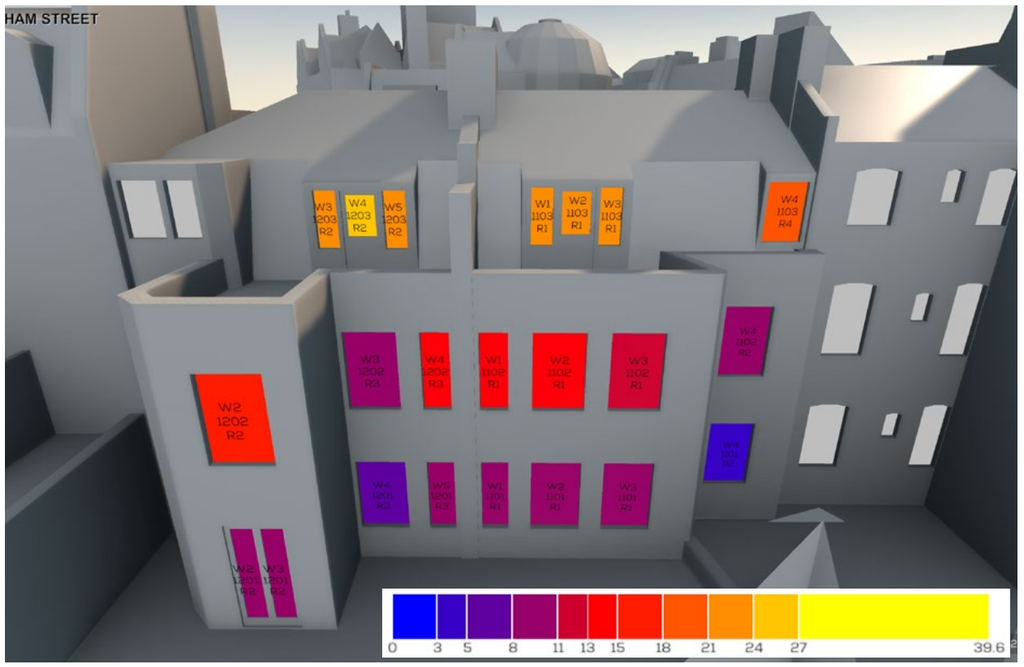

Figure 27: Proposed Development - Retained VSC

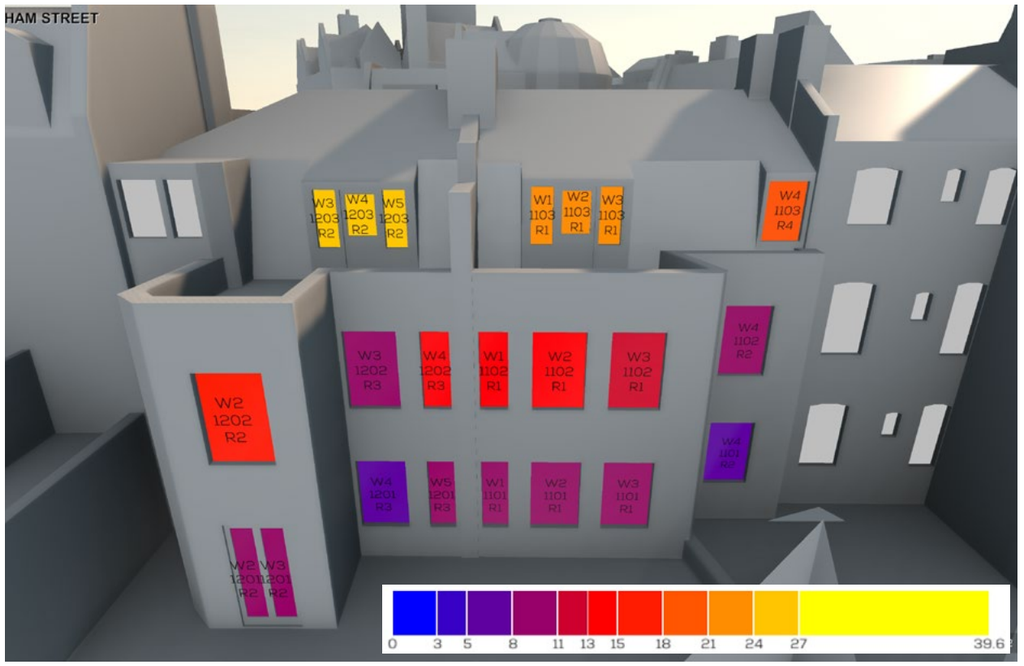

Figure 28: Historic Permission - Retained VSC

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148-150 Shaftesbury Avenue

4.116 This four storey building comprises a restaurant at ground floor with residential dwellings above. The building is located circa 15 metres to the south-east of the site on the opposite side of Shaftesbury Avenue.

4.117 GIA was unable to source floor plans for this property. Reasonable assumptions have been made regarding the size and use of the rooms. All modelling assumptions can be found in Appendix 03. .

Stage 1 - Is there a strict compliance with the recommendations in the BRE Guidelines?

VSC

4.118 All nine windows assessed will adhere to the suggested targets outlined in BR209.

NSL

4.119 Of the six rooms assessed, our analysis shows that three (50%) will meet the BRE criteria. The remaining three rooms are all of unknown use.

4.120 On the basis of strictly applying the criteria for daylight, this property does not meet the criteria outlined in the BRE Guidelines

APSH

4.121 There are no windows relevant for assessment and as such, no further discussion is made.

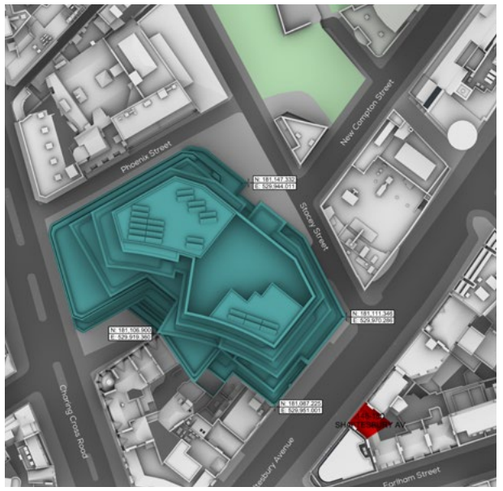
Stage 2 - Is the level of harm unacceptable?

VSC

4.122 All windows meet BR209's criteria and are not discussed further.

NSL

4.123 Three rooms of unknown use do not meet the strict criteria outlined in the BRE Guidelines (801/R2, 802/R2 and 803/R2). All three rooms experience alterations of between 21.8% - 26.5%, which are considered minor adverse for inner city urban environments.



4.124 Whilst trees are not accounted for within our context model and our assessments, the real world scenario is that the street is lined with large trees in front of the property (see Figure 30).

Scenario 2 - Cumulative

4.125 There will be no additional cumulative effects to this property as a result of the other nearby consented scheme.

Scenario 4 - Historic Permission vs Proposed

4.126 When the Proposed Development is assessed against the Historic Permission, our technical analysis demonstrates that of the nine windows assessed, the largest absolute VSC alteration to any window will be limited to 1%. This will not be a noticeable change to any of the occupants beyond the Historic Permission.

4.127 There are no windows relevant for sunlight assessment in this permutation.

4.128 Figures 31 and 32 illustrate the retained VSC daylight values when comparing the Proposed Development and Historic Permission against the BRE Guidelines.

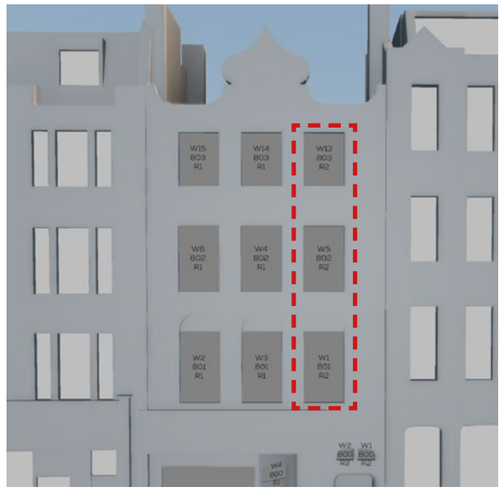


Figure 29: Window Map identifying impacted windows

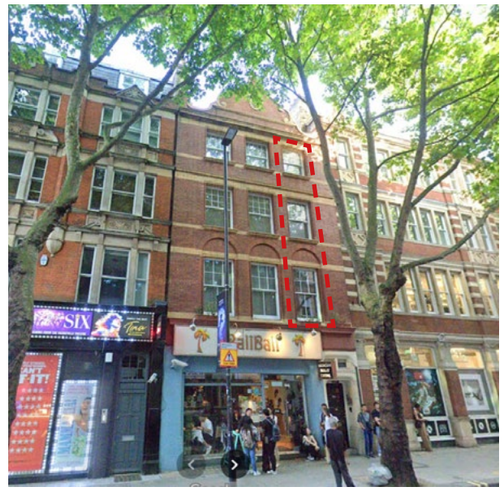


Figure 30: 148-150 Shaftesbury Av. (taken from Google)

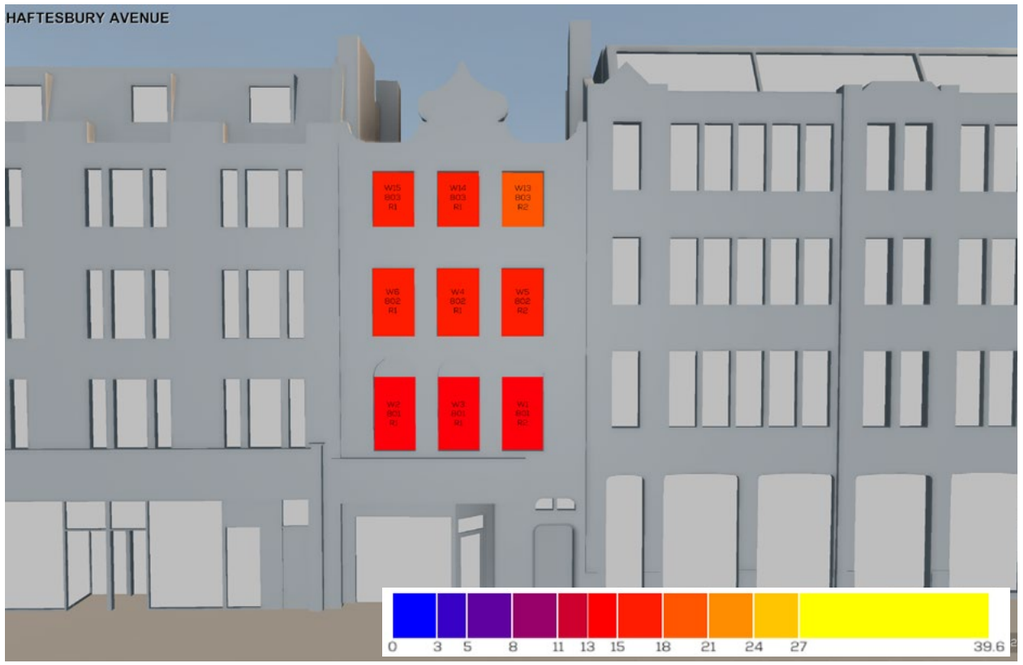


Figure 31: Proposed Development - Retained VSC

Figure 32: Historic Permission - Retained VSC

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St Giles Passage (Pendrell House)

4.129 This five storey residential building (inc. ground and) is located circa 50m to the north-east of the site. The building incorporates a column of recessed balconies in the centre of its south-west (site facing) facade.

4.130 GIA was unable to source floor plans for this property. Reasonable assumptions have been made regarding the size and use of the rooms. All modelling assumptions can be found in Appendix 03.

Stage 1 - Is there a strict compliance with the recommendations in the BRE Guidelines?

VSC

4.131 Of the 64 windows assessed, our analysis demonstrates that 56 (88%) will meet BR209's VSC criteria.

4.132 The remaining eight windows serve eight rooms of unknown use.

NSL

4.133 Of the 38 rooms assessed, our analysis shows that 33 (87%) will meet the BRE criteria. The remaining five rooms are all assumed to be habitable and therefore, of unknown use.

4.134 On this basis, the impact of the scheme on the daylight to this property will not be strictly compliant with the BRE guidelines.

APSH

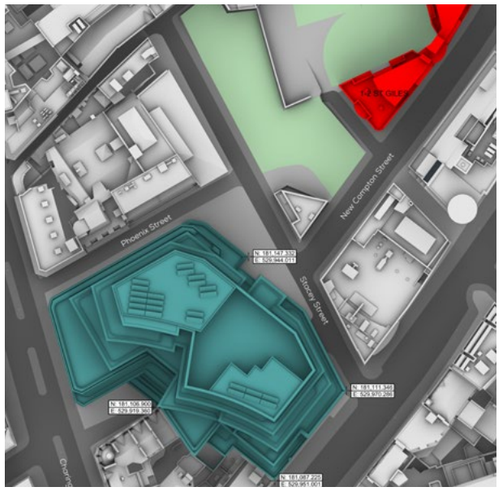
4.135 Of the 61 windows assessed for sunlight, 53 (87%) will meet the BRE's criteria. The remaining eight windows serve seven rooms of unknown use.

4.136 On the strict application of BRE's sunlight criteria, this property will not be considered BRE compliant.

Stage 2 - Is the level of harm unacceptable?

VSC

4.137 In the existing condition all eight impacted windows are located under balconies and/or protruding overhangs and as such, are unable to meet the BRE's recommended 27% VSC target in the existing



situation (ranging between 1.3% and 10.4%). It is pertinent to add that six of these windows retain less than 2.3% VSC.

4.138 With the Proposed Development in situ, five of these windows experience transgressions between 20.1%-29.9%, which is typically considered a minor effect for inner city environments.

4.139 The remaining three windows experience relative losses of between 34.8%-38.9% by retaining 1.1%-1.5%. All three windows are located under balconies and record absolute losses of between 0.4%-0.8%, which is not considered to be noticeable.

4.140 On review of the supplementary no balconies assessment, no windows experience a relative loss greater than 20%. As such, the presence of the balconies are the main factor for transgressions in the proposed scenario.

NSL

4.141 When considering the NSL methodology, all five impacted rooms are unable to achieve 80% NSL in the existing condition. Therefore, the neighbours are likely to be reliant on some form of supplementary lighting in the existing situation.

4.142 In the proposed situation, three rooms experience alterations between 20.1%-29.9%, which is considered a minor effect. The remaining two rooms experience an alteration of 31.1% and 31.2%, respectively.

Figure 33: Window Map

Figure 34: 1-2 St Giles Passage (taken from Google)

APSH

4.143 For annual sunlight, of the four impacted windows, two experience an alteration between 20.1%-29.9%, which is considered a minor effect for an inner city environment such as this. The remaining two windows (W3/103 and W3/104), both of which experience an alteration of 40+ %.

4.144 On review of the no balconies assessment, all four windows see no relative losses greater than 20% and therefore, the presence of the balconies are a key factor in the relative changes beyond guidance.

4.145 In consideration of winter sunlight, of the eight impacted windows, two experience a minor effect (20.1%-29.9%). Of the remaining six windows, one experiences an alteration of 33.3% and the remaining five see losses of 40+%.

4.146 When accounting for the no balconies assessment, to these eight windows, the relative alterations reduce to 25% - 42.9% (compared to 25% - 71.4%).

Scenario 2 - Cumulative

4.147 For VSC, an additional 31 windows will experience a very small cumulative effect beyond the Proposed Development. Of these 31 windows, 30 experience no more than an absolute loss of 0.1%. The remaining window sees an absolute loss of 0.2%.

4.148 On review of the NSL, there will be no cumulative effects to this property.

4.149 With regards to sunlight an additional six windows experience transgressions against the BRE as a result of the cumulative scheme at 104-110 Charing Cross Road.

Scenario 4 - Historic Permission vs Proposed

4.150 When the Proposed Development is assessed against the Historic Permission, our technical analysis demonstrates that of the 64 windows assessed, the largest absolute VSC alteration to any window will be limited to 0.9%. This will not be a noticeable change to any of the occupants beyond the Historic Permission.

4.151 In consideration of annual sunlight and the 61 windows assessed, 60 do not experience an absolute loss greater than 2%, which is not considered to be a noticeable change beyond the Historic Permission. The remaining window (W1/102) will see an absolute loss of 3%, however, the retained value is 49%, which exceeds the BRE's recommended target (25%).

4.152 For winter sunlight, 56 windows do not experience an absolute loss greater than 1%, which is not considered to be a noticeable impact beyond the Historic Permission. Of the remaining seven windows, each window records an absolute loss of 2%, but retains in excess of 8% against a 5% target value.

4.153 Figures 35 and 36 illustrate the retained VSC daylight values between the Proposed Development and the Historic Permission.

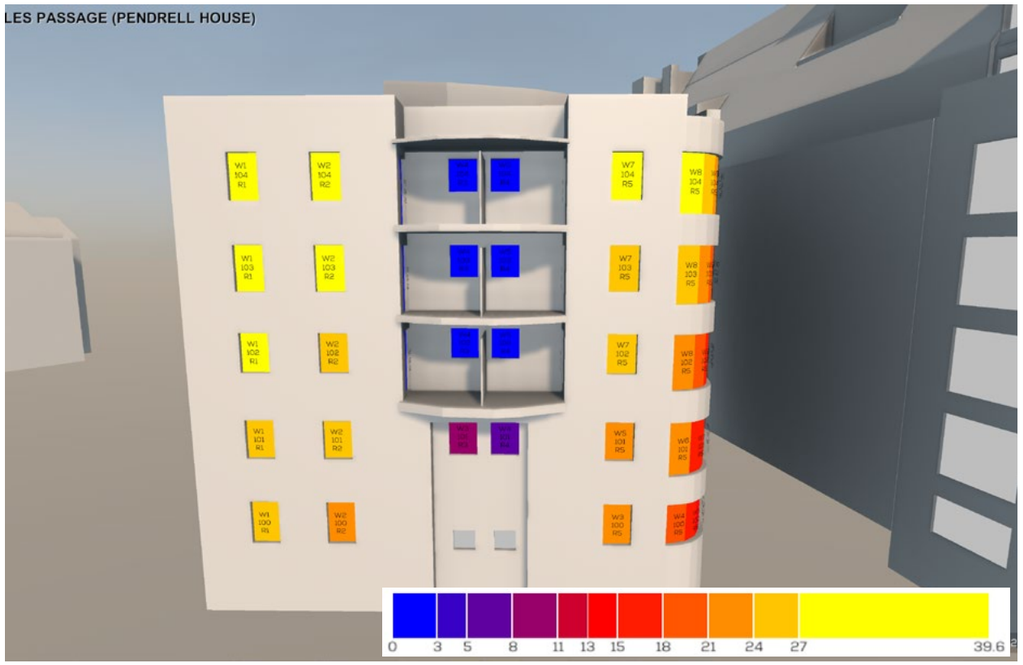


Figure 35: Proposed Development - Retained VSC

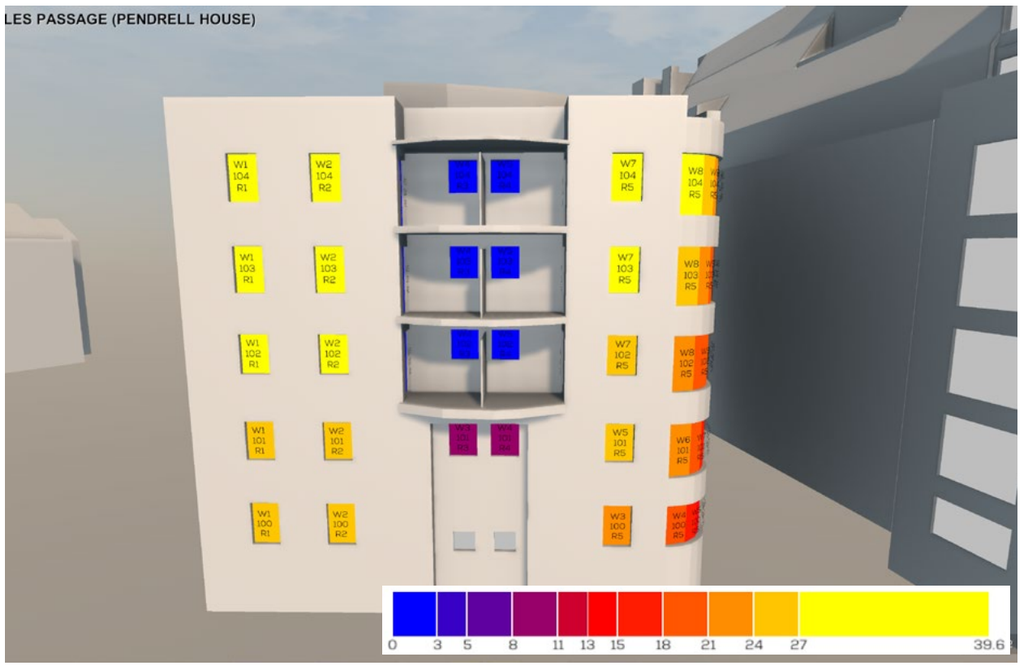


Figure 36: Historic Permission - Retained VSC

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5 OVERSHADOWING ASSESSMENT

This section details the overshadowing impacts in relation to the relevant properties neighbouring the Site.

