

Drivers Jonas Deloitte.

Proposed Development at Midland Crescent, Finchley Road, London NW3

Daylight, Sunlight & Overshadowing Report

Contents

1	Introduction	1
2	Executive Summary	2
3	Planning Policy & Guidance	3
4	Daylight, Sunlight and Overshadowing Methodology	4
5	Surrounding Residential Properties	8
6	Assessment Results	9
	Appendix A-Site Plan	12
	Appendix B-Surrounding Results	13
	Appendix C-Overshadowing Results	14

1 Introduction

- 1.1 Drivers Jonas Deloitte has been appointed by Anthony Green Spencer Ltd to undertake a daylight and sunlight study with regard to the proposed development at Midland Crescent, Finchley Road, London NW1.
- 1.2 This report will assess the potential daylight and sunlight effects to the surrounding residential properties as a result of the proposal.
- 1.3 The assessment has been based on the following plans and elevations supplied by CZWG Architects.

Drawing Type	Drawing Number	Revision	Date
Lower Ground – 2	DR-0108	D02	Oct 2012
Lower Ground -1	DR-0109	D02	Oct 2012
Ground Floor	DR-0110	D02	Oct 2012
First Floor	DR-0111	D02	Oct 2012
Second Floor	DR-0112	D02	Oct 2012
Third Floor	DR-0113	D02	Oct 2012
Fourth Floor	DR-0114	D02	Oct 2012

- 1.4 In addition to the above, topographical and elevation surveys supplied by RPS (July 2008) have been utilised. Where survey information was not available, the location and size of the surrounding windows has been estimated from site photographs.

2 Executive Summary

- 2.1 The proposed site is located within the London Borough of Camden and the potential effects have therefore been assessed in accordance with Camden's current planning policies and the recommendations set out in the BRE guidelines.
- 2.2 The detailed results show that the majority of the windows tested meet the BRE guidelines criteria achieving either a VSC of 27% and above in the proposed situation or experiencing a ratio reduction of at least 0.8 times its former value. In relation to the daylight for 279a Finchley Road, five of the seven windows relevant for assessment satisfy the VSC criteria and the impact to them is acceptable. The remaining two windows are understood to serve bedrooms. As the VSC method is only an initial test for daylight, we have undertaken no-sky line assessments to understand how the distribution of light within the room may be affected. The no-sky line test shows a very small reduction in daylight distribution between existing and proposed which are well within the BRE criteria and show that around 85% of the rooms remain lit in the proposed scenario. This reduction is compliant to the recommendations in the BRE guidelines and the daylight impacts are therefore acceptable.
- 2.3 In addition, the majority of windows tested meet the BRE guidelines for sunlight criteria achieving either an APSH of 25% with 5% being in the winter months or experiencing a ratio reduction of at least 0.8 times its former value. In relation to the daylight for 279a Finchley Road, four of the seven windows relevant for assessment satisfy the APSH criteria and the impact to them is acceptable. Two of these windows only fall short in winter sun with results of 4% APSH instead of 5%. The other window has a total APSH of 20%. The floor plan information we have obtained shows that the windows serve bedrooms which the BRE guidelines state as being less important than living rooms in terms of sunlight.
- 2.4 Overall it is considered that the proposed development will have a minimal effect on the surrounding residential properties and their respective amenity areas.

3 Planning Policy & Guidance

Policy

- 3.1 The proposed site is within the Borough of Camden (Camden) and the proposals have therefore been considered against Camden's adopted Unitary Development Plan (UDP). In particular the potential effects have been considered against Policy SD6 which states:

SD6 – Amenity for occupiers and neighbours

The council will not grant planning permission for development that it considers causes harm to the amenity of occupiers and neighbours. The factors the council will consider include:

- a) Visual privacy and overlooking;
 - b) Sunlight and daylight levels;
 - c) Artificial light levels;
 - d) Noise and vibration levels;
 - e) Odour, fumes and dust;
 - f) The adequacy of facilities for storage, recycling and disposal of waste; and
 - g) Microclimate.
-

Guidance

- 3.1 As stated in Camden's planning policy, the proposals have been considered utilising the standards and recommendations set out in the Building Research Establishment (BRE) report:
- P J Littlefair (2011) "Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice", Building Research Establishment Report 209. (Referred to in this report as the "BRE guidelines").
- 3.2 The BRE guidelines also refer to British Standard BS:8206-02:2008 "Lighting for Buildings – Part 2 Code of Practice for Daylighting" and CIBSE publication "Lighting guide: Daylighting and window design".

4 Daylight, Sunlight and Overshadowing Methodology

- 4.1 When assessing any potential effects on the surrounding properties, the BRE guidelines suggest that only those windows that have a reasonable expectation of daylight or sunlight need be assessed. In particular the BRE guidelines at paragraph 2.2.2 state:

“The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops and some offices.”

