

Daylight, Sunlight and Overshadowing Report

7 BIRCHWOOD GHARDENS, HEDGE END

TOBY LYONS



Rogan-Lyons Ltd

Executive Summary

Daylight, sunlight and overshadowing studies have been undertaken for the proposed development for land at 7 Birchwood Gardens, Hedge End, Southampton SO30 2AR. The studies have been undertaken using the guidance contained within BRE Report 209¹ for the proposed habitable spaces and associated open space.

Review of the neighbouring residential properties shows that they are of sufficient distance or orientation to comply with the BRE Report initial guidance and that detailed studies are not required.

The purpose of the studies was to understand the potential effects of the existing trees on natural light for the future occupants.

The studies show that all rooms requiring study and the external amenity space associated with the proposed development will achieve appropriate levels of natural light.

Report compiled by:

*Toby Rogan-Lyons
Director
Rogan-Lyons Ltd*

Date: 17 November 25

¹ Site layout planning for daylight and sunlight: A guide to good practice (2022)

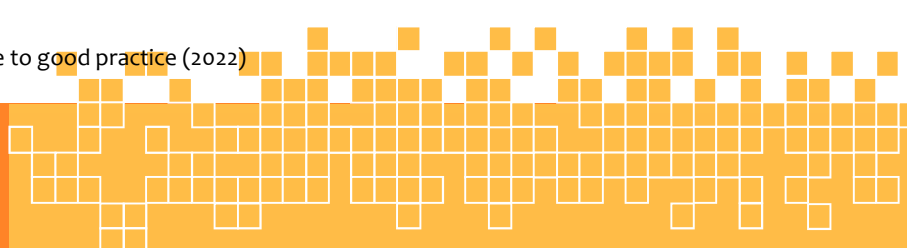


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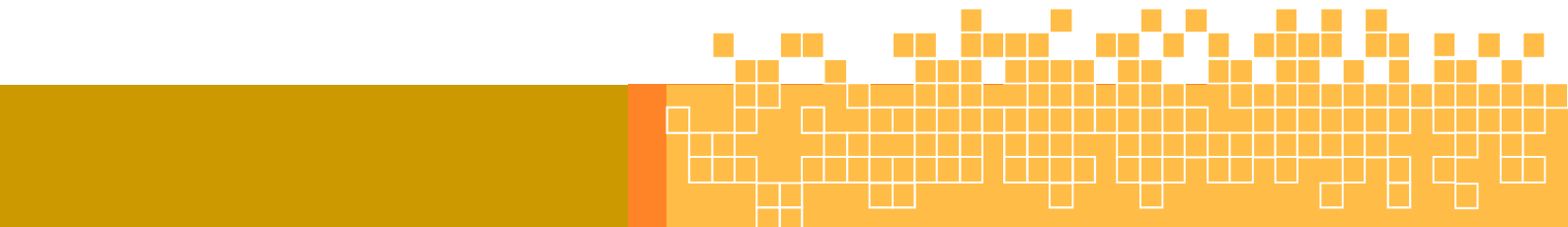
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Introduction

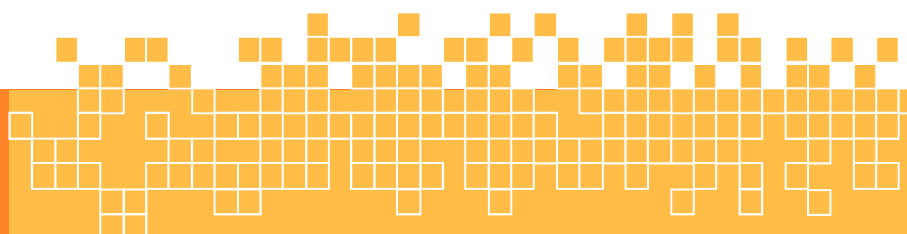
Rogan-Lyons Ltd have been commissioned by Home Living Housing to undertake daylight, sunlight and overshadowing assessments of the proposed development at Land adjacent to 7 Birchwood Gardens, Hedge End, SO30 2AR. Assessments have used the guidance contained in BRE Report 209 (Site layout planning for daylight and sunlight: A guide to good practice. (2022)).

The site is currently undeveloped but does include and is neighboured by substantial established trees. The trees will remain post development and the design team expressed concerns regarding the availability of natural light for future occupants.

Assessments have been undertaken using the following information:

- Proposed development plans and elevations provided by V&L Architects,
- Site topographical data,
- Site photographs,
- OS Mapping Data

The studies discussed in this report are supported by the data and imagery provided in Appendices 3 to 6. Relevant policy and methodologies are discussed in Appendices 1 and 2.



Assessment

Following initial non-technical review, the guidance contained in the BRE Report was applied to our purpose-built computer-based 3D modelling. The purpose of testing was to determine natural light effects on neighbouring properties and establish the natural light amenity for future residents.

Concerns were raised by the design team regarding the potential effects of the existing trees on natural light amenity within and surrounding the proposed development. The site, surrounding properties and the trees have been modelled and effects assessed using the MBS Daylight software within AutoCAD.

Neighbouring Properties

Application of the BRE Report guidance, discussed in paragraphs 2.2.4, 2.2.5 and 3.2.2 of the report, shows that none of the neighbouring properties are close enough or orientated in such a way, that detailed testing is required. As such, as discussed in the BRE Report, the proposed development will not have a detrimental natural light impact on neighbouring residential properties.

Proposed Development

The site and surrounding properties have been modelled along with the existing trees. The modelling is shown in the drawings with Appendix 3 of this report. To compensate for the seasonal effects of the trees analysis with and without leaf cover has been undertaken. The following values have been used in the assessments discussed below:

Element	Reflectance	Transmittance / transparency	Other
Trees (Oak)	20% Summer, 10% Winter	20% Full Leaf, 55% Bare Branch	-
External and neighbouring walls	30% (equivalent to red brick)	-	-
Terrain	20% (Equivalent to grass)	-	-
Internal ceilings	80% (white paint)	-	-
Internal walls	70% (white paint with modest obstruction)	-	-
Internal floors	40% (light carpet or laminate)	-	-
Glazing	-	68% (Diffuse transmittance)	0.8 frame correction factor, 0.92 maintenance factor

Daylight and Sunlight

Daylight and sunlight within the property have been tested using the Daylight Factor and Sunlight Exposure methods discussed in Appendix 2 of this report.

Annex NA discusses targets to be applied for 'hard to light' dwellings which include those where existing trees may obscure good natural light. The targets applicable are:

- bedrooms to see a Median Daylight Factor of at least 0.7%, and
- areas inclusive of a kitchen to see a Median Daylight Factor of 1.4%.

Following the guidance within paragraph G2.8 of the BRE Report, Daylight Factor testing has been undertaken for both a trees in full leaf scenario and a trees in bare branch scenario. The assessments show that all rooms, 2 bedrooms and a combined Living, Kitchen and Dining (LKD) room, will see full compliance during the winter months.

For the summer months, when the trees are in full leaf, the LKD will maintain compliance. The bedrooms will see a modest effect achieving Median Daylight Factors of 0.5% and 0.6%, marginally below the 0.7% guidance.

As discussed in the BRE Report, for rooms exceeding the recommendation in winter but falling below in summer daylight year round is likely to be adequate. Given that the main habitable space (LKD) meets the guidance in both winter and summer and the bedrooms see only a marginal transgression during the summer months, we consider the overall unit compliance to meet expectations.

					Full Leaf		Bare Branch	
Floor Ref	Room Ref	Room Use	Room Area m2	Effective Area	Median DF	Meets Criteria	Median DF	Meets Criteria
Ground	R1	Bedroom	15.01	10.67	0.50%	NO	0.80%	YES
	R2	Bedroom	15.01	10.67	0.60%	NO	0.80%	YES
	R3	LKD	29.20	22.72	1.80%	YES	2.40%	YES

Daylight Factor Results Table (Bare Branch and Full Leaf)

For sunlight the test date of 21 March was applied and the trees were modelled as having full leaf cover. The BRE Report guidance states that as a minimum, rooms, preferably the main living space, should see 1.5 hours of sunlight access on the test date.

The assessments show that whilst there is a reduction in sunlight access with the trees in full leaf all rooms will comply with the BRE Report guidelines for both scenarios. As such, we consider sunlight amenity to exceed expectations.

Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Rating
R1	Bedroom	W1	292°N	1.9	Minimum
				1.9	
R2	Bedroom	W2	292°N	1.7	Minimum
				1.7	
R3	LKD	W3	202°	3	
		W4	112°	1.1	
		W5	112°	1.4	
		W6	112°	1.9	
		W7	112°	2.3	
				4.9	High

Sunlight Exposure Results Table (trees in full leaf)

Overshadowing

When discussing sunlight to gardens and the effects of trees, the BRE Report (section G4) notes that the dappled shade provided is more pleasant than shading by buildings. The BRE Report goes on to discuss that most people are satisfied with some areas of partial shade and other areas of the garden in full sun.

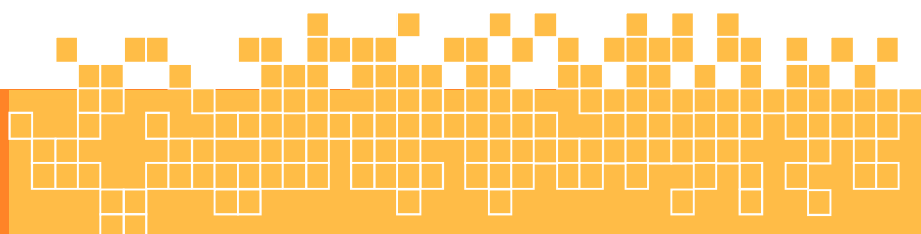
Overshadowing analysis is undertaken for the 21 March as this provides a yearly average. However, additional months can also be tested, particularly if usage is likely to increase during those periods. For completeness we have assessed shadowing using the 21 March (bare branch and full leaf) 21 June (full leaf) and 21 December (bare branch). The shading effect of the trees in March is difficult to assess completely as trees are not yet in full leaf but are not completely bare of leaf either.

		21 March Bare Branch		21 March Full Leaf		21 December Bare Branch		21 June Full Leaf	
	Amenity Area	Lit Area Proposed	Meets BRE Criteria	Lit Area Proposed	Meets BRE Criteria	Lit Area Proposed	Meets BRE Criteria	Lit Area Proposed	Meets BRE Criteria
Area m2	194.97	131.74	YES	68.89	NO	25.94	NO	134.78	YES
Percentage		68%		35%		13%		69%	

Overshadowing Results Table

As shown in the sun on ground imagery appended to this report, whilst some restriction to sunlight access is noted in March, assuming trees are in full leaf, a significant proportion of the space will see at least 2 hours of sunlight. The summer assessment shows full compliance with the BRE Report guidance targets.

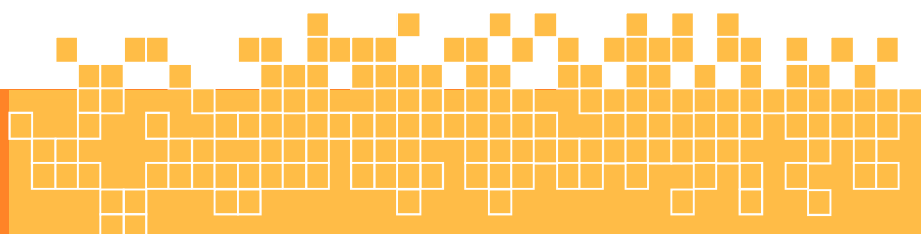
The sun-on-ground studies show that, whilst below the 2 hours guidance, a significant area of the space will still see good (i.e., above 60 minutes) sunlight access. Given that the March testing shows that even with the trees considered in full leaf, significant sunlight access is achieved, we consider sunlight amenity to the garden to meet expectations.