5.1 The following areas have been considered in relation to overshadowing given their proximity to the Site:

- A1 - Phoenix Gardens;
- A2 - St Giles Churchyard;
- A1-PS - 1A Phoenix Street - Roof Terrace;

5.2 Two future amenity areas have been identified at 104-110 Charing Cross Road (planning ref: 2018/0403/P). GIA has undertaken assessment on this future receptor, which is referenced as:

- A5 -104-110 Charing Cross Road, 7th floor Roof Terrace; and
- A6 - 104-110 Charing Cross Road, 8th floor Roof Deck.

5.3 Overshadowing has been appraised by undertaking a Sun Hours on Ground assessment (SHOG).

5.4 The areas in yellow denotes the space which will see at least two hours of direct sunlight on 21st March. The areas in blue indicate the areas which will not see at least two hours of direct sunlight on that date.

5.5 The results are as follows:

A1 - Phoenix Gardens

5.6 This an area of community run green space. It is located circa 25m north-east of the site.

5.7 Figure 37 shows that 78.37% of this area will receive at least two hours of sunlight on March 21st. Therefore, this amenity area will meet the recommendations outlined in BR209.

A2 - St Giles Churchyard

5.8 This is a community churchyard, which also includes a children's playground. It is located adjacent to Phoenix Gardens, circa 45m north-east of the site.

5.9 Figure 38 shows that 88.79% of this area will receive at least two hours of sunlight on March 21st. Therefore, this area is considered compliant to the BRE Guidelines.

A1-PS - 1A Phoenix Street - Roof Terrace;

5.10 This area is located on the top floor of 1A Phoenix Street circa five metres to the north of the site.

5.11 In the existing scenario, 52.34% of this area will receive at least two hours of sunlight on March 21st. With the Proposed Development in situ, the area will experience a 73.91% loss against BR209's 20% recommendation by retaining 13.66%.

5.12 When compared against the Historic Permission however, the area that received two hours of sunlight was 7.37%. Therefore, the Proposed Development demonstrates an improvement from the Historic Permission.

5.13 In the cumulative scenario, this area will experience a 100% reduction, however, this is a result of the consented 104-110 Charing Cross scheme coming forward as opposed to the impacts attributable to the Proposed Development.

A5 - 104-110 Charing Cross Road, 7th floor Roof Terrace

5.14 One amenity area of the consented 104-110 Charing Cross Road scheme is a roof terrace on the seventh floor.

5.15 This terrace area is enclosed on all sides by large screens that restrict the available sunlight in the existing situation. Our analysis illustrates that the SHOG to the baseline is limited to 0.08% of the area that can receive two hours of sunlight on March 21st.

5.16 With the Proposed Development in situ, the relative loss will be 100%, however, the reality is that the absolute loss is 0.01 square metres which won't be noticeable as illustrated in Figure 40.

A6 - 104-110 Charing Cross Road, 8th Floor Roof Deck

5.17 This is a roof deck on the 8th floor of the future development at 104-110 Charing Cross Road.

5.18 Figure 41 shows that 50.55% of this area will receive at least two hours of sunlight on March 21st. Therefore, this amenity area will meet the recommendations outlined in BR209.

Summary

5.19 To summarise, two of the three assessed existing amenity areas achieve strict BRE compliance. The one remaining amenity space (A1-PS) is a small south facing terrace within 1A Phoenix Street. When this space is assessed against the Historic Permission, the Proposed Development creates marginally more direct sunlight on the spring equinox (21st March) producing a betterment in sunlight enjoyment.

5.20 Of the two future amenity areas located at 104-110 Charing Cross road, one area (A5) breaches guidance however, the absolute loss is just 0.01 square metres, which won't be noticeable. The remaining area (A6) will meet BRE guidance.

5.21 The results of this assessment can be found in Appendix 06 and are summarised below.

Figure 37: Phoenix Gardens - existing and proposed SHOG plots.

Figure 38: St Giles Churchyard - existing and proposed SHOG plots.

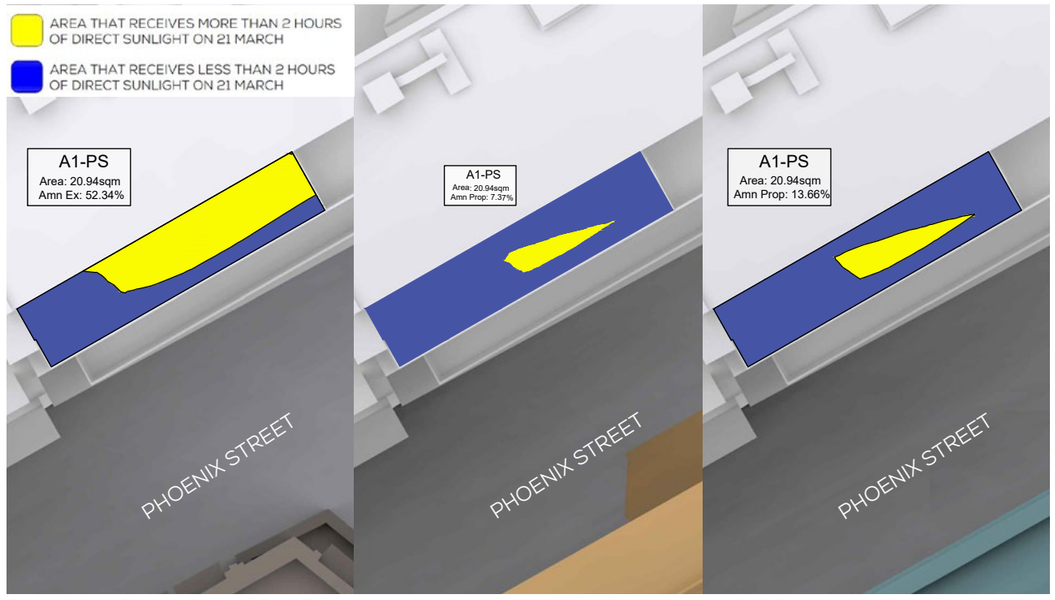

Figure 39: 1A Phoenix Street - Roof Terrace - existing, historic permission and proposed SHOG plots.

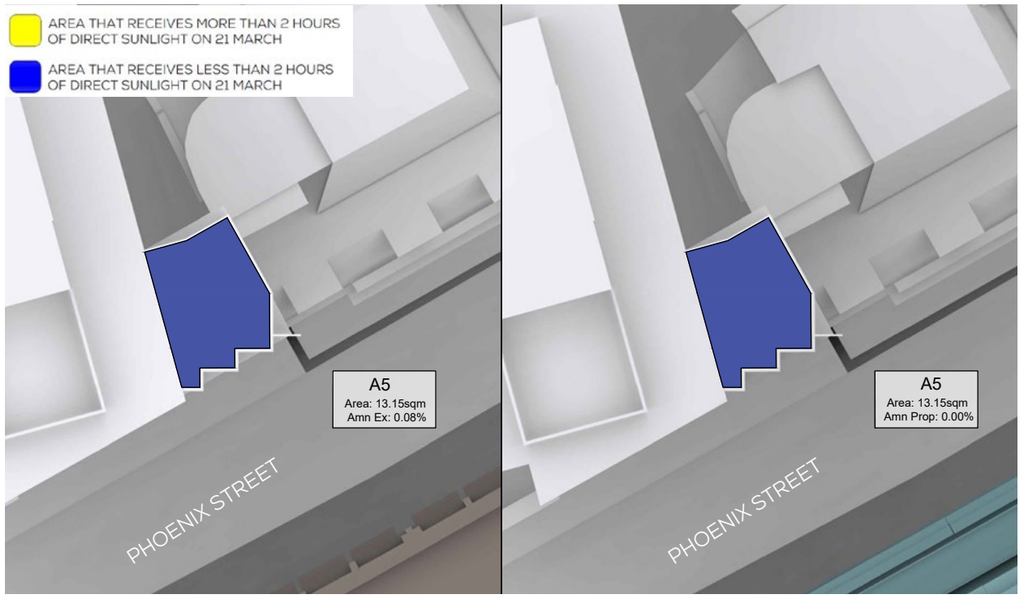

Figure 40: 104-110 Charing Cross Road - 7th Floor roof terrace - future receptor SHOG plots.

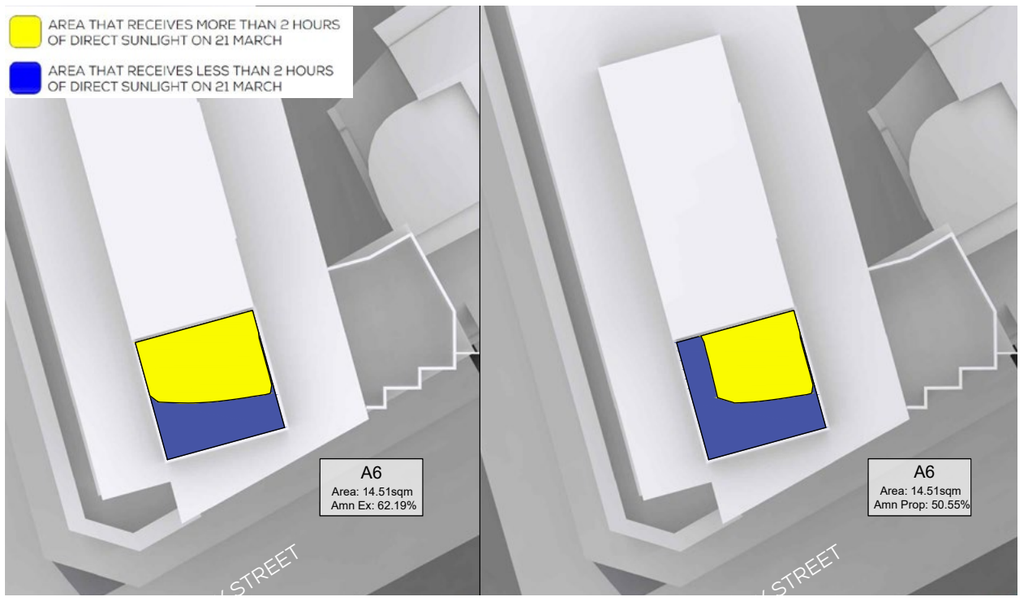

Figure 41: 104-110 Charing Cross Road - 8th Floor roof deck - future receptor SHOG plots.

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6 SOLAR PANELS IMPACT ASSESSMENT

This section details the impacts to solar panels which have been identified at properties neighbouring the Site.

6.1 Solar panels have been identified to the future receptor at 104-110 Charing Cross Road. An assessment has therefore been undertaken in line with the new guidance, the methodology of which is detailed below.

6.2 Paragraph 4.5.8 of the BRE Guidelines states that :

> *"Where the annual probable sunlight hours received by a solar panel with the new development in place is less than 0.90 times the value before, a more detailed calculation of the loss of solar radiation should be undertaken. This is a specialist type of assessment and expert advice should be sought. The assessment should include both direct solar and diffuse sky radiation; over a whole year, around 60% of the radiation received on a horizontal roof comes from the sky. However, reflected radiation from the ground and obstructions need not be included. The modelling should take account of the effects of cloud in reducing direct solar radiation at different times of year, and include a realistic simulation of the way that incoming solar radiation varies from different parts of the sky."*

6.3 Paragraph 4.5.9 states that:

> *"if over the whole year the ratio of total solar radiation received with the new development, to the existing value is less than the values given in Table 2, then the loss of radiation is significant."*

SLOPE OF SOLAR PANEL IN DEGREES TO HORIZONTAL	RECOMMENDED MINIMUM RATIO OF RADIATION RECEIVED AFTER/BEFORE
0 - 30	0.90
30.01 - 59.99	0.85
60 - 90	0.80

Table 2 from BRE Guidance Section 4, page 36

6.4 Finally, paragraph 4.5.10 notes that:

> *"numerical values given are purely advisory. Different criteria may be used based on the requirements for solar energy in an area viewed against other site layout constraints. Another important issue is whether the existing solar panels are reasonably sited, at a sensible height and distance from the boundary. A greater loss of solar radiation may be inevitable if panels are mounted close to the ground and near to the site boundary."*

6.5 The results of this assessment can be found in Appendix 07 and are summarised below.

104-110 Charing Cross Road

6.6 On the future development of this property, our due diligence has highlighted 10 photovoltaic panels would be relevant for assessment, which have been outlined in Figure 42.

6.7 From drawings obtained through the local planning portal, we have modelled the panels with a 30-degree slope to the horizontal.

6.8 An initial assessment using the annual probable sunlight hours method demonstrated that Panels 1 - 3 would experience an alteration greater than 10%. The remaining seven panels (4-10) all met the recommended criteria.

6.9 As illustrated in Table 02, when the specialist Annual Cumulative Irradiance assessment is undertaken, our results demonstrate that none of the PV panels experience an alteration beyond 5% and therefore, no significant loss of radiation will occur to this future receptor.

	ANNUAL PROBABLE SUNLIGHT HOURS (APSH)				ANNUAL CUMULATIVE IRRADIANCE (kWh/sqm)			
PANEL	EX	PROP	ABS. LOSS	% LOSS	EX	PROP	ABS. LOSS	% LOSS
PHOENIX HOUSE								
1	81	64	17	21%	957.5	909.8	47.7	5%
2	81	63	18	22%	945.3	906.8	38.5	4%
3	80	62	18	23%	929.4	901.1	28.3	3%
4	69	63	6	9%	871.4	862.2	9.2	1%
5	63	63	0	0%	856.2	850.2	6	1%
6	61	61	0	0%	849.9	848.4	1.5	0%
7	60	60	0	0%	846.2	845.1	1.1	0%
8	59	59	0	0%	853.5	852.6	0.9	0%
9	59	59	0	0%	877.3	876.9	0.4	0%
10	70	70	0	0%	918.4	917.9	0.5	0%

Table 05: Results of PV Panels at 104-110 Charing Cross Road.

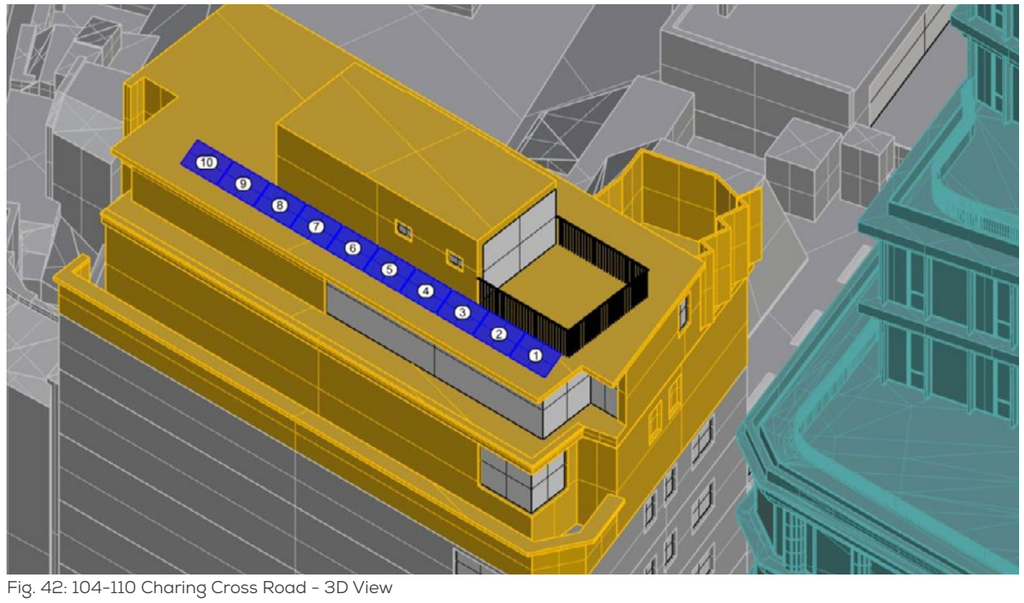

Fig. 42: 104-110 Charing Cross Road - 3D View

7 CONCLUSIONS

GIA have undertaken a daylight, sunlight, overshadowing and PV assessment in relation to the Proposed Development at 125 Shaftesbury Avenue. The technical analysis has been undertaken in accordance with the BRE Guidelines.

Daylight & Sunlight
Existing v Proposed

7.1 The 'Existing Vs Proposed' results illustrate a very good level of overall BRE compliance. Whilst there are additional reductions in daylight and sunlight beyond the historic permission, any such changes are highly unlikely to be noticeable to the occupants within the neighbouring properties.

Sunlight - Scenario 02
Existing v Cumulative

7.2 This scenario considers the cumulative effect of the proposed 104-110 Charing Cross Road scheme (planning ref 2018/0403/P) and the proposal development on daylight and sunlight to the neighbouring receptors. The technical analysis identifies that 33 apertures will experience additional VSC reductions, however 32 are limited to 0.1% and one aperture experiences a 0.2% change. When assessed against sunlight, six apertures will experience a small additional reduction in APSH.

Daylight & Sunlight - Scenario 03
Future Receptors

7.3 This scenario considered the effect of the proposed development upon the future receptors of 104-110 Charing Cross Road. The technical analysis identified that all proposed rooms would continue to meet the relevant daylight and sunlight targets post implementation of the proposed development.

Daylight & Sunlight Conclusions

7.4 GIA believe the existing v proposed results illustrate a very good level of overall BRE compliance (+80%) for a site in an inner London location. Whilst there are additional reductions in daylight & sunlight beyond the Historic Permission, any such changes are highly unlikely to be noticeable to the occupants using the space and therefore, we do not consider the level of harm to be unacceptable.

Overshadowing

7.5 Two of the three assessed amenity areas achieve strict BRE compliant. The one remaining amenity space is a small south facing terrace within 1A Phoenix Street. When this space is assessed against the Historic Permission, the Proposed Development creates marginally more direct sunlight on the spring equinox (21st March) producing a betterment in sunlight enjoyment.

7.6 Of the two future amenity areas located at 104-110 Charing Cross road, one area (A5) breaches guidance however, the absolute loss is just 0.01 square metres, which won't be noticeable. The remaining area (A6) will meet BRE guidance.

7.7 **PV Panels**

7.8 An initial assessment using the annual probable sunlight hours method demonstrated that three of the future PV Panels within 104-110 Charing Cross Road would experience an alteration greater than 10% (1 – 3). The remaining seven panels (4-10) all met the recommended criteria.

7.9 When specialist Annual Cumulative Irradiance assessment is undertaken, our results demonstrate that none of the PV panels experience an alteration beyond 5% and therefore, no significant loss of radiation will occur to this future receptor.

- VSC: 514/634 window meet BRE (**81.1%**)
- NSL: 230/268 rooms meet BRE (**85.8%**)
- APSH: 163/202 windows meet BRE (**80.7%**)

7.10 Owing to the Site's location in an inner London urban environment, coupled with the narrow separation distances between neighbouring properties, GIA consider +80% to be a very good level of compliance.

7.11 Where there are apertures or rooms that fall short of the BRE recommendations, part of the reason is due to the existing architectural features of the neighbouring properties, such as the presence of balconies and flank elevations etc. Moreover, many of the apertures relevant for assessment have low existing daylighting values and as such, any change in the amenity position has the potential to create a disproportionate change in percentage terms from the base value.

gia

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DAYLIGHT & SUNLIGHT

IMPACT ON NEIGHBOURING PROPERTIES REPORT: APPENDICES

125 Shaftesbury Avenue

VREF Shaftesbury SCS

29 November 2024

GIA No: **19832**

PROJECT DATA:

Client	**VREF Shaftesbury SCS**
Architect	**DSDHA**
Project Title	**125 Shaftesbury Avenue**
Project Number	**19832**

REPORT DATA:

Report Title	**Impact on Neighbouring Properties Appendices**
GIA Department	**Daylight Department**
Dated	**29 November 2024**
Prepared by	**BW/AC**
Checked by	**SF**
Type	**Draft**

Revisions	No:	Date:	Notes:	Signed:

SOURCES OF INFORMATION:

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Issue Number	**Rel_10: 01, 02, 03, 04, 06, 07, 08, 09, 11** **Rel_11: 01,02**
Site Photos	**GIA / Google**
2D Elevations	**IR50-51**
3D models	**Vertex**
OS Data	**FIND Maps**

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APPENDIX 01

PRINCIPLES OF DAYLIGHT, SUNLIGHT & OVERSHADOWING

APPENDIX 01

PRINCIPLES OF DAYLIGHT, SUNLIGHT & OVERSHADOWING

The Building Research Establishment (BRE) have set out in their handbook 'Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice 3rd edition (2022)', guidelines and methodology for the measurement and assessment of daylight, sunlight and overshadowing.

