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Churchview Road,

Twickenham

Daylight and Sunlight Report

Overshadowing

• Daylight & Sunlight • Light Pollution •

Solar Glare • Daylight Design

Director:	Liam Dunford
Client:	C/O Metropolis
Date:	June 2017
Version:	V2
Project:	P1187

Contents

Appendices

1 Introduction

1.1 This reports relates to the Dickson Architects Proposed Scheme for the redevelopment of Churchview Road, Twickenham insofar as it affects the daylight and sunlight amenity to the surrounding residential properties. The report will also comment upon the potential overshadowing to the gardens of Campbell Close.

2 Planning Overview

2.1 Through the planning process the local authority will wish to be reassured that the construction of the new scheme will not materially harm the neighbours' daylight and sunlight beyond BRE and British Standard Guidance.

2.2 The Local Authority will be informed in this by the BRE document entitled *Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice 2011* (the BRE guidelines). This document is the principal guidance in this area and sets out the methodology for measuring light and recommends what it considers to be permitted or unobtrusive levels of change.

2.3 The BRE guidelines are not mandatory, though local planning authorities and planning inspectors will consider the suitability of a proposed scheme for a site within the context of BRE guidance. Consideration will be given to the urban context within which a scheme is located and the daylight and sunlight will be one of a number of planning considerations which the local authority will weigh.

3 Methodology

3.1 To quantify the effects of the Proposed Scheme we have constructed a three dimensional computer model of the site and relevant neighbouring properties. We have then undertaken technical analysis to measure the light received by neighbouring properties both before and after the Proposed Scheme is constructed.

Daylight

3.2 In accordance with the BRE Guidelines, only residential properties are considered for daylight levels. Living rooms, kitchens and bedrooms are the primary focus of the guideline recommendations.

3.3 The initial test proposed by the BRE Guidelines is to establish if the proposed massing subtends above a 25° section line drawn from the centre of the window/room in question. If the angle is breached, it is necessary to undertake more detailed technical calculations such as Vertical Sky Component (VSC) and No Sky Line (NSL).

3.4 The Vertical Sky Component (VSC) analysis assesses the amount of sky visibility at the centre of the outside of a window face. The No Sky Line (NSL) analysis assesses the extent of the area of a room which can benefit from sky visibility at working plane height (850mm). These measurements are taken both before and after the construction of the proposed development.

3.5 The BRE Guidelines permit a reduction of up to 20% of the existing VSC values in situations where the retained VSC value falls below 27%, which is the BRE recommended VSC level for adequate daylight amenity in a suburban environment. The 20% maximum recommended

reduction is based upon the BRE stating that a change up to this extent would remain unnoticeable. The 20% reduction recommendation is also applicable to the NSL values.

Sunlight

3.6 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 Annual Probable Sunlight Hours would amount to 1486 hours and therefore each spot equates to 14.86 hours of the total annual sunlight hours.

3.7 British Standard 8206 part 2 (section 5.3) states that:

"Interiors in which the occupants have a reasonable expectation of direct sunlight should receive at least 25% of probable sunlight hours. At least 5% of probable sunlight hours should be received during the winter months, between 21 September and 21 March. Sunlight is taken to enter an interior when it reaches one or more window reference points."

3.8 When a room has multiple windows, not all may be located southwards and, therefore, they may not meet the target criteria. However, these windows may contribute to the levels of sunlight within the room even if by 1-2% APSH. On this basis the analysis results within this report are presented on a room basis. This is calculated by giving a unique reference to each of the sun spots and totalling the number of unique spots the windows within a room receive for the year and during the winter period. If two windows can see the same sun spot, then this will be counted as one to avoid double counting.

3.9 Only residential properties that face within 90º of due south are taken into account for sunlight analysis, the BRE Guidelines considers that sunlight to main living room windows as the most important.

3.10 For existing residential properties, the BRE Guidelines state in Section 3.2.3 that:

"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."

4 Sources of Information

Point 2 Surveyors	-	Site Photos
MK Surveys	-	Topographical Survey and Elevations (received 23/11/16) 23767 R2 – Topographical Survey.dwg 23767 Elevations.dwg
Dickson Architects	-	Proposed Info (received 18/05/17) 2017.05.17_128-(01)600 Proposed GA Plans.dwg 2017.05.17_128-(01)900 Proposed Site Plan.dwg

5 Standard Survey Limitations

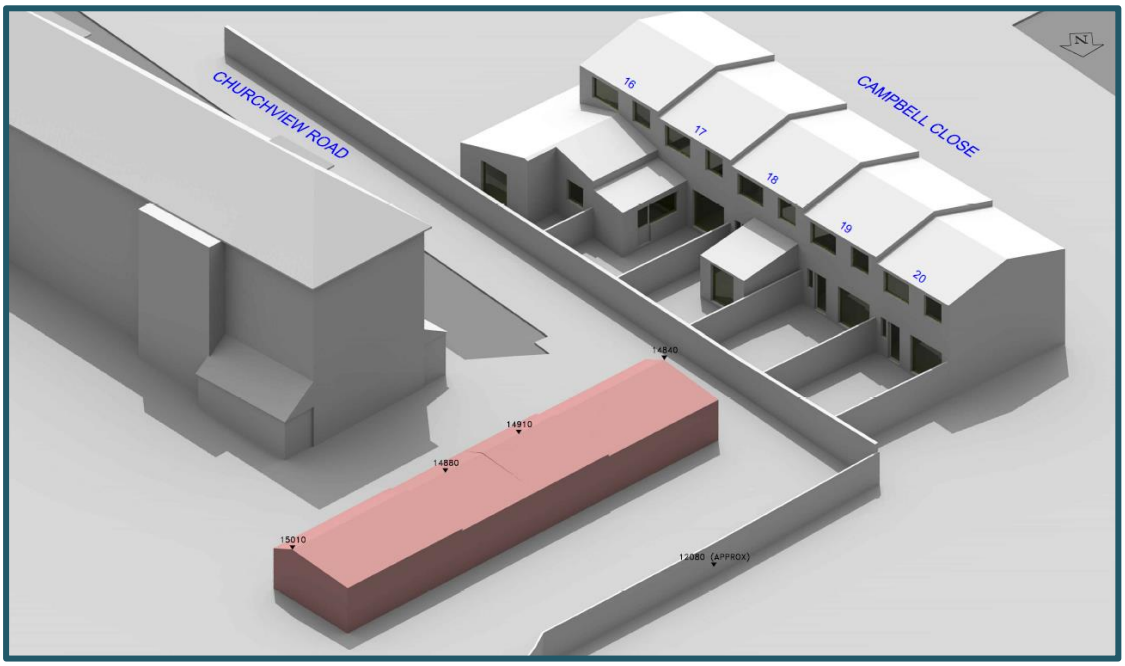
Although we have undertaken as detailed an inspection as possible, we are required by our professional indemnity insurers to notify you that our report is based upon the Standard Terms and Conditions provided along with our fee proposal. Our understanding of the existing massing, including the surrounding context was established from a site visit and aerial photography.

