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DAYLIGHT & SUNLIGHT REPORT

Oxford Road

Oxford Road, Reading RG30

May 2022

Contents

1. Introduction
2. Guidance
3. Application of the guidance
4. Planning Policy Context
5. Sources of information & assumptions
6. The site and proposal
7. Assessment results
8. Conclusions

1. Introduction

1.1. eb7 have been instructed to assess the effect of proposed development at Oxford Road, Reading on daylight and sunlight to the existing surrounding properties and neighbouring amenity spaces as well as daylight and sunlight within the proposal itself. These assessments consider the latest ECE Architects' scheme proposals dated 15th September 2020.

1.2. The methodology and criteria used for these assessments is provided by Building Research Establishment's (BRE) guidance 'Site layout planning for daylight and sunlight: A guide to good practice' (BRE 209 2nd edition, 2011).

1.3. In order to carry out an assessment, we have generated a 3D computer model (Test Environment) of the existing site, the key surrounding properties and the proposed scheme. Using this model and our specialist software, we have calculated the daylight and sunlight levels in both the existing and proposed conditions for the relevant neighbouring buildings.

1.4. As well as considering the daylight and sunlight to neighbouring properties, we have also quantified the overshadowing effects to neighbouring amenity areas and gardens, again considering both the existing and proposed conditions.

1.5. As the proposed development includes residential accommodation, the daylight and sunlight to rooms within the proposal has also been considered.

1.6. The numerical criteria suggested within the BRE guidelines has been applied to each of the assessments mentioned above. It is important to note that these guidelines are not a rigid set of rules, but are advisory and need to be applied flexibly according to the specific context of a site.

2. Guidance

Daylight & sunlight for planning

'Site layout planning for daylight and sunlight: A guide to good practice', BRE 2011

2.1. The Building Research Establishment (BRE) Report 209, *'Site layout planning for daylight and sunlight: A guide to good practice'*, is the reference document used by most local authorities for assessing daylight and sunlight in relation to new developments. Commonly referred to as 'the BRE guidelines', it provides various testing methodologies to calculate the potential light levels received by neighbours of a development site and provided within proposed new development.

Detailed daylight assessments

2.2. The guidance outline three detailed methods for calculating daylight: the Vertical Sky Component (VSC), the No-Sky Line (NSL) and the Average Daylight Factor (ADF).

2.3. The VSC and NSL are primarily used for the assessment of existing buildings, while the ADF test is generally recommended for proposed rather than existing dwellings. The ADF may sometimes be useful as a supplementary analysis for existing buildings, particularly newer ones, and a number of local authorities request this as a standard measurement for impact assessments. It can help in judging whether an impact on daylight, which might otherwise be deemed 'noticeable', is nonetheless acceptable, when considered in the broader town planning context.

2.4. The VSC test measures the amount of sky that is visible to a specific point on the outside of a property, which is directly related to the amount of daylight that can be received. It is measured on the outside face of the external walls, usually at the centre point of a window.

2.5. The NSL test calculates the distribution of daylight within rooms by determining the area of the room at desk / work surface height (the 'working plane') which can and cannot receive a direct view of the sky and hence 'sky light'. The working plane height is set at 850mm above floor level within residential property.

2.6. For the above methods, the guidance suggests that existing daylight may be noticeably affected by new development if: -

- Windows achieve a VSC below 27% and are reduced to less than 0.8 times their former value; and / or
- Levels of NSL within rooms are reduced to less than 0.8 times their former values.

2.7. Where rooms are greater than 5m in depth and lit from only one side, the guidance recognises that *"a greater movement of the no sky line may be unavoidable"* (page 8, paragraph 2.2.10).

Daylight to new buildings

2.8. The ADF method calculates the average illuminance within a room as a proportion of the illuminance available to an unobstructed point outdoors under a sky of known

luminance and luminance distribution. This is the most detailed of the daylight calculations and considers the physical nature of the room behind the window, including; window transmittance, and surface reflectivity. The BRE guidance and British Standard sets the following recommended ADF levels for habitable room uses: -

- Bedrooms – 1% ADF
- Living Rooms – 1.5% ADF
- Kitchens – 2% ADF

2.9. For multi-purpose living / kitchen / diner arrangements the higher 2% 'kitchen' target can be difficult to achieve due to the depth of internal space. In such cases, it is not uncommon to apply the living room 1.5% target instead as this is the predominant use of the space.

Detailed sunlight assessments

2.10. For sunlight, the Annual Probable Sunlight Hours (APSH) test calculates the percentage of probable hours of sunlight received by a window or room over the course of a year.

2.11. In assessing sunlight effects to existing properties surrounding a new development, only those windows orientated within 90° of due south and which overlook the site require assessment. The main focus is on living rooms, with bedrooms and kitchens deemed less important.

2.12. The guidelines suggest that the main living rooms within new buildings should achieve at least 25% of annual sunlight hours, with 5% during the winter period. For neighbouring buildings, the guide suggests that occupiers will notice the loss of sunlight if the APSH to main living rooms is both less than 25% annually (with 5% during winter) and that the amount of sunlight, following the proposed development, is reduced by more than 4%, to less than 0.8 times its former value.

Sunlight to gardens and outdoor spaces

2.13. Where sunlight to an amenity space may be affected by new development, the BRE guidelines recommend that an overshadowing assessment is conducted. The key analysis is the '2hr sun on ground' test, which quantifies the proportion of an amenity area (e.g. rear gardens, parks and playing fields, public squares etc.) receiving at least 2hrs of sun on the 21st of March.

2.14. The BRE guidance recognises that different types of amenity space may have different sunlighting requirements. Generally, the guidelines suggest that if at least 50% of an amenity area receives at least 2hrs of sun on 21st March, then it is likely to be adequately lit throughout the year. If an existing neighbouring open space receives less than 50%, then the guidelines suggest that it should not be reduced below 0.8 times its former value.

3. Application of the guidance

Scope of assessment

Impact analysis for neighbouring buildings

3.1. The BRE guidelines advise that, when assessing any potential effects on surrounding properties, only those windows and rooms that have a 'reasonable expectation' of daylight and sunlight need to be considered. At paragraph 2.2.2 it states: -

> *"The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed."*

3.2. Our assessments therefore consider the neighbouring residential properties only, which the BRE recognises have the highest expectation for natural light. We have tested the impact on the main rooms in each residential property and ignored non-habitable space (e.g. staircases, hallways, bathrooms, toilets, stores etc.) as per BRE guidance.

Assessment for proposed accommodation

3.3. Our assessment has considered all of the proposed residential units within the scheme. The daylight assessment considers all of the main habitable rooms (bedrooms, living rooms, kitchens etc.), toilets, hallways and staircases are not considered habitable use.

3.4. For sunlight the BRE acknowledges that windows with a predominantly northern orientation are unlikely to satisfy its targets and that main living rooms are most important. Therefore, our sunlight assessment focusses on the relevant living areas with windows facing within 90° of due south only.

Application of the numerical criteria

3.5. The opening paragraphs of the BRE guidelines state:

> *"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer.*
>
> *Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of 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".*

3.6. It is therefore very important to apply the BRE guidance sensibly and flexibly, with careful consideration of the specific site context. Its numerical targets theoretically apply to any built environment, from city centres to rural villages. However, in more tightly constrained environments, achieving the default BRE targets can be very

challenging and conflict with other beneficial factors of site layout design.

3.7. Suggested approaches for setting appropriate alternative target values are provided within Appendix F of the BRE guidelines.

3.8. Paragraph F5 at page 62 seeks *"to ensure that new development matches the height and proportions of existing buildings"*. This recognises that higher degrees of obstruction may be unavoidable if this objective is to be achieved with a flexible approach being required.

3.9. Furthermore, the inherent design constraints of surrounding buildings can also be a key factor, making windows and rooms particularly sensitive and exaggerating the effect of new development. For example, if windows are close to the boundary, set beneath balconies, are recessed or located adjacent to projecting wings, the BRE acknowledges that *"even a modest obstruction opposite may result in a large relative impact"* (page 8, paragraph 2.2.11).

4. Planning Policy Context

4.1. We have considered local, regional and national planning policy relating to daylight and sunlight. In general terms, planning policy advises that new development will only be permitted where it is shown not to cause unacceptable loss of daylight or sunlight amenity to neighbouring properties.

4.2. The need to protect the amenity of neighbours is echoed within recent publications from the Secretary of State for Housing, Communities and Local Government. Although, these documents also stress that current guidance needs to be used flexibly where developments are located in urban areas and intend to achieve higher densities. Specifically, these documents suggest that the nationally applicable criteria given within the BRE guidance needs to be applied carefully and in consideration of the development's context.

The National Planning Policy Framework - Department for Housing, Communities and Local Government (July 2021)

4.3. The latest version of the National Planning Policy Framework was issued in July 2021. The document sets out planning policies for England and how these are expected to be applied. In respect of daylight and sunlight it stresses the need to make optimal use of sites and to take a flexible approach to daylight and sunlight guidance. Para 125 States: -

11. Making effective use of land

<u>Achieving appropriate densities</u>

> *"125. Area-based character assessments, design guides and codes and masterplans can be used to help ensure that land is used efficiently while also creating beautiful and sustainable places. 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).*

Reading Borough Local Plan – Reading Local Authority (November 2019)

4.4. This flexibility in approach is also reflected in the Reading Local Plan which states the following:

Section 5.3.47 & 5.3.49

"In terms of effects of developments, the Building Research Establishment (BRE) has guidelines on assessing daylight and sunlight effects of development, which the Council will apply flexibly given the high density of the central area."

4.5. Whilst the above local policy relates predominantly to tall buildings it acknowledges the density of the central area and echoes the national guidance in respect of the flexibility required to maximise the opportunity presented by more constrained sites.

5. Sources of information & assumptions

5.1. A measured survey, architectural drawings, site photographs and Ordnance Survey information has been used to create a 3D computer model of the proposed development in the context of the existing site and surrounding buildings.

5.2. Where survey or planning information was unavailable, the position of the neighbouring property elevations has been estimated based upon brick counts from site photographs.

5.3. We have not sought access to the surrounding properties and hoave sought to source floor layouts via public records. Where public records were not available, and unless the building form dictates otherwise, we have assumed room depths of c. 4.2m for principal living space. Room layouts used directly affect the results of the NSL and ADF assessments.

5.4. Where possible neighbouring building use has been identified via online research, including Valuation Office Agency (VOA) searches, and/or external observation.

5.5. The full list of source of information used in this assessment is as follows:

HB Surveys

Topographical Survey

Topographical Survey
Outline Elevations
21st September 2020

ECE Architects

3D Model

6906-ECE-01-XX-M3-A-6906_Main Building.0001.rvt
6906-ECE-01-XX-M3-A-6906_Main Building.0002.rvt
6906-ECE-01-XX-M3-A-6906_Main Building.rvt
22/09/2020

Layouts

6906 - 112(D) - Second Floor Plan
6906 - 113(E) - Third Floor Plan
6906 - 114(E) - Fourth Floor Plan
6906 - 115(D) - Fifth Floor Plan
22/09/2020

6906 - 0100(B) - Proposed Site Plan
6906 - 110(F) - Ground Floor Plan
6906 - 111(D) - First Floor Plan
6906 - 140 - Existing Street Elevations - Sheet 1
6906 - 141 - Existing Street Elevations - Sheet 2

6906 - 142(A) - Proposed Street Elevations Sheet 1
6906 - 143(A) - Proposed Street Elevations Sheet 2
21/09/2020

6. The site and proposal

6.1. The development site is a corner plot situated close to Oxford Road and Moulsford Mews. The site is currently vacant.

6.2. The proposed development comprises the erection of a new building containing 26 residential units and commercial space at ground floor, together with car and cycle parking and other associated infrastructure**.** Our computer modelling of the proposed scheme is shown in the image below and in more detail within our drawings at Appendix 1.

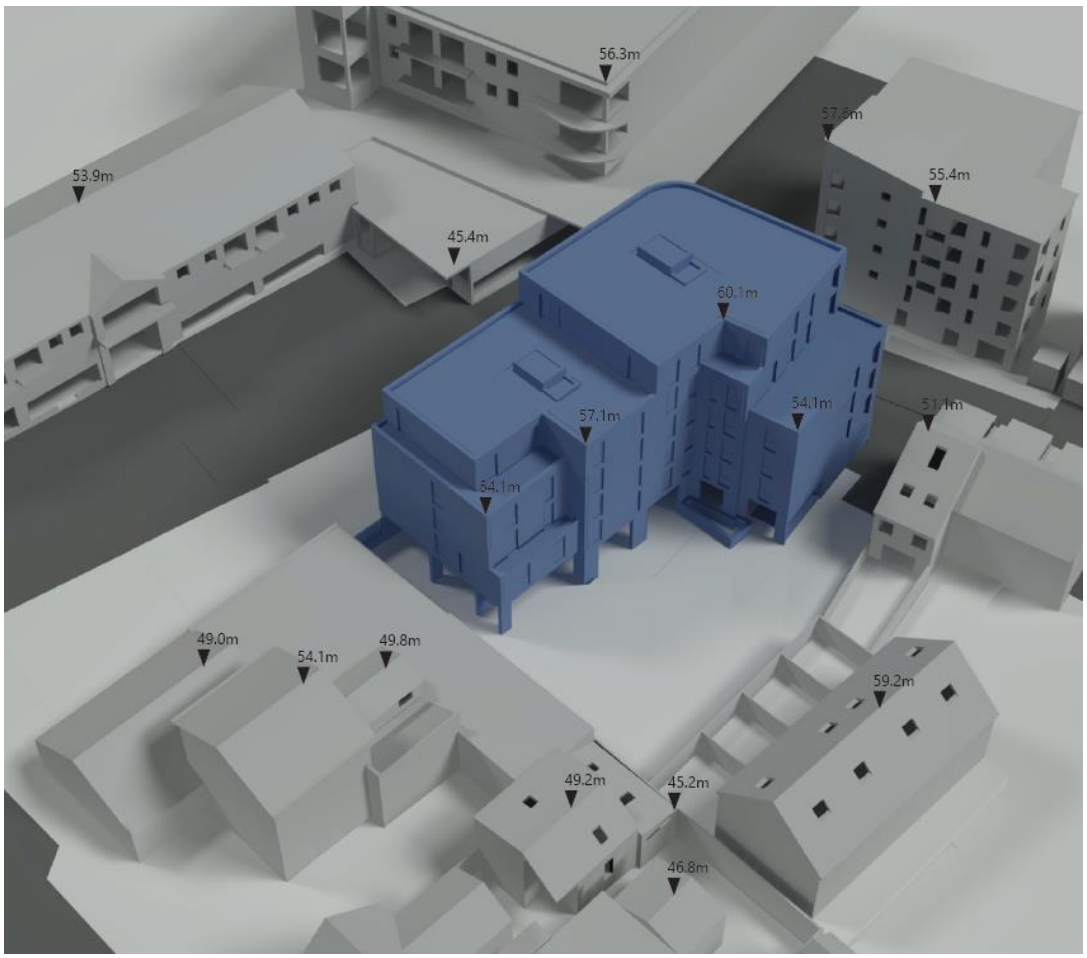


Image 1 – Isometric view of the proposed development

7. Assessment results

7.1. Full results of the daylight and sunlight assessments are attached within Appendix 2. Drawings to show the existing and proposed buildings in the context of the neighbouring properties as well as window maps showing individual window references are attached within Appendix 1.

Daylight and sunlight to neighbouring buildings

7.2. Our assessment has considered all of the closest neighbouring residential properties with windows overlooking the proposed development. These are shown on the following image: -

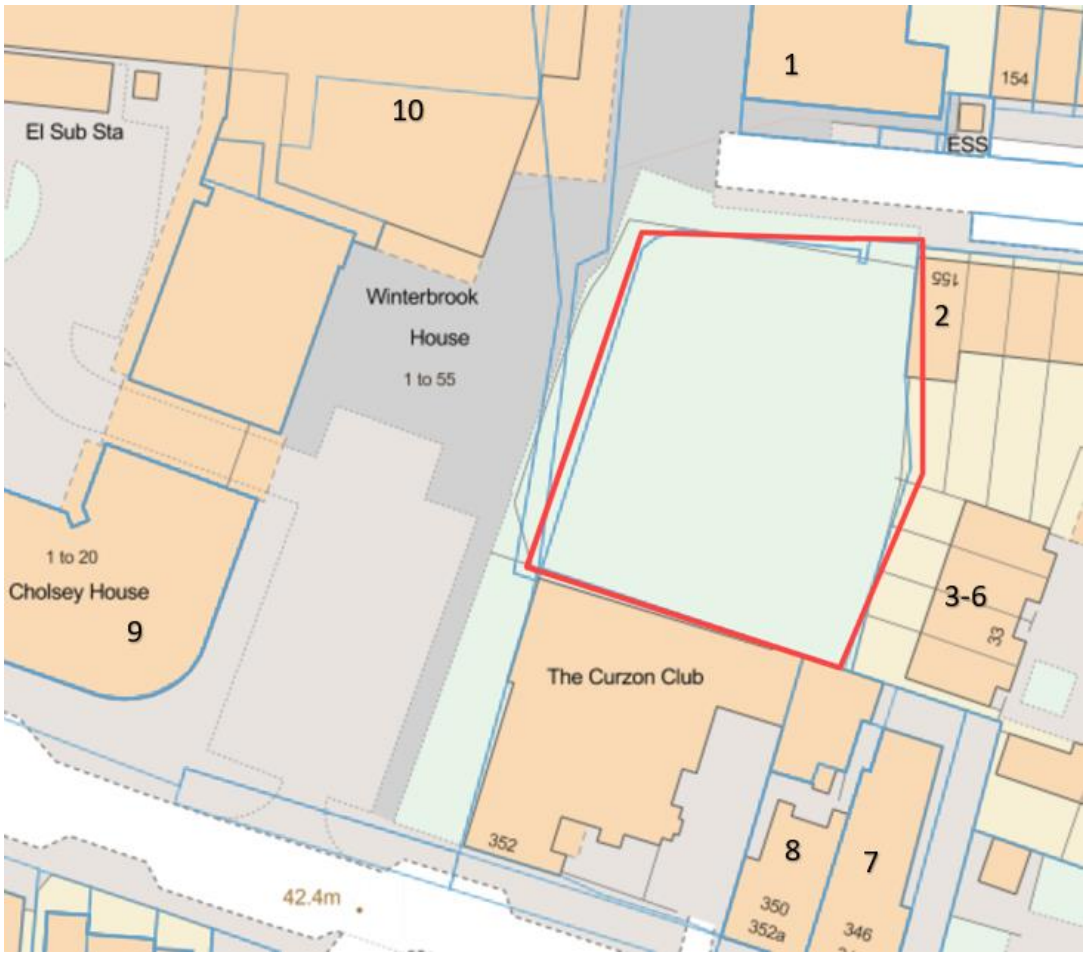


Image 2 – site and neighbouring properties assessed

1. Englefield House
2. 155 Curzon Street
3. 35 Battle Place
4. 34 Battle Place
5. 33 Battle Place

6. 32 Battle Place
7. 346-348 Oxford Road
8. 350 & 352 Oxford Road
9. 1-20 Cholsey House
10. Winterbrook House

Englefield House

Image 3 – Englefield House, southern and western elevation

7.3. This is a five-storey apartment building situated directly to the north of the site. It has a number of windows in its southern elevation which have a direct view of the proposed scheme.

7.4. The internal layouts of this property have been modelled using plans obtained from the local authority. We have also inserted some test windows into the elevation as the survey was unable to pick up a detailed record of the façade.

Daylight

7.5. The results of the VSC assessment have shown marginal reductions to three windows at ground floor level. None of the ground floor spaces are understood to be habitable residential space and therefore these changes are not considered to be material.

7.6. At first floor level two windows which serve a dual aspect living space (Room R1) will see a reduction in absolute VSC levels however the remaining windows will be unaffected. Section 2.2.6 of the BRE guide states that if a room is served by multiple windows the mean VSC effects may be considered. The mean proportional retained value to this space will remain above 0.8 also which is in accordance with the BRE guidelines.

7.7. A similar scenario is noted at second floor level where the same room (Room R1) will see a reduction to two of the four windows. Here the mean absolute VSC level will remain above 27% and therefore in accordance with the BRE guidelines.

7.8. A marginal reduction is noted to a first-floor bedroom window such that its proportional value falls to 0.7. It does however retain an absolute VSC of over 25% which is exceptionally high for a central location. This minor deviation is therefore considered to be fully acceptable particularly as bedrooms have less reliance on daylight.

7.9. The results of the VSC and NSL assessments for this property demonstrate an excellent

level of compliance with the BRE guidance in respect of the neighbouring habitable rooms.

Sunlight

7.10. The BRE guidance suggests that sunlight is most important in main living rooms and that kitchens and bedrooms are less important. Furthermore, only windows which face within 90 degrees of due south are relevant for consideration as part of an APSH assessment.

7.11. The south facing living room windows within this property, which overlook the proposed development, will retain good levels of sunlight in excess of the target criteria and are entirely consistent with the BRE guidance.

155 Curzon Street, Reading

Image 04 – 155 Curzon Street, southern and western elevation

7.12. This is a three-storey residential building located to the east of the site. The property has a number of windows in its rear elevation which have an oblique view of the proposals. There is however a single ground floor window in its western elevation which faces directly onto the site. The internal layouts of this property have been extrapolated from floorplans obtained for other properties in the terrace.

Daylight

7.13. The results of the VSC and NSL assessments for this property demonstrate a reduction in for both metrics to the single ground floor room served by a window in the flank elevation. This space is assumed to be non-habitable in use, likely serving a bathroom/WC or circulation space, such that the effects are not considered to be material under the BRE guidelines.

Sunlight

7.14. The BRE guidance suggests that sunlight is most important in main living rooms and that kitchens and bedrooms are less important. Furthermore, only windows which face within 90 degrees of due south are relevant for consideration as part of an APSH assessment.

7.15. The south facing living room windows within this property will retain good levels of sunlight in excess of the target criteria and are entirely consistent with the BRE guidance.

35 Battle Place, Reading

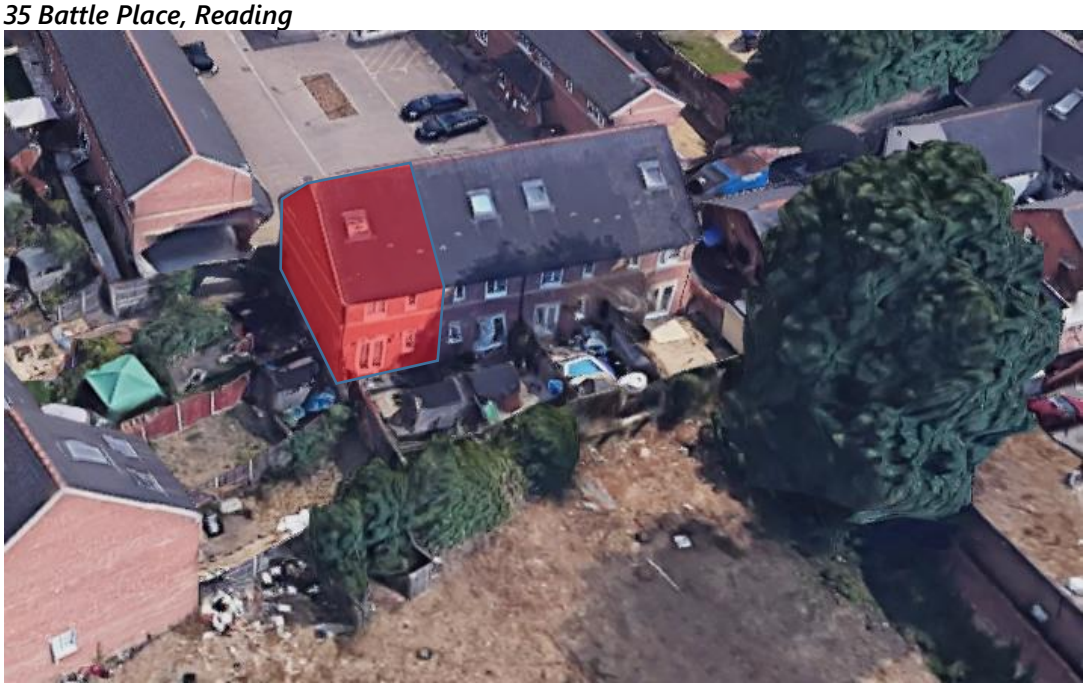


Image 06 – 35 Battle Place, western elevation

7.16. This is a three-storey residential building located to the east of the site. It has a number of windows in its rear elevation which have a direct view towards the proposed scheme.

