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Daylight and Sunlight

Highgate Centre
(19-37 Highgate Road)
&
A&A Self-Storage
(19 Greenwood Place)

Prepared by: Daniel Maddox

Reference: 7554

Date: 23/09/2016

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Client: Fortnum Developments Ltd

Issue Date: 23/09/2016

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Author for and Behalf of GIA: Daniel Maddox

Authorisation for GIA: .....

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1.0 Executive Summary

We have undertaken a daylight and sunlight assessment for the proposed redevelopment of the Highgate Centre and A&A Self Storage Site in Camden, London.

Following a VOA search we have identified the following residential properties within the vicinity of the site;

- 46 Highgate Road
- 44 Highgate Road
- 42 Highgate Road
- 28A & 28B Highgate Road

We are also aware that Linton House to the west of the site has recently been given consent to be part converted from commercial use to residential use on the top three floors. Planning consent has also been granted to add an extra residential storey at roof level. These have been included in our assessment.

We have assessed 133 habitable rooms for VSC, 70 rooms for NSL and 70 rooms for APSH within 5 surrounding residential properties.

As the site is currently largely underdeveloped in comparison with some of the surrounding buildings, any meaningful development onsite will likely result in some impacts outside of the BRE guidelines. While some of the surrounding residential buildings would see alterations to their daylight and sunlight as a result of the proposed development, the retained daylight and sunlight in almost all cases can be considered good given the urban location of the site.

Planning Policy in the form of the GLA Housing Supplementary Planning Guidance (SPG) informs us that:

"An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding land and properties. Guidelines should be applied **appropriately** to higher density development, especially in opportunity areas, town centres, large sites and accessible locations. This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time.

The degree of harm on adjacent properties should be assessed, drawing on broadly comparable interfaces of residential development found in London. **Focus should be given upon the quality of retained amenity as well as any reductions. If the retained amenity is commensurate with the local environment, it is likely to be appropriate to give more weight to that criteria**. Decision makers should recognise that fully optimising housing potential on large sites may necessitate standards which depart from those presently experienced but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm."

Given that the site is currently underdeveloped, some impact to the surrounding residential properties is unavoidable, in order for this site to be developed in a way that is consistent with other buildings along Highgate Road.

It is therefore key to consider the retained levels of daylight and sunlight on neighbouring residential properties, and assess not just on the fact that there may be a change but on whether there will be unacceptable harm caused by leaving retained values unacceptably low.

2.0 Instructions

GIA have been instructed to undertake detailed technical assessments to understand the potential daylight and sunlight changes that the proposed Squire and Partners scheme dated 13th of September 2016 for the Highgate Centre (19-37 Highgate Road) and A&A Self-Storage (19 Greenwood Place) site will have upon the surrounding residential properties.

The daylight and sunlight review within this report considers residential properties only as they are recognised by the Building Research Establishment (BRE 2011) as having the highest expectation for natural light when compared to other uses – such as commercial.

3.0 Introduction

Daylight and Sunlight

The technical analysis that forms the basis of this report has been predicated against the methodologies set out within the Building Research Establishment Guidelines entitled ***'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (2011)'***. The guidelines in question are precisely that; guidelines which provide a recommendation to inform site layout and design. They are not mandatory nor do they form planning policy and their interpretation may be treated flexibility depending on the specifics of each site.

The BRE Guidelines provide three methodologies for daylight assessment, namely;

- The Vertical Sky Component (VSC)
- The No Sky Line (NSL); and
- The Average Daylight Factor (ADF)

There is one methodology for sunlight assessment, denoted as Annual Probable Sunlight Hours (APSH).

Appendix 01 of this report elaborates on the mechanics of each of the above assessment criteria, explains the appropriateness of their use and the parameters of each specific recommendation.

4.0 Sources of Information

In compiling this report, we have used the following information:

GIA

Site Photographs

3D Model of the Scheme

FIND

OS Map

Aerial Photography

MSA Surveys

IR03-7554-04.12.13-3D Measured Survey

Squire and Partners

IR21-7554-DWG Plans-13.09.16

5.0 Assumptions

a) We have made best estimates as to the uses which are carried out legally within the adjoining properties in terms of commercial and residential. We have estimated these from external observation and a Valuation Office Agency (VOA) searches.

b) Where we have been unable to acquire layouts for other properties, we have made reasonable assumptions as to the internal configuration of the rooms behind the fenestration. This is normal practice where access to adjacent properties is undesirable in terms of development confidentiality. Unless a building form dictates otherwise, we have assumed a standard 4.2m deep room (14ft) for residential property and a 6m (20ft) deep room for commercial properties.

c) Floor levels have been assumed for adjoining properties as access has not been obtained. This dictates the level of the working place which is relevant for the No Skyline assessment.

6.0 The Site

The site is located just off Highgate Road in the Borough of Camden, London. The existing buildings on site (as shown in Figure 01) currently comprise of the Highgate Centre (19-37 Highgate Road) and A&A Self-Storage (19 Greenwood Place).

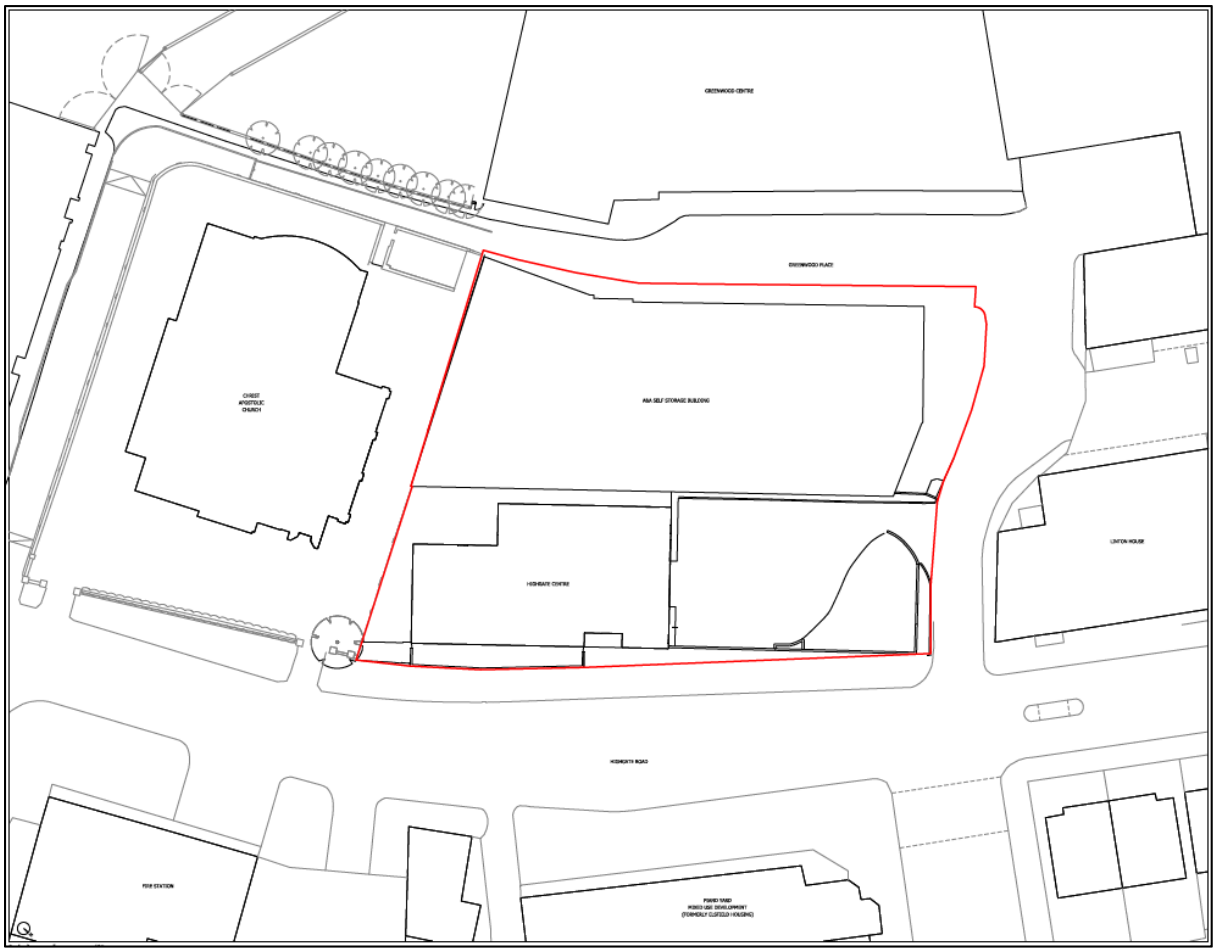


Figure 01 – Site Location

The site is bounded by Greenwood Place to the west, Highgate Road to the north east and a church to the south. Our understanding of this exiting building and the surrounding context is depicted on GIA drawings 7554/58 to 7554/60 within Appendix 02.

7.0 The Proposal

The description of the development: Demolition of existing buildings and redevelopment of the site to provide two basement levels for Class B8 (self-storage) use and two buildings above ground; Building 1 over ground, first – fifth, part sixth, part seventh and part eighth floors for Class B8 (self-storage), Class B1 (office) and Class C3 (residential) uses; Building 2 over ground, first – fourth and part fifth floors for Class A3 (café) and Class C3 (residential) uses; creation of a pedestrian walkway running east-west between the two buildings linking Highgate Road with Greenwood Place; creation of a vehicular access from Greenwood Place and loading bay adjacent to Greenwood Place; provision of green/brown roofs and plant.

GIA's understanding of the proposed scheme is illustrated in drawings 7554/61 to 7554/63 shown within Appendix 02.

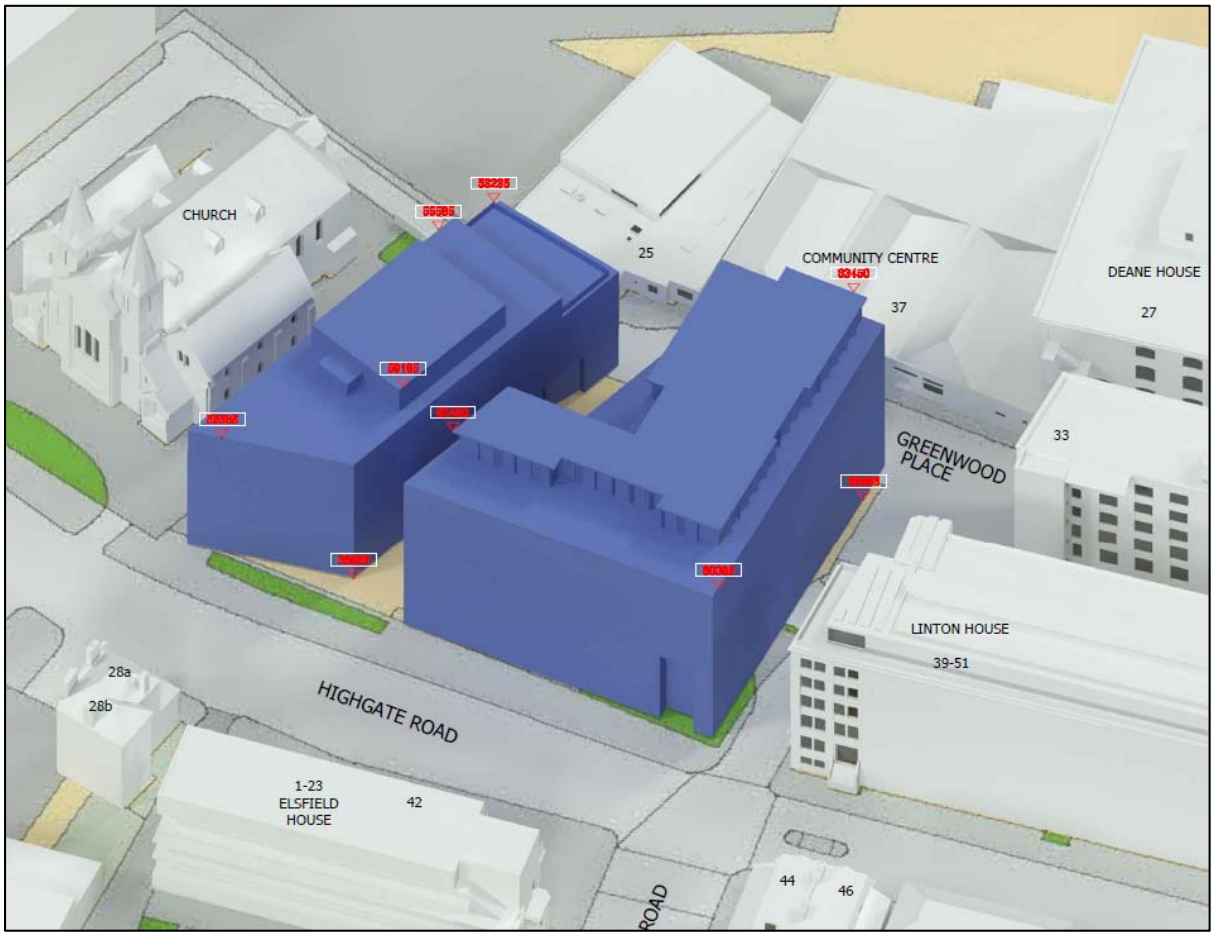


Figure 02 – Proposed Scheme

Our analysis of this option is based on the proposed scheme massing models produced by Squires and Partners Architects received on 13th of September 2016.

We are aware of the existing consent on the eastern part of the site which was obtained by Camden Borough Council. The massing of this consent is similar but slightly lower than the proposed scheme, there have also been significant design alterations with the inclusion of the A&A Storage part of the site.

8.0 Surrounding Properties

We have created a three dimensional computer model of the site and the surrounding properties to allow for a detailed daylight and sunlight assessment.

The baseline condition of the existing buildings on site allows us to calculate the current daylight and sunlight conditions within the neighbouring buildings. From this we can then compare them with the conditions within these properties assuming the proposed development is in place.

Below are the residential properties surrounding the scheme, the site is show in red, residential units that are above commercial units are shown in blue and residential units are shown in green.

