



DAYLIGHT & SUNLIGHT

**IMPACT ON NEIGHBOURING
PROPERTIES**

Manchester Road, Heywood

10 March 2023

GIA No: 2125

PROJECT DATA:

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Architect **Ashton Smith Architects**
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Principles of Daylight and Sunlight
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Proposed Drawings: 2125-REL01-IS01-004 to 2125-REL01-IS01-006
Result and Window Maps

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A handwritten signature in black ink, appearing to read 'Beatty', is written over a horizontal dotted line. The signature is fluid and cursive.

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1.0 Executive Summary

We have undertaken a daylight and sunlight assessment for the proposed industrial development on Manchester Road in Heywood.

We have undertaken a technical analysis using the methodologies set out within the Building Research Establishment Guidelines entitled 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (2022)'.

The results are summarised in the table below:

Name/Address of Building	Percentage of Windows Compliant for VSC Daylight	Percentage of Rooms Compliant for NSL Daylight	Percentage of Rooms Compliant for APSH Sunlight
South Heywood Masterplan (16/01399/HYBR)	63/64 (98%)	24/24 (100%)	8/8 (100%)

All of the properties surrounding the site will fully accord with the BRE target criteria for daylight and sunlight with the proposed development in place. The impact to daylight and sunlight is negligible and therefore wholly acceptable.

2.0 Instructions

GIA have been instructed by Trammell Crow Company Logistics to undertake a detailed technical assessment to understand the potential daylight and sunlight changes that the proposed industrial development on Manchester Road in Heywood, will have upon the surrounding residential properties.

The daylight and sunlight review within this report considers residential properties only, as they are recognised by the Building Research Establishment (BRE 2022) as having the highest expectation for natural light when compared to other uses – such as commercial. The criteria suggested within the BRE have been used to understand and compare the existing levels of light, and the light achieved subsequent to the development of the proposed scheme.

GIA have undertaken preliminary daylight and sunlight analysis of the site and its surroundings. Existing residential buildings have been assessed using the '25° rule'. Paragraph 2.2.5 of the BRE Guide and Figure 14 explain the methodology:

"Draw a section in a plane perpendicular to each affected main window wall of the existing building (Figure 14). Measure the angle to the horizontal subtended by the new development at the level of the centre of the lowest window. If this angle is less than 25° for the whole of the development, then it is unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building. If, for any part of the new development, this angle is more than 25°, a more detailed check is needed to find the loss of skylight to the existing building."

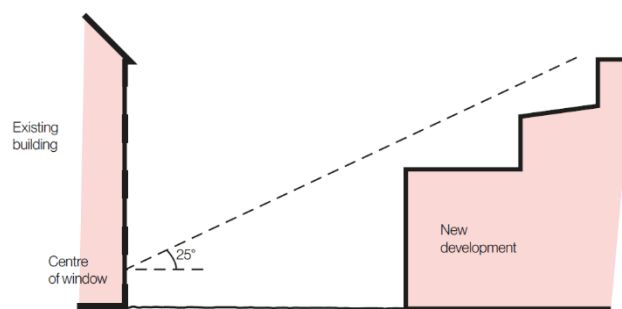


Figure 14: Section in plane perpendicular to the affected window wall

All existing residential buildings will meet the 25° rule. As such, daylight and sunlight to these properties is unlikely to be significantly affected and impacts of the proposed development are in line with BRE Guidance.

Notwithstanding, a full daylight and sunlight assessment has been undertaken in relation to the proposed residential properties which form part of the South Heywood Masterplan. The assessment considers those properties closest to the development site, located directly south of the proposed development.

As there are no reserved matters approvals in the area, GIA have used the approved illustrative masterplan provided by Trammell Crow Company Logistics. A depth of ten metres has been used for the gardens that abut the site boundary of the proposed development.

3.0 Introduction

Daylight and Sunlight

We have undertaken technical analysis using the methodologies set out within the Building Research Establishment Guidelines entitled 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (2022)', (the "BRE Guide").

The guidelines in question are precisely that: guidelines which provide a recommendation to inform site layout and design. They are not mandatory, nor do they form planning policy and their interpretation may be treated flexibly depending on the specifics of each site.

The BRE Guide provides two methodologies for daylight assessment to surrounding properties, namely:

- The Vertical Sky Component (VSC); and
- The No Sky Line (NSL).

There is one methodology for sunlight assessment, denoted as Annual Probable Sunlight Hours (APSH).

The assessment of baseline levels to the surrounding properties considers whether a window/room already meets the BRE criteria in the existing scenario only, whilst the BRE guide states that a window/room should not be reduced by any more than 0.8 times its former value (a 20% reduction) in the proposed scenario. As such, as the VSC target is 27%, if a window in the baseline has 25% VSC, it will be classed as not meeting the BRE targets. In the proposed scenario, if the same window is reduced to 24%, it will be classed as meeting the VSC target as it is within 0.8 times its former value. Therefore, some windows/rooms may not meet the target criteria in the baseline but will in the proposed scenario.

The following table provides a summary of the criteria set out within the BRE Guidelines for daylight and sunlight.

Method	BRE Criteria
VSC	A window may be adversely affected if its VSC measured at the centre of the window is less than 27% and less than 0.8 times its former value.
NSL	A room may be adversely affected if the daylight distribution (NSL) is reduced beyond 0.8 times its existing area.
APSH	A window may be adversely affected if a point at the centre of the window receives for the whole year, less than 25% of the APSH including at least 5% of the APSH during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period, and for existing neighbouring buildings, if there is a reduction in total APSH which is greater than 4%.

For daylight and sunlight, the BRE Guidelines outline the approach within the accompanying Appendix I, in terms of assigning criteria to assess the effects:

"Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required...The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied."

"Where the loss of skylight or sunlight fully meets the guidelines, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines and a larger number of windows or open space are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space."

"Where the loss of skylight or sunlight does not meet the guidelines in this book, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:

- Only a small number of windows are affected;*
- The loss of light is only marginally outside the guidelines;*
- An affected room has other sources of skylight or sunlight; and*
- The affected building only has a low level of requirement for skylight or sunlight."*

The classification of major adverse is documented within Paragraph 7 of the BRE Guidelines:

"Factors tending towards a major adverse impact include:

- a large number of windows are affected;*
- the loss of light is substantially outside the guidelines;*
- all the windows in a particular property are affected; and*
- the affected indoor spaces have a particular strong requirement for skylight or sunlight, e.g. a living room in a dwelling".*

Beneficial impacts occur when there is a significant increase in the amount of skylight and sunlight reaching an existing building. Beneficial impacts should be worked out on the same principals as adverse impacts."

The BRE Guidelines do not provide any Guidance on what constitutes a moderate adverse impact.

The initial numerical criteria for determining the magnitude of effect is based on percentage alterations, as follows:

Magnitude of Effect	Percentage Alteration
Negligible	0-20%
Minor	20-29.9%
Moderate	30-39.9%
Major	40%+

When considering the significance of daylight and sunlight effects, professional judgement has been used. Consideration has been given to the proportion of rooms/windows affected, as well as the percentage alterations, absolute changes, retained daylight and sunlight levels and sensitivity of the receptor. This is in addition to any other relevant factors, such as there may be mitigating factors including location and nature of the development, balconies, overhangs or design features which may also affect the determination of assigning the criteria.

4.0 Sources of Information

In compiling this report, we have used the following information:

GIA

Site photographs

Vu.City Modelling

Baseline model

Ashton Smith Architects

IR08-20230103

Existing and proposed site sections Jan 23

Rochdale Planning Portal

Masterplan drawings (16/01399/HYBR)

Russell Homes

Bower 4B7P Semi-Detached drawings

5.0 Assumptions

- a) All residential buildings have been identified by reference to the Valuation Office Agency (VOA) search and/or external observation.
- b) As there are no reserved matters approvals in the area, we have used the plans for the Russell Homes "Bower 4B7P Semi-Detached" house type in our assessment of the South Heywood Masterplan. The houses used in our assessment have been positioned according to the approved illustrative masterplan provided to Trammell Crow Company Logistics. A depth of ten metres has been used for the gardens that abut the site boundary of the proposed development.
- c) Floor levels have been assumed for the adjoining properties. This dictates the level of the working plane which is relevant for the No Skyline assessment.

6.0 The Site

The site is accessed from Manchester Road to the East. Units one and two are bound by Whitehouse Close to the north, Manchester Road to the east and undeveloped land to the south and west. Unit three is bound by undeveloped land to the north, a housing estate to the east, and undeveloped land to the south and west.

The drawing extract below shows the existing site:

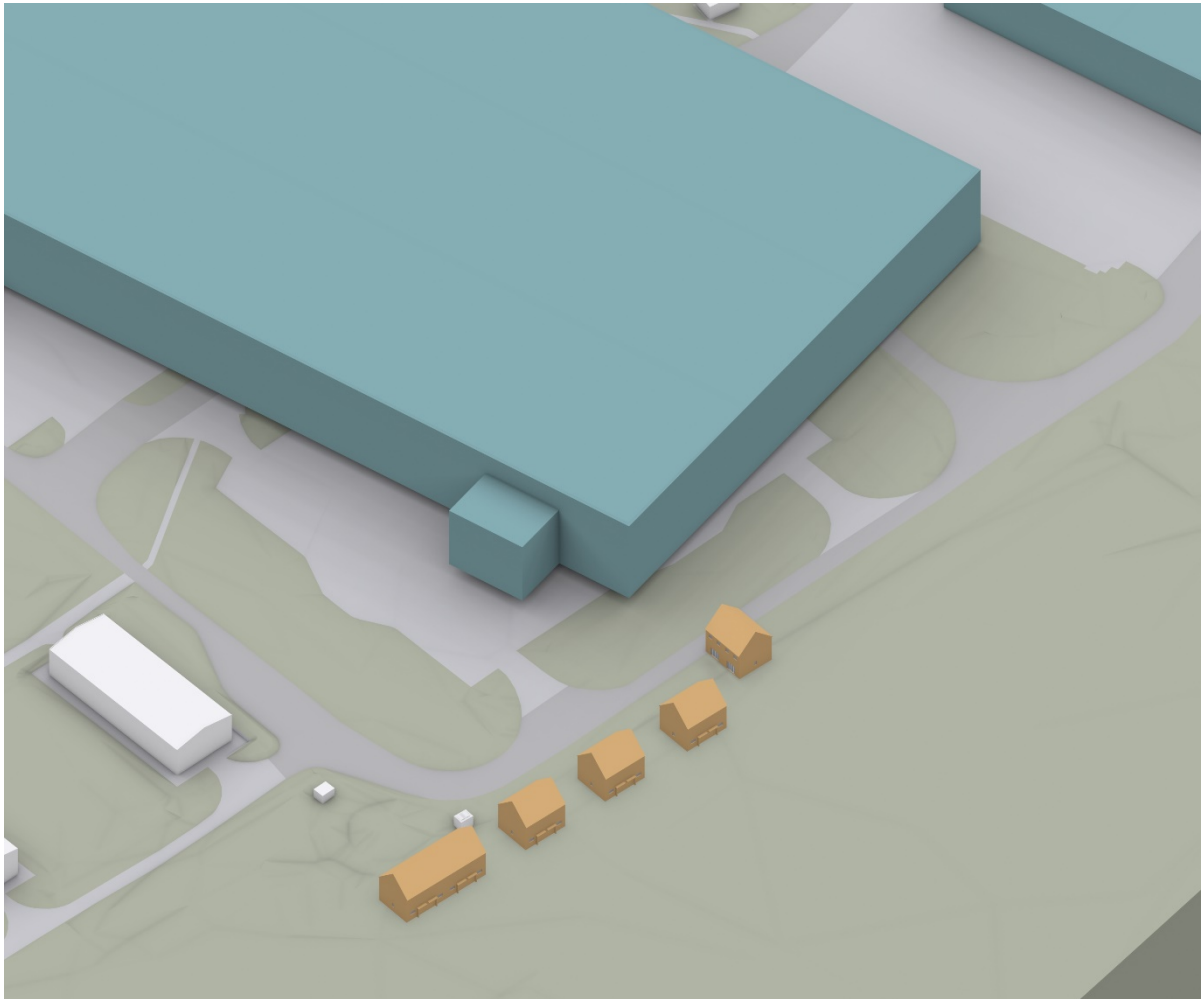


Our understanding of this existing building and the surrounding context is depicted on GIA drawings: 2125-REL01-IS01-01, 2125-REL01-IS01-02 and 2125-REL01-IS01-03 contained within Appendix 02.

7.0 The Proposal

GIA's understanding of the proposed scheme is illustrated in drawings 2125-REL01-IS01-04, 2125-REL01-IS01-05 and 2125-REL01-IS01-06 shown within Appendix 03.

The drawing extract below shows the site with the proposal in place, with outline consented schemes shown in orange:



Our analysis of this option is based on the proposed scheme drawings produced by Ashton Smith Architects received on 3 Jan 2023.

The scheme has undergone design changes since our original assessment. The orientation of Unit 3 has altered by 1 degree. Unit 3 has also been reduced in length by 13 metres to the south, allowing for increased separation from future residential units. The height has also been reduced by three metres and the width has been increased by two metres to the West. The reduction in height is minor in context to this assessment and would likely lead to some improvements to the results. Any changes would be minimal, and the design changes therefore do not alter the conclusions of this report. As such, no further technical analysis has been undertaken.

8.0 Surrounding Properties

We have created a three-dimensional computer model of the site and the surrounding properties to allow for a detailed daylight and sunlight assessment.