Conclusions

Analysis of the proposed development's habitable spaces shows that daylight and sunlight amenity will be appropriate for the accommodation type and its location. Whilst some restrictions to daylight are noted for the bedrooms in the summer months the main living space will achieve good daylight all year. Sunlight assessment of the amenity space shows that the area will see areas of dappled shade and areas with full sunlight access.

Overall, we consider the daylight and sunlight amenity of the proposed development to meet the expectations inherent in the BRE Report guidance, National Policy and Local Policy/Supplemental Guidance.



Appendix 1: Planning Policy



National Policy

The National Planning Policy Framework (NPPF) (Dec 2024) sets out national planning policies and how they should be applied. In relation to daylight, sunlight and overshadowing, the NPPF promotes flexibility:

“local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)”.

National Planning Policy Guidance (NPPG) (Oct 2019) provides that:

“All developments should maintain acceptable living standards. What this means in practice, in relation to assessing appropriate levels of sunlight and daylight, will depend to some extent on the context for the development as well as its detailed design. For example in areas of high density historic buildings, or city centre locations where tall modern buildings predominate, lower daylight and daylight and sunlight levels at some windows may be unavoidable if new developments are to be in keeping with the general form of their surroundings.

In such situations good design (such as giving careful consideration to a building’s massing and layout of habitable rooms) will be necessary to help make the best use of the site and maintain acceptable living standards.”

Local Planning Policy

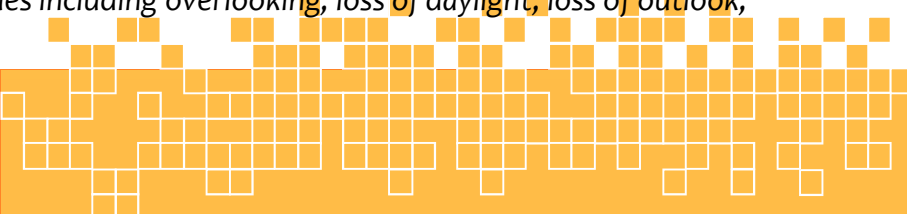
The Eastleigh Borough Council Local Plan (adopted April 2022) and Supplementary Planning Documents (SPD) contain numerous references to daylight and sunlight.

Policy DM 1, General criteria for new development, provides that:

“All new development should (as relevant): a) not have an unacceptable impact on, and where possible should enhance: i. residential amenities for both new and existing residents...”

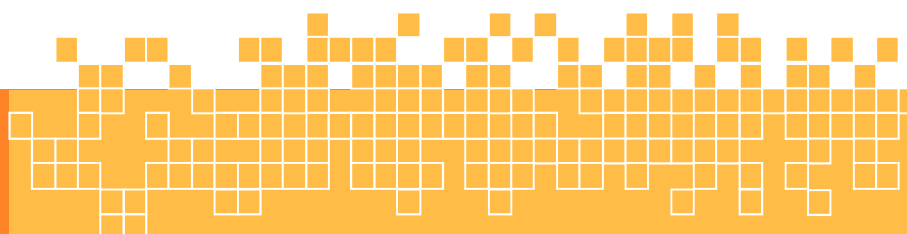
Paragraph 5.5 expands this and states:

“New development will be assessed to consider its impact on residential amenity. This covers the amenity of existing residents living at or near the development and also the amenity of new residents. Residential amenity covers a variety of issues including overlooking, loss of daylight, loss of outlook,



noise, fumes and dust and the impact of floodlighting and security lighting. It includes the design of garden space and parking arrangements in addition to building design.”

The Quality Places SPD contains guidance on the expectations and suggested methods for determining the effects of proposed development on neighbouring properties and expectations for future residents. The SPD also suggests that the guidance given in BRE Report 209 should be applied.



Appendix 2: Non-Statutory Guidance



British Research Establishment Report 209 Site Planning for Daylight and Sunlight, a guide to good practice (Third Edition 2022) (the ‘BRE Report’)

The BRE Report’s introduction emphasizes that its purpose is to offer guidance rather than serve as formal planning policy. It highlights that the numerical recommendations within the report should be applied with flexibility, acknowledging that various factors influence site layout decisions. For example, in historic city centres or areas with tall modern buildings, greater levels of obstruction may be unavoidable to ensure new developments are consistent with the surrounding built environment. This flexible approach is reinforced throughout the report’s introduction:

‘The advice given here is not mandatory and this document should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design...’ (page 7, paragraph 1.6)

‘In special circumstances the Developer or Planning Authority may wish to use different target values.’ (page 7, paragraph 1.6)

‘Note that numerical values given here are purely advisory. Different criteria may be used, based upon the requirements for daylighting in an area viewed against other site layout constraints. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light.’ (page 14 paragraph 2.2.3)

The guidance provided in the BRE Report is applicable to suburban, urban, and rural environments. Applying these recommendations too rigidly in suburban and urban contexts may hinder certain developments, especially where expectations for natural light are lower. The BRE Report highlights the importance of daylight and sunlight for residential properties, as well as for other buildings where natural light is considered beneficial, such as hospitals, hotels, and schools.

Neighbouring Properties

As a first measure the BRE Report states that:

“If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building from the centre of the lowest window, subtends an angle of more than 25 degrees to the horizontal, then the diffuse daylighting of the existing building may be adversely affected.” (page 18 paragraph 2.2.23)

The BRE Report discusses two tests that should be applied where the 25° line test suggests natural light of neighbouring existing buildings may be affected. The first test applied is the Vertical Sky Component (VSC) method of assessment. VSC calculates the amount of skylight available on a vertical wall or at the centre of a window. The analysis provides the ratio of the skylight available on a horizontal plane to that available on a vertical plane both planes are placed about the centre of the test point. Neighbouring buildings and other obstructions hinder skylight and comparison between the available daylight before and after a building is created can be calculated. The CIE ‘standard overcast sky’ is used and the ratio between the two is provided as a percentage. The maximum VSC value is slightly below 40% for an unobstructed vertical test point.

VSC assesses skylight amenity striking the exterior of a property and assumes that good daylight will be achieved given good skylight access, conventional window design and standard room depths. The BRE Report suggests an additional test is applied where the interior layouts of the test property are known. The effect of a development on the distribution of daylight (DD) within a property can be found by plotting the no sky lines in both the current and proposed conditions. The no sky line test measures the distribution of daylight over a working plane (0.85m above floor level) within the test room. The test determines the area of the working plane where there is no direct access to skylight.

Regarding direct daylight within a room, No Sky Line or Daylight Distribution (DD), paragraph 2.2.11 of the BRE Report states:

“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 0.80 times its former value this will be noticeable to the occupants, and more of the room will appear poorly lit. This is also true if the no sky line encroaches on key areas like kitchen sinks and worktops.”

The diffuse daylighting of an existing building may be adversely affected if either:

“the vertical sky component [‘VSC’] measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value; or the area of the working plane (0.85m above floor level in residential properties) in a room which can receive direct skylight is reduced to less than 0.8 times its former value.”

The BRE Report provides guidance in relation to existing windows with balconies or protrusions/overhangs where daylight could be affected:

“Existing windows with balconies above them typically receive less daylight. Because the balcony cuts out light from the top part of the sky, even a modest obstruction may result in a large relative impact on the VSC, and on the area receiving direct skylight. One way to demonstrate this would be to carry out an additional calculation of the VSC and area receiving direct skylight, for both the existing and proposed situations, without the balcony in place. For example, if the proposed VSC with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of light.” (paragraph 2.2.13)

“A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it, or is recessed into the building so that it is obstructed on both sides as well as above.” (paragraph 2.2.14)

Access to sunlight for existing buildings and any non-domestic buildings where there is a particular requirement for sunlight should be protected. The BRE Report discusses sunlight expectations being restricted to windows that face within 90 degrees of due south, windows facing principally north will see sunlight access restricted to the very early morning and late afternoon/evening when the sun is close to the horizon. In summary:

“... If a living room of an existing dwelling has a main window facing within 90 degrees of due south, and any part of a new development subtends an angle of more than 25 degrees to the horizontal measured

from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- receives less than 25% of annual probable sunlight hours and less than 0.80 times its former annual value; or less than 5% of annual probable sunlight hours between 21 September and 21 March and
- and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.”

Additionally, the BRE Report states:

“...It is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within ninety-degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. In non-domestic buildings any spaces which are deemed to have a special requirement for sunlight should be checked; they will normally face within ninety-degrees of due south anyway.” (Paragraph 3.2.3)”

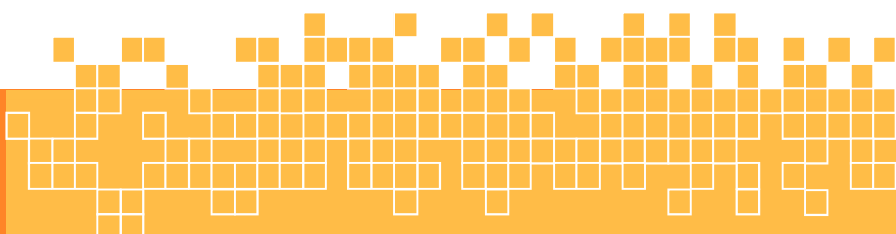
Balconies and overhangs can affect natural light amenity. The BRE Report provides the following guidance:

“Balconies and overhangs above an existing window tend to block sunlight, especially in summer. Even a modest obstruction may result in a large relative impact on the sunlight received. One way to demonstrate this would be to carry out an additional calculation of the APSH, for both the existing and proposed situations, without the balcony in place. For example, if the proposed APSH with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of sunlight.” (Paragraph 3.2.11)

Section 3.3 of the BRE Report gives the following guidelines for protecting sunlight within open spaces where a requirement has been identified:

- “gardens, such as the main back garden of a house or communal gardens including courtyards and roof terraces
- parks and playing fields
- children’s playgrounds
- outdoor swimming pools and paddling pools, and other areas of recreational water such as marinas and boating lakes (the daylight and sunlight effects on permanent residential moorings may be assessed using the methods in sections 2.2 and 3.2)
- sitting out areas such as those between nondomestic buildings and in public squares nature reserves (which may have special requirements for sunlight if rare plants are growing there).”

In summary:



“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 2 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 2 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 2 hours of sunlight on 21 March.”

The BRE Report also recommends:

“Where there are existing buildings as well as the proposed one, ‘before’ and ‘after’ shadow plots showing the difference that the proposed building makes may be helpful. In interpreting the impact of such differences, it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing of a space is to be expected.” (Paragraph 3.3.13)

“As an additional option, plots for summertime (e.g., 21 June) may be helpful as they will show the reduced overshadowing then, although it should be borne in mind that 21 June represents the best case of minimum shadow, and that shadows for the rest of the year will be longer. Conversely, if winter shadows (e.g., 21 December) are plotted, even low buildings will cast long shadows. In a built-up area, it is common for large areas of the ground to be in shadow in December.” (Paragraph 3.3.15)

“If a particular space is only used at certain times of day or year (e.g., a café, outdoor performance area or school playground) it is instructive to plot shadows for those specific times.” (Paragraph 3.3.16)

Proposed Accommodation Daylight and Sunlight Tests (BS EN 17037)

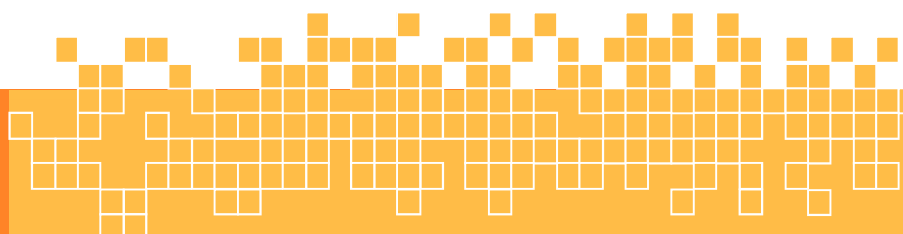
European Standard BS EN 17.37:2018 – Daylight in buildings has been adopted by the UK (June 2019). The standard discusses the methods to be used to ensure that rooms within proposed development are successfully daylighted. The BRE Report has been revised in line with this guidance.

