Land to the Rear of 12 Sarre Road, London

Daylight, Sunlight, and Overshadowing Assessment for Surrounding Properties

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Calculations are based on the drawings and information provided to us, which have been accepted in good faith as being accurate and valid. The accuracy of this information may have an impact on the daylight, sunlight, and overshadowing assessments.

We have used our best endeavours to ensure that all relevant windows within the neighbouring properties and that all external amenity spaces have been identified.

We can make no guarantee as to the status (successful/unsuccessful) of the planning application following the submission of our report.

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1.0 Executive Summary

A daylight, sunlight, and overshadowing assessment has been carried out for the surrounding properties that are adjacent to the proposed development on the land to the rear of 12 Sarre Road, London. The properties investigated under this assessment were:

- 12 Sarre Road
- 14 Sarre Road
- 16 Sarre Road

This report outlines the results of the assessment in order to assist with the developments planning application.

Calculations have been based on the drawings and information provided to us by the client / architect, internet and OS mapping sources, and publicly available planning records, which have been accepted in good faith as being accurate and valid. The accuracy of this information may have an impact on the daylight, sunlight, and overshadowing assessment.

The methodology used for this assessment follows the most recognised guidance document for daylight and sunlight within dwellings and is titled 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' *Second Edition 2011*; by Paul Littlefair and is published by the Building Research Establishment.

This report has investigated the changes in natural light received between the existing and proposed plans. The following daylight, sunlight, and overshadowing assessments have been carried out with the use of computer modelling software in order to provide the most accurate results possible.

- Vertical Sky Component (VSC)
- Annual and Winter Probable Sunlight Hours
- Overshadowing Assessment

The VSC results show that all of the surrounding windows would only be negligible impacted under the proposed scheme. As each of the VSC values are within 0.8 times of their former values the BRE guidelines regarding daylight would be satisfied.

The sunlight results show that all of the southerly facing windows would only be negligibly impacted under the proposed scheme. As each of the Annual and Winter Sunlight Hours ratios are within 0.8 times of their former values the BRE Guidelines regarding sunlight would be satisfied.

The overshadowing results show that the proposed development on the land to the rear of 12 Sarre Road will have a negligible impact on the amount of overshadowing experienced by the rear garden areas of 12, 14, and 16 Sarre Road. As each of the overshadowing ratios are within 0.8 times of their former values the BRE Guidelines regarding overshadowing would be satisfied.

As the surrounding properties windows and gardens would meet the requirements of the BRE Guide, we feel that that the proposed development on the land to the rear of 12 Sarre Road should be considered as acceptable in regards to its neighbourly impact on daylight and sunlight.

2.0 Introduction

EEABS (Elmstead Energy Assessments & Building Services) have been instructed to undertake a daylight, sunlight, and overshadowing assessment for the nearby properties of the proposed new development on the land to the rear of 12 Sarre Road, London.

There is some concern as to whether the proposed development could adversely affect the daylight and sunlight received by the adjacent property's windows at 12, 14, and 16 Sarre Road as well as the amount of overshadowing that could occur within their rear gardens.

Therefore, this report will investigate the changes in natural daylight and sunlight received between the existing and proposed plans.

The key elements of this report are:

- To review the relevant guidance and methodology with respect to daylight, sunlight, and overshadowing that relate to the development.
- Calculate the surrounding properties levels of daylight, sunlight and overshadowing for the existing scheme in accordance with standard methodology.
- Calculate the surrounding properties levels of daylight, sunlight and overshadowing for the proposed scheme in accordance with standard methodology.
- To summarise and compare the findings against regulation guidelines for daylight and sunlight of neighbouring buildings, and the overshadowing of amenity spaces.

2.1 The Site and Development Proposal

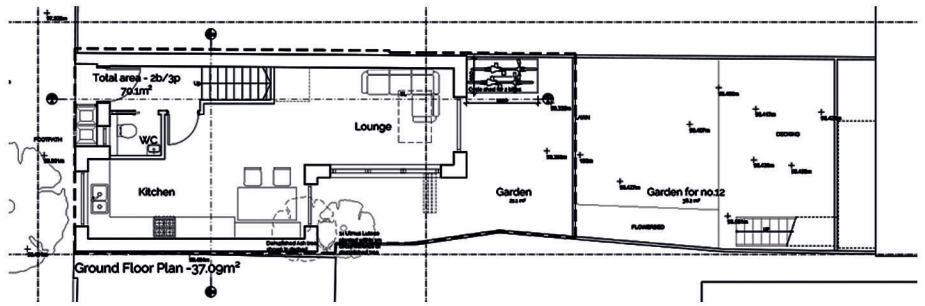
The site is located on the land to the rear of 12 Sarre Road, London and can be seen outlined in red on the Site Plan below. Also shown on the plan below is the surrounding properties that have their levels of daylight and sunlight evaluated under this assessment.

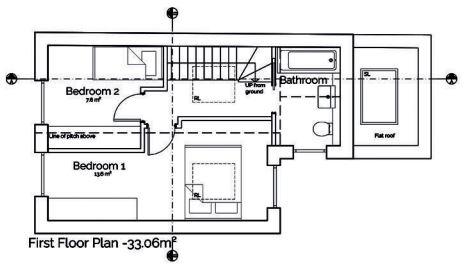
Figure 1 - Site Plan of the Land to the Rear of 12 Sarre Road, London

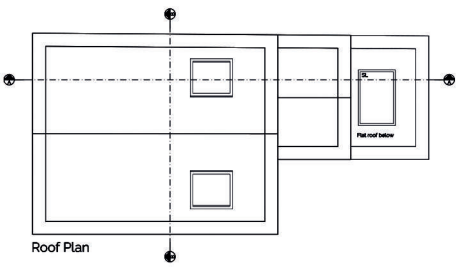
The proposal is for a new two-storey dwelling located at the rear of 12 Sarre Road, facing onto Gondar Gardens.

Existing and Proposed architectural floor plans and elevations can be seen in Figure 2.

This assessment has been based on the drawings and information provided to us by the client / architect, internet and OS mapping sources, and publicly available planning records. A drawing register can be found within Appendix A.