The benchmark condition of the site allows us to calculate the daylight and sunlight conditions within the neighbouring buildings. From this, we can then compare them with the conditions within these properties assuming the current proposed development is in place.

South Heywood Masterplan

The outline South Heywood Masterplan hybrid consent (16/01399/HYBR) is located adjacent to the site. The masterplan is illustrated below:



GIA have assessed the properties within the masterplan that are in closest proximity to the proposed development, highlighted in green on the plan below:



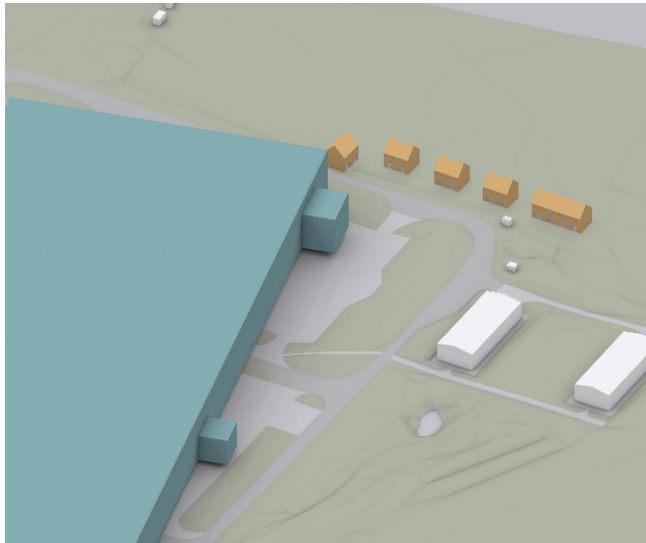
Units have been placed ten metres from the site boundary of the development site, and gardens that abut the site boundary have been assessed for sunlight amenity. In the absence of fixed, detailed layouts for the properties with outline consent, the layout of Russell Homes “Bower 4B7P Semi-Detached” layout has been used within our daylight and sunlight assessment.

Those properties surrounding the site that are thought to have the potential to be impacted by the proposed development are listed in the table below:

Name/Address of Building	Assumed Use	Position (in relation to the Development)
Russell Homes Scheme (16/01399/HYBR)	Residential	South

A short commentary of the impacts of the current proposal to each property is set out below, and full results and contour plots are contained at Appendix 04.

South Heywood Masterplan (16/01399/HYBR)



Name/Address of Building	Percentage of Windows Compliant for VSC Daylight	Percentage of Rooms Compliant for NSL Daylight	Percentage of Rooms Compliant for APSH Sunlight
South Heywood Masterplan (16/01399/HYBR)	63/64 (98%)	24/24 (100%)	8/8 (100%)

With the proposed development in place, all units assessed will meet the BRE criteria for NSL daylight, and APSH sunlight.

One window falls short of the BRE target guidance for VSC daylight. However, the BRE guide states that where a room is served by one or more window of similar sizes, the mean VSC can be calculated. When the mean VSC is calculated, the room overall meets the VSC target criteria. As such the impact on daylight and sunlight to this property is negligible and considered wholly acceptable.

9.0 Overshadowing Assessment

We have undertaken an overshadowing assessment of the levels of direct sunlight received to the surrounding amenity areas.

The amenity areas which are subject to assessment, and their position relative to the proposed development, are set out in the table below:

Name/Address of Building	Position in Relation to the Development
South Heywood Masterplan (16/01399/HYBR)	South

The method for assessing overshadowing is the 'sun-on-ground indicator' (SHOG). The assessment applies to both new and existing gardens/amenity areas which are affected by new developments.

The BRE Guidelines suggest that the Spring Equinox (21 March) is a suitable date for the assessment as this is the Spring Equinox and the midpoint of the sun's position throughout the year. Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not.

The BRE Guidelines recommend that at least half (50%) of a garden or amenity area should receive at least two hours of sunlight on 21 March or the area which receives two hours of direct sunlight should not be reduced to less than 0.8 times its former value (i.e. there should be no more than a 20% reduction).

The below table shows the sunlight levels to the surrounding amenity areas in the existing and proposed scenarios:

Name/Address of Building	Existing Percentage Area Receiving 2 Hours Sunlight on 21 March	Proposed Percentage Area Receiving 2 Hours Sunlight on 21 March
South Heywood Masterplan (16/01399/HYBR)	66.06%	65.30%

Our overshadowing analysis indicates that all gardens assessed that serve houses within the South Heywood Masterplan will continue to receive at least two hours of sunlight to in excess of 50% of their area on 21 March. They will therefore fully accord with the BRE guidelines with the proposed development in place.

10.0 Conclusions

We have undertaken a daylight and sunlight assessment for the proposed industrial development on Manchester Road in Heywood.

We have undertaken a technical analysis using the methodologies set out within the Building Research Establishment Guidelines entitled 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (2022)'.

All of the properties surrounding the site will fully accord with the BRE target criteria for daylight and sunlight with the proposed development in place. The impact to daylight and sunlight is negligible and therefore considered wholly acceptable.

Appendix 01

Principles of Daylight and Sunlight

PRINCIPLES OF DAYLIGHT, SUNLIGHT & OVERSHADOWING

The Building Research Establishment (BRE) have set out in their handbook 'Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice 3rd edition (2022)', guidelines and methodology for the measurement and assessment of daylight, sunlight and overshadowing.

1 BACKGROUND & CONTEXT

The quality of daylight and sunlight amenity as well as the overshadowing of open spaces is often stipulated within planning policy for protection or enhancement and a concern for adjoining owners and other interested parties.

The BRE Guidelines provide advice on site layout planning to determine the quality of daylight and sunlight both within buildings and reaching open spaces.

The BRE Guidelines note that the document is intended to be used in conjunction with the interior daylight recommendations found within the British Standard Daylight in buildings, BS EN 17037 and the CIBSE Publication LG 10 Daylighting – a guide for designers.

Whilst the BRE Guidelines are typically referred to for daylight sunlight and overshadowing matters within the planning process, they were not intended to be used as an instrument of planning policy, nor were the figures intended to be fixedly applied to all locations.

In the introduction of 'Site Layout Planning for daylight and sunlight (2022)', section 1.6 (page 7), 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 designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design (see Section 5). In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings".

Paragraph 2.2.3 (page 14) of the document states:

"Note that numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints".

The numerical criteria suggested by the BRE are therefore designed to provide industry advice/guidance to plan/design with daylight in mind. Alternative values may be appropriate in certain circumstances such as highly dense urban areas. The BRE approach to creating alternative criteria is detailed within Appendix F of the Document.

Paragraph 2.2.2 (page 14) of the document states:

The BRE Guidelines state that they 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."

Although primarily designed to be used for residential properties, the BRE Guidelines continue to state that they may be applied to any existing non-residential buildings where there may be a reasonable expectation of daylight including; schools, hospitals, hotels and hostels, small workshops, and some offices.

Many Local Planning Authorities consider daylight and sunlight an important factor for determining planning applications. Policies refer to both the protection of daylight and sunlight amenity within existing properties and areas of amenity as well as the creation of proposed dwellings and spaces with high levels of daylight and sunlight amenity.

Although Local Authorities will look to the BRE Guide to understand impacts it is their Planning Policies that will determine whether the changes in light should be a reason for refusal at planning.

It is an inevitable consequence of the built-up urban environment that daylight and sunlight will be more limited in dense urban areas. It is well acknowledged that in such situations there may be many other conflicting and potentially more important planning and urban design matters to consider other than just the provision of ideal levels of daylight and sunlight.

The following sections extract relevant sections from the Guide.

2 EFFECTS TO DAYLIGHT

The BRE Guidelines provide two methodologies for daylight impact assessment, namely;

- 1 The Vertical Sky Component (VSC); and
- 2 The No Sky Line (NSL).

Vertical Sky Component (VSC)

The Vertical Sky Component (VSC) method is described in the Glossary of BRE Guidelines as the:

“Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the ‘given vertical plane’ is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings”

Put simply, the VSC provides an assessment of the amount of skylight falling on a vertical plane (generally a window) directly from the sky, in the

circumstance of an overcast sky (CIE standard).

The national numerical value target “ideal” for VSC is 27%. The BRE Guidelines advise that upon implementation of a development, a window should retain a VSC value of 27% or at least 0.8 of its former value (i.e. no more than a 20% change) as per paragraph 2.2.23 of the Guide.

This form of assessment does not take account of window size, room use, room size, window number or dual aspect rooms. The assessment also assumes that all obstructions to the sky are 100% non-reflective thereby omitting the consideration of reflection and considering only the light coming directly from the sky.

The VSC calculation is undertaken in both the existing and proposed scenarios so as to make a comparison.

The image in Figure 01 depicts a Waldram Diagram which can be used to calculate the VSC. The existing buildings are solidly pictured with the proposed scheme semi-transparent in the foreground.

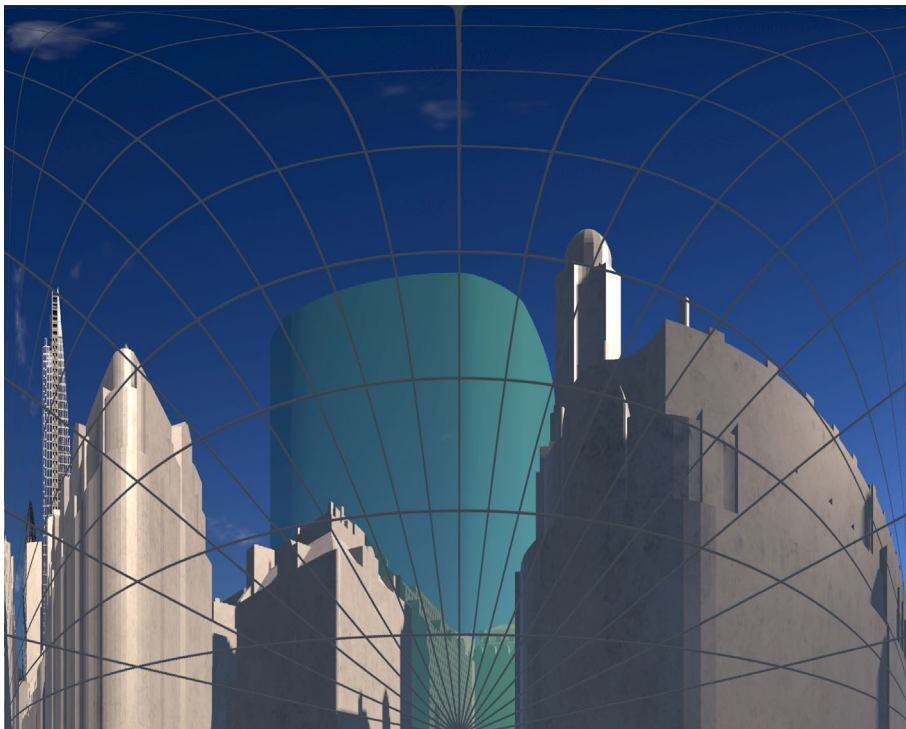


Fig. 01: Waldram diagram

No Sky Line (NSL)

In addition to the VSC, the BRE recommends the NSL method of assessment where internal layouts are known. Whilst the VSC provides information on the quantum of light reaching a window, the NSL seeks to provide information on how well this light is distributed within the room. The NSL is sometimes also referred to as 'Daylight Distribution' for this reason.

The NSL in the Glossary of the Guide as "the outline on the working plane of the area from which no sky can be seen." and so the NSL is effectively an assessment of sky visibility within a room. As stated already, the calculation is undertaken across the working plane which in accordance with paragraph 2.2.10 "in houses [...] is assumed to be horizontal and 0.85m high".

Again, both the existing and proposed positions are calculated and presented alongside any change in position of the NSL. The results can then be presented in table format or else illustrated on a contour plot if required, an example of which can be found in Figure 02 below.

The BRE Guidelines state at paragraph 2.211 that:

"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. This is also true if the no sky line encroaches on key areas like kitchen sinks and worktops."

In accordance with the strict application of the national numerical values, therefore the change in daylight would be noticeable to the occupants should the NSL experience a loss of NSL greater than 20%.

It is relevant to note that this assessment takes the number and size of windows serving a room into account as well as the shape of the room but, being concerned only with sky visibility and the distribution of light, does not consider the quantum of light reaching the room.