BS EN 17037:2018 provides a number of tests and definitions for analysis and states that:

“A space is considered to provide adequate daylight if a target illuminance level is achieved across a fraction of the reference plane within a space for at least half of the daylight hours. In addition, for spaces with vertical or inclined daylight openings, a minimum target illuminance level is also to be achieved across the reference plane. The reference plane of the space is located 0.85 m above the floor, unless otherwise specified. A small fraction of the reference plane may be disregarded to account for singularities.”

The revised BRE Report provides guidance on British Standard BS EN 17037:2018. This standard provides two methods for assessing daylight in interiors. The first uses climatic data and an adequate time step over which target and minimum illuminances are to be met.

The second method uses daylight factors on the reference plane with National Annex NA providing target illuminances of 100 lx for bedrooms, 150 lux for living rooms and 200 lux for kitchens to be achieved by at least 50% of the reference plane for at least half the daylight values.



The daylight illuminance (E_T) tests, method 1, use climatic data to calculate the illuminance, from daylight, at each point on the assessment grid over an hourly interval for a typical year.

The E_T is to be achieved across half of the reference plane for a minimum of half of the available daylight hours. A supplemental target illuminance (E_{TM}) is to be reached across 95% of the reference plane. The target illuminances for side lit rooms are:

Recommendation	Target illuminance E_T (lx) for 50% of assessment grid	Target illuminance E_{TM} (lx) for 95% of assessment grid
Minimum	300	100
Medium	500	300
High	750	500

Target illuminances from daylight over at least half of the daylight hours

Method 2 assesses daylight factors across the reference plane (850mm above floor level) covering the whole room area. The plane should see the target daylight factor (D_{TM}) achieved across at least 50% of the test plane. The target minimum, daylight factor (D) value is 2.1%, the medium value is 3.5% and the high value is 5.3%. For rooms with restricted sky view, i.e., basement rooms or rooms in developments that are in close proximity to other structures, the targets differ:

- In Jersey the minimum for bedrooms is 0.6%, 0.9%, for living rooms and 1.2% for kitchens,
- In London the minimum for bedrooms is 0.7%, 1.1%, for living rooms and 1.4% for kitchens,
- In Birmingham the minimum for bedrooms is 0.6%, 0.9%, for living rooms and 1.2% for kitchens,
- In Aberdeen the minimum for bedrooms is 0.7%, 1.1%, for living rooms and 1.4% for kitchens.

Sunlight amenity (Sunlight Exposure (SE)) is tested in spaces which receive sun beams. Testing can be undertaken for any day between February 1st and March 21st and determines sunlight exposure at the windows. Three targets are given and relate to minimum (1.5 h), medium (3.0 h) and high (4.0 h).

The BRE Report (paragraphs 3.1.15 and 3.1.16) provides the guidance:

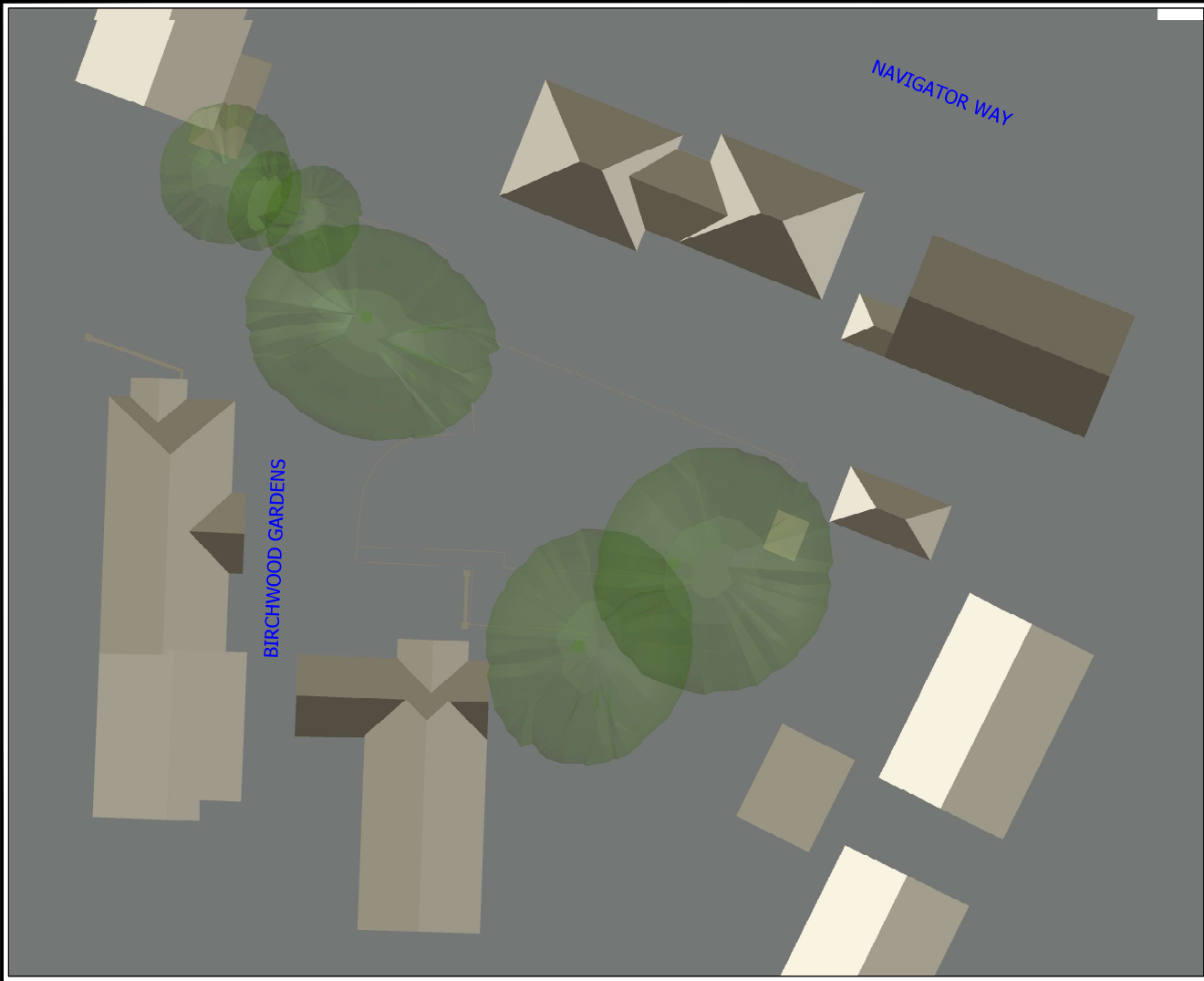
“In general a dwelling, or non-domestic building that has a particular requirement for sunlight, will appear reasonably sunlit provided:

- *at least one main window wall faces within 90° of due south and*
- *a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March. This is assessed at the inside centre of the window(s); sunlight received by different windows can be added provided they occur at different times and sunlight hours are not double counted.*

Where groups of dwellings are planned, site layout design should aim to maximise the number of dwellings with a main living room that meets the above recommendations.”

Appendix 3: Scheme Plans and 3D views





Sources of information

Rogan-Lyons Ltd
V & L Architects
Topographical Site Survey
Ordinance Survey
Site Plans
Proposed Scheme floor drawings
Site Photography

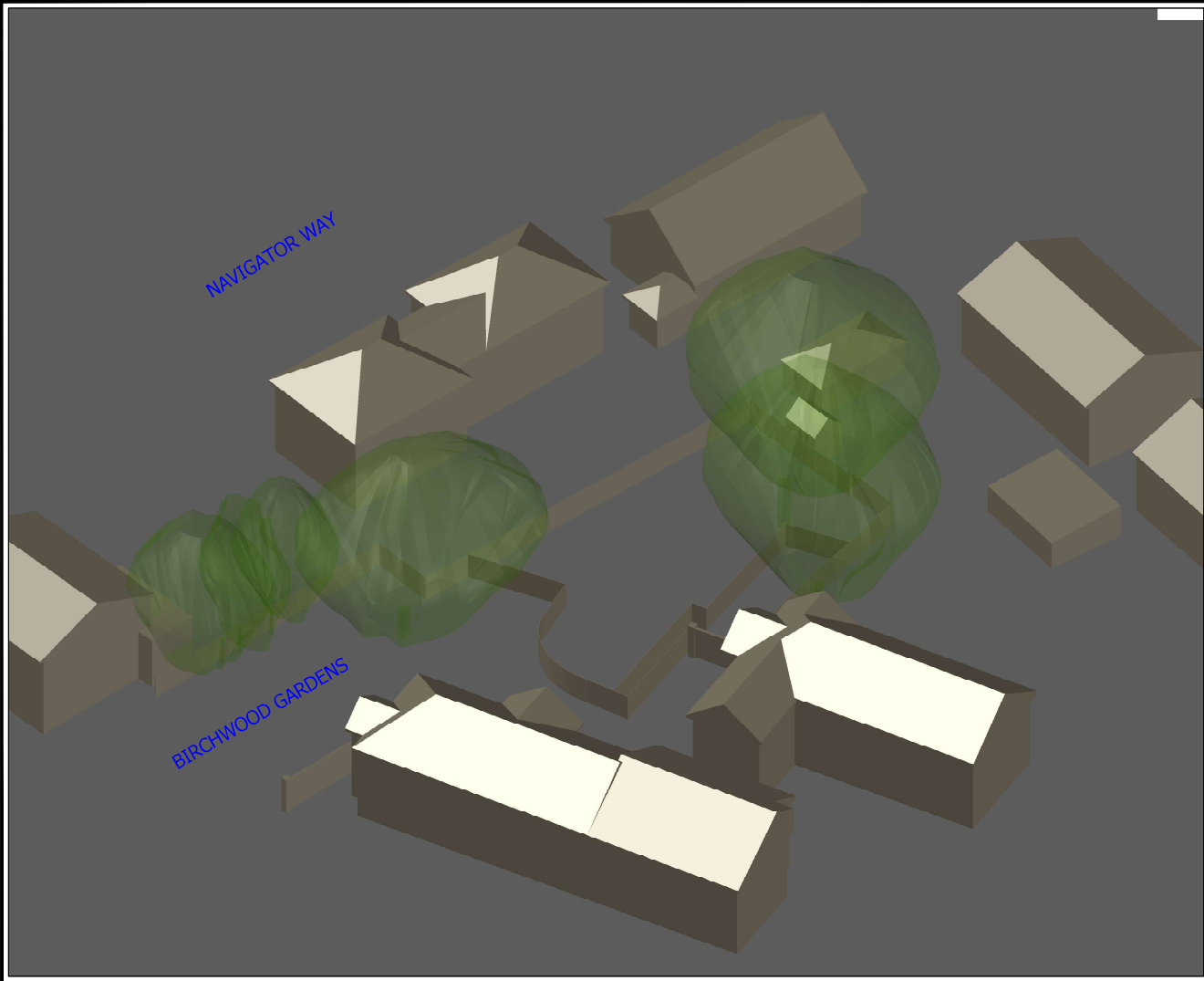


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Project Name and Address
7 BIRCHWOOD GARDENS
HEDGE END
SOUTHAMPTON
SO90 2AR

