document

### 4.1. Building Research Establishment (BRE) report (BRE 209): "Site layout planning for daylight and sunlight: A guide to good practice" Second Edition (2011)

The Second Edition of the report replaces the 1991 document of the same name and came into effect from October 2011.

It is important to note that the introduction to the report stresses that the document is provided for guidance purposes only and it is not intended to be interpreted as a strict and rigid set of rules. It also recommends that it may be appropriate to adopt a flexible approach and alternative target values in dealing with *"special circumstances"* for example *"in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings".* This is amplified by the following extracts from the introduction (p1, para. 6) and Section 2.2:

*"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 designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design".* (p1, para. 1.6)

*"In special circumstances the Developer or Planning Authority may wish to use different target values".* (p1, para. 1.6)

*"Note that numerical values given here are purely advisory. Different criteria may be used, based upon the requirements for daylight in an area viewed against other site layout constraints. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light".* (p7 para. 2.2.3)

The examples given in the report can be applied to any part of the country: suburban, urban and rural areas. The inflexible application of the target values given in the report may make reaching the BRE criteria difficult in a tight, urban environment where there is unlikely to be the same expectation of daylight and sunlight amenity as in a suburban or rural environment.

# 5. Assessment methodology

## 5.1. General

When assessing any potential effects on the surrounding properties, the BRE guidelines suggest that only those windows that have a reasonable expectation of daylight or sunlight need be assessed. In particular the BRE guidelines at paragraph 2.2.2 state:

*"The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. The guidelines may also be applied to any existing non-domestic buildings where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops and some offices."*

Further to the above statement, it is considered that the vast majority of commercial properties do not have a reasonable expectation of daylight or sunlight. This is because they are generally designed to rely on electric lighting rather than natural daylight or sunlight.

This report assesses the potential impact of the proposed development in relation to overshadowing on the rear amenity areas at 129 to 147 Kingsway Yard. Specifically, it takes into consideration the possible effect and influence that the new development would have on the properties.

Ten existing amenity areas/gardens/open spaces have been identified on the drawings and/or site plan at the rear of 129 to 147 Kingsway Yard.

The IES Virtual Environment modelling software utilised for the compilation of this report has been accredited by CIBSE and acknowledged by the BRE as a suitable software tool for undertaking daylight, sunlight and overshadowing assessments in accordance with the BRE Good Practice guidelines. The specific IES software modules utilised for this assessment are the following:

- ☐ ModelIT: enables you to create a 3D "Virtual Environment" model without CAD data, or alternatively allows you to create a 3D model from 2D CAD data. Interfaces with AutoCAD and Google Sketchup.

- ☐ Radiance: is a detailed 3D simulation tool designed to predict daylight and electric light levels, and the appearance of a space prior to construction. Vertical Sky Components (VSC) and Average Daylight Factors (ADF) can be simulated using Radiance.

- ☐ SunCast: produces visual, graphical and numerical information that can be used to explain to colleagues, clients and planning authorities how the sun impacts on and inside the building, and on the site.

If a property is considered to have a reasonable expectation of daylight or sunlight the following methodology to assess the impacts has been used.

## 5.2. BRE Digest 209: "Site layout planning for daylight and sunlight"

This section provides a brief description of the calculating methods for the daylight, sunlight and overshadowing to gardens and open spaces criteria presented in BRE Digest 209.

### 5.2.1. Overshadowing to gardens and open spaces

The BRE guidelines *"Site layout planning for daylight and sunlight"* provide sunlight availability criteria for open spaces. In particular it gives guidance for calculating any areas of open space that may be in permanent shadow on 21st March.

In summary the BRE document states:

*"It is suggested that, for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March. If as a result of new development, an existing garden or amenity area does not meet these guidelines, and the area which can receive two hours of sun on 21st March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable".*

For this assessment the IES "Virtual Environment" SunCast software package has been used. A 3D model of the proposed and surrounding buildings was first modelled and the sunlight-tracking feature within the software used to view the shadow results. The study illustrated the extent of the shadow on one key date:

- March 21 (Spring Equinox)

More details on the numerical criteria for the overshadowing method are presented in section 9.8.

# 6. BRE Digest 209: Significant criteria

## 6.1. Overshadowing to gardens and open spaces

The sunlight criteria given within the BRE guidelines have been used as a basis to assess the potential impacts of the development:

*"It is suggested that, for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March. If as a result of new development, an existing garden or amenity area does not meet these guidelines, and the area which can receive two hours of sun on 21st March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable".*

Assessment points that do not meet the above criteria require further considerations to show the level of impact likely to be incurred.

## 6.2. Criteria for assessing daylight, sunlight and overshadowing effects

The table 1 is a summary of the criteria to assess daylight, sunlight and overshadowing impacts:

| Magnitude of effect | Criteria | | |
|---|---|---|---|
| **Beneficial** | An improvement ratio > 1.3 of the baseline value | | |
| **Negligible** | Daylight<br><br>A VSC of 27% or above in the proposed scenario with adequate daylight distribution<br><br>Or<br><br>A reduction ratio <1.0 and ≥ 0.8 of the baseline value | Sunlight<br><br>An APSH of 25%, of which 5% are in the winter months<br><br>Or<br><br>A reduction ratio <1.0 and ≥ 0.8 of the baseline value | Overshadowing<br><br>50% of any amenity areas receiving at least 2 hours of direct sunlight on 21st March<br><br>Or<br><br>A reduction ratio <1.0 and ≥ 0.8 of the baseline value |
| **Minor adverse** | A reduction ratio <0.8 and ≥ 0.7 of the baseline value | | |
| **Moderate adverse** | A reduction ratio <0.7 and ≥ 0.6 of the baseline value | | |
| **Major adverse** | A reduction ratio <0.6 of the baseline value | | |

*Table 1: Criteria for assessing daylight, sunlight and overshadowing effects*

Please note that in terms of daylight and sunlight BRE considers that a reduction in daylight or sunlight of less than 20% is not likely to be materially noticeable to occupiers of buildings. Our report then uses 10% increments of exceedance above the relevant threshold to be able to make the difference between minor, moderate and major adverse impact.

# 7. Assessment

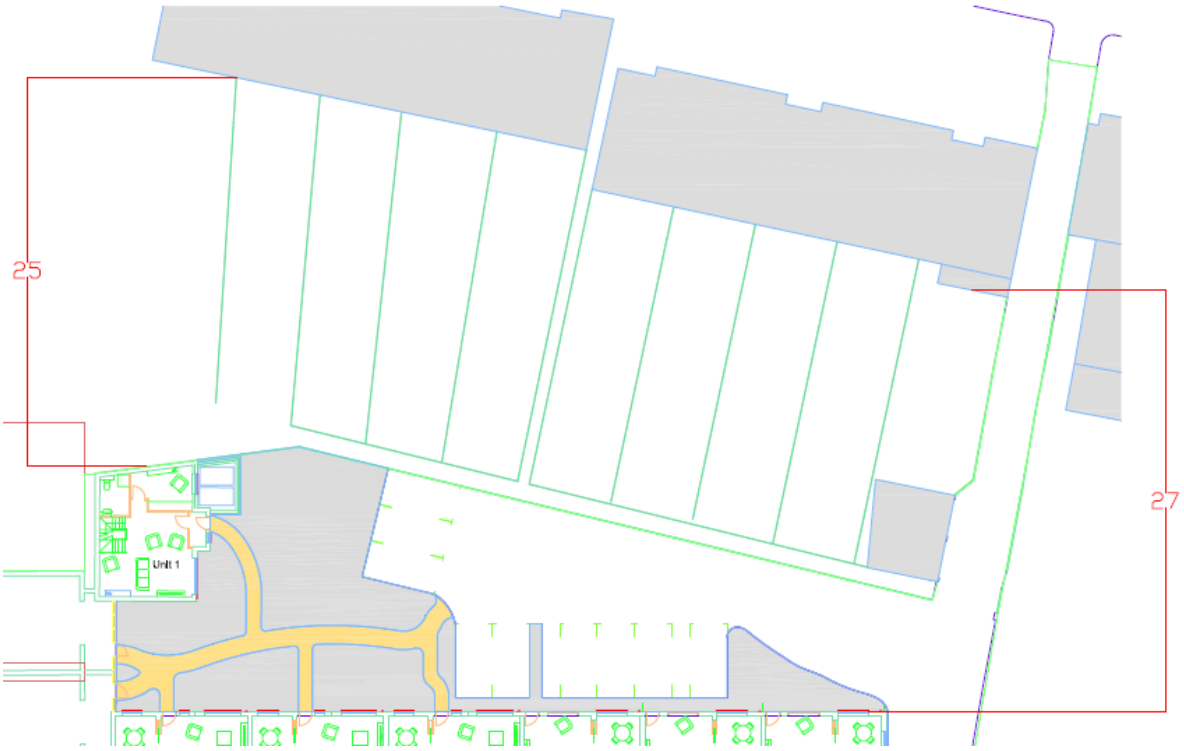
## 7.1. BS 8206-2: 1992

The foreword to BS 8206-2: 1992 states that:

*"The aim of the standard is to give guidance to architects, builders and others who carry out lighting design. It is recognised that lighting is only one of many matters that influence fenestration. These include other aspects of environmental performance (such as noise, thermal equilibrium and the control of energy use), fire hazards, constructional requirements, the external appearance and the surroundings of the site. The best design for a building does not necessarily incorporate the ideal solution for any individual function. For this reason, careful judgement should be exercised when using the criteria given in the standards for other purposes, particularly town planning control."*

## 7.2. Daylight

Due to the far distance between the proposed scheme and the nearest windows at 129 to 147 Kingsway Yard, it can be confirmed that the development will have no adverse impact in terms of daylight on these properties.

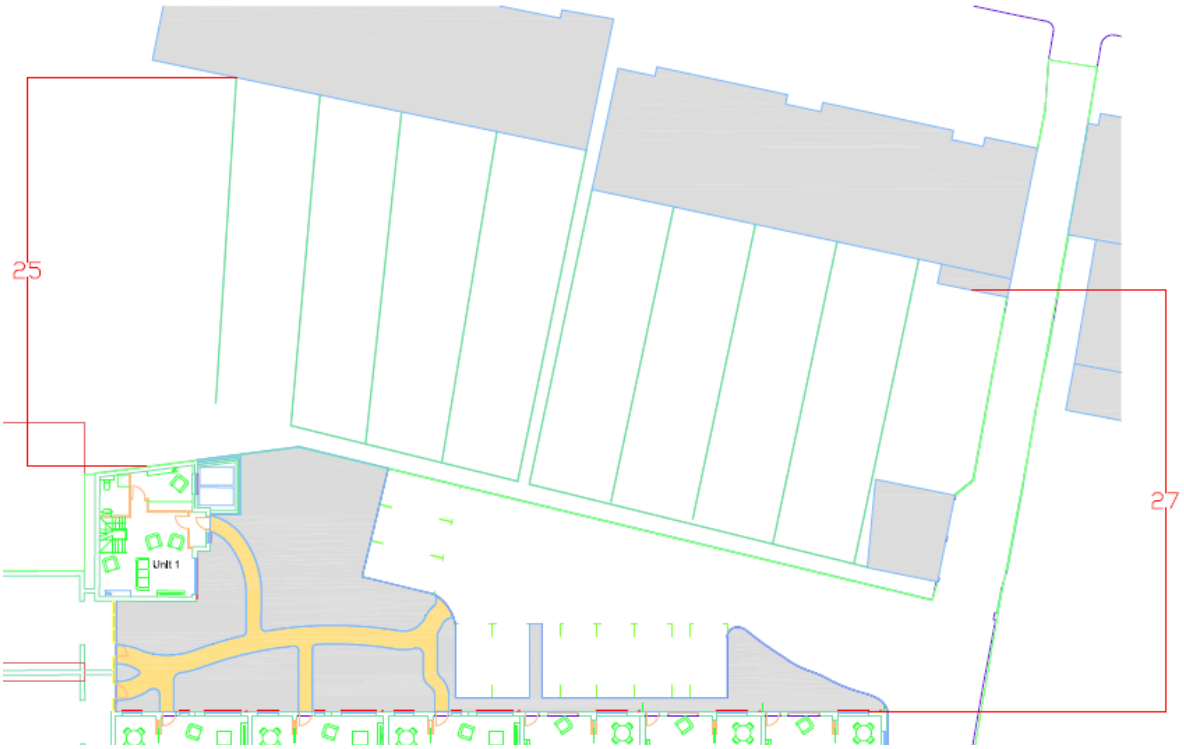



*Proposed site plan showing distance between development and existing buildings in meters*

→ **In terms of daylight the proposed scheme is considered acceptable.**

### 7.3. Sunlight

Due to the far distance between the proposed scheme and the nearest windows at 129 to 147 Kingsway Yard, it can be confirmed that the development will have no adverse impact in terms of sunlight on these properties.




*Proposed site plan showing distance between development and existing buildings in meters*

→ **In terms of sunlight the proposed scheme is considered acceptable.**

### 7.4. Overshadowing

The following results represent the cumulative overshadowing impacts of the proposed development. As identified from the AutoCAD drawings and/or site plan, ten existing amenity areas/gardens/open space are located at the rear of 129 to 147 Kingsway Yard. In accordance with the BRE guidelines, overshadowing has been assessed during times of the day where the sun's altitude is above 10º (from 7:30am to 5:00pm).

*BRE criteria:*

*"It is suggested that, for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March. If as a result of new development, an existing garden or amenity area does not meet these guidelines, and the area which can receive two hours of sun on 21st March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable".*

The pictures showing the overshadowing impact are indicated in section 9.8 of the Appendix.

**A summary of results is displayed in the table 4 below:**

| Overshadowing assessment from 7.30am to 5.00pm<br>% of area receiving sunlight on 21st March | | | | |
|---|---|---|---|---|
| **Amenity area** | **Existing (%)** | **Proposed (%)** | **Ratio** | **Result** |
| Amenity 1 – 129 Kingsway Yard – Garden | 35.04 | 35.04 | 1.00 | Negligible |
| Amenity 2 – 131 Kingsway Yard – Garden | 34.86 | 34.86 | 1.00 | Negligible |
| Amenity 3 – 133 Kingsway Yard – Garden | 34.80 | 34.83 | 1.00 | Negligible |
| Amenity 4 – 135 Kingsway Yard – Garden | 34.82 | 34.82 | 1.00 | Negligible |
| Amenity 5 – 137 Kingsway Yard – Garden | 34.72 | 34.72 | 1.00 | Negligible |
| Amenity 6 – 139 Kingsway Yard – Garden | 35.48 | 35.47 | 1.00 | Negligible |
| Amenity 7 – 141 Kingsway Yard – Garden | 41.72 | 40.92 | 0.98 | Negligible |
| Amenity 8 – 143 Kingsway Yard – Garden | 39.00 | 37.34 | 0.96 | Negligible |
| Amenity 9 – 145 Kingsway Yard – Garden | 40.36 | 37.26 | 0.92 | Negligible |
| Amenity 10 – 147 Kingsway Yard – Garden | 36.66 | 27.09 | 0.74 | Negligible |

*Table 4: Overshadowing results*

*Note: For location of target surfaces, see Appendix section 9.4 "Site plan and location"*

As can be seen in the table above, the existing amenity areas/gardens/open spaces will not be adversely impacted by the proposed development.

