gia
CHARTERED SURVEYORS

DAYLIGHT & SUNLIGHT

INTERNAL DAYLIGHT, SUNLIGHT AND OVERSHADOWING REPORT

Camden Goods Yard

Minor Material Amendments to blocks A, B, C and F

02 July 2020

GIA No: **10766**

PROJECT DATA:

Client	**St. George Plc**
Architect	**Allies and Morrison, Piercy & Co. Architects**
Project Title	**Camden Goods Yard**
Project Number	**10766**

REPORT DATA:

Report Title	**Internal Daylight, Sunlight and Overshadowing Report**
GIA Department	**Daylight & Sunlight**
Dated	**02 July 2020**

Prepared by	**PCA**
Checked by	**ABU**
Type	**Planning**

Revisions	No:	Date:	Notes:	Signed:

SOURCES OF INFORMATION:

Information Received	**IR-63-10766**
Release Number	**Rel_32_10766_DSD**
Issue Number	**23**
Site Photos	**GIA**
3D models	**VERTEX**
OS Data	**FIND Maps**

CONTENTS

1 EXECUTIVE SUMMARY

1.1 EXECUTIVE SUMMARY

The purpose of this report is to ascertain whether the proposed design of blocks A, B, C and F within the Minor Material Amendments application to the Camden Goods Yard extant consent (ref. 2020/0034/P) will provide residential accommodation that is acceptable in terms of daylight, sunlight and overshadowing.

This report contains the final assessments undertaken for all the proposed habitable rooms.

GIA have worked alongside the design team throughout the design process in order to maximise daylight and sunlight amenity within the development and achieve levels of light in line with those of the consented scheme. To this end, a number of preliminary assessments were undertaken and design strategies incorporated within the design to enhance the quality of light within both the proposed accommodation and the communal open spaces. Further details can be found in section 5.

Overall, the results show that the proposed development will provide future occupants with good levels of daylight, in line with those of the 2020 consent (where 88% of all habitable rooms met the criteria for ADF, and 74.1% those for NSL).
Within the new design, 1253 (87.4%) out of all 1433 proposed habitable rooms meet or exceed the BRE recommendation for daylight quantum (ADF), and 1055 (73.6%) achieve the recommended level for sky visibility (NSL). All rooms have been designed in accordance with BRE's RDC, where applicable. It is worth noting that in many instances the levels of light within the proposed blocks far exceed recommendation, providing excellently daylit spaces for future occupants to enjoy.

As with extant consent, levels of light below recommendation are seen in the rooms located on the lower floors, within the courtyards of blocks B and F and beneath balconies, which provide valuable private amenity space whilst reducing light ingress. Further details can be found in section 6.1.

In terms of sunlight, 71.9% of the living areas facing within 90 degrees of due south see good levels throughout the year and in the winter months, improving the overall figure of 63.7% of the consented scheme. On balance, the scheme will provide future occupants with acceptable levels of sunlight, in line with the expectations of an urban location and in excess of those of 2020/0034/P. Further details can be found in section 6.2.

With regard to overshadowing, 62% of the publicly accessible open space on ground floor will receive two or more hours of sunlight on 21st March, providing excellent sunlight amenity to all future residents. In addition, 78% of all communal areas at podium level and rooftop terraces exceed BRE recommendation, providing excellent sunlight amenity. These results are also broadly comparable with those previously consented, where 63% of the ground floor open space and 82% of all communal amenities received two or more hours of sunlight on 21st March respectively. Further details can be found in section 6.3.

Finally, the effects of the proposed minor alterations to blocks A, B, C and F upon the consented blocks D, E1 and E2 have also been assessed and can be found in section 6.4. The results of the assessments show that these blocks will not experience any material change to their daylight and sunlight levels, and therefore no noticeable effects are expected within these blocks.

In conclusion, as a result of careful design and optmisation for daylight, the scheme retains daylight and sunlight levels similar to those of the extant consent, and will provide future residents with access to good levels of natural light.

2 INTRODUCTION

2.1 INTRODUCTION AND OBJECTIVE

This report accompanies the Minor Material Amendments (MMA) application to blocks A, B, C and F within the consented Camden Goods Yard scheme (ref. 2020/0034/P).

GIA has been instructed to provide a report upon the potential availability of Daylight and Sunlight to blocks A, B, C and F proposed within the MMA application and the effect on the entire scheme, including blocks D, E1 and E2 .

The amendments to the 2020 consent relevant for the purpose of this report include:

- Block A1 to increase from 14 to 15 floors (approximately 0.91 m increase from 84.170 mAOD to 85.075 mAOD);
- Block A2 to increase from 11 to 12 floors (approximately 1.58 m increase from 74.050 mAOD to 75.625 mAOD);
- Block B1 to increase from 7 to 8 floors (approximately 2.79 m increase from 62.075 mAOD to 64.775 mAOD);
- Block B2 to increase from 6 to 7 floors (approximately 6.13 m increase from 55.950 mAOD to 62.075 mAOD);
- Block C to increase from 8 to 10 floors at the edge of the application site (approximately 4.65 m from 64.125 m AOD to 68.775 m AOD); and 10 to 11 floors to the tallest part of the block set back from the application site boundary (approximately 1 m from 71.250 mAOD to 72.250 mAOD);
- Block F2 to increase from 9 to 11 floors (approximately 4.90 m increase from 67.315 mAOD to 72.210 mAOD)calc; and
- Amendments to the internal layouts within all blocks.

GIA was specifically instructed to carry out the following:

- Provide consultancy throughout the design process to optimise daylight and sunlight amenity within all blocks;
- Create a 3D computer model of the proposal based upon drawings prepared by Allies and Morrison, Piercy & Co. Architects;
- Carry out a daylight assessment using the methodologies set out in the BRE guidance for Average Daylight Factor, No-Sky Line and Room Depth Criterion;
- Carry out a sunlight assessment using the methodologies set out in the BRE guidance for Annual Probable Sunlight Hours (APSH) to the fenestration facing within 90° of due south;
- Carry out an overshadowing assessment using the methodology set out in the BRE guidance for Sun Hours On Ground (SHOG) for all relevant amenity areas; and
- Prepare a report setting out the analysis and our findings.

3 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)' (BRE BR209), guidelines and methodology for the measurement and assessment of daylight and sunlight within proposed buildings.

This document states that it is intended to be used in conjunction with the daylight recommendations found within the British Standard BS8206-2:2008 and The Applications Manual on Window Design of the Chartered Institution of Building Services Engineers (CIBSE. 1999).

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.

In May 2019 the British Standard BS8206-2:2008 was superseded by the new European Standard on daylight "BS EN 17037:2018 Daylight in buildings". The Standard adopts a new methodology for testing daylight and sunlight in proposed developments based on climatic data as opposed the 'Standard CIE overcast sky' adopted in BS8206-2:2008, and also includes views out and glare.

Following on from the review of the European Standard by a dedicated commission of UK experts (which included the author of the BRE BR209 guidance Dr. Paul Littlefair), the British Standard Institution appended to BS EN 17037:2018 a UK National Annex which brings the recommended light levels in line with those of BS8206-2:2008.

BRE is currently looking to update and re-publish BR209 to align their guidance with the new BS EN 17037:2018 in 2020. Until then, the position of BRE can be summarised from a post by Dr. Littlefair on the LinkedIn Planning Daylight & Sunlight Group (BRE BR209): *"Until BR 209 is rewritten, we are adopting a flexible approach to applying the two standards, for example in assessing the daylight and sunlight available in new buildings. So, for example, if we were reviewing a daylight report for a local authority, we would consider it reasonable to accept either average daylight factor tables using BS 8206 or median daylight factors/median illuminance calculated using EN 17037, provided they were calculated and presented properly"*.

Given the above and the reference to the BRE guidance in planning policies, the assessments within this report are carried out with the criteria and methodologies set out in BRE BR209 and BS8206-2:2008. It is not considered that calculations undertaken according to BS EN 17037:2018 would alter the conclusions meaningfully.

3.1 DAYLIGHT

The BRE set out various methods for assessing the daylight within a proposed building within section 2.1 and Appendix C of the handbook. These are summarised below.

Vertical Sky Component (VSC)

This method of assessment can be undertaken using a skylight indicator or a Waldram diagram. It measures from a single point, at the centre of the window (if known at the early design stage), the quantum of sky visible taking into account all external obstructions. Whilst these obstructions can be either other buildings or the general landscape, trees are usually ignored unless they form a continuous or dense belt of obstruction.

The VSC method is a useful 'rule of thumb' but has some significant limitations in determining the true quality of daylight within a proposed building. It does not take into account the size of the window, any reflected light off external obstructions, any reflected light within the room, or the use to which that room is put. Appendix C of the guide goes into more detail on these matters and sets forward alternative methods for assessment to overcome these limitations.

Appendix C of the BRE guide: Interior Daylighting Recommendations, states:

"The British Standard Code of practice for daylighting (BS 8206-2) and the CIBSE Lighting Guide LG 10 Daylighting and window design contain advice and guidance on interior daylighting. The guidance contained in this publication (BR 209) is intended to be used with BS 8206-2 and LG 10. Both these publications refer to BR 209.

For skylight BS 8206-2 and LG 10 put forward three main criteria, based on average daylight factor (ADF); room depth; and the position of the no sky line."

These assessments are set out below.

Average Daylight Factor (ADF)

"If a predominantly daylit appearance is required, then the ADF should be 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary electric lighting is provided. There are additional recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. These additional recommendations are minimum values of ADF which should be attained even if a predominantly daylit appearance is not achievable."

This method of assessment takes into account the total glazed area to the room, the transmittance quality of the glazing proposed, the total area of the room surfaces including ceilings and floors, and the internal average reflectance for the room being assessed. The method also takes into account the Vertical Sky Component and the quantum of reflected light off external surfaces.

This is, therefore, a significantly more detailed method of assessment than the Vertical Sky Component method set out above.

Room Depth Criterion (RDC)

Where it has access to daylight from windows in one wall only, the depth of a room can become a factor in determining the quantity of light within it. The BRE guidance provides a simple method for examining the ratio of room depth to window area. However, whilst it does take into account internal surface reflections, this method also has significant limitations in that it does not take into account any obstructions outside the window and therefore draws no input from the quantity of light entering the room.

No Sky Line (NSL)

This third method of assessment is a simple test to establish where within the proposed room the sky will be visible through the windows, taking into account external obstructions. The assessment is undertaken at working plane height (850mm above floor level) and the method of calculation is set out in Appendix D of the BRE handbook.

Appendix C of the BRE handbook states *"If a significant area of the working plane (normally more than 20%) lies beyond the no sky line (ie it receives no direct skylight) then the distribution of daylight in*

the room will look poor and supplementary electric lighting will be required." To guarantee a satisfactory daylight uniformity, the area which does not receive direct skylight should not exceed 20% of the floor area, as quantified in the BS 8206 Part 2 2008.

Summary

The Average Daylight Factor gives a more detailed assessment of the daylight within a room and takes into account the highest number of factors in establishing a quantitative output.

However, the conclusion of Appendix C of the BRE guide states:

"[All three of] the criteria need to be satisfied if the whole of the room is to look adequately daylit. Even if the amount of daylight in a room (given by the Average Daylight Factor) is sufficient, the overall daylight appearance will be impaired if its distribution is poor."

In most urban areas it is important to recognise that the distribution of daylight within a room may be difficult to achieve, given the built-up nature of the environment. Consequently, in line with the flexibility allowed within the guidance for the interpretation of numerical guidelines, most local authorities seek to ensure primarily that there is sufficient daylight within the room as determined by the Average Daylight Factor calculation. However, the additional recommendations of the BRE and British Standard for residential accommodation, set out above, ought not to be overlooked.

3.2 SUNLIGHT

The BRE provide guidance in respect of sunlight quality for new developments within section 3.1 of the handbook. It is generally acknowledged that the presence of sunlight is more significant in residential accommodation than it is in commercial properties, and this is reflected in the BRE document.

It states, *"in housing, the main requirement for sunlight is in living rooms, where it is valued at any time of the day, but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens where people prefer it in the morning rather than the afternoon."*

The BRE guide considers the critical aspects of orientation and overshadowing in determining the availability of sunlight at a proposed development site.

The guide proposes minimizing the number of dwellings whose living room face solely north unless there is some compensating factor such as an appealing view to the north, and it suggests a number of techniques to do so. Furthermore, it discusses massing solutions with a sensitive approach to overshadowing, so as to maximize access to sunlight.

At the same time, it acknowledges that the site's existing urban environment may impose orientation or overshadowing constraints which may not be possible to overcome.

To quantify sunlight access for interiors where sunlight is expected, it refers to the BS 82606-2 criterion of Annual Probable Sunlight Hours. APSH is defined as *"the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness at the location in question."* In line with the recommendation, APSH is measured from a point on the inside face of the window, should the locations have been decided. If these are unknown, sunlight availability is checked at points 1.6m above the ground or the lowest storey level on each main window wall, and no more than 5m apart. If a room has multiple windows on the same wall or on adjacent walls, the highest value of APSH should be taken into account. If a room has two windows on opposite walls, the APSH for each can be added together.

The summary of section 3.1 of the guide states as follows:

"In general, a dwelling or non-domestic building which has a particular requirement for sunlight, will appear reasonably sunlit provided that:

- *At least one main window faces within 90 degrees of due south, and*

- *The centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March. "*

In paragraph 3.1.11 the BRE guidance suggests that if a room faces significantly North of due East or West it is unlikely to meet the recommended levels proposed by the BS 8206-2. As such, it is clear that only windows facing within 90 degrees of due South can be assessed using this methodology.

It is also worth noting how paragraph 5.3 of the BS 8206-2 suggests that with regards to sunlight duration *"the degree of satisfaction is related to the expectation of sunlight. If a room is necessarily north facing or if the building is in a densely-built urban area, the absence of sunlight is more acceptable than when its exclusion seems arbitrary"*.

3.3 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."

4 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 Allies and Morrison, Piercy & Co. Architects. This has been placed in the context of its surrounding buildings which have been modelled from photogrammetry and OS. 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.

4.1 SIMULATION ASSUMPTIONS

Where no values for reflectance, transmittance and maintenance factor were specified by the designer the following values from *BS 8206-2:2008, Annex A, tables A.1-A.6* were used for the calculation of Average Daylight Factor values. These values are shown in Table 1.

A 75% visible light transmittance and 15% framing factor has been used for all windows within the proposed scheme and a light veneer has been assumed for the reflectance value of all internal floors.

Table 01: Typical reflectance, transmittance and maintenance factors

REFLECTANCE VALUES:	
Surrounding	0.2
Pavement	0.2
Grass	0.1
Water	0.1
Yellow brick	0.3
Red brick	0.2
Portland Stone	0.6
Concrete	0.4
Internal walls (light grey)	0.68
Internal ceiling (white paint)	0.85
Internal floor (medium veneer)	0.3
Internal floor (light veneer)	0.4

TRANSMITTANCE VALUES	TV
Triple glazing (Low-E): Pilkington K Glass 4/12/4/12/4 Argon filled 90%	0.63
Double glazing (Low-E): Pilkington K Glass 4/16/4 Argon filled 90%	0.75
Single glazing: Pilkington Optifloat Clear 4mm Annealed	0.90

MAINTENANCE FACTORS: GLAZING TYPE	TV (Normal)	A.3	A.4	A.5	A.6	TV (Total)
Triple Low-E (frames modelled)	0.63	8	1	1	1	0.58
Triple Low-E (frames not modelled)	0.63	8	1	1	0.85	0.49
Triple Low-E (inclined, frames modelled)	0.63	8	2	1	1	0.53
Triple Low-E (inclined, frames not modelled)	0.63	8	2	1	0.85	0.45
Triple Low-E (horizontal, frames modelled)	0.63	8	3	1	1	0.48
Triple Low-E (horizontal, frames not modelled)	0.63	8	3	1	0.85	0.41
Double Low-E (frames modelled)	0.75	8	1	1	1	0.69
Double Low-E (frames not modelled)	0.75	8	1	1	0.85	0.59
Double Low-E (inclined, frames modelled)	0.75	8	2	1	1	0.63
Double Low-E (inclined, frames not modelled)	0.75	8	2	1	0.85	0.54
Double Low-E (horizontal, frames modelled)	0.75	8	3	1	1	0.57
Double Low-E (horizontal, frames not modelled)	0.75	8	3	1	0.85	0.48
Single (frames modelled)	0.9	8	1	1	1	0.83
Single (frames not modelled)	0.9	8	1	1	0.85	0.70
Single (inclined, frames modelled)	0.9	8	2	1	1	0.76
Single (inclined, frames not modelled)	0.9	8	2	1	0.85	0.64
Single (horizontal, frames modelled)	0.9	8	3	1	1	0.68
Single (horizontal, frames not modelled)	0.9	8	3	1	0.85	0.58

5 DESIGN EVOLUTION

In order to ascertain the levels of daylight and sunlight within blocks A, B, C and F of the proposed MMA application, technical assessments have been undertaken within all habitable rooms and all proposed open spaces, in line with the scope undertaken for the 2020 consent (ref. 2020/0034/P).

GIA worked alongside Allies and Morrison and Piercy and Co. Architects from the early stages of design to deliver a scheme that makes the most of the available daylight and sunlight to provide good quality residential accommodation. The consultancy process was carried out on a test/feedback basis with the aim of informing the necessary design changes to achieve results that are broadly comparable with those of the 2018 consented scheme.

To this end, iterative reviews of internal layouts and façade details was carried out throughout the entire design process. Once initial internal arrangements were set out, interim assessments were carried out and advice on a room-by-room basis was provided to optimise daylight and sunlight amenity. This allowed to identify areas with higher and lower daylight and sunlight potential, and to explore solutions for design optimisation.

Strategies that have been implemented to improve the levels of light reflect those adopted in 2020 and have been fine-tuned for the current design. These include:

- Prioritising daylight in living areas where it is typically most valued by occupants, for example by providing dual aspect spaces where possible, or by locating them in the best daylit areas of the facades;
- Reconfiguring the internal layouts to enhance the daylit appearance of spaces according to room use;
- Reviewing the fenestration size in response to the interim technical assessments, and adopting slender window frames to maximise glazing area;
- Balancing the provision of private amenity in the form of balconies with the internal daylight and sunlight levels. Whilst providing a valuable form of amenity, balconies also introduce additional obstructions for the windows directly below, thereby reducing the light ingress within the rooms; and
- Adopting a lighter floor finish throughout to help spread light at the rear of the rooms.

As a result of the above, the scheme makes the most of the available daylight and sunlight and, on balance, will provide future residents and users with good daylight and sunlight amenity, in line with the levels consented in 2020.

The following sections of this report present a detailed discussion of results and the outcome of the final techinical assessments.

6 CONCLUSIONS

6.1 CONCLUSIONS ON DAYLIGHT

All habitable rooms have been assessed for Average Daylight Factor (ADF), No Sky Line (NSL), and Room Depth Criterion (RDC). These have been tested in the proposed scenario and no consented schemes in the vicinity of the Site are considered relevant for daylight and sunlight testing.

Overall, 1253 (87.4%) out of all 1433 proposed habitable rooms meet or exceed the BRE recommendation for daylight quantum (ADF), and 1055 (73.6%) achieve the recommended level for sky visibility (NSL). All rooms have been designed in accordance with BRE's RDC, where applicable. These results are in line with those of the extant consent, where 88% of habitable rooms met or exceeded the recommended levels for ADF, and 74.1% for NSL. It is worth noting that in many instances the levels of light within the proposed blocks far exceed recommendation, with a total of 1019 (84.9%) rooms exceeding ADF recommendation by more than 50%, and 816 (81.9%) seeing ADF levels at least double than those suggested by the guidance.

Of the 12.6% of proposed habitable rooms that do not meet BRE's guidelines for ADF, 62 open plan living/kitchen/dining areas (L/K/Ds) achieve the recommendation of 1.5% ADF for living rooms, and eight living rooms and 21 bedrooms only fall marginally short (0.1-0.2% ADF) of their respective recommended daylight levels. As such, a total of 1344 (93.8%) of the 2190 habitable rooms will offer good daylight levels given their urban location.

Of the remaining 89 rooms seeing lower levels of daylight, 52 are L/K/Ds, 25 are living rooms, 4 are kitchens and eight are bedrooms. As is typical in urban developments, and as with the 2017 consent, the relatively small number of rooms seeing lower levels of light are located on the lowest floors of the scheme, beneath balconies and behind the internal facades looking onto the podiums where a higher level of obstruction naturally occurs. These rooms are generously sized, and all living areas are provided with private amenity spaces in the form of balconies, which typically reduce the light ingress. This is generally considered an acceptable balance between the provision of daylight amenity and private amenity space in modern urban environments. The generous size of the proposed rooms also influences the ADF values as the areas at the rear, which are usually less well lit, serve to reduce the average. However, future occupants benefit from a larger space and will still be able to enjoy much higher daylight levels in the front part of these rooms.

In conclusion, the design has been optimised to provide the vast majority of units with excellent daylight amenity. In the few areas where lower daylight is available, as is common in the urban environment and as also identified in the consented scheme, the design has sought to find a balance between daylight and the provision of private amenity in the form of balconies, which offset any deficiencies in daylight provision. As a result, despite seeing daylight levels below recommendation, the few rooms located in these areas can still be considered acceptably daylit given their optimised layouts.

Therefore, it is considered that the revised design of blocks A, B, C and F proposed within the MMA application will provide future residents with good daylight amenity overall.

6.2 CONCLUSIONS ON SUNLIGHT

To ascertain the levels of sunlight within the proposed residential accommodation, all living spaces with a main window facing within 90 degrees of due south have been assessed for Probable Sunlight Hours (PSH), both Annually (APSH) and in Winter (WPSH).

The results show that 246 (73.4%) of the 335 tested living areas meet or exceed the recommended sunlight levels throughout the year and 283 (84.5%) will be well sunlit during the winter months. A total of 241 (71.9%) living areas meet recommendation both annually and in winter. These results are also in line with those found for the 2020 consent, where 65.0% of all windows met the recommended annual sunlight levels, 84.8% those for winter, and 63.7% both of them respectively.

The occurrence of lower sunlight availability is typical of the urban environment, especially on the lowest floors. In most of the tested rooms this is also due to the provision of balconies that naturally obstruct access to direct sunlight, acting as shading devices especially in the summer months. However, occupants will still have access to sunlight through the use of the balconies.
In the winter months, when the sun angle is lower, sunlight is less intercepted by the balconies overhead and can penetrate more easily within the rooms. As

such, sunlight amenity increases in winter overall, as demonstrated by the higher number of rooms meeting BRE's recommendation for WPSH. This is also the period of the year where passive solar heating is preferred.

Overall, the scheme will provide future occupants with acceptable levels of sunlight, in line with those of the consented scheme.

6.3 CONCLUSIONS ON OVERSHADOWING

As suggested by BRE, all proposed open spaces have been assessed for Sun Hours on Ground (SHOG).

The results of the BRE test for the publicly accessible open space on ground floor are presented on page 124 and show that, overall, 62% of its area will receive two or more hours of sunlight on 21st March, providing excellent sunlight amenity to all future residents. This result is very similar to that of the consent, where 63% of this area met BRE's recommendation.
The sunlight exposure diagrams on pages 125-126 allow an appreciation of the levels of sunlight available on spring equinox and summer soltice.

Overall, 78% of all communal areas at podium level and rooftop terraces exceed BRE recommendation, providing excellent sunlight amenity. The detailed breakdown per area can be found in the table accompanying the BRE diagram on page 127. Similarly to the consent (where 82% of all areas met recommendation), lower levels of sunlight are available within the proposed courtyard of Block F, however, this area is primarily aimed as a visual amenity and the occupants will be able to enjoy sunlight through the use of other open spaces within the site.

In conclusion, it is considered that the scheme will provide future residents and users with access to excellent sunlight amenity overall.

6.4 CONCLUSIONS ON THE EFFECTS ON BLOCKS D, E1 AND E2

Blocks D, E1 and E2 are located to the south of the scheme and only their north-facing facades have the potential to be affected by the proposed minor massing alterations of blocks A, B, C, and F.

Due to their location and orientation, sunlight amenity within these blocks will not be affected by the amended design of blocks A, B, C and F.

In order to gauge the effects on daylight of the amended massing upon the consented blocks D, E1 and E2 a Vertical Sky Component (VSC) facade study has been undertaken, which allows to identify how the massing alterations affect daylight availabilty on the windows of these buildings. The results of this assessment are presented on pages 130-132 in false-colour diagrams illustrating the consented VSC levels, the proposed VSC levels and the relative VSC reductions.

278 (94%) out of all 296 windows facing the proposed blocks will see VSC reductions below 20%, unlikely to be noticeable.

Of the remaining windows, 18 will see reductions below 30%, one will see a reduction below 40% and one in excess of 40%. The consented VSC levels for these windows are all below 10% VSC, meaning that small absolute alterations result in high and disproportionate relative reductions. However, the absolute alterations for these windows are very small and are all below 2.7% VSC, which is not considered noticeable. Therefore, future occupants of the rooms served by these windows are unlikely to be noticeably affected.

In conclusion, the proposed minor material amendments to blocks A, B, C and F will not affect materially the daylight and sunlight amenity of blocks D, E1 and E2.

7 SITE OVERVIEW

Fig. 01: Top view

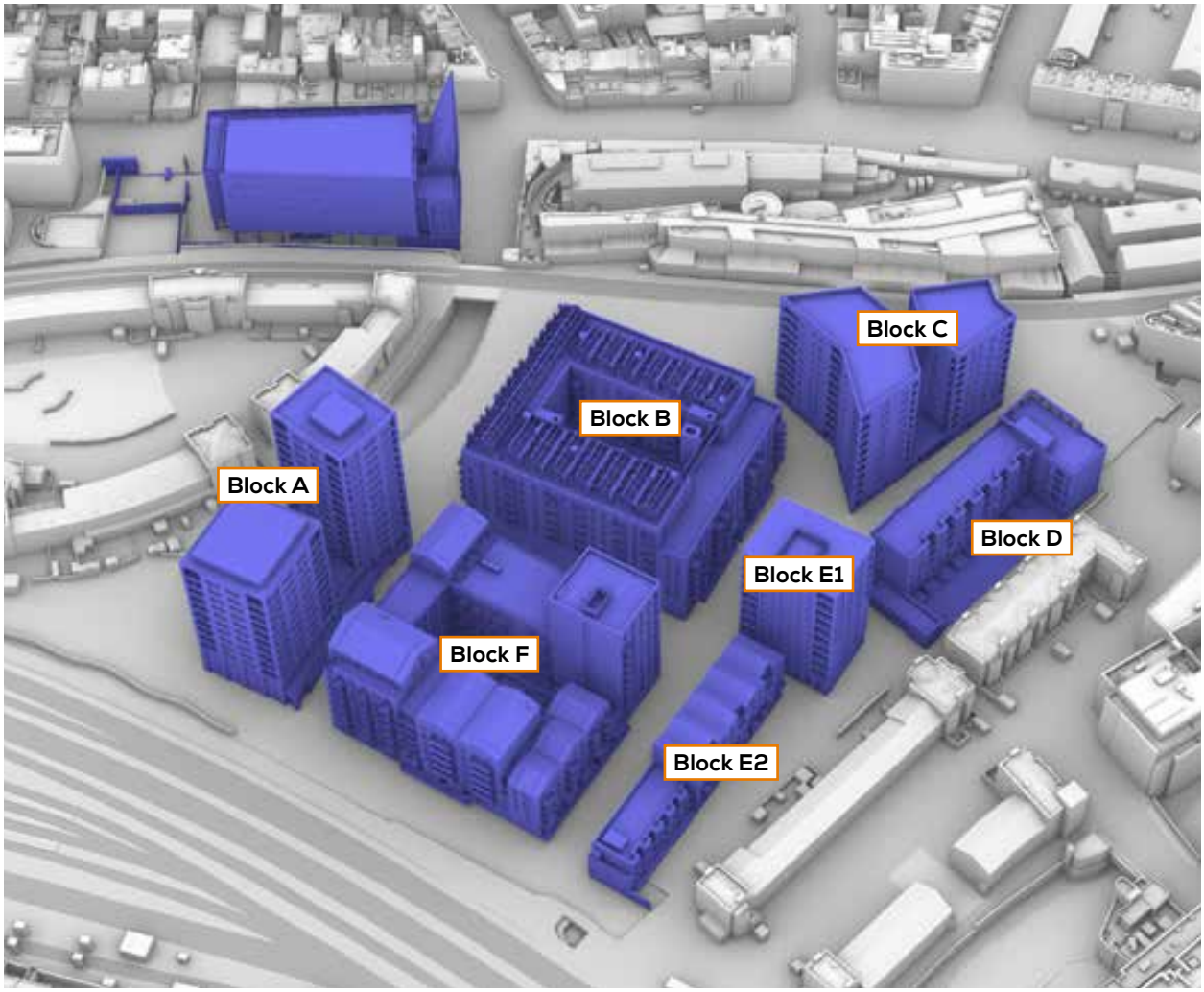


Fig. 02: Perspective view

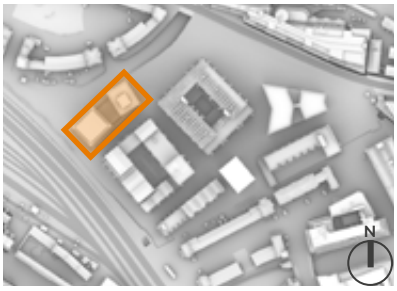
8 INTERNAL DAYLIGHT ASSESSMENTS

Block A - Second Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - SECOND FLOOR						
1	Living Room	5.5	100	N/A		
2	Bedroom	4.9	100	MET		
3	Bedroom	4.5	99	MET		
4	Living Room	3.2	100	N/A	29	5
5	Bedroom	2.8	78	MET		
6	L/K/D	2.5	99	N/A	27	4
7	Bedroom	1.9	90	MET		
8	Bedroom	2.7	97	MET		
9	L/K/D	5.5	100	N/A	14	2
10	Bedroom	6.7	100	MET		
11	Living Room	2.8	100	N/A		
12	Bedroom	2.9	96	MET		
13	Bedroom	2.5	96	MET		
14	Living Room	1.8	85	N/A	0	0
15	Bedroom	1.6	49	MET		
16	Bedroom	1.4	38	MET		
17	Bedroom	2.9	83	MET		
18	L/K/D	4.5	100	N/A	32	21
19	Bedroom	2	94	MET		
20	L/K/D	3.1	100	MET	59	23
21	L/K/D	3.1	100	MET	59	23
22	Bedroom	2.2	94	MET		
23	L/K/D	5.1	100	N/A	26	13
24	Bedroom	6.8	100	MET		
25	Bedroom	3.8	98	MET		
26	Bedroom	4.1	98	MET		

Table 02: Assessment Data

Fig. 03: Floor Plan



Block A - Third Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - THIRD FLOOR						
27	Living Room	5.7	100	N/A		
28	Bedroom	5.1	100	MET		
29	Bedroom	4.7	100	MET		
30	Living Room	3.5	100	N/A	38	10
31	Bedroom	3.4	88	MET		
32	L/K/D	2.9	99	N/A	38	8
33	Bedroom	1.9	91	MET		
34	Bedroom	2.8	97	MET		
35	L/K/D	5.5	100	N/A	14	2
36	Bedroom	6.8	100	MET		
37	Living Room	2.9	100	N/A		
38	Bedroom	3	98	MET		
39	Bedroom	2.7	99	MET		
40	Living Room	2.1	95	N/A	3	0
41	Bedroom	1.9	61	MET		
42	Bedroom	1.7	59	MET		
43	Bedroom	3.3	87	MET		
44	L/K/D	4.7	100	N/A	37	21
45	Bedroom	2	94	MET		
46	L/K/D	3.2	100	MET	59	23
47	L/K/D	3.1	100	MET	59	23
48	Bedroom	2.2	94	MET		
49	L/K/D	5	100	N/A	26	13
50	Bedroom	6.8	100	MET		
51	Bedroom	3.9	98	MET		
52	Bedroom	4.1	98	MET		