Drawing Description
SITE PLAN
EXISTING SITE

Project Number	10010	Drawing Sheet No.	REL01/01
Date	DEC 2025		
Scale	NTS		



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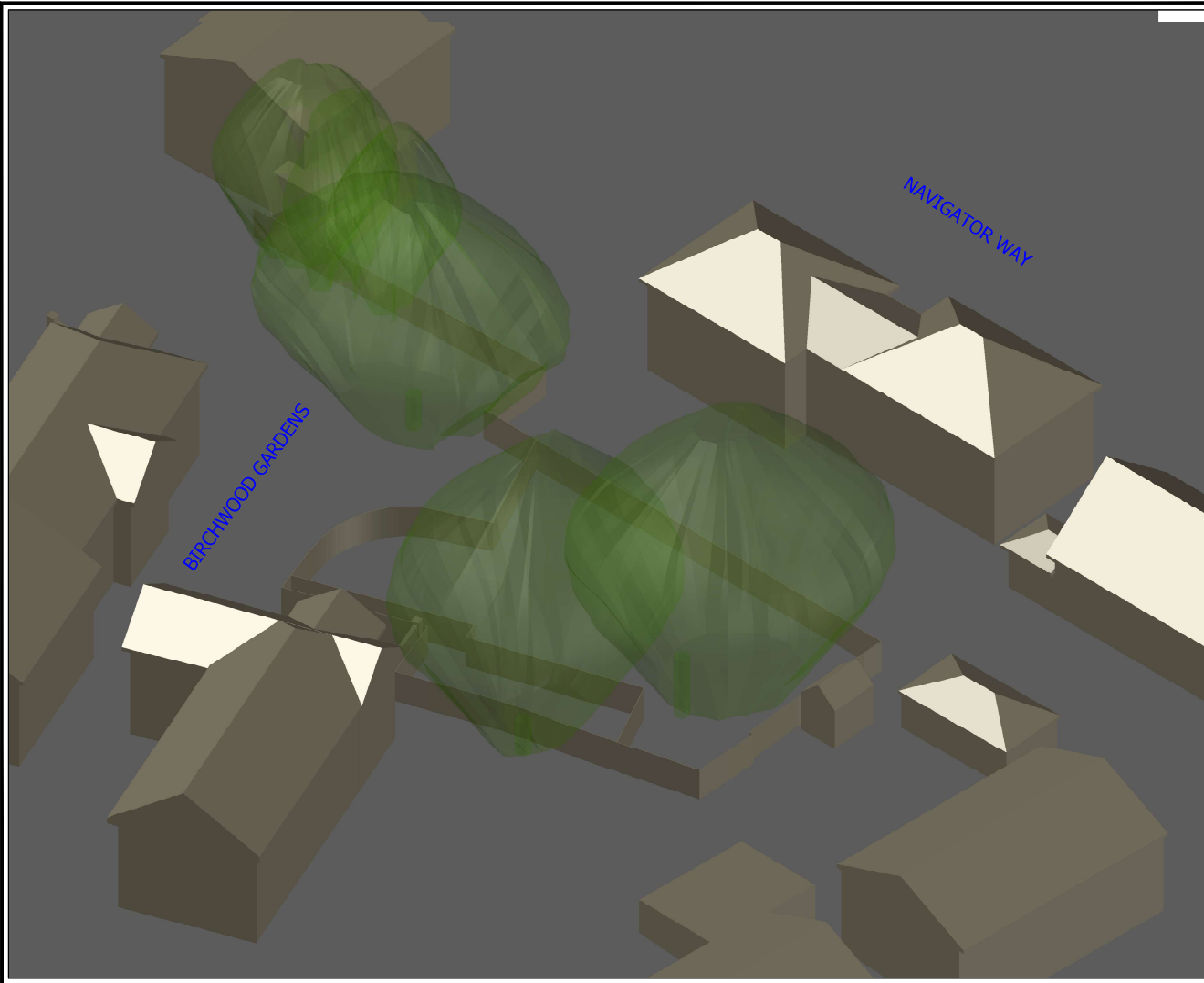


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Drawing Description
3D VIEW
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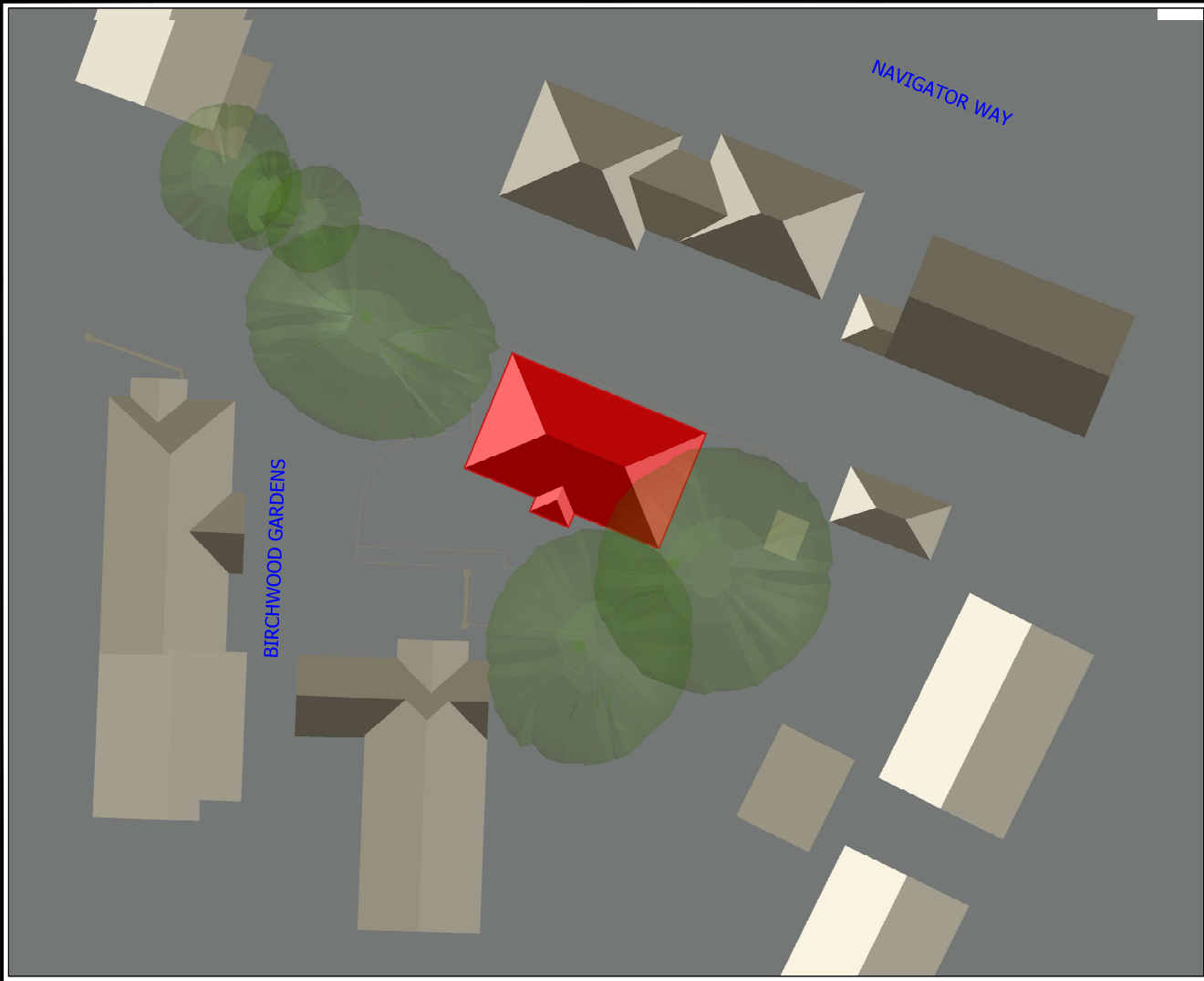


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Drawing Description
3D VIEW
EXISTING SITE

Drawing Number	Drawing Sheet No.
10010	REL01/03
Date	
DEC 2025	
By	
NTS	



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Site Photography



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Project Name and Address
7 BIRCHWOOD GARDENS
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Drawing Description
SITE PLAN
PROPOSED SCHEME

Project Number

10010

Date

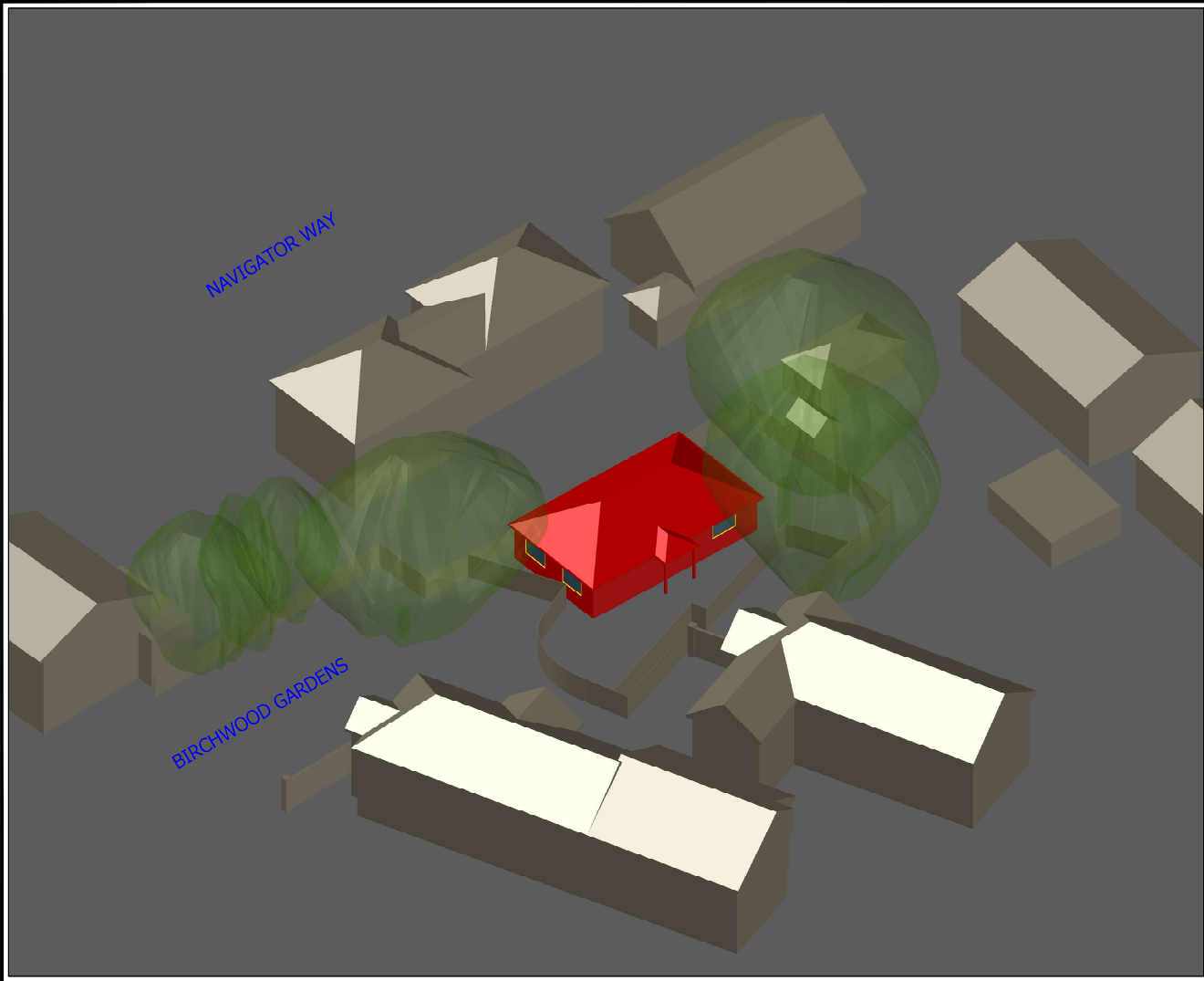
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NTS