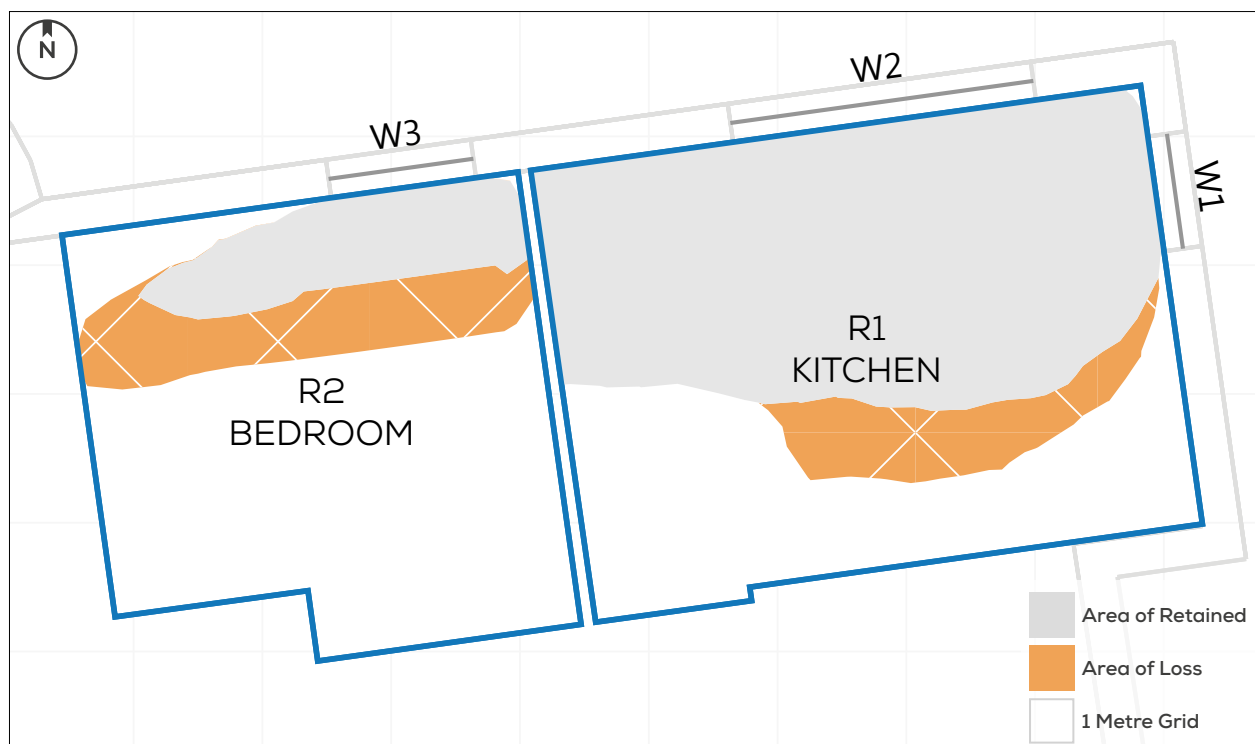


Fig. 02: Example NSL diagram

Decision Chart (Figure 20 of the BRE Guide)

The flowchart in Figure 03 illustrates the steps and criteria outlined within the BRE Guidelines to understand whether the daylighting (VSC and NSL) may be significantly affected.

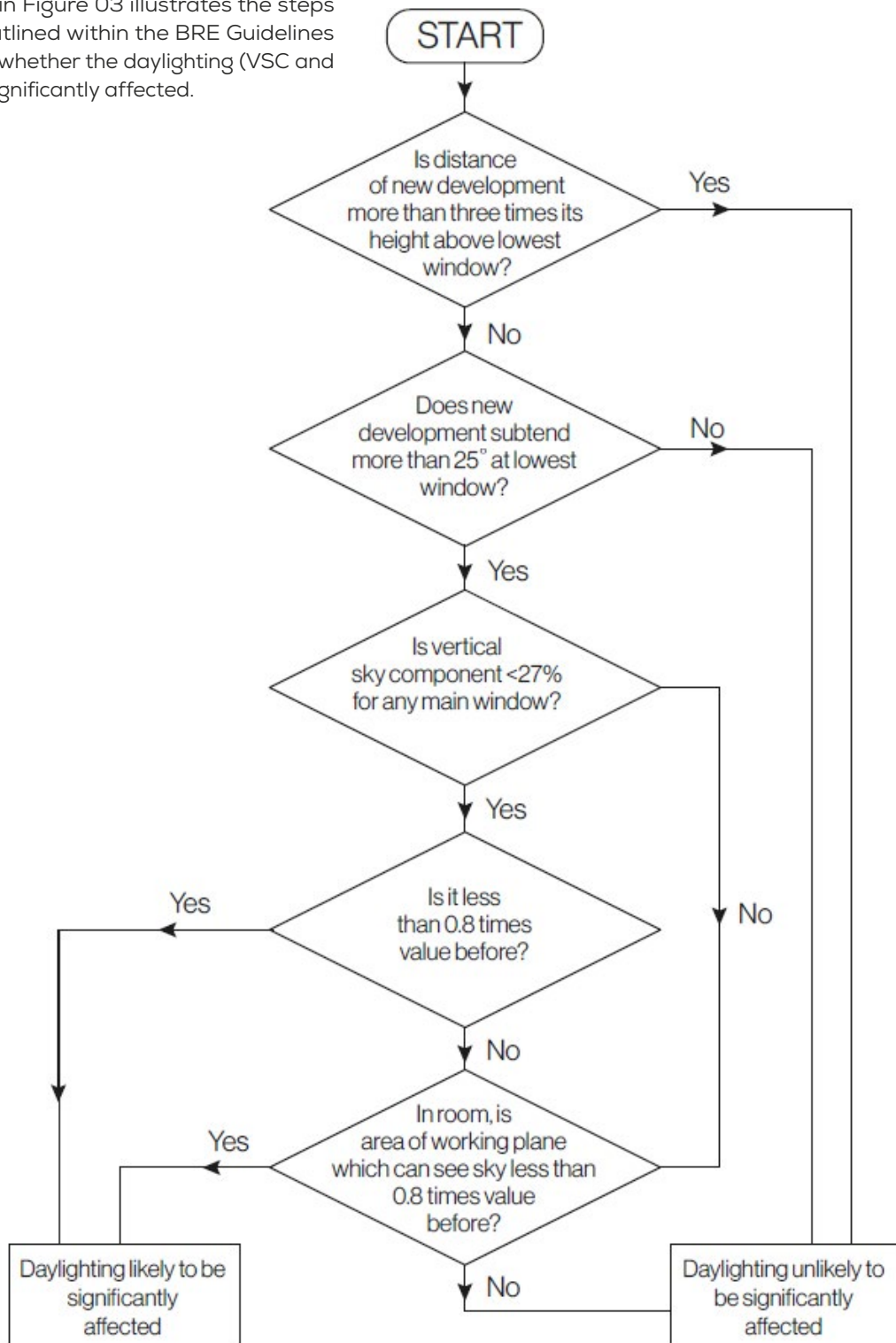


Fig. 03: BRE Decision Chart (Figure 20): diffuse daylight in existing buildings. This does not include an assessment of rights to light issues, which a developer may need to consider separately

3 EFFECTS TO SUNLIGHT

Annual Probable Sunlight Hours (APSH)

The BRE Guidance suggests that to understand sunlight impacts to a property, an assessment of Annual Probable Sunlight Hours (APSH) is undertaken. The APSH is defined in the Glossary as:

“the long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground (when clouds are taken into account)”

Expanding on the above, long-term averages were used to position 100 spots in the sky, representative of sunlight over the whole year. Correlating to the probability of the sun to shine, the majority of these (70) are at times to the six-months containing summer (from spring equinox to autumn equinox) which 30 are the ‘winter’ months from autumn equinox to spring. The APSH is calculated though calculating how many of these ‘spots’ can be seen from a location (normally a window) both overall and how many of these are during the winter months.

To understand the potential sunlight impacts therefore, all windows facing within 90 degrees of due south and overlooking the development are generally assessed for APSH.

The BRE Guidelines set out the overall methodology and criteria for the assessment of Sunlight in Chapter 3. The BRE Guidelines state in paragraph 3.2.3 and 3.2.5:

“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 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.”

“A point at the centre of the window on the outside face of the window wall may be taken.”

In interpreting the results, the BRE Guidance states in summary 3.2.13 that:

“If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° 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, or less than 5% of annual probable sunlight hours between 21 September and 21 March, and*
- receives less than 0.8 times its former sunlight hours during either period; and*
- has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.”*

The image in Figure 04 depicts the APSH sun spots overlaid on a Waldram Diagram. The existing buildings are solidly pictured with the proposed scheme semi-transparent in the foreground. The yellow spots indicate summer sun and the blue spots indicate winter sun.

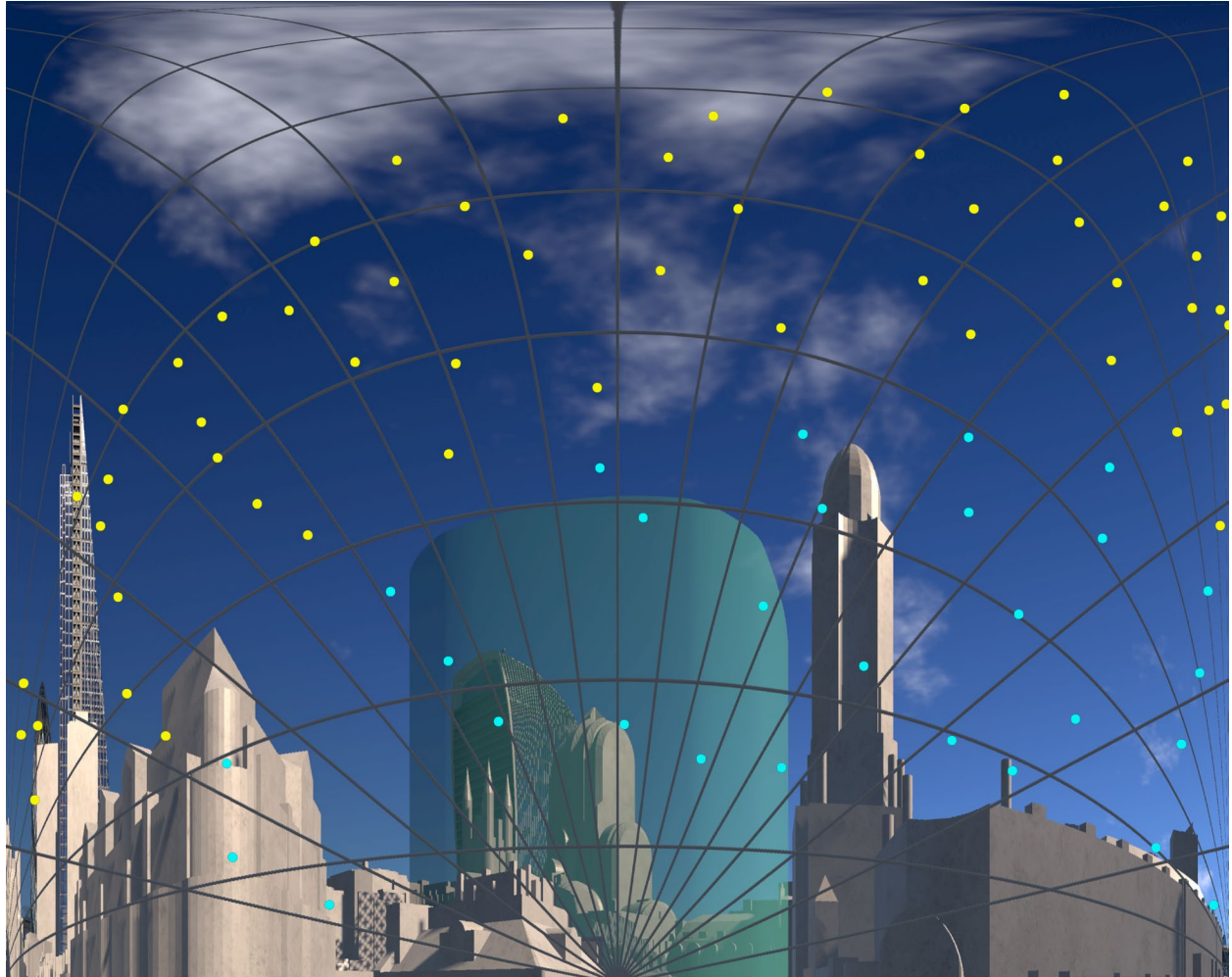


Fig. 04: Waldram diagram

4 EFFECTS TO OVERSHADOWING

The BRE guidance in respect of overshadowing of amenity spaces is set out in section 3.3.1 of the handbook. Here it states as follows:

“Sunlight in the spaces between and around buildings has an important impact on the overall appearance and ambiance of a development. It is valuable for a number of reasons, to:

- *provide attractive sunlit views (all year)*
- *make outdoor activities like sitting out and children’s play more pleasant (mainly warmer months)*
- *encourage plant growth (mainly spring and summer)*
- *dry out the ground, reducing moss and slime (mainly in colder months)*
- *melt frost, ice and snow (in winter)*
- *dry clothes (all year).”*

It must be acknowledged that in urban areas the availability of sunlight on the ground is a factor which is significantly controlled by the existing urban fabric around the site in question and so may have very little to do with the form of the development itself. Likewise, there may be many other urban design, planning and site constraints which determine and run contrary to the best form, siting and location of a proposed development in terms of availability of sun on the ground.

Sun Hours on Ground & Transient Overshadowing

The Sun Hours on Ground method of overshadowing assessment uses specialist software to determine the sunlight exposure across an area of amenity.

The BRE Guidelines suggest that the Spring Equinox (21 March), being the year’s midpoint, is a suitable date for the assessment. Paragraph 3.3.17 states:

“It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable.”

The Transient Overshadowing study is recommended where large buildings are proposed which may affect a number of gardens or open spaces or where an area is particularly sensitive at certain times of day or year. For the purpose of this assessment, the additional shadow cast is mapped and highlighted at hourly intervals from sunrise to sunset on the following dates:

- 21 March (Spring equinox)
- 21 June (Summer solstice)
- 21 December (Winter solstice)

The BRE guidelines do not provide any suggested criteria for Transient Overshadowing, rather it is a qualitative assessment to aid understanding.

5 BRE GUIDELINES: ADDITIONAL DAYLIGHT AND SUNLIGHT TESTS

Daylight - VSC and APSH to Rooms

As outlined within the BRE Guidelines (paragraph 2.2.6), the VSC value is calculated for each window; however:

"If a room has two or more windows of equal size, the mean of their VSCs may be taken".

