

Daylight and Sunlight Report

**Garage Block at Epping Close,
Russell Street,
Reading**

Aralbridge Limited

25th November 2021



9 Heneage Street, Spitalfields, London E1 5LJ

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1 INTRODUCTION AND SCOPE OF REPORT

- 1.1 Lumina London Limited are retained by Aralbridge Limited to assess the performance and impact of the proposed redevelopment of the garage block at Epping Close, Russell Street Reading in respect of Daylight and Sunlight to determine whether the proposed development will result in any material or significant impact on the amenity enjoyed by existing and yet to be built neighbouring residential dwellings.
- 1.3 The purpose of this Report is to assess the impact of the proposed development on the Daylight and Sunlight enjoyed by existing neighbouring residential buildings in accordance with the standards in the Building Research Establishment (BRE) Guidelines “*Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice*” 2011 to ensure that the proposed development will not result in any material impact on the amenity enjoyed by existing neighbouring residents so as to demonstrate that it satisfies the aims and objectives of the Council’s Policy Standards.

2 SOURCES OF INFORMATION AND LIMITATIONS

2.1 The existing and surrounding buildings and the proposed massing have been modelled from Lees Munday Drawing Nos:

- 501-001 Rev 5,
- 501-002 Rev 6,
- 501-003 Rev 6,
- 503-100 Rev 5,
- 503-101 Rev 5,
- 503-102 Rev 5,
- 503-103 Rev 5.

2.2 The “massing” of the proposed development has been built-up from Andrew Neil Associates Ltd Drawing No's:

- PL-101,
- PL-102,
- PL-103,
- PL-104,
- PL-105,
- PL-106,
- PL-107.

2.3 A review of the Council’s planning archives has been undertaken and record drawings of the planning consent for the redevelopment of land at the rear of 57 Baker Street for new houses (Ref: 180624) have been used to model and test the impact of those future houses even though they have yet to be built.

3 DAYLIGHT AND SUNLIGHT STANDARDS

3.1 The BRE Guidelines: “*Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice*” are well established and are adopted by most Local Authorities as the appropriate scientific and empirical methods of measuring daylight and sunlight in order to provide objective data on which to apply their planning policies. The Guidelines are not fixed standards but should be applied flexibly to take account of the specific circumstances of each case.

3.2 The Introduction of the Guidelines states that:

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

3.3 The “flexibility” recommended in the Guidelines should reflect the specific circumstances of each case being considered. For example, as the numerical standards within the Guidelines have been derived on the basis of a low-density suburban housing model, it is entirely appropriate to apply a more flexible approach when dealing with a denser urban environment where the height and scale of buildings is generally greater. In addition, where existing and proposed buildings have specific design features such as projecting balconies, deep recesses, bay windows etc....., it is equally valid to apply a suitable degree of common sense and flexibility to take account of the effect of these particular design features. This does not mean that the recommendations and targets within the Guidelines can be disregarded, but instead, the “flexibility” that should be applied should be founded on sound scientific principles that can be supported and justified. This requires a certain level of professional value-judgement and experience, but general guidance on setting alternative numerical targets in such circumstances, is set out in Appendix F of the Guidelines.

- 3.4 An important aspect of the advice in Appendix F in the present circumstances is the advice relating to developments close to a boundary. At paragraph F2 in Appendix F, the Guidelines states that:

"Sometimes there may be an extant planning permission for a site In assessing the loss of light to existing windows nearby, local authority may allow the vertical sky components (VSC) and annual probable sunlight hours (APSH) for the permitted scheme to be used as alternative benchmarks. However, since the permitted scheme only exists on paper, it would be inappropriate for it to be treated in the same way as an existing building, and for the developer to set 0.8 times the values for the permitted scheme as benchmarks."

- 3.5 The planning consent for the proposed new houses at the rear of 57 Baker Street has yet to be implemented and shows a row of terraced houses sited very close to the rear boundary wall of the current garage block on Epping Close and these circumstances should be considered in the context of the advice in Appendix F of the Guidelines.

Daylighting

- 3.6 The primary empirical method for measuring the adequacy of daylight received by existing neighbouring buildings is the use of Vertical Sky Components (VSC).
- 3.7 VSC is a “spot” measurement of daylight taken on the outside face of a window and is a measure of the availability of direct light from the sky received from over and around the “existing” and “proposed” obstruction caused by the buildings or structures in front of the window. It effectively is a measure of “sky visibility”. As it is measured on the outside face of the window, one of the inevitable shortcomings is that it does not take account of the size of the window, or the size of the room served by the window or where a room is served by more than one window nor is it representative of the amount of light received within the room itself. For this reason, the BRE Guidelines recommend that where the internal layouts of the neighbouring properties are known, the internal Daylight Distribution is measured in addition to VSC by plotting the position of the No Skyline contour to determine the extent of daylight penetration and direct sky visibility from within the room. Where those internal room uses and layouts are not known, it is usual practice to still assess the impact on internal Daylight Distribution by using reasonable

estimated and assumed room layouts as this provides an indication of internal daylight quality. It should however be recognized that where the internal Daylight Distribution results are based on estimates and assumptions, they should be afforded less weight and be sub-servient to the results of the VSC analysis.

- 3.8 The maximum VSC value that can be achieved for a totally unobstructed vertical window is just under 40% VSC. The target VSC value on an absolute scale for good daylighting conditions is 27% VSC and this represents a typical VSC value that would be achieved on the face of a window on the main elevation of a well-spaced two storey suburban housing development where the vertical angle to a neighbouring building does not exceed 25 degrees.
- 3.9 In simple terms, 27% VSC equates to being able to see 27% of the Sky Dome, i.e. the hemisphere of sky, from a given reference point. A VSC value of 27% will be achieved where the obstruction in front of a vertical window is continuous and parallel to the plane of that window and where it subtends a vertical angle of 25 degrees when measured from the midpoint of that window. It therefore follows that if a proposed new development is below a vertical angle of 25 degrees, the resultant VSC value will remain above 27% VSC. This is the scientific basis for the initial “screening” test in the BRE Guidelines where it is unnecessary for any further daylight (or sunlight) tests to be undertaken where a proposed development will remain below a vertical angle of 25 degrees. In a more densely built-up urban environment, the relationship of existing buildings may already exceed a vertical angle of 25 degrees and the general profile of the skyline may be irregular. In such circumstances, the VSC values that prevail may already be below 27% VSC as a norm. In such circumstances, absolute residual VSC values in the mid-teens represent the reasonable expectation of daylight in an urban environment and values in excess of 20% VSC will be considered to be good. It is only where VSC values fall in single figures that it becomes difficult to achieve good interior lighting conditions without the need to provide supplementary artificial lighting for longer periods during the day.
- 3.10 The “No Skyline” contour plotted for the purpose of measuring internal Daylight Distribution, identifies those areas within the room, usually measured on a horizontal working plane set at worktop level, where there is direct sky visibility. This therefore represents those parts within the room where the sky can be seen through the window. The second measure takes account of

the size of the window, number of windows where a room is served by more than one window and the size of the room, and when interpreted with the VSC value, provides more information from which to determine the likely internal lighting conditions, and hence the overall quality of lighting within the room can be better assessed. It should however be noted that one of the inevitable shortcomings of using a “No Skyline” contour is that by definition, it only measures those parts of the room where there is visibility of the sky without quantification, and therefore does not measure the amount and intensity of direct light from the sky received in front of that contour. It therefore does not measure the actual amount of light received within each room, but merely where the sky can and cannot be seen.