In addition to our standard limitations the following limitations and assumptions also apply.

- Best estimates were made in establishing building use (residential or commercial) and room uses; generally, these were made from external observations and recourse to planning records where available.
- When floor plans of surrounding properties were not available, room depths have been assumed from external observations. Where no indicators of room depth were available a standard of 4m, 6m or 8m depths have been used.
- In accordance with BRE Guidelines[1] balconies, where present have been removed from calculations.

6 The Site

6.1 The site is located in the London Borough of Richmond Upon Thames.

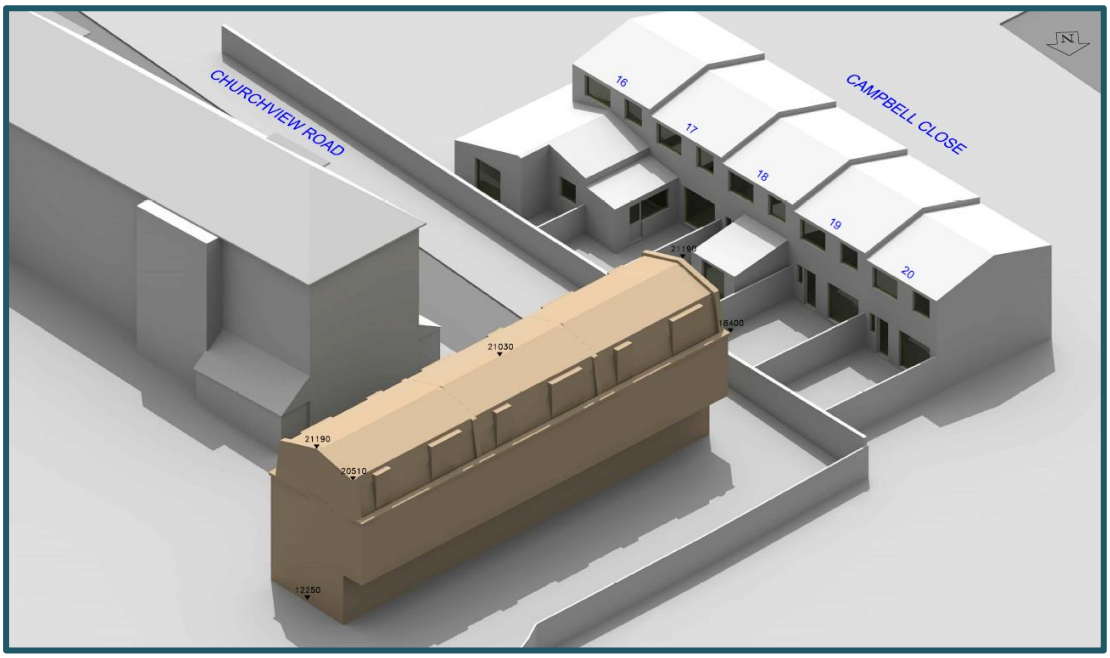


Drawing Number: P1179/07 3D View Existing Buildings

6.2 Our understanding of the site location and existing building that occupies the site can be seen within drawings P1179/05-07 and can be found within Appendix A.

[1] BRE Guideline 209 Site Layout & Planning A Guide to Good Practice (2011) Paragraph 2.2.11

7 The Proposed Scheme



Drawing Number: P1179/10 3D View Proposed Scheme 18/05/17

7.1 Our understanding of the proposed scheme is illustrated in drawing P1179/08-10 located within Appendix A.

8 The Surrounding Properties

8.1 The following surrounding properties contain residential accommodation and, due to their proximity to the development site, have been assessed in terms of the effects of the proposed development upon their daylight and sunlight amenity:

- 20 Campbell Close
- 19 Campbell Close
- 18 Campbell Close
- 17 Campbell Close
- 16 Campbell Close

8.2 The location of these properties can be seen in the drawings within Appendix A.

8.3 Detailed results for each window/room assessed can be found in Appendix B and are summarised below.

20 Campbell Close

8.4 Located to the south west of the development site this property appears, from external observation and review of the local council tax registry, to contain residential accommodation.

Daylight

8.5 There are 5 windows serving 4 site facing rooms. All windows and associated rooms experience fully BRE compliant alterations in both VSC and NSL; the greatest alteration in VSC being 13.62%.

8.6 BRE guidance concludes that reductions up to 20% will be unnoticeable.

Sunlight

8.7 All rooms with site facing windows are not orientated within 90 degrees due south and in accordance with BRE guidance are not material for assessment in terms of sunlight amenity.

19 Campbell Close

8.8 Located to the south west of the development site this property appears, from external observation and review of the local council tax registry, to contain residential accommodation.

Daylight

8.9 There are 5 windows serving 4 site facing rooms. All windows and associated rooms experience fully BRE compliant alterations in both VSC and NSL; the greatest alteration in VSC being 16.27%.

8.10 BRE guidance concludes that reductions up to 20% will be unnoticeable.

Sunlight

8.11 All rooms with site facing windows are not orientated within 90 degrees due south and in accordance with BRE guidance are not material for assessment in terms of sunlight amenity.

18 Campbell Close

8.12 Located to the south west of the development site this property appears, from external observation and review of the local council tax registry, to contain residential accommodation.

Daylight

8.13 There are 5 windows serving 4 site facing rooms. All windows and associated rooms experience fully BRE compliant alterations in both VSC and NSL; the greatest alteration in VSC being 17.39%.

8.14 BRE guidance concludes that reductions up to 20% will be unnoticeable.

Sunlight

8.15 All rooms with site facing windows are not orientated within 90 degrees due south and in accordance with BRE guidance are not material for assessment in terms of sunlight amenity.