Drawing Sheet No

REL01/04



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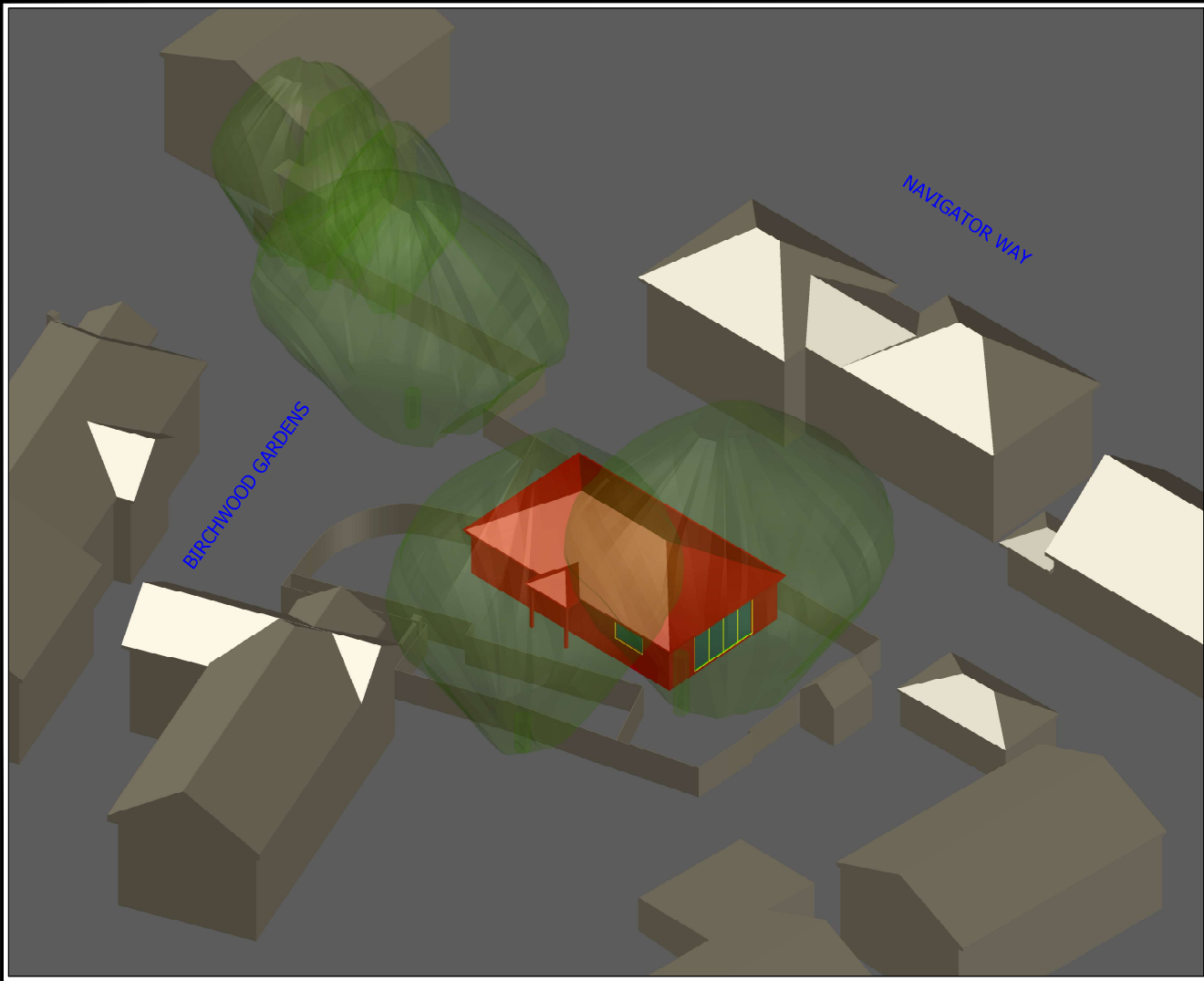


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SOUTHAMPTON
SO90 2AR

Drawing Description
3D VIEW
PROPOSED SCHEME

Project Number	10010	Drawing Sheet No.	REL01/05
Date	DEC 2025		
Scale	NTS		



Sources of information

Rogan-Lyons Ltd
V & L Architects
Topographical Site Survey
Ordnance Survey
Site Plans
Proposed Scheme floor drawings
Site Photography

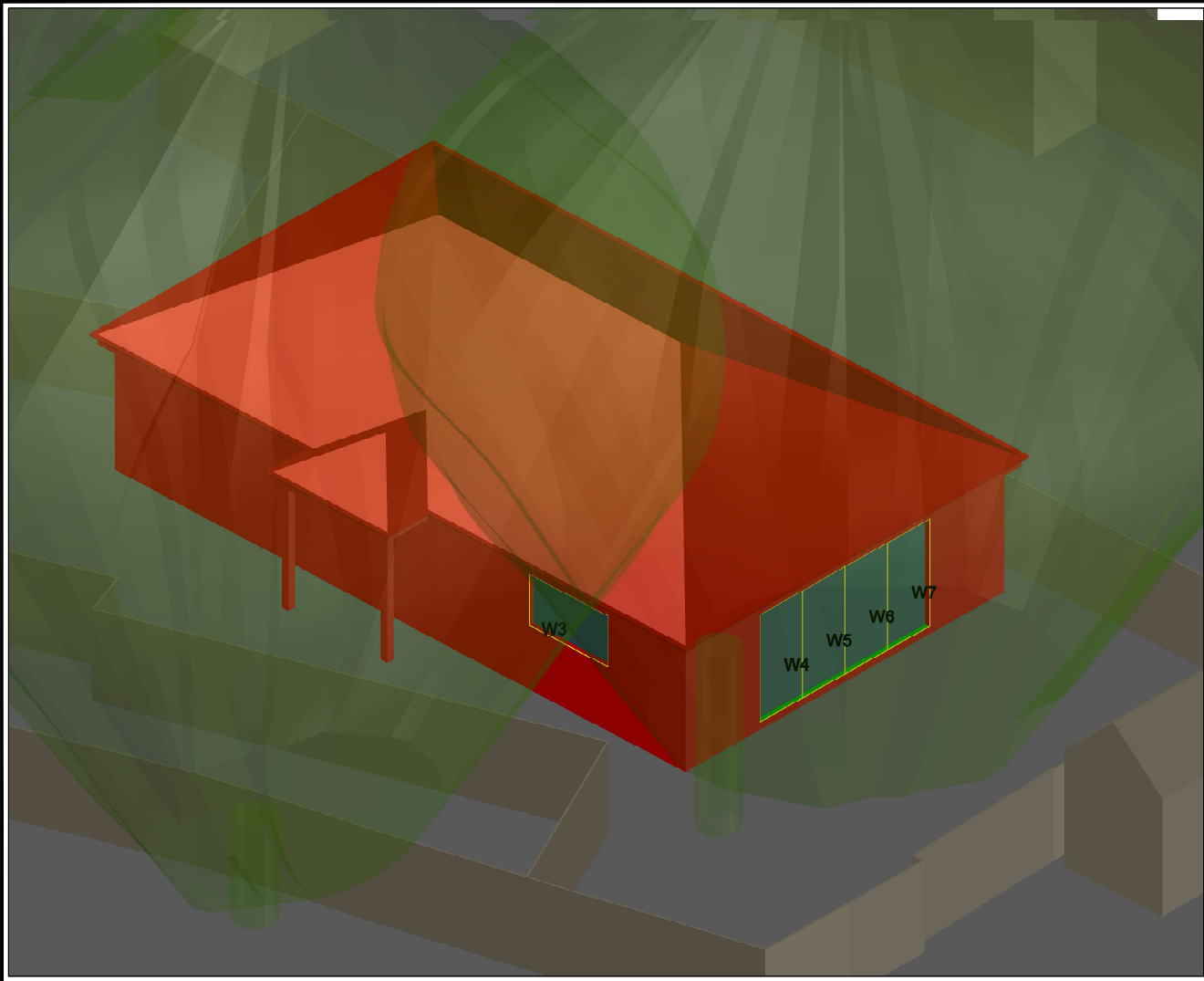


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48 BARRINGTON ROAD
COLCHESTER
ESSEX
CO2 7RW

Project Name and Address
7 BIRCHWOOD GARDENS
HEDGE END
SOUTHAMPTON
SO90 2AR

Drawing Description
3D VIEW
PROPOSED SCHEME

Drawing Number	Drawing Sheet No.
10010	REL01/06
Date	
DEC 2025	
By	
NTS	



Sources of information

Rogan-Lyons Ltd
V & L Architects
Topographical Site Survey
Ordnance Survey
Site Plans
Proposed Scheme floor drawings
Site Photography