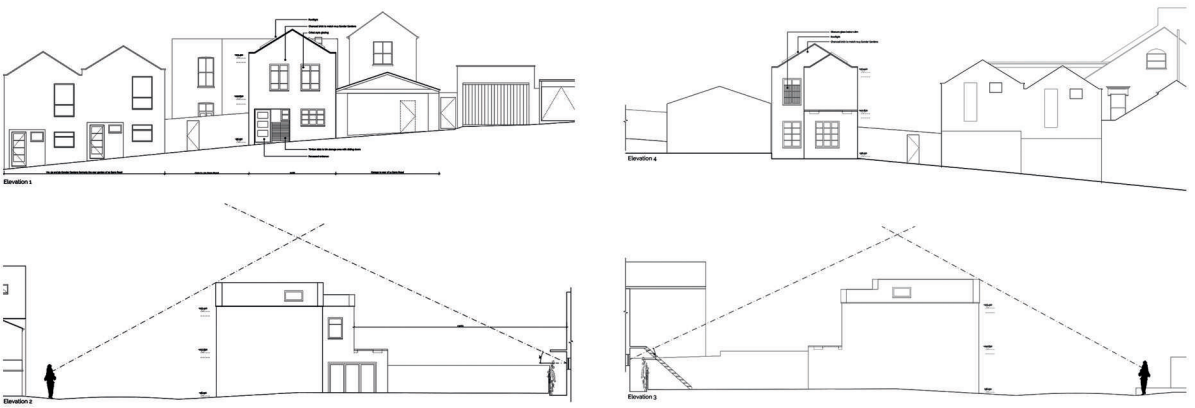


Figure 2 - Architectural Floor Plans and Elevations

2.2 Planning Policy and Guidance

The most recognised guidance document for natural light within dwellings is titled 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' *Second Edition 2011*; by Paul Littlefair and is published by the Building Research Establishment.

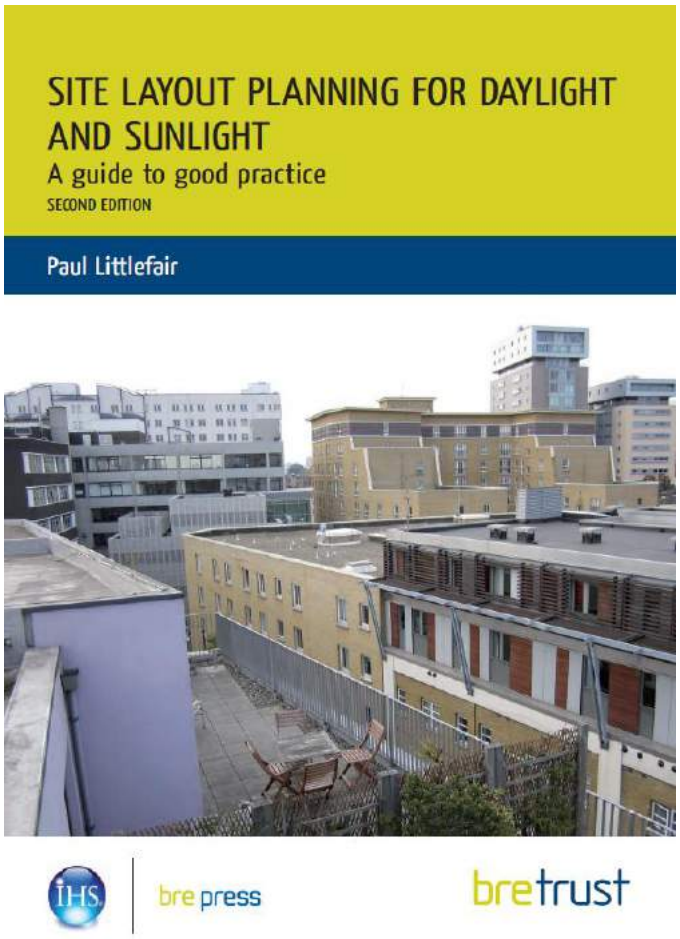


Figure 3 - BRE: Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice

Although the BRE guide clearly states that its recommendations are not mandatory and the document should not be considered as an instrument of planning policy, it can be used in conjunction with the British Standard BS 8206-2:2008, Lighting for Buildings - Part 2: Code of Practice for Daylighting.

While the BRE Guidelines are the most recognised document for natural light within dwellings they also do state that:

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values."

As the numerical values within the BRE guide are purely advisable, Appendix I of the guide provides further assistance on how to assess the impact to daylight and sunlight of the surrounding properties.

Criteria	Impact
Where the loss of skylight or sunlight fully meets the guidelines and only a small number of windows or limited area of open space lose light.	Negligible
Where the loss of skylight or sunlight is only just within the guidelines and a large number of windows or open spaces are affected. Where the loss of skylight or sunlight does not meet the guidelines but one or more of the following applies: • Only a small number of windows or limited area of open spaces are affected. • The loss of light is only just outside the guidelines. • The affected room has other sources of light. • The affected building/room or open space has a low requirement for light.	Minor Adverse
Where the loss of skylight or sunlight does not meet the guidelines and one or more of the following applies: • A large number of windows or large area of open space are affected. • The loss of light is substantially outside the guidelines. • All windows within a particular property are affected. • The affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight.	Major Adverse

The methodology and target benchmarks set out within the BRE guide have been used to assess the surrounding properties under the existing and proposed schemes.

We generally consider a value greater than 0.8 times its former value to have a Negligible impact, between 0.5 and 0.8 to have a minor impact, and a value less than 0.5 to have a major impact.

The BRE Guide states that these guidelines "*are intended for rooms in adjoining properties where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.*"

Any trees located close to proposed development have been excluded from the model as recommended by the BRE Guide, which states: "*Where the effect of a new building on existing buildings nearby is being analysed, it is usual to ignore the effect of existing trees.*"

2.3 Methodology

The following methodology and calculations set out within the BRE Guide 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' *Second Edition 2011* were used to carry out the daylight, sunlight, and overshadowing assessment for the surrounding properties of the land to the rear of 12 Sarre Road, London.

2.3.1 Daylight

Vertical Sky Component (VSC)

The Vertical Sky Component (VSC) is a ratio (expressed as a percentage) of the direct sky illuminance falling on the outside mid-point of a window, to the horizontal illuminance under a standard CIE overcast sky. For example, a window looking across an unobstructed field would achieve the highest possible value of just under 40% (39.6%).

