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London, NW3 3SD

Daylight and Sunlight Report

25th April, 2023



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1.0 Executive Summary

1.1 CHP Surveyors Limited have been instructed by Linda Harley to consider the impact the proposed additional floor will have on the neighbouring residential properties enjoyment of daylight and sunlight.

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1.2 This report accompanies an application to be submitted by Linda Harley for the proposed scheme.

1.3 From our online research, we have identified the neighbouring properties that have windows overlooking the site and therefore need to be considered as part of this assessment, with these being:

- 4 Conybeare
- 6 Conybeare
- 10 Quickwood
- 12 Quickwood
- 14 Quickwood
- 16 Quickwood

1.4 To ensure that this assessment has correctly considered the daylight and sunlight enjoyed by the neighbouring residential properties and proposed scheme, it has been undertaken in accordance with the Building Research Establishment publication “*Site layout planning for daylight and sunlight. A guide to good practice*” (2022) (BRE guidelines).

1.5 The technical analysis has been undertaken using the standards and tests contained in the BRE guidelines. A summary of the recommendations within the BRE guidelines are set out in the Principles of Daylight and Sunlight attached Appendix A.

1.6 The daylight assessment has considered 79 windows within the neighbouring property that serve 31 rooms. The results of the analysis show that 77 (97%) of the windows and 31 (100%) of the rooms will fully comply with the BRE guidelines. Concerning the two windows that do not achieve the above, these serve rooms served by other windows that do achieve



the target and therefore the room will retain good access to daylight demonstrated by the daylight distribution results.

1.7 The sunlight assessment has considered 28 rooms within the neighbouring properties. The results show that 28 (100%) will achieve the aims of the BRE guidelines with regards to sunlight both annually and during the winter months.

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1.8 The analysis therefore demonstrates that the scheme will have minimal impact on the daylight and sunlight enjoyed by the neighbouring property and will achieve the aims of the BRE guidelines.

2.0 Assessment

2.1 When reviewing the results of the analysis, to ensure that the proposed scheme is appropriate from a daylight and sunlight perspective, the following documents have been considered:

- National Planning Policy Framework (NPPF) – July 2021
- The Mayor of London's Housing SPG – March 2016
- London Borough of Camden – Camden Planning Guidance – Amenity (January 2021)
- London Borough of Camden – Camden Planning Guidance – Design (January 2021)
- Building Research Establishment publication, "*Site Layout Planning for Daylight and Sunlight. A guide to good practice.*" (BRE guidelines) – 2022

Set out below are the key sections that relate to daylight and sunlight within these documents.

2.2 National Planning Policy Framework – July 2021

2.2.1 Set out within the National Planning Policy Framework (July 2021) under paragraph 125, it states with regard to daylight and sunlight that consideration should be given as to whether efficient use of the land is being made: -

“..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 adequate living standards).”

It also states under the National Planning Practice guidance under Design (March 2014):

“....with regard to scale and relates to both the overall size and mass of individual buildings and spaces in relation to their surroundings, and to the scale of their parts. As part of this account should be taken of local climatic conditions, including daylight and sunlight...”

2.3 The Mayor of London's Housing SPG – 2016

2.3.1 The Mayor of London's Housing SPG acknowledges that the BRE guidelines should be applied sensitively and makes references to the use of alternative targets as set out in the BRE guidelines. It goes on to state, under paragraph 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 larger sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.”

Paragraph 2.3.47 of the Housing SPG relates to the necessity for more living and working space and thus greater density. It states:

“BRE guidelines on assessing daylight and sunlight should be applied sensitively to higher density development in London, particularly in central and urban settings, recognising the London Plan's strategic approach to optimise housing output (Policy 3.4) and the need to accommodate additional housing supply in locations with good accessibility suitable for higher density development (Policy 3.3).”



Quantitative standards on daylight and sunlight should not be applied rigidly, without carefully considering the location and context and standards experienced in broadly comparable housing typologies in London.”

2.4 London Borough of Camden

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2.4.1 The London Borough of Camden has produced the policy Camden Planning Guidance – Design (January 2021), which provides advice regarding daylight and sunlight. It states:

5.12 Proposals should assess the impacts of the scheme from a design perspective and the contribution it makes to townscape character including:

- *the effects of the proposal on the amenity of adjacent residential properties with regard to daylight, sunlight, outlook, light pollution/spillage, privacy or the working conditions of occupants of adjacent non-residential buildings;*

The London Borough of Camden Planning Guidance-Amenity (January 2021) states:

3.1 The Council aims to protect the quality of life of occupiers and neighbours through Local plan policy A1 Managing the Impact of Development, which seeks to ensure that development does not cause unacceptable harm to amenity, including in terms of daylight and sunlight.

It also states that:

The Council expects applicants to consider the impact of development schemes on daylight and sunlight levels. Where appropriate a daylight and sunlight assessment should be submitted which should follow the guidance in the BRE's Site layout planning for daylight and sunlight: A guide to good practice.

2.5 Building Research Establishment (BRE guidelines)

2.5.1 The BRE guidelines are considered as a recognised methodology used by local authorities when assessing daylight and sunlight.

2.5.2 The analysis undertaken by this Practice makes reference to the criteria within the BRE guidelines. However, when considering the results of the analysis, the site-specific constraints have been taken into account.

2.5.3 The BRE guidelines recognise that their purpose is not to provide strict criteria in which a development must adhere to but provide guidance. Within the introduction of the BRE guidelines, it states:

“The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the developer. Although it gives numerical guidelines, this should be interpreted flexibly because natural lighting is only one of the many factors in site layout design.”

2.5.4 Methodology is contained within the guidelines to calculate the impact the proposed development will have on the neighbouring residential properties and also when assessing the amenity within the proposed units.

2.5.5 It is suggested within the BRE guidelines that residential properties should have the greatest need for good daylight and sunlight and that key habitable rooms should be considered, these being bedrooms, living rooms and kitchens. For the purpose of our assessment, it is considered that commercial properties do not have a reasonable expectation of daylight and sunlight as they generally rely on artificial light.

2.5.6 An extended account of the BRE guidelines is attached at Appendix A, entitled “Principles of Daylight and Sunlight”.



3.0 Information

- 3.1 During the process of producing our report, we have made reference to the following information:

Russell Jones Limited

Drawing numbers P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012

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Information on the internal configuration of the neighbouring properties has been sourced from a review of the London Borough of Camden's planning portal and other online sources such as Rightmove and Estate Agent websites.

4.0 Site and Proposals

- 4.1 The site is located within the London Borough of Camden on the west side of Conybeare. The existing structure provides residential accommodation over two floors, as indicated on drawing numbers 2747-100 and 102 attached at Appendix B of this report.
- 4.2 The proposals are to add an additional storey to the existing building, as illustrated on drawing numbers 2747-101 and 103 attached at Appendix B.

5.0 Limitations

- 5.1 To undertake the detailed daylight and sunlight analysis, a three-dimensional computer model has been produced using the information provided and sourced by us, as set out in Clause 4.1.
- 5.2 Internal access was not available to the surrounding properties and research was undertaken using planning portals and other sources, such as Estate Agent websites, to try and establish the internal configuration within the surrounding properties and improve the accuracy of the analysis. Where information was unable to be sourced, reasonable

assumptions have been made as to the probable internal room sizes, layouts and uses based on information obtained through our research.

- 5.3 A daylight and sunlight analysis has been undertaken using the MBS specialist software programme and from this the resultant data has been produced.

6.0 Methodology

- 6.1 Based on online research we have produced a 3D computer model of the neighbouring residential buildings to the site. This includes the window locations and internal configuration (either actual or assumed). We have not had access to the neighbouring properties and therefore the internal configuration and which windows serve habitable rooms has been based on other information we have been able to obtain. We have then produced a 3D computer model of the existing structures on the site and the proposals.

- 6.2 Using a specialist computer programme, we have undertaken an analysis in accordance with the criteria contained in the BRE guidelines. We have run an analysis in the existing situation to provide a baseline figure and then a further analysis following the implementation of the proposals. There is no requirement to consider the implications during the development process as these will only be short term.

- 6.3 As clearly stated within the BRE guidelines:

“Its aims are to help designers not constrain them and that therefore the numerical values contained within the document should be interpreted flexibly since natural light is only one of many factors in site layout design.”

- 6.4 Therefore, when reviewing the results of the analysis, a degree of flexibility has been used that considers the context of the site and its environment.

- 6.5 The guidelines also advise of circumstances when alternative target levels may be used. The BRE guidelines are designed to be applied within suburban environment, not a dense urban location. Section 2.2.3 of the guidelines advises:



“...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.”

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6.6 Daylight

6.7 The numerical values contained in the BRE guidelines are used to establish whether the proposals will have a significant effect on the daylight enjoyed by the neighbouring properties and are based initially on a Vertical Sky Component (VSC) analysis. This analysis establishes the amount of available daylight received directly from the sky for each individual window. The reference point for this analysis is the centre point of the window.

6.8 This analysis advises that each window should achieve a VSC of 27% or 0.8 times the existing value. These values are for a suburban location whereas for an urban location, a VSC of 20% is considered more appropriate.

6.9 The second method is the No Sky Line (NSL) or Daylight Distribution analysis. This assesses the change in position of the No Sky Line between the existing and proposed situations. It does not consider the number and size of windows to a room. The criteria specify that a significant portion of each habitable room (>80%), at least 0.8 times the existing area, should lie in front of the No Sky Line (NSL).