17 Campbell Close

8.16 Located to the south west of the development site this property appears, from external observation and review of the local council tax registry, to contain residential accommodation.

Daylight

8.17 There are 5 windows serving 4 site facing rooms. All windows and associated rooms experience fully BRE compliant alterations in both VSC and NSL; the greatest alteration in VSC being 9.99%.

8.18 BRE guidance concludes that reductions up to 20% will be unnoticeable.

Sunlight

8.19 All rooms with site facing windows are not orientated within 90 degrees due south and in accordance with BRE guidance are not material for assessment in terms of sunlight amenity.

16 Campbell Close

8.20 Located to the south west of the development site this property appears, from external observation and review of the local council tax registry, to contain residential accommodation.

Daylight

8.21 There are 5 windows serving 4 site facing rooms. All windows and associated rooms experience fully BRE compliant alterations in both VSC and NSL; the greatest alteration in VSC being 9.91%.

8.22 BRE guidance concludes that reductions up to 20% will be unnoticeable.

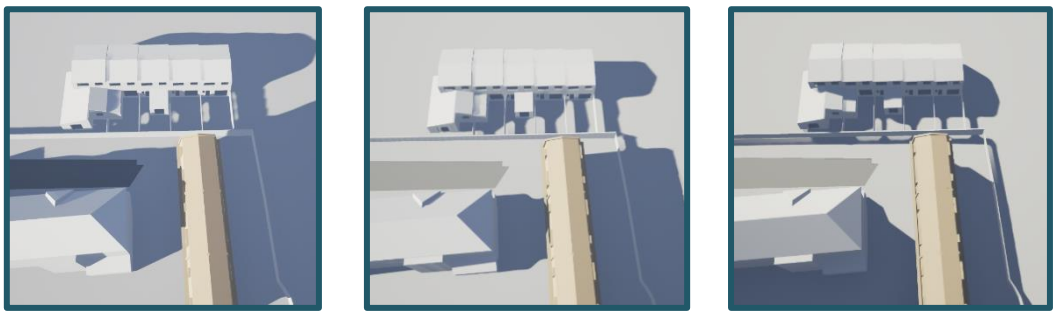
Sunlight

8.23 All rooms with site facing windows are not orientated within 90 degrees due south and in accordance with BRE guidance are not material for assessment in terms of sunlight amenity.

9 Potential Overshadowing to Campbell Close Gardens

9.1 The Campbell Close gardens are located to the south-west of the development site, meaning the obstruction posed by the Churchview Road scheme will naturally not contribute to any further overshadowing as the shadow will be driven in a northerly direction owing to the path of the sun travelling east to west on a southern axis.

9.2 Below is a selection of images taken at 8:30am, 9:30am and 12noon demonstrating that the proposed scheme will cause no additional overshadowing. These images are taken on the 21st March (the Spring Equinox) which is the recommended date for assessment as per BRE Guidance (BRE Guide, paragraph 3.3.17).



8:30am 9:30am 12noon

Drawing Extracts 01, 02 and 03 – 21st March Overshadow

9.3 The above drawing extracts demonstrate the scheme will be fully compliant with BRE Guidance in relation to potential overshadowing.

10 Conclusion

Daylight to Surrounding Residential Properties

10.1 Full technical analysis indicates that all residential properties experience alterations in VSC and NSL well-within keeping of the BRE recommendations and, in accordance with the BRE Guide, the occupants will not notice a change in their existing levels of daylight.

10.2 The proposed scheme demonstrates full compliance with BRE Guidance in terms of daylight amenity.

Sunlight to Surrounding Residential Properties

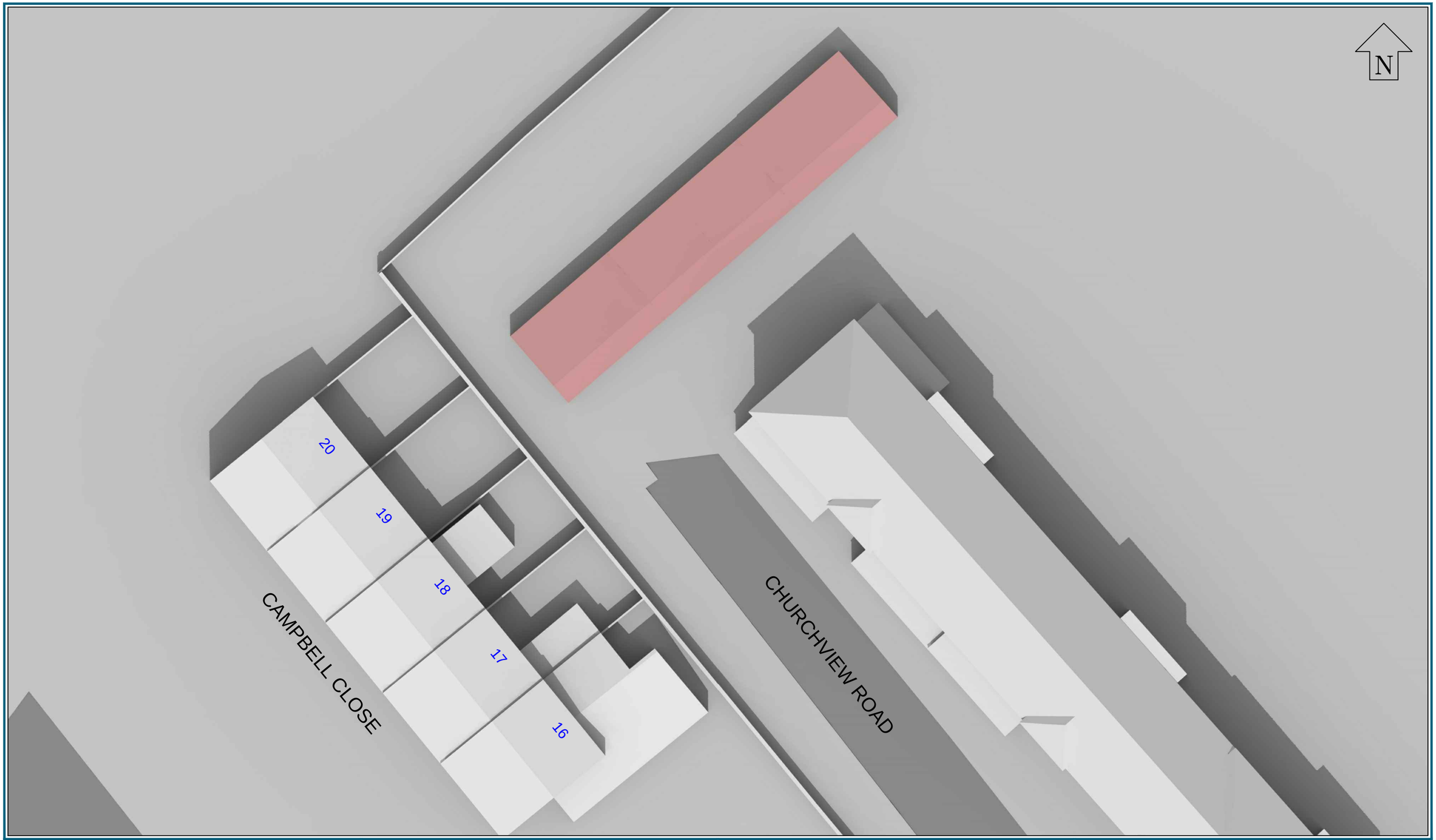
10.3 Full technical analysis indicates that all site facing rooms are orientated due north and not material for assessment in accordance with BRE Guidance.

