GVA
An APLEONA company

Internal Daylight & Sunlight Amenity Report

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# Canfield Place

## Canfield Place, London

Imperial Land Resources (Switzerland)

March 2017

# Contents



# Appendices



Prepared By: Myles Hamilton

Draft Date: March 2017

**For and on behalf of GVA Grimley Limited**

# 1. Introduction and Scope of Report

1.1 GVA Schatunowski Brooks has been retained by Imperial Land Resources (Switzerland) to assess the proposed development at Canfield Place, London with regards to Internal Daylight and Sunlight Amenity.

1.2 The development consists of the demolition of existing single story structures and aims to increase massing and height to bring the majority of buildings in line with the existing structure within the road.

1.3 The purpose of this report is to assess the Internal Daylight and Sunlight Amenity, within the proposed development and to identify that is in accordance with the Building Research Establishment BRE) Guidelines "Site Layout Planning for Daylight & Sunlight – A Guide to Good Practice", 2011 & the standards in the British Standard Code of Practice for Daylighting, BS8206 Part 2.

1.4 The dwellings analysed are as follows

- House 24 Type D
- House 22 Type C2
- House 18 Type B2
- House 16 Type B1
- House 14 Type A3
- House 12 Type A2
- House 10 Type A1

# 2. Information Relied Upon

2.1 **Surrounding Buildings**:

- Existing – Green Hatch Group Survey
- Site Photos

2.2 **Proposed Site**:

- 2044-00-DR-0100_D02 Ground Floor Plan
- 2044-00-DR-0101_D02 First Floor Plan
- 2044-00-DR-0102_D02 Second Floor Plan
- 2044-00-DR-0103_D02 Roof Plan
- 2044-00-DR-0400_D02 Section AA – Type A, (3 Storeys)
- 2044-00-DR-0401_D02 Section BB – Type B, (2 Storeys)
- 2044-00-DR-0410_D01 Section AA – Type A (3 Storeys) Network Rail AIP.
- 2044-00-DR-0411_D01 Section BB – Type B (2 Storeys) Network Rail AIP.
- 2044-00-DR-0600_D02 Mews & Railway Elevations.
- 2044-00-RV-PM_0010 Building Envelope Model. 20170201_Spot Height Capture

# 3. Daylight & Sunlight Standards

3.1 The BRE Guidelines – *Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice* are well established and are adopted by most Local Authorities as the appropriate scientific and empirical methods of measuring daylight and sunlight in order to provide objective data upon which to apply their planning policies. The Guidelines are not fixed standards but should be applied flexibly to take account of the specific circumstances of each case.

3.2 The Introduction of the Guidelines states:

"*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*."

## Future Occupants

3.3 The quality of Daylight for New-Build dwellings is measured using the standards set out in the British Standard Code of Practice for Daylighting, BS8206 Part 2. These standards are also referred to in Appendix C of the BRE Guidelines.

3.4 For New-Build dwellings, Daylight is measured using Average Daylight Factors (ADF) rather than Vertical Sky Components (VSC) as the Designer has greater control over the various design inputs and variables which dictate the availability of daylight within the room.

3.5 VSC is more commonly used for assessing the availability of Daylight to existing neighbouring buildings as it represents the amount of light striking the face of a window. It is a "spot" measurement and equates to the amount of direct light from the sky that is incident on the face of the window. As such, it has its limitations as it does not take account of the size of the window or the size of the room served by the window. It therefore does not necessarily represent the availability and quality of daylight that will be received within the room itself.

3.6 In the case of New-Build dwellings, it is possible to change aspects of the design in order to achieve good daylighting conditions. The use of ADF is therefore seen as a more appropriate method of measurement during the design process as it is calculated from a number of design variables and co-efficient which provide a more accurate assessment of internal lighting conditions.

3.7 Those input variables comprise:-

- The size of the window serving the room (area of glazing).
- The size of the room being assessed (internal surface area).
- The average reflectance values of the internal finishes.
- The loss of transmittance of Daylight through the glazing.
- A correction factor for maintenance and soiling of the glass finish.
- The amount of daylight actually received by the window (the angle of visible sky) calculated from the VSC.
- The actual use of the room in question.

