

## Daylight & Sunlight Report

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# Richmond College, Twickenham

Clarion Housing Group

November 2018

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Prepared By: Richard Nosworthy  
Date: November 2018

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

# 1. Introduction

1.1 GVA Schatunowski Brooks has been instructed by Clarion Housing Group to undertake a detailed technical assessment of the neighbouring and internal daylight and sunlight amenity (planning) matters associated with the redevelopment of the former Richmond College site in Twickenham.

1.2 This report is based upon the following information:

- BPTW Partnership's 2D drawings issued on 8 November 2018, updated on 14 November 2018 and 23 November 2018.
- BPTW Partnership's 3D model *18-103-BPTW-M3-SITE PLAN\_2018-11-05* *18-103-BPTW-M3-SITE PLAN\_2018-11-05* issued 5 November 2018.
- Research on the Local Authority's planning archive in relation to historic planning application to neighbouring properties.
- Ordnance Survey Plan.

1.3 Research was also undertaken using Bing aerial photography and Google Maps.

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## 2. Executive Summary

- 2.1 For daylight and sunlight amenity to the neighbouring residential properties, the Proposed Development has been considered in the future baseline scenario i.e. incorporating the relevant blocks of planning applications 16/4747/RES and 16/3293/RES to the north. The results of the technical study indicate that all neighbouring properties considered will satisfy BRE guideline for daylight, with the vast majority satisfying the relevant sunlight tests.
- 2.2 For daylight and sunlight amenity within the proposed development, a large proportion (87%) of rooms will be well-lit for their particular use. This is demonstrated by the Average Daylight Factor (ADF) test results which indicate the majority of the rooms will exceed the target values. The small proportion of the rooms that fall short of their target values are predominantly affected by the provision of private amenity spaces, in the form balconies. Whilst these may limit the daylight and sunlight access to some rooms, they provide further amenity to the occupants, allowing direct access to external daylight and sunlight, views etc. and therefore, in our opinion, have a mitigating effect.
- 2.3 In summary, the proposed development will not result in any material adverse daylight and sunlight affects to any neighbouring residential properties and will demonstrates that overall, a high level of internal daylight and sunlight compliance will be achieved.

### 3. Daylight & Sunlight Principles (Planning)

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."*

3.3 The 'flexibility' recommended in the Guidelines should reflect the specific characteristics of each case being considered. For example, as the numerical targets within the Guidelines have been derived on the basis of a low density suburban housing model, it is entirely appropriate to apply a more flexible approach when dealing with higher rise developments in a denser urban environment where the general scale of development is greater. In addition, where existing and proposed buildings have specific design features such as projecting balconies, deep recesses, bay windows etc., it is also equally valid to apply a degree of flexibility to take account of the effect of these particular design features. This does not mean that the recommendations and targets within the Guidelines can be disregarded but, instead, the 'flexibility' that should be applied should be founded on sound scientific principles that can be supported and justified. This requires a certain level of professional value judgement and experience.

#### **Daylighting**

3.4 In respect of daylighting, the BRE Guidelines adopt different methods of measurement depending on whether the assessment is for the impact on existing neighbouring premises or for measuring the adequacy of proposed new dwellings. For safeguarding the daylight received by existing neighbouring residential buildings around a proposed development, the relevant recommendations are set out in Section 2.2 of the Guidelines.

3.5 The adequacy of daylight received by existing neighbouring dwellings is measured using two methods of measurement. First, it is necessary to measure the Vertical Sky Component (VSC) followed by the measurement of internal Daylight Distribution by plotting the position of the 'existing' and 'proposed' no sky line contour.