Table 03: Assessment Data

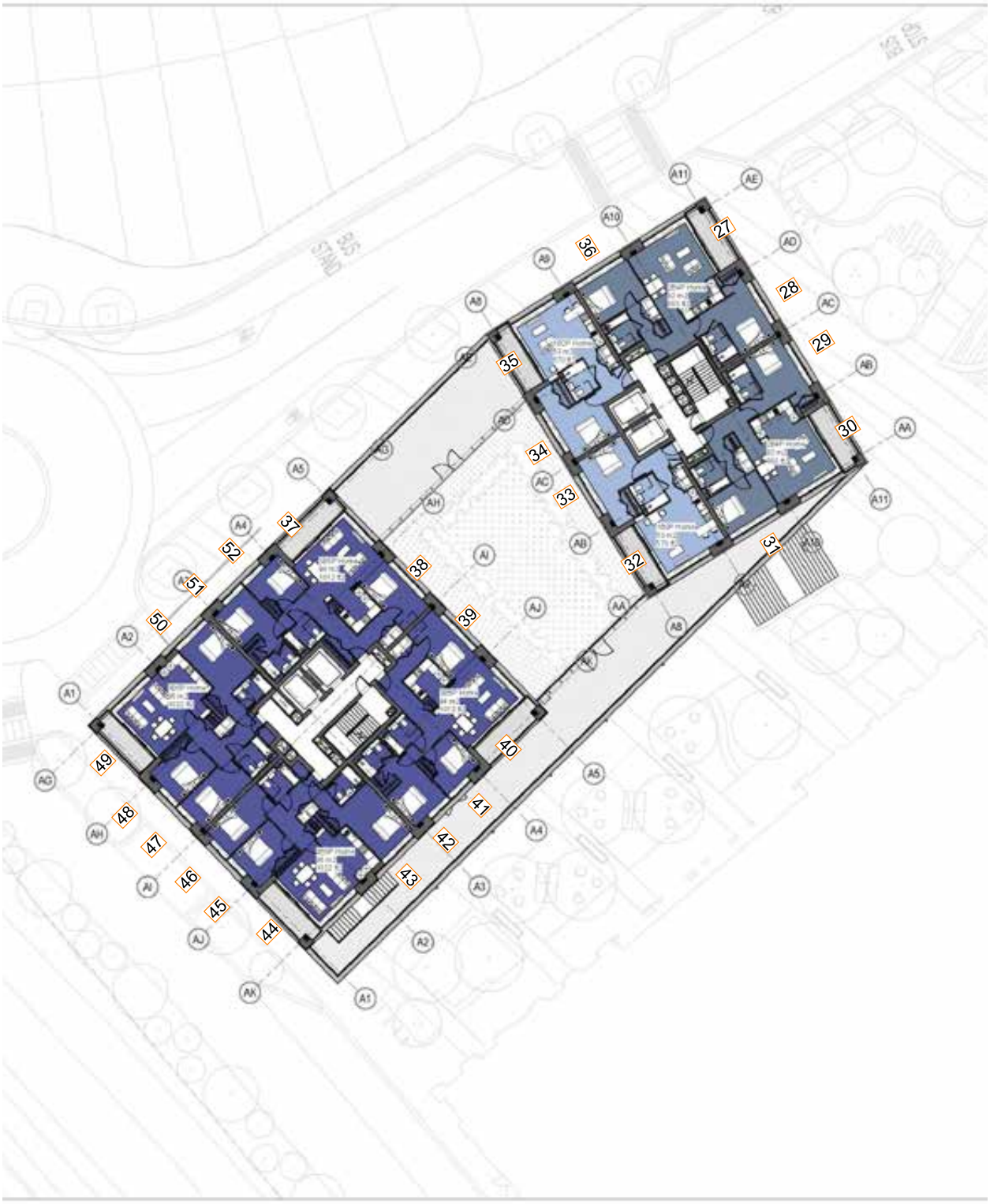


Fig. 04: Floor Plan

Block A - Fourth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - FOURTH FLOOR						
53	Living Room	5.7	100	N/A		
54	Bedroom	5.2	100	MET		
55	Bedroom	4.8	100	MET		
56	Living Room	4	100	N/A	42	11
57	Bedroom	4.1	100	MET		
58	L/K/D	3.4	99	N/A	46	11
59	Bedroom	2	91	MET		
60	Bedroom	2.8	97	MET		
61	L/K/D	5.6	100	N/A	14	2
62	Bedroom	6.9	100	MET		
63	Living Room	3.2	100	N/A		
64	Bedroom	3	98	MET		
65	Bedroom	2.7	99	MET		
66	Living Room	2.3	99	N/A	8	1
67	Bedroom	2.4	84	MET		
68	Bedroom	2.2	94	MET		
69	Bedroom	3.8	100	MET		
70	L/K/D	4.9	100	N/A	41	23
71	Bedroom	2.1	94	MET		
72	L/K/D	3.2	100	MET	59	23
73	L/K/D	3.1	100	MET	59	23
74	Bedroom	2.1	94	MET		
75	L/K/D	5.4	100	N/A	26	13
76	Bedroom	6.9	100	MET		
77	Bedroom	3.9	98	MET		
78	Bedroom	4.2	98	MET		

Table 04: Assessment Data

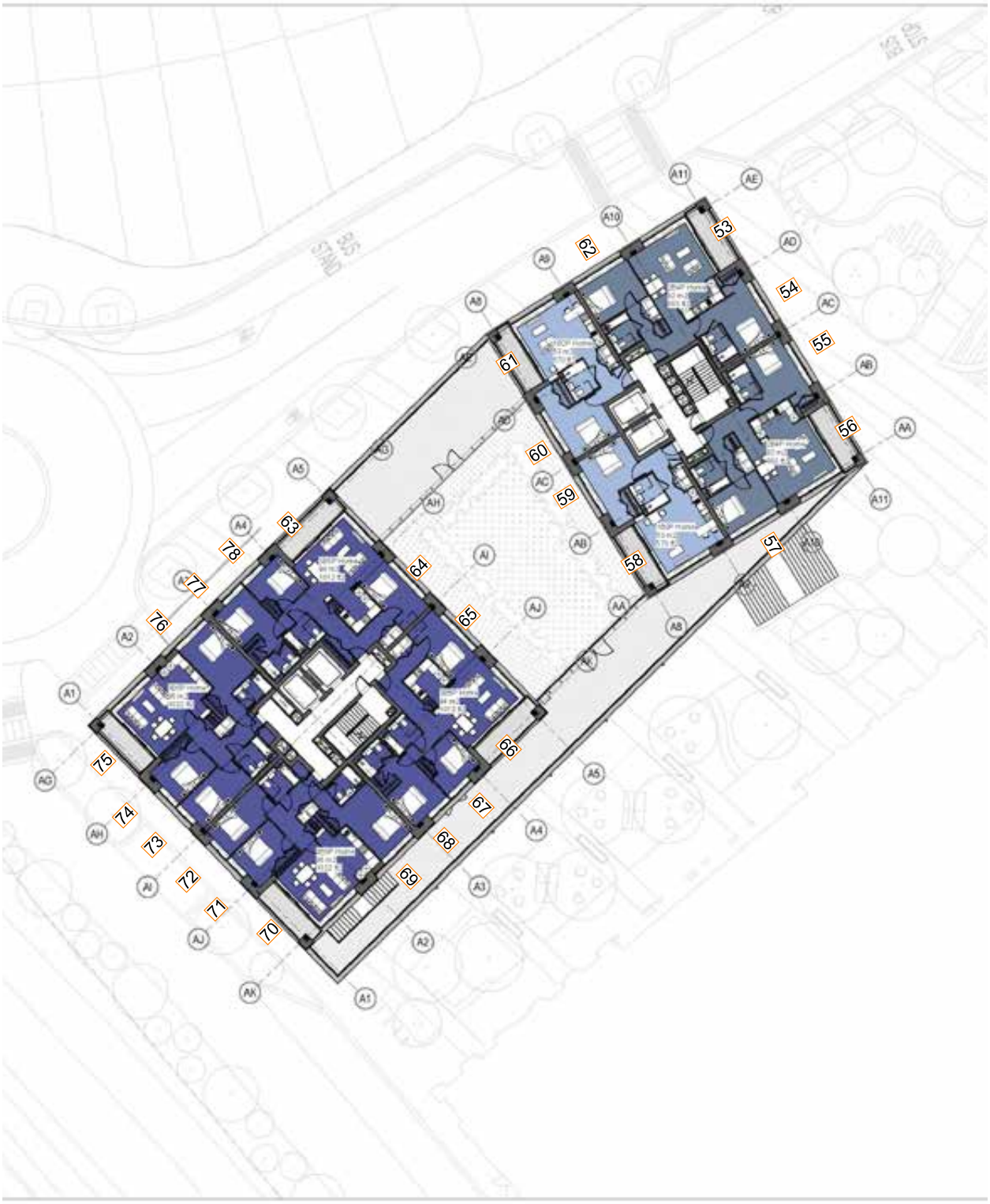


Fig. 05: Floor Plan

Block A - Fifth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - FIFTH FLOOR						
79	Living Room	5.8	100	N/A		
80	Bedroom	5.6	100	MET		
81	Bedroom	5.1	100	MET		
82	Living Room	4.5	100	N/A	52	16
83	Bedroom	4.9	100	MET		
84	L/K/D	3.9	99	N/A	56	17
85	Bedroom	2.1	91	MET		
86	Bedroom	2.9	97	MET		
87	L/K/D	5.7	100	N/A	14	2
88	Bedroom	7	100	MET		
89	Living Room	3.3	100	N/A		
90	Bedroom	3.1	98	MET		
91	Bedroom	2.9	99	MET		
92	Living Room	2.6	100	N/A	15	4
93	Bedroom	3	88	MET		
94	Bedroom	2.6	95	MET		
95	Bedroom	4.4	100	MET		
96	L/K/D	5.2	100	N/A	51	23
97	Bedroom	2.1	94	MET		
98	L/K/D	3.2	100	MET	59	23
99	L/K/D	3.1	100	MET	59	23
100	Bedroom	2.3	94	MET		
101	L/K/D	5.3	100	N/A	26	13
102	Bedroom	6.9	100	MET		
103	Bedroom	3.9	98	MET		
104	Bedroom	4.1	98	MET		

Table 05: Assessment Data

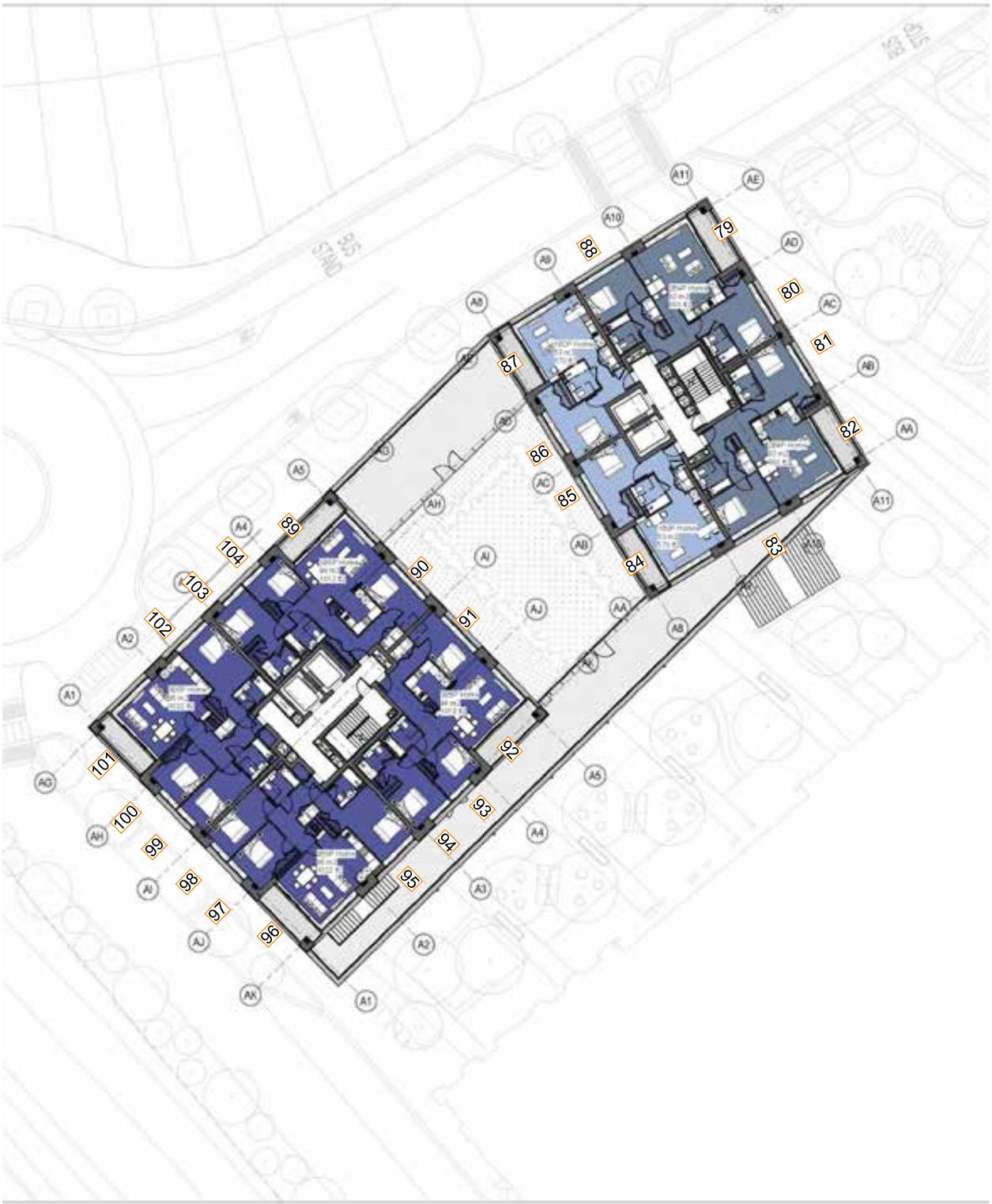
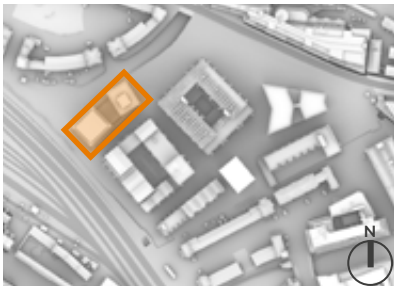


Fig. 06: Floor Plan



Block A - Sixth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - SIXTH FLOOR						
105	Living Room	5.9	100	N/A		
106	Bedroom	5.7	100	MET		
107	Bedroom	5.2	100	MET		
108	Living Room	5	100	N/A	56	19
109	Bedroom	5.8	100	MET		
110	L/K/D	4.4	99	N/A	60	20
111	Bedroom	2.3	91	MET		
112	Bedroom	3.1	97	MET		
113	L/K/D	5.7	100	N/A	14	2
114	Bedroom	7	100	MET		
115	Living Room	3.4	100	N/A		
116	Bedroom	3.3	99	MET		
117	Bedroom	3.1	99	MET		
118	Living Room	2.7	100	N/A	19	6
119	Bedroom	3.4	92	MET		
120	Bedroom	3	98	MET		
121	Bedroom	5.2	100	MET		
122	L/K/D	5.6	100	N/A	59	25
123	Bedroom	2	94	MET		
124	L/K/D	3.2	100	MET	59	23
125	L/K/D	3.1	100	MET	59	23
126	Bedroom	2.1	94	MET		
127	L/K/D	5.1	100	N/A	26	13
128	Bedroom	7	100	MET		
129	Bedroom	3.9	98	MET		
130	Bedroom	4.2	98	MET		

Table 06: Assessment Data

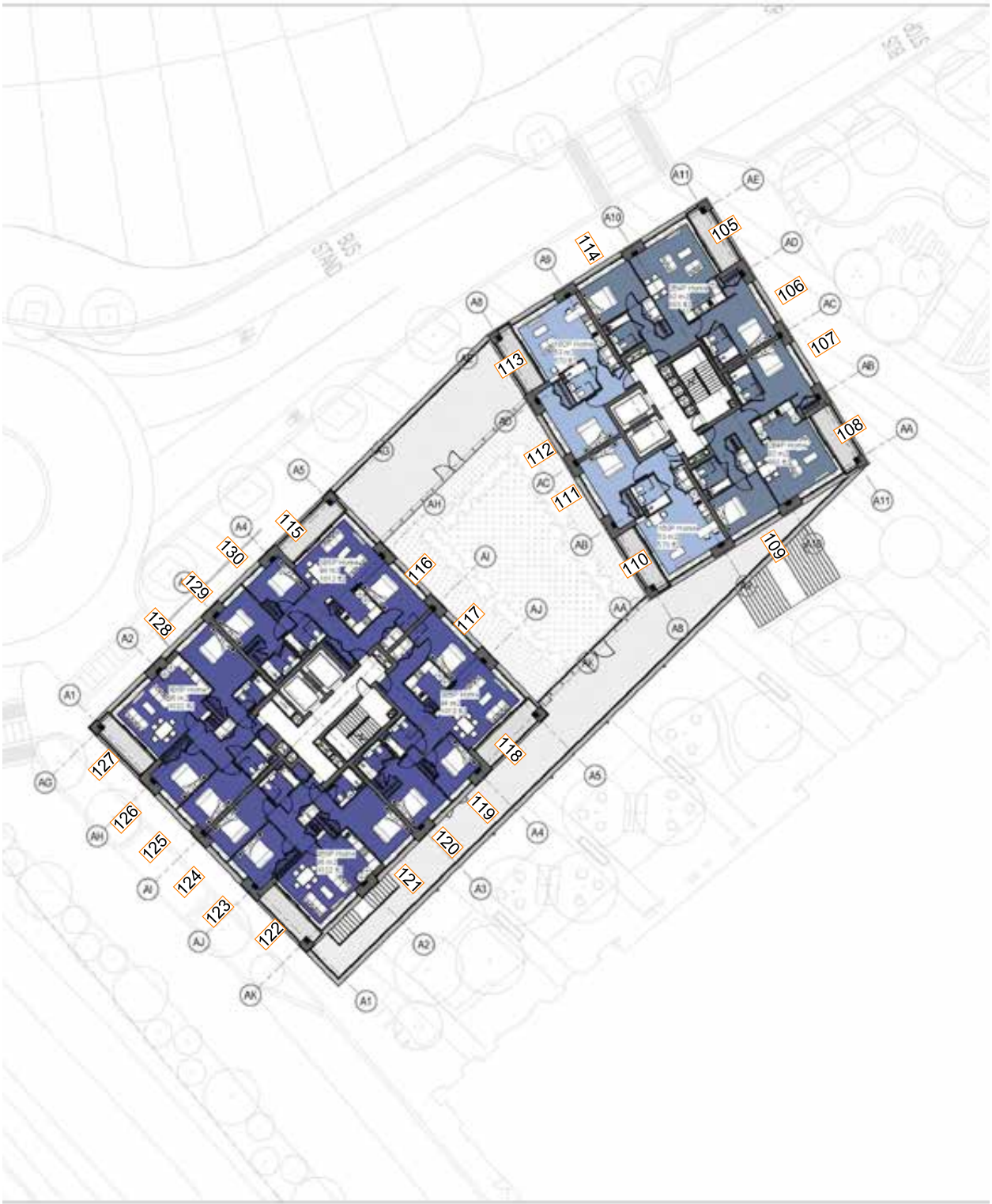
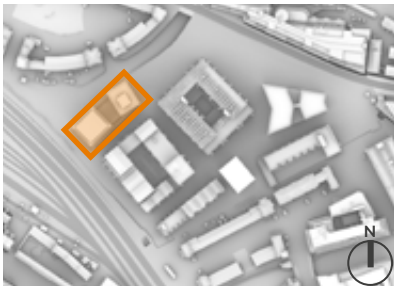


Fig. 07: Floor Plan



Block A - Seventh Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - SEVENTH FLOOR						
131	Living Room	5.9	100	N/A		
132	Bedroom	5.8	100	MET		
133	Bedroom	5.5	100	MET		
134	Living Room	5.4	100	N/A	66	24
135	Bedroom	6.5	100	MET		
136	L/K/D	4.9	99	N/A	66	23
137	Bedroom	2.6	91	MET		
138	Bedroom	3.3	97	MET		
139	L/K/D	5.7	100	N/A	14	2
140	Bedroom	7.1	100	MET		
141	Living Room	3.3	100	N/A		
142	Bedroom	3.5	100	MET		
143	Bedroom	3.3	99	MET		
144	Living Room	3.3	100	N/A	22	9
145	Bedroom	3.9	98	MET		
146	Bedroom	3.4	98	MET		
147	Bedroom	5.9	100	MET		
148	L/K/D	5.9	100	N/A	63	26
149	Bedroom	2.1	94	MET		
150	L/K/D	3.2	100	MET	59	23
151	L/K/D	3.1	100	MET	59	23
152	Bedroom	2.2	94	MET		
153	L/K/D	5.2	100	N/A	26	13
154	Bedroom	7	100	MET		
155	Bedroom	3.9	98	MET		
156	Bedroom	4.1	98	MET		

Table 07: Assessment Data

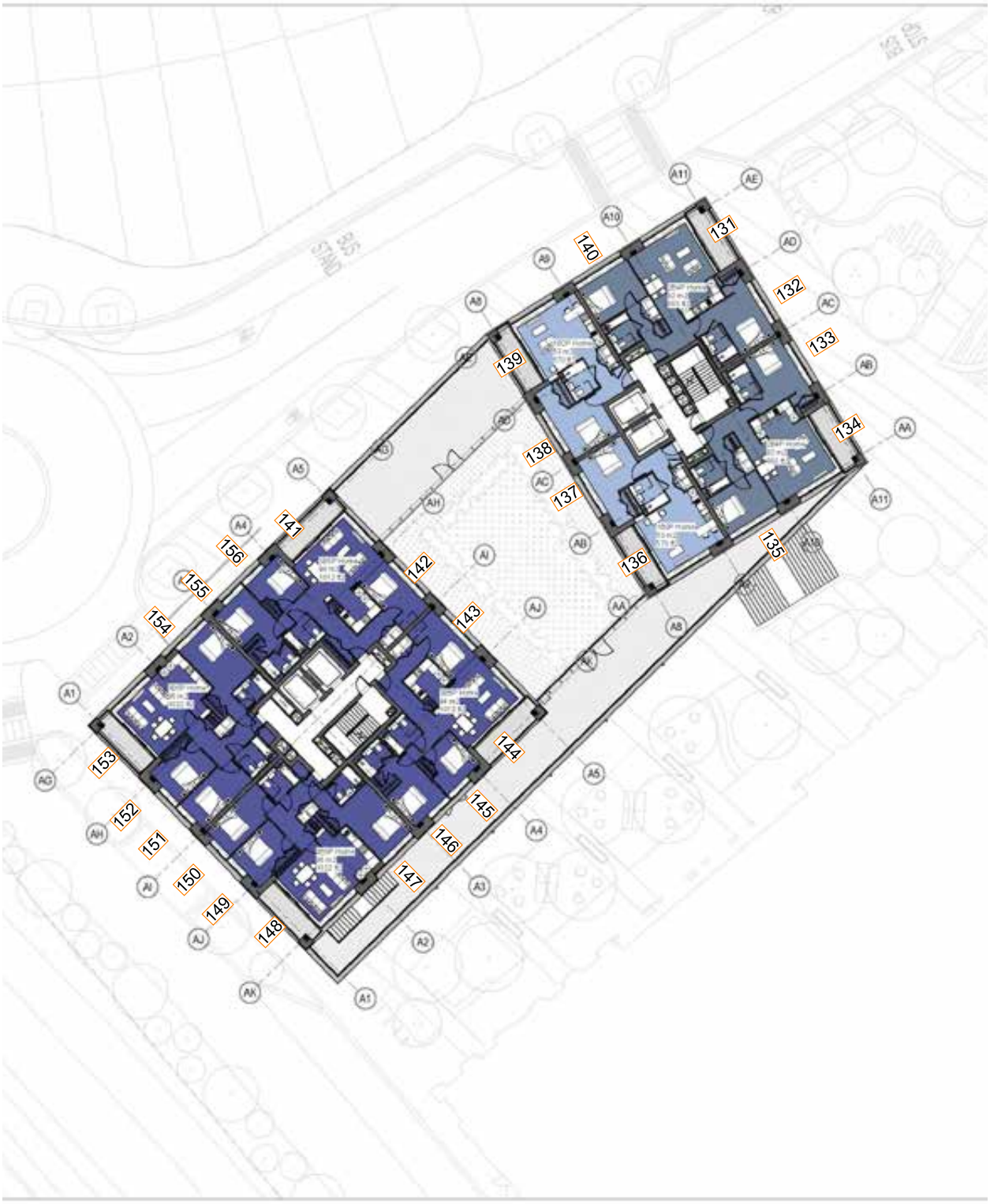


Fig. 08: Floor Plan

Block A - Eighth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - EIGHTH FLOOR						
157	Living Room	6	100	N/A		
158	Bedroom	5.9	100	MET		
159	Bedroom	5.6	100	MET		
160	Living Room	5.7	100	N/A	69	25
161	Bedroom	6.9	100	MET		
162	L/K/D	5.2	99	N/A	69	25
163	Bedroom	2.9	91	MET		
164	Bedroom	3.6	97	MET		
165	L/K/D	5.9	100	N/A	14	2
166	Bedroom	7	100	MET		
167	Living Room	3.2	100	N/A		
168	Bedroom	3.6	100	MET		
169	Bedroom	3.5	99	MET		
170	Living Room	3.7	100	N/A	26	12
171	Bedroom	4.1	98	MET		
172	Bedroom	3.7	98	MET		
173	Bedroom	6.5	100	MET		
174	L/K/D	6.1	100	N/A	65	27
175	Bedroom	2	94	MET		
176	L/K/D	3.2	100	MET	59	23
177	L/K/D	3.2	100	MET	59	23
178	Bedroom	2.3	94	MET		
179	L/K/D	5.3	100	N/A	26	13
180	Bedroom	6.9	100	MET		
181	Bedroom	4	98	MET		
182	Bedroom	4.2	98	MET		

Table 08: Assessment Data

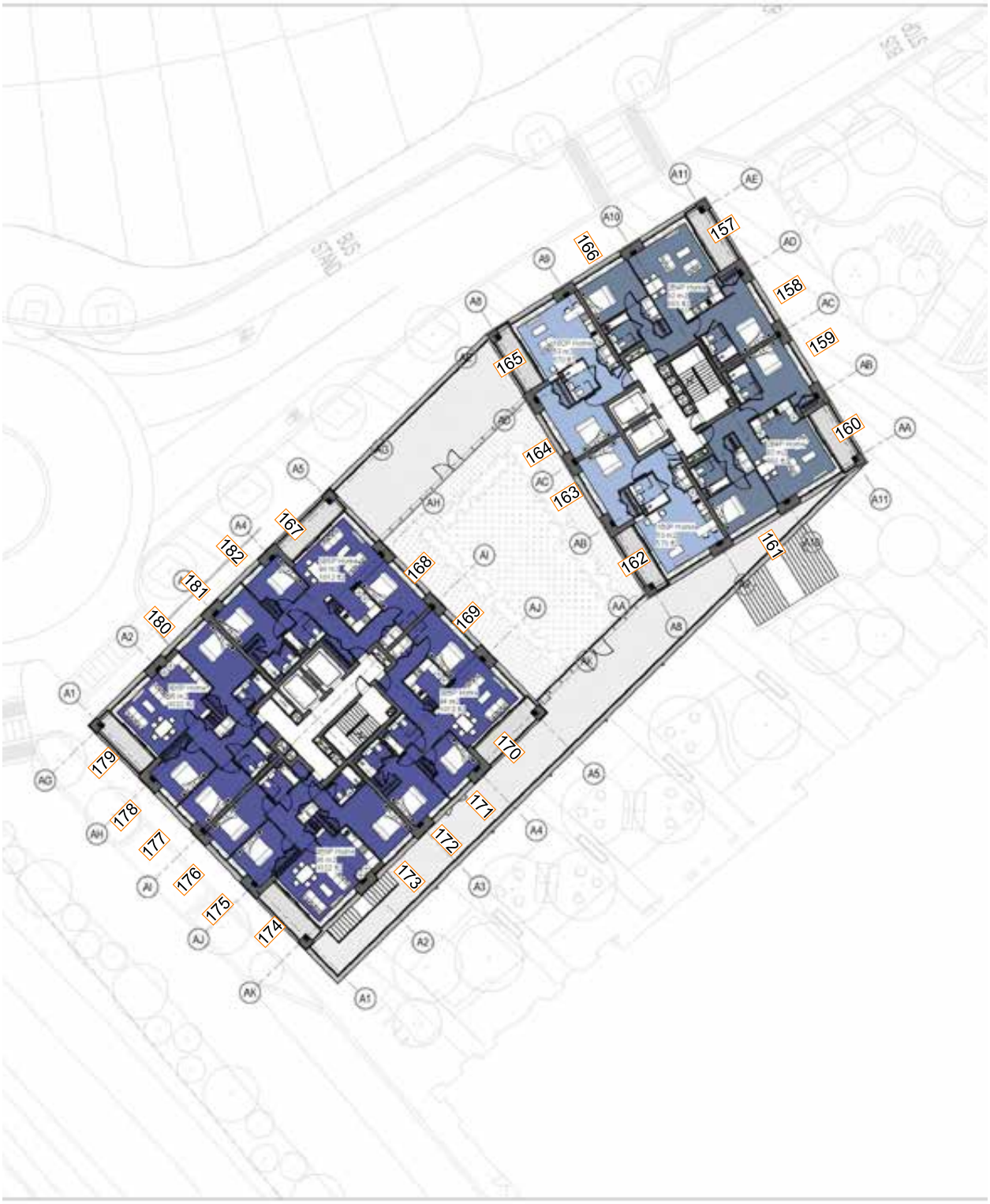


Fig. 09: Floor Plan

Block A - Ninth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - NINTH FLOOR						
183	Living Room	6.1	100	N/A		
184	Bedroom	5.9	100	MET		
185	Bedroom	5.8	100	MET		
186	Living Room	6	100	N/A	70	26
187	Bedroom	6.9	100	MET		
188	L/K/D	5.4	99	N/A	70	25
189	Bedroom	3.3	91	MET		
190	Bedroom	3.9	97	MET		
191	L/K/D	6.1	100	N/A	14	2
192	Bedroom	7.2	100	MET		
193	Living Room	3.5	100	N/A		
194	Bedroom	3.9	100	MET		
195	Bedroom	3.7	99	MET		
196	Living Room	3.5	100	N/A	26	12
197	Bedroom	4.3	98	MET		
198	Bedroom	4	98	MET		
199	Bedroom	7	100	MET		
200	L/K/D	6.2	100	N/A	67	29
201	Bedroom	2.1	94	MET		
202	L/K/D	3.2	100	MET	59	23
203	L/K/D	3.2	100	MET	59	23
204	Bedroom	2.2	94	MET		
205	L/K/D	4.9	100	N/A	26	13
206	Bedroom	7	100	MET		
207	Bedroom	3.9	98	MET		
208	Bedroom	4.3	98	MET		

Table 09: Assessment Data

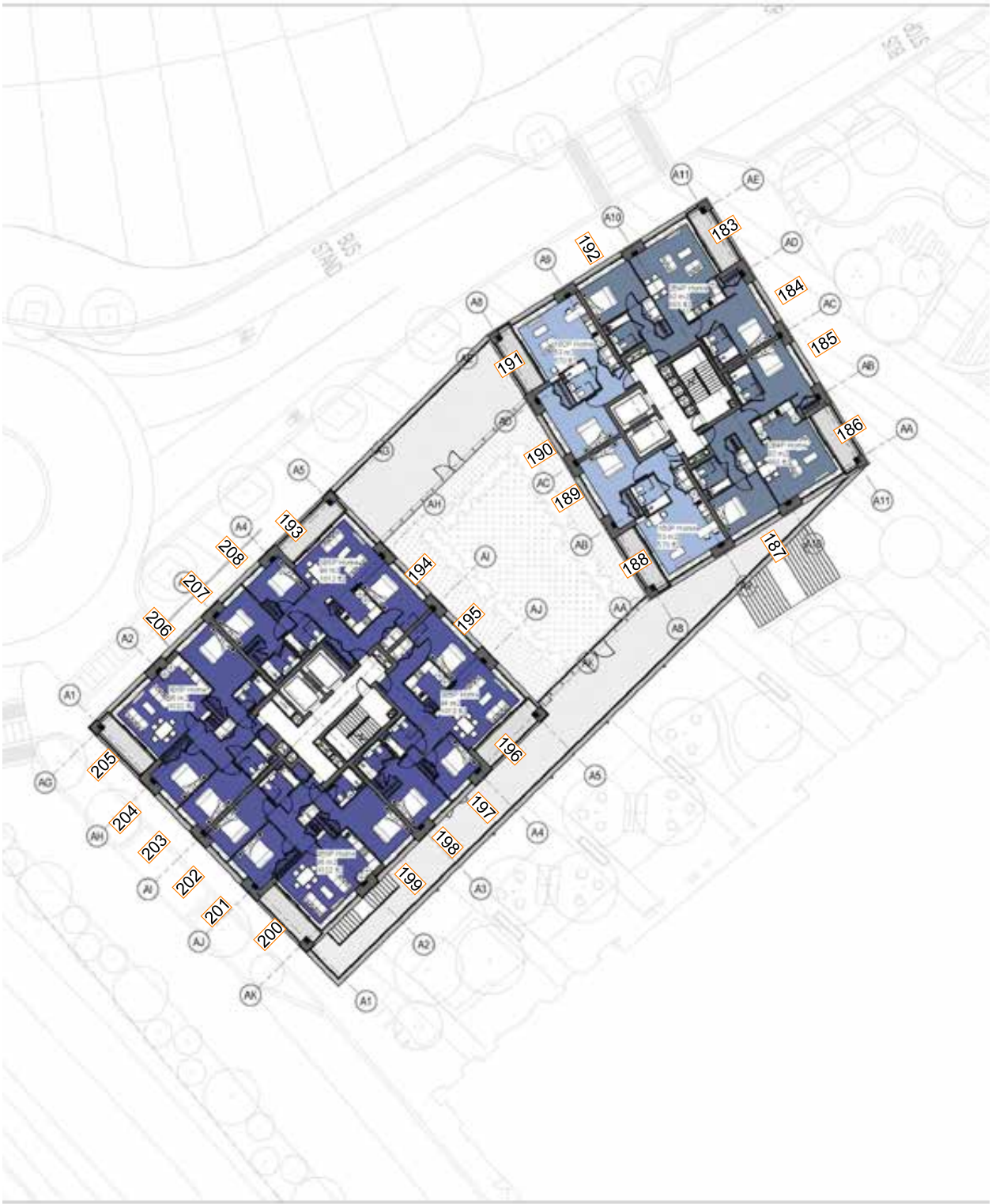


Fig. 10: Floor Plan

Block A - Tenth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - TENTH FLOOR						
209	Living Room	6	100	N/A		
210	Bedroom	6	100	MET		
211	Bedroom	5.9	100	MET		
212	Living Room	6.1	100	N/A	70	26
213	Bedroom	7.1	100	MET		
214	L/K/D	5.7	99	N/A	72	25
215	Bedroom	3.9	95	MET		
216	Bedroom	4.3	99	MET		
217	L/K/D	6.1	100	N/A	16	3
218	Bedroom	7.1	100	MET		
219	Living Room	3.9	100	N/A		
220	Bedroom	4.2	100	MET		
221	Bedroom	4.1	99	MET		
222	Living Room	4	100	N/A	27	13
223	Bedroom	4.5	98	MET		
224	Bedroom	4	98	MET		
225	Bedroom	6.9	100	MET		
226	L/K/D	6.3	100	N/A	67	29
227	Bedroom	2.1	94	MET		
228	L/K/D	3.2	100	MET	59	23
229	L/K/D	3.1	100	MET	59	23
230	Bedroom	2.3	94	MET		
231	L/K/D	5	100	N/A	26	13
232	Bedroom	7	100	MET		
233	Bedroom	4	98	MET		
234	Bedroom	4.3	98	MET		

