



DAYLIGHT & SUNLIGHT
OVERSHADOWING ASSESSMENT

New City Court

19 June 2019

GIA No: **8684**

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Client **Great Portland Estates**
Architect **AHMM**
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1 INTRODUCTION

GIA have been instructed to provide further assessments on the levels of overshadowing to some neighbouring open areas of amenity in close proximity to the Proposed New City Court Development.

GIA was specifically instructed to carry out the following:

- Carry out overshadowing assessments for the London Bridge Station Public Plaza, The News Building Public Plaza, Communal amenity areas within Shard Place and Front open space at 9 St Thomas Street, using the methodology set out in the BRE guidance for sunlight on ground; and
- Prepare a report setting out the results of the assessments.

2 BRE GUIDELINES

The Building Research Establishment (BRE) have set out in their handbook 'Site Layout Planning for Daylight and Sunlight a Guide to Good Practice (2011)', guidelines and methodology for the measurement and assessment of daylight and sunlight within proposed buildings.

The guide also provides advice on site layout planning to determine the quality of daylight and sunlight within open spaces between buildings.

It is important to note, however, that this document is a guide and states that its aim *"is to help rather than constrain the designer"*.

The document provides advice, but also clearly states that it *"is not mandatory and this document should not be seen as an instrument of planning policy."* The report also acknowledges in its introduction that *"in special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings."*

It is an inevitable consequence of the built up urban environment that daylight and sunlight will be more limited in these areas. It is well acknowledged that in such situations there may be many other conflicting and potentially more important planning and urban design matters to consider other than just the provision of ideal levels of daylight and sunlight.

2.1 OVERSHADOWING

The BRE guidance in respect of overshadowing of amenity spaces is set out in section 3.3 of the handbook. Here it states as follows:

"Sunlight in the spaces between buildings has an important impact on the overall appearance and ambiance of a development. It is valuable for a number of reasons, to:

- *provide attractive sunlit views (all year)*
- *make outdoor activities, like sitting out and children's play more pleasant (mainly warmer months)*
- *encourage plant growth (mainly spring and summer)*
- *dry out the ground, reducing moss and slime (mainly in colder months)*
- *melt frost, ice and snow (in winter)*
- *dry clothes (all year)"*

Again, it must be acknowledged that in urban areas the availability of sunlight on the ground is a factor which is significantly controlled by the existing urban fabric around the site in question and so may have very little to do with the form of the development itself. Likewise there may be many other urban design, planning and site constraints which determine and run contrary to the best form, siting and location of a proposed development in terms of availability of sun on the ground.

The summary of section 3.3 of the guide states as follows:

"3. 3 .17 It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21 March."

3 METHODOLOGY

In order to undertake the daylight and sunlight assessments set out in the previous pages, we have prepared a three dimensional computer model and used specialist lighting simulation software.

The three dimensional representation of the proposed development has been modelled using the scheme drawings provided to us by AHMM. This has been placed in the context of its surrounding buildings which have been modelled from survey information, photogrammetry, OS and site photographs. This allows for a precise model, which in turn ensures that analysis accurately represents the amount of daylight and sunlight available to the building facades, internal and external spaces, considering all of the surrounding obstructions and orientation.

3.1 SUN HOURS ON GROUND (SHOG)

In order to ascertain the overshadowing impact that the Proposed Development would have on the neighbouring external areas of amenity, Sun Hours on Ground (SHOG) assessments was undertaken on the equinox (21st March or 21st September) in the existing vs proposed scenarios.

It is recommended that at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March, or that the area which receives two hours of direct sunlight should not be reduced to less than 0.8 times its former value (i.e. there should be no more than a 20% reduction).

4 CONCLUSIONS

The overshadowing analyses presented in this report have focussed on the additional neighbouring private and public amenity areas in close proximity to the proposed New City Court development, as requested by the London Borough of Southwark.

These are:

- London Bridge Station public plaza
- The News Building public plaza
- Communal amenity areas within Shard Place (former Fielden House) at ground floor, 16th floor and roof level
- Front open space at 9 St Thomas Street

4.1 CONCLUSIONS ON OVERSHADOWING

London Bridge Station public plaza

The SHOG results show that there is a minimum impact on the sunlight availability within the London Bridge Station public plaza. Therefore, the overshadowing effects upon this area is considered to be non-material.