For a window to be considered as receiving a good level of daylight, a VSC value of 27% should be achieved. However, for existing windows if the VSC value is less than 27%, then a window is still said to achieve a good level of daylight provided its VSC is within 0.8 times of its former value.

2.3.2 Sunlight

Annual and Winter Probable Sunlight Hours

To determine if an adequate amount of sunlight is achieved within a room the following criteria needs to be met. At least one main window wall should face within 90° of due south and at least one window should receive at least 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21st September and 21st March.

The term Annual probable sunlight hours means the total amount of hours during a year in which direct sunlight will reach the ground. The winter annual probable sunlight hours are the same thing but only during 21st September to 21st March.

If any of the surrounding windows that face within 90° of due south fail to meet the 25% of annual probable sunlight hours and 5% of winter sunlight hours, then they can still be said to receive a good amount of sunlight providing they are within 0.8 times of their former value and the reduction in sunlight received over the whole year is not greater than 4%.

The BRE guide states that the above guidance is to be applied for living room windows only.

2.3.3 Overshadowing

To be determined as adequately sunlit throughout the year, at least half of a garden and other similar amenity spaces should receive at least two hours of sunlight on 21st March (the Equinox).

For the existing garden or amenity spaces being calculated due to the proposed development, the results should be no less than 0.8 times of their former values in order for a loss of light to not be noticeable.

3.0 Dynamic Simulation Modelling

EDSL TAS Dynamic Simulation Modelling software was used to carry out the daylight, sunlight, and overshadowing calculations, as this can provide a more accurate means of assessment over the 'by hand' indicator method outlined within the BRE guide.

The daylight calculations are carried out under a standard CIE overcast sky. For the sunlight and overshadowing calculations, the computer model uses actual hourly weather data for the proposed location, in this instance current London TRY weather data was used.

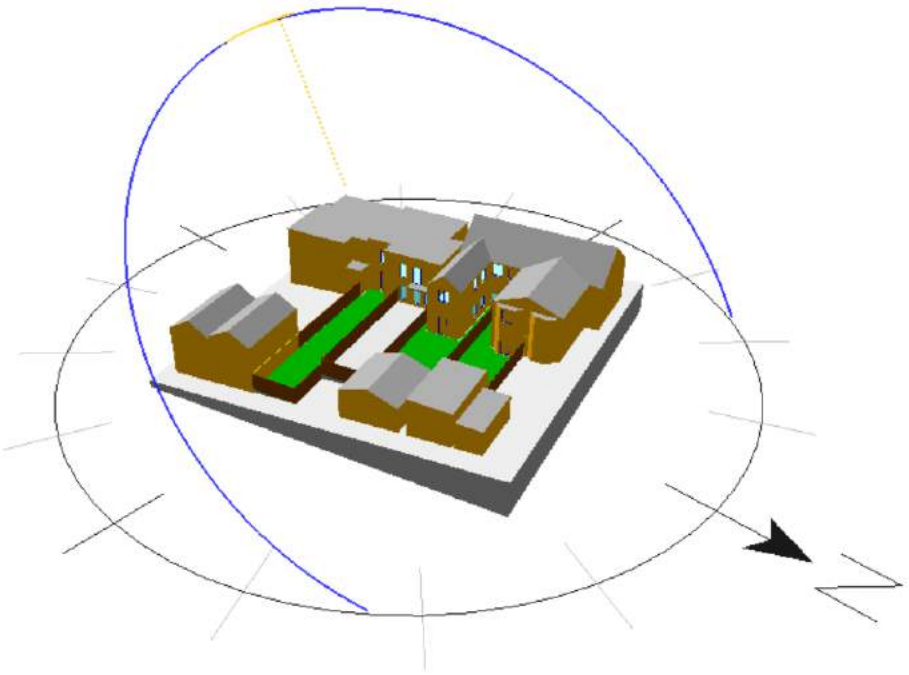


Figure 4 - EDSL TAS Computer Model of the Existing Site

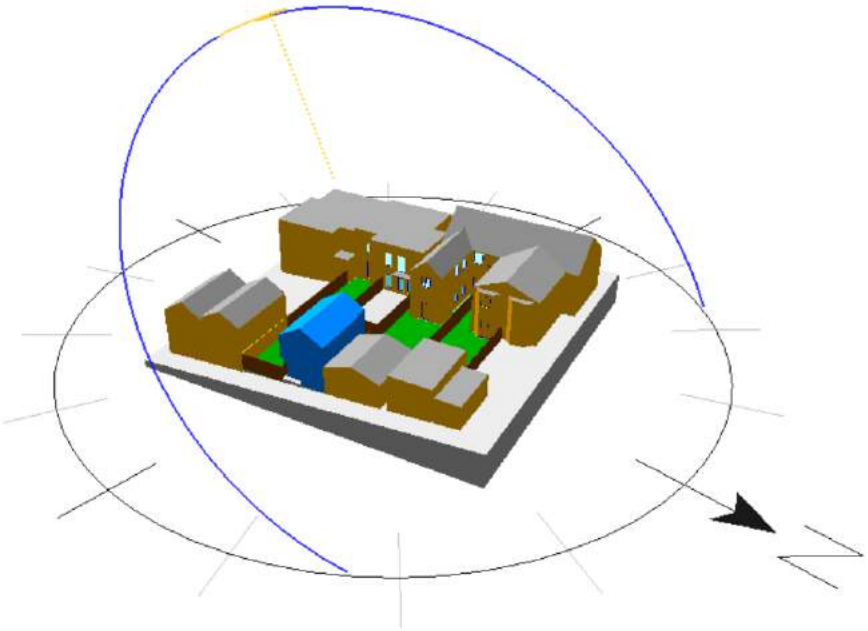


Figure 5 - EDSL TAS Computer Model of the Proposed Site

4.0 Daylight Assessment

The windows that were most likely to be affected by the proposed development have undergone the following calculations and can be found in Appendix B - Window Reference Diagrams. As mentioned previously although windows to living areas, kitchens, and bedrooms only need to be considered, all surrounding windows no matter what type of room they serve have been analysed for completeness.