10.4 In terms of overshadowing, the shadow driven by the scheme will be to the north and away from the gardens at Campbell Close. The scheme will not contribute to any additional overshadow to these gardens on the BRE recommended assessment date (21st March).

10.5 The proposed scheme demonstrates full compliance with BRE guidance in terms of sunlight amenity.

We fully support this planning application in terms of daylight and sunlight amenity.

Appendix A – Drawings



Sources: MK Surveys
Topographical Survey and Elevations (received 18/05/17)
23767_R2 - Topographical Survey.dwg
23767 Elevations.dwg

Dickson Architects
Proposed Info (received 18/05/17)
2017.05.17_ 128-(01)600 Proposed GA Plans.dwg
2017.05.17_128-(01)900 Proposed Site Plan.dwg

Key: Existing Buildings
Proposed Scheme

Project: Churchview Road
Twickenham
London

Title: Plan View
Existing Buildings

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Scheme Confirmed: - Date : -

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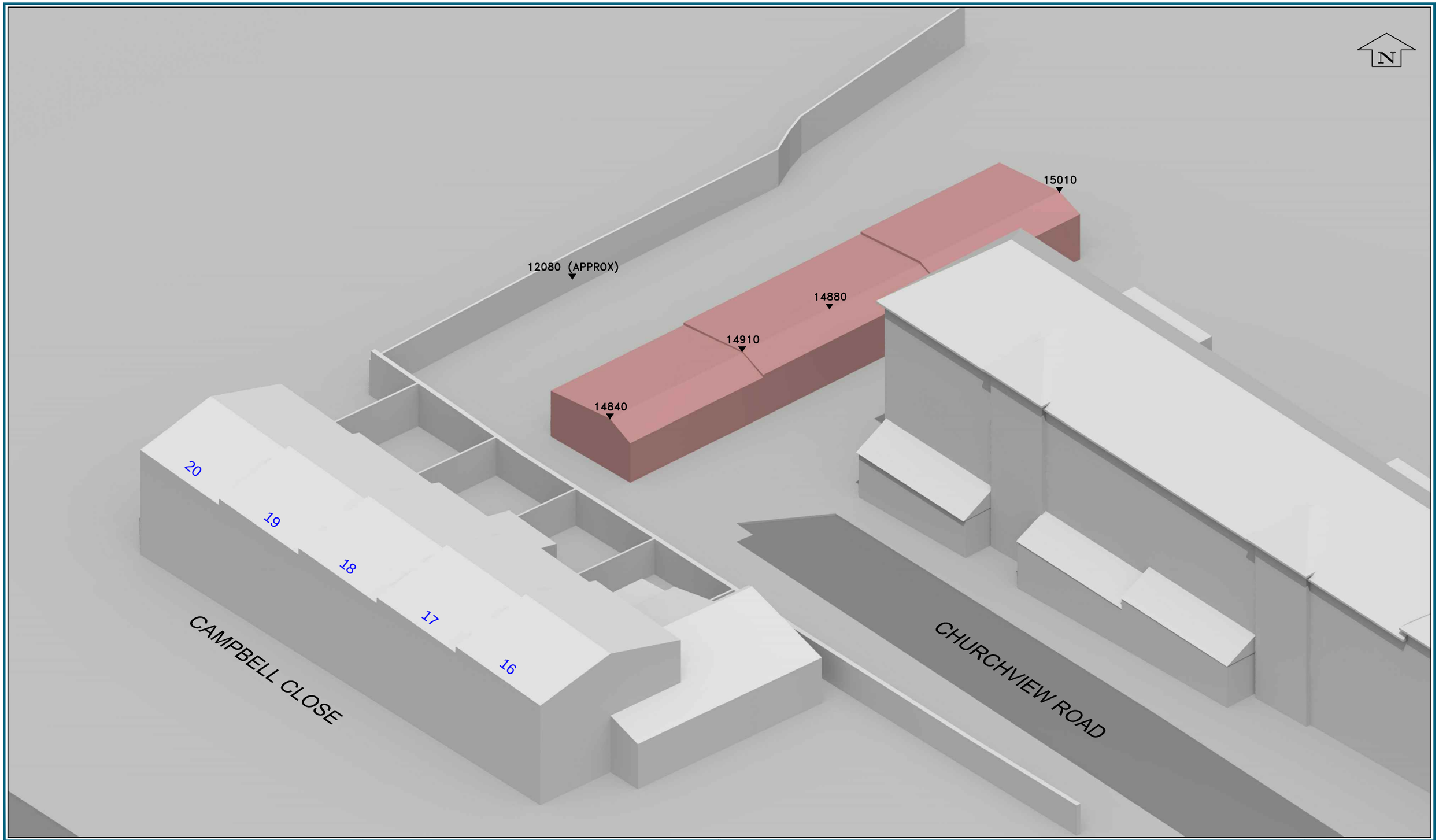

Sources: MK Surveys
Topographical Survey and Elevations (received 18/05/17)
23767_R2 - Topographical Survey.dwg
23767 Elevations.dwg

