Daylight and Sunlight

New City Court
Guys Chapel

Prepared by: Kevin Francis

Reference: 8684

Date: 29/04/2019

DATE / REF

29/04/2019
KF/8684

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By Email
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Sarah Considine
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Dear Sarah,

Re: The Proposed redevelopment of New City Court and Guys Chapel – Daylight and Sunlight Summary

GIA have undertaken detailed Daylight and Sunlight analysis of the windows and rooms of Guys Chapel. The assessments have been undertaken in accordance with the BRE Guidelines *'Site layout planning for daylight and sunlight: a guide to good practice (BR 209).* Whilst not planning policy nor a mandatory set of rules, the BRE document advises on planning developments for good access to daylight and sunlight and is widely used by local authorities to understand the effect a new development may have on the amenity of neighbouring properties.

The BRE states within paragraph 2.2.2 that; '*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 space and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops and some offices.*' Whilst ecclesiastical buildings are not specifically referenced, we have included the Guys Chapel as part of our overall assessment, albeit the transitory use of the building must be taken into account when considering the overall sensitivity of any change in light condition.

Figure 01 - Guys Chapel

Daylight and Sunlight

The BRE guidelines provide two main methods of calculation for daylight. The first is known as the Vertical Sky Component ("VSC") method which considers the potential for daylight by calculating the angle of vertical sky at the centre of each of the windows serving the buildings which look towards the site. This is a more simplistic approach and it could be considered as a "rule of thumb" to highlight whether there are any potential concerns to the amenity serving a particular property.

The second method is the No Sky Line ("NSL") method, sometimes referred to as Daylight Distribution. This assesses the change in where the sky can be seen and not seen from within a room, between the existing and proposed situations. This methodology does take into account the number and size of windows to a room.

In relation to sunlight, the criteria given calculates the Annual Probable Sunlight Hours ("APSH") which considers the amount of sun available in both the summer and winter for each given window/ room which faces within 90° of due south of the development site. Summer is considered to be the six months between March 21st and September 21st and winter the remaining months.

The high-level summary of our findings of the '*Existing v Proposed*' analysis is that 18 of the 30 windows assessed will meet the BRE criteria for VSC. The 12 windows which do not meet the BRE criteria for VSC form part of the rear Chapel elevation facing directly onto the site. Owing to the orientation of these windows which directly overlook the existing site buildings, coupled with a very narrow separation distance, it is inevitable that some reduction in VSC will occur even by a modest increase in height to the existing building.

GIA have been able to source floor plans of the Chapel (figure 02) meaning that we have been able to accurately model the windows and room layouts. It is clear that the main Chapel hall is served by a number of windows which do not face directly onto the site, including skylights. The mitigating light available from these windows mean that all four rooms assessed against the NSL methodology will experience a negligible impact and therefore meet the BRE criteria for NSL.

Therefore, whilst there will be a reduction in skylight to the windows facing onto the development site, it is clear from the NSL results that the negative affect on these windows will be mitigated to an extent by the presence of other windows not facing the site. In GIAs opinion, this would suggest that the overall quality of light within the room will not be unduly compromised. Furthermore, the non-domestic and transitory use of the Chapel would mean that the functionality of the building is unlikely to be adversely affected by any reduction in skylight to the rear windows.