- 4.2 Further to the above statement, it is considered that the vast majority of commercial properties do not have a reasonable expectation of daylight or sunlight. This is because they are generally designed to rely on electric lighting rather than natural daylight or sunlight.
- 4.3 If a property is considered to have a reasonable expectation of daylight or sunlight the following methodology to assess the impacts has been used.

Daylighting

- 4.4 Where the internal arrangements are not known, the BRE guidelines set out three methods for assessing the daylight impacts on neighbouring properties. These methods are summarised below.
- 4.5 The first of these methods is to strike a line at an angle of 25° from the centre of the lowest existing windows. If the profile of the proposed development sits beneath the 25° angle line then the development is unlikely to have a substantial effect on the daylight enjoyed by the existing building. This test is known as the 25° angle test.
- 4.6 If the proposed development protrudes past the 25° angle line then the second test needs to be applied. For this assessment, the first method has not been used as it does not always reflect the differing heights and layouts of the buildings in the local area.
- 4.7 The second method calculates the Vertical Sky Component (VSC) at the centre point of each affected window on the outside face of the wall. The VSC is an external daylighting calculation that measures the amount of direct daylight to a specific window point on the outside of a property. The calculations fundamentally assess the amount of blue sky that you will see, converting results into a percentage. A window looking into an empty field will achieve a maximum value of 40%. However, the BRE suggests that 27% VSC is a good level of daylight. If a window does not achieve 27% VSC in the proposed scenario, then the third test is used.
- 4.8 The third method involves calculating the VSC at the window in the existing situation, i.e. before redevelopment. If the reduction of VSC is less than 0.8 times its former value, then the occupants of the adjoining building are likely to notice the reduction in daylight.

4.9 In conjunction with the VSC tests, the BRE guidelines and British Standard 8206-2:2008 suggest that the distribution of daylight is assessed using the No Sky Line (NSL) test. This test separates those areas of the working plane that can receive direct skylight and those that cannot.

4.10 The BRE guidelines suggest that the daylight distribution test is undertaken to existing surrounding properties when the internal arrangements are known. To assess the impact of any reduction the BRE guidelines suggest:

If, following construction of a new development, the no sky line moves so that the area of the existing room, which does receive direct skylight, is reduced to less than 0.8 times its former value this will be noticeable to the occupants, and more of the room will appear poorly lit.

4.11 A further daylighting method, which is used for the internal daylighting levels of all the new residential construction, is the Average Daylight Factor (ADF) calculation. This calculation takes into account the size and shape of the room and window, the reflectance of the room's surfaces and diffuse transmittance of the glazing as well as the amount of blue sky calculated in the VSC calculation.

4.12 The BRE guidelines set out the ADF test at Appendix C and further guidance, such as the reflectance of certain materials, is given within the British Standard BS8206-2:2008.

4.13 The BRE guidelines and British Standard 8206-2:2008 suggest that the following ADF values should be achieved for the following room types:

- Bedrooms 1%;
- Living Rooms 1.5%; and
- Kitchens 2%.

4.14 Certain constants are assumed in the formula, which are as follows: -

- (a) The diffuse light transmittance of the glazing, including a maintenance factor for dirt on glass, was taken as 0.59.
- (b) The average reflectance of the interior surfaces was taken as 0.5.

4.15 The ADF results are obtained for each room individually and expressed as a percentage. Where there are two or more windows serving one room the ADF is found separately for each window, and the results summed.

4.16 For new developments the British Standard 8206-2:2008 suggests that the uniformity of daylight within a room will be poor if a significant area of the working plane lies beyond the no sky line. The British Standard BS8206-2:2008 also suggests that 'a significant area' is more than 20% i.e. 80% of the room area should be in front of the no sky line. Taking into account an urban setting and modern designs of large living/dining areas it is suggested that 'a significant area' should be interpreted as more than 50%. i.e. it would be usual to have less than 50% of the room area in front of the no-sky line.

Sunlighting

4.17 The amount of direct sunlight a window can enjoy is dependent on its orientation and the extent of any external obstructions. For example a window that faces directly north, no matter what external obstructions are present, will not be able to enjoy good levels of sunlight throughout the year. However, a window that faces directly south with no obstructions will enjoy very high levels of sunlight throughout the year. As the potential to receive sunlight is dependent on a window's orientation, the BRE guidelines state:

To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.

- 4.18 To assess the potential effect on existing windows the BRE guidelines set out three methods. These methods are summarised below.
- 4.19 The first test is to apply the 25° angle test as detailed above. If the profile of the proposed development sits beneath the 25° angle line then the development is unlikely to have a substantial effect on the sunlight enjoyed by the existing building. If the proposed development protrudes past the 25° angle line then the second test needs to be applied.
- 4.20 As for the daylight assessments, the 25° angle test has not been used for this assessment as it does not always reflect the differing heights and layouts of the buildings in the local area.
- 4.21 For the second sunlighting test the BRE guidelines suggest calculating the Annual Probable Sunlight Hours (APSH) at the centre of each window on the outside face of the window wall. The BRE guidelines suggest that:

"If this window point can receive more than one quarter of APSH (see section 3.1), including at least 5% of APSH in the winter months between 21st September and 21st March, then the room should still receive enough sunlight".