6.10 Sunlight

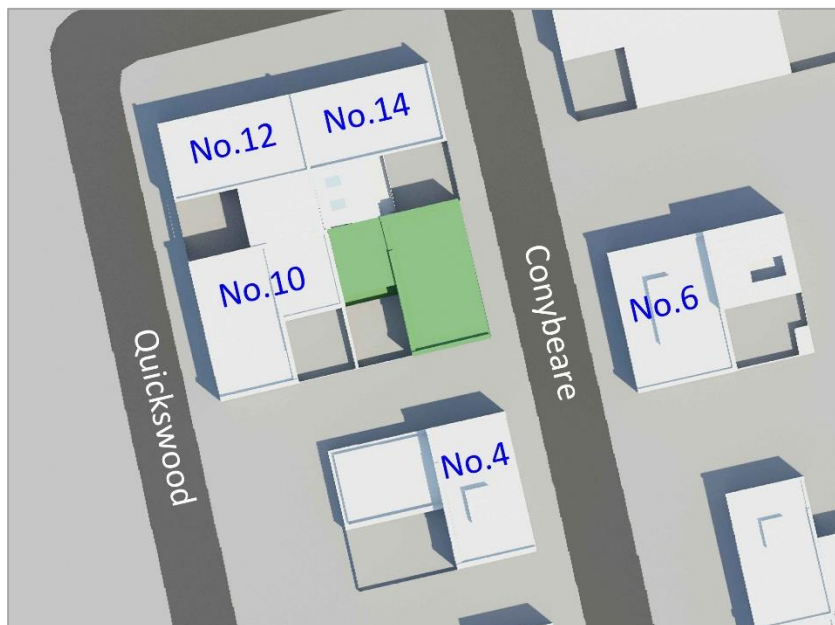
6.11 Concerning sunlight, the BRE guidelines advise that all windows within 90° of due south should achieve 25% of the Annual Probable Sunlight Hours (APSH) with at least 5% during the winter months. Where this is not achieved and the difference between the existing and proposed APSH is more than 4%, the BRE guidelines state that the proposals will not have a noticeable effect on the sunlight, provided the total APSH, as well as during the winter months, are within 0.8 times the existing.

7.0 Surrounding Properties

7.1 From a review of the site, the following neighbouring properties appear to provide residential accommodation are:

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- 4 Conybeare
- 6 Conybeare
- 10 Quickswood
- 12 Quickswood
- 14 Quickswood
- 16 Quickswood



7.2 The BRE guidelines advise that only residential properties that contain windows that serve habitable rooms and therefore have a reasonable expectation of daylight and sunlight need to be assessed.

8.0 Daylight Assessment

8.1 Following our interrogation of the neighbouring properties and applying the criteria within the BRE guidelines, we have identified the following residential properties are required to be assessed within the daylight analysis.



- 4 Conybeare
- 6 Conybeare
- 10 Quickswood
- 12 Quickswood
- 14 Quickswood
- 16 Quickswood

8.2 4 Conybeare

- 8.2.1** This property is located to the south of the site and has planning consent for the erection of an additional floor to provide residential accommodation over three floors.
- 8.2.2** The results of the VSC analysis are set out in the table attached at Appendix C of this report and demonstrate that all 13 windows serving habitable rooms will achieve the numerical values set out in the BRE guidelines.
- 8.2.3** With regards to daylight distribution, the results of the analysis are set out in the table attached at Appendix C and demonstrate that all seven rooms will have a significant portion of their area in front of the NSL.
- 8.2.4** The analysis of the daylight enjoyed by this property demonstrates that the BRE guidelines are achieved and will not have a significant effect.

8.3 6 Conybeare

- 8.3.1** This property is located to the east of the site and has planning consent to erect an addition floor to provide residential accommodation over three floors.
- 8.3.2** The results of the VSC analysis are set out in the table attached at Appendix C and demonstrate that all 11 windows serving habitable rooms will achieve the numerical values set out in the BRE guidelines.



8.3.3 With regards to daylight distribution, the results of the analysis are set out in the table attached at Appendix C and demonstrate that all five rooms will have a significant portion of their area in front of the NSL.

8.3.4 The analysis of the daylight enjoyed by this property demonstrates that the BRE guidelines are achieved and will not have a significant effect.

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8.4 10 Quickswood

8.4.1 This property is located to the west of the site and provides residential accommodation over three floors.

8.4.2 The results of the VSC analysis are set out in the table attached at Appendix C and demonstrate that all 12 windows serving habitable rooms will achieve the numerical values set out in the BRE guidelines.

8.4.3 With regards to daylight distribution, the results of the analysis are set out in the table attached at Appendix C and demonstrate that all five rooms will have a significant portion of their area in front of the NSL.

8.4.4 The analysis of the daylight enjoyed by this property demonstrates that the BRE guidelines are achieved and will not have a significant effect.

8.5 12 Quickswood

8.5.1 This property is located to the northwest of the site and provides residential accommodation over three floors.

8.5.2 The results of the VSC analysis are set out in the table attached at Appendix C and demonstrate that all 19 windows serving habitable rooms will achieve the numerical values set out in the BRE guidelines.



8.5.3 With regards to daylight distribution, based on our assumptions as to the internal configuration, the results of the analysis are set out in the table attached at Appendix C and demonstrate that all five rooms will have a significant portion of their area in front of the NSL.

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8.5.4 The analysis of the daylight enjoyed by this property demonstrates that the BRE guidelines are achieved and will not have a significant effect.

8.6 14 Quickswood

8.6.1 This property is located to the north of the site and provides residential accommodation over two floors.

8.6.2 The results of the VSC analysis are set out in the table attached at Appendix C and demonstrate that seven of the 11 windows serving habitable rooms will achieve the numerical values set out in the BRE guidelines. The one ground floor window that does not achieve this serves a room, served by two other windows that do achieve the above. In addition, the existing VSC is low and therefore any reduction expressed as a percentage will appear disproportionate, despite this the proposed is 0.75 times the existing. Concerning the second floor window, this again serves a room served by another windows that exceeds the target VSC. In addition, this achieves a VSC greater than 20% which is considered, based on previous Planning Inspectors decisions, is considered appropriate for such an urban location.

8.6.3 With regards to daylight distribution, based on our assumptions as to the internal configuration, the results of the analysis are set out in the table attached at Appendix C and demonstrate that all five rooms will have a significant portion of their area in front of the NSL or see not change from the existing situation.

8.6.4 The analysis of the daylight enjoyed by this property demonstrates that the BRE guidelines are achieved and will not have a significant effect.



8.7 16 Quickwood

8.7.1 This property is located to the northeast of the site and provides residential accommodation over two floors.

8.7.2 The results of the VSC analysis are set out in the table attached at Appendix C and demonstrate that all 13 windows serving habitable rooms will achieve the numerical values set out in the BRE guidelines.

8.7.3 With regards to daylight distribution, based on our assumptions as to the internal configuration, the results of the analysis are set out in the table attached at Appendix C and demonstrate that all four rooms will have a significant portion of their area in front of the NSL.

8.7.4 The analysis of the daylight enjoyed by this property demonstrates that the BRE guidelines are achieved and will not have a significant effect.

9.0 Sunlight Assessment

9.1 Due to the orientation of the neighbouring properties, in accordance with the BRE guidelines, a sunlight analysis has been undertaken of: -

- 4 Conybeare
- 6 Conybeare
- 10 Quickwood
- 12 Quickwood
- 14 Quickwood
- 16 Quickwood

9.2 4 Conybeare

9.2.1 The analysis has considered the access to sunlight the rooms that have windows facing within 90° of due south, with the results set out in the table attached at Appendix D.



9.2.2 These indicate that all five rooms will achieve the numerical values set out in the BRE guidelines and therefore the proposals will not have a significant effect on sunlight.

9.3 6 Conybeare

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9.3.1 The analysis has considered the access to sunlight the rooms that have windows facing within 90° of due south, with the results set out in the table attached at Appendix D.

9.3.2 These indicate that all five rooms will achieve the numerical values set out in the BRE guidelines and therefore the proposals will not have a significant effect on sunlight.

9.4 10 Quickwood

9.4.1 The analysis has considered the access to sunlight the rooms that have windows facing within 90° of due south, with the results set out in the table attached at Appendix D.

9.4.2 These indicate that all five rooms will achieve the numerical values set out in the BRE guidelines and therefore the proposals will not have a significant effect on sunlight.

9.5 12 Quickwood

9.5.1 The analysis has considered the access to sunlight the rooms that have windows facing within 90° of due south, with the results set out in the table attached at Appendix D.

9.5.2 These indicate that all five rooms will achieve the numerical values set out in the BRE guidelines and therefore the proposals will not have a significant effect on sunlight.

9.6 14 Quickwood

9.6.1 The analysis has considered the access to sunlight the rooms that have windows facing within 90° of due south, with the results set out in the table attached at Appendix D.



9.6.2 These indicate that all three rooms will achieve the numerical values set out in the BRE guidelines with regards to the APSH and two will achieve these with regards to sunlight during the window months. The one exception is the bedroom that is less important and achieves 4%, only 1% below the target, which for such an urban location is considered appropriate. It is therefore considered that the proposals will not have a significant effect on sunlight.

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9.7 16 Quickwood

9.7.1 The analysis has considered the access to sunlight the rooms that have windows facing within 90° of due south, with the results set out in the table attached at Appendix D.

9.7.2 These indicate that all four rooms will achieve the numerical values set out in the BRE guidelines and therefore the proposals will not have a significant effect on sunlight.