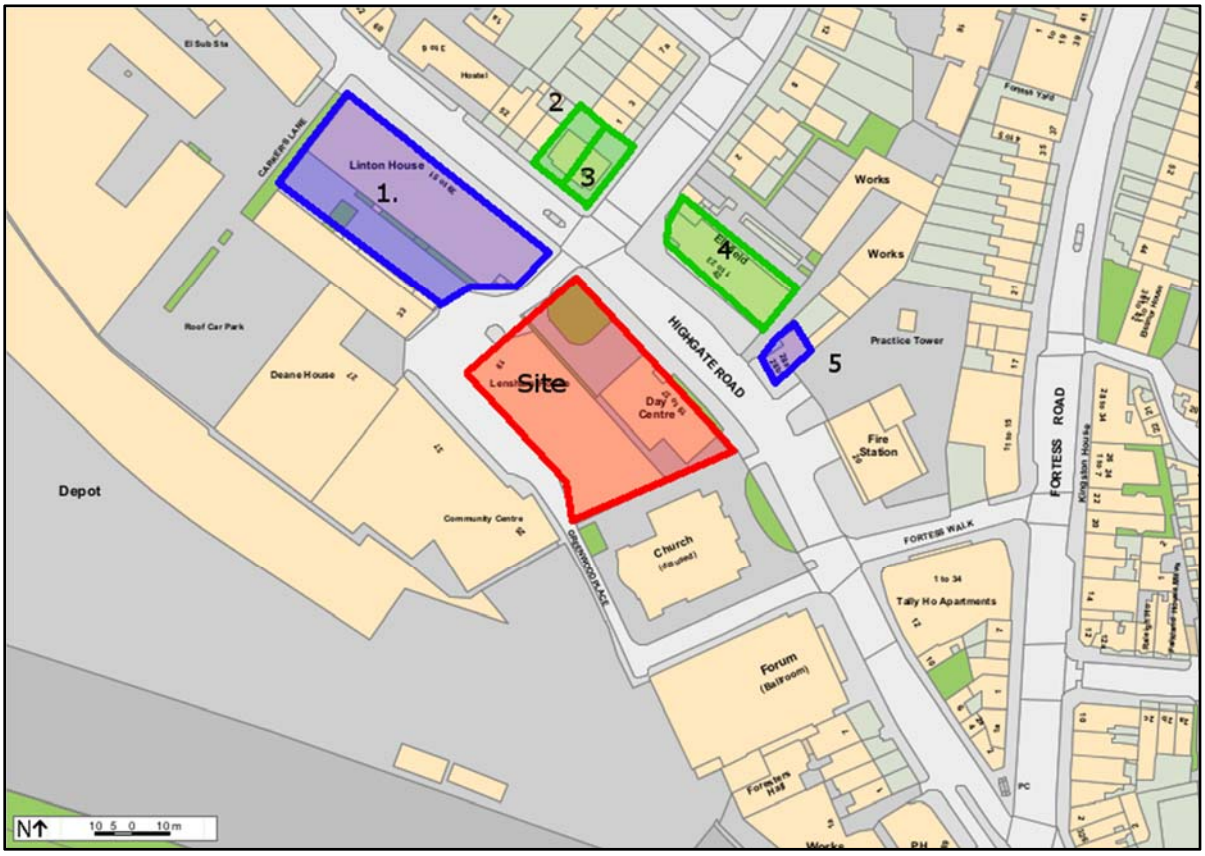


Figure 03 – Usage Map

It is well-established and accepted that the BRE Guidelines, which set out the numerical benchmark for daylight and sunlight assessments, are predicated on a relatively low rise suburban environment. The methodologies and the resultant BRE daylight and sunlight recommendations are also predicated upon this suburban model. The guidance provided by the BRE is not mandatory and it is principally proposed to aid the architects and planners in achieving good site design. Clearly, in more densely developed urban locations and urban areas such as this site, the technical specifications recommended by the BRE Guidelines need to be treated with care.

The numbers on the plan above relate to each separate residential property, these are discussed individually below.

1. Linton House

Linton House is commercial building located to the north west of the development site. The freeholder however, is currently adding an extra storey of residential units on the existing roof and converting the top three floors to residential use. As construction is underway we have included the additional storey in the baseline model and analysed the additional residential units in this report. As a result of this planning permission we were able to obtain accurate internal layouts which we have used in our analysis, these are included in Appendix 04.

This building, especially on the upper floors currently enjoys light over the development site which is very low rise in comparison. This is an uncharacteristic situation for central London and results in very high existing daylight and sunlight values.

It is important to note that the change of use and extension of Linton House was applied for and approved after the Camden Council scheme for the development site was approved and therefore has been designed with the expectation that there would be a substantial building on the development site.

VSC (Vertical Sky Component)

Of the 54 windows that have been assessed for VSC, 32 (59%) would achieve the BRE guidance. The quantum of change is significantly affected by the fact that Linton House is currently overlooking an underdeveloped site and enjoying unobstructed views to the south east. Therefore, any reasonable amount of massing on this site will lead to reductions in VSC. The 23 windows that do not achieve BRE guidance will see relatively high percentage reductions of between 20% and 60% VSC. It is important to note that of these 23 windows, 16 retain VSC of 15% or above which is considered a good level of retained daylight given the urban location of the building.

It is undeniable there will be a noticeable impact to the VSC of this elevation, which is unavoidable if a building of any meaningful mass is to be achieved on the site. As we have detailed internal layouts for this building it is our opinion that the second daylight test, Daylight Distribution is more appropriate measure of impact.

Daylight Distribution - NSL (No Skyline)

The daylight distribution analysis (NSL) judges the effect of the proposed building on the daylight within the room of the adjoining property rather than just the one elevation.

Below is a section from the 3rd floor plan of the residential units within Linton House. As can be seen from the plan the only habitable residential room per floor facing the site is the Kitchen/ Dining/ Reception shown. This room receives light from three elevations and therefore although the light is limited from one elevation, the daylight within the room is almost unaffected. This is the same for the three residential floors within the building.

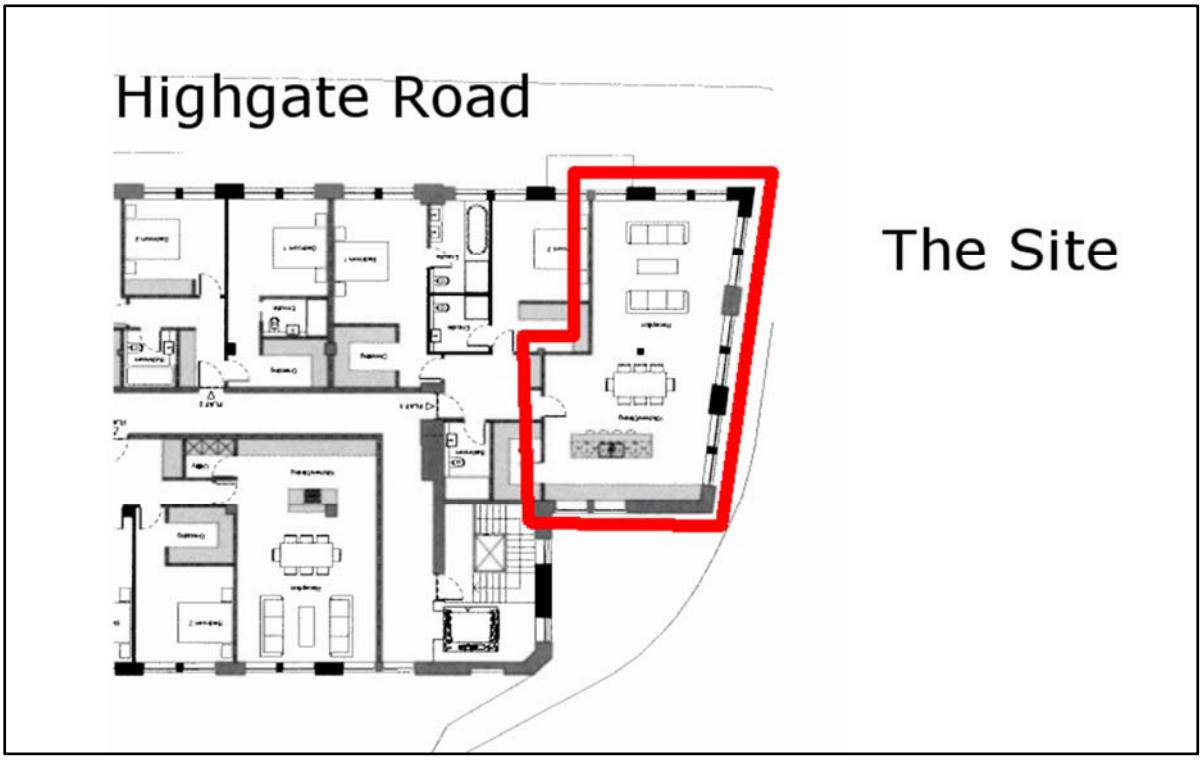


Figure 04 – Section from the 3rd floor plan of the residential units within Linton House

When looking at the NSL assessment there is no impact outside of the BRE guidelines to any habitable room within Linton House.

APSH (Annual Probable Sunlight Hours)

We have assessed 13 habitable rooms within Linton House that face within 90 degrees of due south as stipulated in the BRE guidelines. There are no impacts outside of the BRE guidelines to any room and as such it is our opinion that the impact on the sunlight amenity to this building is acceptable.

Conclusion

While there will be an obvious impact to the daylight of the south east elevation of Linton House, our technical analysis shows that there will be an almost negligible impact to the daylight within the four habitable rooms that face the development site. This is most likely because the designers of the Linton House residential units were aware of the existing consent on the site and designed the units knowing that they could not to rely on daylight and sunlight from just one aspect.

It is therefore our opinion that the impact to the daylight and sunlight of this building is acceptable.

2. 46 Highgate Road

This is a residential property to the north east of the site over Highgate Road. It is owned in its entirety by the North Camden Housing Co-operative and is therefore likely to be social housing. We have not been able to locate floorplans for this property in the public domain and therefore the internal layouts have been assumed.

VSC (Vertical Sky Component)

Of the nine windows assessed for VSC, none will see an alteration outside of the BRE recommended levels, which means an occupier is unlikely to notice the change.

Daylight Distribution - NSL (No Skyline)

There are five rooms within this property that we have assessed for NSL, of these five rooms three would achieve the BRE guidance. Of the remaining two rooms that see alteration outside of the BRE recommendations, one would experience a reduction of 26% which can be considered a minor breech being just over the recommended 20%.

The second room will see a more substantial reduction of 60%, this alteration is due to this room being located in the basement below ground level. Currently this room enjoys a large portion of its light over the largely underdeveloped site. Following the construction of the proposed scheme the daylight distribution within this room is reduced to levels that would be congruent with its situation as rooms below ground level such as this, have a lower expectation of daylight.

APSH (Annual Probable Sunlight Hours)

We have assessed five rooms within 46 Highgate road for APSH, four exceed the recommended sunlight levels recommended in the BRE guidelines. The one room that sees a reduction to below the BRE recommended levels is the room on the basement level, even though it is below ground the annual APSH still exceeds the BRE recommended 25%, the winter APSH falls only 1% short of the BRE recommend 5%. As such it is our opinion that the retained levels are good for a basement room.

Conclusion

It is our opinion there will be a minor impact to the daylight and sunlight this property as a result of the proposed development. The only room that would see reductions outside of the BRE guidelines is located on the basement level, which can be considered to have a lower daylight and sunlight expectation given its position.

3. 44 Highgate Road

This is a residential property to the east of the site over Highgate Road. It is owned by the North Camden Housing Co-operative and is therefore likely to be social housing.

VSC (Vertical Sky Component)

Of the 24 windows that have been assessed for VSC, 14 (58%) would achieve the BRE guidance. The seven windows that would see alterations outside of the BRE guidelines only see reductions of between 20% and 26%, these therefore can be considered to be minor transgressions over the BRE suggested 20%.

It is also important to note that all of the 10 windows would retain at least 15% VSC which can be considered a good level of retained daylight given the urban location of the building.

Daylight Distribution - NSL (No Skyline)

There are 12 rooms within this property that we have assessed for NSL, of these 10 would achieve the BRE guidance. Of the remaining two rooms that see alteration outside of the BRE recommendations, one would experience a reduction of 23% which can be considered a minor breech being just over the recommended 20%.

The second room will see a more substantial reduction of 60%, this alteration is due to this room being located in the basement below ground level. Currently this room enjoys a large portion of its light over the largely underdeveloped site. Following the construction of the proposed scheme the daylight distribution within this room is reduced to levels that would be congruent with its situation as rooms below ground level such as this, have a lower expectation of daylight.

APSH (Annual Probable Sunlight Hours)

We have assessed 12 rooms within 44 Highgate road for APSH, all 12 would exceed the minimum recommended APSH levels for annual and winter sunlight and is therefore completely compliant.

Conclusion

The results show, there will only be a minor impact on the daylight and sunlight amenity this property as a result of the proposed development.

4. 42 Highgate Road

42 Highgate Road is residential block owned at freehold by Camden Council. From our research it is our opinion that the flats are single storey on the ground and first floors and then duplex's on the higher floors.

The majority of this property currently overlooks the largely empty car park on the Community Centre site, and therefore enjoys uncharacteristically high levels of daylight and sunlight in the existing situation. The ground and first floor windows are located beneath overhanging balconies which limits the view of the sky in the existing situation and causes a greater reliance on the light received from over the site.

VSC (Vertical Sky Component)

Of the 40 windows that have been assessed for VSC, 18 (45%) would achieve the BRE guidance. Of the remaining 22 windows that would see alterations outside of the BRE guidelines, 21 (55%) would retain at least 15% VSC, this can be considered a good level of retained daylight given the urban location of the site.

The remaining window that experiences an alteration outside of the BRE guidance and retains just less than 15% VSC, is in a compromised existing position. It is located on the first floor, underneath a balcony and next to a significant return in the building that channels and limits the view of the sky.

Daylight Distribution - NSL (No Skyline)

There are 36 rooms within this property that we have assessed for NSL, of these 27 (75%) would achieve the BRE guidance. All of the remaining nine rooms would retain NSL to over 62% of the room area, which is in excess of the 50% retained level we would usually consider acceptable given the urban location of the building.

APSH (Annual Probable Sunlight Hours)

We have assessed 36 rooms within 42 Highgate road for APSH, 34 (95%) would achieve the BRE guidance.

There are only two rooms that exceed the BRE guidance and both these are located behind a return in the building. This return means that the rooms receive almost all of their winter APSH from across the largely underdeveloped site, therefore any meaningful development on the site would likely have a similar effect. It is also important to note that one room exceeds the recommend annual APSH by 5% while the second only just falls shy of the 25% BRE recommended annual APSH level by 1%.

Conclusion

The technical analysis demonstrates that while the occupants to this building will undoubtedly notice an alteration to their Daylight and Sunlight levels, in almost all situations, the flats will retain a level of amenity that should be considered acceptable given the urban location of the building. It is important to consider the existing levels are uncharacteristically high given the largely underdeveloped nature of the site and that any meaningful development on the site would likely have a similar effect.

5. 28a and 28b Highgate Road

This mixed use property is located to the East of the Site over Highgate Road. There is a retail unit on the ground floor with residential units on the upper two floors,

We have assessed the habitable rooms on the upper two floors and found that they would receive no alteration to their daylight (VSC and NSL) and sunlight (APSH) outside of the BRE guidelines as a result of the proposed development.

9.0 Conclusions

We have undertaken a rights of light assessment for the Squire and Partners scheme for the Highgate Road Community Centre and A&A Storage Site.