- 4.22 The third method involves calculating the APSH at the window in the existing situation, i.e. before redevelopment. If the reduction of APSH between the existing and proposed situations is less than 0.8 times its former value for either the total APSH or in the winter months; and greater than 4% for the total APSH, then the occupants of the adjoining building are likely to notice the reduction in sunlight.

Overshadowing

- 4.23 Part 3.3 of the BRE guidelines provides guidance for assessing the effect of overshadowing of gardens and amenity areas for both existing and new spaces.
- 4.24 The BRE guidelines suggest that the availability of sunlight should be checked for all open spaces where it is required. These include:
- *'gardens, usually the main back garden of a house*
 - *parks and playing fields*
 - *children's playgrounds*
 - *outdoor swimming pools and paddling pools*
 - *sitting out areas such as those between non-domestic buildings and in public squares*
 - *focal points for views such as groups of monuments or fountains'.*
- 4.25 Where there is an expectation of sunlight the BRE guidelines suggest:

"It is suggested 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 a new development an existing garden or amenity area does not meet the above, and the area that 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."

- 4.26 For the assessments undertaken in this report, computer software has been used to plot the shadows in the existing and proposed condition at hourly intervals on 21 March.
- 4.27 A visual assessment has first been undertaken of the hourly images to establish whether each amenity area receives at least two hours of sunlight on 21 March. This is considered to be the case if:
- Three consecutive hourly images clearly show that the amenity space will receive sunlight to over half of its area, e.g. the images for 11am, 12pm, 1pm and 2pm show more than half of the area is in direct sunlight; or
 - Two sets of two consecutive hourly images show the amenity space will receive sunlight to over half of its area, e.g. the images for 10am, 11am and 2pm, 3pm show more than half of the area is in direct sunlight.
- 4.28 If an amenity area will not meet the criteria a second visual assessment is undertaken comparing the existing and proposed overshadowing images. If it is clear that any additional overshadowing effects will meet the above criteria no further assessments are considered necessary.
- 4.29 If it is not clear from the visual assessments that the suggested criteria will be met detailed assessments calculating the areas of shade throughout the day have been carried out.

5 Surrounding Residential Properties

- 5.1 Using the Valuation Office Agency website we have identified which properties are registered as paying council tax and therefore in residential occupation. The following properties have been identified and assessed for daylight and sunlight impacts;
- 279a Finchley Road (1st floor and above)
 - 8-10 Finchley Road (1st floor and above)
 - 6-10 Rosemont Road
- 5.2 A site plan highlighting the location of the above residential properties is given at Appendix A.
- 5.3 All other surrounding properties are currently in commercial use and as such are not considered to have a reasonable expectation of daylight and sunlight to require detailed assessment.

6 Assessment Results

Surrounding Properties

279a Finchley Road

- 6.1 In relation to daylight, five of the seven windows relevant for assessment satisfy the VSC criteria and the impact to them is acceptable. The remaining two windows are referred to as 01/05 and 02/03 and are understood to serve bedrooms. As the VSC method is only an initial test for daylight, we have undertaken no-sky line assessments to understand how the distribution of light within the room may be affected. Appendix B of this report contains the detailed daylight and sunlight results for the surrounding residential buildings.
- 6.2 The no-sky line test shows a very small reduction in daylight distribution between existing and proposed which are well within the BRE criteria and show that around 85% of the rooms remain lit in the proposed scenario. This reduction is compliant to the recommendations in the BRE guidelines and the daylight impacts are therefore acceptable.
- 6.3 In relation to sunlight, four of the seven windows relevant for assessment satisfy the APSH criteria and the impact to them is acceptable. Two of these windows referred to as 01/03 and 02/03 only fall short in winter sun with results of 4% APSH instead of 5%. The other window referred to as 01/05 has a total APSH of 20%. The floor plan information we have obtained shows that the windows serve bedrooms which the BRE guidelines state as being less important than living rooms in terms of sunlight.

8-10 Finchley Road

- 6.4 The detailed results in Appendix B show that all of the windows tested meet the BRE guidelines criteria achieving either a VSC of 27% and above in the proposed situation or experiencing a ratio reduction of at least 0.8 times its former value.
- 6.5 In addition, all windows tested meet the BRE guidelines for sunlight criteria achieving either an APSH of 25% with 5% being in the winter months or experiencing a ratio reduction of at least 0.8 times its former value. The daylight and sunlight impacts to this building are therefore acceptable.