4.1 Vertical Sky Component (VSC)

The VSC results calculated for the surrounding windows can be found in the table below.

Property	Win Ref	Orientation (°)	VSC Existing (%)	VSC Proposed (%)	VSC Ratio	Overall Impact
12 Sarre Road	W1	75	22.99	21.55	0.94	Negligible
	W2	75	26.07	23.96	0.92	Negligible
	W3	75	23.57	21.40	0.91	Negligible
	W4	75	19.73	17.61	0.89	Negligible
	W5	75	29.29	28.74	0.98	Negligible
	W6	75	36.81	36.09	0.98	Negligible
	W7	75	35.05	34.18	0.98	Negligible
14 Sarre Road	W1	75	32.53	30.13	0.93	Negligible
	W2	345	13.00	13.00	1.00	Negligible
	W3	345	10.25	10.25	1.00	Negligible
	W4	75	13.10	13.10	1.00	Negligible
	W5	75	38.94	38.45	0.99	Negligible
	W6	345	29.89	29.89	1.00	Negligible
	W7	345	28.56	28.56	1.00	Negligible
	W8	75	28.08	28.08	1.00	Negligible
16 Sarre Road	W1	75	31.21	30.65	0.98	Negligible
	W2	165	8.64	8.62	1.00	Negligible
	W3	165	8.47	8.42	0.99	Negligible
	W4	75	12.98	12.98	1.00	Negligible
	W5	75	38.94	38.68	0.99	Negligible
	W6	165	27.66	27.53	1.00	Negligible
	W7	165	26.12	26.08	1.00	Negligible
	W8	165	22.06	22.04	1.00	Negligible
	W9	75	28.07	28.07	1.00	Negligible

The VSC results show that all of the surrounding windows would only be negligible impacted under the proposed scheme. As each of the VSC values are within 0.8 times of their former values the BRE guidelines regarding daylight would be satisfied.

5.0 Sunlight Assessment

5.1 Annual and Winter Probable Sunlight Hours

Only living room windows within 90° of due south need to have the amount of sunlight they can receive assessed (Due south is taken as 180°, therefore a windows orientation should be between 90° and 270° to be assessed). The orientation of each of the windows can be seen within the VSC results.

Property	Win Ref	APSH Ext (%)	APSH Pro (%)	Ratio	Overall Impact	WPSH Ext (%)	WPSH Pro (%)	Ratio	Overall Impact
16 Sarre Road	W2	23	23	1.00	Negligible	0	0	N/A	Negligible
	W3	23	23	1.00	Negligible	0	0	N/A	Negligible
	W6	65	64	0.98	Negligible	13	13	1.00	Negligible
	W7	60	60	1.00	Negligible	10	10	1.00	Negligible
	W8	47	47	1.00	Negligible	8	8	1.00	Negligible

The sunlight results show that all of the southerly facing windows would only be negligibly impacted under the proposed scheme. As each of the Annual and Winter Sunlight Hours ratios are within 0.8 times of their former values the BRE Guidelines regarding sunlight would be satisfied.

6.0 Overshadowing Assessment

The rear garden areas to 12, 14, and 16 Sarre Road have also had their levels of overshadowing assessed. The lit area is the area of the zone that receives at least 2 hours of sunlight on the 21st of March.

Amenity Space	Area (m^2)	Lit Area - Existing (m^2)	Lit Area - Proposed (m^2)	Ratio	Overall Impact
12 Sarre Road – Rear Garden	115.89	59.70	59.70	1.00	Negligible
14 Sarre Road – Rear Garden	78.29	43.47	42.99	0.99	Negligible
16 Sarre Road – Rear Garden	65.73	28.93	28.93	1.00	Negligible

The overshadowing results show that the proposed development on the land to the rear of 12 Sarre Road will have a negligible impact on the amount of overshadowing experienced by the rear garden areas of 12, 14, and 16 Sarre Road. As each of the overshadowing ratios are within 0.8 times of their former values the BRE Guidelines regarding overshadowing would be satisfied.

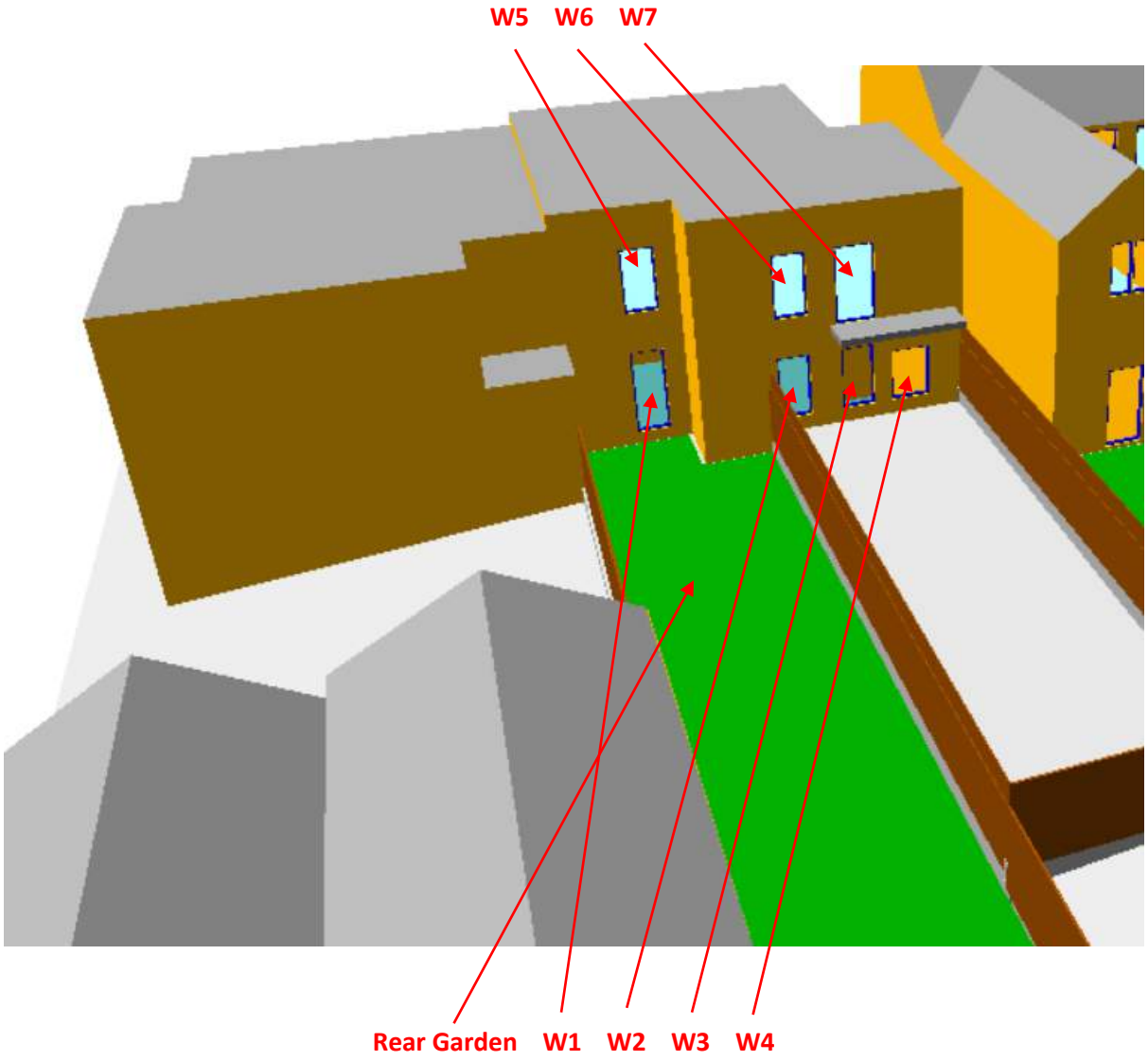
Shadow cast images comparing the existing and proposed schemes at different times throughout the day on the March 21st Equinox can be found within Appendix C.