Table 10: Assessment Data

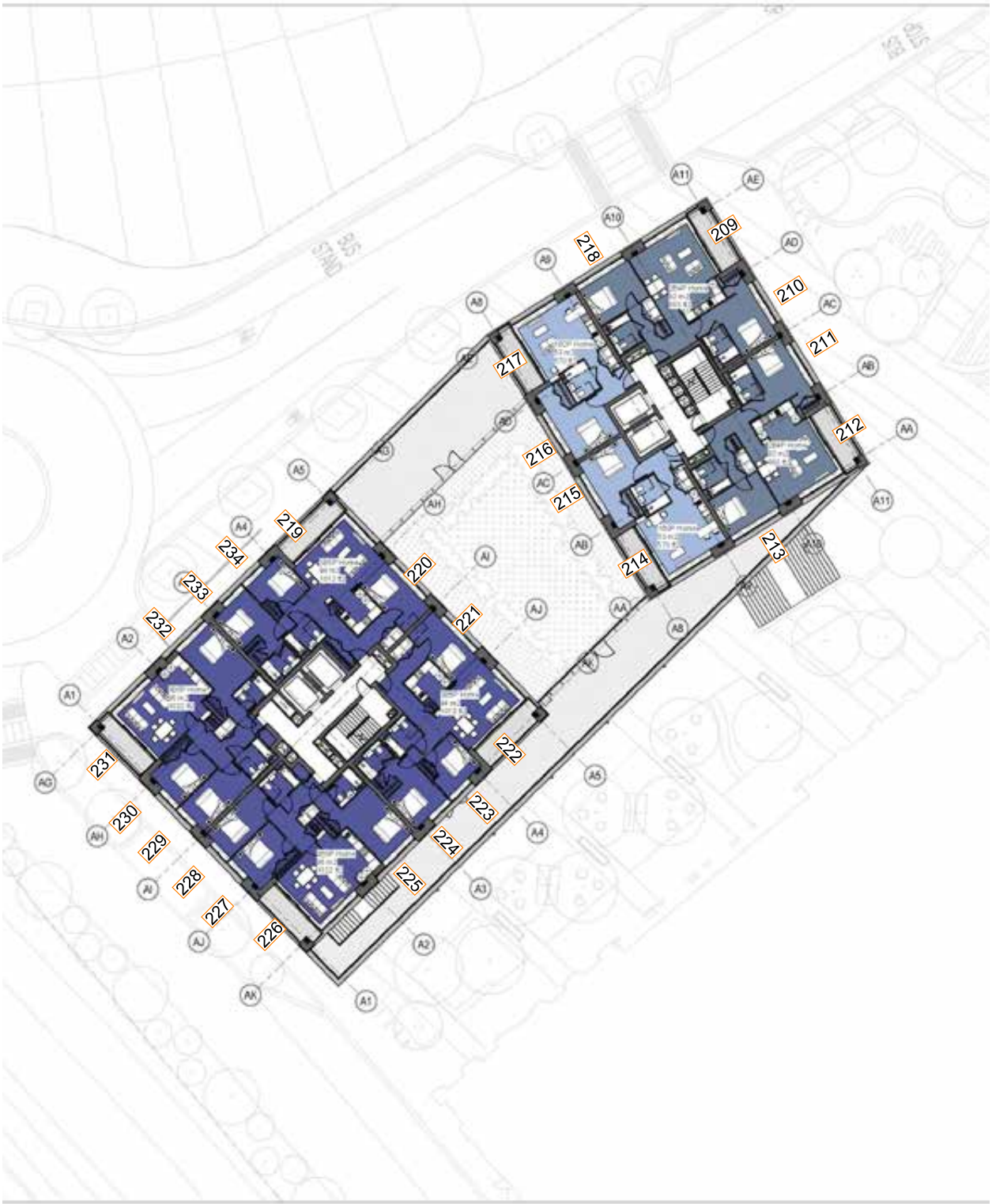
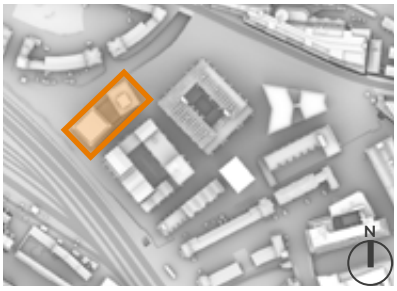


Fig. 11: Floor Plan



Block A - Eleventh Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - ELEVENTH FLOOR						
235	Living Room	6.2	100	N/A		
236	Bedroom	6	100	MET		
237	Bedroom	5.9	100	MET		
238	Living Room	6.2	100	N/A	70	26
239	Bedroom	7.3	100	MET		
240	L/K/D	6.1	100	N/A	78	27
241	Bedroom	4.6	100	MET		
242	Bedroom	4.7	100	MET		
243	L/K/D	6.4	100	N/A	20	7
244	Bedroom	7.2	100	MET		
245	Living Room	5.9	100	N/A		
246	Bedroom	4.6	100	MET		
247	Bedroom	4.4	99	MET		
248	Living Room	5.8	100	N/A	45	16
249	Bedroom	4.5	98	MET		
250	Bedroom	4.1	98	MET		
251	Bedroom	4.6	100	MET		
252	L/K/D	7.9	100	N/A	91	30
253	Bedroom	3.4	98	MET		
254	Bedroom	3.2	100	MET		
255	Bedroom	3.2	100	MET		
256	Bedroom	3.5	98	MET		
257	L/K/D	7.1	100	N/A	46	16
258	Bedroom	4.3	100	MET		
259	Bedroom	3.9	98	MET		
260	Bedroom	4.2	98	MET		

Table 11: Assessment Data

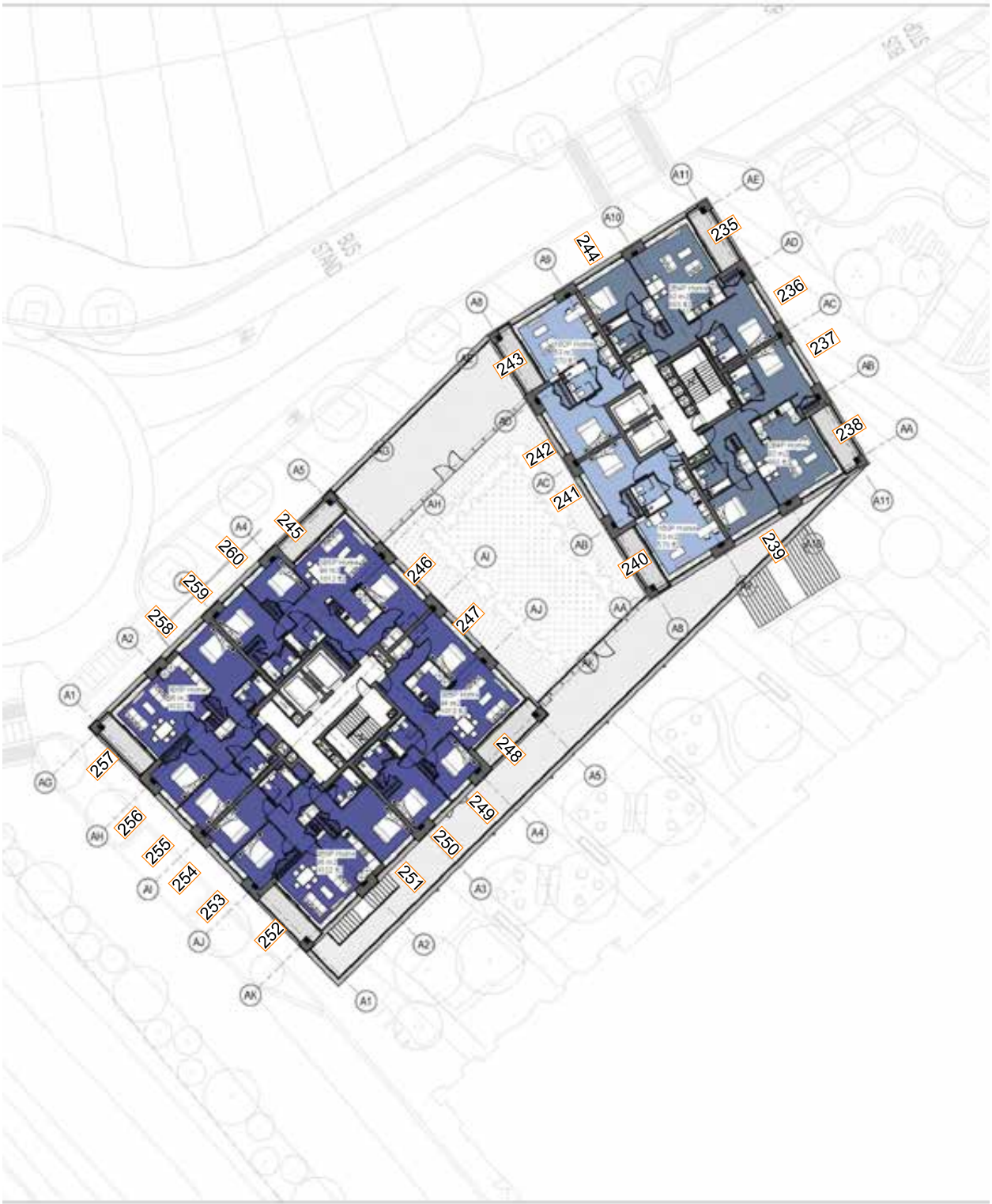
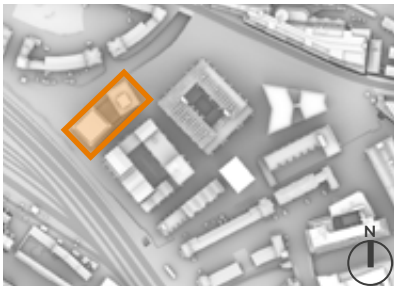


Fig. 12: Floor Plan

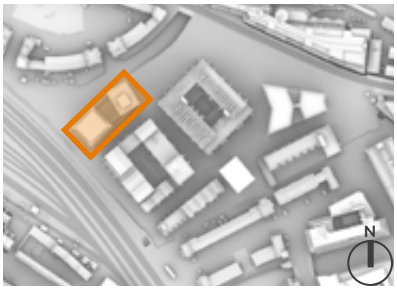


Block A - Twelfth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - TWELFTH FLOOR						
261	Living Room	6.2	100	N/A		
262	Bedroom	5.9	100	MET		
263	Bedroom	5.9	100	MET		
264	Living Room	6.2	100	N/A	70	26
265	Bedroom	7.4	100	MET		
266	L/K/D	6.4	100	N/A	80	29
267	Bedroom	5.1	100	MET		
268	Bedroom	5.1	100	MET		
269	L/K/D	6.4	100	N/A	22	9
270	Bedroom	7.1	100	MET		

Table 12: Assessment Data

Fig. 13: Floor Plan

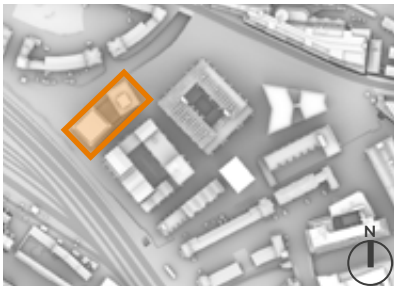


Block A - Thirteenth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - THIRTEENTH FLOOR						
271	Living Room	6.1	100	N/A		
272	Bedroom	6	100	MET		
273	Bedroom	6	100	MET		
274	Living Room	6.3	100	N/A	70	26
275	Bedroom	7.3	100	MET		
276	L/K/D	6.5	100	N/A	81	30
277	Bedroom	5.2	100	MET		
278	Bedroom	5.1	100	MET		
279	L/K/D	6.6	100	N/A	22	9
280	Bedroom	7.2	100	MET		

Table 13: Assessment Data

Fig. 14: Floor Plan



Block A - Fourteenth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK A - FOURTEENTH FLOOR						
281	Living Room	7.8	100	N/A		
282	Bedroom	6	100	MET		
283	Bedroom	6	100	MET		
284	Living Room	8	100	N/A	71	26
285	Bedroom	7.3	100	MET		
286	L/K/D	8.3	100	N/A	95	30
287	Bedroom	5.3	100	MET		
288	Bedroom	5.1	100	MET		
289	L/K/D	8.3	100	N/A	38	12
290	Bedroom	7.2	100	MET		

Table 14: Assessment Data

Fig. 15: Floor Plan

Block B - Ground Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - GROUND FLOOR						
291	Living Room	1.5	79	MET	28	6
292	Living Room	1.8	90	MET	34	7
293	Living Room	2	92	MET	31	6
294	Living Room	2	90	MET	38	8
295	Living Room	2	86	MET	32	6
296	Living Room	1.8	80	MET	31	9

Table 15: Assessment Data

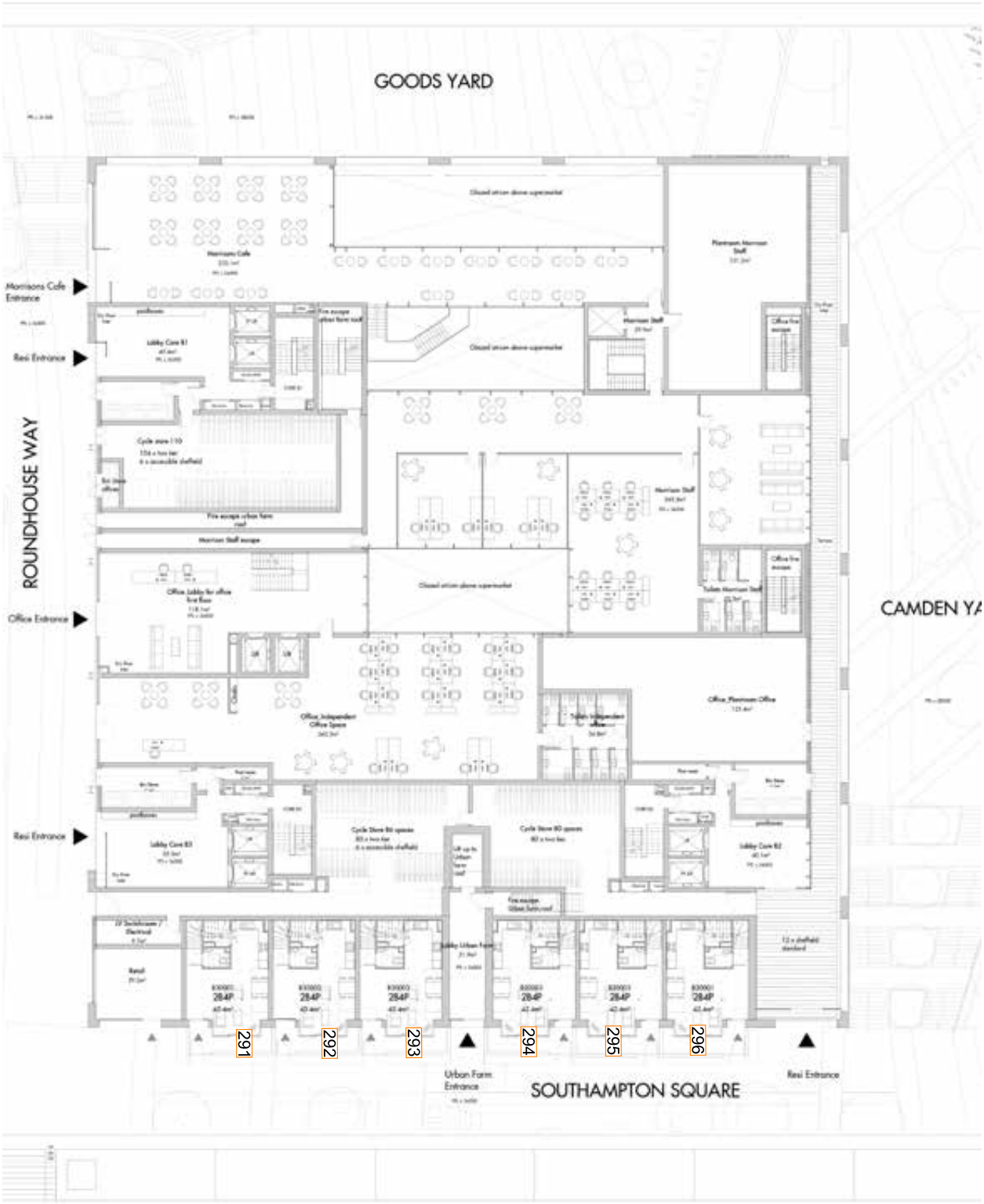
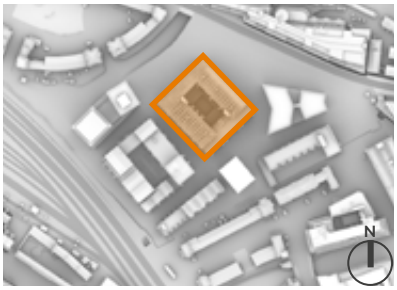


Fig. 16: Floor Plan



Block B - Ground Mezzanine

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - GROUND MEZZANINE						
297	Bedroom	1	76	MET		
298	Bedroom	1.2	77	MET		
299	Bedroom	0.9	70	MET		
300	Bedroom	1	88	MET		
301	Bedroom	1.1	75	MET		
302	Bedroom	1.7	93	MET		
303	Bedroom	1.8	90	MET		
304	Bedroom	1.1	89	MET		
305	Bedroom	1.3	91	MET		
306	Bedroom	1.3	86	MET		
307	Bedroom	1.5	75	MET		
308	Bedroom	1.6	92	MET		

Table 16: Assessment Data

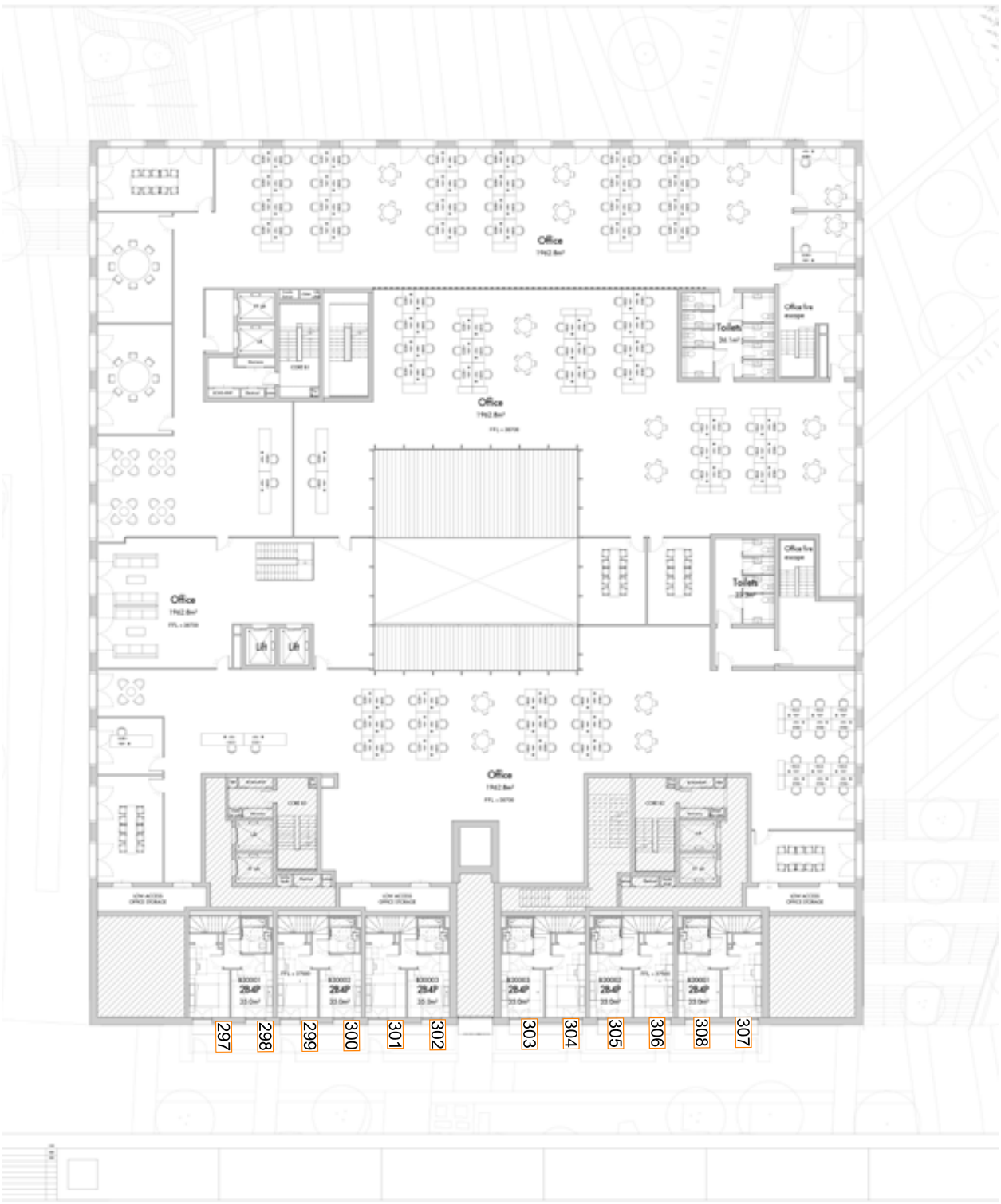
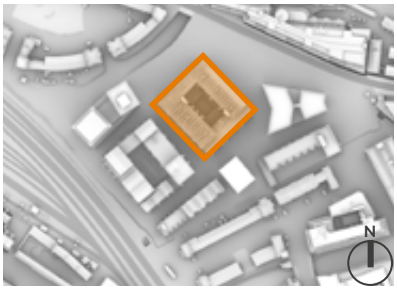


Fig. 17: Floor Plan



Block B - First Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - FIRST FLOOR						
309	Bedroom	1.2	56	MET		
310	L/K/D	2	99	N/A	36	13
311	Bedroom	1.3	76	MET		
312	Bedroom	1.4	74	MET		
313	Living Room	1.2	93	MET	24	9
314	L/K/D	1.1	100	MET	16	5
315	Bedroom	2.1	78	MET		
316	Bedroom	1.9	93	MET		
317	Bedroom	2	98	MET		
318	Bedroom	2.1	92	MET		
319	L/K/D	1.2	95	MET	16	9
320	Living Room	1.4	97	MET	12	8
321	Bedroom	2.1	77	MET		
322	Bedroom	1.8	64	MET		
323	L/K/D	2.1	97	N/A	15	9
324	Bedroom	1.6	61	MET		

Table 17: Assessment Data

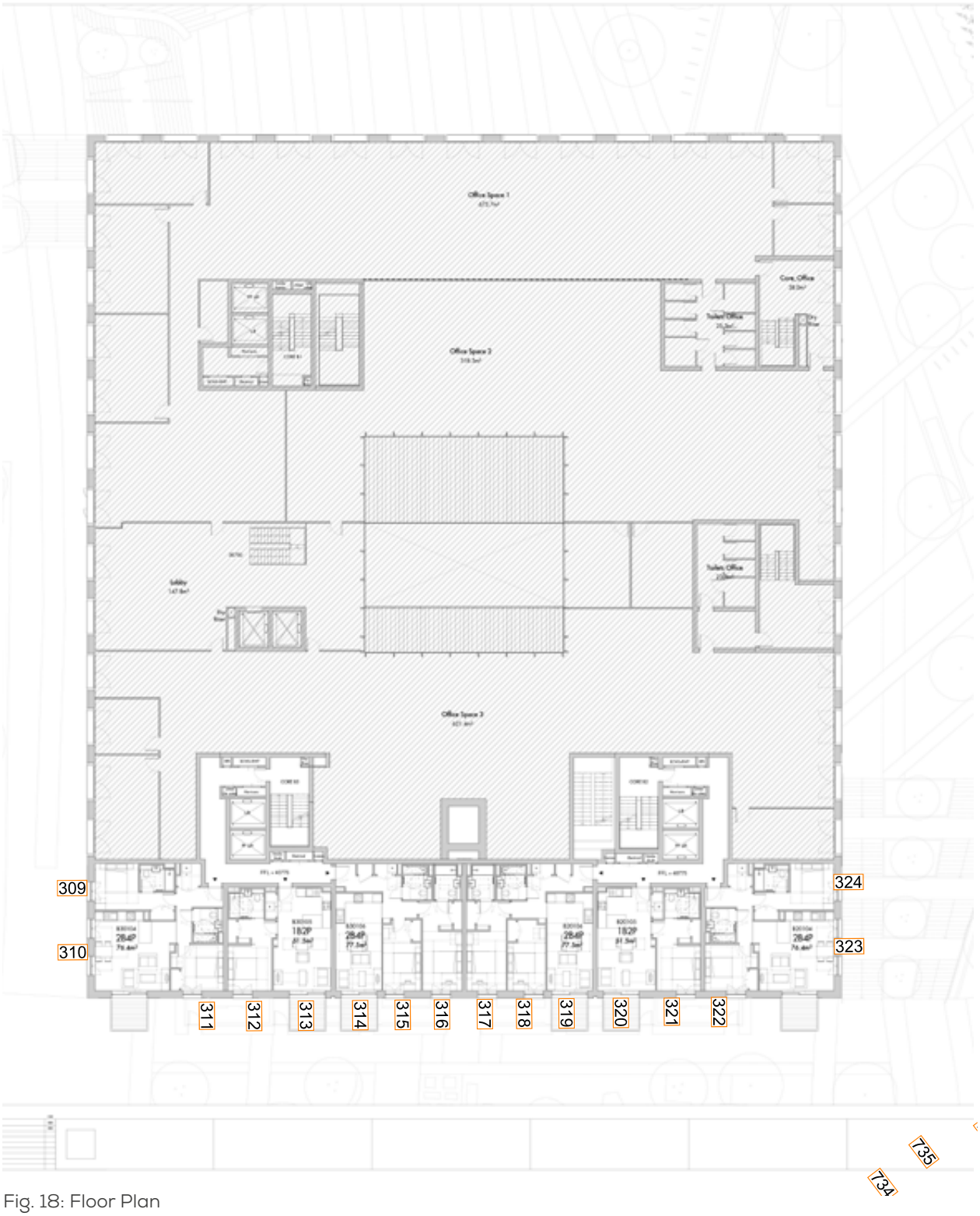
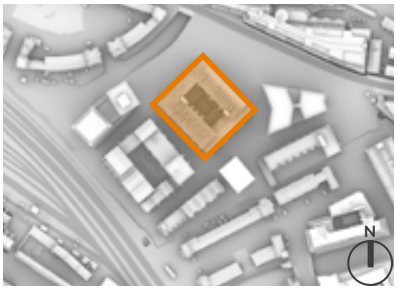


Fig. 18: Floor Plan



Block B - Second Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 1 OF 2 - SECOND FLOOR						
325	L/K/D	2.3	96	N/A	36	14
326	Bedroom	1.4	78	MET		
327	Bedroom	1.4	81	MET		
328	Living Room	1.6	94	MET	25	11
329	L/K/D	1.7	100	MET	31	6
330	Bedroom	1.8	95	MET		
331	Bedroom	1.9	95	MET		
332	L/K/D	1.8	100	MET	40	10
333	Living Room	1.9	98	MET	11	7
334	Bedroom	2.2	79	MET		
335	Bedroom	2.2	86	MET		
336	L/K/D	2.4	97	N/A	16	10
337	Living Room	1.7	92	MET		
338	Bedroom	2.5	87	MET		
339	Living Room	1.8	96	MET		
340	Bedroom	3.4	99	MET		
341	Bedroom	3	98	MET		
342	Living Room	2.3	95	MET		
343	Bedroom	3.2	97	MET		
344	L/K/D	1.6	99	MET		
345	Bedroom	2.8	98	MET		
346	Bedroom	3.3	97	MET		
347	L/K/D	2.2	100	MET		
348	Bedroom	3.1	98	MET		
349	L/K/D	4.1	100	N/A		
350	Bedroom	3.1	97	MET		
351	L/K/D	2	99	MET		
352	Bedroom	2.8	97	MET		
353	L/K/D	1.7	97	MET		
354	Bedroom	3.2	96	MET		
355	Bedroom	2.8	95	MET		
356	Bedroom	2.7	97	MET		
357	Bedroom	3.2	95	MET		
358	L/K/D	1.6	98	MET		
359	Bedroom	2.7	93	MET		
360	L/K/D	1.8	99	MET		
361	Bedroom	2.7	89	MET		
362	L/K/D	2.8	99	N/A	26	4
363	Bedroom	1.3	62	MET		
364	L/K/D	1.3	26	MET	9	3
365	Bedroom	1.3	50	MET		
366	Bedroom	1.1	37	MET		
367	Living Room	1.5	32	MET	13	3
368	Bedroom	1.5	49	MET		
369	Living Room	1.6	34	MET	14	4
370	Bedroom	1.5	51	MET		
371	Bedroom	1.5	55	MET		
372	Living Room	1.6	48	MET	16	9
373	Bedroom	1.6	59	MET		
374	Living Room	1.8	68	MET	18	12