3.8 In addition, the application of ADF values makes a distinction between the different uses of the rooms being assessed. For example, a higher ADF value should be achieved for a principal living room in comparison to a bedroom.

# 4. Scheme Assessment

**Daylight & Sunlight**

4.1 The test discussed is for planning purposes in accordance with the BRE Report 209 and the London Borough Camden's planning policy.

**Daylight & Sunlight Amenity within the Proposal**

4.2 We have undertaken a 3D computer study of the proposal in respect of Internal Daylight & Sunlight Amenity in accordance with BS 8206: Part 2, as descried in section 3.11 to 3.15 above. We have tested all rooms to accurately assess the Daylight & Sunlight levels within the building as a whole.

4.3 The BRE Guidelines also suggest that for dwellings, kitchens should obtain 2.0% ADF, Living/Dining Rooms 1.5% & bedrooms 1.0%. For this development, the dwelling configuration requirements dictate that the majority of houses contain open plan kitchens, and adjoin well lit living/dining rooms, supplied by windows to the rear and in two buildings supplied by additional windows to the front looking over canfield place.

4.4 For Daylight, ADF Test within the room indicates that all 21 bedrooms tested, (100%) will meet the 1% criteria for bedrooms, with many achieving far in excess of this figure. Of the 5 Living rooms on the first floor 100% achieve 1.5% and higher.

4.5 On the first floor and second floor, tests have been run for a total of 7 Living/Kitchen/Dining areas, and the results show that 100% are in excess of 2% ADF's. Therefore the results indicate a high percentage of adherences to the BRE target values, with 34 of 34 (100%) satisfying guidelines figures.

4.6 For Sunlight, we have applied the ASPH test to the rooms that face within 90º of due south and results show rooms will satisfy annual guidelines of 25% and the winter guideline of 5%.

4.7 It should be noted that 4 rooms also have windows which face within 90º of due north and have not been tested. It would be seen as an unreasonable expectation that they will be able to obtain enough light to satisfy the required guidance levels and as such, will be shown as N/A within the results.

4.8 The above findings suggest that the proposal will be adequately lit and satisfies the BRE Guidelines & the BS 8206: Part 2.

# 5. Summary and Conclusion

5.1 The London Borough of Camden's Planning Policy seeks to safeguard daylight and sunlight to existing buildings, and promote adequate standards for new developments in adherence to the guidance published in the BRE Report 209 "Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice".

5.2 For daylight and sunlight amenity within the proposal, all the habitable rooms tested will achieve the target values for their use in respect of daylight and sunlight.

5.3 In conclusion, the proposal adheres to the BRE Guidelines. We therefore consider the London Borough of Camden's planning policy on Daylight & Sunlight will be satisfied.