For daylight criterion, we have assessed 133 habitable windows for VSC and found that 81 (61%) achieve the BRE guidance. Of the 70 habitable rooms assessed for NSL, 57 (81%) achieve the BRE guidelines set out for Daylight distribution.

For the sunlight criterion, we have assessed 70 rooms for APSH and found that 67 (94%) reach the BRE standard.

Given the largely underdeveloped nature of the development site, some impacts outside of the BRE guidance are unavoidable if there is any meaningful development to be realised on the site.

For situations like this it is most important to consider the retained amenity, the daylight and sunlight assessment shows that in almost all cases the retained levels are above what we would consider acceptable given the urban location of the site. This is in line with the planning policy SPG on housing which became policy earlier this year.

As a result, GIA believe the alterations in daylight and sunlight, do not cause unacceptable harm, and as the retained values are in line with a normal urban environment, do not result in an unacceptable level of amenity in the proposed environment.

Appendix 01

Principles of Daylight and Sunlight

Principles of Daylight and Sunlight

Background

The quality of amenity and open spaces is often stipulated within planning policy for protection or enhancement and is often a concern for adjoining properties and other interested parties.

Historically the department of environment provided guidance in the issues, and in this country, this role has now been taken on by the Building Research Establishment (BRE), the British Standards Institutions (BSI) and the charted institute of building services engineers (CIBSE). Fortunately they have collaborated in many areas, to provide as much unified advice as possible in the form of industry best practice.

Many local planning authorities consider daylight and sunlight an important factor for determining planning applications. Policies refer to both the protection of daylight and sunlight amenity within existing properties as well as the creation of proposed dwellings with high levels of daylight and sunlight amenities.

In terms of considering what is material local authorities typically refer to the BRE guidelines and apply their criteria set out within. The guidelines were originally produced out in 1991, but superseded by the BRE guidelines (2011*) site layout planning for daylight and sunlight.*

Where developers are seeking to maximise their development value, it is often in the area of daylight and sunlight issues that they may seek to push the boundaries. Particularly in London, there is a priority on the creation of more housing thus resulting in the densification of urban areas. Local authorities vary in their attitude of how flexible they can be with the degree of impact on the daylight and sunlight amenity enjoyed by neighbouring owners and it is one factor among many planning aspects considered when determining an application. In city centres where high density is common, the protection of amenity is more challenging and there are many factors that need to be taken into account: each case has to be considered on its own merits.

The BRE Guidelines

The guidelines are typically referred to for daylight and sunlight amenity issues, however they were not intended to be used as an instrument of planning policy. In the introduction of 'Site Layout Planning for Daylight and Sunlight (2011)', section 1.6 (page 1), states that:-

> *"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 designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design (see Section 5). In special circumstances the developer or Planning Authority may wish to use different target values. For example, in an 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".*

Again, the paragraph 2.2.3 (page 7) of the document states:-

> *"Note that numerical values given here are purely advisory. Different criteria may be used, based on the requirements for daylighting in an area viewed against other site layout constraints".*

The numerical criteria suggested by the BRE are therefore designed to provide industry advice/guidance to plan/design with daylight in mind. Alternative values may be appropriate in certain circumstances such as highly dense urban areas around London, for e.g. The approach to creating alternative criteria is detailed within Appendix F of the BRE.

Measurement and Criteria for Daylight and Sunlight as set out in the BRE Guidelines

The BRE guidelines state that they are;

> *"intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedroom. Windows to bathrooms, toilets, garages need not be analysed."*

They are therefore primarily designed to be used for residential properties however, the BRE guidelines continue to state that they may be applied to any existing non-residential buildings where there may be a reasonable expectation of daylight including; schools, hospitals, hostels, small workshop and some offices.

Daylight

In the first instance, if a proposed development falls beneath a 25 degree angle taken from the centre point of the lowest window, then the BRE suggests that no further analysis is required as there will be adequate sky light (i.e. sky visibility). This rule is applied when considering the scope of any assessments.

The BRE guidelines provide two methods for calculating daylight to existing surrounding properties:

- Vertical Sky Component (VSC)
- No Sky Line (NSL) also refer4eed to as daylight distribution

A further method, the Average Daylight Factor (ADF) is provided for calculating daylight within proposed properties. However, it is sometimes applied as a supplementary assessment for exiting surrounding properties.

Each method is described below:

Vertical Sky Component

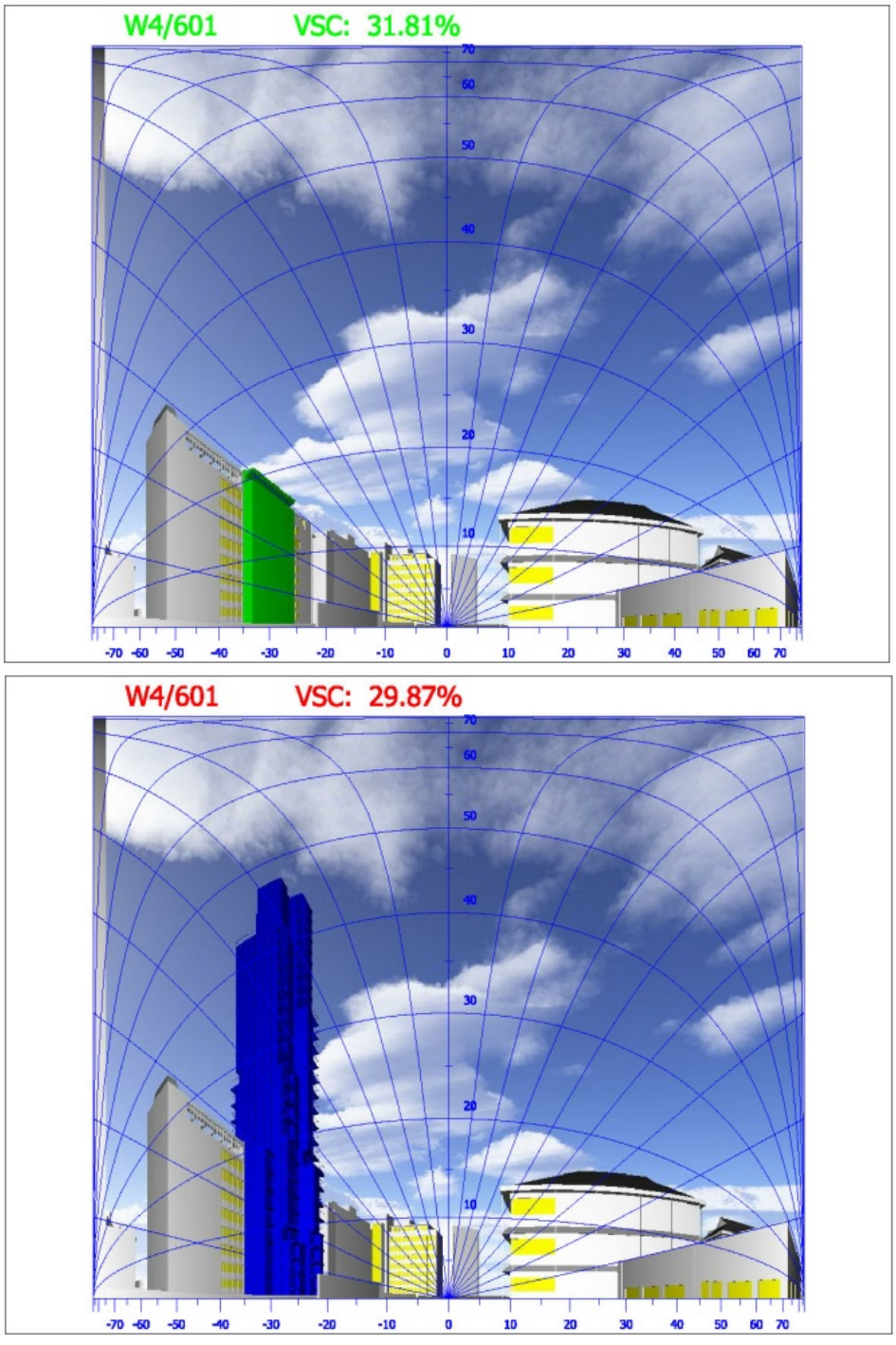
Methodology

This is defined in the BRE as:-

> *"Ratio of that part of illuminance, at a point on a given vertical plane that is received directly from a CIE standard overcast sky, to illuminate on a horizontal plane due to an unobstructed hemisphere of this sky."*

This statement means, in practice that if one had a totally unobstructed view of the sky, looking in a single direction, then just under 40% of the complete hemisphere would be visible. The measurement of this vertical sky component is undertaken using two indicators, namely a skylight indicator and a transparent direction finder.

Alternatively a further method of measuring the VSC, which is easier to understand both in concept and analysis, is often more precise and can deal with more complex instructions, is that of the Waldram diagram.



The point of reference is the same as for the skylight indicator, at the centre of the outward window face. Effectively a snap shot is taken from that point of the sky in front of the window, before and after the obstruction is put in place together with all the relevant obstructions to it, i.e. the buildings.

An unobstructed sky from that point of reference would give a vertical sky component of 39.6%, corresponding to 50% of the hemisphere, and therefore the purpose of the diagram is to discover how much sky remains once obstructions exist in front of that point.

Criteria

The BRE Handbook provides criteria for:

(a) New Development
(b) Existing Buildings
(c) Adjoining Development Land

(a) New Development

Paragraph 2.1.21 of the BRE states that:

"Obstructions can limit access to light from the sky. This can be checked by measuring or calculating the angle of visible sky 'theta', angle of obstruction or Vertical Sky Component (VSC) at the centre of the lowest window where daylight is required. If VSC is:

- at least 27% ('theta' is greater than 65 degrees, obstruction angle less than 25 degrees) conventional window design will usually give reasonable results.
- between 15% and 27 % ('theta' is between 45 degrees and 65 degrees, obstruction angle between 25 degrees and 45 degrees) special measures (larger windows, changes to room layout) are usually needed to provide adequate daylight.
- between 5% and 15% ('theta' is between 25 degrees and 45 degrees, obstruction angle between 45 degrees and 65 degrees) it is very difficult to provide adequate daylight unless very large windows are used.
- less than 5% ('theta' less than 25 degrees, obstruction angle more than 65 degrees) it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed."

(b) Existing Buildings

Para 2.2.21 (page 11) of the BRE states:

"If any part of a new building or extension measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25 degree to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if the vertical sky component measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value".

The VSC provide a quick and simple test which looks to give an early indication of the potential for light at the window face. However considered in isolation, it does not, in any fashion, indicate the quality of actual light within a space. It does not take into account the window size, the room size or room use. It helps by indicating that if there is an appreciable amount of sky visible from a given point there will be a reasonable potential for daylighting.

(c) Adjoining Development Land

Paragraph 2.3.10 of the BRE guidelines states:

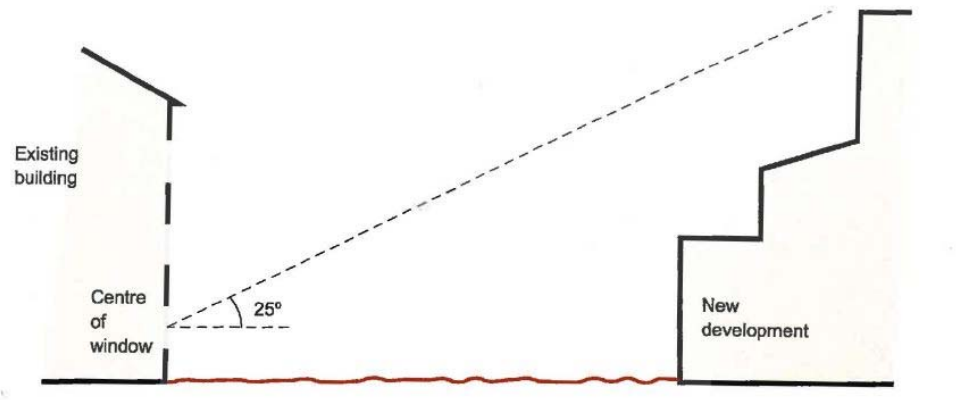
"in broad general terms, a development site next to a proposed new building will retain the potential for good diffuse daylighting providd that on each common boundary:

(a) no new building, measured in a vertical section perpendicular to the boundary, from a point 1.6m above ground level, subtends an angle of more than 43 degrees to the horizontal;

(b) or, If (a) is not satisfied, then all points 16.m above the boundary line are within 4m (measured along the boundary) of a point which has a VSC (looking towards the new building(s)) of 17% or more 2m above ground level are within 4m (measured sideways) of a point which has a vertical sky component of 27% or more.

Alternative VSC criteria as per Appendix F of the BRE guidelines

The 27% VSC target criteria is based upon a sub-urban type environment whereby a 25 degree line was taken from the centre point on a ground floor window as shown below:



However, in city centre locations and urban areas where density levels are increasing, these values may not be considered appropriate. The BRE guidelines provide that "*different targets may be used based on the special requirements of the proposed development or its location*" (paragraph F1).

Appendix F of the BRE suggests several approaches as to how alternative targets may be considered including:

- Consented scheme - use of an extant planning permission to establish alternative benchmark criteria for VSC and APSH. It is not appropriate to treat a permitted scheme in the same manner as an existing building and allow a 20% reduction beyond this. if the levels of daylight and sunlight retained are similar to a previously consented scheme then it follows these levels should be considered acceptable again, notwithstanding other planning considerations.
- Mirror massing – to ensure a development matches the height and proportions of existing buildings, the VSC and APSH targets could be set to those of a mirror image of the same height and size, an equal distance away from the boundary (paragraph F5).
- Consider surrounding context and existing obstruction angles as well as spacing to height ratios.

In addition, due to the requirements for external amenity space within local planning policies, many residential buildings are served by balconies. Balconies can restrict the view of the sky dome whereby even the modest obstruction may result in a large relative impact on the VSC. The BRE guidelines therefore provide that an assessment can be carried out comparing the levels of VSC with and without the balconies in place for both the existing and proposed scenarios, to establish whether it is the presence of the balcony or the size of the new obstruction that is the main factor in the loss of light (paragraph 2.2.11).

No Sky Line

Methodology

The NSL method is a measure of the distribution of daylight at the working plane within a room. The 'working plane' means a horizontal 'desktop' plane 0.85m in height for residential properties. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot. If a significant area of the working plane lies beyond the NSL (i.e. it receives no direct sky light), then the distribution of daylight in the room will be poor and supplementary electric lighting may be required.

It is similar to the VSC approach in that a reduction of 0.8 times in the area of sky visibility at the working plane may be deemed to be noticeable. It is however, very dependent upon knowing the actual room layouts or having a reasonable understanding of the likely layouts.