10.0 Conclusion

10.1 An analysis has been undertaken in accordance with the Building Research Establishment's publication "*Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice*". (BRE guidelines) to establish the effect the proposals will have on the daylight and sunlight enjoyed by the neighbouring properties: -

- 4 Conybeare
- 6 Conybeare
- 10 Quickwood
- 12 Quickwood
- 14 Quickwood
- 16 Quickwood

10.2 The results of the assessment undertaken demonstrates that aims of the Building Research Establishments publication "*Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice*" (2022) are achieved and that the proposals will not have a significant effect on the neighbour's daylight and sunlight.



Appendix A

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PRINCIPLES OF DAYLIGHT AND SUNLIGHT

In 2011 the Building Research Establishment (BRE) published a handbook titled “*Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice.*” Its aim was to provide advice to building designers on site layout planning in order to achieve good daylight and sunlight amenity to the proposed development, the open spaces between the proposed blocks and the existing surrounding properties.

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The content of this guide is well established and is used by most Local Authorities as the methodology for measuring daylight and sunlight, the guidelines should be applied flexibly to take account of the specific circumstances of each site. The BRE guidelines are suited more to low density suburban development sites where there is greater flexibility for site layout planning. In dense urban development sites, these are usually constrained often by adjacent buildings and the guidelines state that these should be applied more flexibly in these instances. Within the Introduction of the guidelines, it states that: -

“The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the developer. Although it gives numerical guidelines, these should be interpreted flexibly because natural light is only one of many factors in site layout design.”

The Introduction of this document, continues to advise that its purpose is also to; “*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.*”

It must therefore be appreciated and as can be seen from the above extracts; the handbook is for guidance only.



Daylight

The guidelines state that daylight assessments should be undertaken to habitable rooms where the occupants can expect to receive a reasonable amount of daylight.

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The first assessment that should be undertaken is to establish whether the proposals will subtend an angle of 25° from the centre of the window. If it does not, then it is considered there will be good daylight. The BRE guidelines advise: -

“If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of a lowest window, subtends an angle of more than 25° to the horizontal may be affected.”

This assessment is most appropriate for well-spaced, low density or low rise, uniform proposed developments. It is not an appropriate assessment for dense urban environments where the existing building on the development site already subtends at an angle greater than 25° to the horizontal from the subject window. It is for this reason that this 25° assessment is generally dispensed with and the more detailed analysis outlined below is undertaken.

The BRE guidelines set out two methods for calculating daylight, these being an analysis of the Vertical Sky Component (VSC) and No Sky Line (NSL).

Vertical Sky Component (VSC)

The Vertical Sky Component (VSC) analysis establishes the amount of available daylight received directly from the sky for each individual window. The reference point for the analysis being the centre of the window, on the plan of the outer window wall.

The VSC is the amount of direct sky a window enjoys, expressed as a percentage of the amount of direct sky a horizontal, unobstructed rooflight would receive.



The maximum percentage of direct skylight a vertical window can receive is 40%. The BRE have determined that where a VSC of 27% is achieved, then daylight should reach the window of an existing building.

Where a VSC of less than 27% is achieved either enjoyed before the implementation of the proposals or it is enjoyed following the implementation, then the BRE guidelines state that provided the new value is greater than 0.8 times the existing value, daylight will not be significantly affected.

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No Sky Line (NSL)

The daylight distribution analysis is undertaken at working plane level, with this set at 0.85m above the floor level of a dwelling.

The BRE guidelines state that provided a significant area of the room, which is considered to be 80%, is in front of the No Sky Line (the point behind which at desk top level no sky is visible) or at least 0.8 times the existing area, then the room will enjoy good distribution.

If, in the existing situation this is not the case, the BRE guidelines state that provided the area following the implementation of the proposals is at least 0.8 times the existing area, there will not be a significant affect.

Sunlight

This analysis is undertaken in a similar method to calculating VSC. Within residential accommodation the analysis undertaken to establish the levels of sunlight relate to the main windows that are within 90° of due south. It is considered that sunlight to kitchens and bedrooms is less important, although care should be taken not to block out too much.

Within commercial or non-domestic buildings, the use of the building will determine whether a sunlight assessment is required.



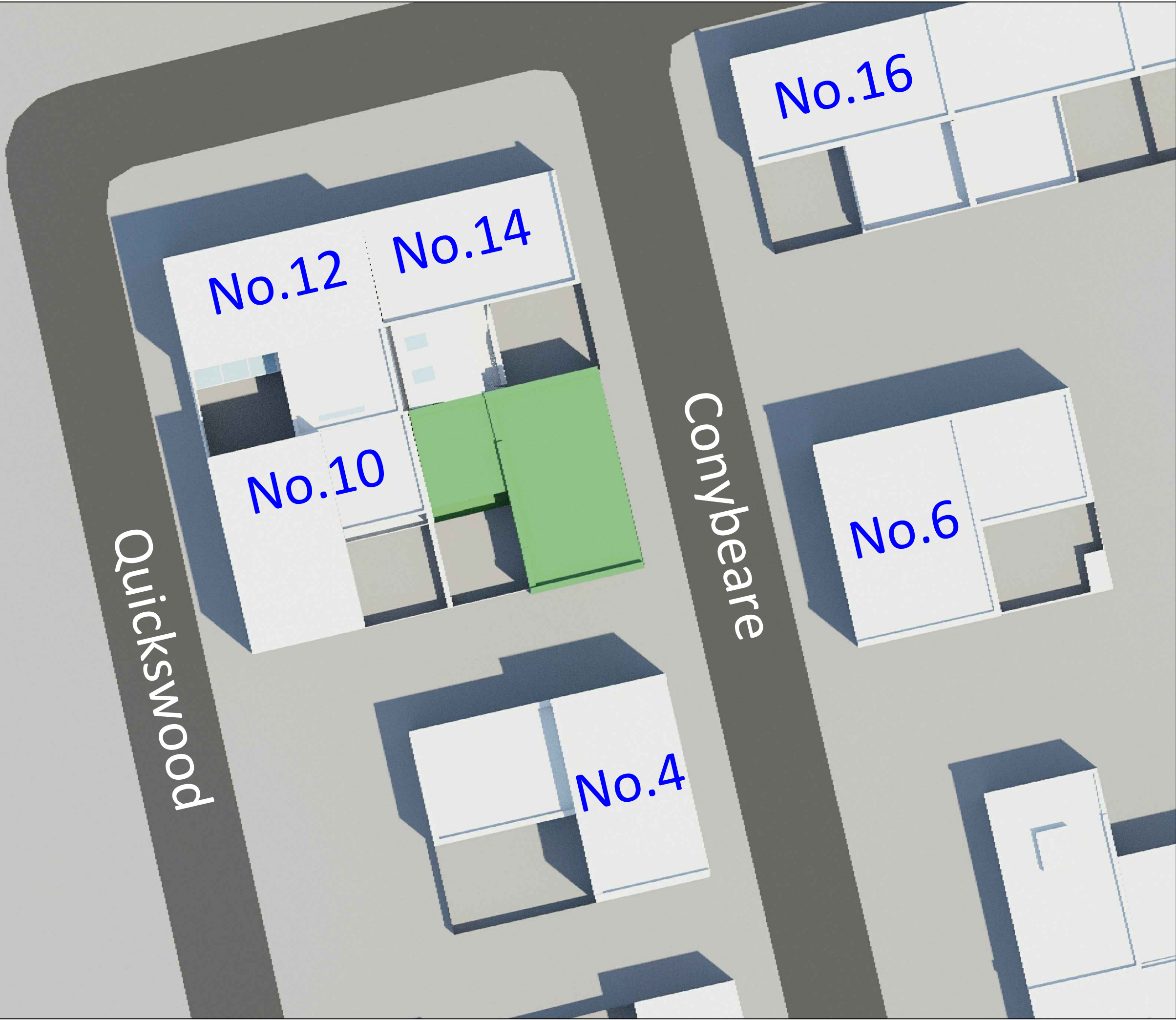
In relation to neighbouring residential buildings, if a window is facing within 90° of due south and overlooking any part of the proposals subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlight of the existing dwelling may be affected.

