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THE GOOD MIXER PUBLIC HOUSE,
30 INVERNESS STREET, CAMDEN

Daylight and Sunlight Report

Overshadowing

• *Daylight & Sunlight* • *Light Pollution* •

Solar Glare • *Daylight Design*

DIRECTOR: LIAM DUNFORD
CLIENT: MAX BARNEY
DATE: JULY 2018
VERSION: V1
PROJECT: P1649

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1 **Introduction**

- 1.1 This report relates to the Studio Kyson Architects' proposed scheme received 26 June 2018 for the redevelopment of The Good Mixer public house, 30 Inverness Street, insofar as it affects the daylight and sunlight amenity to the surrounding residential properties.
- 1.2 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.
- 1.3 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.

2 **Methodology**

- 2.1 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'.
- 2.2 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.
- 2.3 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.
- 2.4 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).
- 2.5 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.
- 2.6 These measures of daylight and sunlight are discussed in the following paragraphs -



Diffuse Daylight

- 2.7 **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.
- 2.8 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.
- 2.9 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.
- 2.10 **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.
- 2.11 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%).
- 2.12 **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.
- 2.13 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.
- 2.14 While the ADF can be calculated from first principles using a lighting simulation software suite such as Radiance, in simple situations it can be approximated using the empirical formula detailed in both British Standard 8206 Part 2:2008 and Appendix C of the BRE Report.
- 2.15 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.
- 2.16 With regard to the combined Living/Kitchen/Dining Rooms (LKDs), strictly the presence of a kitchen means that the target ADF value is 2%. However, as is common in modern residential developments, the kitchen areas are located to the rear of these spaces, furthest from the windows. As such they will receive lower levels of daylight and the ADF target of 1.5% for a living room, which is the principal use, is considered appropriate for these combined spaces

Sunlight

- 2.17 **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.



- 2.18 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%).
- 2.19 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’.
- 2.20 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.

3 Sources of Information

Point 2 Surveyors	Site Photos & 3D laser scan survey
Z-Mapping Ltd	3D CAD model
Studio Kyson Architects	Proposed plans and elevations (26/06/2018)
Camden Planning Portal	Plans and elevations - 194-198 Arlington Road

4 Standard Survey Limitations

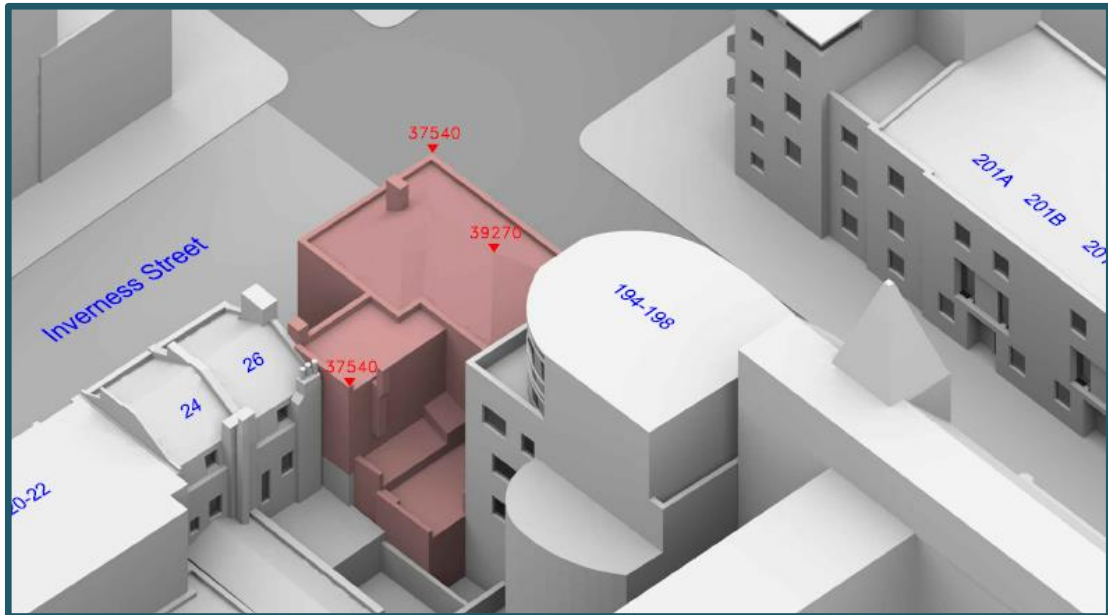
- 4.1 Although we have undertaken as detailed an inspection as possible, we are required by our professional indemnity insurers to notify you that our report is based upon the Standard Terms and Conditions provided along with our fee proposal. Our understanding of the existing massing, including the surrounding context was established from the sources of information details within Section 3.
- 4.2 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 Guidelines¹ balconies, where present have been removed from calculations.

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



5 The Site

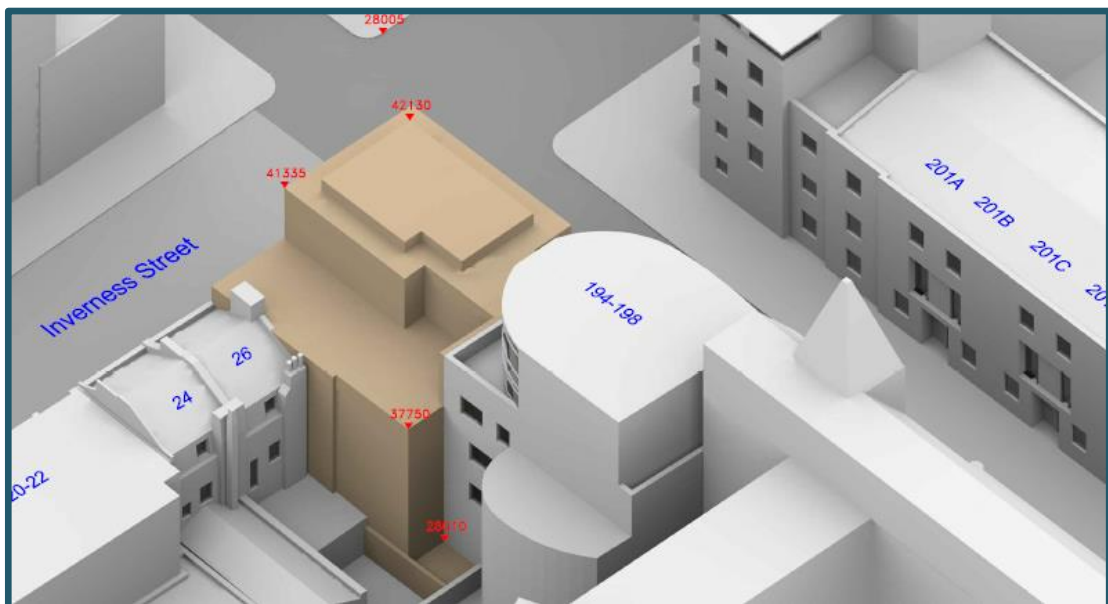
The site is located on Inverness Street, Camden.



Drawing Reference: P1649/03 – 3D View – Existing Building

- 5.1 Our understanding of the site location and existing buildings that occupy the site are illustrated in drawing numbers P1649/01-03 and located within Appendix A.

6 The Proposed Scheme



Drawing Reference: P1649/18 – 3D View – Proposed Scheme

- 6.1 Our understanding of the proposed scheme is illustrated in drawings P1649/19-21 located within Appendix A.