‘The News Building’ public plaza

The SHOG results show that additional shadow is cast by the proposed development on the 21st of March upon ‘The News Building’ public plaza. There is a 50% loss with the proposal in place, however, it should be noted that the levels of sunlight in the existing condition are already far below the BRE guidance (22% where 50% is recommended).

Moreover, the absolute loss is not significant, and the percentage loss is exacerbated by the poor performance in the existing scenario. In addition to this, further SHOG assessments (figures 2 and 4) show that the same percentage of the area (22%) will be BRE compliant only a few days later, and that 50% of this area is BRE compliant on the 4th of April in the existing condition and on the 5th of April with the proposal in place. Therefore, the overall sunlight availability in this area is considered to be minimally impacted.

It is also worth noting that this area is mostly used as a pedestrian passage and provide limited opportunities for seating. Therefore, we considered that the Proposed Development will not significantly affect the use of this space and the overshadowing effects are considered Minor.

Communal amenity areas within Shard Place (former Fielden House) – ground, 16th floor and roof level

The BRE test shows that no additional shadow is cast by the proposed development on the 21st of March at the ground floor and 16th floor roof garden. There is a 1% sunlight reduction within the roof top garden and therefore, the impacts of the proposed New City Court development upon all these areas is considered to be negligible.

Front open space at 9 St Thomas Street

The results of the BRE assessments for the front open spaces within 9 St Thomas street show that there are minor overshadowing effects on the right-side area. However, the retained levels of sunlight on the 21st March are still in line with the BRE guidance. Therefore, the impact upon both spaces is considered to be negligible.

5 OVERSHADOWING ASSESSMENTS

OVERSHADOWING ASSESSMENT - THE NEWS BUILDING PLAZA + LONDON BRIDGE STA. SUN HOURS ON GROUND - BRE COMPLIANCE EXISTING SCENARIO

