Manor Road / Richmond

Daylight Sunlight Report

Point 2 Surveyors

July 2020

84 MANOR ROAD, NORTH SHEEN

DAYLIGHT & SUNLIGHT REPORT

DIRECTOR: JUSTIN BOLTON
CLIENT: AVANTON RICHMOND DEVELOPMENT LTD
DATE: JULY
VERSION: V2
PROJECT: P1685

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Contents

Appendices

1 Executive Summary

1.1 This revised report has been prepared to support the proposed Assael Architecture scheme for 84 Manor Road, North Sheen (the "Amended Proposed Development") and report on the potential daylight, sunlight and overshadowing changes to the surrounding residential properties. The quality of daylight within a number of proposed residential units has also been assessed.

1.2 The assessments contained within this report have been undertaken in accordance with the BRE report entitled 'Site layout planning for daylight and sunlight: A guide to good practice', more commonly known as "the BRE Guidelines".

1.3 The existing site is unusual in that it is largely undeveloped when compared to its immediate context. The BRE recognises unusual baseline conditions, advocating a flexible application of the guidance and the use of alternative target values.

1.4 In respect of neighbouring daylight, the VSC results demonstrate that 832 out of 979 windows (85%) meet the recommendations of the BRE Guidelines and demonstrates improvements when compared to the Original Proposed Development that recorded 84% BRE compliance. As such, the Amended Proposed Development records 939 out of 979 windows (96%) that will retain a VSC value in excess of 15% and further, 890 out of 979 windows (91%) that will achieve a retained VSC of 18% or more.

1.5 The results for the second daylight test, NSL, demonstrate that 551 out of 582 rooms (95%) surrounding the site meet the strict application of the BRE Guidelines. These results demonstrate betterments when compared to the Original Proposed Development that recorded 93% BRE compliance.

1.6 With regards to neighbouring sunlight, the results demonstrate that 328 out of 334 windows (98%) will meet the BRE Guidelines. The results have not altered when compared to those of the Original Proposed Development that recorded 98% BRE compliance.

1.7 There is a full technical analysis contained within this report. Overall, the Amended Proposed Development will relate well to the neighbouring residential properties. Where there are deviations from BRE guidance in terms of VSC and NSL alterations, the retained levels of daylight are considered reasonable given the urban context of the site and its unusual baseline condition.

1.8 The results from the internal daylight amenity assessment demonstrate a BRE compliance rate of 69%. Where rooms are not able to reach the advisory ADF target values, this is often a product of providing balconies. Whilst providing important private amenity space, the blinkering caused by the overhang of the balcony can reduce the light that would otherwise be available and therefore there is a balance to be struck between private amenity space and natural lighting.

1.9 With regards to neighbouring amenity spaces, a Sun Hours on Ground assessment has been undertaken to assess any potential overshadowing effects caused by the Amended Proposed Development to neighbouring amenity spaces. The results show very little change to neighbouring amenity spaces. In respect of the amenity spaces within the proposed scheme, the results show that all but 2 spaces will meet the BRE's target of achieving at least 2 hours of direct sunlight on 21st March. It follows that the sunlight potential will improve during the summer months, when the spaces will be predominantly used and enjoyed.

1.10 In summary, the Amended Proposed Development will relate well to the neighbouring residential properties and fall within the practical application of the BRE Guidelines.

2 Introduction

2.1 This Daylight & Sunlight Report has been prepared by Point 2 Surveyors on behalf of Avanton Richmond Development Ltd ('the Applicant') following further amendments to the proposed scheme for the redevelopment of the Homebase store at 84 Manor Road, North Sheen ('the Site').

2.2 A planning application for the redevelopment of the Site was submitted to London Borough of Richmond Upon Thames (LBRUT) in February 2019 (ref. 19/0510/FUL) (the 'Original Proposed Development'), and was considered at LBRUT Planning Committee on 3 July 2019.

2.3 The Planning Committee resolved that they were minded to refuse the Application, however on 29 July 2019 it was confirmed that the Mayor of London would act as the local planning authority for the purposes of determining the application.

PROPOSED AMENDMENTS

2.4 Following review of LBRUT's reasons for refusal and discussions with Officers at the Greater London Authority (GLA) and Transport for London (TfL), the Applicant sought to review the scheme, with the principle aim of increasing the delivery of affordable housing through additional density and addressing other issues raised in the Mayor's Stage 2 Report. Initial scheme amendments were submitted in November 2019 ('the November 2019 Amendments') and increased the overall number of units by 48, primarily through the introduction of a new residential building known as Block E.

2.5 Following further discussions with TfL and the GLA, it was subsequently agreed that further revisions should be explored in order to deliver an improved scheme, without the need for this additional block.

2.6 The proposed changes necessitate an amendment to the Application's description of development. The revised description of development (hereafter referred to as the 'Amended Proposed Development') is as follows:

> "*Demolition of existing buildings and structures and comprehensive phased residential-led redevelopment to provide 453 residential units (of which 173 will be affordable), flexible retail, community and office uses, provision of car and cycle parking, landscaping, public and private open spaces and all other enabling works.*"

2.7 An independent review of the daylight and sunlight report was commissioned by LBRUT as part of the original application. Delva Patman Redler outlined their review for the original application in their letter dated 31st May 2019. A response to this letter was provided by Point 2 Surveyors on 5th June 2019. This Amended Application seeks to address the specific points raised by both LBRUT and Delva Patman Redler.

2.8 The application site is unique for a number of reasons. Firstly, it is largely undeveloped with a relatively low-rise warehouse building occupying a small area of the overall site footprint. As a result of which, a number of the neighbouring properties enjoy an outlook over undeveloped land resulting in unusual high levels of existing daylight when compared to a typical London street arrangement. Further, there are a number of buildings located mainly on the western boundary (along Bardolph Road, for instance) which include a typology and height akin to urban setting.

2.9 The BRE Guidelines was assembled with a suburban context in mind and recognises that the numerical criteria provided should be interpreted flexibly. In particular, Appendix F of the guidance provides advice on setting alternative targets for access to daylight and sunlight.

2.10 The strict application of the BRE Guidelines has been challenged on a number of occasions including the recent Whitechapel Estate Appeal (Reference: APP/E5900/W/17/3171437) in which the inspectorate stated at paragraph 122:

> *"The figures show that a proportion of residual* ***Vertical Sky Component ('VSC') values in the mid****-teens* ***have been found acceptable in major developments across London*** [emphasis added]. *This echoes the Mayor's endorsement in the pre- SPG decision at Monmouth House, Islington that VSC values in the* ***mid-teens are acceptable in an inner urban environment. They also show a smaller proportion in the bands below 15%*** [emphasis added]*. Even if there were some discrepancy in the appellants' figures for this lower band at Whitechapel Central, which is disputed,* ***the VSC outcomes for the appeal proposal would in general be very similar to those of the other major schemes*** [emphasis added]. *The appeal proposal would therefore appear to be in compliance with the LP as amplified by the SPG and as it is being interpreted by the Mayor. The GLA responses to the planning application did not raise any concern about neighbours' amenity."*

2.11 The assessments contained within this report have been undertaken in accordance with the Building Research Establishment Guidelines, entitled 'Site layout planning for daylight and sunlight: A guide to good practice', more commonly known as "The BRE Guidelines".

2.12 The extents of the current site can be found on drawings P1685/22-24 within Appendix A. The Amended Proposed Development under assessment has been designed by Assael Architecture which can also be seen on drawings P1685/31-33 within Appendix 1.

3 Guidance

NATIONAL PLANNING POLICY
NATIONAL PLANNING POLICY FRAMEWORK (NPPF) 2019

3.1 Paragraph 123 (C) of the NPPF states:

> *"Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities and ensure that developments make optimal use of the potential of each site. In these circumstances: …*
>
> *…c) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."*

THE MAYOR OF LONDON; HOUSING; SUPPLEMENTARY PLANNING GUIDANCE (SPG) DOCUMENT, MARCH 2016

3.2 Paragraphs 1.3.45 and 1.3.46 state that:

> (1.3.45) *"Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large site and accessible locations, where BRE advice suggests considering the use of alternative targets. 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."*
>
> (1.3.45) *"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."*

LOCAL POLICY CONTEXT

LONDON BOROUGH OF RICHMOND UPON THAMES – LOCAL PLAN (ADOPTED 3 JULY 2018)

3.3 Spatial Strategy – Spatial Distribution of Development paragraph 3.1.35:

"Despite the constrained nature of the borough, there is a need to provide more housing, employment, education, retail, leisure and other community and infrastructure services that are needed to support growth within the borough."

3.4 Policy LP 8 – Amenity and Living Conditions:

"All development will be required to protect the amenity and living conditions for occupants of new, existing, adjoining and neighbouring properties. The Council will:

1. Ensure that the design and layout of the buildings enables good standards of daylight and sunlight to be achieved in new development and in existing buildings affected by new development; where existing daylight and sunlight conditions are substandard; they should be improved where possible;

3.5 Policy LP 8 – paragraph 4.8.5:

"In assessing whether sunlight and daylight conditions are good, both inside buildings and in gardens and open spaces, the Council will have regard to the most recent Building Research Establishment guidance, both for new development, and for properties affected by new development. In some circumstances, mathematical calculations to assess daylighting and sunlighting may be an inappropriate measure, and an on-site judgement will often be necessary".

BUILDING RESEARCH ESTABLISHMENT (BRE) GUIDELINES 2011 - SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT, A GUIDE TO GOOD PRACTICE

3.6 Appendix F of the BRE Guidelines provides advice on setting alternative targets for access to daylight and sunlight. In relation to the default targets, it says:

"These values are purely advisory and different targets may be used… for example, in a mews in a historic city centre, a typical obstruction angle might be close to 40 degrees."

3.7 In relation to considering alternative targets, Appendix F of the BRE Guidelines states that:

"In assessing the loss of light to an existing building, the VSC is generally recommended as the appropriate parameter to use. This is because VSC depends only on obstruction, and is therefore a measure of the daylit environment as a whole"

3.8 In accordance with this, primary consideration is given to the VSC figures.

3.9 In recent years, the need to make best use of available land means that the redevelopment of previously comparatively low rise, low density sites has required an increase in density, with corresponding increases in typical development angles and reductions in daylight.

3.10 Taking into consideration the intention of the NPPF, the flexibility encouraged within the BRE Guidelines (in relation to the urban context) and the recent Whitechapel appeal decision in relation to other major permitted developments, **it is considered that a general VSC target of 15% is appropriate for the site context, with a smaller proportion in bands below 15%.**

4 Methodology

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

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

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

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

DAYLIGHTING

4.4 It is usual to assess daylight and sunlight in relation to the guidelines set out in the 2011 Building Research Establishment (BRE) Report 'Site layout planning for daylight and sunlight - A guide to good practice' by Paul Littlefair. This document is most widely accepted by planning authorities as the means by which to judge the acceptability of a scheme. One of the primary sources for the BRE Report is the more detailed guidance contained within 'British Standard 8206 Part 2:2008'.

4.5 The BRE Guidelines are not mandatory, and they explicitly state that the numerical target values should be interpreted flexibly. While local planning authorities will consider the acceptability of a proposed scheme in relation to BRE guidance, consideration will be given to the context within which a scheme is located, and daylight and sunlight will be one of several planning considerations.

