DELVA PATMAN REDLER
Chartered Surveyors

Our Ref: 19339/sg/SG

Date 06/11/2020

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Ayesha Khan
Architect
Alison Brooks Architects
Unit 610 Highgate Studios
57-79 Highgate Road
London NW5 1TL

Dear Ayesha,

18a Frognal Gardens, London NW3 6XA – Daylight, Sunlight and Shadowing

Further to instructions received we have reviewed the revised scheme drawings provided by Alison Brooks Architects for the 18a Frognal Street development site and compared these against the previous submission drawings considered within a previous DPR reporting prepared August 2019 on daylight, sunlight and shadowing.

The revised scheme by Alison Brooks Architects dated October 2020 illustrate the following modifications relevant to our studies.

- Reduction of overall height by 350mm
- Set back of top floor east wall by 450mm
- Set back of top floor south wall by 230mm
- Curved setback of top floor west gable be 1220mm
- Set back of GF front projection by 1575mm

On review of the previous daylight, sunlight and shadow reporting the scheme was fully compliant with regard to all relevant daylight, sunlight and shadowing criteria within the BRE Guidance Paper 209 'Site Layout Planning for Daylight & Sunlight. A Guide to Good Practice'.

It is clear therefore, that the current proposals have reduced in scale when compared to the previous scheme considered and so it follows that the current reduced massing scheme will also have a reduced impact on the neighbouring residential amenity in daylight, sunlight and shadowing terms.

Therefore, the current scheme proposals by Alison Brooks Architects will continue to fully recognise and observe the intentions of Local Planning Policy and BRE Guidance 209 in daylight, sunlight and shadowing terms.

I trust this is sufficient for application purposes but please do not hesitate to contact me if you require anything further.

Kind regards

Stuart Gray
Senior Partner
stuart.gray@delvapatmanredler.co.uk

18A FROGNAL GARDENS, LONDON NW3 6XA

DAYLIGHT, SUNLIGHT & SHADOWING REPORT

AUGUST 2018

REF. SG/19339.

CONTENTS

APPENDICES

1.0 INTRODUCTION

Delva Patman Redler LLP have been instructed by Roger Pilgrim to assess the potential effects of the proposed development at 18A Frognal Gardens on daylight and sunlight to existing neighbouring properties.

The site is located at Frognal Gardens in Hampstead and is shown in the aerial photo in Figure 1 below.

The proposed development comprises the demolition of the existing building and the construction of a ground plus three storey residential property with associated landscaping.

The daylight and sunlight study has been carried out using the assessment methodology recommended in the Building Research Establishment (BRE) Report 209, *Site Layout Planning for Daylight and Sunlight: A guide to good practice (second edition, 2011)* ("the BRE guide") and the Professional Guidance Note, *'Daylighting and sunlighting'* (1st edition, 2012), published by the Royal Institution of Chartered Surveyors.

A location drawing of the site and surrounding properties that have been assessed is attached at Appendix A. Our analysis results are attached in the remaining appendices.

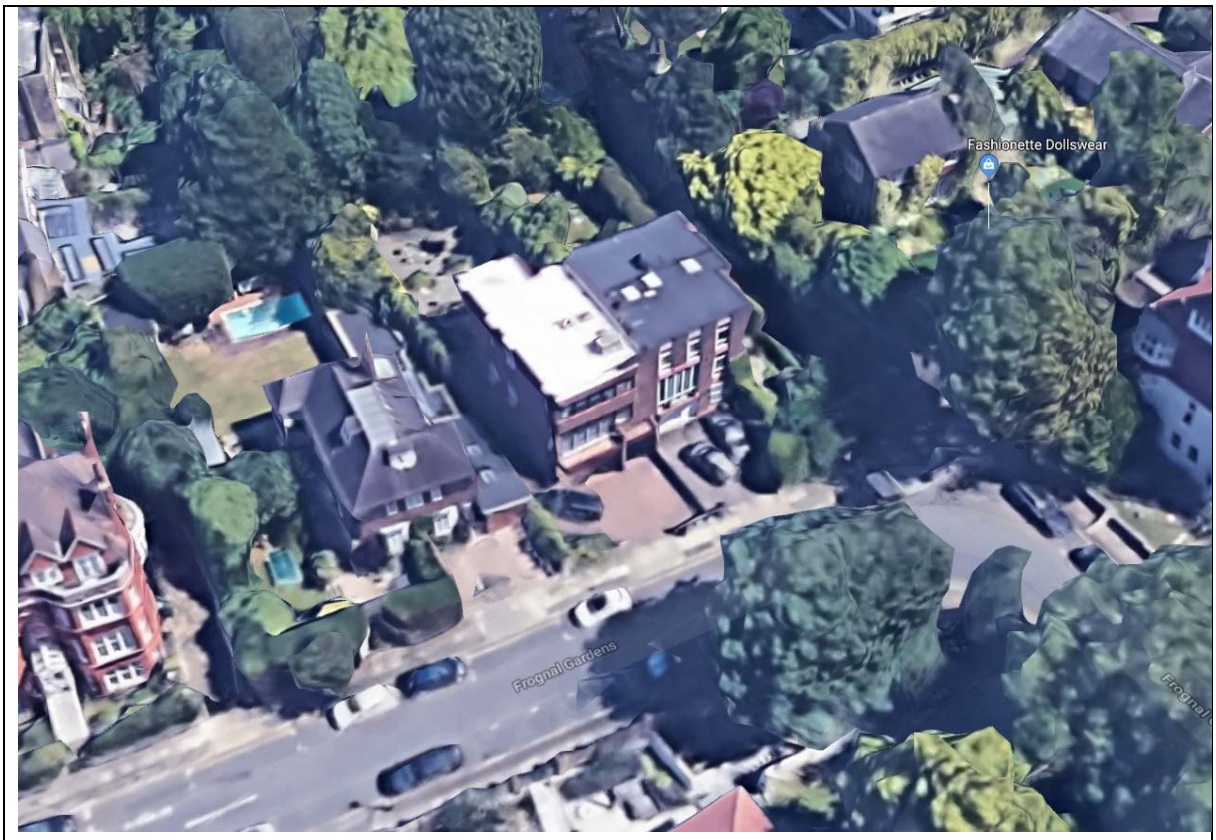


Figure 1 - Aerial photo of the site and surrounding buildings (© Google)

2.0 PLANNING POLICY & GUIDELINES

2.1 National Planning Policy and Guidance

National Planning Policy Framework (February 2019)

The National Planning Policy Framework (NPPF) (revised February 2019) sets out the Government's planning policies and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced. The NPPF was revised in July 2018 and February 2019 with an emphasis on sustainable development and delivery of housing.

Chapter 11 of the NPPF, entitled *"Making effective use of land"*, promotes the effective use of land in meeting the need for homes and other uses. It gives examples such as developing under-utilised land and buildings, especially if this would help to meet identified needs for housing where land supply is constrained and available sites could be used more effectively, and upward extensions to create new homes, where they would be consistent with the prevailing height and form of neighbouring properties and the overall street scene.

