



DAYLIGHT & SUNLIGHT

**IMPACT ON NEIGHBOURING
PROPERTIES**

**Land to the West of
Rodney Street, Manchester**

07 June 2022

GIA No: 2118

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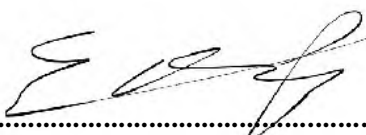
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Principles of Daylight and Sunlight
Existing Drawings: 2118-REL01-IS01-001 to 2118-REL01-IS01-003
Proposed Drawings: 2118-REL01-IS01-004 to 2118-REL01-IS01-006
Results and Window Maps

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Section	Page
1.0 Executive Summary	1
2.0 Instructions	2
3.0 Introduction	3-5
4.0 Sources of Information	6
5.0 Assumptions	7
6.0 The Site	8
7.0 The Proposal	9
8.0 The Surrounding Properties	10-15
9.0 Overshadowing Assessment	16
10.0 Conclusions	17

Appended to this report:

Appendix 01	-	Principles of Daylight and Sunlight
Appendix 02	-	Existing Drawings
Appendix 03	-	Proposed Drawings
Appendix 04	-	Results and Window Maps

1.0 Executive Summary

We have undertaken a daylight and sunlight assessment for the proposed development on Land to the West of Rodney Street, Manchester.

We have completed 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 (2011)'.

The BRE 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.

Notwithstanding, the results indicate an excellent level of compliance for the surrounding properties that have been assessed. The results for each property are summarised in the table below:

Name/Address of Building	Percentage of Windows Above Guidelines for VSC Daylight	Percentage of Rooms Above Guidelines for NSL Daylight	Percentage of Rooms Above Guidelines for APSH Sunlight
1-7 Rodney Street	27/27 (100%)	16/16 (100%)	5/5 (100%)
2 Butler Street	96/98 (98%)	71/74 (96%)	25/25 (100%)
22 Garforth Avenue	6/6 (100%)	3/3 (100%)	1/1 (100%)
86-100 Jersey Street	17/17 (100%)	17/17 (100%)	-
Butler Street (129187/FO/2021)	38/38 (100%)	30/30 (100%)	10/10 (100%)

We have also undertaken an overshadowing analysis to the amenity areas surrounding the site. Our overshadowing analysis indicates that all amenity areas assessed will continue to receive at least two hours of sunlight to 50% of their area on 21 March with the proposed development in place.

Overall, considering the limited impacts and the flexibility with which the BRE guide is intended to be used, the impact of the scheme on the surrounding residential properties is considered wholly acceptable.

2.0 Instructions

GIA have been instructed by Wates Construction Ltd to undertake a detailed technical assessment to understand the potential daylight and sunlight changes that the proposed development at Land to the West of Rodney Street, Manchester will have upon the surrounding sensitive receptors.

The daylight and sunlight review within this report considers existing and consented residential properties only, as they are recognised by the Building Research Establishment (BRE 2011) 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.

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 (2011)', (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 methodology for overshadowing assessment is Sun Hours on Ground (SHOG).

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%.
SHOG	An amenity area may be adversely affected if less than 50% of its area receives less than 2 hours of direct sunlight on 21st March and less than 0.8 times its former value.

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

Buttress Architects

IR02-20220505

Manchester Planning Portal

1-7 Rodney Street drawings

22 Garforth Avenue drawings

2 Butler Street drawings

Butler Street (129187/FO/2021) 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) We have not sought access to the adjoining properties, thus if plans were not publicly available, we have made reasonable assumptions as to the internal layouts of the rooms behind the fenestration based upon the building form and architecture. This is normal practice where access to adjoining properties is not available. Unless the building form dictates otherwise, we assume a standard 4.2m deep room (14ft) for residential properties.
- 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 bound by Butler Street to the north east, Rodney Street to the east, Jersey Street to the south and Wadford Close to the west. The drawing extract below shows the existing site:



Our understanding of this existing building and the surrounding context is depicted on GIA drawings 2118-REL01-IS01-01, 2118-REL01-IS01-02 and 2118-REL01-IS01-03 within Appendix 02.

7.0 The Proposal

GIA's understanding of the proposed scheme is illustrated in drawings 2118-REL01-IS01-04, 2118-REL01-IS01-05 and 2118-REL01-IS01-06 shown within Appendix 03.

Our analysis of this option is based on the proposed scheme drawings produced by Buttress Architects, received on 05 May 2022.



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.

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)
1-7 Rodney Street	Residential	East
2 Butler Street	Residential	North
22 Garforth Avenue	Residential	East
86-100 Jersey Street	Residential	South
Butler Street (129187/FO/2021)	Residential	North east

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.

1-7 Rodney Street



Name/Address of Building	Percentage of Windows Above Guidelines for VSC Daylight	Percentage of Rooms Above Guidelines for NSL Daylight	Percentage of Rooms Above Guidelines for APSH Sunlight
1-7 Rodney Street	27/27 (100%)	16/16 (100%)	5/5 (100%)

With the proposed development in place, this property will fully accord with the BRE target criteria for VSC daylight, NSL daylight and APSH sunlight.

2 Butler Street



Name/Address of Building	Percentage of Windows Above Guidelines for VSC Daylight	Percentage of Rooms Above Guidelines for NSL Daylight	Percentage of Rooms Above Guidelines for APSH Sunlight
2 Butler Street	96/98 (98%)	71/74 (96%)	25/25 (100%)

With the proposed development in place, this property will fully accord with the BRE criteria for APSH sunlight.

Of the two windows which do not meet the BRE criteria for VSC daylight, one is reduced by between 20-29.9%, which is considered minor and acceptable against BRE guidelines. The remaining window, serving a bedroom, is reduced by in excess of 30%, which is a moderate reduction. However, the BRE considers bedrooms to have a lesser requirement for daylight, and the impact is therefore considered acceptable.

Three bedrooms do not meet the required target for NSL daylight. These rooms all fall within a 20-29.9% reduction with the proposed development in place and are therefore considered minor and acceptable against the BRE guidelines.

Overall, the impacts of the development to this property are limited and, given the flexibility with which the BRE guide is intended to be used, are considered wholly acceptable.

22 Garforth Avenue



Name/Address of Building	Percentage of Windows Above Guidelines for VSC Daylight	Percentage of Rooms Above Guidelines for NSL Daylight	Percentage of Rooms Above Guidelines for APSH Sunlight
22 Garforth Avenue	6/6 (100%)	3/3 (100%)	1/1 (100%)

With the proposed development in place, this property will fully accord with the BRE target criteria for VSC and NSL daylight, and APSH sunlight.

86-100 Jersey Street



Name/Address of Building	Percentage of Windows Above Guidelines for VSC Daylight	Percentage of Rooms Above Guidelines for NSL Daylight	Percentage of Rooms Above Guidelines for APSH Sunlight
86-100 Jersey Street	17/17 (100%)	17/17 (100%)	-

With the proposed development in place, these properties will fully accord with the BRE target criteria for VSC and NSL daylight. None of the rooms face within 90 degrees of due south and an APSH sunlight assessment has therefore not been undertaken.

Butler Street (129187/FO/2021)



Name/Address of Building	Percentage of Windows Above Guidelines for VSC Daylight	Percentage of Rooms Above Guidelines for NSL Daylight	Percentage of Rooms Above Guidelines for APSH Sunlight
Butler Street (129187/FO/2021)	38/38 (100%)	30/30 (100%)	10/10 (100%)

With the proposed development in place, these properties will fully accord with the BRE target criteria for VSC and NSL daylight, and APSH sunlight.

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
1 Rodney Street	East
Ancoats Green	West

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
Ancoats Green	100%	100%
1 Rodney Street	86.27%	85.23%

Our overshadowing analysis indicates that both amenity areas will continue to receive at least two hours of sunlight to in excess of 50% of their area on 21 March. Both 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 development at Land to the West of Rodney Street, Manchester.

We have completed 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 (2011)'.

Our assessment has identified limited impacts to the surrounding residential properties, which are typically neutral or minor and considered acceptable against BRE guidelines.

Our overshadowing analysis indicates that both amenity areas assessed will meet the BRE target criteria.

The surrounding residential properties and amenity areas exhibit excellent levels of daylight and sunlight with the proposed development in place. Where deviations from the BRE target criteria are identified, these are typically limited and are acceptable when considering the flexibility with which the BRE guide is intended to be used.

The overall impact of the scheme on the surrounding residential properties is therefore considered wholly acceptable.

Appendix 01

Principles of Daylight and Sunlight

Principles of Daylight and Sunlight

Background

The quality of amenity and open spaces is often stipulated within planning policy for protection or enhancement and is often a concern for adjoining properties and other interested parties.

Historically the department of environment provided guidance in the issues, and in this country, this role has now been taken on by the building research establishment (BRE), the British standards institutions (BSI) and the chartered institute of building services engineers (CIBSE). Fortunately they have collaborated in many areas, to provide as much unified advice as possible in the form of industry best practice.

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 as well as the creation of proposed dwellings with high levels of daylight and sunlight amenities.

In terms of considering what is material local authorities typically refer to the BRE guidelines and apply their criteria set out within. The guidelines were originally produced out in 1991, but superseded by the BRE guidelines (2011) *site layout planning for daylight and sunlight*.

Where developers are seeking to maximise their development value, it is often in the area of daylight and sunlight issues that they may seek to push the boundaries. Particularly in London, there is a priority on the creation of more housing and thus resulting in the densification of urban areas. Local authorities vary in their attitude of how flexible they can be with the degree of impact on the daylight and sunlight amenity enjoyed by neighbouring owners and it is one factor among many planning aspects considered when determining an application. In city centres where high density is common, the protection of amenity is more challenging and there are many factors that need to be taken into account: each case has to be considered on its own merits.

The BRE Guidelines

The guidelines are typically referred to for daylight and sunlight amenity issues, however they were not intended to be used as an instrument of planning policy. In the introduction of 'Site Layout Planning for Daylight and Sunlight (2011)', section 1.6 (page 1), 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 because 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 an 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".

Again, the paragraph 2.2.3 (page 7) 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".

Principles of Daylight and Sunlight

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 around London, for e.g. The approach to creating alternative criteria is detailed within Appendix F of the BRE.

Measurement and Criteria for Daylight and Sunlight as set out in the BRE Guidelines

The BRE guidelines state that they are;

"intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedroom. Windows to bathrooms, toilets, garages need not be analysed."

They are therefore primarily designed to be used for residential properties however, 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, hostels, small workshop and some offices.

Daylight

In the first instance, if a proposed development falls beneath a 25 degree angle taken from the centre point of the lowest window, then the BRE suggests that no further analysis is required as there will be adequate sky light (i.e. sky visibility). This rule is applied when considering the scope of any assessments.

The BRE guidelines provide two methods for calculating daylight to existing surrounding properties:

- Vertical Sky Component (VSC)
- No Sky Line (NSL) also referred to as daylight distribution

A further method, the Average Daylight Factor (ADF) is provided for calculating daylight within proposed properties. However, it is sometimes applied as a supplementary assessment for existing surrounding properties.