4.6 In relation to the properties surrounding a site, usually the local planning authority will only be concerned with the impact to main habitable accommodation (i.e. living rooms, bedrooms and kitchens) within residential properties.

4.7 To determine whether a neighbouring existing building may be adversely affected, the initial test provided by the BRE is to establish if any part of the proposal subtends an angle of more than 25˚ from the lowest window serving the existing building. If this is the case then there may be an adverse effect, and more detailed calculations are required to quantify the extent of any impact.

4.8 The BRE Guidelines provide two principal measures of daylight for assessing the impact on properties neighbouring a site, namely Vertical Sky Component (VSC) and No-Sky Line (NSL). They also detail a third measure of daylight which is primarily used for assessing amenity within proposed accommodation, namely Average Daylight Factor (ADF).

4.9 In terms of sunlight we examine the BRE Annual Probable Sunlight Hours (APSH); and in relation to sunlight amenity to gardens and amenity spaces, we apply the quantitative BRE overshadowing guidance.

4.10 These measures of daylight and sunlight are discussed in the following paragraphs -

DIFFUSE DAYLIGHT

4.11 **Vertical Sky Component (VSC)** – VSC is a measure of the direct skylight reaching a point from an overcast sky. It is the ratio of the illuminance at a point on a given vertical plane to the illuminance at a point on a horizontal plane due to an unobstructed sky.

4.12 For existing buildings, the BRE guideline is based on the loss of VSC at a point at the centre of a window, on the outer plane of the wall.

4.13 The BRE Guidelines state that if the VSC at the centre of a window is less than 27%, and it is less than 0.8 times its former value (i.e. the proportional reduction is greater than 20%), then the reduction in skylight will be noticeable, and the existing building may be adversely affected.

4.14 **No-Sky Line (NSL)** - NSL is a measure of the distribution of daylight within a room. It maps out the region within a room where light can penetrate directly from the sky, and therefore accounts for the size of and number of windows by simple geometry.

4.15 The BRE suggest that the area of the working plane within a room that can receive direct skylight should not be reduced to less than 0.8 times its former value (i.e. the proportional reduction in area should not be greater than 20%).

4.16 **Average Daylight Factor (ADF)** - ADF is a measure of the overall amount of diffuse daylight within a room. It is the average of the daylight factors across the working plane within a room. This equates to the ratio of the average illuminance across the working plane, to the illuminance due to an unobstructed sky.

4.17 In addition to accounting for external obstructions, the ADF accounts for the number of windows and their size in relation to the size of the room, the window transmittance and the reflectance of the internal walls, floor and ceiling.

4.18 While the ADF can be calculated from first principles using a lighting simulation software suite such as Radiance, in simple situations it can approximated using the empirical formula detailed in both British Standard 8206 Part 2:2008 and Appendix C of the BRE Report.

4.19 Both the BRE Report and BS 8206 Part 2:2008 provide guidance for acceptable ADF values in the presence of supplementary electric lighting, depending on the room use. These are 1.0% for a bedroom, 1.5% for a living room and 2.0% for a kitchen.

INTERNAL DAYLIGHT WITHIN THE NEW DEVELOPMENT

4.20 The BRE Guidelines recognises the importance of receiving adequate daylight within the proposed residential accommodation. The use of the Average Daylight Factor (ADF) is used to determine the average illuminance on the working plane in a room, divided by the illuminance on an unobstructed surface outdoors. This analysis is undertaken in accordance with BS 8206 Part 2:2008.

4.21 The BRE suggests minimum ADF standards for room use for which the following is recommended:

Kitchens: 2.0%

Living rooms: 1.5%

Bedrooms: 1.0%

SUNLIGHT

4.22 Annual Probable Sunlight Hours (APSH) - In relation to sunlight, the BRE recommends that the APSH received at a given window in the proposed case should be at least 25% of the total available, including at least 5% in winter.

4.23 Where the proposed values fall short of these, and the absolute loss is greater than 4%, then the proposed values should not be less than 0.8 times their previous value in each period (i.e. the proportional reductions should not be greater than 20%).

4.24 The BRE guidelines state that '...all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block out too much sun'.

4.25 The APSH figures are calculated for each window, and where a room is served by more than one window the contribution of each is accounted for in the overall figures for the room. The acceptability criteria are applied to overall room-based figures.

OVERSHADOWING

4.26 The BRE Guidelines acknowledge that sunlight in the space between buildings has an important effect on the overall appearance and ambience of a development. It states:

"…good site layout planning for daylight and sunlight should not limit itself to providing good natural light inside buildings. Sunlight in the space between buildings has an important effect on the overall appearance and ambience of a development."

SUN ON THE GROUND

4.27 The method for assessing sun on the ground is the 'sun-on-ground indicator'. The BRE Guidelines suggest that the Spring Equinox (March 21) is a suitable date for the assessment.

4.28 Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not. This assessment reviews the total percentage of an area that receives at least 2 hours of direct sunlight on the March 21.

4.29 The Guidelines suggest that for a garden or amenity area to appear adequately sunlit throughout the year, no more than half (50%) of the area should be prevented by buildings from receiving 2 hours of sunlight on the 21st March or the area that can receive two hours of sun on 21 March should not be less than 0.8 times former value. The BRE guidelines advise that any alteration beyond these standards may be noticeable to occupants.

4.30 It is also beneficial to run an additional test for the 21 June to establish how the sunlight potential to receive 2 hours of sun improves over the summer when occupants typically use outdoor amenity spaces more frequently.

TRANSIENT OVERSHADOWING

4.31 The BRE Guidelines suggest that where large buildings are proposed which may affect a number of gardens and 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, the overshadowing was mapped for the following three key dates in the year:

- 21st March (Spring Equinox);
- 21st June (Summer Solstice); and
- 21st December (Winter Solstice)

4.32 21st September (Autumn Solstice) provides the same overshadowing images as 21st March (Spring Equinox) as the sun follows the same path.

SOURCES OF INFORMATION

In the process of compiling this report, the following sources of information have been used:

Point 2 Surveyors
Point Cloud Data
Site Photography

Assael Architecture Limited
Amended Proposed Scheme Information (received 08/07/20)

5 Existing Site & Proposals

5.1 The development site is known as 84 Manor Road, located within the London Borough of Richmond upon Thames.

5.2 The existing site is depicted in drawings P1685/22-24 which can be found within Appendix 1 of this report and on the Plate 01 below.

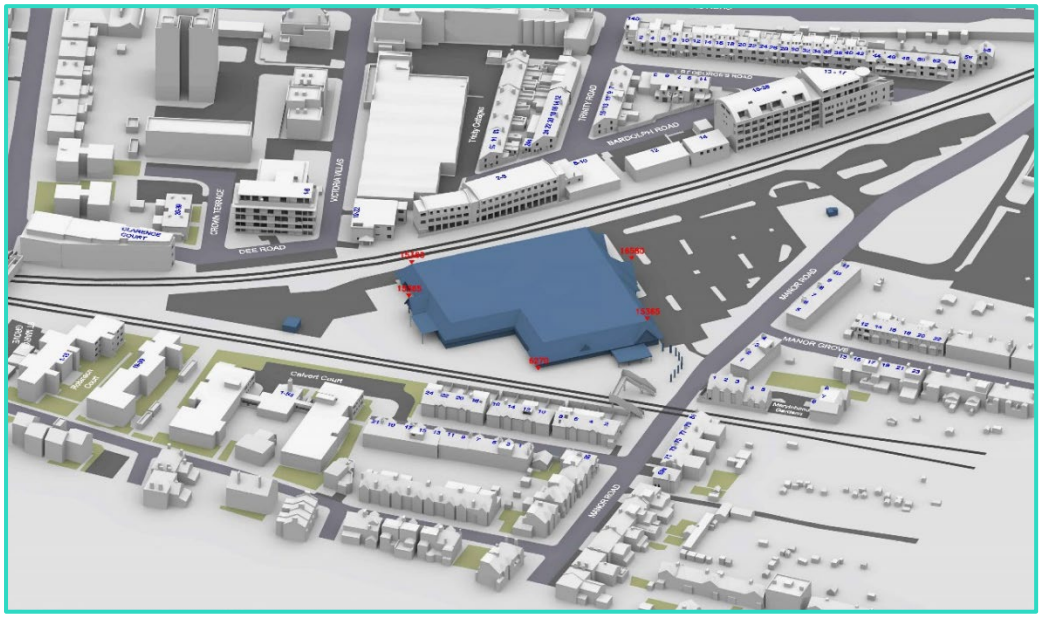


Plate 01 – Existing Site Plan

5.3 Our understanding of the massing of the Amended Proposed Development is shown on drawings P1685/31-33 in Appendix 1. A further 3D view of the proposal is included for ease of reference below.

5.4 Whilst the development site is largely undeveloped in its existing condition, the surrounding context is considered urban in nature and therefore, a degree of flexibility should be applied to the relevant guidance. The BRE Guidelines recognises such unusual baselines and advocates the use of alternative target values to determine the acceptability of a proposal. This is further supported by the Whitechapel appeal decision which departed from the percentage alteration but rather concentrated on the retained light levels and where a VSC of 15% was deemed to be acceptable.

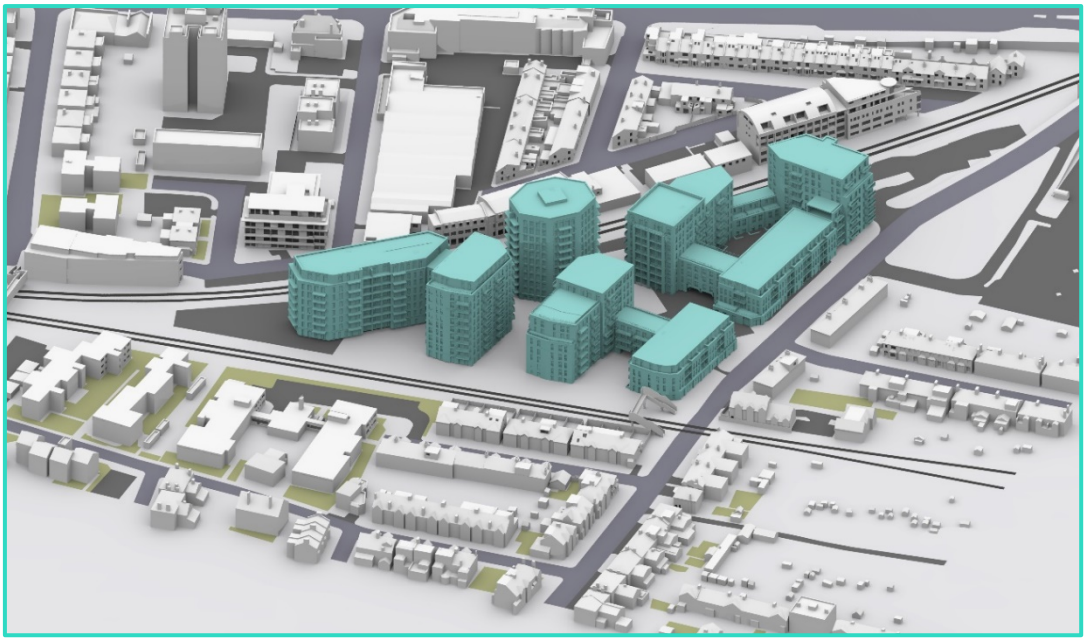


Plate 02- Amended Proposed Assael Architecture Scheme

6 Site Context and Scope of Assessment

6.1 It is understood that the following properties are registered with a residential usage or include a residential component which in turn could experience a change in light as a result of the implementation of the proposed scheme:

- 1-23 Manor Grove
- 1-8 Marylebone Gardens
- 69A Manor Road
- 71-81 Manor Road
- 80 Manor Road
- 1-21 Manor Park
- 2-24 Manor Park
- 1-53 Calvert Court
- 1-39 Robinson Court
- 50-52 Robinson Court
- Clarence Court
- 33-39 Crown Terrace
- 1-8 Victoria Villas
- 19-22 Victoria Villas
- 50-52 St Mary's Grove
- 2-6 Bardolph Road
- 13-15 Trinity Cottages
- 7-24 Trinity Road
- 3-58 St George's Road
- Falstaff House
- St George's House
- 140 Lower Mortlake Road

6.2 The above scope has been determined by reference to the scale of Proposed Development and those residential receptors that could experience a change in light as a result of its implementation.