In particular, paragraph 123 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)."*

BRE Report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice

The BRE guide gives advice on site layout planning of development to retain good daylighting and sunlighting in existing surrounding buildings and to achieve it in new buildings. The guide states:

> *"(Its) main aim is … to help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between buildings for good interior and exterior conditions."*
>
> *"The guide is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the report should not be seen as a part of planning policy. Its aim is to help rather than constrain the designer."*
>
> *"Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design."*
>
> *"In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings… The calculation methods … are entirely flexible in this respect."*

2.2 Regional planning policy

The London Plan (March 2016)

'The London Plan – The Spatial Strategy for London Consolidated with Alterations since 2011' sets out the Mayor of London's spatial development strategy for London. It forms part of the development plan for Greater London, along with local plans of the London boroughs.

Policy 7.6, *Architecture*, states:

> *"Buildings and structures should … not cause unacceptable harm to the amenity of surrounding land and buildings, particularly residential buildings, in relation to privacy, overshadowing, wind and microclimate. This is particularly important for tall buildings."*

Mayor of London's Draft New London Plan (July 2019)

The Mayor of London's Draft New London Plan (July 2019) highlights intensification of land use as a means to support additional homes and workspaces in London.

Draft Policy GG2 '*Making the best use of land*' states:

> *"To create successful sustainable mixed-use places that make the best use of land, those involved in planning and development must:*
>
> *AA prioritise sites which are well-connected by existing or planned public transport.*
>
> *B proactively explore the potential to intensify the use of land to support additional homes and workspaces, promoting higher density development, particularly in locations that are well-connected to jobs, services, infrastructure and amenities by public transport, walking and cycling*
>
> *BA applying a design–led approach to determine the optimum development capacity of sites."*

Draft Policy D4 *'Housing quality and standards'* states:

> *"E Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Policy D1B Part B than a dual aspect dwelling, and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating.*
>
> *F The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space."*

Mayor of London's Housing Supplementary Planning Guidance (March 2016)

The Mayor of London's *'Housing Supplementary Planning Guidance'* (March 2016) provides guidance on how to implement the housing policies in the London Plan. It states:

> *"1.3.45 Policy 7.6Bd requires new development to avoid causing 'unacceptable harm' to the amenity of surrounding land and buildings, particularly in relation to privacy and overshadowing and where tall buildings are proposed. An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves. Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites 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."*
>
> *"1.3.46 The degree of harm on adjacent properties and the daylight targets within a proposed scheme should be assessed drawing on broadly comparable residential typologies within the area and of a similar nature across London. 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."*

Clearly, the guidelines and recommendations given in the BRE guide should be applied with an appropriate degree of flexibility and sensitivity to higher-density housing development, especially in opportunity areas, town centres, large sites and accessible locations. Account should be taken of local circumstances, the need to optimise housing capacity and scope for the character and form of an area to change over time.

2.3 Local planning policy

The development site is located within the London Borough of Camden. It is understood that the Council's local planning policy seeks to reasonably safeguard daylight and sunlight amenity to existing surrounding properties

3.0 ASSESSMENT METHODOLOGY

The technical assessments that underpin this daylight and sunlight study have been carried out in accordance with the assessment methodology recommended in the abovementioned BRE guide. The methodology is described below.

3.1 Daylight to existing buildings

The BRE guide states:

> *"In designing a new development or extension to a building, it is important to safeguard the daylight to nearby buildings.*
>
> *The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms.*
>
> *Note that numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints."*

To determine which buildings may need to be assessed, it states:

> *"If, for any part of the new development, the angle from the centre of the lowest affected window to the head of the new development is more than 25°, then a more detailed check is needed to find the loss of skylight to the existing buildings."*

To quantify the available daylight to existing neighbouring buildings, the BRE guide proposes two principal methods of measurement, neither of which carries more importance than the other, The tests involve:

i) calculating the vertical sky component (VSC) at the centre of each main window on the outside plane of the window wall, which measures the total amount of skylight available to that window; and

ii) plotting the no-sky line (NSL) on the working plane inside a room and measuring the area that can receive direct skylight, which assesses the distribution of daylight around the room.

The VSC is defined as:

> *"The amount of skylight falling on a vertical wall or window ... This is the ratio of the direct sky illuminance falling on the vertical wall at a reference point (usually the centre of the window), to the simultaneous horizontal illuminance under an unobstructed sky. The standard CIE … overcast sky is used, and the ratio is usually expressed as a percentage. The maximum value is almost 40% for a completely unobstructed vertical wall.*

The VSC therefore measures the daylight available at the window, but as it does not take account of the size or number of windows serving it, it does not measure light inside the room. The guide states:

> *"Any reduction in the total amount of skylight can be calculated by finding the VSC at the centre of each main window … For a bay window, the centre window facing directly outwards can be taken as the main window. If a room has two or more windows of equal size, the mean of their VSCs may be taken. The reference point is in the external plane of the window wall. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed."*

The NSL test is described thus:

> *"Where room layouts are known, the impact on the daylighting distribution in the existing building can be found by plotting the 'no sky line' in each of the main rooms. For houses this would include living rooms, dining rooms and kitchens; bedrooms should also be analysed although they are less important. In non-domestic buildings each main room*

where daylight is expected should be investigated. The no sky line divides points on the working plane which can and cannot see the sky."

3.2 Sunlight to existing buildings

The BRE guide states:

"In designing a new development or extension to a building, care should be taken to safeguard the access to sunlight both for existing dwellings, and for any nearby non-domestic buildings where there is a particular requirement for sunlight.

Obstruction to sunlight may become an issue if:

- *some part of a new development is situated within 90˚ of due south of a main window wall of an existing building, and*
- *in the section drawn perpendicular to this existing window wall, the new development subtends an angle greater than 25˚ to the horizontal measured from the centre of the lowest window to a main living room.*

To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, 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.

A point at the centre of the window on the outside face of the window wall may be taken [as the calculation point]."

To quantify the available sunlight, the BRE guide advises measuring the percentage of annual probable sunlight hours (APSH), which is defined as follows:

"'probable sunlight hours' means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question".

Probable sunlight hours is the long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground when clouds are taken into account.

The BRE publishes APSH indicators for three latitudes in the UK: London (51.5°N, 1486 unobstructed hours), Manchester (53.5°N, 1392 unobstructed hours) and Edinburgh (56°N, 1267 unobstructed hours). The assessment uses whichever indicator is nearest to the latitude of the proposed development.

The assessment calculates the percentage of APSH over the whole year (annual sunlight) and between 21 September and 21 March (winter sunlight).

3.3 Sunlight to gardens and amenity spaces

Sunlight should be assessed on the equinox (21 March) to main back gardens of houses, allotments, parks and playing fields, children's playgrounds, outdoor swimming pools, sitting-out areas, such as in public squares and focal points for views, such as a group of monuments or fountains.

The assessment measures the percentage of each area that can receive at least two hours of sunlight on 21 March - the two-hours sun-on-ground test. Sunlight at an altitude of 10° or less is ignored, because it is likely to be blocked by planting, and fences or walls less than 1.5 metres high can also be ignored. Front gardens, driveways and hard standing for cars are usually omitted. Normally, trees and shrubs need not be included, partly because their shapes are almost impossible to predict, and partly because the dappled shade of a tree is more pleasant than a deep shadow of a building.

Where a large building is proposed which may affect a number of gardens or open spaces, it can be illustrative to plot shadow plans showing the location of shadows at different times of day and year. The

equinox (21 March) is the best assessment date as it shows the average level of shadowing. Mid-summer (21 June) is an optional addition date.