- ✓ **The slight loss in sunlight for the gardens is not considered of concern as at least half of their area will receive at least two hours of sunlight on 21st March or have a ratio existing/proposed more than 0.8 and will provide adequate levels of sunlight.**

*Impact on Amenity 10 – 147 Kingsway Yard – Garden as per BRE criteria stated above:*

- ✓ With the proposed development, at least half of the amenity area receives direct sunlight from 10.00am to 13.00pm (3 hours) on 21st March as shown below (*see also Appendix section 9.8 "Overshadowing results and pictures"*).

| Month | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mar | 0.00 | 29.30 | 47.00 | **50.70** | **53.90** | **62.40** | **48.10** | 29.50 | 3.00 | 0.60 | 0.50 | 0.10 |

*The results are expressed as a percentage of area receiving direct sunlight on the 21st March.*

→ **In terms of overshadowing the proposed scheme is considered acceptable.**

It should be noted that the values provided in the BRE 209 are for guidance purposes only.

# 8. Conclusion

## 8.1. Daylight

Due to the far distance between the proposed scheme and the nearest windows at 129 to 147 Kingsway Yard, it can be confirmed that the development will have no adverse impact in terms of daylight on these properties.

## 8.2. Sunlight

Due to the far distance between the proposed scheme and the nearest windows at 129 to 147 Kingsway Yard, it can be confirmed that the development will have no adverse impact in terms of sunlight on these properties.

## 8.3. Overshadowing

This report demonstrates that the existing amenity areas/gardens/open spaces located at the rear of 129 to 147 Mortlake Yard will not be adversely impacted by the proposed development.

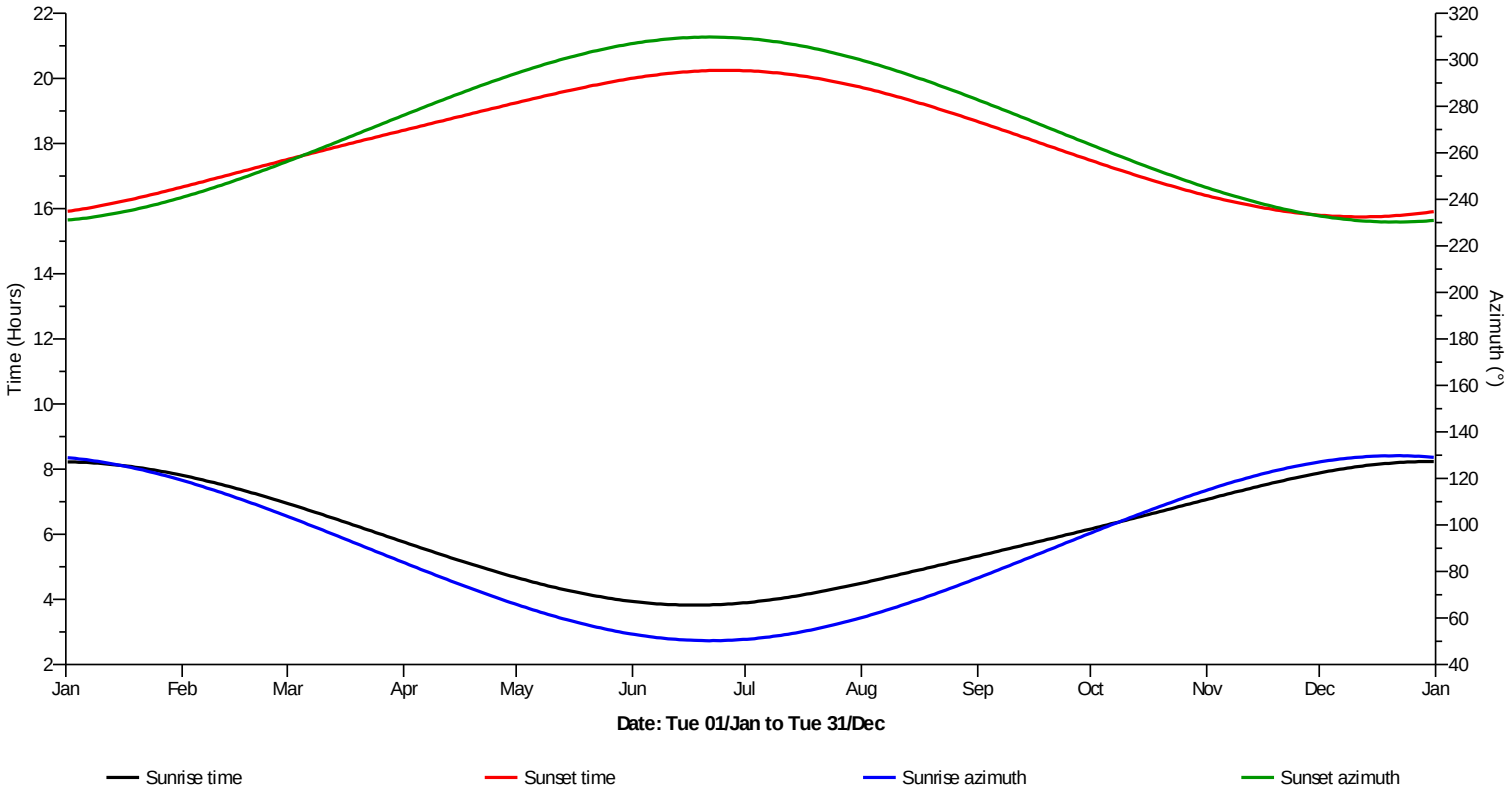
**BRE criteria met:** ☑

On balance, it can be concluded that the surroundings buildings **(129 to 147 Kingsway Yard)** will not be adversely impacted by the proposed development.

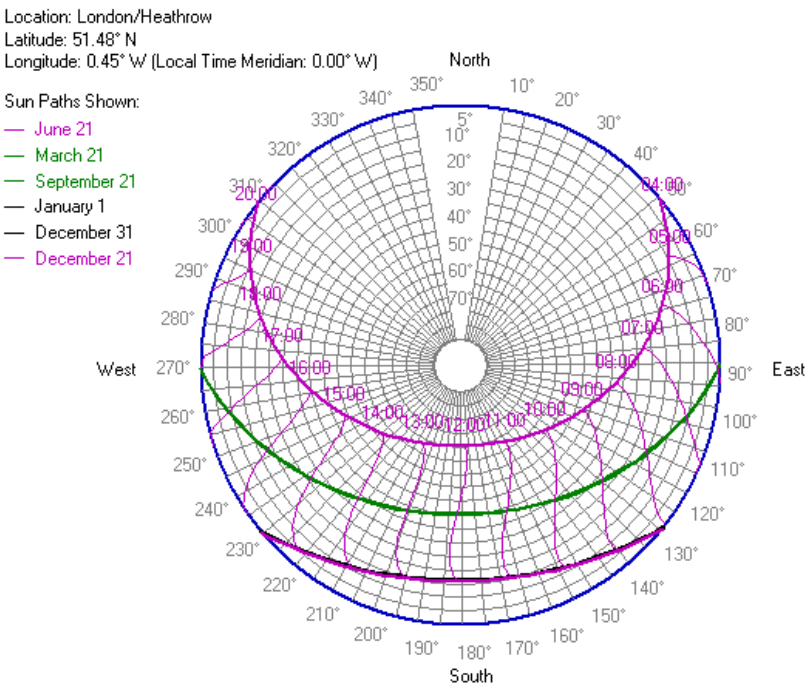
↳ **The proposed scheme is acceptable.**

# 9. Appendix

## 9.1. Sunrise and sunset time

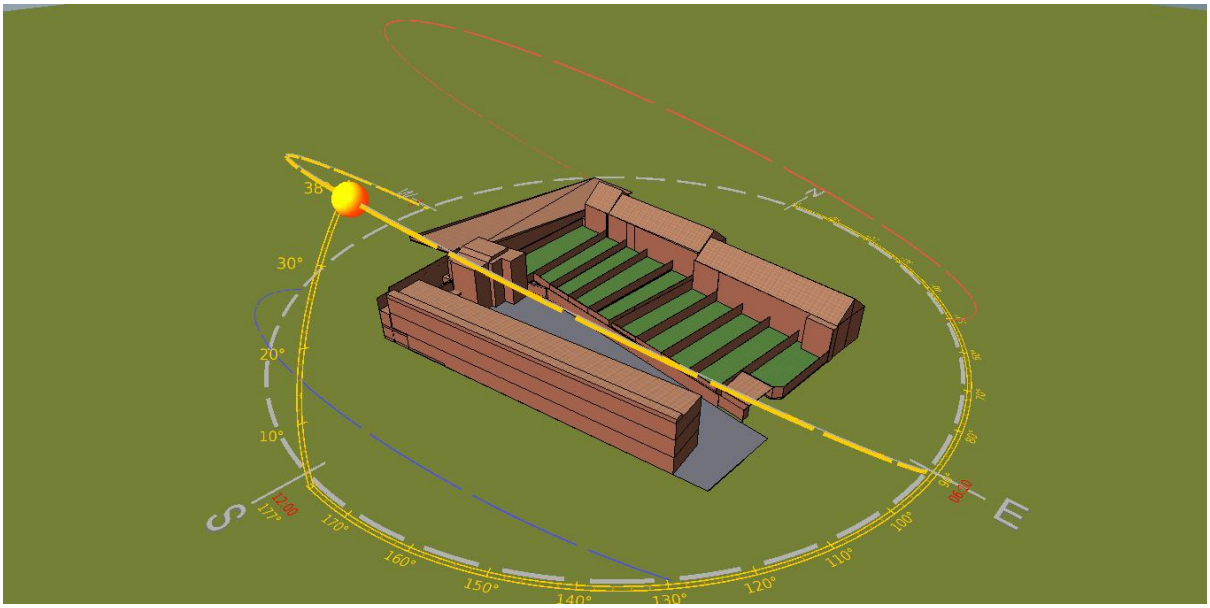


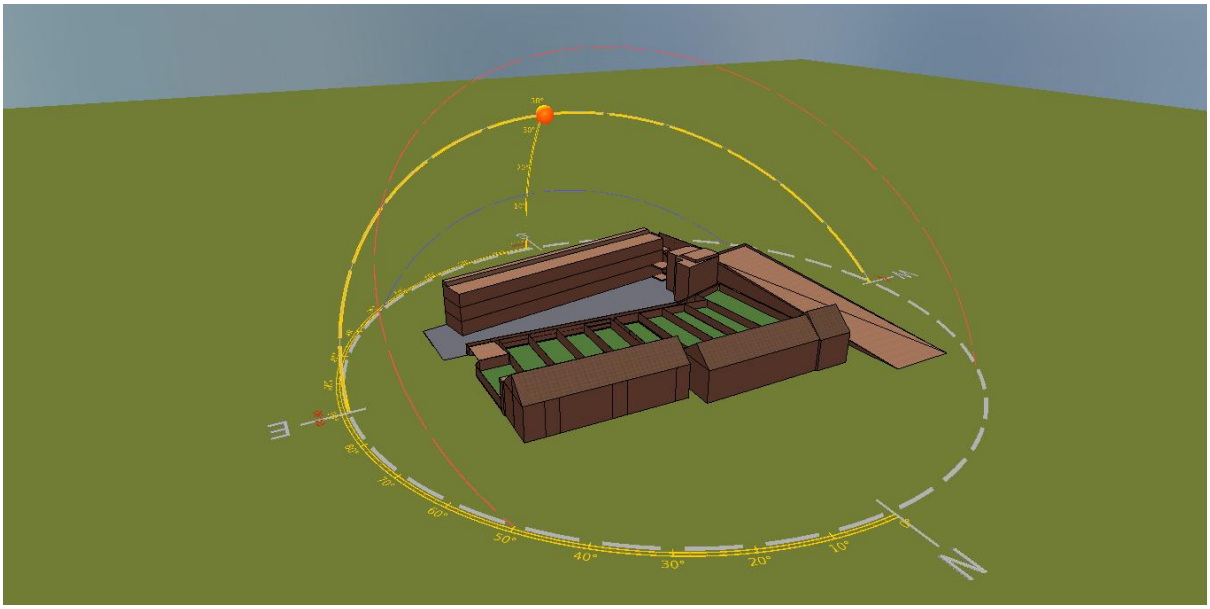

## 9.2. Sun path



### 9.3. Suntrace

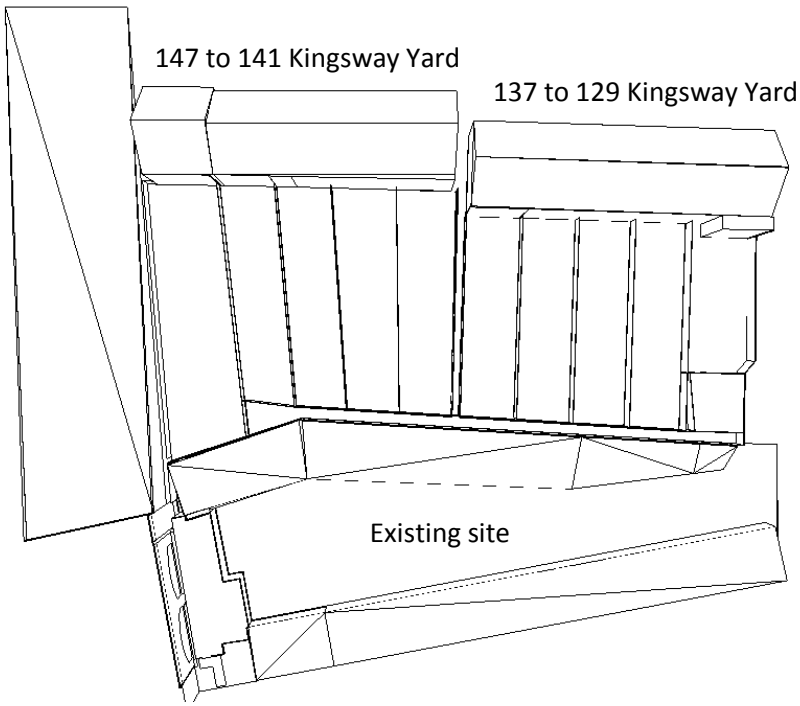
- The red line represents the sun's path during June.
- The yellow line represents the sun's path during March/September.
- The blue line represents the sun's path during December.