- 3.6 VSC is measured at the mid-point on the external face of the window serving a habitable room. For the purpose of the Guidelines, a "habitable" room is defined as a Kitchen, Living Room or Bedroom. Bathrooms, hallways and circulation space are excluded from this definition. In addition, many Local Authorities make a further distinction in respect of small kitchens. Where the internal area of a small kitchen limits the use to food preparation and is not of sufficient size to accommodate some other form of "habitable" use such as dining, the kitchen need not be classed as a "habitable" room in its own right.
- 3.7 VSC is a 'spot' measurement taken on the face of the window and is a measure of the availability of light from the sky from over the "existing" and "proposed" obstruction caused by buildings or structures in front of the window. As it is measured on the outside face of the window, one of the inevitable shortcomings is that it does not take account of the size of the window or the size or use of the room served by the window. For this reason, the BRE Guidelines require internal Daylight Distribution to be measured in addition to VSC.
- 3.8 The 'No Sky Line' contour plotted for the purpose of measuring internal Daylight Distribution identifies those areas within the room usually measured on a horizontal working plane set at table top level, where there is direct sky visibility. This therefore represents those parts within the room where the sky can be seen through the window. This second measure therefore takes account of the size of the window and the size of the room but is only more reliable than VSC when the actual room uses, layouts and dimensions are known. When interpreted in conjunction with the VSC value, the likely internal lighting conditions, and hence the quality of lighting within the room, can be assessed.
- 3.9 For VSC, the Guidelines states that:
- "If this Vertical Sky Component is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the Vertical Sky Component with the new development in place is both less than 27% and less than 0.8 times its former value, then the occupants of the existing building will notice the reduction in the amount of skylight."*
- 3.10 To put this in context, the maximum VSC value that can be received for a totally unobstructed vertical window is 40%. There are however circumstances where the VSC value is already below 27%. In such circumstances, it is permissible to reduce the existing VSC value by a factor of 0.2 (i.e. 20%) so that the value on the 'proposed' conditions remains more than 0.8 times its former value. The scientific reasoning for this permissible margin of reduction is that existing daylight (and sunlight) levels can be reduced by a factor of 20% before the loss becomes materially noticeable. This factor of reduction applies to VSC, daylight distribution, sunlight and overshadowing.

- 3.11 By contrast, the adequacy of daylight for proposed 'New-Build' dwellings is measured using the standards in the British Standard Code of Practice for Daylighting, BS8206 Part 2.
- 3.12 The British Standard relies upon the use of Average Daylight Factors (ADF) rather than VSC and Daylight Distribution. The use of ADF is referred to in the BRE Guidelines (Appendix C) but its use is usually limited as a supplementary 'check' of internal lighting conditions once the VSC and Daylight Distribution tests have been completed.
- 3.13 ADF is sometimes seen as a more accurate and representative measure of internal lighting conditions as it comprises a greater number of design factors and input variables/coefficients. That is, the value of ADF is derived from:
- The actual amount of daylight received by the window(s) serving the room expressed as the "angle of visible sky" which is derived from the VSC value and therefore represents the amount of light striking the face of the window.
  - The loss of transmittance through the glazing.
  - The size of the window (net area of glazing).
  - The size of the room served by the window(s) (net internal surface area of the room).
  - The internal reflectance values of the internal finishes within the room.
  - The specific use of the room.
- 3.14 One of the main reasons why ADF is more appropriate for New-Build dwellings is that any of the above input variables can be changed during the course of the design process in order to achieve the required internal lighting values. The ability to make such changes is not usually available when dealing with existing neighbouring buildings.
- 3.15 Unlike the application of VSC and daylight distribution, the British Standard differentiates between different room uses. It places the highest ADF standard on Family Kitchens where the minimum target value is 2% *df*. Living Rooms should achieve 1.5% *df*, and Bedrooms 1.0% *df*.

### **Sunlighting**

- 3.16 The requirements for protecting sunlight to existing residential buildings are set out in section 3.2 of the BRE Guidelines.
- 3.17 The availability of sunlight varies throughout the year with the maximum amount of sunlight being available on the summer solstice and the minimum on the winter solstice. In view of this, the internationally accepted test date for measuring sunlight is the spring equinox (21 March), on which day the United Kingdom has equal periods of daylight and darkness and sunlight is

available from approximately 0830hrs to 1730hrs. In addition, on that date, sunlight received perpendicular to the face of a window would only be received where that window faces within 90° of due south. The BRE Guidelines therefore limit the extent of testing for sunlight where a window faces within 90° of due south.

3.18 The sunlight standards are normally applied to the principal Living Room within each dwelling rather than to kitchens and bedrooms.

3.19 The recommendation for sunlight is:

*"If this window reference point can receive more than one quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months of 21 September and 21 March, then the room should still receive enough sunlight ...*

*Any reduction in sunlight access below this level should be kept to a minimum. If the availability of sunlight hours are both less than the amounts given and less than 0.8 times their former value, either over the whole year or just during the winter months, then the occupants of the existing building will notice the loss of sunlight."*

3.20 A good level of sunlight will therefore be achieved where a window achieves more than 25% APSH, of which 5% should be in the winter months. Where sunlight levels fall below this suggested recommendation, a comparison with the existing condition should be undertaken and if the reduction ratio is less than 0.2, i.e. the window continues to receive more than 0.8 times its existing sunlight levels, the impact on sunlight will be acceptable.