3.11 The tests and standards in the Guidelines only apply to “*habitable*” rooms which are defined as a Kitchen, Living Room or Bedroom. Bathrooms, hallways and corridors are excluded from this definition. In addition, there is often a further distinction in respect of small kitchens. Where the internal area of a small kitchen limits the use of the kitchen to food preparation only and is not of sufficient size to accommodate some other form of “*habitable*” use such as dining, the kitchen need not be classed as a “*habitable*” room in its own right. A net area of 13m² is usually taken as an appropriate threshold. This can also apply to relatively small internalised or galley-type kitchens and can also apply to relatively small kitchen areas which form part of a larger Living/Kitchen/Diner.

3.12 For VSC, the Guidelines state that:

“If this Vertical Sky Component is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the Vertical Sky Component with the new development in place is both less than 27% and less than 0.8 times its former value, then the occupants of the existing building will notice the reduction in the amount of skylight”.

We have emphasised the word “*notice*” as just because a change in lighting conditions is noticeable does not necessarily equate to the loss of light being a material reduction to the level of amenity enjoyed by the neighbouring property.

- 3.13 In context, as mentioned above, the maximum VSC value that can be achieved for a totally unobstructed vertical window is just under 40%VSC. It is therefore permissible for an obstruction to reduce the amount of visible sky seen from that window by an absolute percentage of 13% of the Sky Dome to 27% VSC, even before the level of daylight received by the window could be below standard. There are however many circumstances where the VSC value is already below 27%. In such circumstances, the Guideline advise that it is permissible to reduce existing VSC values by a factor of 0.2 (i.e. 20%) so that the VSC value under “proposed” conditions remains more than 0.8 times its former value. The scientific foundation for this permissible margin is that through the research undertaken at the Building Research Establishment, they have found that existing daylight (and sunlight) levels can be reduced by a factor of 20% before the loss becomes materially noticeable. This factor of reduction applies to VSC, Daylight Distribution, Sunlight and Overshadowing. Where existing windows enjoy very high levels of daylight under existing conditions, the percentage reduction can be higher provided that the residual VSC value remains adequate. At the other end of the scale, where existing VSC values are very low, higher percentage losses above 20% may also be acceptable as a relatively small change in absolute terms can sometimes result in a large percentage reduction if the initial starting point is already very low even though the absolute change is so small as to be imperceptible.

Sunlighting

- 3.14 The requirements for protecting sunlight to existing residential buildings are set out in Section 3.2 of the BRE Guidelines. As with daylight, it is unnecessary for detailed sunlight tests to be undertaken if a proposed development will be below a vertical angle of 25 degrees drawn from the midpoint of the lowest window serving a habitable room as in such circumstances, the availability of sunlight will remain adequate.
- 3.15 The availability of sunlight varies throughout the year, with the maximum amount of sunlight being available on the summer solstice and the minimum on the winter solstice. In view of this, the accepted test date for measuring sunlight is the median between the two, the Spring Equinox (21st March), on which day the United Kingdom has equal periods of daylight and darkness, and meaningful sunlight is available from approximately 0830 to 1730. In addition, on that date, sunlight received perpendicular to the face of a window will only be received where that window

faces within 90 degrees of due south. The BRE Guidelines therefore limit the requirement for testing for sunlight to where a window faces within 90 degrees of due south.

3.16 The sunlight standards are normally applied to the principal Living Room within each dwelling rather than to kitchens and bedrooms.

3.17 The recommendation for sunlight is:

“If this window reference point can receive more than one quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months of 21st September and 21st March, then the room should receive enough sunlight.....any reduction in sunlight access below this level should be kept to a minimum. If the availability of sunlight hours are both less than the amounts given and less than 0.8 times their former value, either over the whole year or just during the winter months, then the occupants of the existing building will notice the loss of sunlight”.

3.18 A good level of sunlight will therefore be achieved where a window receives more than 25% APSH, of which 5% APSH should be received in the winter months. Where sunlight levels fall below this suggested recommendation, a comparison with the existing condition should be undertaken and if the reduction ratio is less than 0.2, i.e. the window continues to receive more than 0.8 times its existing sunlight levels, the impact on sunlight will be acceptable.

3.19 It should however be noted that during the winter months, the angle of the sun is much lower, and sunlight is much more only available at relatively low vertical angles. A consequence of this is that even relatively small and modest increases in the height or “massing” of a new development can have a disproportionate impact on the availability of winter sunlight. This is a further example of where commonsense and greater flexibility may be appropriate in order to reach a pragmatic conclusion.

Overshadowing

3.20 The Overshadowing recommendations in the BRE Guidelines should be applied to gardens and other amenity and recreational areas such as playgrounds and areas used for sitting-out. General

areas of hardstanding and car parking which are not used as designated amenity space are not usually included although it is important to avoid large areas that will be in permanent shadow especially where there is soft landscaping.

- 3.21 The recommendation in the BRE Guidelines is that for an existing garden or amenity area to remain adequately sunlit throughout the year, at least 50% of the garden or amenity area should remain capable of receiving at least two hours of sun-on-the-ground on the Spring Equinox, (21st March).
- 3.22 With regard to calculating the extent of overshadowing, it is necessary to be cognizant of the effect of trees and fences. In the case of the former, the advice given in the Guidelines is that the effect of trees and high hedges should be taken into account where they form a dense belt or group of evergreens. In the case of the latter, boundary walls or opaque fences that are higher than 1.5m should be included in the calculations. There is however no advice relating to how fences should be treated on sloping sites or where there is a significant difference in ground-level on the boundary and between neighbouring sites. In such circumstances, common sense should be applied

4 SCHEME ASSESSMENT

- 4.1 Annexed at Appendix 1 are Drawing Numbers EC2021-001-01-1000, 1001, 1002 and 1003 which are images of the Site Plan and 3-D Massing Models of the “existing” and “proposed” buildings set in context with their neighbours. They are followed in Appendix 2 by Drawing Numbers EC2021-001-01-3000, 3001 and 3002 which are the No Skyline Daylight Distribution Contour Plans for the neighbouring residential buildings. The room and window references on those drawings should be cross-referenced with the equivalent room and window references in the Tables annexed at Appendices 3, 4 and 5. Appendix 3 contains the numerical results of the Vertical Sky Component (VSC) Daylight Analysis, Appendix 4 is the No Skyline internal Daylight Distribution Analysis and Appendix 5 is the Annual and Winter APSH Sunlight Analysis.
- 4.2 The only existing neighbouring residential properties that could be affected by the proposed development are the existing flats in 1-16 Epping Close but as the planning consent for new houses on 57 Baker Street is capable of implementation, those yet-to-be-built houses have been modelled and tested.

1-16 Epping Close

- 4.3 The results show that there will be full and comfortable compliance with both the BRE VSC and Daylight Distribution standards.
- 4.4 For VSC, where there will be any change in VSC, the percentage reductions will range from 0.37% and 8.25%. Not only are these changes well within the 20% permissible margin of reduction, the absolute residual VSC values will remain high and in the majority of cases will still be in excess of 27% VSC.
- 4.5 For Daylight Distribution, the results show no loss of internal Daylight Distribution with all rooms continuing to receive the same amount of direct sky visibility as they do presently.