Dickson Architects
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2017.05.17_128-(01)900 Proposed Site Plan.dwg

Key: Existing Buildings
Proposed Scheme
All Heights in mm AOD

Project: Churchview Road
Twickenham
London

Title: 3D View
Existing Buildings

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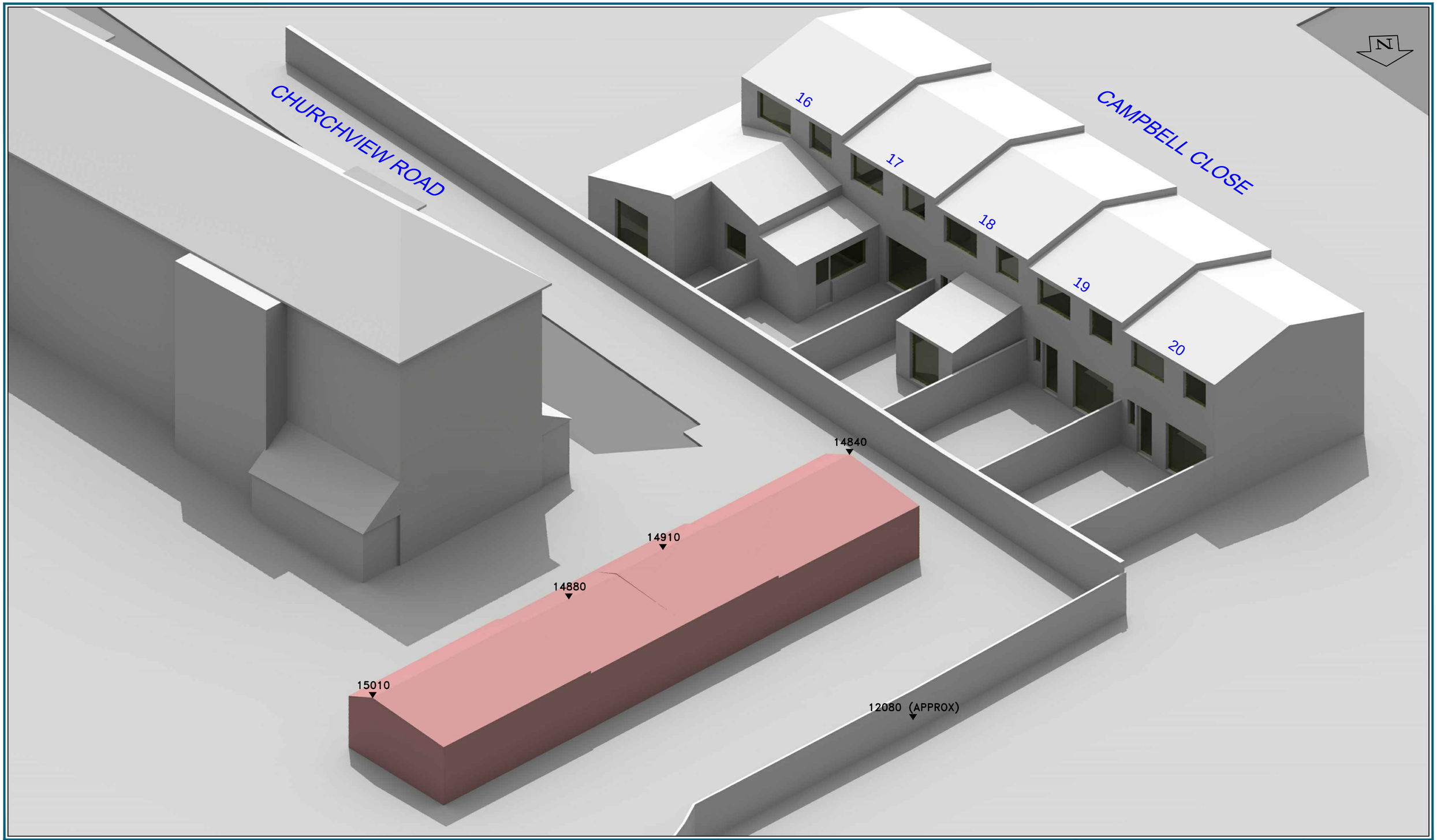
Drawn By: SDJ | Scale: NTS | Date: Nov 16

Dwg No: **P1179/06** | Rel: 02



Sources: MK Surveys
Topographical Survey and Elevations (received 18/05/17)
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23767 Elevations.dwg

Dickson Architects
Proposed Info (received 18/05/17)
2017.05.17_ 128-(01)600 Proposed GA Plans.dwg
2017.05.17_128-(01)900 Proposed Site Plan.dwg

Key: Existing Buildings
Proposed Scheme
All Heights in mm AOD

Project: Churchview Road
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London

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Drawn By: SDJ | Scale: NTS | Date: Nov 16