Each method is described below:

Vertical Sky Component

Methodology

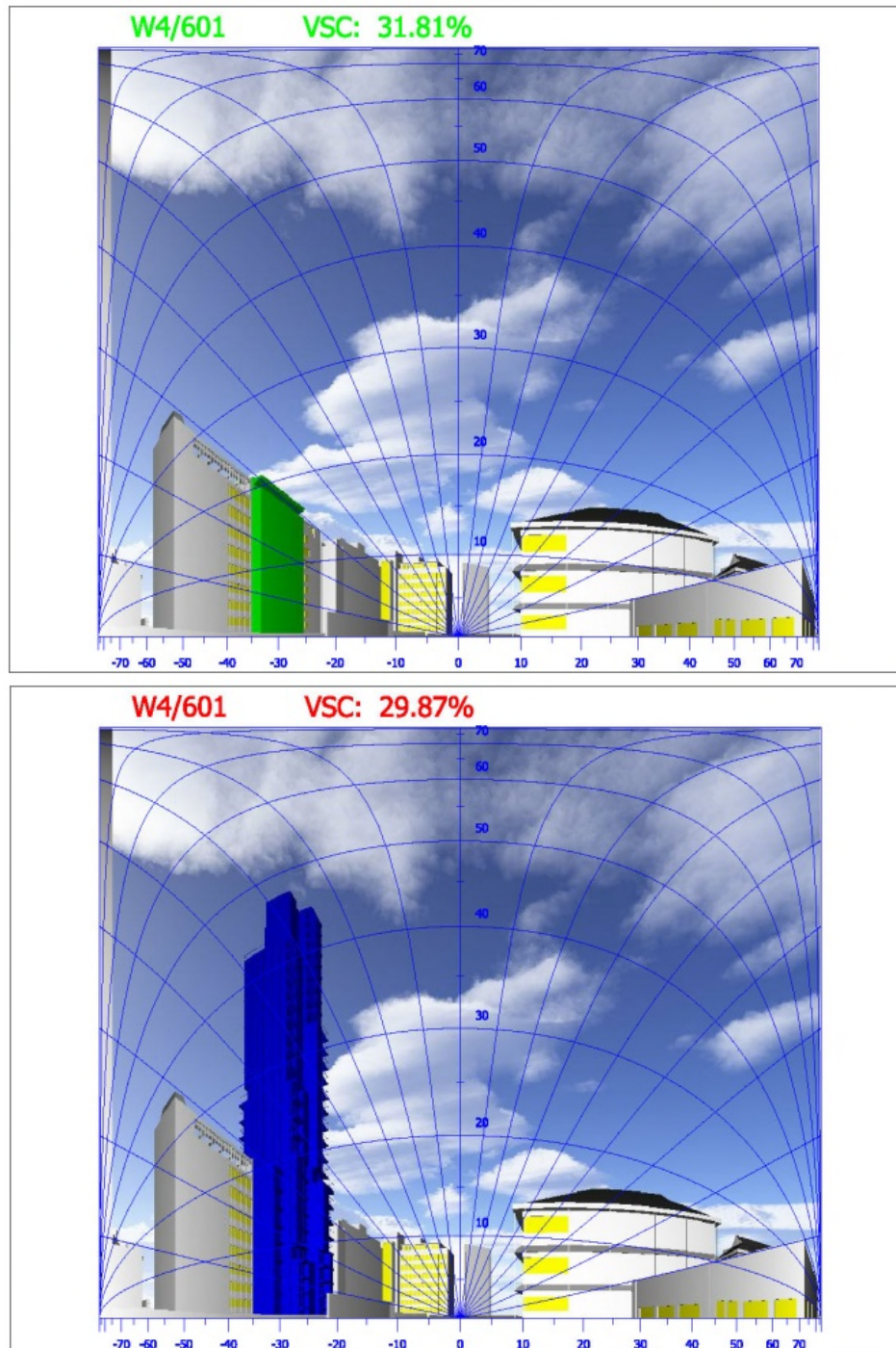
This is defined in the BRE as:-

"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 illuminate on a horizontal plane due to an unobstructed hemisphere of this sky."

This statement means, in practice that if one had a totally unobstructed view of the sky, looking in a single direction, then just under 40% of the complete hemisphere would be visible. The measurement of this vertical sky component is undertaken using two indicators, namely a skylight indicator and a transparent direction finder.

Principles of Daylight and Sunlight

Alternatively a further method of measuring the VSC, which is easier to understand both in concept and analysis, is often more precise and can deal with more complex instructions, is that of the Waldram diagram.



The point of reference is the same as for the skylight indicator, at the centre of the outward window face. Effectively a snap shot is taken from that point of the sky in front of the window, before and after the obstruction is put in place together with all the relevant obstructions to it, i.e. the buildings.

Principles of Daylight and Sunlight

An unobstructed sky from that point of reference would give a vertical sky component of 39.6%, corresponding to 50% of the hemisphere, and therefore the purpose of the diagram is to discover how much sky remains once obstructions exist in front of that point.

Criteria

The BRE Handbook provides criteria for:

- (a) New Development
- (b) Existing Buildings
- (c) Adjoining Development Land

- (a) New Development

Paragraph 2.1.21 of the BRE states that:

"Obstructions can limit access to light from the sky. This can be checked by measuring or calculating the angle of visible sky 'theta', angle of obstruction or Vertical Sky Component (VSC) at the centre of the lowest window where daylight is required. If VSC is:

- at least 27% ('theta' is greater than 65 degrees, obstruction angle less than 25 degrees) conventional window design will usually give reasonable results.
- between 15% and 27 % ('theta' is between 45 degrees and 65 degrees, obstruction angle between 25 degrees and 45 degrees) special measures (larger windows, changes to room layout) are usually needed to provide adequate daylight.
- between 5% and 15% ('theta' is between 25 degrees and 45 degrees, obstruction angle between 45 degrees and 65 degrees) it is very difficult to provide adequate daylight unless very large windows are used.
- less than 5% ('theta' less than 25 degrees, obstruction angle more than 65 degrees) it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed."

- (b) Existing Buildings

Para 2.2.21 (page 11) of the BRE states:

"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 degree to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if the vertical sky component measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value".

The VSC provide a quick and simple test which looks to give an early indication of the potential for light at the window face. However considered in isolation, it does not, in any fashion, indicate the quality of actual light within a space. It does not take into account the window size, the room size or room use. It helps by indicating that if there is an appreciable amount of sky visible from a given point there will be a reasonable potential for daylighting.

Principles of Daylight and Sunlight

(c) Adjoining Development Land

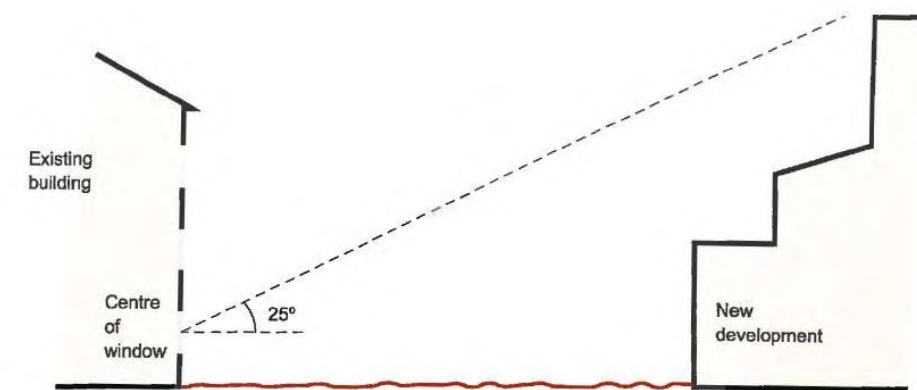
Paragraph 2.3.10 of the BRE guidelines states:

"in broad general terms, a development site next to a proposed new building will retain the potential for good diffuse daylighting provided that on each common boundary:

- (a) no new building, measured in a vertical section perpendicular to the boundary, from a point 1.6m above ground level, subtends an angle of more than 43 degrees to the horizontal;*
- (b) or, if (a) is not satisfied, then all points 16m above the boundary line are within 4m (measured along the boundary) of a point which has a VSC (looking towards the new building(s)) of 17% or more 2m above ground level are within 4m (measured sideways) of a point which has a vertical sky component of 27% or more.*

Alternative VSC criteria as per Appendix F of the BRE guidelines

The 27% VSC target criteria is based upon a sub-urban type environment whereby a 25 degree line was taken from the centre point on a ground floor window as shown below:



However, in city centre locations and urban areas where density levels are increasing, these values may not be considered appropriate. The BRE guidelines provide that *"different targets may be used based on the special requirements of the proposed development or its location"* (paragraph F1).

Appendix F of the BRE suggests several approaches as to how alternative targets may be considered including:

- Consented scheme – use of an extant planning permission to establish alternative benchmark criteria for VSC and APSH. It is not appropriate to treat a permitted scheme in the same manner as an existing building and allow a 20% reduction beyond this. If the levels of daylight and sunlight retained are similar to a previously consented scheme then it follows these levels should be considered acceptable again, notwithstanding other planning considerations.
- Mirror massing – to ensure a development matches the height and proportions of existing buildings, the VSC and APSH targets could be set to those of a mirror image of the same height and size, an equal distance away from the boundary (paragraph F5).
- Consider surrounding context and existing obstruction angles as well as spacing to height ratios.

Principles of Daylight and Sunlight

In addition, due to the requirements for external amenity space within local planning policies, many residential buildings are served by balconies. Balconies can restrict the view of the sky dome whereby even the modest obstruction may result in a large relative impact on the VSC. The BRE guidelines therefore provide that an assessment can be carried out comparing the levels of VSC with and without the balconies in place for both the existing and proposed scenarios, to establish whether it is the presence of the balcony or the size of the new obstruction that is the main factor in the loss of light (paragraph 2.2.11).

No Sky Line

Methodology

The NSL method is a measure of the distribution of daylight at the working plane within a room. The 'working plane' means a horizontal 'desktop' plane 0.85m in height for residential properties. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot. If a significant area of the working plane lies beyond the NSL (i.e. it receives no direct sky light), then the distribution of daylight in the room will be poor and supplementary electric lighting may be required.

It is similar to the VSC approach in that a reduction of 0.8 times in the area of sky visibility at the working plane may be deemed to be noticeable. It is however, very dependent upon knowing the actual room layouts or having a reasonable understanding of the likely layouts.

It is assessed by plotting the area of a room which can see the sky and which cannot, referred to as the NSL contour or daylight distribution contour. The contours assist in helping to understand the way the daylight is distributed within a room and the comparisons of existing and limitations of proposed circumstances within neighbouring properties. Like the VSC method, it relates to the amount of visible sky but does not consider the room use in its criteria, it is simply a test to assess the change in position of the No Sky Line, between the existing and proposed situation. It does take into account the number and size of windows to a room, but does not give any quantitative or qualitative assessment of the light in the rooms, only where sky can or cannot be seen.

Criteria

BS 8206 Part 2 (para 5.7) that the:

"uniformity of daylight is considered to be unsatisfactory if a significant part of the working plane (normally more than 20%) lies behind the no-sky line".

Therefore, it is implied that an NSL of at least 80% would be considered satisfactory in regards to deep rooms which are lit by windows on one side, the BRE Guidelines state (para, 2.2.10):

In regards to the alteration as a result of a proposed development or obstruction the BRE provide that the daylight may be adversely affected if *"the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value."*

Principles of Daylight and Sunlight

Average Daylight Factor

Methodology

The Average Daylight Factor (ADF) is defined within the 2011 BRE Guidelines as:

'a ratio of total daylight flux incident on a reference area to the total area of the reference area, expressed as a percentage of outdoor luminance on a horizontal plane, due to an unobstructed sky of assumed or known luminance distribution'.

Whilst the BRE guidelines provide this measure as a tool to understand daylight within proposed dwellings not existing dwellings, if room layouts are known it can provide a useful supplementary measure of daylight and is often requested by many local authorities.

The ADF method of assessment considers:

- The diffuse visible transmittance of the glazing to the room in question (i.e. how much light gets through the window glass). A transmittance value of 0.8% is assumed for single glazing and 0.65% for double glazed windows;
- The net glazed area of the window in question;
- The total area of the room surfaces (ceiling, walls, floor and windows); and
- The angle of visible sky reaching the window(s) in question

In addition, the ADF method makes allowance for the average reflectance of the internal surfaces of the room and of external obstruction (assumed to be 0.5 unless otherwise stated).