- 4.6 The BRE Sunlight Standards do not apply as none of the windows face within 90 degrees of due south.

Plots 1-6, 57 Baker Street

- 4.7 The results show that there will be full and comfortable compliance with both the BRE VSC and Daylight Distribution standards with any changes well within the 20% permissible margin of reduction and very good absolute residual VSC values being retained and no perceptible losses of internal daylight distribution.
- 4.8 For sunlight, although there will be a noticeable loss of annual and winter sunlight, all rooms and windows will nonetheless comfortably satisfy, and comply with, the BRE recommendations of 25% APSH and 5% APSH in winter and will in fact continue to receive more than twice the recommended design standards.

Plots 7-9, 57 Baker Street

- 4.9 The results show that there will be full and comfortable compliance with both the BRE VSC and Daylight Distribution standards with any changes to VSC being not just well within the 20% permissible margin of reduction, the changes will be so small as to be imperceptible. The absolute residual VSC values will also all be well in excess of 27% VSC.
- 4.10 For Daylight Distribution, the results show no loss of internal Daylight Distribution with all rooms continuing to receive the same amount of direct sky visibility as they do presently.
- 4.11 For sunlight, although there will be no noticeable loss of annual and winter sunlight, all rooms and windows will comfortably satisfy, and comply with, the BRE recommendations of 25% APSH and 5% APSH in winter. They will in fact continue to receive more than three times the recommended design standards for Annual Sunlight and nearly five times the recommended design target for Winter Sunlight.

Overshadowing

- 4.12 The results of the Overshadowing Analysis are illustrated graphically in Drawing No. EC2021-001-01-3010 annexed at Appendix 6 and the numerical results are set out in the table in Appendix 6.
- 4.13 The proposed "new" houses on the adjoining land behind 57 Baker Street have been designed with very small rear patio gardens enclosed by garden walls. Even under existing conditions four of the six gardens of Plots 1-6 are sub-standard even with the single storey garages in place in that they will not achieve more than 2 hours of "*sun-on-the-ground*" on the Spring Equinox. They are the gardens labelled A3, A4, A5 and A6 in our analysis. Unsurprisingly and logically, those four gardens will remain sub-standard with the new development in place. Once created, those four gardens will lie directly north of the proposed "new" houses which is why it is inevitable that they will experience additional overshadowing. Elsewhere within the Baker Street development, all of the remaining ten gardens and amenity areas will remain virtually unaffected.

5 SUMMARY AND CONCLUSION

- 5.1 The proposed development will fully and comfortably satisfy the BRE Daylight and Sunlight standards with any changes to Daylight or Sunlight being so small as to be imperceptible.
- 5.2 Four of the gardens serving the yet-to-be-built houses under Planning consent Ref: 180624 on the adjoining land at 57 Baker Street will experience an increase in overshadowing, but all four of those gardens will already be below the BRE recommendations for Overshadowing in any event. That neighbouring development has not been built but has been tested as it remains capable of implementation.
- 5.3 In overall conclusion, although there will be some reduction in daylight, as those reductions will all be well within the BRE recommendations they will be such that the impact on the amenity enjoyed by existing neighbouring residential dwellings will not be material. It should therefore follow that Reading Borough Council's policy standards and objectives will be satisfied.

Lumina London Limited

APPENDIX 1

Drawing Numbers EC2021-001-01-1000, 1001, 1002 and 1003



9 Heneage Street, Spitalfields, London, E1 5LJ Tel: 0203 6375691

VIEWS

Legend

- Existing Site
- Proposed Scheme
- Analysed Buildings
- Surrounding Buildings

Source of Information

Existing And Surrounding Buildings
Lees Munday
Drawing No's:
501-001 Rev 5, 501-002 Rev 6, 501-003 Rev 6
503-100 Rev 5, 503-101 Rev 5, 503-102 Rev 5
503-103 Rev 5

Photo's and Google Maps

Proposed Scheme
Andrew Neil Associates Ltd
Drawing No's:
PL-101, PL-102, PL-103, PL-104, PL-105, PL-106, PL-107

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Do not scale this drawing.
All dimensions to be checked on site. Drawing to be read in
conjunction with any specifications, schedules and Consultants
drawings and details.

Project Title
Epping Close
Reading
RG1

Client
Metrus Ltd

Drawing Title
Existing Site Plan

Drawn By Mo	Scale @A3 NTS
Project No EC2021-001	Date 25/11/2021
Drawing No 01- 1000	Rev





9 Heneage Street, Spitalfields, London, E1 5LJ Tel: 0203 6375691

VIEWS

Legend

- Existing Site
- Proposed Scheme
- Analysed Buildings
- Surrounding Buildings



Source of Information

Existing And Surrounding Buildings
Lees Munday
Drawing No's:
501-001 Rev 5, 501-002 Rev 6, 501-003 Rev 6
503-100 Rev 5, 503-101 Rev 5, 503-102 Rev 5
503-103 Rev 5

Photo's and Google Maps

Proposed Scheme
Andrew Neil Associates Ltd
Drawing No's:
PL-101, PL-102, PL-103, PL-104, PL-105, PL-106, PL-107

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Project Title
Epping Close
Reading
RG1

Client
Metrus Ltd

Drawing Title
Existing 3D View

Drawn By Mo	Scale @A3 NTS
Project No EC2021-001	Date 25/11/2021
Drawing No 01- 1001	Rev





9 Heneage Street, Spitalfields, London, E1 5LJ Tel: 0203 6375691

VIEWS

Legend

- Existing Site
- Proposed Scheme
- Analysed Buildings
- Surrounding Buildings



Source of Information

Existing And Surrounding Buildings
Lees Munday
Drawing No's:
501-001 Rev 5, 501-002 Rev 6, 501-003 Rev 6
503-100 Rev 5, 503-101 Rev 5, 503-102 Rev 5
503-103 Rev 5

Photo's and Google Maps

Proposed Scheme
Andrew Neil Associates Ltd
Drawing No's:
PL-101, PL-102, PL-103, PL-104, PL-105, PL-106, PL-107

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Project Title
Epping Close
Reading
RG1

Client
Metrus Ltd

Drawing Title
Proposed Site Plan

Drawn By Mo	Scale @A3 NTS
Project No EC2021-001	Date 25/11/2021
Drawing No 01- 1002	Rev





9 Heneage Street, Spitalfields, London, E1 5LJ Tel: 0203 6375691

VIEWS

Legend

- Existing Site
- Proposed Scheme
- Analysed Buildings
- Surrounding Buildings



Source of Information

Existing And Surrounding Buildings
Lees Munday
Drawing No's:
501-001 Rev 5, 501-002 Rev 6, 501-003 Rev 6
503-100 Rev 5, 503-101 Rev 5, 503-102 Rev 5
503-103 Rev 5

Photo's and Google Maps

Proposed Scheme
Andrew Neil Associates Ltd
Drawing No's:
PL-101, PL-102, PL-103, PL-104, PL-105, PL-106, PL-107

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Project Title
Epping Close
Reading
RG1