BACKGROUND & CONTEXT

A 1.1 The quality of daylight and sunlight amenity as well as the overshadowing of open spaces is often stipulated within planning policy for protection or enhancement and a concern for adjoining owners and other interested parties.

A 1.2 The BRE Guidelines provide advice on site layout planning to determine the quality of daylight and sunlight both within buildings and reaching open spaces.

A 1.3 The BRE Guidelines note that the document is intended to be used in conjunction with the interior daylight recommendations found within the British Standard Daylight in buildings, BS EN 17037 and the CIBSE Publication LG 10 Daylighting – a guide for designers.

A 1.4 Whilst the BRE Guidelines are typically referred to for daylight, sunlight and overshadowing matters within the planning process, they are not intended to be used as an instrument of planning policy, nor are the figures intended to be fixedly applied to all locations.

A 1.5 In the introduction of 'Site Layout Planning for daylight and sunlight (2022)', section 1.6 (page 7), 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 designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design (see Section 5). 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".*

A 1.6 Paragraph 2.2.3 (page 14) of the document states:

> *"Note that numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints".*

A 1.7 The numerical criteria suggested by the BRE are therefore designed to provide industry advice/ guidance to plan/design with daylight in mind. Alternative values may be appropriate in certain circumstances such as highly dense urban areas. The BRE approach to creating alternative criteria is detailed within Appendix F of the Document.

A 1.8 Paragraph 2.2.2 (page 14) of the document states that the guidelines 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."*

A 1.9 Although primarily designed to be used for residential properties, the BRE Guidelines continue to state that they may be applied to any existing non-residential buildings where there may be a reasonable expectation of daylight including; schools, hospitals, hotels and hostels, small workshops, and some offices.

A 1.10 Local planning authorities generally consider daylight and sunlight an important factor for determining planning applications. Policies refer to both the protection of daylight and sunlight amenity within existing properties and areas of amenity as well as the creation of proposed dwellings and spaces with high levels of daylight and sunlight amenity.

A 1.11 Although decision makers will look to the BRE Guidelines to understand any numerical reductions in daylight and sunlight amenity, the acceptability of these reductions is considered against the relevant policies within the development plan. For example, a Site's location within an Opportunity Area or Tall Building Zone is relevant context for how the daylight and sunlight impacts of a development should be considered.

A 1.12 It is an inevitable consequence of the built-up urban environment that daylight and sunlight will be more limited in dense urban 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.

A 1.13 The following sections extract relevant sections from the Guide.

EFFECTS TO DAYLIGHT

A 1.14 The BRE Guidelines provide two methodologies for daylight impact assessment, namely;

1 The Vertical Sky Component (VSC); and

2 The No Sky Line (NSL).

Vertical Sky Component (VSC)

A 1.15 The Vertical Sky Component (VSC) method is described in the Glossary of BRE Guidelines as the:

> *"Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings"*

A 1.16 Put simply, the VSC provides an assessment of the amount of skylight falling on a vertical plane (generally a window) directly from the sky, in the circumstance of an overcast sky (CIE standard).

A 1.17 The national numerical value target "ideal" for VSC is 27%. The BRE Guidelines advise that upon implementation of a development, a window should retain a VSC value of 27% or at least 0.8 of its former value (i.e. no more than a 20% change) as per paragraph 2.2.23 of the Guide.

A 1.18 The VSC calculation is undertaken in both the existing and proposed scenarios so as to make a comparison.

A 1.19 The image in Figure 01 depicts a Waldram Diagram which can be used to calculate the VSC. The existing buildings are solidly pictured with the proposed scheme semi-transparent in the foreground.

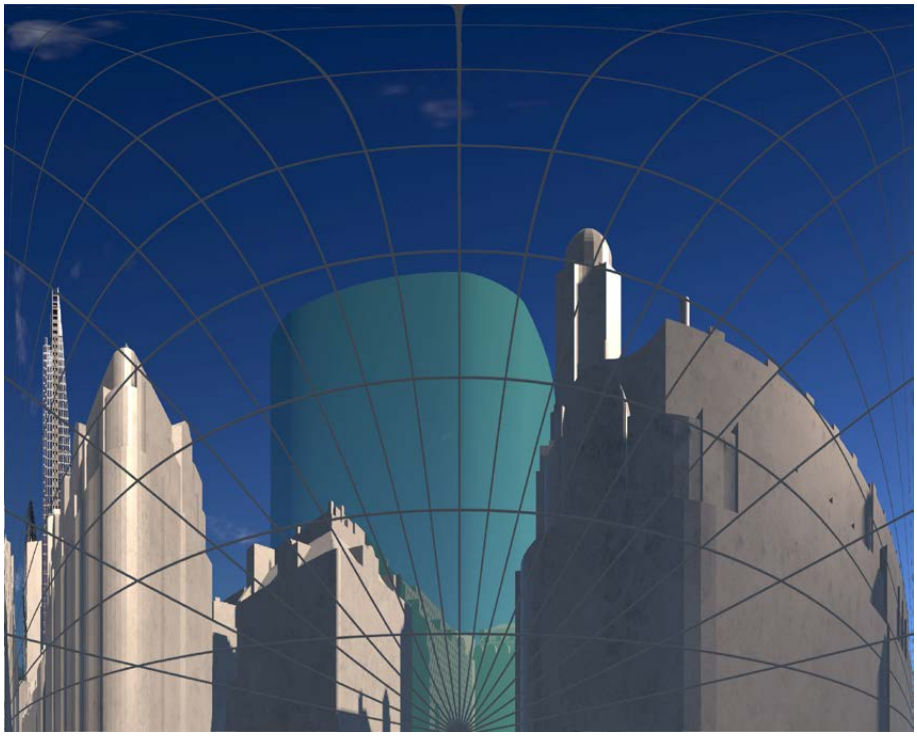

Figure 01: Waldram diagram

A 1.20 This form of assessment does not take account of window size, room use, room size, window number or dual aspect rooms. The assessment also assumes that all obstructions to the sky are 100% non-reflective thereby omitting the consideration of reflection and considering only the light coming directly from the sky.

A 1.21 The images belpw provide an example of how the VSC methodology does not necessarily paint an accurate picture of the experiential change in daylight condition. Figure 02 shows three windows of different size serving three rooms of identical size. In each case, the windows will have equal VSC values given that VSC is a measurement of the amount of sky visible from the centre point of a window.

A 1.22 The three rooms will experience a very different daylight environment because of the varying window sizes serving each one. Figure 03 depicts how window size affects the distribution of daylight within a room despite each window having an identical VSC value. This highlights that while the VSC methodology is a reasonable starting point to assess daylight, it does not accurately depict the change likely to be experienced with the room.

A 1.23 The BRE Guidelines state that a VSC of 27% VSC or more should mean that enough skylight is reaching the window of an existing building and that if windows retain at least 0.8 times its former value, occupants would not notice the reduction in skylight.

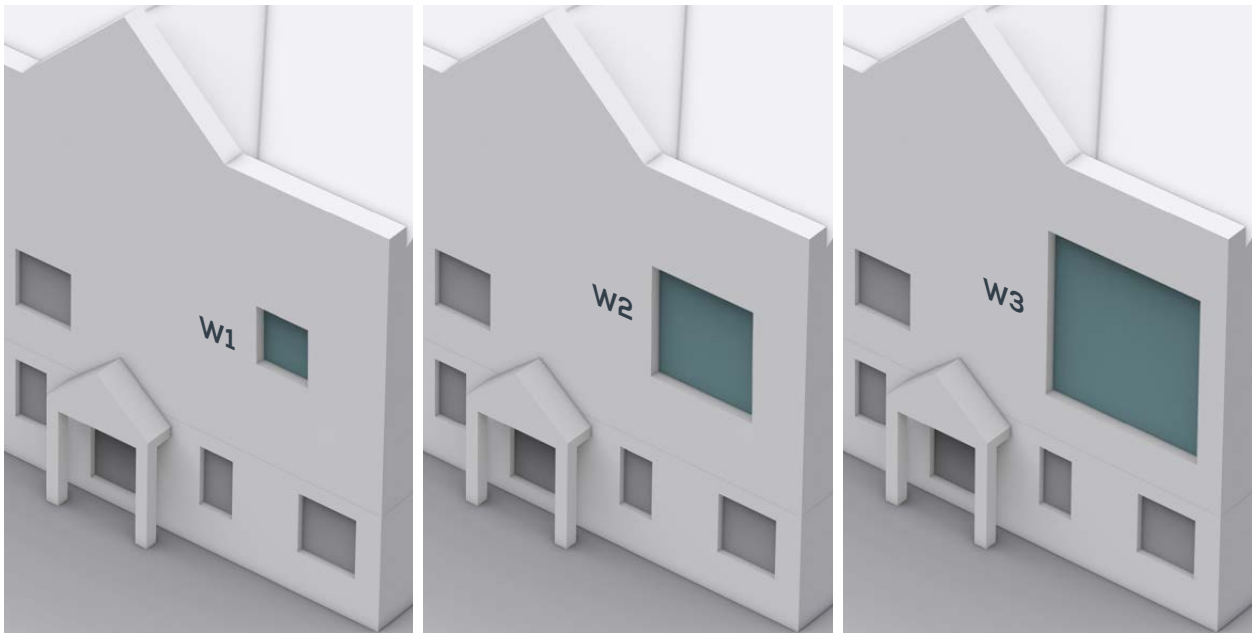

Figure 02: Vertical Sky Component (VSC) indicative analysis

DAYLIGHT FACTOR STUDIES FOR SAMPLE ROOMS WITH SAME VSC

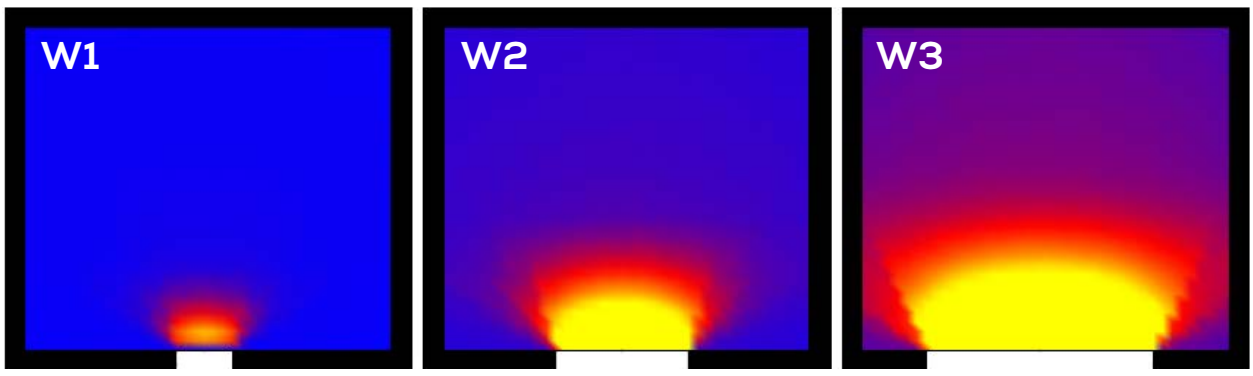

Figure 03: Comparative radiance analysis

A 1.24 As an example, if a window with a retained VSC value of 27% experiences a reduction of 20% thus retaining 21.6% VSC (see Figure 04), the impact would meet the recommendations of the BRE Guidelines by reference to paragraph 2.2.7. This indicates logically that a retained value of 21.6% should be acceptable in principle. Of course, in urban areas, the threshold of what might be acceptable must for the reasons identified above be much more flexible.

A 1.25 If, however, a window has a higher existing value than 27% and it experiences a greater than 20% reduction (which still provides a retained value of 21.7% VSC) the reduction is technically outside of the recommendations of the BRE Guidelines despite an identical retained level of VSC (see Figure 04).

A 1.26 This was explored at the public inquiry for the redevelopment of Hertford Gasworks (PINS Ref: APP/J1915/W/19/3234842) in which the Inspector considered that a minimum value of 21.6% VSC would be acceptable:

> *"The appellant took this further and adopted (with explanation) an approach with a retained VSC of 21.6% as the minimum level. This was specifically accepted by the Council's witness in cross-examination. On that basis, there would be only a very small number of windows falling below that level, and those which did fail would only do so by a narrow margin."*[4]

A 1.27 In this case, the Inspector considered that a minimum VSC value of 21.6% would be appropriate in the county town of Hertford. It would follow that the expectation for dense urban areas and would fall below this minimum VSC value.

4 PINS Ref: APP/J1915/W/19/3234842 (para 57)

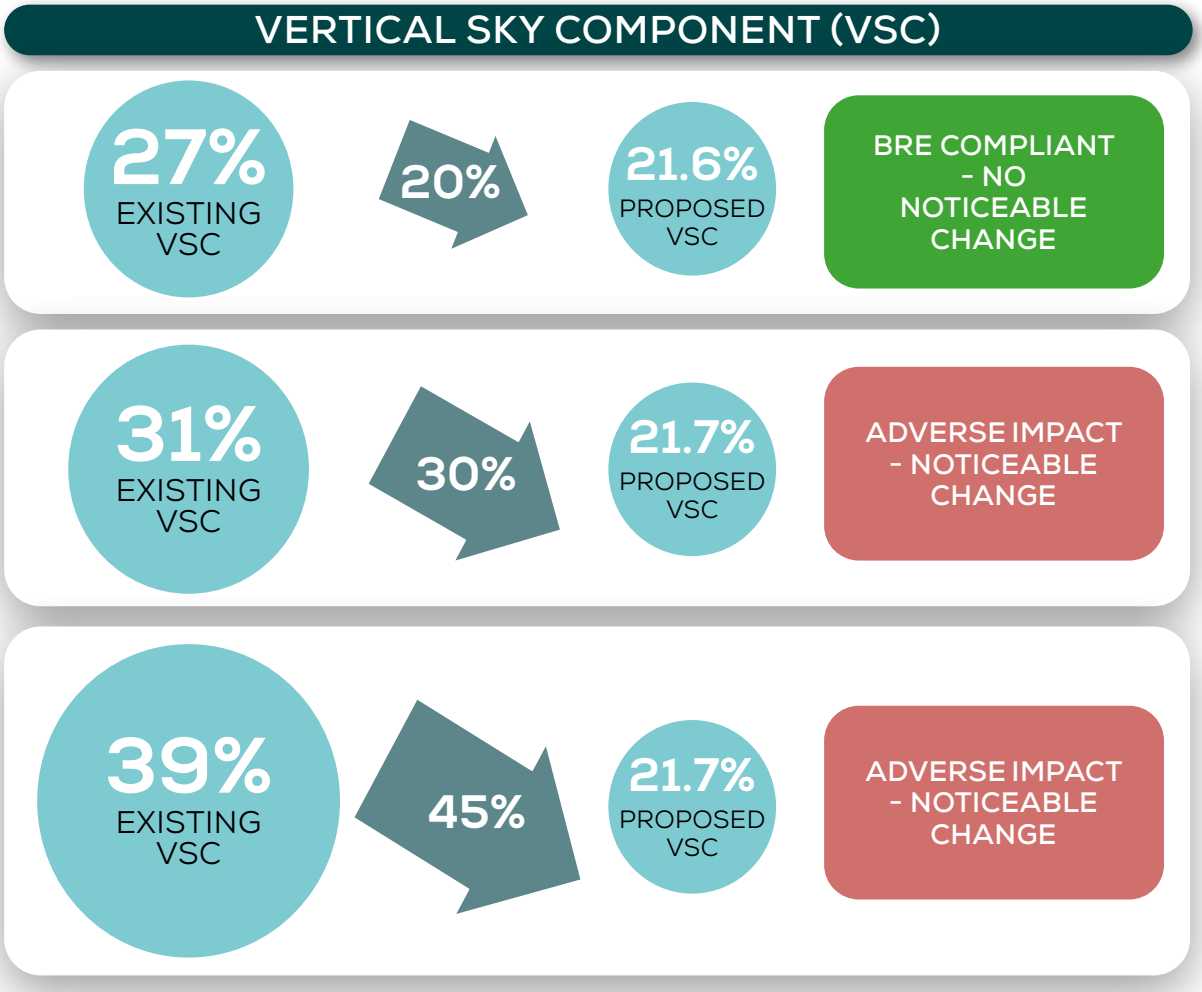

Figure 04: Percentage reduction in VSC and retained VSC values

No Sky Line (NSL)

A 1.28 In addition to the VSC, the BRE recommends the NSL method of assessment where internal layouts are known. Whilst the VSC provides information on the quantum of light reaching a window, the NSL seeks to provide information on how well this light is distributed within the room. The NSL is sometimes also referred to as 'Daylight Distribution' for this reason.

A 1.29 Paragraph D3 of Appendix D of the BRE Guidelines is clear that the no sky line can only be calculated where room layouts are known:

> *"In most cases the position of the no sky line has to be found from plans. The calculation can only be carried out where room layouts are known. Using estimated room layouts is likely to give inaccurate results and is not recommended. However where plans are available, for example on the local authority's online planning portal, the calculation should be carried out".*[5]

A 1.30 The NSL in the Glossary of the guidance as *"the outline on the working plane of the area from which no sky can be seen."* and so the NSL is effectively an assessment of sky visibility within a room. As stated already, the calculation is undertaken across the working plane which in accordance with paragraph 2.2.10 *"in houses [...] is assumed to be horizontal and 0.85m high"*.

A 1.31 Again, both the existing and proposed positions are calculated and presented alongside any change in position of the NSL. The results can then be presented in table format or else illustrated on a contour plot if required, an example of which can be found at Figure 05 overleaf.

A 1.32 The BRE Guidelines state at paragraph 2.211 (page 16) that:

> *"If, following construction of a new development, the no sky line moves so that the area of the existing room, which does receive direct skylight, is reduced to less than 0.8 times its former value this will be noticeable to the occupants, and more of the room will appear poorly lit. This is also true if the no sky line encroaches on key areas like kitchen sinks and worktops."*

A 1.33 In accordance with the strict application of the national numerical values, therefore the change in daylight would be noticeable to the occupants should the NSL experience a loss of NSL greater than 20%.

A 1.34 It is relevant to note that this assessment takes the number and size of windows serving a room into account as well as the shape of the room but, being concerned only with sky visibility and the distribution of light, does not consider the quantum of light reaching the room.