It is assessed by plotting the area of a room which can see the sky and which cannot, referred to as the NSL contour or daylight distribution contour. The contours assist in helping to understand the way the daylight is distributed within a room and the comparisons of existing and limitations of proposed circumstances within neighbouring properties. Like the VSC method, it relates to the amount of visible sky but does not consider the room use in its criteria, it is simply a test to assess the change in position of the No Sky Line, between the existing and proposed situation. It does take into account the number and size of windows to a room, but does not give any quantitative or qualitative assessment of the light in the rooms, only where sky can or cannot be seen.

Criteria

BS 8206 Part 2 (para 5.7) that the:

> *"uniformity of daylight is considered to be unsatisfactory if a significant part of the working plane (normally more than 20%) lies behind the no-sky line".*

Therefore, it is implied that an NSL of at least 80% would be considered satisfactory in regards to deep rooms which are lit by windows on one side, the BRE Guidelines state (para, 2.2.10):

In regards to the alteration as a result of a proposed development or obstruction the BRE provide that the daylight may be adversely affected if *" the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value. ".*

Average Daylight Factor

Methodology

The Average Daylight Factor (ADF) is defined within the 2011 BRE Guidelines as:

> *'a ratio of total daylight flux incident on a reference area to the total area of the reference area, expressed as a percentage of outdoor luminance on a horizontal plane, due to an unobstructed sky of assumed or known luminance distribution'.*

Whilst the BRE guidelines provide this measure as a tool to understand daylight within proposed dwellings not existing dwellings, if room layouts are known it can provide a useful supplementary measure of daylight and is often requested by many local authorities.

The ADF method of assessment considers:

- The diffuse visible transmittance of the glazing to the room in question (i.e. how much light gets through the window glass). A transmittance value of 0.8% is assumed for single glazing and 0.65% for double glazed windows;
- The net glazed area of the window in question;
- The total area of the room surfaces (ceiling, walls, floor and windows); and
- The angle of visible sky reaching the window(s) in question

In addition, the ADF method makes allowance for the average reflectance of the internal surfaces of the room and of external obstruction (assumed to be 0.5 unless otherwise stated).

Criteria

The criteria for ADF is taken from the British Standard 8206 part II which gives the following criteria based on the room use:

- Bedroom – 1% ADF
- Living room – 1.5% ADF
- Kitchen – 2% ADF

Where a room has multiple uses such as a living kitchen diner (LKD) or a studio apartment, the highest value is taken so in these cases the required ADF is 2%.

Sunlight

Methodology

The BS 8206 part 2 (section 5.2) states that:

> *"Provided that the entry of sunlight is properly controlled, it is generally welcome in most buildings in the UK. Dissatisfaction can arise as much from the permanent exclusion of sunlight as from its excess. The provision of sunlight is important in dwellings, particularly during winter months. Sunlight is especially valued in habitable rooms used for long periods during the day."*

Principles of Daylight and Sunlight

Sunlight is measured using a sun indicator which contains 100 spots, each representing 1% of Annual Probable Sunlight Hours (APSH). Where no obstruction exists the total APSH would amount to 1486 hours and therefore each spot equates to 14.86 hours of the total annual sunlight hours.

The number of spots is calculated for both the whole year and also during the winter period (21st September to 21st March) prior to an obstruction and after the obstruction is put in place. This provides a percentage of APSH for each of the time periods for each window assessed. The 2011 BRE Guidelines note that:

- *"In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day, but especially in the afternoon."*

- *"all main living rooms of dwellings…should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun"; and*

- *"If the main living room to a dwelling has a main window facing within 90° of due north, but a secondary window facing within 90° of due south, sunlight to the secondary window should be checked."*

- *"…a south facing window will, in general, receive most sunlight, while a north facing one will receive it only on a handful of occasions. East and west facing windows will receive sunlight only at certain times of day".*

When a room has multiple windows, not all may have a southerly orientation however, these windows may contribute to the levels of sunlight within a given room even if by 1-2% APSH. As well as the assessment on a window basis the BRE guidelines provide that an assessment can be undertaken on a room basis.

Whilst the emphasis of the BRE guidelines is in regards to living rooms, it is not always possible to determine the room uses within all of the properties assessed and therefore typically all windows or all rooms with windows facing within 90 degrees of due south and facing the site are assessed.

Criteria

The BRE provide that for existing buildings a window maybe adversely affected if a point at the centre of a window receives:

- Less than 25% of the APSH during the whole year, of which 5% APSH must be in the winter period; and
- Receives less than 0.8 times its former sunlight hours in either time period; and
- Has a reduction in sunlight for the whole year more than 4% APSH.

In terms of the assessment on a room basis the criteria applied is the same.

For proposed buildings the BRE provide (paragraph 3.1.15) that a dwelling or building which has a particular requirement for sunlight will appear reasonably sunlit provided:

- At least one main window faces within 90 degrees of due south; and
- Centre of one main living room window can receive 25% of APSH including 5% APSH in the winter months.

It continues that where groups of dwellings are planned the layout should aim to maximise the number of living rooms that meet the above recommendations.

Overshadowing

As well as daylight and sunlight amenity to neighbouring dwellings, planning policy often refers to the levels of overshadowing to amenity areas such as parks, public squares, playgrounds etc. The BRE guidelines provide two methods of calculation in regards to overshadowing which are as follows:

Sun Hours on Ground

Methodology

This method of overshadowing assessment uses the sun on ground indicator to determine the areas which receive direct sunlight and those which do not. This method applies to both new and existing areas of amenity space. The BRE Guidelines suggest that the Spring Equinox (21st March) is a suitable date for the assessment as this is the midpoint of the suns position throughout the year. Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not.

Criteria

The BRE guidelines recommend that at least half of an amenity space should receive at least 2 hours of direct sunlight on March 21st. In regards to existing spaces where the existing sunlit area is less than half of the area, the area which receives 2 hours of sunlight should not be reduced by more than 20% (it should retain 0.8 times its former value).

Transient Overshadowing

The BRE guidelines suggest that where large buildings are proposed which may affect a number of gardens or open spaces, it is useful to plot a shadow plan to illustrate the location of shadows at different times of the day and year. For the purpose of this assessment, shadow has been mapped at the following times of the year:

- 21st March (spring equinox)
- 21st June (Summer solstice)
- 21st December (winter solstice)

The September equinox is not assessed as this would provide the same results as those for March 21st.

For each of these dates the overshadowing is calculated at hourly intervals throughout the day however some images may not be present given the early sun set during the winter period.

The BRE guidelines do not provide any criteria for transient overshadowing. Therefore the analysis provides a description of where additional shadow is cast as a result of a development with professional judgement to determine the effect comparing the shadow resulting from the proposed development against that of the existing site.

Light pollution and Solar Glare

Light pollution is defined as any light emitting from artificial sources into spaces where it is not wanted for example from offices into neighbouring residential properties where it could cause

a nuisance. The ILP Guidance notes provide details of how to measure light pollution and criteria based on the urban density of the respective area to determine the acceptability of the light levels.

Solar glare is particularly important at pedestrian and road junctions as well as along railway lines where the glare can cause a temporary blinding of drivers or pedestrians. Glare can occur from reflective materials such as glazed areas or metal cladding on the facades. This assessment is therefore undertaken from viewpoints surrounding the site at junctions and positioned at the drive's eye level. Focal points are dictated by the location of signals or oncoming traffic.

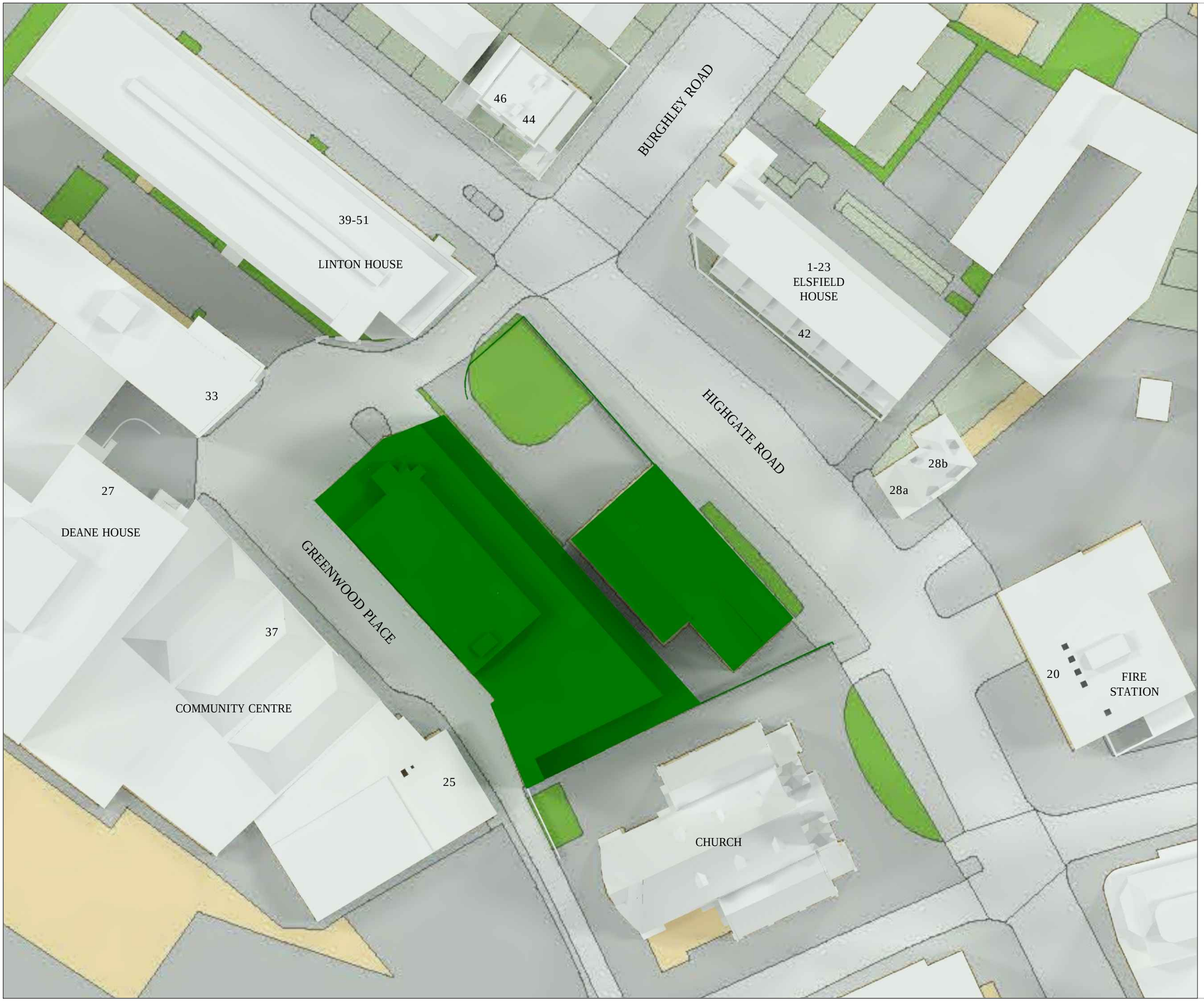
Other Amenity Considerations

Daylight and sunlight is one factor among many under the heading of residential amenity considerations for any given development design or planning application; others include:

- outlook
- sense of enclosure
- privacy
- access to outdoor space e.g. balconies or communal garden/courtyard

Appendix 02

Drawings



SOURCES OF INFORMATION

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IR01-7554 - LINTON HOUSE CONSENT DRAWINGS

SQUIRE & PARTNERS
IR02-7554 - DIGITAL OS EXTRACT

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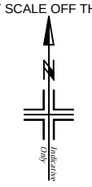

ALL HEIGHTS AND DIMENSIONS GIVEN IN mm AOD

EXISTING SCENARIO SHOWN IN GREEN

PROJECT:

GREENWOOD PLACE
LONDON NW6

DRAWING NAME:

PLAN VIEW
EXISTING SCHEME

DWN BY	SCALE	CHK BY	STATUS	DATE
BG	NTS @A3	-	3D & ROL	APR 16
PROJ No.	REL No.	IS No.	DWG No.	REV No.
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EXISTING SCENARIO SHOWN IN GREEN

PROJECT:

GREENWOOD PLACE
LONDON NW6

DRAWING NAME:

3D VIEW
PROPOSED SCHEME IR20
RECEIVED 14.04.2016

DWN BY	SCALE	CHK BY	STATUS	DATE
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7554	REL009	IS014	59	A

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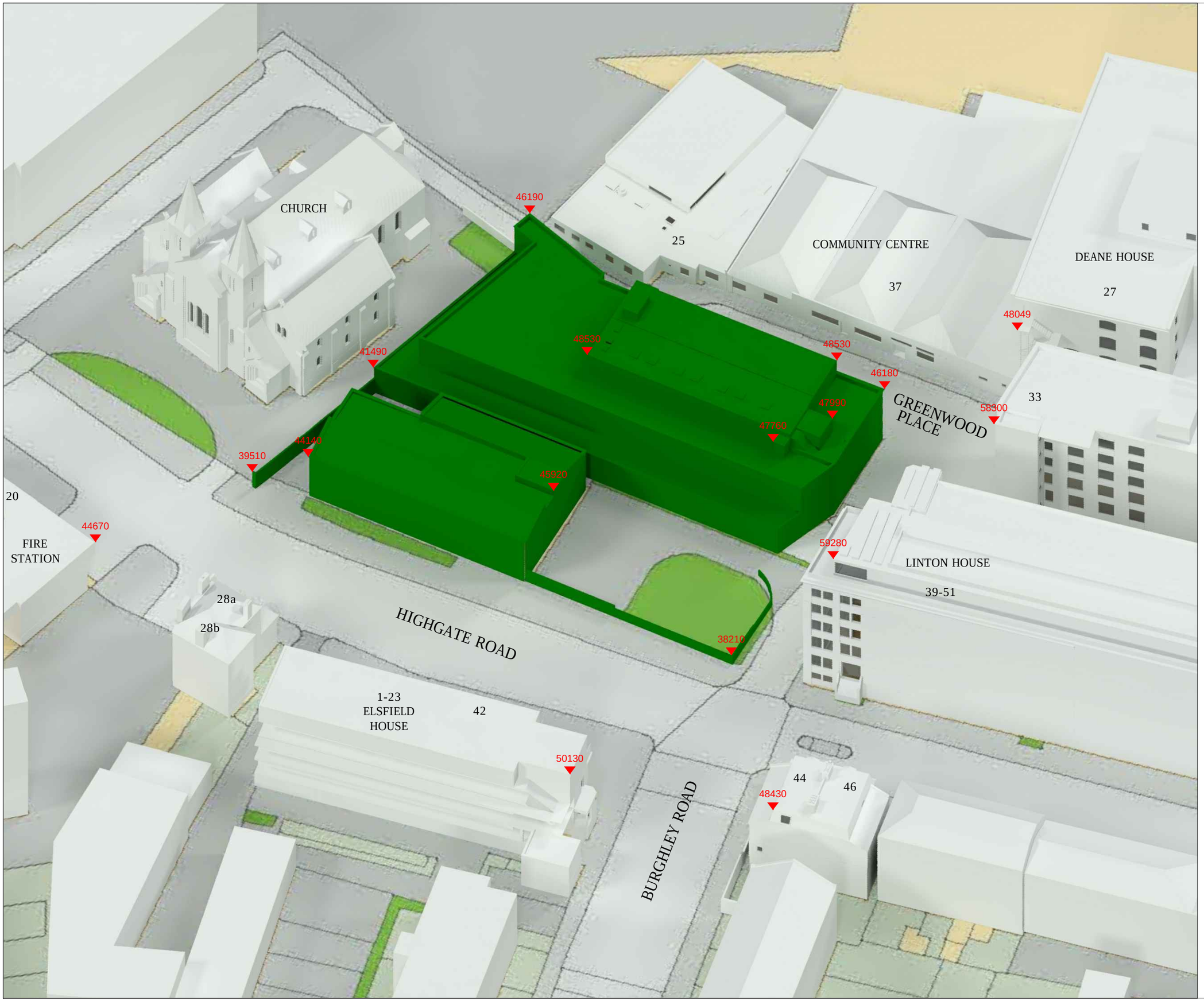