Where a room is served by two or more windows of the same or different sizes, the VSC value to the room can be calculated by applying an average weighting calculation to understand the VSC value to the room. The formula used is as follows;

$$\Sigma(Vn \cdot An) / \Sigma An$$

Where:

V = window VSC

A = window area

n = the number of windows

The BRE provide a methodology to calculate APSH in relation to the room and window, paragraph 3.1.12 states:

"If a room has multiple windows, the amount of sunlight received by each can be added together provided they occur at different times and sunlight hours are not double counted."

The above extract of the BRE is in relation to proposed units rather than existing buildings. It does, however, make sense to apply this methodology to existing rooms as well, when room layouts are known as a room served by multiple windows could receive the benefit of sunlight from all windows and not just one.

GIA calculate the APSH room assessment in the following way:

- 1 The sunlight hours (both winter and annual) are calculated for each window. Instead of simply returning the overall per cent pass rate, i.e. one figure for winter, and one for the whole year, the yes/no result of each of the 100 sun spots is tracked. For this accounting to work, each sun dot needs to be assigned a unique identifier, e.g. from 1 to 100;

- 2 The sets of 100 sun spots are combined for each room using Boolean logic, i.e. conjunctions of yes/no values. The outcome of this step is a set of 100 yes/no values corresponding to the 100 sun spots, but on a per-room basis. Each per-room dot is counted if it is unobstructed for at least one of its windows; and
- 3 The unobstructed sun dots for the room are summed up and expressed as a percentage of the total number of annual and winter spots.

Balconies/Overhangs

The BRE recognises that existing architectural features on neighbouring buildings such as balconies and overhangs inherently restrict the quantum of skylight to a window. The BRE Guidelines note on page 11, paragraph 2.1.17 and page 16, paragraph 2.2.13:

"This is a particular problem if there are large obstructions opposite; with the combined effect of the overhang and the obstruction, it may be impossible to see the sky from inside the room, and hence to receive any direct skylight or sunlight at all."

"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 opposite 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 the area receiving direct skylight, for both the existing and proposed situations, without the balcony in place."

As noted by the BRE Guidelines, where there are existing overhanging features, larger reductions in skylight and sunlight may be unavoidable and alternative criteria can be used. The guidance suggests that in such situations a calculation is carried out that excludes the balcony or the obstruction.

6 DAYLIGHT - MIRROR MASSING & ADJOINING DEVELOPMENT LAND

Alternative target Values for Skylight and Sunlight Access "Mirror Massing"

The BRE Guidelines provide a calculation for the VSC and APSH analysis to quantify an appropriate alternative value based on the context of an environment. This approach is known as the 'mirror image' analysis (see Figure 05).

The BRE notes in paragraph F5:

"where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light. Figure F3 shows an example where side windows of an existing building are close to the boundary. To ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for these windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away on the other side of the boundary."

This analysis is used to understand the levels of Daylight (VSC) and Sunlight (APSH) that would be experienced by an extant neighbouring property if there were a building of the same height and extent opposite.

The mirror image assessment is fairly simplistic and is not, therefore, easily applied to large and complex site footprints which are not all built at equal distances from the site boundary or of the same footprint.

Adjoining Development Land

The "Adjoining Development Land" analysis provided within the BRE Guidelines is a simple test to ensure that a proposal is a reasonable distance from the boundary so as to "enable future nearby developments to enjoy a similar access to daylight." (2.3.1)

The BRE comments in paragraphs 2.3.3, 2.3.6 and 2.3.7 that:

"The diffuse daylight coming over the boundary may be quantified in the following way. As a first check, draw a section in a plane perpendicular to the boundary (Figure 21). If a road separates the two sites then the centre line of the road

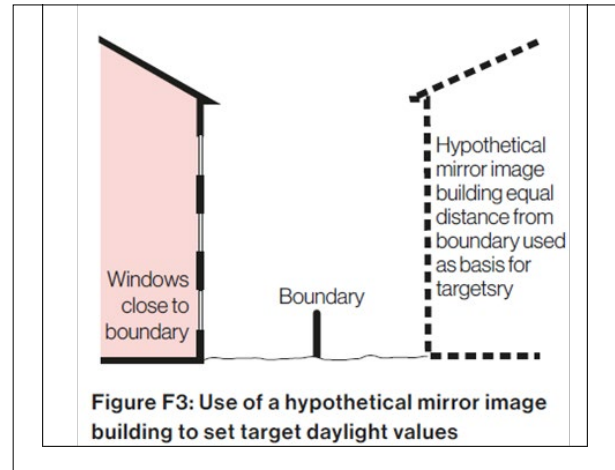


Fig. 05: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 87
Figure F3

should be taken. Measure the angle to the horizontal subtended at a point 1.6 metres above the boundary by the proposed new buildings. If this angle is less than 43° then there will normally still be the potential for good daylighting on the adjoining development site (but see Sections 2.3.6 and 2.3.7)."

"The guidelines above should not be applied too rigidly. A particularly important exception occurs when the two sites are very unequal in size and the proposed new building is larger in scale than the likely future development nearby. This is because the numerical values above are derived by assuming the future development will be exactly the same size as the proposed new building (Figure 22). If the adjoining sites for development are a lot smaller, a better approach is to make a rough prediction of where the nearest window wall of the future development may be; then to carry out the 'new building' analysis in Section 2.1 for this window wall."

"The 43° angle should not be used as a form generator, to produce a building which slopes or steps down towards the boundary. Compare Figure 23 with Figure 22 to see how this can result in a higher than anticipated obstruction to daylight. In Figure 23 the proposed building subtends 34° at its mirror image, rather than the maximum of 25° suggested here. In cases of doubt, the best approach is again to carry out a new building analysis for the most likely location of a window wall of a future development."

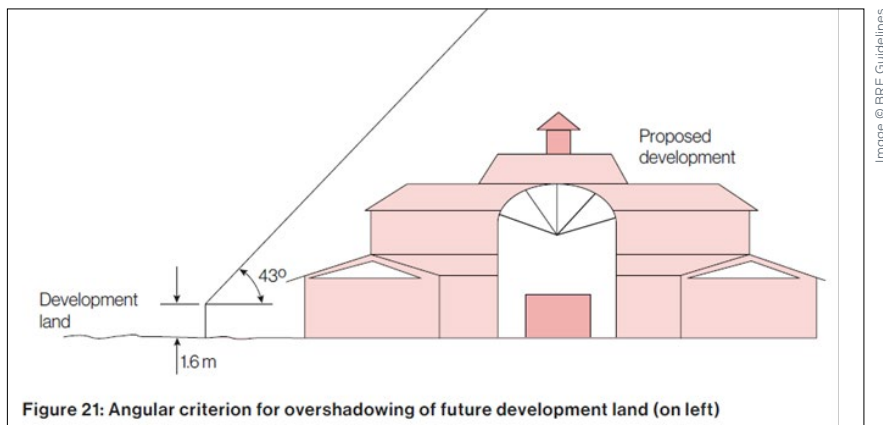


Fig. 06: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 19 Figure 21

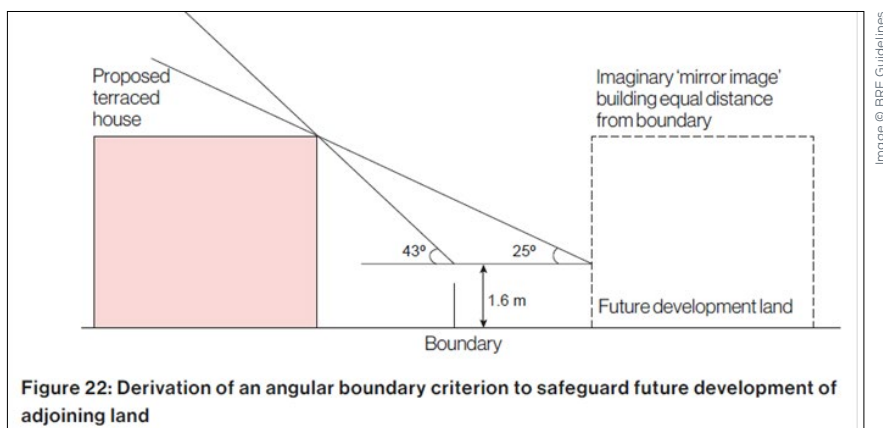


Fig. 07: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 20 Figure 22

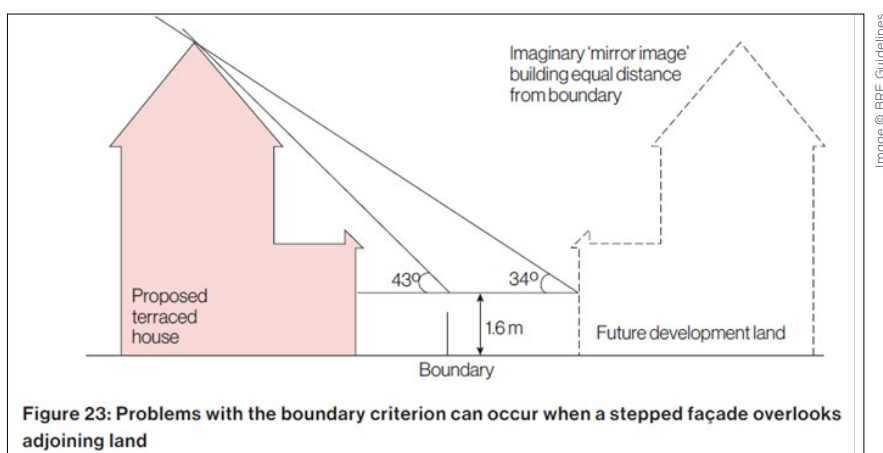


Fig. 08: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 20 Figure 23

As outlined above, the Adjoining Development Land analysis is predicated on ensuring that a proposal next to future development land is not negatively impacting the ability to develop in consideration of light matters.

7 PHOTOVOLTAICS

Paragraph 4.5.2 states that “where a proposed development may result in loss of radiation to existing solar panels (either photovoltaic or solar thermal), an assessment should be carried out.”

Paragraph 4.5.8 states that “Where the annual probable sunlight hours received by a solar panel with the new development in place is less than 0.90 times the value before, a more detailed calculation of the loss of solar radiation should be undertaken. This is a specialist type of assessment and expert advice should be sought. The assessment should include both direct solar and diffuse sky radiation; over a whole year, around 60% of the radiation received on a horizontal roof comes from the sky. However, reflected radiation from the ground and obstructions need not be included. The modelling should take account of the effects of cloud in reducing direct solar radiation at different times of year, and include a realistic simulation of the way that incoming solar radiation varies from different parts of the sky.”

Paragraph 4.5.9 states that “if over the whole year the ratio of total solar radiation received with the new development, to the existing value is less than the values given in Table 2, then the loss of radiation is significant.”

Table 2. Recommended minimum ratios of solar radiation received.

Slope of solar panel in degrees to horizontal	Recommended minimum ratio of radiation received after/before
0-30	0.90
30.01-59.99	0.85
60-90	0.80

Fig. 09: Table 2 from BRE Guidance Section 4, page 36

Finally, paragraph 4.5.10 notes that “numerical values given are purely advisory. Different criteria may be used based on the requirements for solar energy in an area viewed against other site layout constraints. Another important issue is whether the existing solar panels are reasonably sited, at a sensible height and distance from the boundary. A greater loss of solar radiation may be inevitable if panels are mounted close to the ground and near to the site boundary.”

9 OTHER AMENITY CONSIDERATIONS

Daylight and sunlight is one factor among many under the heading of residential amenity considerations for any given development design or planning application; others include:

- View;
- Privacy;
- Security;
- Access;
- Enclosure;
- Microclimate;
- Solar Dazzle; and
- Solar Convergence.

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Appendix 02

Existing Drawings



SOURCES OF INFORMATION

IR08-20230103-TC
IR09-EXISTING AND PROPOSED
SITE SECTIONS
BOWER 4B7P SEMI-DETACHED
RUSSELL HOMES PLANS
ROCHDALE PLANNING PORTAL
(16/01399/HYBR)

ALL INFORMATION DISPLAYED IS SUBJECT TO A COMPLETE VERIFIABLE SITE SURVEY BEING UNDERTAKEN. GIA TAKES NO RESPONSIBILITY ON THE ACCURACY OR RELIABILITY OF THE DISPLAYED DATA SINCE A VERIFIED SITE SURVEY WAS NOT MADE AVAILABLE PRIOR TO THE GENERATION OF SUCH INFORMATION.