## 4. Site Context

- 4.1 The Application comprises demolition of existing college buildings, removal of hard surfacing, site clearance and ground works, together with the redevelopment of the site to provide 180 residential units together with associated parking for 160 vehicles, open space and landscaping.
- 4.2 The Site is located wholly within the London Borough of Richmond Upon Thames ("LBRUT") on the southern part of the site of the former Richmond College. The extent of the application site is shown on the accompanying site location plan prepared by BPTW Architects.
- 4.3 The site is bounded by residential properties to the south on Craneford Way with rear elevations facing north-west toward the Proposed Development. To the east, Egerton Road, running north-west/south-east, with the front elevation to established residential properties facing west toward the proposed development. To the east of Egerton Way, Court Way and Heathfield Street, running east-west, contain residential properties with the flack walls facing west toward the proposed development. To the north of the development site, the remainder of the former Richmond College site that this is subject to separate planning application (bounded blue in Figure 1), with emerging detailed planning applications. Immediately to the west is an open park area, with residential blocks beyond on Langhorn Drive which contain windows facing south-east beyond the Proposed Development site.
- 4.4 The aerial photograph shown as Figure 1, extracted from Google Maps, shows the Proposed Development site in context, containing the former Richmond College buildings. The extract from BPTW Architects site plan, shown as Figure 2, shows the proposed development site boundary by virtue of the red dashed line.



Figure 1: Aerial view of the site and surrounding area  
Google Maps (2018)