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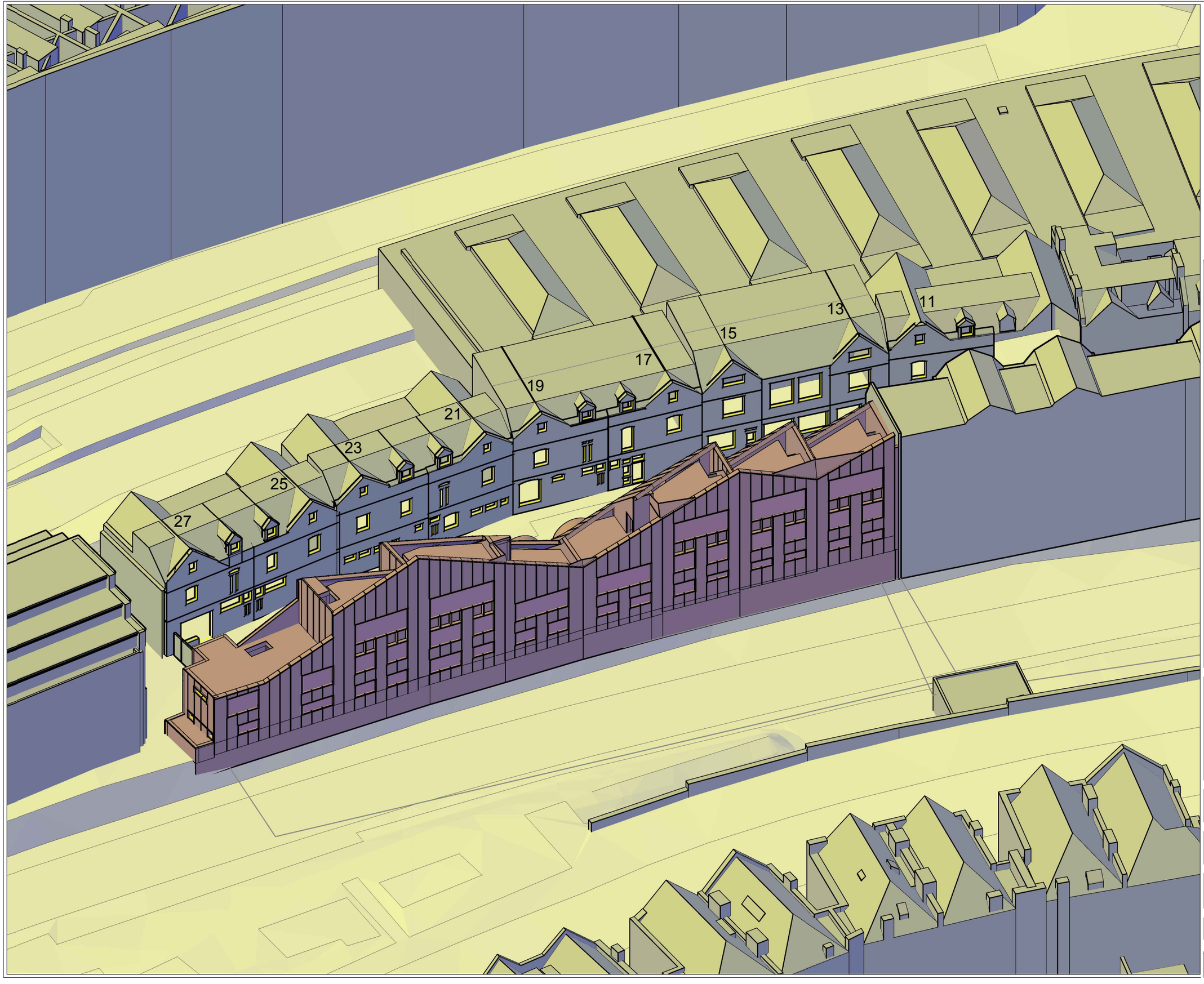
# Appendix I

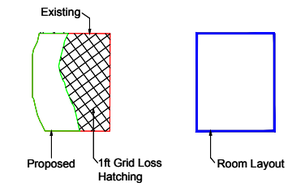
CA167/10/BRE/44-46






Legend

Daylight




Existing No-Sky Line Contour

Proposed No-Sky Line Contour

**Sources of Information**

Drawing NO:

2044-00-DR-0100_D02 Ground Floor Plan
2044-00-DR-0101_D02 First Floor Plan
2044-00-DR-0102_D02 Second Floor Plan
2044-00-DR-0103_D02 Roof Plan
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2044_00_RV_PM_0010 Building Envelope Model
20170201_Spot Height Capture

Site Photos

08449 02 03 04
**GVA** Schatunowski Brooks
65 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
Canfield Place
London

Client
Imperial Land Resources (Switzerland)