NOTES:
EXISTING SCENARIO SHOWN IN SEPIA

N.B. DO NOT SCALE OFF THIS DRAWING

PROJECT:
HEYWOOD STORES,
MANCHESTER ROAD,
HEYWOOD

DRAWING NAME:
PLAN VIEW EXISTING

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	JAN23
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2125	01	01	01	

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SOURCES OF INFORMATION

IR08-20230103-TC
IR09-EXISTING AND PROPOSED
SITE SECTIONS
BOWER 4B7P SEMI-DETACHED
RUSSELL HOMES PLANS
ROCHDALE PLANNING PORTAL
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NOTES:
EXISTING SCENARIO SHOWN IN SEPIA

N.B. DO NOT SCALE OFF THIS DRAWING

PROJECT:
HEYWOOD STORES,
MANCHESTER ROAD,
HEYWOOD

DRAWING NAME:
3D VIEW EXISTING

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	JAN23
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2125	01	01	02	



SOURCES OF INFORMATION

IR08-20230103-TC
IR09-EXISTING AND PROPOSED
SITE SECTIONS
BOWER 4B7P SEMI-DETACHED
RUSSELL HOMES PLANS
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NOTES:
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HEYWOOD

DRAWING NAME:
3D VIEW EXISTING

DWN BY	SCALE	CHK BY	STATUS	DATE
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Appendix 03

Proposed Drawings



RUSSELL
HOMES
SCHEME

SOURCES OF INFORMATION

IR08-20230103-TC
IR09-EXISTING AND PROPOSED
SITE SECTIONS
BOWER 4B7P SEMI-DETACHED
RUSSELL HOMES PLANS
ROCHDALE PLANNING PORTAL
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NOTES:
PROPOSED SCHEME SHOWN IN TEAL

N.B. DO NOT SCALE OFF THIS DRAWING

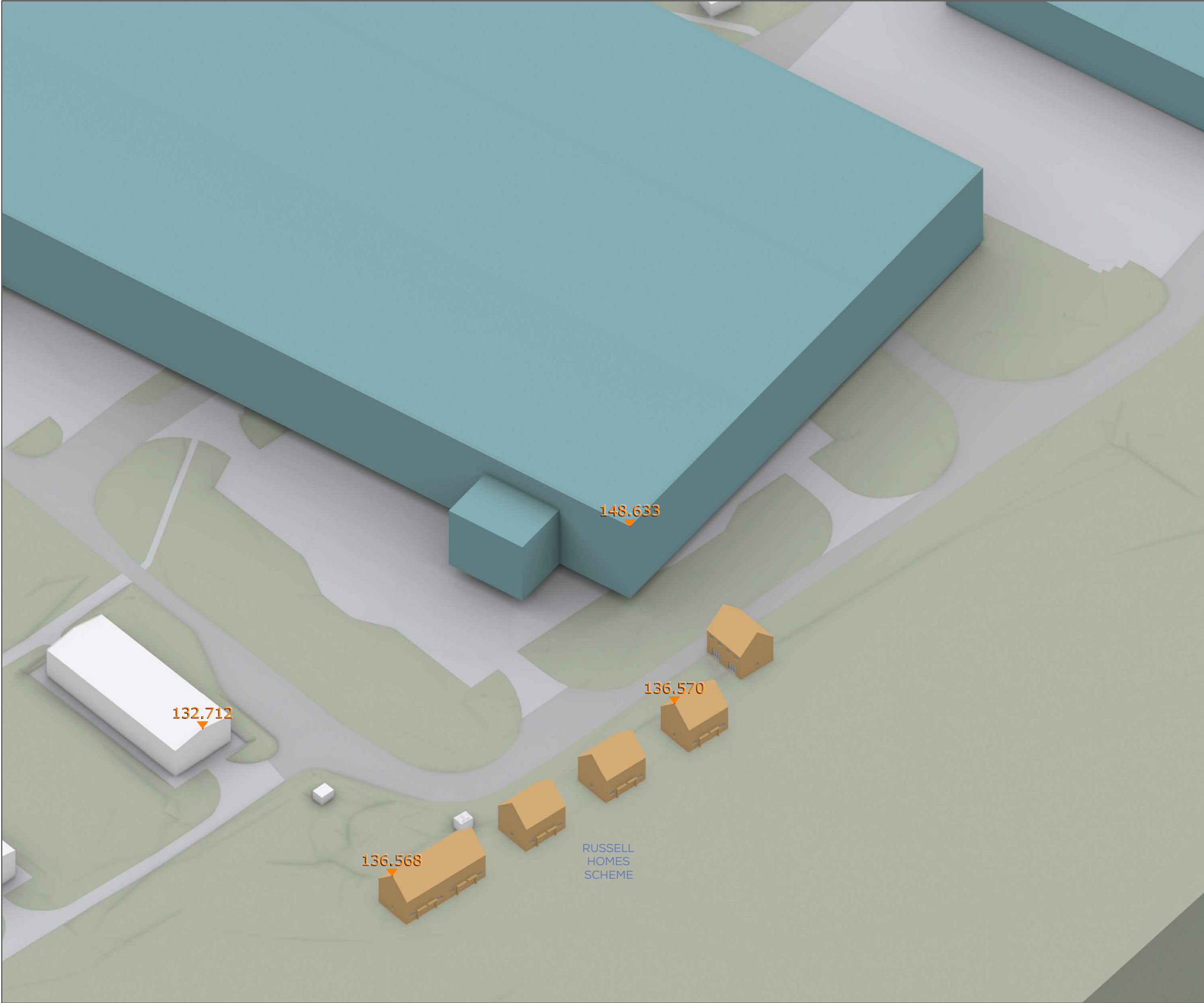
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HEYWOOD STORES,
MANCHESTER ROAD,
HEYWOOD

DRAWING NAME:
PLAN VIEW PROPOSED

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EP	NTS	SP	*	JAN23
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2125	01	01	04	

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SOURCES OF INFORMATION

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RUSSELL HOMES PLANS
ROCHDALE PLANNING PORTAL
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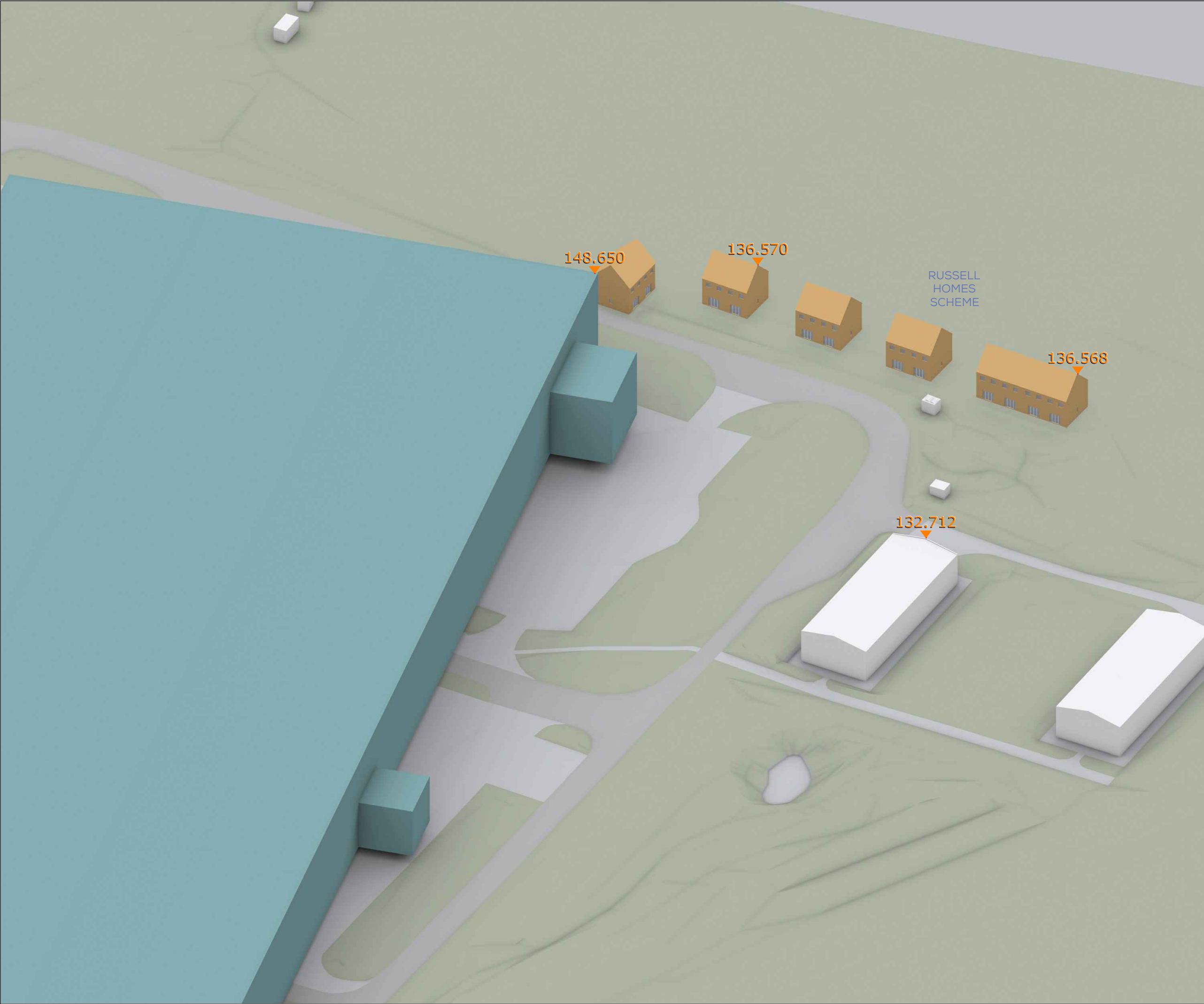
NOTES:
PROPOSED SCHEME SHOWN IN TEAL

N.B. DO NOT SCALE OFF THIS DRAWING

PROJECT:
HEYWOOD STORES,
MANCHESTER ROAD,
HEYWOOD

DRAWING NAME:
3D VIEW PROPOSED

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	JAN23
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2125	01	01	05	



SOURCES OF INFORMATION

IR08-20230103-TC
IR09-EXISTING AND PROPOSED
SITE SECTIONS
BOWER 4B7P SEMI-DETACHED
RUSSELL HOMES PLANS
ROCHDALE PLANNING PORTAL
(16/01399/HYBR)

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MANCHESTER ROAD,
HEYWOOD

DRAWING NAME:
3D VIEW PROPOSED

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	-	JAN23
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2125	01	01	06	



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Appendix 04

Results and Window Maps

					VSC (WINDOW)					VSC (ROOM)					NSL				
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	MEETS CRITERIA	EX %	PR %	LOSS	LOSS %	MEETS CRITERIA	EX %	PR %	LOSS SQM	LOSS %	MEETS CRITERIA
RUSSELL HOMES SCHEME																			
F00	R1	RESIDENTIAL	LKD	W1/F00	37.4	35.6	1.8	4.8%	YES	33.9	33.8	0.1	0.3%	YES	100	100	0.0	0.0%	YES
			LKD	W2/F00	38.6	38.6	0	0.0%	YES										
			LKD	W3/F00	32.1	32.4	-0.3	-0.9%	YES										
			LKD	W4/F00	32.3	32.6	-0.3	-0.9%	YES										
			LKD	W5/F00	32.6	32.9	-0.3	-0.9%	YES										
			LKD	W6/F00	32.8	33.1	-0.3	-0.9%	YES										
	R2	RESIDENTIAL	LKD	W7/F00 / INC (2)	34.4	33.1	1.3	3.8%	YES	34	31.2	2.8	8.2%	YES	98.7	100	-0.3	-1.2%	YES
			LKD	W8/F00	38.6	38.6	0	0.0%	YES										
			LKD	W9/F00	32.6	28.9	3.7	11.3%	YES										
			LKD	W10/F00	32.7	29.1	3.6	11.0%	YES										
			LKD	W11/F00	32.9	29.3	3.6	10.9%	YES										
			LKD	W12/F00	33	29.5	3.5	10.6%	YES										
	R3	RESIDENTIAL	LKD	W13/F00	33.5	30.3	3.2	9.6%	YES	34.3	32.1	2.2	6.4%	YES	98.8	100	-0.3	-1.2%	YES
			LKD	W14/F00	33.6	30.4	3.2	9.5%	YES										
			LKD	W15/F00	38.6	38.6	0	0.0%	YES										
			LKD	W16/F00	33.7	30.6	3.1	9.2%	YES										
			LKD	W17/F00	33.8	30.7	3.1	9.2%	YES										
			LKD	W18/F00 / INC (2)	31.9	32.1	-0.2	-0.6%	YES										
	R4	RESIDENTIAL	LKD	W19/F00 / INC (2)	30.9	28.9	2	6.5%	YES	35.6	33.8	1.8	5.1%	YES	100	100	0.0	0.0%	YES
			LKD	W20/F00	38.6	38.6	0	0.0%	YES										
			LKD	W21/F00	35.4	33.2	2.2	6.2%	YES										
			LKD	W22/F00	35.5	33.3	2.2	6.2%	YES										
			LKD	W23/F00	35.6	33.4	2.2	6.2%	YES										
			LKD	W24/F00	35.6	33.4	2.2	6.2%	YES										
	R5	RESIDENTIAL	LKD	W25/F00	35.9	33.8	2.1	5.8%	YES	35.9	34.4	1.5	4.2%	YES	99.5	100	-0.1	-0.5%	YES
			LKD	W26/F00	35.9	33.8	2.1	5.8%	YES										
			LKD	W27/F00	35.9	33.9	2	5.6%	YES										
			LKD	W28/F00	38.6	38.6	0	0.0%	YES										
			LKD	W29/F00	36	34	2	5.6%	YES										
			LKD	W30/F00 / INC (2)	31.3	31.3	0	0.0%	YES										
	R6	RESIDENTIAL	LKD	W31/F00 / INC (2)	30.3	28.8	1.5	5.0%	YES	36.3	35.1	1.2	3.3%	YES	100	100	0.0	0.0%	YES