Table 18: Assessment Data

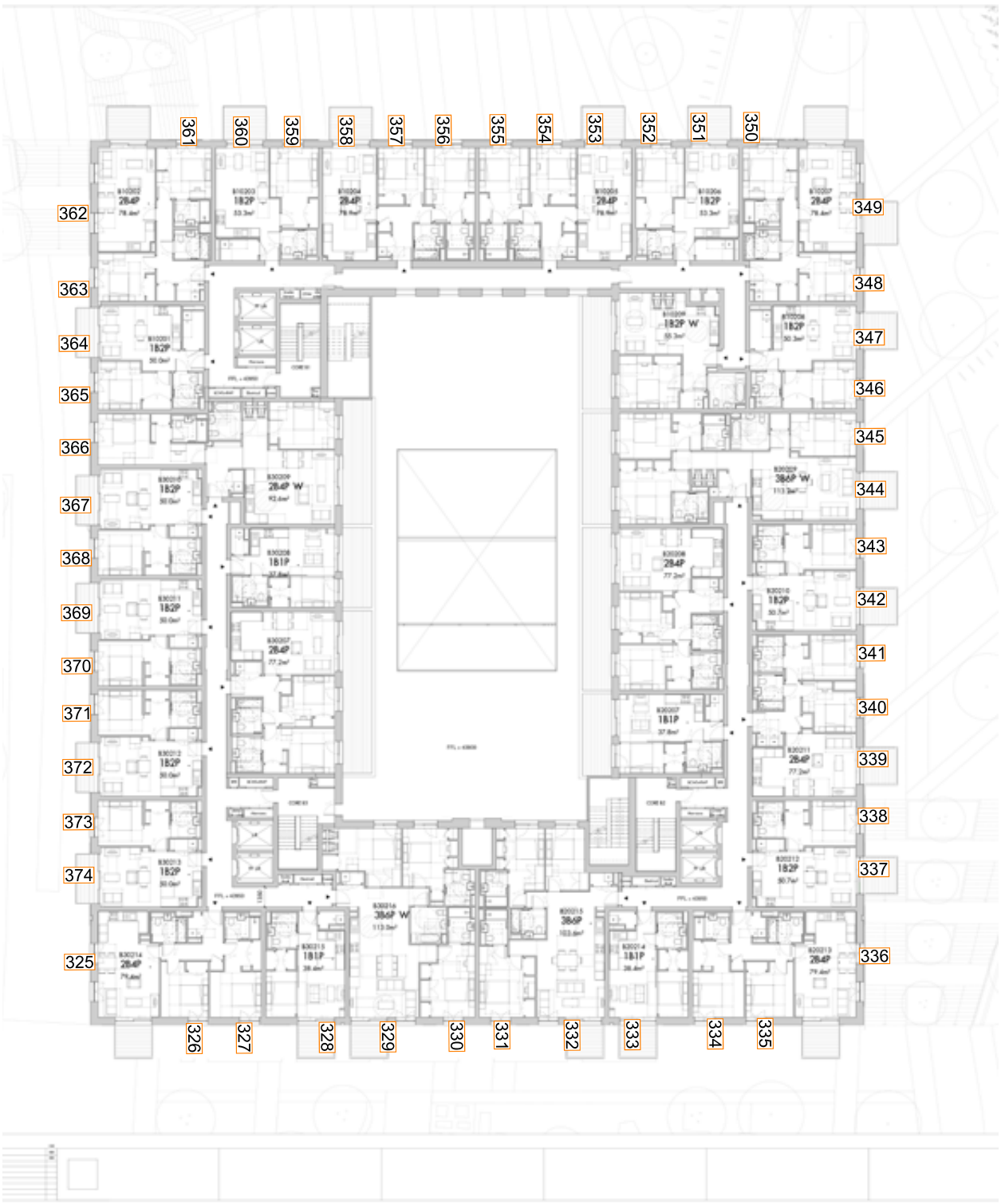
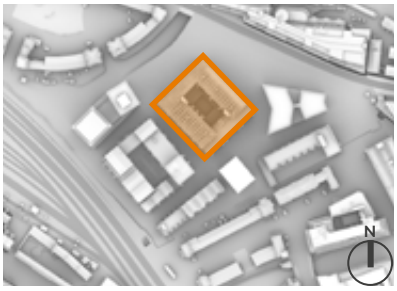


Fig. 19: Floor Plan



Block B - Second Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 2 OF 2 - SECOND FLOOR						
375	Bedroom	1.2	28	MET		
376	Bedroom	1.4	35	MET		
377	Living Room	0.9	21	MET		
378	Bedroom	1.7	41	MET		
379	Living Room	1.1	38	MET		
380	L/K/D	0.7	17	MET		
381	Bedroom	1	26	MET		
382	L/K/D	0.7	17	MET	2	1
383	Bedroom	1.2	26	MET		
384	Bedroom	1.5	31	MET		
385	Bedroom	1.2	29	MET		
386	Living Room	1	25	MET	7	0
387	Bedroom	1.8	41	MET		
388	Bedroom	1.5	40	MET		
389	Living Room	1	30	MET	0	0
390	Bedroom	1.5	39	MET		
391	Bedroom	1.4	48	MET		
392	Bedroom	1.7	54	MET		
393	Bedroom	1.6	55	MET		
394	Bedroom	1.1	46	MET		

Table 19: Assessment Data

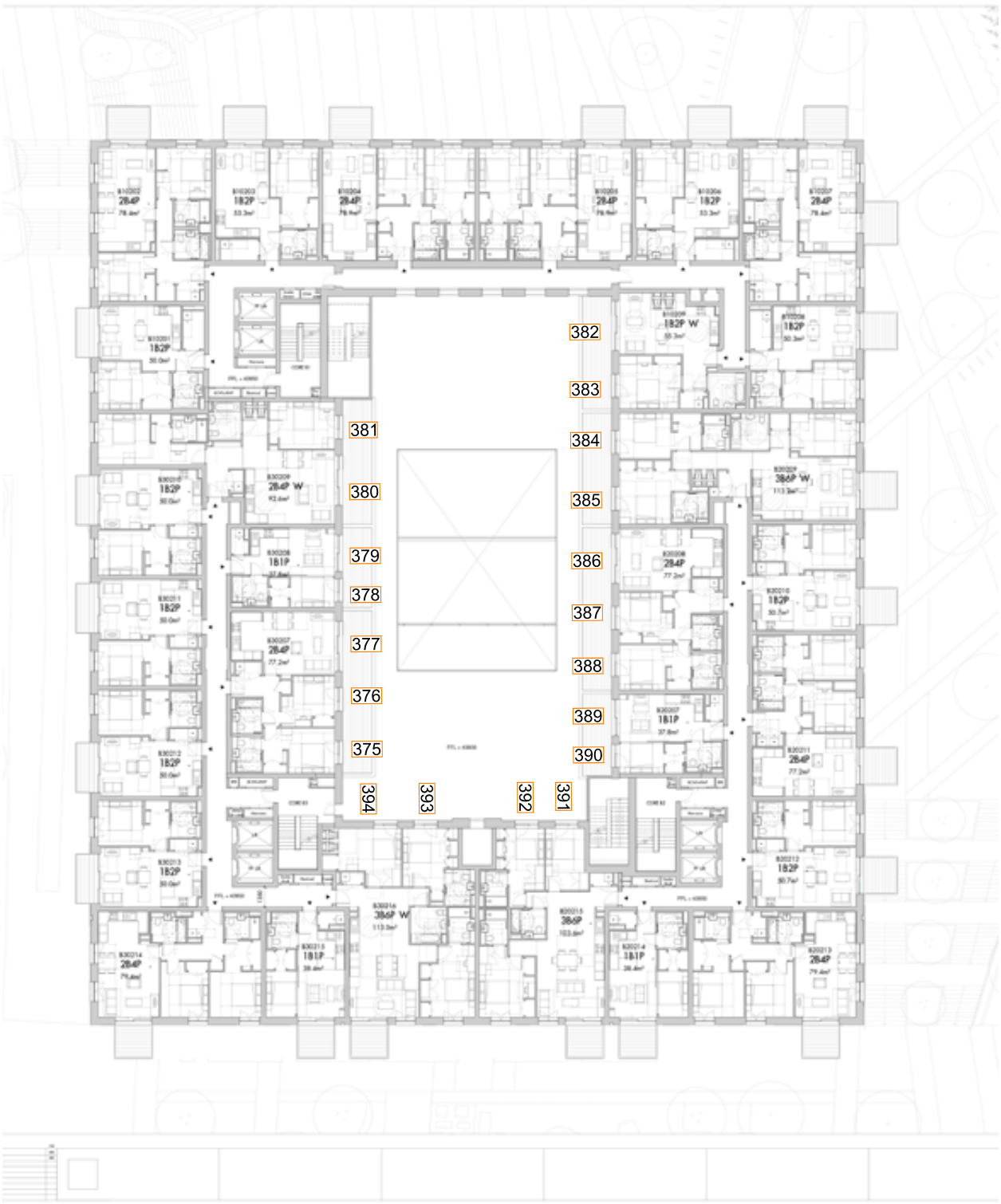
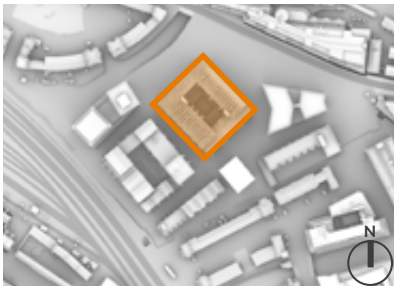


Fig. 20: Floor Plan



Block B - Third Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 1 OF 2 - THIRD FLOOR						
395	L/K/D	2.5	96	N/A	39	15
396	Bedroom	1.5	79	MET		
397	Bedroom	1.5	82	MET		
398	Living Room	1.7	94	MET	26	12
399	L/K/D	1.8	100	MET	32	7
400	Bedroom	2	96	MET		
401	Bedroom	2	96	MET		
402	L/K/D	1.9	100	MET	41	11
403	Living Room	2	98	MET	14	9
404	Bedroom	2.3	83	MET		
405	Bedroom	2.4	89	MET		
406	L/K/D	2.7	97	N/A	17	11
407	Living Room	1.7	92	MET		
408	Bedroom	2.6	88	MET		
409	Living Room	1.9	96	MET		
410	Bedroom	3.4	99	MET		
411	Bedroom	3	99	MET		
412	Living Room	2.3	96	MET		
413	Bedroom	3.3	97	MET		
414	L/K/D	1.7	99	MET		
415	Bedroom	2.9	98	MET		
416	Bedroom	3.4	97	MET		
417	L/K/D	2.1	100	MET		
418	Bedroom	3.2	98	MET		
419	L/K/D	4.2	100	N/A		
420	Bedroom	3.1	97	MET		
421	L/K/D	2.1	99	MET		
422	Bedroom	2.8	97	MET		
423	L/K/D	1.7	97	MET		
424	Bedroom	3.2	96	MET		
425	Bedroom	2.8	96	MET		
426	Bedroom	2.7	97	MET		
427	Bedroom	3.3	95	MET		
428	L/K/D	1.7	98	MET		
429	Bedroom	2.7	93	MET		
430	L/K/D	1.9	100	MET		
431	Bedroom	2.6	89	MET		
432	L/K/D	3	99	N/A	31	7
433	Bedroom	1.5	74	MET		
434	L/K/D	1.6	38	MET	14	6
435	Bedroom	1.7	68	MET		
436	Bedroom	1.3	52	MET		
437	Living Room	2	51	MET	22	4
438	Bedroom	1.9	76	MET		
439	Living Room	2.1	54	MET	22	4
440	Bedroom	2	74	MET		
441	Bedroom	1.9	79	MET		
442	Living Room	2	61	MET	20	9
443	Bedroom	1.8	70	MET		
444	Living Room	2.1	75	MET	21	12

Table 20: Assessment Data

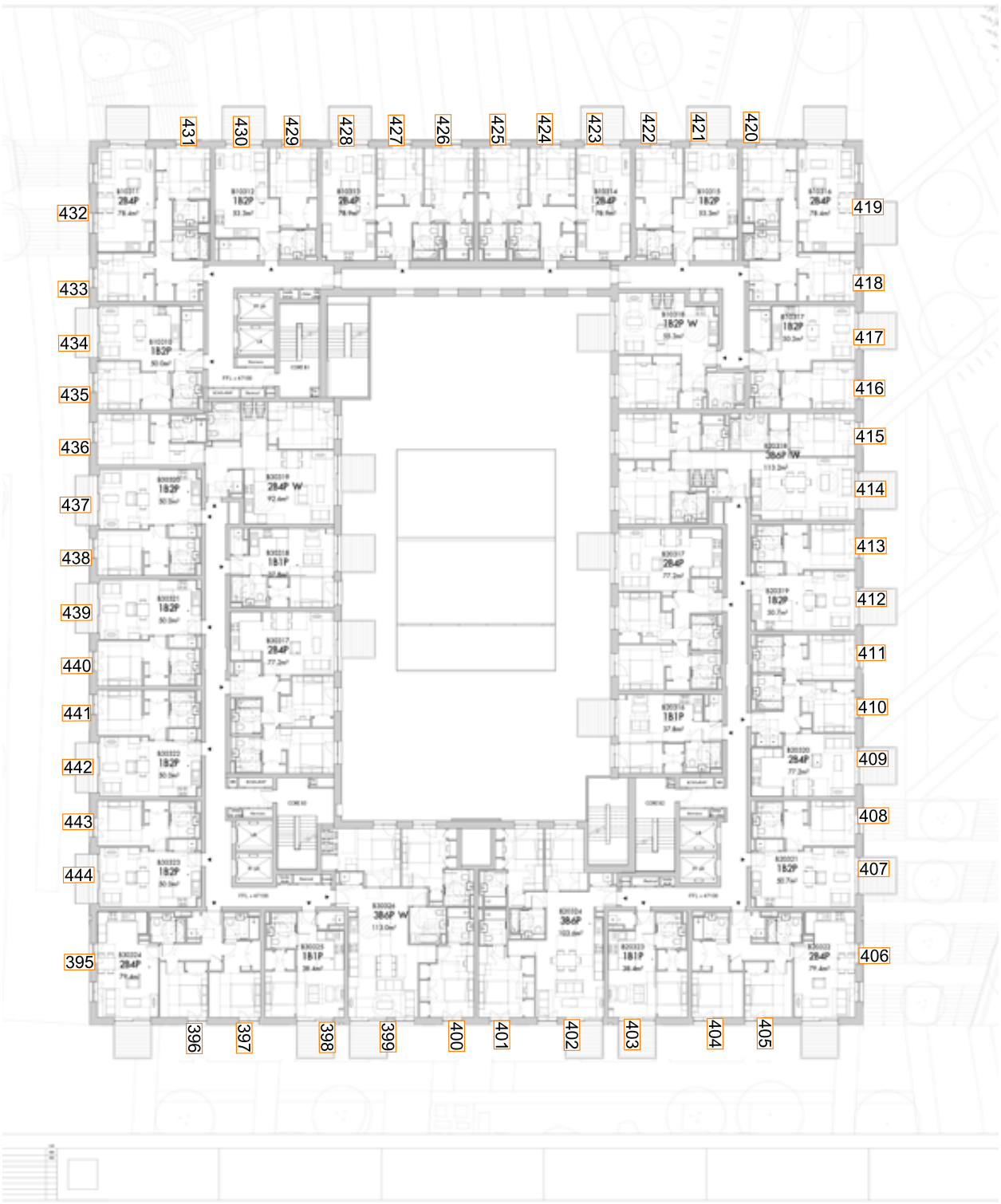
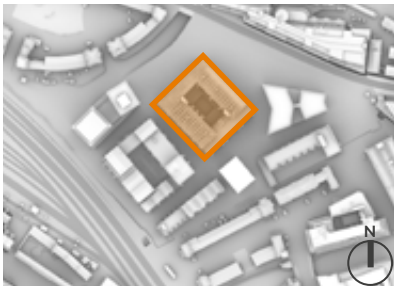


Fig. 21: Floor Plan



Block B - Third Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 2 OF 2 - THIRD FLOOR						
445	Bedroom	1.6	38	MET		
446	Bedroom	1.8	48	MET		
447	Living Room	1.2	30	MET		
448	Bedroom	2.2	50	MET		
449	Living Room	1.4	50	MET		
450	L/K/D	0.9	17	MET		
451	Bedroom	1.3	32	MET		
452	L/K/D	0.9	21	MET	3	2
453	Bedroom	1.5	33	MET		
454	Bedroom	1.8	40	MET		
455	Bedroom	1.5	38	MET		
456	Living Room	1.3	28	MET	2	2
457	Bedroom	2.2	54	MET		
458	Bedroom	1.9	48	MET		
459	Living Room	1.3	38	MET	0	0
460	Bedroom	1.9	49	MET		
461	Bedroom	1.5	57	MET		
462	Bedroom	1.8	65	MET		
463	Bedroom	1.8	67	MET		
464	Bedroom	1.3	59	MET		

Table 21: Assessment Data

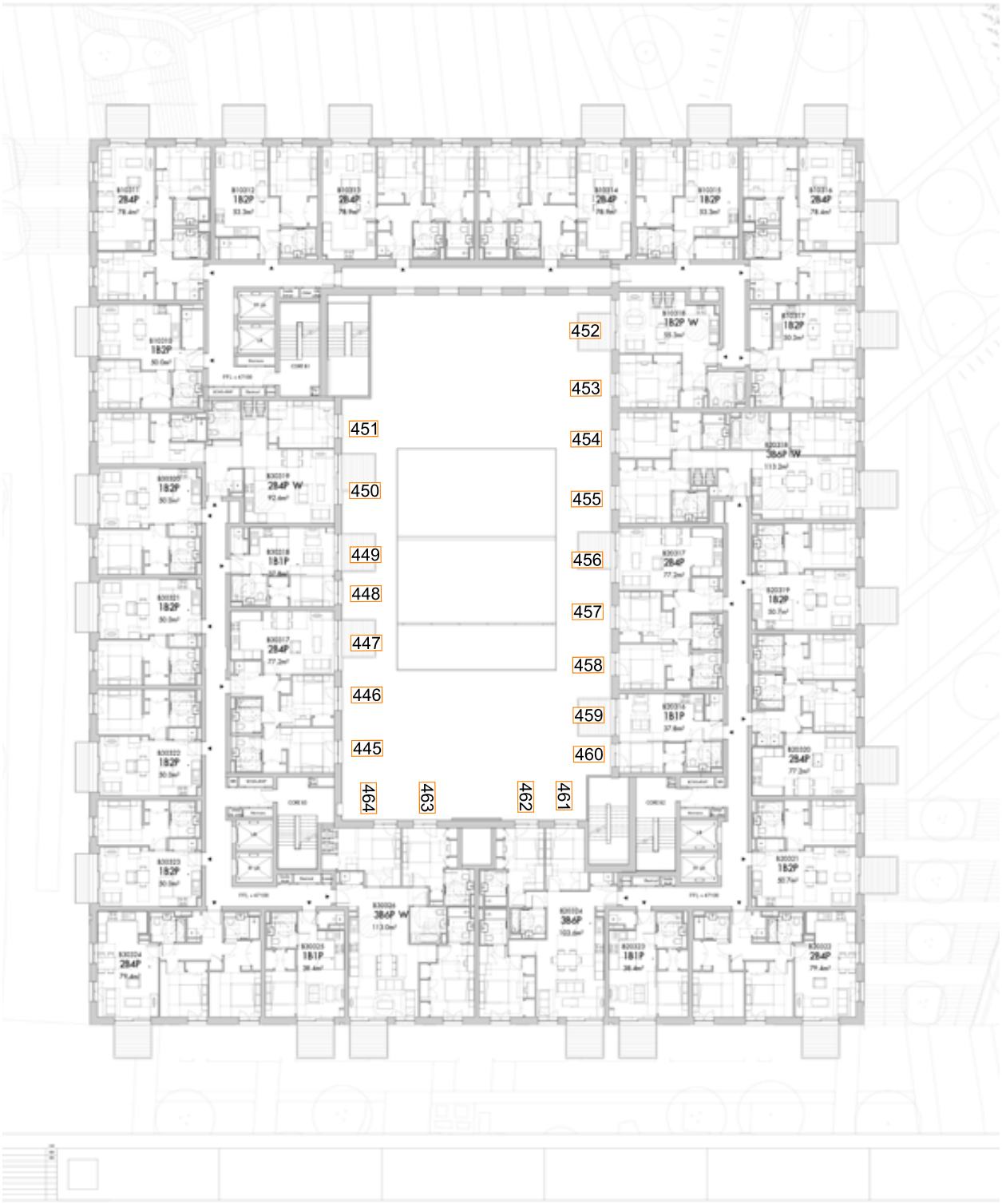
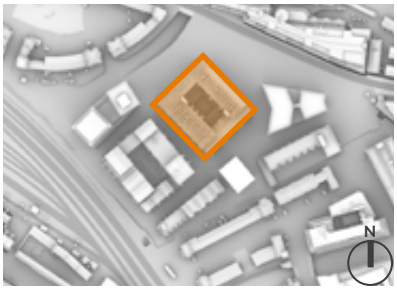


Fig. 22: Floor Plan



Block B - Fourth Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 1 OF 2 - FOURTH FLOOR						
465	L/K/D	2.8	96	N/A	41	15
466	Bedroom	1.6	79	MET		
467	Bedroom	1.6	83	MET		
468	Living Room	1.8	94	MET	26	12
469	L/K/D	1.9	100	MET	37	7
470	Bedroom	2.1	96	MET		
471	Bedroom	2.1	98	MET		
472	L/K/D	2	100	MET	45	12
473	Living Room	2.2	98	MET	16	10
474	Bedroom	2.4	86	MET		
475	Bedroom	2.6	93	MET		
476	L/K/D	2.9	97	N/A	18	12
477	Living Room	1.9	92	MET		
478	Bedroom	2.7	92	MET		
479	Living Room	1.9	96	MET		
480	Bedroom	3.6	99	MET		
481	Bedroom	3.2	99	MET		
482	Living Room	2.4	97	MET		
483	Bedroom	3.4	97	MET		
484	L/K/D	1.7	100	MET		
485	Bedroom	2.9	98	MET		
486	Bedroom	3.4	97	MET		
487	L/K/D	2.2	100	MET		
488	Bedroom	3.2	98	MET		
489	L/K/D	4.2	100	N/A		
490	Bedroom	3.1	97	MET		
491	L/K/D	2.1	99	MET		
492	Bedroom	2.9	97	MET		
493	L/K/D	1.8	97	MET		
494	Bedroom	3.3	96	MET		
495	Bedroom	2.8	96	MET		
496	Bedroom	2.7	97	MET		
497	Bedroom	3.3	96	MET		
498	L/K/D	1.6	98	MET		
499	Bedroom	2.8	94	MET		
500	L/K/D	1.9	100	MET		
501	Bedroom	2.7	89	MET		
502	L/K/D	3.2	100	N/A	36	9
503	Bedroom	1.9	84	MET		
504	L/K/D	2	64	MET	23	10
505	Bedroom	2.1	86	MET		
506	Bedroom	1.7	82	MET		
507	Living Room	2.6	93	MET	26	6
508	Bedroom	2.4	95	MET		
509	Living Room	2.7	96	MET	28	5
510	Bedroom	2.3	93	MET		
511	Bedroom	2.3	96	MET		
512	Living Room	2.4	97	MET	27	10
513	Bedroom	2	76	MET		
514	Living Room	2.4	97	MET	24	12

Table 22: Assessment Data

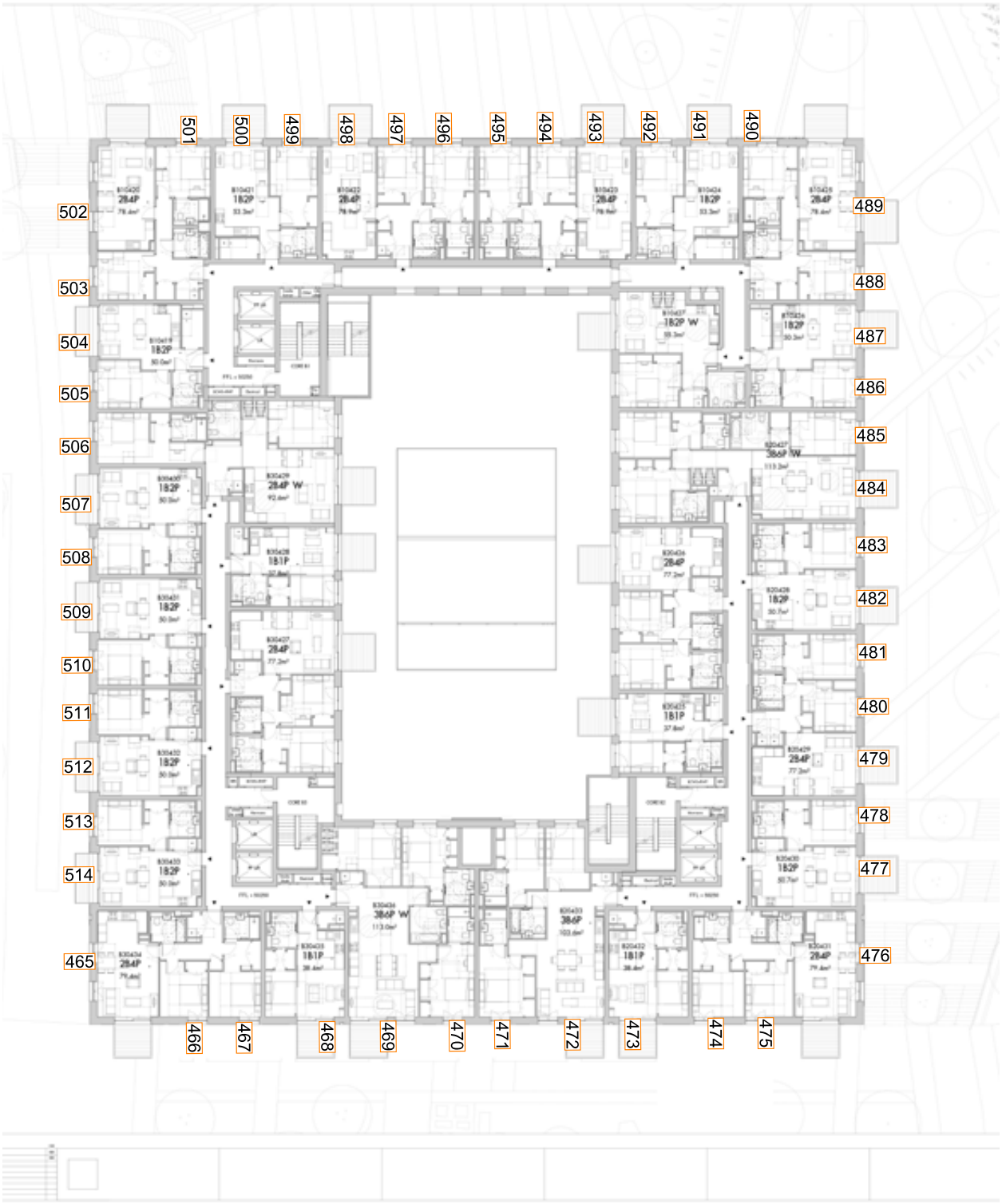
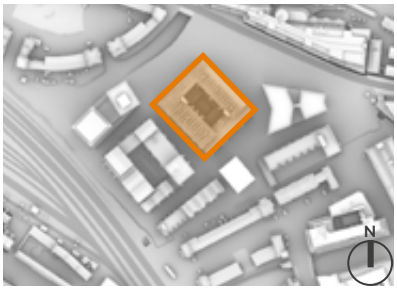


Fig. 23: Floor Plan



Block B - Fourth Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 2 OF 2 - FOURTH FLOOR						
515	Bedroom	1.9	52	MET		
516	Bedroom	2.2	64	MET		
517	Living Room	1.4	45	MET		
518	Bedroom	2.6	60	MET		
519	Living Room	1.8	63	MET		
520	L/K/D	1.1	26	MET		
521	Bedroom	1.5	39	MET		
522	L/K/D	1.1	26	MET	6	5
523	Bedroom	1.7	42	MET		
524	Bedroom	2.1	51	MET		
525	Bedroom	1.8	49	MET		
526	Living Room	1.5	39	MET	15	4
527	Bedroom	2.6	65	MET		
528	Bedroom	2.2	60	MET		
529	Living Room	1.5	49	MET	1	0
530	Bedroom	2.2	63	MET		
531	Bedroom	1.2	55	MET		
532	Bedroom	1.4	63	MET		
533	Bedroom	1.4	63	MET		
534	Bedroom	1	53	MET		

Table 23: Assessment Data

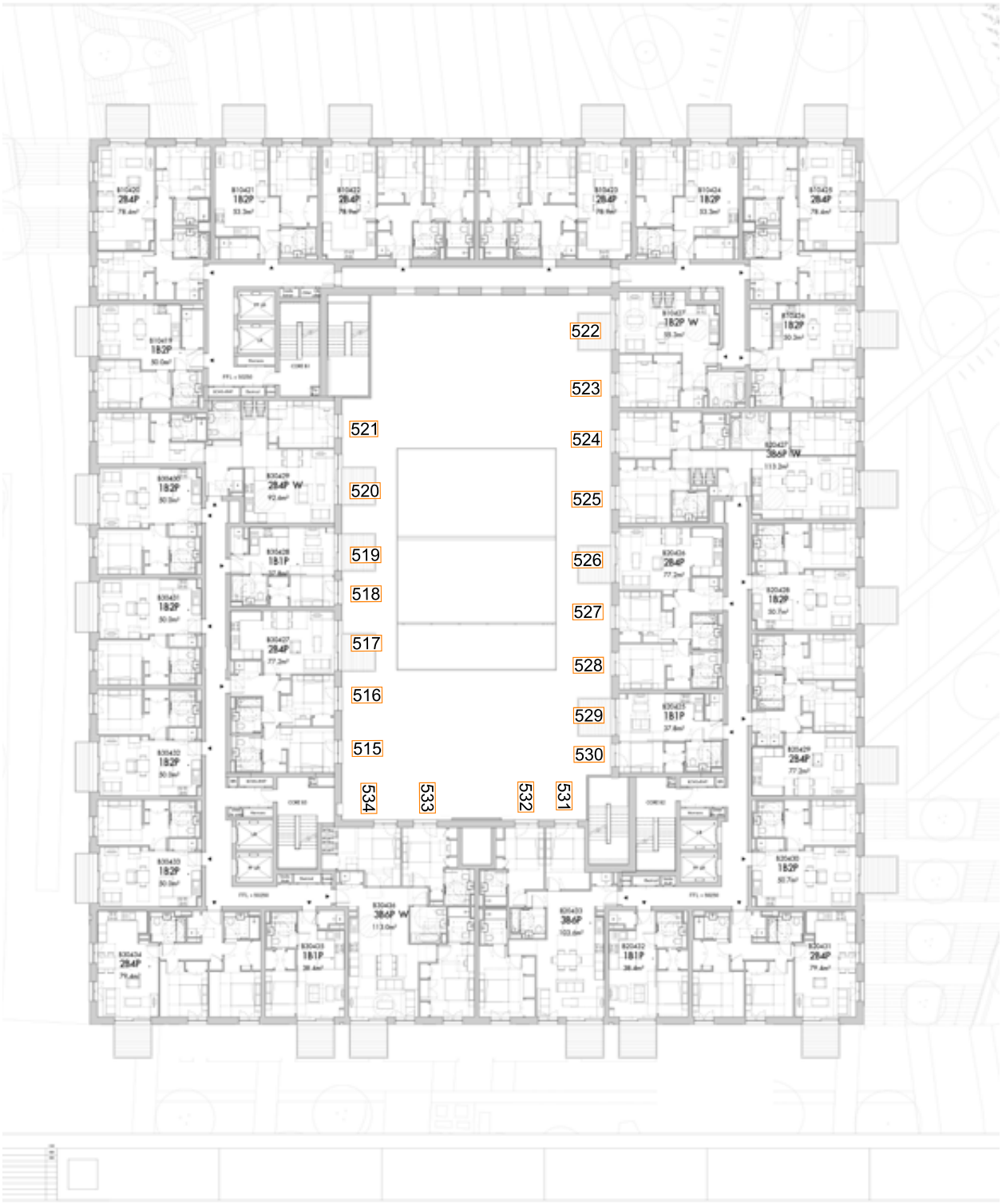
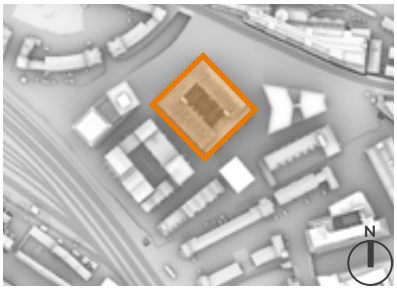


Fig. 24: Floor Plan



Block B - Fifth Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 1 OF 2 - FIFTH FLOOR						
535	L/K/D	3.4	96	N/A	48	15
536	Bedroom	1.8	79	MET		
537	Bedroom	1.8	83	MET		
538	Living Room	3.4	96	MET	48	12
539	L/K/D	2.7	100	MET	48	11
540	Bedroom	2.1	98	MET		
541	Bedroom	2.2	99	MET		
542	L/K/D	2.9	100	MET	48	13
543	Living Room	4.1	100	MET	47	15
544	Bedroom	2.5	92	MET		
545	Bedroom	2.7	94	MET		
546	L/K/D	3.8	97	N/A	38	14
547	Living Room	2.1	93	MET		
548	Bedroom	2.6	94	MET		
549	Living Room	2.1	98	MET		
550	Bedroom	3.5	99	MET		
551	Bedroom	3	99	MET		
552	Living Room	2.7	99	MET		
553	Bedroom	3.3	97	MET		
554	L/K/D	1.8	100	MET		
555	Bedroom	2.8	98	MET		
556	Bedroom	3.2	97	MET		
557	L/K/D	2.4	100	MET		
558	Bedroom	3.2	98	MET		
559	L/K/D	4.6	100	N/A		
560	Bedroom	3.2	97	MET		
561	L/K/D	2.4	100	MET		
562	Bedroom	2.9	97	MET		
563	L/K/D	2	98	MET		
564	Bedroom	3.3	96	MET		
565	Bedroom	2.8	96	MET		
566	Bedroom	2.7	97	MET		
567	Bedroom	3.3	96	MET		
568	L/K/D	1.9	98	MET		
569	Bedroom	2.7	95	MET		
570	L/K/D	2.1	100	MET		
571	Bedroom	2.7	90	MET		
572	L/K/D	3.6	100	N/A	40	11
573	Bedroom	2.2	91	MET		
574	L/K/D	2.7	95	MET	37	13
575	Bedroom	2.6	91	MET		
576	Bedroom	2.1	90	MET		
577	Living Room	3.6	100	MET	40	11
578	Bedroom	2.8	95	MET		
579	Living Room	3.5	100	MET	39	10
580	Bedroom	2.7	94	MET		
581	Bedroom	2.5	96	MET		
582	Living Room	3.1	100	MET	38	11
583	Bedroom	2.2	77	MET		
584	Living Room	2.8	98	MET	32	12