7 The Surrounding Properties

7.1 The following surrounding properties contain residential accommodation. Due to their proximity to the development site they are assessed as material for evaluation for daylight and sunlight amenity:

- 199 Arlington Road, Camden House
- 194-198 Arlington Street
- 32 Inverness Street
- 24 Inverness Street
- 201A, 201B, 201C & 201D Arlington Street
- 26 Inverness Street

7.2 The locations of these buildings are indicated on the site plan below:



Extract 01 – Site Plan Indicating Residential Receptors

8 Results

199 Arlington Road, Camden House

- 8.1 Located to the south of the site on the south corner of the Inverness Street and Arlington Road junction, this five-storey mixed-use property, with residential accommodation to the second, third and fourth floors, faces towards the development. We have not inspected the internal arrangements of this building; however, we have assumed room depths of 4m. There are 19 windows which we have assumed to serve nine site facing rooms which are material for assessment.

Daylight

- 8.2 All windows and associated rooms experience fully BRE compliant changes in Vertical Sky Component (VSC) and Daylight Distribution (No Sky Line (NSL)) methodologies; the greatest reduction in VSC reduction being 1.83%. BRE Guidance concludes reductions up to 20% will be unnoticeable.

Sunlight

- 8.3 Within this building, none of the windows which face toward the development are orientated within 90 degrees due south and therefore not material for assessment in accordance with BRE Guidance.

32 Inverness Street

- 8.4 Located to the south-west of the site on the west corner of the Inverness Street and Arlington Road junction, this five-storey residential building, which according to the VOA council tax register contains 10 apartments, faces towards the development. We have not inspected the internal arrangements of this building; however, we have assumed room depths of 4m. There are 62 windows which we have assumed to serve 22 site facing rooms which are material for assessment.

Daylight

- 8.5 All windows experience fully BRE compliant changes in VSC; the greatest reduction in VSC being 10.93%, which BRE Guidance concludes will be unnoticeable. Four rooms do experience reductions in NSL, however on balance we deem that as VSC reductions remain unnoticeable, that the reductions will be acceptable.

Sunlight

- 8.6 All rooms with windows orientated within 90 degrees due south experience fully BRE compliant changes in Annual and Winter Sunlight Hours.



201A, 201B, 201C & 201D Arlington Street

- 8.7 Situated to the west of the site facing onto Arlington Road, this row of four three-storey residential terraced houses overlooks the development. We have not inspected the internal arrangements of these buildings; however, we have assumed room depths of 4m. Each property has four windows which we have assumed serve three site facing rooms material for assessment.
- 8.1 All windows and associated rooms experience fully BRE compliant changes in VSC; the greatest reduction in VSC being 9.38% within 201A, 7.14% for 201B, 3.31% for 201C and 1.72% for 201D. BRE Guidance concludes reductions up to 20% will be unnoticeable. Three rooms do experience reductions in NSL, however on balance we deem that as VSC reductions remain unnoticeable, that the reductions will be acceptable.

Sunlight

- 8.2 Within this building, none of the windows which overlook the development are orientated within 90 degrees due south, as a result the rooms remain fully BRE compliant with regards to Annual and Winter Sunlight Hours.

194-198 Arlington Street

- 8.3 Situated to the north-west boundary of the site and facing on to Arlington Road, this six-storey mixed-use but primarily residential apartment block's south-eastern flank wall faces the development; according to the submitted planning documents, commercial property is only present on the basement floor.
- 8.4 We have used the submitted planning documentation for this building to model room depths and heights. There are 41 windows which serve eight site facing rooms material for assessment.

Daylight

- 8.5 All windows and associated rooms experience fully BRE compliant changes in Vertical Sky Component (VSC) and Daylight Distribution (No Sky Line (NSL)) methodologies; the greatest reduction in VSC reduction being 7.61%. BRE Guidance concludes reductions up to 20% will be unnoticeable.

Sunlight

- 8.6 All rooms with windows orientated within 90 degrees due south experience fully BRE compliant changes in Annual and Winter Sunlight Hours.



24 & 26 Inverness Street

Situated to the north-east of the site facing onto Inverness Street, these three-storey mixed-use terraced buildings have commercial property to the ground floor and residential to the first & second floors. We have not inspected the internal arrangements of this building; however, we have assumed room depths of 4m. There are 6 windows which we have assumed to serve three 6 facing rooms which are material for assessment.

Daylight

- 8.7 All windows and associated rooms experience fully BRE compliant changes in VSC and Daylight Distribution (No Sky Line (NSL)) methodologies; the greatest reduction in VSC being 1.82%. BRE Guidance concludes reductions up to 20% will be unnoticeable.

Sunlight

- 8.8 Within this building, none of the windows which overlook the development are orientated within 90 degrees due south, as a result the rooms remain fully BRE compliant with regards to Annual and Winter Sunlight Hours.

9 Conclusion

Daylight and Sunlight to surrounding residential properties

- 9.1 The above report and appended technical analysis identifies that the scheme relates well with the surrounding residential context.
- 9.2 With regards to daylight, all reductions to VSC are well within the 20% suggested by the BRE guidance, therefore there will be no noticeable reduction in daylight.
- 9.3 Similarly, with regards to sunlight, no windows material for assessment experience a reduction in APSH of more than 20% and therefore there will be no noticeable change in sunlight.
- 9.4 We fully support this planning application in terms of daylight and sunlight amenity.



Appendix A – Drawings





Sources: Point 2 Surveyors
3D Laser Scan Survey

Key: — Existing Buildings
— Envelope

Project: The Good Mixer Pub
Camden
London

Title: Plan View
Existing Buildings

Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB
0207 836 5828
www.point2surveyors.com

Scheme Confirmed: -

Date: -

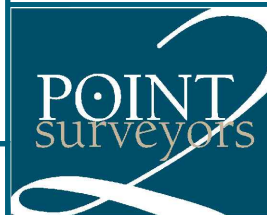
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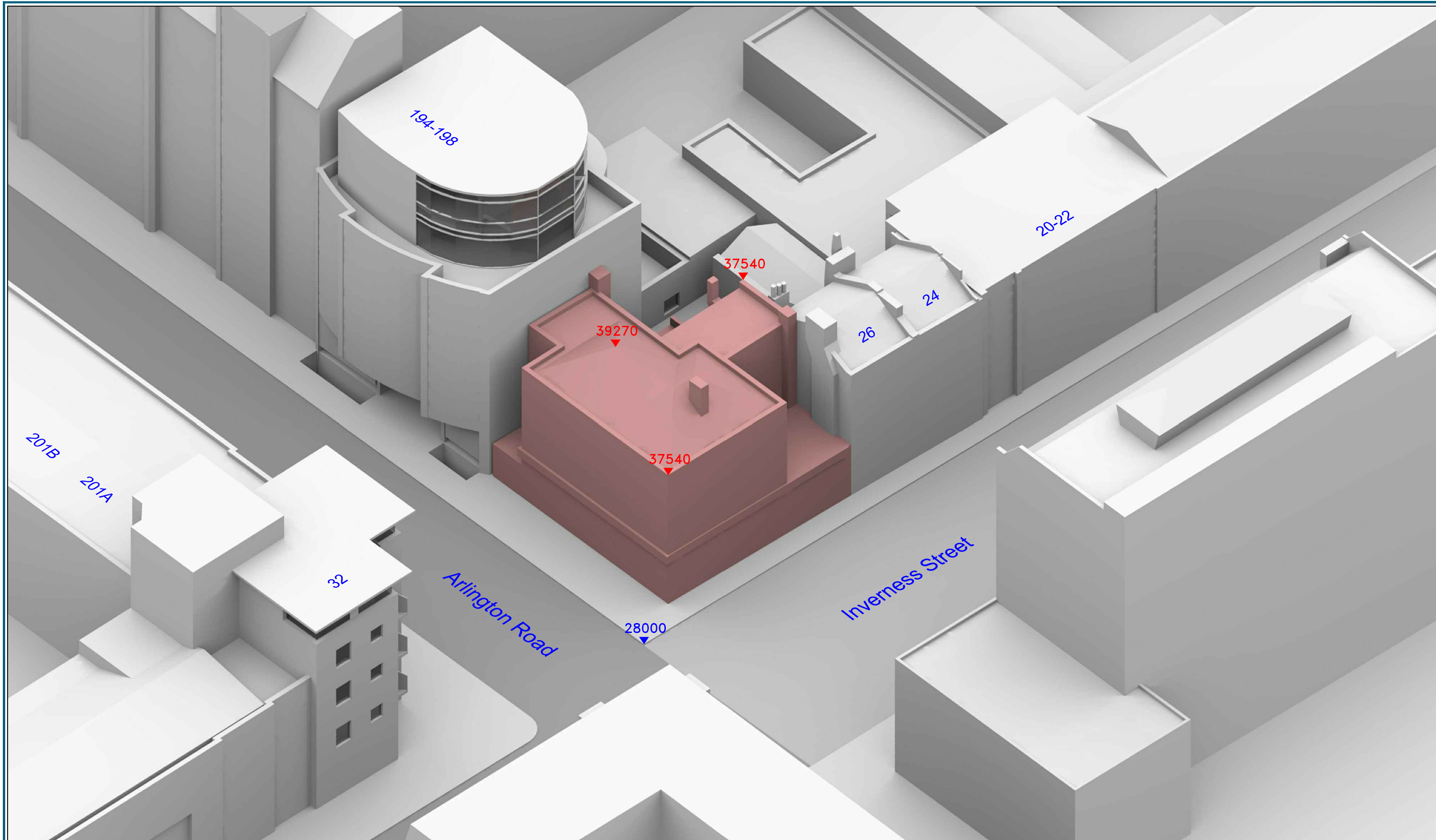
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Date: Jan 18