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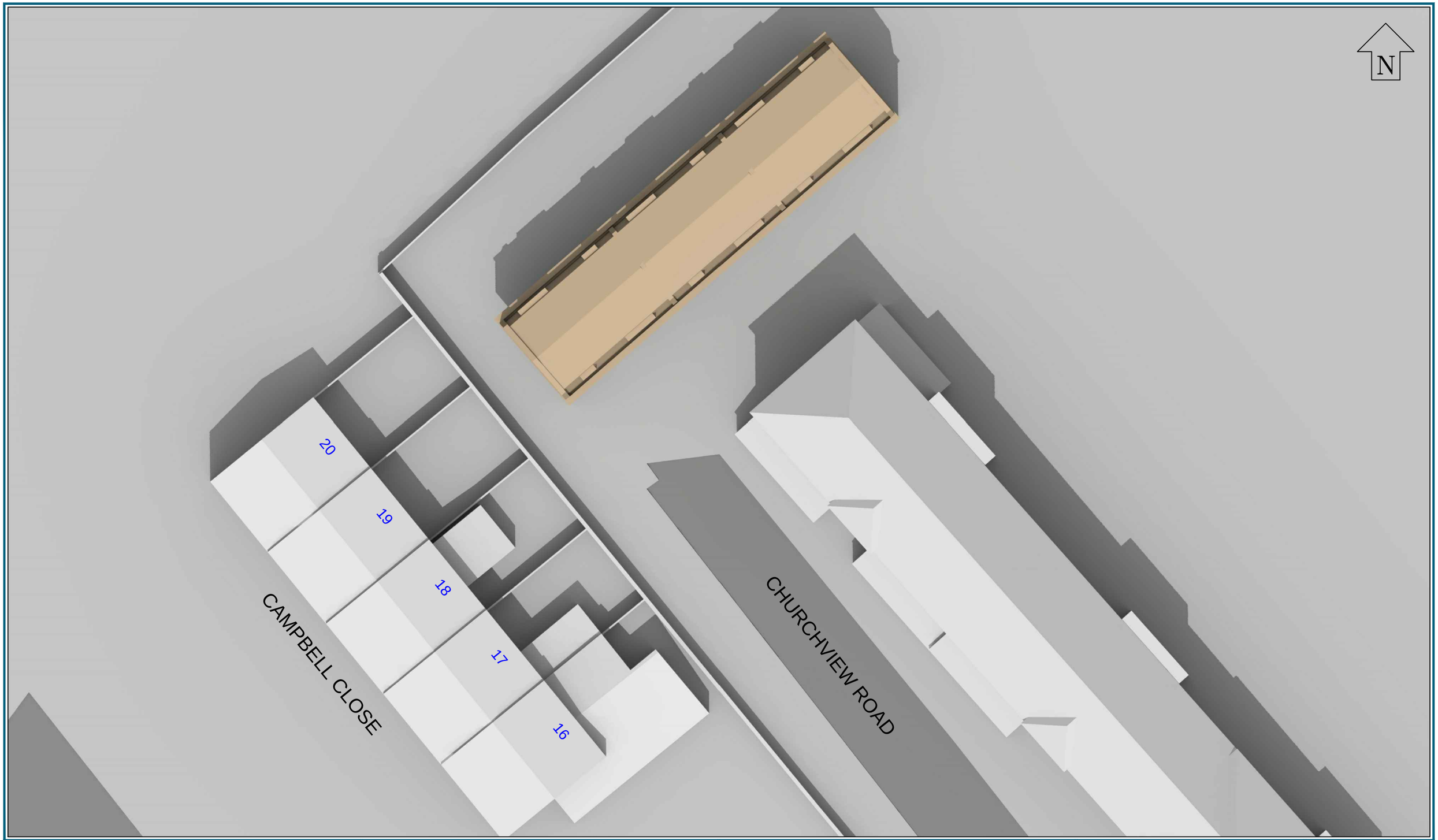

Sources: MK Surveys
Topographical Survey and Elevations (received 18/05/17)
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23767 Elevations.dwg

Dickson Architects
Proposed Info (received 18/05/17)
2017.05.17_ 128-(01)600 Proposed GA Plans.dwg
2017.05.17_128-(01)900 Proposed Site Plan.dwg

Key: Existing Buildings
Proposed Scheme

Project: Churchview Road
Twickenham
London

Title: Plan View
Proposed Scheme 18/05/17

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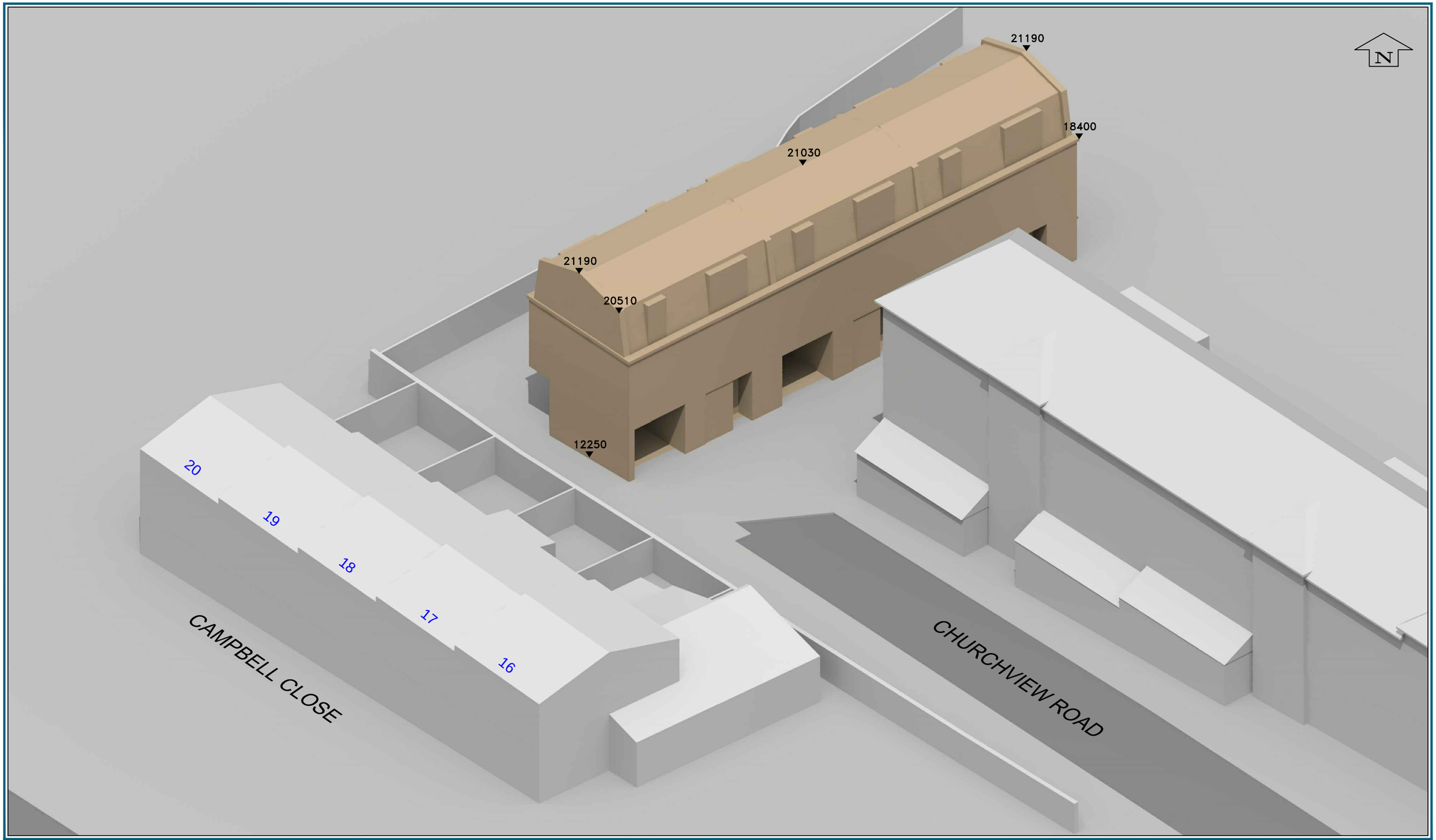