Criteria

The criteria for ADF is taken from the British Standard 8206 part II which gives the following criteria based on the room use:

- Bedroom – 1% ADF
- Living room – 1.5% ADF
- Kitchen – 2% ADF

Where a room has multiple uses such as a living kitchen diner (LKD) or a studio apartment, the highest value is taken so in these cases the required ADF is 2%.

Sunlight

Methodology

The BS 8206 part 2 (section 5.2) states that:

"Provided that the entry of sunlight is properly controlled, it is generally welcome in most buildings in the UK. Dissatisfaction can arise as much from the permanent exclusion of sunlight as from its excess. The provision of sunlight is important in dwellings, particularly during winter months. Sunlight is especially valued in habitable rooms used for long periods during the day."

Principles of Daylight and Sunlight

Sunlight is measured using a sun indicator which contains 100 spots, each representing 1% of Annual Probable Sunlight Hours (APSH). Where no obstruction exists the total APSH would amount to 1486 hours and therefore each spot equates to 14.86 hours of the total annual sunlight hours.

The number of spots is calculated for both the whole year and also during the winter period (21st September to 21st March) prior to an obstruction and after the obstruction is put in place. This provides a percentage of APSH for each of the time periods for each window assessed. The 2011 BRE Guidelines note that:

- *"In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day, but especially in the afternoon."*
- *"all main living rooms of dwellings...should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun"; and*
- *"If the main living room to a dwelling has a main window facing within 90° of due north, but a secondary window facing within 90° of due south, sunlight to the secondary window should be checked."*
- *"...a south facing window will, in general, receive most sunlight, while a north facing one will receive it only on a handful of occasions. East and west facing windows will receive sunlight only at certain times of day".*

When a room has multiple windows, not all may have a southerly orientation however, these windows may contribute to the levels of sunlight within a given room even if by 1-2% APSH. As well as the assessment on a window basis the BRE guidelines provide that an assessment can be undertaken on a room basis.

Whilst the emphasis of the BRE guidelines is in regards to living rooms, it is not always possible to determine the room uses within all of the properties assessed and therefore typically all windows or all rooms with windows facing within 90 degrees of due south and facing the site are assessed.

Criteria

The BRE provide that for existing buildings a window maybe adversely affected if a point at the centre of a window receives:

- Less than 25% of the APSH during the whole year, of which 5% APSH must be in the winter period; and
- Receives less than 0.8 times its former sunlight hours in either time period; and
- Has a reduction in sunlight for the whole year more than 4% APSH.

In terms of the assessment on a room basis the criteria applied is the same.

For proposed buildings the BRE provide (paragraph 3.1.15) that a dwelling or building which has a particular requirement for sunlight will appear reasonably sunlit provided:

- At least one main window faces within 90 degrees of due south; and

Principles of Daylight and Sunlight

- Centre of one main living room window can receive 25% of APSH including 5% APSH in the winter months.

It continues that where groups of dwellings are planned the layout should aim to maximise the number of living rooms that meet the above recommendations.

Overshadowing

As well as daylight and sunlight amenity to neighbouring dwellings, planning policy often refers to the levels of overshadowing to amenity areas such as parks, public squares, playgrounds etc. The BRE guidelines provide two methods of calculation in regards to overshadowing which are as follows:

Sun Hours on Ground

Methodology

This method of overshadowing assessment uses the sun on ground indicator to determine the areas which receive direct sunlight and those which do not. This method applies to both new and existing areas of amenity space. The BRE Guidelines suggest that the Spring Equinox (21st March) is a suitable date for the assessment as this is 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.

Criteria

The BRE guidelines recommend that at least half of an amenity space should receive at least 2 hours of direct sunlight on March 21st. In regards to existing spaces where the existing sunlit area is less than half of the area, the area which receives 2 hours of sunlight should not be reduced by more than 20% (it should retain 0.8 times its former value).

Transient Overshadowing

The BRE guidelines suggest that where large buildings are proposed which may affect a number of gardens or open spaces, it is useful to plot a shadow plan to illustrate the location of shadows at different times of the day and year. For the purpose of this assessment, shadow has been mapped at the following times of the year:

- 21st March (spring equinox)
- 21st June (Summer solstice)
- 21st December (winter solstice)

The September equinox is not assessed as this would provide the same results as those for March 21st.

For each of these dates the overshadowing is calculated at hourly intervals throughout the day however some images may not be present given the early sun set during the winter period.

The BRE guidelines do not provide any criteria for transient overshadowing. Therefore the analysis provides a description of where additional shadow is cast as a result of a development with professional judgement to determine the effect comparing the shadow resulting from the proposed development against that of the existing site.

Principles of Daylight and Sunlight

Light pollution and Solar Glare

Light pollution is defined as any light emitting from artificial sources into spaces where it is not wanted for example from offices into neighbouring residential properties where it could cause a nuisance. The ILP Guidance notes provide details of how to measure light pollution and criteria based on the urban density of the respective area to determine the acceptability of the light levels.

Solar glare is particularly important at pedestrian and road junctions as well as along railway lines where the glare can cause a temporary blinding of drivers or pedestrians. Glare can occur from reflective materials such as glazed areas or metal cladding on the facades. This assessment is therefore undertaken from viewpoints surrounding the site at junctions and positioned at the driver's eye level. Focal points are dictated by the location of signals or oncoming traffic.

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:

- outlook
- sense of enclosure
- privacy
- access to outdoor space e.g. balconies or communal garden/courtyard

Appendix 02

Existing Drawings



SOURCES OF INFORMATION

IR02-20220505-Buttress

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:
RODNEY STREET, MANCHESTER

DRAWING NAME:
PLAN VIEW EXISTING

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	MAY22
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2118	01	01	01	



SOURCES OF INFORMATION

IR02-20220505-Buttress

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:
RODNEY STREET, MANCHESTER

DRAWING NAME:
3D VIEW EXISTING

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	MAY22
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2118	01	01	02	



SOURCES OF INFORMATION

IR02-20220505-Buttress

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:
RODNEY STREET, MANCHESTER

DRAWING NAME:
3D VIEW EXISTING

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	MAY22
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2118	01	01	03	

Appendix 03

Proposed Drawings



SOURCES OF INFORMATION

IR02-20220505-Buttress

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:
PROPOSED SCHEME SHOWN IN TEAL

N.B. DO NOT SCALE OFF THIS DRAWING
PROJECT:
RODNEY STREET, MANCHESTER

DRAWING NAME:
PLAN VIEW PROPOSED

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	MAY22
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2118	01	01	04	



SOURCES OF INFORMATION

IR02-20220505-Buttress

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:
PROPOSED SCHEME SHOWN IN TEAL

N.B. DO NOT SCALE OFF THIS DRAWING
PROJECT:
RODNEY STREET, MANCHESTER

DRAWING NAME:
3D VIEW PROPOSED

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	MAY22
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2118	01	01	05	



SOURCES OF INFORMATION

IR02-20220505-Buttress

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:
PROPOSED SCHEME SHOWN IN TEAL

N.B. DO NOT SCALE OFF THIS DRAWING
PROJECT:
RODNEY STREET, MANCHESTER

DRAWING NAME:
3D VIEW PROPOSED

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	MAY22
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2118	01	01	06	

Appendix 04

Results and Window Maps

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	MEETS	EX.	PR.	LOSS	LOSS	MEETS	EX.		PR.		LOSS %		MEETS
		TYPE	USE		%	%		%	CRITERIA	%	%	SQM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
22 GARFORTH AVENUE																					
F00	R1	RESIDENTIAL	LKD	W1/F00	36.3	33.3	3	8.3%	YES	99.8	99.8	0.0	0.0%	YES	95	28	90	26	5.3%	7.1%	YES
			LKD	W2/F00	33.1	33.1	0	0.0%	YES												
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.8	34.7	2.1	5.7%	YES	99.7	99.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W2/F01	35.8	35.8	0	0.0%	YES												
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	37.3	35.7	1.6	4.3%	YES	99.3	99.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W2/F02	37.4	37.4	0	0.0%	YES												
7 RODNEY STREET																					
F00	R1	RESIDENTIAL	LKD	W1/F00	34.6	31.4	3.2	9.2%	YES	98.8	98.8	0.0	0.0%	YES	52	17	46	16	11.5%	5.9%	YES
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	34.9	32.4	2.5	7.2%	YES	95.6	95.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3 RODNEY STREET																					
F00	R1	RESIDENTIAL	LKD	W1/F00	35.4	31	4.4	12.4%	YES	98.6	98.6	0.0	0.0%	YES	64	23	57	21	10.9%	8.7%	YES
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.7	33.1	3.6	9.8%	YES	97.4	97.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	BEDROOM	W2/F01	36.7	33	3.7	10.1%	YES	95.7	95.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	37.3	34.3	3	8.0%	YES	87.4	84.4	0.5	3.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5 RODNEY STREET																					
F00	R1	RESIDENTIAL	LKD	W1/F00	35.8	31.7	4.1	11.5%	YES	98.6	98.6	0.0	0.0%	YES	60	19	54	17	10.0%	10.5%	YES
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.7	33.4	3.3	9.0%	YES	98.2	98.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	BEDROOM	W2/F01	36.8	33.8	3	8.2%	YES	97	97	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	37.4	34.9	2.5	6.7%	YES	83.2	83.1	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1 RODNEY STREET																					
F00	R1	RESIDENTIAL	LKD	W1/F00	32.6	31.2	1.4	4.3%	YES	99.7	99.6	0.0	0.2%	YES	60	21	51	18	15.0%	14.3%	YES
			LKD	W7/F00	35.3	29.1	6.2	17.6%	YES												
	R2	RESIDENTIAL	LIVING ROOM	W2/F00	33.1	32.9	0.2	0.6%	YES	100	100	0.0	0.0%	YES	97	29	90	27	7.2%	6.9%	YES
			LIVING ROOM	W3/F00	33.1	32.9	0.2	0.6%	YES												
			LIVING ROOM	W4/F00	33	32.8	0.2	0.6%	YES												
			LIVING ROOM	W5/F00	33	32.8	0.2	0.6%	YES												
			LIVING ROOM	W6/F00	34.8	28.9	5.9	17.0%	YES												
1 RODNEY STREET (CONTINUED)																					

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX.	PR.	LOSS	LOSS	MEETS	EX.	PR.	LOSS	LOSS	MEETS	EX.		PR.		LOSS %		MEETS
					%	%	%	%	CRITERIA	%	%	SOM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
			LIVING ROOM	W2/F01 / INC (2)	58	57.6	0.4	0.7%	YES												
			LIVING ROOM	W3/F01 / INC (2)	63.9	63.5	0.4	0.6%	YES												
			LIVING ROOM	W4/F01 / INC (2)	67.6	67.2	0.4	0.6%	YES												
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	34.4	32.9	15	4.4%	YES	99.8	93	0.9	6.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W6/F01	36.6	31.3	5.3	14.5%	YES												
	R2	RESIDENTIAL	BEDROOM	W5/F01	36.5	31.5	5	13.7%	YES	89	89	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	35.7	34.5	12	3.4%	YES	99.3	99.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W4/F02	37.4	32.8	4.6	12.3%	YES												
	R2	RESIDENTIAL	BEDROOM	W2/F02	38.2	38.1	0.1	0.3%	YES	99.8	99.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W3/F02	37.4	33.2	4.2	11.2%	YES												
100 JERSEY STREET																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	35.3	31.9	3.4	9.6%	YES	99.6	99.5	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.3	33.8	2.5	6.9%	YES	99.5	98	0.2	1.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
86 JERSEY STREET																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	35.4	32.2	3.2	9.0%	YES	99.5	95.6	0.4	3.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.3	34.1	2.2	6.1%	YES	99.4	97.8	0.2	1.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
88 JERSEY STREET																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	36.3	32.3	4	11.0%	YES	99.8	93.7	0.5	6.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.3	33.5	2.8	7.7%	YES	99.5	97.4	0.2	2.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
90 JERSEY STREET																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	35.6	31	4.6	12.9%	YES	99.7	92.7	0.7	7.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.2	33	3.2	8.8%	YES	99.5	97	0.3	2.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
92 JERSEY STREET																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	36.2	31.1	5.1	14.1%	YES	98.2	98.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LIVING ROOM	W2/F00	35.4	30.4	5	14.1%	YES	99.8	94.2	0.5	5.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.3	32.6	3.7	10.2%	YES	98.6	98.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
92 JERSEY STREET (CONTINUED)																					
	R2	RESIDENTIAL	BEDROOM	W2/F01	36.2	32.8	3.4	9.4%	YES	99.5	96.9	0.3	2.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