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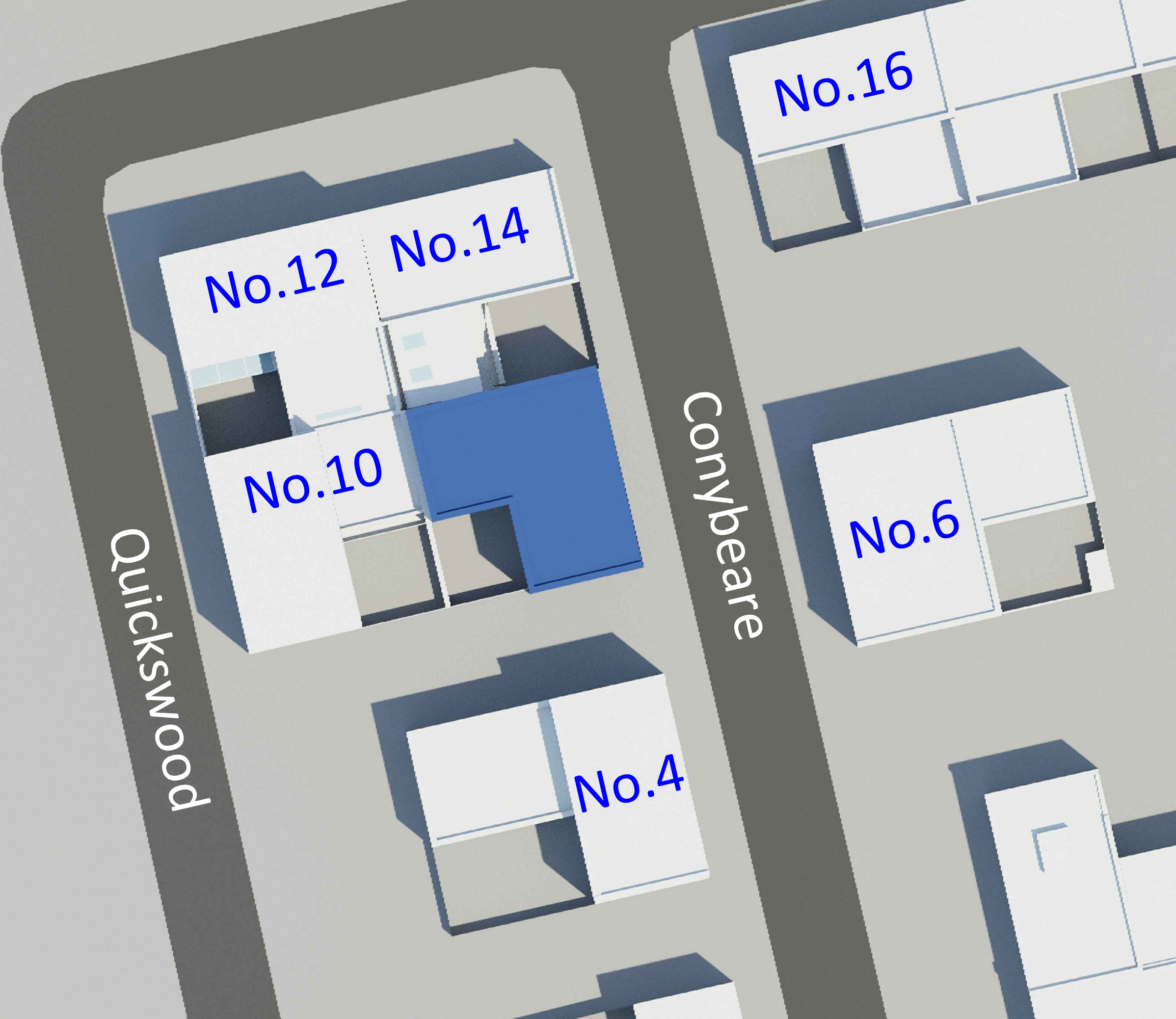