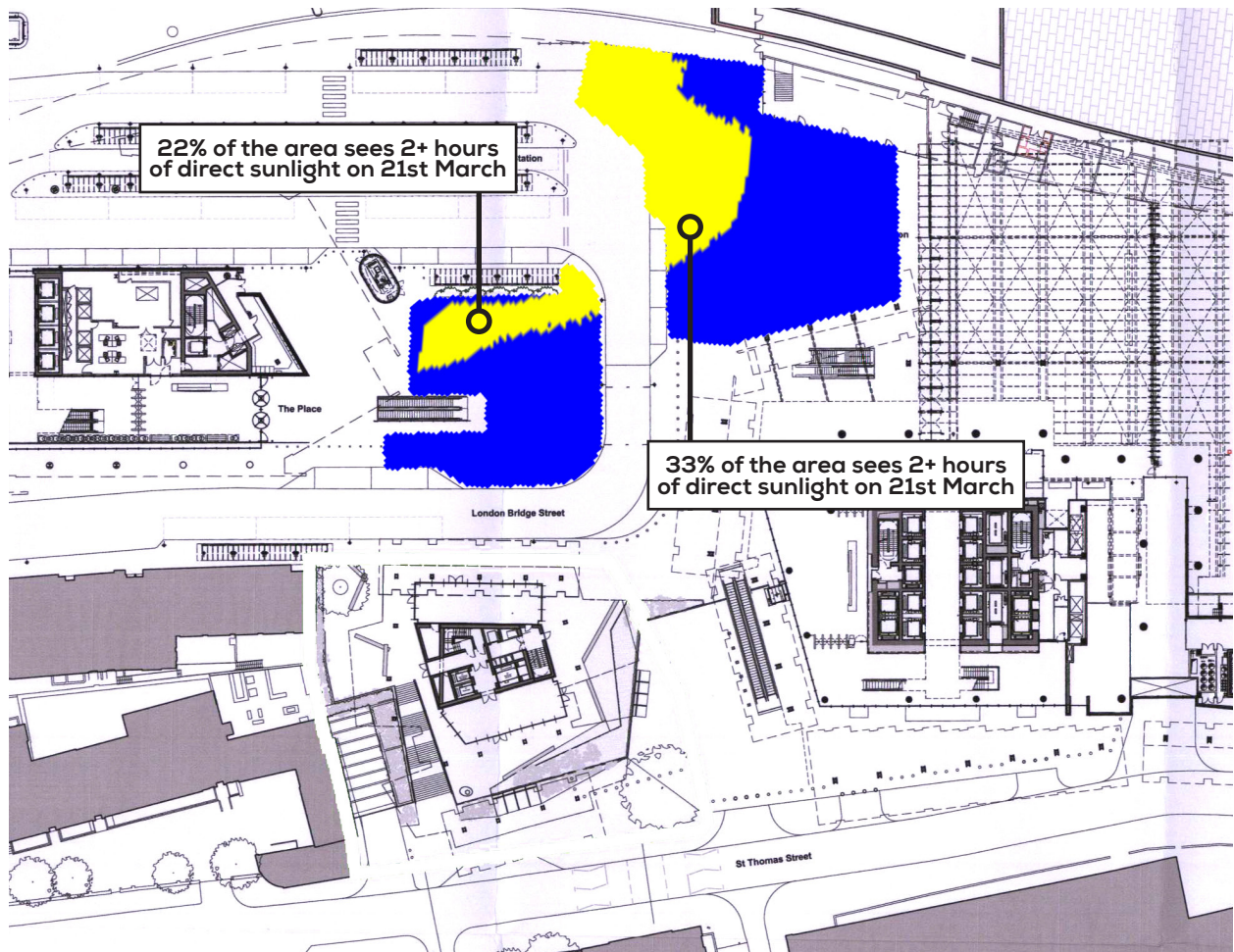


Fig. 01: Top view

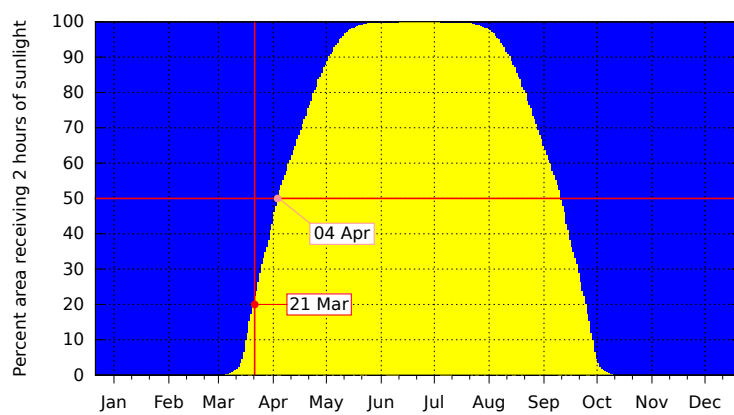


Fig. 02: SHOG Annual Assessments

SUN HOURS ON GROUND



OVERSHADOWING ASSESSMENT - THE NEWS BUILDING PLAZA + LONDON BRIDGE STA.
SUN HOURS ON GROUND - BRE COMPLIANCE PROPOSED SCENARIO