Daylight

7.17. The results of the VSC assessment show a marginal reduction to one window at ground floor level which serves an LKD. This dual aspect room benefits from light from two windows and we have therefore applied the mean absolute VSC as an appropriate measure of assessment. The room will also retain a mean proportional value of over 0.8 which is in accordance with the BRE target.

Sunlight

7.18. For sunlight, in accordance with BRE recommendations, it has not been necessary to test this property because the windows facing the site are not within 90° of due south.

34 Battle Place, Reading

Image 06 – 34 Battle Place, western elevation

7.19. This is a three-storey residential building located to the east of the site. It has a number of windows in its rear elevation which have a direct view towards the proposed scheme.

Daylight

7.20. The results of the VSC and NSL assessments for this property demonstrate full compliance with the BRE guidance. Levels in respect of both assessments remain well within 0.8 times their former value with absolute VSC levels also remaining very high.

Sunlight

7.21. For sunlight, in accordance with BRE recommendations, it has not been necessary to test this property because the windows facing the site are not within 90° of due south.

33 Battle Place, Reading

Image 07 – 33 Battle Place, western elevation

7.22. This is a three-storey residential building located to the east of the site. It has a number of windows in its rear elevation which have a direct view towards the proposed scheme.

Daylight

7.23. The results of the VSC and NSL assessments for this property demonstrate full compliance with the BRE guidance. Levels in respect of both assessments remain well within 0.8 times their former value with absolute VSC levels also remaining very high.

Sunlight

7.24. For sunlight, in accordance with BRE recommendations, it has not been necessary to test this property because the windows facing the site are not within 90° of due south.

32 Battle Place, Reading

Image 08 – 32 Battle Place, western elevation

7.25. This is a three-storey residential building located to the east of the site. It has a number of windows in its rear elevation which have a direct view towards the proposed scheme.

Daylight

7.26. The results of the VSC and NSL assessments for this property demonstrate full compliance with the BRE guidance. Levels in respect of both assessments remain well within 0.8 times their former value with absolute VSC levels also remaining very high.

Sunlight

7.27. For sunlight, in accordance with BRE recommendations, it has not been necessary to test this property because the windows facing the site are not within 90° of due south.

346-348 Oxford Road, Reading

Image 09 – 346-348 Oxford Road, northern elevation

7.28. This is a three-storey mixed use building located to the south east of the site. There is non-domestic use contained within the ground and first floor, with residential accommodation on the second floor. Our understanding of the internal layouts based on floor plans obtained via the local authority.

Daylight

7.29. The results of the VSC and NSL assessments for this property demonstrate full compliance with the BRE guidance. Levels in respect of both assessments remain well within 0.8 times their former value with absolute VSC levels also remaining very high.

Sunlight

7.30. For sunlight, in accordance with BRE recommendations, it has not been necessary to test this property because the windows facing the site are not within 90° of due south.

350-352 Oxford Road, Reading

Image 10 – 350-352 Oxford Road, northern elevation

7.31. This is a three-storey mixed use building located to the south east of the site. There is non-domestic use contained within the ground and first floor, with residential accommodation on the second floor. Our understanding of the internal layouts based on floor plans extrapolated from the neighbouring property.

Daylight

7.32. The results of the VSC and NSL assessments for this property demonstrate full compliance with the BRE guidance. Levels in respect of both assessments remain well within 0.8 times their former value with absolute VSC levels also remaining very high.

Sunlight

7.33. For sunlight, in accordance with BRE recommendations, it has not been necessary to test this property because the windows facing the site are not within 90° of due south.

1-20 Cholsey House, Reading

Image 11 – 1-20 Cholsey House, eastern elevation

7.34. This is a two-storey mixed use building located to the west of the site. There is non-domestic use contained within the ground floor, with residential accommodation on the first floor. Our understanding of the internal layouts is assumed.

Daylight

7.35. The results of the VSC and NSL assessments for this property demonstrate full compliance with the BRE guidance. Levels in respect of both assessments remain well within 0.8 times their former value with absolute VSC levels also remaining very high.

7.36. Sunlight

7.37. The south facing living room windows within this property, which overlook the proposed development, will retain good levels of sunlight in excess of the given criteria and is therefore entirely consistent with the BRE guidance.

Winterbrook House, Reading

Image 12 – Winterbrook House, southern and eastern elevation

7.38. This is a three-storey building located to the south of the site. There is non-domestic use contained within the ground floor, with residential accommodation on the first and second floor. Our understanding of the internal layouts is assumed and in the absence of detailed survey information we have inserted the windows into this property using photography and satellite imagery.

Daylight

7.39. The results of the VSC and NSL assessments for this property demonstrate full compliance with the BRE guidance. Levels in respect of both assessments remain well within 0.8 times their former value with absolute VSC levels also remaining very high.

7.40. ***Sunlight***

7.41. The south facing living room windows within this property, which overlook the proposed development, will retain good levels of sunlight in excess of the given criteria and is therefore entirely consistent with the BRE guidance.

Overshadowing to neighbouring amenity

7.42. We have assessed the scheme's potential effect on overshadowing using the 2-hour sun on ground / sunlight amenity assessment. This has considered the following amenity areas and opens spaces: -

- Rear Garden to 155 Curzon Street
- Gardens to 32-35 Battle Place

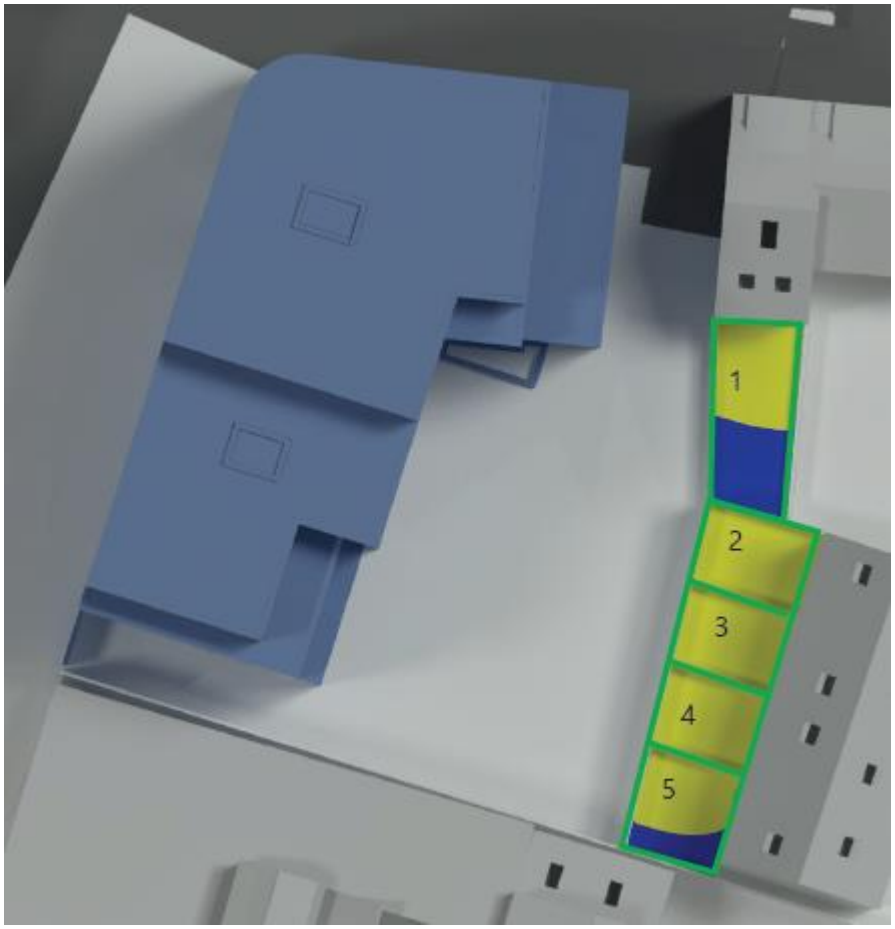


Image 13 – locations of surrounding amenity areas in the proposed scenario

7.43. The results of the analysis are shown on our drawings labelled 4359_R02_SA01 within Appendix 4.

7.44. For both the existing and proposed scenarios the 2-hour sun contour, this involves dividing the areas that can receive at least two hours of sunlight on ground (shaded in yellow on the drawings) from those that receive less than two hours (shaded in blue) on 21 March (the equinox). The percentage of each amenity space receiving at least two hours sunlight is shown in the tables on the two drawings.

7.45. The scheme maintains good separation to the west of the neighbouring gardens which also remain open to the south. As such the results of our overshadowing assessment show that in the proposed condition, the retained value will be the same as the former value. The proposed scheme will have no impact on the sunlight amenity levels

reaching the neighbouring garden spaces and fully meets the BRE guidelines.

Daylight and sunlight within the proposal

7.46. The daylight and sunlight amenity provided within the proposed residential accommodation has been assessed using the ADF and APSH tests following the methodology of the BRE guidance and British Standard document BS8206 pt2.

7.47. Full results of the daylight and sunlight assessments within the proposed apartments, along with drawings to show the layout of rooms and windows, are attached within Appendix 5.

Daylight

Room Type	ADF Target	Total No. of Rooms	Rooms That Meet ADF Target
L/K/D	1.5%	26	25 (96%)
Bedroom	1%	55	55 (100%)
Total		**81**	**80 (99%)**

Table 1 – Summary ADF results for proposed accommodation

7.48. The results of the ADF assessment have shown that 80 (99%) of the 81 habitable rooms surpass the BRE and British Standard guidance criteria. This is considered an excellent compliance rate for an urban site.

7.49. The single LKD which falls below the recommended target is located at first floor level and faces to the west. Whilst 0.2% below the envisaged target value for a living room this room is a deep, generously sized living / kitchen / dining space which also benefits from an external amenity terrace. Suh a layout is typical of modern flatted units where the kitchen to the rear will benefit from additional task lighting and the main living space is located by the window and will attain good levels of daylight.

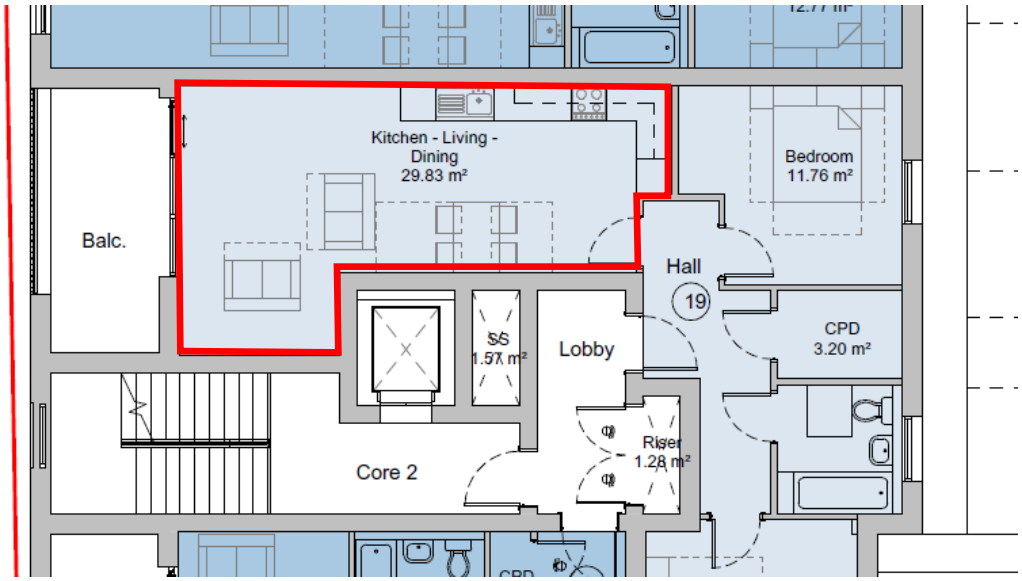


Image 14 – First Floor LKD

Sunlight

Room Type	Total No. of rooms	Rooms that meet APSH/WPSH criteria
L/K/Ds or living rooms	17	17 (100%)

Table 02 – Summary APSH results for proposed accommodation

7.50. The results of the sunlight assessment have shown that all 17 (100%) of main living rooms orientated within 90 degrees of due south achieve the recommended levels of 25% APSH and 5% WPSH and are therefore fully in accordance with the BRE targets.

8. Conclusions

8.1. This practice has undertaken a detailed assessment of the potential daylight and sunlight effects of the proposed development at Oxford Road, Reading on the key neighbouring properties. We have also undertaken an assessment of the provision of daylight and sunlight within the proposed residential units.

Daylight and sunlight impact to neighbouring properties

8.2. Our assessments have been undertaken using the VSC, NSL, ADF (daylight) and APSH (sunlight) tests set out within the BRE guidance *'Site layout planning for daylight and sunlight: A guide to good practice'* (2011).

8.3. The results of these tests have shown that, whilst there will be some minor reductions to individual windows, the amount of daylight received within each of the neighbouring habitable rooms will remain very high and in excess of the BRE criteria. The assessment of sunlight to neighbouring windows has also shown full compliance with the BRE criteria.

Overshadowing impact to neighbouring properties

8.4. The assessment of sunlight amenity (overshadowing) within the rear gardens of Curzon Street and Battle Place has shown that all 5 amenity spaces will retain the same degree of sunlight amenity in both the existing and proposed context such that they will remain unaffected.

8.5. The development is successful in minimising effects to neighbouring amenity spaces and fully meets the BRE guideline target in this regard.

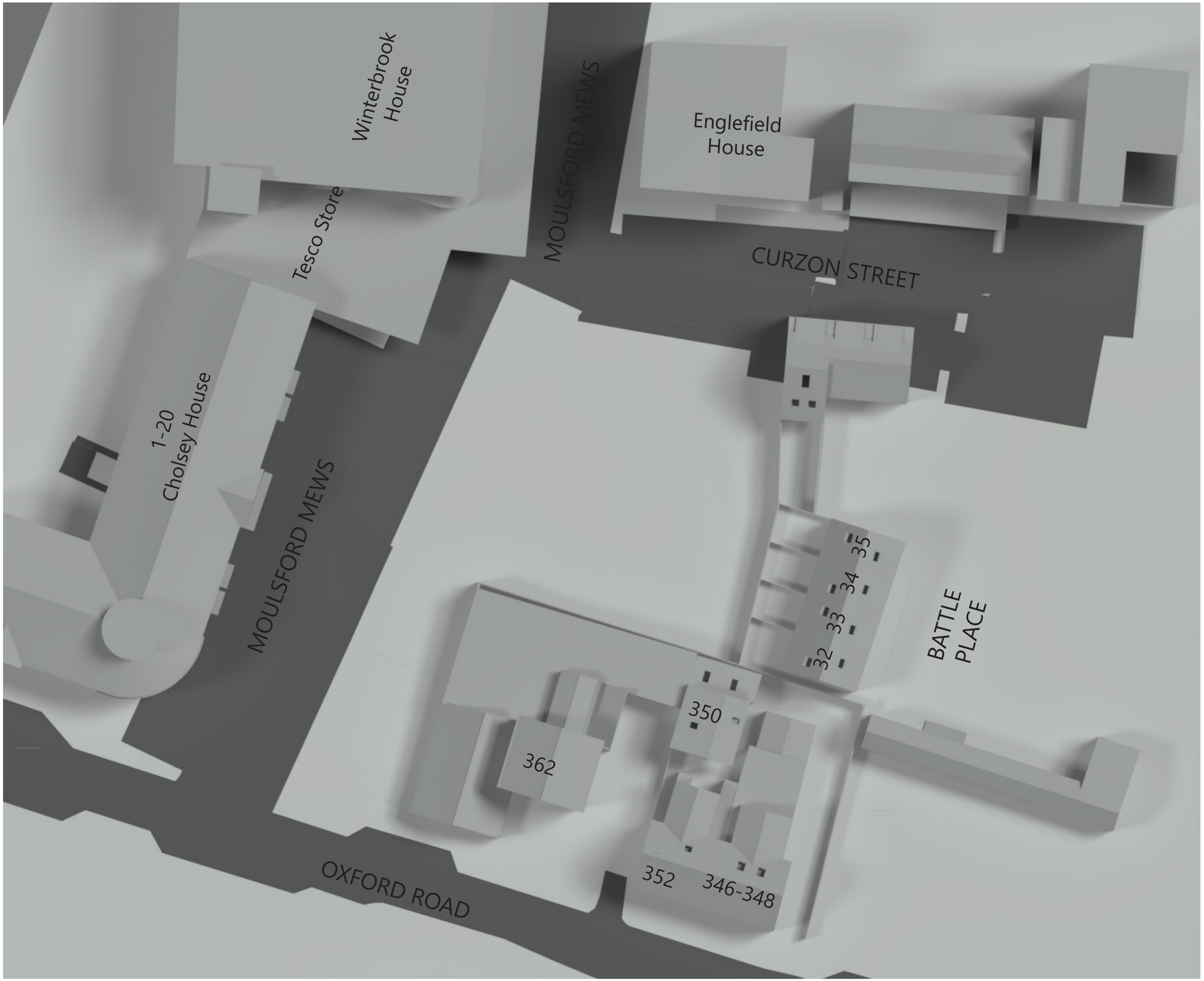
Daylight and sunlight within the proposed residential units

8.6. The assessment of daylight within the proposed apartments has shown that the vast majority of rooms receive good levels in excess of the relevant BRE targets. The ADF results have shown that 99% of the rooms meet the daylight criteria. The Annual Proposed Sunlight Hours assessment shows that all of the living spaces that are orientated within 90 degrees of due south will meet or exceed the BRE targets. Collectively the daylight and sunlight assessment within the proposed development shows excellent levels of overall compliance.

8.7. Overall, the results of the daylight and sunlight assessment meet or exceed the BRE guidance targets. The proposed scheme will have a limited impact on its surrounding neighbours whilst attaining good levels of internal daylight.

Appendix 1

Drawings of the existing, proposed and surrounding buildings



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Sources of information

HB Surveys
Topographical Survey.dwg
Outline Elevations.dwg
Received 21/08/2020

ECE Architecture
6906-ECE-01-XX-M3-A-6906_Site Model.rvt
Received 21/08/2020

6906-ECE-01-XX-M3-A-6906_Main Building.0002.rvt
6906 - 112(D) - Second Floor Plan.pdf
6906 - 113(E) - Third Floor Plan.pdf
6906 - 114(E) - Fourth Floor Plan.pdf
6906 - 115(D) - Fifth Floor Plan.pdf
Received 22/09/2020

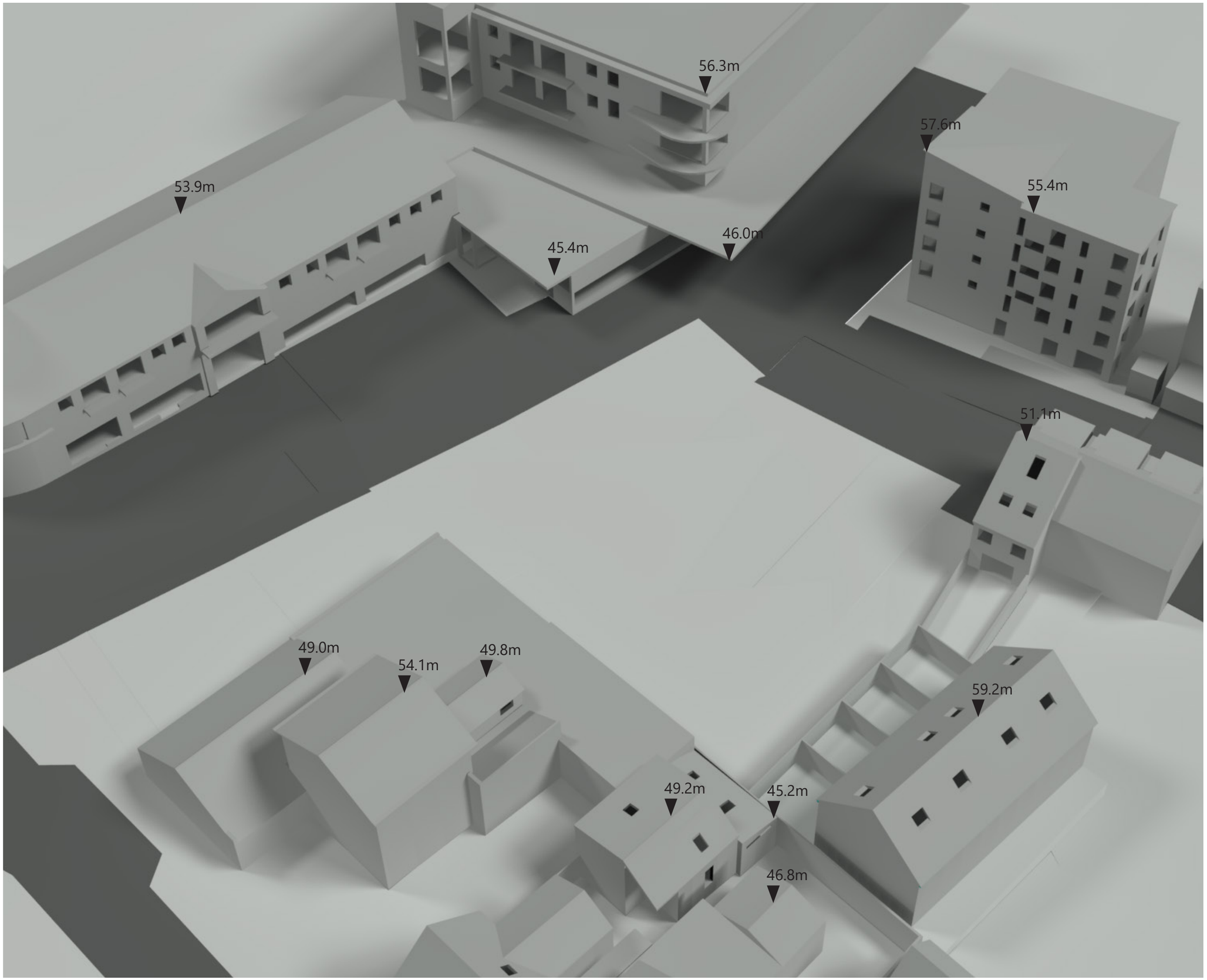
6906 - 111(F) - First Floor Plan.pdf
Received 24/092020

Key:

Existing

NORTH

Project	Oxford Road Reading		
Title	Existing Condition Plan View		
Drawn	MZ	Checked	--
Date	23/09/2020	Project	4359
Rel no. 02	Prefix DS01	Page no.	01



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Existing

Project	Oxford Road Reading		
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Date	23/09/2020	Project	4359
Rel no. 02	Prefix DS01	Page no.	02

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Key:

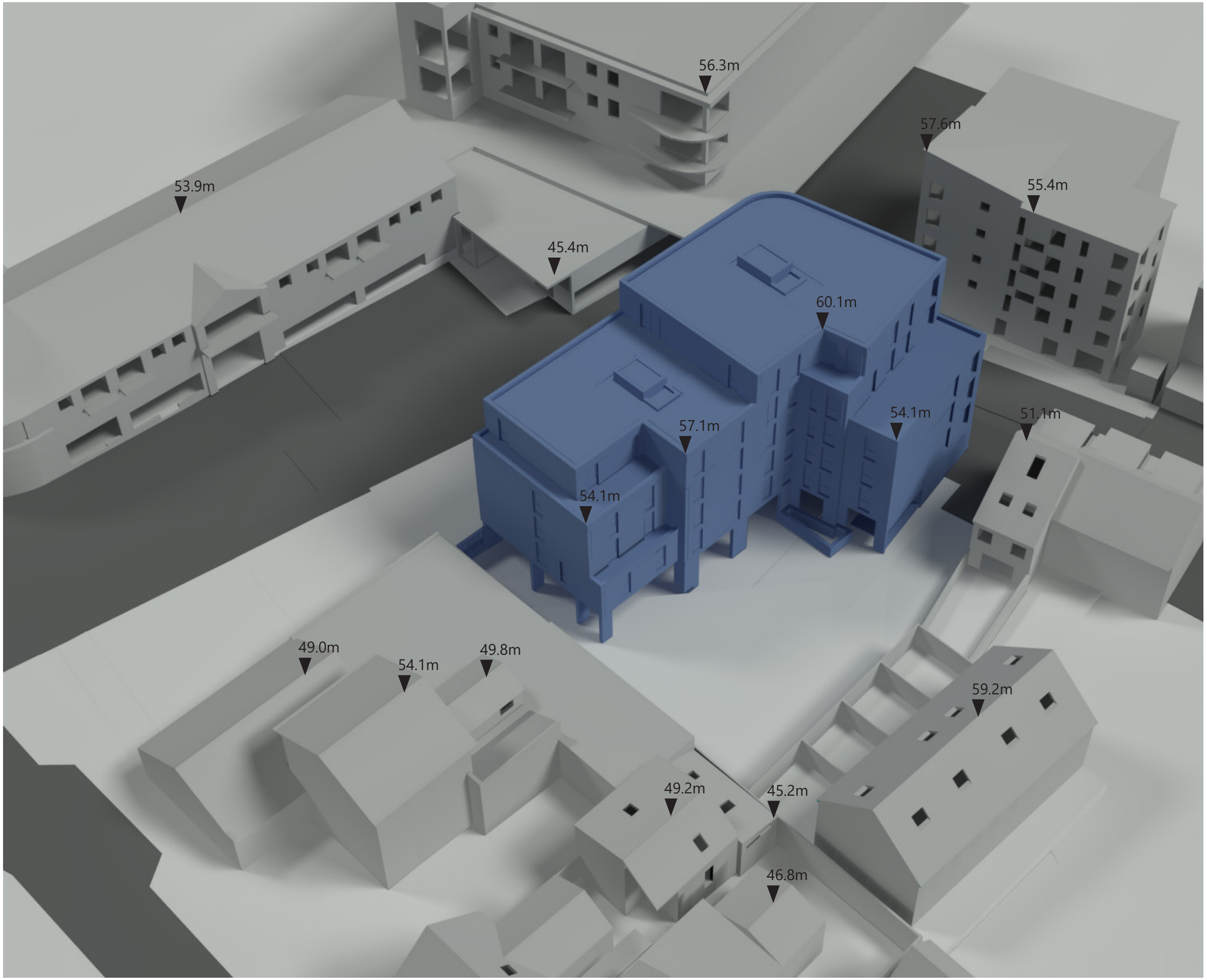
Proposed

NORTH

Project	Oxford Road Reading
Title	Proposed Development Plan View

Drawn	MZ	Checked	--
Date	23/09/2020	Project	4359

Rel no.	Prefix	Page no.
02	DS01	03



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Proposed

Project	Oxford Road Reading		
Title	Proposed Development 3D View		
Drawn	MZ	Checked	--
Date	23/09/2020	Project	4359
Rel no. 02	Prefix DS01	Page no.	04

Appendix 2

Results of the daylight and sunlight assessments within neighbouring properties

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
Englefield House																		
Ground	R1	W1-L	Hallway	33.8	20.2	13.6	0.6											
		W1-U						110.4	107.2	64.7	42.6	0.6	80	23	56	8	0.7	0.3
Ground	R2	W2-L	Test	32.8	22.8	10.0	0.7											
		W2-U						137.2	125.3	109.9	15.4	0.9	78	23	57	11	0.7	0.5
Ground	R3	W3-L	Test	31.9	23.9	8.0	0.7											
		W3-U																
		W4-L		10.8	10.8	0.0	1.0											
		W4-U						151.8	149.7	149.7	0.0	1.0	77	23	63	15	0.8	0.7
First	R1	W1-L	LKD	28.0	27.1	0.9	1.0											
		W1-U																
		W2-L		28.4	27.2	1.2	1.0											
		W2-U																
		W3-L		36.4	21.9	14.5	0.6											
		W3-U																
		W4		36.4	22.7	13.8	0.6	246.0	235.3	225.8	9.5	1.0	85	27	70	14	0.8	0.5
First	R2	W5-L	Stairwell	35.8	23.6	12.3	0.7											
		W5-U						67.5	64.7	45.8	18.9	0.7	86	28	66	13	0.8	0.5
First	R3	W6	Stairwell	36.7	26.1	10.5	0.7	67.5	66.6	60.3	6.3	0.9	87	29	70	16	0.8	0.6
First	R4	W7-L	Bedroom	35.6	25.8	9.8	0.7											
		W7-U						87.4	86.9	70.2	16.8	0.8	83	28	66	16	0.8	0.6
First	R5	W8-L	Bedroom	35.3	27.0	8.3	0.8											
		W8-U						81.6	78.8	60.7	18.1	0.8	85	27	70	17	0.8	0.6
First	R6	W9-L	LKD	34.9	28.2	6.7	0.8											
		W9-U																
		W10-L		25.2	25.2	0.0	1.0											

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
		W10-U																
		W11-L		17.2	17.2	0.0	1.0											
		W11-U						223.4	222.1	222.1	0.0	1.0	88	29	78	22	0.9	0.8
Second	R1	W1-L	LKD	30.9	30.1	0.8	1.0											
		W1-U																
		W2-L		31.3	30.2	1.0	1.0											
		W2-U																
		W3-L		37.8	24.9	12.9	0.7											
		W3-U																
		W4		37.9	26.1	11.8	0.7	246.0	235.7	229.5	6.2	1.0	86	30	76	20	0.9	0.7
Second	R2	W5-L	Stairwell	37.6	27.1	10.5	0.7											
		W5-U						67.5	64.8	53.1	11.7	0.8	88	30	71	16	0.8	0.5
Second	R3	W6	Stairwell	38.3	29.7	8.6	0.8	67.5	66.6	65.0	1.6	1.0	88	30	77	19	0.9	0.6
Second	R4	W7-L	Bedroom	37.5	29.2	8.3	0.8											
		W7-U						87.4	86.9	74.0	13.0	0.9	85	30	71	19	0.8	0.6
Second	R5	W8-L	Bedroom	37.4	30.4	7.0	0.8											
		W8-U						81.6	78.8	66.4	12.4	0.8	88	30	76	20	0.9	0.7
Second	R6	W9-L	LKD	37.3	31.7	5.6	0.9											
		W9-U																
		W10-L		29.4	29.4	0.0	1.0											
		W10-U																
		W11-L		22.4	22.4	0.0	1.0											
		W11-U						223.4	223.3	223.3	0.0	1.0	89	30	81	24	0.9	0.8
Third	R1	W1-L	LKD	33.9	33.3	0.6	1.0											
		W1-U																
		W2-L		34.1	33.3	0.8	1.0											
		W2-U																
		W3-L		38.9	28.4	10.5	0.7											

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
		W3-U																
		W4		39.0	29.9	9.2	0.8	246.0	240.4	240.4	0.0	1.0	87	30	82	25	0.9	0.8
Third	R2	W5-L	Stairwell	38.9	30.8	8.1	0.8											
		W5-U						67.5	64.7	62.7	1.9	1.0	86	30	74	18	0.9	0.6
Third	R3	W6	Stairwell	39.2	33.1	6.1	0.8	67.5	66.6	66.6	0.0	1.0	86	30	78	22	0.9	0.7
Third	R4	W7-L	Bedroom	39.0	32.6	6.4	0.8											
		W7-U						87.4	86.9	81.4	5.5	0.9	85	30	78	23	0.9	0.8
Third	R5	W8-L	Bedroom	39.0	33.7	5.3	0.9											
		W8-U						81.6	78.8	74.2	4.6	0.9	88	30	82	24	0.9	0.8
Third	R6	W9-L	LKD	39.1	34.8	4.2	0.9											
		W9-U																
		W10-L		35.6	35.6	0.0	1.0											
		W10-U																
		W11-L		32.9	32.9	0.0	1.0											
		W11-U						223.4	223.3	223.3	0.0	1.0	92	30	87	25	0.9	0.8
Fourth	R1	W1-L	LKD	36.7	36.3	0.4	1.0											
		W1-U																
		W2-L		36.8	36.2	0.6	1.0											
		W2-U																
		W3-L		39.4	32.1	7.3	0.8											
		W3-U																
		W4		39.3	33.4	5.9	0.9	246.0	245.9	245.9	0.0	1.0	93	30	89	26	1.0	0.9
Fourth	R2	W5-L	Stairwell	39.2	34.0	5.2	0.9											
		W5-U						67.5	64.7	64.2	0.5	1.0	86	30	80	24	0.9	0.8
Fourth	R3	W6-L	Bedroom	39.1	35.0	4.1	0.9											
		W6-U						87.4	86.9	86.7	0.3	1.0	86	30	82	26	1.0	0.9

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
Fourth	R4	W7-L	Bedroom	39.1	35.7	3.5	0.9											
		W7-U						81.6	78.8	78.8	0.0	1.0	85	30	82	27	1.0	0.9
Fourth	R5	W8-L	LKD	39.2	36.5	2.7	0.9											
		W8-U																
		W9-L		38.3	38.3	0.0	1.0											
		W9-U																
		W10-L		38.2	38.2	0.0	1.0											
		W10-U						223.4	223.3	223.3	0.0	1.0	94	30	91	27	1.0	0.9
155 Curzor Street																		
Ground	R1	W1	Test	32.0	9.5	22.5	0.3	68.2	66.8	34.8	32.0	0.5	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W2-L	Living Room	19.9	19.8	0.1	1.0											
		W2-U						229.6	220.6	220.1	0.5	1.0	41	11	41	11	1.0	1.0
First	R1	W1-L	Bedroom	33.3	30.6	2.6	0.9											
		W1-U																
		W2-L		32.8	31.0	1.8	0.9											
		W2-U						155.6	153.9	153.5	0.4	1.0	87	28	78	26	0.9	0.9
Second	R1	W1	Bathroom	86.0	80.5	5.6	0.9	64.9	58.1	58.1	0.0	1.0	98	30	84	27	0.9	0.9
Second	R2	W2	Dressing Room	86.0	82.0	4.0	1.0	48.3	41.5	40.7	0.8	1.0	98	30	86	28	0.9	0.9
Second	R3	W3	Bedroom	86.9	82.7	4.2	1.0											
		W4-L		29.6	29.6	0.0	1.0											
		W4-U						352.1	351.1	351.1	0.0	1.0	98	30	87	27	0.9	0.9
32 Battle Place																		
Ground	R1	W1-L	LKD	31.1	26.7	4.4	0.9											
		W1-U																
		W2-L		31.0	27.1	3.8	0.9											

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
		W2-U						125.2	122.5	120.6	2.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Bedroom	34.3	30.5	3.9	0.9	82.4	80.5	80.5	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Bathroom	34.3	30.0	4.2	0.9	32.5	29.1	29.1	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	82.4	80.5	1.9	1.0	159.3	134.4	134.4	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	83.5	83.5	0.0	1.0	159.3	136.4	136.4	0.0	1.0	82	24	82	24	1.0	1.0
33 Battle Place																		
Ground	R1	W1-L	LKD	32.9	26.9	6.0	0.8											
		W1-U																
		W2-L		29.9	25.5	4.4	0.9											
		W2-U						125.2	122.6	106.4	16.2	0.9	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Bathroom	34.4	29.6	4.8	0.9	32.5	29.5	29.5	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Bedroom	34.8	29.4	5.3	0.8	82.4	80.6	80.6	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	82.4	79.8	2.6	1.0	160.4	134.9	134.9	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	83.5	83.5	0.0	1.0	160.4	137.7	137.7	0.0	1.0	82	24	82	24	1.0	1.0
34 Battle Place																		
Ground	R1	W1-L	LKD	29.9	22.9	7.0	0.8											
		W1-U																
		W2-L		32.6	25.7	6.9	0.8											
		W2-U						125.2	122.6	108.9	13.7	0.9	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Bedroom	34.8	28.8	6.0	0.8	82.4	80.3	79.6	0.7	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Bathroom	34.6	28.2	6.3	0.8	32.5	29.4	29.4	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
Second	R1	W1	Residential	82.4	79.5	2.9	1.0	159.9	134.6	134.6	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	83.4	83.4	0.0	1.0	159.9	136.9	136.9	0.0	1.0	82	24	82	24	1.0	1.0
35 Battle Place																		
Ground	R1	W1-L	LKD	32.3	24.1	8.2	0.7											
		W1-U																
		W2-L		30.9	23.4	7.5	0.8											
		W2-U						125.2	122.9	94.6	28.3	0.8	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Bathroom	34.6	27.8	6.8	0.8	32.5	29.5	29.5	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Bedroom	34.8	27.6	7.2	0.8	82.4	80.4	76.5	3.9	1.0	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Residential	82.4	78.9	3.5	1.0	160.3	134.9	134.9	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Residential	83.4	83.4	0.0	1.0	160.3	137.0	137.0	0.0	1.0	82	24	82	24	1.0	1.0
350 Oxford Road																		
Ground	R1	W1	Storage	78.3	76.1	2.1	1.0											
		W2		79.4	77.2	2.2	1.0											
		W3		25.8	25.8	0.0	1.0											
		W4-L		22.0	22.0	0.0	1.0											
		W4-U						369.2	353.4	353.0	0.4	1.0	59	13	59	13	1.0	1.0
First	R1	W5	Residential	97.2	96.1	1.1	1.0	104.4	104.4	104.4	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W1-L	Residential	34.8	31.1	3.7	0.9											
		W1-U																
		W2-L		34.4	31.2	3.2	0.9											
		W2-U						132.7	132.0	132.0	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
First	R3	W3-L	Residential	34.1	31.1	3.0	0.9											
		W3-U																
		W4		81.8	81.8	0.0	1.0	118.3	90.2	81.3	8.9	0.9	82	24	82	24	1.0	1.0
362 Oxford Road																		
Ground	R1	W1	Kitchen	34.8	11.0	23.8	0.3	177.1	164.9	97.3	67.6	0.6	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R2	W2	WC	34.9	8.2	26.8	0.2	15.5	13.6	0.0	13.6	0.0	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R3	W3	WC	34.9	8.0	26.9	0.2	15.5	13.6	0.0	13.6	0.0	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R4	W4	WC	35.0	8.3	26.7	0.2	15.5	13.6	0.0	13.6	0.0	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R5	W5	Bathroom	35.0	9.4	25.6	0.3	89.7	49.4	11.3	38.1	0.2	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R6	W6	Bathroom	35.0	12.3	22.7	0.4	72.0	37.0	6.3	30.7	0.2	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R7	W7	WC	35.0	14.2	20.8	0.4	12.0	8.9	4.1	4.8	0.5	N/F	N/F	N/F	N/F	N/F	N/F
Ground	R8	W8	Commercial	33.7	27.1	6.6	0.8	201.9	187.7	145.2	42.5	0.8	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1	Residential	36.3	32.1	4.2	0.9	137.8	133.7	104.9	28.8	0.8	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2	Sales Area	33.0	28.8	4.1	0.9	124.8	120.9	113.9	7.0	0.9	N/F	N/F	N/F	N/F	N/F	N/F
First	R3	W3-L	Residential	31.5	29.6	1.9	0.9											
		W3-U						69.1	68.9	68.9	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R4	W4	Test	30.8	30.8	0.0	1.0	78.7	76.7	76.7	0.0	1.0	43	10	43	10	1.0	1.0
First	R5	W5-L	Test	24.1	23.5	0.7	1.0											
		W5-U						124.8	120.0	114.0	6.0	0.9	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1-L	Residential	36.5	36.2	0.3	1.0											

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
		W1-U						124.8	123.0	123.0	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2-L	Residential	37.4	34.5	2.9	0.9											
		W2-U						108.2	105.6	103.5	2.2	1.0	N/F	N/F	N/F	N/F	N/F	N/F
346-348 Oxford Road																		
Ground	R1	W1-L	Test	21.7	19.5	2.1	0.9											
		W1-U																
		W2-L		24.2	22.4	1.8	0.9											
		W2-U						256.8	246.8	215.0	31.9	0.9	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1-L	Bedroom	36.1	35.0	1.1	1.0											
		W1-U						103.4	98.5	98.5	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R2	W2-L	Bedroom	35.9	35.0	0.9	1.0											
		W2-U						103.2	99.6	99.6	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R3	W3	Bathroom	20.7	20.5	0.2	1.0	29.5	26.1	26.1	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R4	W4-L	LKD	20.8	20.6	0.2	1.0											
		W4-U																
		W5-L		36.6	36.6	0.0	1.0											
		W5-U						257.1	253.5	253.5	0.0	1.0	85	29	85	29	1.0	1.0
Second	R1	W1	Test	83.2	82.6	0.6	1.0	166.9	123.0	123.0	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
Second	R2	W2	Test	83.2	82.5	0.6	1.0	164.7	122.4	122.4	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
352 Oxford Road																		
Ground	R1	W1	Test	25.3	24.5	0.8	1.0	94.1	84.0	84.0	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R1	W1-L	Test	32.0	31.8	0.2	1.0											
		W1-U						117.7	95.1	93.0	2.1	1.0	N/F	N/F	N/F	N/F	N/F	N/F

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
First	R2	W2-L	Test	30.4	29.9	0.5	1.0											
		W2-U																
		W3		32.6	31.4	1.2	1.0											
		W4		28.6	27.6	1.0	1.0	132.4	130.0	126.4	3.6	1.0	N/F	N/F	N/F	N/F	N/F	N/F
First	R3	W5-L	Test	24.2	22.4	1.8	0.9											
		W5-U						131.9	119.1	99.9	19.3	0.8	N/F	N/F	N/F	N/F	N/F	N/F
Second	R1	W1	Test	82.9	82.1	0.8	1.0	139.1	112.9	112.9	0.0	1.0	N/F	N/F	N/F	N/F	N/F	N/F
1-20 Cholsey House																		
Ground	R1	W1-L	Commercial	34.3	31.7	2.7	0.9											
		W1-U																
		W2-L		34.5	31.5	3.0	0.9											
		W2-U																
		W3-L		33.9	30.6	3.3	0.9											
		W3-U						519.4	519.1	519.1	0.0	1.0	57	19	52	19	0.9	1.0
Ground	R2	W4-L	Commercial	34.1	28.8	5.4	0.8											
		W4-U																
		W5-L		34.3	28.3	5.9	0.8											
		W5-U																
		W6-L		34.0	27.7	6.3	0.8											
		W6-U						648.9	647.4	647.4	0.0	1.0	56	17	47	15	0.8	0.9
Ground	R3	W7-L	Commercial	33.6	26.6	7.0	0.8											
		W7-U																
		W8-L		33.0	25.9	7.2	0.8											
		W8-U																
		W9-L		31.7	24.6	7.1	0.8											
		W9-U						558.8	558.3	557.9	0.4	1.0	56	20	46	17	0.8	0.9
First	R1	W1-L	Residential	37.7	35.9	1.8	1.0											

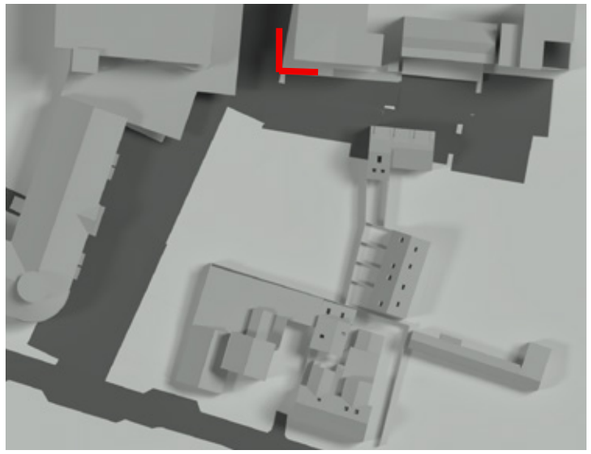
Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
		W1-U						165.6	165.2	165.2	0.0	1.0	59	19	57	19	1.0	1.0
First	R2	W2-L	Residential	37.4	35.4	2.0	0.9											
		W2-U						84.4	84.2	84.2	0.0	1.0	57	19	55	19	1.0	1.0
First	R3	W3-L	Residential	36.2	34.0	2.2	0.9											
		W3-U						108.8	108.1	108.1	0.0	1.0	57	19	55	19	1.0	1.0
First	R4	W4-L	Residential	38.1	35.2	2.9	0.9											
		W4-U						401.2	400.4	400.4	0.0	1.0	60	20	58	20	1.0	1.0
First	R5	W5-L	Residential	37.0	33.5	3.5	0.9											
		W5-U						131.4	129.8	129.8	0.0	1.0	54	16	50	15	0.9	0.9
First	R6	W6-L	Residential	37.4	33.5	3.9	0.9											
		W6-U						112.5	111.3	110.8	0.5	1.0	57	19	52	17	0.9	0.9
First	R7	W7-L	Residential	37.3	33.0	4.4	0.9											
		W7-U						151.4	151.1	150.0	1.1	1.0	59	20	53	18	0.9	0.9
First	R8	W8-L	Residential	37.2	32.4	4.8	0.9											
		W8-U						160.0	159.5	157.3	2.3	1.0	59	20	51	17	0.9	0.9
First	R9	W9-L	Residential	37.0	32.2	4.8	0.9											
		W9-U						108.6	107.7	98.7	9.0	0.9	58	20	51	17	0.9	0.9
First	R10	W10-L	Residential	36.8	31.8	4.9	0.9											
		W10-U						108.2	107.0	94.7	12.4	0.9	58	20	52	17	0.9	0.9
First	R11	W11-L	Residential	36.5	31.6	4.9	0.9											
		W11-U						108.2	107.1	92.7	14.4	0.9	58	20	53	17	0.9	0.9
Tesco Store																		
Ground	R1	W1-L	Test	21.0	19.7	1.2	0.9											

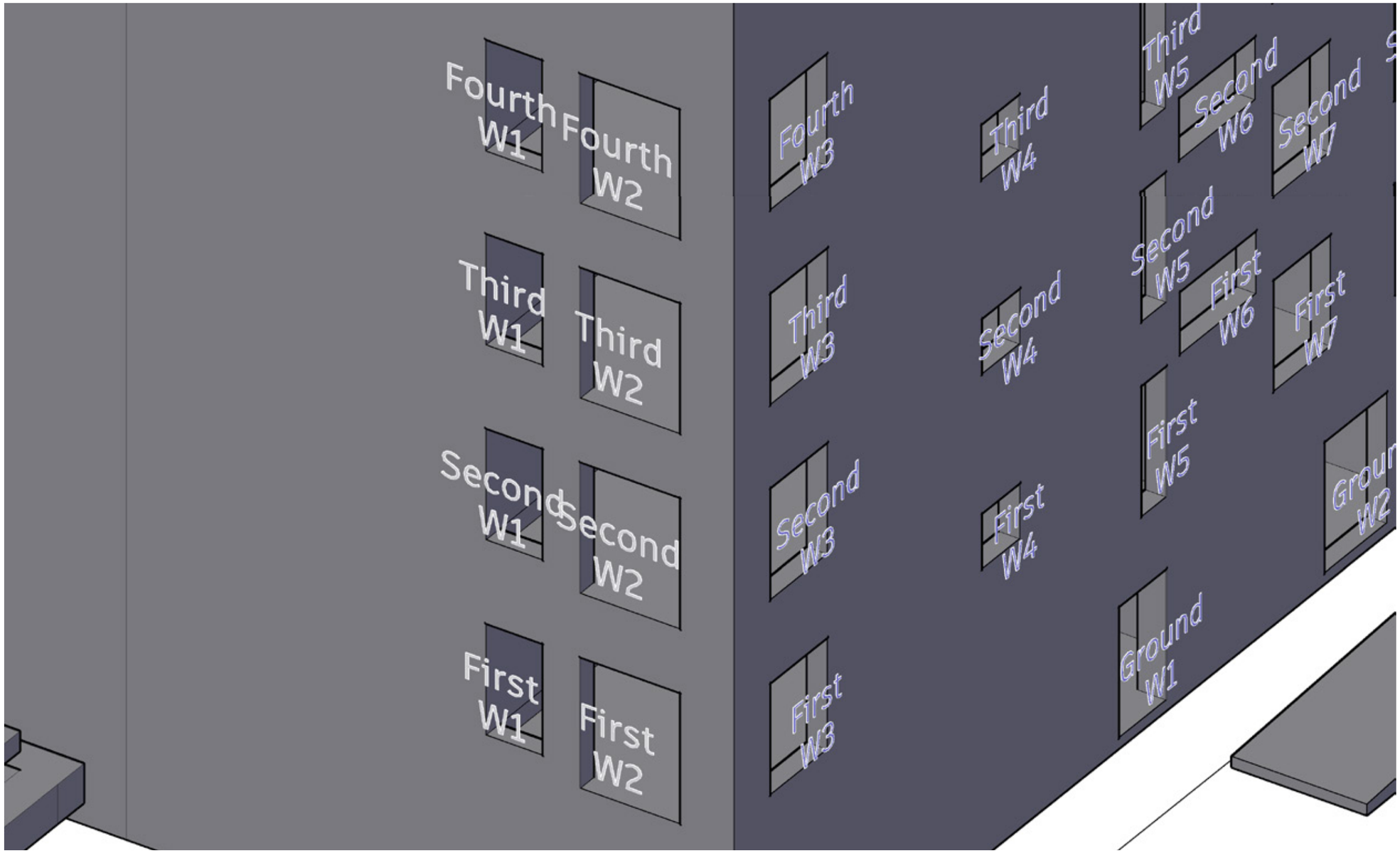
Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
		W1-U																
		W2-L		13.1	8.6	4.4	0.7											
		W2-U																
		W3-L		9.2	5.6	3.5	0.6											
		W3-U						141.9	141.9	129.7	12.2	0.9	48	19	41	14	0.9	0.7
Ground	R2	W4-L	Test	20.1	17.1	3.0	0.9											
		W4-U																
		W5		8.2	6.4	1.8	0.8											
		W6-L		26.1	14.2	11.9	0.5											
		W6-U																
		W7-L		4.0	2.2	1.8	0.5											
		W7-U						1216.8	1216.8	1216.8	0.0	1.0	74	26	58	22	0.8	0.8
Ground	R3	W8-L	Test	4.8	2.2	2.6	0.5											
		W8-U																
		W9-L		7.9	5.7	2.3	0.7											
		W9-U																
		W10-L		3.7	3.7	0.0	1.0											
		W10-U						596.8	596.8	596.8	0.0	1.0	14	8	10	4	0.7	0.5
Winterbrook House																		
First	R1	W1-L	Test	32.9	32.0	0.9	1.0											
		W1-U																
		W2-L		24.6	22.5	2.1	0.9											
		W2-U						282.4	282.4	282.4	0.0	1.0	88	28	86	26	1.0	0.9
First	R2	W3	Test	22.7	21.6	1.1	1.0	137.8	131.1	131.1	0.0	1.0	41	21	39	19	1.0	0.9
First	R3	W4-L	Test	24.4	23.0	1.4	0.9											
		W4-U						188.6	187.1	187.1	0.0	1.0	48	27	46	25	1.0	0.9
First	R4	W5-L	Test	27.3	25.5	1.7	0.9											
		W5-U						188.6	186.0	186.0	0.0	1.0	55	26	52	23	0.9	0.9