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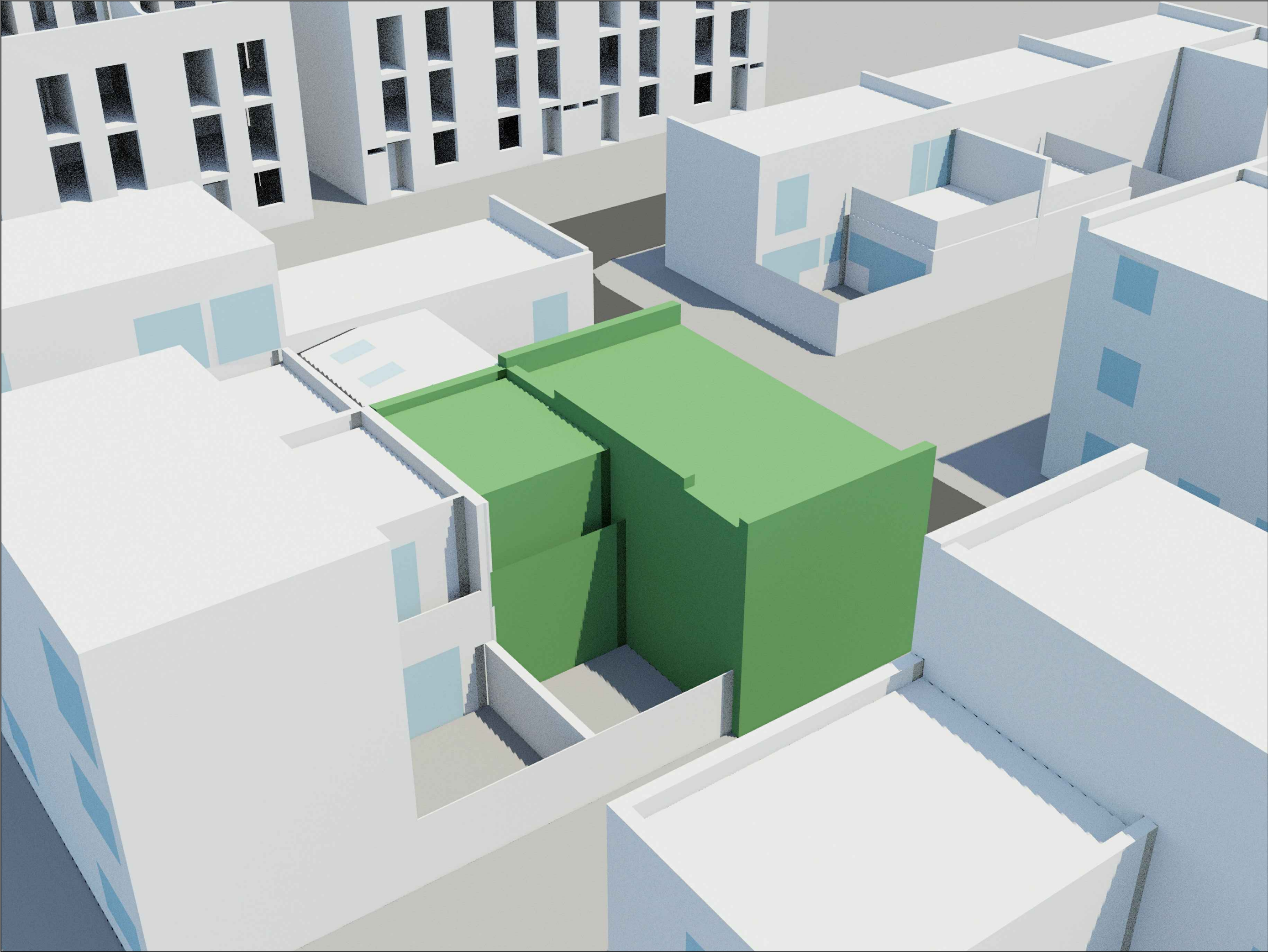
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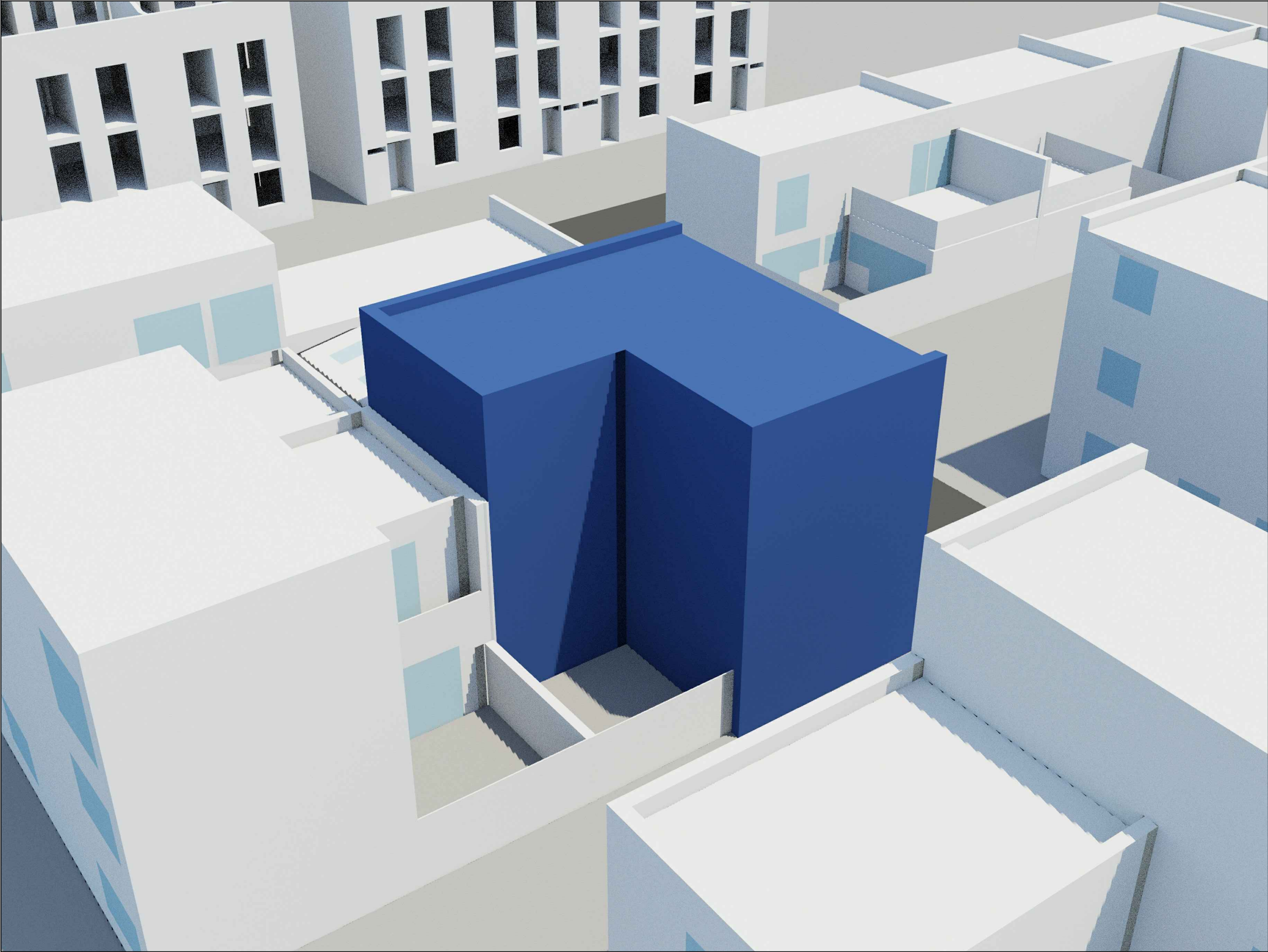
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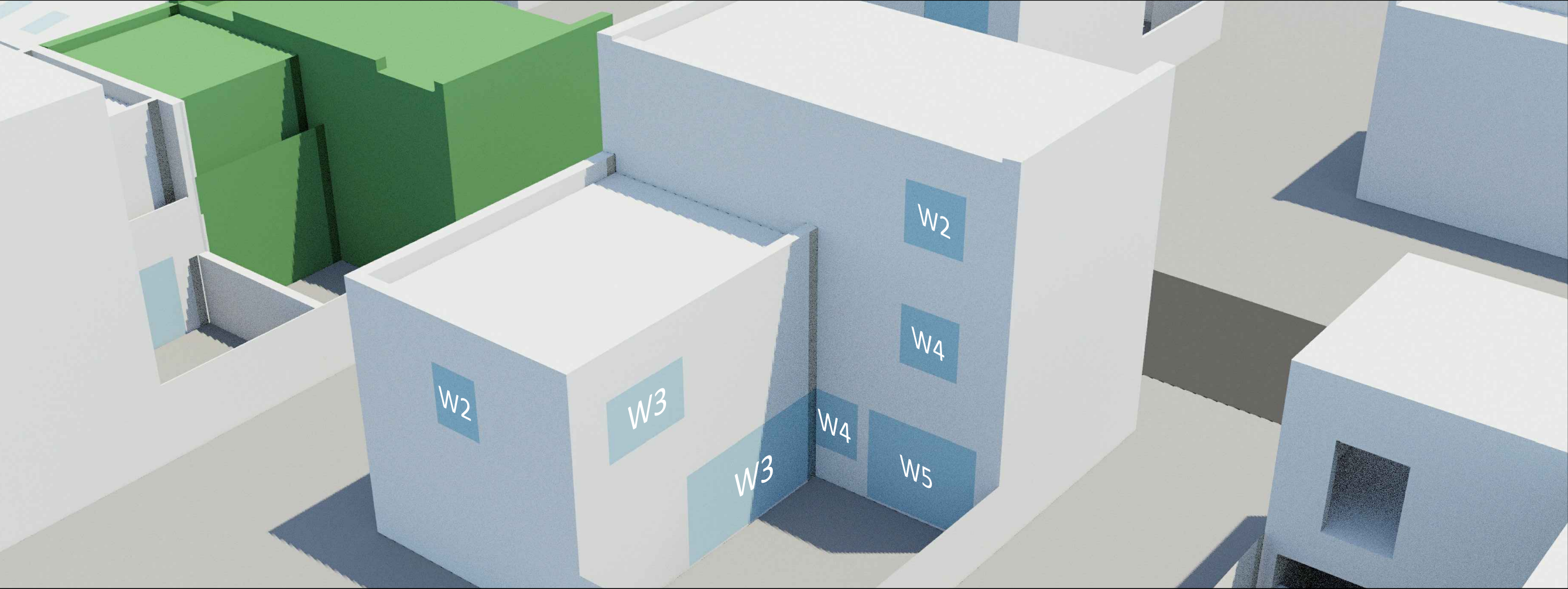
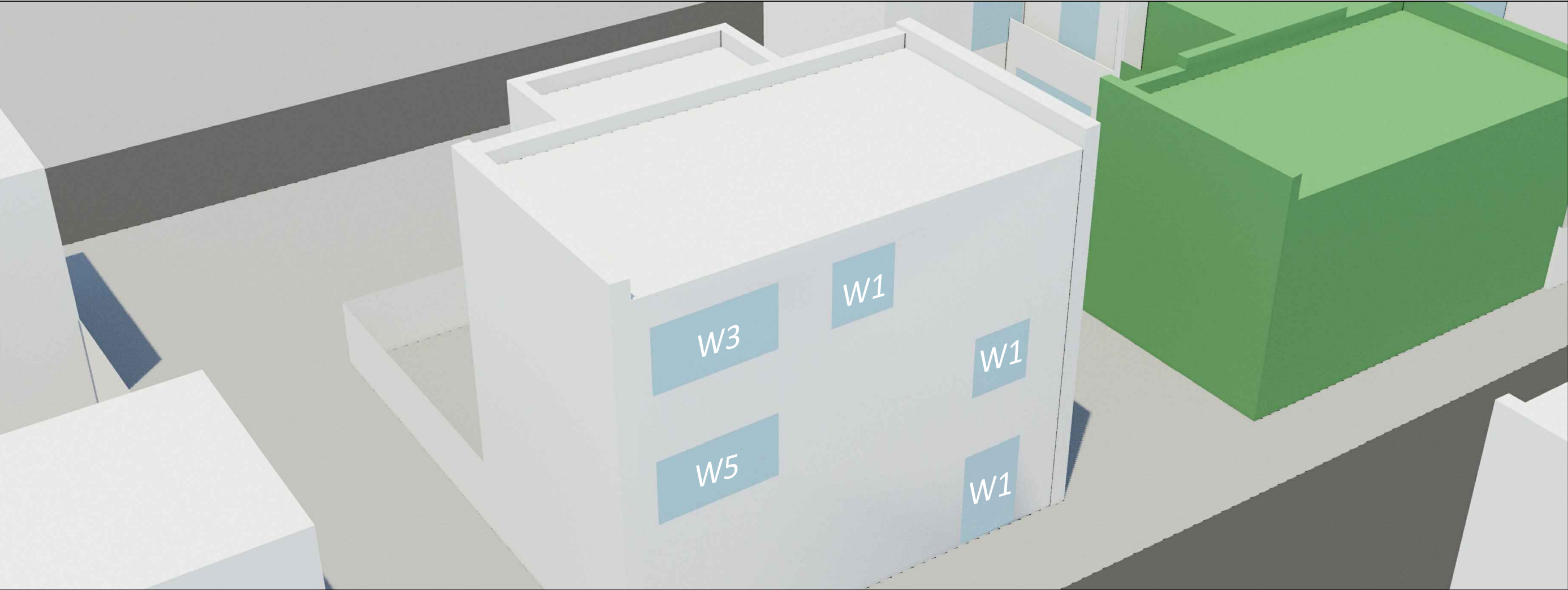
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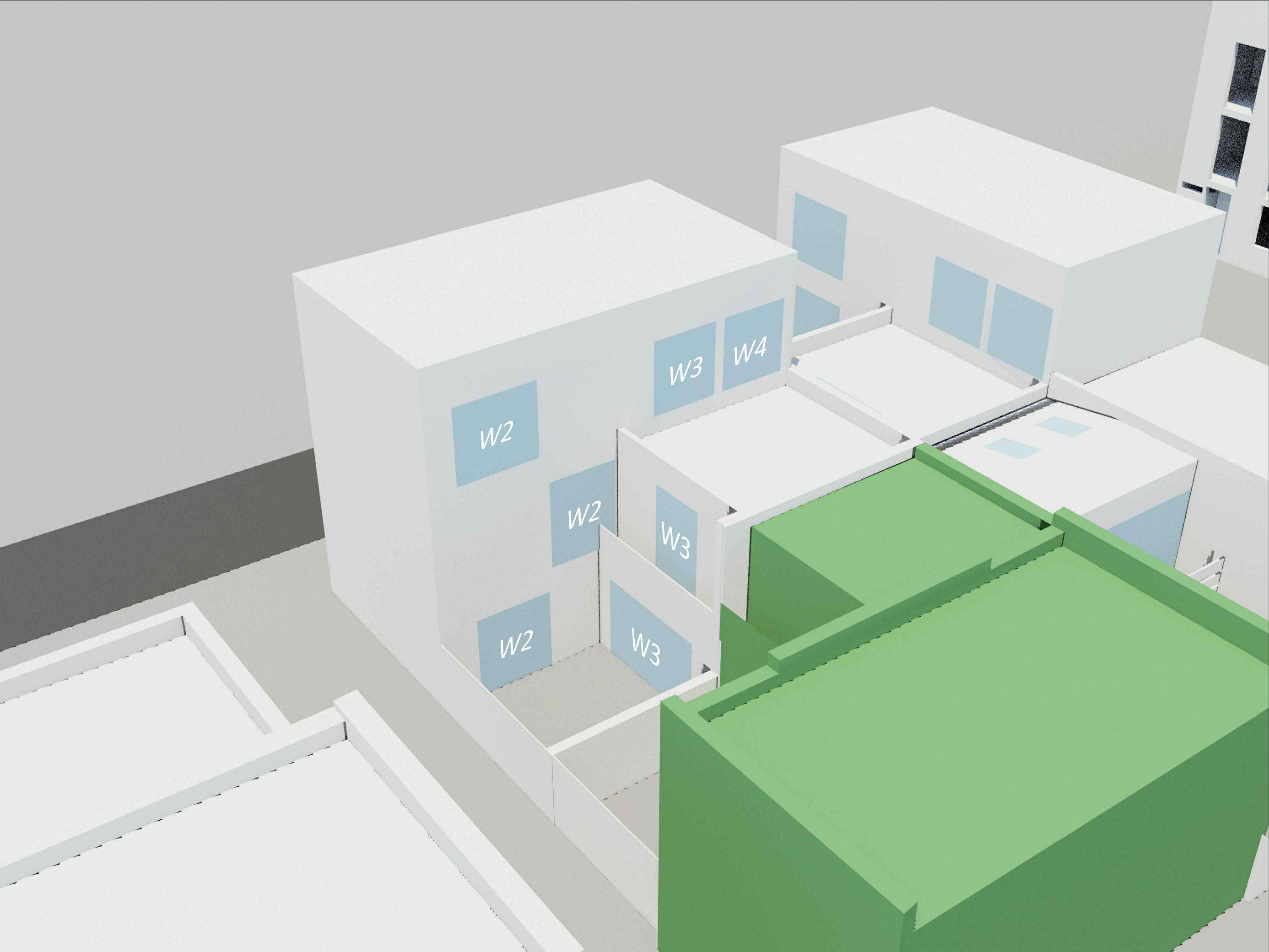
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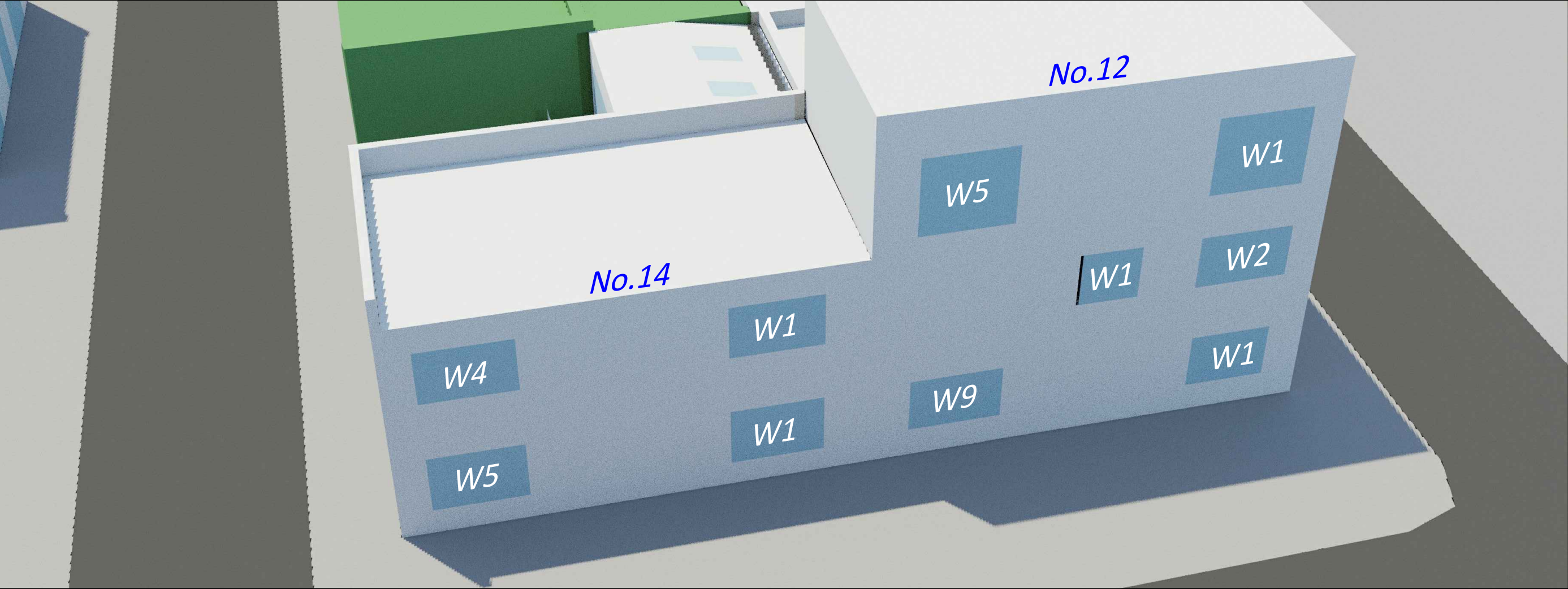
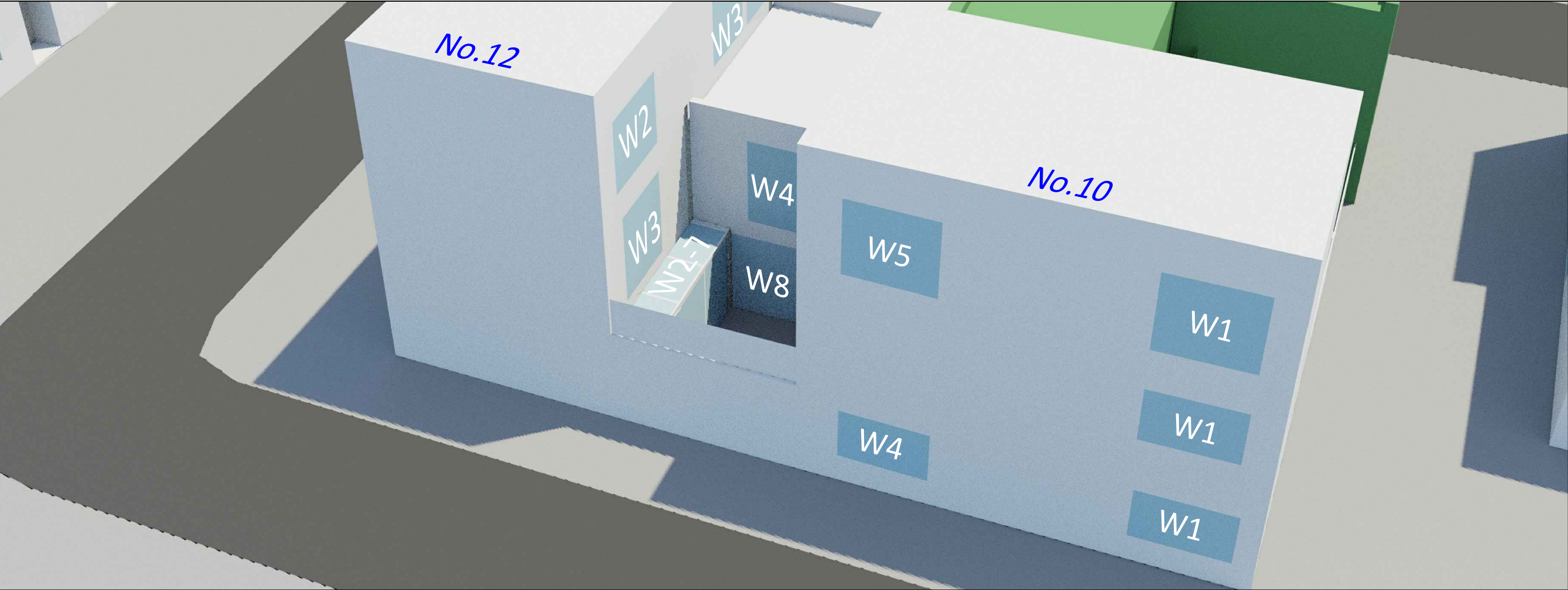