					VSC (WINDOW)					NSL					APSH (ROOM)							
FLOOR	ROOM	PROPERTY	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	MEETS	EX.	PR.	LOSS	LOSS	MEETS	EX.		PR.		LOSS %		MEETS	
		TYPE	USE	%	%		%	CRITERIA	%			%	SQM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL		WINTER
94 JERSEY STREET																						
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	35.4	30.3	5.1	14.4%	YES	99.6	93.5	0.6	6.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.3	32.6	3.7	10.2%	YES	99.6	97.6	0.2	2.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
96 JERSEY STREET																						
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	35	30.2	4.8	13.7%	YES	99.1	92.1	0.7	7.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.3	32.9	3.4	9.4%	YES	99.3	97.5	0.2	1.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
98 JERSEY STREET																						
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	36.3	33.3	3	8.3%	YES	99.6	97.8	0.2	1.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2 BUTLER STREET																						
F00	R1	RESIDENTIAL	LKD	W1/F00	36.1	31.8	4.3	11.9%	YES	100	99.8	0.0	0.2%	YES	96	29	81	23	15.6%	20.7%	YES	
			LKD	W3/F00	33.4	24.5	8.9	26.6%	NO													
	R2	RESIDENTIAL	BEDROOM	W2/F00	22.1	14.1	8	36.2%	NO	83	75.5	0.9	9.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
F01	R1	RESIDENTIAL	LKD	W1/F01	36.7	32.5	4.2	11.4%	YES	100	95.7	11	4.3%	YES	96	29	84	23	12.5%	20.7%	YES	
			LKD	W7/F01	36.4	27.5	8.9	24.5%	YES													
	R2	RESIDENTIAL	LKD	W2/F01	36.2	31.2	5	13.8%	YES	99.9	99.9	0.0	0.0%	YES	56	17	49	10	12.5%	41.2%	YES	
	R3	RESIDENTIAL	BEDROOM	W3/F01	36.4	30.7	5.7	15.7%	YES	95.4	78.5	2.0	17.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R4	RESIDENTIAL	BEDROOM	W4/F01	36.4	30.4	6	16.5%	YES	97	97	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R5	RESIDENTIAL	BEDROOM	W5/F01	36.4	28.9	7.5	20.6%	YES	97.2	75	2.2	22.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R6	RESIDENTIAL	BEDROOM	W6/F01	36.3	28.3	8	22.0%	YES	96.3	68.7	3.2	28.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
F02	R1	RESIDENTIAL	LKD	W1/F02	37.2	33.6	3.6	9.7%	YES	100	99.8	0.1	0.2%	YES	96	29	86	23	10.4%	20.7%	YES	
			LKD	W8/F02	37.6	28.9	8.7	23.1%	YES													
	R2	RESIDENTIAL	LKD	W2/F02	37.8	37.8	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	55	12	9.8%	33.3%	YES	
			LKD	W3/F02	37.4	32.8	4.6	12.3%	YES													
	R3	RESIDENTIAL	BEDROOM	W4/F02	37.4	32.3	5.1	13.6%	YES	94.7	94.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R4	RESIDENTIAL	BEDROOM	W5/F02	37.4	31.6	5.8	15.5%	YES	97.2	91.6	0.6	5.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R5	RESIDENTIAL	BEDROOM	W6/F02	37.5	30.5	7	18.7%	YES	97.2	97	0.0	0.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2 BUTLER STREET (CONTINUED)																						
	R6	RESIDENTIAL	BEDROOM	W7/F02	37.5	29.7	7.8	20.8%	YES	96.3	74.6	2.5	22.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
F03	R1	RESIDENTIAL	LKD	W1/F03	37.7	34.3	3.4	9.0%	YES	100	95.9	11	4.1%	YES	96	29	88	23	8.3%	20.7%	YES	

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	MEETS	EX.	PR.	LOSS	LOSS	MEETS	EX		PR.		LOSS %		MEETS
		TYPE	USE		%	%		%	CRITERIA		%	%	SQM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	
			LKD	W8/F03	38.3	30.4	7.9	20.6%	YES												
	R2	RESIDENTIAL	LKD	W2/F03	38.4	38.4	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	56	13	8.2%	27.8%	YES
			LKD	W3/F03	38.1	34.1	4	10.5%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F03	38.1	33.4	4.7	12.3%	YES	95.2	911	0.5	4.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F03	38.1	33.1	5	13.1%	YES	96.8	96.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F03	38.2	31.7	6.5	17.0%	YES	97.2	88.1	0.9	9.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F03	38.3	31.4	6.9	18.0%	YES	94.5	94.2	0.0	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	RESIDENTIAL	LKD	W1/F04	38	35.3	2.7	7.1%	YES	100	99.8	0.0	0.2%	YES	97	30	91	25	6.2%	16.7%	YES
			LKD	W8/F04	38.6	31.9	6.7	17.4%	YES												
	R2	RESIDENTIAL	LKD	W2/F04	38.7	38.7	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	56	13	8.2%	27.8%	YES
			LKD	W3/F04	38.4	35.1	3.3	8.6%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F04	38.5	34.7	3.8	9.9%	YES	94.7	94.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F04	38.5	34.1	4.4	11.4%	YES	97.3	97.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F04	38.5	33.1	5.4	14.0%	YES	97.3	95.9	0.1	1.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F04	38.6	32.6	6	15.5%	YES	96.3	911	0.6	5.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	RESIDENTIAL	LKD	W1/F05	38.3	36.2	2.1	5.5%	YES	100	99.9	0.0	0.1%	YES	97	30	92	25	5.2%	16.7%	YES
			LKD	W8/F05	38.7	33.4	5.3	13.7%	YES												
	R2	RESIDENTIAL	LKD	W2/F05	39	39	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	60	17	1.6%	5.6%	YES
			LKD	W3/F05	38.6	36	2.6	6.7%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F05	38.7	35.6	3.1	8.0%	YES	97.2	97.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F05	38.7	35.2	3.5	9.0%	YES	97.3	97.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F05	38.7	34.5	4.2	10.9%	YES	97.2	97.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F05	38.7	34.1	4.6	11.9%	YES	94.4	94.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F06	R1	RESIDENTIAL	LKD	W1/F06	38.6	36.9	1.7	4.4%	YES	100	99.5	0.1	0.5%	YES	97	30	94	27	3.1%	10.0%	YES
			LKD	W8/F06	38.9	34.8	4.1	10.5%	YES												
	R2	RESIDENTIAL	LKD	W2/F06	39.1	39.1	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	60	17	1.6%	5.6%	YES
			LKD	W3/F06	38.8	36.8	2	5.2%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F06	38.8	36.4	2.4	6.2%	YES	95.2	95.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F06	38.8	36.3	2.5	6.4%	YES	96.9	96.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2 BUTLER STREET (CONTINUED)																					
	R5	RESIDENTIAL	BEDROOM	W6/F06	38.8	35.6	3.2	8.2%	YES	97.3	97.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F06	38.8	35.4	3.4	8.8%	YES	94.6	94.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F07	R1	RESIDENTIAL	LKD	W1/F07	38.9	37.7	1.2	3.1%	YES	100	100	0.0	0.0%	YES	97	30	95	28	2.1%	6.7%	YES

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	MEETS	EX.	PR.	LOSS	LOSS	MEETS	EX.		PR.		LOSS %		MEETS
		TYPE	USE	%	%	%	%	CRITERIA	%		%	SQM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			LKD	W8/F07	39	36.2	2.8	7.2%	YES												
	R2	RESIDENTIAL	LKD	W2/F07	39.2	39.2	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	60	17	1.6%	5.6%	YES
			LKD	W3/F07	38.9	37.6	1.3	3.3%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F07	38.9	37.4	1.5	3.9%	YES	94.5	94.5	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F07	38.9	37.2	1.7	4.4%	YES	97.3	97.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F07	38.9	36.8	2.1	5.4%	YES	97.2	97.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F07	39	36.5	2.5	6.4%	YES	96.3	96.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F08	R1	RESIDENTIAL	LKD	W1/F08	39.1	38.6	0.5	1.3%	YES	100	100	0.0	0.0%	YES	97	30	96	29	1.0%	3.3%	YES
			LKD	W8/F08	39.1	37.6	1.5	3.8%	YES												
	R2	RESIDENTIAL	LKD	W2/F08	39.3	39.3	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	61	18	0.0%	0.0%	YES
			LKD	W3/F08	39	38.3	0.7	1.8%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F08	39	38.2	0.8	2.1%	YES	95.2	95.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F08	39	38.1	0.9	2.3%	YES	96.9	96.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F08	39.1	37.9	1.2	3.1%	YES	97.2	97.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F08	39.1	37.8	1.3	3.3%	YES	94.5	94.5	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F09	R1	RESIDENTIAL	LKD	W1/F09	39.3	39.2	0.1	0.3%	YES	100	100	0.0	0.0%	YES	97	30	97	30	0.0%	0.0%	YES
			LKD	W8/F09	39.2	38.8	0.4	1.0%	YES												
	R2	RESIDENTIAL	LKD	W2/F09	39.3	39.3	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	61	18	0.0%	0.0%	YES
			LKD	W3/F09	39.1	38.9	0.2	0.5%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F09	39.1	38.9	0.2	0.5%	YES	97.1	97.1	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F09	39.1	38.9	0.2	0.5%	YES	97.4	97.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F09	39.2	38.9	0.3	0.8%	YES	97.3	97.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F09	39.2	38.8	0.4	1.0%	YES	96.3	96.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F10	R1	RESIDENTIAL	LKD	W1/F10	39.5	39.5	0	0.0%	YES	100	100	0.0	0.0%	YES	97	30	97	30	0.0%	0.0%	YES
			LKD	W8/F10	39.3	39.3	0	0.0%	YES												
	R2	RESIDENTIAL	LKD	W2/F10	39.4	39.4	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	61	18	0.0%	0.0%	YES
			LKD	W3/F10	39.2	39.2	0	0.0%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F10	39.2	39.2	0	0.0%	YES	94.5	94.5	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2 BUTLER STREET (CONTINUED)																					
	R4	RESIDENTIAL	BEDROOM	W5/F10	39.2	39.2	0	0.0%	YES	92.9	92.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F10	39.3	39.3	0	0.0%	YES	97.2	97.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F10	39.3	39.3	0	0.0%	YES	94.4	94.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F11	R1	RESIDENTIAL	LKD	W1/F11	39.6	39.6	0	0.0%	YES	100	100	0.0	0.0%	YES	97	30	97	30	0.0%	0.0%	YES