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Proportion Retained	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
First	R5	W6	Test	36.7	34.6	2.1	0.9	137.8	134.2	134.2	0.0	1.0	77	29	75	27	1.0	0.9
First	R6	W7	Test	36.8	34.4	2.4	0.9	137.8	135.2	135.2	0.0	1.0	76	28	74	26	1.0	0.9
First	R7	W8-L	Test	21.3	17.2	4.1	0.8											
		W8-U																
		W9-L		26.5	22.8	3.7	0.9											
		W9-U						378.7	378.7	378.7	0.0	1.0	56	30	51	25	0.9	0.8
Second	R1	W1-L	Test	39.4	39.0	0.4	1.0											
		W1-U																
		W2-L		32.2	31.2	1.1	1.0											
		W2-U						282.4	282.4	282.4	0.0	1.0	94	30	93	29	1.0	1.0
Second	R2	W3	Test	21.8	21.2	0.6	1.0	137.8	126.9	126.9	0.0	1.0	41	21	40	20	1.0	1.0
Second	R3	W4-L	Test	31.5	30.6	0.8	1.0											
		W4-U						188.6	187.4	187.4	0.0	1.0	67	28	65	26	1.0	0.9
Second	R4	W5-L	Test	33.8	32.8	1.0	1.0											
		W5-U						188.6	187.0	187.0	0.0	1.0	71	28	69	26	1.0	0.9
Second	R5	W6	Test	31.0	29.8	1.2	1.0	137.8	128.1	128.1	0.0	1.0	63	30	61	28	1.0	0.9
Second	R6	W7	Test	31.0	29.7	1.4	1.0	137.8	132.9	132.9	0.0	1.0	63	30	61	28	1.0	0.9
Second	R7	W8-L	Test	34.9	32.4	2.5	0.9											
		W8-U																
		W9-L		34.0	31.7	2.3	0.9											
		W9-U						378.5	378.5	378.5	0.0	1.0	91	30	90	29	1.0	1.0

Appendix 3

Window Maps





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Sources of information

HB Surveys
Topographical Survey.dwg
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ECE Architecture
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Date	02/09/2020	Project	4359
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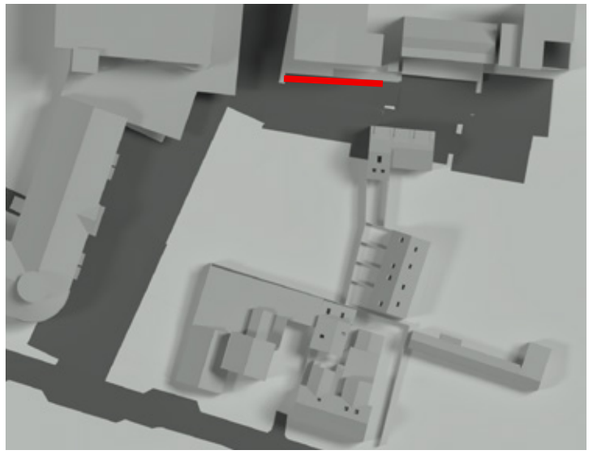

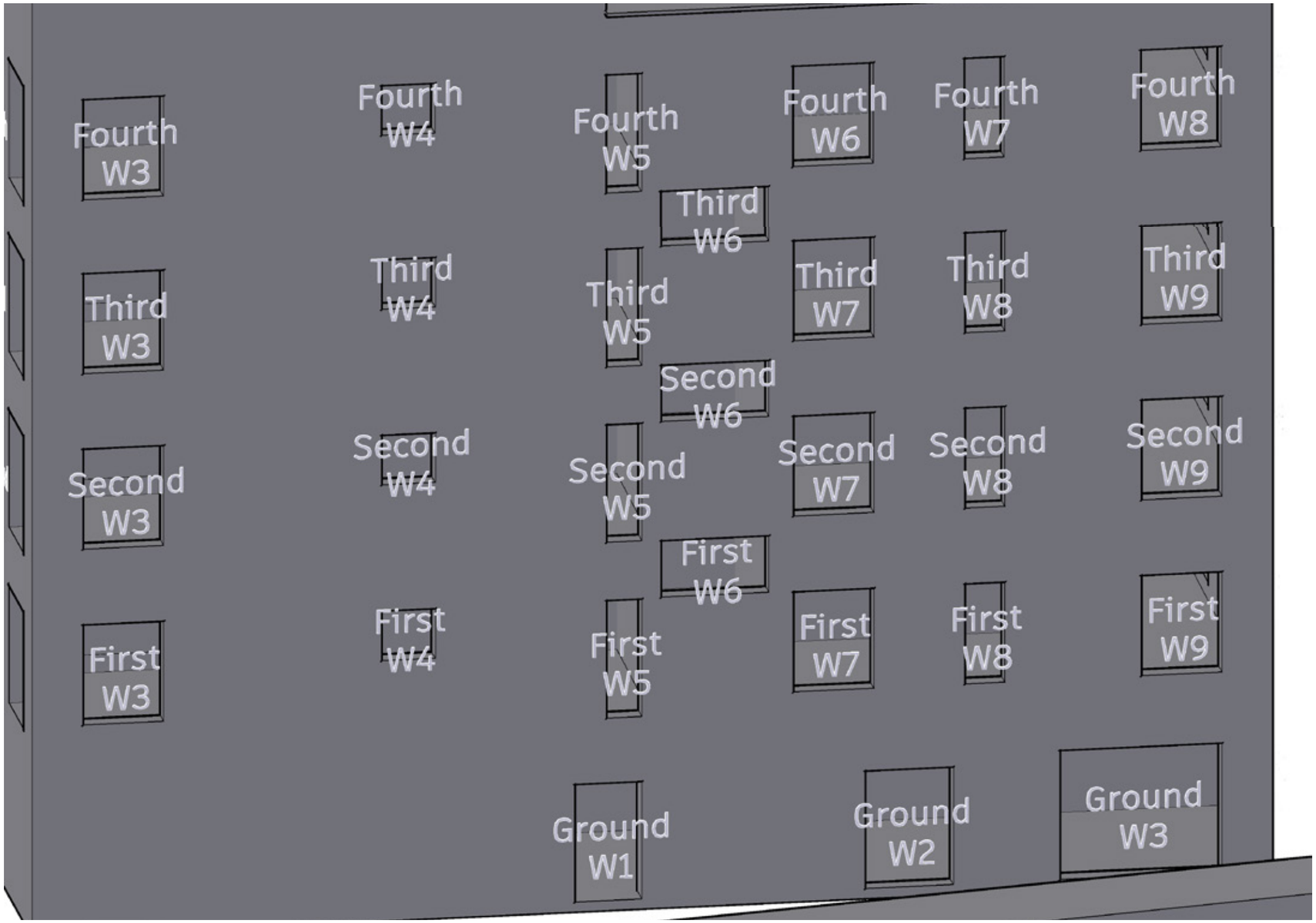

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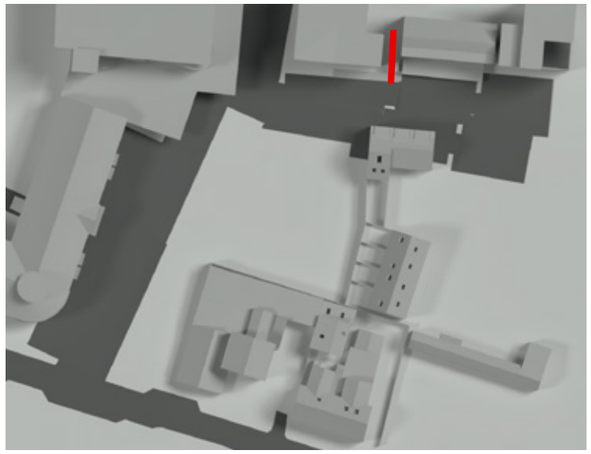

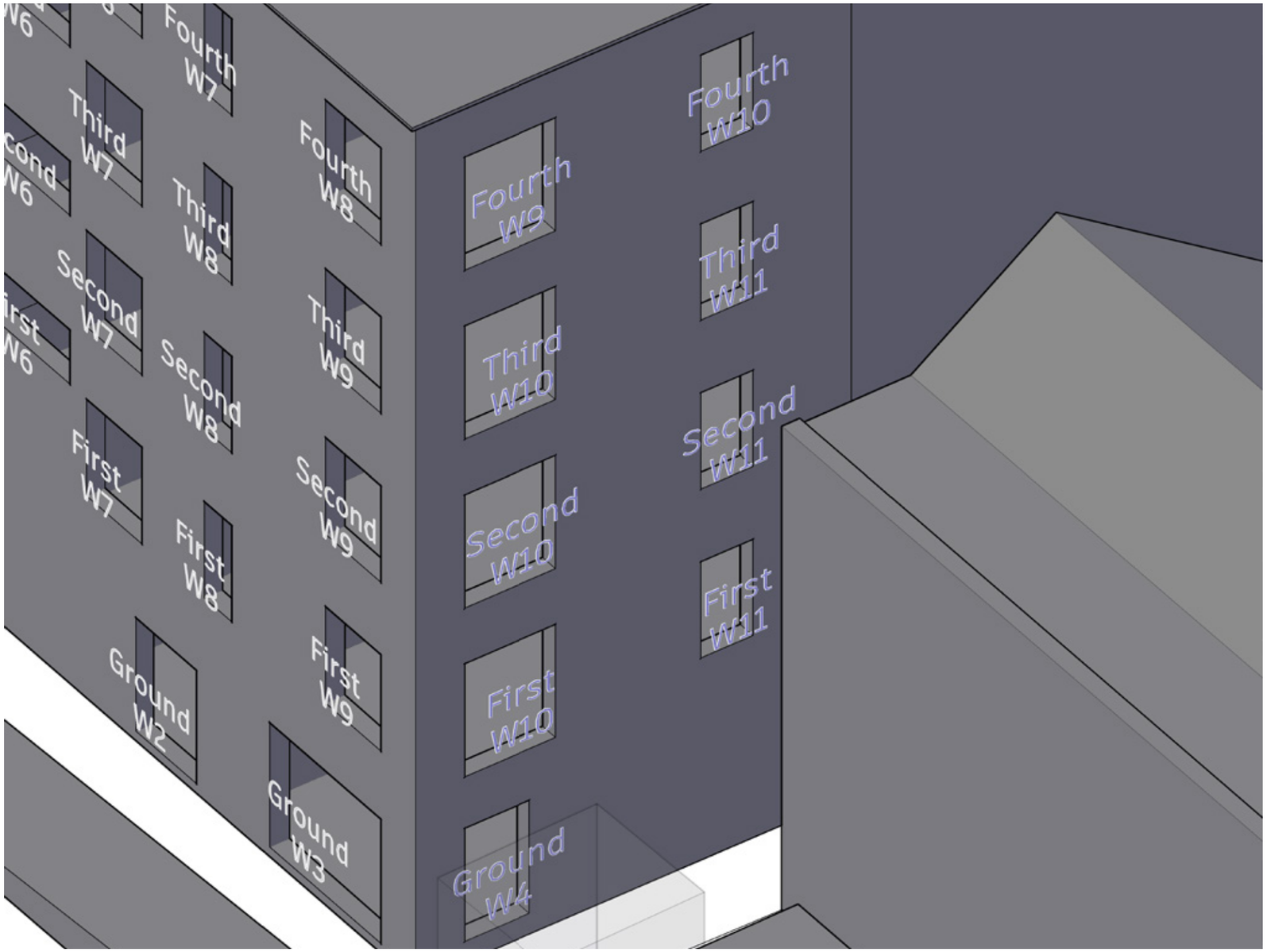

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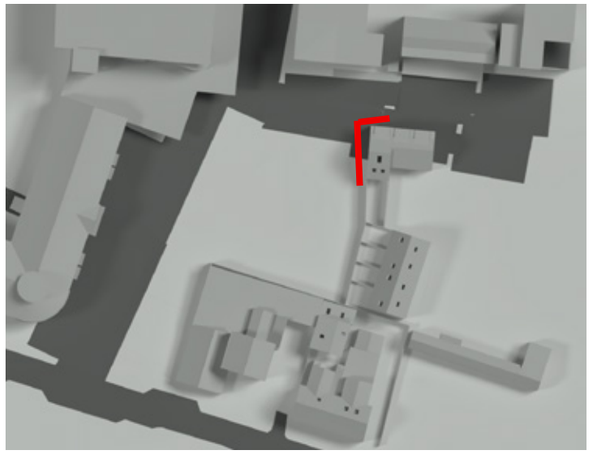

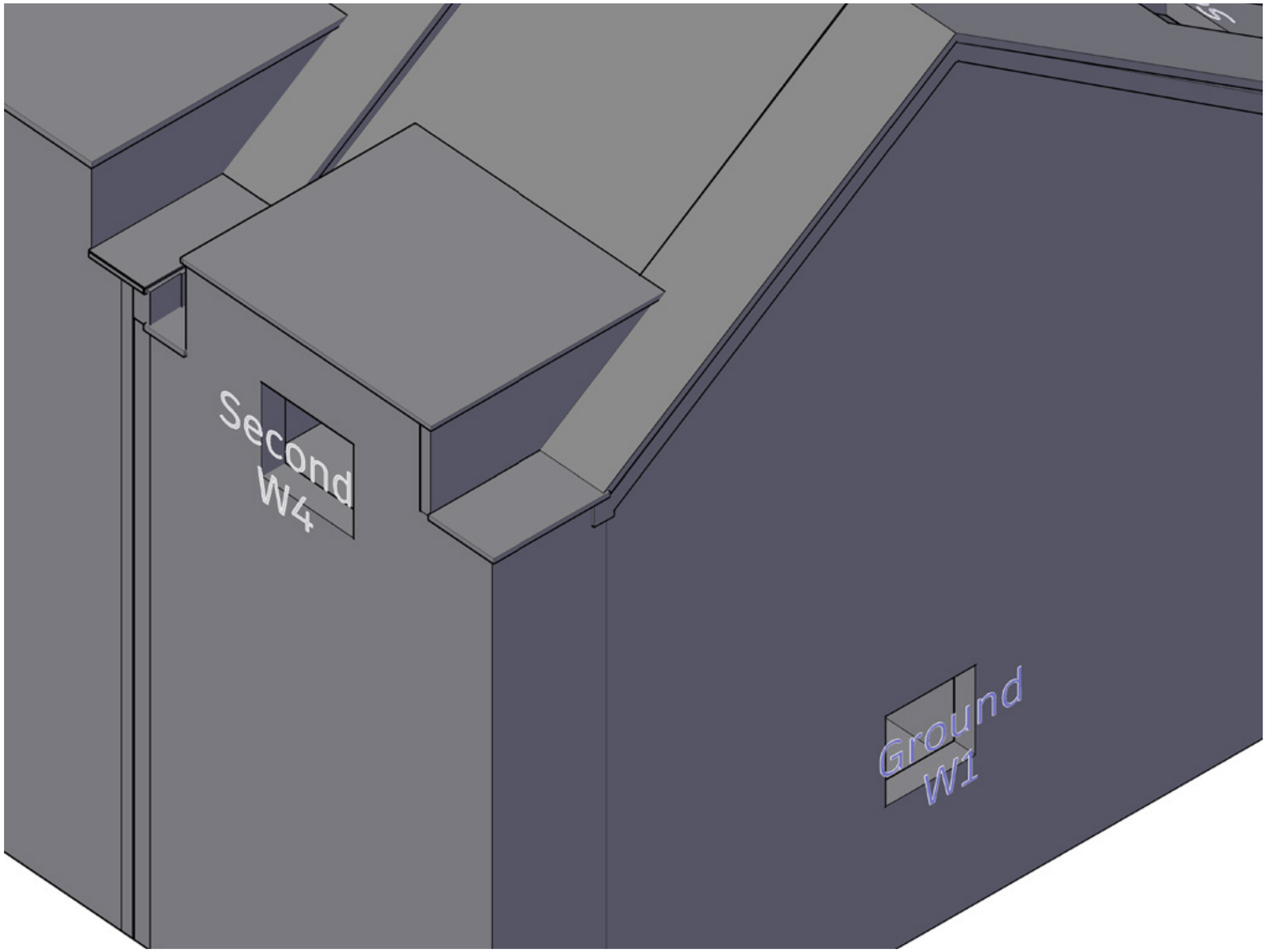

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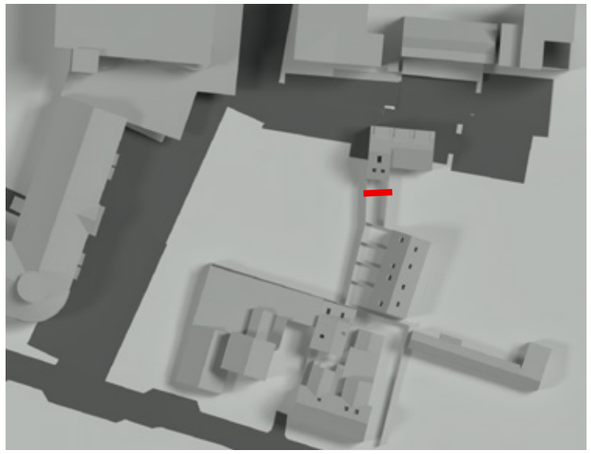

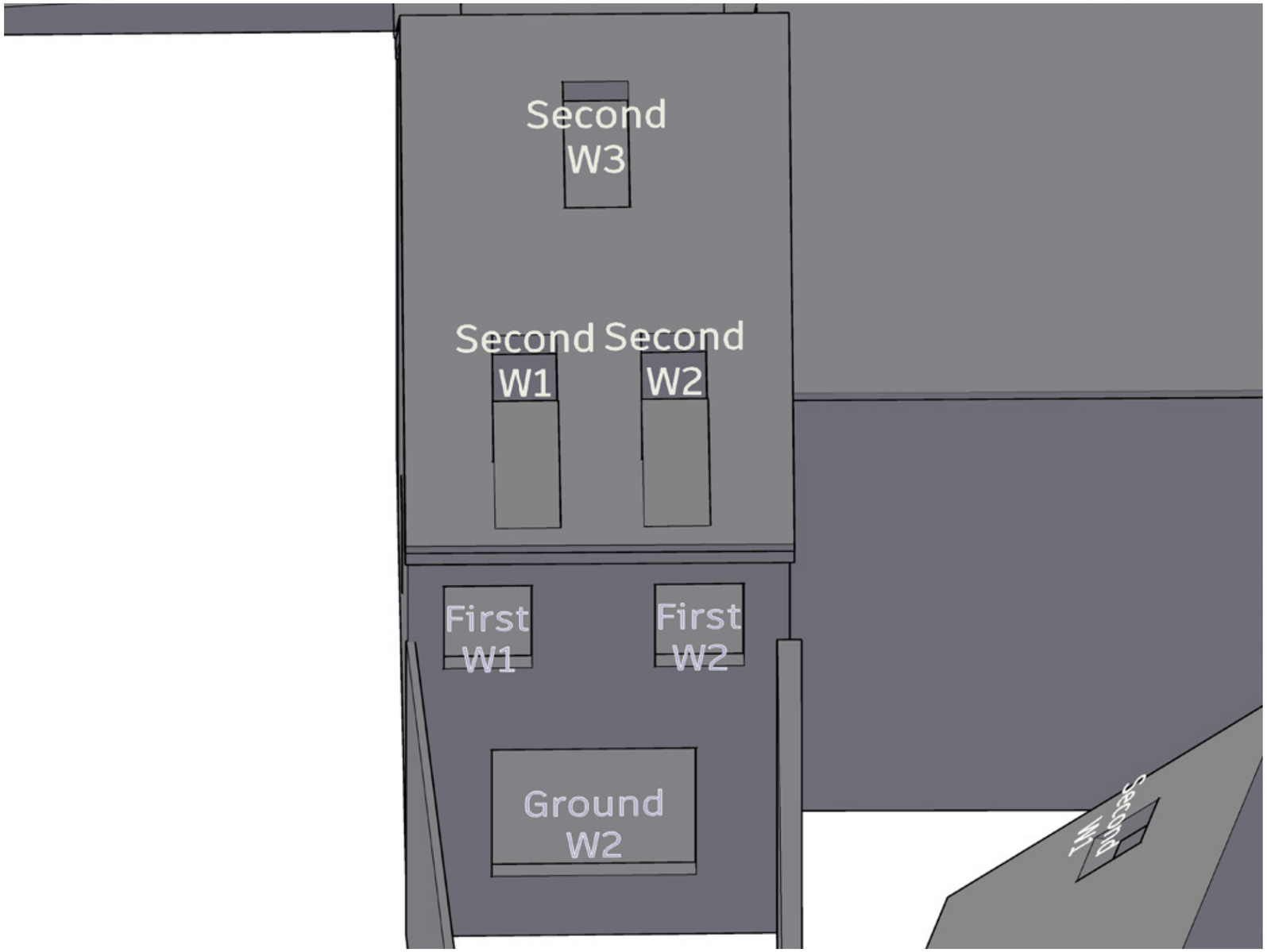

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Date	02/09/2020	Project	4359
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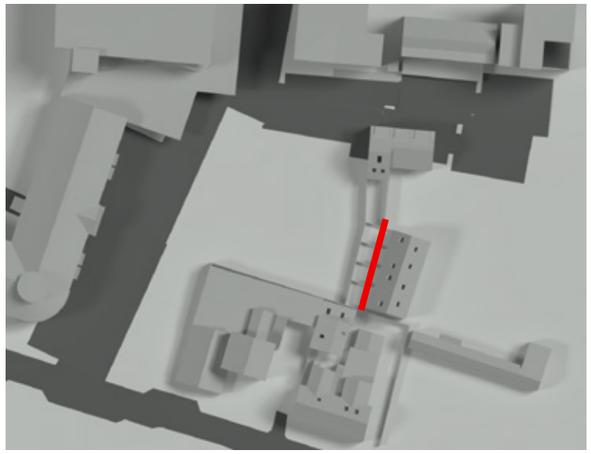