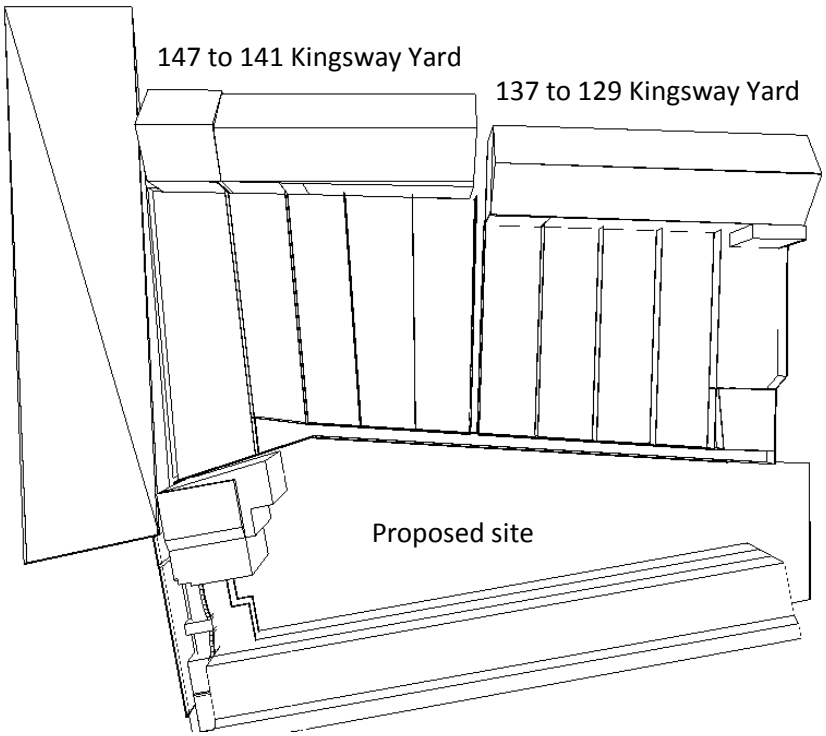



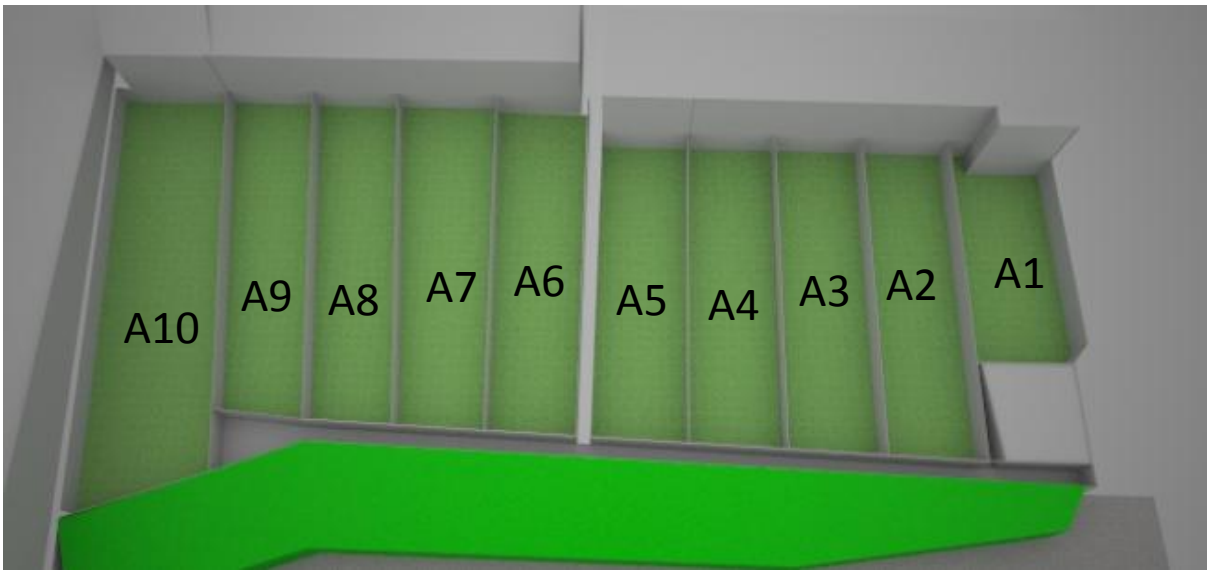
## 9.4. Site plan and location

### 9.4.1. Existing site layout




### 9.4.2. Proposed site layout

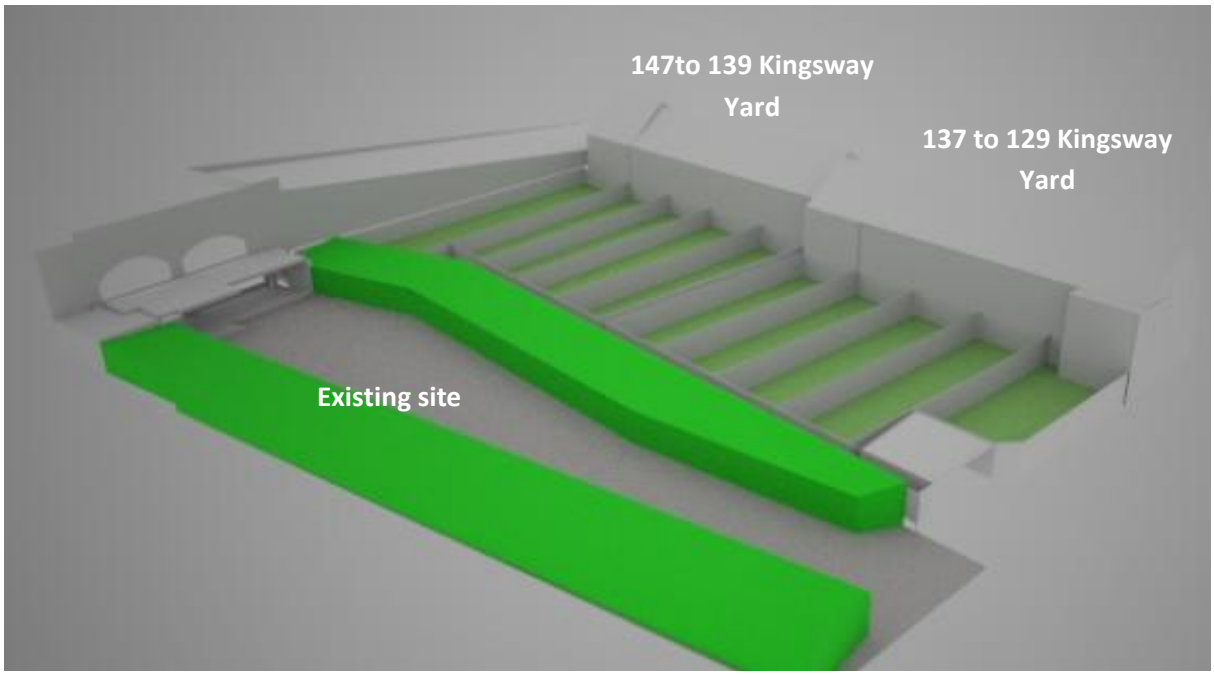




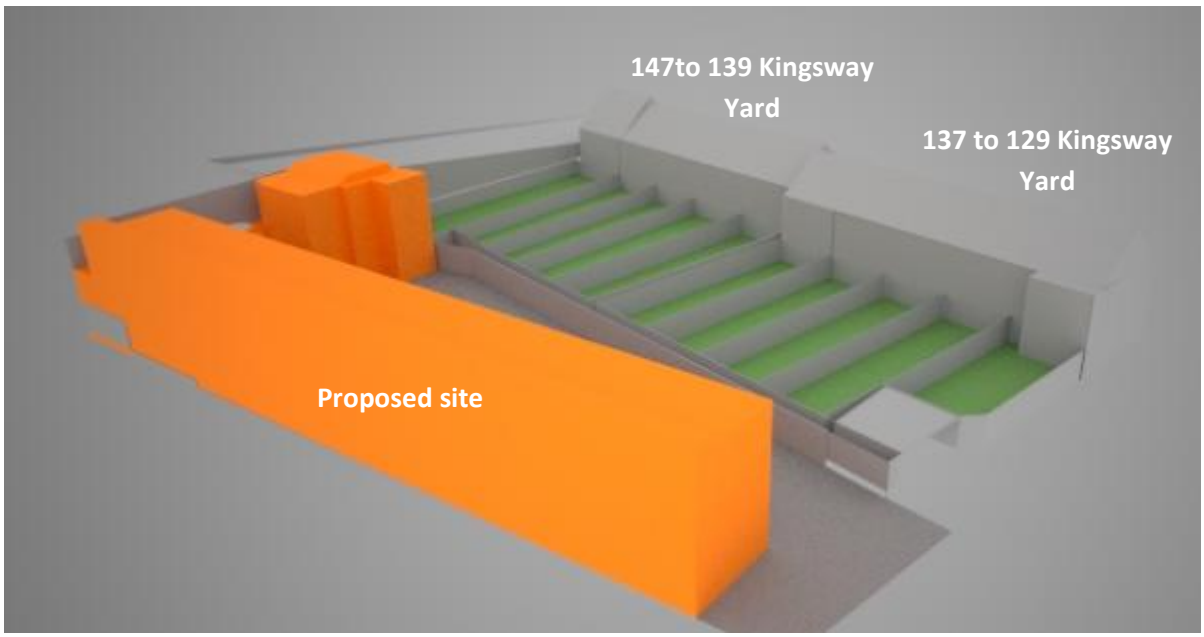

***Amenity areas 129 to 147 Kingsway Yard***

| Location | 129 to 147 Kingsway Yard, Mortlake SW14 7HN |
|---|---|
| **Latitude (°)** | 51.46 N |
| **Longitude (°)** | 0.27 W |

## 9.5. Model images



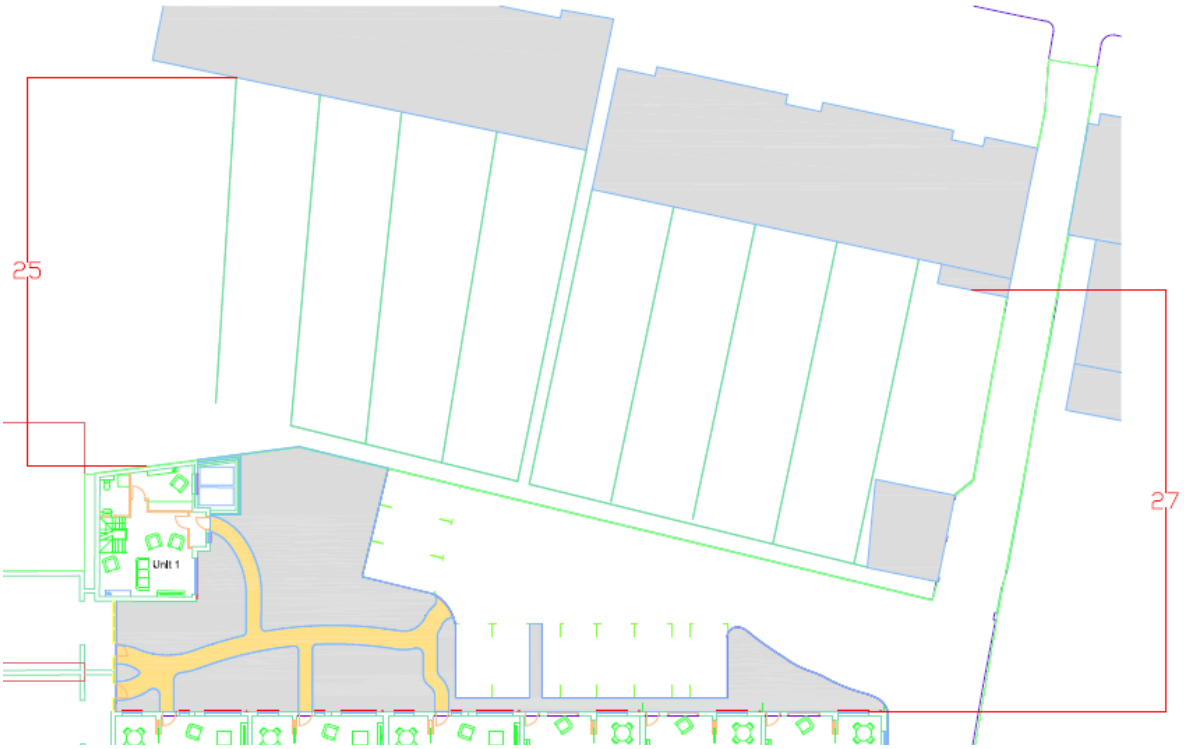

***Existing scheme***




***Proposed scheme***

### 9.6. Daylight results

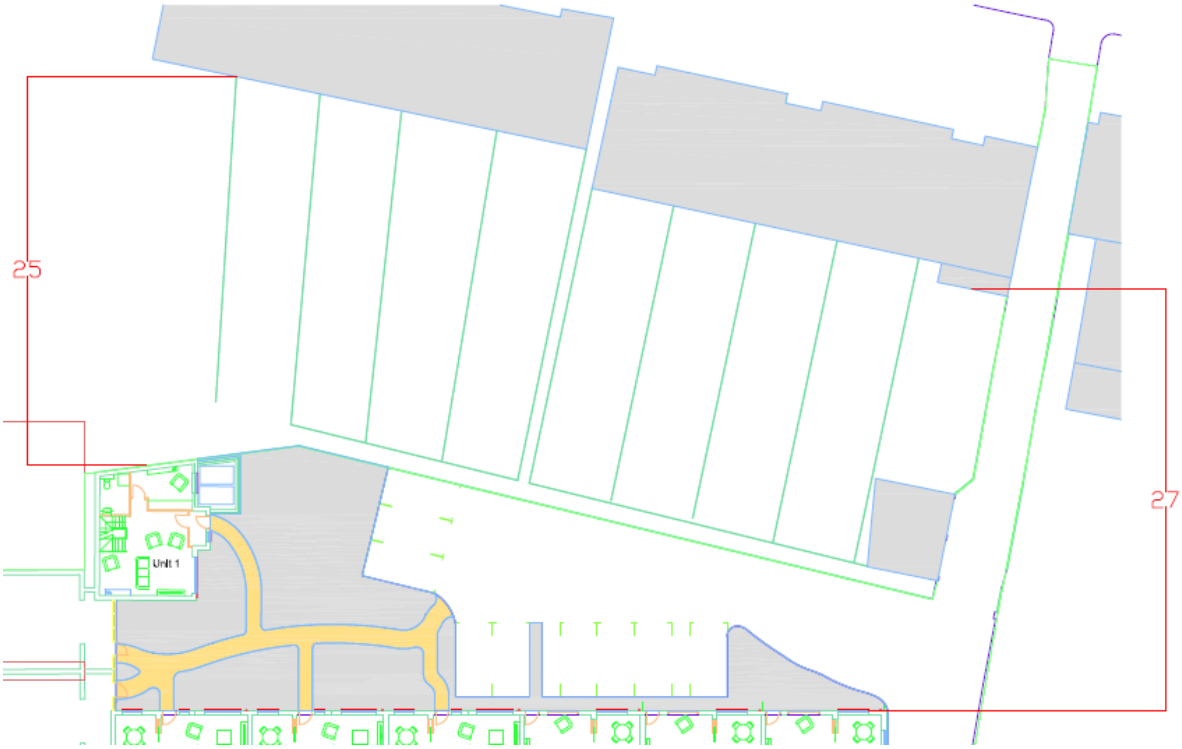
Due to the far distance between the proposed scheme and the nearest windows at 129 to 147 Kingsway Yard, it can be confirmed that the development will have no adverse impact in terms of daylight on these properties.