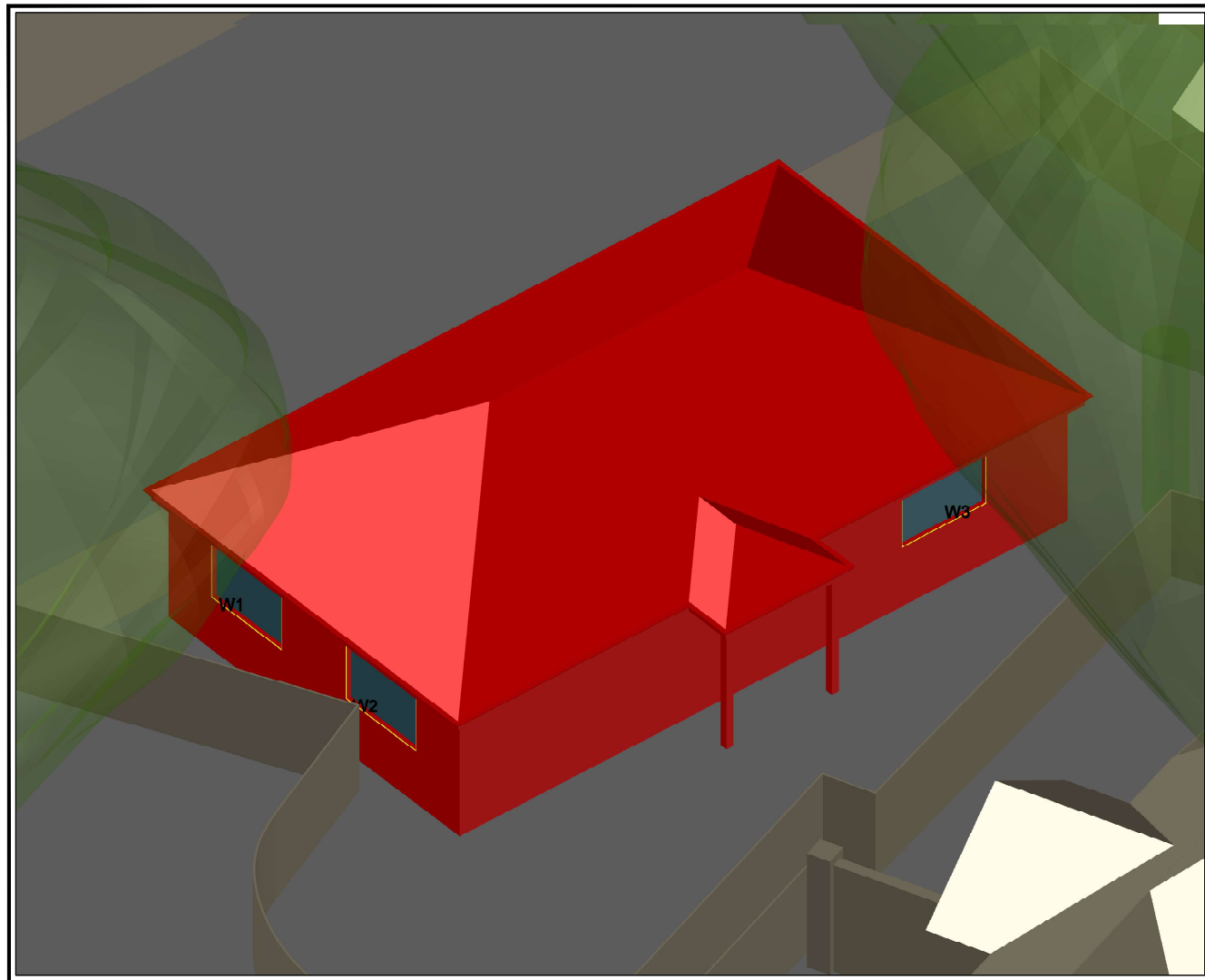
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48 BARRINGTON ROAD
COLCHESTER
ESSEX
CO2 7RW

Project Name and Address
7 BIRCHWOOD GARDENS
HEDGE END
SOUTHAMPTON
SO90 2AR

Drawing Description
3D WINDOW MAP
PROPOSED SCHEME

Drawing Number
10010
Date
DEC 2025
Scale
NTS

Drawing Sheet No
REL01/08



Sources of information

Rogan-Lyons Ltd
V & L Architects
Topographical Site Survey
Ordnance Survey
Site Plans
Proposed Scheme floor drawings
Site Photography



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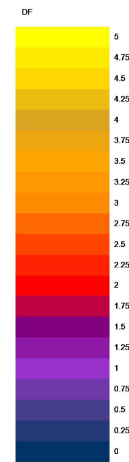
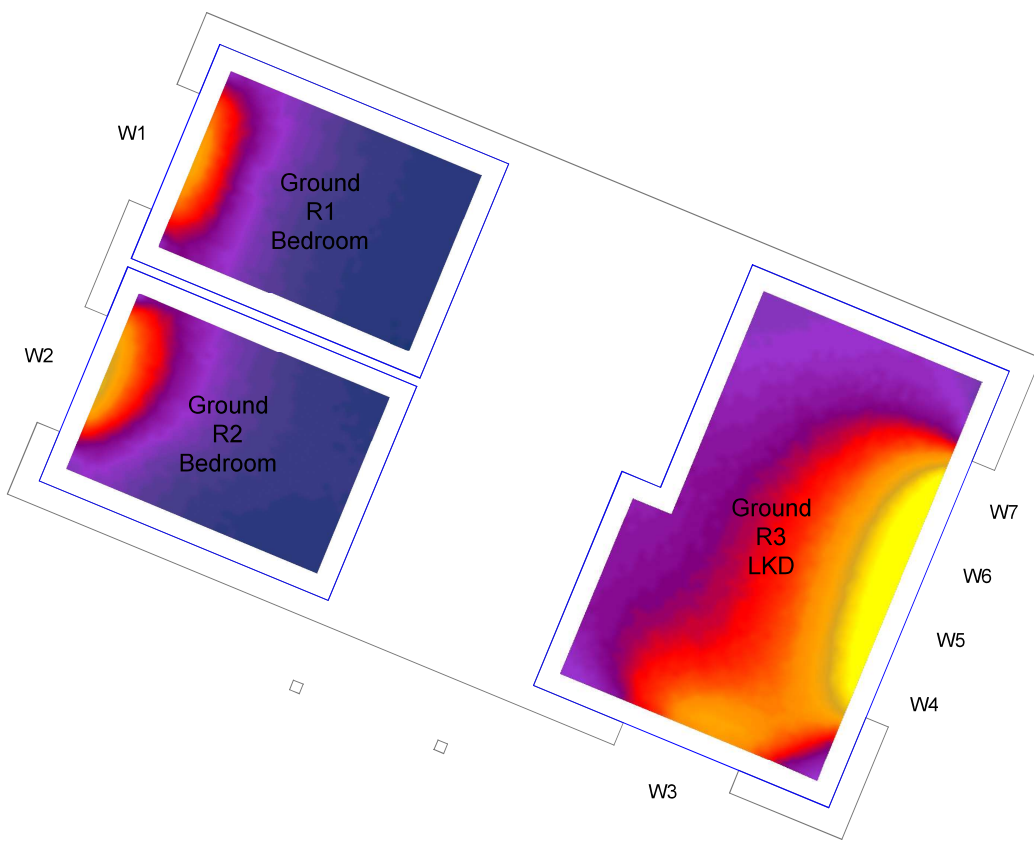
Project Name and Address
7 BIRCHWOOD GARDENS
HEDGE END
SOUTHAMPTON
SO90 2AR

Drawing Description
3D WINDOW MAP
PROPOSED SCHEME

Drawing Number	10010	Drawing Sheet No.	REL01/07
Date	DEC 2025		
Scale	NTS		

Appendix 4: Daylight Factor Contour Plans





Sources of information

Rogan-Lyons Ltd
V & L Architects
Topographical Site Survey
Ordinance Survey
Site Plans
Proposed Scheme floor drawings
Site Photography

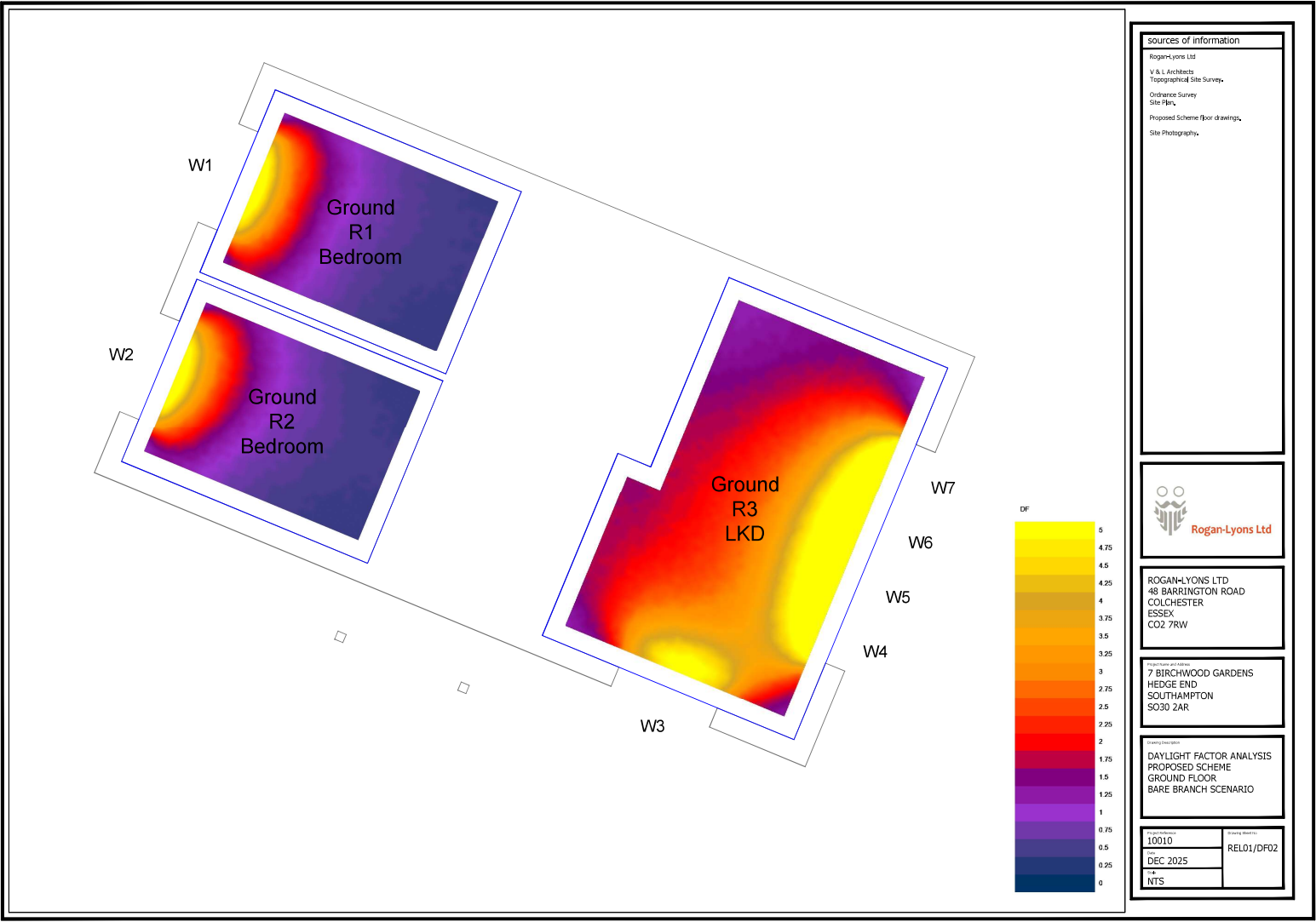


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ESSEX
CO2 7RW

Project Name and Address
7 BIRCHWOOD GARDENS
HEDGE END
SOUTHAMPTON
SO90 2AR

Drawing Description
DAYLIGHT FACTOR ANALYSIS
PROPOSED SCHEME
GROUND FLOOR
FULL LEAF SCENARIO

Drawing Number 10010	Drawing Sheet No. REL01/DF01
Date DEC 2025	
By NTS	



Appendix 5: Daylight and Sunlight Results Tables



Daylight (Daylight Factor) results tables:

Project Name: 7 Birchwood Gardens

Project No.: 10010-Rel01 (Bare Branch)

Report Title: Daylight Factor Analysis - Proposed Scheme

Date of Analysis: 14/11/2025



Rogan-Lyons Ltd

										Criteria			
Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Room Area m2	Effective Area	Median DF	Area Meeting Req DF	% of Area Meeting Req DF	Req DF	Req % of Effective Area	Median Diffuse Horizontal Illuminance	Meets Criteria
7 Birchwood Gardens													
Ground	R1	Floor Plan	Residential	Bedroom	15.01	10.67	0.80%	6.13	57%	0.70%	50%	14100	YES
	R2	Floor Plan	Residential	Bedroom	15.01	10.67	0.80%	6.21	58%	0.70%	50%	14100	YES
	R3	Floor Plan	Residential	LKD	29.20	22.72	2.40%	21.90	96%	1.40%	50%	14100	YES