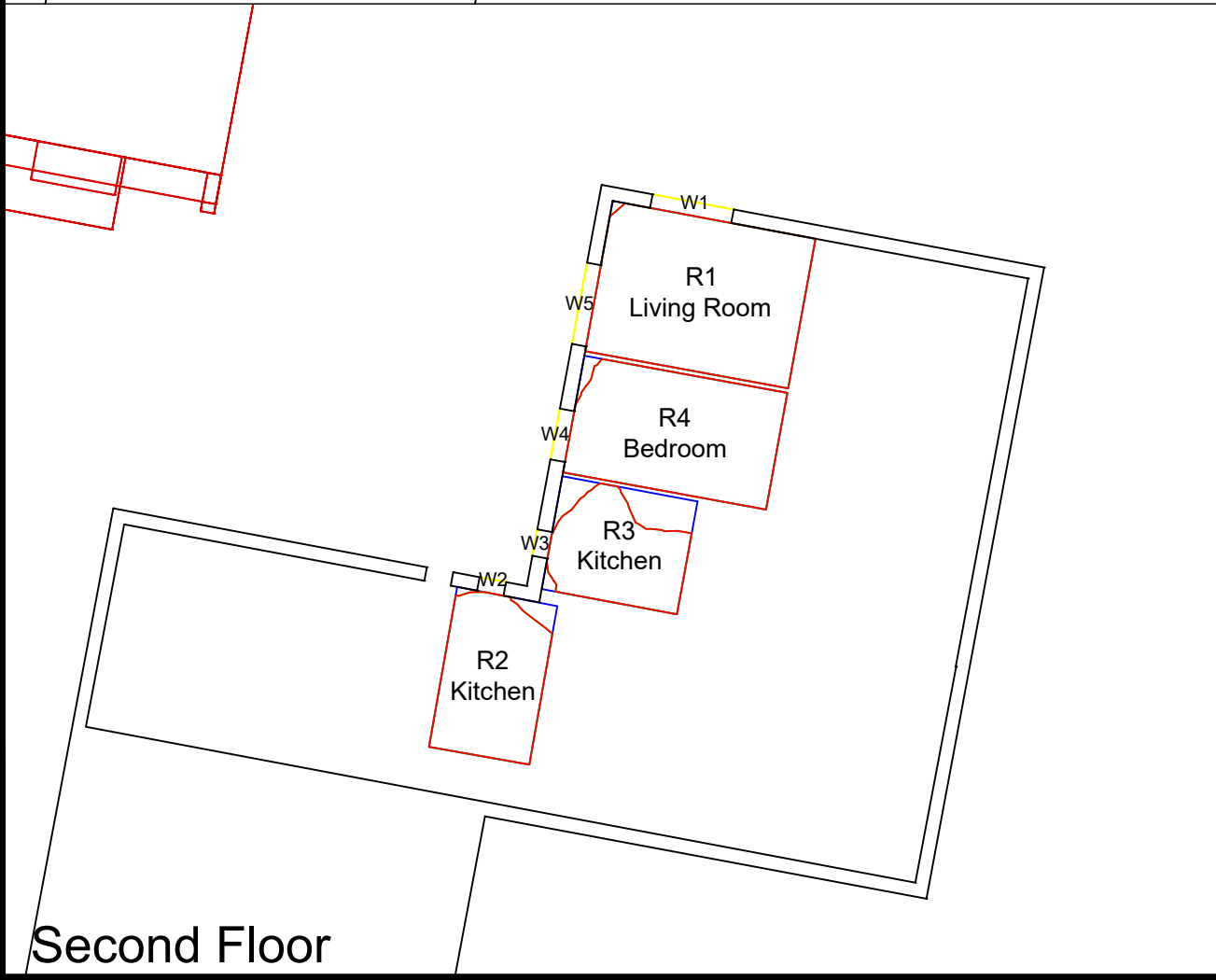
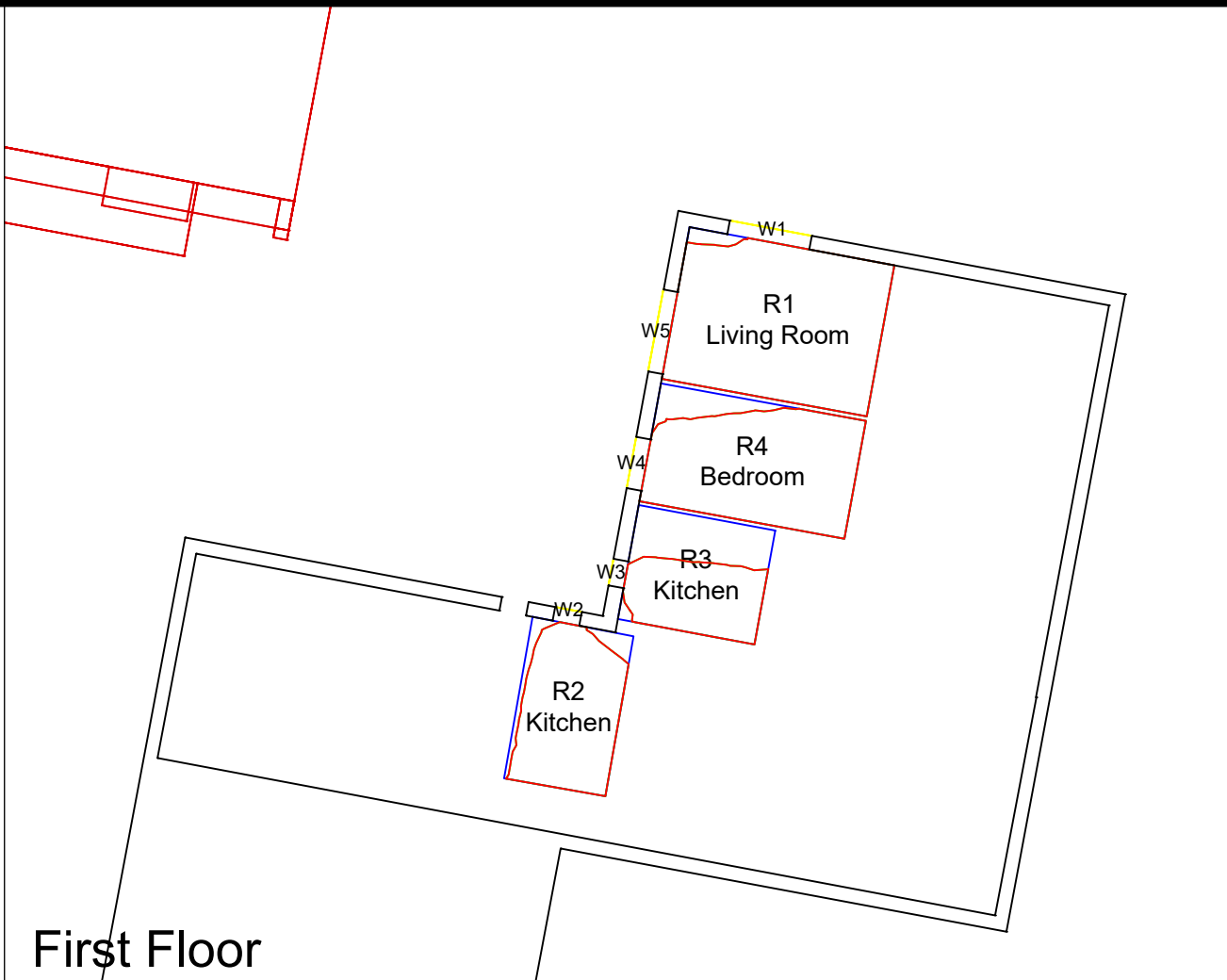
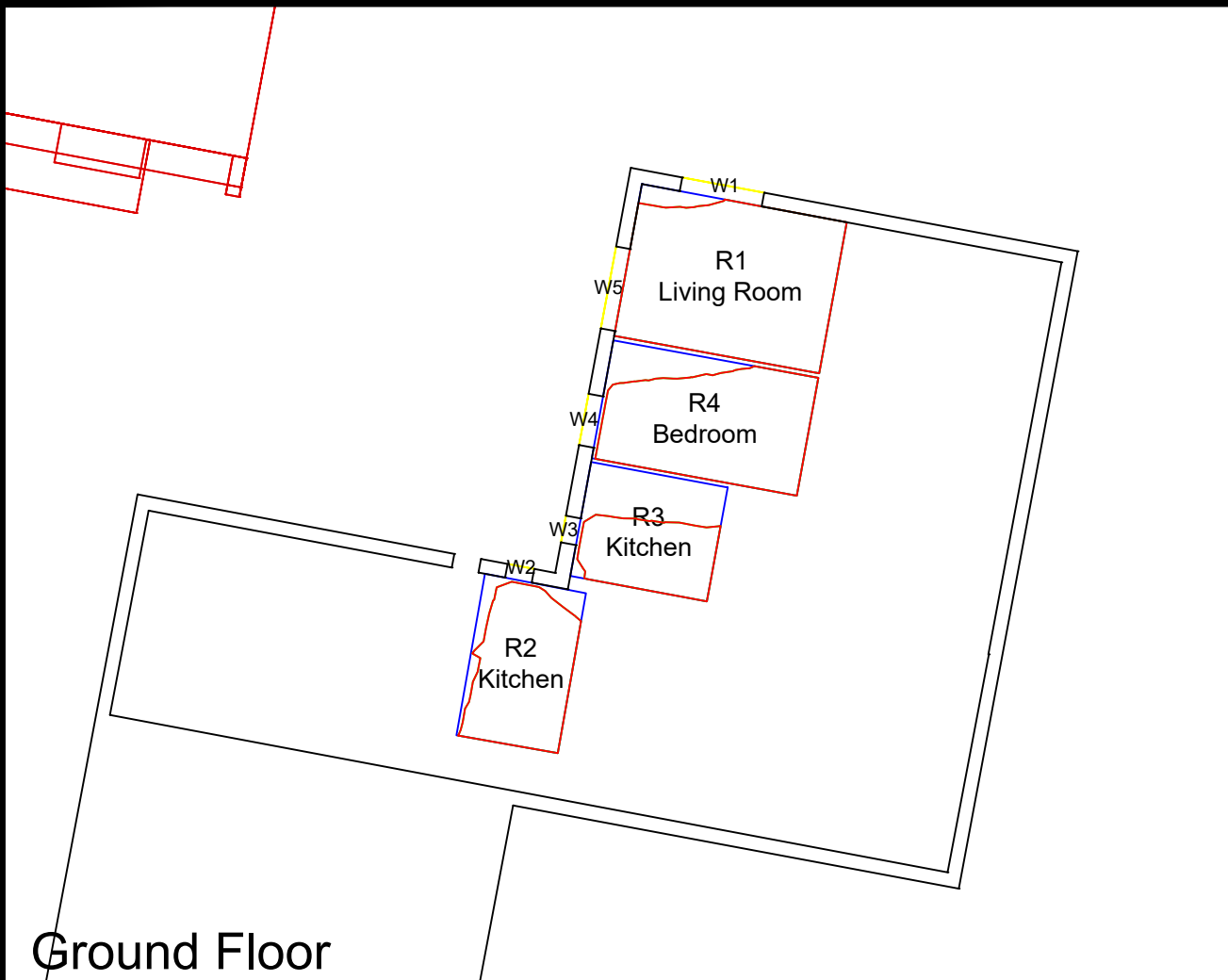
Client
Metrus Ltd