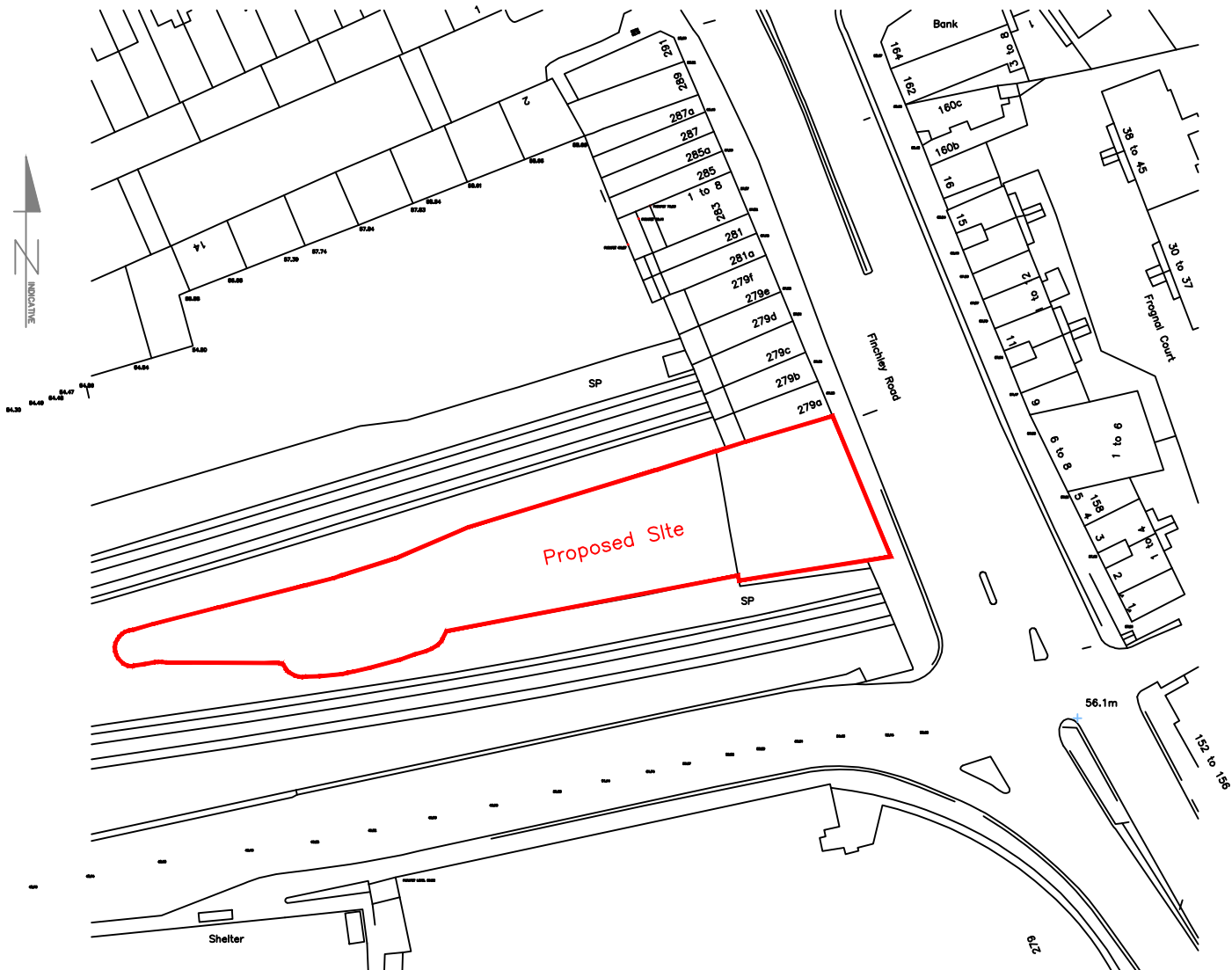
6-10 Rosemont Road

- 6.6 The detailed results in Appendix B show that all of the windows tested meet the BRE guidelines criteria achieving either a VSC of 27% and above in the proposed situation or experiencing a ratio reduction of at least 0.8 times its former value.
- 6.7 In addition, all windows tested meet the BRE guidelines for sunlight criteria achieving either an APSH of 25% with 5% being in the winter months or experiencing a ratio reduction of at least 0.8 times its former value. The daylight and sunlight impacts to this building are therefore acceptable.