3.4 Scope of assessment

Surrounding properties

We have scoped our assessment of the impact of the proposed development on daylight and sunlight to existing surrounding properties having regard to the recommendations in the BRE guide, including the above-mentioned preliminary 25° angle test and 90° orientation tests, and using professional judgement.

In theory, the BRE guidelines may be applied to non-domestic buildings where occupants have a reasonable expectation of daylight (including schools, hospitals, hotels and hostels, small workshops and some offices) and any with a specific requirement for sunlight. However, it is common practice for studies for planning applications to assess residential properties only, unless the neighbouring buildings are sensitive receptors with a greater requirement for daylight or sunlight, such as residential care homes, schools or patient wards in hospitals.

We have therefore assessed the potential impacts on the existing surrounding residential properties.

For neighbouring residential properties, the BRE guide regards bedrooms as less important for daylight and both kitchens and bedrooms as less important for sunlight. Bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

3.5 Method of assessment

We have used 3D computer modelling and specialist software to run the assessments recommended in the BRE guide.

Drawings of our 3D computer model used in our assessment are attached at Appendix A including the following:

- Site location plan showing the neighbouring properties assessed
- Key building heights drawing showing a 3D view in the existing and proposed conditions
- Window location drawings show the neighbouring windows that have been assessed
- Shadowing assessment

The numerical results of our daylight and sunlight calculations are tabulated and appended to this report. For the assessment of impact on surrounding properties the calculations have been run in both the existing and proposed conditions, so that the potential loss or gain in light is quantified. This is then presented, both on an absolute scale and a comparative scale, measuring the percentage loss of light or factor of former value for the light that will be retained.

4.0 RESEARCH UNDERTAKEN AND ASSUMPTIONS MADE

To aid accuracy of the assessment and interpretation of the results, we have carried out online searches to try to obtain floor plans for the neighbouring buildings, including from online planning application records and general estate agency websites. This is the approach recommended in the Professional Guidance Note, *'Daylighting and sunlighting'* (1st edition, 2012), published by the Royal Institution of Chartered Surveyors, which states:

> *"As a minimum, and subject to any limitations relating to a client instruction, surveyors should undertake searches of the local authority's planning portal to establish existing or proposed room layouts of neighbouring properties if they are available. This will ensure a robust approach and enable the surveyor to produce reliable information for daylight distribution analysis, or if average daylight factor (ADF) tests are appropriate … Surveyors should also use the internet to search for other relevant information, including estate agent details, which commonly include plans of properties that can also be useful in determining a room layout or use."*

These assessments have considered the daylight and sunlight to 18b Frognal Gardens and 17 Holly Walk. These two properties are the closest to the development site. All other neighbours are considered too distant to require inclusion in these assessments.

Properties where we were able to find floor plans showing the internal layouts are listed in Table 1. The property reference numbers cross-refer to the location drawing at Appendix A.

Table 1 - Information sources for neighbouring buildings

Ref	Address	Information obtained
1	18b Frognal Gardens	Indicative layouts by Alison Brooks Architects
2	17 Holly Walk	Plans from planning archive

Where we have found drawings, we have based the room layouts and, where possible, the floor levels in our assessment model on the drawings, both for that building and any similar neighbouring buildings.

Where we were been unable to obtain drawings, we have made reasonable assumptions as to room layouts, room uses and floor levels within the neighbouring properties. Typically, that involves adopting a generic 4m-deep room for residential premises, unless the style of building suggests otherwise. In the absence of suitable plans, estimation is a conventional approach.

5.0 SIGNIFICANCE CRITERIA

5.1 BRE standard numerical guidelines

Surrounding properties

The BRE guide sets out numerical guidelines against which the potential effects of proposed development on daylight and sunlight to surrounding properties may be assessed. The default numerical guidelines are summarised in Table 2 below.

Table 2 - BRE numerical criteria for neighbouring properties

Issue	BRE Default Criteria
Daylight to neighbouring buildings	Daylight will be adversely affected if either: • the vertical sky component (VSC) measured at the centre of the window is reduced to less than 27% and less than 0.8 times its former value, or • the area of the working plane in a room which can receive direct skylight, i.e. is within no-sky line (NSL), is reduced to less than 0.8 times its former value.
Sunlight to neighbouring buildings	Sunlight will be adversely affected if the centre of the window will: • receive less than 25% of annual probable sunlight hours (APSH) or less than 5% APSH during the winter months (21 September to 21 March) and • less than 0.8 times its former sunlight hours during either period and • the reduction in sunlight over the whole year will be greater than 4% APSH.
Sunlight to neighbouring gardens & amenity areas	Sunlight to gardens and amenity areas may be adversely affected if the area which can receive two hours of direct sunlight on 21 March is reduced to less than 50% of its area and less than 0.8 times its former size.

In short, the BRE guidelines work on the general principle that, except where certain minimum values are retained (i.e. 27% VSC, 25% APSH annually, 5% APSH in winter and 50% of a garden/amenity space receiving at least two hours of sunlight), a reduction in light to less than 0.8 times its former value (i.e. more than 20% reduction) will be noticeable to the occupiers.

6.0 BASELINE CONDITION FOR NEIGHBOURING PROPERTIES

An analysis has been undertaken of the daylight and sunlight levels in the neighbouring buildings and amenity spaces in the baseline condition with the existing site massing in place. The existing site massing is shown coloured red on the key building heights drawing at Appendix A.

The existing buildings on the site comprise a three-storey residential semi-detached set back from the main street line to provide parking and associated gardens to the rear.

The daylight and sunlight levels in the baseline condition are shown in the results tables in Appendix B under the 'Existing' column headings.

It is against this baseline condition that the effects of the proposed development have been assessed.

7.0 EFFECTS OF PROPOSED DEVELOPMENT ON NEIGHBOURING PROPERTIES

7.1 Daylight to neighbouring properties

VSC and NSL

The results of the VSC and NSL analysis are tabulated in Appendix B and summarised, on a property by property basis, in Table 3 below.

Table 3 – Summary of VSC and NSL effects on rooms in existing neighbouring properties

Address	Total no. of rooms tested	No. of rooms meeting VSC guidelines	No. of rooms with impacts outside VSC guidelines	No. of rooms meeting NSL guidelines	No. of rooms with impacts outside NSL guidelines	No. of rooms with impacts outside VSC or NSL guidelines
18b Frognal Gardens	2	2	0	2	0	0
17 Holly Walk	4	4	0	4	0	0
Total	**6**	**6**	**0**	**6**	**0**	**0**

Table 3 shows that all 6 neighbouring rooms assessed within these neighbouring properties will fully comply with the BRE Guidelines in VSC and NSL terms. These are examined in further detail below.

Overall the average retained VSC will remain in excess of 30% with an average reduction of not more than 6%. In NSL terms the average retained figure will remain in excess of 97% with an average reduction of just over 1%.

Overall these results illustrate that the proposed scheme will fully and comfortably comply with the BRE assessment criteria in daylight terms.

7.2 Sunlight to neighbouring properties

The results of the annual and winter sunlight analyses are tabulated in Appendix B and summarised, on a property by property basis in Table 4 below.

Table 4 - Number of rooms experiencing APSH effects as a result of the proposed development

Address	Total number of windows tested	Number of windows meeting APSH guidelines	Number of windows with impacts beyond APSH guidelines
18b Frognal Gardens	N/A	N/A	N/A
17 Holly Walk	1	1	0
Total	**1**	**1**	**0**

Table 4 shows that of the single window considered for assessment will comply with the BRE guidelines for both annual and winter APSH. This are examined in further detail below.