Appendix A - Drawing Register

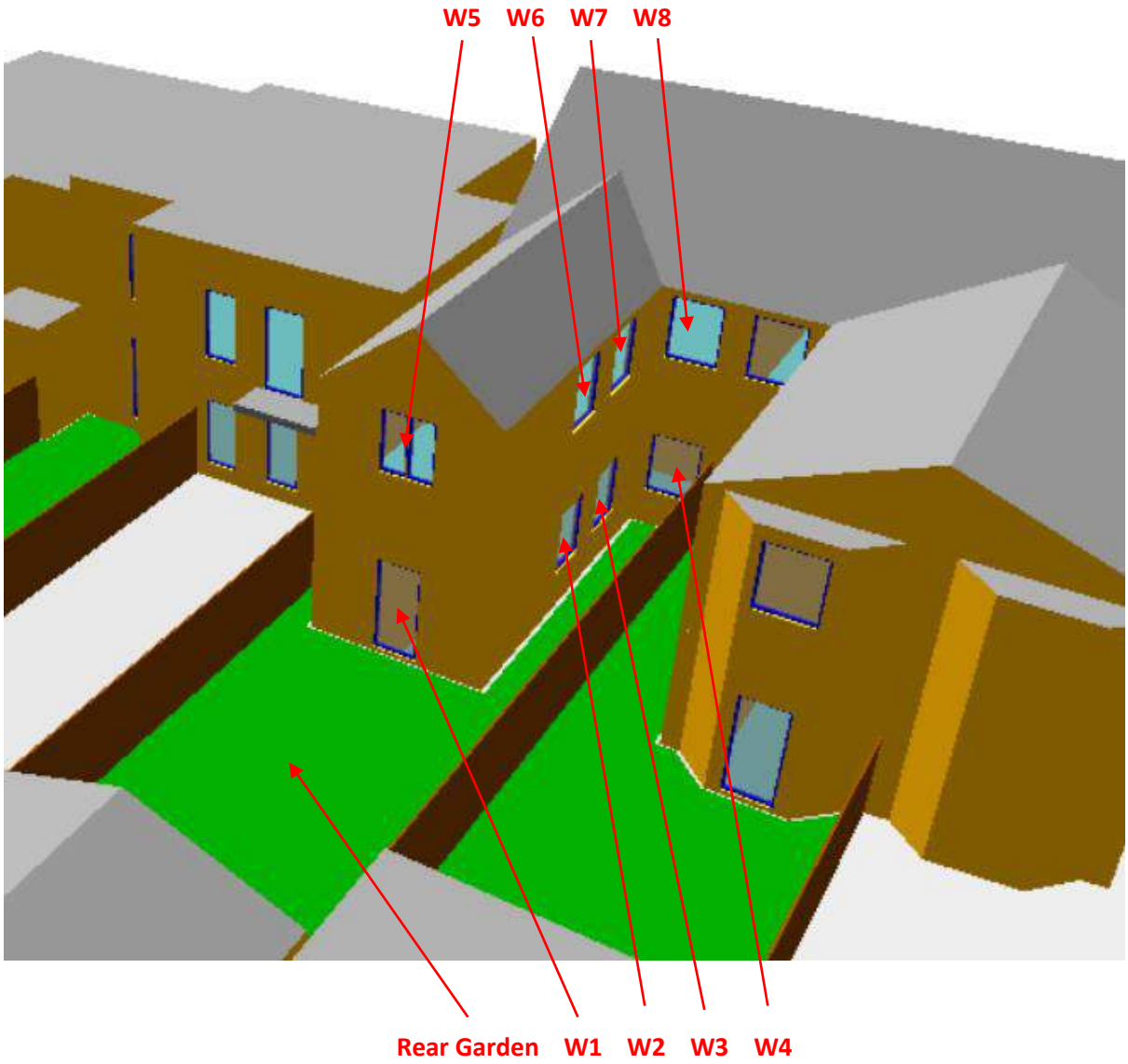
Drawing No.	Drawing Title/Information Received
001	Location Plan - Existing
100	Location Plan - Proposed
122	Site Plan and Ground Floor Plan
123	First Floor Plan and Roof Plan
132	Elevation 1 and 2
133	Elevation 3 and 4
141	Sections AA and BB
-	Various Site Photographs
-	Planning Record Drawings for 12 Sarre Road
-	Planning Record Drawings for 14 Sarre Road
-	Planning Record Drawings for 18 Sarre Road (16 Sarre Road is assumed to be a mirror)