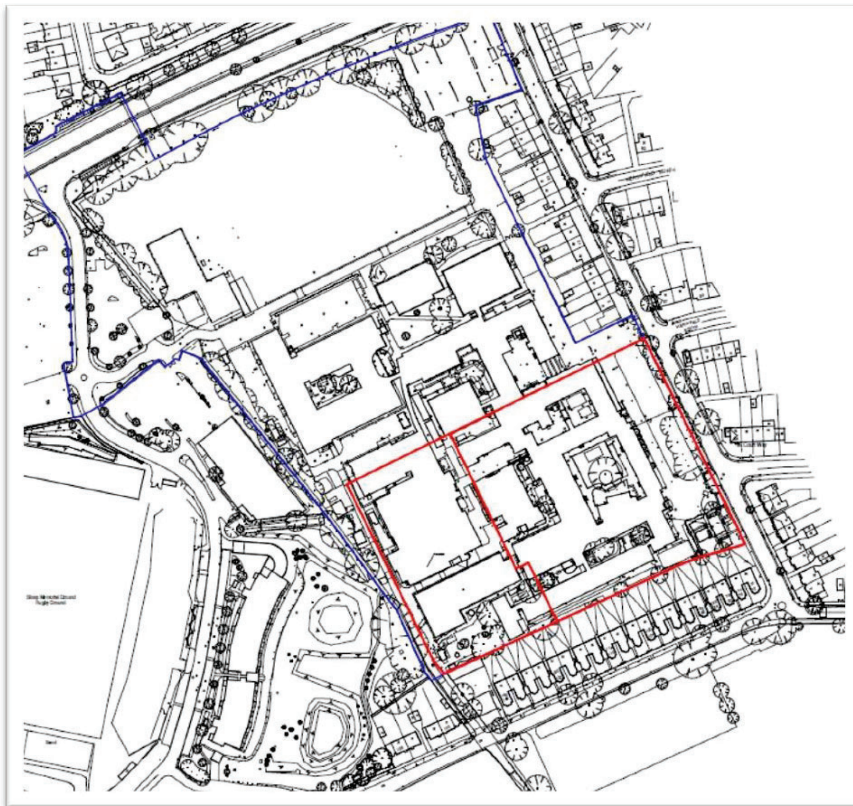


Figure 2: Site location plan  
BPTW drawing 18-103 D 001

## 5. Daylight and Sunlight Assessment

### Daylight and Sunlight Amenity to Neighbouring Residential Properties

- 5.1 By reference to section 4 of this report, the proposed development is located on the southern portion of the former Richmond College site, to the north of Craneford Way and the west of Egerton Way.
- 5.2 We have undertaken research and established that two the neighbouring sites to the north are subject to an approved planning application references: 16/4747/RES and 16/3293/RES, which have been incorporated in to the future baseline situation.
- 5.3 The following neighbouring properties have been identified as sensitive receptors and as such have been considered as part of this study.
- 70-72 CRANEFORD WAY - BRE/13
  - 74-76 CRANEFORD WAY - BRE/13
  - 78-80 CRANEFORD WAY - BRE/13
  - 82-84 CRANEFORD WAY - BRE/13
  - 86-88 CRANEFORD WAY - BRE/13
  - 90-92 CRANEFORD WAY - BRE/13
  - 94-96 CRANEFORD WAY - BRE/13
  - 98-100 CRANEFORD WAY - BRE/13
  - 102-104 CRANEFORD WAY - BRE/13
  - 106-108 CRANEFORD WAY - BRE/13
  - 110-112 CRANEFORD WAY - BRE/12
  - 114-116 CRANEFORD WAY - BRE/12
  - 118-120 CRANEFORD WAY - BRE/12
  - 122-124 CRANEFORD WAY - BRE/12
  - 126-128 CRANEFORD WAY - BRE/12

- 130-132 CRANEFORD WAY - BRE/12
- 134-136 CRANEFORD WAY - BRE/12
- 138-140 CRANEFORD WAY - BRE/12
- 142-144 CRANEFORD WAY - BRE/12
- 146-148 CRANEFORD WAY - BRE/12
- 150 CRANEFORD WAY - BRE/11
- 152 CRANEFORD WAY - BRE/11
- 14 EGERTON ROAD - BRE/05
- 16 EGERTON ROAD - BRE/05
- 3A EGERTON ROAD - BRE/09
- 96 COURT WAY - BRE/06
- 94 HEATHFIELD SOUTH - BRE/07
- 97 HEATHFIELD SOUTH - BRE/08
- CHALLENGE COURT, LANGHORN DRIVE - BRE/10

5.4 The daylight and sunlight table and drawings in relation to the neighbouring properties can be found by reference to Appendix I.

### **70 to 152 Craneford Way – BRE/11 to 13**

5.5 These residential properties are to the south of the Proposed Development, which rear windows/room facing north. The location of these properties can be seen by reference to drawing to BRE/01.

5.6 In relation to daylight, the results of our technical study indicate that in relation to VSC (at the window) and No Sky-line (within the room) indicate that all windows and room satisfy the BRE guidelines by virtue retaining either the absolute guideline value or 0.8 of their former value i.e. no greater than 20% reduction.

5.7 In relation to sunlight, the windows to these properties that look toward the proposed development do not face with 90° of due south and therefore have not been given further consideration.

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### **94 and 97 Heathfield South – BRE/11 to 13**

- 5.8 These residential properties are to the east of the proposals on the opposite side of Egerton Road, located at the west end of Heathfield South, with flank of these properties facing west toward the Proposed Development.
- 5.9 In relation to daylight, the results of our technical study indicate that in relation to VSC (at the window) and No Sky-line (within the room) indicate that all windows and room satisfy the BRE guidelines by virtue retaining either the absolute guideline value or 0.8 of their former value i.e. no greater than 20% reduction.
- 5.10 In relation to sunlight, the findings of the APSH test demonstrate that all windows considered will retain 25% annual and 5% winter sunlight guideline values and/or 0.8 of their former value, satisfying the guidelines.

### **3A, 14 and 16 Egerton Road – BRE/05 and 09**

- 5.11 These three are residential properties to the east of the proposals. 3A Egerton Road is located on the west site of Egerton Road, to the north-east of the Proposed Development, with windows serving habitable rooms in the rear and flank walls. 14 and 16 Egerton Way are located to the east on the opposite side of Egerton Road, on the junction with Court Way.
- 5.12 In relation to daylight, the results of our technical study indicate that in relation to VSC (at the window) and No Sky-line (within the room) indicate that all windows and room satisfy the BRE guidelines by virtue retaining either the absolute guideline value or 0.8 of their former value i.e. no greater than 20% reduction.
- 5.13 In relation to sunlight, the findings of the APSH test demonstrate that all windows considered will retain 25% annual and 5% winter sunlight guideline values and/or 0.8 of their former value, satisfying the guidelines. The exception being, two windows to 16 Egerton Road, which will see two winter reductions in excess of 20%, however these only represent a 1% absolute reduction of the probable sunlight hours and therefore are unlikely to be noticeable.