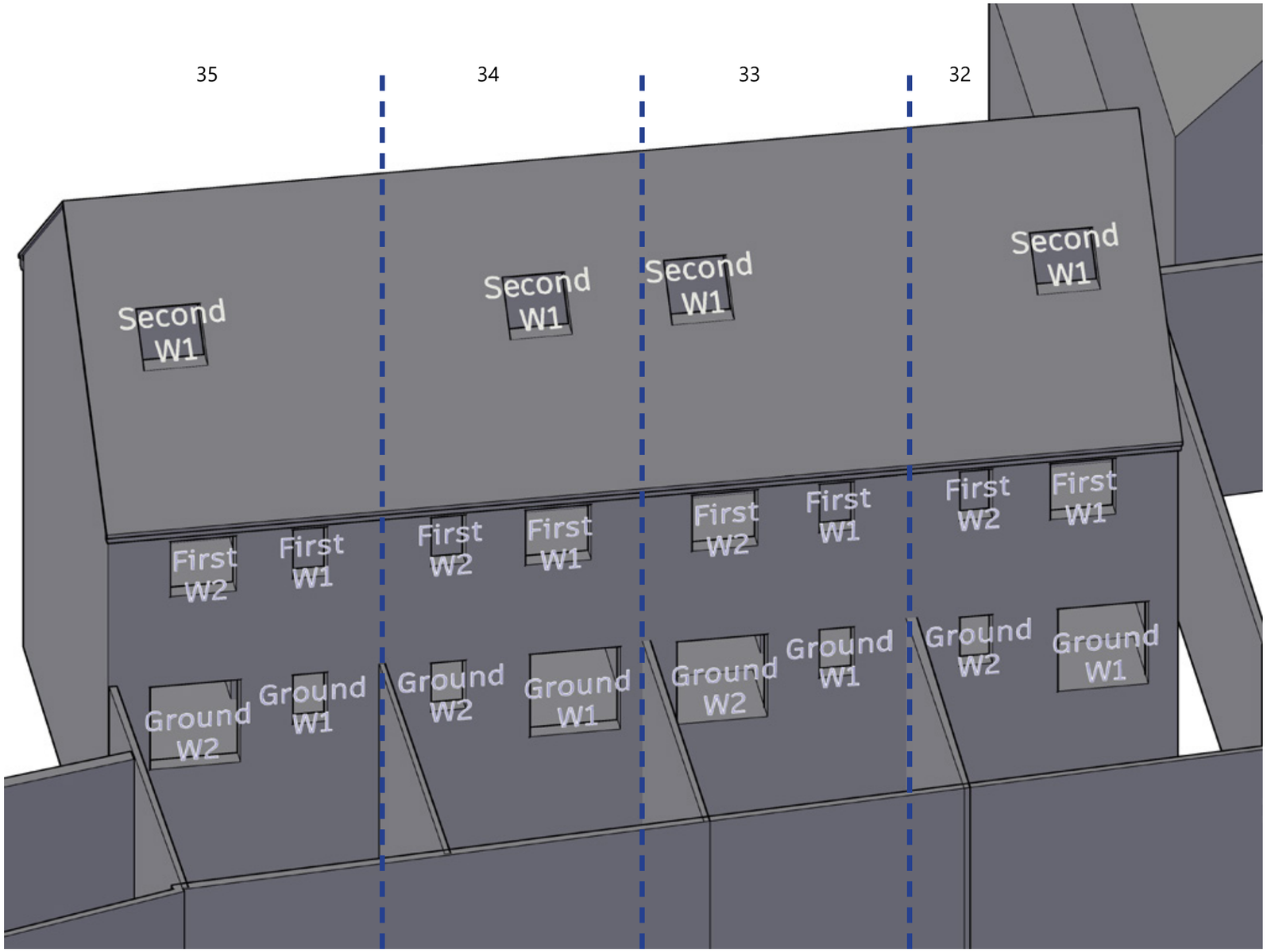

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Rel no. 01	Prefix DS01	Page no.	WM06

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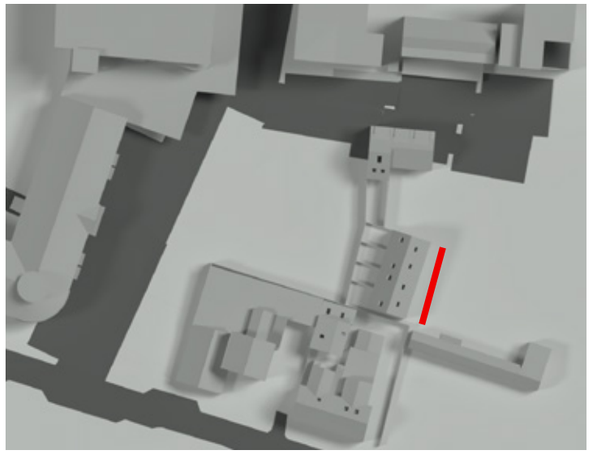

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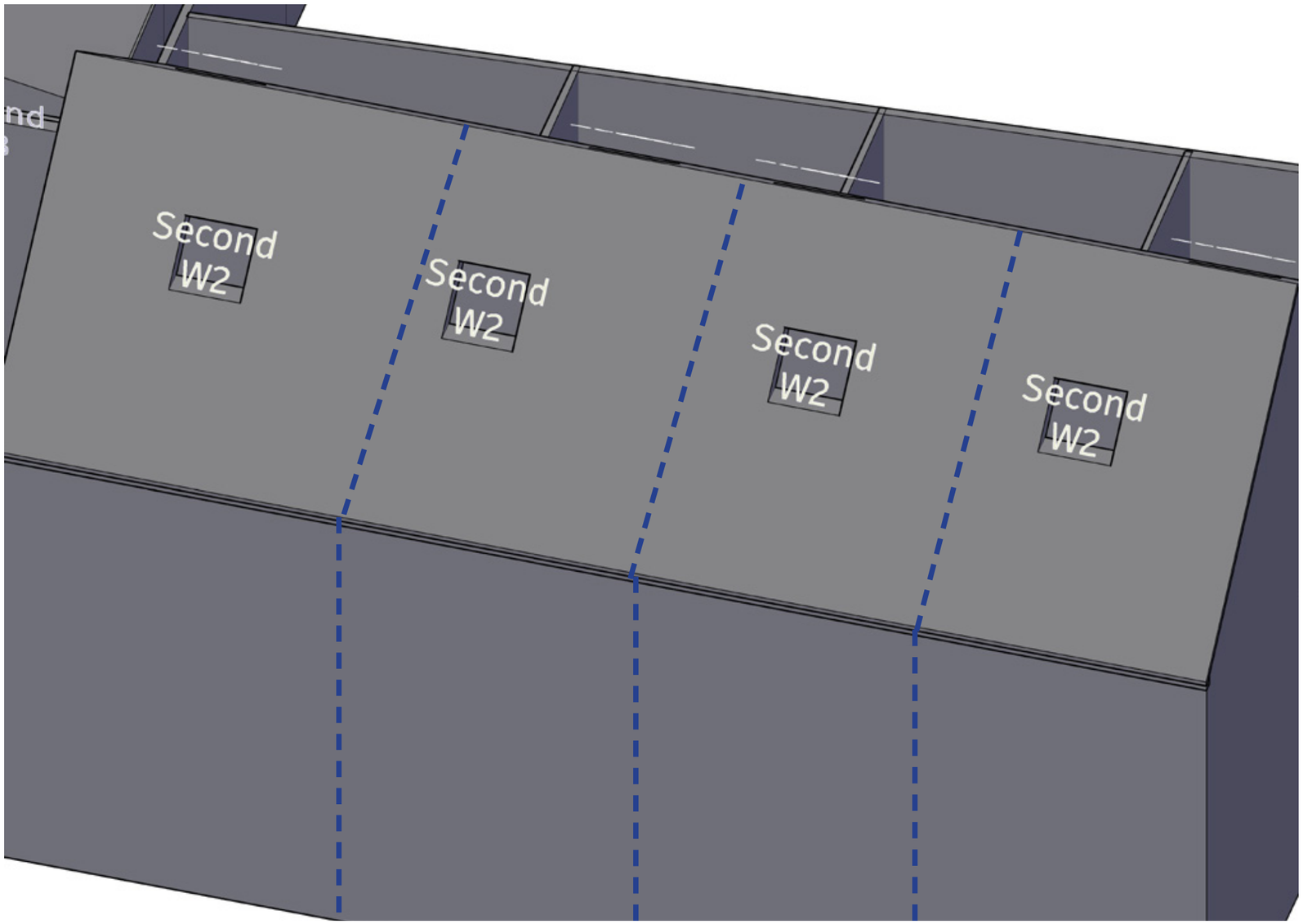

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ECE Architecture
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Project	Oxford Road Reading		
Title	32-35 Battle Place Window Map		
Drawn	AP	Checked	--
Date	02/09/2020	Project	4359
Rel no. 01	Prefix DS01	Page no.	WM07

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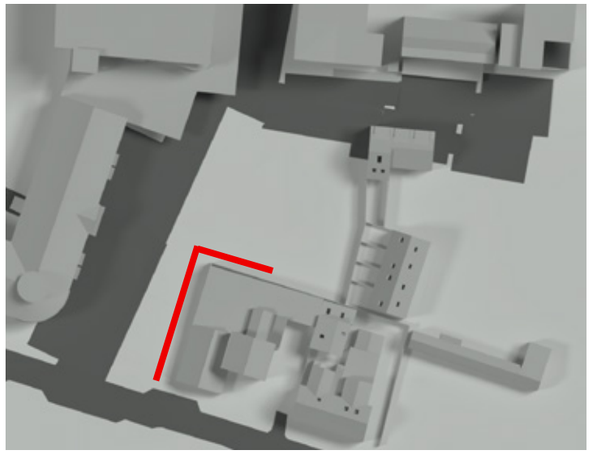

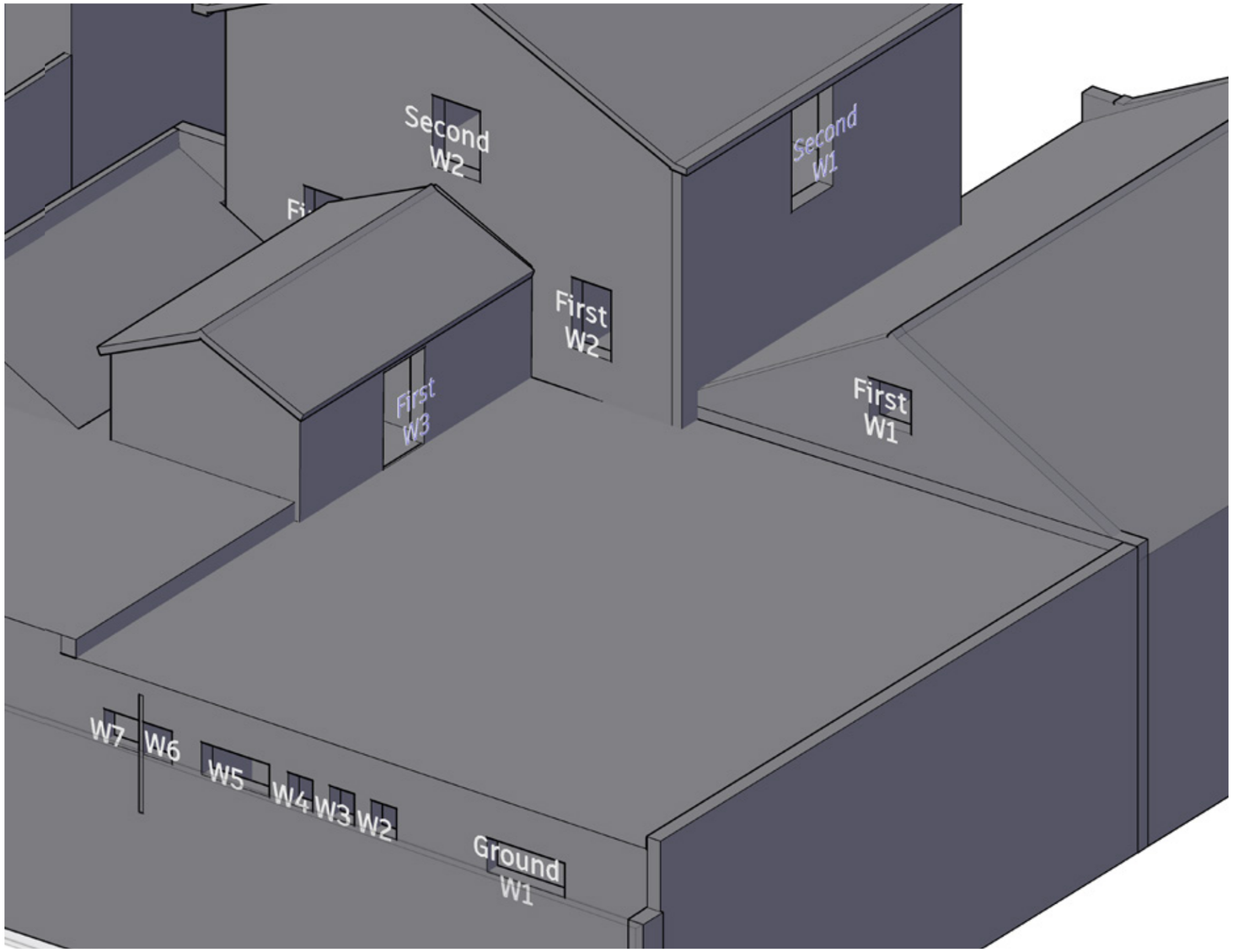

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Project	Oxford Road Reading		
Title	362 Oxford Road Window Map		
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Rel no. 01	Prefix DS01	Page no.	WM08

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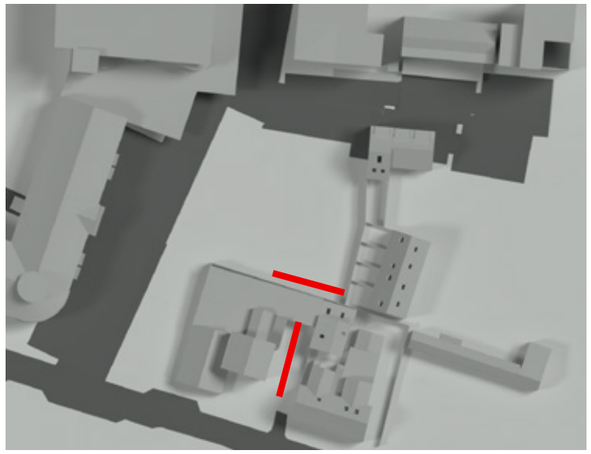

Sources of information

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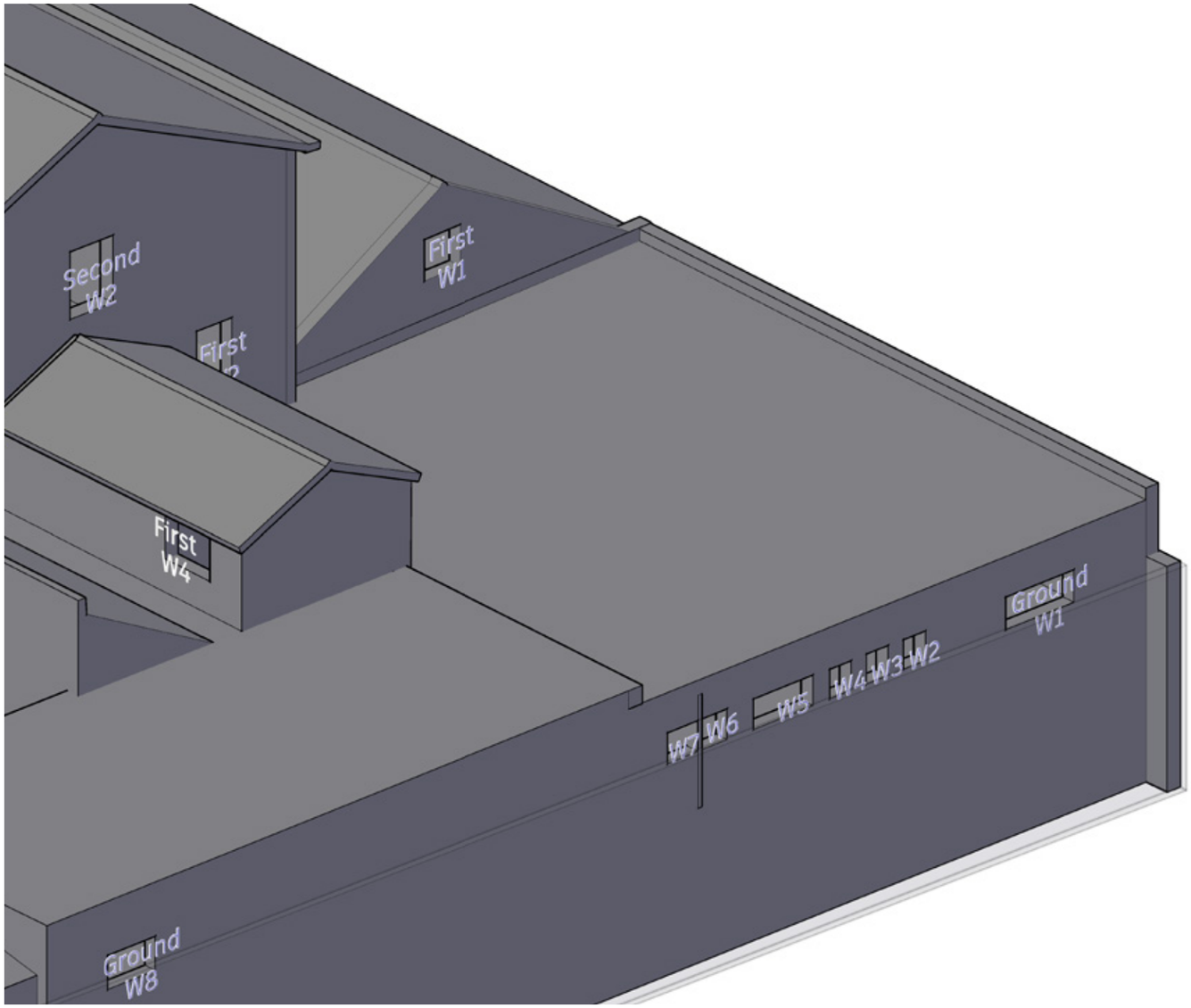

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Drawn	AP	Checked	--
Date	02/09/2020	Project	4359
Rel no. 01	Prefix DS01	Page no.	WM09

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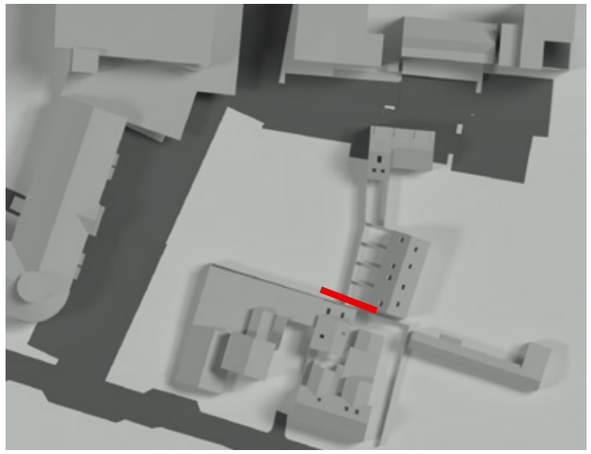

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Project	Oxford Road Reading		
Title	350 and 352 Oxford Road Window Map		
Drawn	AP	Checked	--
Date	02/09/2020	Project	4359
Rel no. 01	Prefix DS01	Page no.	WM10

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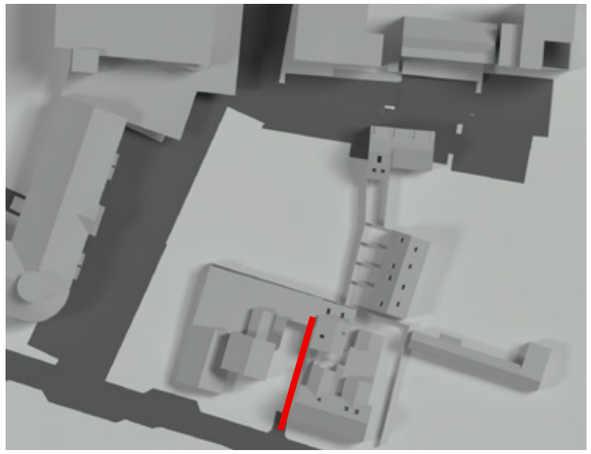

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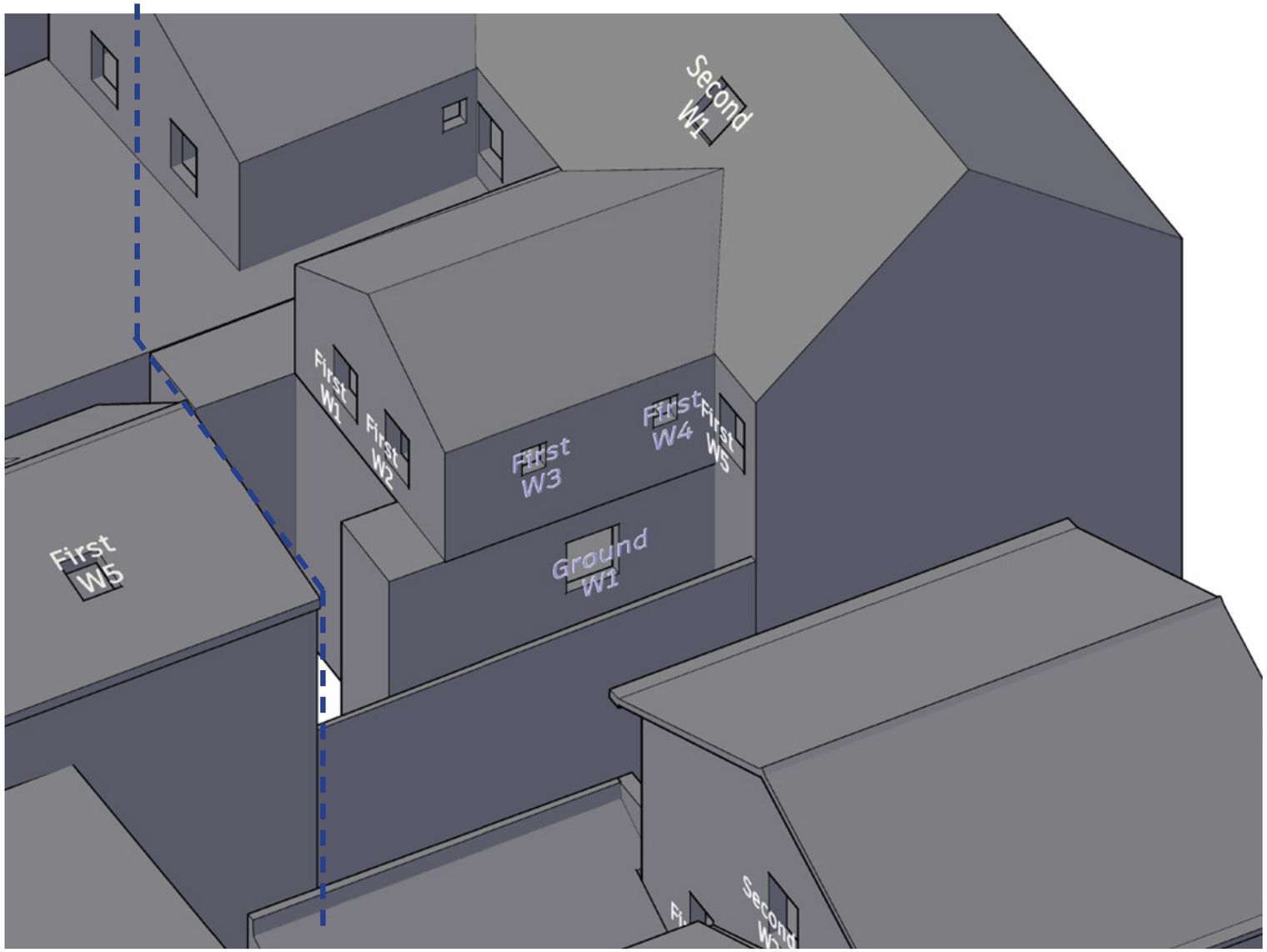

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Project	Oxford Road Reading		
Title	350 and 352 Oxford Road Window Map		
Drawn	AP	Checked	--
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Rel no. 01	Prefix DS01	Page no.	WM11