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EXISTING SCENARIO SHOWN IN GREEN

PROJECT:

GREENWOOD PLACE
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DRAWING NAME:

3D VIEW
EXISTING SCHEME

DWN BY	SCALE	CHK BY	STATUS	DATE
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Proposed

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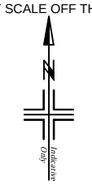

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PROPOSED SCHEME SHOWN IN BLUE

PROJECT:

GREENWOOD PLACE
LONDON NW6

DRAWING NAME:

PLAN VIEW
PROPOSED SCHEME IR21

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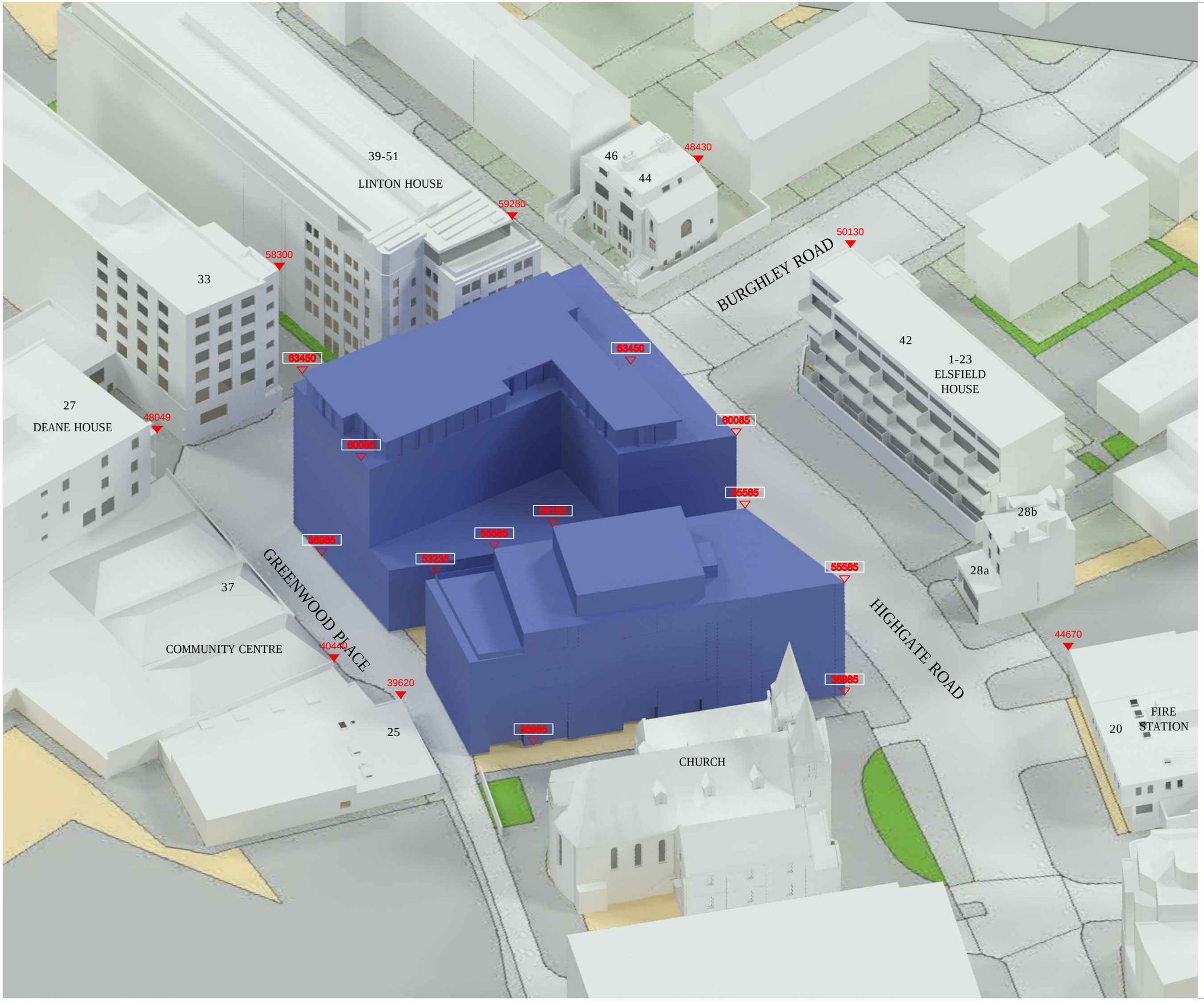

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PROJECT:

GREENWOOD PLACE
LONDON NW6

DRAWING NAME:

3D VIEW
PROPOSED SCHEME IR21

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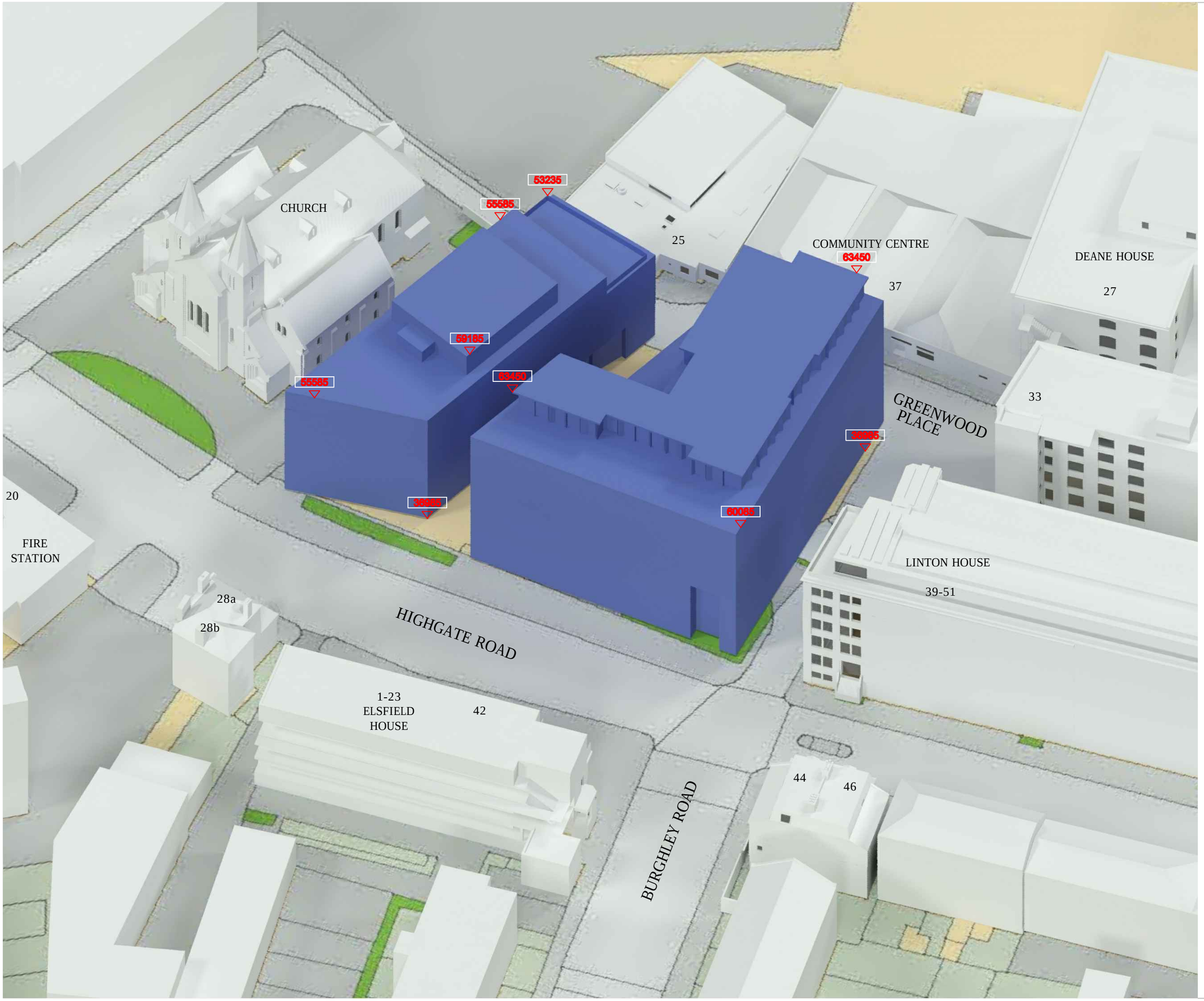

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PROJECT:

GREENWOOD PLACE
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DRAWING NAME:

3D VIEW
PROPOSED SCHEME IR21

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t 020 7202 1400
f 020 7202 1401
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Appendix 03

Daylight and Sunlight Results

DAYLIGHT ANALYSIS

			Vertical Sky Component			
Room	Window	Room Use	Existing	Proposed	Loss	%
39-51 HIGHGATE ROAD- LINTON HOUSE						
R1/100	**W1/100**	COMMERCIAL	15.7	13	2.7	17.2
R1/100	**W2/100**	COMMERCIAL	17.2	14.4	2.8	16.3
R2/100	**W3/100**	COMMERCIAL	18.7	15.7	3	16.0
R2/100	**W4/100**	COMMERCIAL	17.2	14.5	2.7	15.7
R3/100	**W5/100**	COMMERCIAL	28.2	12.4	15.8	56.0
R3/100	**W6/100**	COMMERCIAL	28.3	11	17.3	61.1
R4/100	**W7/100**	COMMERCIAL	27	4	23	85.2
R4/100	**W8/100**	COMMERCIAL	30.4	6.7	23.7	78.0
R5/100	**W9/100**	COMMERCIAL	31.5	9.2	22.3	70.8
R5/100	**W10/100**	COMMERCIAL	31.8	12.6	19.2	60.4
R5/100	**W11/100**	COMMERCIAL	31.9	15.1	16.8	52.7
R5/100	**W12/100**	COMMERCIAL	29.1	29.1	0	0.0
R5/100	**W13/100**	COMMERCIAL	26.6	26.6	0	0.0
R1/101	**W1/101**	COMMERCIAL	14.3	12	2.3	16.1
R1/101	**W2/101**	COMMERCIAL	15.6	13.3	2.3	14.7
R2/101	**W3/101**	COMMERCIAL	18.1	15.2	2.9	16.0
R2/101	**W4/101**	COMMERCIAL	19.7	16.7	3	15.2
R3/101	**W5/101**	COMMERCIAL	21.8	18	3.8	17.4
R3/101	**W6/101**	COMMERCIAL	23.2	19.2	4	17.2
R4/101	**W7/101**	COMMERCIAL	23.7	19.2	4.5	19.0
R4/101	**W8/101**	COMMERCIAL	26.8	7.3	19.5	72.8
R5/101	**W9/101**	COMMERCIAL	19.1	11.7	7.4	38.7
R5/101	**W10/101**	COMMERCIAL	22.2	14.5	7.7	34.7
R5/101	**W11/101**	COMMERCIAL	33	7.1	25.9	78.5
R5/101	**W12/101**	COMMERCIAL	33.4	7.9	25.5	76.3
R6/101	**W13/101**	COMMERCIAL	33.6	9.4	24.2	72.0
R6/101	**W14/101**	COMMERCIAL	33.7	10.8	22.9	68.0
R6/101	**W15/101**	COMMERCIAL	33.8	13.8	20	59.2
R6/101	**W16/101**	COMMERCIAL	33.9	16.3	17.6	51.9
R6/101	**W17/101**	COMMERCIAL	32.4	32.4	0	0.0
R6/101	**W18/101**	COMMERCIAL	32.2	32.2	0	0.0
R6/101	**W19/101**	COMMERCIAL	25.2	25.2	0	0.0
R1/102	**W1/102**	COMMERCIAL	17.1	14.8	2.3	13.5
R1/102	**W2/102**	COMMERCIAL	18.3	16	2.3	12.6
R2/102	**W3/102**	COMMERCIAL	20.7	17.7	3	14.5
R2/102	**W4/102**	COMMERCIAL	22.3	19.2	3.1	13.9
R3/102	**W5/102**	COMMERCIAL	24.6	20.6	4	16.3
R3/102	**W6/102**	COMMERCIAL	26	21.8	4.2	16.2
R4/102	**W7/102**	COMMERCIAL	26.7	21.7	5	18.7
R4/102	**W8/102**	COMMERCIAL	29.4	9.5	19.9	67.7
R5/102	**W9/102**	COMMERCIAL	20.8	13	7.8	37.5
R5/102	**W10/102**	COMMERCIAL	24.4	16	8.4	34.4
R5/102	**W11/102**	COMMERCIAL	35.9	9.2	26.7	74.4
R5/102	**W12/102**	COMMERCIAL	36	9.9	26.1	72.5
R6/102	**W13/102**	COMMERCIAL	36.1	11.5	24.6	68.1
R6/102	**W14/102**	COMMERCIAL	36.2	12.9	23.3	64.4
R6/102	**W15/102**	COMMERCIAL	36.2	15.9	20.3	56.1
R6/102	**W16/102**	COMMERCIAL	36.2	18.4	17.8	49.2
R6/102	**W17/102**	COMMERCIAL	35.7	35.7	0	0.0
R6/102	**W18/102**	COMMERCIAL	35.5	35.5	0	0.0
R6/102	**W19/102**	COMMERCIAL	35.4	35.4	0	0.0