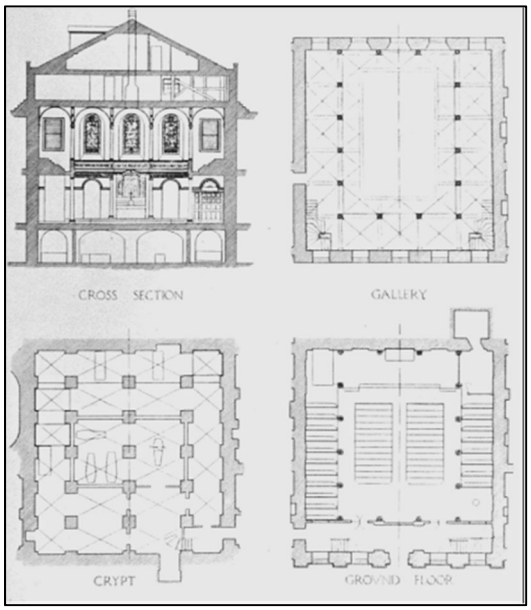

Figure 02 – Plans of Guys Chapel

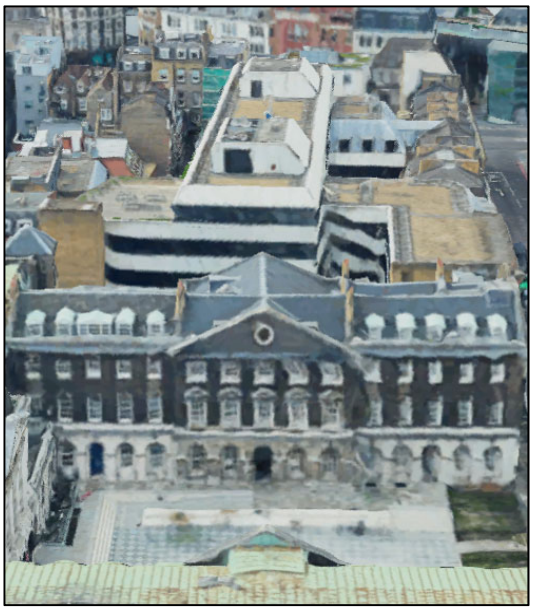

Figure 03 – External View of Guys Chapel (google image)

Furthermore, there does not appear to be any windows facing within 90° due south of the development site on the façade which faces onto the proposed development, meaning there will be no material reduction in sunlight to any of the windows on Guys Chapel. Any south facing windows are located on a façade that is orientated away from the development (such as W8/F04 and W9/F04) and will only experience a de minis change, retaining exceedingly high levels of sunlight that are well in excess of BRE recommendations.

The full tabulated results have been appended to this document (appendix 01). Window maps depicting the window locations have also been included (appendix 02).

I trust the above summary is clear, however should you have any queries, please feel free to contact me.

Yours sincerely
For and on behalf of GIA

Kevin Francis
Partner
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Encl. Appendix 01 – Daylight and Sunlight Results
Appendix 02- Window Maps

Appendix 01

Daylight & Sunlight Results

Vertical Sky Component (VSC)
No Sky Line (NSL)
Annual Probable Sunlight Hours (APSH)