6.3 A site plan illustrating the above surrounding properties is shown below. The BRE Guidelines mainly focuses on residential properties in terms of daylight and thus this review concentrates on those specific buildings. Those residential receptors (highlighted in aqua) and commercial buildings (highlighted in dark blue) in vicinity of the site (as shown in orange) with a clear view of the proposed massing are shown on Plate 03.

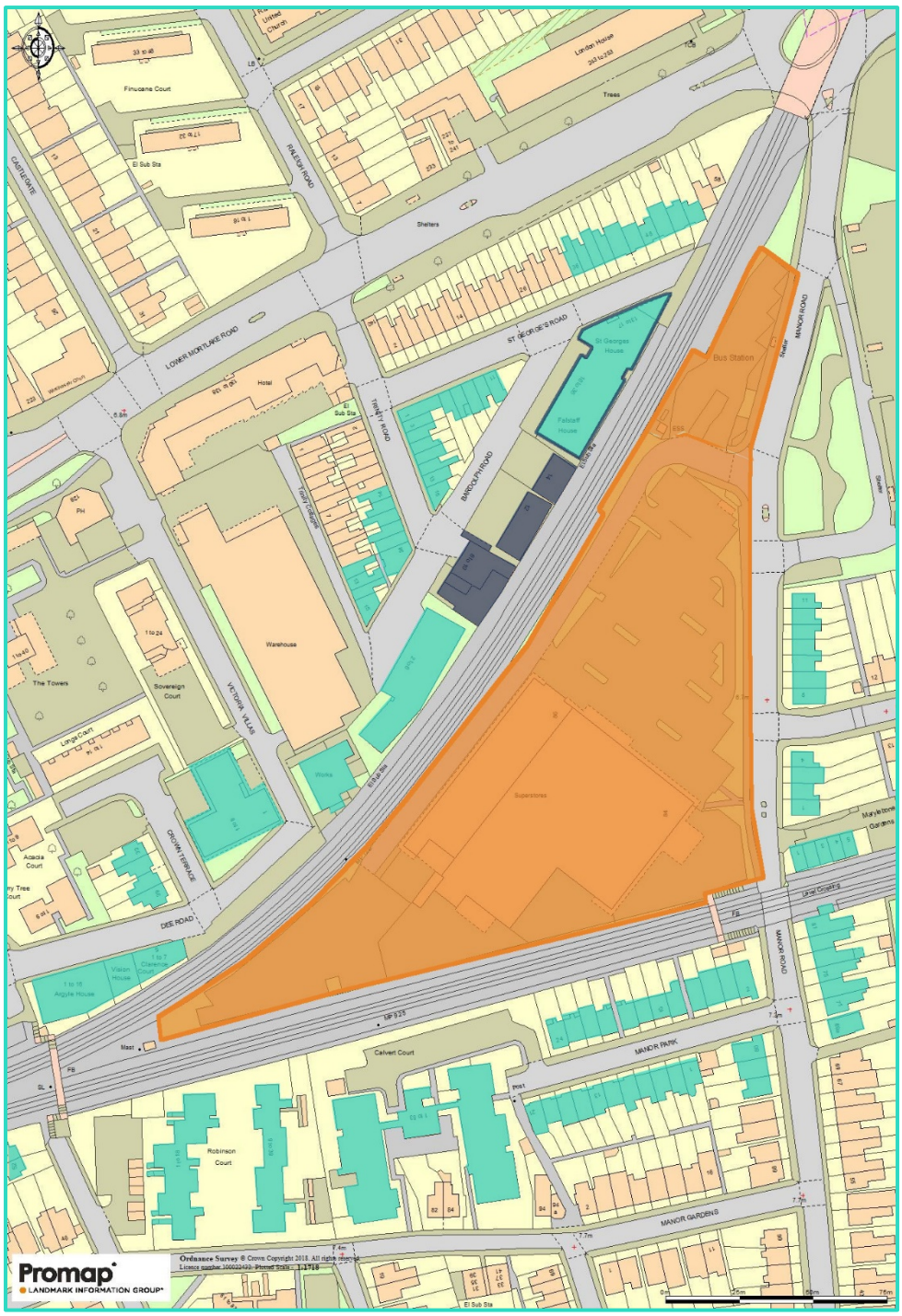


Plate 03 – Plan showing residential (aqua) and commercial (dark blue) properties surrounding the 84 Manor Road site (orange)

7 Daylight & Sunlight Results

7.1 Following the identification of those properties that are considered to have a reasonable expectation for daylight and sunlight, VSC, NSL, and where appropriate, APSH tests have been undertaken.

7.2 The tabulated daylight and sunlight results for each window and room can be found in Appendix 2.

7.3 NSL contour plots for all properties assessed can be found in Appendix 3 of this report.

7.4 A full set of window maps demonstrating the locations of neighbouring windows surrounding the site can be found in Appendix 4.

DAYLIGHT

7.5 The VSC results demonstrate that 832 out of 979 windows (85%) exceed the recommendations of the BRE Guidelines following the implementation of the Proposed Development. Notably, the results of the Amended Scheme have translated into an overall betterment when compared to the Original Proposed Development that recorded 84% BRE compliance across the assessed neighbouring buildings.

7.6 A summary of the NSL effects has been provided in Table 2 below:

Table 01 – VSC Summary

Address	Total that Meet BRE Guidelines	Below BRE Guidelines				Total No. of Windows
		20-29% Loss	30-39.9% Loss	>=40% Loss	Total	
11 MANOR GROVE	0	0	3	0	3	3
10 MANOR GROVE	0	0	3	0	3	3
9 MANOR GROVE	0	2	1	0	3	3
8 MANOR GROVE	0	2	1	0	3	3
7 MANOR GROVE	0	2	1	0	3	3
6 MANOR GROVE	3	2	1	0	3	6
5 MANOR GROVE	0	2	1	0	3	3
12 MANOR GROVE	9	0	0	0	0	9
14 MANOR GROVE	11	0	0	0	0	11
16 MANOR GROVE	7	0	0	0	0	7
18 MANOR GROVE	7	0	0	0	0	7
20 MANOR GROVE	15	0	0	0	0	15
22 MANOR GROVE	7	0	0	0	0	7
23 MANOR GROVE	2	0	0	0	0	2
21 MANOR GROVE	2	0	0	0	0	2
19 MANOR GROVE	2	0	0	0	0	2

17 MANOR GROVE	2	0	0	0	0	2
15 MANOR GROVE	2	0	0	0	0	2
13 MANOR GROVE	2	0	0	0	0	2
4 MANOR GROVE	0	3	0	0	3	3
3 MANOR GROVE	3	3	0	0	3	6
2 MANOR GROVE	0	3	0	0	3	3
1 MANOR GROVE	0	3	0	0	3	3
1 MARYLEBONE GARDENS	12	0	0	0	0	12
2 MARYLEBONE GARDENS	5	0	0	0	0	5
3 MARYLEBONE GARDENS	7	0	0	0	0	7
4 MARYLEBONE GARDENS	4	0	0	0	0	4
5 MARYLEBONE GARDENS	4	0	0	0	0	4
8 MARYLEBONE GARDENS	2	0	0	0	0	2
7 MARYLEBONE GARDENS	2	0	0	0	0	2
6 MARYLEBONE GARDENS	2	0	0	0	0	2
81 MANOR ROAD	4	0	0	0	0	4
79 MANOR ROAD	4	0	0	0	0	4
77 MANOR ROAD	4	0	0	0	0	4
75 MANOR ROAD	4	0	0	0	0	4
73 MANOR ROAD	4	0	0	0	0	4
71 MANOR ROAD	4	0	0	0	0	4
69A MANOR ROAD	11	0	0	0	0	11
80 MANOR ROAD	7	0	0	0	0	7
2 Manor Park	9	0	0	0	0	9
4 MANOR PARK	8	0	0	0	0	8
6 MANOR PARK	5	1	0	0	1	6
8 MANOR PARK	9	1	0	0	1	10
10 MANOR PARK	9	2	0	0	2	11
12 MANOR PARK	5	1	0	0	1	6
14 MANOR PARK	5	2	0	0	2	7
16 MANOR PARK	5	4	0	0	4	9
18 MANOR PARK	7	1	1	0	2	9
20 MANOR PARK	2	2	1	0	3	5
22 MANOR PARK	1	3	0	0	3	4
24 MANOR PARK	3	1	1	0	2	5
1 MANOR PARK	7	0	0	0	0	7
3 MANOR PARK	8	0	0	0	0	8
5 MANOR PARK	10	0	0	0	0	10
7 MANOR PARK	7	0	0	0	0	7
9 MANOR PARK	5	0	0	0	0	5
11 MANOR PARK	7	0	0	0	0	7
13 MANOR PARK	4	1	0	0	1	5

15 MANOR PARK	8	0	0	0	0	8
17 MANOR PARK	4	0	0	1	1	5
19 MANOR PARK	5	1	0	0	1	6
21 MANOR PARK	4	0	0	1	1	5
1-53 CALVERT COURT	28	0	0	0	0	28
19-39 ROBINSON COURT	12	0	0	0	0	12
1-18 ROBINSON COURT	34	0	0	0	0	34
50 ST MARY'S GROVE	3	0	0	0	0	3
52 ST MARY'S GROVE	3	0	0	0	0	3
CLARENCE COURT	3	0	0	0	0	3
33-39 CROWN TERRACE	9	0	0	0	0	9
1-8 VICTORIA VILLAS	60	13	9	0	22	82
19-22 VICTORIA VILLAS	13	4	3	2	9	22
2-6 BARDOLPH ROAD	2	0	1	48	49	51
15 TRINITY COTTAGES	9	0	0	0	0	9
14 TRINITY COTTAGES	8	0	0	0	0	8
13 TRINITY COTTAGES	9	0	0	0	0	9
24 TRINITY ROAD	12	1	0	0	1	13
22 TRINITY ROAD	5	0	0	0	0	5
20 TRINITY ROAD	3	0	0	0	0	3
18 TRINITY ROAD	4	0	0	0	0	4
16 TRINITY ROAD	3	0	0	0	0	3
14 TRINITY ROAD	4	0	0	0	0	4
12 TRINITY ROAD	6	0	0	0	0	6
15 TRINITY ROAD	10	0	0	0	0	10
13 TRINITY ROAD	5	0	0	0	0	5
11 TRINITY ROAD	6	0	0	0	0	6
9 TRINITY ROAD	6	0	0	0	0	6
7 TRINITY ROAD	5	0	0	0	0	5
3 ST GEORGES ROAD	1	0	0	0	0	1
5 ST GEORGES ROAD	4	0	0	0	0	4
7 ST GEORGES ROAD	4	0	0	0	0	4
9 ST GEORGES ROAD	2	0	0	0	0	2
11 ST GEORGES ROAD	10	0	0	0	0	10
FALSTAFF HOUSE	39	0	2	5	7	46
ST GEORGES HOUSE	62	1	0	0	1	63
140 LOWER MORTLAKE ROAD	8	0	0	0	0	8
2 ST GEORGES ROAD	8	0	0	0	0	8
4 ST GEORGES ROAD	6	0	0	0	0	6
6 ST GEORGES ROAD	3	0	0	0	0	3
8 ST GEORGES ROAD	4	0	0	0	0	4
10 ST GEORGES ROAD	5	0	0	0	0	5