Dwg No: **P1649/01**

Rel: 01





Sources: Point 2 Surveyors
3D Laser Scan Survey

Key: — Existing Buildings
— Envelope
All Heights in mm AOD

Project: The Good Mixer Pub
Camden
London

Title: 3D View
Existing Buildings

Point 2 Surveyors Ltd,
3rd Floor,
17 Slingsby Place,
London WC2E 9AB
0207 836 5828
www.point2surveyors.com

Scheme Confirmed: -

Date: -

Drawn By: JB

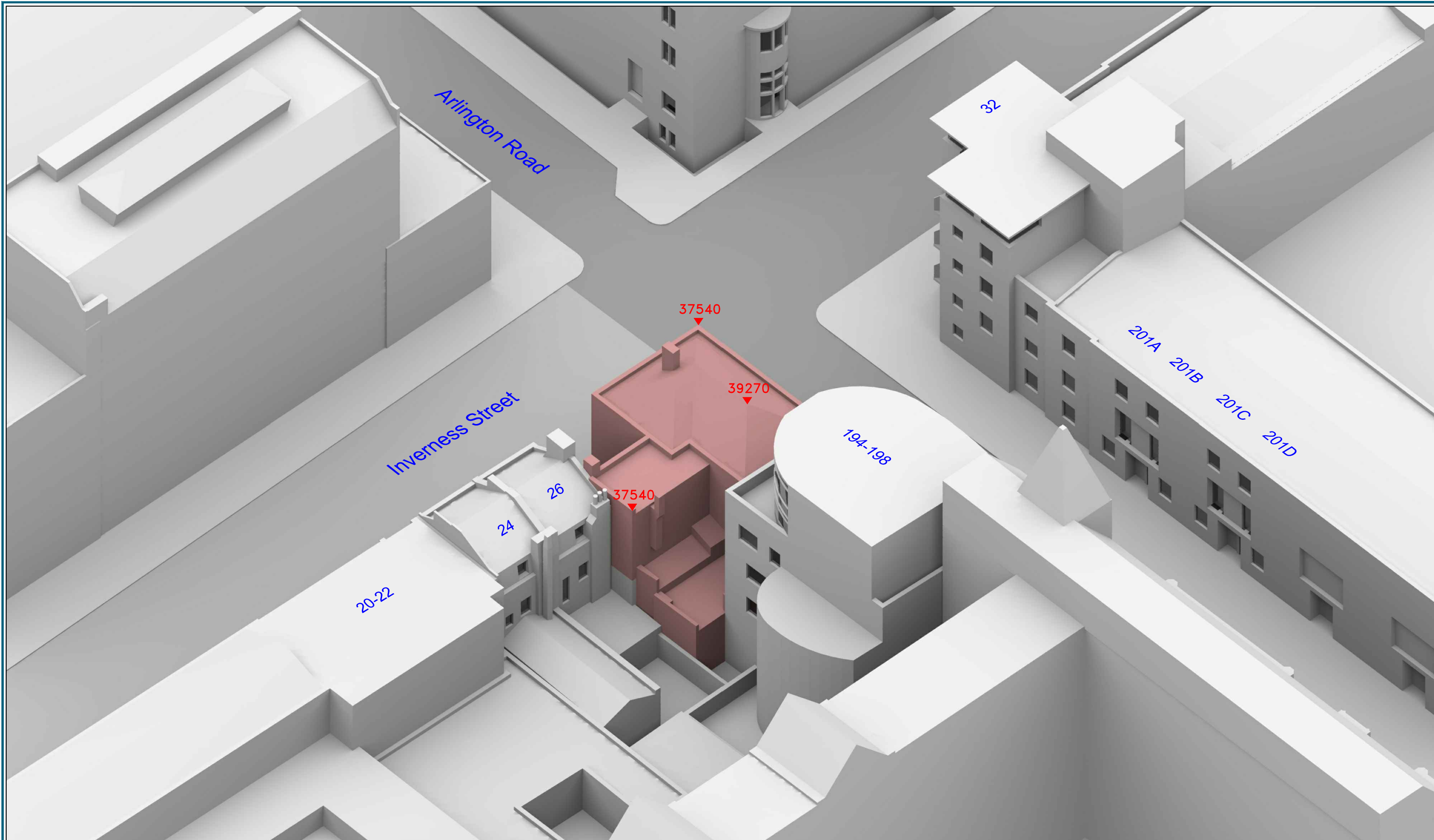
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Date: Jan 18