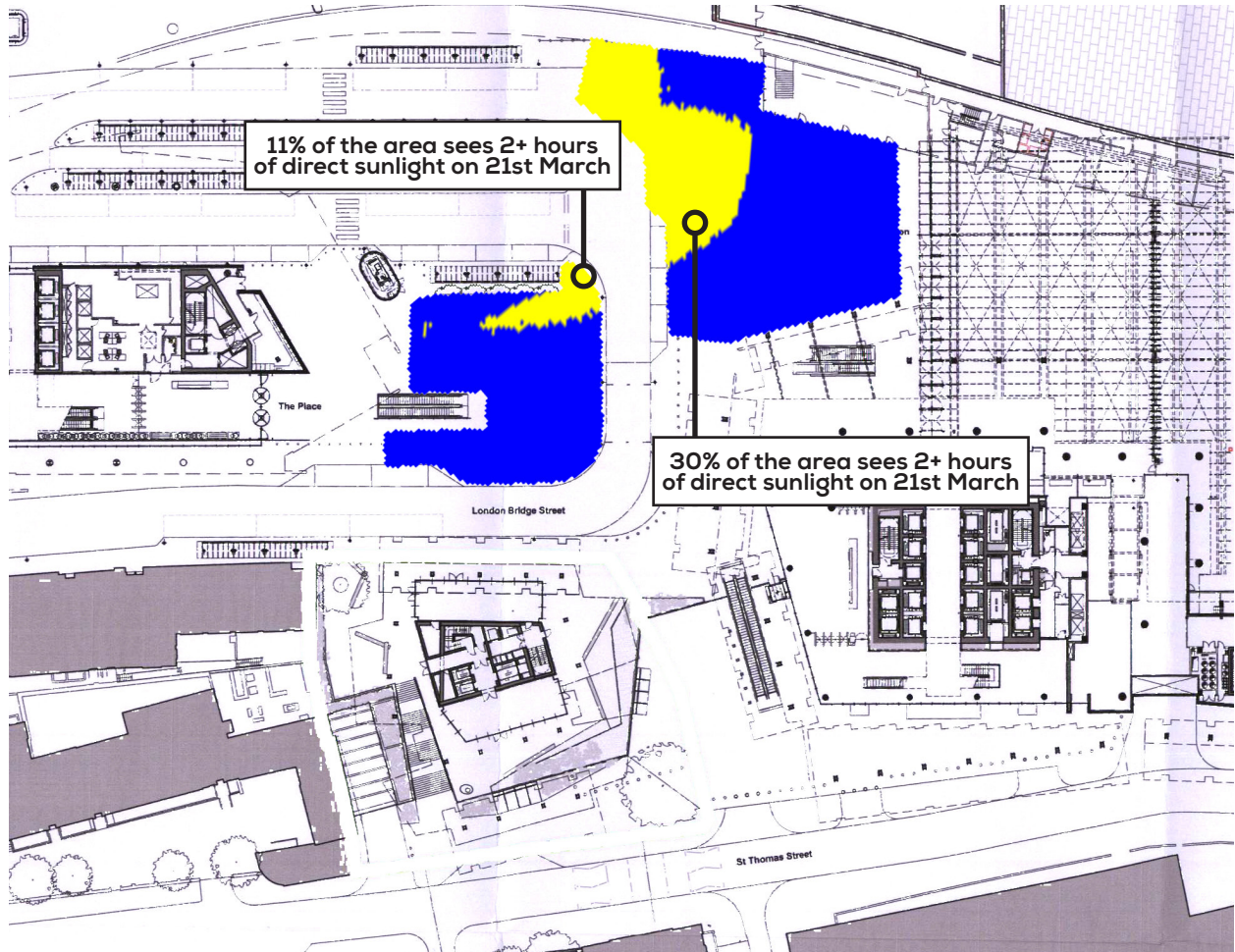


Fig. 03: Top view

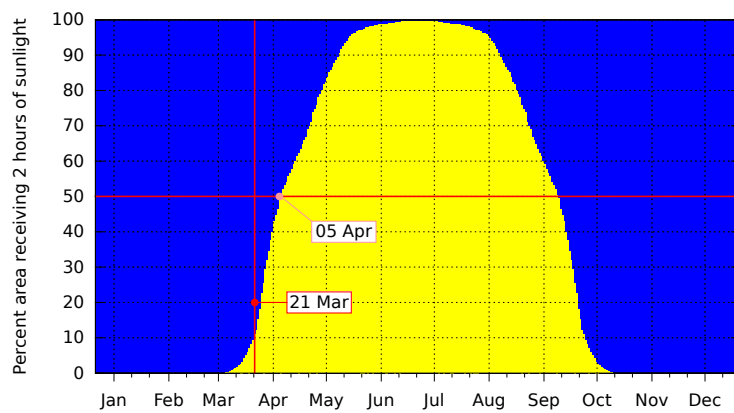


Fig. 04: SHOG Annual Assessments

SUN HOURS ON GROUND



OVERSHADOWING ASSESSMENT - GROUND FLOOR SHARD PLACE
SUN HOURS ON GROUND - BRE COMPLIANCE EXISTING SCENARIO

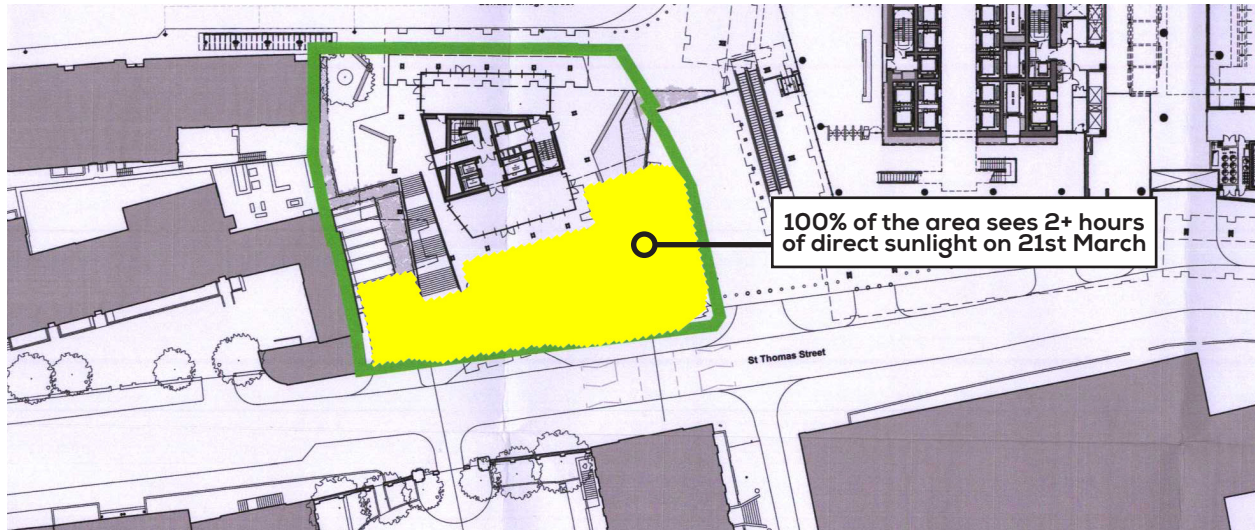


Fig. 05: Top view

SUN HOURS ON GROUND