Appendix B - Window Reference Diagrams

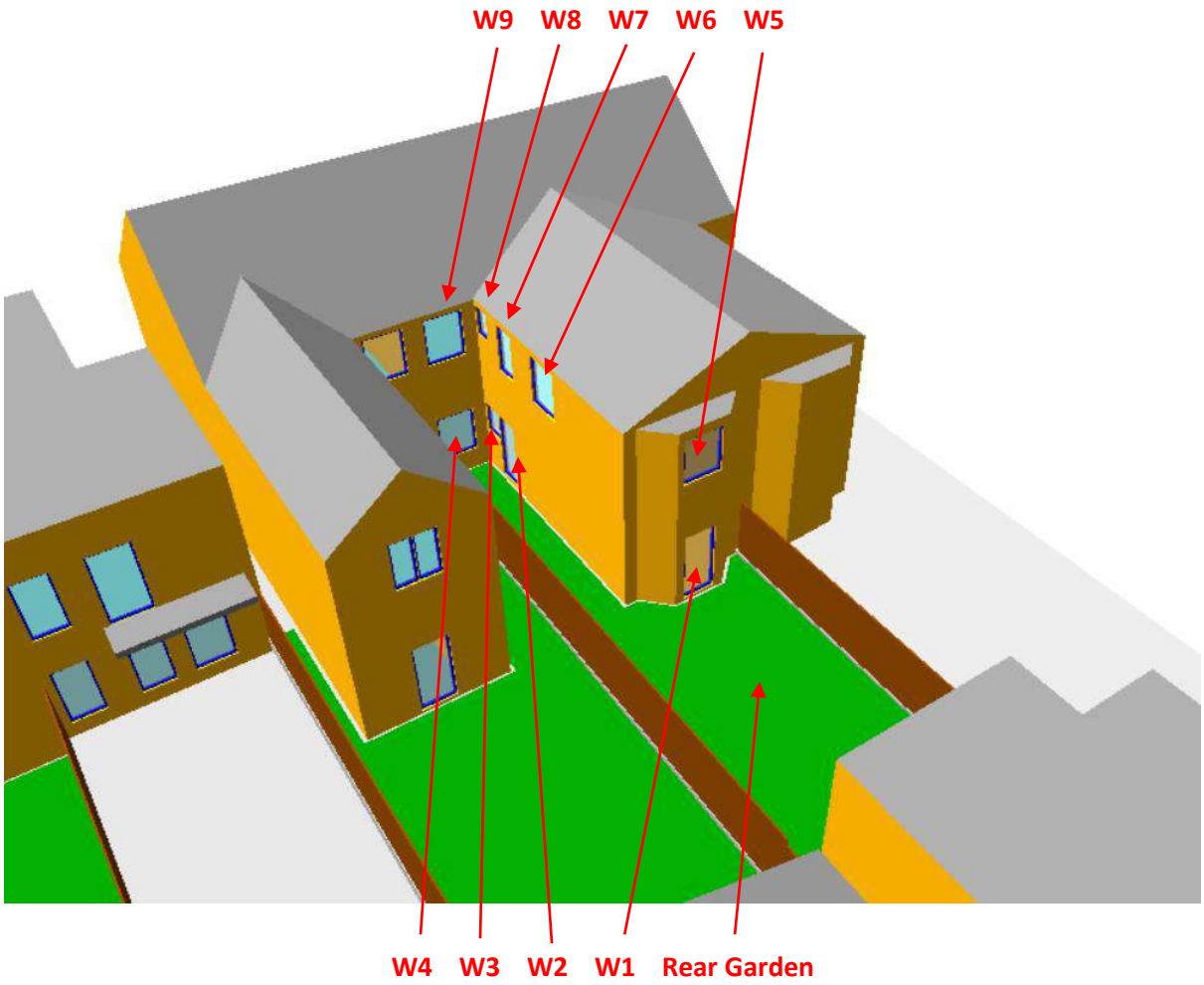
12 Sarre Road



14 Sarre Road

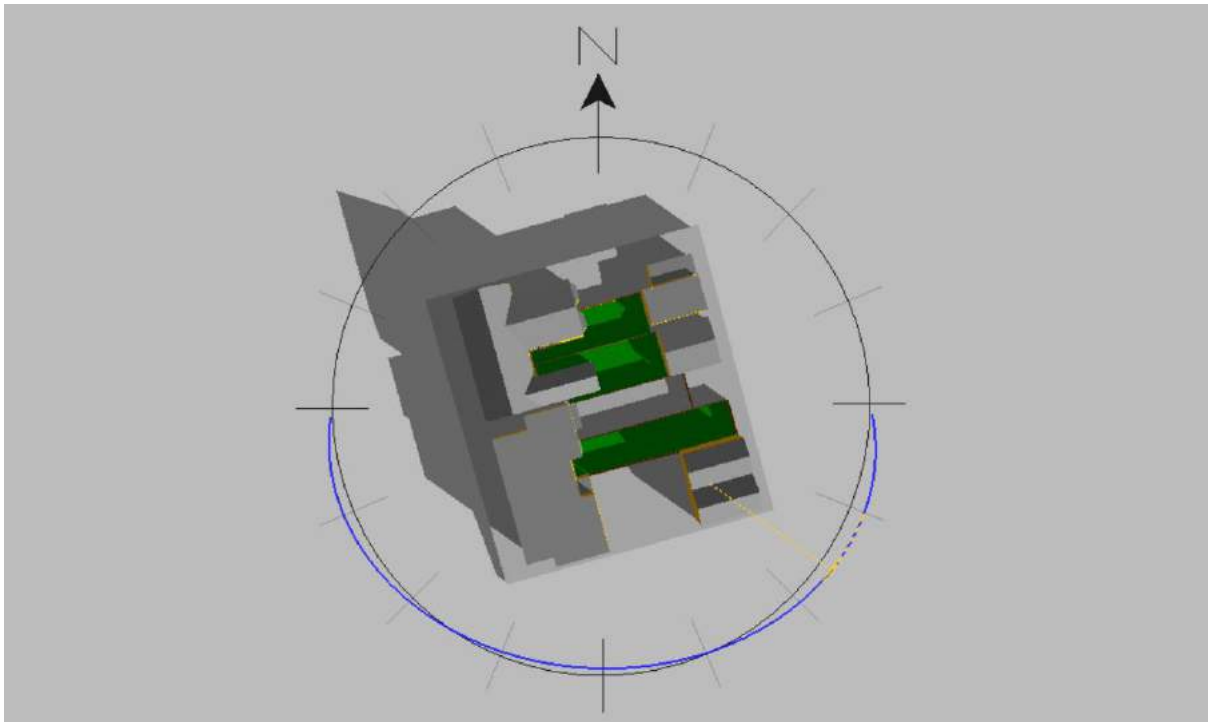


16 Sarre Road

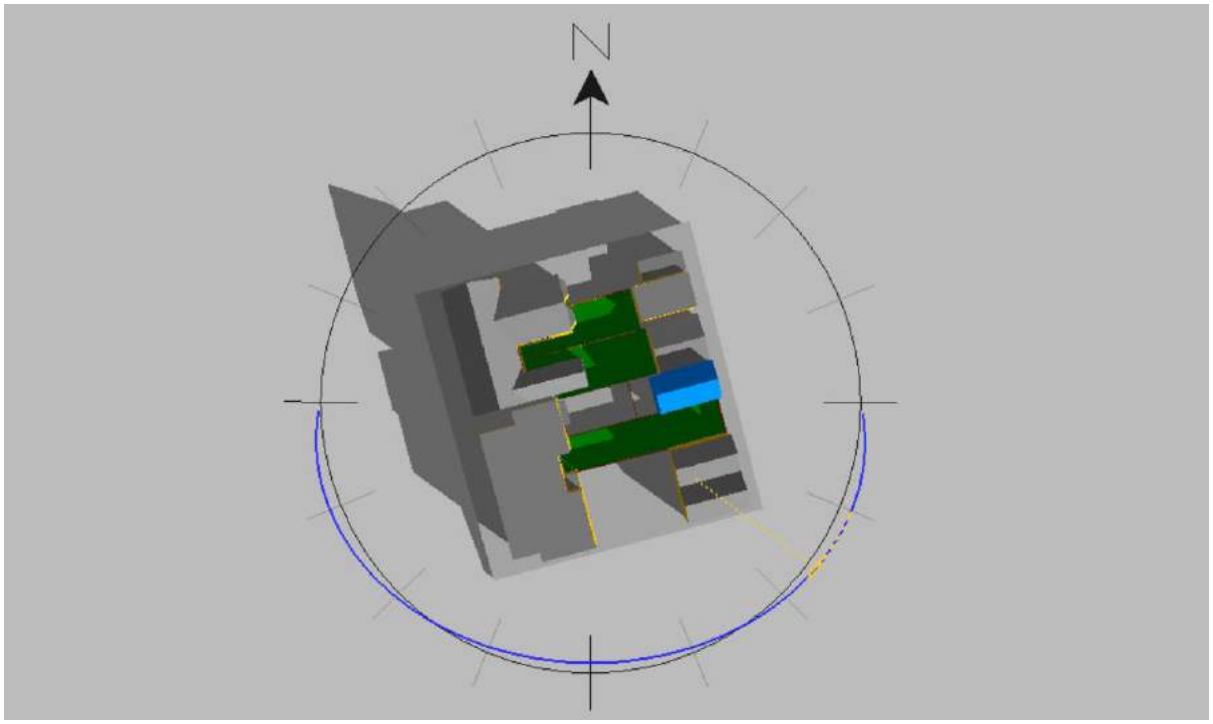