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					VSC (ROOM)					NSL				
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA
RUSSELL HOMES SCHEME (CONTINUED)																			
			LKD	W32/F00	38.6	38.6	0	0.0%	YES										
			LKD	W33/F00	36.6	35.1	1.5	4.1%	YES										
			LKD	W34/F00	36.6	35.1	1.5	4.1%	YES										
			LKD	W35/F00	36.7	35.2	1.5	4.1%	YES										
			LKD	W36/F00	36.7	35.2	1.5	4.1%	YES										
	R7	RESIDENTIAL	LKD	W37/F00	36.8	35.4	1.4	3.8%	YES	36.6	35.6	1	2.7%	YES	100	100	0.0	0.0%	YES
			LKD	W38/F00	36.8	35.4	1.4	3.8%	YES										
			LKD	W39/F00	36.8	35.4	1.4	3.8%	YES										
			LKD	W40/F00	38.6	38.6	0	0.0%	YES										
			LKD	W41/F00	36.9	35.5	1.4	3.8%	YES										
			LKD	W42/F00 / INC (2)	31.4	31.4	0	0.0%	YES										
	R8	RESIDENTIAL	LKD	W43/F00	33.7	34	-0.3	-0.9%	YES	33.9	32.5	1.4	4.1%	YES	100	100	0.0	0.0%	YES
			LKD	W44/F00	33.6	33.9	-0.3	-0.9%	YES										
			LKD	W45/F00	33.5	33.8	-0.3	-0.9%	YES										
			LKD	W46/F00	33.5	33.8	-0.3	-0.9%	YES										
			LKD	W47/F00	31.9	21.3	10.6	33.2%	NO										
			LKD	W48/F00	36.6	33.6	3	8.2%	YES										
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	35.3	35.4	-0.1	-0.3%	YES	35.3	35.4	-0.1	-0.3%	YES	96.1	96.1	0.0	0.0%	YES
	R2	RESIDENTIAL	BEDROOM	W2/F01	34.8	30.5	4.3	12.4%	YES	34.8	30.5	4.3	12.4%	YES	96.1	87.8	0.8	8.6%	YES
	R3	RESIDENTIAL	BEDROOM	W3/F01	35	31	4	11.4%	YES	35	31	4	11.4%	YES	94.9	94.9	0.0	0.0%	YES
	R4	RESIDENTIAL	BEDROOM	W4/F01	35.3	31.5	3.8	10.8%	YES	35.3	31.5	3.8	10.8%	YES	94.8	94.8	0.0	0.0%	YES
	R5	RESIDENTIAL	BEDROOM	W5/F01	35.5	31.9	3.6	10.1%	YES	35.5	31.9	3.6	10.1%	YES	96.1	96.1	0.0	0.0%	YES
	R6	RESIDENTIAL	BEDROOM	W6/F01	36.5	33.8	2.7	7.4%	YES	36.5	33.8	2.7	7.4%	YES	96.1	96.1	0.0	0.0%	YES
	R7	RESIDENTIAL	BEDROOM	W7/F01	36.5	34	2.5	6.8%	YES	36.5	34	2.5	6.8%	YES	94.9	94.9	0.0	0.0%	YES
	R8	RESIDENTIAL	BEDROOM	W8/F01	36.6	34.3	2.3	6.3%	YES	36.6	34.3	2.3	6.3%	YES	94.8	94.8	0.0	0.0%	YES
	R9	RESIDENTIAL	BEDROOM	W9/F01	36.8	34.5	2.3	6.2%	YES	36.8	34.5	2.3	6.2%	YES	96.1	96.1	0.0	0.0%	YES
	R10	RESIDENTIAL	BEDROOM	W10/F01	37.2	35.4	1.8	4.8%	YES	37.2	35.4	1.8	4.8%	YES	96.1	96.1	0.0	0.0%	YES
	R11	RESIDENTIAL	BEDROOM	W11/F01	37.2	35.5	1.7	4.6%	YES	37.2	35.5	1.7	4.6%	YES	94.9	94.9	0.0	0.0%	YES
	R12	RESIDENTIAL	BEDROOM	W12/F01	37.2	35.6	1.6	4.3%	YES	37.2	35.6	1.6	4.3%	YES	94.8	94.8	0.0	0.0%	YES
	R13	RESIDENTIAL	BEDROOM	W13/F01	37.3	35.7	1.6	4.3%	YES	37.3	35.7	1.6	4.3%	YES	96.1	96.1	0.0	0.0%	YES
	R14	RESIDENTIAL	BEDROOM	W14/F01	35.7	35.6	0.1	0.3%	YES	35.7	35.6	0.1	0.3%	YES	96	96	0.0	0.0%	YES

(1) KITCHEN SMALLER THAN 13m2
(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)
(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					VSC (ROOM)					NSL				
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA
RUSSELL HOMES SCHEME (CONTINUED)																			
	R15	RESIDENTIAL	BEDROOM	W15/F01	35.5	35.5	0	0.0%	YES	35.5	35.5	0	0.0%	YES	94.2	94.2	0.0	0.0%	YES
	R16	RESIDENTIAL	BEDROOM	W16/F01	35.3	35.4	-0.1	-0.3%	YES	35.3	35.4	-0.1	-0.3%	YES	94	94	0.0	0.0%	YES

PROJECT: 2125 - HEYWOOD STORES, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: RUSSELL HOMES SCHEME
DATE: 23/01/2023
SCHEME IR: IR06
DRAWING No.: 2125-REL03-IS02-DD1

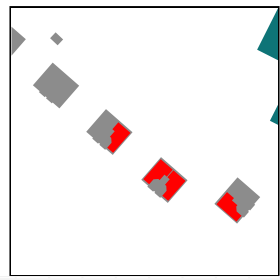
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
RUSSELL HOMES SCHEME								
F00	R1	RESIDENTIAL	LKD	25.0	100	100	0.0	0
F00	R2	RESIDENTIAL	LKD	25.0	98.7	100	-0.3	-1.2
F00	R3	RESIDENTIAL	LKD	25.0	98.8	100	-0.3	-1.2
F00	R4	RESIDENTIAL	LKD	25.0	100	100	0.0	0

PROJECT: 2125 - HEYWOOD STORES, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: RUSSELL HOMES SCHEME
DATE: 23/01/2023
SCHEME IR: IR06
DRAWING No.: 2125-REL03-IS02-DD2

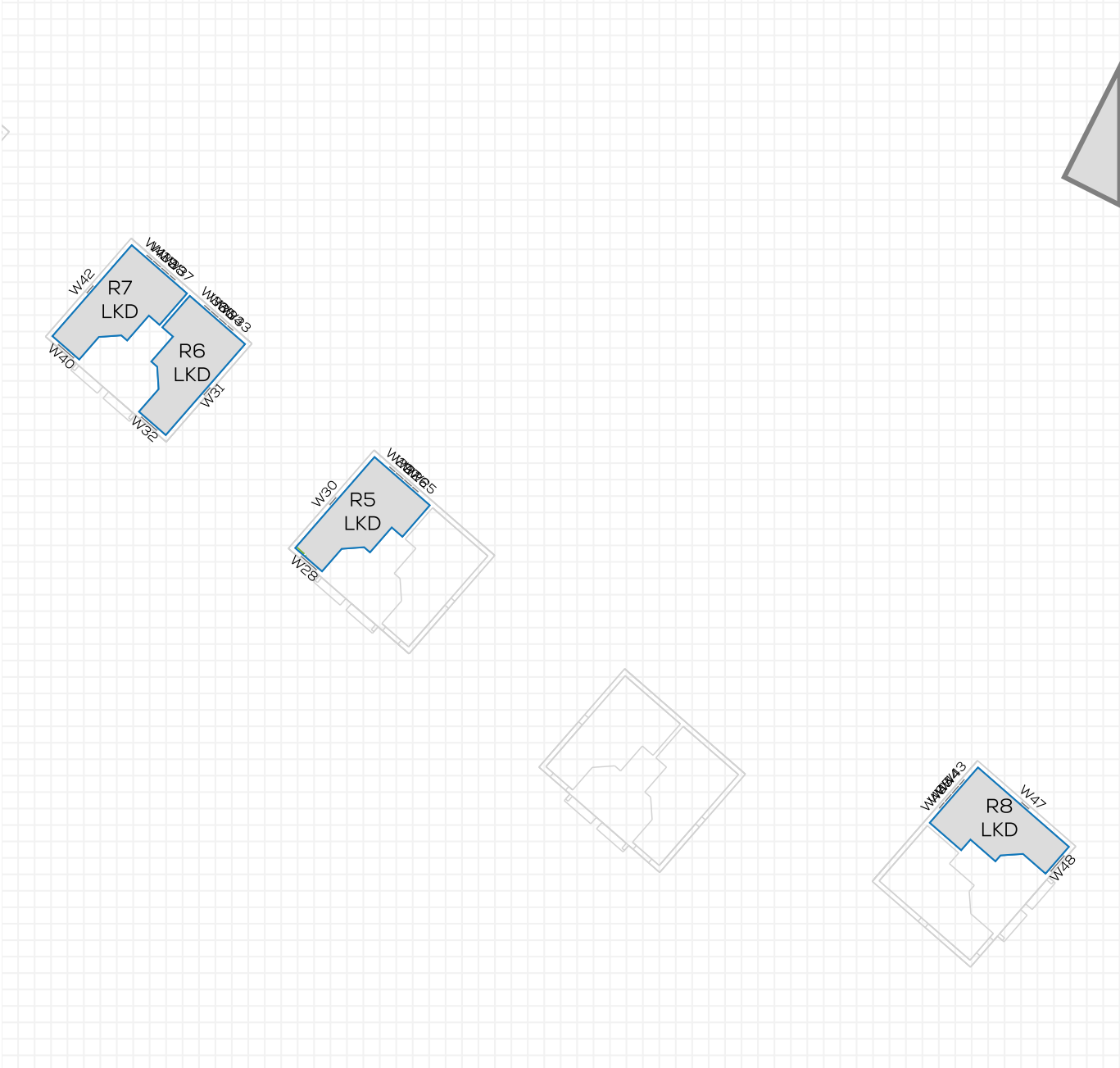
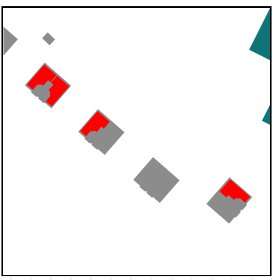
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID

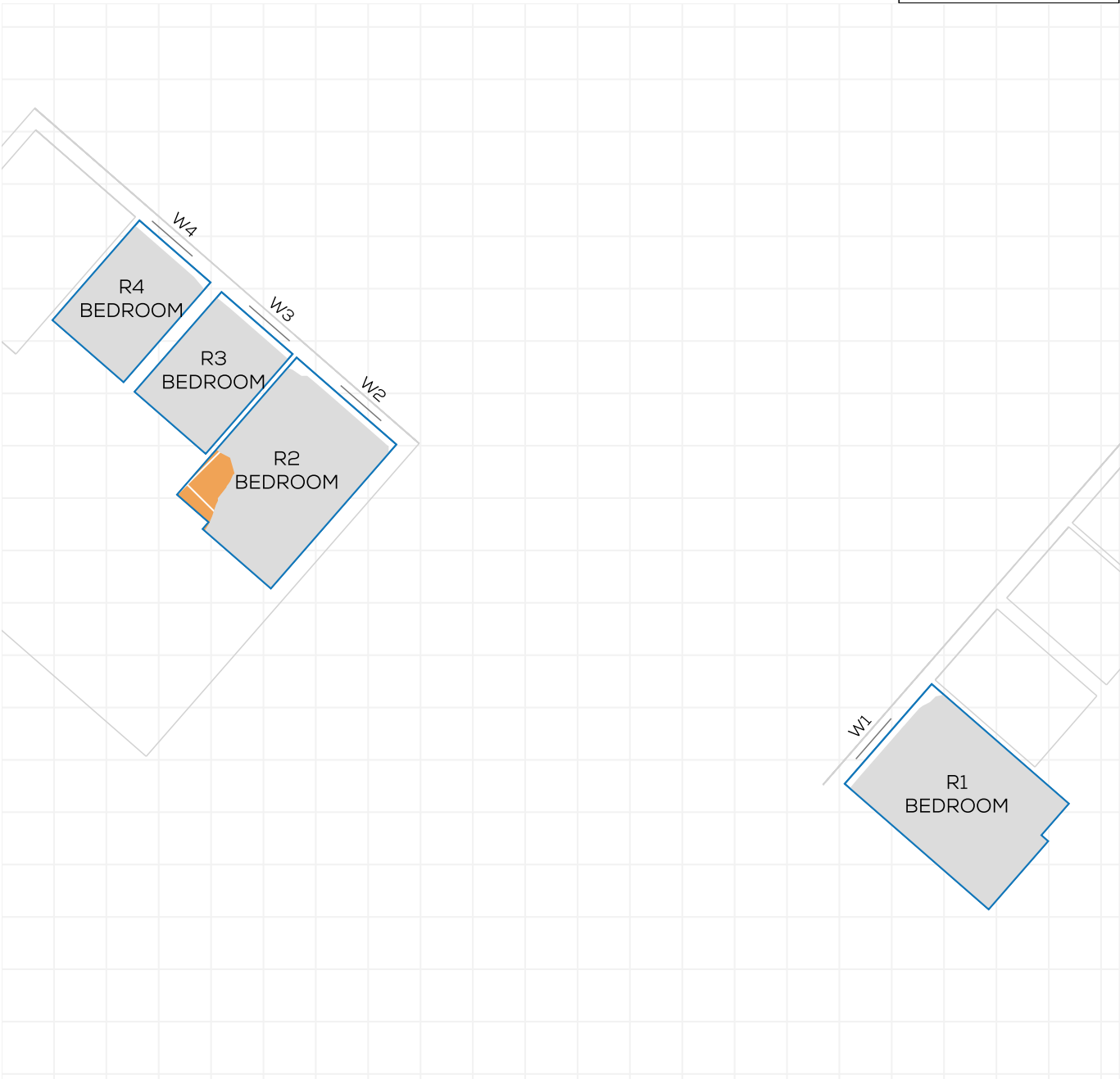
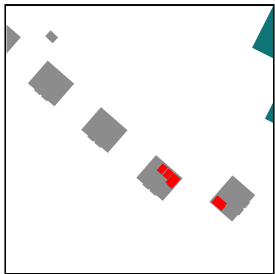