								VSC (WINDOW)				NSL				APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM NOTES	INFO USED	WINDOW	WINDOW NOTES	EX. %	PR. %	LOSS	LOSS %	EX. %	PR. %	LOSS SQM	LOSS %	EX.		PR.		LOSS %	
																ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
GUYS HOSPITAL (CHAPEL)																					
F00	R1	RELIGIOUS	RELIGIOUS		-	W1/F00		11.8	5.3	6.5	55.1%	47.1	48.7	-3.8	-3.4%	0	0	0	0	0.0%	0.0%
			RELIGIOUS			W23/F00		13.2	13.2	0	0.0%					23	2	23	2	0.0%	0.0%
			RELIGIOUS			W24/F00		13.6	13.6	0	0.0%					27	5	27	5	0.0%	0.0%
			RELIGIOUS			W26/F00		14.3	14.3	0	0.0%					28	7	28	7	0.0%	0.0%
			RELIGIOUS			W25/F00		14.1	14.1	0	0.0%					29	7	29	7	0.0%	0.0%
F02	R1	RELIGIOUS	RELIGIOUS		-	W3/F02		20	9.1	10.9	54.5%	90.4	86.9	5.2	3.8%	7	1	4	1	75.0%	0.0%
			RELIGIOUS			W4/F02		19.6	8.9	10.7	54.6%					17	3	15	3	11.8%	0.0%
			RELIGIOUS			W5/F02		18.9	8.6	10.3	54.5%					14	3	12	3	14.3%	0.0%
			RELIGIOUS			W6/F02		18.4	8.4	10	54.3%					18	2	16	2	11.1%	0.0%
			RELIGIOUS			W7/F02		17.9	8.2	9.7	54.2%					8	0	4	0	12.5%	0.0%
			RELIGIOUS			W18/F02		16.3	16.3	0	0.0%					39	11	39	11	0.0%	0.0%
			RELIGIOUS			W19/F02		16.5	16.5	0	0.0%					38	13	38	13	0.0%	0.0%
			RELIGIOUS			W20/F02		16.6	16.6	0	0.0%					36	12	36	12	0.0%	0.0%
			RELIGIOUS			W21/F02		16.7	16.7	0	0.0%					38	13	38	13	0.0%	0.0%
			RELIGIOUS			W22/F02		16.6	16.6	0	0.0%					39	14	39	14	0.0%	0.0%
F03	R1	RELIGIOUS	RELIGIOUS		-	W16/F03		26.9	11.5	15.4	57.2%	94	90.7	7.7	3.4%	20	3	14	3	30.0%	0.0%
			RELIGIOUS			W17/F03		26.1	10.5	15.6	59.8%					22	4	16	3	27.3%	25.0%
			RELIGIOUS			W18/F03		25.1	10.1	15	59.8%					22	4	18	3	18.2%	25.0%
GUYS HOSPITAL (CHAPEL) (CONTINUED)																					
			RELIGIOUS			W19/F03		24.7	10.2	14.5	58.7%					22	3	20	3	9.1%	0.0%
			RELIGIOUS			W20/F03		24.7	10.4	14.3	57.9%					20	2	19	2	5.0%	0.0%
			RELIGIOUS			W1/F03		16.8	16.8	0	0.0%					39	18	39	18	0.0%	0.0%
			RELIGIOUS			W2/F03		17.5	17.5	0	0.0%					40	16	40	16	0.0%	0.0%
			RELIGIOUS			W3/F03		17.7	17.7	0	0.0%					39	15	39	15	0.0%	0.0%
			RELIGIOUS			W4/F03		17.6	17.6	0	0.0%					39	15	39	15	0.0%	0.0%
			RELIGIOUS			W5/F03		17	17	0	0.0%					37	14	37	14	0.0%	0.0%
	R6	COMMERCIAL	ASSUMED CIRC.		-	W6/F04 / INC (2)		75.7	54.4	21.3	28.1%	80.6	72	13.3	10.6%	28	4	21	4	25.0%	0.0%
			ASSUMED CIRC.			W7/F04		31	11.3	19.7	63.5%					27	4	21	4	22.2%	0.0%
GUYS HOSPITAL (CHAPEL) (CONTINUED)																					
			ASSUMED CIRC.			W8/F04		33.9	31.9	2	5.9%					68	22	63	22	7.4%	0.0%
			ASSUMED CIRC.			W9/F04		32.4	30.6	1.8	5.6%					65	19	60	19	7.7%	0.0%
			ASSUMED CIRC.			W10/F04 / INC (2)		79.5	57.4	22.1	27.8%					30	6	26	6	13.3%	0.0%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