### **96 Court Way – BRE/11 to 13**

- 5.14 This residential property is to the east of the Proposed Development on the opposite side of Egerton Road on Court Way, with the front and flank elevations containing windows that look south-west and north-west, respectively.
- 5.15 In relation to daylight, the results of our technical study indicate that in relation to VSC (at the window) and No Sky-line (within the room) indicate that all windows and room satisfy the BRE guidelines by virtue retaining either the absolute guideline value or 0.8 of their former value i.e. no greater than 20% reduction.

- 5.16 In relation to sunlight, the findings of the APSH test demonstrate that all windows considered will retain 25% annual and 5% winter sunlight guideline values and/or 0.8 of their former value, satisfying the guidelines.

### **Challenge Court, Langhorn Drive – BRE/11 to 13**

- 5.17 This block of flats is to the west of the Proposed Development located on Langhorn Drive, on the opposite side of the open amenity space. The main rear south-east facing elevation and north-east facing flank elevation will have an obtuse view of Proposed Development. Given the orientation of the block, we have only undertaken sample testing of those windows and rooms that are located closest to the Proposed Development, on the basis that remaining window/rooms will be less affected.
- 5.18 In relation to daylight, the results of our technical study indicate that in relation to VSC (at the window) and No Sky-line (within the room) indicate that all windows and room satisfy the BRE guidelines by virtue retaining either the absolute guideline value or 0.8 of their former value i.e. no greater than 20% reduction.
- 5.19 In relation to sunlight, the findings of the APSH test demonstrate that all windows considered will retain 25% annual and 5% winter sunlight guideline values and/or 0.8 of their former value, satisfying the guidelines.

### **Daylight and Sunlight Amenity within the Proposed Development**

- 5.20 We have undertaken a 3D computer study of the proposed development in respect of internal daylight and sunlight amenity in accordance with BS 8206: Part 2, as described in section 3.10 and 3.11 above.
- 5.21 Typical modern living requirement within urban locations dictate that the majority of apartments contain galley kitchens to the rear of a larger room only. These galley kitchens are either not considered to be habitable due to the small room area and have been excluded from analysis or are only considered as a secondary room use and have therefore been assessed by applying the parameters for the primary room use only i.e. living room or dining room. The BRE Guidelines advise that kitchens do not need to be directly daylight as long as they are directly linked to a well-lit space.
- 5.22 The daylight and sunlight table and drawings in relation to the Proposed Development can be found by reference to Appendix II.
- 5.23 The results confirm that of the 629 rooms tested, 545 will achieve the 2% for kitchens, 1.5% for living/dining space or 1% bedrooms. This equates to 86.6% compliance with the BRE/BS target



- values. 10 of the rooms in question are all bedrooms, which are considered by the BRE as “less important”.
- 5.24 In relation to these rooms tested as Living/Kitchen/Dining rooms, whilst the BRE suggests a 2% ADF, the Living/Dining rooms are the primary use and therefore, in our opinion, in such circumstances a 1.5% ADF is more appropriate. On this basis, the compliance increases further still to 89.3% and including other room typologies that fall just short of the criterion this increases again to 91%, which is considered good for an urban location.
- 5.25 In relation to Sunlight, the APSH results indicate that of the 787 windows considered, 407 will achieve the 25% annual sunlight guideline and 510 the 5% winter sunlight guideline. However, in relation to sunlight enjoyed within the room, a large number of the relevant rooms considered contain multiple windows. There whilst some windows may fall short of the guidelines, a high proportion of rooms contain at least one window that achieves good sunlight values or the aggregate contribution from the multiple windows provides a well sunlit space. Again, the further direct sunlight amenity can also be enjoyed by virtue of the private balcony spaces provided.
- 5.26 The above findings suggest that the proposals will achieve excellent daylight and sunlight results exceeding the BRE Guidelines and the BS 8206: Part 2 in many instances.