DAYLIGHT ANALYSIS

			Vertical Sky Component			
Room	Window	Room Use	Existing	Proposed	Loss	%
R6/102	W20/102	COMMERCIAL	35.2	35.2	0	0.0
R1/103	W1/103	STAIRCASE	20.6	18.6	2	9.7
R1/103	W2/103	UNKNOWN	21.6	19.5	2.1	9.7
R2/103	W3/103	UNKNOWN	23.7	21	2.7	11.4
R2/103	W4/103	UNKNOWN	25.2	22.2	3	11.9
R3/103	W5/103	UNKNOWN	27.4	23.6	3.8	13.9
R3/103	W6/103	UNKNOWN	28.7	24.7	4	13.9
R4/103	W7/103	UNKNOWN	29.4	24.6	4.8	16.3
R4/103	W8/103	STAIRCASE	31.3	12.5	18.8	60.1
R5/103	W9/103	Kitchen	22	14.3	7.7	35.0
R5/103	W10/103	Kitchen	26	17.7	8.3	31.9
R5/103	W11/103	Kitchen	37.7	11.7	26	69.0
R5/103	W12/103	Kitchen	37.8	12.4	25.4	67.2
R5/103	W13/103	Kitchen	37.8	13.9	23.9	63.2
R5/103	W14/103	Kitchen	37.8	15.3	22.5	59.5
R5/103	W15/103	Kitchen	37.8	18.3	19.5	51.6
R5/103	W16/103	Kitchen	37.8	20.6	17.2	45.5
R5/103	W19/103	Kitchen	38	38	0	0.0
R5/103	W18/103	Kitchen	37.9	37.9	0	0.0
R5/103	W17/103	Kitchen	38	38	0	0.0
R1/104	W1/104	STAIRCASE	25.3	23.7	1.6	6.3
R1/104	W2/104	UNKNOWN	26	24.3	1.7	6.5
R2/104	W3/104	UNKNOWN	27.6	25.4	2.2	8.0
R2/104	W4/104	UNKNOWN	28.7	26.3	2.4	8.4
R3/104	W5/104	UNKNOWN	30.6	27.5	3.1	10.1
R3/104	W6/104	UNKNOWN	31.6	28.3	3.3	10.4
R4/104	W7/104	UNKNOWN	32	28	4	12.5
R4/104	W8/104	STAIRCASE	32.7	16.7	16	48.9
R5/104	W9/104	Kitchen	22.3	15.8	6.5	29.1
R5/104	W10/104	Kitchen	26.7	19.6	7.1	26.6
R5/104	W11/104	Kitchen	38.4	14.9	23.5	61.2
R5/104	W12/104	Kitchen	38.4	15.6	22.8	59.4
R5/104	W13/104	Kitchen	38.4	17	21.4	55.7
R5/104	W14/104	Kitchen	38.4	18.3	20.1	52.3
R5/104	W15/104	Kitchen	38.4	21	17.4	45.3
R5/104	W16/104	Kitchen	38.4	23.2	15.2	39.6
R5/104	W19/104	Kitchen	39	39	0	0.0
R5/104	W18/104	Kitchen	38.9	38.9	0	0.0
R5/104	W17/104	Kitchen	38.9	38.9	0	0.0
R1/105	W1/105	STAIRCASE	30.8	29.6	1.2	3.9
R1/105	W2/105	UNKNOWN	31.2	29.9	1.3	4.2
R2/105	W3/105	UNKNOWN	32.1	30.4	1.7	5.3
R2/105	W4/105	UNKNOWN	32.7	31	1.7	5.2
R3/105	W5/105	UNKNOWN	33.9	31.6	2.3	6.8
R3/105	W6/105	UNKNOWN	34.6	32	2.6	7.5
R4/105	W7/105	UNKNOWN	34.5	31.5	3	8.7
R4/105	W8/105	STAIRCASE	34.9	22.4	12.5	35.8
R5/105	W9/105	Kitchen	22.6	17.5	5.1	22.6
R5/105	W10/105	Kitchen	27.6	22.1	5.5	19.9
R5/105	W11/105	Kitchen	37.6	18.4	19.2	51.1
R5/105	W12/105	Kitchen	37.7	19.1	18.6	49.3
R5/105	W13/105	Kitchen	37.7	20.4	17.3	45.9
R5/105	W14/105	Kitchen	37.7	21.5	16.2	43.0
R5/105	W15/105	Kitchen	37.7	23.8	13.9	36.9
R5/105	W16/105	Kitchen	37.7	25.6	12.1	32.1

DAYLIGHT ANALYSIS

Vertical Sky Component						
Room	Window	Room Use	Existing	Proposed	Loss	%
R5/105	W19/105	Kitchen	38.6	38.6	0	0.0
R5/105	W18/105	Kitchen	38.5	38.5	0	0.0
R5/105	W17/105	Kitchen	38.5	38.5	0	0.0
R1/106	W1/106	Kitchen	29.3	26.1	3.2	10.9
R1/106	W2/106	Kitchen	39.6	32.2	7.4	18.7
R1/106	W3/106	Kitchen	39.6	39.6	0	0.0
R1/112	W1/112	STAIRCASE	21.6	6.5	15.1	69.9
R1/113	W1/113	STAIRCASE	23.2	8.2	15	64.7
R1/114	W1/114	STAIRCASE	24.3	10.6	13.7	56.4
R1/115	W1/115	STAIRCASE	25.6	14.5	11.1	43.4
R1/115	W2/115	STAIRCASE	0	0	0	0.0
R1/115	W3/115	STAIRCASE	0	0	0	0.0
R1/115	W5/115	STAIRCASE	0	0	0	0.0
R1/115	W6/115	STAIRCASE	0	0	0	0.0
46 HIGHGATE ROAD (INDICATIVE)						
R1/249	W1/249	INDICATIVE	15.2	12.2	3	19.7
R2/249	W2/249	INDICATIVE	16.8	14.3	2.5	14.9
R2/249	W3/249	INDICATIVE	17.3	14.8	2.5	14.5
R2/249	W4/249	INDICATIVE	18.3	15	3.3	18.0
R2/250	W1/250	INDICATIVE	20.7	18	2.7	13.0
R2/250	W3/250	INDICATIVE	21.2	18.1	3.1	14.6
R2/250	W2/250	INDICATIVE	20.9	18	2.9	13.9
R2/251	W1/251	INDICATIVE	23.9	21.3	2.6	10.9
R1/252	W1/252	UNKNOWN	27.4	25.1	2.3	8.4
44 HIGHGATE ROAD						
R1/199	W1/199	UNKNOWN	19.2	15.2	4	20.8
R1/199	W2/199	UNKNOWN	19	15	4	21.1
R1/199	W3/199	UNKNOWN	18.2	14.6	3.6	19.8
R2/199	W4/199	UNKNOWN	28.7	25.5	3.2	11.1
R3/199	W5/199	UNKNOWN	31.7	28	3.7	11.7
R3/199	W6/199	UNKNOWN	32.3	28.6	3.7	11.5
R4/199	W7/199	UNKNOWN	28.9	25.9	3	10.4
R4/199	W8/199	UNKNOWN	32.2	29.1	3.1	9.6
R1/200	W1/200	UNKNOWN	22.3	18.3	4	17.9
R1/200	W2/200	UNKNOWN	22.6	18.3	4.3	19.0
R1/200	W3/200	UNKNOWN	23.1	18.4	4.7	20.3
R2/200	W4/200	UNKNOWN	21.2	15.8	5.4	25.5
R2/200	W5/200	UNKNOWN	22.5	16.9	5.6	24.9
R2/200	W6/200	UNKNOWN	21.8	16.2	5.6	25.7
R2/200	W7/200	UNKNOWN	24	18.6	5.4	22.5
R2/200	W8/200	UNKNOWN	34.8	31.8	3	8.6
R3/200	W9/200	UNKNOWN	34	31.4	2.6	7.6
R3/200	W10/200	UNKNOWN	27.8	27.8	0	0.0
R1/201	W1/201	UNKNOWN	25.5	21.6	3.9	15.3
R2/201	W2/201	UNKNOWN	25.7	20.6	5.1	19.8
R1/202	W1/202	UNKNOWN	28.9	25.5	3.4	11.8
R2/202	W2/202	UNKNOWN	38.1	35.6	2.5	6.6

DAYLIGHT ANALYSIS

			Vertical Sky Component			
Room	Window	Room Use	Existing	Proposed	Loss	%
R3/202	W3/202	UNKNOWN	38.1	35.9	2.2	5.8
R3/202	W4/202	UNKNOWN	36.8	36.8	0	0.0
42 HIGHGATE ROAD- FLATS 1-23 ELSFIELD						
R1/300	W1/300	ENTRANCE	6.8	6.8	0	0.0
R1/300	W2/300	ENTRANCE	3.4	3.4	0	0.0
R1/300	W3/300	ENTRANCE	12.7	12.7	0	0.0
R1/300	W4/300	ENTRANCE	31	30.7	0.3	1.0
R1/300	W5/300	ENTRANCE	30.5	26.2	4.3	14.1
R1/300	W6/300	ENTRANCE	21.5	15.3	6.2	28.8
R2/300	W10/300	UNKNOWN	29.3	19.7	9.6	32.8
R2/300	W7/300	UNKNOWN	27.1	26.6	0.5	1.8
R2/300	W8/300	UNKNOWN	30.4	25	5.4	17.8
R2/300	W9/300	UNKNOWN	31	21.6	9.4	30.3
R3/300	W11/300	UNKNOWN	23.8	15.4	8.4	35.3
R4/300	W12/300	UNKNOWN	27.8	16.3	11.5	41.4
R5/300	W13/300	UNKNOWN	28	16.7	11.3	40.4
R6/300	W14/300	UNKNOWN	28.2	17.4	10.8	38.3
R7/300	W15/300	UNKNOWN	28.4	18.2	10.2	35.9
R8/300	W16/300	UNKNOWN	28.5	19.2	9.3	32.6
R9/300	W17/300	UNKNOWN	28.3	20.1	8.2	29.0
R10/300	W18/300	UNKNOWN	27.5	20.6	6.9	25.1
R1/301	W1/301	UNKNOWN	31.7	31.6	0.1	0.3
R1/301	W2/301	UNKNOWN	24.1	15.2	8.9	36.9
R2/301	W3/301	UNKNOWN	21.6	12.5	9.1	42.1
R3/301	W4/301	UNKNOWN	28.9	18.5	10.4	36.0
R4/301	W5/301	UNKNOWN	29	18.9	10.1	34.8
R5/301	W6/301	UNKNOWN	29.3	19.5	9.8	33.4
R6/301	W7/301	UNKNOWN	29.4	20.3	9.1	31.0
R7/301	W8/301	UNKNOWN	29.5	21.2	8.3	28.1
R8/301	W9/301	UNKNOWN	29.5	22	7.5	25.4
R9/301	W10/301	UNKNOWN	28.7	22.4	6.3	22.0
R1/302	W1/302	UNKNOWN	34.4	26.9	7.5	21.8
R2/302	W2/302	UNKNOWN	29.3	22	7.3	24.9
R3/302	W3/302	LIVINGROOM	35.3	26.7	8.6	24.4
R4/302	W4/302	LIVINGROOM	35.6	27	8.6	24.2
R5/302	W5/302	LIVINGROOM	35.8	27.5	8.3	23.2
R6/302	W6/302	LIVINGROOM	35.9	28.1	7.8	21.7
R7/302	W7/302	LIVINGROOM	35.9	28.8	7.1	19.8
R8/302	W8/302	LIVINGROOM	35.9	29.6	6.3	17.5
R9/302	W9/302	LIVINGROOM	35.6	30.3	5.3	14.9

DAYLIGHT ANALYSIS

			Vertical Sky Component			
Room	Window	Room Use	Existing	Proposed	Loss	%
R1/303	W1/303	UNKNOWN	36.9	30.4	6.5	17.6
R2/303	W2/303	UNKNOWN	33.6	26.9	6.7	19.9
R3/303	W3/303	BEDROOM	37.6	30.1	7.5	19.9
R4/303	W4/303	BEDROOM	37.7	30.4	7.3	19.4
R5/303	W5/303	BEDROOM	37.8	30.8	7	18.5
R6/303	W6/303	BEDROOM	37.9	31.4	6.5	17.2
R7/303	W7/303	BEDROOM	38	32	6	15.8
R8/303	W8/303	BEDROOM	38	32.7	5.3	13.9
R9/303	W9/303	BEDROOM	37.8	33.3	4.5	11.9
28A & 28B HIGHGATE ROAD						
R1/400	W1/400	ENTRANCE	18.9	14.9	4	21.2
R1/400	W2/400	ENTRANCE	17.5	14	3.5	20.0
R1/400	W3/400	ENTRANCE	19.7	15.6	4.1	20.8
R1/401	W1/401	STAIRCASE	21	17.1	3.9	18.6
R2/401	W2/401	RESIDENTIAL	18.6	17.1	1.5	8.1
R2/401	W3/401	RESIDENTIAL	35.1	28.5	6.6	18.8
R3/401	W4/401	RESIDENTIAL	34.8	28.3	6.5	18.7
R1/402	W1/402	CORRIDOR?	23.2	19.6	3.6	15.5
R2/402	W2/402	RESIDENTIAL	21.9	20.6	1.3	5.9
R2/402	W3/402	RESIDENTIAL	36.4	30.5	5.9	16.2
R3/402	W4/402	RESIDENTIAL	36.1	30.4	5.7	15.8
R1/410	W1/410	COMMERCIAL	15.6	8.9	6.7	42.9
R1/410	W2/410	COMMERCIAL	2.4	0.7	1.7	70.8
R1/410	W3/410	COMMERCIAL	8.4	6	2.4	28.6
R1/410	W4/410	COMMERCIAL	30.7	22.5	8.2	26.7