*Proposed site plan showing distance between development and existing buildings in meters*

### 9.7. Sunlight results

Due to the far distance between the proposed scheme and the nearest windows at 129 to 147 Kingsway Yard, it can be confirmed that the development will have no adverse impact in terms of daylight on these properties.




*Proposed site plan showing distance between development and existing buildings in meters*

## 9.8. Overshadowing results and pictures (21st March)

Amenity 1 – 129 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.10 | 11.20 | 35.00 | 51.50 | 43.30 | 22.40 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.10 | 2.40 | 34.20 | 53.10 | 67.10 | 61.80 | 44.80 | 21.90 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.30** | **34.60** | **53.80** | **67.40** | **78.80** | **71.90** | **58.10** | **41.50** | **14.10** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 3.30 | 36.90 | 54.80 | 67.40 | 77.70 | 87.10 | 78.40 | 67.30 | 54.90 | 37.20 | 3.50 | 0.00 | | |
| May | | 0.00 | 0.00 | 30.60 | 50.90 | 63.60 | 73.60 | 82.40 | 90.70 | 82.40 | 73.10 | 62.80 | 49.70 | 28.50 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 3.60 | 35.00 | 54.00 | 65.40 | 74.70 | 83.20 | 91.40 | 84.70 | 75.90 | 66.30 | 55.00 | 37.50 | 5.30 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 26.60 | 48.90 | 62.10 | 72.20 | 81.20 | 89.70 | 84.00 | 74.80 | 64.70 | 52.50 | 33.60 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 1.00 | 35.70 | 54.00 | 66.80 | 77.10 | 86.60 | 79.10 | 68.20 | 56.00 | 38.90 | 7.40 | 0.00 | 0.00 | |
| Sep | | | 0.20 | 0.00 | 12.20 | 40.90 | 58.00 | 70.70 | 80.60 | 68.70 | 54.60 | 36.30 | 3.60 | 0.00 | | | |
| Oct | | | | 0.30 | 0.10 | 19.60 | 43.60 | 59.70 | 68.30 | 52.60 | 33.50 | 2.90 | 0.00 | | | | |
| Nov | | | | | 0.30 | 0.10 | 21.10 | 41.60 | 52.80 | 34.40 | 10.80 | 0.00 | | | | | |
| Dec | | | | | | 0.20 | 5.80 | 28.20 | 43.80 | 28.30 | 6.30 | 0.00 | | | | | |

**Proposed**

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.10 | 11.20 | 35.00 | 40.60 | 23.30 | 7.40 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.10 | 2.40 | 34.20 | 53.10 | 67.10 | 61.80 | 44.80 | 21.90 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.30** | **34.60** | **53.80** | **67.40** | **78.80** | **71.90** | **58.10** | **41.50** | **14.10** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 3.30 | 36.90 | 54.80 | 67.40 | 77.70 | 87.10 | 78.40 | 67.30 | 54.90 | 37.20 | 3.50 | 0.00 | | |
| May | | 0.00 | 0.00 | 30.60 | 50.90 | 63.60 | 73.60 | 82.40 | 90.70 | 82.40 | 73.10 | 62.80 | 49.70 | 28.50 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 3.60 | 35.00 | 54.00 | 65.40 | 74.70 | 83.20 | 91.40 | 84.70 | 75.90 | 66.30 | 55.00 | 37.50 | 5.30 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 26.60 | 48.90 | 62.10 | 72.20 | 81.20 | 89.70 | 84.00 | 74.80 | 64.70 | 52.50 | 33.60 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 1.00 | 35.70 | 54.00 | 66.80 | 77.10 | 86.60 | 79.10 | 68.20 | 56.00 | 38.90 | 7.40 | 0.00 | 0.00 | |
| Sep | | | 0.20 | 0.00 | 12.20 | 40.90 | 58.00 | 70.70 | 80.60 | 68.70 | 54.60 | 36.30 | 3.60 | 0.00 | | | |
| Oct | | | | 0.30 | 0.10 | 19.60 | 43.60 | 59.70 | 68.30 | 52.60 | 33.50 | 2.90 | 0.00 | | | | |
| Nov | | | | | 0.30 | 0.10 | 21.10 | 41.60 | 30.30 | 14.90 | 0.00 | 0.00 | | | | | |
| Dec | | | | | | 0.20 | 5.80 | 28.20 | 10.70 | 0.00 | 0.00 | 0.00 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 35.04 | 35.04 | 1.00 |

Amenity 2 – 131 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 6.10 | 40.30 | 63.50 | 55.20 | 27.00 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 32.20 | 56.50 | 74.70 | 69.60 | 49.00 | 19.00 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **29.40** | **53.20** | **69.90** | **84.00** | **76.60** | **60.70** | **39.70** | **4.80** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 29.90 | 52.00 | 67.20 | 79.50 | 90.80 | 81.00 | 68.40 | 52.80 | 30.50 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 19.50 | 45.10 | 61.50 | 73.40 | 83.80 | 93.70 | 84.10 | 73.30 | 60.80 | 44.30 | 16.20 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 24.00 | 47.30 | 63.30 | 74.50 | 84.30 | 93.70 | 86.10 | 76.00 | 64.70 | 50.40 | 29.10 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 15.10 | 42.00 | 59.60 | 71.90 | 82.30 | 92.20 | 85.80 | 75.30 | 63.20 | 47.80 | 24.50 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.40 | 51.00 | 66.50 | 78.90 | 90.10 | 81.80 | 69.40 | 54.20 | 32.60 | 0.00 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 1.20 | 37.10 | 58.30 | 73.90 | 87.20 | 72.90 | 56.10 | 32.90 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 13.30 | 44.70 | 65.40 | 77.90 | 59.20 | 34.70 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 21.20 | 49.90 | 67.80 | 44.20 | 10.30 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 1.00 | 36.20 | 60.30 | 41.30 | 6.70 | 0.00 | | | | | |

**Proposed**

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 6.10 | 19.50 | 26.30 | 25.00 | 9.50 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 32.20 | 47.50 | 67.10 | 65.40 | 47.10 | 18.20 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **29.40** | **53.20** | **69.90** | **84.00** | **76.60** | **60.70** | **39.70** | **4.80** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 29.90 | 52.00 | 67.20 | 79.50 | 90.80 | 81.00 | 68.40 | 52.80 | 30.50 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 19.50 | 45.10 | 61.50 | 73.40 | 83.80 | 93.70 | 84.10 | 73.30 | 60.80 | 44.30 | 16.20 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 24.00 | 47.30 | 63.30 | 74.50 | 84.30 | 93.70 | 86.10 | 76.00 | 64.70 | 50.40 | 27.10 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 15.10 | 42.00 | 59.60 | 71.90 | 82.30 | 92.20 | 85.80 | 75.30 | 63.20 | 47.80 | 24.50 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.40 | 51.00 | 66.50 | 78.90 | 90.10 | 81.80 | 69.40 | 54.20 | 32.60 | 0.00 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 1.20 | 37.10 | 58.30 | 73.90 | 87.20 | 72.90 | 56.10 | 32.90 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 13.30 | 41.30 | 55.60 | 70.50 | 55.40 | 32.60 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 19.90 | 15.40 | 28.20 | 17.80 | 1.90 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 1.00 | 6.00 | 1.80 | 0.30 | 0.00 | 0.00 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 34.86 | 34.86 | 1.00 |

Amenity 3 – 133 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 6.10 | 40.20 | 63.30 | 55.00 | 26.90 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 32.20 | 56.40 | 74.50 | 69.40 | 48.90 | 18.90 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **29.30** | **53.10** | **69.90** | **83.90** | **76.50** | **60.60** | **39.60** | **4.70** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 29.90 | 51.90 | 67.10 | 79.50 | 90.70 | 80.90 | 68.30 | 52.80 | 30.40 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 19.60 | 45.80 | 61.40 | 73.40 | 83.80 | 93.60 | 84.00 | 73.30 | 60.70 | 44.30 | 18.50 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 25.20 | 49.10 | 63.30 | 74.50 | 84.30 | 93.70 | 86.00 | 76.00 | 64.60 | 50.30 | 29.10 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 14.90 | 43.30 | 59.60 | 71.80 | 82.30 | 92.10 | 85.80 | 75.20 | 63.20 | 47.70 | 24.50 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.40 | 51.00 | 66.40 | 78.80 | 90.10 | 81.80 | 69.30 | 54.10 | 32.60 | 0.00 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 1.20 | 37.10 | 58.20 | 73.80 | 87.00 | 72.80 | 56.00 | 32.80 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 13.30 | 44.50 | 65.30 | 77.70 | 59.10 | 34.60 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 21.10 | 49.70 | 67.60 | 44.00 | 10.20 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 1.00 | 36.10 | 60.10 | 41.10 | 6.70 | 0.00 | | | | | |

**Proposed**

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 3.40 | 13.30 | 31.80 | 29.80 | 12.00 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 25.30 | 51.40 | 72.90 | 69.30 | 48.90 | 19.00 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **29.40** | **53.20** | **69.90** | **83.90** | **76.50** | **60.70** | **39.60** | **4.80** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 29.90 | 52.00 | 67.20 | 79.50 | 90.70 | 80.90 | 68.30 | 52.80 | 30.50 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 19.70 | 45.90 | 61.50 | 73.40 | 83.80 | 93.60 | 84.00 | 73.30 | 60.80 | 44.30 | 10.60 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 25.30 | 49.20 | 63.40 | 74.50 | 84.30 | 93.70 | 86.00 | 76.00 | 64.70 | 50.40 | 29.20 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 15.00 | 43.30 | 59.60 | 71.90 | 82.30 | 92.10 | 85.80 | 75.20 | 63.20 | 47.80 | 24.60 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.50 | 51.00 | 66.40 | 78.80 | 90.10 | 81.80 | 69.30 | 54.20 | 32.70 | 0.00 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 1.30 | 37.10 | 58.20 | 73.90 | 87.00 | 72.80 | 56.10 | 32.90 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 12.40 | 37.20 | 60.80 | 76.40 | 59.00 | 34.60 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 3.80 | 19.40 | 34.10 | 21.70 | 2.90 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 0.30 | 0.00 | 7.30 | 3.90 | 0.00 | 0.00 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 34.80 | 34.83 | 1.00 |

Amenity 4 – 135 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 6.10 | 40.10 | 63.10 | 54.80 | 26.80 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 32.20 | 56.40 | 74.50 | 69.30 | 48.80 | 18.90 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **29.40** | **53.20** | **69.90** | **83.90** | **76.40** | **60.60** | **39.60** | **4.80** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 30.00 | 52.00 | 67.20 | 79.50 | 90.80 | 80.90 | 68.30 | 52.80 | 30.40 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 20.90 | 45.90 | 61.50 | 73.50 | 83.80 | 93.60 | 84.00 | 73.20 | 60.70 | 44.30 | 18.50 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 25.70 | 49.20 | 63.40 | 74.60 | 84.40 | 93.70 | 86.00 | 76.00 | 64.60 | 50.30 | 29.20 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 16.10 | 43.40 | 59.60 | 71.90 | 82.40 | 92.20 | 85.70 | 75.20 | 63.20 | 47.70 | 24.50 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.50 | 51.10 | 66.50 | 78.80 | 90.10 | 81.70 | 69.30 | 54.10 | 32.60 | 0.00 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 1.30 | 37.10 | 58.20 | 73.80 | 86.90 | 72.70 | 56.00 | 32.80 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 13.30 | 44.50 | 65.20 | 77.60 | 59.00 | 34.50 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 21.10 | 49.60 | 67.30 | 43.80 | 10.20 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 1.10 | 35.90 | 59.80 | 40.90 | 6.70 | 0.00 | | | | | |

**Proposed**

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 0.00 | 16.90 | 37.40 | 34.70 | 14.50 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 27.90 | 55.70 | 74.50 | 69.30 | 48.80 | 18.90 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **29.40** | **53.20** | **69.90** | **83.90** | **76.40** | **60.60** | **39.60** | **4.80** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 30.00 | 52.00 | 67.20 | 79.50 | 90.80 | 80.90 | 68.30 | 52.80 | 30.40 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 20.90 | 45.90 | 61.50 | 73.50 | 83.80 | 93.60 | 84.00 | 73.20 | 60.70 | 44.30 | 11.00 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 25.70 | 49.20 | 63.40 | 74.60 | 84.40 | 93.70 | 86.00 | 76.00 | 64.60 | 50.30 | 29.20 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 16.10 | 43.40 | 59.60 | 71.90 | 82.40 | 92.20 | 85.70 | 75.20 | 63.20 | 47.70 | 24.50 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.50 | 51.10 | 66.50 | 78.80 | 90.10 | 81.70 | 69.30 | 54.10 | 32.60 | 0.00 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 1.30 | 37.10 | 58.20 | 73.80 | 86.90 | 72.70 | 56.00 | 32.80 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 9.60 | 40.90 | 65.10 | 77.60 | 59.00 | 34.50 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 3.30 | 23.80 | 40.10 | 25.70 | 3.90 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 0.00 | 0.00 | 12.90 | 7.90 | 0.00 | 0.00 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 34.82 | 34.82 | 1.00 |