Table 24: Assessment Data

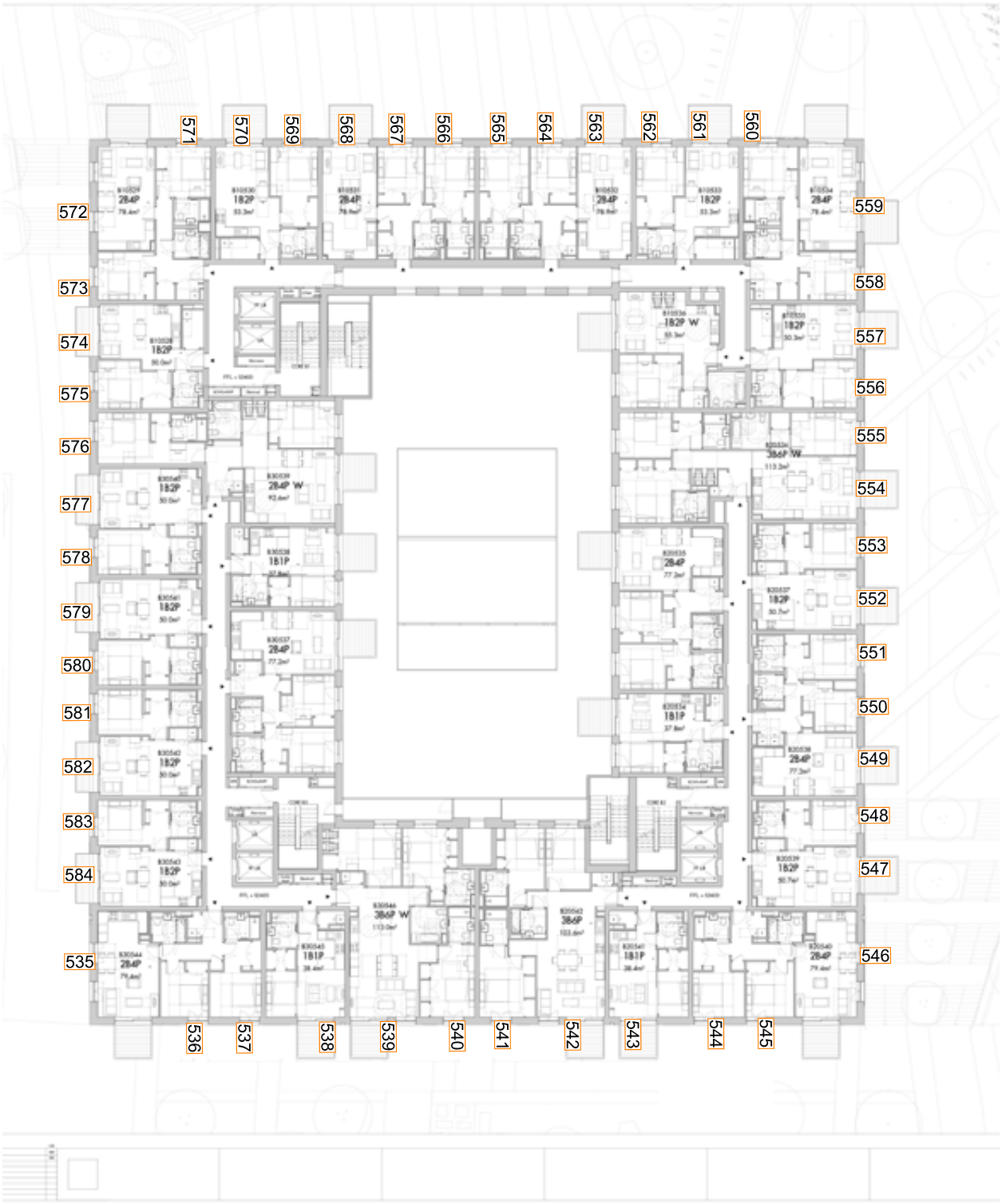
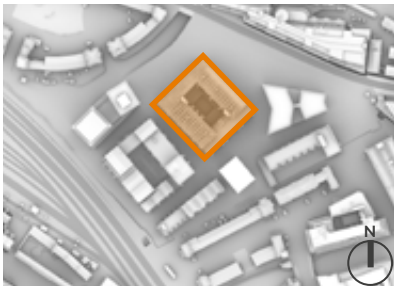


Fig. 25: Floor Plan



Block B - Fifth Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 2 OF 2 - FIFTH FLOOR						
585	Bedroom	2.2	73	MET		
586	Bedroom	2.5	83	MET		
587	Living Room	1.9	55	MET		
588	Bedroom	3.2	83	MET		
589	Living Room	2.3	79	MET		
590	L/K/D	1.4	35	MET		
591	Bedroom	1.8	55	MET		
592	L/K/D	1.3	36	MET	14	10
593	Bedroom	2	59	MET		
594	Bedroom	2.4	68	MET		
595	Bedroom	2	68	MET		
596	Living Room	1.9	50	MET	16	7
597	Bedroom	3	88	MET		
598	Bedroom	2.5	80	MET		
599	Living Room	2	80	MET	10	3
600	Bedroom	2.6	84	MET		
601	Bedroom	2	92	MET		
602	Bedroom	2.3	98	MET		
603	Bedroom	2.3	98	MET		
604	Bedroom	1.7	69	MET		

Table 25: Assessment Data

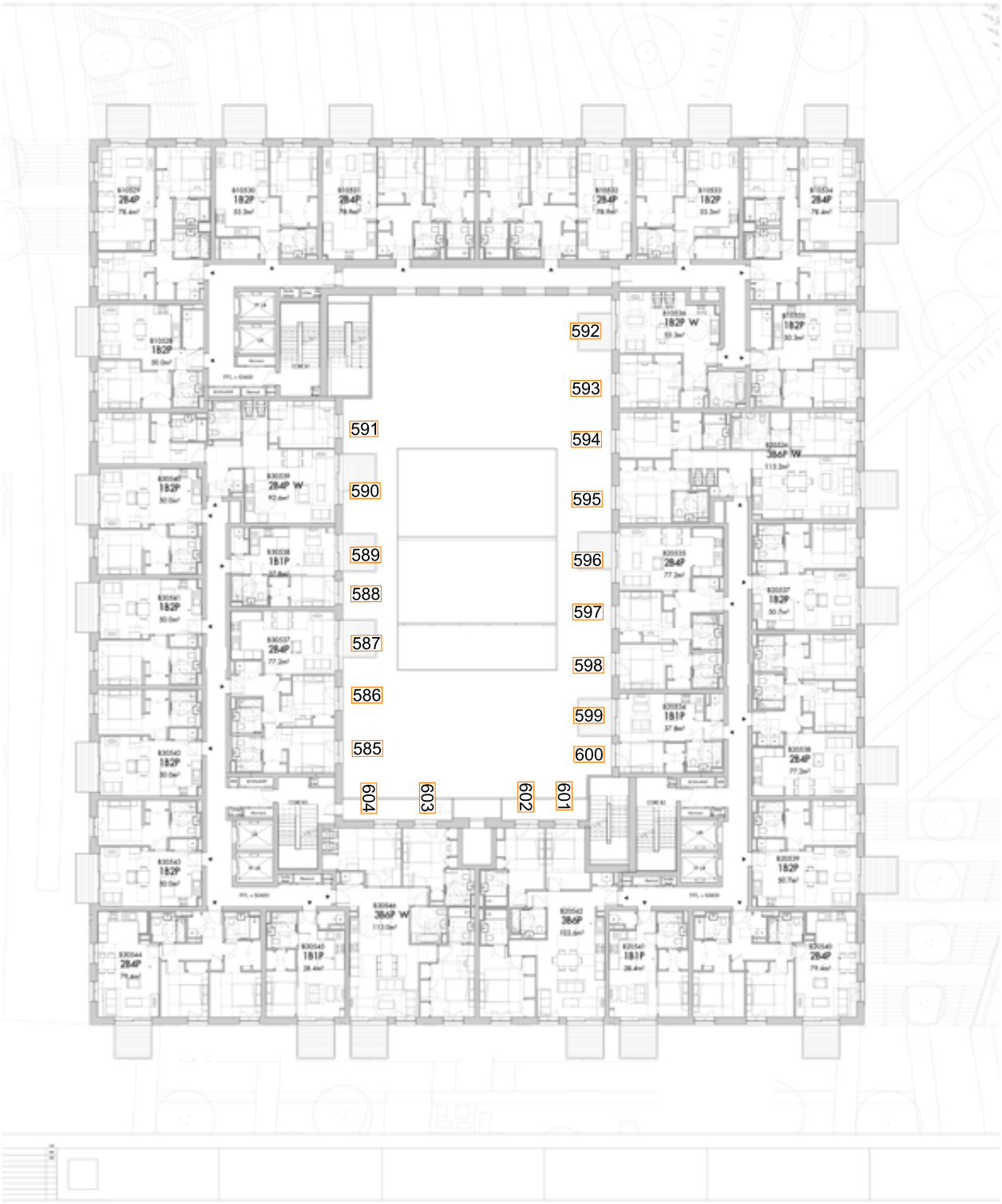
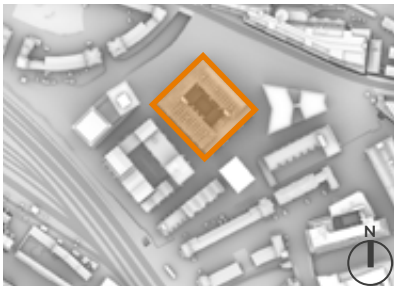


Fig. 26: Floor Plan



Block B - Sixth Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 1 OF 2 - SIXTH FLOOR						
605	Living Room	5.4	100	MET	49	17
606	Bedroom	2.9	96	MET		
607	Living Room	2.3	99	MET		
608	Bedroom	3.7	99	MET		
609	Bedroom	3.3	99	MET		
610	Living Room	2.8	99	MET		
611	Bedroom	3.4	97	MET		
612	L/K/D	1.9	100	MET		
613	Bedroom	2.9	98	MET		
614	Bedroom	3.4	97	MET		
615	L/K/D	2.4	100	MET		
616	Bedroom	3.2	98	MET		
617	L/K/D	5.2	100	N/A		
618	Bedroom	3.3	97	MET		
619	L/K/D	3.1	100	MET		
620	Bedroom	3	97	MET		
621	L/K/D	2.6	98	MET		
622	Bedroom	3.4	96	MET		
623	Bedroom	2.8	96	MET		
624	Bedroom	2.7	97	MET		
625	Bedroom	3.4	96	MET		
626	L/K/D	2.5	98	MET		
627	Bedroom	2.8	96	MET		
628	L/K/D	2.9	100	MET		
629	Bedroom	2.9	91	MET		
630	L/K/D	4.5	100	N/A	43	14
631	Bedroom	2.7	95	MET		
632	L/K/D	3.3	100	MET	43	17
633	Bedroom	2.9	95	MET		
634	Bedroom	2.3	95	MET		
635	Living Room	4.1	100	MET	47	17
636	Bedroom	3.1	96	MET		
637	Living Room	4	100	MET	46	15
638	Bedroom	3	96	MET		
639	Bedroom	2.8	96	MET		
640	Living Room	3.5	100	MET	43	13
641	Bedroom	2.5	80	MET		
642	Living Room	3.2	98	MET	74	15

Table 26: Assessment Data

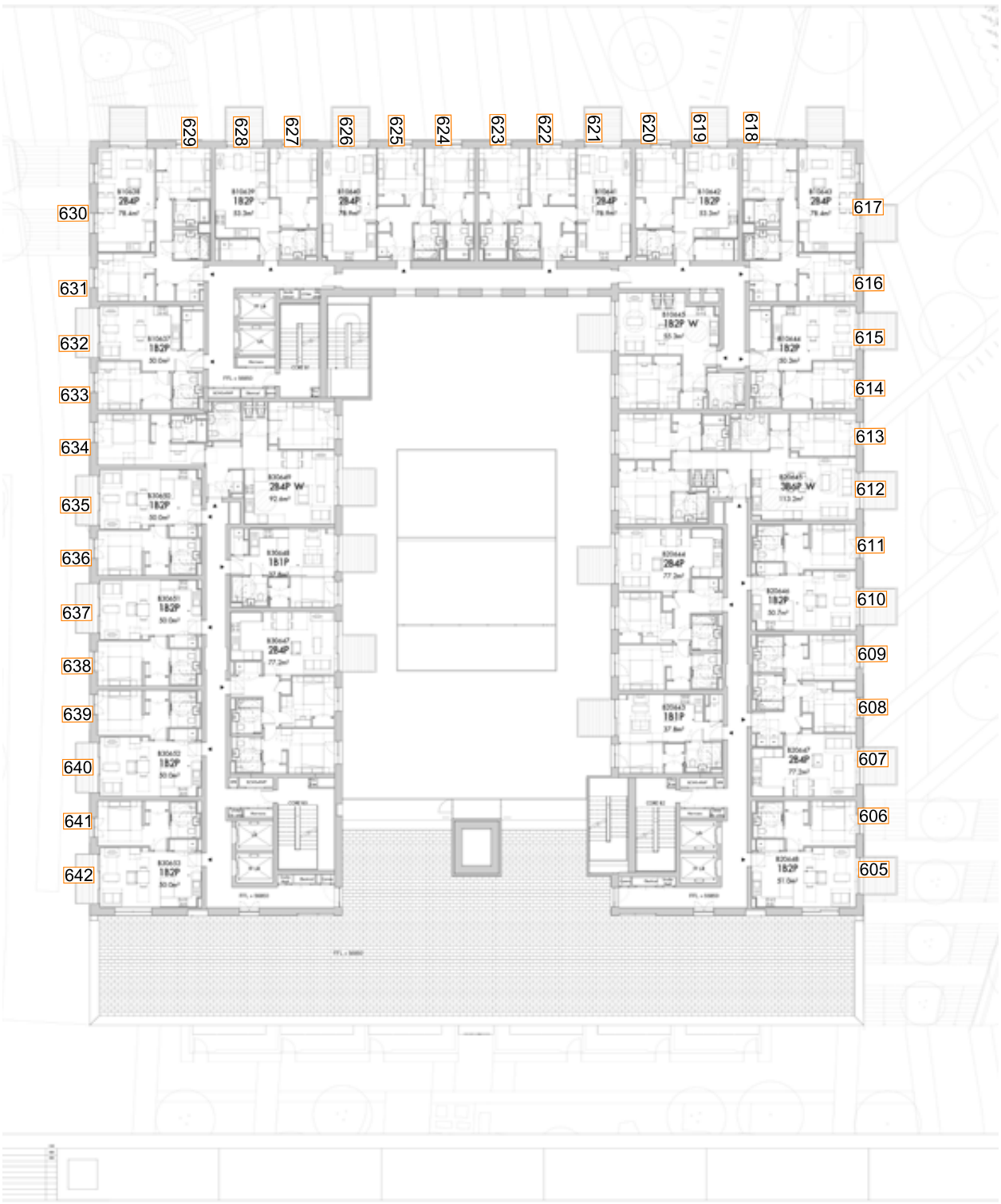
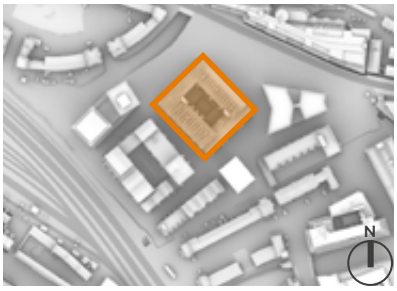


Fig. 27: Floor Plan



Block B - Sixth Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 2 OF 2 - SIXTH FLOOR						
643	Bedroom	2.7	100	MET		
644	Bedroom	3.2	99	MET		
645	Living Room	2.4	74	MET		
646	Bedroom	3.9	99	MET		
647	Living Room	3	100	MET		
648	L/K/D	1.7	56	MET		
649	Bedroom	2.2	81	MET		
650	L/K/D	1.6	53	MET	20	13
651	Bedroom	2.4	87	MET		
652	Bedroom	2.9	97	MET		
653	Bedroom	2.4	97	MET		
654	Living Room	2.4	77	MET	33	12
655	Bedroom	3.5	97	MET		
656	Bedroom	3	98	MET		
657	Living Room	2.7	100	MET	17	4
658	Bedroom	3.3	100	MET		

Table 27: Assessment Data

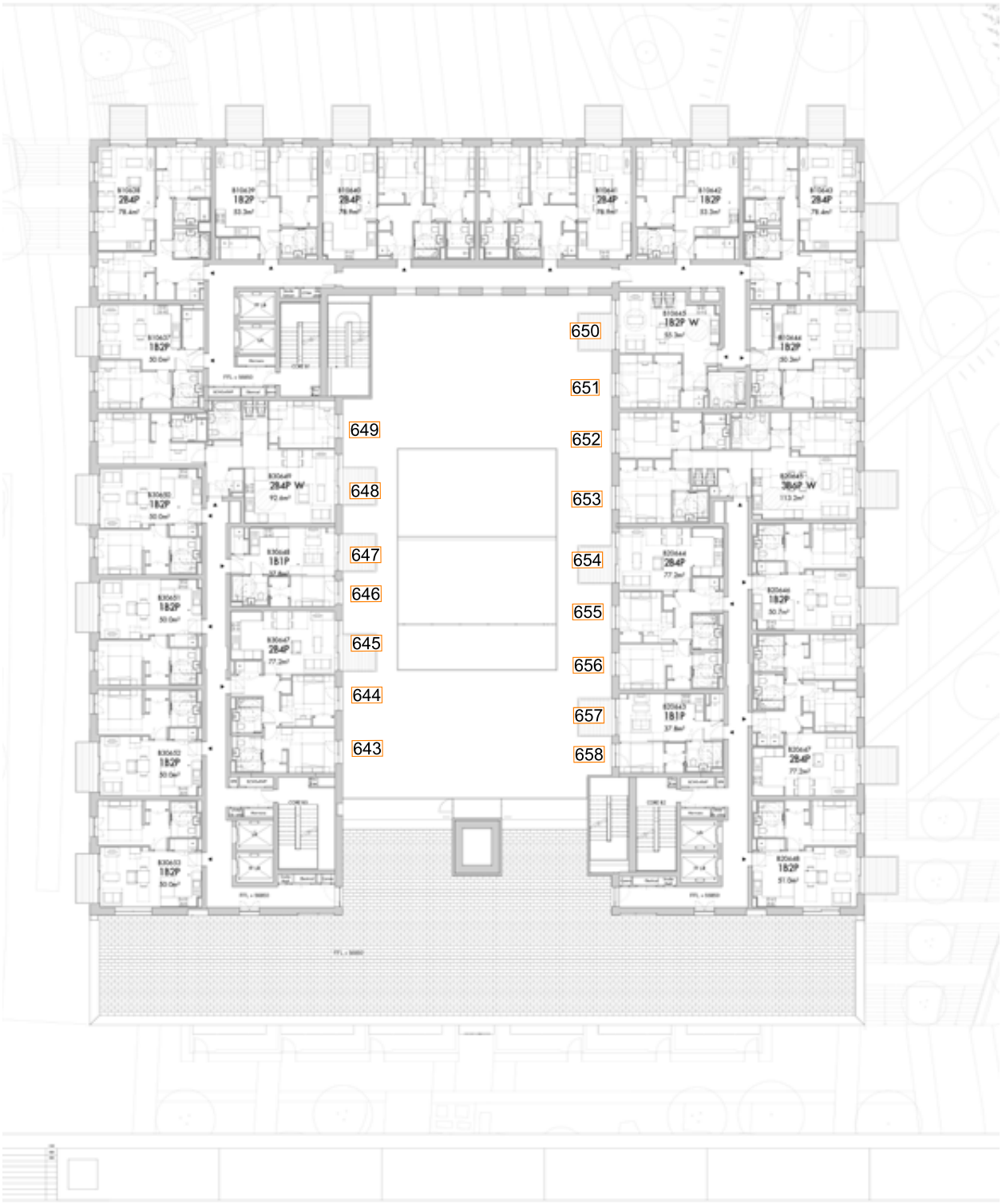
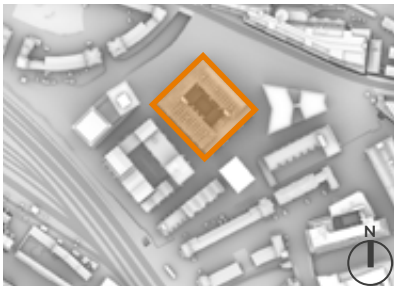


Fig. 28: Floor Plan



Block B - Seventh Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 1 OF 2 - SEVENTH FLOOR						
659	Living Room	6.2	100	MET	46	12
660	Bedroom	2.7	98	MET		
661	Living Room	3.4	99	MET		
662	Bedroom	3.3	99	MET		
663	Bedroom	2.9	99	MET		
664	Living Room	3.9	99	MET		
665	Bedroom	3.1	97	MET		
666	L/K/D	2.6	100	MET		
667	Bedroom	2.5	98	MET		
668	Bedroom	3	97	MET		
669	L/K/D	3.4	100	MET		
670	Bedroom	2.8	99	MET		
671	L/K/D	2.9	99	N/A		
672	Bedroom	2.5	97	MET		
673	L/K/D	1.3	91	MET		
674	Bedroom	2.3	97	MET		
675	L/K/D	1.2	92	MET		
676	Bedroom	3.4	98	MET		
677	Bedroom	2.7	97	MET		
678	Bedroom	2.6	97	MET		
679	Bedroom	3.5	98	MET		
680	L/K/D	1.3	90	MET		
681	Bedroom	2.3	92	MET		
682	L/K/D	1.3	89	MET		
683	Bedroom	2.2	92	MET		
684	L/K/D	2.4	99	N/A	25	8
685	Bedroom	2.5	97	MET		
686	L/K/D	4.2	100	MET	54	20
687	Bedroom	2.7	96	MET		
688	Bedroom	2.2	95	MET		
689	Living Room	4.8	100	MET	57	19
690	Bedroom	2.9	96	MET		
691	Living Room	4.8	100	MET	56	17
692	Bedroom	2.9	96	MET		
693	Bedroom	2.6	96	MET		
694	Living Room	4.4	100	MET	55	15
695	Bedroom	2.5	88	MET		
696	Living Room	4.2	98	MET	70	17

Table 28: Assessment Data

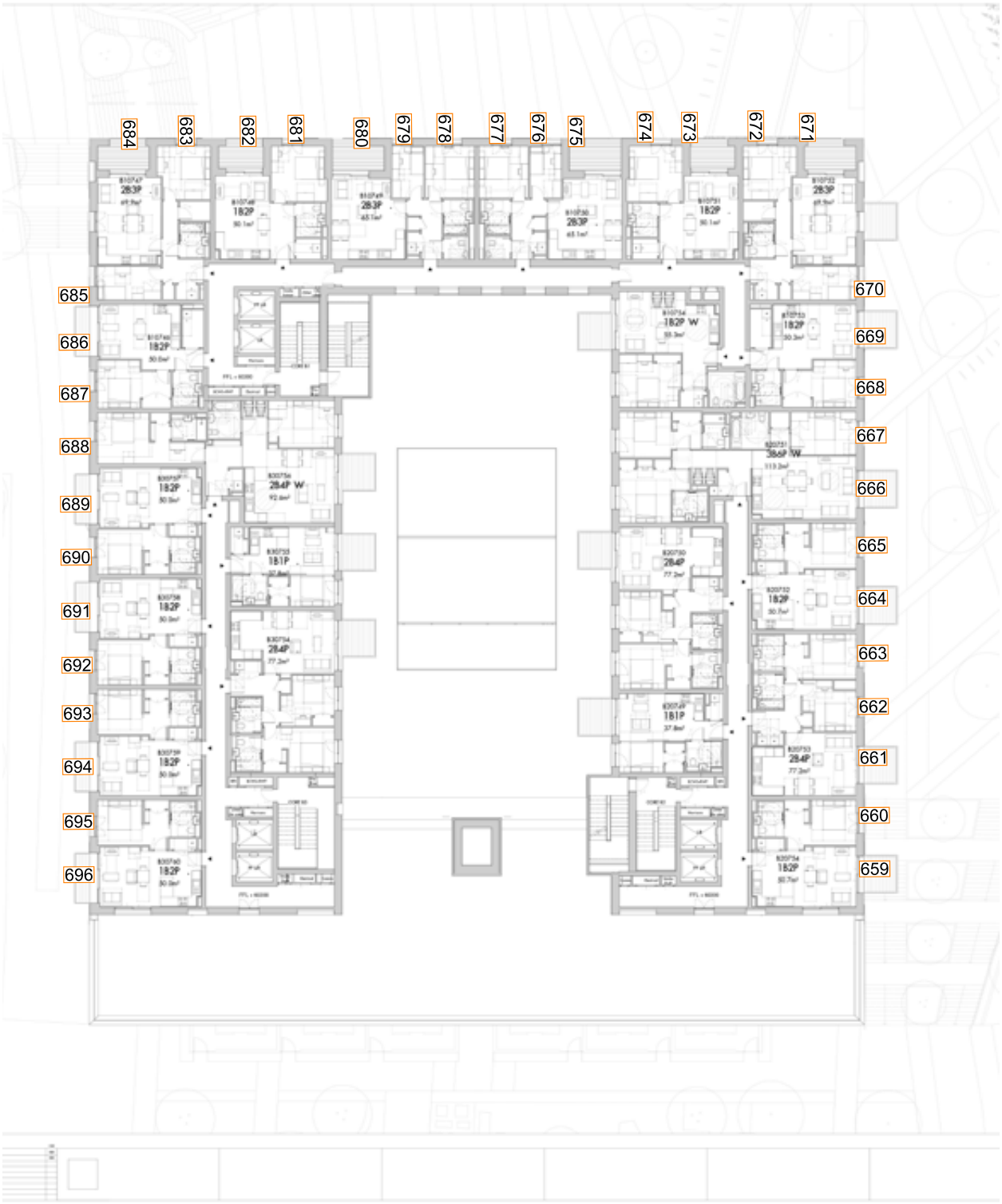
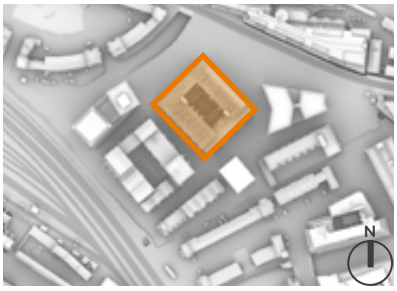


Fig. 29: Floor Plan



Block B - Seventh Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - PART 2 OF 2 - SEVENTH FLOOR						
697	Bedroom	3.1	100	MET		
698	Bedroom	3.9	99	MET		
699	Living Room	4	100	MET		
700	Bedroom	5.5	99	MET		
701	Living Room	5.4	100	MET		
702	L/K/D	2.9	99	MET		
703	Bedroom	2.6	97	MET		
704	L/K/D	2.9	92	MET	50	19
705	Bedroom	2.8	97	MET		
706	Bedroom	3.3	97	MET		
707	Bedroom	2.9	97	MET		
708	Living Room	4	100	MET	58	19
709	Bedroom	4.1	97	MET		
710	Bedroom	3.5	98	MET		
711	Living Room	4.7	100	MET	46	9
712	Bedroom	4.5	100	MET		

Table 29: Assessment Data

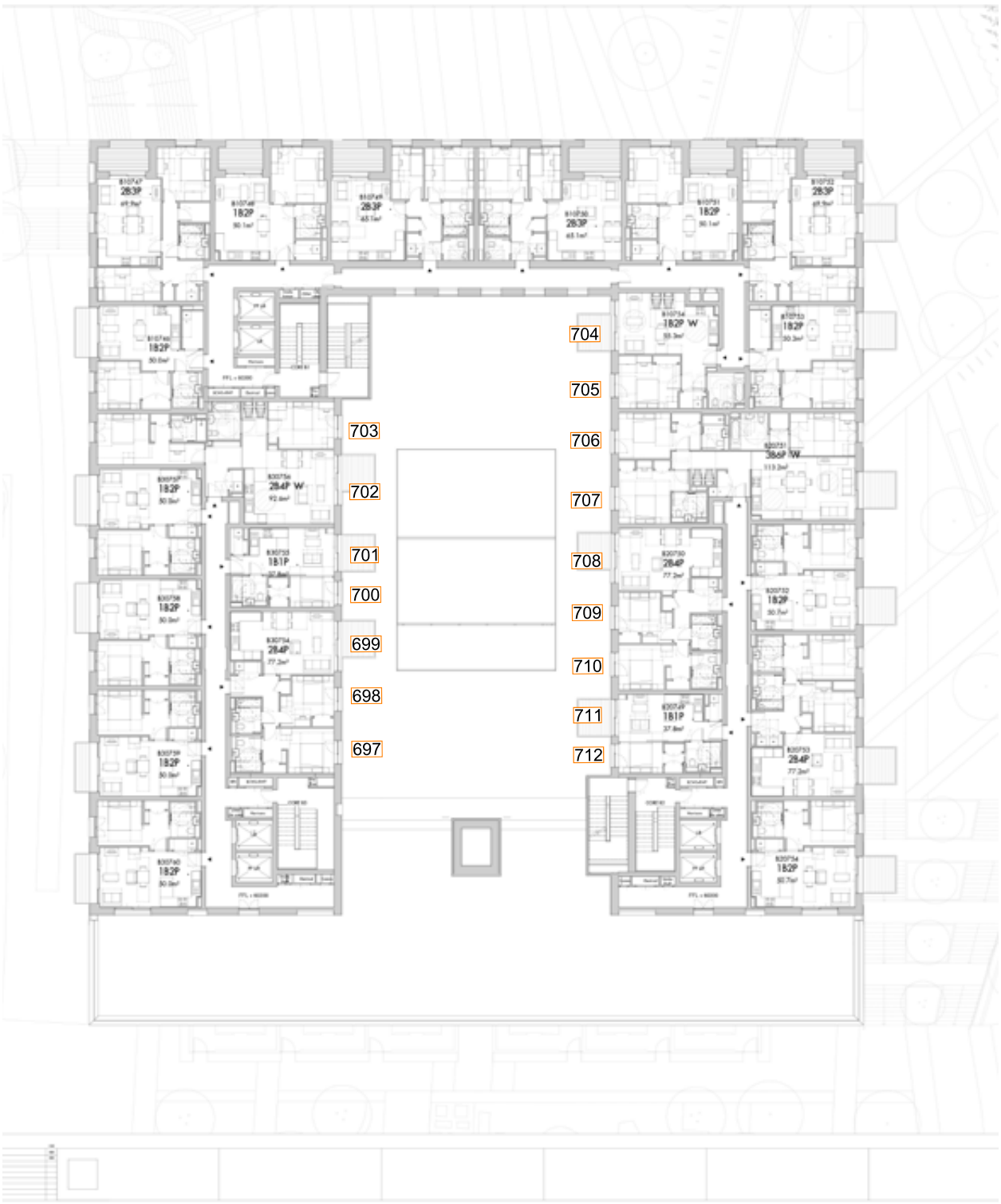


Fig. 30: Floor Plan

Block C - First Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - FIRST FLOOR						
713	Living Room	4.5	98	MET		
714	L/K/D	3.9	99	MET		
715	Bedroom	2.7	75	MET		
716	Bedroom	1.6	81	MET		
717	Bedroom	1.4	67	MET		
718	Kitchen	2.3	97	MET		
719	Living Room	2.9	99	MET		
720	Bedroom	2.8	94	MET		
721	Bedroom	3.3	97	MET		
722	Living Room	5.2	100	MET		
723	Living Room	4.4	100	MET	55	8
724	Bedroom	1.6	55	MET		
725	Bedroom	1.3	37	MET		
726	Living Room	1.1	50	MET	40	1
727	Kitchen	0.6	53	MET		
728	Bedroom	1	56	MET		
729	Bedroom	1.1	81	MET		
730	Bedroom	1.6	86	MET		
731	L/K/D	1.5	90	MET	40	2
732	Living Room	2.6	95	MET	43	1
733	Bedroom	1.9	67	MET		
734	Bedroom	1.8	67	MET		
735	Bedroom	1.8	80	N/A		
736	L/K/D	1.1	54	MET		
737	L/K/D	1	60	MET	7	3
738	Bedroom	1.6	63	N/A		
739	Bedroom	1.6	67	MET		
740	Bedroom	1.6	52	MET		