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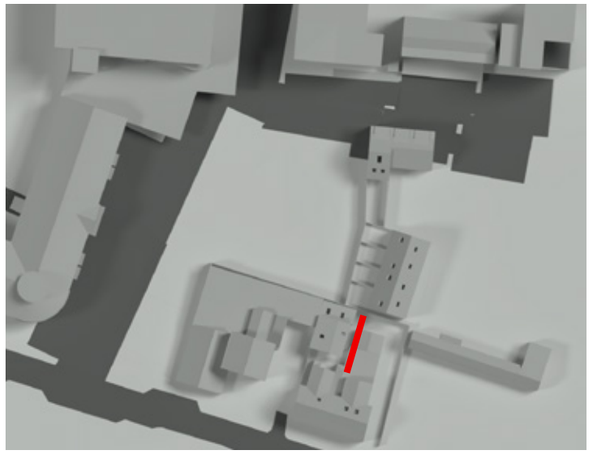

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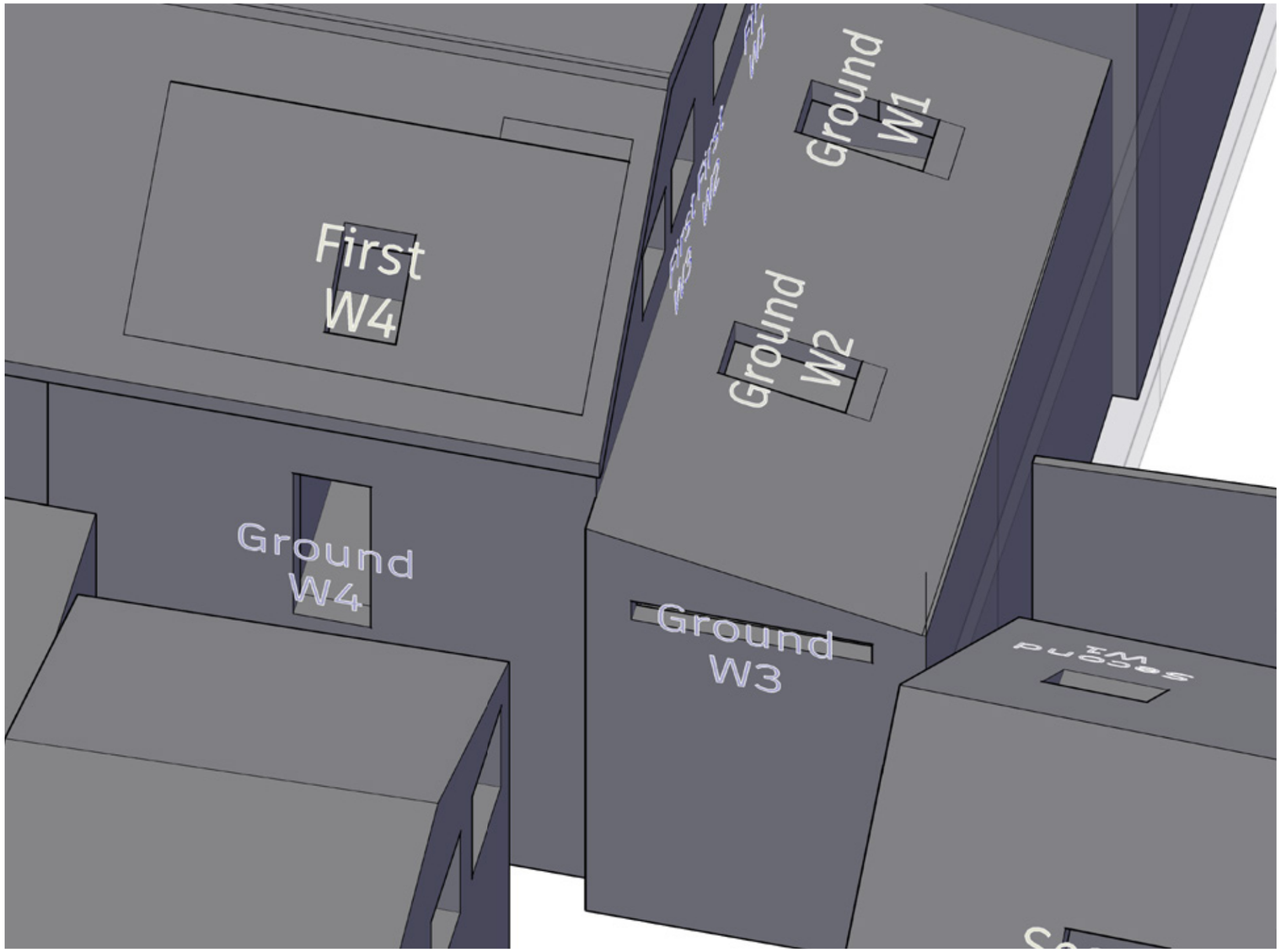

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Title	350 Oxford Road Window Map		
Drawn	AP	Checked	--
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Rel no. 01	Prefix DS01	Page no. WM12	

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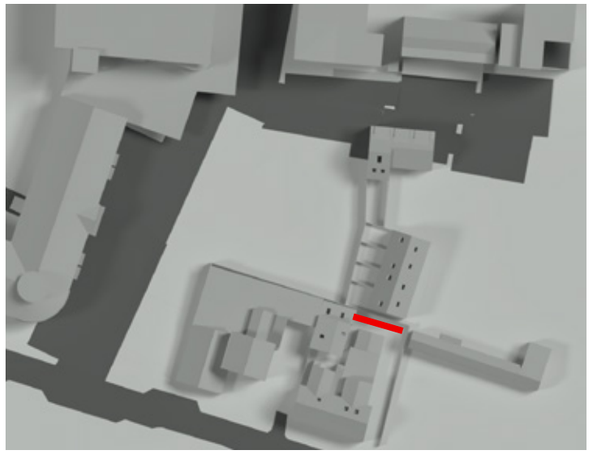

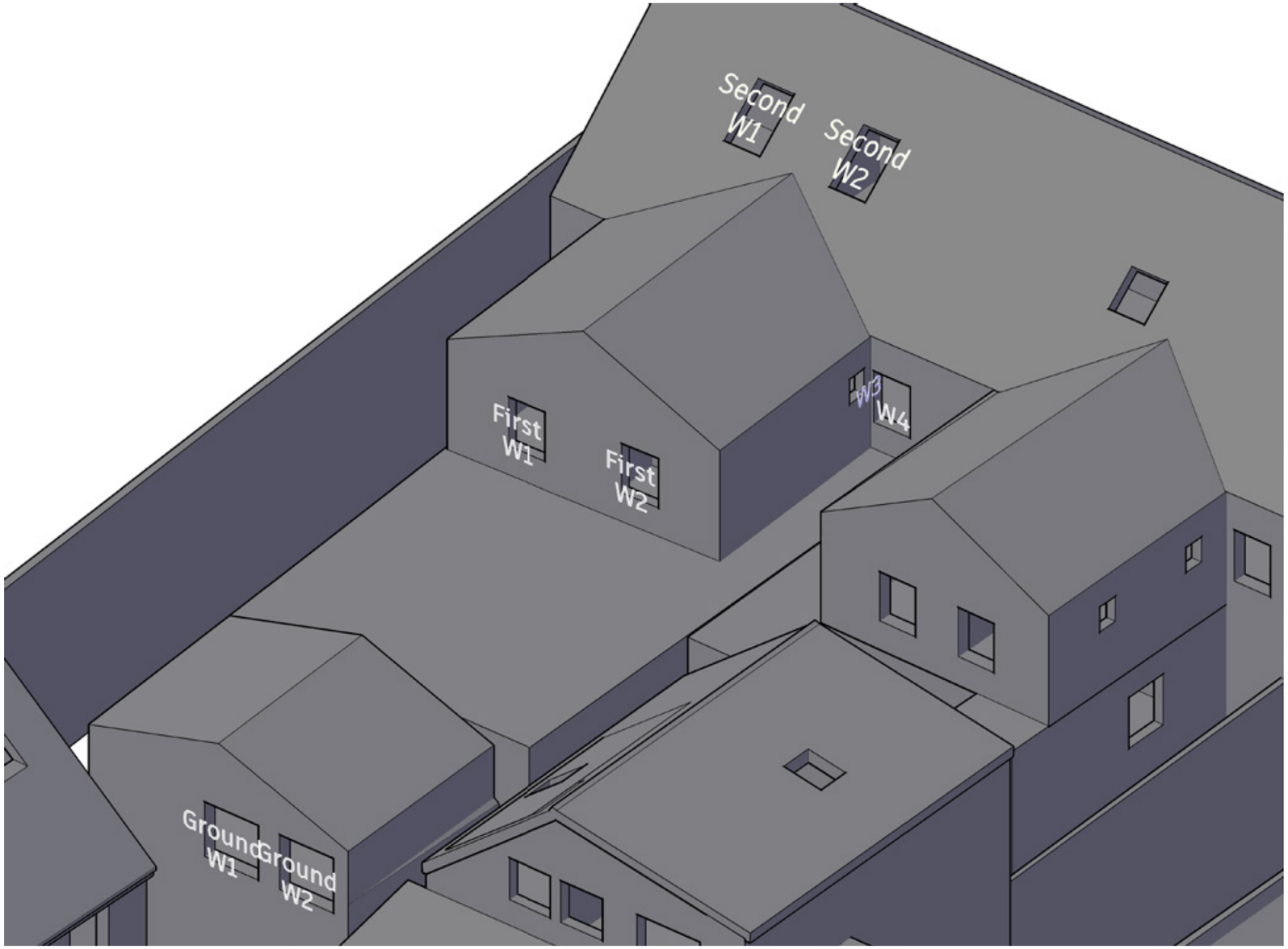

Sources of information

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Outline Elevations.dwg
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Project	Oxford Road Reading		
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Drawn	AP	Checked	--
Date	02/09/2020	Project	4359
Rel no. 01	Prefix DS01	Page no.	WM13

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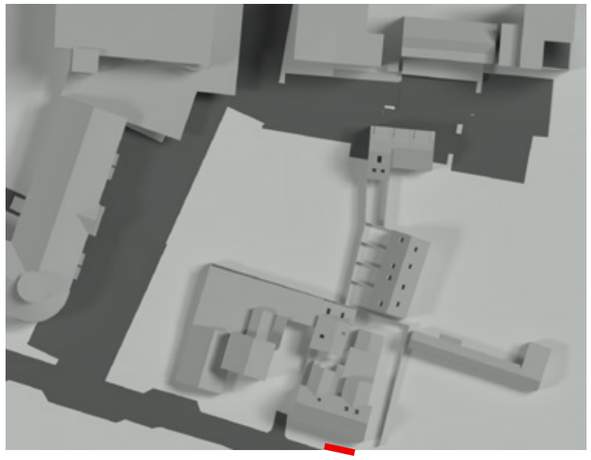

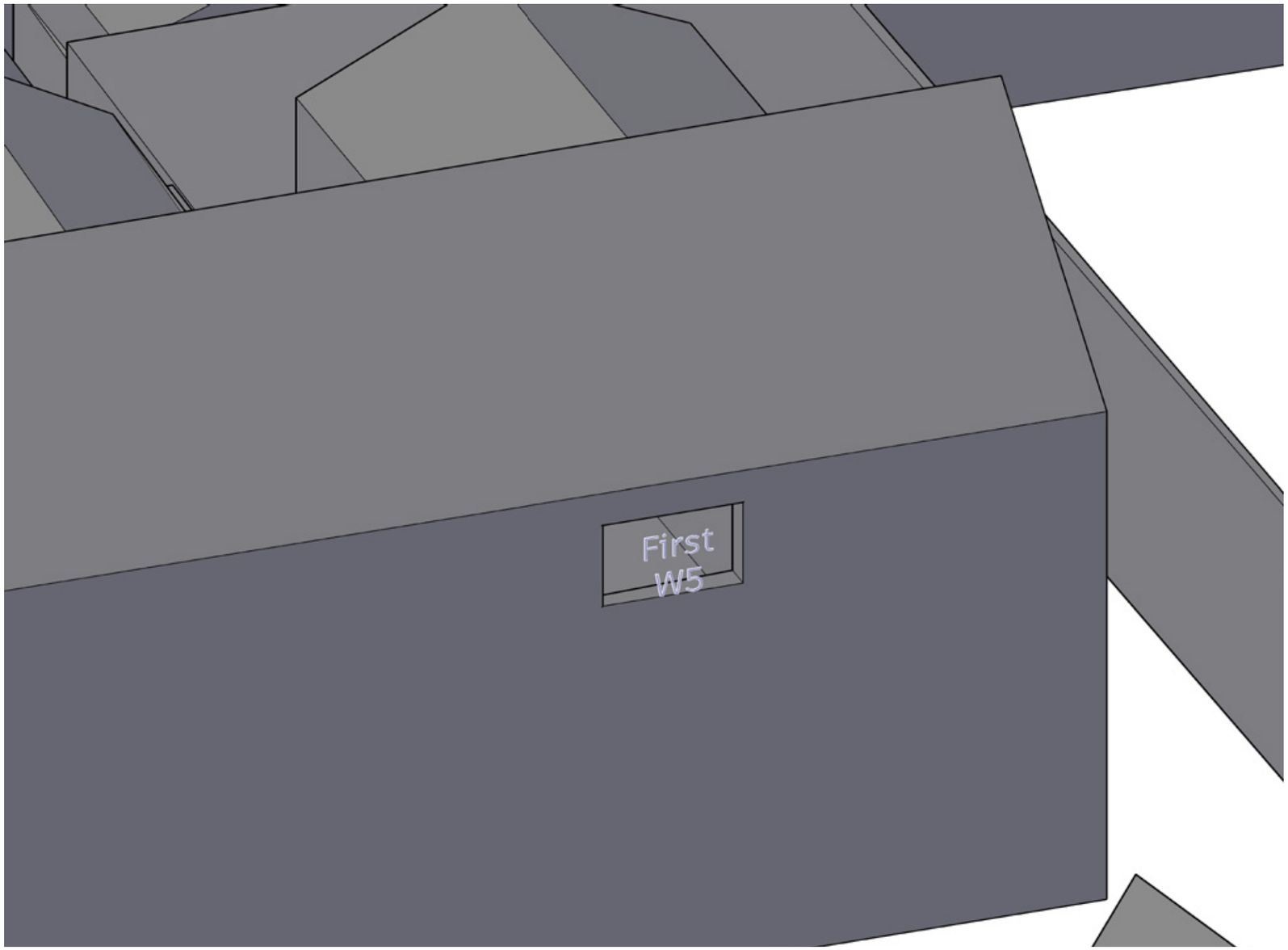

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6906-ECE-01-XX-M3-A-6906_Main Building.rvt
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Project	Oxford Road Reading		
Title	346-348 Oxford Road Window Map		
Drawn	AP	Checked	--
Date	02/09/2020	Project	4359
Rel no. 01	Prefix DS01	Page no.	WM14

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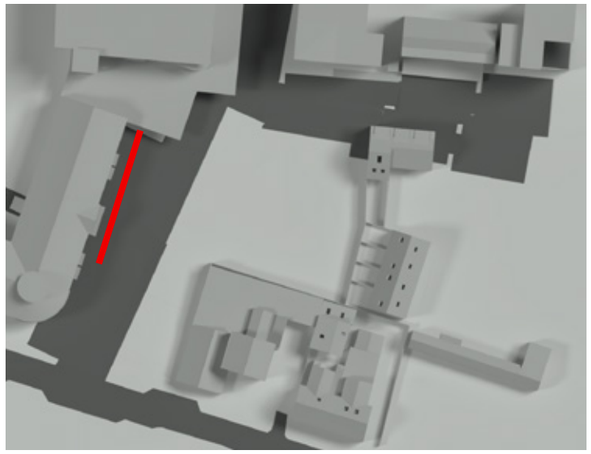

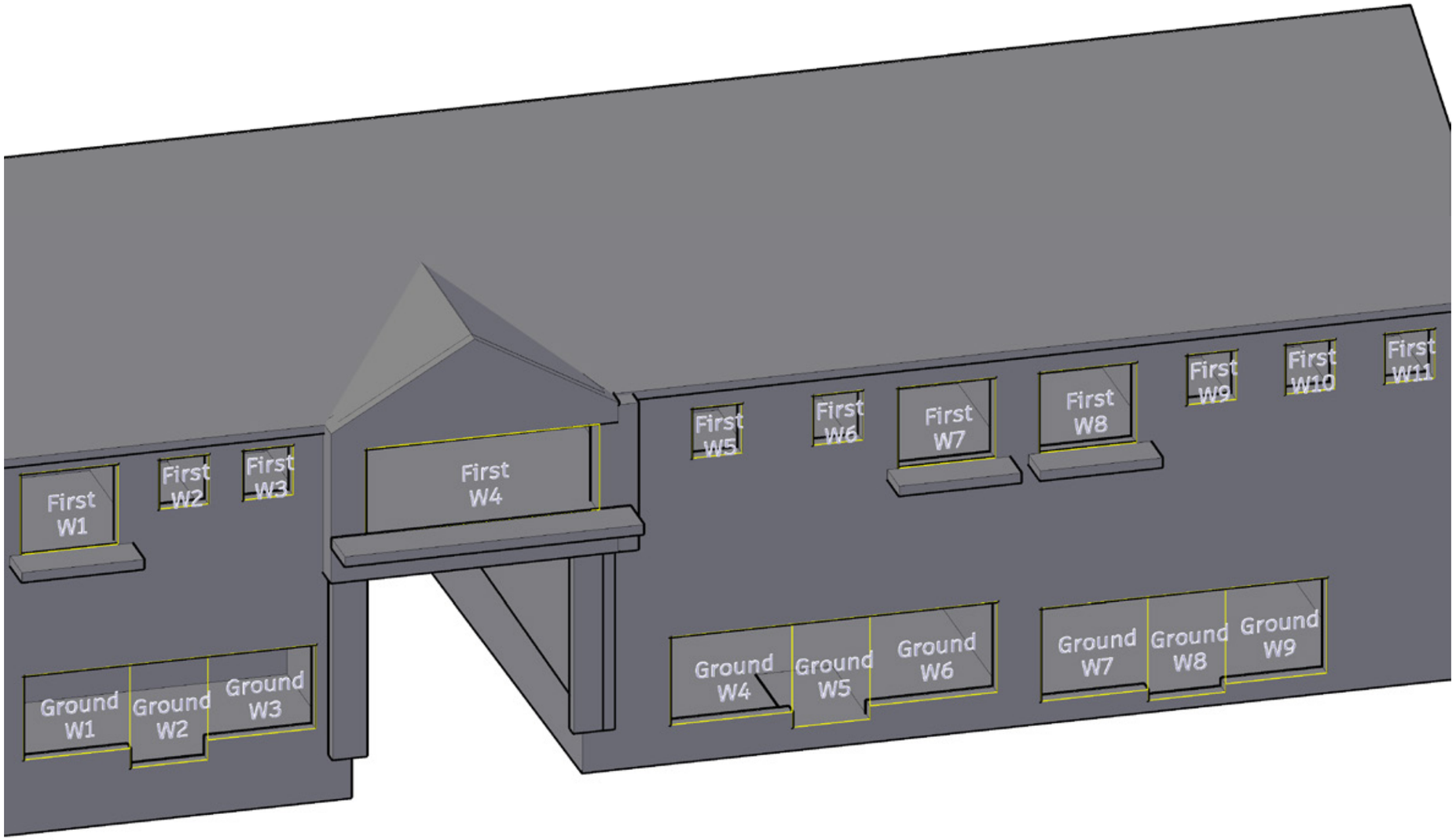

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Project	Oxford Road Reading		
Title	1-20 Cholsey House Window Map		
Drawn	AP	Checked	--
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Rel no. 01	Prefix DS01	Page no.	WM15

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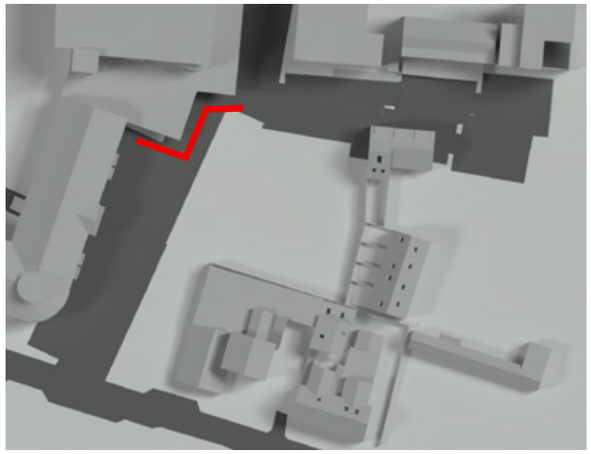
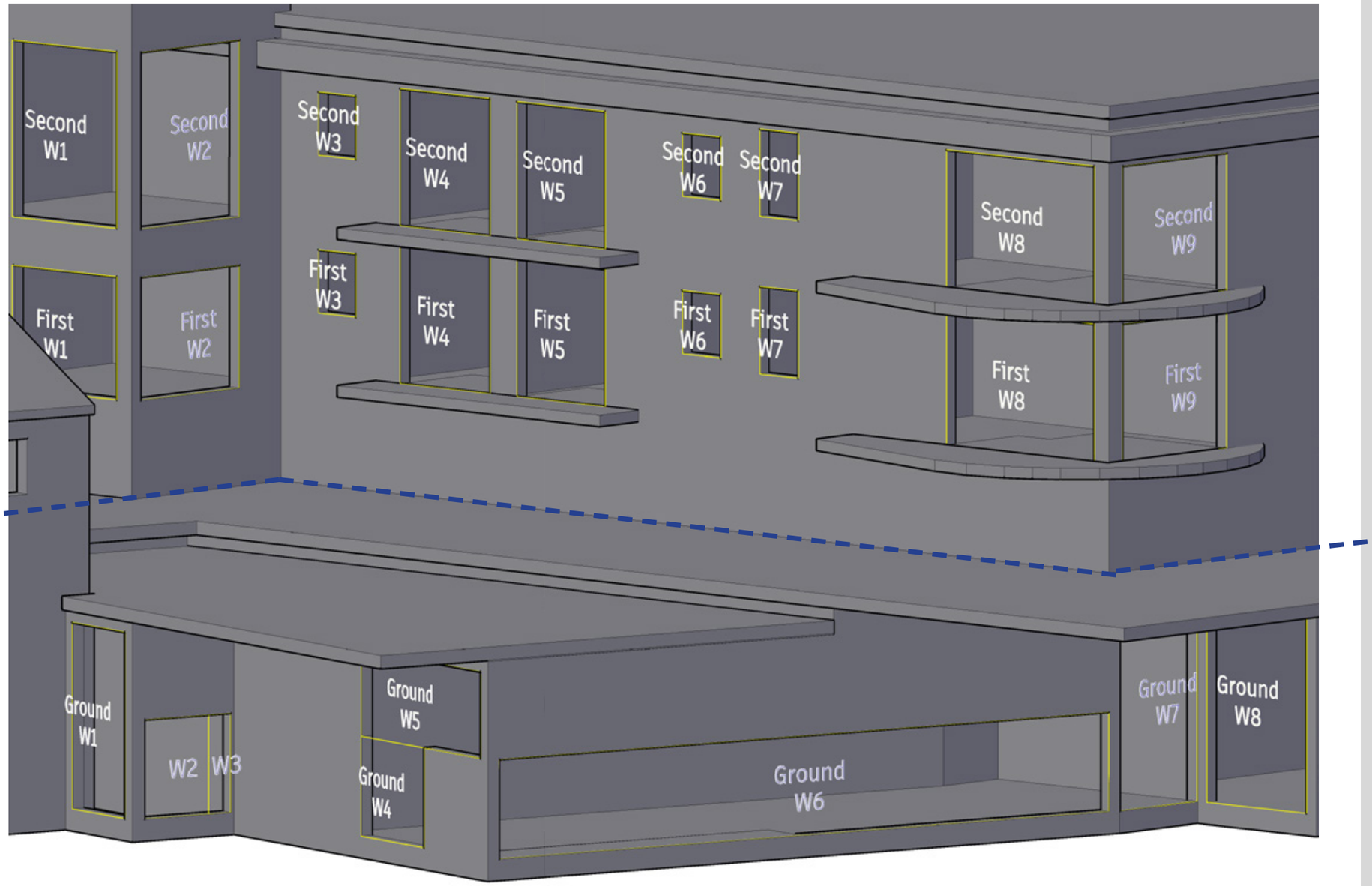