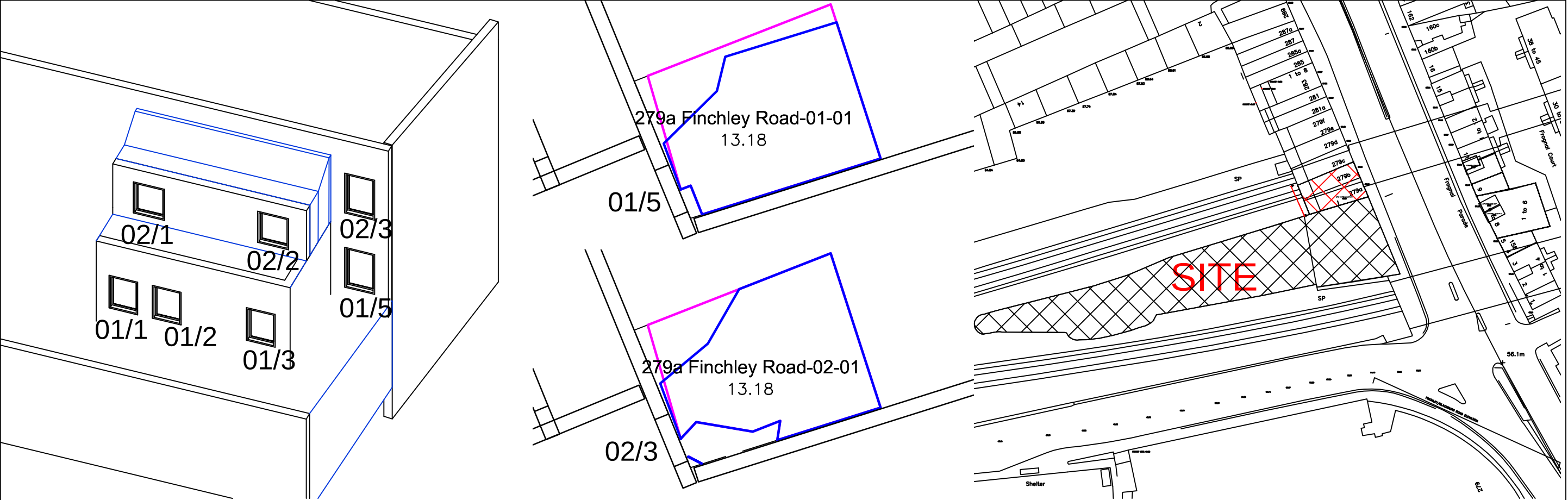
Overshadowing

- 6.8 We have tested the rear gardens to 6-10 Rosemont Road. The gardens are heavily overgrown and therefore already overshadowed. For the purposes of this analysis we have removed the trees to show any effect of the new proposal on these gardens.
- 6.9 It is suggested that for an amenity area 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. The overshadowing images in Appendix C show that the rear gardens have over half of their area in sunlight between 11am and 4pm with the proposal in place and are therefore compliant to the recommendations in the BRE guidelines.

Appendix A-Site Plan



Appendix B-Surrounding Results



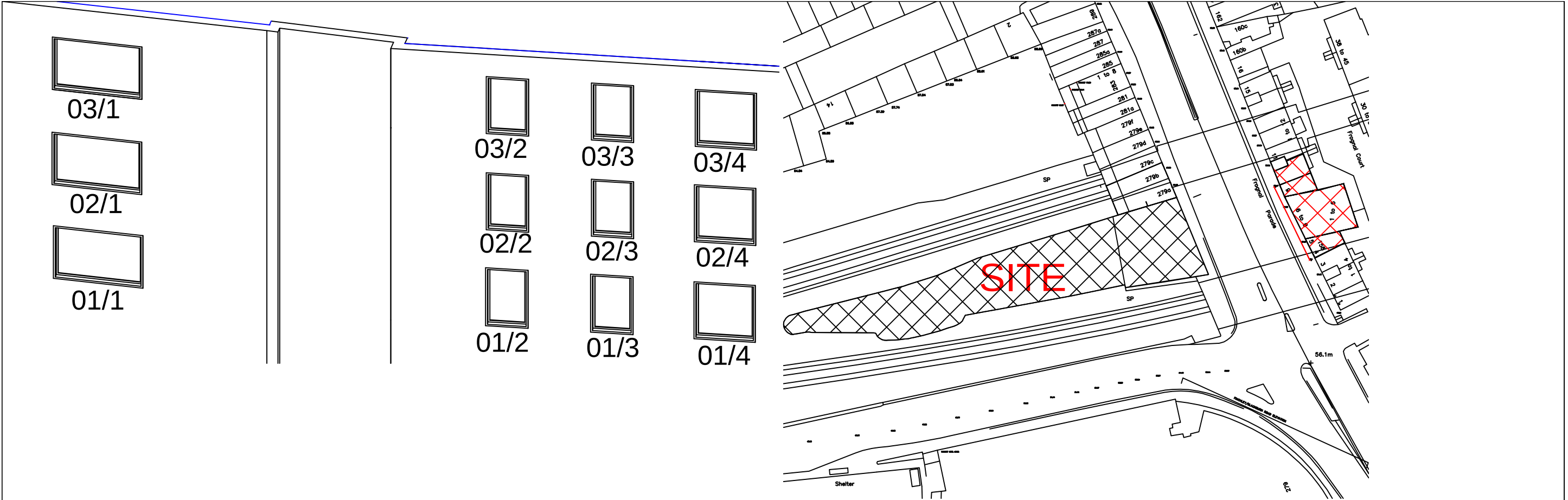
Vertical Sky Component Results Table					
Window			Existing	Proposed	Ratio Reduction
Name	Level	Number			
279a-b Finchley Rd	01	1	38.00%	32.16%	0.85
279a-b Finchley Rd	01	2	38.04%	31.46%	0.83
279a-b Finchley Rd	01	3	38.04%	29.35%	0.77
279a-b Finchley Rd	01	5	28.69%	16.35%	0.57
279a-b Finchley Rd	02	1	38.38%	34.10%	0.89
279a-b Finchley Rd	02	2	38.44%	31.69%	0.82
279a-b Finchley Rd	02	3	32.05%	22.85%	0.71