Sources: MK Surveys
Topographical Survey and Elevations (received 18/05/17)
23767_R2 - Topographical Survey.dwg
23767 Elevations.dwg

Dickson Architects
Proposed Info (received 18/05/17)
2017.05.17_ 128-(01)600 Proposed GA Plans.dwg
2017.05.17_128-(01)900 Proposed Site Plan.dwg

Key: Existing Buildings
Proposed Scheme
All Heights in mm AOD

Project: Churchview Road
Twickenham
London

Title: 3D View
Proposed Scheme 18/05/17

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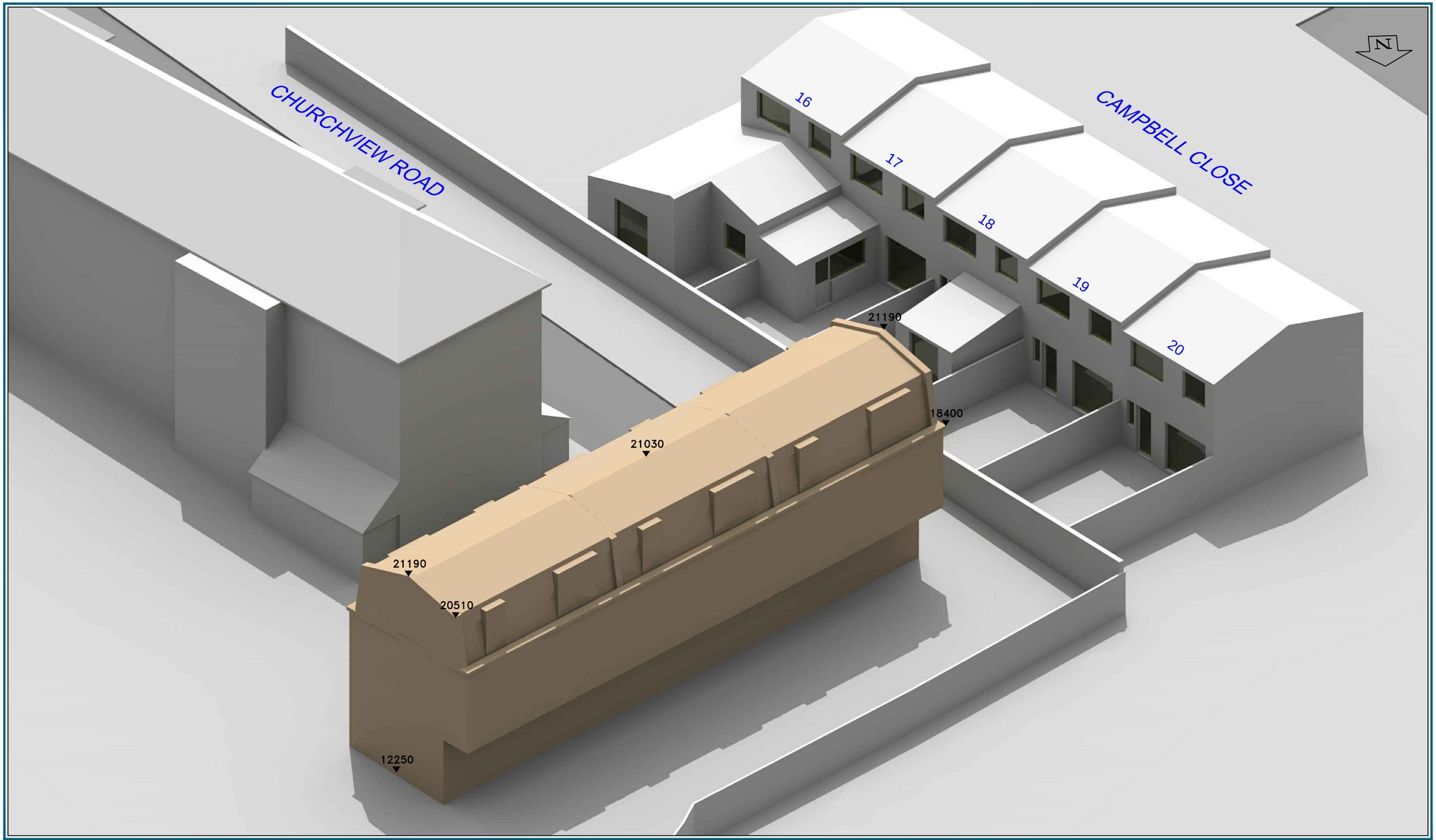

Sources: MK Surveys
Topographical Survey and Elevations (received 18/05/17)
23767_R2 - Topographical Survey.dwg
23767 Elevations.dwg

Dickson Architects
Proposed Info (received 18/05/17)
2017.05.17_ 128-(01)600 Proposed GA Plans.dwg
2017.05.17_128-(01)900 Proposed Site Plan.dwg

Key: Existing Buildings
Proposed Scheme
All Heights in mm AOD

Project: Churchview Road
Twickenham
London

Title: 3D View
Proposed Scheme 18/05/17

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Scheme Confirmed: - Date : -