Winterbrok House

Tesco Store



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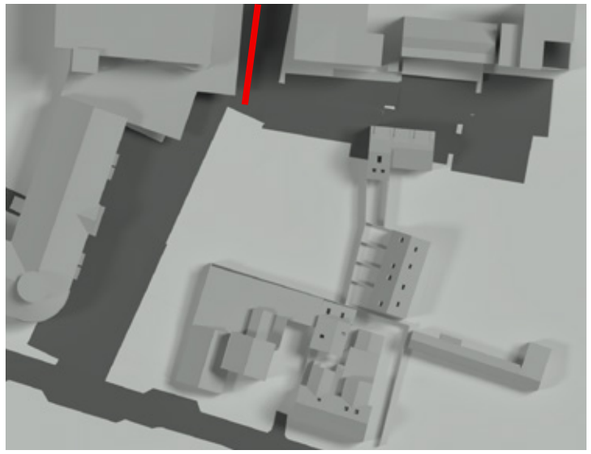
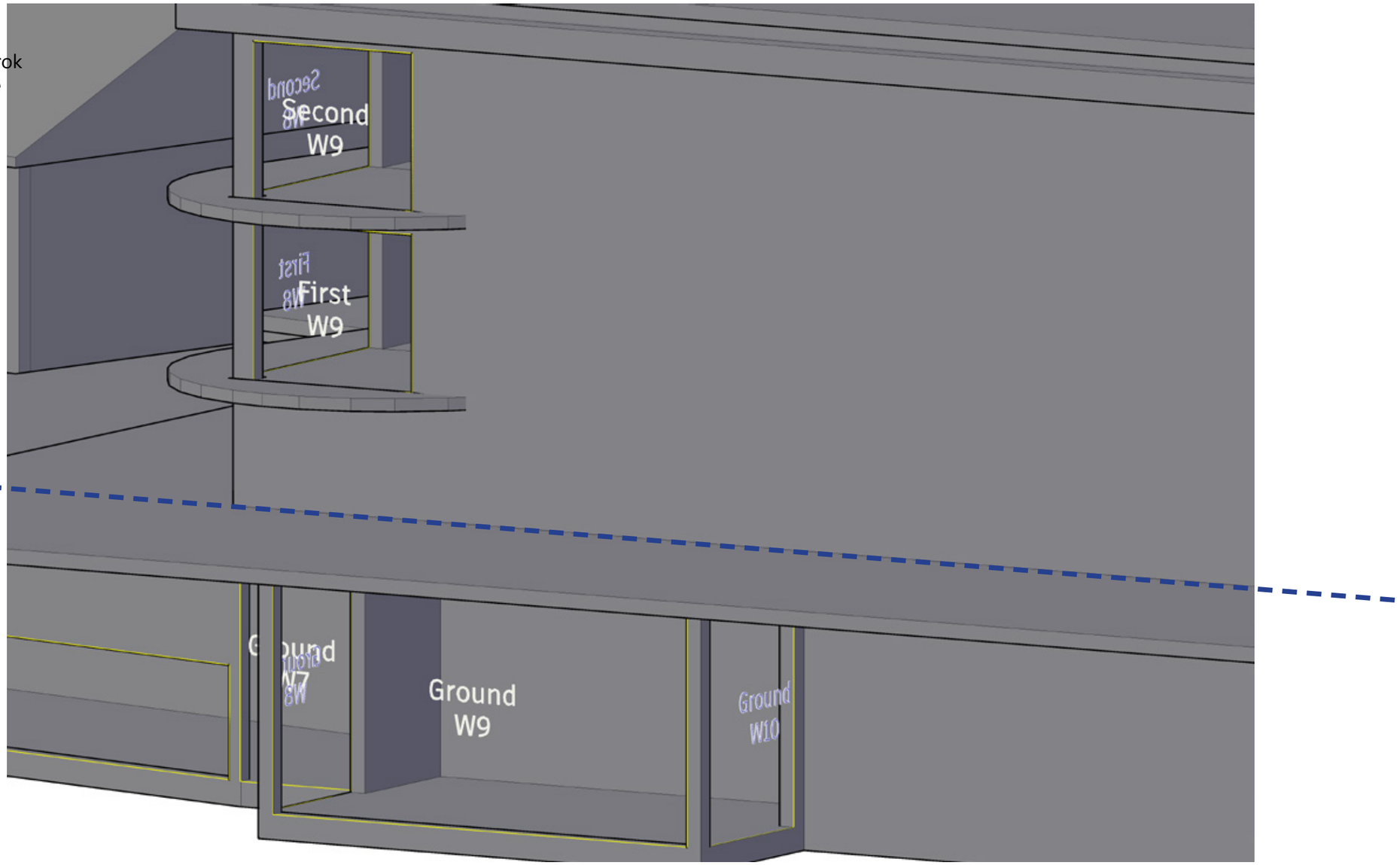
6906-ECE-01-XX-M3-A-6906_Main Building.rvt
Received 21/08/2020

Project	Oxford Road Reading		
Title	Tesco Store and Winterbrook House Window Map		
Drawn	AP	Checked	--
Date	02/09/2020	Project	4359
Rel no. 01	Prefix DS01	Page no.	WM16



Winterbrook House

Tesco Store



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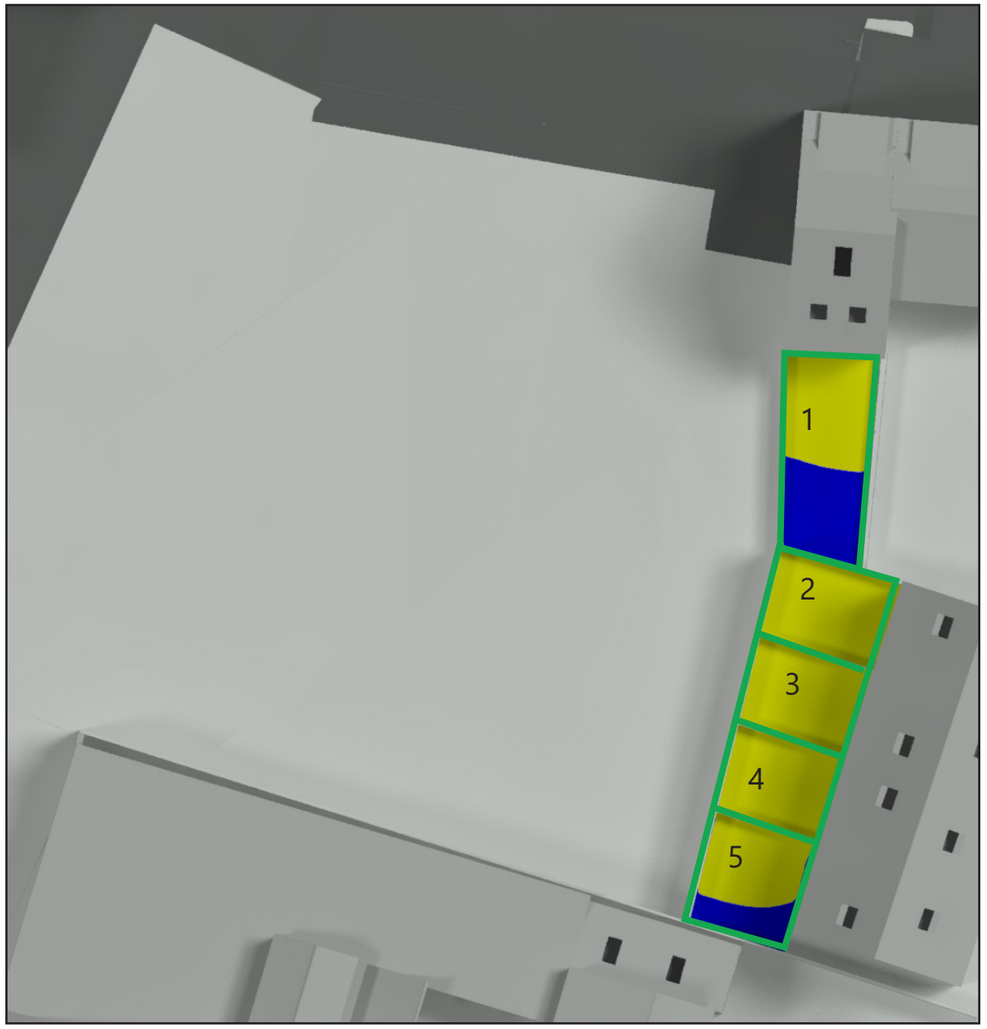
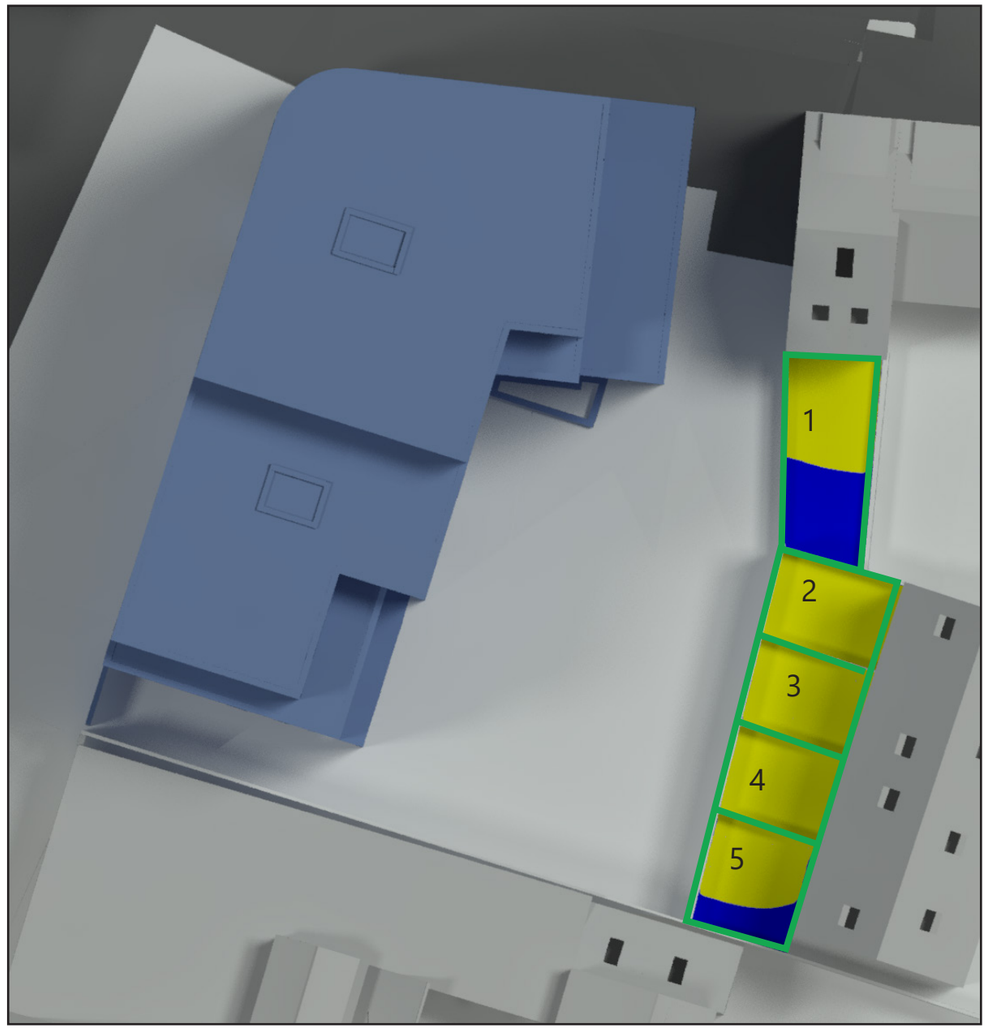
Project	Oxford Road Reading		
Title	Tesco Store and Winterbrook House Window Map		
Drawn	AP	Checked	--
Date	02/09/2020	Project	4359
Rel no. 01	Prefix DS01	Page no.	WM17

Appendix 4

Results of the Sunlight Amenity Assesment

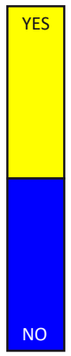


Existing Scenario



Proposed Scenario

Area	Total Area (sq.m)	Existing area more than 2 hours (sq.m)	Existing % more than 2 hours	Proposed area more than 2 hours (sq.m)	Proposed % more than 2 hours	Proportion Retained	Loss (%)
1	52.1	30.0	57.7	30.0	57.7	1	0.0
2	31.5	31.3	99.3	31.3	99.3	1	0.0
3	29.5	29.4	99.8	29.4	99.8	1	0.0
4	27.7	27.7	100.0	27.7	100.0	1	0.0
5	33.0	21.6	65.4	21.6	65.4	1	0.0



BRE's Sun On Ground
Area seing at least two hours of sunlight

Day: 21st March
Latitude: 51.4°N
Effective day length: 10 hours
*Min solar angle 10°
(BR209 3.3.8)

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6906-ECE-01-XX-M3-A-6906_Main Building.0002.rvt
6906 - 112(D) - Second Floor Plan.pdf
6906 - 113(E) - Third Floor Plan.pdf
6906 - 114(E) - Fourth Floor Plan.pdf
6906 - 115(D) - Fifth Floor Plan.pdf
Received 22/09/2020

6906 - 111(F) - First Floor Plan.pdf
Received 24/092020

Key:

Existing

Proposed

Area of assessment

NORTH

Project: Oxford Road Reading

Title: Sunlight Amenity Study Existing vs Proposed 21st March

Drawn: MZ | Checked: --

Date: 23/09/2020 | Project: 4359

Rel no.: 02 | Prefix: SA01 | Page no.: 01

Appendix 5

Results of the daylight and sunlight assessments within the proposed development

Floor	Room ID	Window ID	Room Use	VSC	Win. Trans.	Glazing Area	Theta	Room Area	Room	Split Calc Multiplier	ADF	TOTAL ADF	TOTAL APSH	WINTER APSH	ROOM TOTAL APSH	ROOM WINTER APSH
Proposed																
First	R1	W1-L	LKD	11.19	0.68	2.07	37.60	144.82	0.72	0.40	0.3		4	0		
		W1-U	LKD	3.29	0.68	4.14	19.79	144.82	0.72	1.00	0.8					
		W2-L	LKD	8.59	0.68	1.37	32.55	144.82	0.72	0.40	0.2		0	0		
		W2-U	LKD	3.88	0.68	2.75	21.54	144.82	0.72	1.00	0.6					
		W3-L	LKD	33.20	0.68	1.38	75.63	144.82	0.72	0.40	0.4		28	5		
		W3-U	LKD	33.43	0.68	2.77	76.07	144.82	0.72	1.00	2.0	**4.3**			28	5
First	R2	W4-L	Bedroom	30.55	0.68	0.75	70.65	61.69	0.74	0.40	0.5		56	22		
		W4-U	Bedroom	33.40	0.68	1.50	76.02	61.69	0.74	1.00	2.7	**3.3**			56	22
First	R3	W5-L	Bedroom	28.32	0.68	0.45	66.69	44.42	0.75	0.40	0.4		43	17		
		W5-U	Bedroom	31.17	0.68	0.90	71.78	44.42	0.75	1.00	2.2	**2.6**			43	17
First	R4	W6-L	Bedroom	32.98	0.68	0.75	75.20	62.25	0.74	0.40	0.5		42	9		
		W6-U	Bedroom	33.82	0.68	1.50	76.85	62.25	0.74	1.00	2.7	**3.3**			42	9
First	R5	W7-L	Bedroom	32.25	0.68	0.75	73.80	59.86	0.74	0.40	0.5		40	8		
		W7-U	Bedroom	32.99	0.68	1.50	75.21	59.86	0.74	1.00	2.8	**3.3**			40	8
First	R6	W8-L	Bedroom	30.93	0.68	0.75	71.35	60.33	0.74	0.40	0.5		40	8		
		W8-U	Bedroom	31.61	0.68	1.50	72.59	60.33	0.74	1.00	2.7	**3.2**			40	8
First	R7	W9-L	Bedroom	27.06	0.68	0.75	64.51	59.07	0.74	0.40	0.5		38	8		
		W9-U	Bedroom	27.58	0.68	1.50	65.41	59.07	0.74	1.00	2.5	**2.9**			38	8
First	R8	W10-L	Bedroom	22.46	0.68	0.75	56.82	76.52	0.73	0.40	0.3		36	8		
		W10-U	Bedroom	22.77	0.68	1.50	57.34	76.52	0.73	1.00	1.6	**2.0**			36	8
First	R9	W11-L	Bedroom	21.29	0.68	0.45	54.90	44.02	0.75	0.40	0.3		32	15		
		W11-U	Bedroom	21.82	0.68	0.90	55.78	44.02	0.75	1.00	1.7	**2.1**			32	15
First	R10	W12-L	Bedroom	24.48	0.68	0.75	60.17	58.65	0.74	0.40	0.5		44	20		
		W12-U	Bedroom	25.09	0.68	1.50	61.18	58.65	0.74	1.00	2.3	**2.8**			44	20
First	R11	W13-L	Bedroom	27.62	0.68	0.75	65.49	51.65	0.74	0.40	0.6		51	21		
		W13-U	Bedroom	28.37	0.68	1.50	66.78	51.65	0.74	1.00	2.9	**3.5**			51	21
First	R12	W14-L	LKD	19.75	0.68	0.45	52.35	111.78	0.72	0.40	0.1		13	2		
		W14-U	LKD	23.49	0.68	0.90	58.53	111.78	0.72	1.00	0.7					
		W15-L	LKD	5.91	0.68	2.07	26.70	111.78	0.72	0.40	0.3		3	0		
		W15-U	LKD	0.51	0.68	4.14	8.03	111.78	0.72	1.00	0.4	**1.5**			16	2
First	R13	W16-L	Bedroom	8.39	0.68	0.75	32.16	57.86	0.74	0.40	0.2		0	0		
		W16-U	Bedroom	1.21	0.68	1.50	11.87	57.86	0.74	1.00	0.5					
		W17-L	Bedroom	8.58	0.68	0.75	32.54	57.86	0.74	0.40	0.2		0	0		
		W17-U	Bedroom	1.18	0.68	1.50	11.70	57.86	0.74	1.00	0.4	**1.4**			0	0
First	R14	W18-L	LKD	6.75	0.68	0.62	28.62	97.16	0.72	0.40	0.1		2	0		
		W18-U	LKD	2.39	0.68	1.24	16.80	97.16	0.72	1.00	0.3					
		W19-L	LKD	10.80	0.68	0.24	36.87	97.16	0.72	0.40	0.1		4	0		
		W19-U	LKD	7.98	0.68	0.48	31.29	97.16	0.72	1.00	0.2					
		W20-L	LKD	23.45	0.68	1.36	58.45	97.16	0.72	0.40	0.5		1	0		
		W20-U	LKD	24.46	0.68	2.72	60.13	97.16	0.72	1.00	2.4					
		W21-L	LKD	21.89	0.68	0.45	55.88	97.16	0.72	0.40	0.1		0	0		
		W21-U	LKD	23.06	0.68	0.90	57.81	97.16	0.72	1.00	0.8	**4.4**			4	0
First	R15	W22-L	Bedroom	24.77	0.68	0.75	60.65	43.76	0.75	0.40	0.6		0	0		
		W22-U	Bedroom	25.73	0.68	1.50	62.26	43.76	0.75	1.00	3.3	**3.9**			0	0
First	R16	W23-L	LKD	8.93	0.68	0.72	33.24	114.82	0.73	0.40	0.1		2	0		
		W23-U	LKD	1.71	0.68	1.44	14.11	114.82	0.73	1.00	0.3					
		W24-L	LKD	16.03	0.68	2.30	46.15	114.82	0.73	0.40	0.5		2	0		
		W24-U	LKD	6.10	0.68	4.60	27.14	114.82	0.73	1.00	1.6					
		W25-L	LKD	30.54	0.68	1.45	70.63	114.82	0.73	0.40	0.5		28	5		
		W25-U	LKD	31.12	0.68	2.89	71.69	114.82	0.73	1.00	2.6	**5.6**			28	5
First	R17	W26-L	Bedroom	29.97	0.68	0.75	69.60	54.83	0.74	0.40	0.6		19	2		
		W26-U	Bedroom	30.65	0.68	1.50	70.83	54.83	0.74	1.00	2.9	**3.5**			19	2
First	R18	W27-L	Bedroom	11.06	0.68	0.72	37.36	43.86	0.75	0.40	0.4		7	1		
		W27-U	Bedroom	3.02	0.68	1.44	18.95	43.86	0.75	1.00	1.0	**1.3**			7	1
First	R19	W28-L	LKD	8.56	0.68	0.62	32.50	130.99	0.72	0.40	0.1		5	0		
		W28-U	LKD	1.94	0.68	1.24	15.06	130.99	0.72	1.00	0.2					
		W29-L	LKD	8.30	0.68	1.37	31.96	130.99	0.72	0.40	0.2		1	0		
		W29-U	LKD	3.49	0.68	2.74	20.41	130.99	0.72	1.00	0.6					
		W30-L	LKD	32.16	0.68	1.38	73.62	130.99	0.72	0.40	0.4		28	5		
		W30-U	LKD	32.51	0.68	2.76	74.30	130.99	0.72	1.00	2.2	**3.7**			29	5
First	R20	W31-L	LKD	11.61	0.68	2.07	38.38	125.89	0.72	0.40	0.4		4	0		
		W31-U	LKD	3.24	0.68	4.14	19.66	125.89	0.72	1.00	0.9	**1.3**			4	0
Second	R1	W1-L	LKD	13.89	0.68	2.07	42.48	132.28	0.72	0.40	0.4		9	1		
		W1-U	LKD	5.36	0.68	4.14	25.37	132.28	0.72	1.00	1.1					
		W2-L	LKD	9.47	0.68	1.36	34.31	132.28	0.72	0.40	0.2		1	0		
		W2-U	LKD	4.74	0.68	2.72	23.83	132.28	0.72	1.00	0.7					
		W3-L	LKD	35.20	0.68	1.38	79.67	132.28	0.72	0.40	0.5		31	6		
		W3-U	LKD	35.39	0.68	2.77	80.08	132.28	0.72	1.00	2.4	**5.3**			31	6
Second	R2	W4-L	Bedroom	35.32	0.68	0.75	79.93	64.81	0.73	0.40	0.5		59	25		
		W4-U	Bedroom	35.83	0.68	1.50	81.02	64.81	0.73	1.00	2.7	**3.3**			59	25
Second	R3	W5-L	Bedroom	35.08	0.68	0.75	79.42	58.03	0.74	0.40	0.6		43	10		