Annual Probable Sunlight Hours Results Table									
Window			Existing		Proposed		Ratio Reduction		
Name	Level	Number	Total	Winter	Total	Winter	Total	Winter	
279a-b Finchley Rd	01	1	45.00%	14.00%	36.00%	5.00%	0.80	0.36	
279a-b Finchley Rd	01	2	45.00%	14.00%	36.00%	5.00%	0.80	0.36	
279a-b Finchley Rd	01	3	45.00%	14.00%	33.00%	4.00%	0.73	0.29	
279a-b Finchley Rd	01	5	38.00%	14.00%	20.00%	3.00%	0.53	0.21	
279a-b Finchley Rd	02	1	44.00%	14.00%	40.00%	10.00%	0.91	0.71	
279a-b Finchley Rd	02	2	44.00%	14.00%	35.00%	6.00%	0.80	0.43	
279a-b Finchley Rd	02	3	40.00%	14.00%	25.00%	4.00%	0.63	0.29	

No Sky Line Results Table								
Room			Existing (sq.m)	Proposed (sq.m)	Loss Total (sq.m)	Ratio Reduction	Existing % Lit	Proposed % Lit
Name	Floor Level	Base Area (sq.m)						
279a Finchley Road-01-01	00	13.18	12.70	10.67	2.03	0.84	96.36	80.96
279a Finchley Road-02-01	02	13.18	11.88	10.48	1.41	0.88	90.14	79.51

For identification purposes only. All dimensions to be checked on site and used in preference to those given or scaled from the drawing, and must be brought to the attention of the Surveyor.

<i>Address.</i> Midland Crescent, Finchley Road NW3				Drivers Jonas Deloitte. FOR DELOITTE LLP Athene Place, 66 Shoe Lane, London EC4A 3BQ Telephone 020-7007 9000 Fax 020-7583 1198	
<i>Title.</i> Daylight and Sunlight/No Skyline Results 279a – b Finchley Road					
<i>Client.</i> Anthony Green Spencer Ltd		<i>Date</i> 24/10/12	<i>Drawing No.</i> 0154367/01		
			<i>File Ref.</i> 0154367	<i>Scale</i> A4 @ NTS	



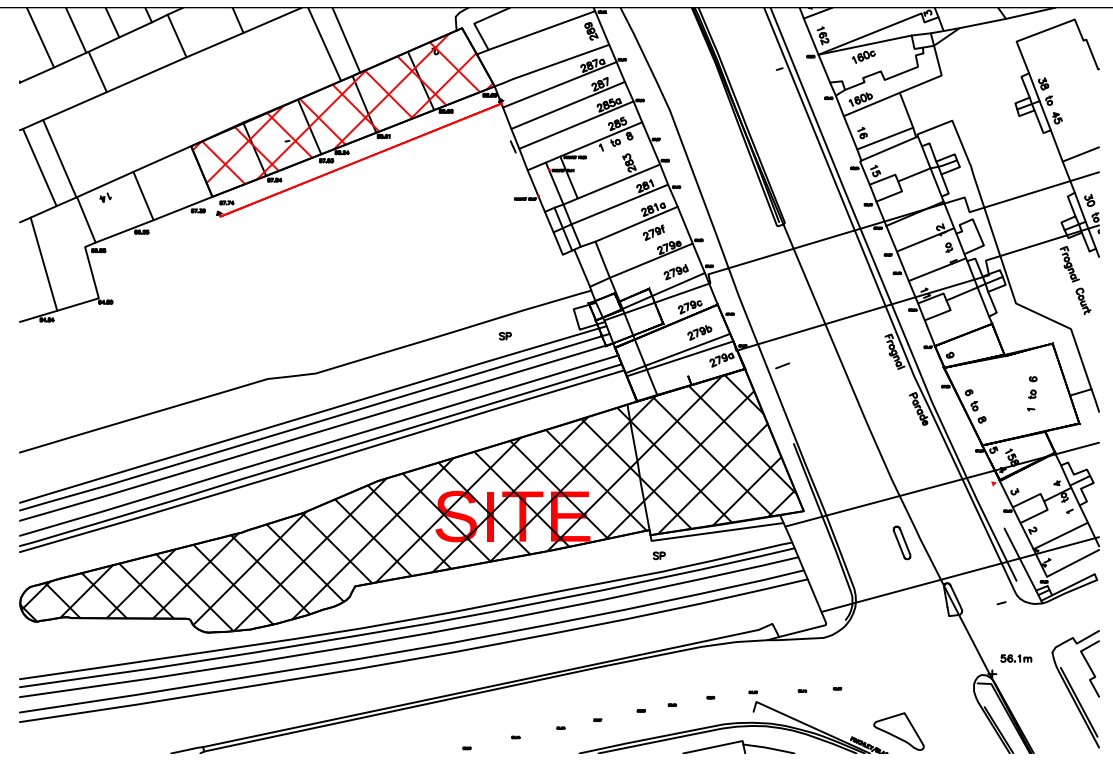
Vertical Sky Component Results Table					
Window			Existing	Proposed	Ratio Reduction
Name	Level	Number			
8-10 Finchley RD	01	1	35.59%	32.16%	0.90
8-10 Finchley RD	01	2	36.75%	32.81%	0.89
8-10 Finchley RD	01	3	36.93%	33.22%	0.90
8-10 Finchley RD	01	4	37.08%	33.77%	0.91
8-10 Finchley RD	02	1	37.09%	34.65%	0.93
8-10 Finchley RD	02	2	37.88%	35.09%	0.93
8-10 Finchley RD	02	3	38.01%	35.38%	0.93
8-10 Finchley RD	02	4	38.12%	35.79%	0.94
8-10 Finchley RD	03	1	38.43%	36.97%	0.96
8-10 Finchley RD	03	2	38.78%	37.13%	0.96
8-10 Finchley RD	03	3	38.83%	37.27%	0.96
8-10 Finchley RD	03	4	38.87%	37.49%	0.96