OVERSHADOWING ASSESSMENT - GROUND FLOOR SHARD PLACE
SUN HOURS ON GROUND - BRE COMPLIANCE PROPOSED SCENARIO

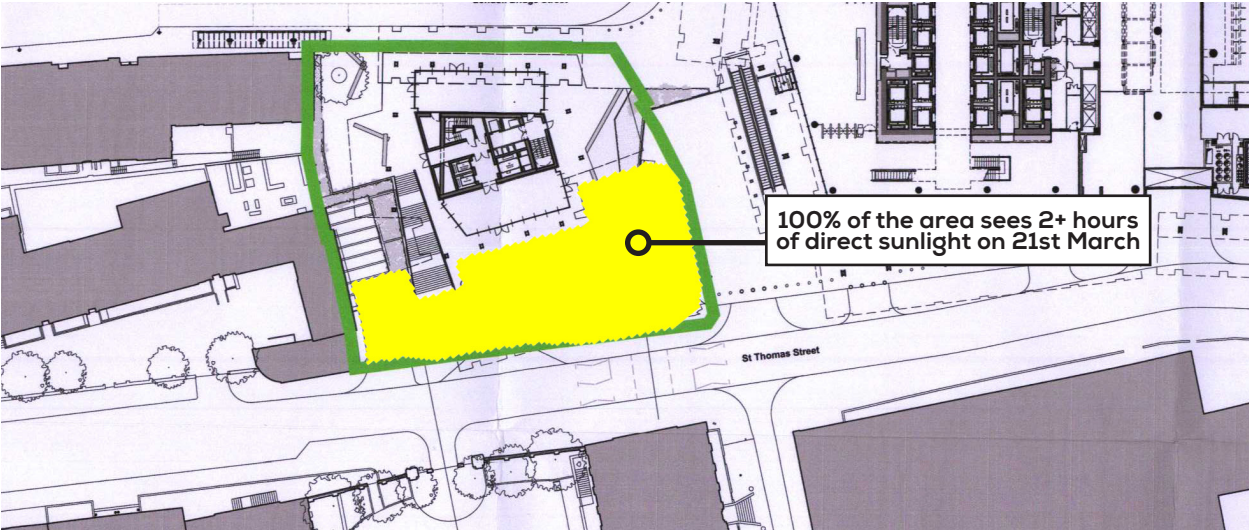
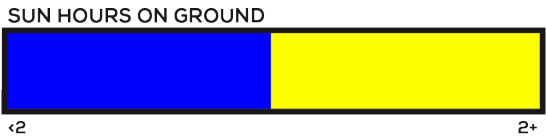


Fig. 07: Top view

Fig. 06: Top view



OVERSHADOWING ASSESSMENT - SHARD PLACE - ROOF TERRACE - 16TH AND 27TH FLOOR
SUN HOURS ON GROUND - BRE COMPLIANCE EXISTING SCENARIO