Drawn By: SDJ | Scale: NTS | Date: Nov 16

Dwg No: **P1179/10** | Rel: 02

Appendix B – Technical Analysis

CHURCHVIEW ROAD
TWICKENHAM
LONDON

DAYLIGHT ANALYSIS
EXISTING vs PROPOSED SCHEME 18/05/17

JUN 2017

Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXISTING ADF	EXISTING TOTAL	PROPOSED ADF	PROPOSED TOTAL	TOTAL LOSS	%LOSS ADF
16 CAMPBELL CLOSE							**16 CAMPBELL CLOSE**								
R1/10		W1/10	24.17	23.59	0.58	2.40	**R1/10**		W1/10	1.45	1.45	1.39	1.39	0.05	3.66
R2/10		W2/10	24.41	21.99	2.42	9.91	**R2/10**		W2/10	1.04	1.04	0.96	0.96	0.07	7.04
R1/11	BEDROOM	W1/11	33.52	32.61	0.91	2.71	**R1/11**	BEDROOM	W1/11	1.72	1.72	1.68	1.68	0.04	2.32
R2/11	BATHROOM	W2/11	34.11	33.04	1.07	3.14	**R2/11**	BATHROOM	W2/11	1.86	1.86	1.80	1.80	0.05	2.80
17 CAMPBELL CLOSE							**17 CAMPBELL CLOSE**								
R1/20		W1/20	29.94	26.95	2.99	9.99	**R1/20**		W1/20	0.70		0.65			
R1/20		W2/20	25.18	22.68	2.50	9.93	**R1/20**		W2/20	1.94	2.63	1.79	2.44	0.20	7.40
R2/20	DINING	W3/20	27.17	25.14	2.03	7.47	**R2/20**	DINING	W3/20	2.64	2.64	2.48	2.48	0.15	5.77
R1/21	BEDROOM	W1/21	34.52	33.14	1.38	4.00	**R1/21**	BEDROOM	W1/21	1.71	1.71	1.65	1.65	0.06	3.51
R2/21	BATHROOM	W2/21	35.22	33.56	1.66	4.71	**R2/21**	BATHROOM	W2/21	1.94	1.94	1.86	1.86	0.08	4.18
18 CAMPBELL CLOSE							**18 CAMPBELL CLOSE**								
R1/30	KITCHEN	W1/30	26.35	25.44	0.91	3.45	**R1/30**	KITCHEN	W1/30	0.31		0.30			
R1/30	KITCHEN	W2/30	17.31	17.31	0.00	0.00	**R1/30**	KITCHEN	W2/30	0.73	1.04	0.73	1.03	0.01	0.87
R2/30		W3/30	30.70	25.36	5.34	17.39	**R2/30**		W3/30	2.70	2.70	2.33	2.33	0.37	13.76
R1/31	BEDROOM	W1/31	35.70	33.55	2.15	6.02	**R1/31**	BEDROOM	W1/31	1.80	1.80	1.70	1.70	0.10	5.29
R2/31	BATHROOM	W2/31	36.34	33.88	2.46	6.77	**R2/31**	BATHROOM	W2/31	2.06	2.06	1.93	1.93	0.13	6.08
19 CAMPBELL CLOSE							**19 CAMPBELL CLOSE**								
R1/40	KITCHEN	W1/40	28.39	24.03	4.36	15.36	**R1/40**	KITCHEN	W1/40	0.32		0.27			
R1/40	KITCHEN	W2/40	29.21	24.64	4.57	15.65	**R1/40**	KITCHEN	W2/40	1.01	1.33	0.89	1.16	0.18	13.13
R2/40	DINING	W3/40	31.54	26.41	5.13	16.27	**R2/40**	DINING	W3/40	2.92	2.92	2.56	2.56	0.35	12.08

CHURCHVIEW ROAD
TWICKENHAM
LONDON

DAYLIGHT ANALYSIS
EXISTING vs PROPOSED SCHEME 18/05/17

JUN 2017

Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXISTING ADF	EXISTING TOTAL	PROPOSED ADF	PROPOSED TOTAL	TOTAL LOSS	%LOSS ADF
R1/41	BEDROOM	W1/41	36.71	33.65	3.06	8.34	**R1/41**	BEDROOM	W1/41	1.78	1.78	1.65	1.65	0.13	7.32
R2/41	BATHROOM	W2/41	37.19	33.80	3.39	9.12	**R2/41**	BATHROOM	W2/41	2.09	2.09	1.92	1.92	0.17	8.08
20 CAMPBELL CLOSE							**20 CAMPBELL CLOSE**								
R1/50	KITCHEN	W1/50	32.97	28.51	4.46	13.53	**R1/50**	KITCHEN	W1/50	0.34		0.29			
R1/50	KITCHEN	W2/50	31.56	27.26	4.30	13.62	**R1/50**	KITCHEN	W2/50	1.05	1.40	0.94	1.23	0.17	12.18
R2/50	DINING	W3/50	31.46	27.49	3.97	12.62	**R2/50**	DINING	W3/50	2.96	2.96	2.67	2.67	0.29	9.76
R1/51	BEDROOM	W1/51	37.53	34.31	3.22	8.58	**R1/51**	BEDROOM	W1/51	1.87	1.87	1.73	1.73	0.14	7.70
R2/51	BATHROOM	W2/51	37.87	35.22	2.65	7.00	**R2/51**	BATHROOM	W2/51	2.14	2.14	2.00	2.00	0.14	6.41

Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
16 CAMPBELL CLOSE						
R1/10		188.2	101.6	101.6	0.0	0.0
R2/10		97.2	67.1	67.1	0.0	0.0
R1/11	BEDROOM	132.0	127.7	127.7	0.0	0.0
R2/11	BATHROOM	59.0	57.2	57.2	0.0	0.0
17 CAMPBELL CLOSE						
R1/20		75.8	73.7	73.7	0.0	0.0
R2/20	DINING	128.7	126.3	126.3	0.0	0.0
R1/21	BEDROOM	132.0	127.7	127.7	0.0	0.0
R2/21	BATHROOM	55.0	53.3	53.3	0.0	0.0
18 CAMPBELL CLOSE						
R1/30	KITCHEN	83.9	80.5	80.5	0.0	0.0
R2/30		86.1	85.5	85.5	0.0	0.0
R1/31	BEDROOM	132.0	127.7	127.7	0.0	0.0
R2/31	BATHROOM	54.4	52.7	52.7	0.0	0.0
19 CAMPBELL CLOSE						
R1/40	KITCHEN	83.9	82.7	82.6	0.1	0.1
R2/40	DINING	131.9	131.8	131.8	0.0	0.0
R1/41	BEDROOM	135.9	131.6	131.6	0.0	0.0
R2/41	BATHROOM	54.4	52.7	52.7	0.0	0.0
20 CAMPBELL CLOSE						
R1/50	KITCHEN	83.9	82.7	79.4	3.3	4.0
R2/50	DINING	127.9	125.7	125.7	0.0	0.0
R1/51	BEDROOM	132.0	127.7	127.7	0.0	0.0
R2/51	BATHROOM	54.4	50.7	50.7	0.0	0.0