Table 30: Assessment Data

Fig. 31: Floor Plan

Block C - Second Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - SECOND FLOOR						
741	Living Room	4.7	98	MET		
742	L/K/D	4.1	99	MET		
743	Bedroom	2.9	75	MET		
744	Bedroom	1.7	81	MET		
745	Bedroom	1.5	67	MET		
746	Kitchen	2.4	97	MET		
747	Living Room	2.9	99	MET		
748	Bedroom	2.8	94	MET		
749	Bedroom	3.4	97	MET		
750	Living Room	5.3	100	MET		
751	Living Room	4.6	100	MET	61	11
752	Bedroom	2	71	MET		
753	Bedroom	1.8	59	MET		
754	Living Room	1.5	84	MET	48	6
755	Kitchen	0.9	74	MET		
756	Bedroom	1.1	59	MET		
757	Bedroom	1.4	93	MET		
758	Bedroom	1.9	87	MET		
759	L/K/D	1.9	94	MET	51	5
760	Living Room	3.2	96	MET	54	6
761	Bedroom	2.1	73	MET		
762	Bedroom	2	71	MET		
763	Bedroom	2	85	N/A		
764	L/K/D	1.2	57	MET		
765	L/K/D	1.1	63	MET	7	3
766	Bedroom	1.8	65	N/A		
767	Bedroom	1.8	71	MET		
768	Bedroom	1.8	57	MET		

Table 31: Assessment Data

Fig. 32: Floor Plan

Block C - Third Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - THIRD FLOOR						
769	Living Room	4.9	99	MET		
770	L/K/D	4.1	99	MET		
771	Bedroom	3	75	MET		
772	Bedroom	1.8	81	MET		
773	Bedroom	1.6	67	MET		
774	Kitchen	2.6	97	MET		
775	Living Room	2.9	99	MET		
776	Bedroom	2.9	94	MET		
777	Bedroom	3.3	97	MET		
778	Living Room	5.3	100	MET		
779	Living Room	4.9	100	MET	68	17
780	Bedroom	2.4	97	MET		
781	Bedroom	2.1	94	MET		
782	Living Room	1.9	98	MET	56	12
783	Kitchen	1.3	95	MET		
784	Bedroom	1.3	63	MET		
785	Bedroom	1.6	94	MET		
786	Bedroom	2.1	87	MET		
787	L/K/D	2.5	99	MET	61	13
788	Living Room	3.9	97	MET	66	14
789	Bedroom	2.2	81	MET		
790	Bedroom	2.1	79	MET		
791	Bedroom	2.2	92	N/A		
792	L/K/D	1.4	63	MET		
793	L/K/D	1.3	68	MET	9	4
794	Bedroom	2	70	N/A		
795	Bedroom	2	76	MET		
796	Bedroom	2	62	MET		

Table 32: Assessment Data

Fig. 33: Floor Plan

Block C - Fourth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - FOURTH FLOOR						
797	Living Room	5.2	99	MET		
798	L/K/D	4.1	99	MET		
799	Bedroom	3.1	75	MET		
800	Bedroom	1.8	81	MET		
801	Bedroom	1.7	67	MET		
802	Kitchen	2.6	97	MET		
803	Living Room	3	99	MET		
804	Bedroom	2.9	94	MET		
805	Bedroom	3.4	97	MET		
806	Living Room	5.4	100	MET		
807	Living Room	5.1	100	MET	75	24
808	Bedroom	2.9	97	MET		
809	Bedroom	2.7	94	MET		
810	Living Room	2.4	99	MET	68	23
811	Kitchen	1.8	96	MET		
812	Bedroom	1.5	66	MET		
813	Bedroom	1.8	94	MET		
814	Bedroom	2.4	87	MET		
815	L/K/D	3.1	100	MET	71	22
816	Living Room	4.4	98	MET	75	21
817	Bedroom	2.4	96	MET		
818	Bedroom	2.3	90	MET		
819	Bedroom	2.4	94	N/A		
820	L/K/D	1.4	71	MET		
821	L/K/D	1.4	76	MET	10	4
822	Bedroom	2.2	75	N/A		
823	Bedroom	2.2	84	MET		
824	Bedroom	2.3	75	MET		

Table 33: Assessment Data

Fig. 34: Floor Plan

Block C - Fifth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - FIFTH FLOOR						
825	Living Room	5.4	99	MET		
826	L/K/D	4.2	99	MET		
827	Bedroom	3.1	76	MET		
828	Bedroom	1.8	81	MET		
829	Bedroom	1.7	67	MET		
830	Kitchen	2.6	97	MET		
831	Living Room	3	99	MET		
832	Bedroom	2.9	94	MET		
833	Bedroom	3.4	97	MET		
834	Living Room	5.4	100	MET		
835	Living Room	5.3	100	MET	78	27
836	Bedroom	3.2	97	MET		
837	Bedroom	3	94	MET		
838	Living Room	2.7	99	MET	69	24
839	Kitchen	2.1	96	MET		
840	Bedroom	1.6	67	MET		
841	Bedroom	2	94	MET		
842	Bedroom	2.6	87	MET		
843	L/K/D	3.3	100	MET	73	24
844	Living Room	4.8	99	MET	78	23
845	Bedroom	2.7	98	MET		
846	Bedroom	2.5	94	MET		
847	Bedroom	2.6	95	N/A		
848	L/K/D	1.6	83	MET		
849	L/K/D	1.6	84	MET	13	4
850	Bedroom	2.4	83	N/A		
851	Bedroom	2.6	92	MET		
852	Bedroom	2.6	89	MET		

Table 34: Assessment Data

Fig. 35: Floor Plan

Block C - Sixth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - SIXTH FLOOR						
853	Living Room	5.5	99	MET		
854	L/K/D	4.2	99	MET		
855	Bedroom	3.2	76	MET		
856	Bedroom	2	81	MET		
857	Bedroom	1.9	68	MET		
858	Kitchen	2.7	97	MET		
859	Living Room	3.1	99	MET		
860	Bedroom	2.9	94	MET		
861	Bedroom	3.5	97	MET		
862	Living Room	5.4	100	MET		
863	Living Room	5.4	100	MET	78	27
864	Bedroom	3.3	97	MET		
865	Bedroom	3.2	94	MET		
866	Living Room	2.9	99	MET	71	26
867	Kitchen	2.2	96	MET		
868	Bedroom	1.8	67	MET		
869	Bedroom	2.1	94	MET		
870	Bedroom	2.7	88	MET		
871	L/K/D	3.5	100	MET	73	24
872	Living Room	4.9	100	MET	81	25
873	Bedroom	2.8	100	MET		
874	Bedroom	2.7	97	MET		
875	Bedroom	2.7	95	N/A		
876	L/K/D	1.8	96	MET		
877	L/K/D	1.7	91	MET	17	5
878	Bedroom	2.6	91	N/A		
879	Bedroom	2.8	96	MET		
880	Bedroom	2.9	99	MET		

Table 35: Assessment Data

Fig. 36: Floor Plan

Block C - Seventh Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - SEVENTH FLOOR						
881	Living Room	5.7	99	MET		
882	L/K/D	4.2	99	MET		
883	Bedroom	3.4	79	MET		
884	Bedroom	2.1	83	MET		
885	Bedroom	2.1	69	MET		
886	Kitchen	2.7	97	MET		
887	Living Room	3.1	99	MET		
888	Bedroom	2.9	94	MET		
889	Bedroom	3.4	97	MET		
890	Living Room	5.4	100	MET		
891	Living Room	5.3	100	MET	78	27
892	Bedroom	3.5	97	MET		
893	Bedroom	3.3	94	MET		
894	Living Room	3	99	MET	71	26
895	Kitchen	2.3	96	MET		
896	Bedroom	1.9	69	MET		
897	Bedroom	2.3	94	MET		
898	Bedroom	3	91	MET		
899	L/K/D	3.6	100	MET	74	25
900	Living Room	5.2	100	MET	84	26
901	Bedroom	3	100	MET		
902	Bedroom	2.9	97	MET		
903	Bedroom	2.9	95	N/A		
904	L/K/D	1.9	100	MET		
905	L/K/D	1.8	97	MET	19	6
906	Bedroom	2.7	93	N/A		
907	Bedroom	2.9	96	MET		
908	Bedroom	3	100	MET		

Table 36: Assessment Data

Fig. 37: Floor Plan

Block C - Eighth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - EIGHTH FLOOR						
909	Living Room	5.9	100	MET		
910	L/K/D	4.3	99	MET		
911	Bedroom	3.6	90	MET		
912	Bedroom	2.3	88	MET		
913	Bedroom	2.3	73	MET		
914	Kitchen	2.6	97	MET		
915	Living Room	3.2	99	MET		
916	Bedroom	2.9	94	MET		
917	Bedroom	3.4	97	MET		
918	Living Room	5.5	100	MET		
919	Living Room	5.5	100	MET	78	27
920	Bedroom	3.5	97	MET		
921	Bedroom	3.3	94	MET		
922	Living Room	3	99	MET	71	26
923	Kitchen	2.3	96	MET		
924	Bedroom	2.1	72	MET		
925	Bedroom	2.6	94	MET		
926	Bedroom	3.3	91	MET		
927	L/K/D	3.7	100	MET	75	26
928	Living Room	5.6	100	MET	87	27
929	Bedroom	3.2	100	MET		
930	Bedroom	3.1	97	MET		
931	Bedroom	3.1	95	N/A		
932	L/K/D	2	100	MET		
933	L/K/D	2	100	MET	20	6
934	Bedroom	2.9	93	N/A		
935	Bedroom	3.2	96	MET		
936	Bedroom	3.2	100	MET		

Table 37: Assessment Data

Fig. 38: Floor Plan

Block C - Ninth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - NINTH FLOOR						
937	Living Room	6.5	100	MET		
938	L/K/D	4.7	100	MET		
939	Bedroom	4.4	98	MET		
940	Bedroom	2.8	98	MET		
941	Bedroom	2.6	83	MET		
942	Kitchen	2.8	97	MET		
943	Living Room	3.3	99	MET		
944	Bedroom	3	94	MET		
945	Bedroom	3.5	97	MET		
946	Living Room	5.5	100	MET		
947	Living Room	5.4	100	MET	78	27
948	Bedroom	3.6	97	MET		
949	Bedroom	3.4	94	MET		
950	Living Room	3.2	99	MET	71	26
951	Kitchen	2.4	96	MET		
952	Bedroom	2.6	83	MET		
953	Bedroom	3.3	94	MET		
954	Bedroom	3.8	98	MET		
955	L/K/D	4.1	100	MET	78	26
956	Living Room	6.1	100	MET	90	28
957	Bedroom	3.3	100	MET		
958	Bedroom	3.2	97	MET		
959	Bedroom	3.4	96	N/A		
960	L/K/D	2.4	100	MET		
961	L/K/D	2.4	100	MET	24	9
962	Bedroom	3.2	94	N/A		
963	Bedroom	3.3	96	MET		
964	Bedroom	3.4	100	MET		

Table 38: Assessment Data

Fig. 39: Floor Plan

Block C - Tenth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - TENTH FLOOR						
965	Living Room	6.2	100	MET		
966	L/K/D	4.5	100	MET		
967	Bedroom	4.7	98	MET		
968	Bedroom	3.2	98	MET		
969	Bedroom	3.7	94	MET		
970	Bedroom	4.1	98	MET		
971	L/K/D	4	100	MET	79	27
972	Living Room	5.9	100	MET	91	29
973	Bedroom	3.5	100	MET		
974	Bedroom	3.2	97	MET		
975	Bedroom	3.5	96	N/A		
976	L/K/D	2.2	100	MET		
977	L/K/D	2.1	100	MET	21	9
978	Bedroom	3.2	94	N/A		
979	Bedroom	3.5	96	MET		
980	Bedroom	3.6	100	MET		

Table 39: Assessment Data

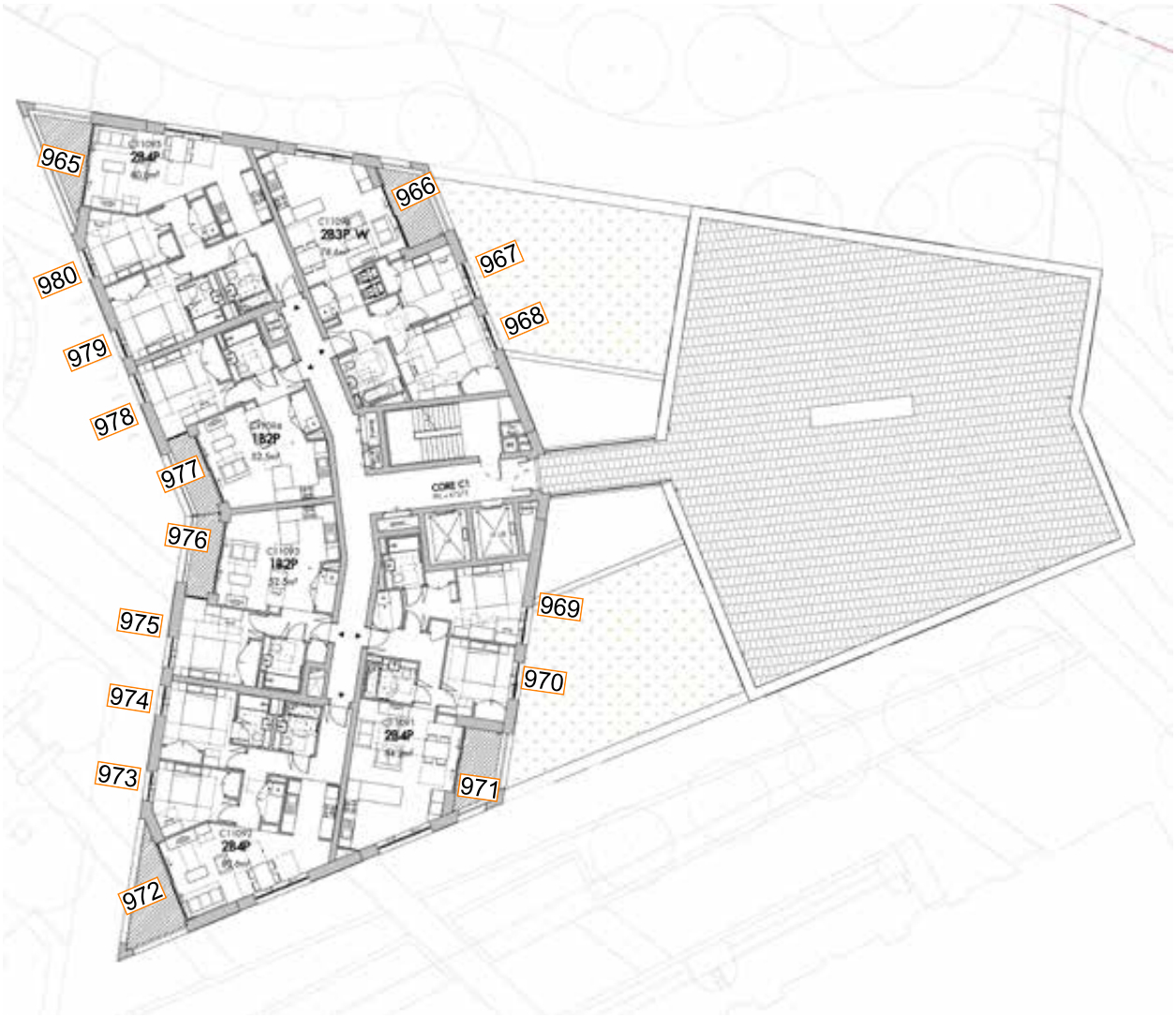


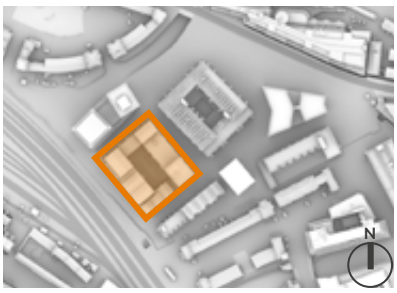
Fig. 40: Floor Plan

Block F - Ground Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - GROUND FLOOR						
981	Living Room	1.9	51	N/A	32	10
982	Living Room	2.1	60	N/A	35	10
983	Living Room	2.2	66	N/A	40	11
984	Living Room	2.4	80	N/A	45	13
985	Living Room	2.4	73	N/A	57	20
986	Living Room	2.4	98	MET	58	20
987	Living Room	2.3	98	MET	59	22
988	Living Room	2.4	98	MET	60	22

Table 40: Assessment Data

Fig. 41: Floor Plan



Block F -First Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 1 OF 2 - FIRST FLOOR						
989	Living Room	4.9	99	N/A	60	22
990	Kitchen	2.7	98	MET		
991	Bedroom	1.4	48	MET		
992	Bedroom	1	60	MET		
993	Bedroom	0.9	71	MET		
994	L/K/D	0.6	70	N/A	8	2
995	Bedroom	0.6	66	MET		
996	Bedroom	0.9	70	MET		
997	L/K/D	0.8	88	N/A	6	2
998	Bedroom	0.8	75	MET		
999	Bedroom	0.9	68	MET		
1000	Bedroom	0.8	65	MET		
1001	L/K/D	0.5	56	MET		
1002	Bedroom	0.9	64	MET		
1003	Bedroom	1.5	78	MET		
1004	L/K/D	1.4	95	N/A		
1005	Bedroom	0.9	23	MET		
1006	Living Room	0.9	32	MET	13	1
1007	Living Room	0.9	15	MET	4	2
1008	Bedroom	1.2	32	MET		
1009	Living Room	0.9	23	MET	10	3
1010	Bedroom	1.5	33	MET		
1011	Bedroom	1.4	37	MET		
1012	Living Room	1	30	MET	7	1
1013	Living Room	0.5	30	MET		
1014	Bedroom	1.2	54	MET		
1015	Bedroom	1.3	59	MET		
1016	Bedroom	1.3	71	MET		
1017	L/K/D	1.5	82	N/A	35	9
1018	Bedroom	1.5	53	MET		
1019	Living Room	0.7	27	MET	19	9
1020	Bedroom	1.3	63	MET		
1021	Bedroom	2	91	MET		
1022	Bedroom	1.1	74	MET		
1023	Bedroom	1.9	96	MET		
1024	Bedroom	1.4	82	MET		
1025	Bedroom	2.8	97	MET		
1026	Bedroom	2	98	MET		
1027	Bedroom	1.6	97	MET		
1028	Bedroom	1.5	85	MET		
1029	Bedroom	2.9	99	MET		
1030	Bedroom	4	97	N/A		
1031	Bedroom	2.3	96	MET		
1032	Bedroom	2.5	98	MET		
1033	L/K/D	1.8	98	MET	45	19
1034	Bedroom	3.7	100	MET		
1035	Bedroom	3.2	98	MET		
1036	Bedroom	2.9	100	MET		
1037	Bedroom	3.8	98	MET		
1038	Bedroom	2.1	100	MET		
1039	Bedroom	1.8	99	MET		
1040	L/K/D	1.5	96	MET	43	22
1041	Bedroom	5	99	MET		
1042	L/K/D	1.9	98	MET	40	20
1043	Bedroom	3.3	99	MET		

Table 41: Assessment Data

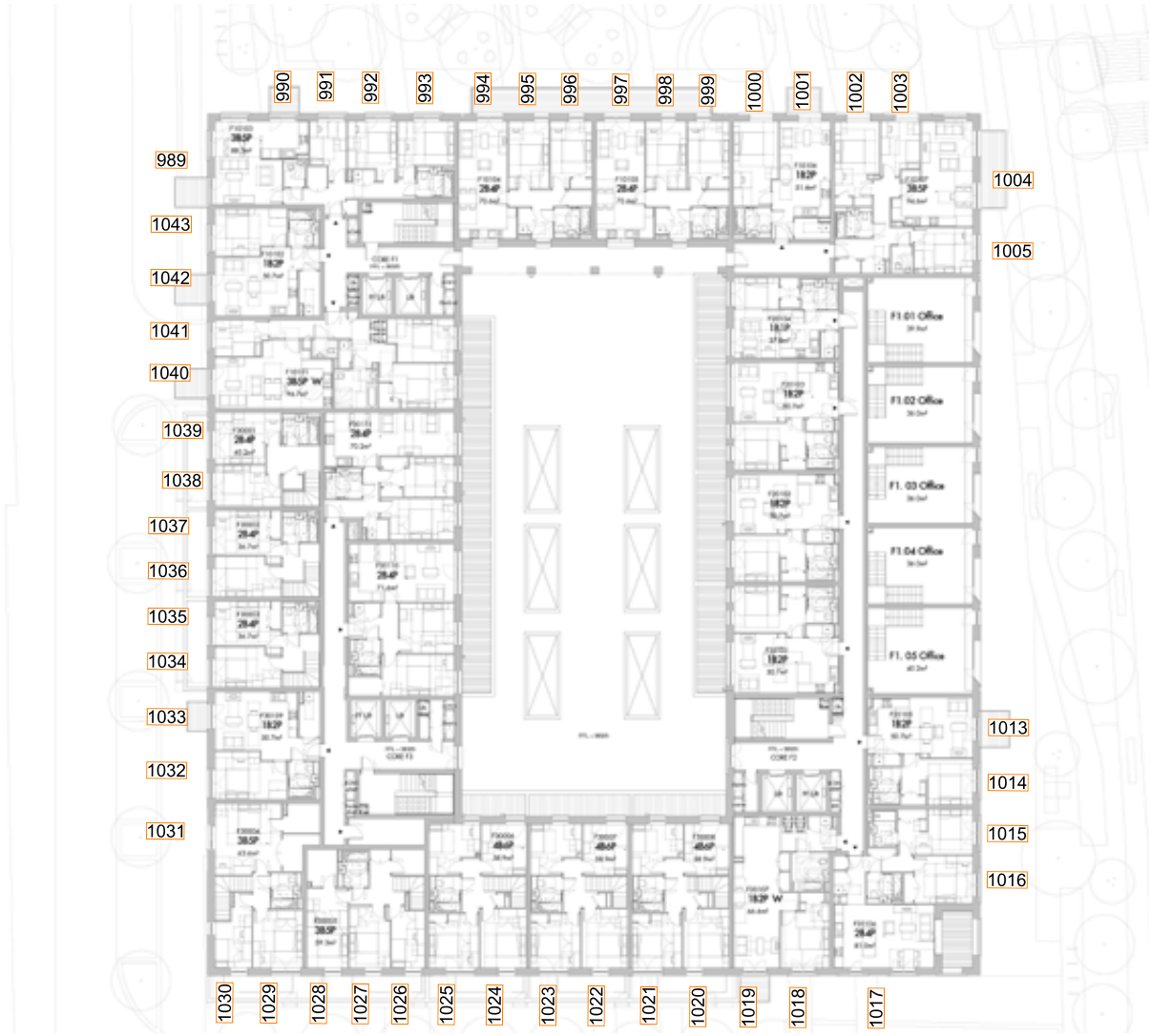
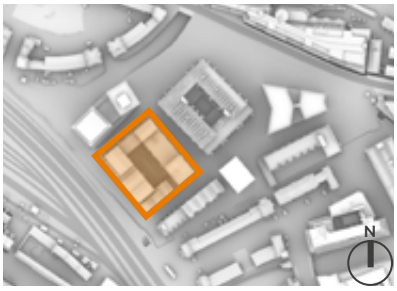


Fig. 42: Floor Plan

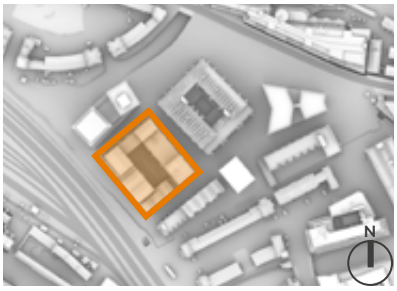


Block F -First Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOUR	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 2 OF 2 - FIRST FLOOR						
1044	Bedroom	0.6	16	MET		
1045	Bedroom	1.1	32	MET		
1046	Living Room	0.8	22	MET		
1047	Bedroom	0.9	33	MET		
1048	Bedroom	1	28	MET		
1049	L/K/D	0.7	17	MET		
1050	Bedroom	1.1	28	MET		
1051	Bedroom	0.9	18	MET		
1052	Bedroom	0.8	51	MET		
1053	Bedroom	1.1	61	MET		
1054	Bedroom	0.7	37	MET		
1055	Bedroom	1.2	55	MET		
1056	Bedroom	1.1	55	MET		
1057	Bedroom	1.1	58	MET		

Table 42: Assessment Data

Fig. 43: Floor Plan



Block F - Second Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOUR	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 1 OF 2 - SECOND FLOOR						
1058	Living Room	4.3	99	N/A	60	22
1059	Kitchen	2.7	98	MET		
1060	Bedroom	1.6	50	MET		
1061	Bedroom	1.2	62	MET		
1062	Bedroom	1	71	MET		
1063	L/K/D	0.6	80	N/A	9	3
1064	Bedroom	0.6	68	MET		
1065	Bedroom	0.9	71	MET		
1066	L/K/D	0.8	91	N/A	9	5
1067	Bedroom	0.8	75	MET		
1068	Bedroom	1	68	MET		
1069	Bedroom	0.9	65	MET		
1070	L/K/D	0.5	56	MET		
1071	Bedroom	1	64	MET		
1072	Bedroom	1.8	78	MET		
1073	L/K/D	1.5	95	N/A		
1074	Bedroom	1.1	24	MET		
1075	Living Room	1.1	31	MET		
1076	Bedroom	1	27	MET		
1077	Living Room	1.1	20	MET		
1078	Bedroom	0.7	19	MET		
1079	Bedroom	1.7	30	MET		
1080	Living Room	1.1	18	MET		
1081	Bedroom	0.8	27	MET		
1082	Bedroom	1.7	35	MET		
1083	Living Room	0.5	32	MET		
1084	Bedroom	1.4	57	MET		
1085	Bedroom	1.5	63	MET		
1086	Bedroom	1.4	75	MET		
1087	L/K/D	1.5	91	N/A	43	11
1088	Bedroom	1.6	68	MET		
1089	L/K/D	1.5	73	N/A	41	16
1090	L/K/D	1.9	94	N/A	47	17
1091	Bedroom	1.8	89	MET		
1092	Bedroom	2.3	99	MET		
1093	Bedroom	2.3	100	MET		
1094	L/K/D	1	99	MET	39	20
1095	Bedroom	2.7	99	MET		
1096	L/K/D	3.7	100	N/A	95	29
1097	Bedroom	2.5	94	MET		
1098	Bedroom	3.6	97	MET		
1099	L/K/D	1.8	100	MET	51	24
1100	Bedroom	2.1	96	MET		
1101	Bedroom	2.1	96	MET		
1102	L/K/D	1.8	100	MET	48	22
1103	Bedroom	2.1	97	MET		
1104	Bedroom	2.1	97	MET		
1105	L/K/D	2.1	99	MET	38	19
1106	L/K/D	1.2	96	MET	43	22
1107	Bedroom	4.3	99	MET		
1108	L/K/D	1.6	98	MET	40	20
1109	Bedroom	2.8	99	MET		

Table 43: Assessment Data

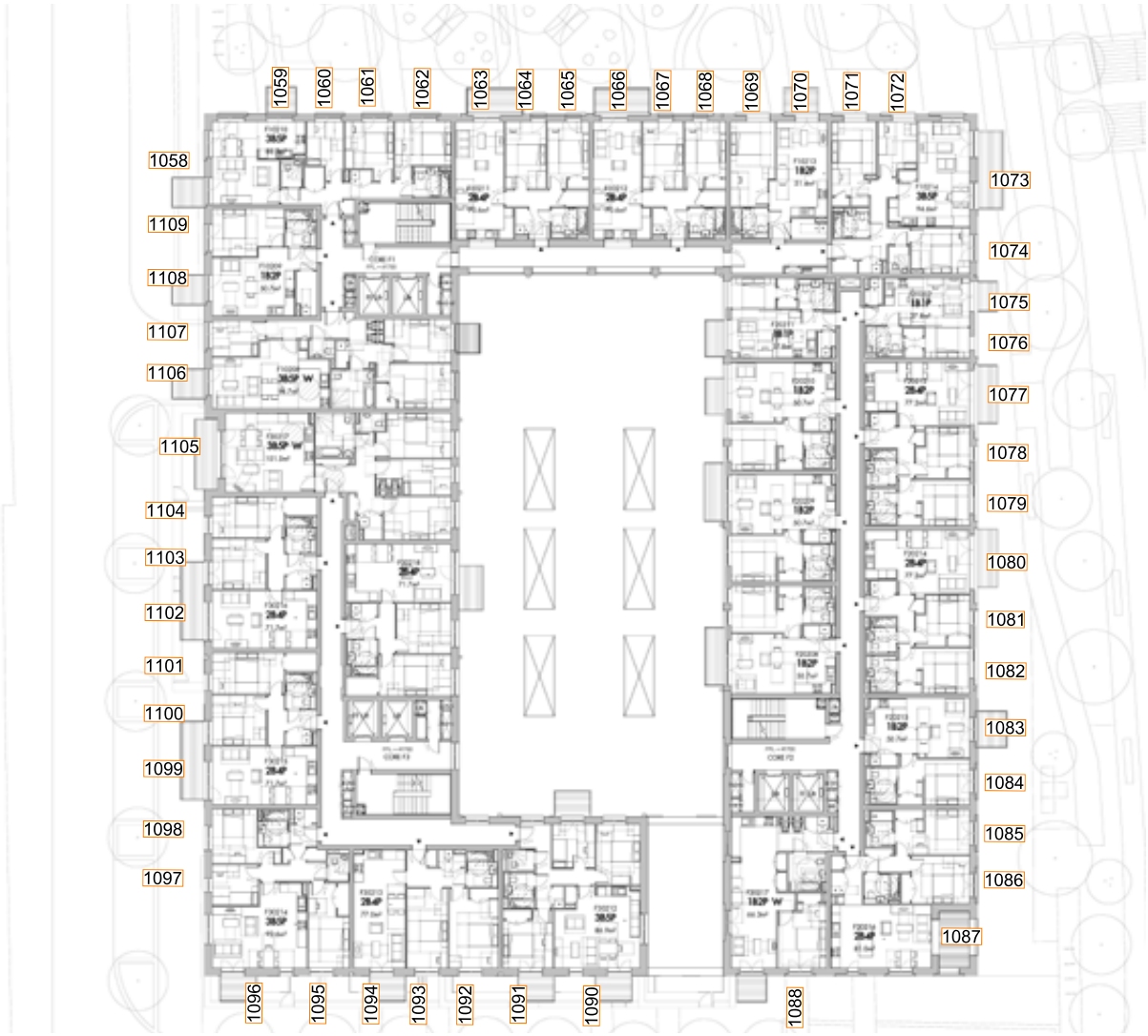
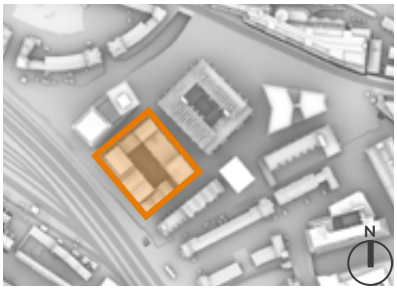


Fig. 44: Floor Plan

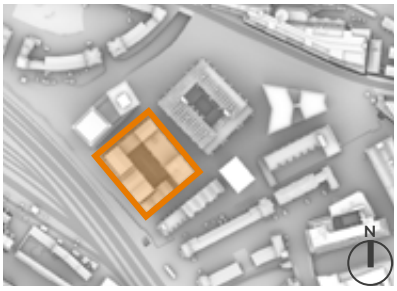


Block F - Second Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 2 OF 2 - SECOND FLOOR						
1110	Bedroom	0.7	18	MET		
1111	Bedroom	1.2	35	MET		
1112	Bedroom	1.4	32	MET		
1113	Bedroom	1.3	45	MET		
1114	Bedroom	1.4	33	MET		
1115	L/K/D	0.9	18	MET		
1116	Bedroom	1.4	36	MET		
1117	Bedroom	1.2	24	MET		
1118	Bedroom	1.3	68	MET		
1119	Bedroom	1.6	78	MET		
1120	Living Room	1.7	53	MET	23	4
1121	Bedroom	1.7	55	MET		
1122	Bedroom	2.3	49	MET		
1123	Living Room	1.5	36	MET	23	6
1124	Bedroom	1.5	44	MET		
1125	Living Room	1.3	32	MET	13	4
1126	Living Room	1.4	50	MET	16	4