DAYLIGHT DISTRIBUTION ANALYSIS

Room / Floor	Room Use	Flat Number	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss	%Prev	%New
39-51 HIGHGATE ROAD- LINTON HOUSE									
R1/100	COMMERCIAL		213.83	161.62	161.60	0.01	0.01	75.58	75.58
R2/100	COMMERCIAL		226.34	200.27	200.18	0.09	0.04	88.48	88.44
R3/100	COMMERCIAL		134.32	50.08	14.87	35.21	70.31	37.28	11.07
R4/100	COMMERCIAL		252.24	251.42	56.34	195.08	77.59	99.68	22.34
R5/100	COMMERCIAL		543.01	542.86	515.86	27.00	4.97	99.97	95.00
R1/101	COMMERCIAL		213.83	119.50	119.50	0.00	0.00	55.89	55.88
R2/101	COMMERCIAL		213.83	172.31	172.30	0.00	0.00	80.58	80.58
R3/101	COMMERCIAL		226.34	219.28	219.27	0.01	0.00	96.88	96.88
R4/101	COMMERCIAL		76.07	72.23	65.98	6.26	8.66	94.95	86.73
R5/101	COMMERCIAL		252.24	251.24	220.88	30.36	12.08	99.61	87.57
R6/101	COMMERCIAL		523.38	523.21	521.61	1.60	0.31	99.97	99.66
R1/102	COMMERCIAL		213.83	124.55	124.55	0.00	0.00	58.25	58.25
R2/102	COMMERCIAL		213.83	175.00	175.00	0.00	0.00	81.84	81.84
R3/102	COMMERCIAL		226.34	220.86	220.86	0.00	0.00	97.58	97.58
R4/102	COMMERCIAL		76.07	72.95	71.00	1.94	2.67	95.89	93.34
R5/102	COMMERCIAL		252.24	251.29	227.78	23.51	9.36	99.63	90.31
R6/102	COMMERCIAL		543.01	542.87	541.58	1.29	0.24	99.97	99.74
R1/103	STAIRCASE		213.83	133.62	133.62	0.00	0.00	62.49	62.49
R2/103	UNKNOWN		213.83	179.83	179.83	0.00	0.00	84.10	84.10
R3/103	UNKNOWN		226.34	222.43	222.43	0.00	0.00	98.27	98.27
R4/103	UNKNOWN		76.07	73.96	73.96	0.00	0.00	97.23	97.22
R5/103	Kitchen		654.06	654.02	654.02	0.00	0.00	99.99	99.99
R1/104	STAIRCASE		213.83	151.87	151.87	0.00	0.00	71.03	71.03
R2/104	UNKNOWN		213.83	186.42	186.42	0.00	0.00	87.18	87.18
R3/104	UNKNOWN		226.34	224.56	224.56	0.00	0.00	99.21	99.21
R4/104	UNKNOWN		76.07	74.61	74.61	0.00	0.00	98.08	98.08
R5/104	Kitchen		654.06	654.02	654.02	0.00	0.00	99.99	99.99
R1/105	STAIRCASE		213.83	212.47	212.47	0.00	0.00	99.37	99.36
R2/105	UNKNOWN		213.83	212.56	212.56	0.00	0.00	99.41	99.41
R3/105	UNKNOWN		226.34	225.54	225.54	0.00	0.00	99.65	99.65
R4/105	UNKNOWN		76.07	74.81	74.81	0.00	0.00	98.34	98.34
R5/105	Kitchen		654.06	654.06	654.06	0.00	0.00	100.00	100.00
R1/106	Kitchen		575.13	575.13	575.13	0.00	0.00	100.00	100.00
R1/112	STAIRCASE		75.53	39.16	21.13	18.02	46.03	51.84	27.98
R1/113	STAIRCASE		75.53	38.35	25.88	12.46	32.50	50.77	34.27
R1/114	STAIRCASE		75.53	38.67	31.11	7.56	19.54	51.20	41.19
R1/115	STAIRCASE		75.53	42.42	41.91	0.51	1.20	56.16	55.48
46 HIGHGATE ROAD (INDICATIVE)									
R1/249	INDICATIVE		48.51	29.84	27.73	2.11	7.07	61.51	57.16
R2/249	INDICATIVE		220.88	110.48	42.73	67.75	61.32	50.02	19.35
R2/250	INDICATIVE		220.88	139.97	103.27	36.70	26.22	63.37	46.75
R2/251	INDICATIVE		210.26	154.31	133.31	21.00	13.61	73.39	63.40
R1/252	UNKNOWN		139.20	115.25	107.17	8.08	7.01	82.79	76.99
44 HIGHGATE ROAD									
R1/199	UNKNOWN		221.48	122.57	51.24	71.33	58.20	55.34	23.13
R2/199	UNKNOWN		39.59	35.27	35.27	0.01	0.01	89.09	89.08
R3/199	UNKNOWN		104.09	99.48	99.43	0.05	0.05	95.57	95.53
R4/199	UNKNOWN		102.15	79.66	69.47	10.19	12.79	77.99	68.01
R1/200	UNKNOWN		221.48	150.11	115.43	34.69	23.11	67.78	52.12
R2/200	UNKNOWN		133.63	128.08	128.06	0.02	0.02	95.85	95.83
R3/200	UNKNOWN		72.45	64.75	64.75	0.00	0.00	89.38	89.38
R1/201	UNKNOWN		211.22	163.53	146.51	17.02	10.41	77.42	69.36
R2/201	UNKNOWN		65.90	62.54	62.54	0.00	0.00	94.90	94.89
R1/202	UNKNOWN		137.33	114.00	111.50	2.50	2.19	83.01	81.19
R2/202	UNKNOWN		87.24	86.56	86.56	0.00	0.00	99.21	99.21
R3/202	UNKNOWN		138.15	137.45	136.98	0.46	0.34	99.49	99.15
42 HIGHGATE ROAD- FLATS 1-23 ELSFIELD									
R1/300	ENTRANCE		28.86	28.86	28.86	0.00	0.00	100.00	100.00
R2/300	UNKNOWN		130.18	130.18	129.03	1.16	0.89	100.00	99.11
R3/300	UNKNOWN		92.44	92.42	69.71	22.71	24.57	99.98	75.41
R4/300	UNKNOWN		199.90	199.90	138.42	61.48	30.76	100.00	69.24
R5/300	UNKNOWN		198.40	198.40	123.50	74.90	37.75	100.00	62.25
R6/300	UNKNOWN		199.28	199.28	131.39	67.89	34.07	100.00	65.93
R7/300	UNKNOWN		199.48	199.48	146.45	53.03	26.59	100.00	73.41
R8/300	UNKNOWN		199.74	199.74	167.05	32.68	16.36	100.00	83.64
R9/300	UNKNOWN		200.23	200.23	199.85	0.38	0.19	100.00	99.81
R10/300	UNKNOWN		201.71	201.71	201.71	0.00	0.00	100.00	100.00
R1/301	UNKNOWN		102.62	102.62	102.62	0.00	0.00	100.00	100.00
R2/301	UNKNOWN		124.37	124.16	101.41	22.75	18.32	99.83	81.54
R3/301	UNKNOWN		199.81	199.81	145.48	54.33	27.19	100.00	72.81
R4/301	UNKNOWN		198.40	198.40	132.63	65.77	33.15	100.00	66.85
R5/301	UNKNOWN		199.21	199.21	138.02	61.19	30.72	100.00	69.28
R6/301	UNKNOWN		199.66	199.66	151.05	48.62	24.35	100.00	75.65
R7/301	UNKNOWN		200.01	200.01	171.18	28.83	14.42	100.00	85.58
R8/301	UNKNOWN		200.54	200.54	200.42	0.12	0.06	100.00	99.94
R9/301	UNKNOWN		202.14	202.14	202.14	0.00	0.00	100.00	100.00
R1/302	UNKNOWN		140.91	140.91	140.39	0.52	0.37	100.00	99.63
R2/302	UNKNOWN		81.77	81.70	73.61	8.09	9.90	99.91	90.02
R3/302	LIVINGROOM		200.30	200.30	184.75	15.55	7.76	100.00	92.24
R4/302	LIVINGROOM		198.88	198.88	171.55	27.33	13.74	100.00	86.26
R5/302	LIVINGROOM		199.15	199.15	173.35	25.80	12.95	100.00	87.05
R6/302	LIVINGROOM		199.99	199.99	185.88	14.11	7.06	100.00	92.94
R7/302	LIVINGROOM		200.26	200.26	198.41	1.85	0.92	100.00	99.08

DAYLIGHT DISTRIBUTION ANALYSIS

Room / Floor	Room Use	Flat Number	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss	%Prev	%New
R8/302	LIVINGROOM		200.52	200.52	200.52	0.00	0.00	100.00	100.00
R9/302	LIVINGROOM		201.92	201.92	201.92	0.00	0.00	100.00	100.00
R1/303	UNKNOWN		114.08	114.08	111.32	2.76	2.42	100.00	97.58
R2/303	UNKNOWN		127.80	127.78	119.85	7.93	6.21	99.99	93.78
R3/303	BEDROOM		200.31	200.23	196.19	4.04	2.02	99.96	97.95
R4/303	BEDROOM		198.86	198.84	191.82	7.02	3.53	99.99	96.46
R5/303	BEDROOM		199.13	199.10	192.01	7.10	3.56	99.99	96.42
R6/303	BEDROOM		199.96	199.94	198.68	1.25	0.63	99.99	99.36
R7/303	BEDROOM		200.23	200.23	200.23	0.00	0.00	100.00	100.00
R8/303	BEDROOM		200.50	200.50	200.50	0.00	0.00	100.00	100.00
R9/303	BEDROOM		201.95	201.89	201.89	0.00	0.00	99.97	99.97
28A & 28B HIGHGATE ROAD									
R1/400	ENTRANCE		23.34	21.13	21.13	0.00	0.00	90.50	90.50
R1/401	STAIRCASE		23.34	22.13	22.13	0.00	0.00	94.82	94.82
R2/401	RESIDENTIAL		151.77	147.78	147.72	0.06	0.04	97.37	97.33
R3/401	RESIDENTIAL		147.15	143.29	141.19	2.10	1.46	97.38	95.95
R1/402	CORRIDOR?		23.34	22.93	22.93	0.00	0.00	98.23	98.23
R2/402	RESIDENTIAL		151.77	147.76	147.57	0.18	0.12	97.35	97.23
R3/402	RESIDENTIAL		147.15	143.27	137.83	5.43	3.79	97.36	93.67
R1/410	COMMERCIAL		413.87	413.44	410.17	3.26	0.79	99.90	99.11

Annual Probable Sunlight Hours (APSH)

SUNLIGHT ANALYSIS

Room	Window	Room Use	Flat Number	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
39-51 HIGHGATE ROAD- LINTON HOUSE									
R1/100	W1/100	COMMERCIAL							
R1/100	W2/100	COMMERCIAL		15	38	9	29	40.00	23.68
R2/100	W3/100	COMMERCIAL							
R2/100	W4/100	COMMERCIAL		13	41	8	30	38.46	26.83
R3/100	W5/100	COMMERCIAL							
R3/100	W6/100	COMMERCIAL		19	71	6	26	68.42	63.38
R4/100	W7/100	COMMERCIAL							
R4/100	W8/100	COMMERCIAL		17	60	2	9	88.24	85.00
R5/100	W9/100	COMMERCIAL							
R5/100	W10/100	COMMERCIAL							
R5/100	W11/100	COMMERCIAL							
R5/100	W12/100	COMMERCIAL							
R5/100	W13/100	COMMERCIAL		21	66	4	29	80.95	56.06
R1/101	W1/101	COMMERCIAL							
R1/101	W2/101	COMMERCIAL		14	33	6	24	57.14	27.27
R2/101	W3/101	COMMERCIAL							
R2/101	W4/101	COMMERCIAL		19	42	9	29	52.63	30.95
R3/101	W5/101	COMMERCIAL							
R3/101	W6/101	COMMERCIAL		19	47	8	33	57.89	29.79
R4/101	W7/101	COMMERCIAL							
R4/101	W8/101	COMMERCIAL		22	67	10	31	54.55	53.73
R5/101	W9/101	COMMERCIAL							
R5/101	W10/101	COMMERCIAL							
R5/101	W11/101	COMMERCIAL							
R5/101	W12/101	COMMERCIAL		26	81	7	34	73.08	58.02
R6/101	W13/101	COMMERCIAL							
R6/101	W14/101	COMMERCIAL							
R6/101	W15/101	COMMERCIAL							
R6/101	W16/101	COMMERCIAL							
R6/101	W17/101	COMMERCIAL							
R6/101	W18/101	COMMERCIAL							
R6/101	W19/101	COMMERCIAL		23	70	4	32	82.61	54.29
R1/102	W1/102	COMMERCIAL							
R1/102	W2/102	COMMERCIAL		14	36	7	29	50.00	19.44
R2/102	W3/102	COMMERCIAL							
R2/102	W4/102	COMMERCIAL		19	42	10	32	47.37	23.81
R3/102	W5/102	COMMERCIAL							
R3/102	W6/102	COMMERCIAL		20	47	9	33	55.00	29.79
R4/102	W7/102	COMMERCIAL							
R4/102	W8/102	COMMERCIAL		27	73	11	37	59.26	49.32
R5/102	W9/102	COMMERCIAL							
R5/102	W10/102	COMMERCIAL							
R5/102	W11/102	COMMERCIAL							
R5/102	W12/102	COMMERCIAL		27	82	7	37	74.07	54.88
R6/102	W13/102	COMMERCIAL							
R6/102	W14/102	COMMERCIAL							
R6/102	W15/102	COMMERCIAL							
R6/102	W16/102	COMMERCIAL							
R6/102	W17/102	COMMERCIAL							
R6/102	W18/102	COMMERCIAL							
R6/102	W19/102	COMMERCIAL							
R6/102	W20/102	COMMERCIAL		25	72	5	36	80.00	50.00
R1/103	W1/103	UNKNOWN							
R1/103	W2/103	UNKNOWN		14	45	8	39	42.86	13.33

SUNLIGHT ANALYSIS

Room	Window	Room Use	Flat Number	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R2/103	W3/103	UNKNOWN							
R2/103	W4/103	UNKNOWN		19	49	12	42	36.84	14.29
R3/103	W5/103	UNKNOWN							
R3/103	W6/103	UNKNOWN		21	54	12	44	42.86	18.52
R4/103	W7/103	UNKNOWN							
R4/103	W8/103	UNKNOWN		27	77	11	44	59.26	42.86
R5/103	W9/103	Kitchen							
R5/103	W10/103	Kitchen							
R5/103	W11/103	Kitchen							
R5/103	W12/103	Kitchen							
R5/103	W13/103	Kitchen							
R5/103	W14/103	Kitchen							
R5/103	W15/103	Kitchen							
R5/103	W16/103	Kitchen							
R5/103	W17/103	Kitchen							
R5/103	W18/103	Kitchen							
R5/103	W19/103	Kitchen		27	82	10	59	62.96	28.05
R1/104	W1/104	UNKNOWN							
R1/104	W2/104	UNKNOWN		14	57	9	52	35.71	8.77
R2/104	W3/104	UNKNOWN							
R2/104	W4/104	UNKNOWN		19	60	14	55	26.32	8.33
R3/104	W5/104	UNKNOWN							
R3/104	W6/104	UNKNOWN		21	63	14	56	33.33	11.11
R4/104	W7/104	UNKNOWN							
R4/104	W8/104	UNKNOWN		28	84	15	63	46.43	25.00
R5/104	W9/104	Kitchen							
R5/104	W10/104	Kitchen							
R5/104	W11/104	Kitchen							
R5/104	W12/104	Kitchen							
R5/104	W13/104	Kitchen							
R5/104	W14/104	Kitchen							
R5/104	W15/104	Kitchen							
R5/104	W16/104	Kitchen							
R5/104	W17/104	Kitchen							
R5/104	W18/104	Kitchen							
R5/104	W19/104	Kitchen		28	83	14	64	50.00	22.89
R1/105	W1/105	UNKNOWN							
R1/105	W2/105	UNKNOWN		19	65	17	63	10.53	3.08
R2/105	W3/105	UNKNOWN							
R2/105	W4/105	UNKNOWN		20	66	16	62	20.00	6.06
R3/105	W5/105	UNKNOWN							
R3/105	W6/105	UNKNOWN		23	69	18	64	21.74	7.25
R4/105	W7/105	UNKNOWN							
R4/105	W8/105	UNKNOWN		28	89	18	77	35.71	13.48
R5/105	W9/105	Kitchen							
R5/105	W10/105	Kitchen							
R5/105	W11/105	Kitchen							
R5/105	W12/105	Kitchen							
R5/105	W13/105	Kitchen							
R5/105	W14/105	Kitchen							
R5/105	W15/105	Kitchen							
R5/105	W16/105	Kitchen							
R5/105	W17/105	Kitchen							
R5/105	W18/105	Kitchen							
R5/105	W19/105	Kitchen		28	83	16	71	42.86	14.46
R1/106	W1/106	Kitchen							
R1/106	W2/106	Kitchen							
R1/106	W3/106	Kitchen		28	85	22	79	21.43	7.06