12 ST GEORGES ROAD	7	0	0	0	0	7
14 ST GEORGES ROAD	5	0	0	0	0	5
16 ST GEORGES ROAD	5	0	0	0	0	5
18 ST GEORGES ROAD	8	0	0	0	0	8
20 ST GEORGES ROAD	2	0	0	0	0	2
22 ST GEORGES ROAD	6	0	0	0	0	6
24 ST GEORGES ROAD	4	0	0	0	0	4
26 ST GEORGES ROAD	4	0	0	0	0	4
28 ST GEORGES ROAD	4	0	0	0	0	4
30 ST GEORGES ROAD	9	0	0	0	0	9
32 ST GEORGES ROAD	9	0	0	0	0	9
34 ST GEORGES ROAD	5	0	0	0	0	5
36 ST GEORGES ROAD	8	0	0	0	0	8
38 ST GEORGES ROAD	5	0	0	0	0	5
40 ST GEORGES ROAD	7	0	0	0	0	7
42 ST GEORGES ROAD	5	0	0	0	0	5
44 ST GEORGES ROAD	4	0	0	0	0	4
46 ST GEORGES ROAD	4	0	0	0	0	4
48 ST GEORGES ROAD	3	0	0	0	0	3
50 ST GEORGES ROAD	3	0	0	0	0	3
52 ST GEORGES ROAD	3	0	0	0	0	3
54 ST GEORGES ROAD	2	0	0	0	0	2
56 ST GEORGES ROAD	6	0	0	0	0	6
58 GEORGES ROAD	5	0	0	0	0	5
Total	832	61	29	57	147	979

Table 2 – NSL Summary

Address	Total that Meet BRE Guidelines	Below BRE Guidelines				Total No. of Rooms
		20-29% Loss	30-39.9% Loss	>=40% Loss	Total	
11 MANOR GROVE	2	0	1	0	1	3
10 MANOR GROVE	2	0	0	1	1	3
9 MANOR GROVE	2	0	0	1	1	3
8 MANOR GROVE	2	0	0	1	1	3
7 MANOR GROVE	2	0	0	1	1	3
6 MANOR GROVE	3	1	0	0	1	4
5 MANOR GROVE	2	1	0	0	1	3
12 MANOR GROVE	6	0	0	0	0	6
14 MANOR GROVE	4	0	0	0	0	4
16 MANOR GROVE	4	0	0	0	0	4
18 MANOR GROVE	4	0	0	0	0	4
20 MANOR GROVE	7	0	0	0	0	7

22 MANOR GROVE	4	0	0	0	0	4
23 MANOR GROVE	2	0	0	0	0	2
21 MANOR GROVE	2	0	0	0	0	2
19 MANOR GROVE	2	0	0	0	0	2
17 MANOR GROVE	2	0	0	0	0	2
15 MANOR GROVE	2	0	0	0	0	2
13 MANOR GROVE	2	0	0	0	0	2
4 MANOR GROVE	2	1	0	0	1	3
3 MANOR GROVE	3	1	0	0	1	4
2 MANOR GROVE	2	0	0	1	1	3
1 MANOR GROVE	2	0	0	1	1	3
1 MARYLEBONE GARDENS	4	0	0	0	0	4
2 MARYLEBONE GARDENS	3	0	0	0	0	3
3 MARYLEBONE GARDENS	3	0	0	0	0	3
4 MARYLEBONE GARDENS	2	0	0	0	0	2
5 MARYLEBONE GARDENS	2	0	0	0	0	2
8 MARYLEBONE GARDENS	2	0	0	0	0	2
7 MARYLEBONE GARDENS	2	0	0	0	0	2
6 MARYLEBONE GARDENS	2	0	0	0	0	2
81 MANOR ROAD	2	0	0	0	0	2
79 MANOR ROAD	2	0	0	0	0	2
77 MANOR ROAD	2	0	0	0	0	2
75 MANOR ROAD	2	0	0	0	0	2
73 MANOR ROAD	2	0	0	0	0	2
71 MANOR ROAD	2	0	0	0	0	2
69A MANOR ROAD	4	0	0	0	0	4
80 MANOR ROAD	5	0	0	0	0	5
2 Manor Park	4	0	0	0	0	4
4 MANOR PARK	5	0	0	0	0	5
6 MANOR PARK	3	0	0	0	0	3
8 MANOR PARK	4	0	0	0	0	4
10 MANOR PARK	5	0	0	0	0	5
12 MANOR PARK	4	0	0	0	0	4
14 MANOR PARK	5	0	0	0	0	5
16 MANOR PARK	4	0	0	0	0	4
18 MANOR PARK	3	0	0	0	0	3
20 MANOR PARK	3	0	1	0	1	4
22 MANOR PARK	3	1	0	0	1	4
24 MANOR PARK	3	0	0	0	0	3
1 MANOR PARK	3	0	0	0	0	3
3 MANOR PARK	4	0	0	0	0	4
5 MANOR PARK	4	0	0	0	0	4

7 MANOR PARK	3	0	0	0	0	3
9 MANOR PARK	3	0	0	0	0	3
11 MANOR PARK	4	0	0	0	0	4
13 MANOR PARK	3	0	0	0	0	3
15 MANOR PARK	4	0	0	0	0	4
17 MANOR PARK	3	0	0	0	0	3
19 MANOR PARK	3	0	1	0	1	4
21 MANOR PARK	3	0	0	0	0	3
1-53 CALVERT COURT	27	0	0	0	0	27
19-39 ROBINSON COURT	12	0	0	0	0	12
1-18 ROBINSON COURT	26	0	0	0	0	26
50 ST MARY'S GROVE	3	0	0	0	0	3
52 ST MARY'S GROVE	3	0	0	0	0	3
CLARENCE COURT	3	0	0	0	0	3
33-39 CROWN TERRACE	9	0	0	0	0	9
1-8 VICTORIA VILLAS	41	2	2	0	4	45
19-22 VICTORIA VILLAS	13	0	3	0	3	16
2-6 BARDOLPH ROAD	21	2	4	2	8	29
15 TRINITY COTTAGES	5	0	0	0	0	5
14 TRINITY COTTAGES	5	0	0	0	0	5
13 TRINITY COTTAGES	4	0	0	0	0	4
24 TRINITY ROAD	6	0	0	0	0	6
22 TRINITY ROAD	2	0	0	0	0	2
20 TRINITY ROAD	2	0	0	0	0	2
18 TRINITY ROAD	2	0	0	0	0	2
16 TRINITY ROAD	2	0	0	0	0	2
14 TRINITY ROAD	2	0	0	0	0	2
12 TRINITY ROAD	2	0	0	0	0	2
15 TRINITY ROAD	6	0	0	0	0	6
13 TRINITY ROAD	4	0	0	0	0	4
11 TRINITY ROAD	4	0	0	0	0	4
9 TRINITY ROAD	4	0	0	0	0	4
7 TRINITY ROAD	3	0	0	0	0	3
3 ST GEORGES ROAD	1	0	0	0	0	1
5 ST GEORGES ROAD	2	0	0	0	0	2
7 ST GEORGES ROAD	4	0	0	0	0	4
9 ST GEORGES ROAD	2	0	0	0	0	2
11 ST GEORGES ROAD	6	0	0	0	0	6
FALSTAFF HOUSE	36	2	0	0	2	38
ST GEORGES HOUSE	17	0	0	0	0	17
140 LOWER MORTLAKE ROAD	3	0	0	0	0	3
2 ST GEORGES ROAD	2	0	0	0	0	2

4 ST GEORGES ROAD	3	0	0	0	0	3
6 ST GEORGES ROAD	2	0	0	0	0	2
8 ST GEORGES ROAD	2	0	0	0	0	2
10 ST GEORGES ROAD	3	0	0	0	0	3
12 ST GEORGES ROAD	3	0	0	0	0	3
14 ST GEORGES ROAD	3	0	0	0	0	3
16 ST GEORGES ROAD	3	0	0	0	0	3
18 ST GEORGES ROAD	3	0	0	0	0	3
20 ST GEORGES ROAD	2	0	0	0	0	2
22 ST GEORGES ROAD	3	0	0	0	0	3
24 ST GEORGES ROAD	2	0	0	0	0	2
26 ST GEORGES ROAD	2	0	0	0	0	2
28 ST GEORGES ROAD	2	0	0	0	0	2
30 ST GEORGES ROAD	3	0	0	0	0	3
32 ST GEORGES ROAD	3	0	0	0	0	3
34 ST GEORGES ROAD	2	0	0	0	0	2
36 ST GEORGES ROAD	3	0	0	0	0	3
38 ST GEORGES ROAD	3	0	0	0	0	3
40 ST GEORGES ROAD	3	0	0	0	0	3
42 ST GEORGES ROAD	3	0	0	0	0	3
44 ST GEORGES ROAD	3	0	0	0	0	3
46 ST GEORGES ROAD	2	0	0	0	0	2
48 ST GEORGES ROAD	3	0	0	0	0	3
50 ST GEORGES ROAD	3	0	0	0	0	3
52 ST GEORGES ROAD	3	0	0	0	0	3
54 ST GEORGES ROAD	2	0	0	0	0	2
56 ST GEORGES ROAD	5	0	0	0	0	5
58 GEORGES ROAD	4	0	0	0	0	4
Total	551	11	12	8	31	582

7.7 The results of the second daylight test, the NSL, demonstrate that 551 out of 582 rooms (95%) meet the strict application of the BRE Guidelines. Comparatively, the Original Proposed Development that formed part of the February 2019 planning submission achieved 93% BRE compliance. Conclusively, the Amended Proposed Development demonstrates an improvement in daylight results.

7.8 The following properties record full BRE compliance in respect of the VSC and NSL methodologies:

- 12-23 Manor Grove
- 2 Marylebone Gardens
- 4-8 Marylebone Gardens
- 71-81 Manor Road
- 69A Manor Road
- 2-4 Manor Park
- 80 Manor Road
- 1-15 Manor Park

- 1-53 Calvert Court
- 1-18 Robinson Court
- 19-39 Robinson Court
- 50-52 St Mary's Grove
- Clarence Court
- 33-39 Crown Terrace
- 13-15 Trinity Cottages
- 7-22 Trinity Road
- 3-11 St George's Road
- 140 Lower Mortlake Road
- 2-44 St George's Road

7.9 There are an isolated number of properties surrounding the site that do not meet the strict recommendations of the BRE Guidelines in respect of the VSC and NSL methodologies. These properties are discussed in more detail below.