Table 44: Assessment Data

Fig. 45: Floor Plan

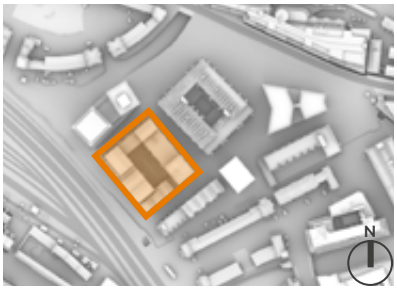


Block F - Third Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 1 OF 2 - THIRD FLOOR						
1127	Living Room	4.5	99	N/A	60	22
1128	Kitchen	2.7	98	MET		
1129	Bedroom	1.8	51	MET		
1130	Bedroom	1.3	62	MET		
1131	Bedroom	1.2	72	MET		
1132	L/K/D	0.7	85	N/A	9	3
1133	Bedroom	0.7	68	MET		
1134	Bedroom	0.9	71	MET		
1135	L/K/D	0.9	96	N/A	9	5
1136	Bedroom	0.9	75	MET		
1137	Bedroom	1	69	MET		
1138	Bedroom	1	65	MET		
1139	L/K/D	0.6	56	MET		
1140	Bedroom	1.1	64	MET		
1141	Bedroom	1.9	78	MET		
1142	L/K/D	1.6	95	N/A		
1143	Bedroom	1.2	27	MET		
1144	Living Room	1.2	33	MET		
1145	Bedroom	1.1	32	MET		
1146	Living Room	1.2	26	MET		
1147	Bedroom	0.9	26	MET		
1148	Bedroom	1.9	32	MET		
1149	Living Room	1.2	32	MET		
1150	Bedroom	0.9	32	MET		
1151	Bedroom	2.1	45	MET		
1152	Living Room	0.6	37	MET		
1153	Bedroom	1.6	65	MET		
1154	Bedroom	1.7	68	MET		
1155	Bedroom	1.6	82	MET		
1156	L/K/D	1.8	96	N/A	50	17
1157	Bedroom	2	98	MET		
1158	L/K/D	1.2	62	N/A	54	20
1159	L/K/D	1.6	98	MET	53	19
1160	Bedroom	2.1	97	MET		
1161	Bedroom	2.6	99	MET		
1162	Bedroom	2.5	100	MET		
1163	L/K/D	1.1	99	MET	42	22
1164	Bedroom	2.9	99	MET		
1165	L/K/D	4.1	100	N/A	97	30
1166	Bedroom	2.9	95	MET		
1167	Bedroom	1.9	90	MET		
1168	L/K/D	1.8	100	MET	51	24
1169	Bedroom	2.1	96	MET		
1170	Bedroom	2.1	96	MET		
1171	L/K/D	1.8	100	MET	48	22
1172	Bedroom	2.1	97	MET		
1173	Bedroom	2.1	97	MET		
1174	L/K/D	2.2	99	MET	38	19
1175	L/K/D	1.3	96	MET	43	22
1176	Bedroom	4.3	99	MET		
1177	L/K/D	1.6	98	MET	40	20
1178	Bedroom	2.8	99	MET		

Table 45: Assessment Data

Fig. 46: Floor Plan

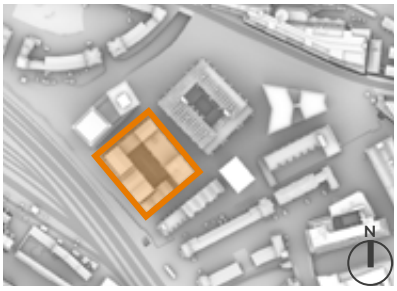


Block F - Third Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 2 OF 2 - THIRD FLOOR						
1179	Bedroom	1	31	MET		
1180	Bedroom	1.7	48	MET		
1181	Bedroom	1.7	45	MET		
1182	Bedroom	1.6	65	MET		
1183	Bedroom	1.8	47	MET		
1184	L/K/D	1.1	30	MET		
1185	Bedroom	1.9	53	MET		
1186	Bedroom	1.7	38	MET		
1187	Bedroom	1.6	75	MET		
1188	Bedroom	1.9	90	MET		
1189	Living Room	1.8	62	MET	21	8
1190	Bedroom	2.5	72	MET		
1191	Bedroom	2.8	66	MET		
1192	Living Room	1.5	37	MET	17	8
1193	Bedroom	2.1	67	MET		
1194	Living Room	1.5	33	MET	14	9
1195	Living Room	1.6	52	MET	25	6

Table 46: Assessment Data

Fig. 47: Floor Plan



Block F - Fourth Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 1 OF 2 - FOURTH FLOOR						
1196	Living Room	4.6	99	N/A	60	22
1197	Kitchen	2.9	98	MET		
1198	Bedroom	2	53	MET		
1199	Bedroom	1.5	63	MET		
1200	Bedroom	1.3	72	MET		
1201	L/K/D	0.7	86	N/A	10	4
1202	Bedroom	0.7	68	MET		
1203	Bedroom	1	72	MET		
1204	L/K/D	1	96	N/A	9	5
1205	Bedroom	1	76	MET		
1206	Bedroom	1.1	69	MET		
1207	Bedroom	1.1	65	MET		
1208	L/K/D	0.6	56	MET		
1209	Bedroom	1.2	64	MET		
1210	Bedroom	2	78	MET		
1211	L/K/D	1.7	95	N/A		
1212	Bedroom	1.4	32	MET		
1213	Living Room	1.4	40	MET		
1214	Bedroom	1.4	40	MET		
1215	Living Room	1.5	27	MET		
1216	Bedroom	1	31	MET		
1217	Bedroom	2.4	41	MET		
1218	Living Room	1.5	40	MET		
1219	Bedroom	1	37	MET		
1220	Bedroom	2.4	56	MET		
1221	Living Room	0.7	46	MET		
1222	Bedroom	1.9	80	MET		
1223	Bedroom	2	81	MET		
1224	Bedroom	1.8	89	MET		
1225	L/K/D	2.2	97	N/A	57	23
1226	Bedroom	2.4	99	MET		
1227	L/K/D	1.6	99	N/A	71	24
1228	L/K/D	2.3	98	MET	61	21
1229	Bedroom	3.4	98	MET		
1230	Bedroom	2.7	99	MET		
1231	Bedroom	2.8	100	MET		
1232	L/K/D	1.7	99	MET	63	23
1233	Bedroom	3	99	MET		
1234	L/K/D	4.7	100	N/A	98	30
1235	Bedroom	3.2	95	MET		
1236	Bedroom	2.8	90	MET		
1237	L/K/D	1.8	100	MET	51	24
1238	Bedroom	2.2	96	MET		
1239	Bedroom	2.2	96	MET		
1240	L/K/D	1.8	100	MET	48	22
1241	Bedroom	2.1	97	MET		
1242	Bedroom	2.1	97	MET		
1243	L/K/D	2.2	99	MET	38	19
1244	L/K/D	1.3	96	MET	43	22
1245	Bedroom	4.4	99	MET		
1246	L/K/D	1.6	98	MET	40	20
1247	Bedroom	2.9	99	MET		

Table 47: Assessment Data

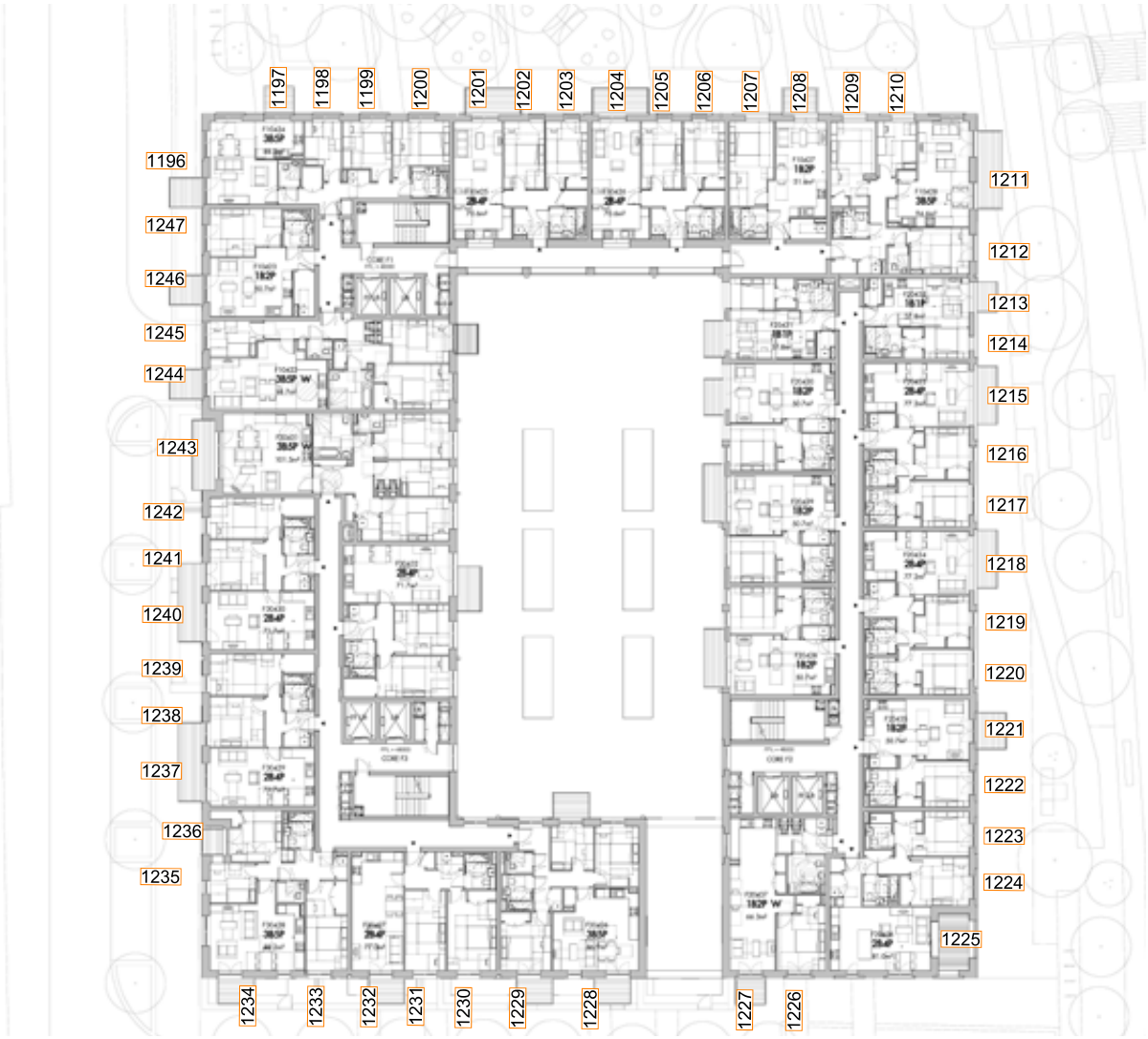
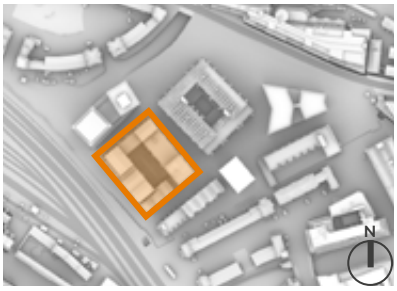


Fig. 48: Floor Plan

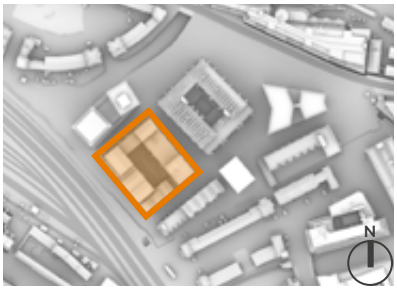


Block F - Fourth Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 2 OF 2 - FOURTH FLOOR						
1248	Bedroom	1.3	54	MET		
1249	Bedroom	2.2	72	MET		
1250	Bedroom	2	71	MET		
1251	Bedroom	2	98	MET		
1252	Bedroom	2.1	72	MET		
1253	L/K/D	1.4	40	MET		
1254	Bedroom	2.5	77	MET		
1255	Bedroom	2	55	MET		
1256	Bedroom	3.1	98	MET		
1257	Bedroom	2.2	94	MET		
1258	Living Room	2.6	77	MET	44	15
1259	Bedroom	2.7	91	MET		
1260	Bedroom	3.4	95	MET		
1261	Living Room	2.3	66	MET	37	12
1262	Bedroom	2.3	89	MET		
1263	Living Room	1.9	60	MET	26	10
1264	Living Room	2.1	87	MET	31	11

Table 48: Assessment Data

Fig. 49: Floor Plan

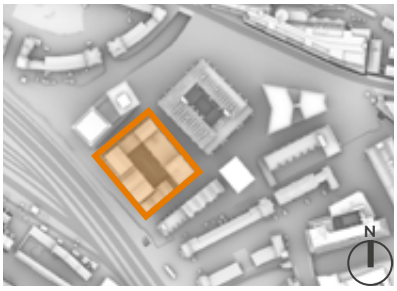


Block F - Fifth Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 1 OF 2 - FIFTH FLOOR						
1265	Living Room	4.7	99	N/A	61	22
1266	Kitchen	3.7	98	MET		
1267	Bedroom	2.2	55	MET		
1268	Bedroom	1.6	63	MET		
1269	Bedroom	1.5	72	MET		
1270	L/K/D	0.8	87	N/A	10	4
1271	Bedroom	0.8	69	MET		
1272	Bedroom	1.1	73	MET		
1273	L/K/D	1.1	98	N/A	10	6
1274	Bedroom	1	78	MET		
1275	Bedroom	1.2	71	MET		
1276	Bedroom	1.2	65	MET		
1277	L/K/D	0.6	56	MET		
1278	Bedroom	1.3	64	MET		
1279	Bedroom	1.8	78	MET		
1280	L/K/D	1.9	95	N/A		
1281	Bedroom	1.7	38	MET		
1282	Living Room	1.7	48	MET		
1283	Bedroom	1.6	51	MET		
1284	Living Room	1.8	35	MET		
1285	Bedroom	1.2	42	MET		
1286	Bedroom	2.8	52	MET		
1287	Living Room	1.8	47	MET		
1288	Bedroom	1.3	44	MET		
1289	Bedroom	2.9	62	MET		
1290	Living Room	0.9	64	MET		
1291	Bedroom	2.2	85	MET		
1292	Bedroom	2.2	91	MET		
1293	Bedroom	2	97	MET		
1294	L/K/D	2.4	98	N/A	58	24
1295	Bedroom	2.6	99	MET		
1296	L/K/D	1.9	99	N/A	79	28
1297	L/K/D	1.7	99	MET	49	24
1298	Bedroom	2.2	96	MET		
1299	Bedroom	2.2	96	MET		
1300	L/K/D	1.9	100	MET	49	23
1301	Bedroom	2.3	97	MET		
1302	Bedroom	2.2	97	MET		
1303	L/K/D	2.2	99	MET	38	19
1304	L/K/D	1.3	96	MET	43	22
1305	Bedroom	4.4	99	MET		
1306	L/K/D	1.6	98	MET	40	20
1307	Bedroom	2.8	99	MET		

Table 49: Assessment Data

Fig. 50: Floor Plan

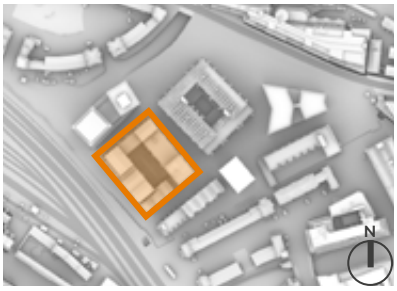


Block F - Fifth Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 2 OF 2 - FIFTH FLOOR						
1308	Bedroom	1.7	91	MET		
1309	Bedroom	2.6	99	MET		
1310	Bedroom	2.5	98	MET		
1311	Bedroom	2.4	98	MET		
1312	Bedroom	2.6	99	MET		
1313	L/K/D	1.8	78	MET		
1314	Bedroom	2.8	85	MET		
1315	Bedroom	2.4	80	MET		
1316	Living Room	2.5	99	MET	37	17
1317	Bedroom	3.4	98	MET		
1318	Bedroom	4	100	MET		
1319	Living Room	2.2	99	MET	33	15
1320	Bedroom	3.1	98	MET		
1321	Bedroom	3.7	99	MET		
1322	Living Room	2.6	87	MET	40	11

Table 50: Assessment Data

Fig. 51: Floor Plan

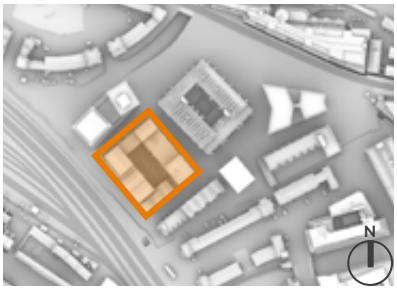


Block F - Sixth Floor - Part 1 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 1 OF 2 - SIXTH FLOOR						
1323	Living Room	5.1	99	N/A	63	22
1324	Kitchen	4	98	MET		
1325	Bedroom	2.6	58	MET		
1326	Bedroom	2	64	MET		
1327	Bedroom	1.9	73	MET		
1328	L/K/D	1.3	90	N/A	10	4
1329	Bedroom	0.9	69	MET		
1330	Bedroom	1.2	74	MET		
1331	L/K/D	1.6	98	N/A	11	7
1332	Bedroom	1.2	79	MET		
1333	Bedroom	1.3	75	MET		
1334	Living Room	2.2	92	MET		
1335	Living Room	2	89	MET		
1336	L/K/D	3.7	98	N/A		
1337	Living Room	3.2	74	MET		
1338	Bedroom	2.2	73	MET		
1339	Living Room	3.5	50	MET		
1340	Bedroom	1.5	59	MET		
1341	Bedroom	3.7	76	MET		
1342	Living Room	3.6	59	MET		
1343	Bedroom	1.6	65	MET		
1344	Bedroom	3.5	83	MET		
1345	Living Room	1.2	72	MET		
1346	Bedroom	2.5	91	MET		
1347	Bedroom	2.5	95	MET		
1348	Bedroom	2.2	98	MET		
1349	L/K/D	2.5	99	N/A	59	24
1350	Bedroom	2.7	99	MET		
1351	L/K/D	2.1	99	N/A	85	28
1352	L/K/D	2.4	99	MET	66	24
1353	Bedroom	3.1	96	MET		
1354	Bedroom	2.3	96	MET		
1355	L/K/D	2.8	100	MET	66	24
1356	Bedroom	3.3	97	MET		
1357	Bedroom	2.3	97	MET		
1358	L/K/D	3.1	99	MET	56	20
1359	L/K/D	1.4	96	MET	48	23
1360	Bedroom	4.5	99	MET		
1361	L/K/D	1.7	98	MET	46	21
1362	Bedroom	3	99	MET		

Table 51: Assessment Data

Fig. 52: Floor Plan

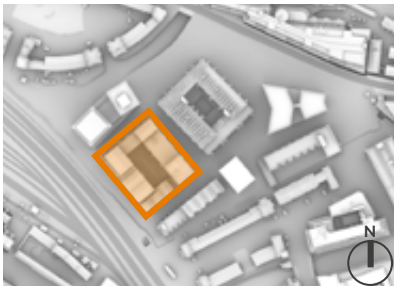


Block F - Sixth Floor - Part 2 of 2

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - PART 2 OF 2 - SIXTH FLOOR						
1363	Bedroom	2.3	99	MET		
1364	Bedroom	2.6	99	MET		
1365	Bedroom	2.8	98	MET		
1366	Bedroom	2.7	98	MET		
1367	Bedroom	3	99	MET		
1368	L/K/D	2.6	100	MET		
1369	Bedroom	3.3	85	MET		
1370	Bedroom	2.7	80	MET		
1371	Living Room	4.2	100	MET	57	20
1372	Bedroom	4.3	98	MET		
1373	Bedroom	4.8	100	MET		
1374	Living Room	3.9	100	MET	55	20
1375	Bedroom	4	98	MET		
1376	Bedroom	6.2	100	MET		
1377	Living Room	4.5	100	MET	52	17

Table 52: Assessment Data

Fig. 53: Floor Plan

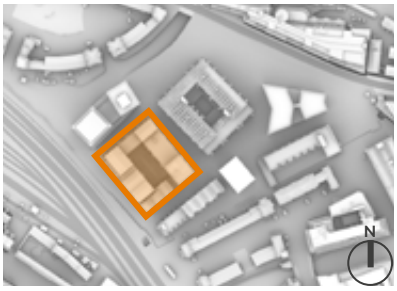


Block F - Seventh Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - SEVENTH FLOOR						
1378	L/K/D	5.7	100	N/A	64	23
1379	Bedroom	2.4	67	MET		
1380	Bedroom	3.9	87	N/A		
1381	Bedroom	5.6	100	N/A		
1382	Bedroom	2.4	83	MET		
1383	Bedroom	2.2	79	MET		
1384	Bedroom	2	88	MET		
1385	Bedroom	6	99	N/A		
1386	Bedroom	5.7	98	MET		
1387	Bedroom	9.4	100	N/A		
1388	Bedroom	5.3	99	MET		
1389	Bedroom	5.7	98	N/A		
1390	Living Room	3.9	100	N/A		
1391	Bedroom	2.8	99	MET		
1392	Bedroom	2.7	98	MET		
1393	Bedroom	2.5	98	MET		
1394	L/K/D	2.7	99	N/A	62	24
1395	Bedroom	2.8	99	MET		
1396	L/K/D	2.1	99	N/A	89	30
1397	Bedroom	2.7	99	MET		
1398	Bedroom	3	99	MET		
1399	L/K/D	3.6	99	N/A	95	29
1400	Bedroom	5.2	99	MET		
1401	L/K/D	2.5	98	MET	64	23
1402	Bedroom	3.5	99	MET		

Table 53: Assessment Data

Fig. 54: Floor Plan



Block F -Eighth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - EIGHTH FLOOR						
1403	L/K/D	5	100	N/A	64	23
1404	Bedroom	3.4	86	MET		
1405	Bedroom	4.4	98	MET		
1406	Living Room	3.4	100	N/A		
1407	Bedroom	3	99	MET		
1408	Bedroom	2.1	98	MET		
1409	Bedroom	2.7	98	MET		
1410	L/K/D	2.8	99	N/A	64	24
1411	Bedroom	2.9	99	MET		
1412	L/K/D	2.1	99	N/A	87	30
1413	Bedroom	4.4	99	MET		
1414	L/K/D	5.1	99	N/A	98	30
1415	Bedroom	5.5	100	MET		
1416	Bedroom	4.1	99	MET		
1417	Bedroom	4.1	99	MET		

Table 54: Assessment Data

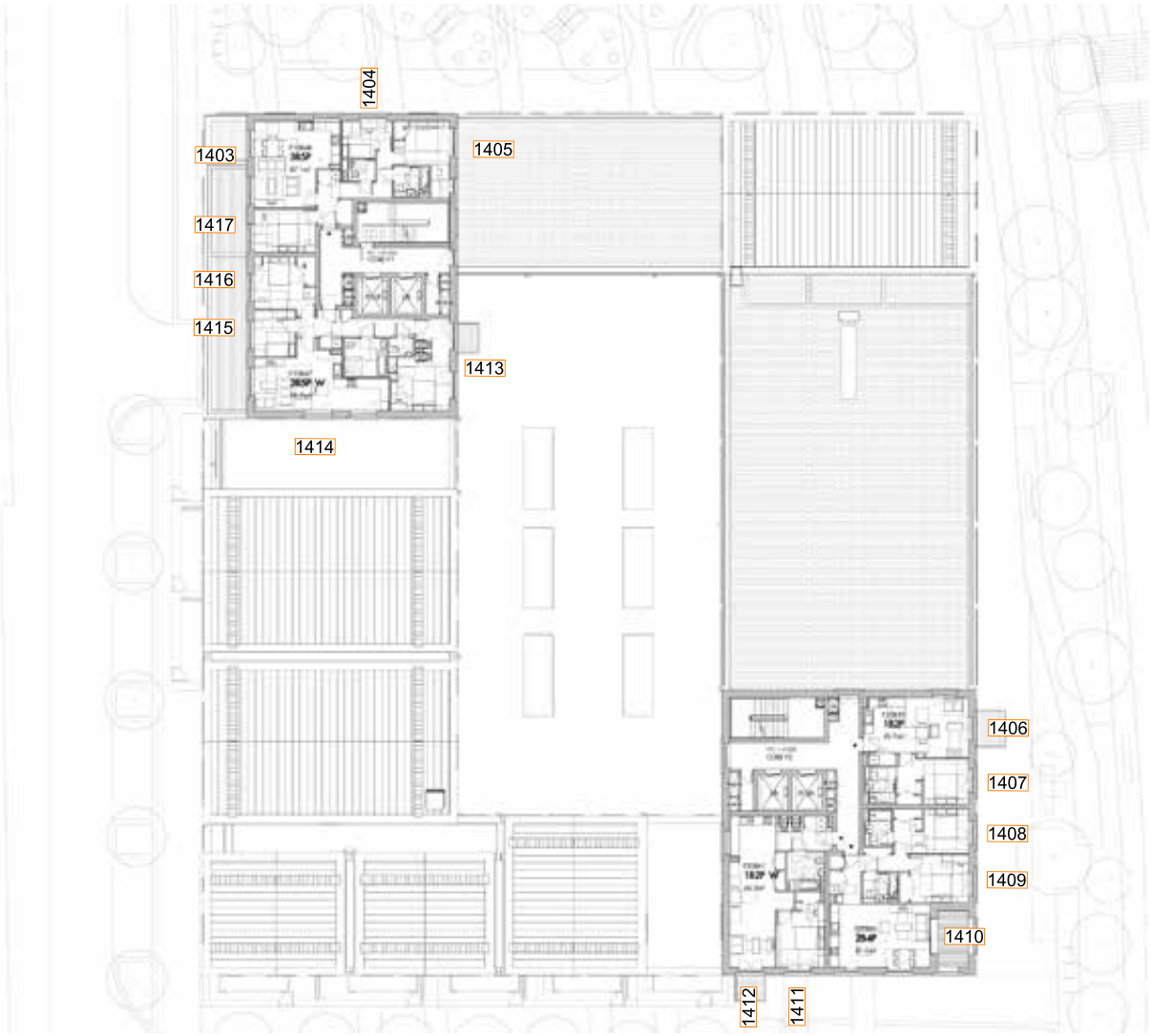
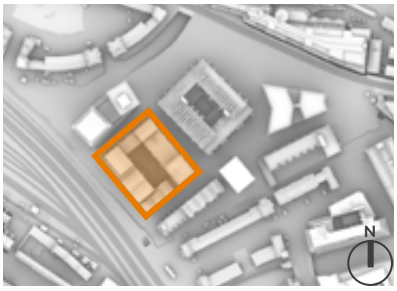


Fig. 55: Floor Plan



Block F - Ninth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - NINTH FLOOR						
1418	Living Room	3.7	100	N/A		
1419	Bedroom	3.3	99	MET		
1420	Living Room	2.4	99	MET		
1421	Bedroom	2.3	96	MET		
1422	L/K/D	2.5	99	N/A	68	24
1423	Bedroom	3.5	99	MET		
1424	Bedroom	3.8	98	MET		
1425	Bedroom	2.6	97	MET		

Table 55: Assessment Data

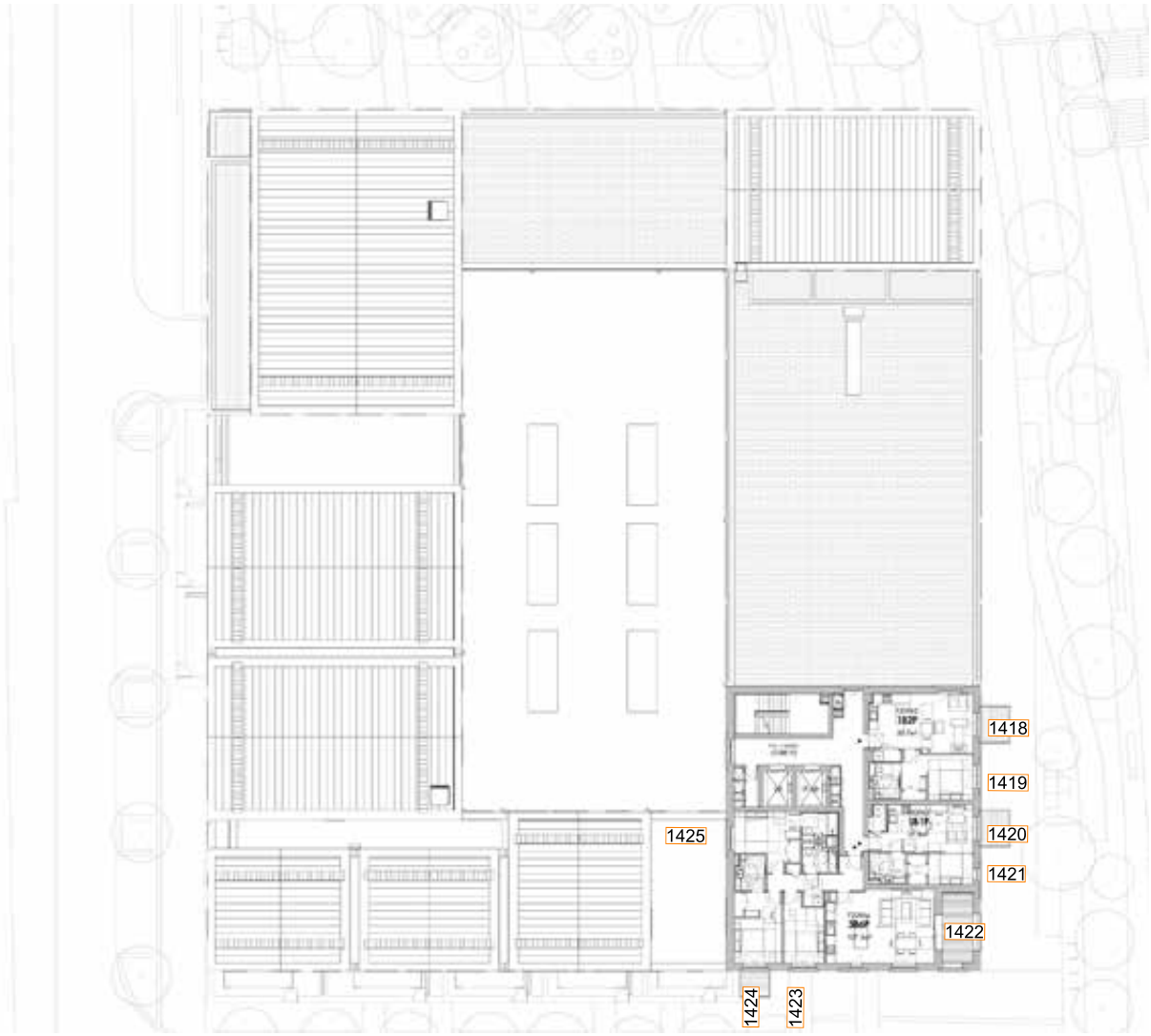
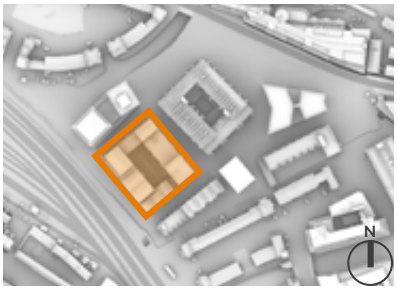


Fig. 56: Floor Plan



Block F - Tenth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK F - TENTH FLOOR						
1426	Living Room	4.9	100	N/A		
1427	Bedroom	3.9	99	MET		
1428	Living Room	3.9	99	MET		
1429	Bedroom	2.6	96	MET		
1430	L/K/D	2.7	99	N/A	69	24
1431	Bedroom	3.7	99	MET		
1432	Bedroom	3.6	98	MET		
1433	Bedroom	2.9	97	MET		