F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
RUSSELL HOMES SCHEME								
F00	R5	RESIDENTIAL	LKD	25.0	99.5	100	-0.1	-0.5
F00	R6	RESIDENTIAL	LKD	25.0	100	100	0.0	0
F00	R7	RESIDENTIAL	LKD	25.0	100	100	0.0	0
F00	R8	RESIDENTIAL	LKD	25.0	100	100	0.0	0

PROJECT: 2125 - HEYWOOD STORES, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: RUSSELL HOMES SCHEME
 DATE: 23/01/2023
 SCHEME IR: IR06
 DRAWING No.: 2125-REL03-IS02-DD3

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



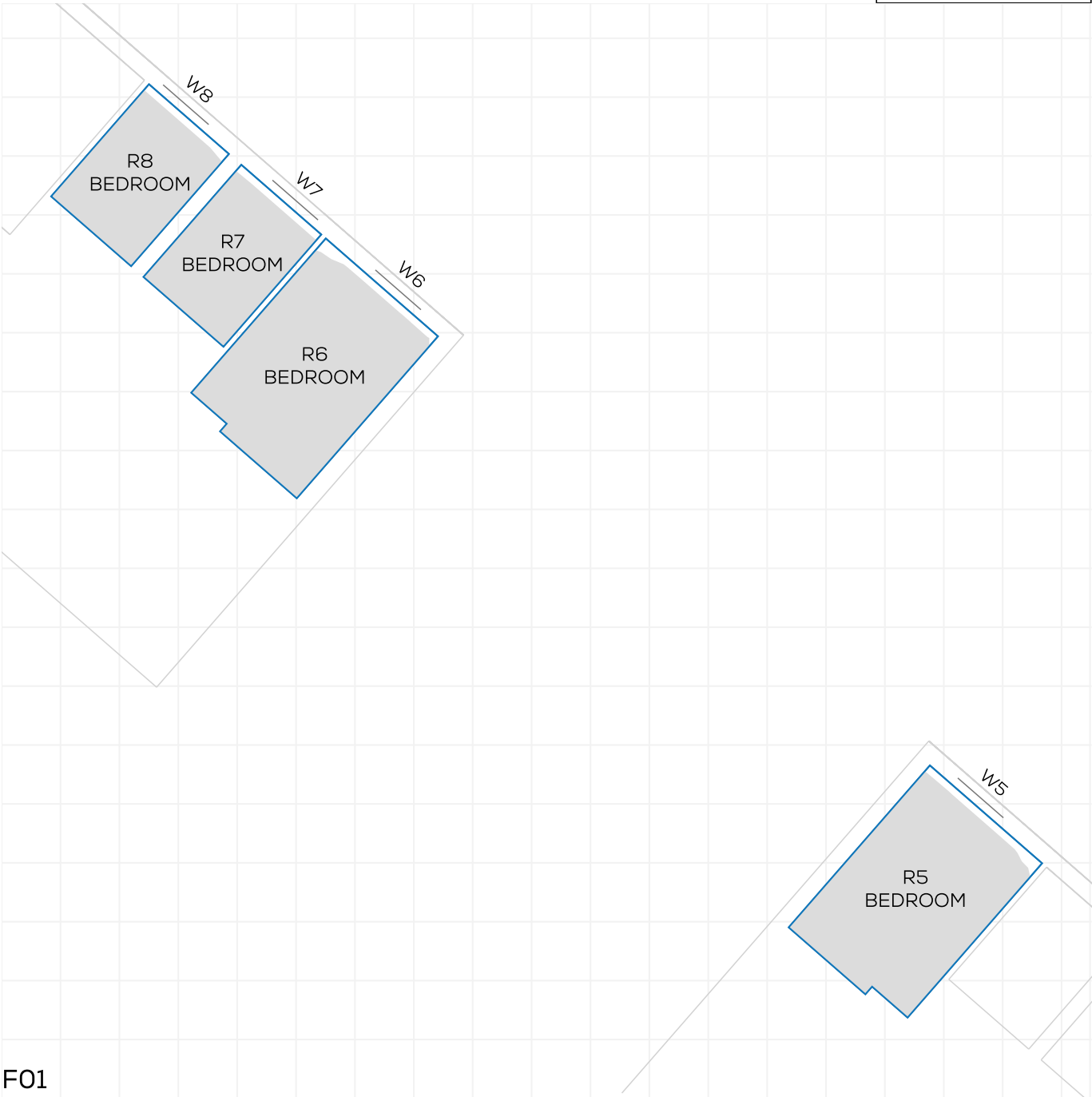
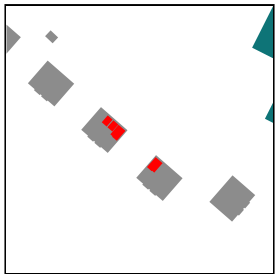
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
RUSSELL HOMES SCHEME								
F01	R1	RESIDENTIAL	BEDROOM	9.1	96.1	96.1	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	9.1	96.1	87.8	0.8	8.6
F01	R3	RESIDENTIAL	BEDROOM	4.6	94.9	94.9	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	4.6	94.8	94.8	0.0	0

PROJECT: 2125 - HEYWOOD STORES, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: RUSSELL HOMES SCHEME
 DATE: 23/01/2023
 SCHEME IR: IR06
 DRAWING No.: 2125-REL03-IS02-DD4

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

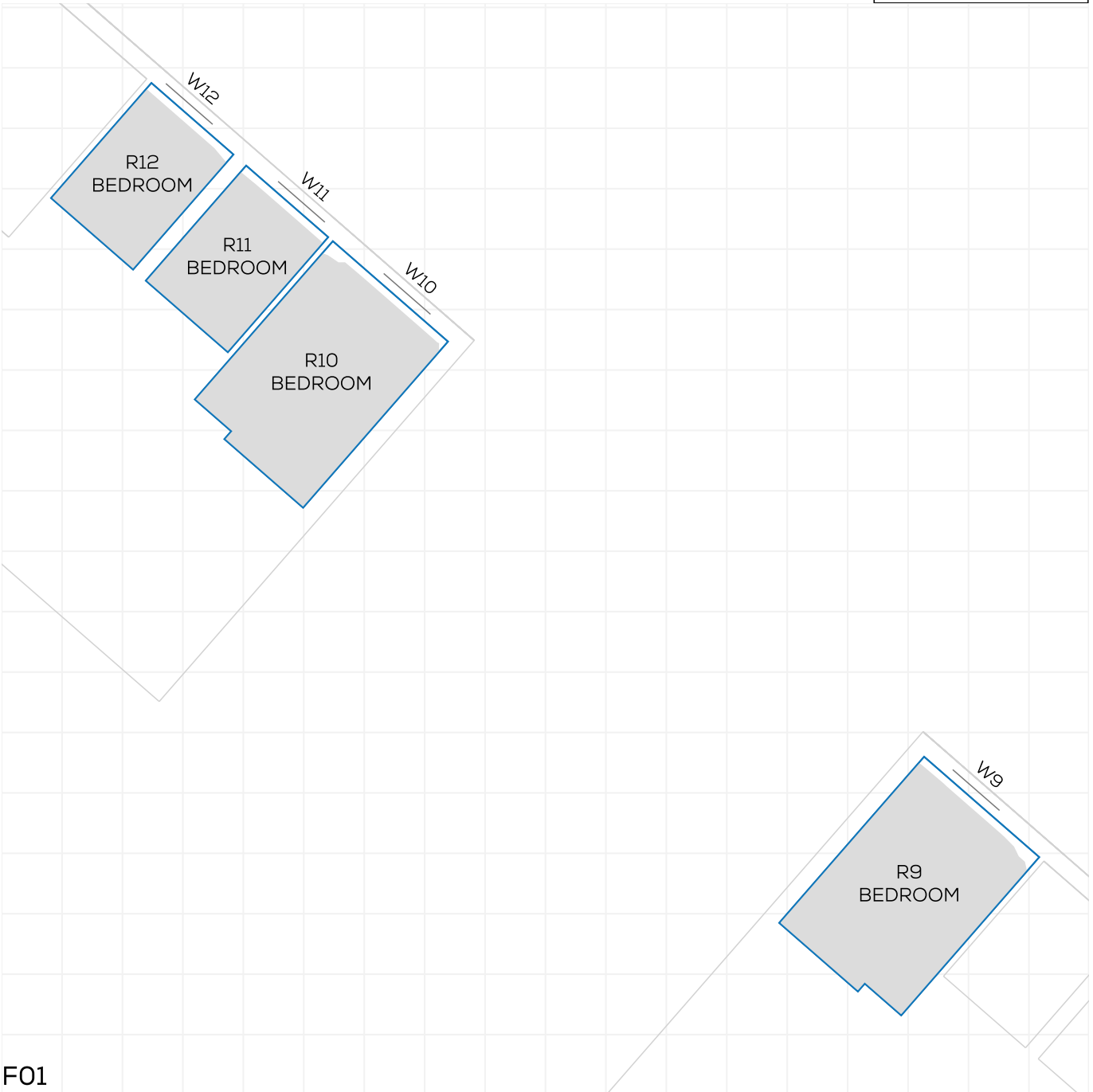
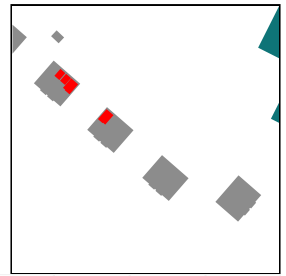


F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
RUSSELL HOMES SCHEME								
F01	R5	RESIDENTIAL	BEDROOM	9.1	96.1	96.1	0.0	0
F01	R6	RESIDENTIAL	BEDROOM	9.1	96.1	96.1	0.0	0
F01	R7	RESIDENTIAL	BEDROOM	4.6	94.9	94.9	0.0	0
F01	R8	RESIDENTIAL	BEDROOM	4.6	94.8	94.8	0.0	0

PROJECT: 2125 - HEYWOOD STORES, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: RUSSELL HOMES SCHEME
 DATE: 23/01/2023
 SCHEME IR: IR06
 DRAWING No.: 2125-REL03-IS02-DD5

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
RUSSELL HOMES SCHEME								
F01	R9	RESIDENTIAL	BEDROOM	9.1	96.1	96.1	0.0	0
F01	R10	RESIDENTIAL	BEDROOM	9.1	96.1	96.1	0.0	0
F01	R11	RESIDENTIAL	BEDROOM	4.6	94.9	94.9	0.0	0
F01	R12	RESIDENTIAL	BEDROOM	4.6	94.8	94.8	0.0	0

PROJECT: 2125 - HEYWOOD STORES, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: RUSSELL HOMES SCHEME
DATE: 23/01/2023
SCHEME IR: IR06
DRAWING No.: 2125-REL03-IS02-DD6

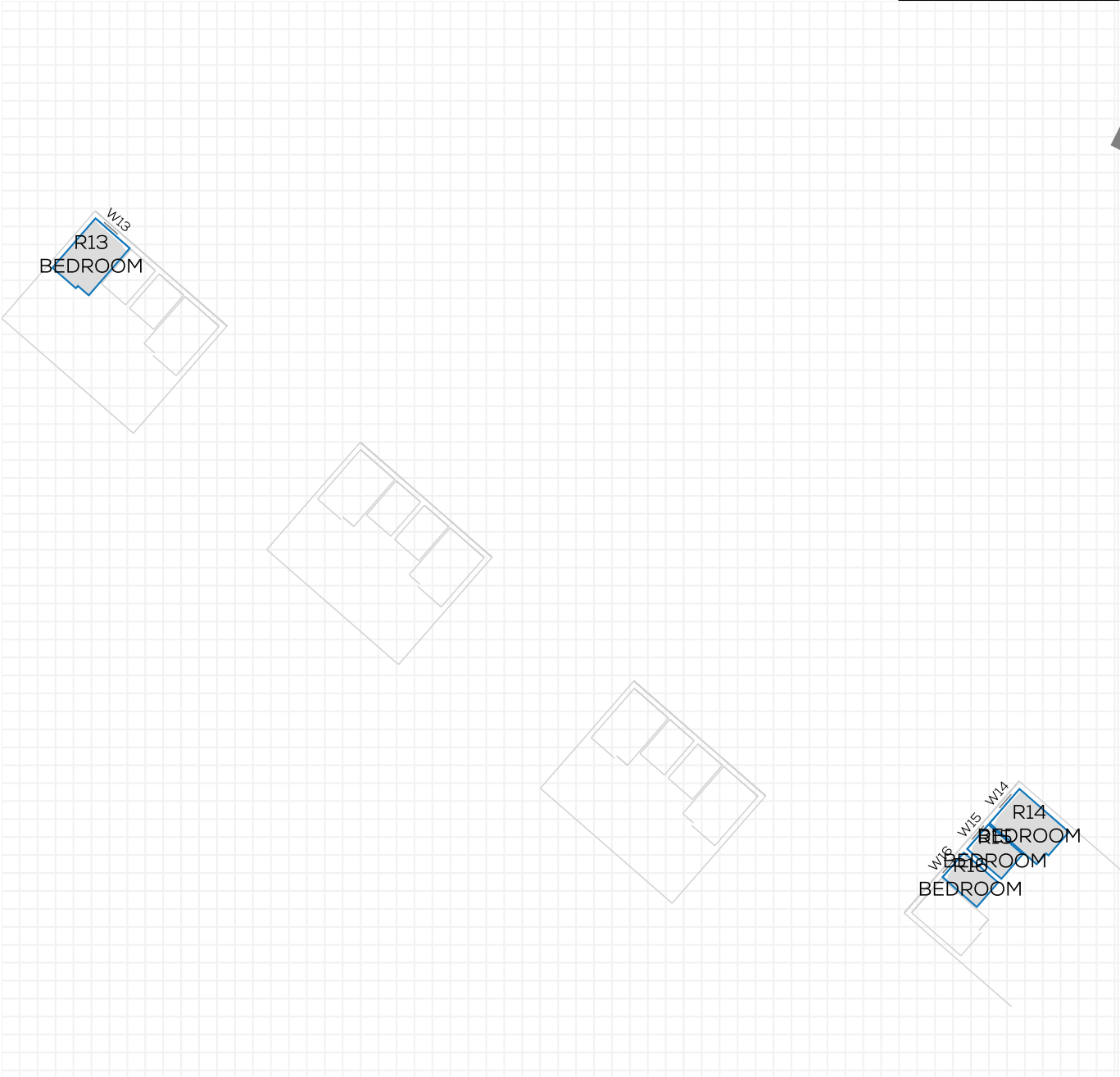
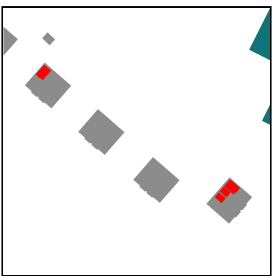
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