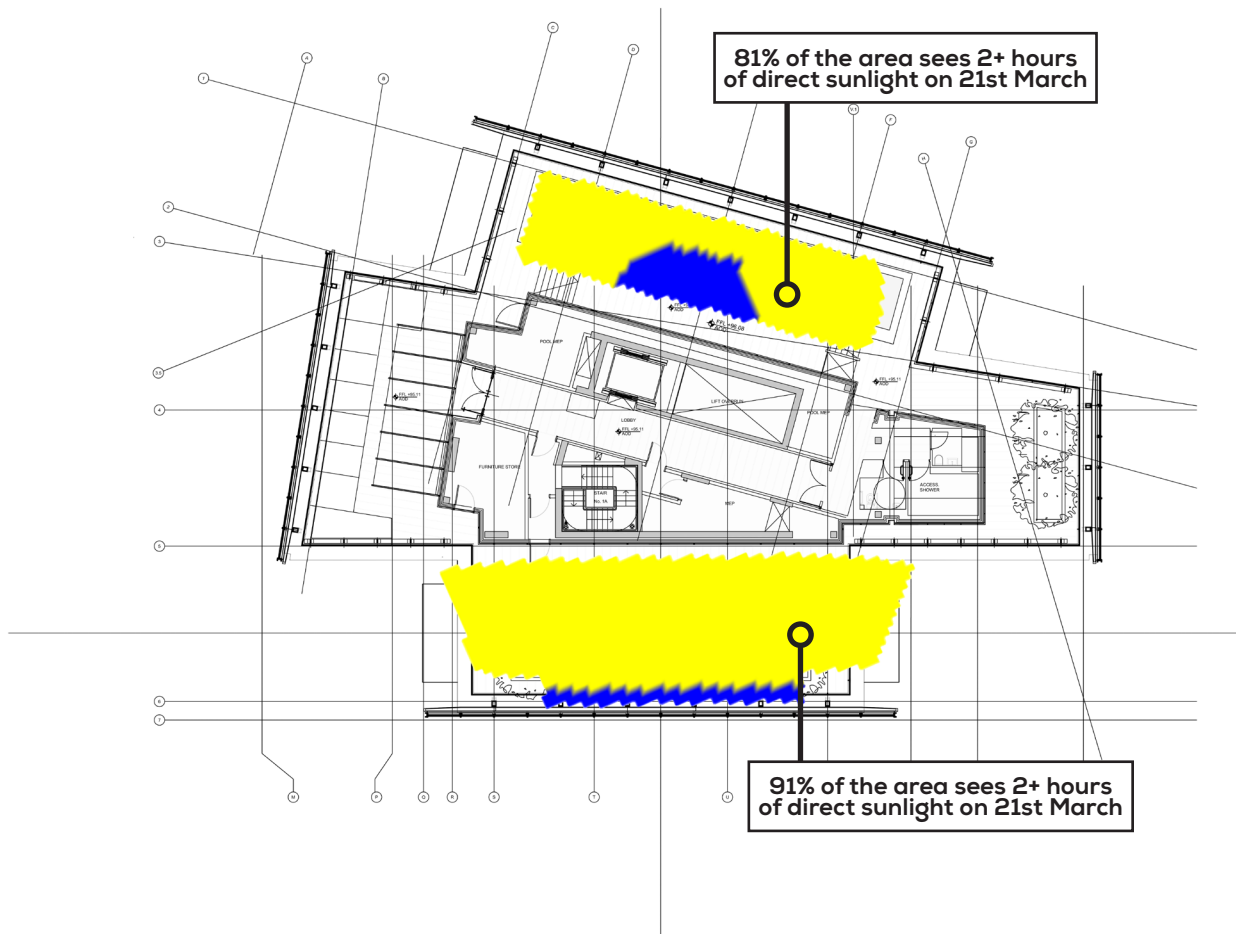


Fig. 08: Top view

SUN HOURS ON GROUND



OVERSHADOWING ASSESSMENT - SHARD PLACE - ROOF TERRACE - 16TH AND 27TH FLOOR
SUN HOURS ON GROUND - BRE COMPLIANCE PROPOSED SCENARIO