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY	ROOM USE	WINDOW	EX.	PR.	LOSS	LOSS	MEETS CRITERIA	EX.	PR.	LOSS	LOSS	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
		TYPE			%	%		%		%	%	SOM	%		ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			LKD	W8/F11	39.3	39.3	0	0.0%	YES												
	R2	RESIDENTIAL	LKD	W2/F11	39.5	39.5	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	61	18	0.0%	0.0%	YES
			LKD	W3/F11	39.3	39.3	0	0.0%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F11	39.3	39.3	0	0.0%	YES	95.2	95.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F11	39.3	39.3	0	0.0%	YES	96.7	96.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F11	39.3	39.3	0	0.0%	YES	97.3	97.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F11	39.3	39.3	0	0.0%	YES	94.5	94.5	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F12	R1	RESIDENTIAL	LKD	W1/F12	39.6	39.6	0	0.0%	YES	100	100	0.0	0.0%	YES	97	30	97	30	0.0%	0.0%	YES
			LKD	W8/F12	39.4	39.4	0	0.0%	YES												
	R2	RESIDENTIAL	LKD	W2/F12	39.5	39.5	0	0.0%	YES	100	100	0.0	0.0%	YES	61	18	61	18	0.0%	0.0%	YES
			LKD	W3/F12	39.4	39.4	0	0.0%	YES												
	R3	RESIDENTIAL	BEDROOM	W4/F12	39.4	39.4	0	0.0%	YES	94.6	94.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F12	39.4	39.4	0	0.0%	YES	97.3	97.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F12	39.4	39.4	0	0.0%	YES	97.2	97.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F12	39.4	39.4	0	0.0%	YES	96.3	96.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTLER STREET PLOT 33																					
F00	R1	RESIDENTIAL	LKD	W1/F00	33.2	27.7	5.5	16.6%	YES	99.5	96.3	0.4	3.2%	YES	70	23	62	16	11.4%	30.4%	YES
			LKD	W2/F00	24.2	21.2	3	12.4%	YES												
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	35.1	29.8	5.3	15.1%	YES	99.1	99.1	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	35.9	31	4.9	13.6%	YES	99	99	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W2/F02	35.9	31.3	4.6	12.8%	YES												
BUTLER STREET PLOT 32																					
F00	R1	RESIDENTIAL	LKD	W1/F00	32.9	28.3	4.6	14.0%	YES	97.7	97.7	0.0	0.0%	YES	55	16	46	7	16.4%	56.3%	YES
			LKD	W2/F00	25.3	25.3	0	0.0%	YES												
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	34.8	30.4	4.4	12.6%	YES	99	99	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTLER STREET PLOT 32 (CONTINUED)																					
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	35.6	31.4	4.2	11.8%	YES	99	99	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W2/F02	35.6	31.6	4	11.2%	YES												
BUTLER STREET PLOT 26																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	33	31.5	1.5	4.5%	YES	94.8	94.8	0.0	0.0%	YES	53	13	49	9	7.5%	30.8%	YES

(1) KITCHEN SMALLER THAN 13m2

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

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	MEETS	EX.	PR.	LOSS	LOSS	MEETS	EX.		PR.		LOSS %		MEETS
		TYPE	USE		%	%		%	CRITERIA	%	%	SOM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	34.4	33.1	13	3.8%	YES	91.8	91.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	35.2	34.1	11	3.1%	YES	96.5	96.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTLER STREET PLOT 27																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	33.2	31.4	18	5.4%	YES	95.8	95.8	0.0	0.1%	YES	61	20	58	17	4.9%	15.0%	YES
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	34.6	33	16	4.6%	YES	92	92	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	35.3	33.9	14	4.0%	YES	96.8	96.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTLER STREET PLOT 28																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	33	31	2	6.1%	YES	94.6	94.6	0.0	0.0%	YES	53	14	49	10	7.5%	28.6%	YES
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	34.5	32.7	18	5.2%	YES	91.7	91.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	35.1	33.5	16	4.6%	YES	96.4	96.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTLER STREET PLOT 29																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	32.7	30.3	2.4	7.3%	YES	94.7	94.5	0.0	0.3%	YES	58	19	54	15	6.9%	21.1%	YES
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	34.3	32	2.3	6.7%	YES	92	91.5	0.0	0.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	35	33.1	1.9	5.4%	YES	96.6	96.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTLER STREET PLOT 30																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	32.7	30.1	2.6	8.0%	YES	94.2	94.2	0.0	0.0%	YES	52	14	47	9	9.6%	35.7%	YES
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	34.2	31.8	2.4	7.0%	YES	92.7	92.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	34.9	32.7	2.2	6.3%	YES	96.8	96.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTLER STREET PLOT 31																					
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	32.6	29.5	3.1	9.5%	YES	93.3	92.8	0.1	0.5%	YES	60	21	53	14	11.7%	33.3%	YES
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	34.2	31.2	3	8.8%	YES	92.3	92.1	0.0	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTLER STREET PLOT 31 (CONTINUED)																					
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	35	32.4	2.6	7.4%	YES	96.5	96.5	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTLER STREET PLOT 35																					
F00	R1	RESIDENTIAL	LKD	W1/F00	34.6	28.2	6.4	18.5%	YES	97.9	97.9	0.0	0.0%	YES	90	24	83	20	7.8%	16.7%	YES
			LKD	W2/F00	34.8	33.1	1.7	4.9%	YES												
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	35.6	29.5	6.1	17.1%	YES	99.6	99.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX.	PR.	LOSS	LOSS	MEETS	EX.	PR.	LOSS	LOSS	MEETS	EX.		PR.		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	SOM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
			BEDROOM	W2/F01	36.5	35.1	1.4	3.8%	YES												
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	36.5	30.9	5.6	15.3%	YES	99.6	99.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W2/F02	38	36.9	1.1	2.9%	YES												
BUTLER STREET PLOT 34																					
F00	R1	RESIDENTIAL	LKD	W1/F00	33.6	27.7	5.9	17.6%	YES	97.9	76.5	2.7	21.8%	NO	61	22	52	17	14.8%	22.7%	YES
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	35.3	29.6	5.7	16.1%	YES	97.9	88	1.0	10.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	36.2	31	5.2	14.4%	YES	98.8	98.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W2/F02	36.4	31	5.4	14.8%	YES												

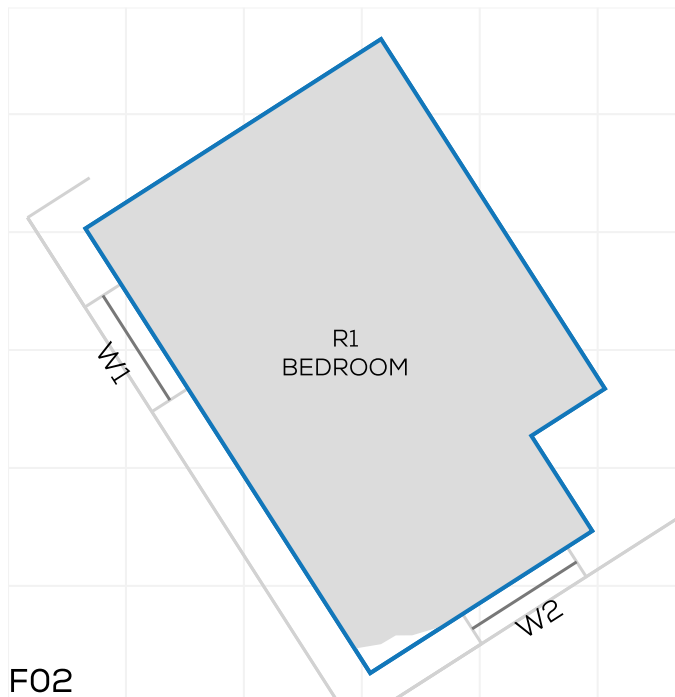
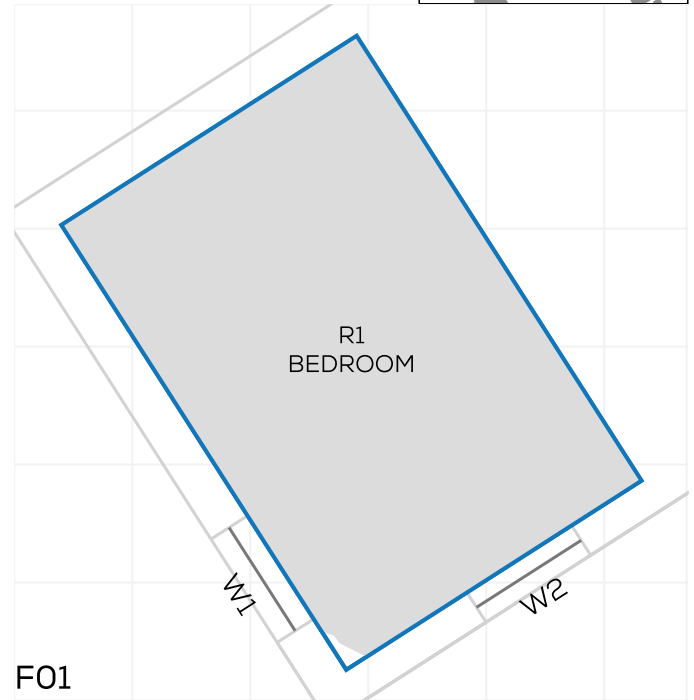
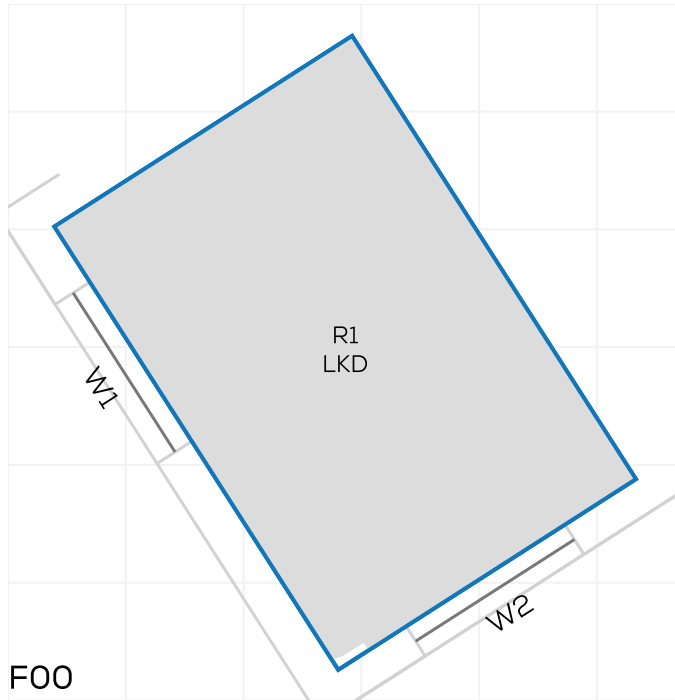
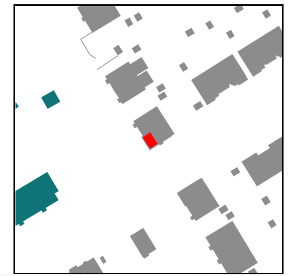
NSL CONTOURS



PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 22 GARFORTH AVENUE
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-RELO1-IS01-DD1

KEY:

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

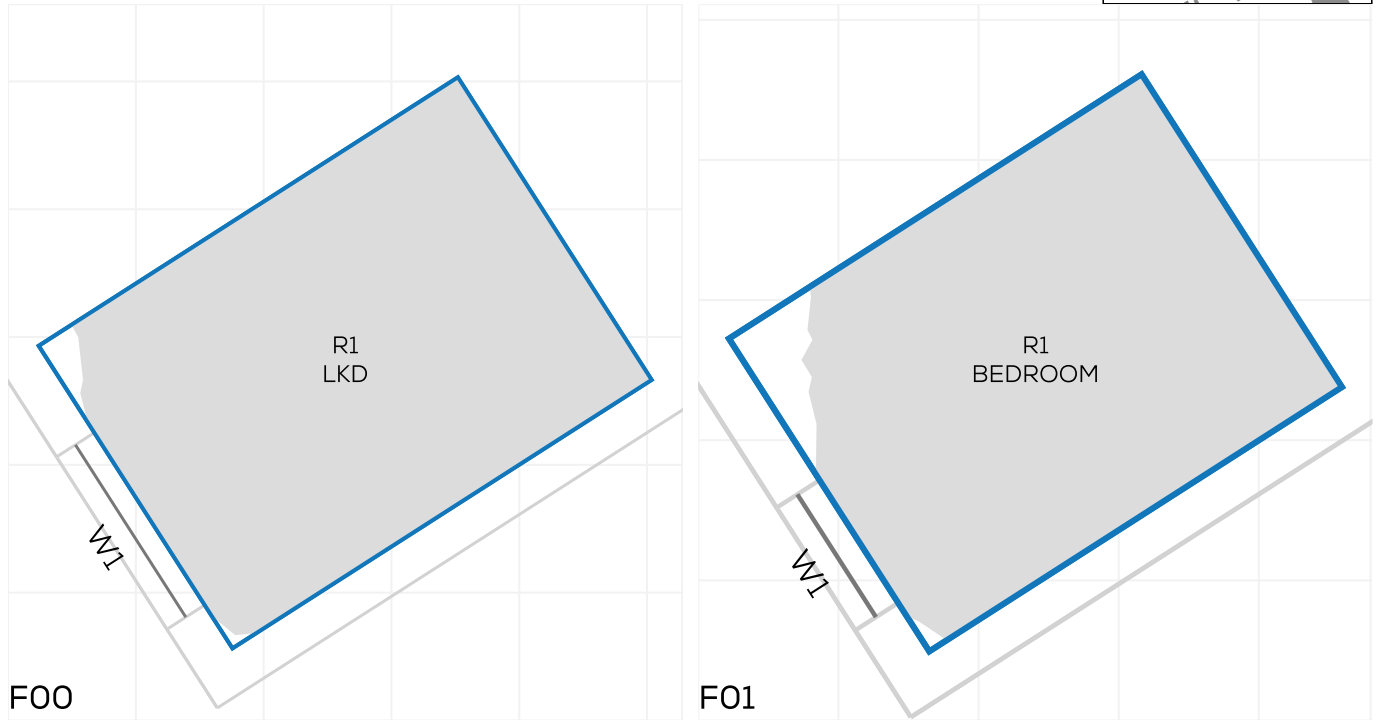
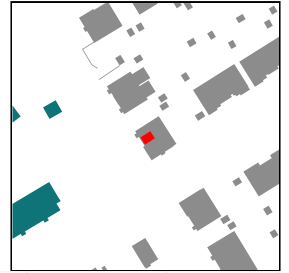


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
22 GARFORTH AVENUE								
F00	R1	RESIDENTIAL	LKD	13.4	99.8	99.8	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	13.3	99.7	99.7	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	12.6	99.3	99.3	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 7 RODNEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD2

KEY:

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

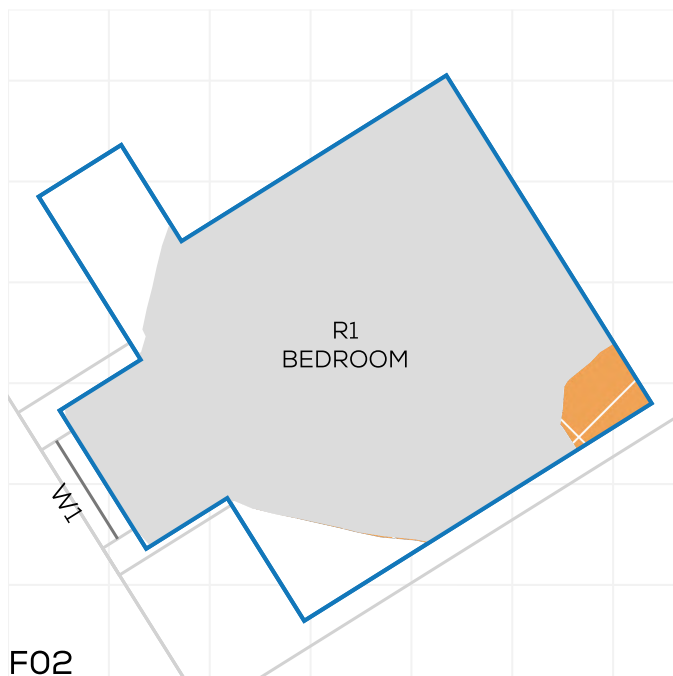
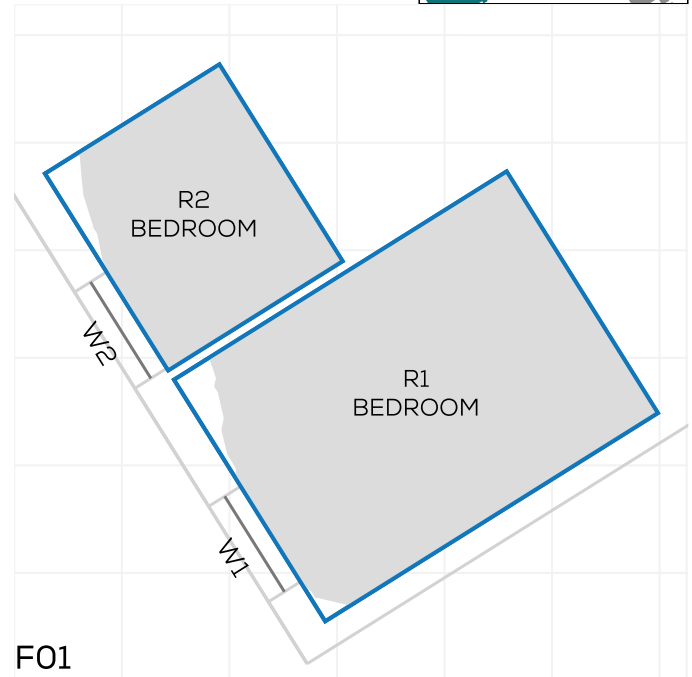
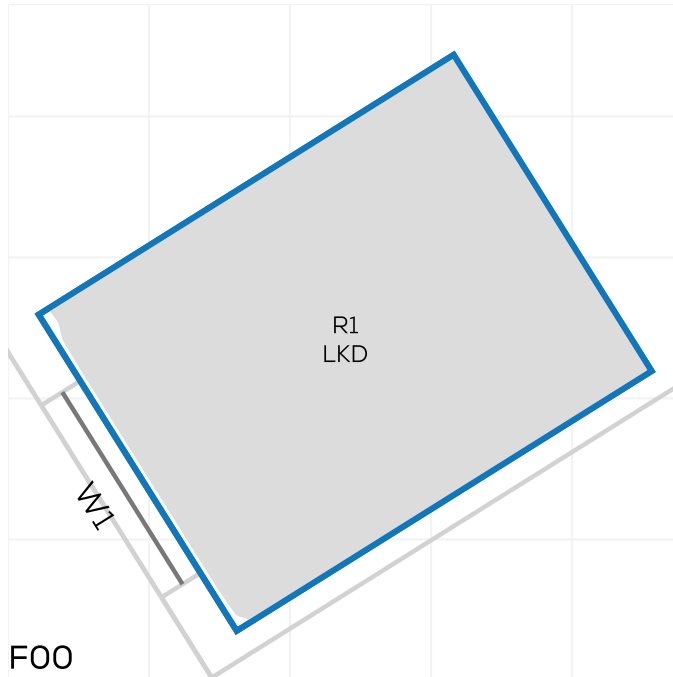
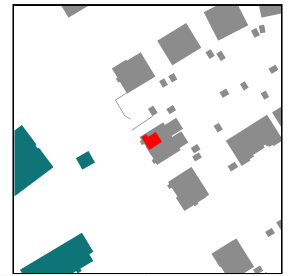


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
7 RODNEY STREET								
F00	R1	RESIDENTIAL	LKD	10.9	98.8	98.8	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	9.3	95.6	95.6	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 3 RODNEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-RELO1-IS01-DD3

KEY:

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

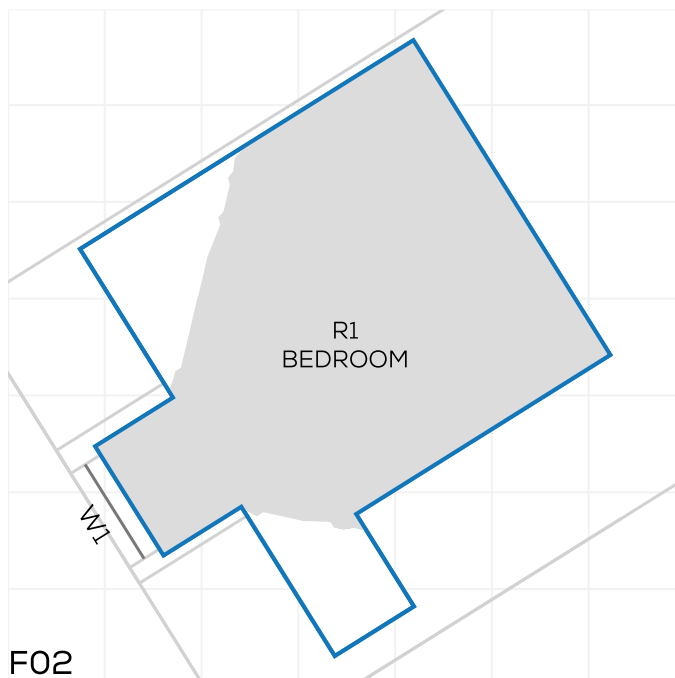
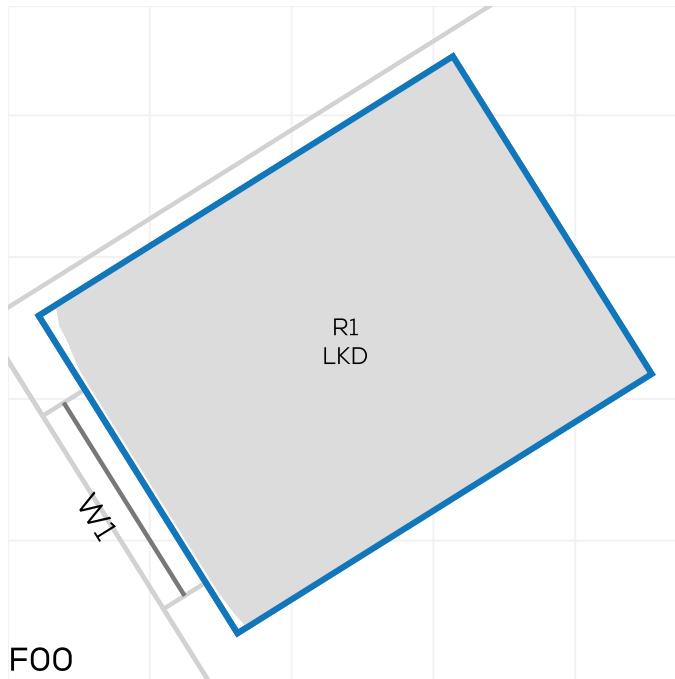
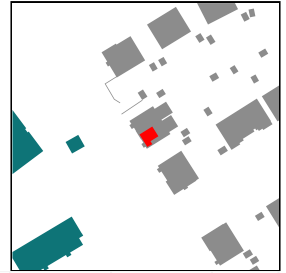


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
3 RODNEY STREET								
F00	R1	RESIDENTIAL	LKD	9.2	98.6	98.6	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	9.7	97.4	97.4	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	4.1	95.7	95.7	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	18.2	87.4	84.4	0.5	3.4

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 5 RODNEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-RELO1-IS01-DD4

KEY:

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



FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
5 RODNEY STREET								
F00	R1	RESIDENTIAL	LKD	9.1	98.6	98.6	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	9.7	98.2	98.2	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	4.1	97	97	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	17.9	83.2	83.1	0.0	0