Dwg No: **P1649/02**

Rel: 01





Sources: Point 2 Surveyors
3D Laser Scan Survey

Key: — Existing Buildings
— Envelope
All Heights in mm AOD

Project: The Good Mixer Pub
Camden
London

Title: 3D View
Existing Buildings

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Scheme Confirmed: -

Date :-

Drawn By: JB

Scale: NTS @ A3

Date: Jan 18

Dwg No: **P1649/03**

Rel: 01





Sources: Point 2 Surveyors
3D Laser Scan Survey

Studio Kyson
Proposed Scheme (received 26/06/18)
545-17_Proposed.dwg

Key: — Existing Buildings
— Proposed Development Massing

Project: The Good Mixer Pub
Camden
London

Title: Plan View
Proposed Scheme 26/06/18

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Scheme Confirmed: - Date: -

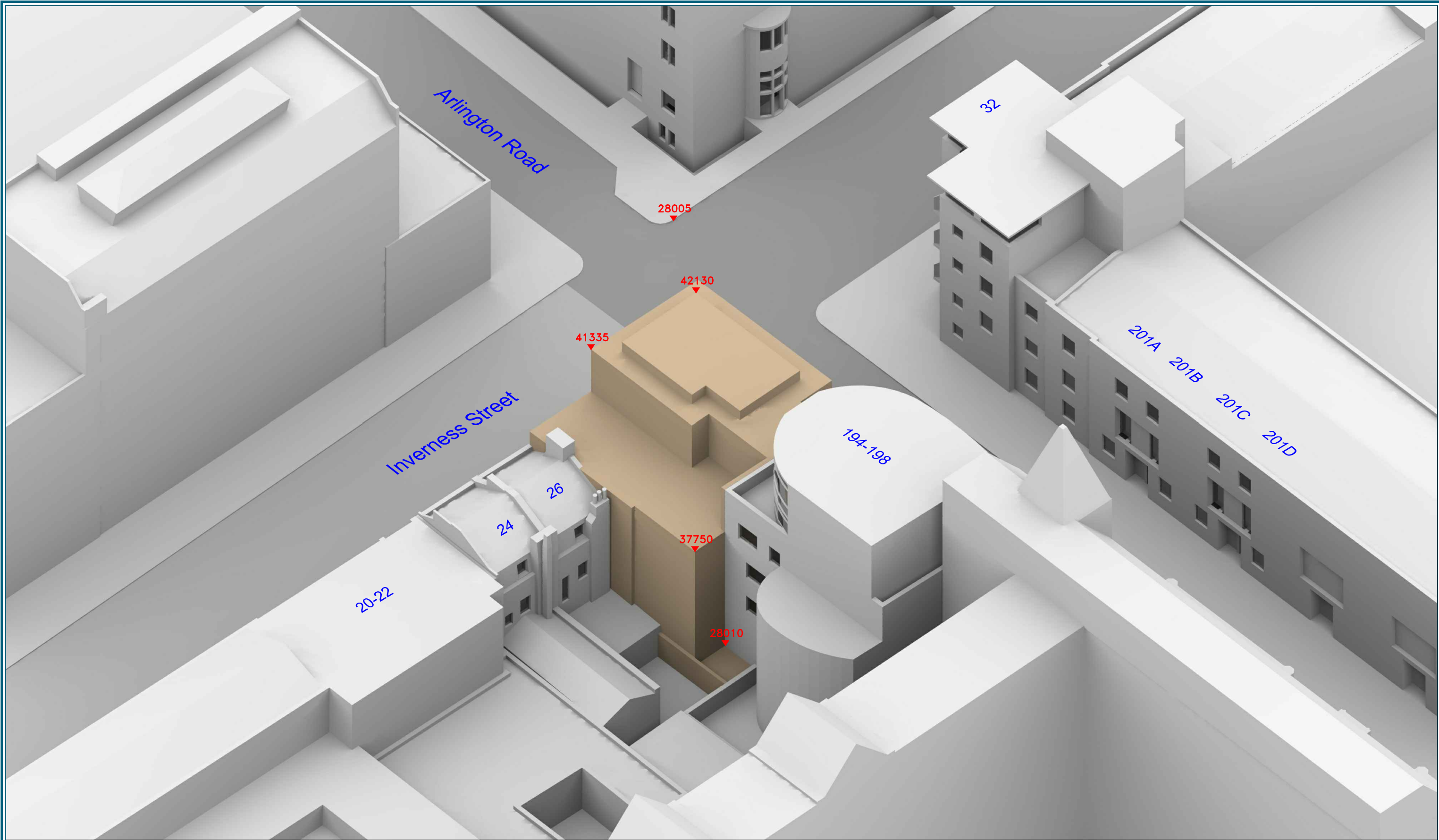
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Date: July 18