Appendix C - Overshadowing Assessment Shadow Castings

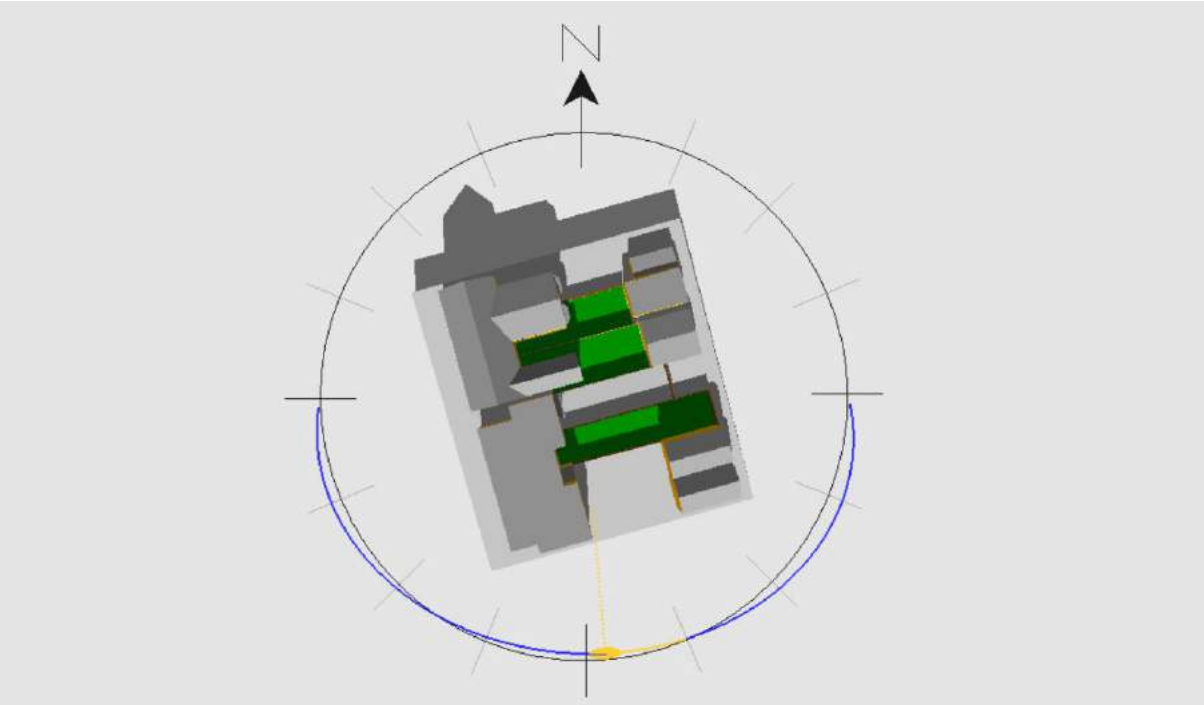
Existing Site - 09:00 March 21st



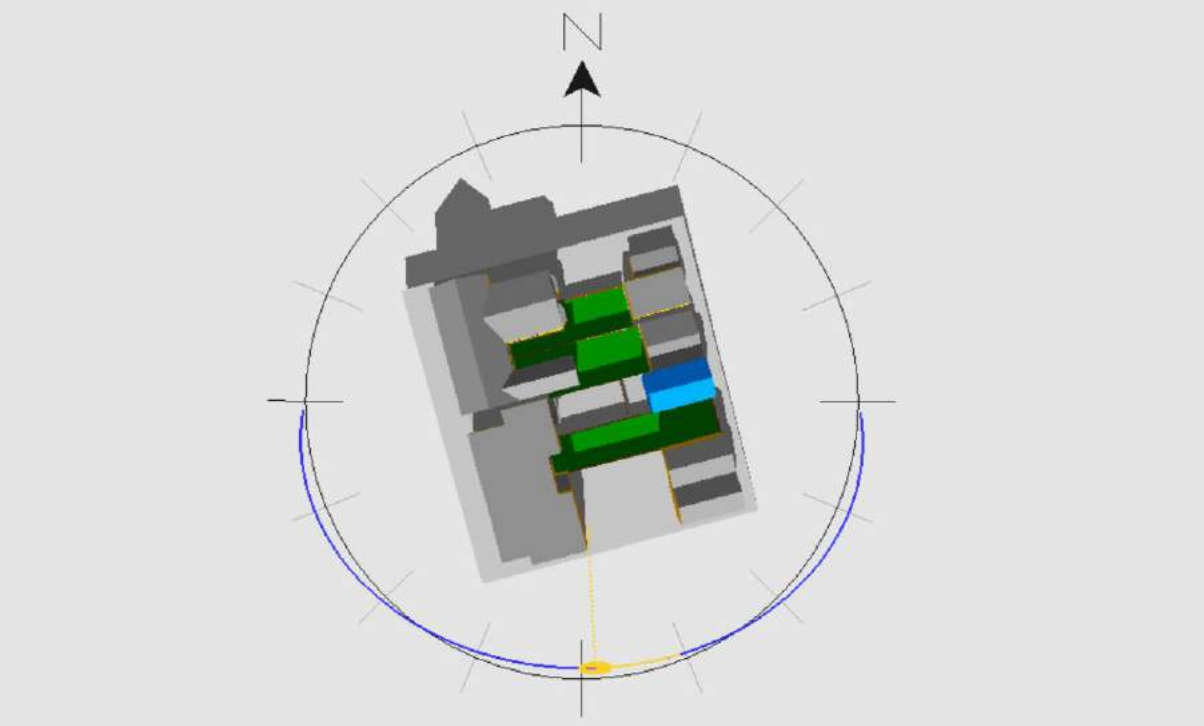