Drawing Title
Proposed 3D View

Drawn By Mo	Scale @A3 NTS
Project No EC2021-001	Date 25/11/2021
Drawing No 01- 1003	Rev

APPENDIX 2

Drawing Numbers EC2021-001-01-3000, 3001 and 3002



9 Heneage Street, Spitalfields, London, E1 5LJ Tel: 0203 6375691

DAYLIGHT

Legend

- Existing Site
- Proposed Scheme
- Analysed Buildings
- Surrounding Buildings

Existing Contour

Room Layout

Proposed Contour

1ft Grid Loss Hatching

Source of Information

Existing And Surrounding Buildings
Lees Munday
 Drawing No's:
 501-001 Rev 5, 501-002 Rev 6, 501-003 Rev 6
 503-100 Rev 5, 503-101 Rev 5, 503-102 Rev 5
 503-103 Rev 5

Photo's and Google Maps

Proposed Scheme
Andrew Neil Associates Ltd
 Drawing No's:
 PL-101, PL-102, PL-103, PL-104, PL-105, PL-106, PL-107

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 drawings and details.

Project Title
 Epping Close
 Reading
 RG1

Client
 Metrus Ltd

Drawing Title
 Daylight Analysis
 1-16 Epping Close

Drawn By Mo	Scale @A3 1/150
Project No EC2021-001	Date 25/11/2021
Drawing No 01-3000	Rev

DAYLIGHT

Legend

Existing Site

Proposed Scheme

Analysed Buildings

Surrounding Buildings

Existing Contour
Room Layout
Proposed Contour

1ft Grid Loss
Hatching

Source of Information

Existing And Surrounding Buildings
Lees Munday
Drawing No's:
501-001 Rev 5, 501-002 Rev 6, 501-003 Rev 6
503-100 Rev 5, 503-101 Rev 5, 503-102 Rev 5
503-103 Rev 5

Photo's and Google Maps

Proposed Scheme
Andrew Neil Associates Ltd
Drawing No's:
PL-101, PL-102, PL-103, PL-104, PL-105, PL-106, PL-107