Manor Grove Properties

7.10 This row of 2-storey properties can be found on the other side of Manor Road to the development site. Currently, the occupants enjoy a direct view over a largely undeveloped site and therefore these windows record almost maximum values in terms of the VSC test (existing values in excess of 30% in almost every instance).

7.11 The results of the technical assessment show that there will be alterations in light which do not meet the strict application of the BRE Guidelines in respect of the VSC and NSL methodology.

7.12 In respect of the VSC test, 74 out of 107 windows (71%) will achieve strict BRE compliance. However, all windows tested within the Manor Grove properties will retain a VSC value which exceeds 22%. This is considered a very good level of retained daylight given the urban setting of the Manor Road site. Plate 04 and Plate 05 below demonstrates the retained levels of VSC. Those windows shown in green denote exceptional retained VSC levels.

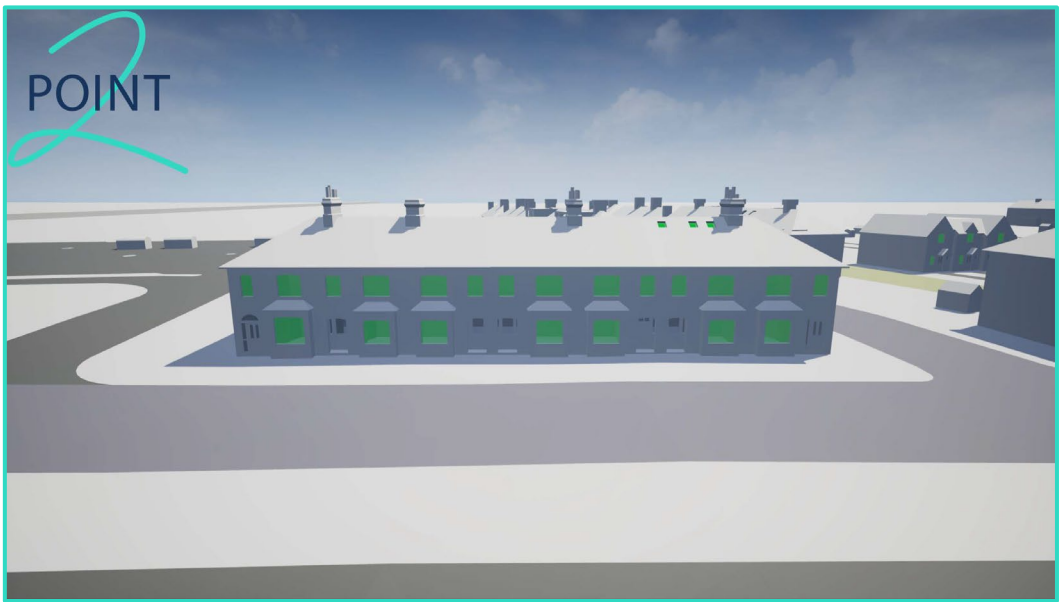


Plate 04 – Manor Grove Properties – Retained VSC levels (green windows denote exceptional levels)

Plate 05 – Manor Grove Properties – Retained VSC levels (green windows denote exceptional levels)

7.13 In relation to the NSL test, 65 out of 76 rooms tested (86%) record strict BRE compliance.

7.14 Overall, the daylight effect to these properties is considered minor by virtue of the retained VSC values. The BRE Guidelines recognises that the numerical target values may depend on the unique nature of a development site.

Manor Park Properties

7.15 Manor Park is situated directly south of the development site and the rear elevation of these properties faces the Amended Proposed Development.

7.16 The VSC analysis shows that 137 out of 162 windows (85%) achieve strict compliance with the BRE Guidelines. Plate 06 below demonstrates the retained levels of VSC experienced. *Green* denotes excellent levels of retained VSC and *amber* denotes good levels.

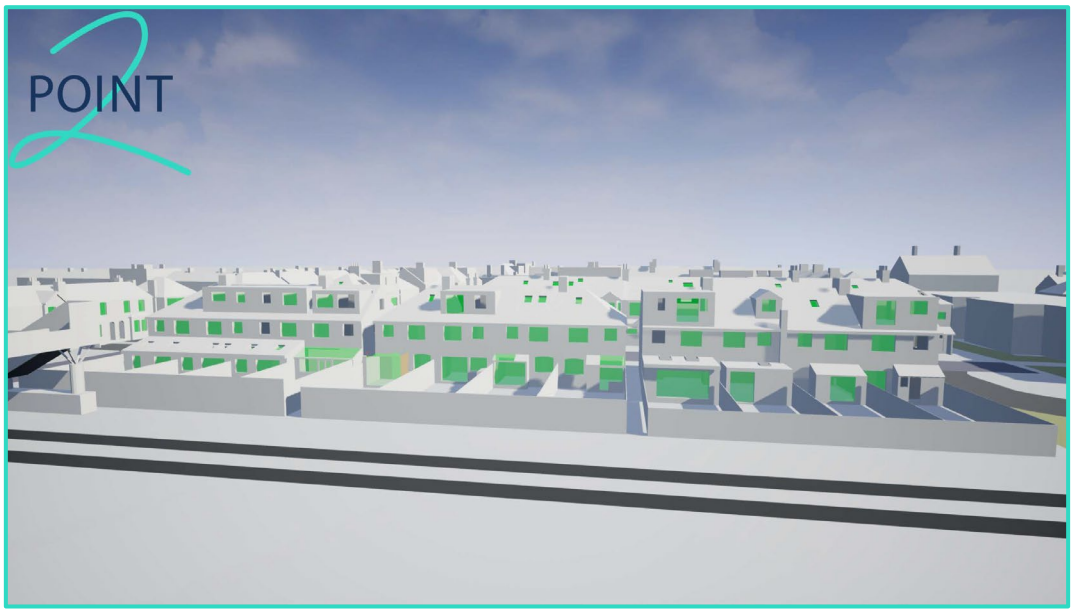


Plate 06 – Manor Park Properties – Retained VSC levels – good shown in amber and excellent shown in green

7.17 When considering the NSL method of assessing daylight, 83 out of 86 rooms (97%) will achieve strict BRE compliance. The 3 rooms (room ref: R1/80 & R2/80 & R3/530) that experience changes beyond 20% from former value will in both cases record a retained NSL value of at least 67% which is considered very good for an urban setting.

7.18 Overall, the daylight effect will be negligible by virtue of the encouraging NSL values.

1-8 Victoria Villas

7.19 1-8 Victoria Villas is located to the northwest of the site and has several windows that face the southern portion of the development site. The design of this building is also characterised by projecting balconies which have a limiting effect in terms of light amenity.

7.20 The results of the VSC test show that 60 out of 82 windows (73%) meet the strict application of the BRE Guidelines. The average retained VSC for windows tested within 1-8 Victoria Villas is 22% which is considered excellent. Plate 07 below demonstrates the retained VSC levels, showing excellent levels in *green* and good levels in *amber.*

Plate 07 – 1-8 Victoria Villas – Retained VSC levels – excellent retained levels in green and good shown in amber

7.21 In relation to the NSL methodology, it can be seen that 41 out 45 rooms (91%) will achieve BRE compliance. Of the 4 rooms that experience alterations beyond 20% from former value, all rooms will continue to have a direct view of the sky to more than 61% of the room area.

7.22 Overall, the daylight effects to 1-8 Victoria Villas is considered minor by virtue of the retained VSC and NSL values.

19-22 Victoria Villas

7.23 Situated to the northwest of the development site, 19-22 Victoria Villas has a number of windows with a direct view of the Amended Proposed Development.

7.24 In terms of the VSC methodology, 13 out of 22 windows (59%) meet the strict application of the BRE Guidelines. However, the average retained VSC for these windows is 22% which is considered excellent for an urban context.

7.25 When one considers the NSL methodology, the technical review demonstrates that 13 out 16 rooms (81%) will meet the strict application of the BRE Guidelines. Where there are alterations beyond the BRE Guidelines 2 of the 3 rooms that experience alterations beyond the permissible 20% are bedrooms, which the BRE recognise carry less of an expectation for natural lighting when compared to living rooms.

7.26 Overall, the daylight effects to 19-22 Victoria Villas is considered minor by virtue of the retained VSC levels and the affected rooms being bedrooms which the BRE acknowledge do not carry the same expectation for natural lighting as main living rooms.

2-6 Bardolph Road

7.27 This residential block is situated to the northwest of the site, on the other side of the railway line. Given the proximity and outlook of this property, it is particularly sensitive (on the rear aspect) to any development on the Manor Road site.

7.28 The results of the detailed technical analysis show that the windows on the rear aspect of 2-6 Bardolph Road benefit from uncharacteristically high levels of daylight in the existing condition. Existing VSC values range from circa 33%-40%, almost the maximum value for a completely unencumbered window.

7.29 Whilst there are a number of windows that experience alterations in light beyond the BRE's suggested 20% in respect of the VSC methodology, the retained levels of daylight are considered very good. In fact, the average retained VSC for these windows is 20% which is deemed very good for an urban development such as Manor Road. Plate 08 demonstrates the retained levels of VSC as a result of the implementation of the Proposed Development. Notably, all the assessed windows within the building demonstrate good (*amber)* or excellent (*green)* levels of retained VSC.

Plate 08 – 2-6 Bardolph – Retained VSC levels (amber good retained levels and green excellent retained levels)

7.30 When one considers the NSL test, 21 out of 29 rooms (72%) meet the strict application of the BRE Guidelines. There are 8 rooms which experience changes beyond the BRE's suggested 20%, 5 of which are bedrooms which the BRE Guidelines recognises carry less of an expectation for natural lighting when compared to main living rooms.

7.31 Overall, the daylight effects to 2-6 Bardolph Road are considered minor by virtue of the retained levels of daylight.

24 Trinity Road

7.32 24/24A Trinity Road sits to the northwest of the Amended Proposed Development and there are several windows with an oblique view of the proposed massing.

7.33 In respect of the VSC methodology, it can be seen that 12 out of 13 windows (92%) will meet the strict application of the BRE Guidelines. There is one window (W4/390) which forms part of a glazed doorway that experiences a 25.69% reduction, within 6% of the BRE's target of 20% of former value. Further, this particular room is served by numerous other windows, all of which are fully BRE compliant. Plate 09 below shows the single instance of VSC alteration beyond the suggested BRE values.

Plate 09 – 24 Trinity Road – VSC alteration shown in amber

7.34 In terms of the NSL test, full BRE compliance has been achieved.

7.35 Overall, the daylight effects are considered negligible by virtue of the excellent NSL results.

Falstaff House

7.36 Falstaff House is located to the northwest of the site, on the opposite side of the railway track. The rooms on the rear elevation currently overlook the existing depot which is largely vacant of any structure. Therefore, they enjoy uncharacteristically high levels of daylight in the existing condition.