5 Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press, para D3 p. 79

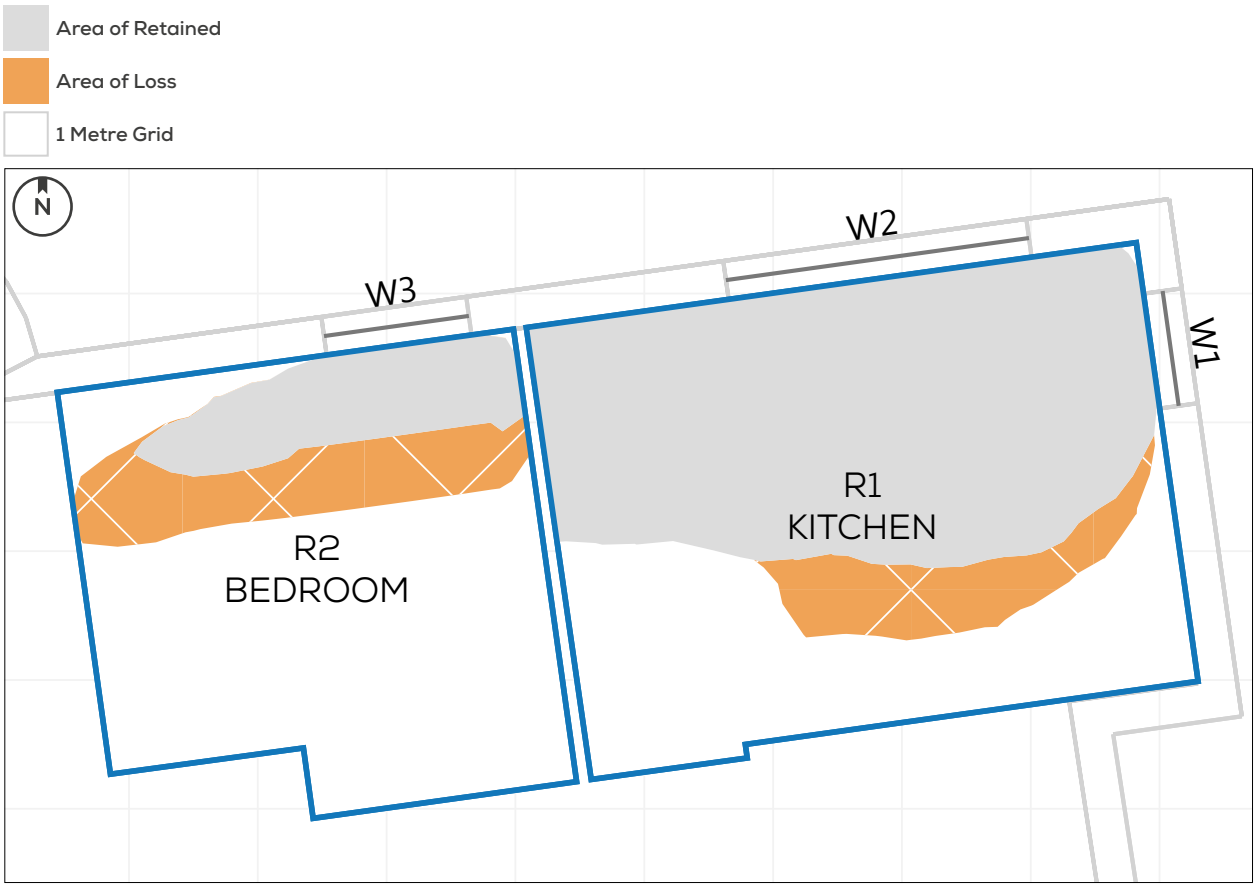

Figure 05: Example NSL Contour Plot

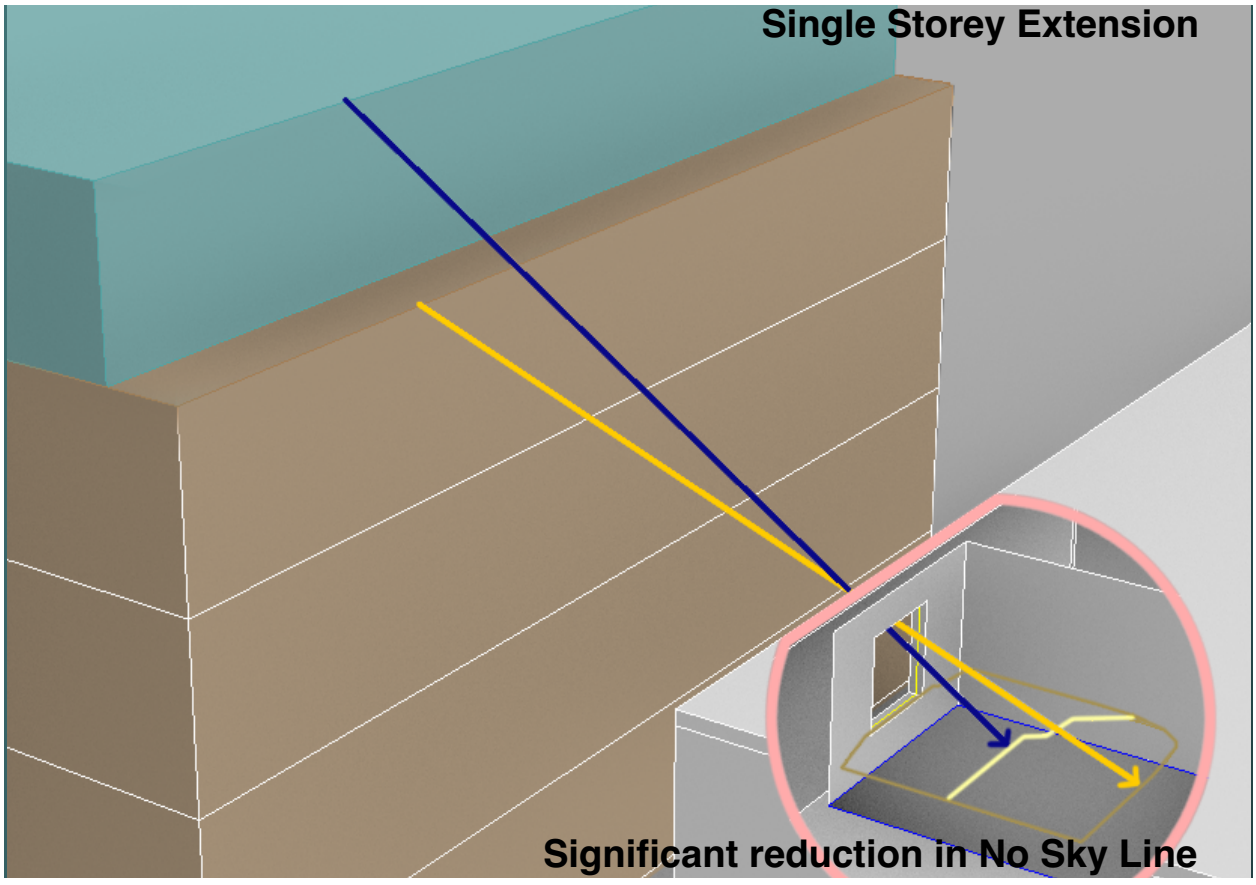

Figure 06: Example of movement of NSL

Decision Chart (Figure 20 of the BRE Guide)

A 1.35 The flowchart in Figure 09[6] illustrates the steps and criteria outlined within the BRE Guidelines to understand whether the daylighting (VSC and NSL) has been significantly affected.

A 1.36 Almost invariably when this methodology is applied in a town centre or more generally in an urban context the flowchart will point to *"daylight likely to be significantly affected"* when the real-life experiential change in light may not appear to be even noticeably affected.

A 1.37 The section at Figure 08[7] provides an example of the angle measurement subtended by a new development. This is the starting point provided within the BRE Guidelines from which to assess whether daylighting is likely to be significantly affected by new development. It is clear from the image that this principle has not been developed with urban town centre locations in mind.[8]

6 Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press, Figure 20 p. 18
7 Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press, Figure 14 p. 15
8 Appeal Ref: APP/E5900/W/17/3171437 para 108

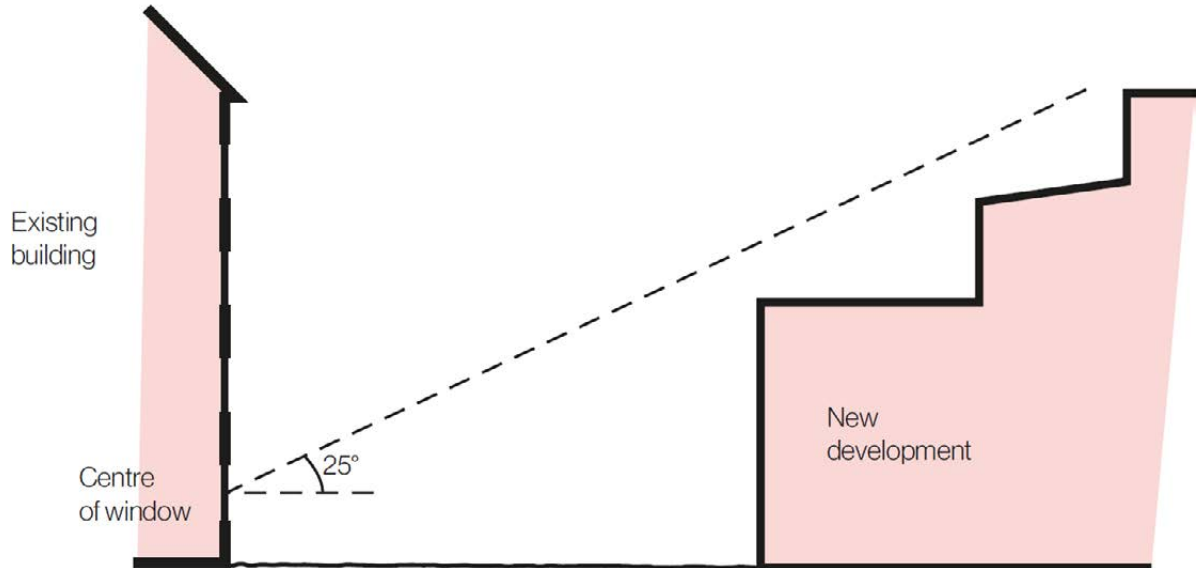

Figure 08: BRE VSC diagram (Figure 14): *Section in plane perpendicular to the affected window wall*

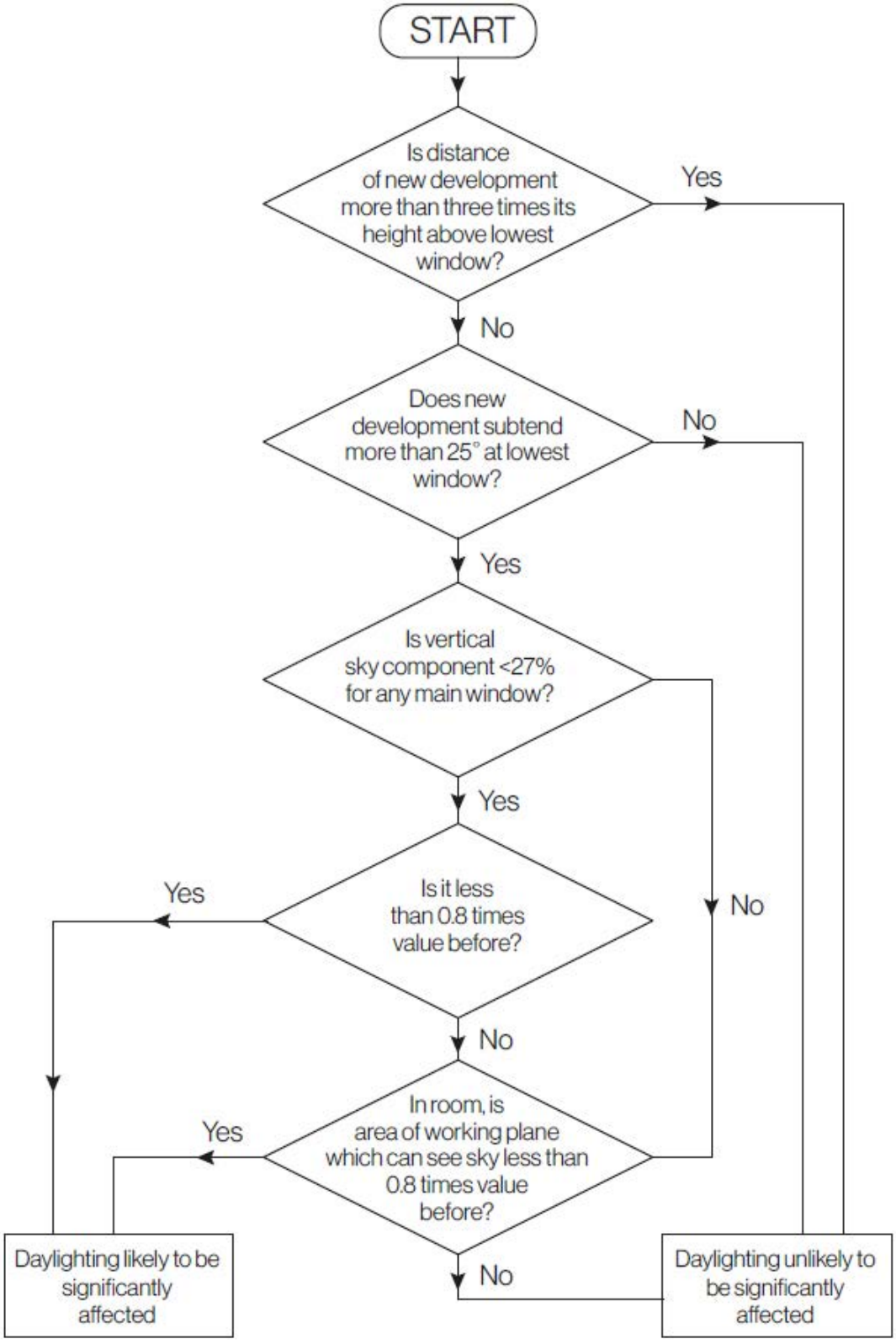

Figure 09: BRE Decision Chart (Figure 20): *diffuse daylight in existing buildings.*

EFFECTS TO SUNLIGHT

Annual Probable Sunlight Hours (APSH)

A 1.38 The BRE Guidance suggests that to understand sunlight impacts to a property, an assessment of Annual Probable Sunlight Hours (APSH) is undertaken. The APSH is defined in the Glossary as:

> *"the long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground (when clouds are taken into account)"*

A 1.39 Expanding on the above, long-term averages were used to position 100 spots in the sky, representative of sunlight over the whole year. Correlating to the probability of the sun to shine, the majority of these (70) are at times to the six-months containing summer (from spring equinox to autumn equinox) which 30 are the 'winter' months from autumn equinox to spring. The APSH is calculated though calculating how many of these 'spots' can be seen from a location (normally a window) both overall and how many of these are during the winter months.

A 1.40 To understand the potential sunlight impacts therefore, all windows facing within 90 degrees of due south and overlooking the development are generally assessed for APSH.

A 1.41 The BRE Guidelines set out the overall methodology and criteria for the assessment of Sunlight in Chapter 3. The BRE Guidelines state in paragraph 3.2.3 and 3.2.5:

> *"To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun."*
>
> *"A point at the centre of the window on the outside face of the window wall may be taken."*

A 1.42 In interpreting the results, the BRE Guidance states in summary 3.2.13 that:

> *"If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development 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 sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:*
>
> - *receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March, and*
> - *receives less than 0.8 times its former sunlight hours during either period; and*
> - *has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours."*

A 1.43 The image in Figure 10 depicts the APSH sun spots overlaid on a Waldram Diagram. The existing buildings are solidly pictured with the proposed scheme semi-transparent in the foreground. The yellow spots indicate summer sun and the blue spots indicate winter sun.

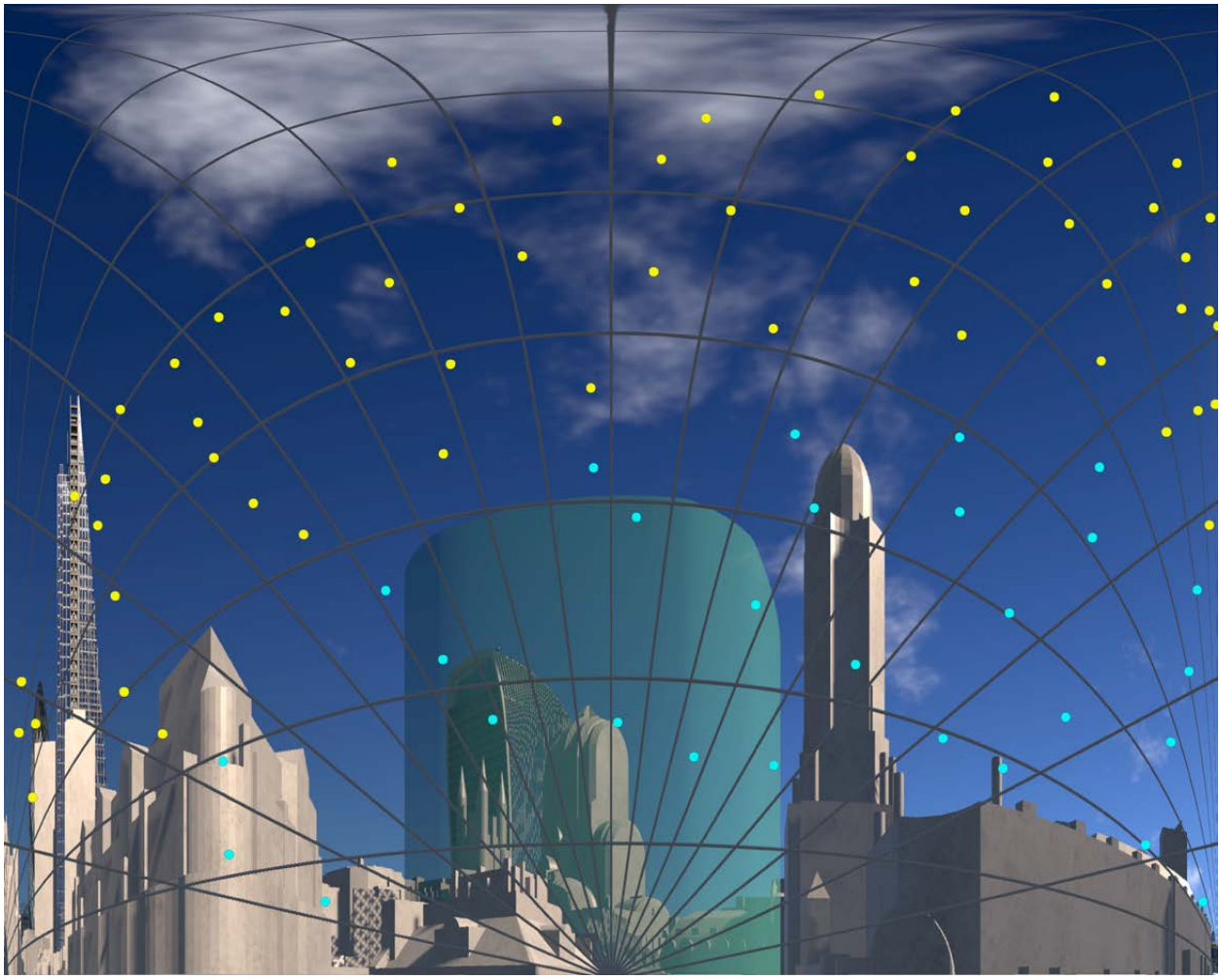

Figure 10: Waldram diagram

Sun Analysis Key:

- Winter sun restricted by the existing buildings
- Summer sun restricted by the existing buildings
- No impact to Winter sun
- No impact to Summer sun
- Winter sun restricted by the Proposed Development
- Summer sun restricted by the Proposed Development

EFFECTS TO OVERSHADOWING

A 1.44 The BRE Guidelines consider overshadowing of amenity spaces in section 3.3 which states:

> *Sunlight in the spaces between and around buildings has an important impact on the overall appearance and ambience 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).*

A 1.45 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 and so may have very little to do with the form of the development itself.

A 1.46 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.

Transient Overshadowing

A 1.47 In order to ascertain the additional overshadowing impact that a development would have on the neighbouring properties amenity, the hourly shadows can be mapped for the following three key dates in the year:

- 21st March (Spring Equinox);
- 21st June (Summer Solstice); and
- 21st December (Winter Solstice).

A 1.48 While the BRE Guidelines do not provide any criteria for Transient Overshadowing, the above dates are generally selected so as to present the mid-case, the best and worst scenarios. On 21st March, the sun is in the same position as on 21st September and therefore the results presented are valid for both equinoxes. On 21st June, the sun is at its highest and the shadows cast are shortest, therefore this date represents a best-case scenario in terms of overshadowing. On 21st December, the sun is at its lowest point causing longer shadows to be cast and represents the worst-case scenario.

A 1.49 For each of these dates, specialist simulation software is used to produce images showing the shadows cast at hourly intervals throughout the day from sunrise to sunset.

A 1.50 Two images are produced for each time and presented beside each other for comparison purposes. Shadows from neighbouring buildings are coloured grey but should additional shadow be cast by the existing or proposed buildings, these are coloured in green or blue to provide clarification on the cause of the shadow.

A 1.51 In order to produce the images, it is necessary to create an accurate 3D model of the existing buildings, proposed scheme and surrounding buildings. The surrounding and existing buildings are modelled from photogrammetry, providing a precise model which in turn ensures that the analysis accurately represents the overshadowing conditions within the assessed area.

A 1.52 Where the overshadowing conditions of an area cannot be clearly identified by the transient assessments, a Sun Hours on Ground test and a Sun Exposure analysis are provided. The Sun Exposure analysis illustrates in false-colours the exact number of hours of sunlight available in the area. Sun Exposure is not relevant for the BRE Guidelines.