Dwg No: **P1649/19**

Rel: 04



Sources: Point 2 Surveyors
3D Laser Scan Survey

Studio Kyson
Proposed Scheme (received 26/06/18)
545-17_Proposed.dwg

Key: — Existing Buildings
— Proposed Development Massing
 All Heights in mm AOD

Project: The Good Mixer Pub
Camden
London

Title: 3D View
Proposed Scheme 26/06/18

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Scheme Confirmed: - Date: -

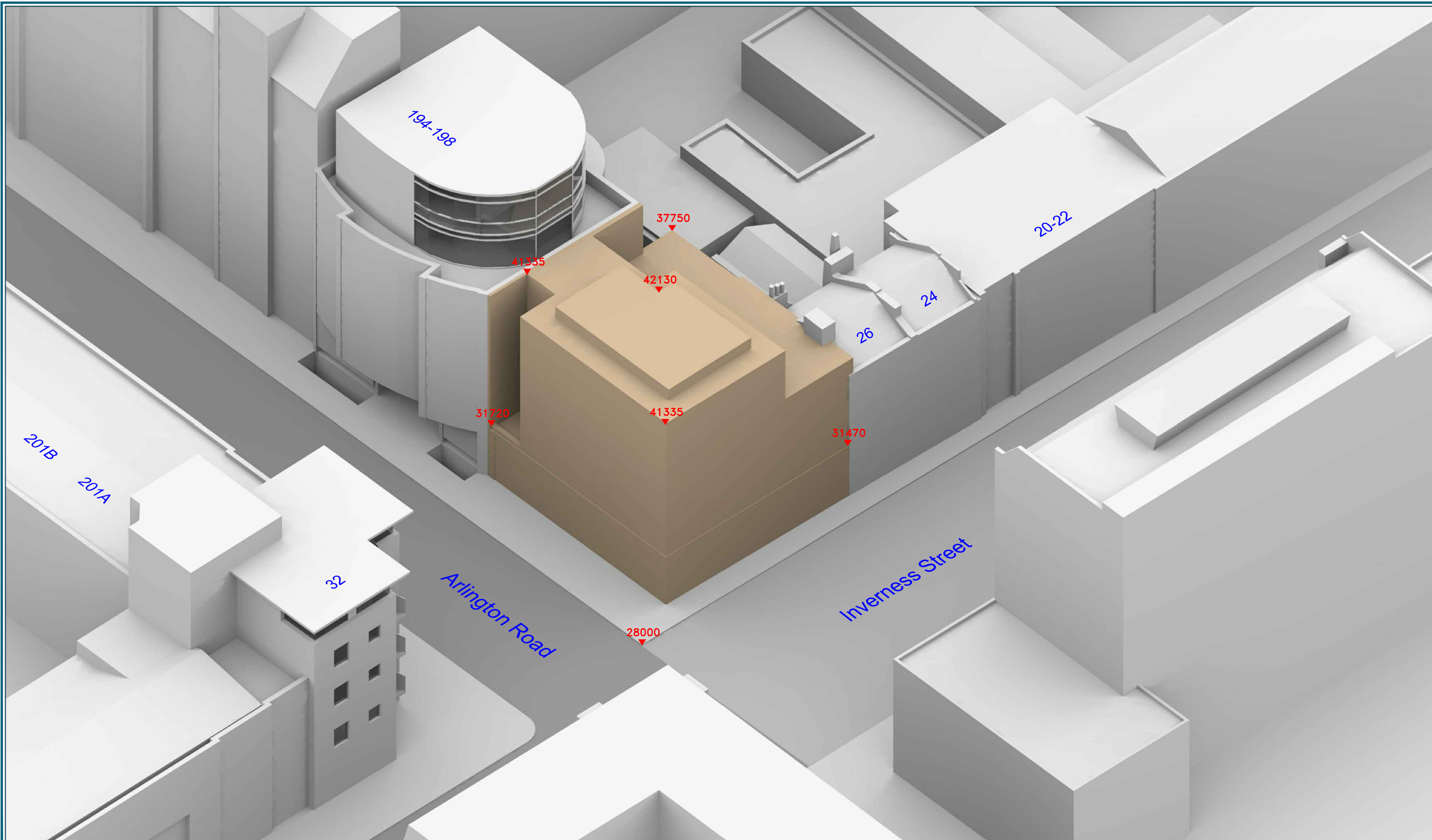
Drawn By: KD

Scale: NTS @ A3

Date: July 18

Dwg No: **P1649/20**

Rel: 04



Sources: Point 2 Surveyors
3D Laser Scan Survey

Studio Kyson
Proposed Scheme (received 26/06/18)
545-17_Proposed.dwg

Key: — Existing Buildings
— Proposed Development Massing
 All Heights in mm AOD

Project: The Good Mixer Pub
Camden
London

Title: 3D View
Proposed Scheme 26/02/18

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Scheme Confirmed: -

Date: -

Drawn By: KD

Scale: NTS @ A3

Date: July 18

Dwg No: **P1649/21**

Rel: 04



Appendix B – Technical Analysis



Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXISTING ADF	TOTAL	PROPOSED ADF	TOTAL	TOTAL LOSS	%LOSS ADF
199 Arlington Road, Camden House							199 Arlington Road, Camden House								
R1/29		W1/29	27.73	27.25	0.48	1.73	R1/29		W1/29	0.40		0.40			
R1/29		W2/29	27.88	27.37	0.51	1.83	R1/29		W2/29	0.40	0.79	0.40	0.79	0.00	0.25
R1/31		W1/31	33.50	33.24	0.26	0.78	R1/31		W1/31	0.66		0.66			
R1/31		W2/31	33.39	33.11	0.28	0.84	R1/31		W2/31	0.66	1.32	0.66	1.32	0.00	0.00
R2/31		W3/31	30.87	30.44	0.43	1.39	R2/31		W3/31	0.77		0.76			
R2/31		W4/31	31.77	31.49	0.28	0.88	R2/31		W4/31	0.75		0.74			
R2/31		W5/31	31.20	31.17	0.03	0.10	R2/31		W5/31	0.79	2.30	0.79	2.29	0.01	0.57
R1/32		W1/32	35.27	35.23	0.04	0.11	R1/32		W1/32	0.69		0.69			
R1/32		W2/32	35.16	35.11	0.05	0.14	R1/32		W2/32	0.69	1.38	0.69	1.38	0.00	0.00
R2/32		W3/32	35.70	35.64	0.06	0.17	R2/32		W3/32	0.62		0.62			
R2/32		W4/32	35.77	35.70	0.07	0.20	R2/32		W4/32	0.62	1.24	0.62	1.24	0.00	0.00
R1/33		W1/33	33.32	33.32	0.00	0.00	R1/33		W1/33	0.66		0.66			
R1/33		W2/33	33.27	33.27	0.00	0.00	R1/33		W2/33	0.66	1.33	0.66	1.33	0.00	0.00
R2/33		W3/33	34.42	34.42	0.00	0.00	R2/33		W3/33	0.61		0.61			
R2/33		W4/33	34.46	34.46	0.00	0.00	R2/33		W4/33	0.61	1.22	0.61	1.22	0.00	0.00
R1/34		W1/34	38.29	38.29	0.00	0.00	R1/34		W1/34	0.76		0.76			
R1/34		W2/34	38.09	38.09	0.00	0.00	R1/34		W2/34	0.33	1.09	0.33	1.09	0.00	0.00
R2/34		W3/34	39.12	39.12	0.00	0.00	R2/34		W3/34	0.75		0.75			
R2/34		W4/34	39.13	39.13	0.00	0.00	R2/34		W4/34	0.74	1.49	0.74	1.49	0.00	0.00
32 Inverness Street							32 Inverness Street								
R1/11		W1/11	27.23	27.23	0.00	0.00	R1/11		W1/11	1.19	1.19	1.19	1.19	0.00	0.00
R2/11		W2/11	27.54	27.54	0.00	0.00	R2/11		W2/11	0.61		0.61			
R2/11		W3/11	22.48	20.68	1.80	8.01	R2/11		W3/11	0.27		0.25			
R2/11		W4/11	11.13	10.51	0.62	5.57	R2/11		W4/11	1.12	2.00	1.02	1.87	0.12	6.21

Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXISTING ADF	TOTAL	PROPOSED ADF	TOTAL	TOTAL LOSS	%LOSS ADF
R3/11		W5/11	10.38	10.29	0.09	0.87	R3/11		W5/11	1.08		1.08			
R3/11		W6/11	20.21	20.11	0.10	0.49	R3/11		W6/11	0.25		0.25			
R3/11		W7/11	27.62	24.85	2.77	10.03	R3/11		W7/11	0.63	1.96	0.57	1.90	0.06	3.07
R4/11		W8/11	26.63	23.80	2.83	10.63	R4/11		W8/11	1.19	1.19	1.09	1.09	0.10	8.58
R1/12		W1/12	29.70	29.70	0.00	0.00	R1/12		W1/12	1.34	1.34	1.34	1.34	0.00	0.00
R2/12		W2/12	29.98	29.98	0.00	0.00	R2/12		W2/12	0.66		0.66			
R2/12		W3/12	24.70	22.94	1.76	7.13	R2/12		W3/12	0.29		0.27			
R2/12		W4/12	11.83	11.65	0.18	1.52	R2/12		W4/12	1.24	2.19	1.15	2.08	0.11	4.99
R3/12		W5/12	11.53	11.44	0.09	0.78	R3/12		W5/12	1.13		1.13			
R3/12		W6/12	22.05	21.93	0.12	0.54	R3/12		W6/12	0.27		0.27			
R3/12		W7/12	31.50	28.61	2.89	9.17	R3/12		W7/12	0.71	2.10	0.65	2.04	0.06	2.85
R4/12		W8/12	30.72	27.75	2.97	9.67	R4/12		W8/12	1.39	1.39	1.28	1.28	0.11	7.90
R1/13		W1/13	31.90	31.90	0.00	0.00	R1/13		W1/13	1.44	1.44	1.44	1.44	0.00	0.00
R2/13		W2/13	32.11	32.11	0.00	0.00	R2/13		W2/13	0.71		0.71			
R2/13		W3/13	27.96	26.67	1.29	4.61	R2/13		W3/13	0.31		0.30			
R2/13		W4/13	12.11	12.11	0.00	0.00	R2/13		W4/13	1.28	2.30	1.24	2.25	0.05	2.35
R3/13		W5/13	12.10	12.03	0.07	0.58	R3/13		W5/13	1.19		1.19			
R3/13		W6/13	25.44	25.36	0.08	0.31	R3/13		W6/13	0.29		0.29			
R3/13		W7/13	34.03	31.95	2.08	6.11	R3/13		W7/13	0.73	2.22	0.69	2.18	0.04	1.89
R4/13		W8/13	33.41	31.31	2.10	6.29	R4/13		W8/13	1.51	1.51	1.43	1.43	0.08	5.24
R1/14		W1/14	23.31	23.31	0.00	0.00	R1/14		W1/14	0.61		0.61			
R1/14		W2/14	23.84	23.84	0.00	0.00	R1/14		W2/14	0.62		0.62			
R1/14		W3/14	24.33	24.33	0.00	0.00	R1/14		W3/14	0.63		0.63			
R1/14		W4/14	25.00	25.00	0.00	0.00	R1/14		W4/14	0.64		0.64			
R1/14		W5/14	21.87	21.87	0.00	0.00	R1/14		W5/14	0.59		0.59			
R1/14		W6/14	21.44	21.44	0.00	0.00	R1/14		W6/14	0.58		0.58			
R1/14		W7/14	21.36	21.36	0.00	0.00	R1/14		W7/14	0.58		0.58			
R1/14		W8/14	21.33	21.33	0.00	0.00	R1/14		W8/14	0.58	4.81	0.58	4.81	0.00	0.00

Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXISTING ADF	TOTAL	PROPOSED ADF	TOTAL	TOTAL LOSS	%LOSS ADF
R2/14		W9/14	21.39	21.39	0.00	0.00	R2/14		W9/14	0.58		0.58			
R2/14		W10/14	21.44	21.44	0.00	0.00	R2/14		W10/14	0.58		0.58			
R2/14		W11/14	21.63	21.63	0.00	0.00	R2/14		W11/14	0.58		0.58			
R2/14		W12/14	22.10	22.10	0.00	0.00	R2/14		W12/14	0.59		0.59			
R2/14		W13/14	22.35	22.10	0.25	1.12	R2/14		W13/14	0.63		0.63			
R2/14		W14/14	20.89	20.62	0.27	1.29	R2/14		W14/14	0.60		0.60			
R2/14		W15/14	23.21	22.80	0.41	1.77	R2/14		W15/14	0.75		0.74			
R2/14		W16/14	19.18	18.75	0.43	2.24	R2/14		W16/14	0.69	5.00	0.68	4.98	0.03	0.58
R3/14		W17/14	17.57	17.55	0.02	0.11	R3/14		W17/14	0.66		0.66			
R3/14		W18/14	21.50	21.48	0.02	0.09	R3/14		W18/14	0.72		0.72			
R3/14		W19/14	19.48	19.47	0.01	0.05	R3/14		W19/14	0.58		0.58			
R3/14		W20/14	20.98	20.97	0.01	0.05	R3/14		W20/14	0.61		0.61			
R3/14		W21/14	23.13	22.73	0.40	1.73	R3/14		W21/14	0.61		0.60			
R3/14		W22/14	22.65	22.24	0.41	1.81	R3/14		W22/14	0.60		0.59			
R3/14		W23/14	22.47	22.06	0.41	1.82	R3/14		W23/14	0.60		0.59			
R3/14		W24/14	22.40	21.98	0.42	1.88	R3/14		W24/14	0.60	4.96	0.59	4.93	0.03	0.62
R4/14		W25/14	22.19	21.78	0.41	1.85	R4/14		W25/14	0.59		0.58			
R4/14		W26/14	22.13	21.73	0.40	1.81	R4/14		W26/14	0.59		0.58			
R4/14		W27/14	22.07	21.68	0.39	1.77	R4/14		W27/14	0.59		0.58			
R4/14		W28/14	22.42	22.03	0.39	1.74	R4/14		W28/14	0.61		0.61			
R4/14		W29/14	22.71	22.71	0.00	0.00	R4/14		W29/14	0.60		0.60			
R4/14		W30/14	22.09	22.09	0.00	0.00	R4/14		W30/14	0.59		0.59			
R4/14		W31/14	21.65	21.65	0.00	0.00	R4/14		W31/14	0.58		0.58			
R4/14		W32/14	21.18	21.18	0.00	0.00	R4/14		W32/14	0.57	4.71	0.57	4.68	0.03	0.62
R1/20		W1/20	21.40	19.06	2.34	10.93	R1/20		W1/20	0.84	0.84	0.77	0.77	0.07	8.53
R2/20		W2/20	20.97	18.87	2.10	10.01	R2/20		W2/20	0.68	0.68	0.62	0.62	0.06	8.11
R1/21		W1/21	24.94	22.36	2.58	10.34	R1/21		W1/21	0.76	0.76	0.70	0.70	0.06	8.38
R2/21		W2/21	24.24	22.02	2.22	9.16	R2/21		W2/21	0.73	0.73	0.67	0.67	0.05	7.43
R1/22		W1/22	28.82	26.28	2.54	8.81	R1/22		W1/22	0.84	0.84	0.78	0.78	0.06	7.24

Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXISTING ADF	TOTAL	PROPOSED ADF	TOTAL	TOTAL LOSS	%LOSS ADF
R2/22		W2/22	28.17	26.09	2.08	7.38	R2/22		W2/22	0.82	0.82	0.77	0.77	0.05	6.12
201A Arlington Street			201A Arlington Street												
R3/20		W3/20	19.48	17.97	1.51	7.75	R3/20		W3/20	0.68		0.64			
R3/20		W4/20	0.64	0.58	0.06	9.38	R3/20		W4/20	0.04	0.72	0.04	0.68	0.04	6.10
R3/21		W3/21	19.12	17.81	1.31	6.85	R3/21		W3/21	0.96	0.96	0.90	0.90	0.06	5.93
R3/22		W3/22	25.76	24.68	1.08	4.19	R3/22		W3/22	0.76	0.76	0.73	0.73	0.03	3.67
201B Arlington Street			201B Arlington Street												
R4/20		W5/20	0.56	0.52	0.04	7.14	R4/20		W5/20	0.01		0.01			
R4/20		W6/20	17.87	17.06	0.81	4.53	R4/20		W6/20	0.62	0.63	0.60	0.61	0.03	4.11
R4/21		W4/21	18.17	17.27	0.90	4.95	R4/21		W4/21	0.91	0.91	0.87	0.87	0.04	4.30
R4/22		W4/22	24.61	23.93	0.68	2.76	R4/22		W4/22	0.72	0.72	0.70	0.70	0.02	2.50
201C Arlington Street			201C Arlington Street												
R5/20		W7/20	17.23	16.66	0.57	3.31	R5/20		W7/20	0.60		0.58			
R5/20		W8/20	0.54	0.54	0.00	0.00	R5/20		W8/20	0.03	0.62	0.03	0.61	0.02	2.56
R5/21		W5/21	16.87	16.50	0.37	2.19	R5/21		W5/21	0.82	0.82	0.82	0.82	0.01	0.61
R5/22		W5/22	23.08	22.92	0.16	0.69	R5/22		W5/22	0.68	0.68	0.68	0.68	0.01	0.73
201D Arlington Street			201D Arlington Street												
R6/20		W9/20	0.58	0.57	0.01	1.72	R6/20		W9/20	0.02		0.02			
R6/20		W10/20	16.38	16.14	0.24	1.47	R6/20		W10/20	0.57	0.59	0.56	0.58	0.01	1.36
R6/21		W6/21	16.07	15.87	0.20	1.24	R6/21		W6/21	0.82	0.82	0.82	0.82	0.01	0.97
R6/22		W6/22	22.36	22.31	0.05	0.22	R6/22		W6/22	0.68	0.68	0.67	0.67	0.00	0.30

Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXISTING ADF	TOTAL	PROPOSED ADF	TOTAL	TOTAL LOSS	%LOSS ADF
194-198 Arlington Street							194-198 Arlington Street								
R1/50		W1/50	17.45	16.48	0.97	5.56	R1/50		W1/50	0.10		0.10			
R1/50		W2/50	20.58	19.56	1.02	4.96	R1/50		W2/50	0.30	0.40	0.30	0.39	0.01	2.24
R1/51		W1/51	27.73	25.62	2.11	7.61	R1/51		W1/51	2.43	2.43	2.31	2.31	0.12	5.02
R1/52		W1/52	31.10	30.09	1.01	3.25	R1/52		W1/52	2.64	2.64	2.56	2.56	0.08	2.99
R1/53		W2/53	35.04	35.04	0.00	0.00	R1/53		W2/53	1.58	1.58	1.58	1.58	0.00	0.00
R2/53		W1/53	35.55	35.55	0.00	0.00	R2/53		W1/53	1.99	1.99	1.99	1.99	0.00	0.00
R1/54	LKD	W1/54	38.61	38.61	0.00	0.00	R1/54	LKD	W1/54	0.62		0.62			
R1/54	LKD	W2/54	39.08	39.08	0.00	0.00	R1/54	LKD	W2/54	0.11		0.11			
R1/54	LKD	W3/54	38.35	38.32	0.03	0.08	R1/54	LKD	W3/54	0.90		0.90			
R1/54	LKD	W4/54	37.02	37.02	0.00	0.00	R1/54	LKD	W4/54	0.14		0.14			
R1/54	LKD	W5/54	37.96	37.87	0.09	0.24	R1/54	LKD	W5/54	0.90		0.90			
R1/54	LKD	W6/54	37.00	37.00	0.00	0.00	R1/54	LKD	W6/54	0.14		0.14			
R1/54	LKD	W7/54	37.51	37.09	0.42	1.12	R1/54	LKD	W7/54	0.89		0.89			
R1/54	LKD	W8/54	36.58	36.58	0.00	0.00	R1/54	LKD	W8/54	0.14		0.14			
R1/54	LKD	W9/54	37.17	36.20	0.97	2.61	R1/54	LKD	W9/54	0.85		0.85			
R1/54	LKD	W10/54	35.96	35.96	0.00	0.00	R1/54	LKD	W10/54	0.14		0.14			
R1/54	LKD	W11/54	36.91	35.82	1.09	2.95	R1/54	LKD	W11/54	1.47		1.46			
R1/54	LKD	W12/54	37.51	37.51	0.00	0.00	R1/54	LKD	W12/54	0.27		0.27			
R1/54	LKD	W13/54	37.24	37.09	0.15	0.40	R1/54	LKD	W13/54	0.55		0.55			
R1/54	LKD	W14/54	35.89	35.89	0.00	0.00	R1/54	LKD	W14/54	0.14		0.14			
R1/54	LKD	W15/54	37.43	37.36	0.07	0.19	R1/54	LKD	W15/54	0.56		0.55			
R1/54	LKD	W16/54	36.31	36.31	0.00	0.00	R1/54	LKD	W16/54	0.14		0.14			
R1/54	LKD	W17/54	37.50	37.48	0.02	0.05	R1/54	LKD	W17/54	0.55		0.55			
R1/54	LKD	W18/54	36.41	36.41	0.00	0.00	R1/54	LKD	W18/54	0.14		0.14			
R1/54	LKD	W19/54	37.22	37.22	0.00	0.00	R1/54	LKD	W19/54	0.55		0.55			
R1/54	LKD	W20/54	35.85	35.85	0.00	0.00	R1/54	LKD	W20/54	0.14	9.35	0.14	9.32	0.03	0.29
R1/55	BEDROOM	W1/55	39.25	39.25	0.00	0.00	R1/55	BEDROOM	W1/55	0.38		0.38			
R1/55	BEDROOM	W2/55	39.46	39.46	0.00	0.00	R1/55	BEDROOM	W2/55	1.30		1.30			
R1/55	BEDROOM	W3/55	39.55	39.55	0.00	0.00	R1/55	BEDROOM	W3/55	0.41		0.41			
R1/55	BEDROOM	W4/55	38.84	38.84	0.00	0.00	R1/55	BEDROOM	W4/55	0.54		0.54			