Amenity 5 – 137 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 6.00 | 39.90 | 62.80 | 54.60 | 26.60 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 32.00 | 56.20 | 74.20 | 69.10 | 48.70 | 18.90 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **29.20** | **53.00** | **69.70** | **83.70** | **76.30** | **60.50** | **39.50** | **4.80** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 29.90 | 51.90 | 67.10 | 79.30 | 90.60 | 80.80 | 68.20 | 52.70 | 30.40 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 20.80 | 45.80 | 61.40 | 73.30 | 83.70 | 93.50 | 83.90 | 73.20 | 60.70 | 44.30 | 18.60 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 25.60 | 49.10 | 63.30 | 74.40 | 84.20 | 93.60 | 86.00 | 75.90 | 64.60 | 50.30 | 29.40 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 16.00 | 43.30 | 59.50 | 71.80 | 82.20 | 92.00 | 85.70 | 75.20 | 63.10 | 47.70 | 24.50 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.40 | 51.00 | 66.30 | 78.70 | 89.90 | 81.60 | 69.20 | 54.10 | 32.60 | 0.00 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 1.20 | 37.00 | 58.00 | 73.70 | 86.80 | 72.60 | 55.90 | 32.70 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 13.20 | 44.40 | 65.00 | 77.40 | 58.80 | 34.40 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 20.90 | 49.30 | 67.10 | 43.60 | 10.10 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 1.00 | 35.70 | 59.40 | 40.70 | 6.60 | 0.00 | | | | | |

**Proposed**

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 0.30 | 20.40 | 43.00 | 39.70 | 17.10 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 30.40 | 56.20 | 74.20 | 69.10 | 48.70 | 18.90 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **29.20** | **53.00** | **69.70** | **83.70** | **76.30** | **60.50** | **39.50** | **4.80** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 29.90 | 51.90 | 67.10 | 79.30 | 90.60 | 80.80 | 68.20 | 52.70 | 30.40 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 20.80 | 45.80 | 61.40 | 73.30 | 83.70 | 93.50 | 83.90 | 73.20 | 60.70 | 44.30 | 18.60 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 25.60 | 49.10 | 63.30 | 74.40 | 84.20 | 93.60 | 86.00 | 75.90 | 64.60 | 50.30 | 29.40 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 16.00 | 43.30 | 59.50 | 71.80 | 82.20 | 92.00 | 85.70 | 75.20 | 63.10 | 47.70 | 24.50 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.40 | 51.00 | 66.30 | 78.70 | 89.90 | 81.60 | 69.20 | 54.10 | 32.60 | 0.00 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 1.20 | 37.00 | 58.00 | 73.70 | 86.80 | 72.60 | 55.90 | 32.70 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 10.70 | 44.10 | 65.00 | 77.40 | 58.80 | 34.40 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 5.20 | 28.20 | 46.20 | 29.80 | 4.90 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 0.00 | 2.90 | 18.60 | 11.90 | 0.00 | 0.00 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 34.72 | 34.72 | 1.00 |

Amenity 6 – 139 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 9.40 | 44.20 | 67.80 | 55.10 | 26.30 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 35.00 | 59.40 | 77.70 | 69.40 | 48.70 | 18.30 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **31.30** | **55.20** | **72.00** | **86.10** | **76.50** | **60.60** | **39.50** | **4.60** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 29.60 | 53.10 | 68.60 | 80.90 | 91.80 | 80.90 | 68.40 | 52.90 | 30.70 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 18.30 | 42.90 | 61.20 | 74.30 | 84.90 | 94.00 | 84.00 | 73.40 | 60.90 | 44.70 | 19.40 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 22.40 | 44.90 | 62.10 | 75.10 | 85.30 | 94.60 | 86.10 | 76.10 | 64.90 | 50.70 | 29.80 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 13.90 | 40.00 | 58.80 | 72.60 | 83.40 | 93.20 | 85.80 | 75.30 | 63.40 | 48.10 | 25.30 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.10 | 52.10 | 67.80 | 80.30 | 91.50 | 81.80 | 69.40 | 54.30 | 32.90 | 0.10 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 3.50 | 39.10 | 60.20 | 76.00 | 87.10 | 72.80 | 56.00 | 32.70 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 16.00 | 47.50 | 68.40 | 77.90 | 59.00 | 34.20 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 24.80 | 54.00 | 68.00 | 43.90 | 8.90 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 4.30 | 40.70 | 64.40 | 41.20 | 5.20 | 0.00 | | | | | |

**Proposed**

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 3.40 | 30.90 | 56.40 | 47.90 | 21.40 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 0.00 | 35.00 | 59.40 | 77.70 | 69.40 | 48.70 | 16.60 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **0.00** | **31.30** | **55.20** | **72.00** | **86.10** | **76.50** | **60.60** | **39.50** | **4.40** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 0.00 | 29.60 | 53.10 | 68.60 | 80.90 | 91.80 | 80.90 | 68.40 | 52.90 | 30.70 | 0.00 | 0.00 | | |
| May | | 0.00 | 0.00 | 18.30 | 42.90 | 61.20 | 74.30 | 84.90 | 94.00 | 84.00 | 73.40 | 60.90 | 44.70 | 19.40 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.00 | 22.40 | 44.90 | 62.10 | 75.10 | 85.30 | 94.60 | 86.10 | 76.10 | 64.90 | 50.70 | 29.80 | 0.00 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 13.90 | 40.00 | 58.80 | 72.60 | 83.40 | 93.20 | 85.80 | 75.30 | 63.40 | 48.10 | 25.30 | 0.00 | 0.00 | |
| Aug | | | 0.00 | 0.00 | 28.10 | 52.10 | 67.80 | 80.30 | 91.50 | 81.80 | 69.40 | 54.30 | 32.90 | 0.10 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 3.50 | 39.10 | 60.20 | 76.00 | 87.10 | 72.80 | 56.00 | 32.70 | 0.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 15.10 | 47.50 | 68.40 | 77.90 | 59.00 | 34.20 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 12.40 | 40.20 | 56.80 | 36.80 | 5.50 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 0.00 | 14.30 | 34.50 | 21.90 | 1.30 | 0.00 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 35.48 | 35.47 | 1.00 |

Amenity 7 – 141 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 26.20 | 56.20 | 75.00 | 58.90 | 33.80 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 13.30 | 48.30 | 68.50 | 83.60 | 72.20 | 54.90 | 29.10 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **9.30** | **45.30** | **64.70** | **78.40** | **89.30** | **79.00** | **66.00** | **48.70** | **20.00** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 10.20 | 45.10 | 63.00 | 75.30 | 85.40 | 92.60 | 83.30 | 73.10 | 60.80 | 43.10 | 11.10 | 0.00 | | |
| May | | 0.00 | 0.30 | 31.90 | 57.50 | 70.20 | 79.90 | 88.40 | 94.30 | 86.20 | 77.60 | 67.80 | 55.10 | 35.40 | 0.30 | 0.00 | |
| Jun | 0.00 | 0.00 | 5.00 | 35.30 | 59.90 | 71.50 | 80.70 | 88.60 | 95.50 | 87.90 | 80.00 | 71.10 | 60.10 | 43.70 | 12.50 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 27.40 | 55.40 | 68.60 | 78.70 | 87.20 | 94.90 | 87.60 | 79.20 | 69.70 | 57.80 | 40.20 | 5.00 | 0.00 | |
| Aug | | | 0.00 | 7.70 | 43.90 | 62.20 | 74.70 | 84.80 | 93.00 | 84.00 | 74.00 | 61.90 | 44.90 | 14.70 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 22.40 | 51.60 | 68.80 | 81.70 | 87.60 | 75.90 | 62.20 | 43.20 | 9.00 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 32.50 | 58.70 | 75.90 | 79.20 | 63.50 | 42.60 | 5.80 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 39.50 | 64.40 | 69.90 | 49.20 | 18.10 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 20.80 | 53.20 | 68.30 | 46.20 | 12.90 | 0.00 | | | | | |

**Proposed**

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 12.80 | 44.80 | 68.70 | 56.00 | 13.00 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 12.50 | 48.30 | 68.50 | 83.60 | 72.20 | 54.90 | 13.30 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **9.30** | **45.30** | **64.70** | **78.40** | **89.30** | **79.00** | **66.00** | **41.30** | **17.80** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 10.20 | 45.10 | 63.00 | 75.30 | 85.40 | 92.60 | 83.30 | 73.10 | 60.80 | 42.70 | 11.10 | 0.00 | | |
| May | | 0.00 | 0.30 | 31.90 | 57.50 | 70.20 | 79.90 | 88.40 | 94.30 | 86.20 | 77.60 | 67.80 | 55.10 | 35.40 | 0.30 | 0.00 | |
| Jun | 0.00 | 0.00 | 5.00 | 35.30 | 59.90 | 71.50 | 80.70 | 88.60 | 95.50 | 87.90 | 80.00 | 71.10 | 60.10 | 43.70 | 12.50 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 27.40 | 55.40 | 68.60 | 78.70 | 87.20 | 94.90 | 87.60 | 79.20 | 69.70 | 57.80 | 40.20 | 5.00 | 0.00 | |
| Aug | | | 0.00 | 7.70 | 43.90 | 62.20 | 74.70 | 84.80 | 93.00 | 84.00 | 74.00 | 61.90 | 44.10 | 14.70 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 22.40 | 51.60 | 68.80 | 81.70 | 87.60 | 75.90 | 62.20 | 34.30 | 8.90 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 32.40 | 58.70 | 75.90 | 79.20 | 63.50 | 28.30 | 4.70 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 24.60 | 54.00 | 64.30 | 45.20 | 1.20 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 0.00 | 26.60 | 45.00 | 30.60 | 0.20 | 0.00 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 41.72 | 40.92 | 0.98 |

Amenity 8 – 143 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 24.90 | 57.10 | 74.70 | 54.10 | 26.60 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 9.00 | 46.90 | 68.80 | 84.50 | 68.80 | 49.80 | 19.50 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **2.70** | **42.20** | **63.50** | **78.60** | **89.00** | **76.30** | **62.10** | **43.10** | **11.60** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 3.40 | 40.60 | 60.60 | 74.40 | 85.50 | 91.50 | 81.20 | 70.10 | 56.60 | 37.30 | 2.40 | 0.00 | | |
| May | | 0.00 | 0.00 | 30.70 | 53.80 | 68.10 | 79.00 | 88.30 | 93.40 | 84.50 | 75.20 | 64.40 | 50.50 | 29.00 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.30 | 34.30 | 56.30 | 69.40 | 79.60 | 88.50 | 94.90 | 86.50 | 77.80 | 68.10 | 56.10 | 38.30 | 6.80 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 25.90 | 51.30 | 66.30 | 77.50 | 87.00 | 94.90 | 86.00 | 76.90 | 66.50 | 53.50 | 34.20 | 0.10 | 0.00 | |
| Aug | | | 0.00 | 1.20 | 39.30 | 59.70 | 73.70 | 84.80 | 92.20 | 82.00 | 71.00 | 57.80 | 39.10 | 6.10 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 17.00 | 49.10 | 68.10 | 82.20 | 85.80 | 73.00 | 58.00 | 37.00 | 0.60 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 29.90 | 58.30 | 77.10 | 76.40 | 59.20 | 36.20 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 39.30 | 66.10 | 66.20 | 43.50 | 3.60 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 20.20 | 54.80 | 64.40 | 40.30 | 0.00 | 0.00 | | | | | |

**Proposed**

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 13.30 | 48.90 | 73.20 | 32.20 | 0.00 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 8.80 | 46.90 | 68.80 | 84.50 | 64.50 | 25.40 | 13.10 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **2.70** | **42.20** | **63.50** | **78.60** | **89.00** | **75.90** | **49.40** | **35.40** | **11.40** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 3.40 | 40.60 | 60.60 | 74.40 | 85.50 | 91.50 | 81.20 | 66.90 | 54.60 | 37.30 | 2.40 | 0.00 | | |
| May | | 0.00 | 0.00 | 30.70 | 53.80 | 68.10 | 79.00 | 88.30 | 93.40 | 84.50 | 74.70 | 64.40 | 50.50 | 29.00 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 0.30 | 34.30 | 56.30 | 69.40 | 79.60 | 88.50 | 94.90 | 86.50 | 77.70 | 68.10 | 56.10 | 38.30 | 6.80 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 25.90 | 51.30 | 66.30 | 77.50 | 87.00 | 94.90 | 86.00 | 76.50 | 66.50 | 53.50 | 34.20 | 0.10 | 0.00 | |
| Aug | | | 0.00 | 1.20 | 39.30 | 59.70 | 73.70 | 84.80 | 92.20 | 82.00 | 68.10 | 55.50 | 39.10 | 6.10 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 17.00 | 49.10 | 68.10 | 82.20 | 85.80 | 69.50 | 45.30 | 31.20 | 0.60 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 29.90 | 58.30 | 77.10 | 76.40 | 41.20 | 17.30 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 26.50 | 59.60 | 65.20 | 8.50 | 1.70 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 0.30 | 30.90 | 46.80 | 5.30 | 0.00 | 0.00 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 39.00 | 37.34 | 0.96 |

Amenity 9 – 145 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 30.50 | 60.80 | 74.00 | 54.50 | 12.10 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 15.60 | 51.20 | 71.60 | 84.10 | 69.10 | 51.10 | 12.00 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **9.60** | **46.60** | **66.50** | **80.60** | **88.60** | **76.70** | **63.30** | **45.50** | **6.90** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 10.20 | 45.00 | 63.60 | 76.50 | 86.80 | 91.30 | 81.70 | 71.30 | 58.70 | 40.80 | 4.30 | 0.00 | | |
| May | | 0.00 | 0.00 | 35.10 | 57.20 | 70.50 | 80.70 | 89.40 | 93.30 | 84.90 | 76.20 | 66.20 | 53.40 | 33.60 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 4.00 | 38.20 | 59.40 | 71.70 | 81.20 | 89.50 | 94.80 | 86.90 | 78.70 | 69.70 | 58.70 | 42.20 | 9.50 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 30.50 | 54.90 | 68.90 | 79.30 | 88.10 | 94.70 | 86.40 | 77.80 | 68.20 | 56.20 | 38.60 | 2.80 | 0.00 | |
| Aug | | | 0.00 | 7.50 | 43.70 | 62.80 | 75.80 | 86.20 | 92.00 | 82.40 | 72.10 | 59.80 | 42.50 | 6.60 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 23.00 | 53.00 | 70.70 | 83.90 | 85.60 | 73.60 | 59.50 | 39.90 | 1.10 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 35.20 | 61.80 | 79.30 | 76.20 | 60.00 | 34.30 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 44.10 | 69.20 | 65.90 | 43.40 | 0.00 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 26.00 | 58.70 | 63.90 | 36.10 | 0.00 | 0.00 | | | | | |