#### **BRE ‘2 Hour Time-in-Sun’ Overshadowing Study with the Proposed Development.**

- 5.27 The BRE Guidelines suggest that external amenity areas within a proposed development should be tested to ensure that sufficient sunlight reaches the ground (50% of the total area for greater than 2 hours) for the enjoyment of the users. The amenity areas that form part of the application site are individual private rear gardens to the terrace houses referenced T2, T3 and T4 to the south and T1 to the east. A further three amenity spaces/gardens are provided between the residential blocks, referenced West Garden, Central Garden and East Garden. A further amenity space has been provided to the northern and eastern boundary. Finally, a communal terrace has been provided to the south-west corner of Block 5. For the purposes of this study, trees have not been included as the BRE states in paragraph 3.3.9. “...Normally trees and shrubs need not be included, partly because their shapes are almost impossible to predict, and partly because the dapple shade of a tree is more pleasant than a deep shadow of a building (this applies especially to deciduous trees).” It is assumed that they will predominantly be deciduous and therefore any potential effect of the tree canopy is likely to change throughout the year.
- 5.28 By reference to drawing RI37/03/TIS/35 and ‘Time in Sun’ table in Appendix III, these indicate that 39 (80%) of the 49 of the external amenity areas will receive greater than 2 hours of direct sunlight on the ground to over 50% of their area. Of the remaining 10 areas, all but one will

receiving sunlight to at least 40% of their area, which should still be considered good in an urban in context. The final space, which will receive 2 hours sunlight to 34.45% of its area, however this is one of the three garden courtyard areas and if these are treated as one combined space they will receive 2 hours sunlight to over 67%, which satisfies the guidelines. Therefore a high level of compliance with the BRE Guidelines will be achieved in respect of overshadowing/sunlight availability and overall the combined sunlight available throughout the site should be considered excellent in an urban context.



## 6. Conclusions

- 6.1 The London Borough of Richmond Upon Thames' planning policy seeks to safeguard daylight and sunlight to existing buildings and promote adequate standards for new developments by reference to the guidance published in BRE Report 209 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice'.
- 6.2 The results of our study confirm that, with the exception of two winter sunlight reductions that are unlikely to be noticeable, all windows and rooms to neighbouring properties with satisfy the BRE guidelines in respect of both Daylight and Sunlight.
- 6.3 For daylight and sunlight amenity within the proposed development, our analysis confirms that the majority of habitable rooms tested will exceed the target values for their use in respect of daylight and sunlight. Where they do not, in many instances this is a result of providing private balconies to the occupants, which provide some compensatory beneficial affect.
- 6.4 In relation to overshadowing/sunlight availability to the individual amenity spaces, a high level of individual compliance with the guidelines is achieved. When these are combined to consider the Proposed Development as a whole, excellent sunlight availability will be achieved.
- 6.5 We therefore suggest the London Borough of Richmond Upon Thames' planning policy on daylight, sunlight and overshadowing will be satisfied.

## Appendix I



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 Do not scale this drawing.

**Legend**

Existing Daylight  
 Proposed Vfr Grid Loss Hatching  
 Room Layout  
 Existing No-Sky Line Contour  
 Proposed No-Sky Line Contour

**Source of Information**

**EXISTING BUILDING**  
 INFO 13 SEPTEMBER 2018 (Architect)  
 2018-09-13 - Sunlight Daylight information (1)

**SURROUNDING BUILDINGS**  
 INFO 13 SEPTEMBER 2018 (Architect)  
 2018-09-13 - Sunlight Daylight information (1)  
 RESEARCH COLLEGE BUILDINGS TO THE NORTH

**PROPOSED BUILDING**  
 INFO 6 NOVEMBER 2018  
 2018-11-06 - Sunlight daylight data model  
 18-103-BPTW-MS-SITE PLAN\_2018-11-06