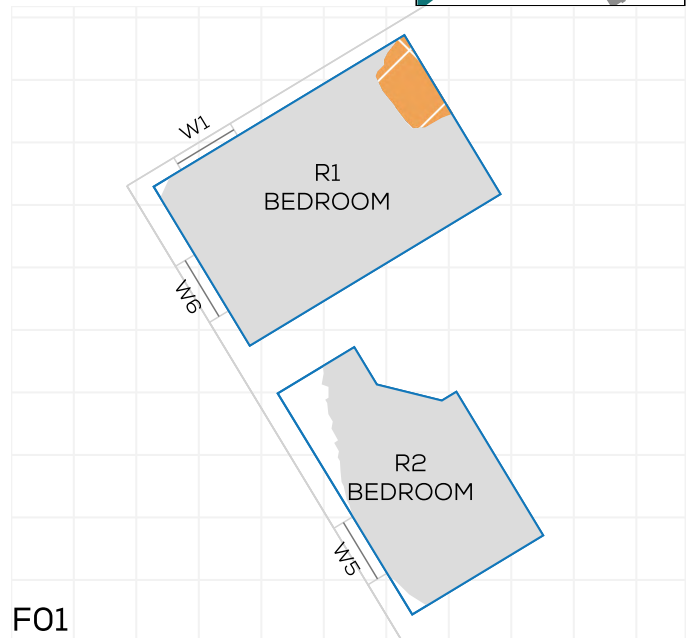
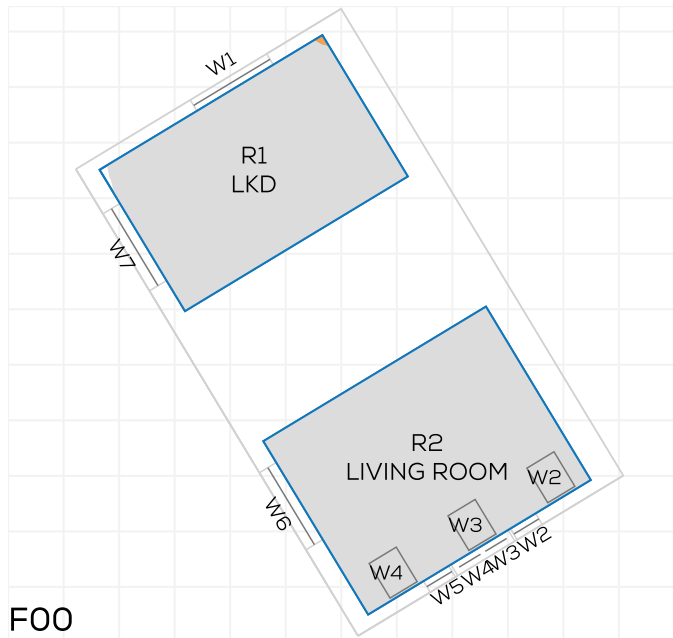
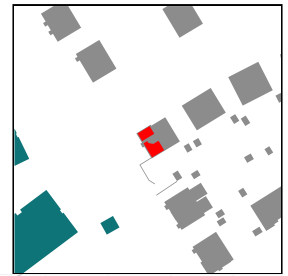
NSL CONTOURS



PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 1 RODNEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD5

KEY:

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

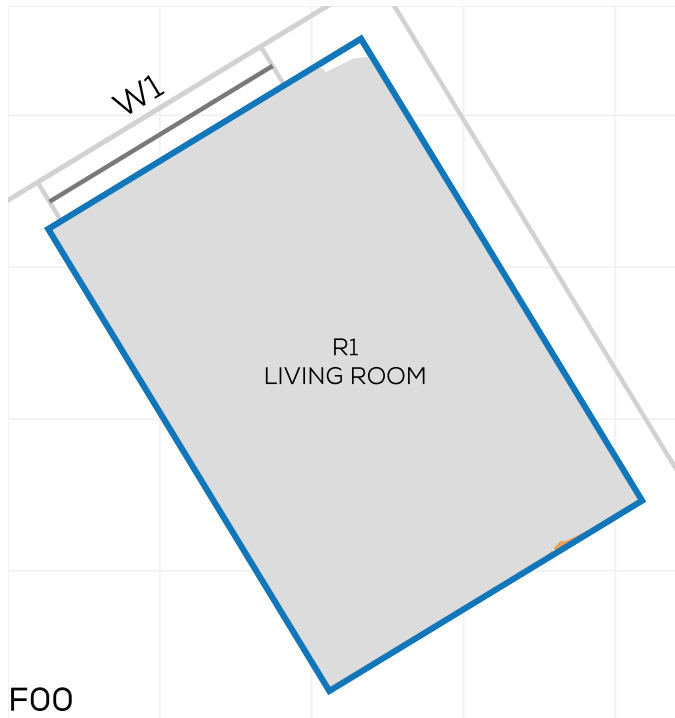
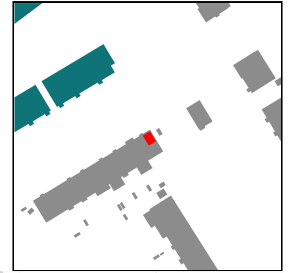


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
1 RODNEY STREET								
F00	R1	RESIDENTIAL	LKD	13.9	99.7	99.6	0.0	0.2
F00	R2	RESIDENTIAL	LIVING ROOM	17.1	100	100	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	13.9	99.8	93	0.9	6.8
F01	R2	RESIDENTIAL	BEDROOM	8.9	89	89	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	12.9	99.3	99.3	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	10.5	99.8	99.8	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 100 JERSEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD6

KEY:

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



F00



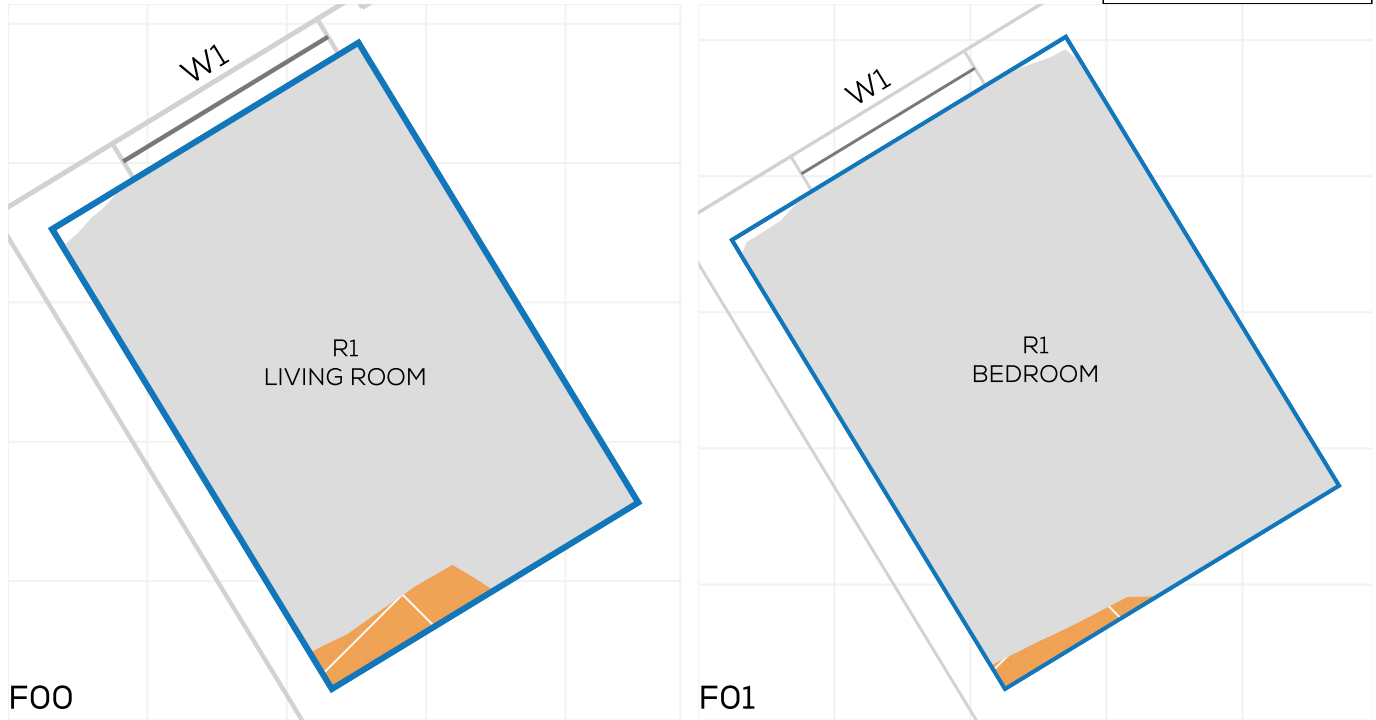
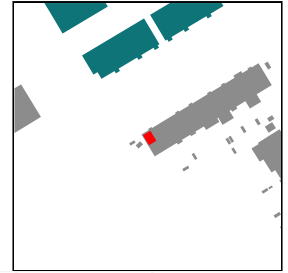
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
100 JERSEY STREET								
F00	R1	RESIDENTIAL	LIVING ROOM	8.6	99.6	99.5	0.0	0.1
F01	R1	RESIDENTIAL	BEDROOM	10.9	99.5	98	0.2	1.5

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 86 JERSEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD7

KEY:

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

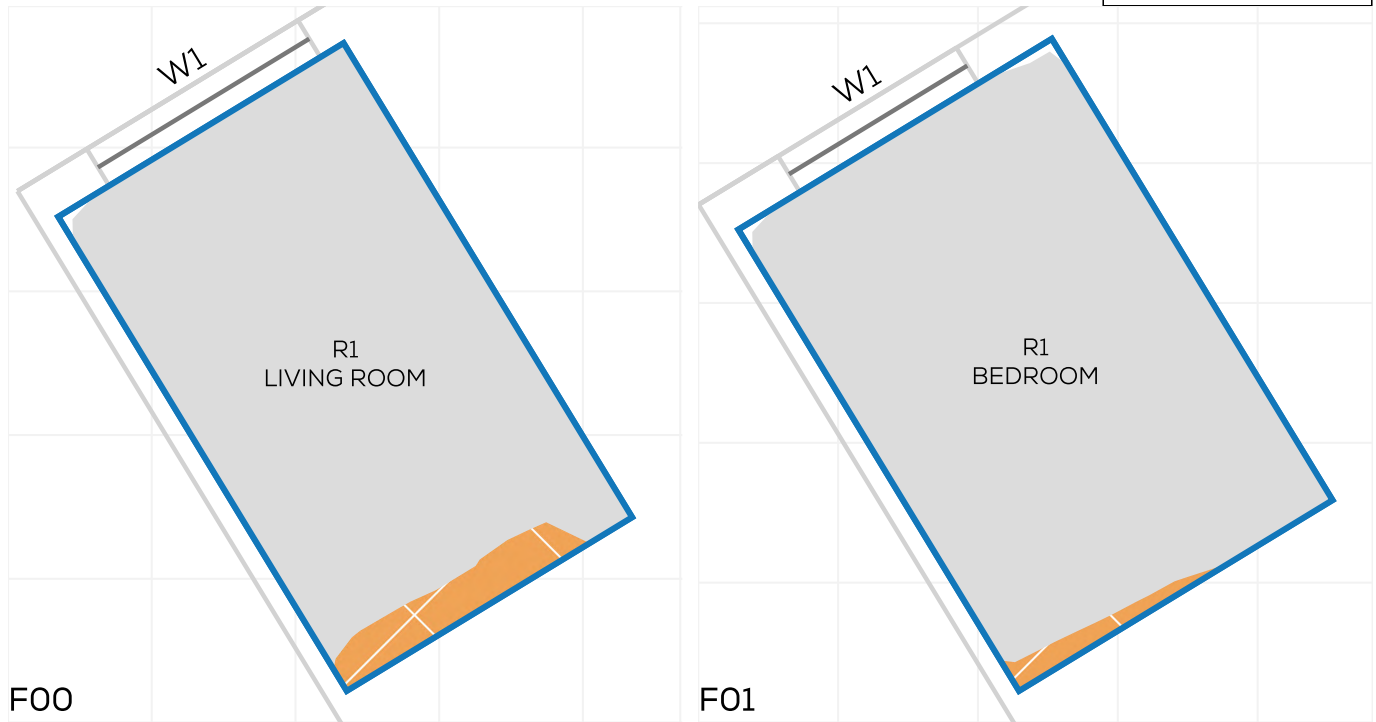
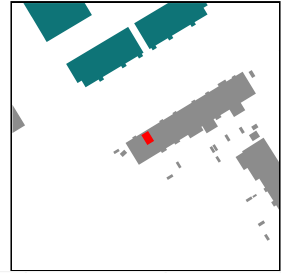