Only a single window within 17 Holly Walk has been considered for analysis due to orientation in relation to the development site. This is in accordance with the BRE assessment criteria as described at 3.4 above.

The retained ASPH is 81% whilst the winter condition is 27% with a reduction in the APSH of less than 3% and no change to the winter condition.

Overall these results illustrate that the proposed scheme will fully and comfortably comply with the BRE assessment criteria in sunlight terms.

7.3 Sunlight to gardens and amenity spaces

The results of the two-hour sun-on-ground analyses are shown on the relevant drawing in Appendix B. In summary, the rear garden of 18b Frognal Gardens would comfortably satisfy the BRE guidelines for sun on ground.

The proposed redevelopment of 18a will change that amount of area receiving a minimum of 2 hours direct sunlight on 21 March from 73% down to 71%. The change will be very modest and to a small area closest to the house with the main garden area to the rear of the property completely unaffected.

8.0 CONCLUSION

The site is in an urban location in Hampstead in close proximity to its neighbours.

The proposed development comprises the demolition of the existing building and the construction of a ground plus three storey residential property with associated landscaping.

We have assessed the potential effects of the proposed development on daylight and sunlight to surrounding residential properties, main back gardens and amenity spaces using the methodology recommended in the BRE guidelines, *Site Layout Planning for Daylight and Sunlight: A guide to good practice (second edition, 2011)*. The assessment has been run in the existing baseline and proposed development conditions and the potential effects of the proposed development have been quantified.

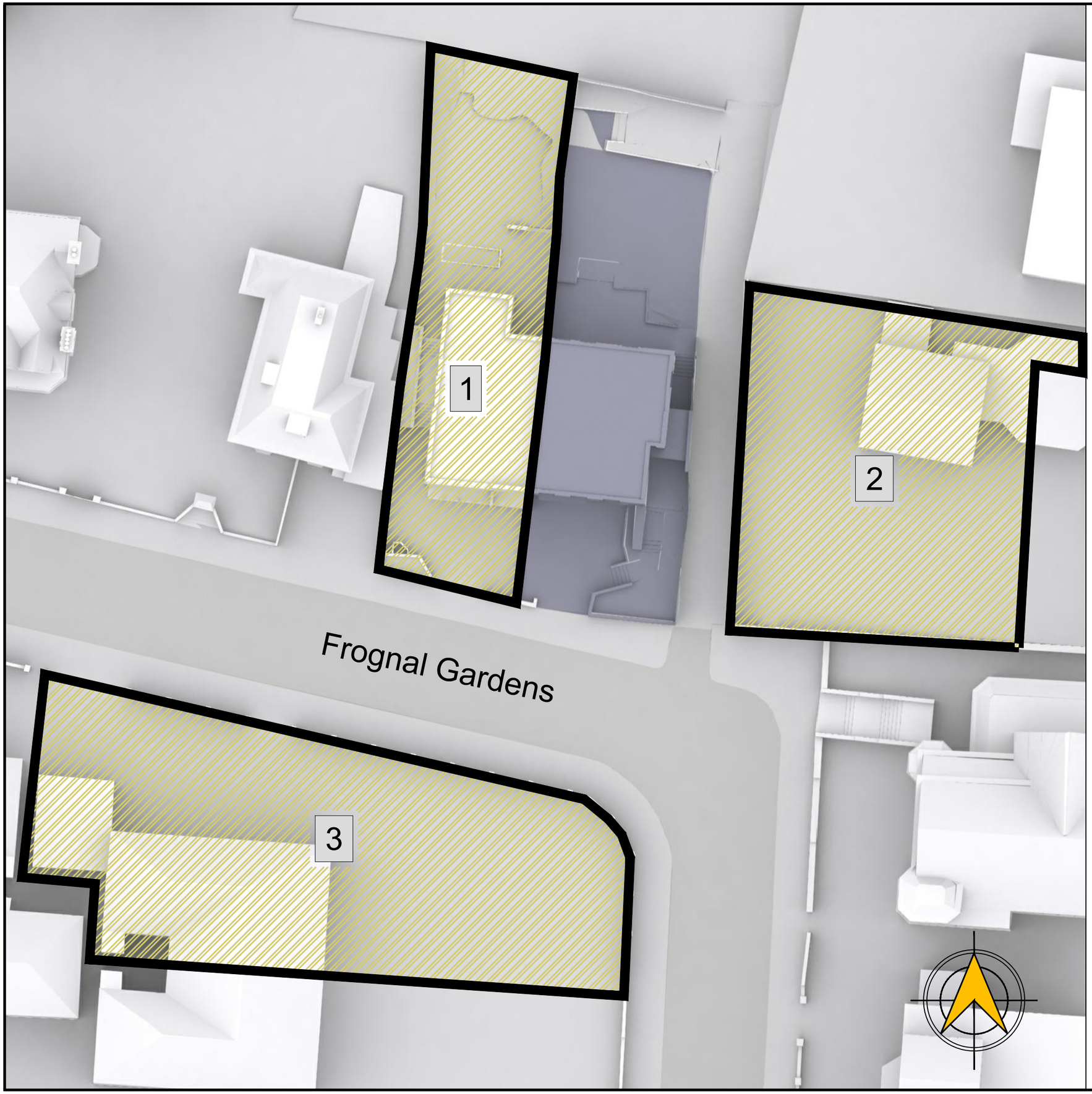
Overall the daylight, sunlight and shadowing results illustrate that the proposed scheme will fully and comfortably comply with the BRE assessment criteria in daylight, sunlight and shadowing terms.

In conclusion, it is submitted that the layout of the proposed development is consistent with the Council's local planning policy on daylight, sunlight, and shadowing, particularly having regard to paragraph 123(c) of the National Planning Policy Framework and paragraphs 1.3.45 and 1.3.46 of the Mayor of London's Housing SPG.

Delva Patman Redler LLP
Chartered Surveyors

APPENDIX A

LOCATION DRAWINGS



NEIGHBOURING PROPERTIES CONSIDERED FOR ANALYSIS

1: 18b Frognal Gardens:
Dwg No: 19339_LOC_001

2: 17 Holly Walk:
Dwg No: 19339_LOC_002

3: 9 Frognal Gardens:
Dwg No: N/A

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

Existing	Consented
Proposed	Cumulative
Neighboring Property	Cutback Envelope

SOURCE DATA:

Drawings Used:
Existing and surrounding buildings:
A D Horner Limited:
Measured Survey received on 31.07.2019:
Dwg No's: 5504-14JAN19-01 to 09

Alison Brooks Architects:
3D model received on 07.08.2019:
ABA-2473-Context_Detailed-Existing.dwg

Dwg No's: ABA-2473-10-001, 002, 010, 011, 020, 021, 030 - 034

NOTES:

All neighbouring properties considered for analysis

REV	Description	Drawn	Ch'kd	Date

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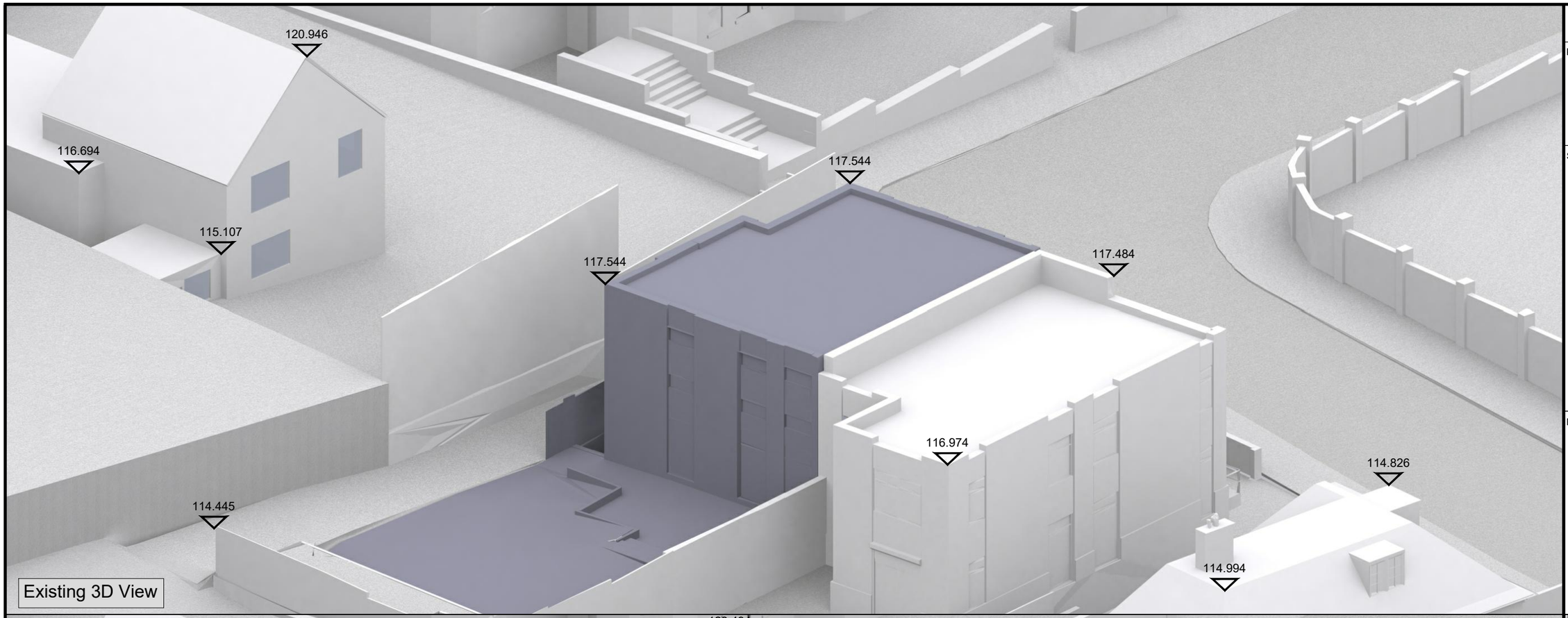
TITLE:

18A FROGNAL GARDENS
LONDON
NW3 6XA

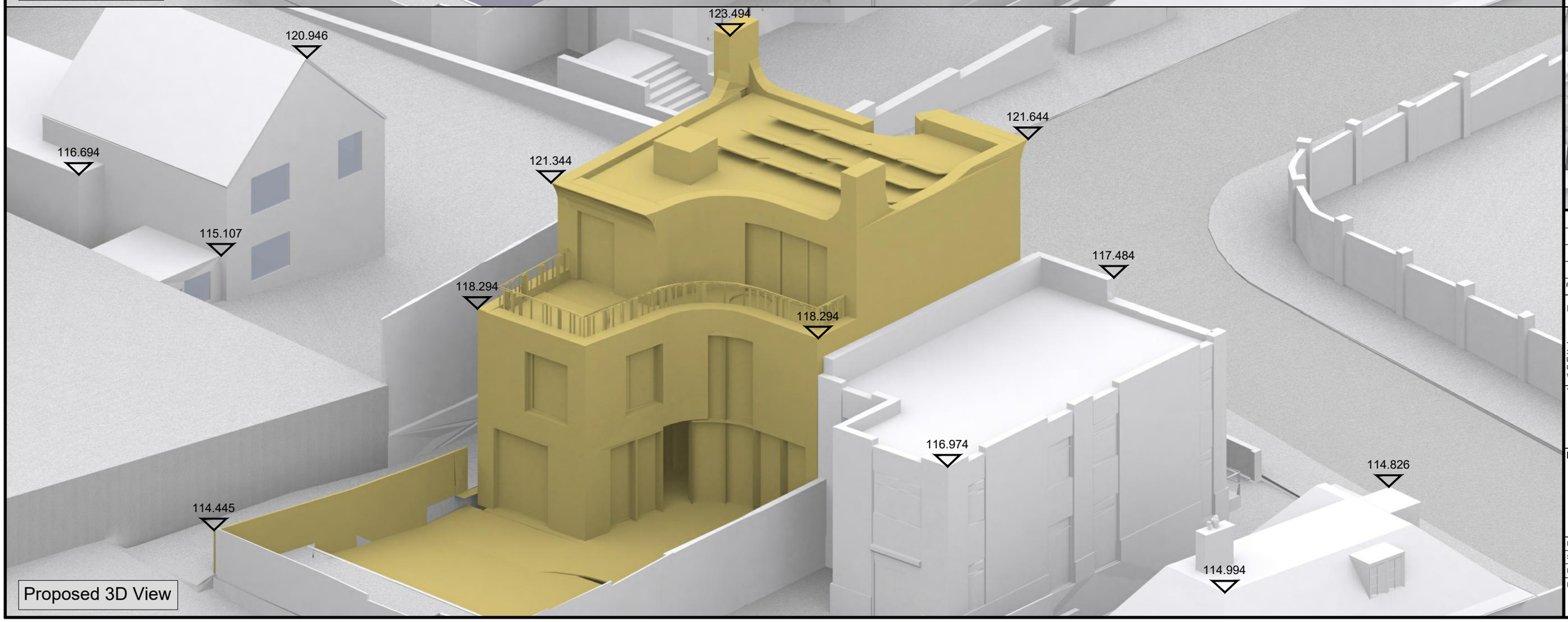
DRAWING:

LOCATION PLAN
Plan View
Daylight & Sunlight

DRAWN: RM	JOB NBR: 19339
SCALE: NTS	
DATE: 12/08/2019	
DWG NO: LOC_DS_001	REV: -



Existing 3D View



Proposed 3D View

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

Existing	Consented
Proposed	Cumulative
Neighboring Property	Cutback Envelope

SOURCE DATA:

Drawings Used:
Existing and surrounding buildings:
A D Horner Limited:
Measured Survey received on 31.07.2019:
Dwg No's: 5504-14JAN19-01 to 09

Alison Brooks Architects:
3D model received on 07.08.2019:
ABA-2473-Context_Detailed-Existing.dwg

Dwg No's: ABA-2473-10-001, 002, 010, 011, 020, 021, 030 - 034

Proposed Scheme:
Alison Brooks Architects:
3D model received on 07.08.2019:
ABA-2473-Context_Detailed-Proposed.dwg