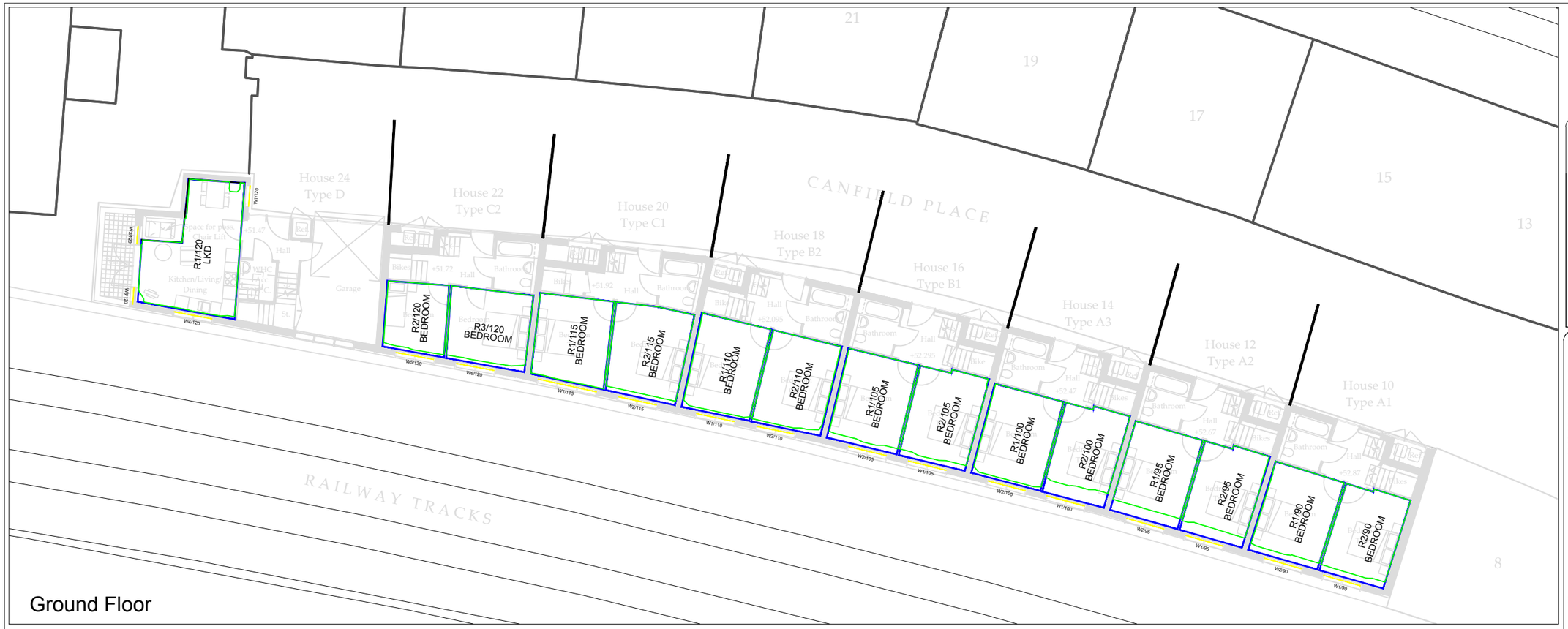
Drawing Title
Proposed 3D View

| Drawn By | Chk'd By | Scale @ A3 | Date |
|---|---|---|---|
| IKA | | N/A | 03 Feb 2017 |

| Project No. | Drawing No. | Revision |
|---|---|---|
| CA167/10 | BRE44 | - |

DAYLIGHT

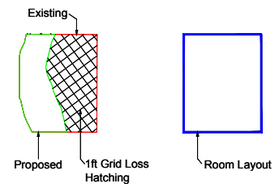
A3





Legend

Daylight




Existing No-Sky Line Contour

Proposed No-Sky Line Contour

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Project Name
Canfield Place
London

Client
Imperial Land Resources (Switzerland)

Drawing Title
No sky-line contours for
House Type A-D

| Drawn By | Chk'd By | Scale @ A3 | Date |
|---|---|---|---|
| IKA | | 1:200 | 03 Feb 2017 |

| Project No. | Drawing No. | Revision |
|---|---|---|
| CA167/10 | BRE45 | - |

DAYLIGHT

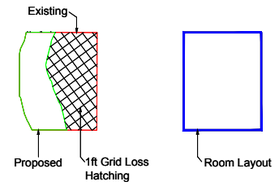
A3


Second Floor



Legend

Daylight




Existing No-Sky Line Contour

Proposed No-Sky Line Contour

**Sources of Information**

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**GVA** Schatunowski Brooks
65 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
Canfield Place
London