Room	Room Use	Window	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	Room	Room Use	Window	EXISTING ADF	TOTAL	PROPOSED ADF	TOTAL	TOTAL LOSS	%LOSS ADF
R1/55	BEDROOM	W5/55	39.31	39.31	0.00	0.00	R1/55	BEDROOM	W5/55	1.85		1.85			
R1/55	BEDROOM	W6/55	38.53	38.53	0.00	0.00	R1/55	BEDROOM	W6/55	0.54		0.54			
R1/55	BEDROOM	W7/55	38.58	38.58	0.00	0.00	R1/55	BEDROOM	W7/55	0.53		0.53			
R1/55	BEDROOM	W8/55	39.10	39.10	0.00	0.00	R1/55	BEDROOM	W8/55	1.84		1.84			
R1/55	BEDROOM	W9/55	38.50	38.50	0.00	0.00	R1/55	BEDROOM	W9/55	0.54	7.94	0.54	7.94	0.00	0.00
R2/55	BEDROOM	W25/55	37.83	37.83	0.00	0.00	R2/55	BEDROOM	W25/55	0.51		0.51			
R2/55	BEDROOM	W26/55	38.34	38.34	0.00	0.00	R2/55	BEDROOM	W26/55	1.76		1.76			
R2/55	BEDROOM	W27/55	37.89	37.89	0.00	0.00	R2/55	BEDROOM	W27/55	0.52		0.52			
R2/55	BEDROOM	W28/55	37.62	37.62	0.00	0.00	R2/55	BEDROOM	W28/55	0.51		0.51			
R2/55	BEDROOM	W29/55	38.22	38.22	0.00	0.00	R2/55	BEDROOM	W29/55	1.75		1.75			
R2/55	BEDROOM	W30/55	37.68	37.68	0.00	0.00	R2/55	BEDROOM	W30/55	0.52	5.56	0.52	5.56	0.00	0.00
24 Inverness Street							24 Inverness Street								
R1/71		W1/71	19.47	19.47	0.00	0.00	R1/71		W1/71	0.72	0.72	0.72	0.72	0.00	0.00
R1/72		W1/72	21.65	21.65	0.00	0.00	R1/72		W1/72	0.56	0.56	0.56	0.56	0.00	0.00
R1/75		W1/75	18.51	18.44	0.07	0.38	R1/75		W1/75	0.49	0.49	0.49	0.49	0.00	0.00
26 Inverness Street							26 Inverness Street								
R1/61		W1/61	18.90	18.56	0.34	1.80	R1/61		W1/61	0.67	0.67	0.66	0.66	0.01	0.90
R1/62		W1/62	20.85	20.85	0.00	0.00	R1/62		W1/62	0.56	0.56	0.56	0.56	0.00	0.00
R1/65		W1/65	18.70	18.36	0.34	1.82	R1/65		W1/65	0.98	0.98	0.98	0.98	0.00	0.00

Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
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199 Arlington Road, Camden House

R1/29		130.5	107.6	107.6	0.0	0.0
R1/31		128.1	119.6	119.6	0.0	0.0
R2/31		164.0	162.6	162.6	0.0	0.0
R1/32		128.1	119.9	119.9	0.0	0.0
R2/32		134.0	124.0	124.0	0.0	0.0
R1/33		128.1	119.9	119.9	0.0	0.0
R2/33		134.0	124.0	124.0	0.0	0.0
R1/34		128.1	121.4	121.4	0.0	0.0
R2/34		134.0	126.7	126.7	0.0	0.0

32 Inverness Street

R1/11		100.0	69.2	69.2	0.0	0.0
R2/11		100.0	98.5	97.0	1.5	1.5
R3/11		99.5	97.5	96.6	0.9	0.9
R4/11		99.5	97.2	78.2	19.0	19.5
R1/12		100.0	80.0	80.0	0.0	0.0
R2/12		100.0	98.5	98.5	0.0	0.0
R3/12		99.5	97.8	97.8	0.0	0.0
R4/12		99.5	96.7	96.7	0.0	0.0
R1/13		100.0	95.6	95.6	0.0	0.0
R2/13		100.0	99.2	99.2	0.0	0.0
R3/13		99.5	99.2	99.2	0.0	0.0
R4/13		99.5	96.7	96.7	0.0	0.0
R1/14		100.0	99.6	99.6	0.0	0.0
R2/14		100.0	100.0	100.0	0.0	0.0
R3/14		99.5	99.5	99.5	0.0	0.0
R4/14		99.5	99.5	99.5	0.0	0.0
R1/20		141.4	119.2	79.5	39.7	33.3
R2/20		180.6	134.5	91.5	43.0	32.0
R1/21		141.4	123.0	80.5	42.5	34.6
R2/21		180.6	137.9	92.6	45.3	32.8
R1/22		141.4	129.4	124.8	4.6	3.6
R2/22		180.6	146.9	143.1	3.7	2.5

201A Arlington Street

R3/20		159.0	107.0	76.7	30.4	28.4
R3/21		166.8	85.6	84.8	0.7	0.8
R3/22		179.0	92.5	91.6	0.9	1.0

201B Arlington Street

R4/20		164.9	119.7	81.9	37.8	31.6
R4/21		171.3	111.0	108.3	2.7	2.4
R4/22		183.7	118.6	118.5	0.2	0.2

201C Arlington Street

Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
R5/20		165.2	78.1	75.5	2.7	3.5
R5/21		171.3	84.7	84.7	0.0	0.0
R5/22		183.7	94.9	94.9	0.0	0.0
201D Arlington Street						
R6/20		164.9	85.0	66.6	18.5	21.8
R6/21		166.8	86.7	86.7	0.0	0.0
R6/22		179.0	89.0	89.0	0.0	0.0
194-198 Arlington Street						
R1/50		149.1	40.3	40.3	0.0	0.0
R1/51		119.2	108.8	108.8	0.0	0.0
R1/52		119.2	112.6	112.6	0.0	0.0
R1/53		66.2	62.9	62.9	0.0	0.0
R2/53		113.3	112.5	112.5	0.0	0.0
R1/54	LKD	470.1	467.2	467.2	0.0	0.0
R1/55	BEDROOM	140.4	140.3	140.3	0.0	0.0
R2/55	BEDROOM	148.5	148.4	148.4	0.0	0.0
24 Inverness Street						
R1/71		102.8	79.3	79.3	0.0	0.0
R1/72		98.5	78.4	78.4	0.0	0.0
R1/75		54.6	45.3	45.3	0.0	0.0
26 Inverness Street						
R1/61		96.1	69.6	69.6	0.0	0.0
R1/62		92.1	78.2	78.2	0.0	0.0
R1/65		50.3	48.7	48.7	0.0	0.0