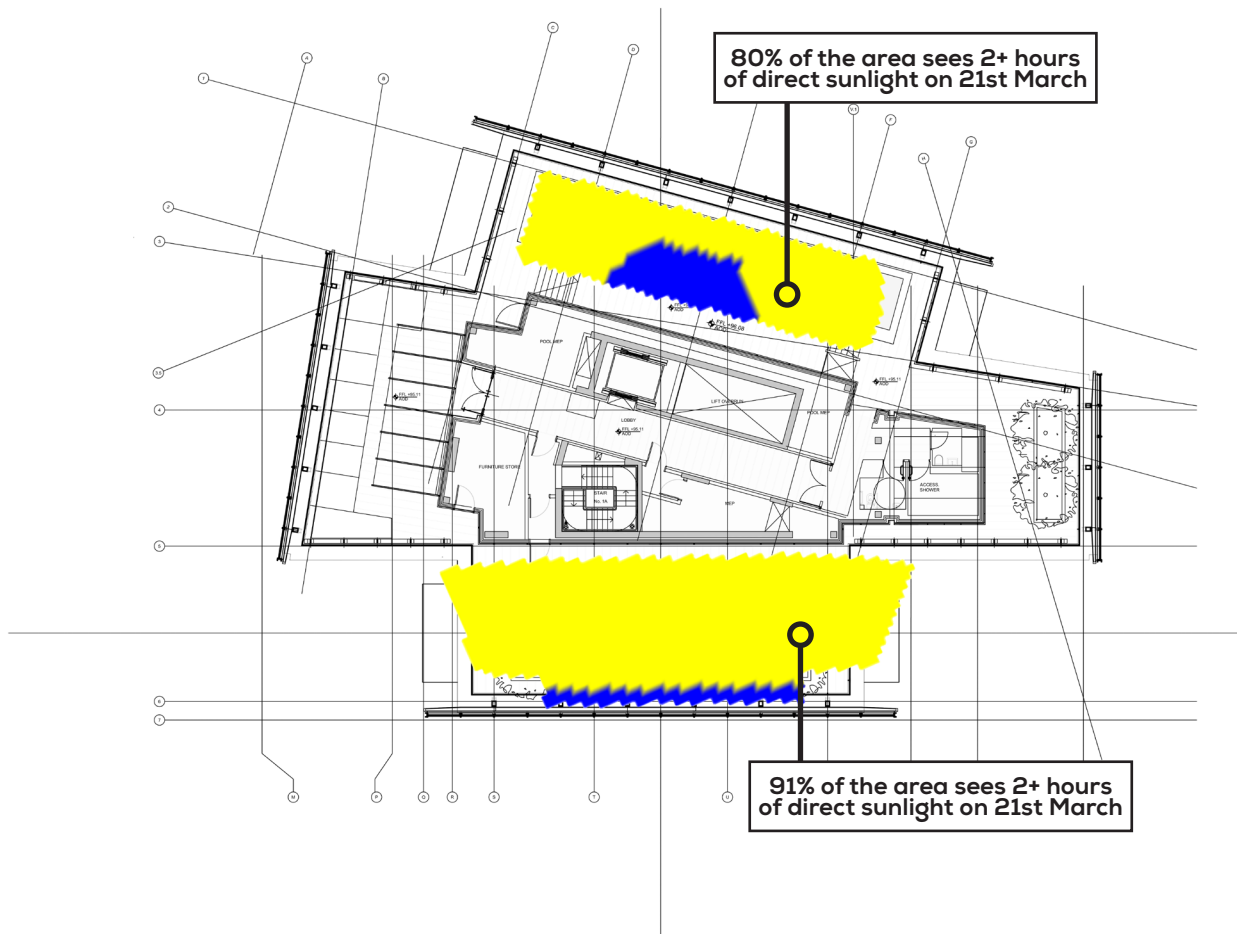


Fig. 09: Top view

SUN HOURS ON GROUND



OVERSHADOWING ASSESSMENT - ST THOMAS STREET
SUN HOURS ON GROUND - BRE COMPLIANCE EXISTING SCENARIO

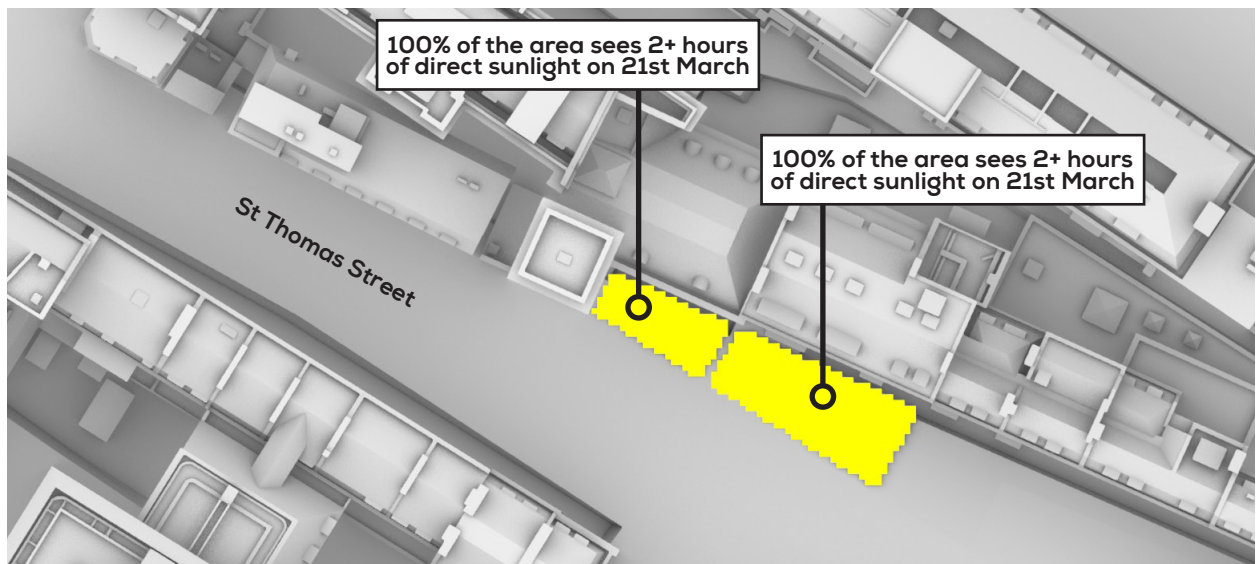
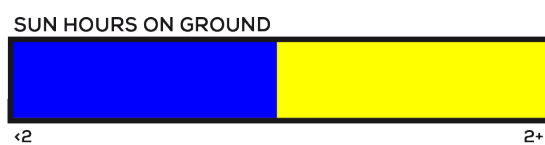