Dwg No's: ABA-2473-20-010 to 026, 030 - 036

NOTES:
All heights given in m AOD

REV	Description	Drawn	Ch'kd	Date

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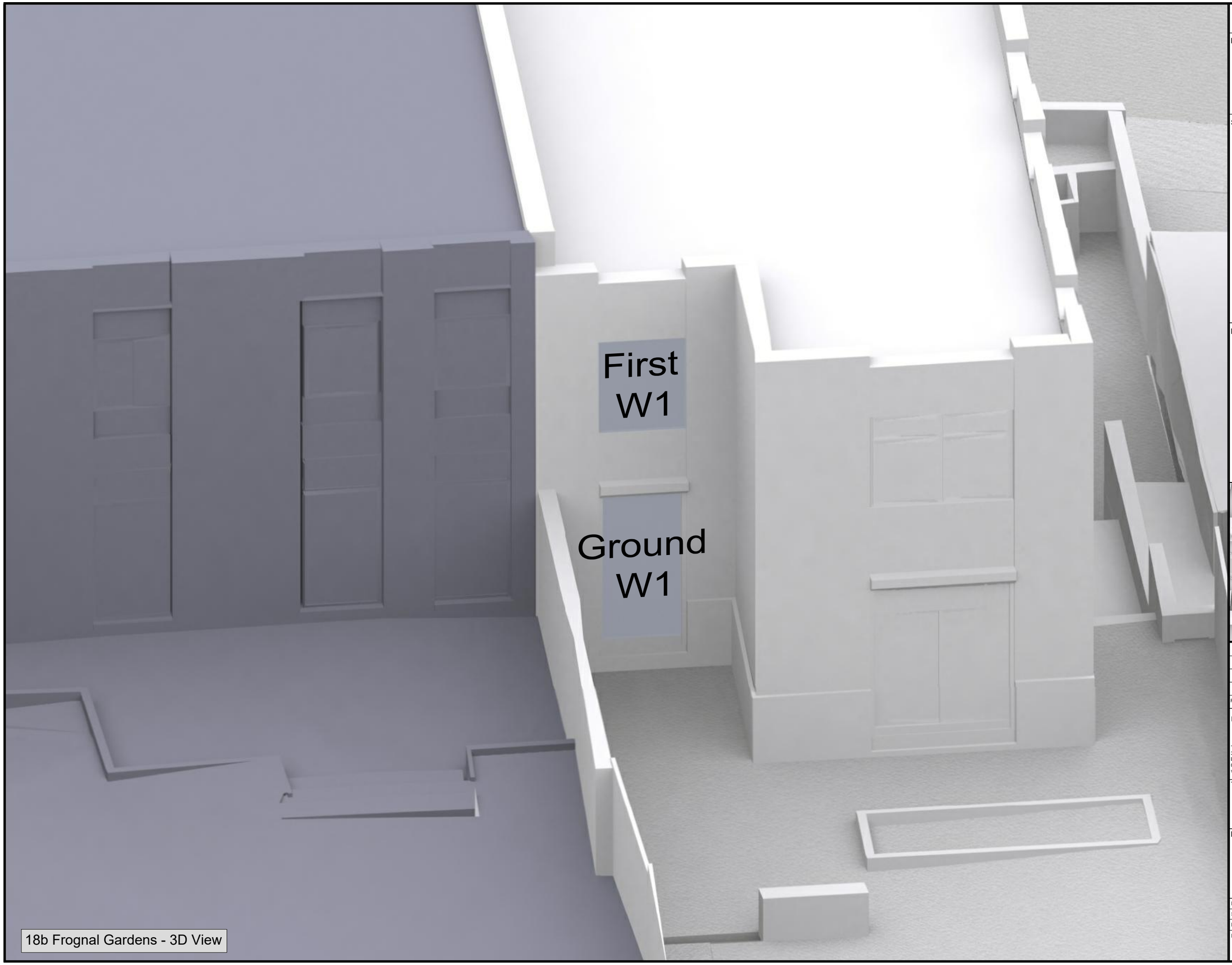
TITLE:
18A FROGNAL GARDENS
LONDON
NW3 6XA

DRAWING:
Exisnting & Proposed Schemes
Plan and 3D Views
Key Building Heights

DRAWN: RM	JOB NBR: 19339
SCALE: NTS	
DATE: 09/08/2019	

DWG NO: SPT_001

REV: -



18b Frognal Gardens - 3D View

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

W1 Windows tested Daylight only

W1 Windows tested Daylight & Sunlight

SOURCE DATA:

Drawings Used:
Existing and surrounding buildings:
A D Horner Limited:
Measured Survey received on 31.07.2019:
Dwg No's: 5504-14JAN19-01 to 09

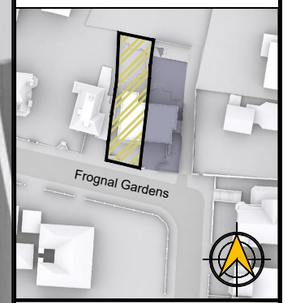
Alison Brooks Architects:
3D model received on 07.08.2019:
ABA-2473-Context_Detailed-Existing.dwg

Dwg No's: ABA-2473-10-001, 002, 010, 011, 020, 021, 030 - 034

NOTES:

Layouts obtained from local authority website.

Alison Brooks Architects:
Dwg No's: ABA-2473-20-016; ABA-2473-20-017; ABA-2473-20-032; ABA-2473-20-035.



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
020 7936 3668

The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980

www.delvapatmanredler.co.uk info@delvapatmanredler.co.uk

TITLE:

18A FROGNAL GARDENS
LONDON
NW3 6XA

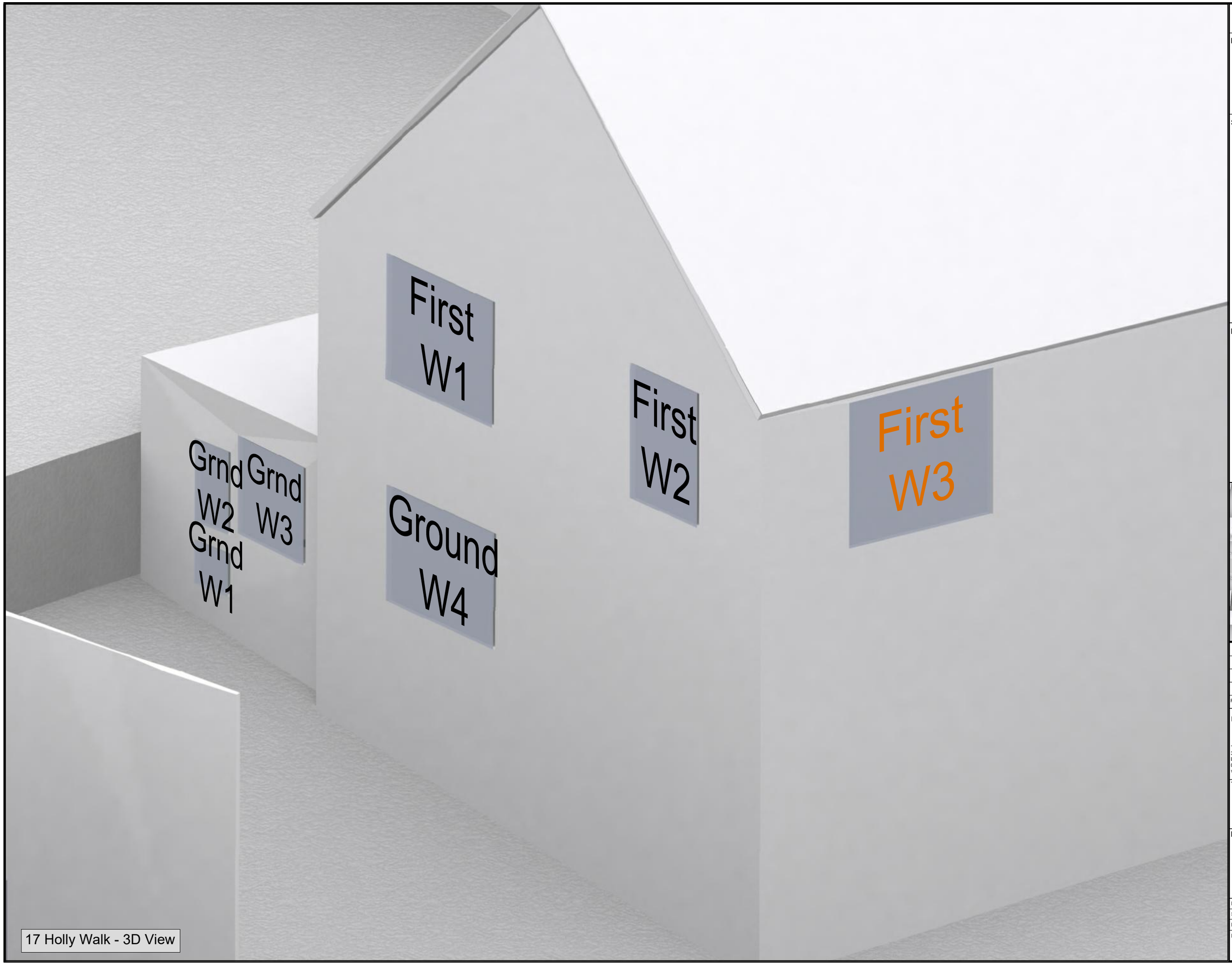
DRAWING:

KEY WINDOW LOCATIONS
Plan and 3D Views
Daylight & Sunlight
18b Frognal Gardens

DRAWN:	RM	JOB NBR: 19339
SCALE:	NTS	
DATE:	12/08/2019	

DWG NO: LOC_001

REV: -



17 Holly Walk - 3D View

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

W1 Windows tested Daylight only

W1 Windows tested Daylight & Sunlight

SOURCE DATA:

Drawings Used:
Existing and surrounding buildings:
A D Horner Limited:
Measured Survey received on 31.07.2019:
Dwg No's: 5504-14JAN19-01 to 09

Alison Brooks Architects:
3D model received on 07.08.2019:
ABA-2473-Context_Detailed-Existing.dwg

Dwg No's: ABA-2473-10-001, 002, 010, 011, 020, 021, 030 - 034

NOTES:

Layouts obtained from local authority website.

Frederick A. Hobart and Associates:
Dwg No's: 181/10 Rev 5; 181/7 Rev 5; 181/6 Rev 5.

REV	Description	Drawn	Ch'kd	Date

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TITLE:

18A FROGNAL GARDENS
LONDON
NW3 6XA

DRAWING:

KEY WINDOW LOCATIONS
Plan and 3D Views
Daylight & Sunlight
17 Holly Walk

DRAWN: RM	JOB NBR: 19339
SCALE: NTS	
DATE: 12/08/2019	

DWG NO:	REV:
LOC_002	-

APPENDIX B

DAYLIGHT & SUNLIGHT ANALYSIS RESULTS – NEIGHBOURING PROPERTIES

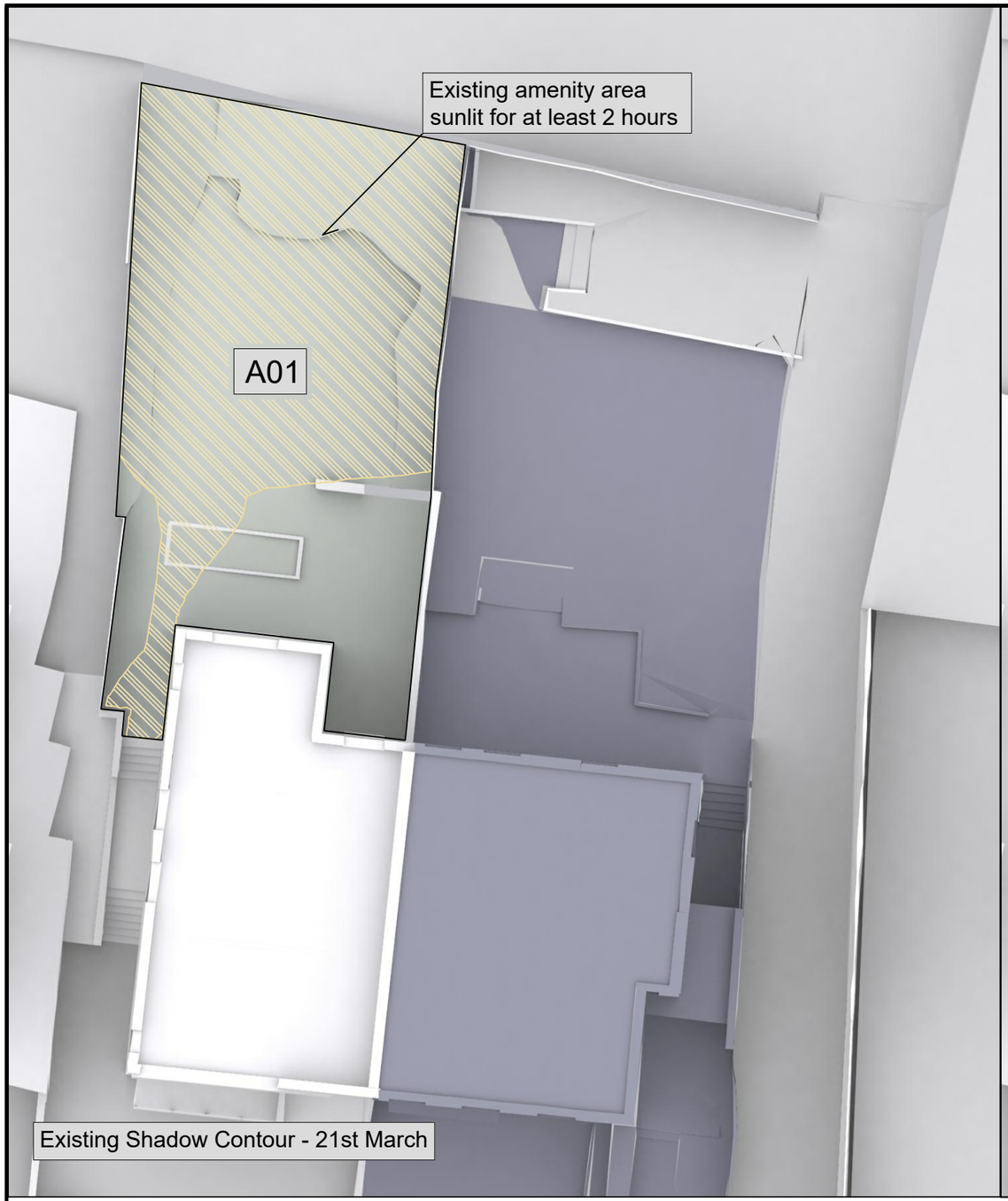
				VSC				Daylight Distribution			APSH					
Address	**Floor Level**	**Room Name**	**Window ID**	**Existing**	**Proposed**	**Window %age Diff**	**Room %age Diff**	**Existing**	**Proposed**	**%age Diff**	**APSH Existing**	**APSH Proposed**	**%age Diff**	**Winter Existing**	**Winter Proposed**	**&age Diff**
18b Frognal Gardens	Ground	Unknown/R1	W1	19.02	19.01	-0.08%	-0.08%	97.22%	97.04%	-0.18%	N/A	N/A	N/A	N/A	N/A	N/A
	First	Unknown/R1	W1	28.01	27.07	-3.36%	-3.36%	98.76%	98.75%	-0.01%	N/A	N/A	N/A	N/A	M/A	N/A
17 Holly Walk	Ground	Unknown/R1	W4	33.77	30.41	-9.94%	-9.94%	99.36%	96.49%	-2.89%	N/A	N/A	N/A	N/A	N/A	N/A
		Kitchen/R2	W1	32.46	30.59	-5.76%	-6.53%	97.44%	93.26%	-4.29%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.07	31.86	-6.49%					N/A	N/A	N/A	N/A	N/A	N/A
			W3	33.65	31.18	-7.33%					N/A	N/A	N/A	N/A	N/A	N/A
	First	Unknown/R1	W2	38.39	33.53	-12.65%	-6.88%	99.76%	99.76%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W3	36.18	35.78	-1.11%					83	81	-2.41%	27	27	0.00%
		Unknown/R2	W1	38.34	34.20	-10.81%	-10.81%	99.53%	99.53%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			Average	**32.66**	**30.40**	**-6.39%**	**-6.27%**	**98.68%**	**97.47%**	**-1.23%**	**83**	**81**	**-2.41%**	**27**	**27**	**0.00%**