Project Name: 7 Birchwood Gardens

Project No.: 10010-Rel01 (Full Leaf)

Report Title: Daylight Factor Analysis - Proposed Scheme

Date of Analysis: 14/11/2025



Rogan-Lyons Ltd

											Criteria			
Floor Ref	Room Ref	Room Use	Room Area m2	Effective Area	Median DF	Meets Criteria	Median DF	Area Meeting Req DF	% of Area Meeting Req DF	Req DF	Req % of Effective Area	Median Diffuse Horizontal Illuminance	Meets Criteria	
7 Birchwood Gardens														
Ground	R1	Bedroom	15.01	10.67	0.50%	NO	0.80%	6.13	57%	0.70%	50%	14100	YES	
	R2	Bedroom	15.01	10.67	0.60%	NO	0.80%	6.21	58%	0.70%	50%	14100	YES	
	R3	LKD	29.20	22.72	1.80%	YES	2.40%	21.90	96%	1.40%	50%	14100	YES	

Sunlight (Sunlight Exposure) results tables:

Project Name: 7 Birchwood Gardens Project No.: 10010-Rel01 (Bare Branch) Report Title: Sunlight Exposure Analysis - Proposed Scheme Date: 14/11/2025							 Rogan-Lyons Ltd	
Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Rating
7 Birchwood Gardens								
Ground	R1	Floor Plan	Residential	Bedroom	W1	292°N	1.9	Minimum
							1.9	
Ground	R2	Floor Plan	Residential	Bedroom	W2	292°N	1.7	Minimum
							1.7	
Ground	R3	Floor Plan	Residential	LKD	W3	202°	4.8	High
					W4	112°	2.4	
					W5	112°	2.7	
					W6	112°	3.1	
					W7	112°	3.3	
							6.9	

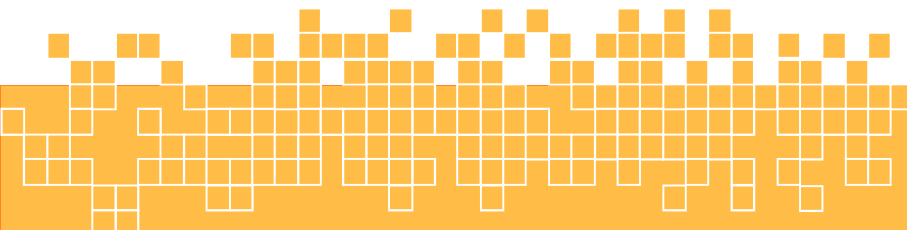
Project Name: 7 Birchwood Gardens
Project No.: 10010-Rel01 (Full Leaf)
Report Title: Sunlight Exposure Analysis - Proposed Scheme
Date: 14/11/2025



Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Rating
7 Birchwood Gardens								
Ground	R1	Floor Plan	Residential	Bedroom	W1	292°N	1.9	Minimum
							1.9	
Ground	R2	Floor Plan	Residential	Bedroom	W2	292°N	1.7	Minimum
							1.7	
Ground	R3	Floor Plan	Residential	LKD	W3	202°	3	High
					W4	112°	1.1	
					W5	112°	1.4	
					W6	112°	1.9	
					W7	112°	2.3	
							4.9	



Appendix 6: Sun on Ground (Overshadowing) Plans and results



Overshadowing results tables:

Project Name: 7 Birchwood Gardens Project No.: 10010-Rel01 - 21st March - Bare Branch Report Title: Two hours Sunlight to Amenity Analysis - Proposed Scheme Date of Analysis: 14/11/2025  Rogan-Lyons Ltd					
Floor Ref	Amenity Ref		Amenity Area	Lit Area Proposed	Meets BRE Criteria
7 Birchwood Gardens					
Ground	A1	Area m2	194.97	131.74	YES
		Percentage		68%	

Project Name: 7 Birchwood Gardens Project No.: 10010-Rel01 - 21st March - Full Leaf Report Title: Two hours Sunlight to Amenity Analysis - Proposed Scheme Date of Analysis: 14/11/2025  Rogan-Lyons Ltd					
Floor Ref	Amenity Ref		Amenity Area	Lit Area Proposed	Meets BRE Criteria
7 Birchwood Gardens					
Ground	A1	Area m2	194.97	68.89	NO
		Percentage		35%	

Project Name: 7 Birchwood Gardens Project No.: 10010-Rel01 - 21st June - Bare Branch Report Title: Two hours Sunlight to Amenity Analysis - Proposed Scheme Date of Analysis: 14/11/2025  Rogan-Lyons Ltd					
Floor Ref	Amenity Ref		Amenity Area	Lit Area Proposed	Meets BRE Criteria
7 Birchwood Gardens					
Ground	A1	Area m2	194.97	179.67	YES
		Percentage		92%	

Project Name: 7 Birchwood Gardens

Project No.: 10010-Rel01 - 21st June - Full Leaf

Report Title: Two hours Sunlight to Amenity Analysis - Proposed Scheme

Date of Analysis: 14/11/2025



Floor Ref		Amenity Ref		Amenity Area	Lit Area Proposed	Meets BRE Criteria
7 Birchwood Gardens						
Ground	A1	Area m2	194.97	134.78	YES	
		Percentage		69%		

Project Name: 7 Birchwood Gardens

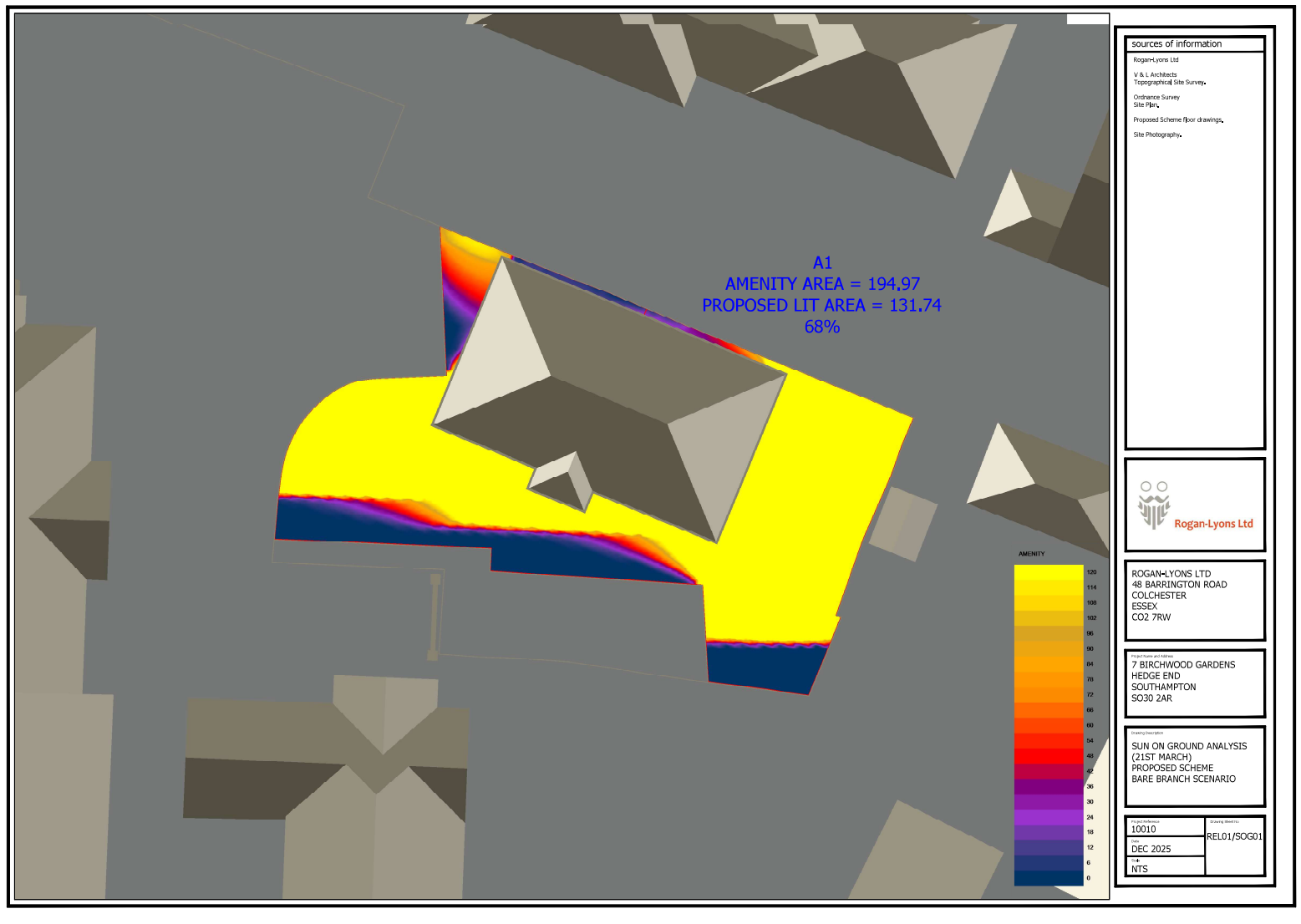
Project No.: 10010-Rel01 - 21st Dec - Bare Branch

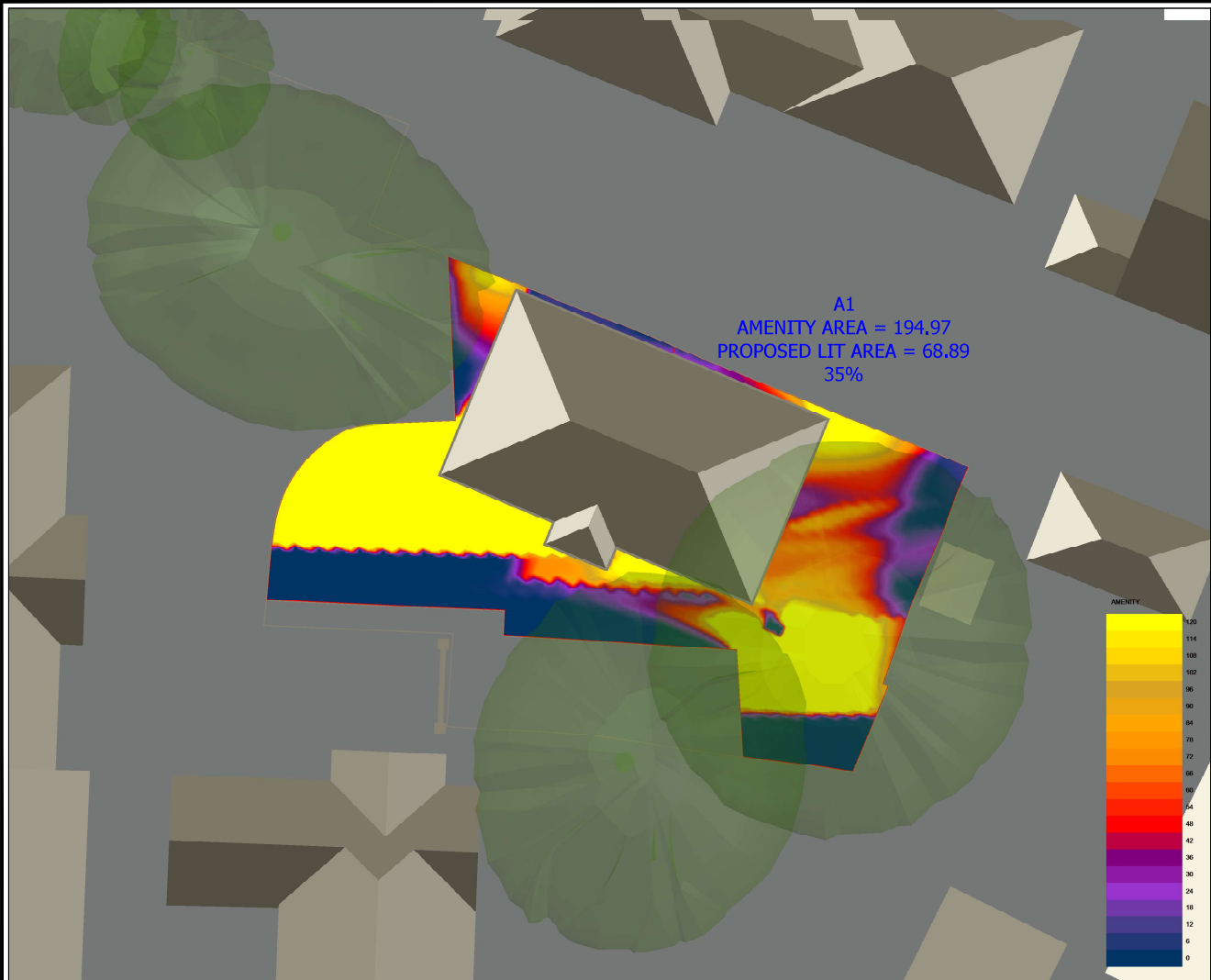
Report Title: Two hours Sunlight to Amenity Analysis - Proposed Scheme