Table 56: Assessment Data

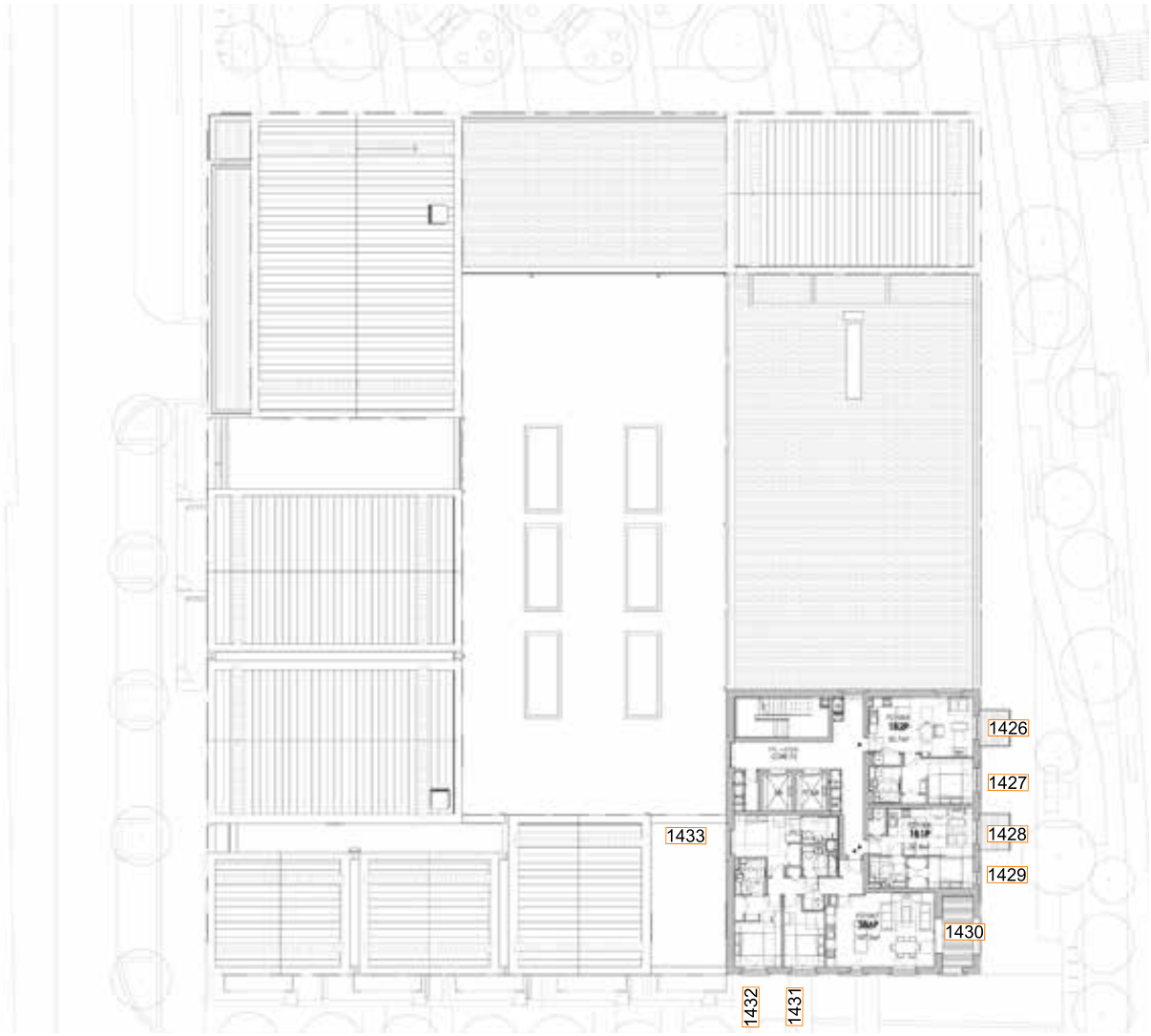
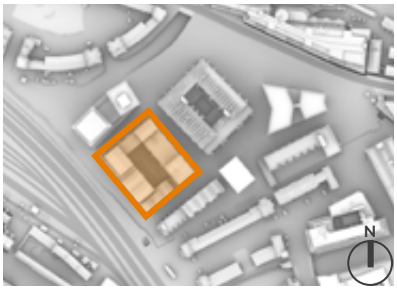
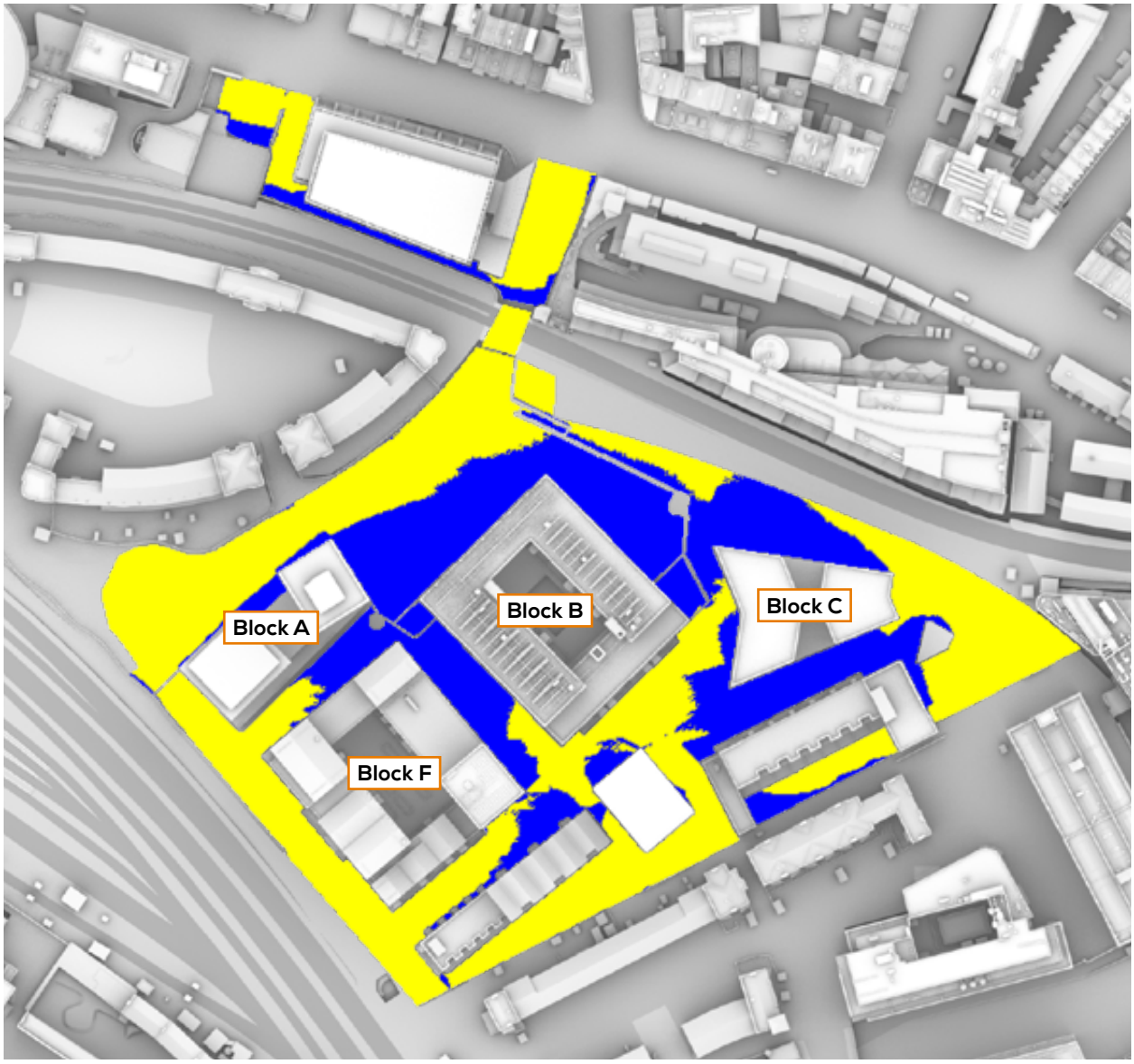


Fig. 57: Floor Plan



9 OVERSHADOWING ASSESSMENTS

OVERSHADOWING ASSESSMENT - PUBLIC AMENITY
SUN HOURS ON GROUND - BRE TEST - 21ST MARCH

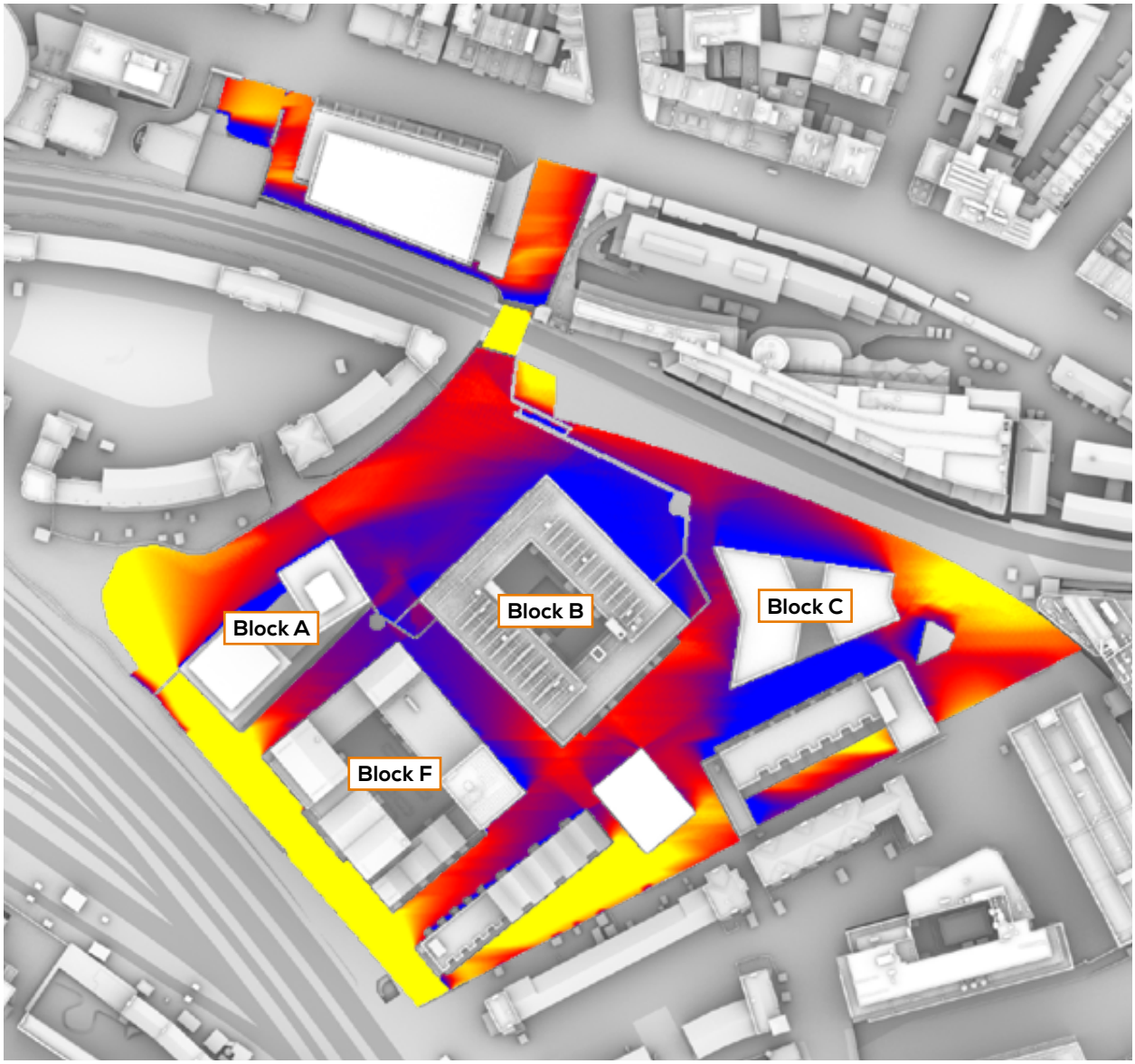


(BRE RECOMMENDS 2+ HOURS OF SUNLIGHT ON 21ST MARCH FOR AT LEAST 50% OF THE OPEN SPACE)

% AREA SEEING 2+ HRS OF SUNLIGHT ON 21ST MARCH
62

SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

OVERSHADOWING ASSESSMENT - PUBLIC AMENITY
SUN HOURS ON GROUND - BRE TEST - 21ST MARCH



SUN EXPOSURE
TOTAL HOURS

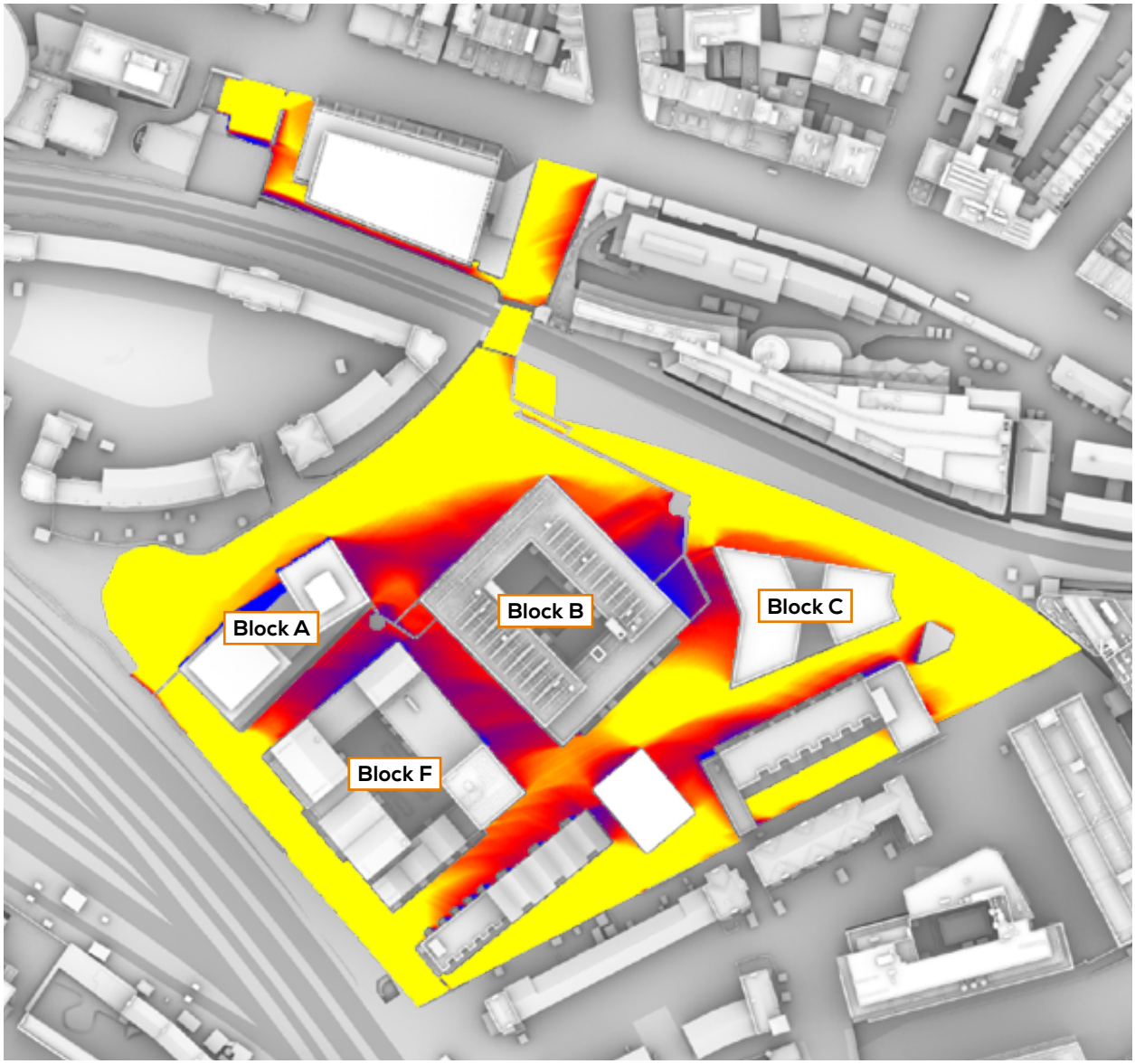
21st MARCH
(SPRING EQUINOX)

LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	06:02 GMT
Sunset:	18:14 GMT

Total Available Sunlight:
12hrs 12mins

OVERSHADOWING ASSESSMENT - PUBLIC AMENITY
SUN EXPOSURE ON GROUND - 21ST JUNE



SUN EXPOSURE
TOTAL HOURS

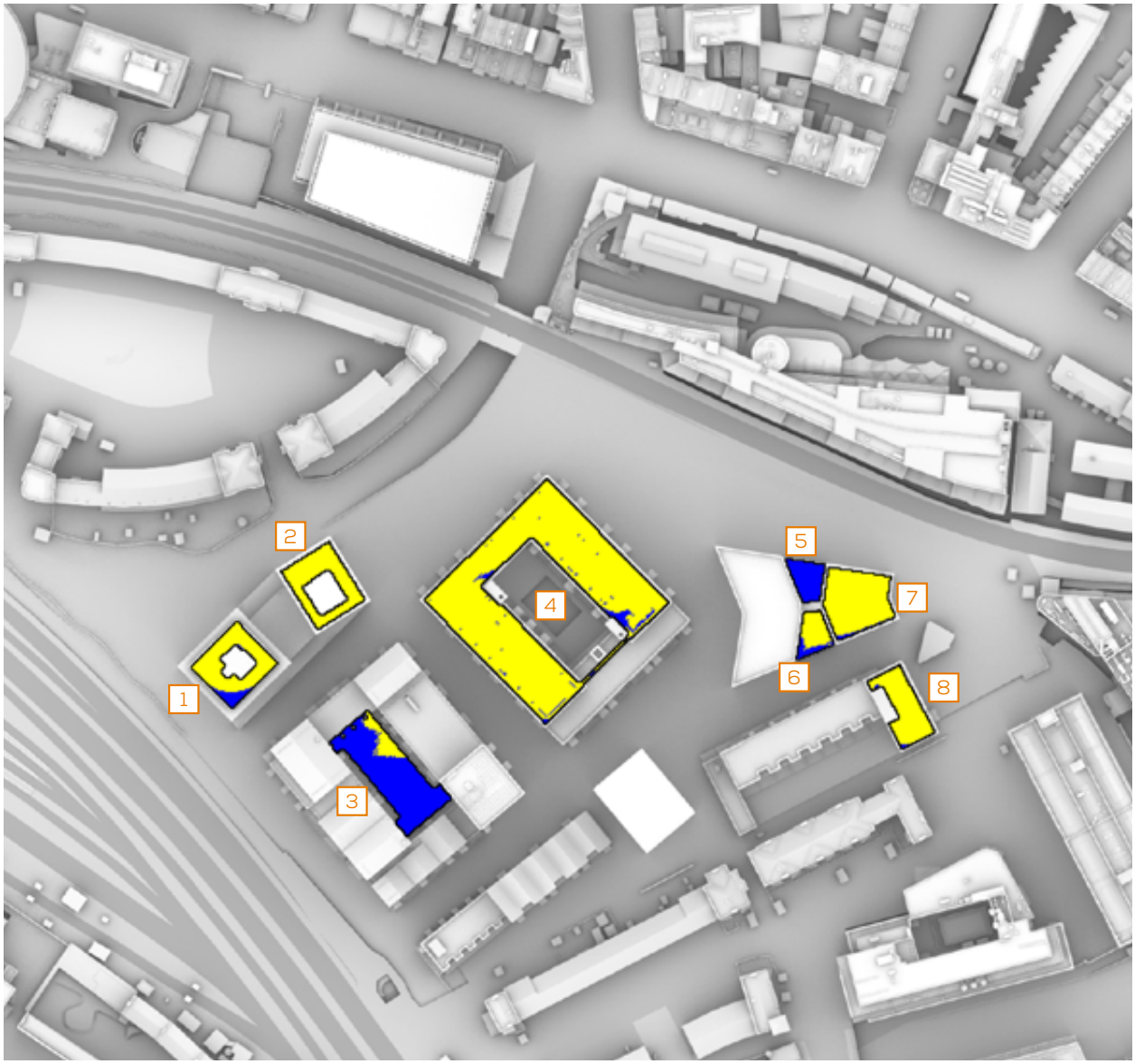
21st JUNE
(SUMMER SOLSTICE)

LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	04:43 BST
Sunset:	21:21 BST

Total Available Sunlight:
16hrs 38mins

OVERSHADOWING ASSESSMENT - PRIVATE COMMUNAL AMENITY
SUN HOURS ON GROUND - BRE TEST - 21ST MARCH



(BRE RECOMMENDS 2+ HOURS OF SUNLIGHT ON 21ST MARCH FOR AT LEAST 50% OF THE OPEN SPACE)

AREA	% AREA SEEING 2+ HRS OF SUNLIGHT ON 21ST MARCH
1	84.5
2	97.1
3	12.5
4	92.3
5	0.0
6	71.5
7	94.9
8	94.4

SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

OVERSHADOWING ASSESSMENT - PRIVATE COMMUNAL AMENITY
SUN HOURS ON GROUND - BRE TEST - 21ST MARCH

SUN EXPOSURE
TOTAL HOURS

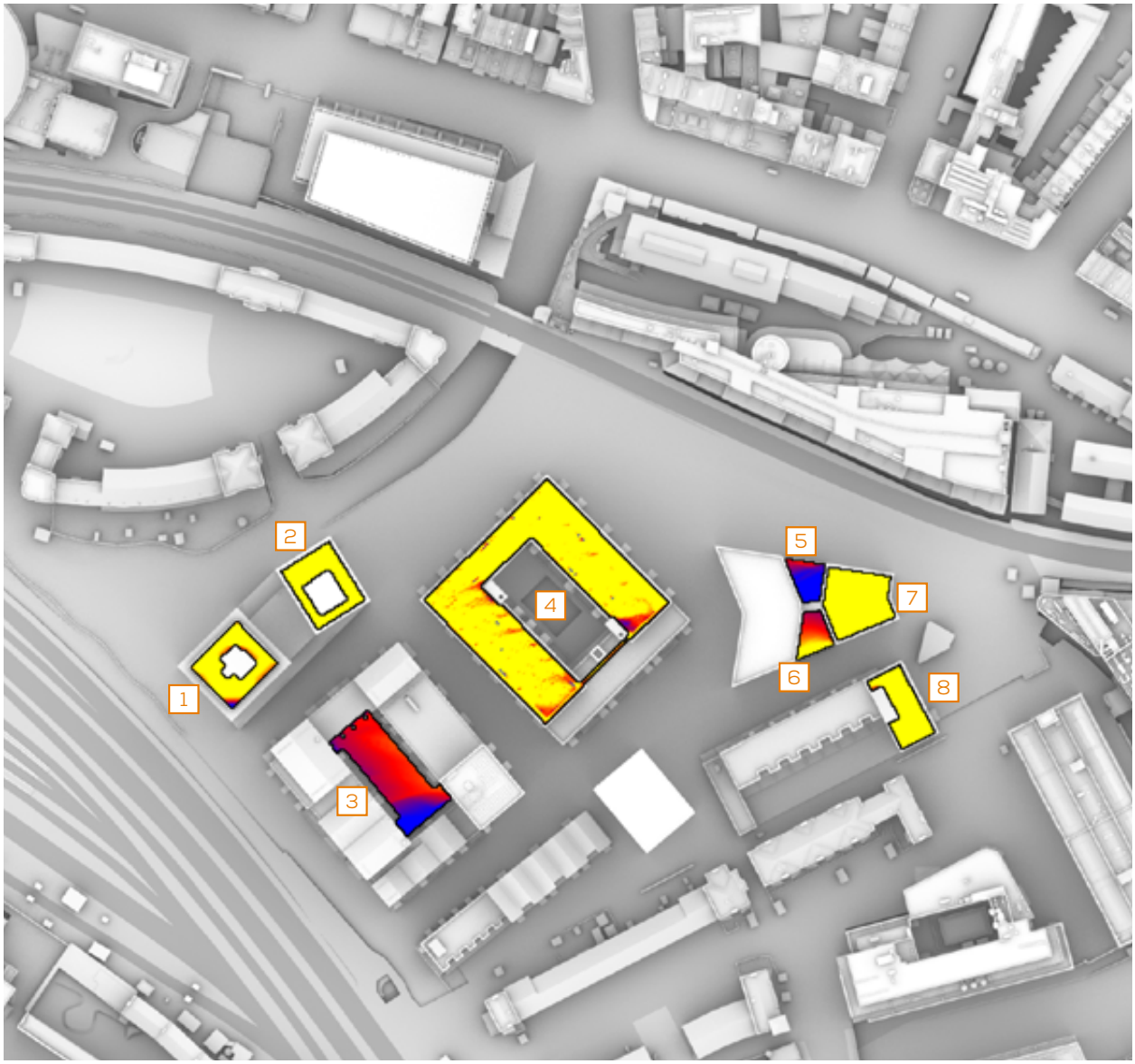
21st MARCH (SPRING EQUINOX)

LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	06:02 GMT
Sunset:	18:14 GMT

Total Available Sunlight:
12hrs 12mins

OVERSHADOWING ASSESSMENT - PRIVATE COMMUNAL AMENITY
SUN EXPOSURE ON GROUND - 21ST JUNE



SUN EXPOSURE
TOTAL HOURS

21st JUNE
(SUMMER SOLSTICE)

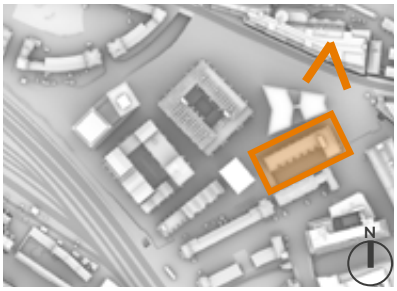
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	04:43 BST
Sunset:	21:21 BST

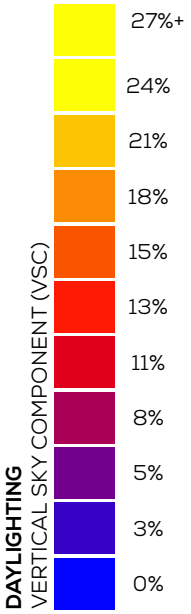
Total Available Sunlight:
16hrs 38mins

10 EFFECTS ON CONSENTED BLOCKS D, E1 AND E2

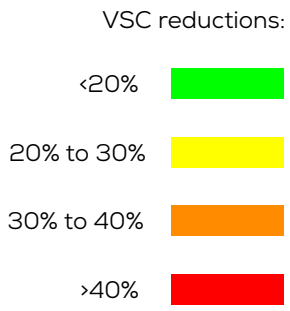
Block D



Consented VSC Levels

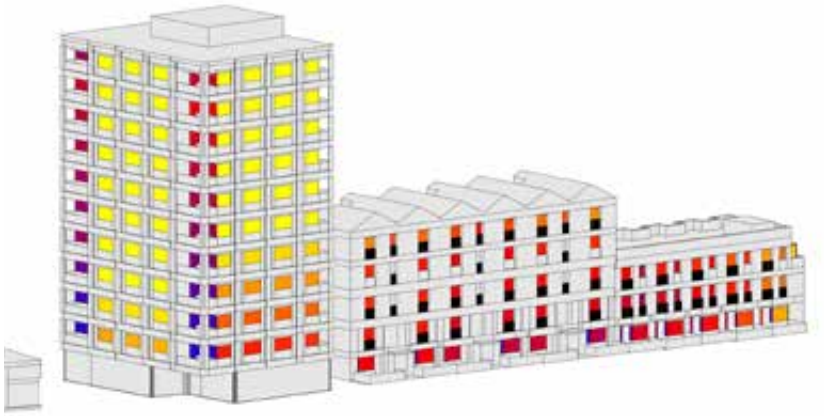


Proposed VSC Levels

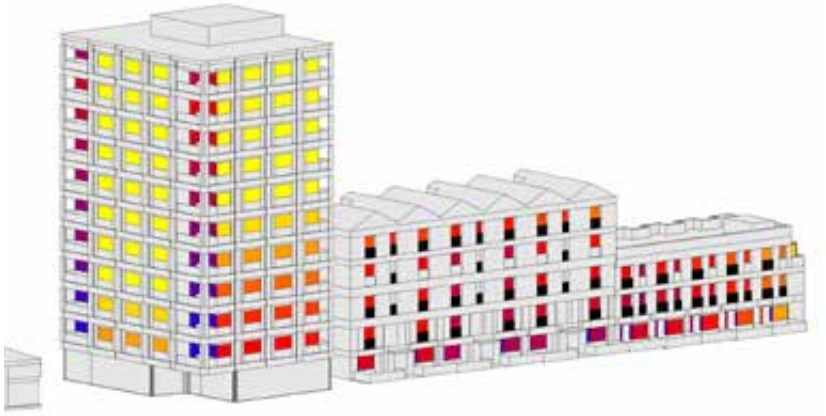


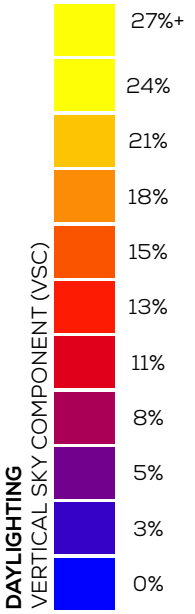
VSC reduction

Blocks E1 and E2

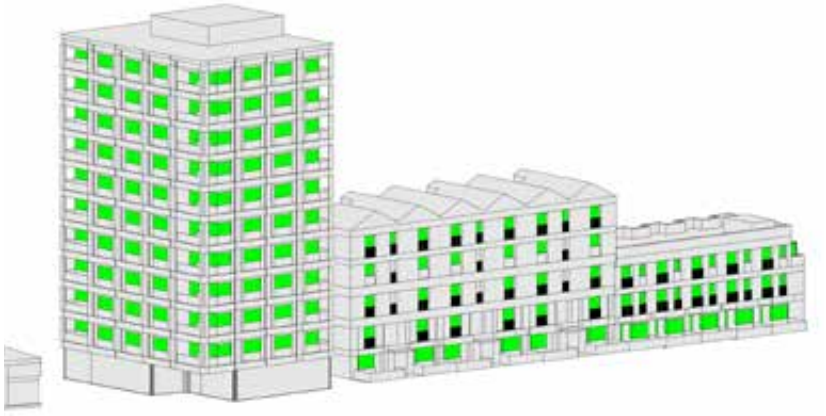


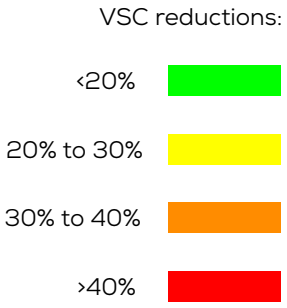
Consented VSC Levels





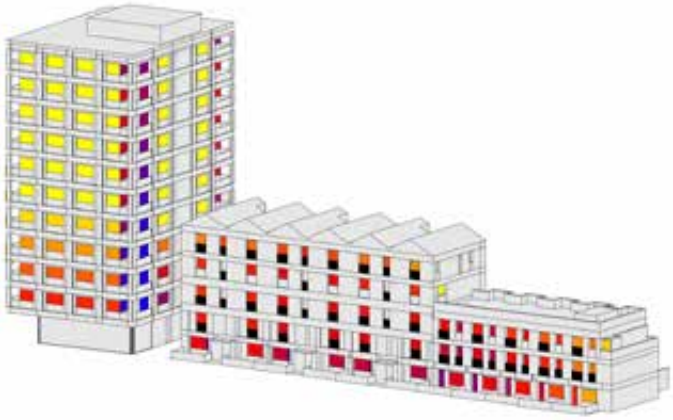
Proposed VSC Levels



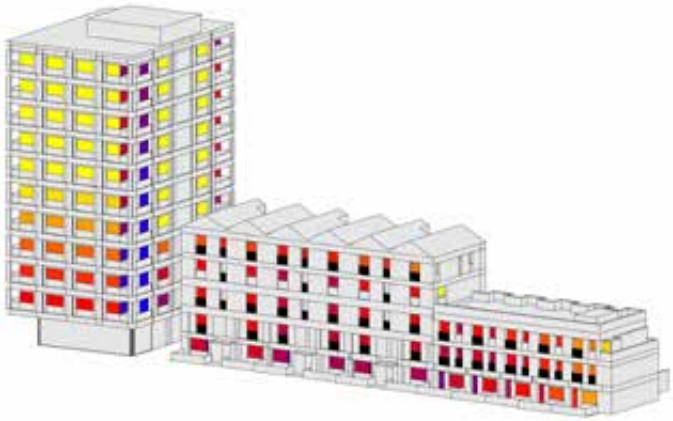


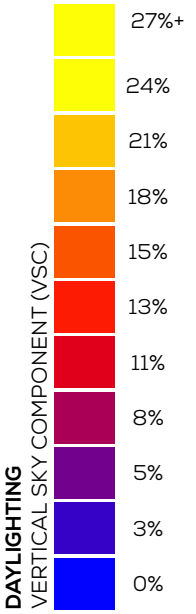
VSC reduction

Blocks E1 and E2

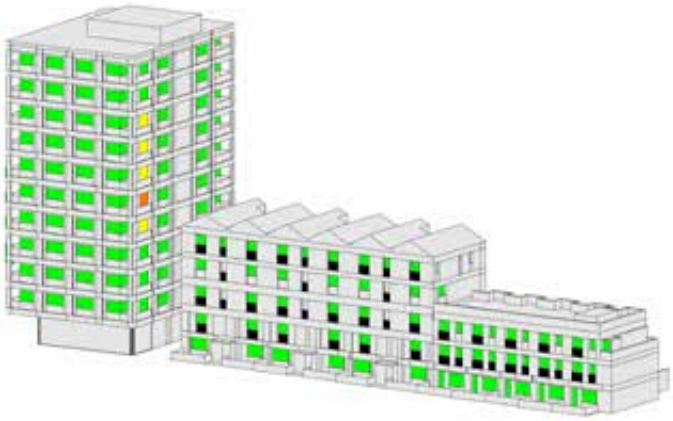


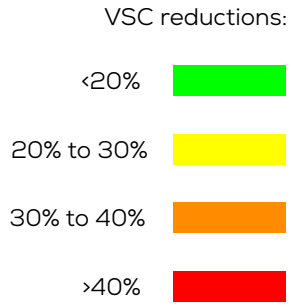
Consented VSC Levels





Proposed VSC Levels





VSC reduction

ADDRESS
THE WHITEHOUSE
BELVEDERE ROAD
LONDON SE1 8GA

CONTACT
T 020 7202 1400
F 020 7202 1401
mail@gia.uk.com

WWW.GIA.UK.COM

gia