7.37 The results of the VSC assessment show that 39 out of 46 windows (85%) meet the strict application of the BRE Guidelines. Whilst there are a number of windows which record an alteration beyond 20%, it can be noted that the average retained VSC value equals 29% which is excellent. Plate 10 demonstrates those limited windows that experience VSC alteration beyond the BRE Guidelines in *red.*

Plate 10 – Falstaff House – VSC alterations shown in red

7.38 In terms of NSL, the technical results demonstrate that 36 out of 38 rooms (95%) will meet the strict application of the BRE Guidelines. Where there are alterations, these 2 rooms (room ref: R7/242 & R/243) records within 2% beyond the BRE's permissible 20% from former value.

7.39 Overall, the daylight effects to Fallstaff House are considered minor by virtue of the fact that that the retained VSC values are excellent and full NSL compliance has been observed.

St George's House

7.40 This residential block is located on the corner of Bardolph Road and St George's Road, to the northwest of the Manor Road development site. The windows facing the site record almost the maximum VSC value in the existing condition; a product of a lack of local obstruction on the existing bus depot.

7.41 The results of the detailed VSC technical analysis show that 62 out of 63 windows (98%) meet the strict application of the BRE Guidelines. The 1 room (room ref: R4/234) that experiences alterations beyond the strict application of the BRE Guidelines falls within 1.5% beyond the permissible 20% from former change. Plate 11 below shows the single instance of VSC alteration in *amber* (window outlined in yellow).

Plate 11 – St. George's House – VSC alteration shown in amber (outlined in yellow)

7.42 In respect of the NSL test, full BRE compliance has been recorded.

7.43 Overall, the daylight effects to St George's House are considered minor by virtue of the retained VSC values and the full NSL compliance.

Daylight Conclusion

7.44 In summary, for daylight methodology assessments, the VSC results demonstrate that 832 out of 979 windows (85%) meet the recommendations of the BRE Guidelines. 939 out of 979 windows (96%) will retain a VSC value in excess of 15%. 890 out of 979 windows (91%) will achieve a retained VSC of 18% or more. The results for the second daylight test, NSL, demonstrate that 551 out of 582 rooms (95%) meet the strict application of the BRE Guidelines.

SUNLIGHT

7.45 A summary of the APSH effects has been provided in Table 3 below:

Table 3 – APSH Summary

Address	Meet BRE Guidelines	No. of rooms below the APSH stated in BRE Guidelines								Total No. Rooms
		Below Threshold for Winter APSH				Below Threshold for Total APSH				
		20 - 30 %	30-40 %	>40 %	Total	20-30%	30-40%	>40 %	Total	
12 MANOR GROVE	2	0	0	0	0	0	0	0	0	2
14 MANOR GROVE	1	0	0	0	0	0	0	0	0	1
20 MANOR GROVE	3	0	0	0	0	0	0	0	0	3
3 MANOR GROVE	1	0	0	0	0	0	0	0	0	1
1 MARYLEBONE GARDENS	3	0	0	0	0	0	0	0	0	3
3 MARYLEBONE GARDENS	0	0	0	0	0	1	0	0	1	1
8 MARYLEBONE GARDENS	2	0	0	0	0	0	0	0	0	2
7 MARYLEBONE GARDENS	2	0	0	0	0	0	0	0	0	2
6 MARYLEBONE GARDENS	2	0	0	0	0	0	0	0	0	2
81 MANOR ROAD	2	0	0	0	0	0	0	0	0	2
79 MANOR ROAD	2	0	0	0	0	0	0	0	0	2
77 MANOR ROAD	2	0	0	0	0	0	0	0	0	2
75 MANOR ROAD	2	0	0	0	0	0	0	0	0	2
73 MANOR ROAD	2	0	0	0	0	0	0	0	0	2
71 MANOR ROAD	2	0	0	0	0	0	0	0	0	2
69A MANOR ROAD	4	0	0	0	0	0	0	0	0	4
8 MANOR PARK	2	0	0	0	0	0	0	0	0	2
10 MANOR PARK	1	0	0	0	0	0	0	0	0	1
12 MANOR PARK	1	0	0	0	0	0	0	0	0	1
16 MANOR PARK	2	0	0	0	0	0	0	0	0	2
18 MANOR PARK	2	0	0	0	0	0	0	0	0	2
20 MANOR PARK	1	0	0	0	0	0	0	0	0	1
24 MANOR PARK	1	0	0	0	0	0	0	0	0	1
80 MANOR ROAD	5	0	0	0	0	0	0	0	0	5
13 MANOR PARK	2	0	0	0	0	0	0	0	0	2
15 MANOR PARK	1	0	0	0	0	0	0	0	0	1
17 MANOR PARK	2	0	0	0	0	0	0	0	0	2
21 MANOR PARK	2	0	0	0	0	0	0	0	0	2
1-53 CALVERT COURT	12	0	0	0	0	0	0	0	0	12
19-39 ROBINSON COURT	6	0	0	0	0	0	0	0	0	6
1-18 ROBINSON COURT	15	0	0	0	0	0	0	0	0	15
1-8 VICTORIA VILLAS	28	0	0	0	0	0	0	0	0	28
19-22 VICTORIA VILLAS	11	0	0	1	1	0	1	0	1	12
2-6 BARDOLPH ROAD	28	0	0	1	1	0	0	1	1	29
15 TRINITY COTTAGES	4	0	0	0	0	0	0	0	0	4
14 TRINITY COTTAGES	3	0	0	0	0	0	0	0	0	3

13 TRINITY COTTAGES	2	0	0	0	0	0	0	0	0	2
24 TRINITY ROAD	6	0	0	0	0	0	0	0	0	6
15 TRINITY ROAD	6	0	0	0	0	0	0	0	0	6
13 TRINITY ROAD	2	0	0	0	0	0	0	0	0	2
11 TRINITY ROAD	2	0	0	0	0	0	0	0	0	2
9 TRINITY ROAD	2	0	0	0	0	0	0	0	0	2
7 TRINITY ROAD	2	0	0	0	0	0	0	0	0	2
3 ST GEORGES ROAD	1	0	0	0	0	0	0	0	0	1
5 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
7 ST GEORGES ROAD	4	0	0	0	0	0	0	0	0	4
9 ST GEORGES ROAD	1	0	0	0	0	0	0	0	0	1
11 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
FALSTAFF HOUSE	35	0	0	3	3	2	0	1	3	38
ST GEORGES HOUSE	17	0	0	0	0	0	0	0	0	17
140 LOWER MORTLAKE ROAD	3	0	0	0	0	0	0	0	0	3
2 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
4 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
6 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
8 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
10 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
12 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
14 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
16 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
18 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
20 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
22 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
24 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
26 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
28 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
30 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
32 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
34 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
36 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
38 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
40 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
42 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
44 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
46 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2
48 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
50 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
52 ST GEORGES ROAD	3	0	0	0	0	0	0	0	0	3
54 ST GEORGES ROAD	2	0	0	0	0	0	0	0	0	2

56 ST GEORGES ROAD	4	0	0	0	0	0	0	0	0	4
58 GEORGES ROAD	4	0	0	0	0	0	0	0	0	4
Total	328	0	0	5	5	3	1	2	6	334

7.46 In terms of sunlight, 328 out of 334 rooms (98%) within 90 degrees of due south of the development site will meet the BRE Guidelines. The overall headline result from the Amended Proposed Development has not altered when compared to outcome of the Original Proposed Development, but retains outstanding BRE compliance.

7.47 There are an isolated number of windows and rooms that do not meet the strict the strict application of the BRE Guidelines in terms of APSH. A detailed review of this is given below.

3 Marylebone Gardens

7.48 The property is located to the east of the development site and contains a north-facing room with 2 flank windows which face east and west, thus triggering assessment within this review.

7.49 The results show that this room (room ref: R3/31) will receive no winter sunlight in the existing condition which is a product of its orientation. It will experience an annual APSH totalling 29.4%, within 10% beyond the BRE's suggested permissible 20% from former value. On this basis, the sunlight effects are considered minor.

19-22 Victoria Villas

7.50 Situated directly east of the development site, on the opposite side of the railway line, this property has 12 rooms which warrant assessment.

7.51 The results show that 1 room (room ref: R10/1060) will experience a technical breach of the BRE Guidelines, recording an annual APSH alteration of 30% (10% beyond the advisory 20% of the BRE). The sunlight effect will be negligible given that there is 1 room which experiences a marginal change and all other rooms will remain BRE compliant.

2-6 Bardolph Road

7.52 This residential block is situated to the northwest of the site, on the other side of the railway line. The rear outlook of the building overlooks the Proposed Development and will be sensitive to any change in light.

7.53 The results show that 28 out of 29 rooms (97%) will achieve BRE compliance. The technical analysis demonstrates 1 room (room ref: R1/200) will experience a material change beyond the BRE's permissible 20% from former value. The affected room is a bedroom and recognised by the BRE as carrying less of an expectation for natural light when compared to a living room.

7.54 Overall, the sunlight effected will be negligible given that there is 1 bedroom that experiences a change and the remaining assessed rooms will remain BRE compliant.

Falstaff House

7.55 Falstaff House is situated to the northwest of the site and there are a number of windows that currently have view over the existing undeveloped development site.

7.56 The results show that 35 out of 38 rooms (92%) will achieve strict BRE compliance. Of the 3 rooms that experience a change beyond 20%, 2 record alterations within 10% of the BRE's target of 20%.

7.57 Overall, the sunlight effects to Falstaff House are considered moderate by virtue of the fact that there is only 1 room that experiences a change beyond 10% of the BRE's suggested 20% from former value in respect of annual APSH.

8 Proposed Residential Accommodation

8.1 Point 2 have worked closely with Assael Architecture to maximise the daylight potential of the proposed units. As with any large residential development such as the Manor Road site, there is often a trade-off between the provision of private amenity and maximising daylight potential.

8.2 The full and detailed analysis can be found within Appendix 5 of this report. Drawings P1685/INT/15-17 show both the location and configuration of the rooms and the resultant Average Daylight Factor (ADF).

8.3 Not every habitable room within the Amended Proposed Development has been considered but rather a selection of habitable rooms (in most areas) have been tested on a variety of floors within numerous blocks. It can be noted that the corresponding rooms on the upper floors will receive improved levels of ADF given their elevated location and outlook over less obstruction.

8.4 The analysis shows that 13 out of the 19 rooms (69%) selected for tested will either meet or exceed the recommended ADF targets for internal daylight. Where there are rooms that do not meet the strict application of the BRE Guidelines, this is in many instances a product of providing private amenity in the form of balconies and 'winter gardens'. Whilst affording important amenity space, the presence of overhanging balconies can have a limiting effect in terms of light penetration within. In accordance with the BRE Guidelines, the main living rooms have also been assessed in respect of sunlight although it is recognised that ensuring adequate sunlight levels within developments is more challenging as it is largely dependent on the orientation of the proposed rooms and the degree of location obstruction surrounding the site.

9 Sun Hours on Ground

9.1 An assessment of the sun-on-ground overshadowing to the neighbouring existing amenity spaces outside of the site boundary has been undertaken together with the amenity spaces within the Amended Proposed Development. The results are highlighted on drawings numbered P1685/SHA/09-12 in Appendix 6.

9.2 It is common practice to undertake the assessment to understand the existing sunlight availability for the defined area and compare this against the proposed position. The target criteria is to determine the potential reduction (for which the BRE allow for a 20% change) and or the amount of sun availability by reference to the area for the desired time (50% of the area achieving at least 2 hours of sunlight).