Red Text Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

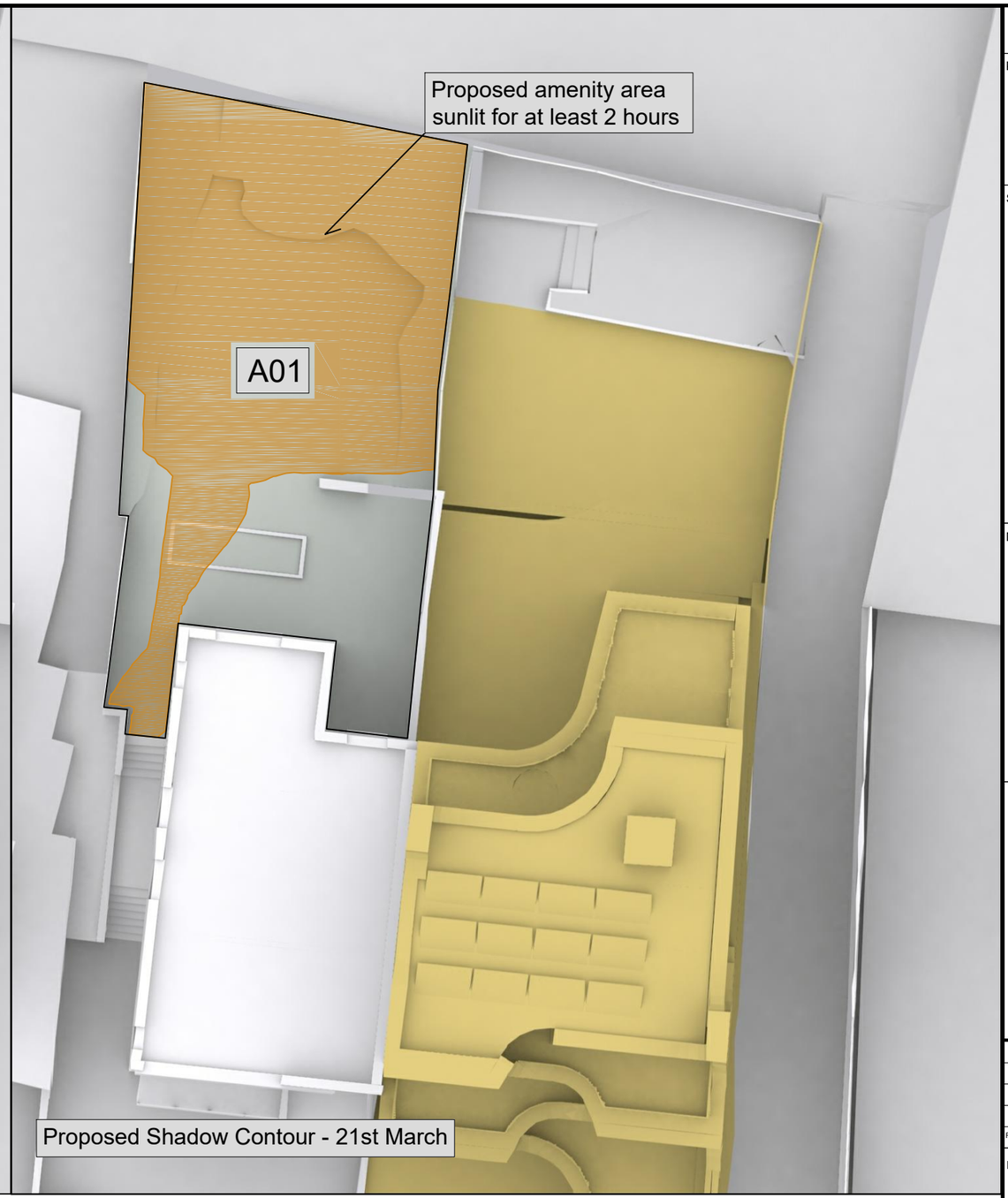
See Dwg No: 19339_LOC_001-002

APPENDIX C

SHADOWING ANALYSIS & RESULTS – 18B FROGNAL GARDENS



Existing Shadow Contour - 21st March



Proposed Shadow Contour - 21st March

Address	Amenity Area (m²)	BRE Recommendations (At least 50% of Amenity Area)	Existing Area	Existing %age of Area	Proposed Area	Proposed %age of Area	%age Change
18b Frognal Gardens\Ground\A01	170.08	85.04	123.98	73%	120.35	71%	2%
Total	170.08	85.04	123.98	73%	120.35	71%	2%

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing Shadow Contour
- Proposed Shadow Contour
- A02 Amenity Area Number

SOURCE DATA:

Drawings Used:
Existing and surrounding buildings:
A D Horner Limited:
Measured Survey received on 31.07.2019:
Dwg No's: 5504-14JAN19-01 to 09

Alison Brooks Architects:
3D model received on 07.08.2019:
ABA-2473-Context_Detailed-Existing.dwg

Dwg No's: ABA-2473-10-001, 002, 010, 011, 020, 021, 030 - 034

Proposed Scheme:
Alison Brooks Architects:
3D model received on 07.08.2019:
ABA-2473-Context_Detailed-Proposed.dwg

Dwg No's: ABA-2473-20-010 to 026, 030 - 036

NOTES:

For it to appear adequately sunlit throughout the year at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21st March is less than 0.8 times its former value, then the loss of light is likely to be noticeable.

REV	Description	Drawn	Ch'kd	Date

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TITLE:

18A FROGNAL GARDENS
LONDON
NW3 6XA

DRAWING:

SHADOW ANALYSIS
Plan View
Permanent Shadow Areas
21st March

DRAWN: RM	JOB NBR: 18332
SCALE: NTS	
DATE: 12/08/2019	
DWG NO: SHD/001	REV: -