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Project Title

Epping Close
Reading
RG1

Client

Metrus Ltd

Drawing Title

Daylight Analysis
Plot 1-6

Drawn By

Mo

Scale @A3

1/200

Project No

EC2021-001

Date

25/11/2021

Drawing No

01-3001

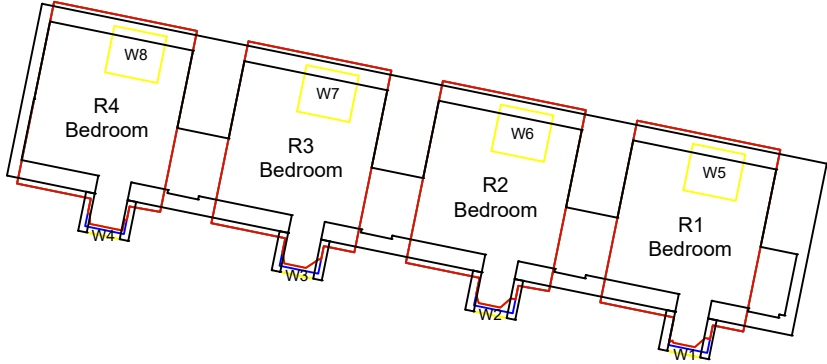
Rev



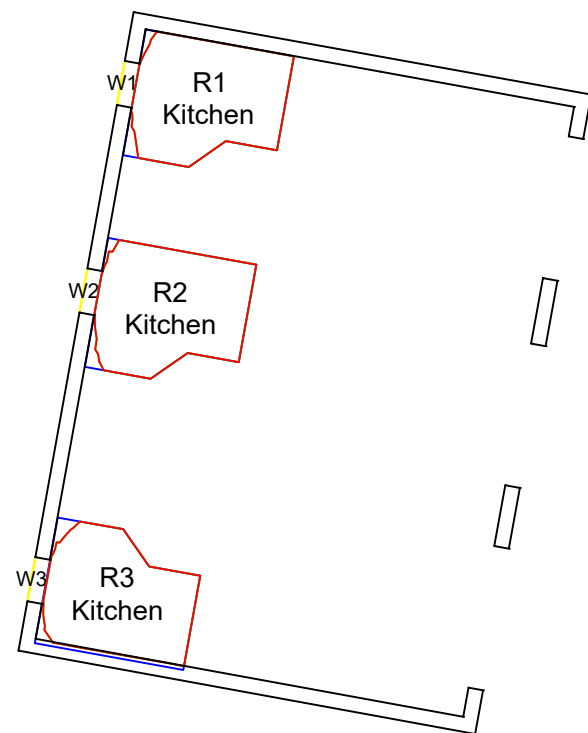
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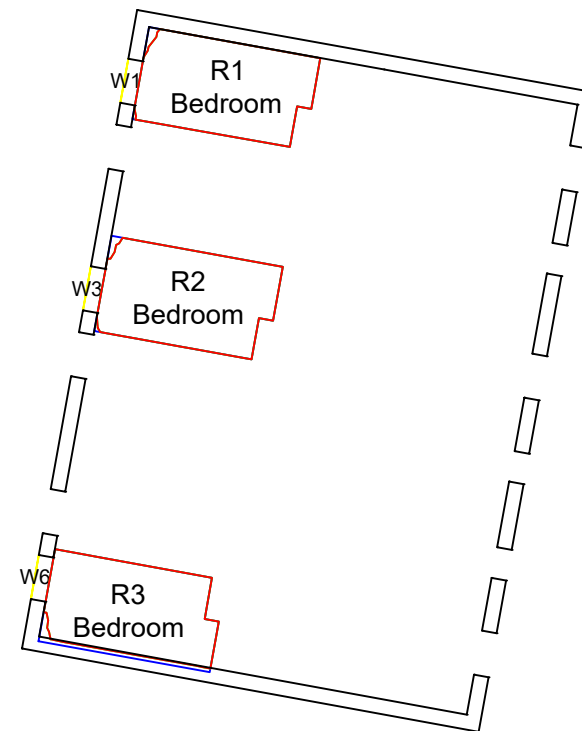
First Floor



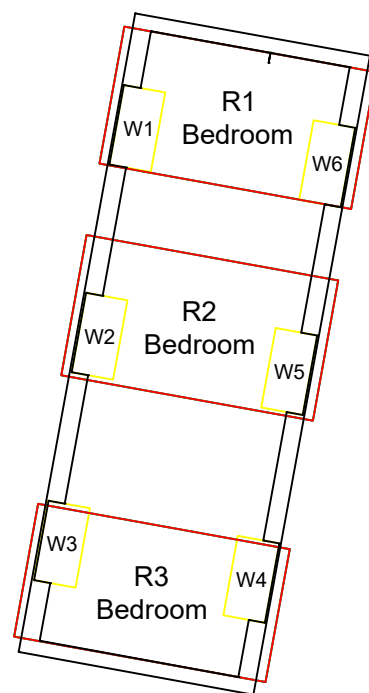
Second Floor



Ground Floor



First Floor



Second Floor



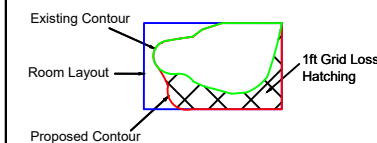
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DAYLIGHT

Legend

- Existing Site
- Proposed Scheme
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- Surrounding Buildings



Source of Information

Existing And Surrounding Buildings

Lees Munday

Drawing No's:
501-001 Rev 5, 501-002 Rev 6, 501-003 Rev 6
503-100 Rev 5, 503-101 Rev 5, 503-102 Rev 5
503-103 Rev 5

Photo's and Google Maps

Proposed Scheme

Andrew Neil Associates Ltd

Drawing No's:
PL-101, PL-102, PL-103, PL-104, PL-105, PL-106, PL-107

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drawings and details.

Project Title

Epping Close
Reading
RG1

Client

Metrus Ltd

Drawing Title

Daylight Analysis
Plot 7-9

Drawn By

Mo

Scale @A3

1/150

Project No

EC2021-001

Date

25/11/2021

Drawing No

01-3002

Rev

APPENDIX 3

VSC Analysis Table

VSC Analysis
Epping Close

			EXISTING	PROPOSED	LOSS	%LOSS
ROOM	Window	Room Use	VSC	VSC	VSC	VSC
1-16 Epping Close						
Ground						
R1	W1	Living Room	31.69	31.57	0.12	0.37%
R1	W5	Living Room	30.39	27.89	2.51	8.25%
R2	W2	Kitchen	19.77	18.75	1.01	5.13%
R3	W3	Kitchen	20.15	18.65	1.50	7.43%
R4	W4	Bedroom	25.96	23.95	2.01	7.73%
First						
R1	W1	Living Room	35.54	35.54	0.00	0.00%
R1	W5	Living Room	32.91	32.17	0.75	2.27%
R2	W2	Kitchen	22.22	22.10	0.12	0.53%
R3	W3	Kitchen	22.12	21.90	0.22	0.99%
R4	W4	Bedroom	29.18	28.80	0.38	1.31%
Second						
R1	W1	Living Room	38.47	38.47	0.00	0.00%
R1	W5	Living Room	36.46	36.46	0.00	0.00%
R2	W2	Kitchen	31.48	31.48	0.00	0.00%
R3	W3	Kitchen	27.99	27.99	0.00	0.00%
R4	W4	Bedroom	34.53	34.53	0.00	0.00%
Plot 1-6						
Ground						
R1	W1	Living Room	29.31	24.45	4.85	16.57%
R2	W2	Living Room	30.58	24.69	5.90	19.28%
R3	W3	Living Room	31.55	25.32	6.23	19.75%
R4	W4	Living Room	32.17	27.10	5.07	15.76%
R5	W5	Living Room	33.69	31.77	1.93	5.72%
R6	W6	Living Room	33.47	33.00	0.47	1.40%
First						
R1	W1	Bedroom	35.44	34.24	1.20	3.40%
R2	W2	Bedroom	36.44	35.03	1.41	3.87%
R3	W3	Bedroom	34.20	32.57	1.63	4.77%
R4	W4	Bedroom	34.44	33.43	1.01	2.92%
R5	W5	Bedroom	34.45	34.35	0.10	0.29%
R6	W6	Bedroom	34.22	34.21	0.00	0.00%
Second						
R1	W1	Bedroom	38.22	38.22	0.00	0.00%
R1	W5	Bedroom	86.45	86.45	0.00	0.00%
R2	W2	Bedroom	38.38	38.38	0.00	0.00%
R2	W6	Bedroom	86.47	86.47	0.00	0.00%
R3	W3	Bedroom	38.43	38.43	0.00	0.00%
R3	W7	Bedroom	86.48	86.48	0.00	0.00%
R4	W4	Bedroom	38.36	38.36	0.00	0.00%
R4	W8	Bedroom	86.44	86.44	0.00	0.00%