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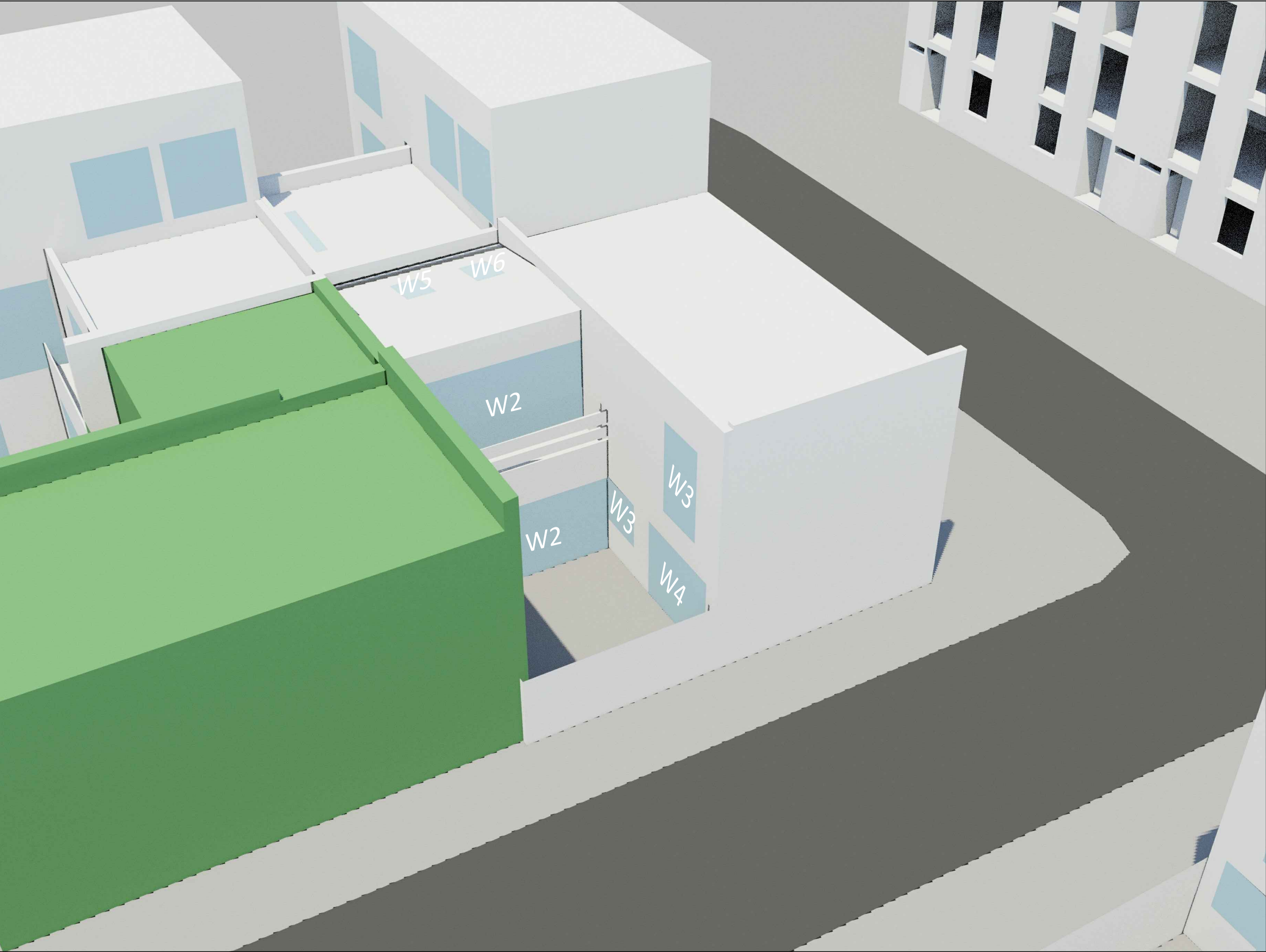
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5 Conybeare