**Proposed**

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 18.90 | 56.80 | 33.50 | 3.30 | 10.80 | 0.00 | 0.00 | | | | |
| Feb | | | | | 0.00 | 15.60 | 51.20 | 71.50 | 64.90 | 38.70 | 30.70 | 12.00 | 0.00 | 0.00 | | | |
| **Mar** | | | | **0.00** | **9.60** | **46.60** | **66.50** | **80.20** | **78.70** | **61.60** | **53.40** | **43.60** | **6.90** | **0.00** | **0.00** | | |
| Apr | | | 0.00 | 10.20 | 45.00 | 63.60 | 76.50 | 86.30 | 87.60 | 76.60 | 70.10 | 58.70 | 40.80 | 4.30 | 0.00 | | |
| May | | 0.00 | 0.00 | 35.10 | 57.20 | 70.50 | 80.70 | 89.30 | 92.70 | 84.20 | 76.20 | 66.20 | 53.40 | 33.60 | 0.00 | 0.00 | |
| Jun | 0.00 | 0.00 | 4.00 | 38.20 | 59.40 | 71.70 | 81.20 | 89.50 | 94.70 | 86.70 | 78.70 | 69.70 | 58.70 | 42.20 | 9.50 | 0.00 | 0.00 |
| Jul | | 0.00 | 0.00 | 30.50 | 54.90 | 68.90 | 79.30 | 88.10 | 94.30 | 85.70 | 77.80 | 68.20 | 56.20 | 38.60 | 2.80 | 0.00 | |
| Aug | | | 0.00 | 7.50 | 43.70 | 62.80 | 75.80 | 85.90 | 88.50 | 77.20 | 70.80 | 59.80 | 42.50 | 6.60 | 0.00 | 0.00 | |
| Sep | | | 0.00 | 0.00 | 23.00 | 53.00 | 70.70 | 81.70 | 73.50 | 60.20 | 51.00 | 39.60 | 1.10 | 0.00 | | | |
| Oct | | | | 0.00 | 0.00 | 35.20 | 61.80 | 72.80 | 44.70 | 33.00 | 29.00 | 0.00 | 0.00 | | | | |
| Nov | | | | | 0.00 | 0.00 | 33.30 | 60.90 | 6.60 | 4.00 | 0.00 | 0.00 | | | | | |
| Dec | | | | | | 0.00 | 3.30 | 38.30 | 7.30 | 0.00 | 0.00 | 0.00 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 40.36 | 37.26 | 0.92 |

Amenity 10 – 147 Kingsway Yard – Garden

*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

**Existing**

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 42.00 | 65.80 | 71.70 | 16.10 | 0.50 | 1.20 | 1.50 | | | | |
| Feb | | | | | 0.00 | 33.70 | 60.30 | 76.00 | 85.70 | 49.50 | 9.50 | 0.60 | 1.30 | 1.50 | | | |
| **Mar** | | | | **0.00** | **32.10** | **58.50** | **73.30** | **83.90** | **90.40** | **64.10** | **33.40** | **3.00** | **0.60** | **0.50** | **0.10** | | |
| Apr | | | 0.00 | 34.80 | 58.70 | 72.10 | 81.60 | 89.40 | 93.10 | 72.40 | 49.20 | 21.70 | 0.80 | 0.20 | 0.10 | | |
| May | | 0.00 | 22.60 | 53.10 | 68.10 | 77.70 | 85.10 | 91.60 | 94.80 | 77.60 | 58.40 | 36.80 | 11.00 | 0.00 | 0.10 | 0.00 | |
| Jun | 0.00 | 0.00 | 29.50 | 55.40 | 69.90 | 78.70 | 85.60 | 91.80 | 95.90 | 81.10 | 63.30 | 43.70 | 20.50 | 2.00 | 0.10 | 0.00 | 0.10 |
| Jul | | 0.00 | 16.60 | 49.70 | 66.50 | 76.50 | 84.10 | 90.70 | 95.80 | 80.80 | 61.90 | 41.00 | 15.60 | 0.60 | 0.10 | 0.10 | |
| Aug | | | 0.00 | 33.00 | 57.80 | 71.50 | 81.10 | 89.00 | 93.60 | 73.90 | 51.00 | 24.10 | 1.40 | 0.20 | 0.10 | 0.10 | |
| Sep | | | 0.00 | 0.00 | 41.50 | 63.20 | 76.50 | 86.50 | 85.00 | 56.80 | 25.00 | 0.60 | 0.90 | 0.30 | | | |
| Oct | | | | 0.00 | 7.10 | 48.10 | 68.30 | 81.90 | 67.90 | 27.10 | 0.50 | 0.90 | 1.50 | | | | |
| Nov | | | | | 0.00 | 17.10 | 52.50 | 72.50 | 48.60 | 2.00 | 0.70 | 1.50 | | | | | |
| Dec | | | | | | 0.00 | 36.80 | 63.20 | 48.30 | 0.40 | 0.80 | 1.50 | | | | | |

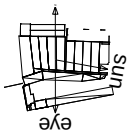
**Proposed**

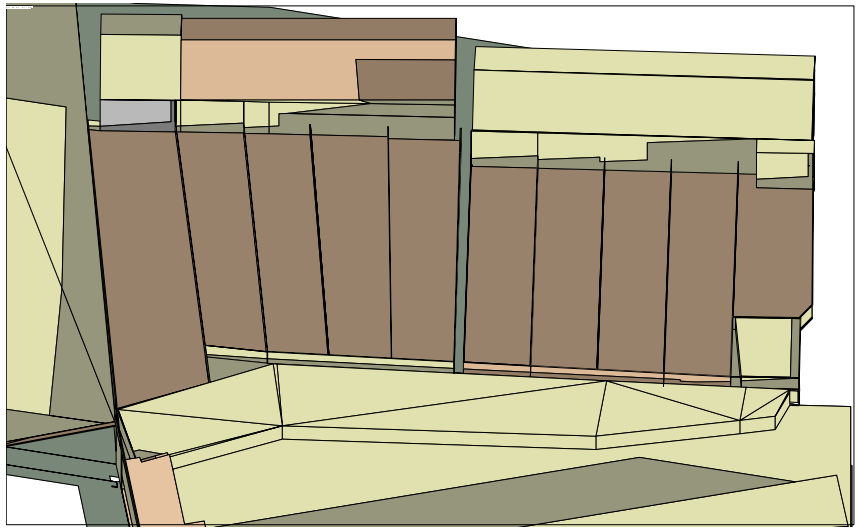
*The results are expressed as a percentage of area receiving direct sunlight on 21st March.*

| Month | 04:00 | 05:00 | 06:00 | 07:00 | 08:00 | 09:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | | | | | | 0.00 | 20.30 | 5.50 | 9.90 | 10.70 | 0.50 | 1.20 | 1.50 | | | | |
| Feb | | | | | 0.00 | 27.60 | 36.40 | 33.00 | 41.70 | 30.60 | 9.40 | 0.60 | 1.30 | 1.50 | | | |
| **Mar** | | | | **0.00** | **29.30** | **47.00** | **50.70** | **53.90** | **62.40** | **48.10** | **29.50** | **3.00** | **0.60** | **0.50** | **0.10** | | |
| Apr | | | 0.00 | 33.50 | 52.90 | 59.30 | 63.50 | 69.50 | 75.70 | 61.30 | 44.50 | 21.30 | 0.80 | 0.20 | 0.10 | | |
| May | | 0.00 | 22.60 | 51.20 | 62.30 | 67.00 | 71.40 | 77.20 | 82.40 | 69.70 | 54.90 | 36.40 | 11.00 | 0.00 | 0.10 | 0.00 | |
| Jun | 0.00 | 0.00 | 29.50 | 54.00 | 64.90 | 69.40 | 73.70 | 79.20 | 84.90 | 74.00 | 60.10 | 43.50 | 20.50 | 2.00 | 0.10 | 0.00 | 0.10 |
| Jul | | 0.00 | 16.60 | 48.30 | 61.50 | 66.50 | 70.90 | 76.40 | 82.90 | 72.30 | 57.80 | 40.30 | 15.60 | 0.60 | 0.10 | 0.10 | |
| Aug | | | 0.00 | 31.90 | 52.40 | 59.20 | 63.40 | 69.20 | 75.90 | 62.50 | 46.00 | 23.60 | 1.40 | 0.20 | 0.10 | 0.10 | |
| Sep | | | 0.00 | 0.00 | 36.80 | 48.70 | 50.70 | 56.40 | 60.10 | 44.00 | 23.20 | 0.60 | 0.90 | 0.30 | | | |
| Oct | | | | 0.00 | 4.30 | 34.70 | 32.60 | 34.80 | 35.90 | 21.70 | 0.50 | 0.90 | 1.50 | | | | |
| Nov | | | | | 0.00 | 1.10 | 17.80 | 1.40 | 9.60 | 2.00 | 0.70 | 1.50 | | | | | |
| Dec | | | | | | 0.00 | 6.00 | 0.50 | 2.60 | 0.40 | 0.80 | 1.50 | | | | | |

| Overshadowing assessment<br>% of the amenity area receiving direct sunlight on 21st March | | |
|---|---|---|
| **Existing** | **Proposed** | **Ratio** |
| 36.66 | 27.09 | 0.74 |

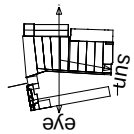
Suncast image:
View time = 21 Mar 07:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 100.30 alt = 7.59
Eye: azi = 180.00 alt = 60.00

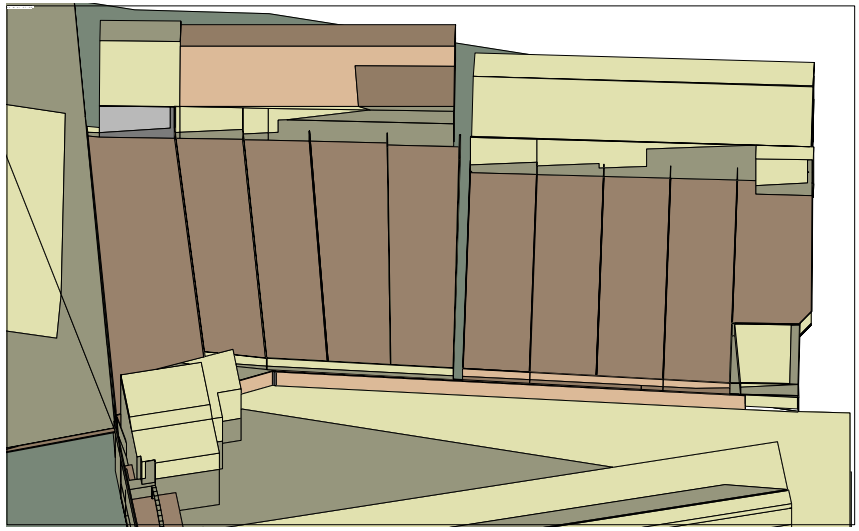


***Existing***

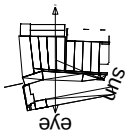
Suncast image:
View time = 21 Mar 07:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 100.30 alt = 7.59
Eye: azi = 180.00 alt = 60.00

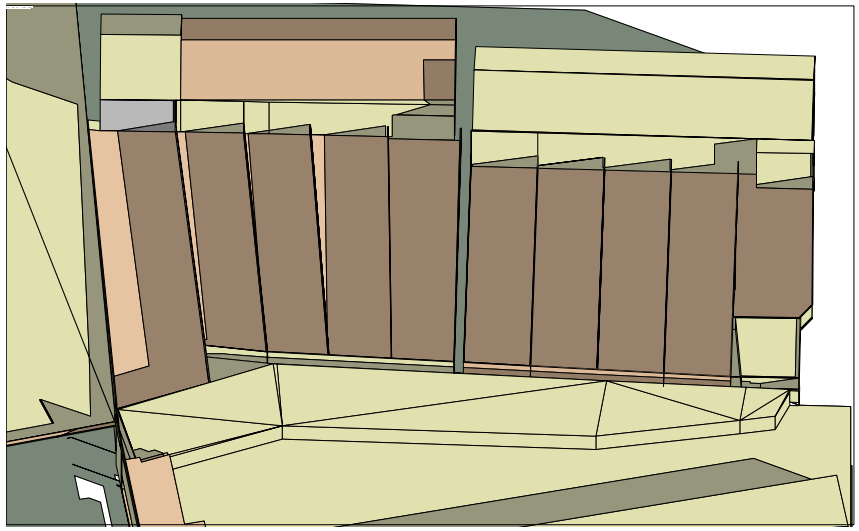


***Proposed***

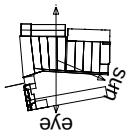
Suncast image:
View time = 21 Mar 08:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 112.63 alt = 16.54
Eye: azi = 180.00 alt = 60.00

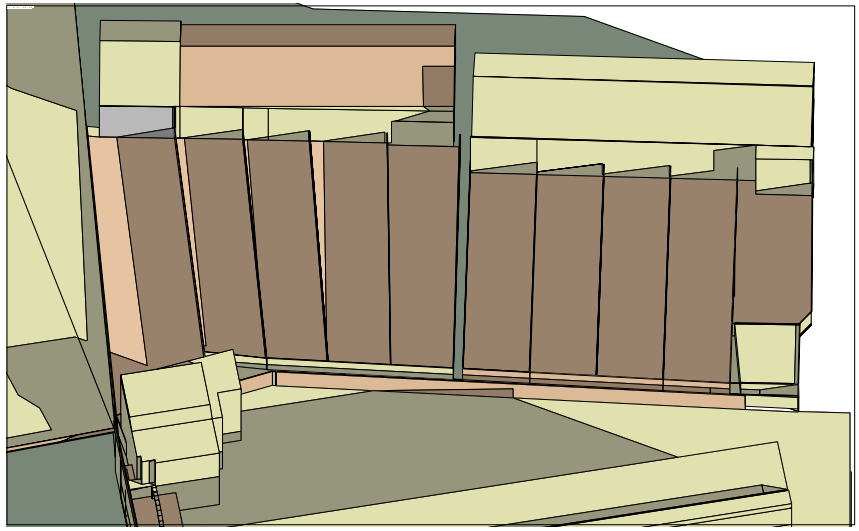


***Existing***

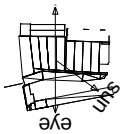
Suncast image:
View time = 21 Mar 08:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 112.63 alt = 16.54
Eye: azi = 180.00 alt = 60.00