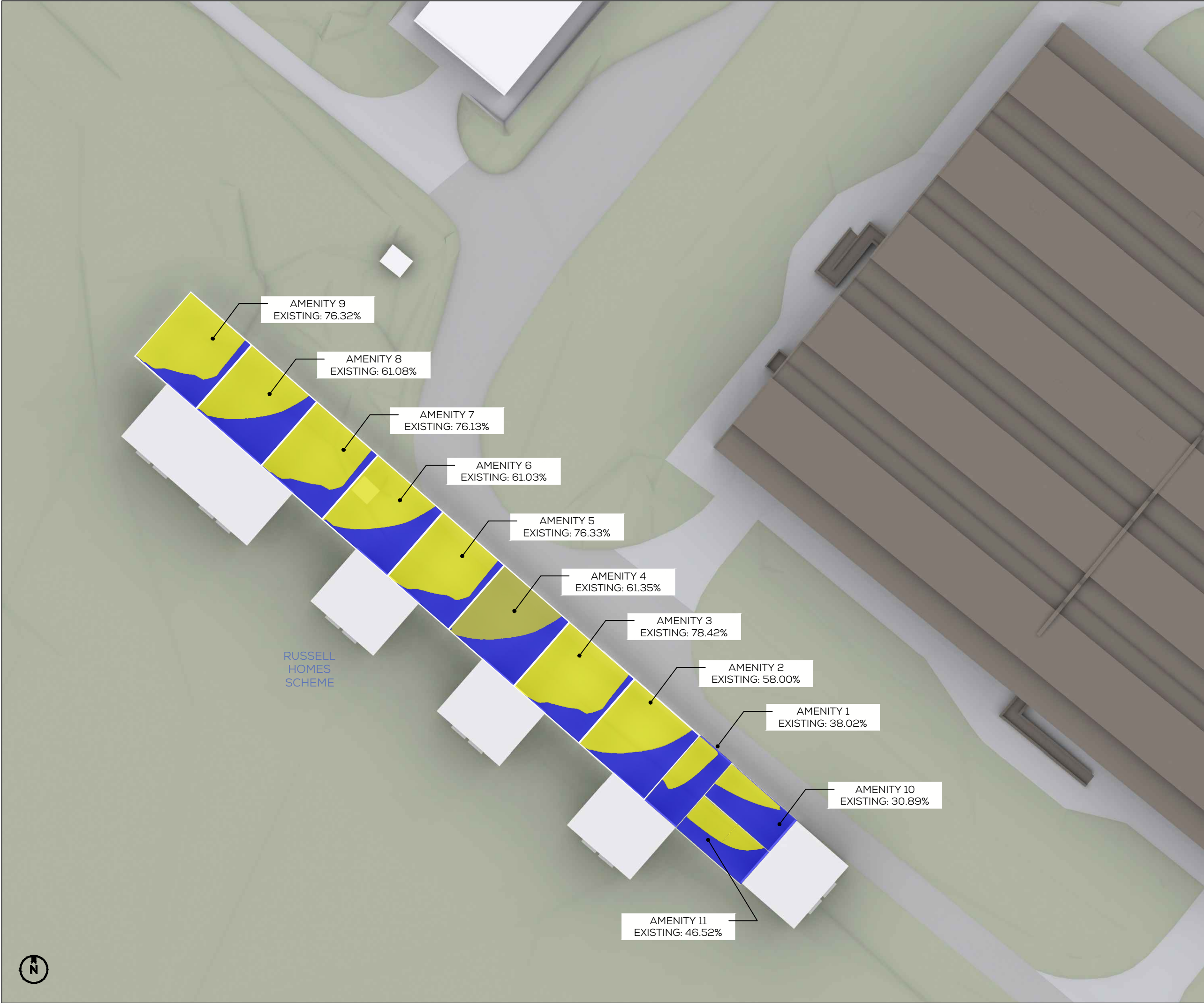
1 METRE GRID



F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
RUSSELL HOMES SCHEME								
F01	R13	RESIDENTIAL	BEDROOM	9.1	96.1	96.1	0.0	0
F01	R14	RESIDENTIAL	BEDROOM	9.1	96	96	0.0	0
F01	R15	RESIDENTIAL	BEDROOM	4.6	94.2	94.2	0.0	0
F01	R16	RESIDENTIAL	BEDROOM	4.6	94	94	0.0	0

FLOOR	AMENITY	AMENITY AREA SQM	LIT AREA EXISTING SQM	LIT AREA EXISTING %	LIT AREA PROPOSED SQM	LIT AREA PROPOSED %	LOSS %	MEETS BRE CRITERIA	MEETS BRE CRITERIA
RUSSELL HOMES SCHEME									
F00	A1	47.96	17.21	38.02%	17.21	38.02%	0.00%	YES	
F00	A2	99.13	57.5	58.00%	57.14	57.64%	0.36%	YES	
F00	A3	99.13	77.74	78.42%	77.55	78.23%	0.19%	YES	
F00	A4	99.13	60.82	61.35%	59.53	60.05%	1.30%	YES	
F00	A5	92.89	70.9	76.33%	70.47	75.86%	0.47%	YES	
F00	A6	99.13	60.5	61.03%	58.03	58.54%	2.49%	YES	
F00	A7	92.88	70.71	76.13%	70.02	75.39%	0.74%	YES	
F00	A8	99.13	60.55	61.08%	58.53	59.04%	2.04%	YES	
F00	A9	92.91	70.91	76.32%	70.7	76.10%	0.22%	YES	
F00	A10	48.21	14.89	30.89%	14.89	30.89%	0.00%	YES	
F00	A11	49.79	23.16	46.52%	23.16	46.52%	0.00%	YES	
TOTAL		1019.42	645.37	66.06%	637.61	65.30%	0.76%		YES



SOURCES OF INFORMATION

IR08-20230103-TC
IR09-EXISTING AND PROPOSED
SITE SECTIONS
BOWER 4B7P SEMI-DETACHED
RUSSELL HOMES PLANS
ROCHDALE PLANNING PORTAL
(16/01399/HYBR)

ALL INFORMATION DISPLAYED IS SUBJECT TO A COMPLETE VERIFIABLE SITE SURVEY BEING UNDERTAKEN. GIA TAKES NO RESPONSIBILITY ON THE ACCURACY OR RELIABILITY OF THE DISPLAYED DATA SINCE A VERIFIED SITE SURVEY WAS NOT MADE AVAILABLE PRIOR TO THE GENERATION OF SUCH INFORMATION.

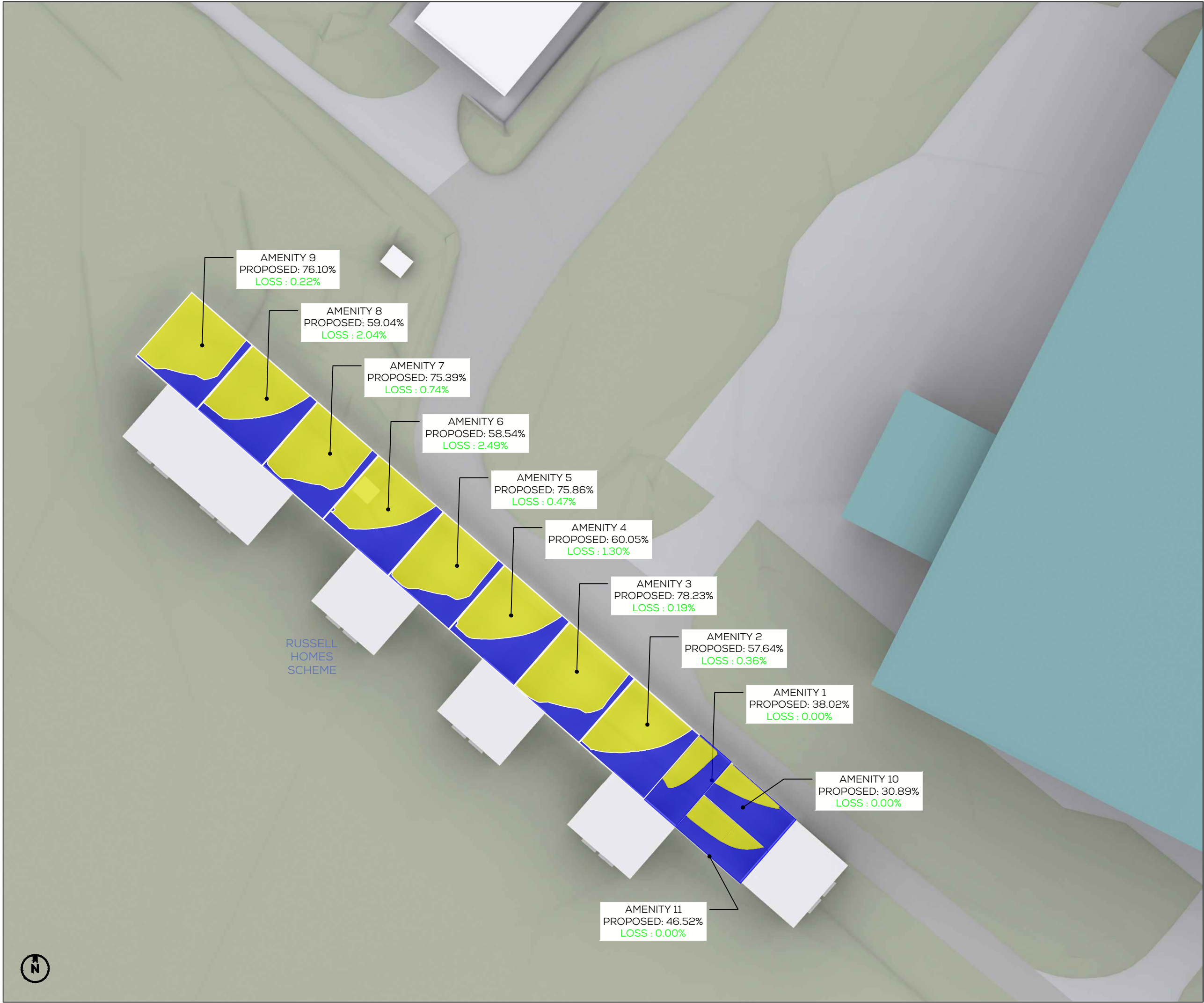
- +2 HR AREA LIT
- 2 HR AREA LIT

NOTES:
EXISTING SCENARIO SHOWN IN SEPIA

N.B. DO NOT SCALE OFF THIS DRAWING
PROJECT:
HEYWOOD STORES,
MANCHESTER ROAD,
HEYWOOD

DRAWING NAME:
PLAN VIEW EXISTING
SUNLIGHT HOURS ON GROUND
MARCH 21ST

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	JAN23
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2125	01	01	01	



SOURCES OF INFORMATION

IR08-20230103-TC
IR09-EXISTING AND PROPOSED
SITE SECTIONS
BOWER 4B7P SEMI-DETACHED
RUSSELL HOMES PLANS
ROCHDALE PLANNING PORTAL
(16/01399/HYBR)

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OR RELIABILITY OF THE DISPLAYED DATA SINCE A VERIFIED SITE SURVEY
WAS NOT MADE AVAILABLE PRIOR TO THE GENERATION OF SUCH INFORMATION.

- +2 HR AREA LIT
- 2 HR AREA LIT

NOTES:
PROPOSED SCHEME SHOWN IN TEAL

N.B. DO NOT SCALE OFF THIS DRAWING
PROJECT:
HEYWOOD STORES,
MANCHESTER ROAD,
HEYWOOD

DRAWING NAME:
PLAN VIEW PROPOSED
SUNLIGHT HOURS ON GROUND
MARCH 21ST

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	JAN23
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2125	01	01	02	



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