Fig. 10: Top view



OVERSHADOWING ASSESSMENT - ST THOMAS STREET
SUN HOURS ON GROUND - BRE COMPLIANCE PROPOSED SCENARIO

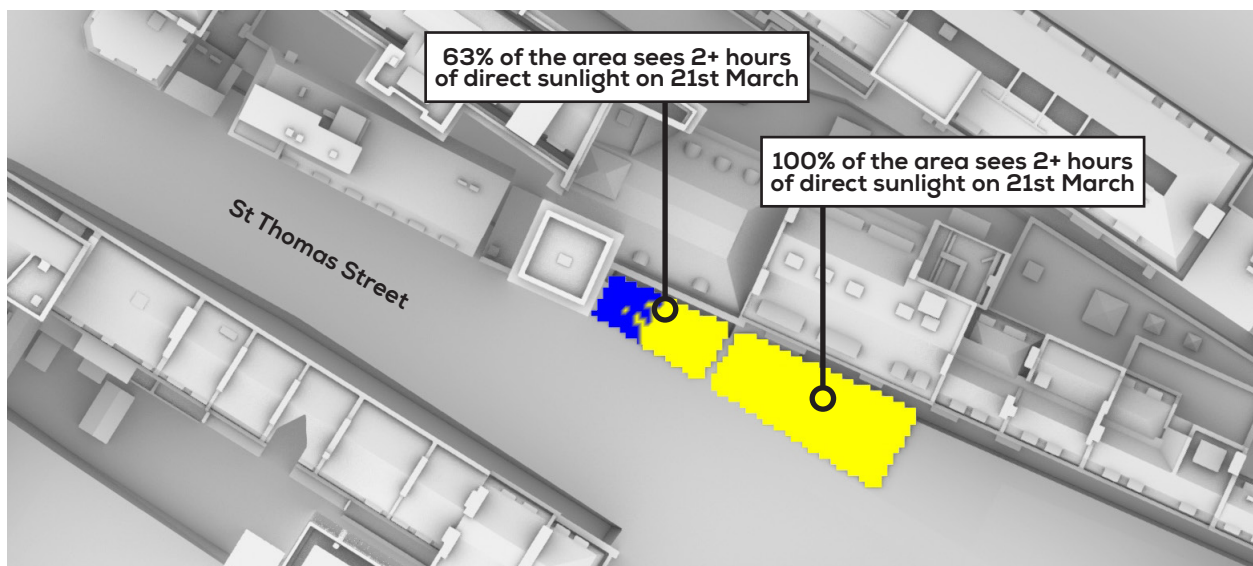
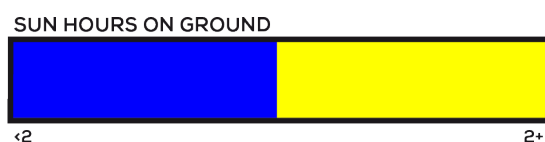


Fig. 11: Top view



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