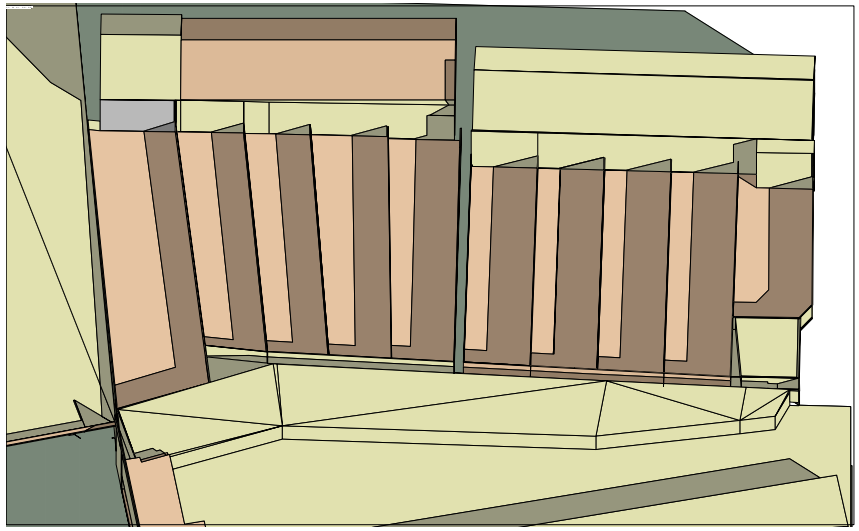


***Proposed***

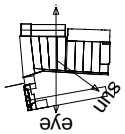
Suncast image:
View time = 21 Mar 09:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 126.11 alt = 24.68
Eye: azi = 180.00 alt = 60.00

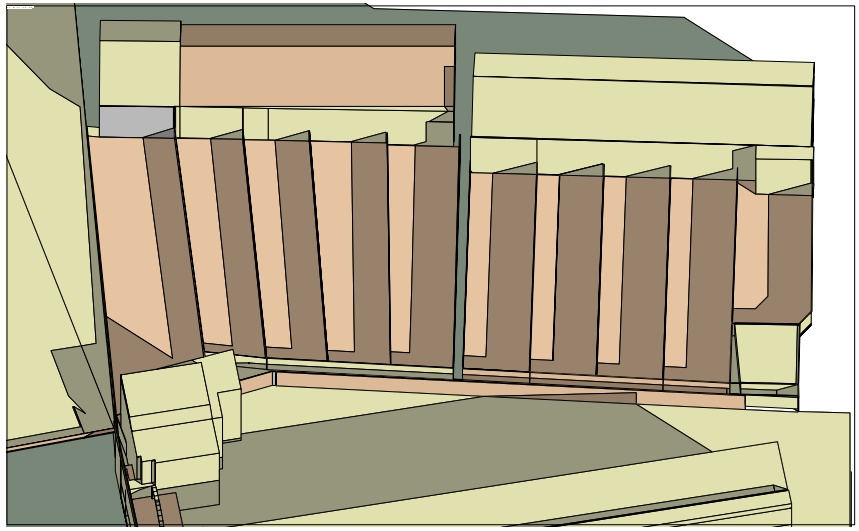


***Existing***

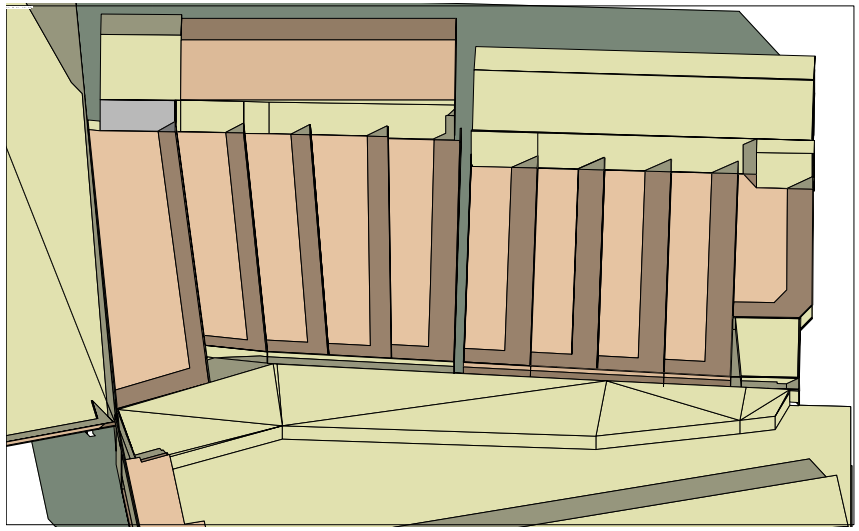
Suncast image:
View time = 21 Mar 09:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 126.11 alt = 24.68
Eye: azi = 180.00 alt = 60.00



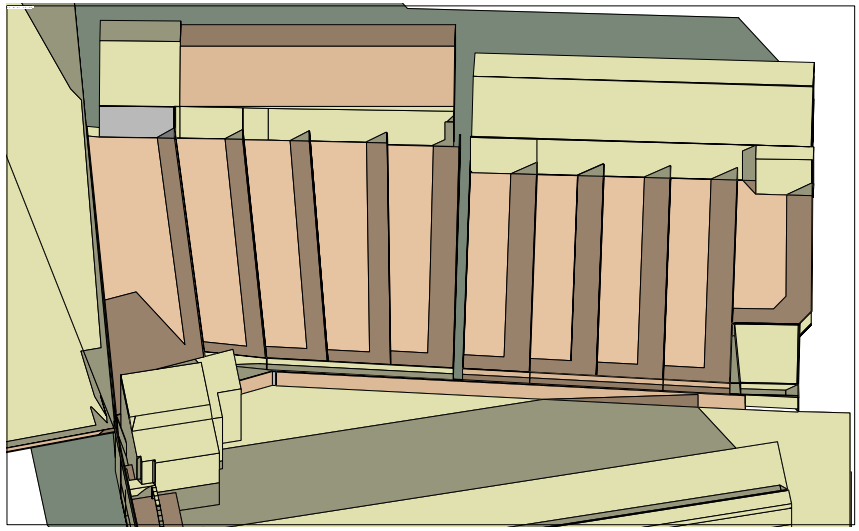
***Proposed***

Suncast image:
View time = 21 Mar 10:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 141.32 alt = 31.43
Eye: azi = 180.00 alt = 60.00

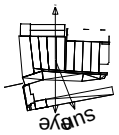
***Existing***

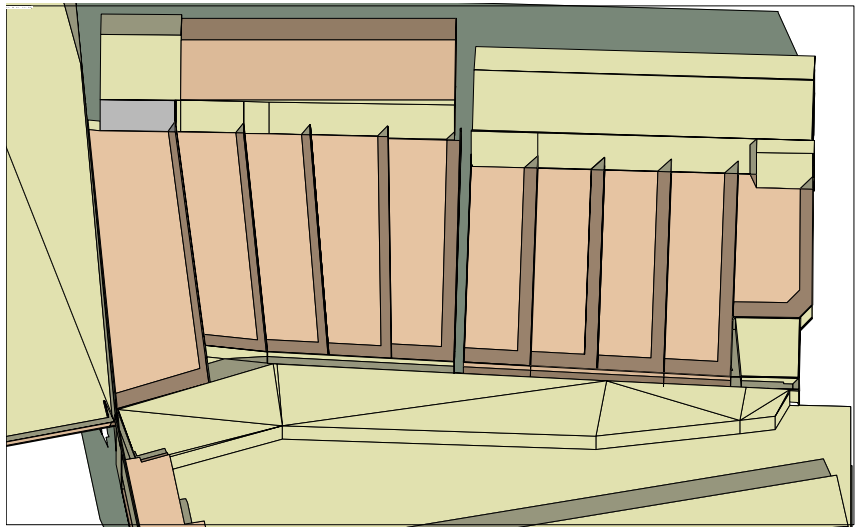
Suncast image:
View time = 21 Mar 10:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 141.32 alt = 31.43
Eye: azi = 180.00 alt = 60.00

***Proposed***

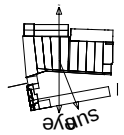
Suncast image:
View time = 21 Mar 11:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 158.49 alt = 36.12
Eye: azi = 180.00 alt = 60.00

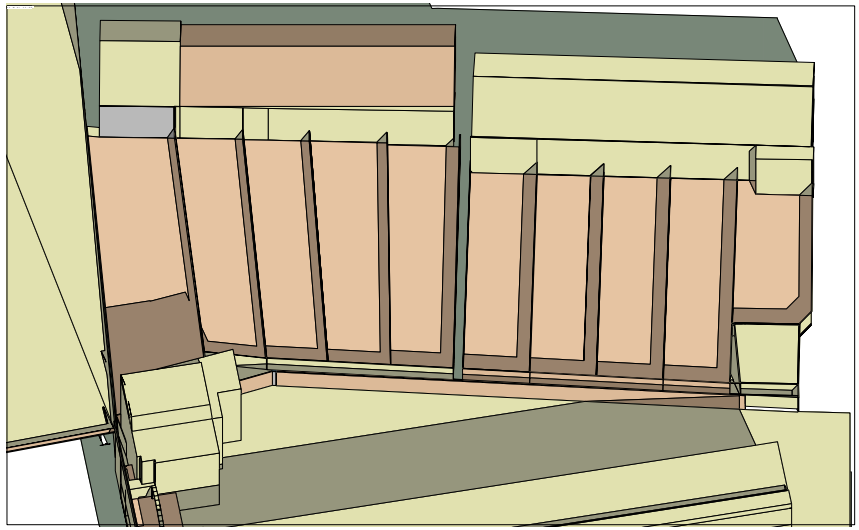


***Existing***

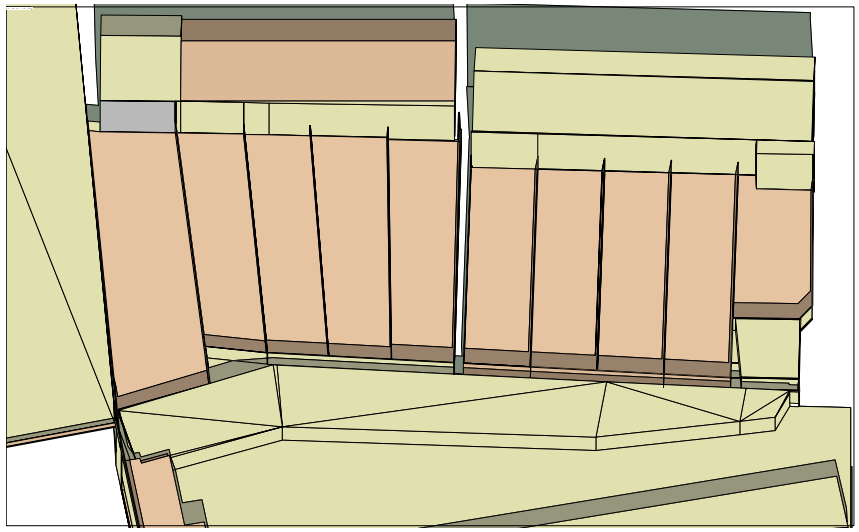
Suncast image:
View time = 21 Mar 11:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 158.49 alt = 36.12
Eye: azi = 180.00 alt = 60.00



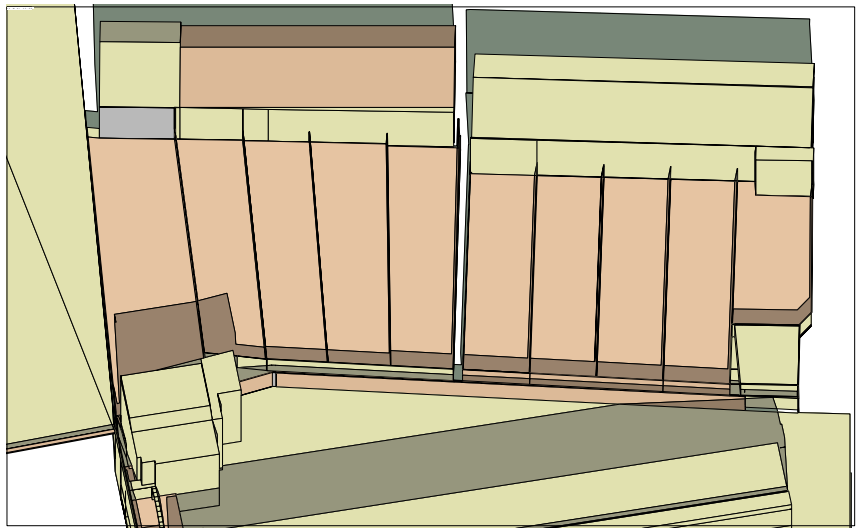
***Proposed***

Suncast image:
View time = 21 Mar 12:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 177.16 alt = 38.10
Eye: azi = 180.00 alt = 60.00

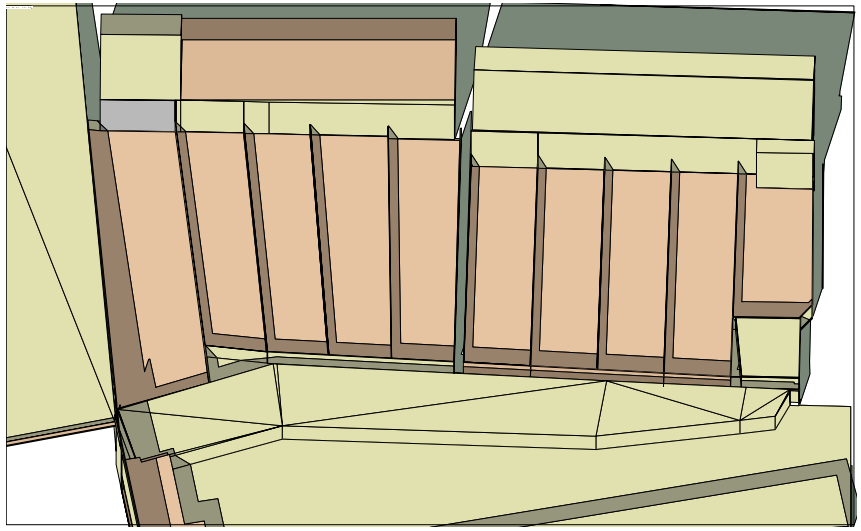
***Existing***

Suncast image:
View time = 21 Mar 12:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 177.16 alt = 38.10
Eye: azi = 180.00 alt = 60.00