VSC Analysis
Epping Close

			EXISTING	PROPOSED	LOSS	%LOSS
ROOM	Window	Room Use	VSC	VSC	VSC	VSC
Plot 7-9						
Ground						
R1	W1	Kitchen	33.76	33.34	0.43	1.26%
R2	W2	Kitchen	33.55	32.92	0.64	1.90%
R3	W3	Kitchen	33.14	32.33	0.81	2.45%
First						
R1	W1	Bedroom	36.47	36.31	0.15	0.42%
R2	W3	Bedroom	36.62	36.40	0.22	0.60%
R3	W6	Bedroom	35.93	35.67	0.26	0.71%
Second						
R1	W1	Bedroom	84.14	84.14	0.00	0.00%
R1	W6	Bedroom	84.72	84.72	0.00	0.00%
R2	W2	Bedroom	84.06	84.06	0.00	0.00%
R2	W5	Bedroom	84.63	84.63	0.00	0.00%
R3	W3	Bedroom	83.70	83.70	0.00	0.00%
R3	W4	Bedroom	84.42	84.42	0.00	0.00%

APPENDIX 4

Daylight Distribution Analysis Table

Daylight Analysis
Epping Close

Room/ Floor	Room Use	Whole Room	Existing sq ft	Proposed sq ft	Loss sq ft	%Loss
1-16 Epping Close						
Ground						
R1	Living Room	160.91	154.94	154.94	0.00	0.00%
R2	Kitchen	84.25	72.61	72.61	0.00	0.00%
R3	Kitchen	80.73	46.18	46.18	0.00	0.00%
R4	Bedroom	125.26	106.42	106.42	0.00	0.00%
First						
R1	Living Room	160.91	157.45	157.45	0.00	0.00%
R2	Kitchen	84.25	75.33	75.32	0.00	0.00%
R3	Kitchen	80.73	47.80	47.80	0.00	0.00%
R4	Bedroom	125.26	111.81	111.81	0.00	0.00%
Second						
R1	Living Room	160.91	160.40	160.40	0.00	0.00%
R2	Kitchen	84.25	80.00	80.00	0.00	0.00%
R3	Kitchen	80.73	63.01	63.01	0.00	0.00%
R4	Bedroom	125.26	123.08	123.08	0.00	0.00%
Plot 1-6						
Ground						
R1	Living Room	234.42	226.42	226.02	0.40	0.18%
R2	Living Room	234.42	226.70	226.25	0.45	0.20%
R3	Living Room	192.15	188.65	188.64	0.02	0.01%
R4	Living Room	191.97	191.45	191.45	0.00	0.00%
R5	Living Room	191.81	191.29	191.29	0.00	0.00%
R6	Living Room	191.97	191.39	191.39	0.00	0.00%
First						
R1	Bedroom	136.62	133.39	133.39	0.00	0.00%
R2	Bedroom	135.84	127.97	127.96	0.00	0.00%
R3	Bedroom	143.29	139.06	139.06	0.00	0.00%
R4	Bedroom	143.25	139.30	139.30	0.00	0.00%
R5	Bedroom	143.18	139.14	139.14	0.00	0.00%
R6	Bedroom	143.59	139.34	139.34	0.00	0.00%
Second						
R1	Bedroom	222.68	220.87	220.87	0.00	0.00%
R2	Bedroom	222.34	220.43	220.43	0.00	0.00%
R3	Bedroom	222.41	220.57	220.57	0.00	0.00%
R4	Bedroom	222.34	220.92	220.92	0.00	0.00%

Daylight Analysis
Epping Close

Room/ Floor	Room Use	Whole Room	Existing sq ft	Proposed sq ft	Loss sq ft	%Loss
Plot 7-9						
Ground						
R1	Kitchen	75.71	73.38	73.38	0.00	0.00%
R2	Kitchen	78.00	75.51	75.51	0.00	0.00%
R3	Kitchen	75.88	70.40	70.40	0.00	0.00%
First						
R1	Bedroom	69.34	68.49	68.49	0.00	0.00%
R2	Bedroom	72.07	71.25	71.25	0.00	0.00%
R3	Bedroom	69.49	65.78	65.78	0.00	0.00%
Second						
R1	Bedroom	158.02	158.02	158.02	0.00	0.00%
R2	Bedroom	161.83	161.83	161.83	0.00	0.00%
R3	Bedroom	153.22	153.21	153.21	0.00	0.00%