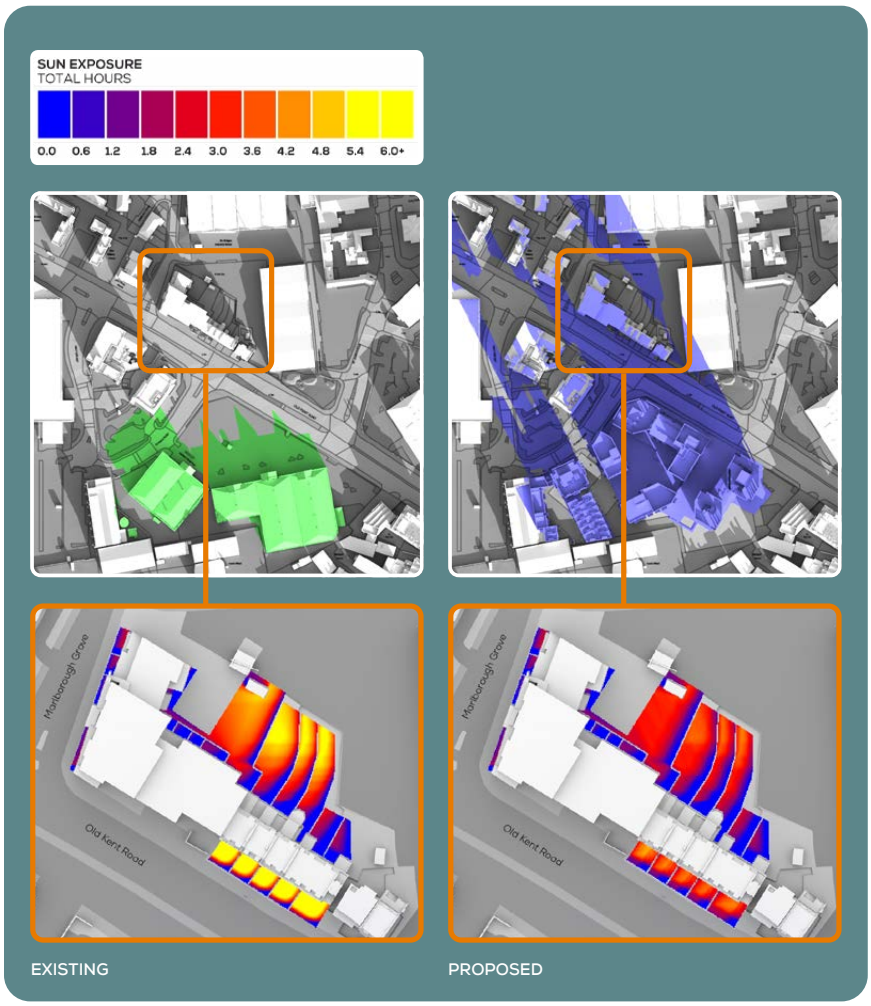

Figure 11: Example of Transient Overshadowing and Sun Exposure Analyses

Sun Hours on Ground

A 1.67 Sun Hours on Ground assessments can be undertaken to illustrate the sunlight availability within outdoor amenity areas, both within a proposed development and within the neighbouring properties.

A 1.68 The BRE Guidelines suggests that Sun Hours on Ground assessments should be undertaken on the Equinox (21st March and 21st September). Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not.

A 1.69 As with regard to any other site layout-dependent factors, the quality of an outdoor open space is determined by an array of important amenities like greenery, landscape, accessibility and design for instance, of which sun on ground is one component.

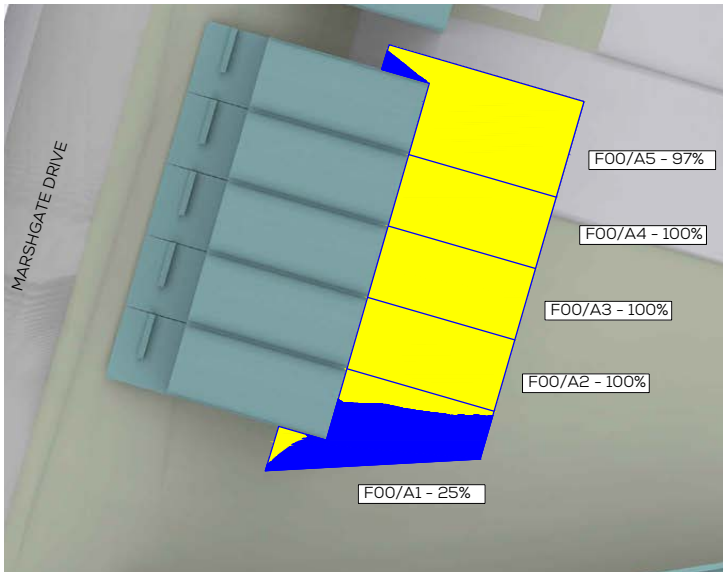

Figure 12: Example Sun Hours on Ground Assessment

BRE GUIDELINES: ADDITIONAL DAYLIGHT AND SUNLIGHT TESTS

VSC and APSH to Rooms

A 1.53 As outlined within the BRE Guidelines (paragraph 2.2.6), the VSC value is calculated for each window; however:

> *"If a room has two or more windows of equal size, the mean of their VSCs may be taken".*

A 1.54 Where a room is served by two or more windows of the same or different sizes, the VSC value to the room can be calculated by applying an average weighting calculation to understand the VSC value to the room. The formula used is as follows;

Σ(Vn*An) / ΣAn

Where:

V = window VSC
A = window area
n = the number of windows

A 1.55 The BRE provide a methodology to calculate APSH in relation to the room and window, paragraph 3.1.12 states:

> *"If a room has multiple windows, the amount of sunlight received by each can be added together provided they occur at different times and sunlight hours are not double counted."*

A 1.56 The above extract of the BRE is in relation to proposed units rather than existing buildings. It does, however, make sense to apply this methodology to existing rooms as well, when room layouts are known as a room served by multiple windows could receive the benefit of sunlight from all windows and not just one.

A 1.57 GIA calculate the APSH room assessment in the following way:

1 The sunlight hours (both winter and annual) are calculated for each window. Instead of simply returning the overall per cent pass rate, i.e. one figure for winter, and one for the whole year, the yes/no result of each of the 100 sun spots is tracked. For this accounting to work, each sun dot needs to be assigned a unique identifier, e.g. from 1 to 100;

2 The sets of 100 sun spots are combined for each room using Boolean logic, i.e. conjunctions of yes/no values. The outcome of this step is a set of 100 yes/no values corresponding to the 100 sun spots, but on a per-room basis. Each per-room dot is counted if it is unobstructed for at least one of its windows; and

3 The unobstructed sun dots for the room are summed up and expressed as a percentage of the total number of annual and winter spots.

Balconies/Overhangs

A 1.58 The BRE recognises that existing architectural features on neighbouring buildings such as balconies and overhangs inherently restrict the quantum of skylight to a window. The BRE Guidelines note on page 11, paragraph 2.1.17 and page 16, paragraph 2.2.13:

> *"This is a particular problem if there are large obstructions opposite; with the combined effect of the overhang and the obstruction, it may be impossible to see the sky from inside the room, and hence to receive any direct skylight or sunlight at all."*

> *"Existing windows with balconies above them typically receive less daylight. Because the balcony cuts out light from the top part of the sky, even a modest obstruction opposite may result in a large relative impact on the VSC, and on the area receiving direct skylight. One way to demonstrate this would be to carry out an additional calculation of the VSC and the area receiving direct skylight, for both the existing and proposed situations, without the balcony in place."*

A 1.59 As noted by the BRE Guidelines, where there are existing overhanging features, larger reductions in skylight and sunlight may be unavoidable and alternative criteria can be used. The guidance suggests that in such situations a calculation is carried out that excludes the balcony or the obstruction.

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DAYLIGHT - MIRROR MASSING & ADJOINING DEVELOPMENT LAND

Alternative target Values for Skylight and Sunlight Access "Mirror Massing"

A 1.60 The BRE Guidelines provide a calculation for the VSC and APSH analysis to quantify an appropriate alternative value based on the context of an environment. This approach is known as the 'mirror image' analysis (see Figure 12).

A 1.61 The BRE notes in paragraph F5:

> *"where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light. Figure F3 shows an example where side windows of an existing building are close to the boundary. To ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for these windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away on the other side of the boundary."*

A 1.62 This analysis is used to understand the levels of Daylight (VSC) and Sunlight (APSH) that would be experienced by an extant neighbouring property if there were a building of the same height and extent opposite.

A 1.63 The mirror image assessment is fairly simplistic and is not, therefore, easily applied to large and complex site footprints which are not all built at equal distances from the site boundary or of the same footprint.

Adjoining Development Land

A 1.64 The "Adjoining Development Land" analysis provided within the BRE Guidelines is a simple test to ensure that a proposal is a reasonable distance from the boundary so as to "enable future nearby developments to enjoy a similar access to daylight." (2.3.1)

A 1.65 The BRE comments in paragraphs 2.3.3, 2.3.6 and 2.3.7 that:

> *"The diffuse daylight coming over the boundary may be quantified in the following way. As a first check, draw a section in a plane perpendicular to the boundary (Figure 21). If a road separates the two sites then the centre line of the road should be taken. Measure the angle to the horizontal subtended at a point 1.6 metres above the boundary by the proposed new buildings. If this angle is less than 43 ° then there will normally still be the potential for good daylighting on the adjoining development site (but see Sections 2.3.6 and 2.3.7)."*
>
> *"The guidelines above should not be applied too rigidly. A particularly important exception occurs when the two sites are very unequal in size and the proposed new building is larger in scale than the likely future development nearby. This is because the numerical values above are derived by assuming the future development will be exactly the same size as the ·proposed new building (Figure 22). If the adjoining sites for development are a lot smaller, a better approach is to make a rough prediction of where the nearest window wall of the future development may be; then to carry out the 'new building' analysis in Section 2.1 for this window wall."*
>
> *"The 43° angle should not be used as a form generator, to produce a building which slopes or steps down towards the boundary. Compare Figure 23 with Figure 22 to see how this can result in a higher than anticipated obstruction to daylight. In Figure 23 the proposed building subtends 34° at its mirror image, rather than the maximum of 25° suggested here. In cases of doubt, the best approach is again to carry out a new building analysis for the most likely location of a window wall of a future development."*

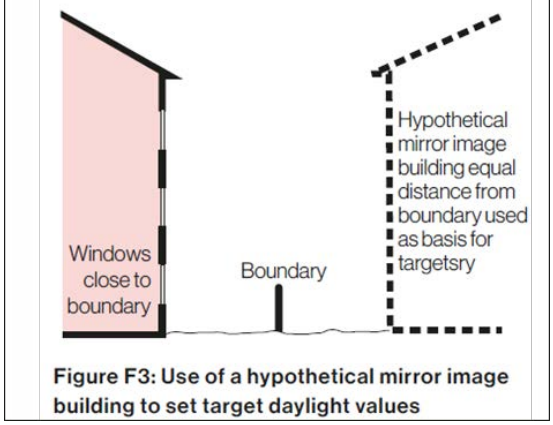

Figure F3: Use of a hypothetical mirror image building to set target daylight values

Figure 13: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 87 Figure F3

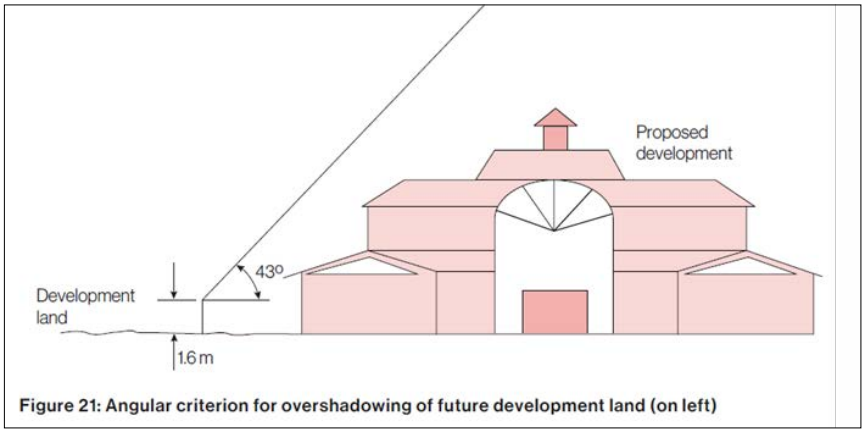

Image © BRE Guidelines

Figure 21: Angular criterion for overshadowing of future development land (on left)

Figure 14: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 19 Figure 21

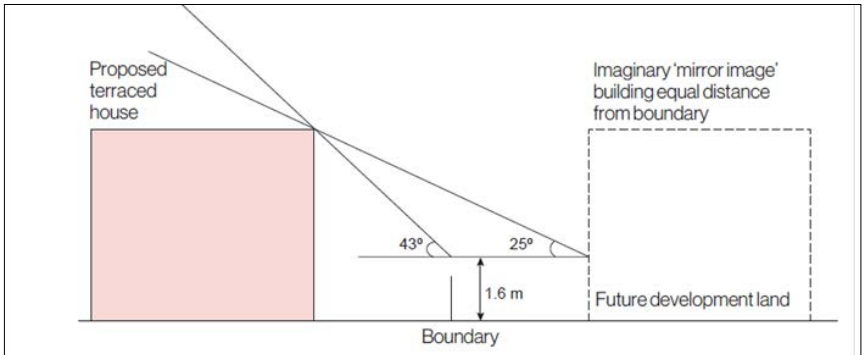

Image © BRE Guidelines

Figure 22: Derivation of an angular boundary criterion to safeguard future development of adjoining land

Figure 15: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 20 Figure 22

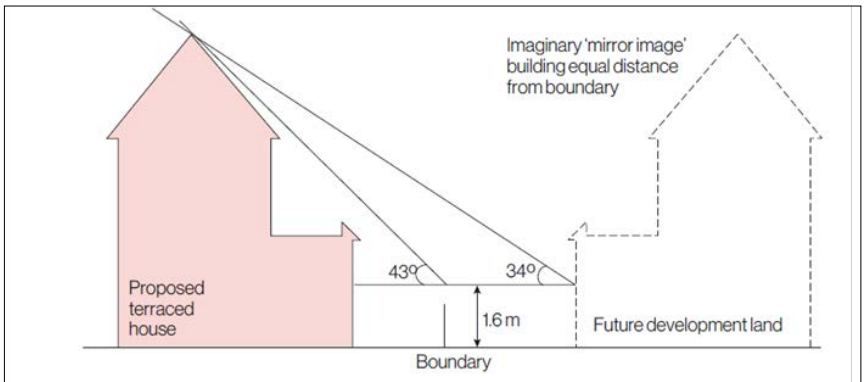

Image © BRE Guidelines

Figure 23: Problems with the boundary criterion can occur when a stepped façade overlooks adjoining land

Figure 16: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 20 Figure 23

A 1.66 As outlined above, the Adjoining Development Land analysis is predicated on ensuring that a proposal next to future development land is not negatively impacting the ability to develop in consideration of light matters.

PHOTOVOLTAICS

A 1.70 Paragraph 4.5.2 states that *"where a proposed development may result in loss of radiation to existing solar panels (either photovoltaic or solar thermal), an assessment should be carried out."*

A 1.71 Paragraph 4.5.8 states that *"Where the annual probable sunlight hours received by a solar panel with the new development in place is less than 0.90 times the value before, a more detailed calculation of the loss of solar radiation should be undertaken. This is a specialist type of assessment and expert advice should be sought. The assessment should include both direct solar and diffuse sky radiation; over a whole year, around 60% of the radiation received on a horizontal roof comes from the sky. However, reflected radiation from the ground and obstructions need not be included. The modelling should take account of the effects of cloud in reducing direct solar radiation at different times of year, and include a realistic simulation of the way that incoming solar radiation varies from different parts of the sky."*

A 1.72 Paragraph 4.5.9 states that *"if over the whole year the ratio of total solar radiation received with the new development, to the existing value is less than the values given in Table 2, then the loss of radiation is significant."*

A 1.73 Finally, paragraph 4.5.10 notes that *"numerical values given are purely advisory. Different criteria may be used based on the requirements for solar energy in an area viewed against other site layout constraints. Another important issue is whether the existing solar panels are reasonably sited, at a sensible height and distance from the boundary. A greater loss of solar radiation may be inevitable if panels are mounted close to the ground and near to the site boundary."*

OTHER AMENITY CONSIDERATIONS

A 1.74 Daylight and sunlight is one factor among many under the heading of residential amenity considerations for any given development design or planning application; others include:

- View;
- Privacy;
- Security;
- Access;
- Enclosure;
- Microclimate;
- Solar Dazzle; and
- Solar Convergence.

TABLE 2: RECOMMENDED MINIMUM RATIOS OF SOLAR RADIATION RECEIVED

SLOPE OF SOLAR PANEL IN DEGREES TO HORIZONTAL	RECOMMENDED MINIMUM RATIO OF RADIATION RECEIVED AFTER/BEFORE
0-30	0.90
30.01-59.99	0.85
60-90	0.80

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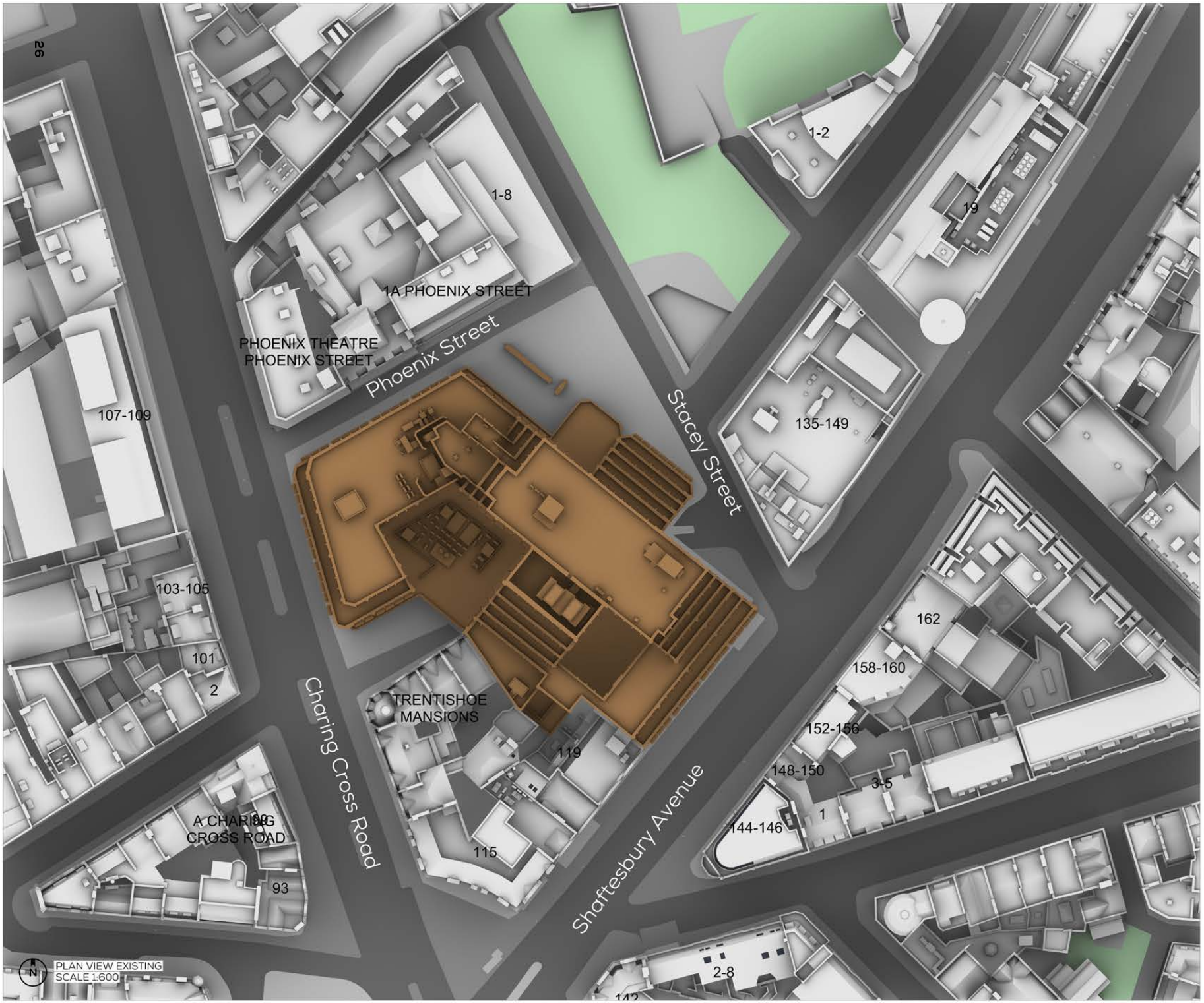
APPENDIX 02
DRAWINGS

APPENDIX 02
DRAWINGS:

EXISTING



SOURCES OF INFORMATION

CONTEXT MODEL

IR42-2024-0517-B&CO (Plowman Craven Model)

IR43-2024-0521-B&CO (Plowman Craven Model Part 2)

IR45-2024-0524-B&CO (2016 elevation information)

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PROJECT:

125 SHAFTESBURY AVENUE

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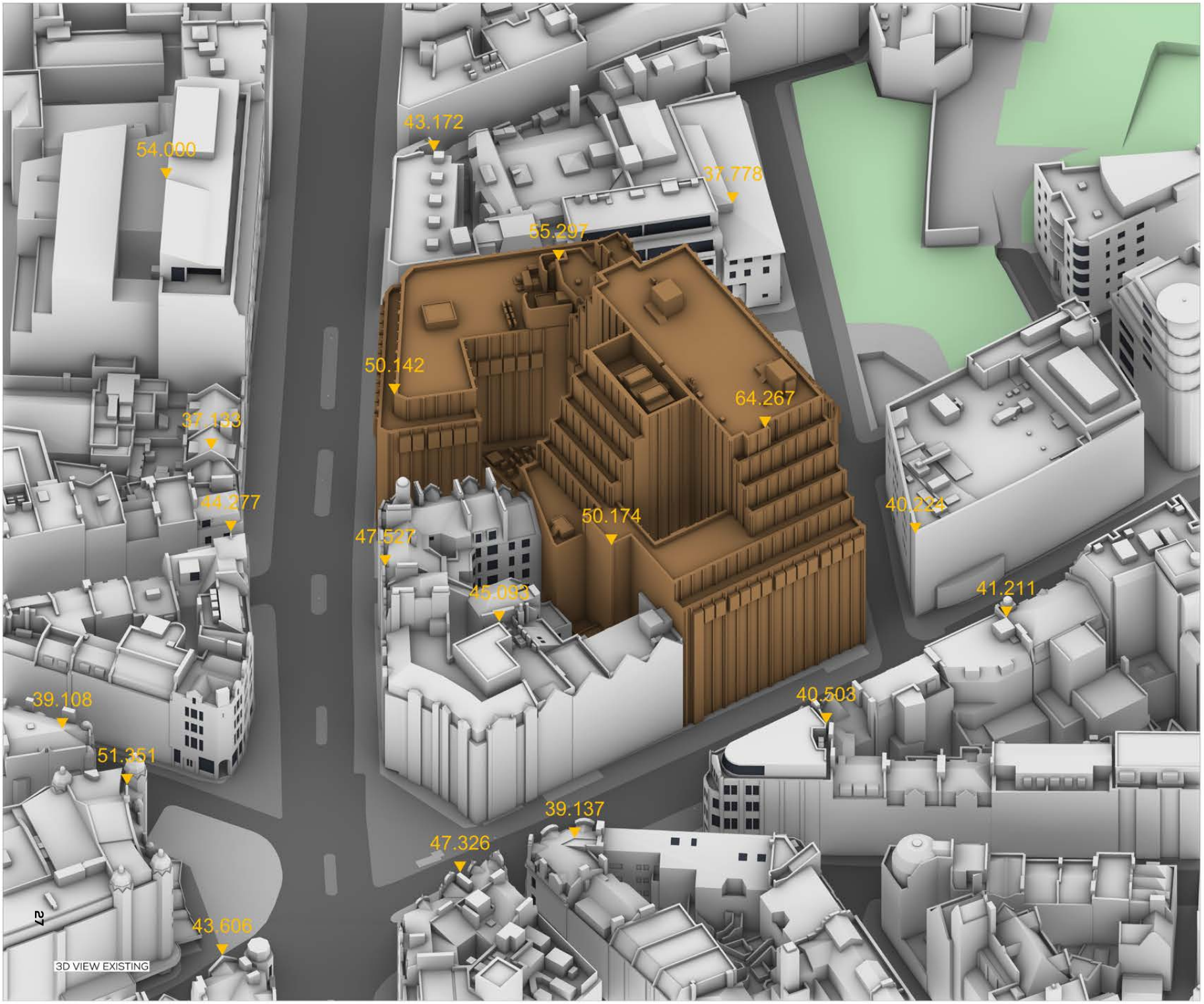

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3D VIEW EXISTING

SOURCES OF INFORMATION

CONTEXT MODEL

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IR43-2024-0521-B&CO (Plowman Craven Model Part 2)

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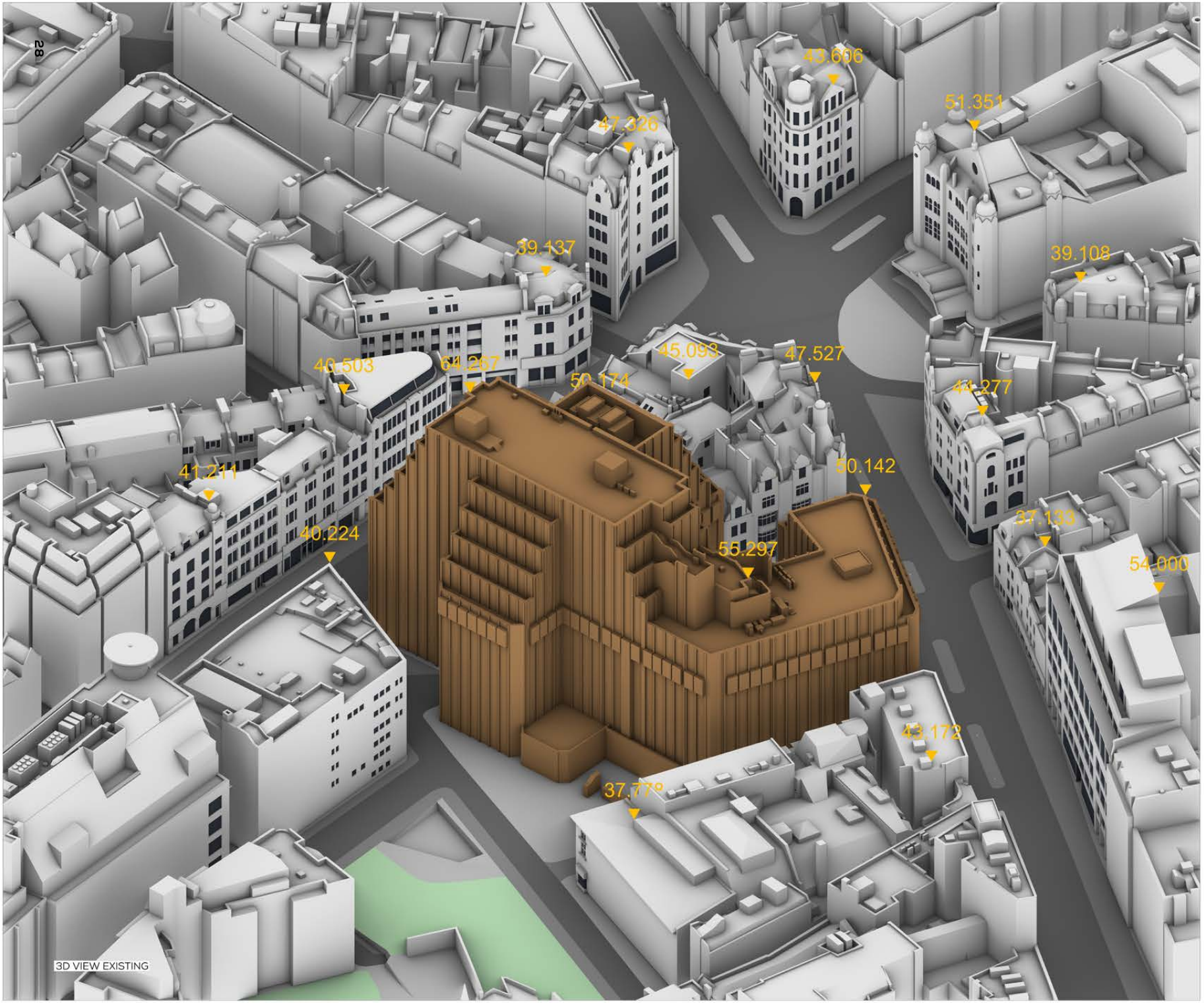

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CONTEXT MODEL

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IR43-2024-0521-B&CO (Plowman Craven Model Part 2)

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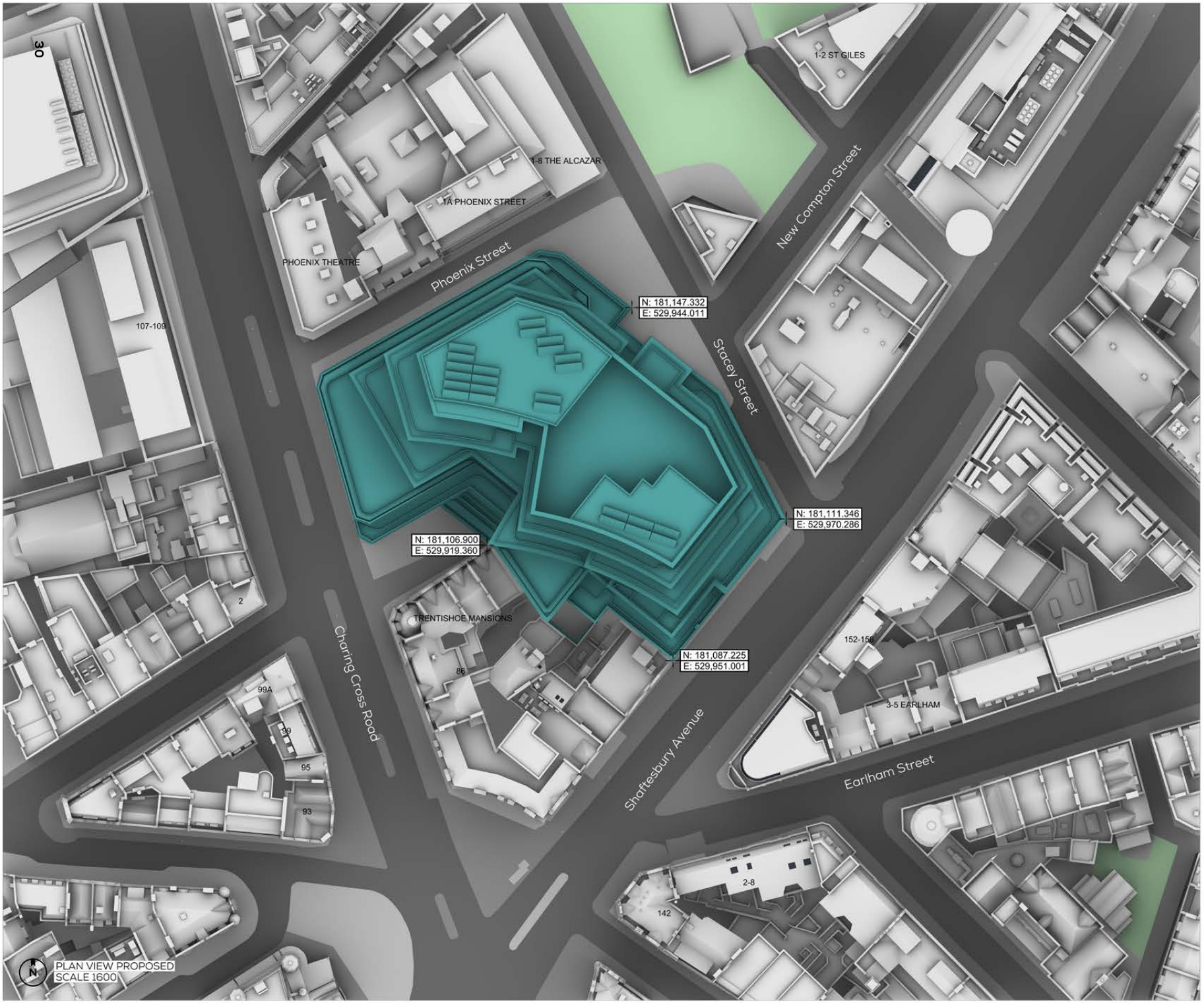

SOURCES OF INFORMATION

PROPOSED SCHEME

IR71-2024-1025-B6CO (Frozen Scheme...)

VUCITY

IR02-20230615-VuCity(Tiles)

ADDITIONAL ELEVATION INFORMATION

IR42-2024-0517-B6CO (Plowman Craven Model)

IR43-2024-0521-B6CO (Plowman Craven Model Part 2)

IR45-2024-0524-B6CO (2016 elevation information)

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PROJECT:

125 SHAFTESBURY AVENUE

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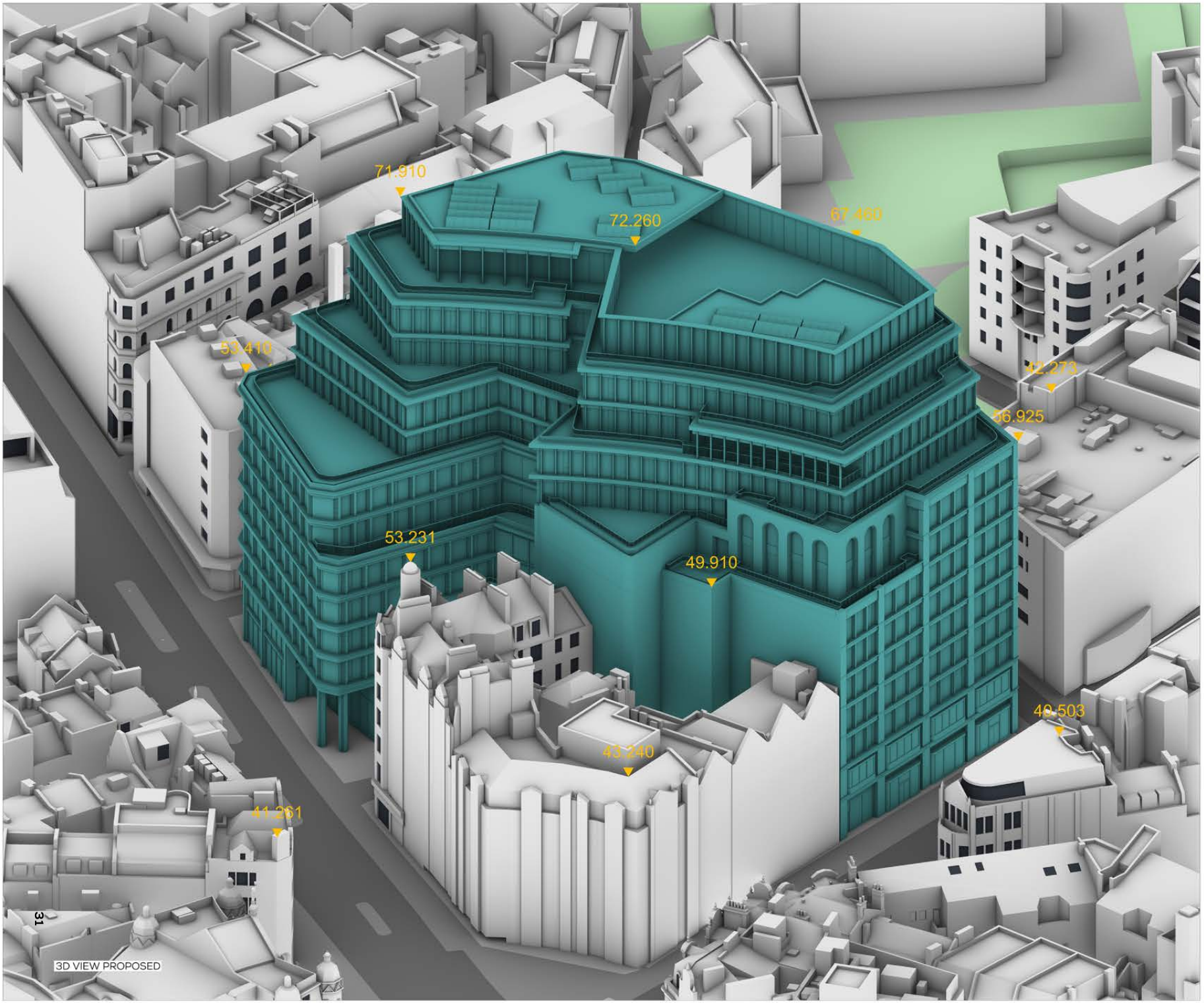

3D VIEW PROPOSED

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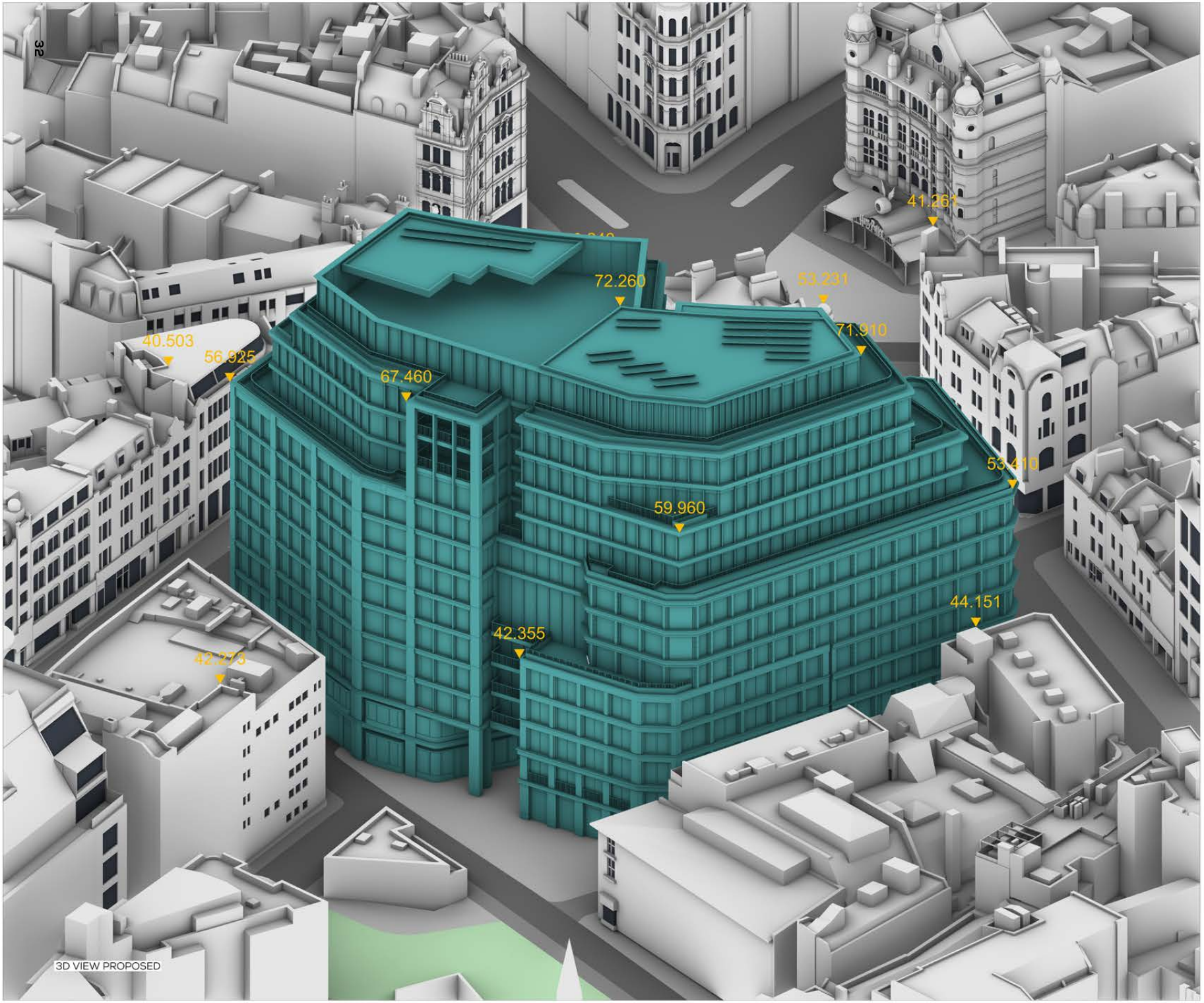