Floor	Room ID	Window ID	Room Use	VSC	Win. Trans.	Glazing Area	Theta	Room Area	Room	Split Calc Multiplier	ADF	TOTAL ADF	TOTAL APSH	WINTER APSH	ROOM TOTAL APSH	ROOM WINTER APSH
		W5-U	Bedroom	35.66	0.68	1.50	80.65	58.03	0.74	1.00	3.1	**3.7**			43	10
Second	R4	W6-L	Bedroom	30.06	0.68	0.75	69.76	46.62	0.74	0.40	0.7		42	10		
		W6-U	Bedroom	30.57	0.68	1.50	70.69	46.62	0.74	1.00	3.5	**4.1**			42	10
Second	R5	W7-L	Bedroom	33.37	0.68	0.75	75.95	60.33	0.74	0.40	0.6		41	9		
		W7-U	Bedroom	33.99	0.68	1.50	77.20	60.33	0.74	1.00	2.9	**3.4**			41	9
Second	R6	W8-L	Bedroom	29.05	0.68	0.75	67.98	59.07	0.74	0.40	0.5		39	9		
		W8-U	Bedroom	29.64	0.68	1.50	69.01	59.07	0.74	1.00	2.6	**3.1**			39	9
Second	R7	W9-L	Bedroom	23.66	0.68	0.75	58.81	76.52	0.73	0.40	0.3		37	9		
		W9-U	Bedroom	23.92	0.68	1.50	59.24	76.52	0.73	1.00	1.7	**2.0**			37	9
Second	R8	W10-L	Bedroom	22.91	0.68	0.45	57.56	44.02	0.75	0.40	0.4		32	15		
		W10-U	Bedroom	23.43	0.68	0.90	58.42	44.02	0.75	1.00	1.8	**2.2**			32	15
Second	R9	W11-L	Bedroom	26.60	0.68	0.75	63.74	58.65	0.74	0.40	0.5		46	20		
		W11-U	Bedroom	27.24	0.68	1.50	64.83	58.65	0.74	1.00	2.5	**2.9**			46	20
Second	R10	W12-L	Bedroom	30.28	0.68	0.75	70.16	51.65	0.74	0.40	0.6		54	22		
		W12-U	Bedroom	31.06	0.68	1.50	71.59	51.65	0.74	1.00	3.1	**3.7**			54	22
Second	R11	W13-L	LKD	29.27	0.68	0.45	68.37	111.78	0.72	0.40	0.2		28	4		
		W13-U	LKD	32.54	0.68	0.90	74.36	111.78	0.72	1.00	0.8					
		W14-L	LKD	9.32	0.68	2.07	34.03	111.78	0.72	0.40	0.4		4	0		
		W14-U	LKD	1.25	0.68	4.14	12.06	111.78	0.72	1.00	0.6	**2.0**			28	4
Second	R12	W15-L	Bedroom	11.11	0.68	0.75	37.45	57.86	0.74	0.40	0.3		0	0		
		W15-U	Bedroom	2.89	0.68	1.50	18.52	57.86	0.74	1.00	0.7					
		W16-L	Bedroom	11.59	0.68	0.75	38.35	57.86	0.74	0.40	0.3		0	0		
		W16-U	Bedroom	3.03	0.68	1.50	18.98	57.86	0.74	1.00	0.7	**2.0**			0	0
Second	R13	W17-L	LKD	7.88	0.68	0.62	31.09	97.16	0.72	0.40	0.1		2	0		
		W17-U	LKD	3.54	0.68	1.24	20.55	97.16	0.72	1.00	0.4					
		W18-L	LKD	11.65	0.68	0.24	38.46	97.16	0.72	0.40	0.1		4	0		
		W18-U	LKD	8.83	0.68	0.48	33.05	97.16	0.72	1.00	0.2					
		W19-L	LKD	27.29	0.68	1.36	64.92	97.16	0.72	0.40	0.5		1	0		
		W19-U	LKD	28.54	0.68	2.72	67.07	97.16	0.72	1.00	2.7					
		W20-L	LKD	25.32	0.68	0.45	61.57	97.16	0.72	0.40	0.2		0	0		
		W20-U	LKD	26.68	0.68	0.90	63.87	97.16	0.72	1.00	0.8	**5.0**			4	0
Second	R14	W21-L	Bedroom	28.03	0.68	0.75	66.19	43.76	0.75	0.40	0.7		0	0		
		W21-U	Bedroom	29.15	0.68	1.50	68.16	43.76	0.75	1.00	3.6	**4.3**			0	0
Second	R15	W22-L	LKD	10.60	0.68	0.72	36.49	114.82	0.73	0.40	0.1		4	0		
		W22-U	LKD	2.98	0.68	1.44	18.83	114.82	0.73	1.00	0.3					
		W23-L	LKD	18.57	0.68	2.30	50.41	114.82	0.73	0.40	0.6		3	0		
		W23-U	LKD	7.59	0.68	4.60	30.48	114.82	0.73	1.00	1.8					
		W24-L	LKD	33.07	0.68	1.45	75.37	114.82	0.73	0.40	0.5		29	5		
		W24-U	LKD	33.60	0.68	2.89	76.41	114.82	0.73	1.00	2.8	**6.2**			29	5
Second	R16	W25-L	Bedroom	32.37	0.68	0.75	74.03	54.83	0.74	0.40	0.6		20	2		
		W25-U	Bedroom	32.99	0.68	1.50	75.21	54.83	0.74	1.00	3.1	**3.7**			20	2
Second	R17	W26-L	Bedroom	12.34	0.68	0.72	39.73	43.86	0.75	0.40	0.4		9	2		
		W26-U	Bedroom	4.23	0.68	1.44	22.49	43.86	0.75	1.00	1.1	**1.5**			9	2
Second	R18	W27-L	LKD	9.87	0.68	0.62	35.10	130.99	0.72	0.40	0.1		6	0		
		W27-U	LKD	2.93	0.68	1.24	18.66	130.99	0.72	1.00	0.2					
		W28-L	LKD	9.25	0.68	1.37	33.88	130.99	0.72	0.40	0.2		1	0		
		W28-U	LKD	4.40	0.68	2.74	22.94	130.99	0.72	1.00	0.7					
		W29-L	LKD	34.38	0.68	1.38	77.98	130.99	0.72	0.40	0.5		31	6		
		W29-U	LKD	34.66	0.68	2.76	78.55	130.99	0.72	1.00	2.3	**4.0**			31	6
Second	R19	W30-L	LKD	13.00	0.68	2.07	40.91	125.89	0.72	0.40	0.4		6	0		
		W30-U	LKD	4.59	0.68	4.14	23.43	125.89	0.72	1.00	1.1	**1.5**			6	0
Third	R1	W1-L	LKD	15.20	0.68	2.07	44.75	132.28	0.72	0.40	0.4		10	2		
		W1-U	LKD	6.61	0.68	4.14	28.32	132.28	0.72	1.00	1.3					
		W2-L	LKD	10.24	0.68	1.36	35.80	132.28	0.72	0.40	0.2		1	0		
		W2-U	LKD	5.49	0.68	2.72	25.68	132.28	0.72	1.00	0.8					
		W3-L	LKD	37.07	0.68	1.38	83.75	132.28	0.72	0.40	0.5		31	6		
		W3-U	LKD	37.19	0.68	2.77	84.01	132.28	0.72	1.00	2.5	**5.6**			31	6
Third	R2	W4-L	Bedroom	37.20	0.68	0.75	84.04	64.81	0.73	0.40	0.6		59	25		
		W4-U	Bedroom	37.34	0.68	1.50	84.36	64.81	0.73	1.00	2.9	**3.4**			59	25
Third	R3	W5-L	Bedroom	36.93	0.68	0.75	83.43	58.03	0.74	0.40	0.6		43	10		
		W5-U	Bedroom	37.09	0.68	1.50	83.80	58.03	0.74	1.00	3.2	**3.8**			43	10
Third	R4	W6-L	Bedroom	31.66	0.68	0.75	72.69	46.62	0.74	0.40	0.7		42	10		
		W6-U	Bedroom	31.88	0.68	1.50	73.10	46.62	0.74	1.00	3.6	**4.3**			42	10
Third	R5	W7-L	Bedroom	35.70	0.68	0.75	80.73	60.33	0.74	0.40	0.6		42	10		
		W7-U	Bedroom	36.20	0.68	1.50	81.82	60.33	0.74	1.00	3.0	**3.6**			42	10
Third	R6	W8-L	Bedroom	31.45	0.68	0.75	72.31	59.07	0.74	0.40	0.5		42	10		
		W8-U	Bedroom	32.30	0.68	1.50	73.90	59.07	0.74	1.00	2.8	**3.3**			42	10
Third	R7	W9-L	Bedroom	24.81	0.68	0.75	60.71	76.52	0.73	0.40	0.3		38	10		
		W9-U	Bedroom	25.06	0.68	1.50	61.13	76.52	0.73	1.00	1.7	**2.1**			38	10
Third	R8	W10-L	Bedroom	24.61	0.68	0.45	60.38	44.02	0.75	0.40	0.4		34	15		
		W10-U	Bedroom	25.16	0.68	0.90	61.29	44.02	0.75	1.00	1.9	**2.3**			34	15

Floor	Room ID	Window ID	Room Use	VSC	Win. Trans.	Glazing Area	Theta	Room Area	Room	Split Calc Multiplier	ADF	TOTAL ADF	TOTAL APSH	WINTER APSH	ROOM TOTAL APSH	ROOM WINTER APSH
Third	R9	W11-L	Bedroom	28.94	0.68	0.75	67.78	58.65	0.74	0.40	0.5		48	20		
		W11-U	Bedroom	29.65	0.68	1.50	69.04	58.65	0.74	1.00	2.6	**3.1**			48	20
Third	R10	W12-L	Bedroom	33.03	0.68	0.75	75.30	51.65	0.74	0.40	0.7		57	23		
		W12-U	Bedroom	33.77	0.68	1.50	76.75	51.65	0.74	1.00	3.3	**4.0**			57	23
Third	R11	W13-L	LKD	34.93	0.68	0.45	79.12	111.78	0.72	0.40	0.2		30	5		
		W13-U	LKD	35.03	0.68	0.90	79.32	111.78	0.72	1.00	0.9					
		W14-L	LKD	12.85	0.68	2.07	40.64	111.78	0.72	0.40	0.4		4	0		
		W14-U	LKD	4.22	0.68	4.14	22.47	111.78	0.72	1.00	1.2	**2.7**			30	5
Third	R12	W15-L	Bedroom	14.16	0.68	0.75	42.94	57.86	0.74	0.40	0.3		0	0		
		W15-U	Bedroom	5.99	0.68	1.50	26.87	57.86	0.74	1.00	1.0					
		W16-L	Bedroom	14.95	0.68	0.75	44.32	57.86	0.74	0.40	0.3		0	0		
		W16-U	Bedroom	6.44	0.68	1.50	27.92	57.86	0.74	1.00	1.1	**2.8**			0	0
Third	R13	W17-L	LKD	9.04	0.68	0.62	33.46	97.16	0.72	0.40	0.1		3	0		
		W17-U	LKD	4.67	0.68	1.24	23.65	97.16	0.72	1.00	0.4					
		W18-L	LKD	12.50	0.68	0.24	40.02	97.16	0.72	0.40	0.1		5	0		
		W18-U	LKD	9.66	0.68	0.48	34.69	97.16	0.72	1.00	0.2					
		W19-L	LKD	31.62	0.68	1.36	72.61	97.16	0.72	0.40	0.6		3	0		
		W19-U	LKD	32.95	0.68	2.72	75.13	97.16	0.72	1.00	3.0					
		W20-L	LKD	29.18	0.68	0.45	68.19	97.16	0.72	0.40	0.2		0	0		
		W20-U	LKD	30.62	0.68	0.90	70.79	97.16	0.72	1.00	0.9	**5.5**			6	0
Third	R14	W21-L	Bedroom	31.63	0.68	0.75	72.64	43.76	0.75	0.40	0.8		0	0		
		W21-U	Bedroom	32.82	0.68	1.50	74.89	43.76	0.75	1.00	3.9	**4.7**			0	0
Third	R15	W22-L	LKD	12.21	0.68	0.72	39.49	114.82	0.73	0.40	0.1		5	0		
		W22-U	LKD	4.57	0.68	1.44	23.38	114.82	0.73	1.00	0.4					
		W23-L	LKD	21.22	0.68	2.30	54.78	114.82	0.73	0.40	0.6		4	0		
		W23-U	LKD	9.70	0.68	4.60	34.77	114.82	0.73	1.00	2.0					
		W24-L	LKD	35.52	0.68	1.45	80.35	114.82	0.73	0.40	0.6		30	6		
		W24-U	LKD	36.00	0.68	2.89	81.38	114.82	0.73	1.00	3.0	**6.8**			31	6
Third	R16	W25-L	Bedroom	34.67	0.68	0.75	78.57	54.83	0.74	0.40	0.6		21	3		
		W25-U	Bedroom	35.22	0.68	1.50	79.72	54.83	0.74	1.00	3.3	**3.9**			21	3
Third	R17	W26-L	Bedroom	13.52	0.68	0.72	41.83	43.86	0.75	0.40	0.4		9	2		
		W26-U	Bedroom	5.37	0.68	1.44	25.41	43.86	0.75	1.00	1.3	**1.7**			9	2
Third	R18	W27-L	LKD	11.09	0.68	0.62	37.43	130.99	0.72	0.40	0.1		6	0		
		W27-U	LKD	4.09	0.68	1.24	22.12	130.99	0.72	1.00	0.3					
		W28-L	LKD	10.14	0.68	1.37	35.62	130.99	0.72	0.40	0.2		1	0		
		W28-U	LKD	5.28	0.68	2.74	25.16	130.99	0.72	1.00	0.7					
		W29-L	LKD	36.46	0.68	1.38	82.38	130.99	0.72	0.40	0.5		31	6		
		W29-U	LKD	36.65	0.68	2.76	82.81	130.99	0.72	1.00	2.5	**4.3**			31	6
Third	R19	W30-L	LKD	14.29	0.68	2.07	43.17	125.89	0.72	0.40	0.4		6	0		
		W30-U	LKD	5.83	0.68	4.14	26.49	125.89	0.72	1.00	1.2	**1.6**			6	0
Fourth	R1	W1-L	LKD	16.29	0.68	2.07	46.59	118.07	0.73	0.40	0.5		10	2		
		W1-U	LKD	7.24	0.68	4.14	29.72	118.07	0.73	1.00	1.5					
		W2-L	LKD	10.93	0.68	1.36	37.12	118.07	0.73	0.40	0.2		1	0		
		W2-U	LKD	6.10	0.68	2.72	27.15	118.07	0.73	1.00	0.9					
		W3-L	LKD	38.65	0.68	1.38	87.48	118.07	0.73	0.40	0.6		31	6		
		W3-U	LKD	38.25	0.68	2.77	86.51	118.07	0.73	1.00	2.9					
		W4-L	LKD	37.59	0.68	0.75	84.93	118.07	0.73	0.40	0.3		59	25		
		W4-U	LKD	37.67	0.68	1.50	85.12	118.07	0.73	1.00	1.6	**8.5**			69	25
Fourth	R2	W5-L	Bedroom	35.93	0.68	0.75	81.24	60.20	0.74	0.40	0.6		42	10		
		W5-U	Bedroom	36.59	0.68	1.50	82.68	60.20	0.74	1.00	3.1	**3.7**			42	10
Fourth	R3	W6-L	Bedroom	37.13	0.68	0.75	83.89	60.33	0.74	0.40	0.6		43	10		
		W6-U	Bedroom	37.05	0.68	1.50	83.71	60.33	0.74	1.00	3.1	**3.7**			43	10
Fourth	R4	W7-L	Bedroom	34.30	0.68	0.75	77.81	62.19	0.74	0.40	0.6		42	10		
		W7-U	Bedroom	35.03	0.68	1.50	79.32	62.19	0.74	1.00	2.8	**3.4**			42	10
Fourth	R5	W8-L	Bedroom	25.95	0.68	0.75	62.62	59.11	0.74	0.40	0.5		38	10		
		W8-U	Bedroom	27.06	0.68	1.50	64.52	59.11	0.74	1.00	2.4	**2.9**			38	10
Fourth	R6	W9-L	Bedroom	26.18	0.68	0.45	63.02	71.52	0.73	0.40	0.2		36	17		
		W9-U	Bedroom	26.77	0.68	0.90	64.03	71.52	0.73	1.00	1.2					
		W10-L	Bedroom	31.23	0.68	0.75	71.89	71.52	0.73	0.40	0.4		51	21		
		W10-U	Bedroom	32.00	0.68	1.50	73.33	71.52	0.73	1.00	2.2	**4.1**			51	21
Fourth	R7	W11-L	Bedroom	35.47	0.68	0.45	80.24	48.05	0.75	0.40	0.5		31	5		
		W11-U	Bedroom	35.45	0.68	0.90	80.20	48.05	0.75	1.00	2.3	**2.8**			31	5
Fourth	R8	W12-L	Bedroom	37.56	0.68	0.75	84.87	58.92	0.74	0.40	0.6		37	8		
		W12-U	Bedroom	37.45	0.68	1.50	84.61	58.92	0.74	1.00	3.2	**3.8**			37	8
Fourth	R9	W13-L	LKD	35.41	0.68	0.45	80.11	137.34	0.72	0.40	0.1		31	5		
		W13-U	LKD	35.41	0.68	0.90	80.12	137.34	0.72	1.00	0.7					
		W14-L	LKD	16.10	0.68	2.07	46.28	137.34	0.72	0.40	0.4		4	0		
		W14-U	LKD	7.25	0.68	4.14	29.73	137.34	0.72	1.00	1.3					
		W15-L	LKD	13.23	0.68	1.34	41.31	137.34	0.72	0.40	0.2		4	0		
		W15-U	LKD	7.11	0.68	2.68	29.43	137.34	0.72	1.00	0.8					
		W16-L	LKD	36.11	0.68	1.43	81.62	137.34	0.72	0.40	0.5		6	0		
		W16-U	LKD	37.13	0.68	2.86	83.89	137.34	0.72	1.00	2.4	**6.5**			32	5
Fourth	R10	W17-L	Bedroom	35.25	0.68	0.75	79.79	65.05	0.73	0.40	0.5		1	0		
		W17-U	Bedroom	36.29	0.68	1.50	82.01	65.05	0.73	1.00	2.8	**3.3**			1	0

Floor	Room ID	Window ID	Room Use	VSC	Win. Trans.	Glazing Area	Theta	Room Area	Room	Split Calc Multiplier	ADF	TOTAL ADF	TOTAL APSH	WINTER APSH	ROOM TOTAL APSH	ROOM WINTER APSH
Fourth	R11	W18-L	Bedroom	35.32	0.68	0.75	79.93	59.74	0.74	0.40	0.6		1	0		
		W18-U	Bedroom	36.29	0.68	1.50	82.01	59.74	0.74	1.00	3.0					
		W19-L	Bedroom	13.94	0.68	0.72	42.56	59.74	0.74	0.40	0.3		5	0		
		W19-U	Bedroom	6.02	0.68	1.44	26.96	59.74	0.74	1.00	1.0	**4.9**			6	0
Fourth	R12	W20-L	LKD	23.45	0.68	2.30	58.46	121.66	0.72	0.40	0.6		4	0		
		W20-U	LKD	11.85	0.68	4.60	38.82	121.66	0.72	1.00	2.1					
		W21-L	LKD	37.76	0.68	1.45	85.34	121.66	0.72	0.40	0.6		31	6		
		W21-U	LKD	37.86	0.68	2.89	85.57	121.66	0.72	1.00	2.9					
		W22-L	LKD	36.74	0.68	0.75	83.01	121.66	0.72	0.40	0.3		22	3		
		W22-U	LKD	36.93	0.68	1.50	83.43	121.66	0.72	1.00	1.4	**7.9**			31	6
Fourth	R13	W23-L	LKD	14.84	0.68	2.07	44.13	129.70	0.72	0.40	0.4		6	0		
		W23-U	LKD	6.18	0.68	4.14	27.33	129.70	0.72	1.00	1.2					
		W24-L	LKD	10.98	0.68	1.37	37.21	129.70	0.72	0.40	0.2		1	0		
		W24-U	LKD	6.07	0.68	2.74	27.07	129.70	0.72	1.00	0.8					
		W25-L	LKD	38.25	0.68	1.38	86.51	129.70	0.72	0.40	0.5		31	6		
		W25-U	LKD	38.02	0.68	2.76	85.95	129.70	0.72	1.00	2.6	**5.8**			31	6
Fourth	R14	W26-L	LKD	15.39	0.68	2.07	45.07	125.89	0.72	0.40	0.4		6	0		
		W26-U	LKD	6.53	0.68	4.14	28.12	125.89	0.72	1.00	1.3	**1.7**			6	0
Fifth	R1	W1-L	Bedroom	37.46	0.68	0.75	84.63	61.48	0.74	0.40	0.6		59	25		
		W1-U	Bedroom	37.68	0.68	1.50	85.13	61.48	0.74	1.00	3.1					
		W2-L	Bedroom	37.02	0.68	0.75	83.64	61.48	0.74	0.40	0.6		43	10		
		W2-U	Bedroom	37.12	0.68	1.50	83.85	61.48	0.74	1.00	3.0	**7.3**			90	30
Fifth	R2	W3-L	Bedroom	34.74	0.68	0.75	78.71	59.11	0.74	0.40	0.6		42	10		
		W3-U	Bedroom	35.71	0.68	1.50	80.76	59.11	0.74	1.00	3.0	**3.6**			42	10
Fifth	R3	W4-L	Bedroom	26.58	0.68	0.45	63.70	65.55	0.74	0.40	0.3		38	17		
		W4-U	Bedroom	28.78	0.68	0.90	67.49	65.55	0.74	1.00	1.4					
		W5-L	Bedroom	32.64	0.68	0.75	74.54	65.55	0.74	0.40	0.5		56	21		
		W5-U	Bedroom	34.57	0.68	1.50	78.38	65.55	0.74	1.00	2.7	**4.8**			56	21
Fifth	R4	W6-L	Bedroom	37.94	0.68	0.75	85.77	58.92	0.74	0.40	0.6		37	8		
		W6-U	Bedroom	37.64	0.68	1.50	85.06	58.92	0.74	1.00	3.2	**3.9**			37	8
Fifth	R5	W7-L	LKD	35.77	0.68	0.45	80.90	137.34	0.72	0.40	0.1		31	5		
		W7-U	LKD	35.62	0.68	0.90	80.57	137.34	0.72	1.00	0.7					
		W8-L	LKD	18.03	0.68	2.07	49.51	137.34	0.72	0.40	0.4		4	0		
		W8-U	LKD	8.07	0.68	4.14	31.50	137.34	0.72	1.00	1.3					
		W9-L	LKD	13.79	0.68	1.34	42.30	137.34	0.72	0.40	0.2		4	0		
		W9-U	LKD	7.37	0.68	2.68	29.99	137.34	0.72	1.00	0.8					
		W10-L	LKD	39.05	0.68	1.43	88.52	137.34	0.72	0.40	0.5		6	0		
		W10-U	LKD	38.53	0.68	2.86	87.19	137.34	0.72	1.00	2.5	**6.7**			32	5
Fifth	R6	W11-L	Bedroom	37.95	0.68	0.75	85.78	63.93	0.73	0.40	0.6		1	0		
		W11-U	Bedroom	37.67	0.68	1.50	85.11	63.93	0.73	1.00	2.9	**3.5**			1	0
Fifth	R7	W12-L	Bedroom	37.95	0.68	0.75	85.78	58.59	0.74	0.40	0.7		1	0		
		W12-U	Bedroom	37.67	0.68	1.50	85.11	58.59	0.74	1.00	3.2					
		W13-L	Bedroom	15.07	0.68	0.72	44.52	58.59	0.74	0.40	0.3		5	0		
		W13-U	Bedroom	6.69	0.68	1.44	28.48	58.59	0.74	1.00	1.0	**5.2**			6	0
Fifth	R8	W14-L	LKD	25.53	0.68	2.30	61.91	122.10	0.72	0.40	0.7		4	0		
		W14-U	LKD	12.98	0.68	4.60	40.88	122.10	0.72	1.00	2.2					
		W15-L	LKD	39.15	0.68	1.45	88.77	122.10	0.72	0.40	0.6		31	6		
		W15-U	LKD	38.66	0.68	2.89	87.52	122.10	0.72	1.00	2.9					
		W16-L	LKD	37.94	0.68	0.75	85.76	122.10	0.72	0.40	0.3		22	3		
		W16-U	LKD	37.63	0.68	1.50	85.03	122.10	0.72	1.00	1.5	**8.1**			31	6
Fifth	R9	W17-L	LKD	15.12	0.68	2.07	44.60	128.75	0.72	0.40	0.4		6	0		
		W17-U	LKD	6.41	0.68	4.14	27.86	128.75	0.72	1.00	1.3					
		W18-L	LKD	37.93	0.68	2.07	85.73	128.75	0.72	0.40	0.8		75	28		
		W18-U	LKD	38.57	0.68	4.14	87.30	128.75	0.72	1.00	4.0					
		W19-L	LKD	11.68	0.68	1.37	38.52	128.75	0.72	0.40	0.2		1	0		
		W19-U	LKD	6.47	0.68	2.74	27.99	128.75	0.72	1.00	0.8					
		W20-L	LKD	39.06	0.68	1.38	88.54	128.75	0.72	0.40	0.5		31	6		
		W20-U	LKD	38.51	0.68	2.76	87.13	128.75	0.72	1.00	2.6	**10.7**			80	28

Appendix 6

Internal layouts within the proposed development

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Sources of information

HB Surveys
Topographical Survey.dwg
Outline Elevations.dwg
Received 21/08/2020

ECE Architecture
6906-ECE-01-XX-M3-A-6906_Site Model.rvt
Received 21/08/2020

6906-ECE-01-XX-M3-A-6906_Main Building.0002.rvt
6906 - 112(D) - Second Floor Plan.pdf
6906 - 113(E) - Third Floor Plan.pdf
6906 - 114(E) - Fourth Floor Plan.pdf
6906 - 115(D) - Fifth Floor Plan.pdf
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6906 - 111(F) - First Floor Plan.pdf
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NORTH

Project	Oxford Road Reading		
Title	First Floor Room Layout		
Drawn	MZ	Checked	--
Date	24/09/2020	Project	4359
Rel no. 02	Prefix ID01	Page no.	01

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Sources of information

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Project	Oxford Road Reading		
Title	Second to Third Floor Room Layout		
Drawn	MZ	Checked	--
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Project	Oxford Road Reading		
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Sources of information

HB Surveys
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Outline Elevations.dwg
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6906 - 114(E) - Fourth Floor Plan.pdf
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Project	Oxford Road Reading		
Title	Fifth Floor Room Layout		
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Date	24/09/2020	Project	4359
Rel no. 02	Prefix ID01	Page no.	04