Annual Probable Sunlight Hours Results Table									
Window			Existing		Proposed		Ratio Reduction		
Name	Level	Number	Total	Winter	Total	Winter	Total	Winter	
8-10 Finchley RD	01	1	48.00%	17.00%	42.00%	11.00%	0.88	0.65	
8-10 Finchley RD	01	2	46.00%	13.00%	43.00%	11.00%	0.93	0.85	
8-10 Finchley RD	01	3	47.00%	13.00%	43.00%	11.00%	0.91	0.85	
8-10 Finchley RD	01	4	49.00%	15.00%	45.00%	13.00%	0.92	0.87	
8-10 Finchley RD	02	1	49.00%	17.00%	46.00%	14.00%	0.94	0.82	
8-10 Finchley RD	02	2	50.00%	15.00%	48.00%	13.00%	0.96	0.87	
8-10 Finchley RD	02	3	50.00%	15.00%	48.00%	13.00%	0.96	0.87	
8-10 Finchley RD	02	4	52.00%	17.00%	50.00%	15.00%	0.96	0.88	
8-10 Finchley RD	03	1	50.00%	17.00%	48.00%	15.00%	0.96	0.88	
8-10 Finchley RD	03	2	50.00%	15.00%	49.00%	14.00%	0.98	0.93	
8-10 Finchley RD	03	3	50.00%	15.00%	49.00%	14.00%	0.98	0.93	
8-10 Finchley RD	03	4	52.00%	17.00%	51.00%	16.00%	0.98	0.94	

 Property Analyzed
 Elevation Analyzed

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<i>Title.</i> Daylight and Sunlight/No Skyline Results 8-10 Finchley Road					
<i>Client.</i> Anthony Green Spencer Ltd		<i>Date</i>	<i>Drawing No.</i> 0154367/02		
		24/10/12	<i>File Ref.</i> 0154367	<i>Scale A4 @</i> NTS	



Annual Probable Sunlight Hours Results Table								
Window			Existing		Proposed		Ratio Reduction	
Name	Level	Number	Total	Winter	Total	Winter	Total	Winter
2 Rosemont Road	00	1	33.00%	16.00%	28.00%	11.00%	0.85	0.69
2 Rosemont Road	00	2	42.00%	19.00%	36.00%	13.00%	0.86	0.68
6 Rosemont Road	00	3	56.00%	22.00%	51.00%	17.00%	0.91	0.77
10 Rosemont Road	00	4	57.00%	23.00%	50.00%	16.00%	0.88	0.70

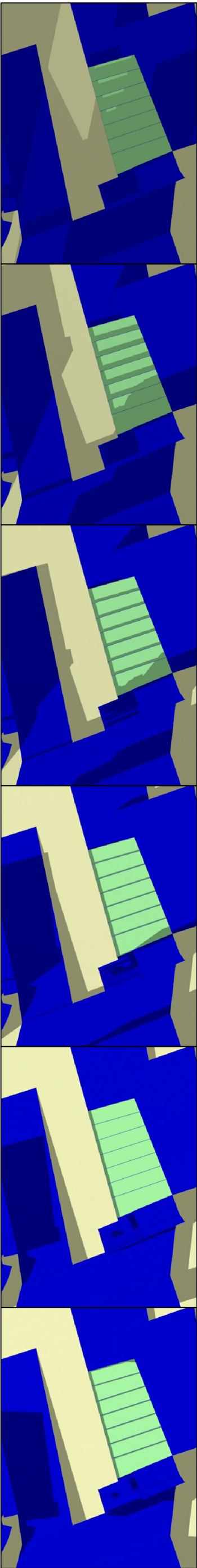
 Property Analyzed

 Elevation Analyzed

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<i>Title.</i> Daylight and Sunlight /No Skyline Results 6-10 Rosemont Road			
<i>Client.</i> Anthony Green Spencer Ltd	<i>Date</i> 24/10/12		
		<i>File Ref.</i> 0154367	<i>Scale</i> A4 @ NTS