9.3 The results of the detailed computer assessment show that the implementation of the proposed scheme will highlight no change to the sun reaching the ground surface for the amenity areas surrounding the site. Plate 12 and 13 below depicts the neighbouring amenity areas in the existing and the proposed condition on March 21st, respectively.

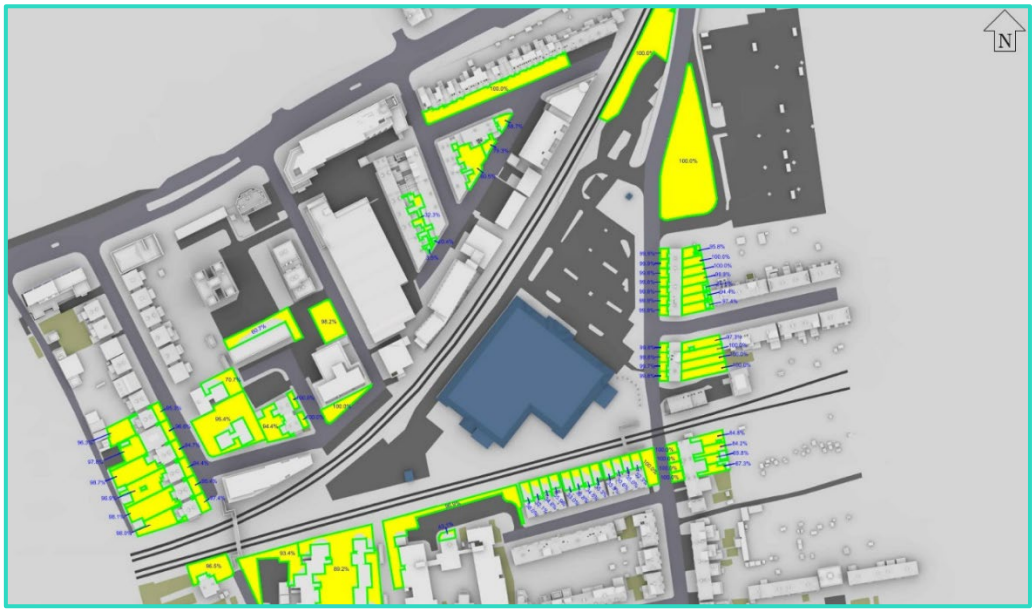


Plate 12 – March 21 Existing SHOG - Manor Road neighbouring amenity spaces

Plate 13 – March 21 Proposed SHOG - Manor Road neighbouring amenity spaces

9.4 In respect of the amenity spaces within the proposed scheme, the results show that all but 2 spaces (being spaces labelled 'I' and 'K') will meet the BRE's target of achieving at least 2 hours of direct sunlight on 21st March. This is shown below on Plate 14. It is worth also noting the scheme has been designed in such a way so far to encourage movement between the spaces to maximise the sunlight potential for future residents and users.

Plate 14 – March 21 Proposed SHOG – Manor Road internal amenity spaces

9.5 Whilst the BRE Guidelines do not recognise June 21 as a date for assessment, it follows that the amenity spaces will be predominantly be used and enjoyed during the summer months.

10 Transient Overshadowing

10.1 Point 2 have undertaken a professional Transient Overshadowing study mapping the extent of the shadow caused by the Amended Proposed Development. The following three key dates have been selected, in accordance with the BRE Guidelines:

- 21st March (Spring Equinox);
- 21st June (Summer Solstice); and
- 21st December (Winter Solstice).

10.2 For each of these dates, the overshadowing is calculated at hourly intervals throughout the day from 08:00 to 19:00. Some images are not included within the study because the sun would not be presence during these times (for example, from approximately 16:00 onwards on 21st December) and therefore no shadow can be cast.

10.3 The full Transient Overshadowing analysis can be found in Appendix 7.

10.4 The results demonstrate that there will be some minor shadow effects in the morning (8:00 to 10:00) on 21st June (Summer Solstice) and some further shadow effects in the evening (18:00 to 19:00).

10.5 With regards to 21st March (Spring Equinox), the analysis demonstrates there will minor shadow effects in the morning between 9:00 to 11:00 and in the later afternoon between 15:00 and 17:00 as a result of the lower positioning of the sun, when compared to June 21.

10.6 When considering 21st December (Winter Solstice), the results demonstrate that there will be some minor shadow effects as a result of the lower positioning of the sun, when tested against the existing site condition.

11 Summary

11.1 This report has considered the daylight, sunlight and overshadowing effects to the surrounding residential properties as a result of the implementation of the proposed Assael Architecture scheme at 84 Manor Road, North Sheen. The quality of daylight within the proposed residential units has also been assessed.

11.2 The assessments contained within this report have been undertaken in accordance with the Building Research Establishment report entitled 'Site layout planning for daylight and sunlight: A guide to good practice', more commonly known as "the BRE Guidelines".

11.3 In respect of neighbouring daylight, the VSC results demonstrate that 832 out of 979 windows (85%) meet the recommendations of the BRE Guidelines and demonstrates improvements when compared to the Original Proposed Development that recorded 84% BRE compliance. As such, the Amended Proposed Development records 939 out of 979 windows (96%) that will retain a VSC value in excess of 15% and further, 890 out of 979 windows (91%) that will achieve a retained VSC of 18% or more.

11.4 The results for the second daylight test, NSL, demonstrate that 551 out of 582 rooms (95%) surrounding the site will meet the strict application of the BRE Guidelines. These results demonstrate betterments when compared to the Original Proposed Development that recorded 93% BRE compliance.

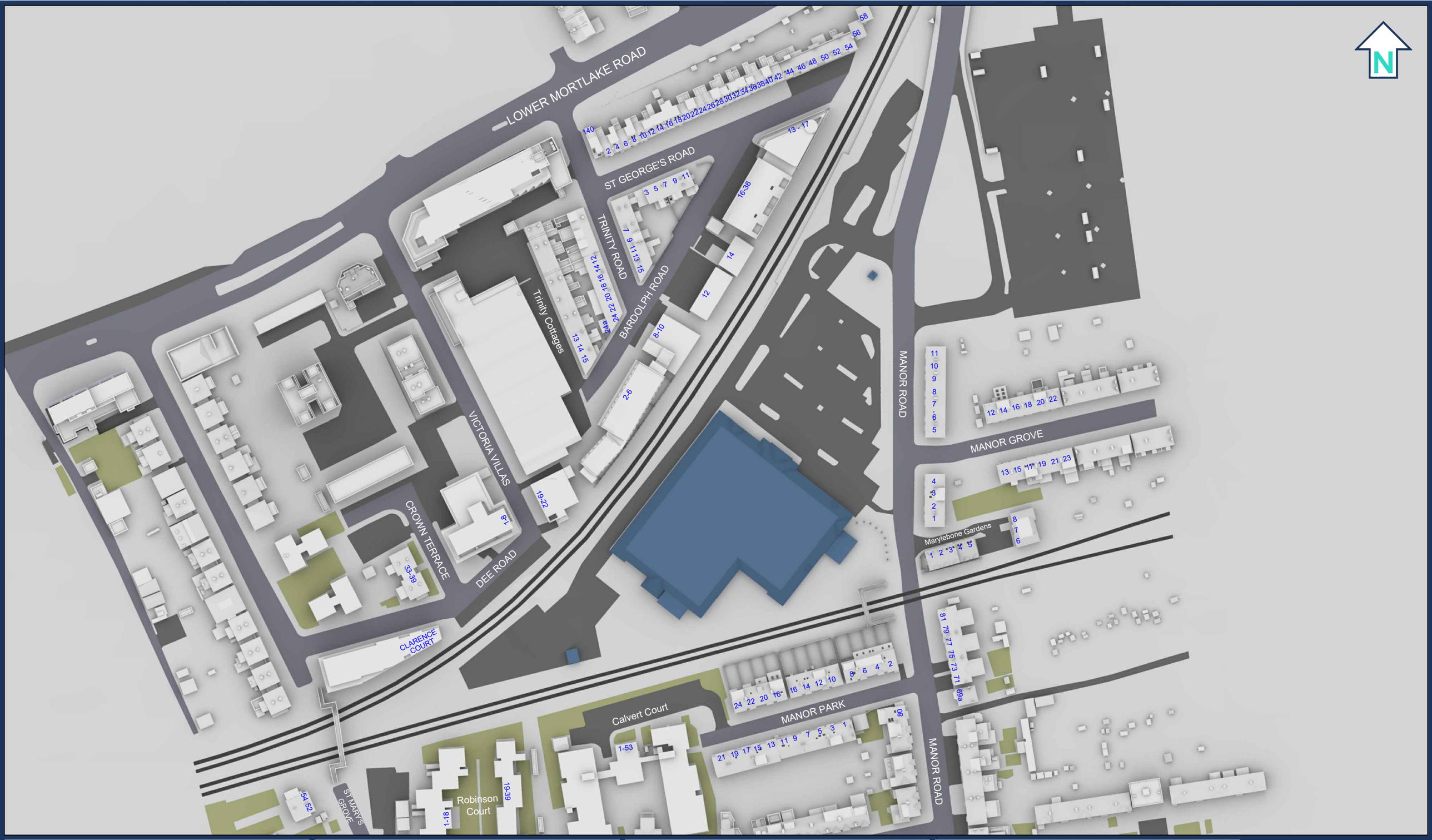
11.5 For neighbouring sunlight, the results demonstrate that 328 out of 334 windows (98%) will meet the BRE Guidelines. The results have not altered when compared to those of the Original Proposed Development that recorded 98% BRE compliance.

11.6 The results from the internal daylight amenity assessment demonstrate a BRE compliance of 69%. Where rooms are not able to reach the advisory ADF target values, this is often a product of providing balconies. Whilst providing important private amenity space, the blinkering caused by the overhang of the balcony can reduce the light that would otherwise be available.

11.7 With regards to neighbouring amenity spaces, a Sun Hours on Ground assessment has been undertaken to assess any potential overshadowing effects caused by the Proposed Development which shows very little change to neighbouring amenity spaces. In respect of the amenity spaces within the proposed scheme, the results show that all but 2 spaces will meet the BRE's target of achieving at least 2 hours of direct sunlight on 21st March.

11.8 In summary, the Amended Proposed Development will relate well to the neighbouring residential properties and fall within the practical application of the BRE Guidelines. Recognising the flexibility encouraged by the NPPF, the SPG Guidance and recent decisions, the retained levels of daylight are considered acceptable.