Proposed Site - 09:00 March 21st



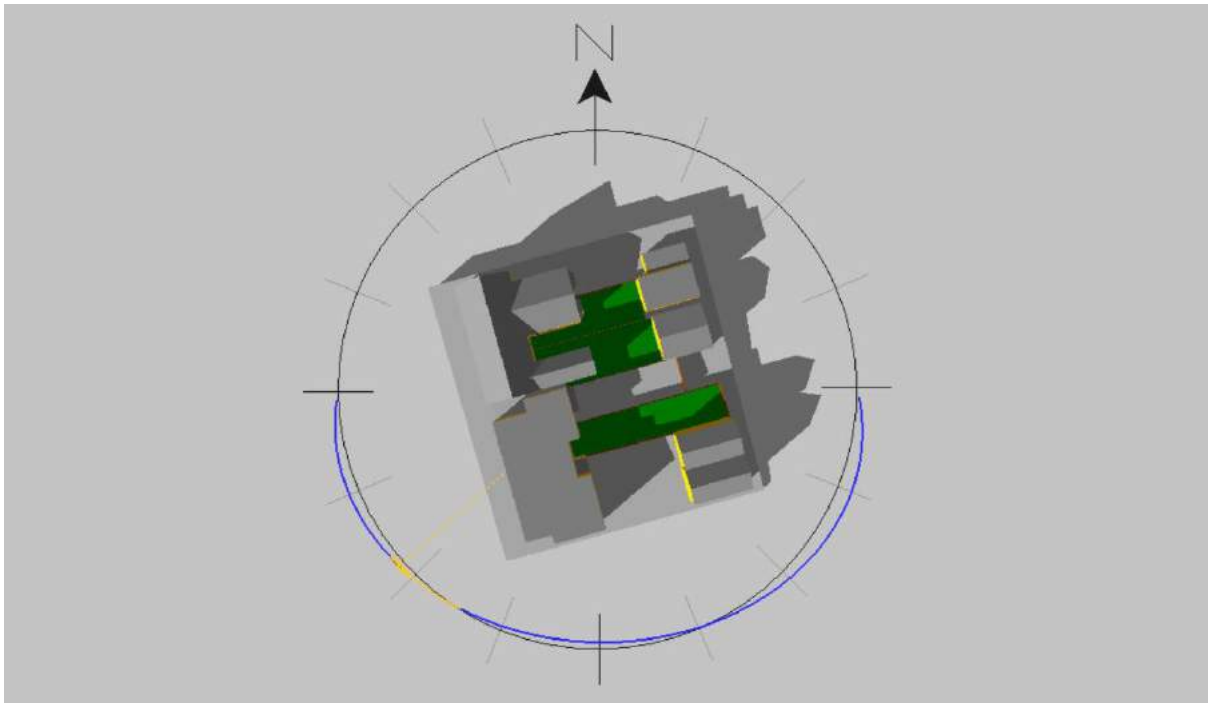
Existing Site - 12:00 March 21st



Proposed Site - 12:00 March 21st



Existing Site - 15:00 March 21st



Proposed Site - 15:00 March 21st