Date of Analysis: 14/11/2025



Floor Ref	Amenity Ref	Amenity Area	Lit Area Proposed	Meets BRE Criteria	
7 Birchwood Gardens					
Ground	A1	Area m2	194.97	25.94	NO
		Percentage		13%	





Sources of information

Rogan-Lyons Ltd
V & L Architects
Topographical Site Survey
Ordnance Survey
Site Plans
Proposed Scheme floor drawings
Site Photography

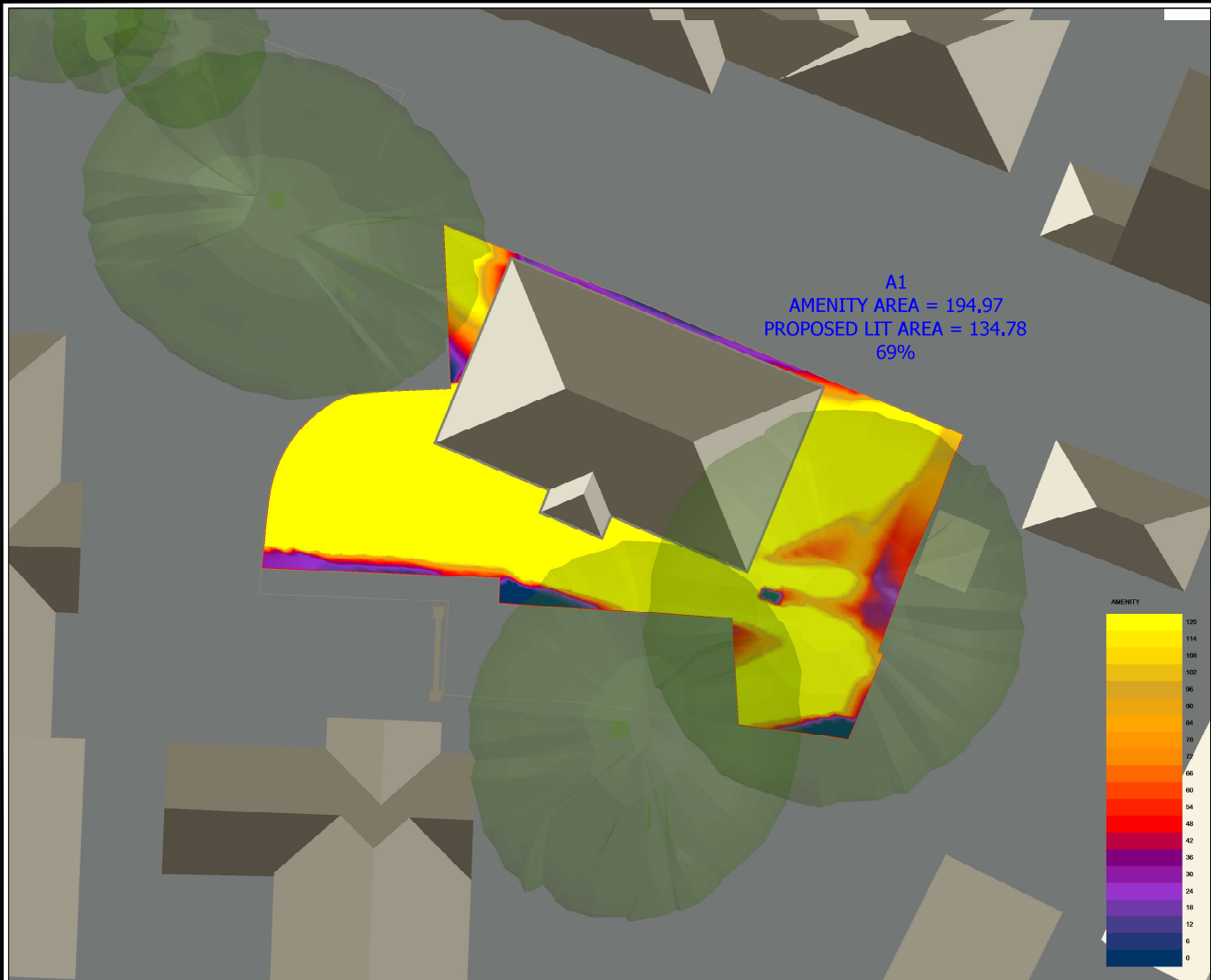


ROGAN-LYONS LTD
48 BARRINGTON ROAD
COLCHESTER
ESSEX
CO2 7RW

Project Name and Address
7 BIRCHWOOD GARDENS
HEDGE END
SOUTHAMPTON
SO9 2AR

Drawing Description
SUN ON GROUND ANALYSIS
(21ST MARCH)
PROPOSED SCHEME
FULL LEAF SCENARIO

Drawing Number	10010	Drawing Sheet No.	REL01/SOG02
Date	DEC 2025		
NTS			



Sources of information

Rogan-Lyons Ltd
V & L Architects
Topographical Site Survey
Ordnance Survey
Site Plans
Proposed Scheme floor drawings
Site Photography

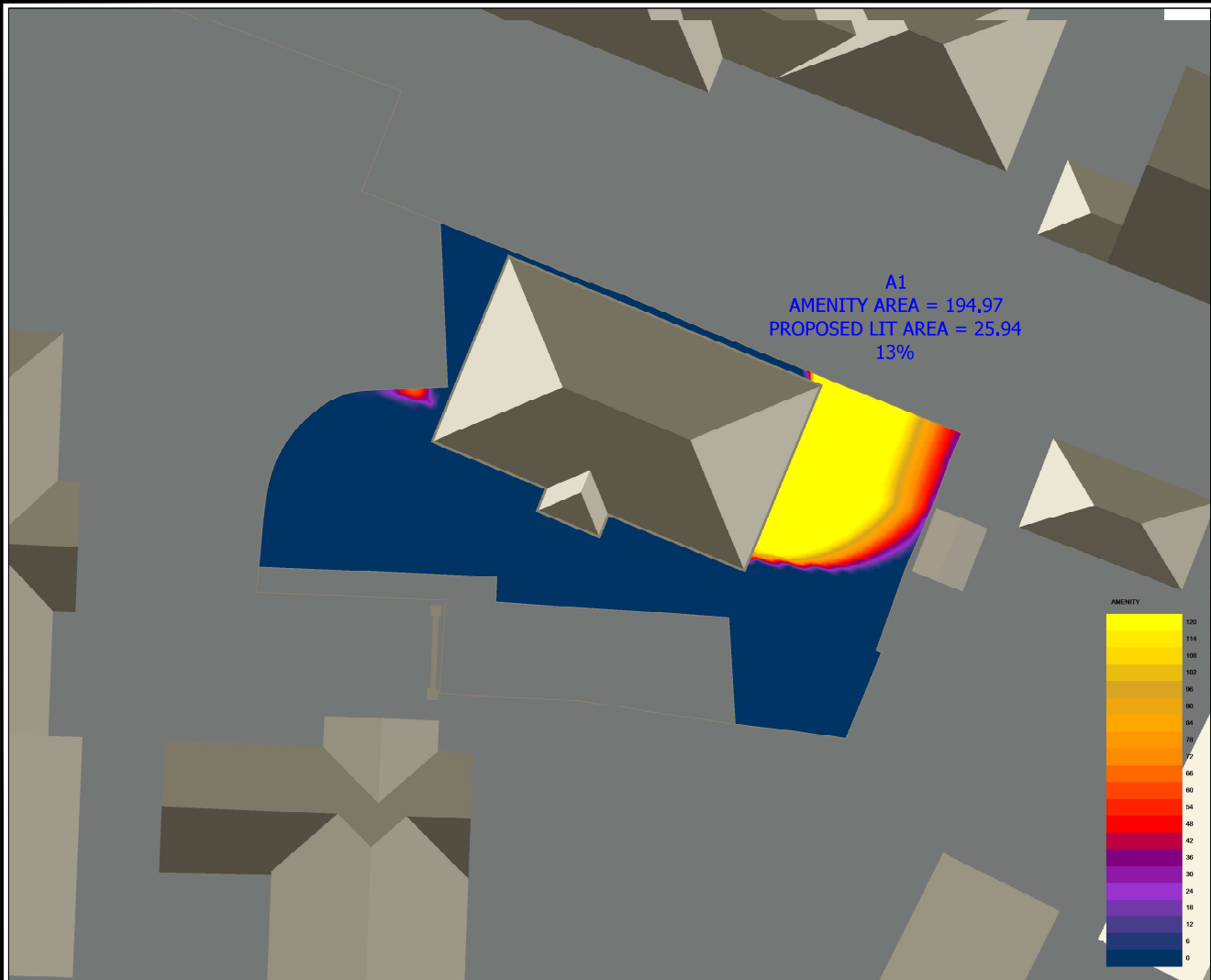


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ESSEX
CO2 7RW

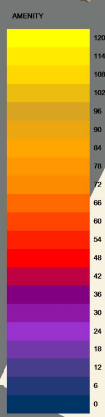
Project Name and Address
7 BIRCHWOOD GARDENS
HEDGE END
SOUTHAMPTON
SO90 2AR

Planning Description
SOG ON GROUND ANALYSIS
(21ST JUNE)
PROPOSED SCHEME
FULL LEAF

Project Number	Drawing Sheet No.
10010	REL01/SOG03
Date	
DEC 2025	
NTS	



A1
AMENITY AREA = 194.97
PROPOSED LIT AREA = 25.94
13%



Sources of information

Rogan-Lyons Ltd
V & L Architects
Topographical Site Survey
Ordnance Survey
Site Plans
Proposed Scheme floor drawings
Site Photography



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48 BARRINGTON ROAD
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ESSEX
CO2 7RW

Project Name and Address
7 BIRCHWOOD GARDENS
HEDGE END
SOUTHAMPTON
SO9 2AR

Planning Description
SUN ON GROUND ANALYSIS
(21ST DECEMBER)
PROPOSED SCHEME
BARE BRANCH SCENARIO

Project Number	10010	Drawing Sheet No.	REL01/SOG04
Date	DEC 2025		
Rev	NTS		