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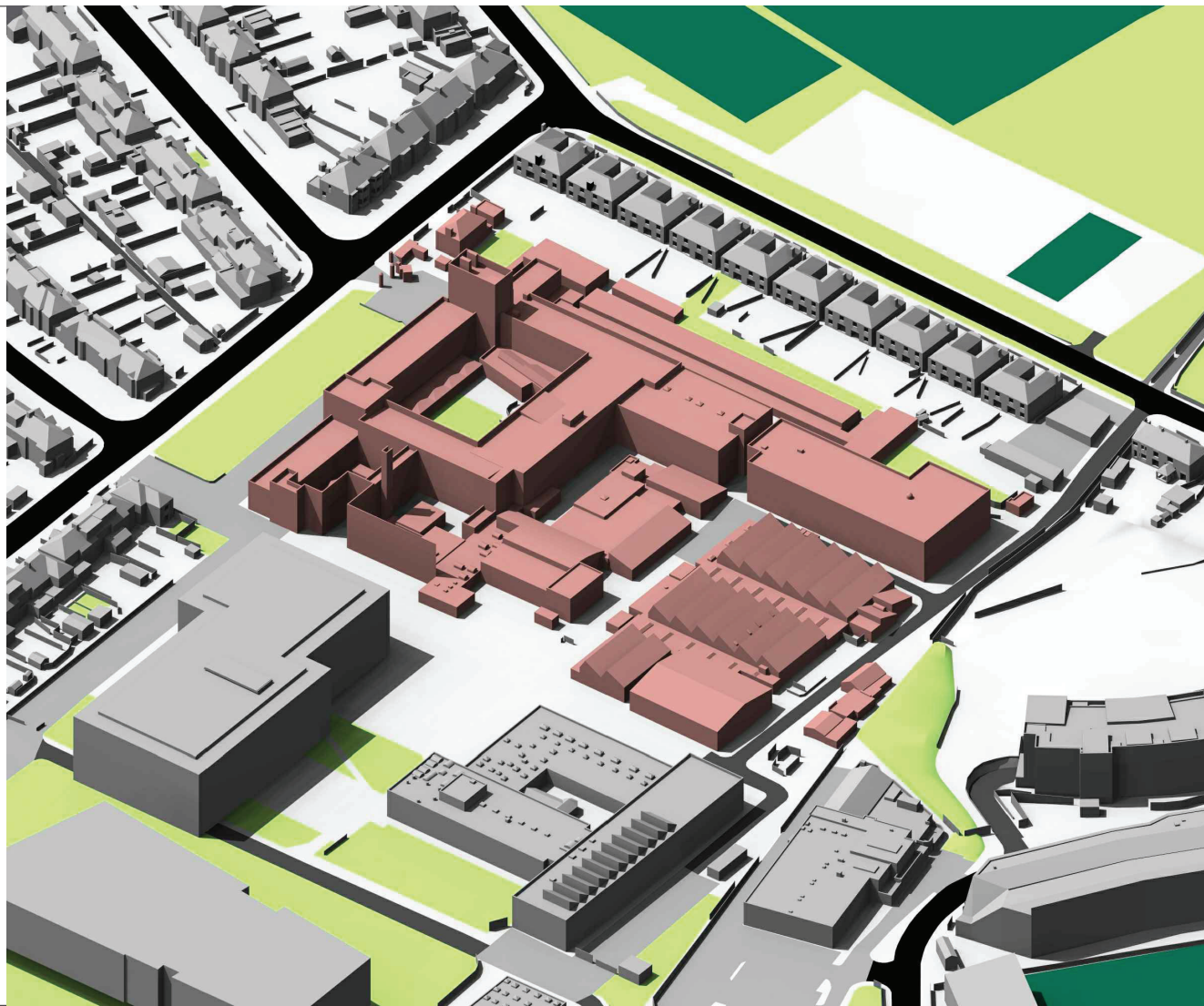
**Client**  
 CLARION HOUSING GROUP

**Drawing Title**  
 PLAN VIEW  
 EXISTING CONDITION

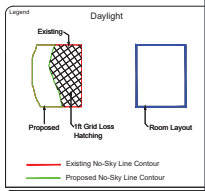
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| Project No.<br>R137/01 | Drawing No.<br>BRE/01 | Revision<br>-     |                     |

Daylight

**A3**



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 conjunction with any specifications, schedules and Consultation  
 drawings and details.



**EXISTING BUILDING**  
 INFO 13 SEPTEMBER 2018 (Architect)  
 2018-09-13 - Sunlight Daylight information (1)

**SURROUNDING BUILDINGS**  
 INFO 13 SEPTEMBER 2018 (Architect)  
 2018-09-13 - Sunlight Daylight information (1)  
 RESEARCH COLLEGE BUILDINGS TO THE NORTH

**PROPOSED BUILDING**  
 INFO 5 NOVEMBER 2018  
 2018-11-05 - Sunlight daylight data model  
 18-103-BPTW-MS-SITE PLAN\_2018-11-05

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Client  
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Drawing Title  
 3D VIEW  
 EXISTING CONDITION