Appendix 02

Window Maps


GUYS HOSPITAL (CHAPEL)
W3 F04
W4 F04
W5 F04
W7 F04
W10
W11 F04
W12 F04
W13 F04
W15 F04
W16 F04
W24 F03
W23 F03
W25
W26 F03
W27 F03
W8 F02
W13 F03
W15 F03
W16 F03
W17 F03
W18 F03
W19 F03
W20 F03
W1 F01
W2 F02
W3 F02
W4 F02
W5 F02
W6 F02
W7 F02
W2 F01
W3 F01
W4 F01
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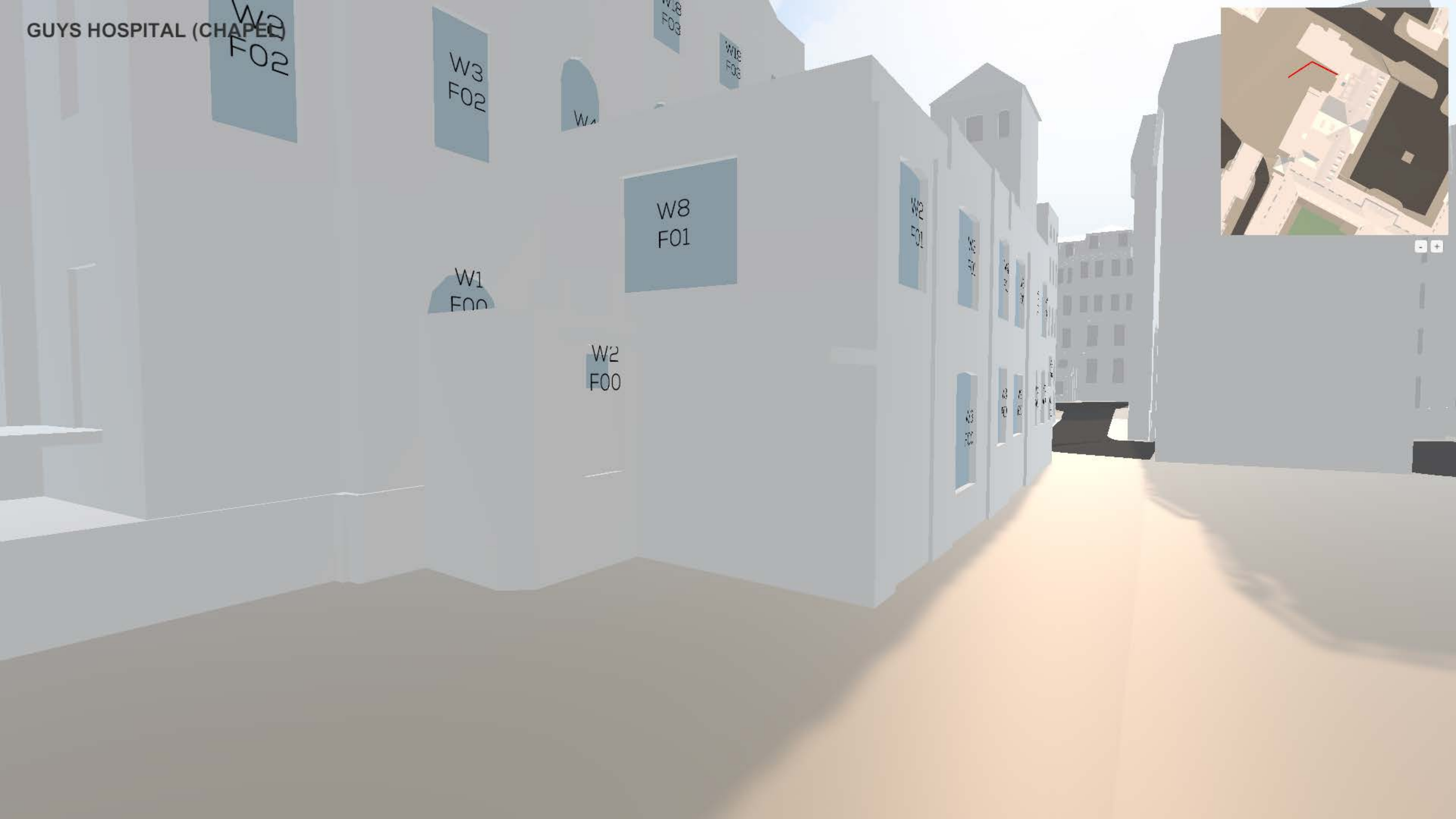
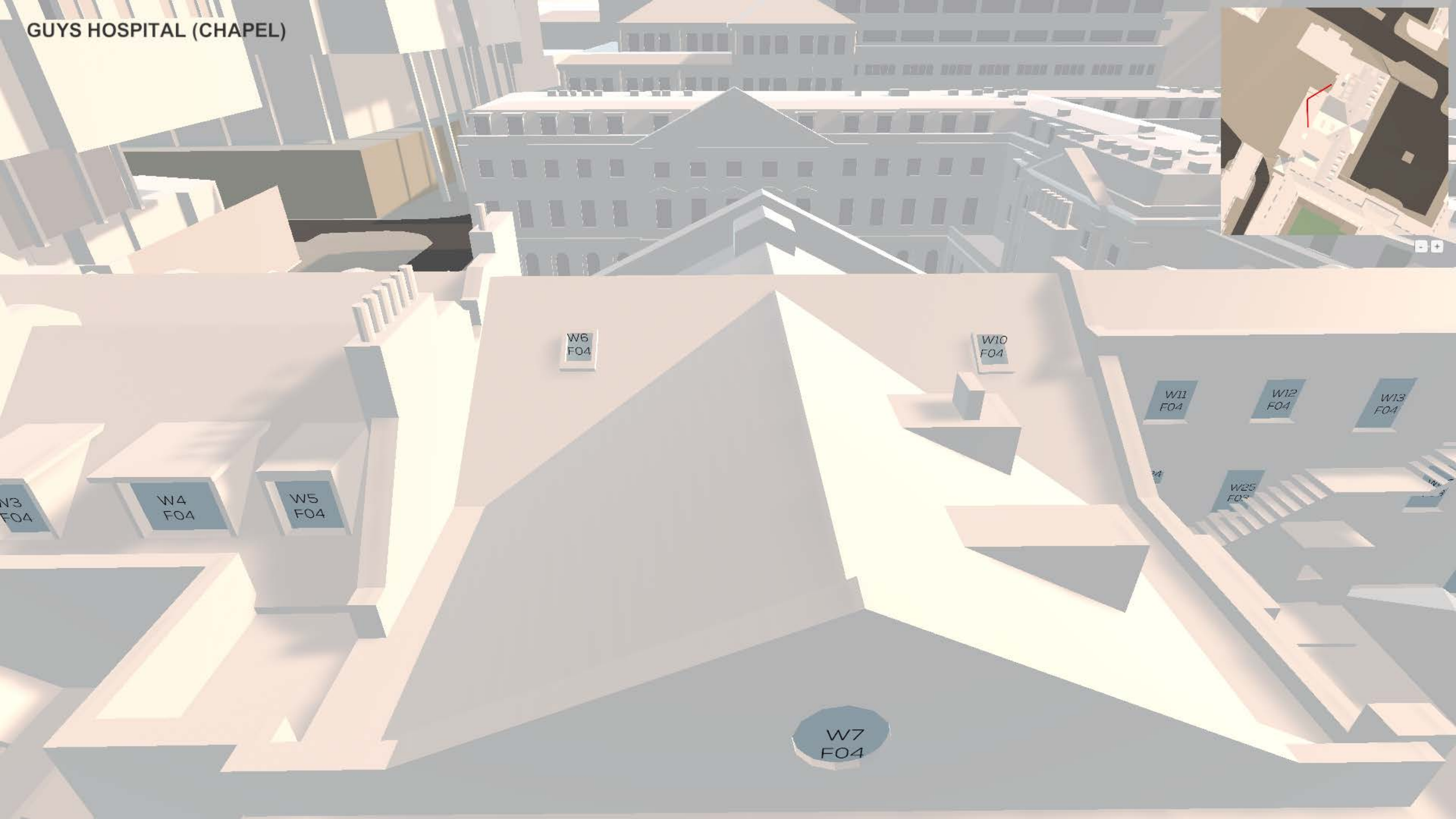
W8 F00
W9 F00
W10 F00
W11 F00
W13 F00


GUYS HOSPITAL (CHAPEL)
W3
F02
W8
F01
W1
F00
W2
F00


GUYS HOSPITAL (CHAPEL)
W14
F03
W9
F03
W8W10
F03F03
W7 W11
F03F03
W6W12
F03F03
W1
F02


GUYS HOSPITAL (CHAPEL)
W6
F04
W10
F04
W11
F04
W12
F04
W13
F04
W4
F04
W5
F04
W7
F04


GUYS HOSPITAL (CHAPEL)
W8
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W8
F02

GUYS HOSPITAL (CHAPEL)


GUYS HOSPITAL (CHAPEL)
W1
F04
W2
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W3
F04
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W5
F04
W14
F03

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