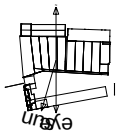
***Proposed***

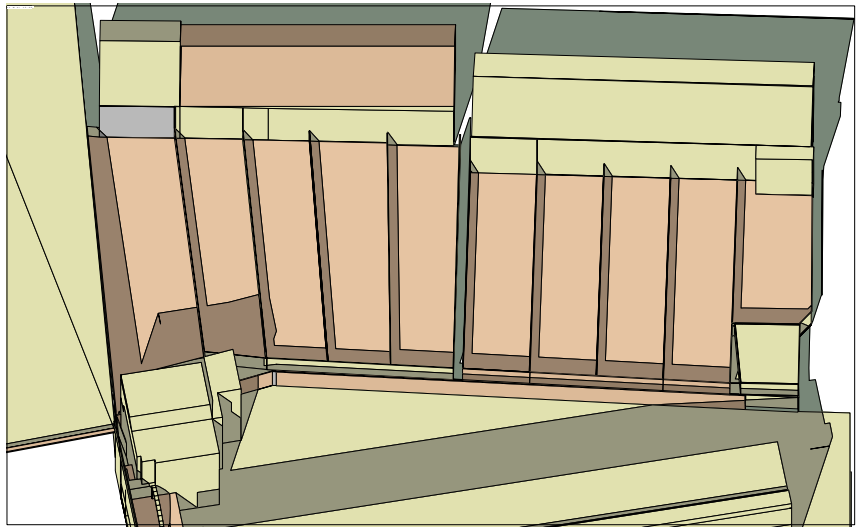
Suncast image:
View time = 21 Mar 13:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 196.07 alt = 37.02
Eye: azi = 180.00 alt = 60.00



***Existing***

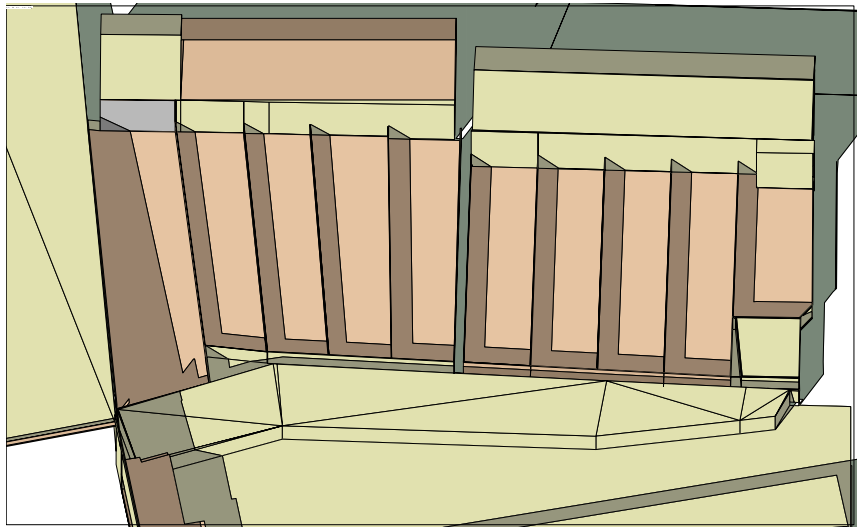
Suncast image:
View time = 21 Mar 13:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 196.07 alt = 37.02
Eye: azi = 180.00 alt = 60.00





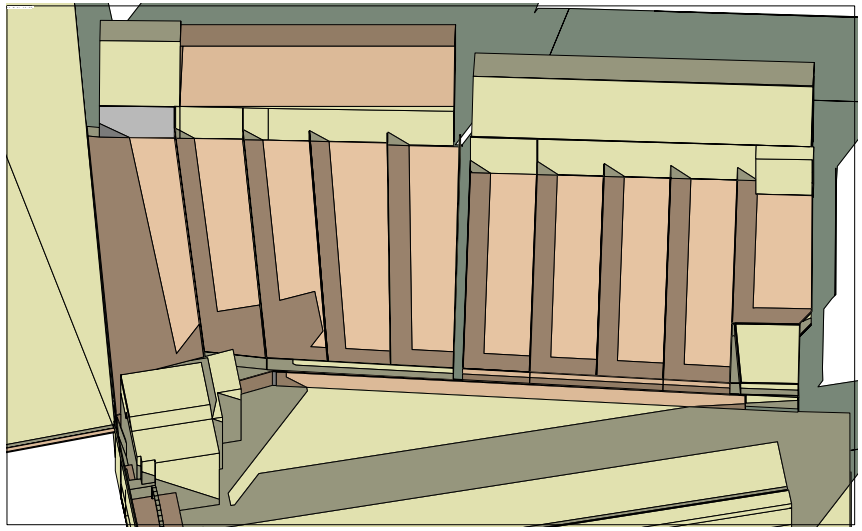
***Proposed***

Suncast image:
View time = 21 Mar 14:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 213.78 alt = 33.07
Eye: azi = 180.00 alt = 60.00

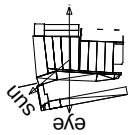
***Existing***

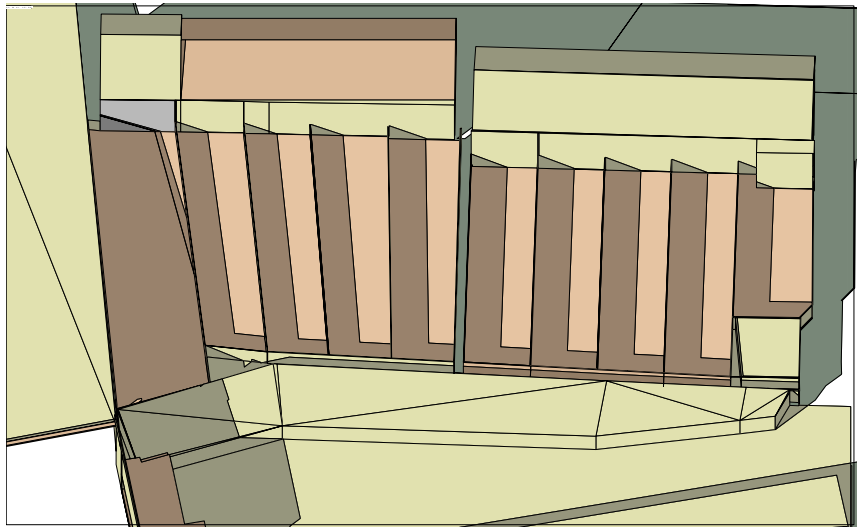
Suncast image:
View time = 21 Mar 14:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 213.78 alt = 33.07
Eye: azi = 180.00 alt = 60.00

***Proposed***

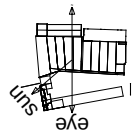
Suncast image:
View time = 21 Mar 15:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 229.57 alt = 26.86
Eye: azi = 180.00 alt = 60.00

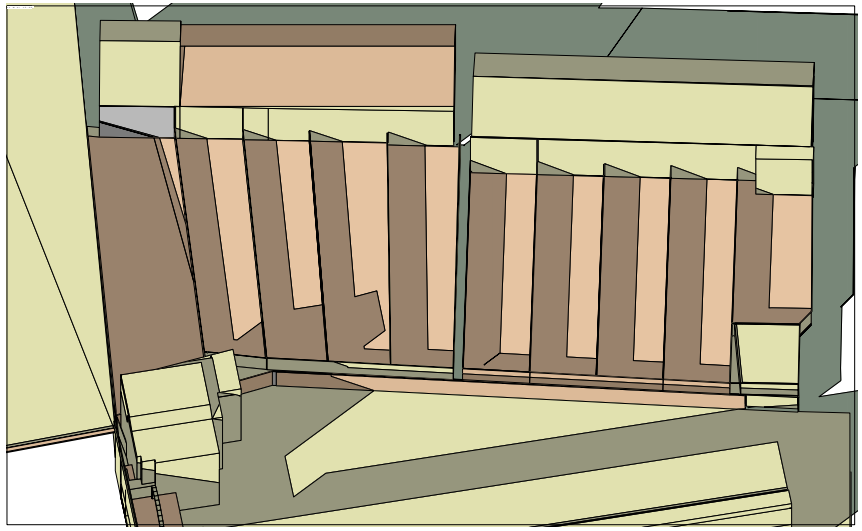


***Existing***

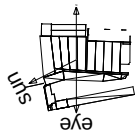
Suncast image:
View time = 21 Mar 15:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 229.57 alt = 26.86
Eye: azi = 180.00 alt = 60.00

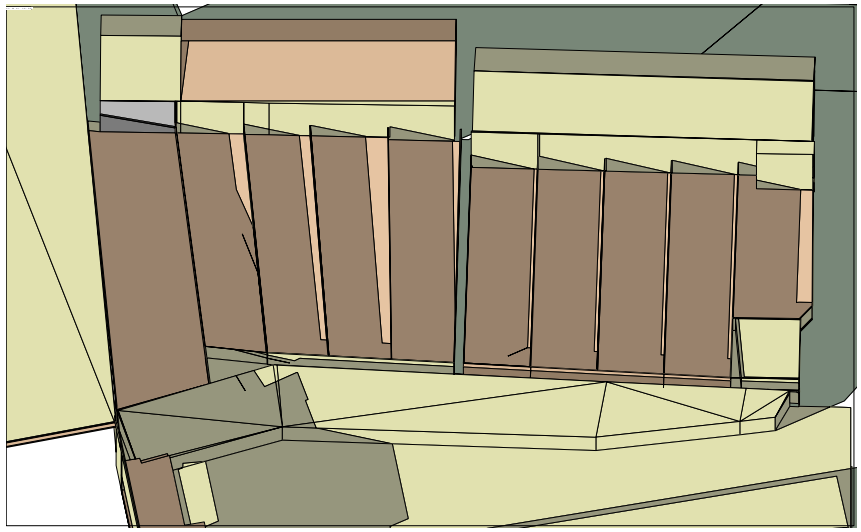


***Proposed***

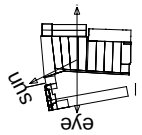
Suncast image:
View time = 21 Mar 16:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 243.51 alt = 19.07
Eye: azi = 180.00 alt = 60.00

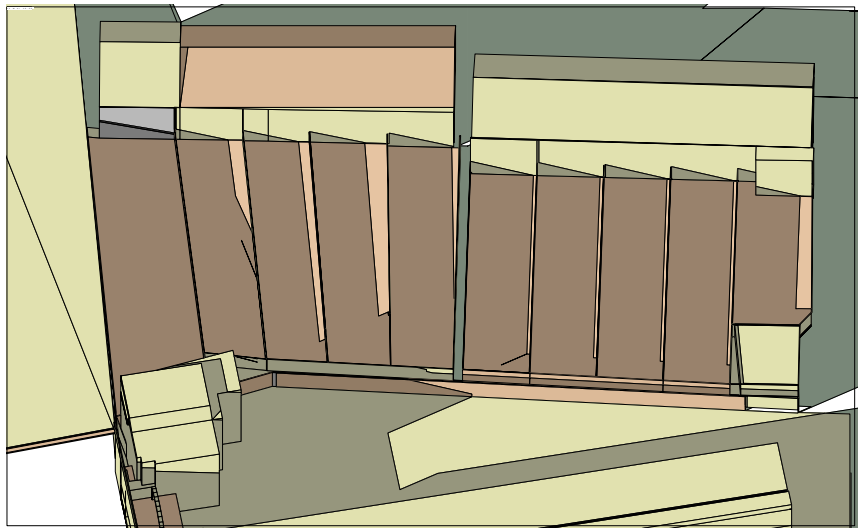


***Existing***

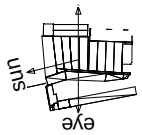
Suncast image:
View time = 21 Mar 16:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 243.51 alt = 19.07
Eye: azi = 180.00 alt = 60.00

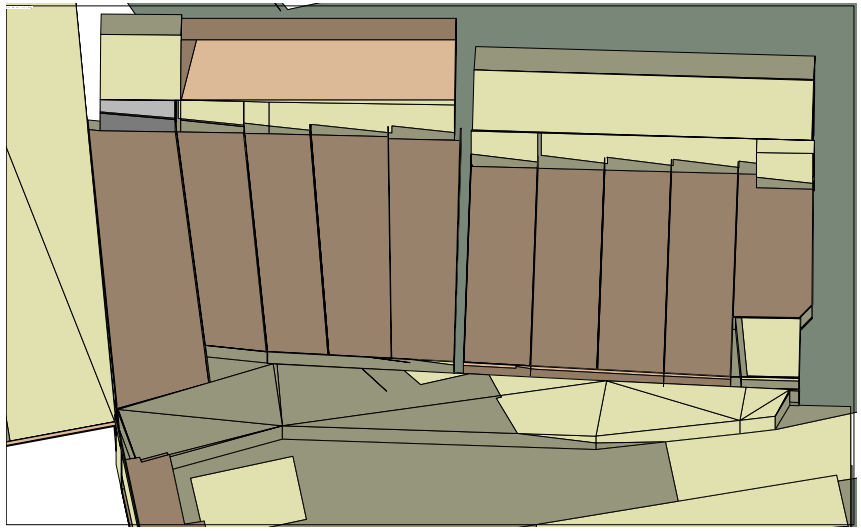


***Proposed***

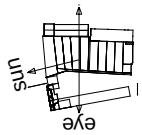
Suncast image:
View time = 21 Mar 17:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 256.11 alt = 10.31
Eye: azi = 180.00 alt = 60.00

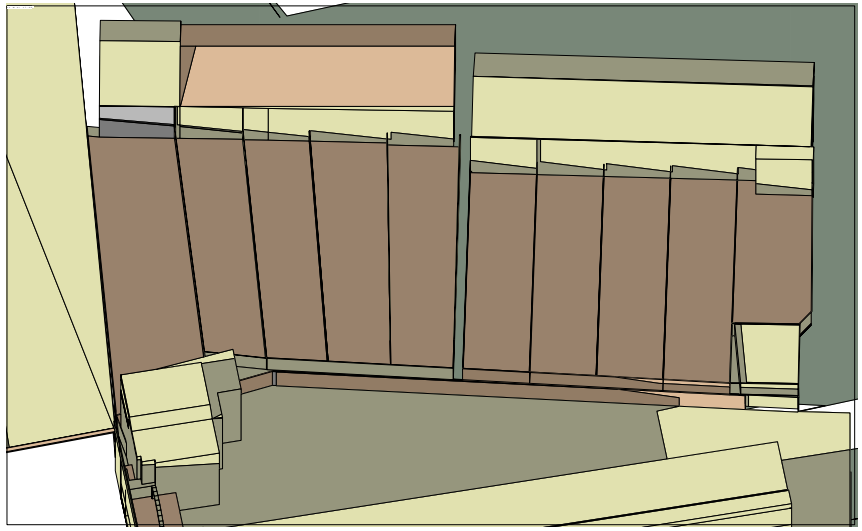


***Existing***

Suncast image:
View time = 21 Mar 17:00
Site Latitude = 51.46
Longitude diff. = -0.27
Model Bearing = 0.00
Sun: azi = 256.11 alt = 10.31
Eye: azi = 180.00 alt = 60.00



***Proposed***