APPENDIX 5

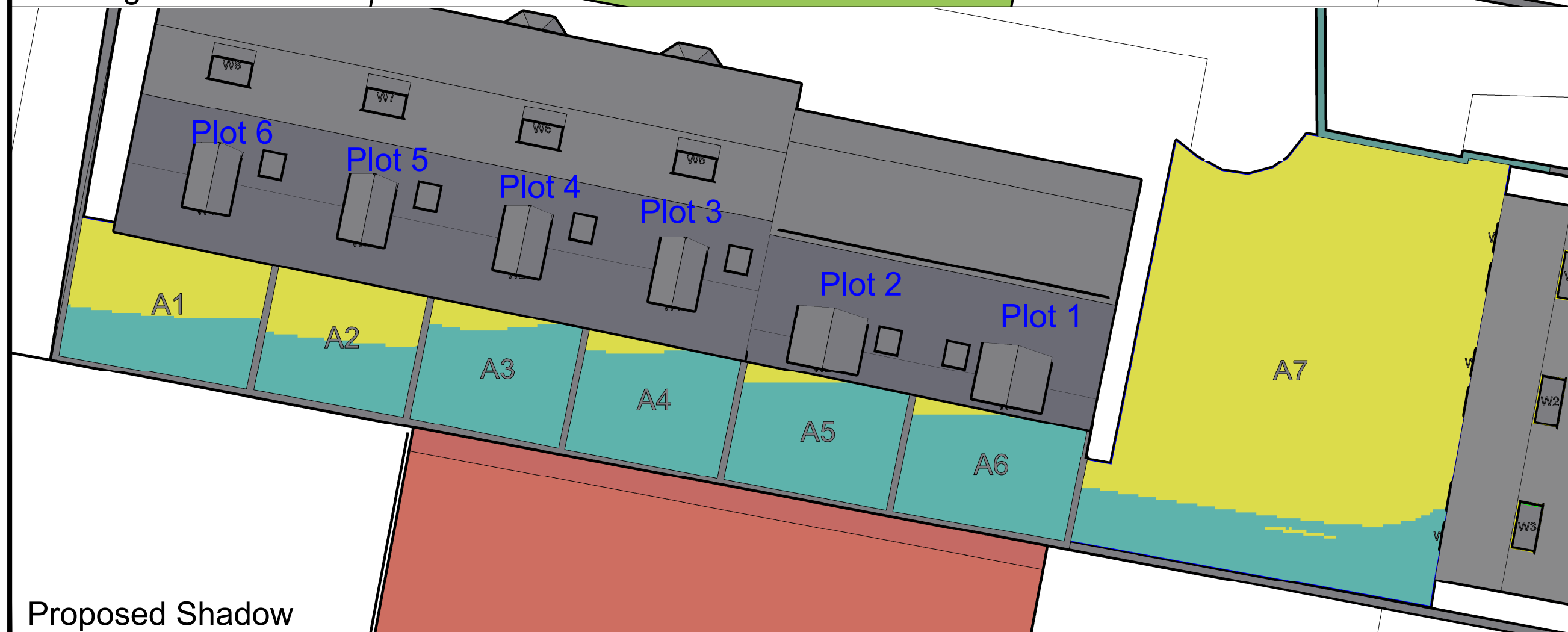
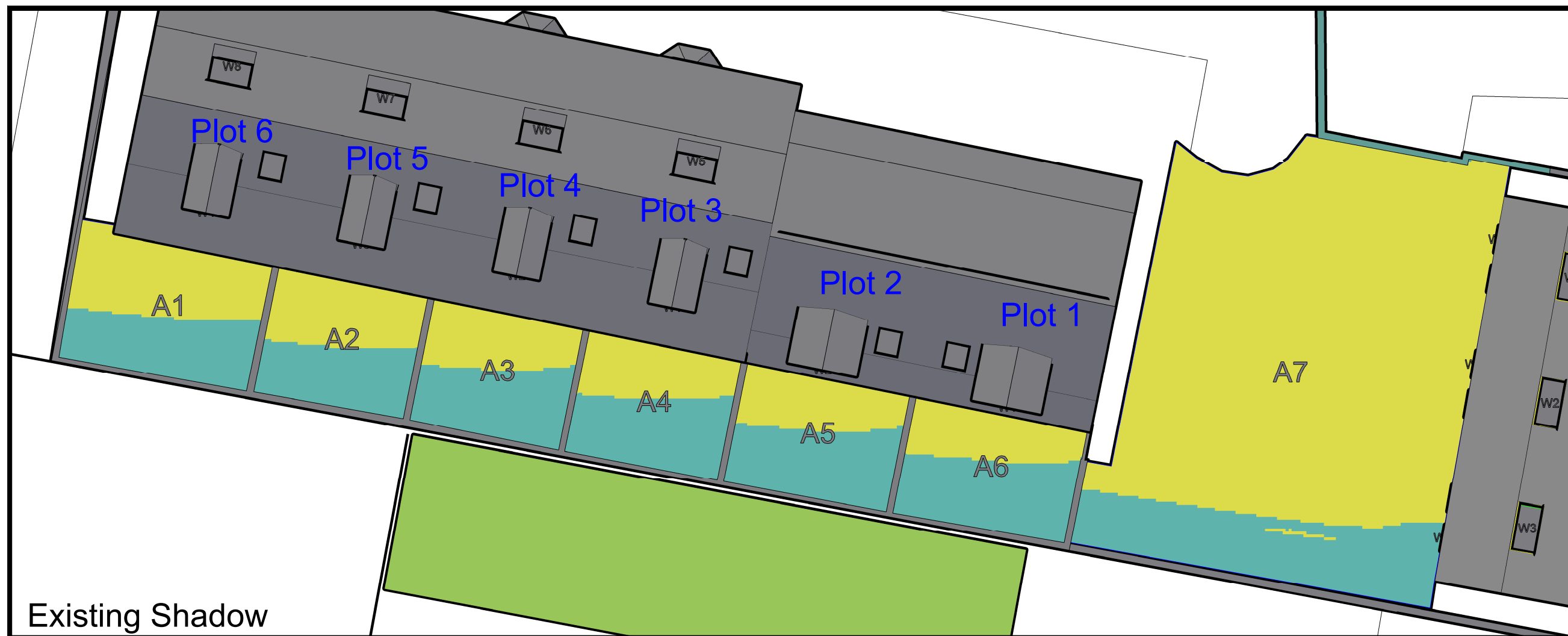
Sunlight APSH Analysis Table

APSH Analysis
Epping Close

Position	Room Use	Existing			Proposed			% Loss	
		Summer	Winter	Total	Summer	Winter	Total	Winter	Total
Plot 1-6									
Ground									
W1	Living Room	54	17	71	54	11	65	35.29%	8.45%
W2	Living Room	55	21	76	55	12	67	42.86%	11.84%
W3	Living Room	55	25	80	55	12	67	52.00%	16.25%
W4	Living Room	55	24	79	55	14	69	41.67%	12.66%
W5	Living Room	55	25	80	55	21	76	16.00%	5.00%
W6	Living Room	55	25	80	55	24	79	4.00%	1.25%
First									
W1	Bedroom	56	29	85	56	28	84	3.45%	1.18%
W2	Bedroom	55	29	84	55	28	83	3.45%	1.19%
W3	Bedroom	50	28	78	50	28	78	0.00%	0.00%
W4	Bedroom	50	28	78	50	28	78	0.00%	0.00%
W5	Bedroom	50	28	78	50	28	78	0.00%	0.00%
W6	Bedroom	51	27	78	51	27	78	0.00%	0.00%
Second									
W1	Bedroom	56	29	85	56	29	85	0.00%	0.00%
W2	Bedroom	56	30	86	56	30	86	0.00%	0.00%
W3	Bedroom	56	30	86	56	30	86	0.00%	0.00%
W4	Bedroom	56	29	85	56	29	85	0.00%	0.00%
Plot 7-9									
Second									
W6	Bedroom	58	23	81	58	23	81	0.00%	0.00%
W5	Bedroom	58	23	81	58	23	81	0.00%	0.00%
W4	Bedroom	58	23	81	58	23	81	0.00%	0.00%

APPENDIX 6

Drawing Number EC2021-001-01-3010



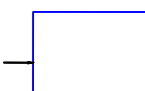
DAYLIGHT

Legend



Below 2hrs Sun

Above 2hrs Su



Room Layout

Source of Information

Existing And Surrounding Buildings

Lees Munday

Drawing No's:

501-001 Rev 5, 501-002 Rev 6, 501-003 Rev 6
503-100 Rev 5, 503-101 Rev 5, 503-102 Rev 5
503-103 Rev 5

Photo's and Google Maps

Proposed Scheme

Proposed Scheme
Andrew Neil Associates Ltd

Drawing No's:

PL-101, PL-102, PL-103, PL-104, PL-105, PL-106, PL-107

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All dimensions to be checked on site. Drawing to be read in

conjunction with any specifications, schedules and Consultant

Project Title

Project Title
Enping Close

Reading

RG1

Client

Client
Metrus Ltd

Drawing Title

Drawing Title
Time In Sun Shadow Analysis

Plot 1.6

Plot 1-b
March 21st 06:00 - 18:00

Drawn By

Drawn By
Mo

Project No

EC2021-001

Drawing No

01-3010

Rev

[illegible]

APPENDIX 7

Overshadowing Analysis Table

Time In Sun Shadow Analysis
Epping Close

AmenityRef.		AmenityArea	Lit Area Existing	Lit Area Proposed	Pr/Ex
Plot 1-6					
A1	Area m2	30.37	17.50	17.49	1.00
	Percentage		58%	58%	
A2	Area m2	23.08	12.59	11.85	0.94
	Percentage		55%	51%	
A3	Area m2	22.78	10.91	3.88	0.36
	Percentage		48%	17%	
A4	Area m2	23.05	10.73	2.52	0.24
	Percentage		47%	11%	
A5	Area m2	24.10	10.99	2.44	0.22
	Percentage		46%	10%	
A6	Area m2	24.56	10.80	2.14	0.20
	Percentage		44%	9%	
A7	Area m2	166.03	139.71	139.37	1.00
	Percentage		84%	84%	