Client
Imperial Land Resources (Switzerland)

Drawing Title
No sky-line contours for
House Type A-D

| Drawn By | Chk'd By | Scale @ A3 | Date |
|---|---|---|---|
| IKA | | 1:200 | 03 Feb 2017 |

| Project No. | Drawing No. | Revision |
|---|---|---|
| CA167/10 | BRE46 | - |

DAYLIGHT

A3

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# Appendix II

Daylight & Sunlight
Analysis Table

# Canfield Place

## Daylight and Sunlight Analysis Results
## Job 10
## 03-Feb-17

| Room/Floor | Room Use | Window | %VSC | %ADF | No Sky % of Room | %Sun Summer | %Sun Winter | %Sun Total |
|---|---|---|---|---|---|---|---|---|
| **House 24 Type D** | | | | | | | | |
| **Gnd Floor** | | | | | | | | |
| R1/120 | LKD | W1/120 | 13.98 | 2.16 | 97.21% | 6.00 | 0.00 | 6.00 |
| | | W3/120 | 24.73 | | | #N/A | #N/A | #N/A |
| | | W4/120 | 33.84 | | | 17.00 | 26.00 | 43.00 |
| **1st Floor** | | | | | | | | |
| R1/121 | BEDROOM | W1/121 | 22.71 | 6.45 | 98.16% | #N/A | #N/A | #N/A |
| | | W2/121 | 35.81 | | | 43.00 | 28.00 | 71.00 |
| R2/121 | BEDROOM | W3/121 | 35.60 | 4.67 | 99.53% | 43.00 | 27.00 | 70.00 |
| **House 22 Type C2** | | | | | | | | |
| **Gnd Floor** | | | | | | | | |
| R2/120 | BEDROOM | W5/120 | 33.94 | 3.36 | 94.86% | 26.00 | 26.00 | 52.00 |
| R3/120 | BEDROOM | W6/120 | 33.89 | 2.58 | 95.20% | 26.00 | 25.00 | 51.00 |
| **1st Floor** | | | | | | | | |
| R3/121 | BEDROOM | W4/121 | 35.52 | 5.13 | 97.32% | 39.00 | 27.00 | 66.00 |
| R4/121 | LIVINGROOM | W5/121 | 35.47 | 4.24 | 97.58% | 39.00 | 27.00 | 66.00 |
| **2nd Floor** | | | | | | | | |
| R1/122 | | W1/122 | 37.10 | 6.59 | 98.99% | 44.00 | 29.00 | 73.00 |
| **House 20 Type C1** | | | | | | | | |
| **Gnd Floor** | | | | | | | | |
| R1/115 | BEDROOM | W1/115 | 34.05 | 4.75 | 99.03% | 35.00 | 26.00 | 61.00 |
| R2/115 | BEDROOM | W2/115 | 33.72 | 1.95 | 95.71% | 22.00 | 25.00 | 47.00 |
| **1st Floor** | | | | | | | | |
| R1/116 | BEDROOM | W1/116 | 35.56 | 5.92 | 98.51% | 42.00 | 26.00 | 68.00 |
| R2/116 | LIVINGROOM | W2/116 | 35.44 | 3.29 | 99.02% | 40.00 | 26.00 | 66.00 |
| **2nd Floor** | | | | | | | | |
| R1/117 | LKD | W1/117 | 37.11 | 6.79 | 99.18% | 45.00 | 29.00 | 74.00 |
| **House 18 Type B2** | | | | | | | | |
| **Gnd Floor** | | | | | | | | |
| R1/110 | BEDROOM | W1/110 | 33.82 | 2.38 | 95.92% | 28.00 | 25.00 | 53.00 |
| R2/110 | BEDROOM | W2/110 | 33.76 | 2.40 | 95.37% | 28.00 | 25.00 | 53.00 |
| **1st Floor** | | | | | | | | |
| R1/111 | LKD | W1/111 | 24.73 | 7.23 | 99.25% | #N/A | #N/A | #N/A |
| | | W2/111 | 35.54 | | | 43.00 | 27.00 | 70.00 |