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SOURCES OF INFORMATION

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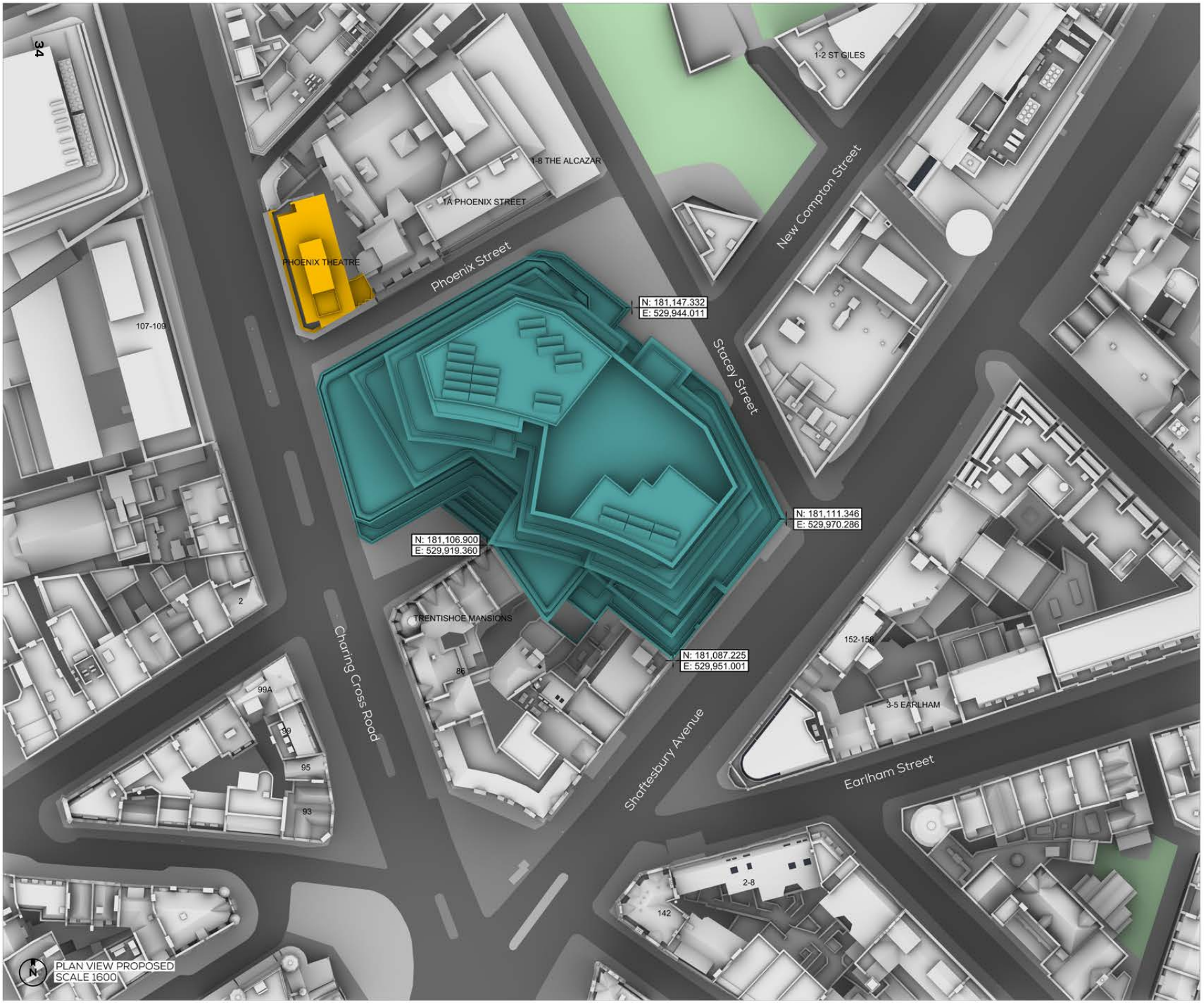

SOURCES OF INFORMATION

PROPOSED SCHEME

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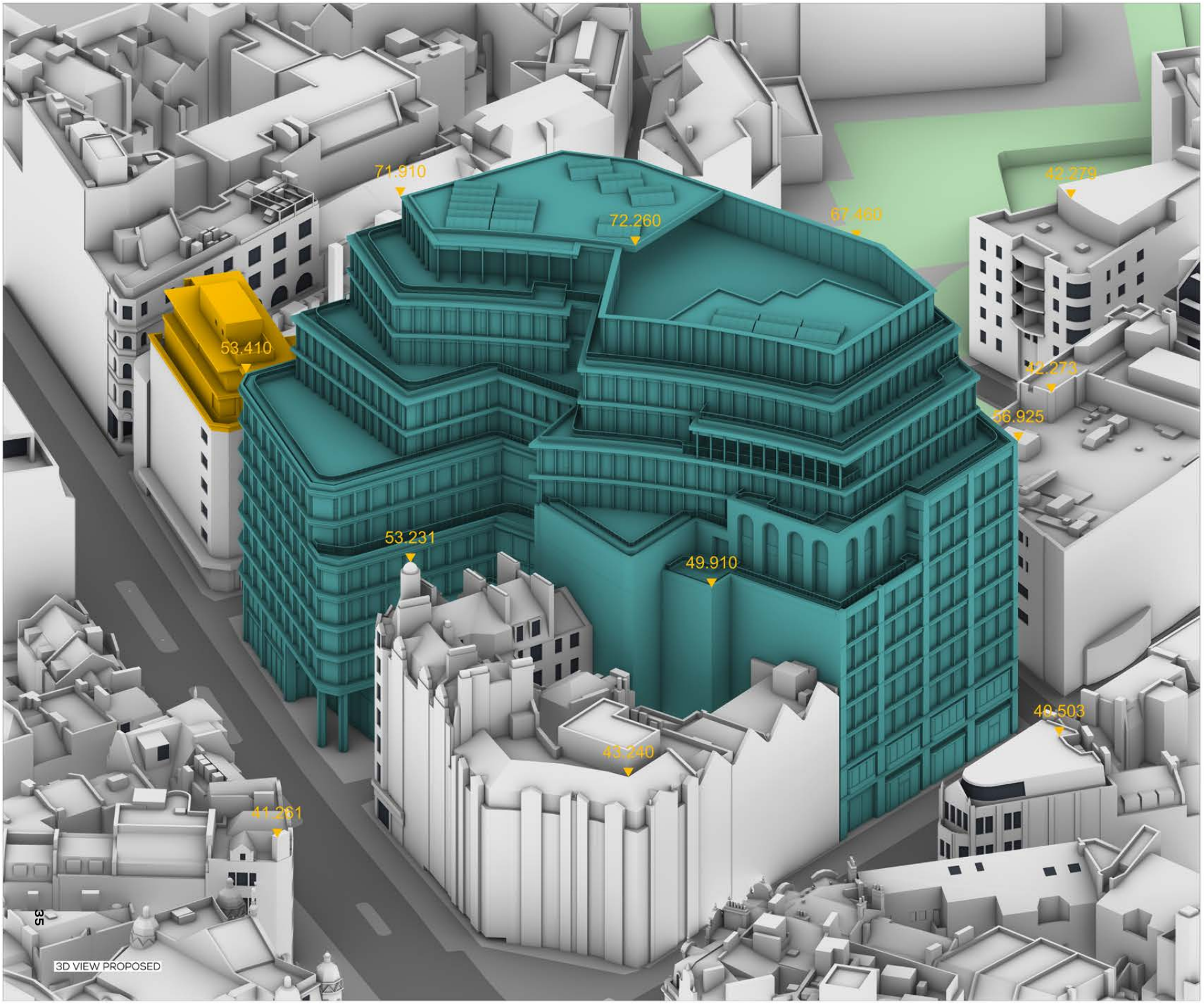

3D VIEW PROPOSED

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SOURCES OF INFORMATION

PROPOSED SCHEME

IR71-2024-1025-B&CO (Frozen Scheme...)

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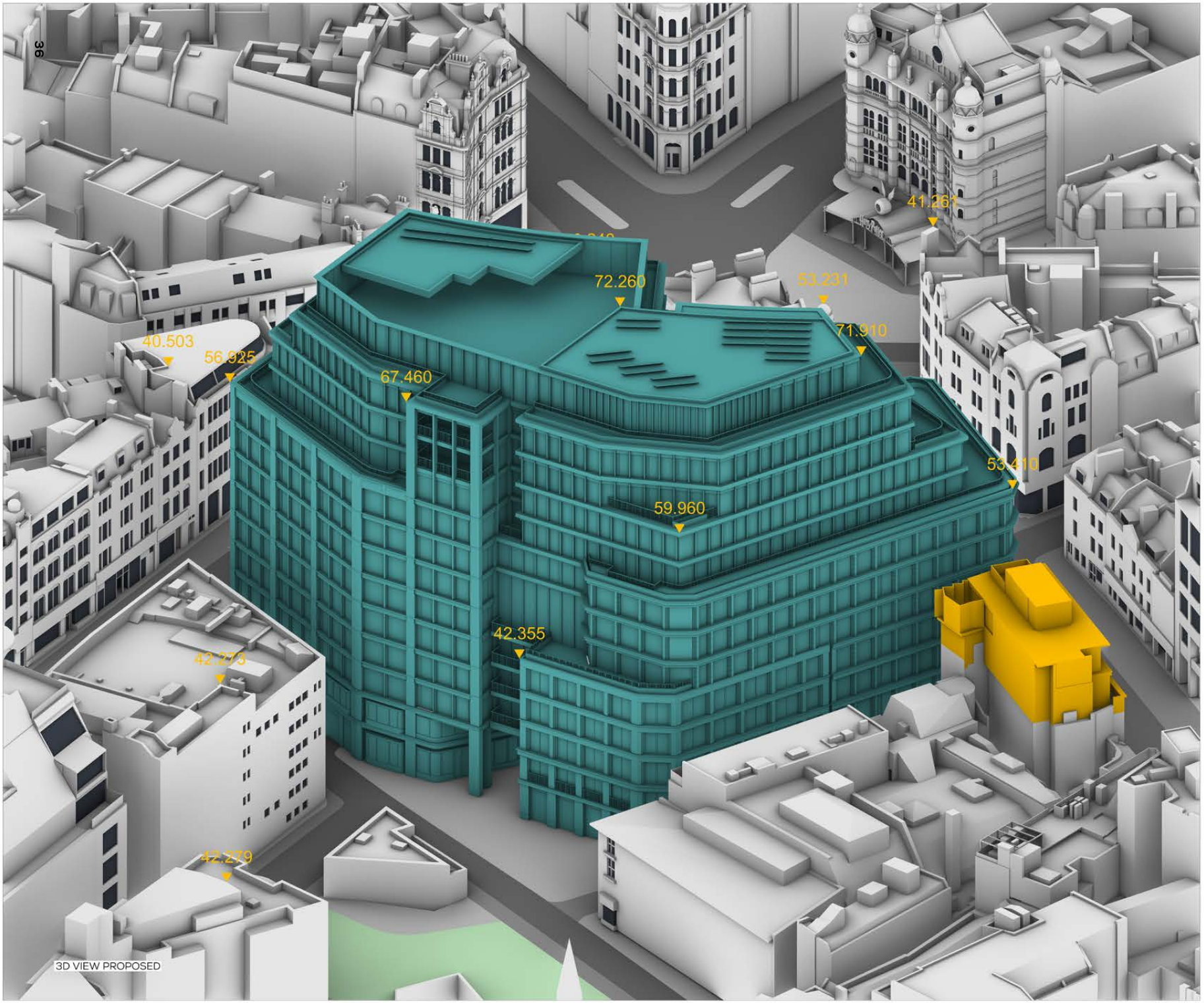

3D VIEW PROPOSED

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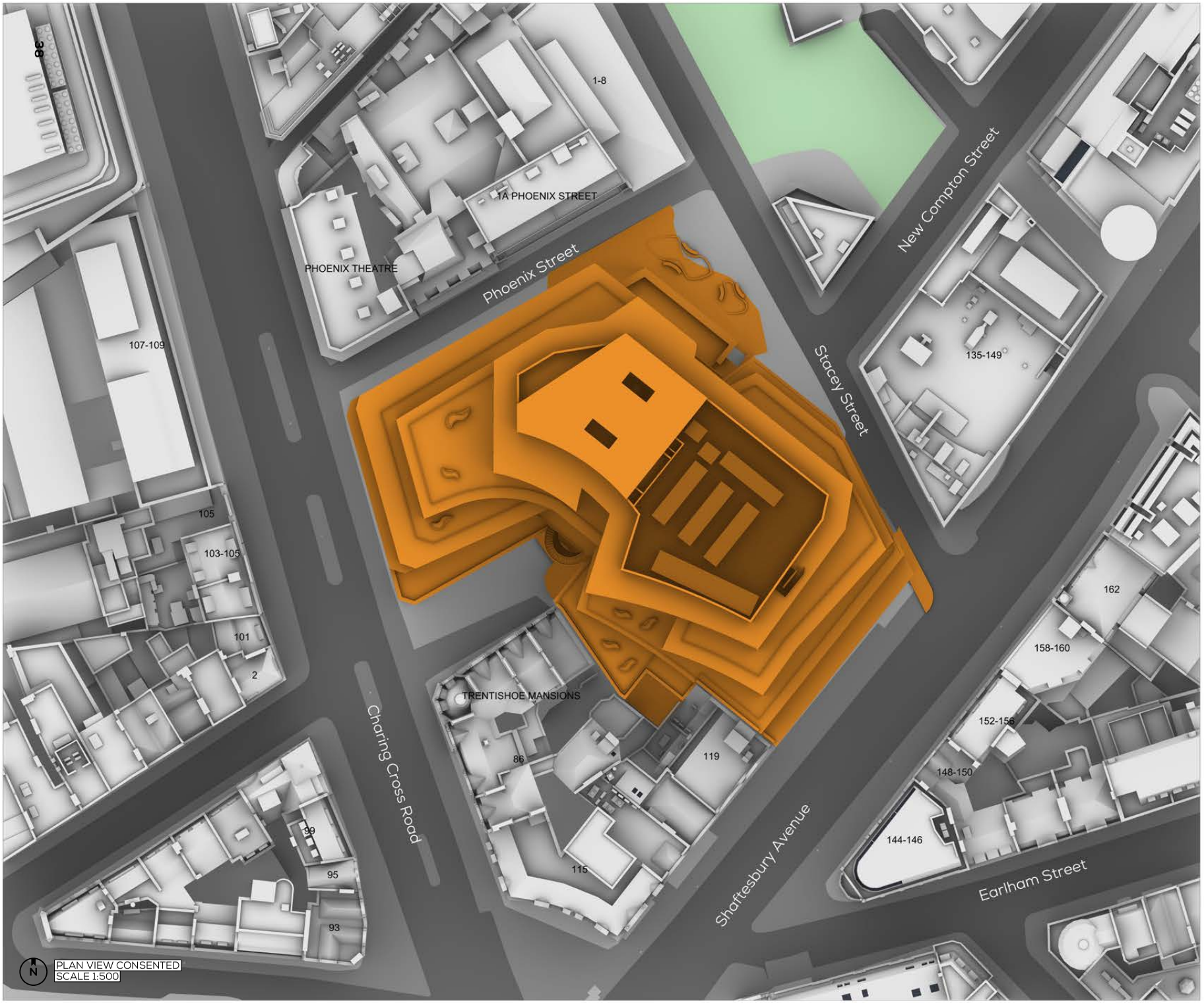

SOURCES OF INFORMATION

CONSENTED SCHEME

IR40-2024-0515-DSDHA (Updated Model)

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IR02-20230615-VuCity(Tiles)

ADDITIONAL ELEVATION INFORMATION

IR42-2024-0517-B&CO (Plowman Craven Model)

IR43-2024-0521-B&CO (Plowman Craven Model Part 2)

IR45-2024-0524-B&CO (2016 elevation information)

NOTES:
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125 SHAFTESBURY AVENUE

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CONSENTED SCHEME IR40
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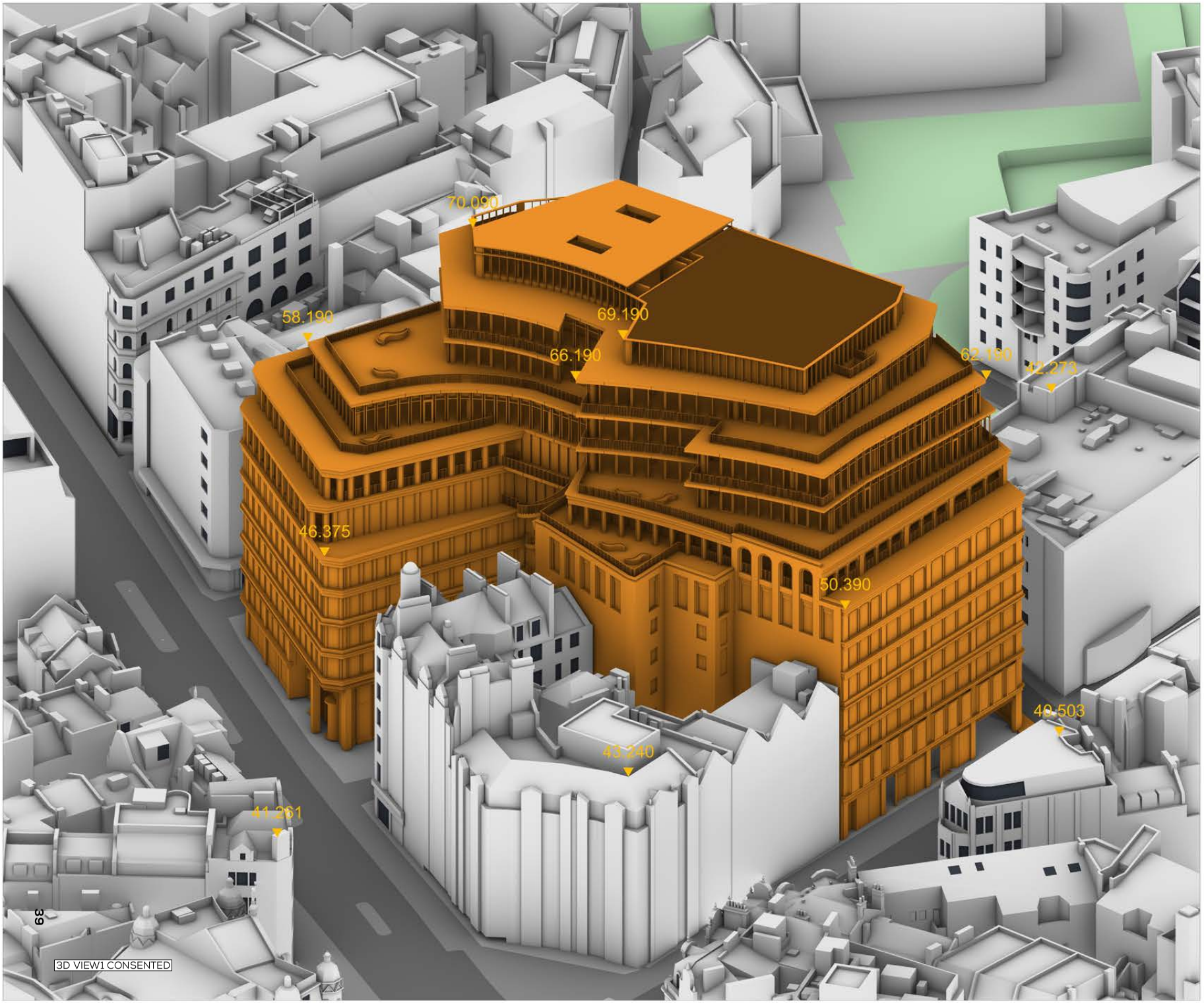

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3D VIEW1 CONSENTED

SOURCES OF INFORMATION

CONSENTED SCHEME

IR40-2024-0515-DSDHA (Updated Model)

VUCITY

IR02-20230615-VuCity(Tiles)

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125 SHAFTESBURY AVENUE

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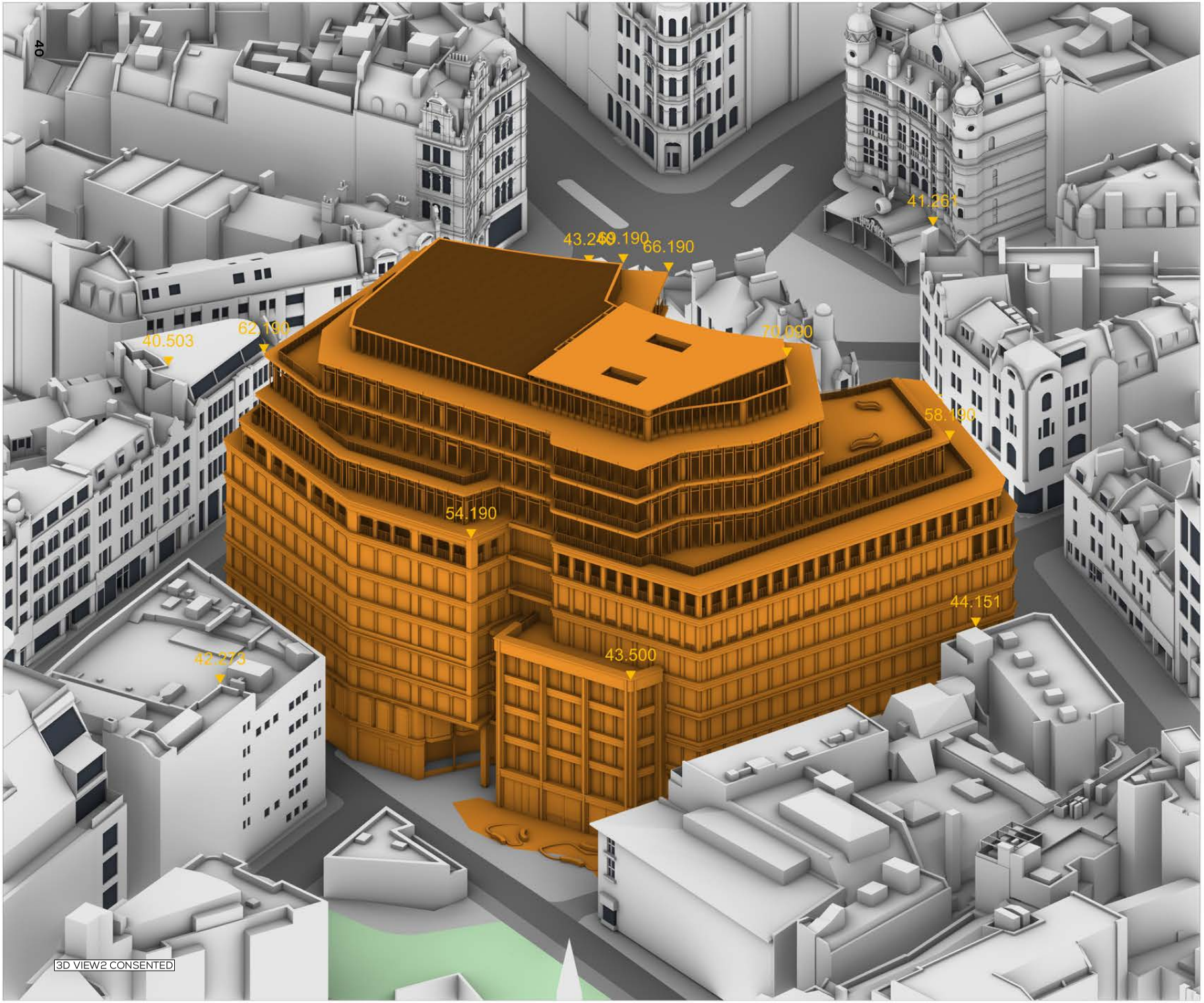

SOURCES OF INFORMATION

CONSENTED SCHEME

IR40-2024-0515-DSDHA (Updated Model)

VUCITY

IR02-20230615-VuCity(Tiles)

ADDITIONAL ELEVATION INFORMATION

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IR45-2024-0524-B&CO (2016 elevation information)

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PROJECT:
125 SHAFTESBURY AVENUE

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APPENDIX 03
ASSUMPTIONS

APPENDIX 03
ASSUMPTIONS

A 1.75 The analysis model was historically created from a 2D Topographical survey and elevations in 2012. For the purposes of this study, the model was updated in the summer of 2024, using a 2D Topo, elevations and a 3D survey model from Plowman Craven. The wider context modelling has been supplemented with VuCity photogrammetric geometry and observations from site and aerial photography.