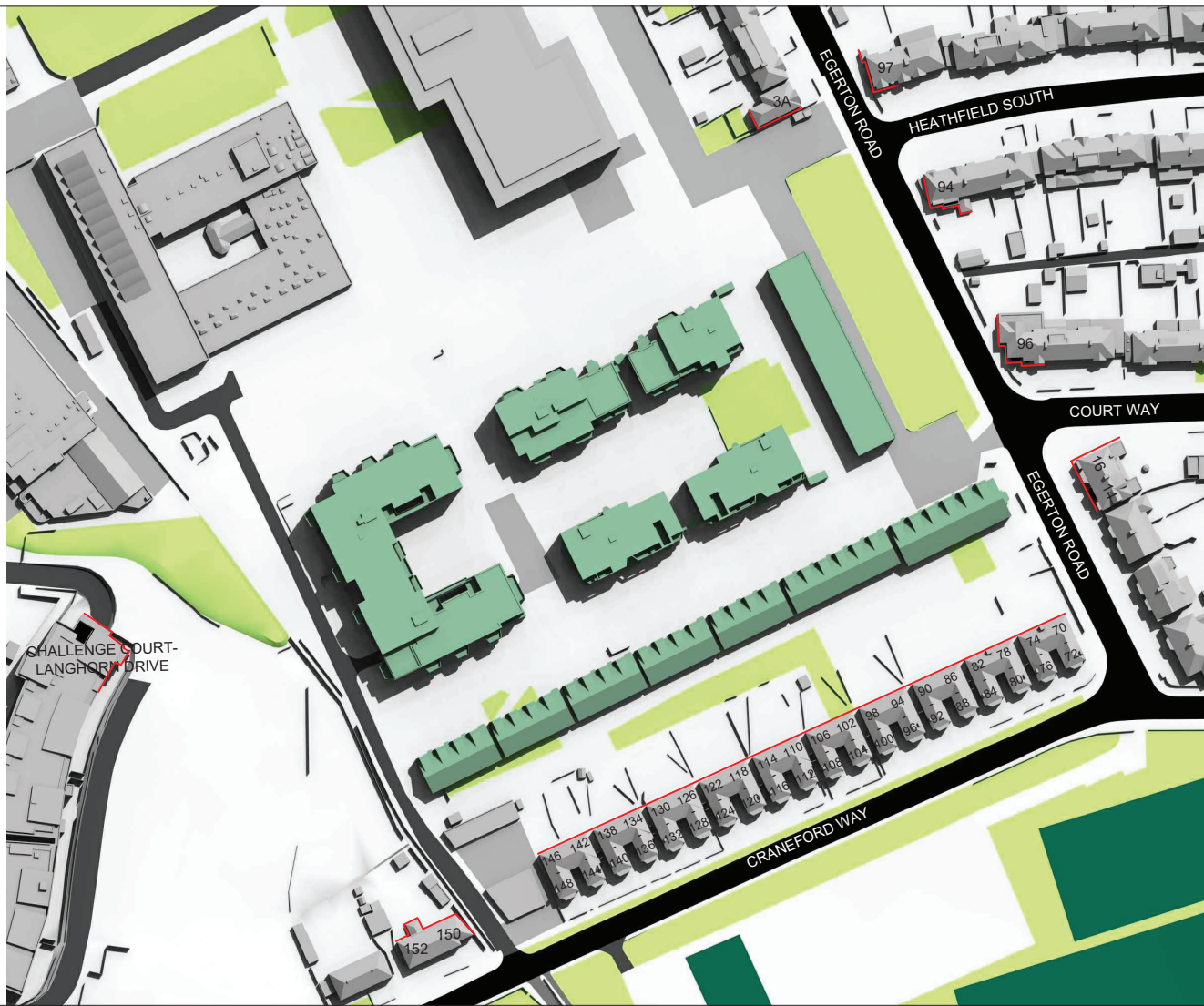
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Daylight

A3





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**Legend**

Daylight

Existing Proposed

1/4" Grid Loss Room Layout

Existing No-Sky Line Contour Proposed No-Sky Line Contour

**EXISTING BUILDING**  
**INFO 13 SEPTEMBER 2018 (Architect)**  
 2018-09-13 - Sunlight Daylight information (1)

**SURROUNDING BUILDINGS**  
**INFO 13 SEPTEMBER 2018 (Architect)**  
 2018-09-13 - Sunlight Daylight information (1)  
 RESEARCH COLLEGE BUILDINGS TO THE NORTH

**PROPOSED BUILDING**  
**INFO 5 NOVEMBER 2018**  
 2018-11-05 - Sunlight daylight data model  
 18-103-BPTW-MS-SITE PLAN\_2018-11-05

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**Project Name**  
 RICHMOND COLLEGE  
 TWICKENHAM

**Client**  
 CLARION HOUSING GROUP

**Drawing Title**  
 PLAN VIEW  
 PROPOSED CONDITION

|                       |                        |                          |                            |
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Daylight

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