Appendix 1: Site Plan & 3D Drawings



Sources: Point 2 Surveyors
Survey Info
Point Cloud Data

Assael Architecture Limited
3D Models (received 31/10/19)
A3004 2-7-1 ENVELOPE AND PARTY-A1 ,A2 & A3.dwg
A3004 2-7-1 ENVELOPE AND PARTY-B.dwg
A3004 2-7-1 ENVELOPE AND PARTY-C1&C2.dwg
A3004 2-7-1 ENVELOPE AND PARTY-D1 & D2.dwg
A3004 2-7-1 ENVELOPE AND PARTY-E.dwg
3D Model + 2D Drawings (received 08/11/19)
A3004 2-7-1 ENVELOPE AND PARTY-E.dwg
MNR-AA-BLE-ZZ-DR-A-(4500_4503)-R3.dwg
MNR-AA-BE1-(GF_05)-DR-A-2601-R6 .dwg

Key: Existing Buildings
Proposed Scheme

Project: Homebase
Richmond

Title: Plan View
Existing Buildings

Scheme Confirmed:	Date:	Drawn By:	Scale:	Date:	Dwg No:	Rel:
--	--	JR	1:1500 @ A3	Nov 19	P1685/22	10

Sources: Point 2 Surveyors
Survey Info
Point Cloud Data

Assael Architecture Limited
3D Models (received 31/10/19)
A3004 2-7-1 ENVELOPE AND PARTY-A1 ,A2 & A3.dwg
A3004 2-7-1 ENVELOPE AND PARTY-B.dwg
A3004 2-7-1 ENVELOPE AND PARTY-C1&C2.dwg
A3004 2-7-1 ENVELOPE AND PARTY-D1 & D2.dwg
A3004 2-7-1 ENVELOPE AND PARTY-E.dwg
3D Model + 2D Drawings (received 08/11/19)
A3004 2-7-1 ENVELOPE AND PARTY-E.dwg
MNR-AA-BLE-ZZ-DR-A-(4500_4503)-R3.dwg
MNR-AA-BE1-(GF_05)-DR-A-2601-R6 .dwg

Key: Existing Buildings
Proposed Scheme

All Heights in mm AOD

Project: Homebase
Richmond

Title: 3D View
Existing Buildings

Scheme Confirmed:	Date:	Drawn By:	Scale:	Date:	Dwg No:	Rel:
--	--	JR	NTS @ A3	Nov 19	P1685/23	10

Sources: Point 2 Surveyors
Survey Info
Point Cloud Data

Assael Architecture Limited
3D Models (received 31/10/19)
A3004 2-7-1 ENVELOPE AND PARTY-A1 ,A2 & A3.dwg
A3004 2-7-1 ENVELOPE AND PARTY-B.dwg
A3004 2-7-1 ENVELOPE AND PARTY-C1&C2.dwg
A3004 2-7-1 ENVELOPE AND PARTY-D1 & D2.dwg
A3004 2-7-1 ENVELOPE AND PARTY-E.dwg
3D Model + 2D Drawings (received 08/11/19)
A3004 2-7-1 ENVELOPE AND PARTY-E.dwg
MNR-AA-BLE-ZZ-DR-A-(4500_4503)-R3.dwg
MNR-AA-BE1-(GF_05)-DR-A-2601-R6 .dwg

Key: Existing Buildings
Proposed Scheme

All Heights in mm AOD

Project: Homebase
Richmond

Title: 3D View
Existing Buildings

Scheme Confirmed:	Date:	Drawn By:	Scale:	Date:	Dwg No:	Rel:
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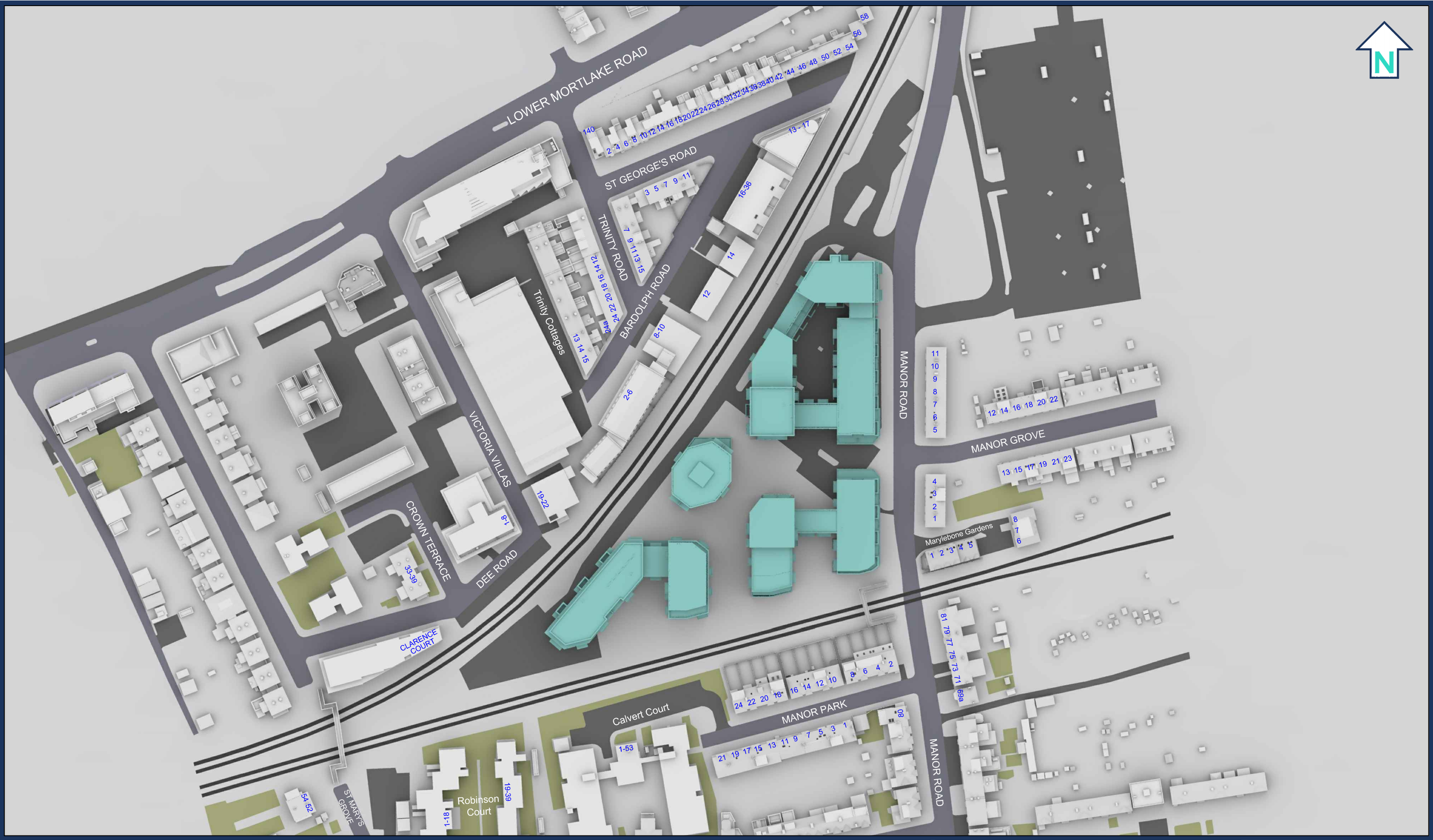


Sources: Point 2 Surveyors
Survey Info
Point Cloud Data

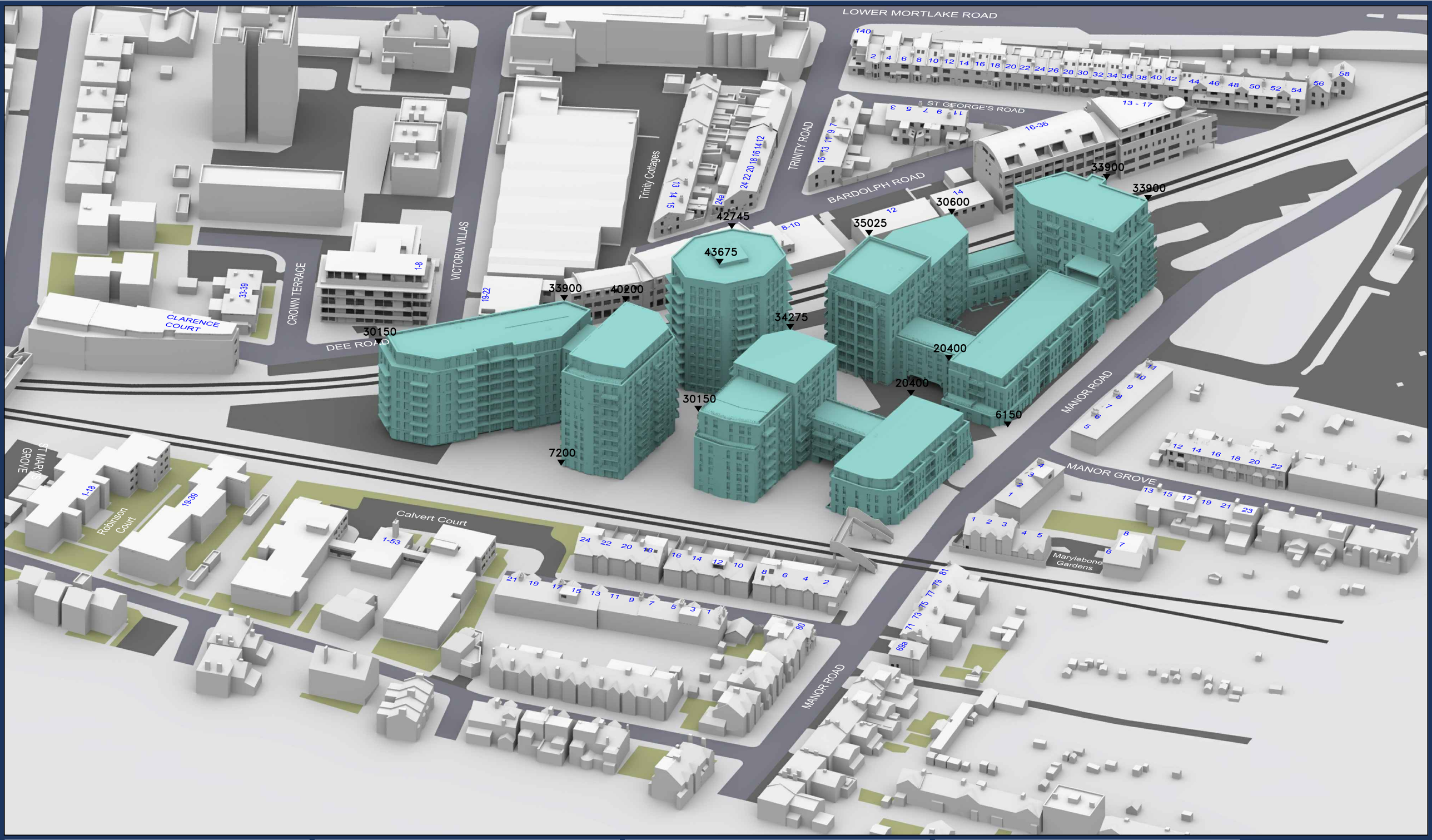
Assael Architecture Limited
3D Models (received 08/07/20)
New Model.fbx

Key: Existing Buildings
Proposed Scheme

Project: Homebase
Richmond

Title: Plan View
Proposed Scheme Dated 08/07/20

Scheme Confirmed:	Date:	Drawn By:	Scale:	Date:	Dwg No:	Rel:
Assael Architecture Limited	10/07/20	JR	1:1500 @ A3	July 20	P1685/31	13



Sources: Point 2 Surveyors
Survey Info
Point Cloud Data

Assael Architecture Limited
3D Models (received 08/07/20)
New Model.fbx

Key: Existing Buildings
Proposed Scheme

All Heights in mm AOD

Project: Homebase
Richmond

Title: 3D View
Proposed Scheme Dated 08/07/20

Scheme Confirmed:	Date:	Drawn By:	Scale:	Date:	Dwg No:	Rel:
Assael Architecture Limited	10/07/20	JR	NTS @ A3	July 20	P1685/32	13