Room	Window	Room Use	Window						Room					
			Existing		Proposed		%Loss	%Loss	Existing		Proposed		%Loss	%Loss
			Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		
32 Inverness Street														
R1/11	W1/11		16	66	16	66	0.0	0.0	16	66	16	66	0.0	0.0
R2/11	W2/11		16	66	16	66	0.0	0.0						
R2/11	W3/11		5	28	5	28	0.0	0.0						
R2/11	W4/11		5	29	5	29	0.0	0.0	17	68	17	68	0.0	0.0
R3/11	W5/11		6	22	6	22	0.0	0.0						
R3/11	W6/11		7	38	7	38	0.0	0.0						
R3/11	W7/11		4	29	4	27	0.0	6.9	7	38	7	38	0.0	0.0
R1/12	W1/12		19	72	19	71	0.0	1.4	19	72	19	71	0.0	1.4
R2/12	W2/12		19	71	19	70	0.0	1.4						
R2/12	W3/12		5	29	5	29	0.0	0.0						
R2/12	W4/12		5	30	5	30	0.0	0.0	20	73	20	72	0.0	1.4
R3/12	W5/12		8	24	8	24	0.0	0.0						
R3/12	W6/12		8	39	8	39	0.0	0.0						
R3/12	W7/12		4	30	4	29	0.0	3.3	8	40	8	40	0.0	0.0
R1/13	W1/13		23	77	23	76	0.0	1.3	23	77	23	76	0.0	1.3
R2/13	W2/13		22	74	22	73	0.0	1.4						
R2/13	W3/13		5	33	5	32	0.0	3.0						
R2/13	W4/13		5	31	5	31	0.0	0.0	23	75	23	74	0.0	1.3
R3/13	W5/13		8	27	8	26	0.0	3.7						
R3/13	W6/13		10	46	10	45	0.0	2.2						
R3/13	W7/13		4	32	4	31	0.0	3.1	10	47	10	46	0.0	2.1

Room	Window	Room Use	Window						Room					
			Existing		Proposed		%Loss	%Loss	Existing		Proposed		%Loss	%Loss
			Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		
R1/14	W1/14		17	38	17	38	0.0	0.0						
R1/14	W2/14		18	40	18	40	0.0	0.0						
R1/14	W3/14		19	41	19	41	0.0	0.0						
R1/14	W4/14		23	46	23	46	0.0	0.0						
R1/14	W5/14		26	53	26	53	0.0	0.0						
R1/14	W6/14		25	51	25	51	0.0	0.0						
R1/14	W7/14		25	51	25	51	0.0	0.0						
R1/14	W8/14		25	51	25	51	0.0	0.0	30	79	30	79	0.0	0.0
R2/14	W9/14		25	51	25	51	0.0	0.0						
R2/14	W10/14		25	51	25	51	0.0	0.0						
R2/14	W11/14		25	52	25	52	0.0	0.0						
R2/14	W12/14		25	52	25	52	0.0	0.0						
R2/14	W13/14		6	23	6	23	0.0	0.0						
R2/14	W14/14		5	20	5	20	0.0	0.0						
R2/14	W15/14		6	24	6	24	0.0	0.0						
R2/14	W16/14		5	23	5	23	0.0	0.0	25	52	25	52	0.0	0.0
R3/14	W17/14		9	42	9	42	0.0	0.0						
R3/14	W18/14		12	49	12	49	0.0	0.0						
R3/14	W19/14		18	45	18	45	0.0	0.0						
R3/14	W20/14		20	47	20	47	0.0	0.0						
R3/14	W21/14		6	23	6	23	0.0	0.0						
R3/14	W22/14		4	19	4	19	0.0	0.0						
R3/14	W23/14		2	17	2	17	0.0	0.0						
R3/14	W24/14		2	17	2	17	0.0	0.0	20	57	20	57	0.0	0.0
194-198 Arlington Street														
R1/54	W1/54	LKD	24	68	24	68	0.0	0.0						

Room	Window	Room Use	Window						Room					
			Existing		Proposed		%Loss	%Loss	Existing		Proposed		%Loss	%Loss
			Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		
R1/54	W2/54	LKD	24	68	24	68	0.0	0.0						
R1/54	W3/54	LKD	27	76	27	76	0.0	0.0						
R1/54	W4/54	LKD	26	69	26	69	0.0	0.0						
R1/54	W5/54	LKD	27	80	27	80	0.0	0.0						
R1/54	W6/54	LKD	27	76	27	76	0.0	0.0						
R1/54	W7/54	LKD	29	85	29	85	0.0	0.0						
R1/54	W8/54	LKD	29	82	29	82	0.0	0.0						
R1/54	W9/54	LKD	29	86	29	86	0.0	0.0						
R1/54	W10/54	LKD	29	84	29	84	0.0	0.0						
R1/54	W11/54	LKD	27	81	27	81	0.0	0.0						
R1/54	W12/54	LKD	27	81	27	81	0.0	0.0						
R1/54	W13/54	LKD	22	67	22	67	0.0	0.0						
R1/54	W14/54	LKD	21	60	21	60	0.0	0.0						
R1/54	W15/54	LKD	19	59	19	59	0.0	0.0						
R1/54	W16/54	LKD	17	52	17	52	0.0	0.0						
R1/54	W17/54	LKD	14	49	14	49	0.0	0.0						
R1/54	W18/54	LKD	14	48	14	48	0.0	0.0						
R1/54	W19/54	LKD	10	43	10	43	0.0	0.0						
R1/54	W20/54	LKD	9	37	9	37	0.0	0.0	29	99	29	99	0.0	0.0
R1/55	W1/55	BEDROOM	24	68	24	68	0.0	0.0						
R1/55	W2/55	BEDROOM	24	68	24	68	0.0	0.0						
R1/55	W3/55	BEDROOM	24	68	24	68	0.0	0.0						
R1/55	W4/55	BEDROOM	27	74	27	74	0.0	0.0						
R1/55	W5/55	BEDROOM	27	75	27	75	0.0	0.0						
R1/55	W6/55	BEDROOM	26	72	26	72	0.0	0.0						
R1/55	W7/55	BEDROOM	27	80	27	80	0.0	0.0						
R1/55	W8/55	BEDROOM	27	80	27	80	0.0	0.0						
R1/55	W9/55	BEDROOM	27	77	27	77	0.0	0.0	27	81	27	81	0.0	0.0
R2/55	W25/55	BEDROOM	14	49	14	49	0.0	0.0						

Room	Window	Room Use	Window						Room					
			Existing		Proposed		%Loss	%Loss	Existing		Proposed		%Loss	%Loss
			Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		
R2/55	W26/55	BEDROOM	15	50	15	50	0.0	0.0						
R2/55	W27/55	BEDROOM	15	49	15	49	0.0	0.0						
R2/55	W28/55	BEDROOM	10	41	10	41	0.0	0.0						
R2/55	W29/55	BEDROOM	11	44	11	44	0.0	0.0						
R2/55	W30/55	BEDROOM	10	40	10	40	0.0	0.0	15	50	15	50	0.0	0.0