DRAWING TITLE
No.10 Quickwood
Window Map

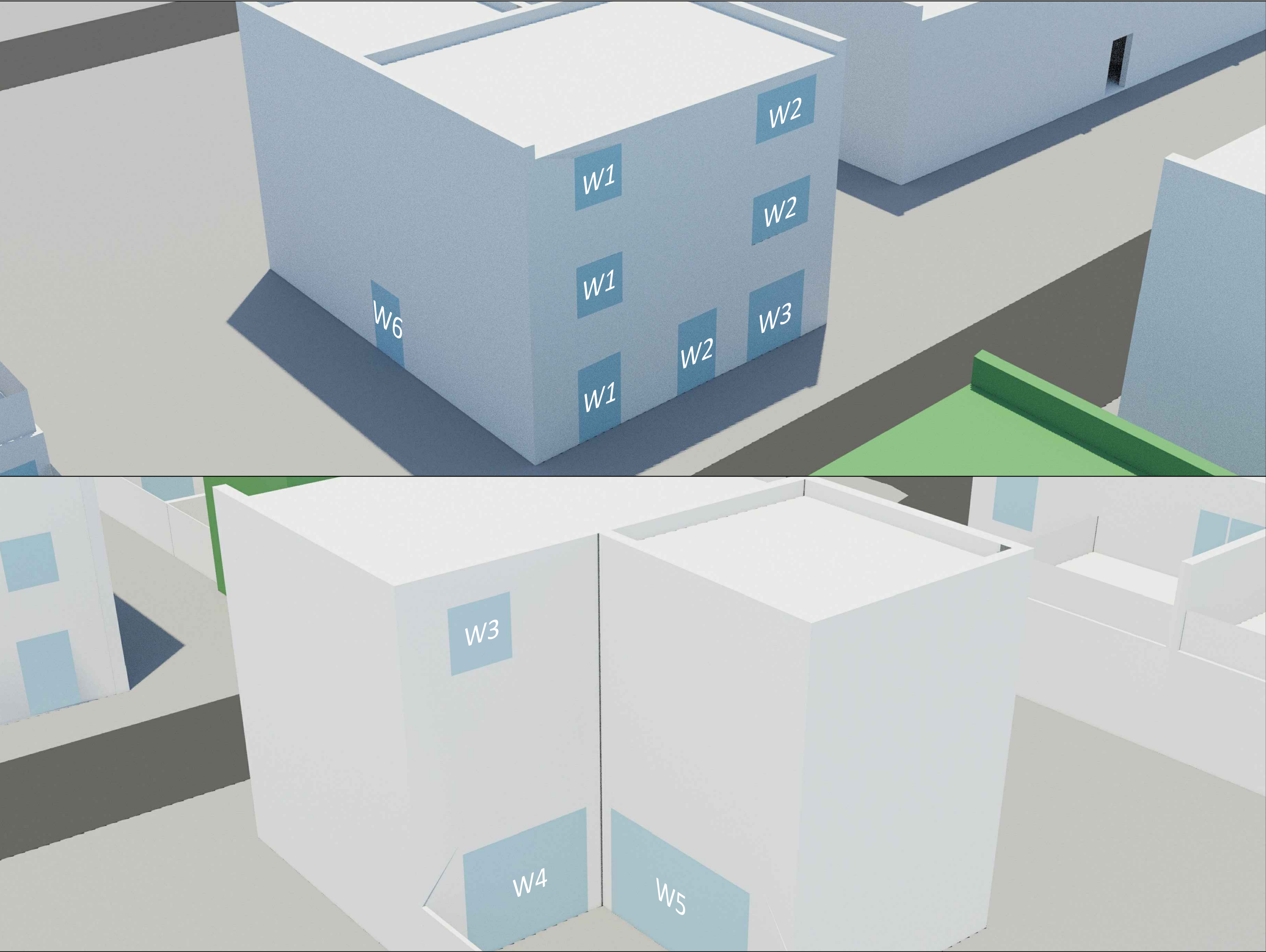
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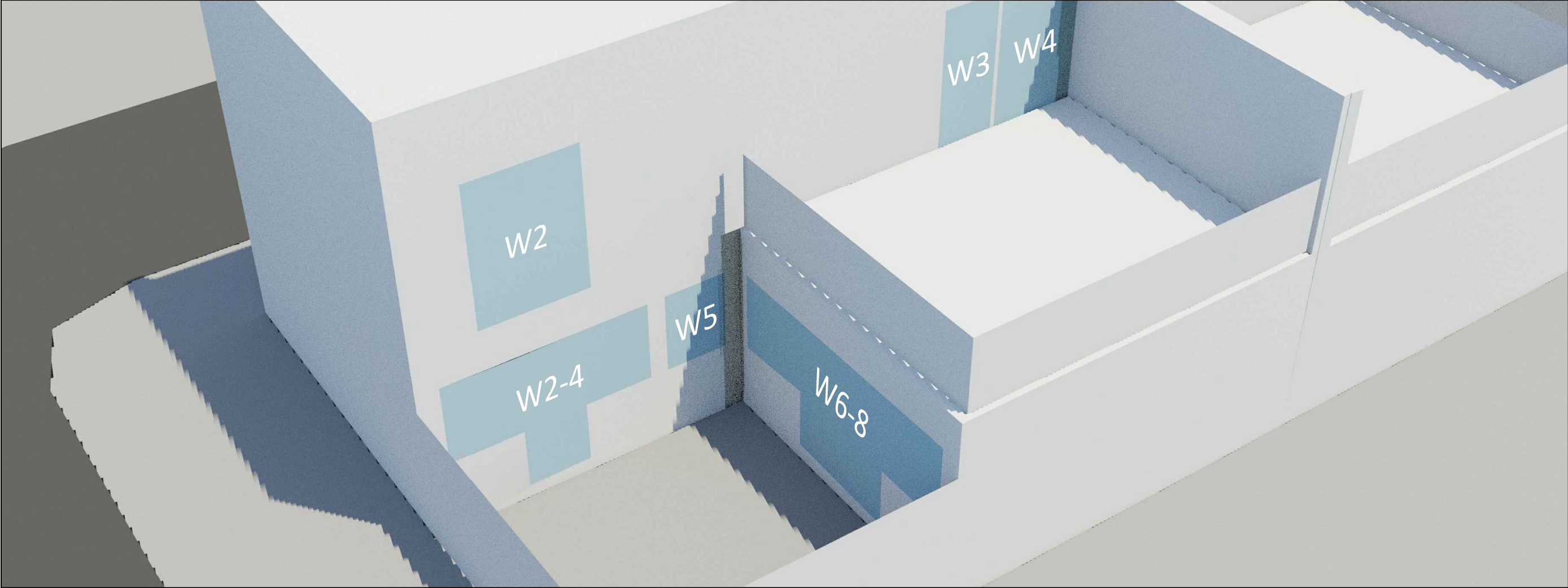
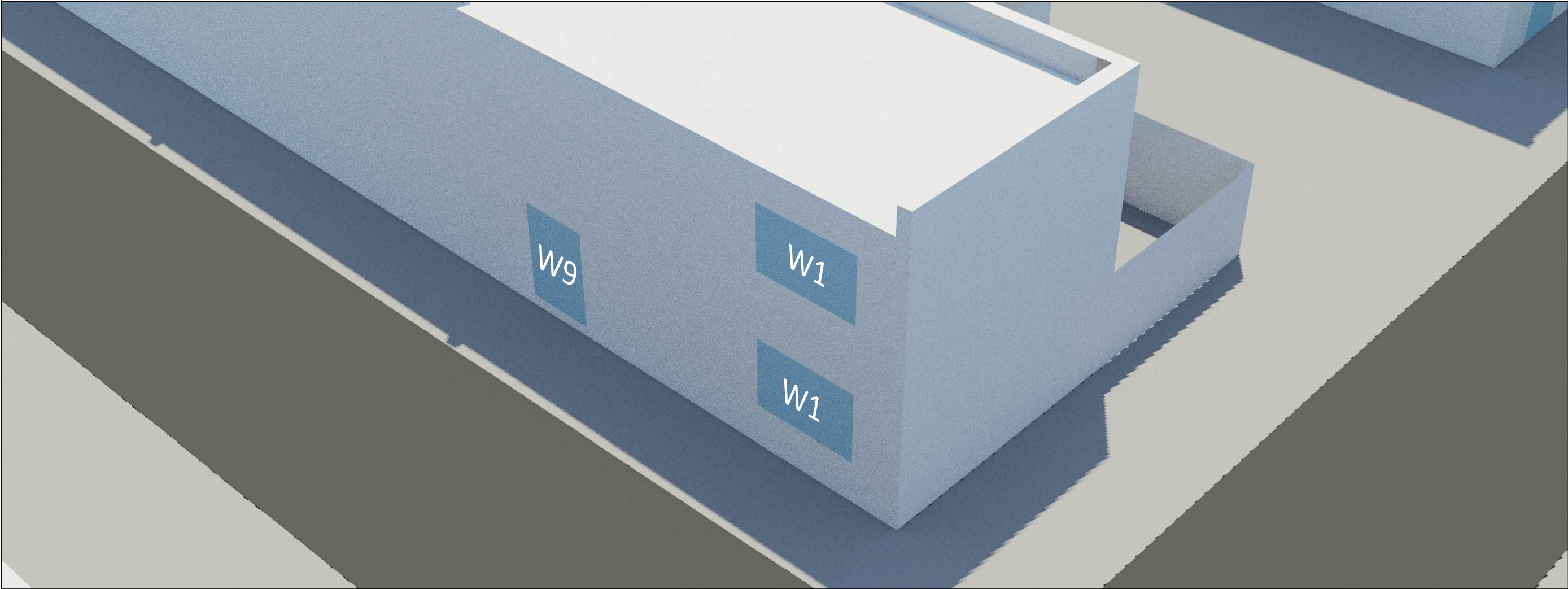
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Appendix C