A 1.76 The scope of buildings assessed has been determined as a reasonable zone which considers both the scale of the Proposed Development and the proximity of those buildings which surround and face the Site. There could be properties outside of the considered scope that may be affected by the Proposed Development, however, undertaking assessments beyond this area would not be commensurate with industry practice for a scheme of this size.

A 1.77 The property uses have been ascertained by reference to a Valuation Office Agency search. External observations have also been made from site photography and periodic reviews using online street view (Google) up to November 2024.

A 1.78 GIA has used the DSDHA model for the historic permission, consented in 2016, and referenced this against the documents available on the planning portal (2016/502/P).

A 1.79 GIA has obtained full or partial floor plans for the following properties:

- 93 Charing Cross Road (Partial);
- 95 Charing Cross Road (Full)
- 97-99 Charing Cross Road (Full);
- 107-109 Charing Cross Road (Full);
- Phoenix Theatre (Partial);
- 1A Phoenix Street (Full);
- 3-5 Caxton Walk (Partial);
- 114-116 Charing Cross Road (Full);
- Trentishoe Mansions (Partial);
- 2-8 Earlham Street (Full);
- 142 Shaftesbury Avenue (Full);
- 140 Shaftesbury Avenue (Full);
- 138 Shaftesbury Avenue (Full).

A 1.80 These layouts have been incorporated into our 3D context model.

A 1.81 Where GIA has not been able to source detailed floor plans from publicly available resources (as per the BRE Guidelines), reasonable assumptions as to the internal layouts of the rooms have been made. This is normal practice for planning applications of this nature. Unless the building form dictates otherwise, we assume a standard 4.2m deep room (14ft) for residential properties.

A 1.82 We have made reasonable assumptions for the following properties:

- 2 Old Compton Street;
- 1-8 The Alcazar;
- 3-5 Earlham Street;
- 148-150 Shaftesbury Avenue;
- 152-156 Shaftesbury Avenue;
- 1-2 St Giles Passage.

A 1.83 Floor levels have been assumed for adjoining properties as access has not been obtained. This dictates the level of the working plane, which is the point at which the No Sky Line (NSL) assessments are carried out.

A 1.84 In accordance with the BRE Guidelines, NSL has not been calculated for rooms where no layout or use information is available.

A 1.85 GIA has sought to create the most accurate 3D model possible based on the data and information available, however, there is a degree of tolerance. Where information was not available best assumptions have been used as is standard industry practice.

A 1.86 GIA has discounted rooms that appear to be or are confirmed to be bathrooms, hallways and circulation spaces etc. These rooms are not considered to be habitable and thus do not require assessment in accordance with the BRE Guidelines.

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APPENDIX 04
RESULTS & CONTOURS

APPENDIX 04
RESULTS & CONTOURS:

EXISTING v PROPOSED (RESULTS)

					VSC (WINDOW)			VSC (ROOM)				NSL				APSH (WINDOW)						APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	EX. %	PR. %	LOSS	LOSS %	EX. %	PR. %	LOSS SQM	LOSS %	EX.		PR.		LOSS %		EX.		PR.		LOSS %	
																	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
99A CHARING CROSS ROAD - 1-35 OLD COMPTON STREET																												
3301	R1	RESIDENTIAL	UNKNOWN	W1/3301	21.7	21.0	0.7	3.2	20.7	19.5	1.2	5.8	99.2	99.3	0	0												
				W2/3301	22.6	21.9	0.7	3.1																				
				W3/3301	19.5	17.7	1.8	9.2																				
				W4/3301	19.2	17.7	1.5	7.8																				
3302	R1	RESIDENTIAL	UNKNOWN	W1/3302	29.3	28.6	0.7	2.4	26.4	25.1	1.3	4.9	99.4	99.4	0	0												
				W2/3302	29.4	28.6	0.8	2.7																				
				W3/3302	29.0	28.2	0.8	2.8																				
				W4/3302	29.9	29.0	0.9	3.0																				
				W5/3302	29.4	28.5	0.9	3.1																				
				W6/3302	22.3	20.2	2.1	9.4																				
				W7/3302	22.7	20.6	2.1	9.3																				
				W8/3302	22.4	20.4	2.0	8.9																				
				W9/3302	22.6	20.7	1.9	8.4																				
3303	R1	RESIDENTIAL	UNKNOWN	W1/3303	33.0	32.2	0.8	2.4	29.6	28	1.6	5.4	99.8	99.8	0	0												
				W2/3303	33.1	32.3	0.8	2.4																				
				W3/3303	32.9	32.1	0.8	2.4																				
				W4/3303	33.5	32.5	1.0	3.0																				
				W5/3303	25.6	23.2	2.4	9.4																				
				W6/3303	24.4	22.2	2.2	9.0																				
				W7/3303	25.8	23.6	2.2	8.5																				
3304	R1	RESIDENTIAL	UNKNOWN	W1/3304	35.4	34.5	0.9	2.5	31.2	29.8	1.4	4.5	92.6	90.3	1.3	2.5	17	2	17	2	0.0	0.0	94.0	30.0	94.0	30.0	0.0	0.0
				W2/3304	33.1	33.1	0.0	0.0									73	25	73	25	0.0	0.0						
				W3/3304*	30.4	29.4	1.0	3.3									12	2	12	2	0.0	0.0						
				W4/3304*	22.4	19.5	2.9	12.9									20	6	20	6	0.0	0.0						
				W5/3304	27.4	24.7	2.7	9.9									27	6	27	6	0.0	0.0						
97-99 CHARING CROSS ROAD																												
3401	R1	HOTEL	UNKNOWN	W1/3401	18.9	17.7	1.2	6.3	19	17.9	1.1	5.8	72.9	66.1	1.1	9.5												
				W2/3401	19.1	18.0	1.1	5.8																				
	R2	HOTEL	UNKNOWN	W3/3401	19.5	18.5	1.0	5.1	19.6	18.7	0.9	4.6	82.4	82.4	0	0												
				W4/3401	19.7	18.8	0.9	4.6																				
3402	R1	HOTEL	UNKNOWN	W1/3402	22.0	20.6	1.4	6.4	22.1	20.8	1.3	5.9	69.8	64.2	0.9	8.1												
				W2/3402	22.2	20.9	1.3	5.9																				
	R2	HOTEL	UNKNOWN	W3/3402	22.7	21.5	1.2	5.3	22.8	21.7	1.1	4.8	82.6	82.5	0	0.2												
				W4/3402	22.9	21.8	1.1	4.8																				
3403	R1	HOTEL	UNKNOWN	W1/3403	24.8	23.2	1.6	6.5	25	23.3	1.7	6.8	65.5	60.0	0.9	8.5												
				W2/3403	25.1	23.5	1.6	6.4																				
	R2	HOTEL	UNKNOWN	W3/3403	25.6	24.0	1.6	6.3	25.7	24.2	1.5	5.8	82.9	82.4	0.1	0.6												
				W4/3403	25.9	24.4	1.5	5.8																				
3404	R1	HOTEL	UNKNOWN	W1/3404	23.7	21.4	2.3	9.7	23.9	21.7	2.2	9.2	57.3	50.2	1.2	12.4												
				W2/3404	24.1	21.9	2.2	9.1																				
	R2	HOTEL	UNKNOWN	W3/3404	28.4	26.4	2.0	7.0	28.4	26.4	2	7	78.9	72.7	0.8	7.9												
				W4/3404	28.4	26.4	2.0	7.0																				
93 CHARING CROSS ROAD																												
3602	R1	RESIDENTIAL	UNKNOWN	W1/3602	29.2	29.2	0.0	0.0	29.3	29.3	0	0	95.7	95.7	0	0	73	15	73	15	0.0	0.0	77.0	19.0	77.0	19.0	0.0	0.0
				W2/3602	29.3	29.3	0.0	0.0									73	15	73	15	0.0	0.0						

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)			VSC (ROOM)				NSL	APSH (WINDOW)			EX.		PR.		LOSS %		APSH (ROOM) EX.		PR.		LOSS %	
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	EX. %	PR. %	LOSS	LOSS %	EX. %	PR. %	LOSS SQM	LOSS %	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
93 CHARING CROSS ROAD (CONTINUED)																											
3602	R1	RESIDENTIAL	UNKNOWN	W3/3602	29.5	29.5	0.0	0.0	29.3	29.3	0	0	95.7	95.7	0	0	76	18	76	18	0.0	0.0	77.0	19.0	77.0	19.0	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W4/3602	31.0	30.6	0.4	1.3	30.7	30.3	0.4	1.3	99.5	99.5	0	0	48	14	48	14	0.0	0.0	48.0	14.0	48.0	14.0	0.0	0.0
				W5/3602	30.7	30.3	0.4	1.3									48	14	48	14	0.0	0.0						
				W6/3602	30.3	30.0	0.3	1.0									46	14	46	14	0.0	0.0						
	R3	RESIDENTIAL	UNKNOWN	W7/3602	28.4	27.8	0.6	2.1	28.1	27.4	0.7	2.5	98.5	98.5	0	0												
				W8/3602	28.1	27.4	0.7	2.5																				
				W9/3602	27.7	27.0	0.7	2.5																				
3603	R1	RESIDENTIAL	UNKNOWN	W1/3603	32.5	32.5	0.0	0.0	32.5	32.5	0	0	95.6	95.6	0	0	81	23	81	23	0.0	0.0	82.0	24.0	82.0	24.0	0.0	0.0
				W2/3603	32.5	32.5	0.0	0.0									80	22	80	22	0.0	0.0						
				W3/3603	32.6	32.6	0.0	0.0									81	23	81	23	0.0	0.0						
	R2	RESIDENTIAL	UNKNOWN	W4/3603	33.4	32.7	0.7	2.1	33.2	32.5	0.7	2.1	99.5	99.5	0	0	50	14	50	14	0.0	0.0	50.0	14.0	50.0	14.0	0.0	0.0
				W5/3603	33.2	32.5	0.7	2.1									50	14	50	14	0.0	0.0						
				W6/3603	32.9	32.3	0.6	1.8									50	14	50	14	0.0	0.0						
	R3	RESIDENTIAL	UNKNOWN	W7/3603	31.4	30.4	1.0	3.2	31.1	30.1	1	3.2	98.4	98.4	0	0												
				W8/3603	31.2	30.1	1.1	3.5																				
				W9/3603	30.8	29.8	1.0	3.2																				
3604	R1	RESIDENTIAL	UNKNOWN	W1/3604	34.9	34.9	0.0	0.0	34.9	34.9	0	0	59.5	59.5	0	0	84	26	84	26	0.0	0.0	84.0	26.0	84.0	26.0	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/3604	34.9	34.0	0.9	2.6	34.9	34	0.9	2.6	64.3	64.3	0	0	50	14	50	14	0.0	0.0	50.0	14.0	50.0	14.0	0.0	0.0
	R3	RESIDENTIAL	UNKNOWN	W3/3604	33.3	31.9	1.4	4.2	33.3	31.9	1.4	4.2	66.5	66.4	0	0.1												
95 CHARING CROSS ROAD																												
3501	R1	HOTEL	UNKNOWN	W1/3501	23.2	22.7	0.5	2.2	22.9	22.4	0.5	2.2	95.1	95.1	0	0												
				W2/3501	22.5	22.0	0.5	2.2																				
3502	R1	HOTEL	UNKNOWN	W1/3502	26.7	25.9	0.8	3.0	26.3	25.5	0.8	3	94.0	94.0	0	0												
				W2/3502	26.0	25.2	0.8	3.1																				
3503	R1	HOTEL	UNKNOWN	W1/3503	29.9	28.8	1.1	3.7	29.6	28.5	1.1	3.7	98.8	98.8	0	0												
				W2/3503	29.3	28.1	1.2	4.1																				
3504	R1	HOTEL	UNKNOWN	W1/3504	32.5	31.0	1.5	4.6	32.5	31	1.5	4.6	94.3	94.3	0	0												
86 CHARING CROSS ROAD																												
F06	R1	RESIDENTIAL	UNKNOWN	W1/4314	24.6	21.3	3.3	13.4	28.6	24.7	3.9	13.6	99.1	92.1	1.1	7												
TRENTISHOE MANSIONS (INC. SHOPS)- 88-94 CHARING CROSS ROAD - 3-5 CAXTON WALK																												
4399	R1	RESIDENTIAL	UNKNOWN	W1/4399	1.0	0.7	0.3	30.0	1	0.7	0.3	30	9.2	5.2	0.4	43.4												
	R3	RESIDENTIAL	UNKNOWN	W3/4399	0.8	0.7	0.1	12.5	0.8	0.7	0.1	12.5	18.7	18.6	0	0.2	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				W4/4399	0.9	0.8	0.1	11.1									0	0	0	0	0.0	0.0						
	R4	RESIDENTIAL	UNKNOWN	W5/4399	0.8	0.7	0.1	12.5	0.8	0.7	0.1	12.5	4.4	4.5	0	-0.5	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	R5	RESIDENTIAL	UNKNOWN	W6/4399	0.8	0.8	0.0	0.0	0.8	0.8	0	0	4.4	4.5	0	-1.5	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4400	R4	RESIDENTIAL	UNKNOWN	W1/4400	0.1	0.1	0.0	0.0	0.9	0.6	0.3	33.3	9.1	8.7	0.1	5.2												
				W11/4400	1.6	1.2	0.4	25.0																				
				W12/4400	0.1	0.1	0.0	0.0																				
	R7	RESIDENTIAL	BEDROOM	W1/4331	0.4	0.3	0.1	25.0	0.8	0.8	0	0	3.5	3.4	0	4.1												
				W2/4331	0.9	0.8	0.1	11.1																				
				W3/4331	1.2	1.2	0.0	0.0																				
4401	R5	RESIDENTIAL	LIVING ROOM	W4/4401	18.5	18.0	0.5	2.7	14.1	12.4	1.7	12.1	76.8	74.4	0.6	3.2												
				W5/4401	14.9	13.2	1.7	11.4																				
				W6/4401	14.4	12.6	1.8	12.5																				
				W7/4401	13.9	12.1	1.8	12.9																				

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					VSC (WINDOW)			VSC (ROOM)					NSL				APSH (WINDOW)						APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	EX. %	PR. %	LOSS	LOSS %	EX. %	PR. %	LOSS SQM	LOSS %	EX.		PR.		LOSS %		EX.		PR.		LOSS %	
																	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
TRENTISHOE MANSIONS (INC. SHOPS)- 88-94 CHARING CROSS ROAD - 3-5 CAXTON WALK (CONTINUED)																												
4401	R5	RESIDENTIAL	LIVING ROOM	W8/4401	8.2	5.6	2.6	31.7	14.1	12.4	1.7	12.1	76.8	74.4	0.6	3.2												
				W9/4401	18.6	18.0	0.6	3.2																				
				W10/4401	15.3	13.4	1.9	12.4																				
				W11/4401	14.6	12.7	1.9	13.0																				
				W12/4401	14.2	12.1	2.1	14.8																				
				W13/4401	8.3	5.5	2.8	33.7																				
	R6	RESIDENTIAL	LIVING ROOM	W14/4401	15.5	14.4	1.1	7.1	11.6	8.9	2.7	23.3	60.1	51.9	1.7	13.8												
				W15/4401	12.1	9.4	2.7	22.3																				
				W16/4401	11.8	9.0	2.8	23.7																				
				W17/4401	11.6	8.5	3.1	26.7																				
				W18/4401	6.9	3.1	3.8	55.1																				
				W19/4401	15.3	14.1	1.2	7.8																				
				W20/4401	12.3	9.4	2.9	23.6																				
				W21/4401	11.9	8.8	3.1	26.1																				
				W22/4401	11.7	8.4	3.3	28.2																				
				W23/4401	6.9	3.0	3.9	56.5																				
	R7	RESIDENTIAL	BEDROOM	W24/4401	11.0	7.0	4.0	36.4	10.8	6.7	4.1	38	48.3	30.4	3.8	37.1												
				W25/4401	10.6	6.4	4.2	39.6																				
	R8	RESIDENTIAL	BEDROOM	W26/4401	4.7	4.7	0.0	0.0	4.7	4.7	0	0	24.6	24.7	0	-0.3	8	0	8	0	0.0	0.0	8.0	0.0	8.0	0.0	0.0	0.0
	R12	RESIDENTIAL	BEDROOM	W1/4332	0.6	0.6	0.0	0.0	2.6	2.5	0.1	3.8	20.4	20.2	0.1	1.2	0	0	0	0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0
				W2/4332	1.6	1.5	0.1	6.3									0	0	0	0	0.0	0.0						
				W3/4332	1.6	1.5	0.1	6.3									0	0	0	0	0.0	0.0						
				W4/4332	2.1	2.0	0.1	4.8									0	0	0	0	0.0	0.0						
				W5/4332	4.7	4.6	0.1	2.1									1	0	1	0	0.0	0.0						
	R14	RESIDENTIAL	BEDROOM	W3/4322	4.4	4.1	0.3	6.8	4.4	4.1	0.3	6.8	15.1	14.0	0.2	7.4												
	R15	RESIDENTIAL	RECEPTION	W34/4401	18.6	17.3	1.3	7.0	23.5	22.9	0.6	2.6	99.8	99.7	0	0.1	14	1	14	1	0.0	0.0	48.0	13.0	48.0	13.0	0.0	0.0
				W35/4401	25.2	24.8	0.4	1.6									25	2	25	2	0.0	0.0						
				W36/4401	26.7	26.7	0.0	0.0									44	12	44	12	0.0	0.0						
4402	R5	RESIDENTIAL	LIVING ROOM	W4/4402	21.3	20.5	0.8	3.8	17	14.5	2.5	14.7	77.7	74.7	0.7	3.8												
				W5/4402	17.6	15.3	2.3	13.1																				
				W6/4402	17.1	14.6	2.5	14.6																				
				W7/4402	16.6	14.0	2.6	15.7																				
				W8/4402	10.6	7.0	3.6	34.0																				
				W9/4402	22.1	21.2	0.9	4.1																				
				W10/4402	18.5	16.0	2.5	13.5																				
				W11/4402	18.0	15.3	2.7	15.0																				
				W12/4402	17.5	14.7	2.8	16.0																				
				W13/4402	11.4	7.5	3.9	34.2																				
	R6	RESIDENTIAL	LIVING ROOM	W14/4402	18.6	17.0	1.6	8.6	14.4	10.7	3.7	25.7	60.6	51.7	1.8	14.6												
				W15/4402	14.6	11.1	3.5	24.0																				
				W16/4402	14.4	10.6	3.8	26.4																				
				W17/4402	14.1	10.2	3.9	27.7																				
				W18/4402	9.0	4.2	4.8	53.3																				
				W19/4402	19.4	17.6	1.8	9.3																				
				W20/4402	15.3	11.5	3.8	24.8																				

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