SUNLIGHT ANALYSIS

Room	Window	Room Use	Flat Number	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R1/112	W1/112	STAIRCASE		21	51	4	21	80.95	58.82
R1/113	W1/113	STAIRCASE		22	52	5	25	77.27	51.92
R1/114	W1/114	STAIRCASE		22	52	7	31	68.18	40.38
R1/115	W1/115	STAIRCASE							
R1/115	W2/115	STAIRCASE							
R1/115	W3/115	STAIRCASE							
R1/115	W5/115	STAIRCASE							
R1/115	W6/115	STAIRCASE		22	52	9	36	59.09	30.77
46 HIGHGATE ROAD (INDICATIVE)									
R1/249	W1/249	INDICATIVE		12	34	5	27	58.33	20.59
R2/249	W2/249	INDICATIVE							
R2/249	W3/249	INDICATIVE							
R2/249	W4/249	INDICATIVE		12	37	4	29	66.67	21.62
R2/250	W1/250	INDICATIVE							
R2/250	W2/250	INDICATIVE							
R2/250	W3/250	INDICATIVE		12	46	5	39	58.33	15.22
R2/251	W1/251	INDICATIVE		14	53	9	48	35.71	9.43
R1/252	W1/252	UNKNOWN		15	57	11	53	26.67	7.02
44 HIGHGATE ROAD									
R1/199	W1/199	UNKNOWN							
R1/199	W2/199	UNKNOWN							
R1/199	W3/199	UNKNOWN		16	43	5	32	68.75	25.58
R2/199	W4/199	UNKNOWN		14	56	5	46	64.29	17.86
R3/199	W5/199	UNKNOWN							
R3/199	W6/199	UNKNOWN		20	65	9	54	55.00	16.92
R4/199	W7/199	UNKNOWN							
R4/199	W8/199	UNKNOWN		20	62	13	55	35.00	11.29
R1/200	W1/200	UNKNOWN							
R1/200	W2/200	UNKNOWN							
R1/200	W3/200	UNKNOWN		17	51	8	42	52.94	17.65
R2/200	W4/200	UNKNOWN							
R2/200	W5/200	UNKNOWN							
R2/200	W6/200	UNKNOWN							
R2/200	W7/200	UNKNOWN							
R2/200	W8/200	UNKNOWN		20	77	13	70	35.00	9.09
R3/200	W9/200	UNKNOWN							
R3/200	W10/200	UNKNOWN		22	66	16	60	27.27	9.09
R1/201	W1/201	UNKNOWN		17	56	11	50	35.29	10.71
R2/201	W2/201	UNKNOWN		20	57	12	49	40.00	14.04
R1/202	W1/202	UNKNOWN		19	63	14	58	26.32	7.94
R2/202	W2/202	UNKNOWN		23	69	18	64	21.74	7.25
R3/202	W3/202	UNKNOWN							
R3/202	W4/202	UNKNOWN		23	69	19	65	17.39	5.80
42 HIGHGATE ROAD- FLATS 1-23 ELSFIELD									
R1/300	W1/300	ENTRANCE							
R1/300	W2/300	ENTRANCE							
R1/300	W3/300	ENTRANCE							
R1/300	W4/300	ENTRANCE							
R1/300	W5/300	ENTRANCE							
R1/300	W6/300	ENTRANCE		13	40	3	29	76.92	27.50

SUNLIGHT ANALYSIS

Room	Window	Room Use	Flat Number	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R2/300	W7/300	UNKNOWN							
R2/300	W8/300	UNKNOWN							
R2/300	W9/300	UNKNOWN							
R2/300	W10/300	UNKNOWN		19	59	8	46	57.89	22.03
R3/300	W11/300	UNKNOWN		9	37	0	25	100.00	32.43
R4/300	W12/300	UNKNOWN		21	55	9	36	57.14	34.55
R5/300	W13/300	UNKNOWN		21	55	11	37	47.62	32.73
R6/300	W14/300	UNKNOWN		20	54	10	36	50.00	33.33
R7/300	W15/300	UNKNOWN		20	54	12	37	40.00	31.48
R8/300	W16/300	UNKNOWN		21	56	12	39	42.86	30.36
R9/300	W17/300	UNKNOWN		20	55	13	41	35.00	25.45
R10/300	W18/300	UNKNOWN		17	52	11	39	35.29	25.00
R1/301	W1/301	UNKNOWN							
R1/301	W2/301	UNKNOWN		20	51	10	40	50.00	21.57
R2/301	W3/301	UNKNOWN		14	44	3	31	78.57	29.55
R3/301	W4/301	UNKNOWN		23	57	13	43	43.48	24.56
R4/301	W5/301	UNKNOWN		23	57	14	44	39.13	22.81
R5/301	W6/301	UNKNOWN		23	57	14	44	39.13	22.81
R6/301	W7/301	UNKNOWN		23	58	15	46	34.78	20.69
R7/301	W8/301	UNKNOWN		24	59	15	46	37.50	22.03
R8/301	W9/301	UNKNOWN		23	59	16	46	30.43	22.03
R9/301	W10/301	UNKNOWN		20	55	13	44	35.00	20.00
R1/302	W1/302	UNKNOWN		23	65	15	57	34.78	12.31
R2/302	W2/302	UNKNOWN		14	47	7	40	50.00	14.89
R3/302	W3/302	LIVINGROOM		27	72	17	60	37.04	16.67
R4/302	W4/302	LIVINGROOM		27	72	18	62	33.33	13.89
R5/302	W5/302	LIVINGROOM		27	72	19	63	29.63	12.50
R6/302	W6/302	LIVINGROOM		27	72	19	63	29.63	12.50
R7/302	W7/302	LIVINGROOM		27	73	20	65	25.93	10.96
R8/302	W8/302	LIVINGROOM		27	73	21	65	22.22	10.96
R9/302	W9/302	LIVINGROOM		24	70	19	63	20.83	10.00
R1/303	W1/303	UNKNOWN		25	73	18	66	28.00	9.59
R2/303	W2/303	UNKNOWN		15	58	9	52	40.00	10.34
R3/303	W3/303	BEDROOM		27	75	19	66	29.63	12.00
R4/303	W4/303	BEDROOM		27	75	20	67	25.93	10.67
R5/303	W5/303	BEDROOM		27	75	21	68	22.22	9.33
R6/303	W6/303	BEDROOM		27	75	21	68	22.22	9.33
R7/303	W7/303	BEDROOM		27	75	22	69	18.52	8.00
R8/303	W8/303	BEDROOM		27	76	23	70	14.81	7.89

SUNLIGHT ANALYSIS

Room	Window	Room Use	Flat Number	Room Existing Winter APSH	Room Existing Annual APSH	Room Proposed Winter APSH	Room Proposed Annual APSH	Winter %Loss	Annual %Loss
R9/303	W9/303	BEDROOM		26	75	22	69	15.38	8.00
28A & 28B HIGHGATE ROAD									
R1/400	W1/400	ENTRANCE							
R1/400	W2/400	ENTRANCE							
R1/400	W3/400	ENTRANCE		2	19	1	14	50.00	26.32
R1/401	W1/401	STAIRCASE		4	24	3	19	25.00	20.83
R2/401	W2/401	RESIDENTIAL							
R2/401	W3/401	RESIDENTIAL		22	63	17	54	22.73	14.29
R3/401	W4/401	RESIDENTIAL		18	57	13	45	27.78	21.05
R1/402	W1/402	CORRIDOR?		4	28	3	25	25.00	10.71
R2/402	W2/402	RESIDENTIAL							
R2/402	W3/402	RESIDENTIAL		23	64	19	58	17.39	9.38
R3/402	W4/402	RESIDENTIAL		21	60	16	51	23.81	15.00
R1/410	W1/410	COMMERCIAL							
R1/410	W2/410	COMMERCIAL							
R1/410	W3/410	COMMERCIAL							
R1/410	W4/410	COMMERCIAL		19	55	17	45	10.53	18.18

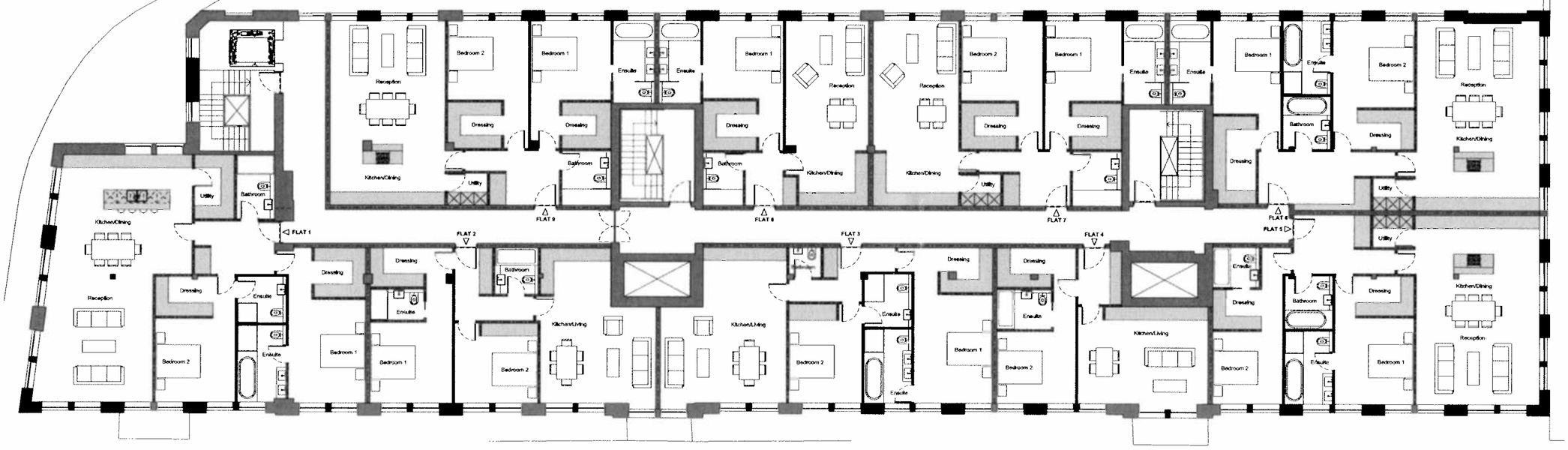
Appendix 04

Floor Plans for Linton House

All drawings to be read in conjunction with structural engineer's and service engineer's

A1

N



Rev Date Note

Services

Structures
Fluid Structures

Client
Jack & Gary Linton
39-51 Highgate Road, London, NW5 1RT

Project title
LINTON HOUSE

Drawing Title
3rd & 4th FLOOR PLAN AS PROPOSED

Scale @ A3 **1:200/1:100@A1**

Project No.	Drawing no.	Revision
152	**160**	**P1**

Status	Date of Issue
PLANNING	**JULY 2013**

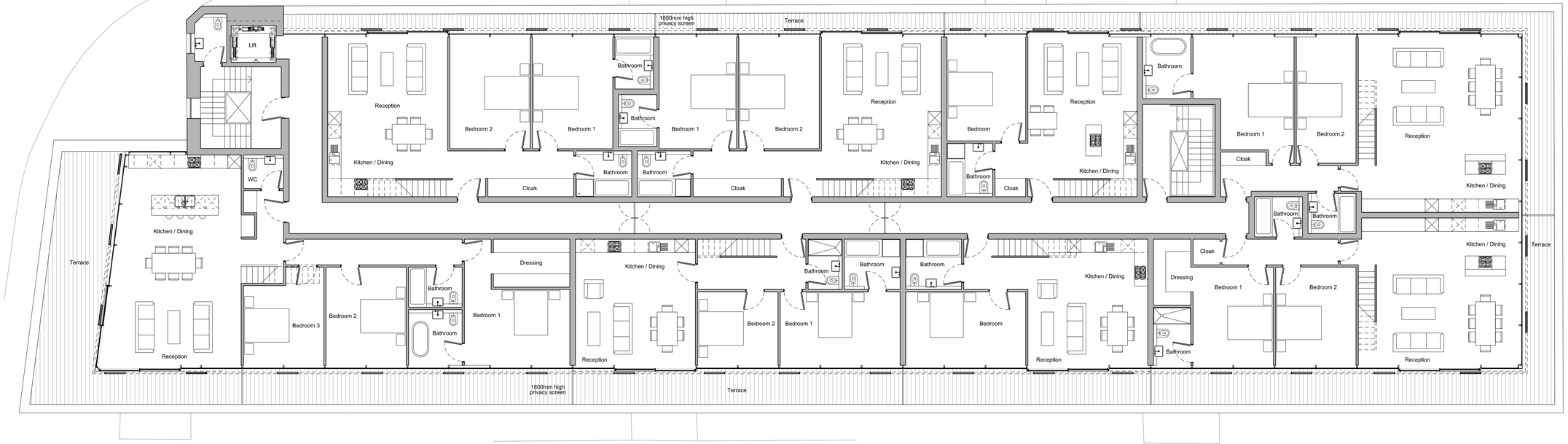
Clive Sall Architecture Ltd.
2 Providence Yard
Ezra Street
London E2 7RJ

All drawings to be read in conjunction with structural engineer's and service engineer's

A1

N

1m 2m 5m



Rev	Date	Note

Services

Structures
Fluid Structures

Client
Jack & Gary Linton
39-51 Highgate Road, London, NW5 1RT

Project title
LINTON HOUSE

Drawing Title
6th FLOOR PLAN AS PROPOSED

Scale @ A3 **1:200/1:100@A1**

Project No.	Drawing no.	Revision
152	**111**	**P1**

Status	Date of Issue
PLANNING	**APRIL 2013**

Clive Sall Architecture Ltd.
2 Providence Yard
Ezra Street
London E2 7RJ

ADDRESS

.

THE WHITEHOUSE

BELVEDERE ROAD

LONDON SE1 8GA

.

CONTACT

.

TEL 020 7202 1400

FAX 020 7202 1401

MAIL@GIA.UK.COM

.

WWW.GIA.UK.COM