| Room/Floor | Room Use | Window | %VSC | %ADF | No Sky % of Room | %Sun Summer | %Sun Winter | %Sun Total |
|---|---|---|---|---|---|---|---|---|
| **House 16 Type B1** | | | | | | | | |
| **Gnd Floor** | | | | | | | | |
| R1/105 | BEDROOM | W2/105 | 33.63 | 1.87 | 93.05% | 21.00 | 26.00 | 47.00 |
| R2/105 | BEDROOM | W1/105 | 33.53 | 1.89 | 94.64% | 21.00 | 25.00 | 46.00 |
| **1st Floor** | | | | | | | | |
| R1/106 | LKD | W1/106 | 24.98 | 7.27 | 98.91% | #N/A | #N/A | #N/A |
| | | W2/106 | 35.52 | | | 44.00 | 26.00 | 70.00 |
| **House 14 Type A3** | | | | | | | | |
| **Gnd Floor** | | | | | | | | |
| R1/100 | BEDROOM | W2/100 | 33.79 | 2.41 | 95.79% | 30.00 | 25.00 | 55.00 |
| R2/100 | BEDROOM | W1/100 | 31.36 | 1.02 | 85.59% | 3.00 | 23.00 | 26.00 |
| **1st Floor** | | | | | | | | |
| R1/101 | LIVINGROOM | W2/101 | 35.42 | 3.76 | 98.88% | 38.00 | 26.00 | 64.00 |
| R2/101 | BEDROOM | W1/101 | 35.36 | 3.73 | 99.15% | 39.00 | 25.00 | 64.00 |
| **2nd Floor** | | | | | | | | |
| R1/102 | LKD | W1/102 | 37.07 | 5.99 | 98.87% | 45.00 | 27.00 | 72.00 |
| **House 12 Type A2** | | | | | | | | |
| **Gnd Floor** | | | | | | | | |
| R1/95 | BEDROOM | W2/95 | 33.06 | 1.25 | 88.42% | 7.00 | 24.00 | 31.00 |
| R2/95 | BEDROOM | W1/95 | 33.00 | 1.28 | 88.69% | 8.00 | 24.00 | 32.00 |
| **1st Floor** | | | | | | | | |
| R1/96 | LIVINGROOM | W2/96 | 35.45 | 3.67 | 97.10% | 38.00 | 26.00 | 64.00 |
| R2/96 | BEDROOM | W1/96 | 35.39 | 3.73 | 97.68% | 38.00 | 26.00 | 64.00 |
| **2nd Floor** | | | | | | | | |
| R1/97 | LKD | W1/97 | 37.09 | 6.46 | 98.90% | 46.00 | 27.00 | 73.00 |
| **House 10 Type A1** | | | | | | | | |
| **Gnd Floor** | | | | | | | | |
| R1/90 | BEDROOM | W2/90 | 33.54 | 1.75 | 92.32% | 18.00 | 25.00 | 43.00 |
| R2/90 | BEDROOM | W1/90 | 33.46 | 1.85 | 93.54% | 18.00 | 25.00 | 43.00 |
| **1st Floor** | | | | | | | | |
| R1/91 | LIVINGROOM | W2/91 | 35.44 | 3.71 | 98.18% | 38.00 | 26.00 | 64.00 |
| R2/91 | BEDROOM | W1/91 | 35.38 | 3.74 | 97.46% | 38.00 | 26.00 | 64.00 |
| **2nd Floor** | | | | | | | | |
| R1/92 | LKD | W1/92 | 37.09 | 5.97 | 99.30% | 46.00 | 27.00 | 73.00 |