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Daylight Results

LEVEL	WINDOW	ROOM	VSC		LOSS	% LOSS	NOSKY	
			EXISTING	PROPOSED			EXISTING	PROPOSED
10 Quickswood								
Ground	W1	R1	39.6	39.6	0.0	0.0	>80%	>80%
	W2		18.2	14.5	3.6	20.0		
	W3		17.4	16.7	0.7	4.0		
	W4		39.6	39.6	0.0	0.0		
First	W1	R1	39.6	39.6	0.0	0.0	>80%	>80%
	W2		22.8	18.1	4.6	20.3		
	W3		23.8	22.5	1.3	5.4		
Second	W1	R1	39.6	39.6	0.0	0.0	>80%	>80%
	W2		37.8	33.9	3.9	10.2		
	W3	R2	37.9	31.2	6.8	17.8	>80%	>80%
	W4		37.5	31.8	5.7	15.1		
	W5		39.6	39.6	0.0	0.0		
12 Quickswood								
Ground	W1	R1	31.1	31.1	0.0	0.0	>80%	>80%
	W2		3.9	3.9	0.0	0.0		
	W3		5.1	5.1	0.0	0.0		
	W4		4.3	4.3	0.0	0.0		
	W5		33.8	33.8	0.0	0.0		
	W6		33.3	33.3	0.0	0.0		
	W7		25.4	25.4	0.0	0.0		
	W8		10.7	10.7	0.0	0.0		
First	W9		28.8	28.8	0.0	0.0		
	W1	R1	33.2	33.2	0.0	0.0	>80%	>80%
	W2		34.0	34.0	0.0	0.0		
	W3		20.5	20.5	0.0	0.0		
Second	W4	R2	19.9	19.9	0.0	0.0	>80%	>80%
	W5		72.9	70.2	2.7	3.7		
	W1	R1	36.4	36.4	0.0	0.0	>80%	>80%
	W2		31.7	31.1	0.6	1.9		
	W3	R2	34.4	32.4	2.0	5.9	>80%	>80%
	W4		35.9	32.5	3.4	9.4		
W5		35.6	35.6	0.0	0.0			
14 Quickswood								
Ground	W1	R1	27.9	27.9	0.0	0.0	78%	78%
	W2		16.3	15.5	0.8	4.7		
	W3	R2	10.4	7.7	2.7	26.1	>80%	>80%
	W4		15.3	12.6	2.7	17.4		
First	W5		27.6	27.6	0.0	0.0		
	W1	R1	32.0	32.0	0.0	0.0	>80%	>80%
	W2	R2	24.6	20.9	3.7	14.9	>80%	>80%
	W5		90.2	73.6	16.6	18.4		
	W6		84.7	79.2	5.5	6.5		
	W3	R3	27.5	19.9	7.6	27.6	>80%	>80%
W4		31.9	31.9	0.0	0.0			

Daylight Results

<u>4 Conybeare</u>								
Ground	W1	R1	29.1	29.1	0.0	0.0	>80%	>80%
	W2		21.1	16.9	4.2	19.8		
	W3		21.0	21.0	0.0	0.0		
	W4	R2	19.6	19.6	0.0	0.0	>80%	>80%
	W5	R3	24.9	24.9	0.0	0.0	>80%	>80%
First	W1	R1	34.3	34.3	0.0	0.0	>80%	>80%
	W2	R2	37.6	37.6	0.0	0.0	>80%	>80%
	W3		33.6	33.6	0.0	0.0		
	W4	R3	33.7	33.7	0.0	0.0	>80%	>80%
	W5		36.0	36.0	0.0	0.0		
Second	W1	R1	38.7	38.7	0.0	0.0	>80%	>80%
	W2		39.2	39.2	0.0	0.0		
	W3		38.9	38.9	0.0	0.0		
<u>6 Conybeare</u>								
Ground	W1	R1	27.1	23.6	3.5	13.0	>80%	>80%
	W2		27.5	24.8	2.7	9.7		
	W3		26.7	24.7	2.0	7.6		
	W4		23.7	23.7	0.0	0.0		
	W5		23.8	23.8	0.0	0.0		
	W6		30.4	30.2	0.2	0.6		
First	W1	R1	34.1	30.7	3.3	9.8	>80%	>80%
	W2	R2	33.0	31.3	1.7	5.3	>80%	>80%
Second	W1	R1	37.9	37.1	0.8	2.2	>80%	>80%
	W2	R2	37.6	37.2	0.4	1.0	>80%	>80%
	W3		36.3	36.3	0.0	0.0		
<u>16 Quickswood</u>								
Ground	W1	R1	25.1	25.1	0.0	0.0	>80%	>80%
	W2		27.4	26.7	0.6	2.3		
	W3		24.6	24.0	0.6	2.2		
	W4		24.6	23.7	0.9	3.7		
	W5		19.8	19.0	0.8	4.1		
	W6	R2	18.8	17.7	1.1	6.1	>80%	>80%
	W7		23.0	21.7	1.3	5.5		
	W8		27.0	25.7	1.3	4.8		
	W9		26.0	26.0	0.0	0.0		
First	W1	R1	30.0	30.0	0.0	0.0	>80%	>80%
	W2		34.0	33.1	0.9	2.7		
	W3	R2	29.7	29.3	0.4	1.4	>80%	>80%
	W4		23.5	23.1	0.4	1.5		



Appendix D

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Sunlight Results

LEVEL	WINDOW	EXISTING			PROPOSED			% LOSS	
		SUMMER	WINTER	TOTAL	SUMMER	WINTER	TOTAL	WINTER	TOTAL
<u>10 Quickswood</u>									
Ground	R1	63%	22%	85%	62%	22%	84%	0.00	1.18
First	R1	68%	27%	95%	21%	27%	90%	0.00	5.26
	R2	36%	13%	49%	21%	13%	44%	0.00	10.20
Second	R1	70%	28%	98%	69%	28%	97%	0.00	1.02
	R2	70%	29%	99%	65%	28%	93%	3.45	6.06
<u>12 Quickswood</u>									
Ground	R1	66%	15%	81%	66%	15%	81%	0.00	0.00
First	R1	53%	12%	65%	53%	12%	65%	0.00	0.00
	R2	67%	14%	81%	61%	12%	73%	14.29	9.88
Second	R1	70%	21%	91%	70%	20%	90%	4.76	1.10
	R2	70%	27%	97%	70%	25%	95%	7.41	2.06
<u>14 Quickswood</u>									
Ground	R2	49%	3%	52%	39%	3%	42%	0.00	19.23
First	R2	63%	23%	86%	56%	8%	64%	65.22	25.58
	R3	68%	13%	81%	62%	4%	66%	69.23	18.52
<u>4 Conybeare</u>									
Ground	R1	66%	23%	89%	66%	23%	89%	0.00	0.00
	R2	29%	14%	43%	29%	14%	43%	0.00	0.00
	R3	34%	12%	46%	34%	12%	46%	0.00	0.00
First	R2	55%	27%	82%	55%	27%	82%	0.00	0.00
	R3	68%	29%	97%	68%	29%	97%	0.00	0.00
Second	R1	70%	30%	100%	70%	30%	100%	0.00	0.00
<u>6 Conybeare</u>									
Ground	R1	67%	23%	90%	66%	23%	89%	0.00	1.11
First	R1	35%	15%	50%	31%	14%	45%	6.67	10.00
	R2	35%	14%	49%	30%	14%	44%	0.00	10.20
Second	R1	37%	18%	55%	37%	17%	54%	5.56	1.82
	R2	70%	28%	98%	70%	28%	98%	0.00	0.00
<u>16 Quickswood</u>									
Ground	R1	61%	17%	78%	61%	15%	76%	11.76	2.56
	R2	38%	13%	51%	38%	11%	49%	15.38	3.92
First	R1	69%	26%	95%	69%	24%	93%	7.69	2.11
	R2	49%	21%	70%	49%	20%	69%	4.76	1.43