Appendix C-Overshadowing Results

Notes



0700

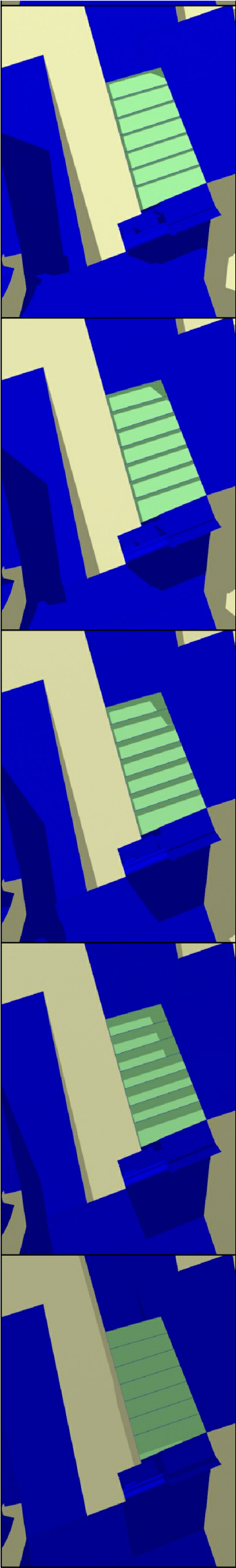
0800

0900

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1100

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1300

1400

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1600

1700

Date	Revision
Drawing No. 064374/100	
Revision	

Address.
Midland Crescent
London
NW3

Title.
Transient Overshadowing
March 21st
Existing

Client
Stadium Capital Holdings No 21,TD

Date	Drawn by	CRB	Scale	A3	©
01/11/12	File No.	064374	NTS		

Drivers Jonas Deloitte

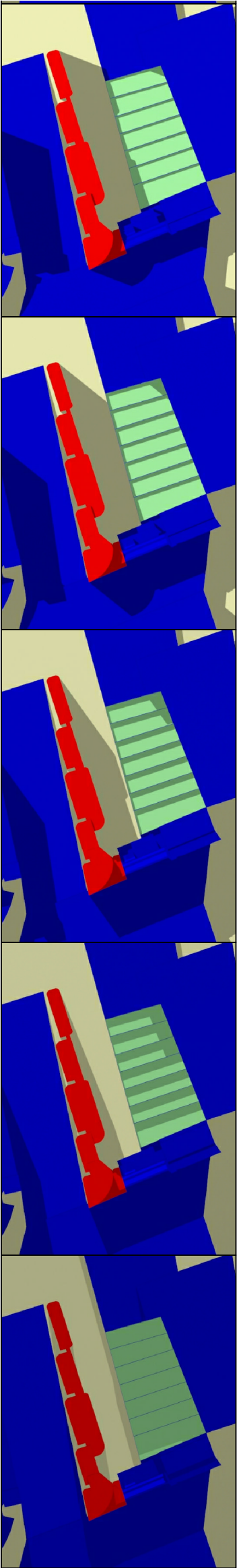
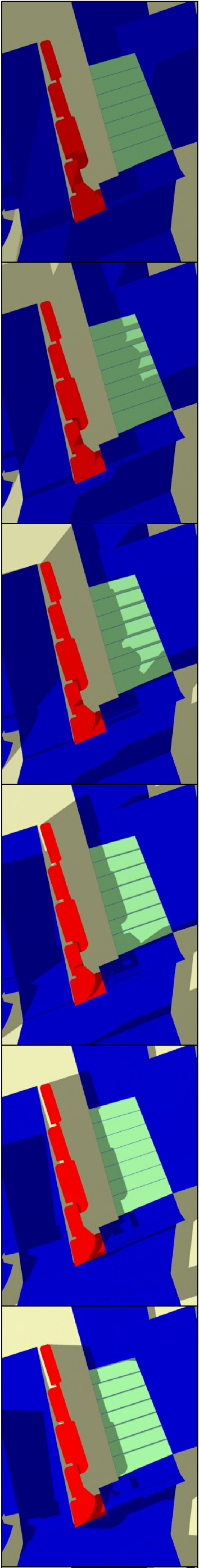
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Notes



Date	Revision
Drawing No. 064374/100	

Revision

Address.
Midland Crescent
London
NW3
Title.
Transient Overshadowing
March 21st
Proposed

Client
Stadium Capital Holdings No 21,TD

Date	Drawn by	CRB	Scale	A3	©
01/11/12	File No.	064374	NTS		

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