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
86 JERSEY STREET								
F00	R1	RESIDENTIAL	LIVING ROOM	9.9	99.5	95.6	0.4	3.9
F01	R1	RESIDENTIAL	BEDROOM	11.1	99.4	97.8	0.2	1.6

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 88 JERSEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD8

KEY:

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

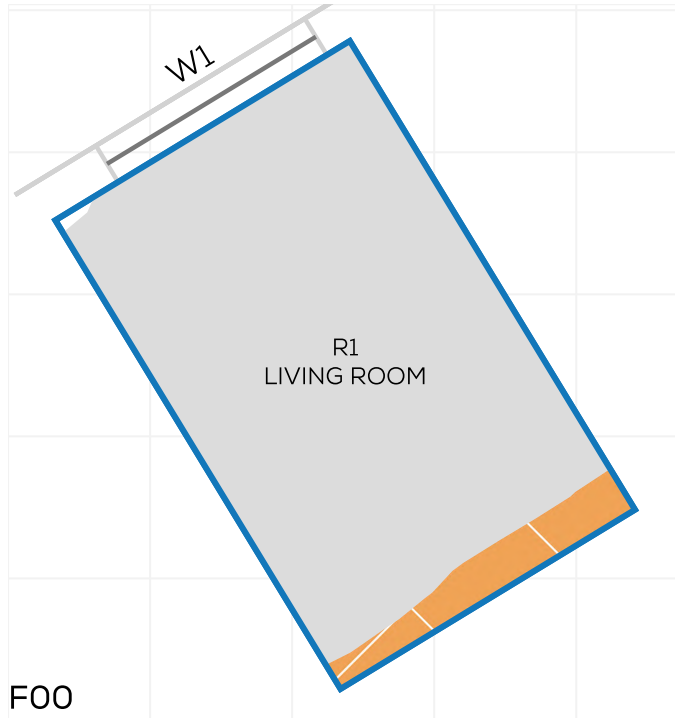
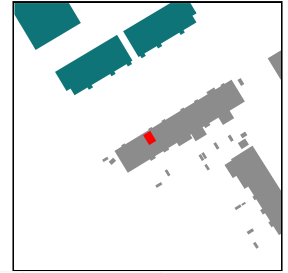


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
88 JERSEY STREET								
F00	R1	RESIDENTIAL	LIVING ROOM	9.0	99.8	93.7	0.5	6.1
F01	R1	RESIDENTIAL	BEDROOM	10.1	99.5	97.4	0.2	2.1

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 90 JERSEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD9

KEY:

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



FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
90 JERSEY STREET								
F00	R1	RESIDENTIAL	LIVING ROOM	9.4	99.7	92.7	0.7	7
F01	R1	RESIDENTIAL	BEDROOM	10.5	99.5	97	0.3	2.5

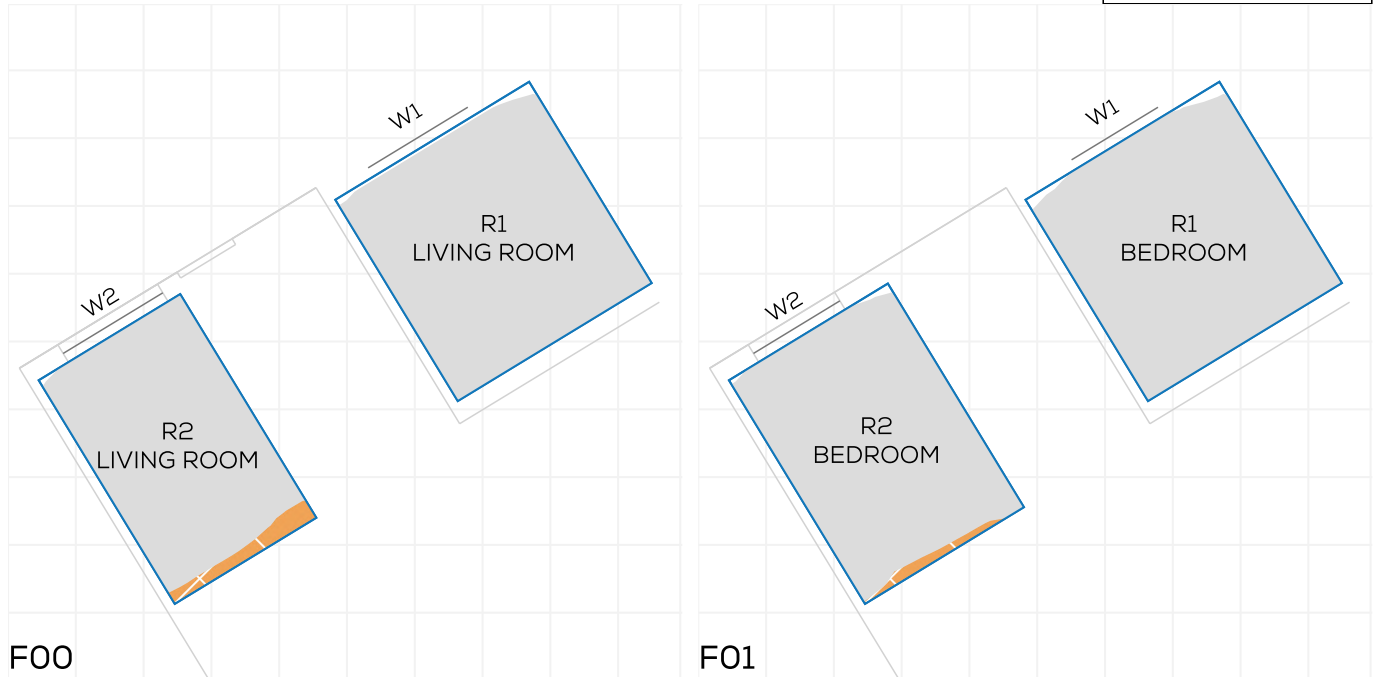
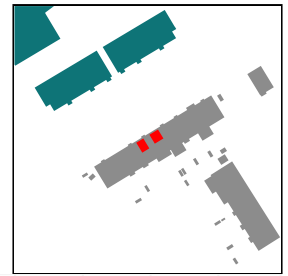
NSL CONTOURS



PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 92 JERSEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD10

KEY:

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

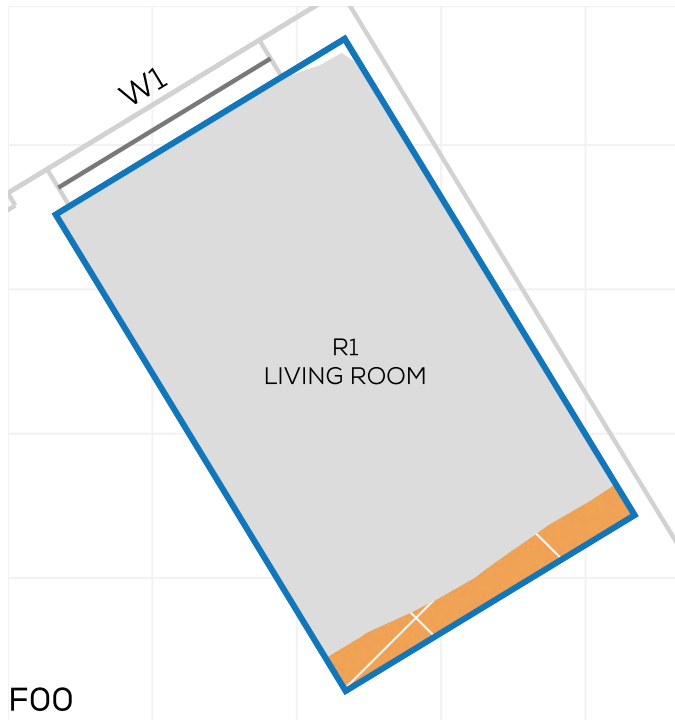
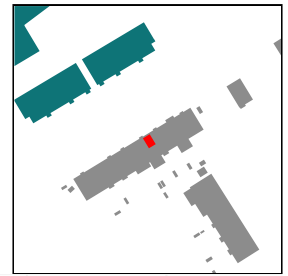


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
92 JERSEY STREET								
F00	R1	RESIDENTIAL	LIVING ROOM	11.6	98.2	98.2	0.0	0
F00	R2	RESIDENTIAL	LIVING ROOM	9.4	99.8	94.2	0.5	5.6
F01	R1	RESIDENTIAL	BEDROOM	11.6	98.6	98.6	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	10.6	99.5	96.9	0.3	2.5

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 94 JERSEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD11

KEY:

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



F00



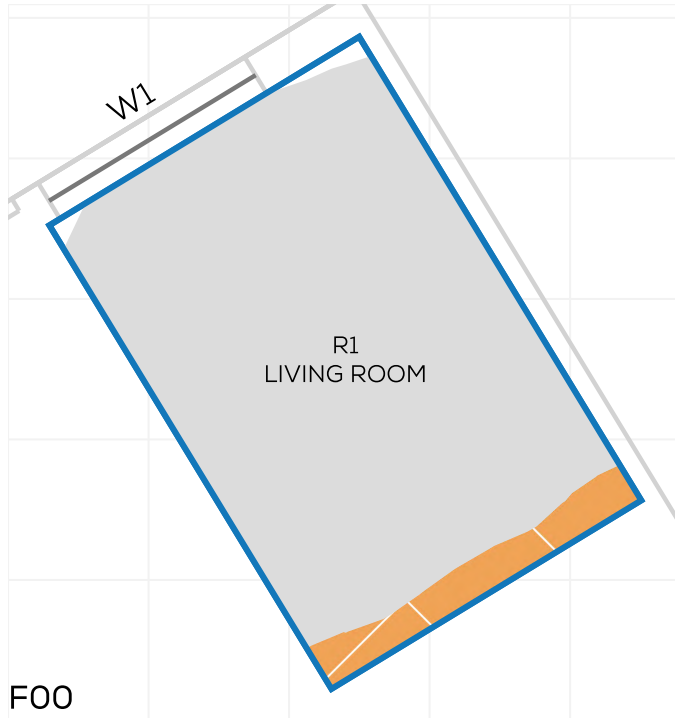
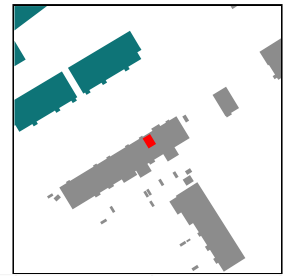
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
94 JERSEY STREET								
F00	R1	RESIDENTIAL	LIVING ROOM	9.0	99.6	93.5	0.6	6.2
F01	R1	RESIDENTIAL	BEDROOM	10.2	99.6	97.6	0.2	2

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 96 JERSEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD12

KEY:

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



F00

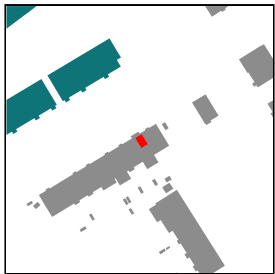


F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
96 JERSEY STREET								
F00	R1	RESIDENTIAL	LIVING ROOM	10.0	99.1	92.1	0.7	7.1
F01	R1	RESIDENTIAL	BEDROOM	11.1	99.3	97.5	0.2	1.8

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 98 JERSEY STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-RELO1-IS01-DD13

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



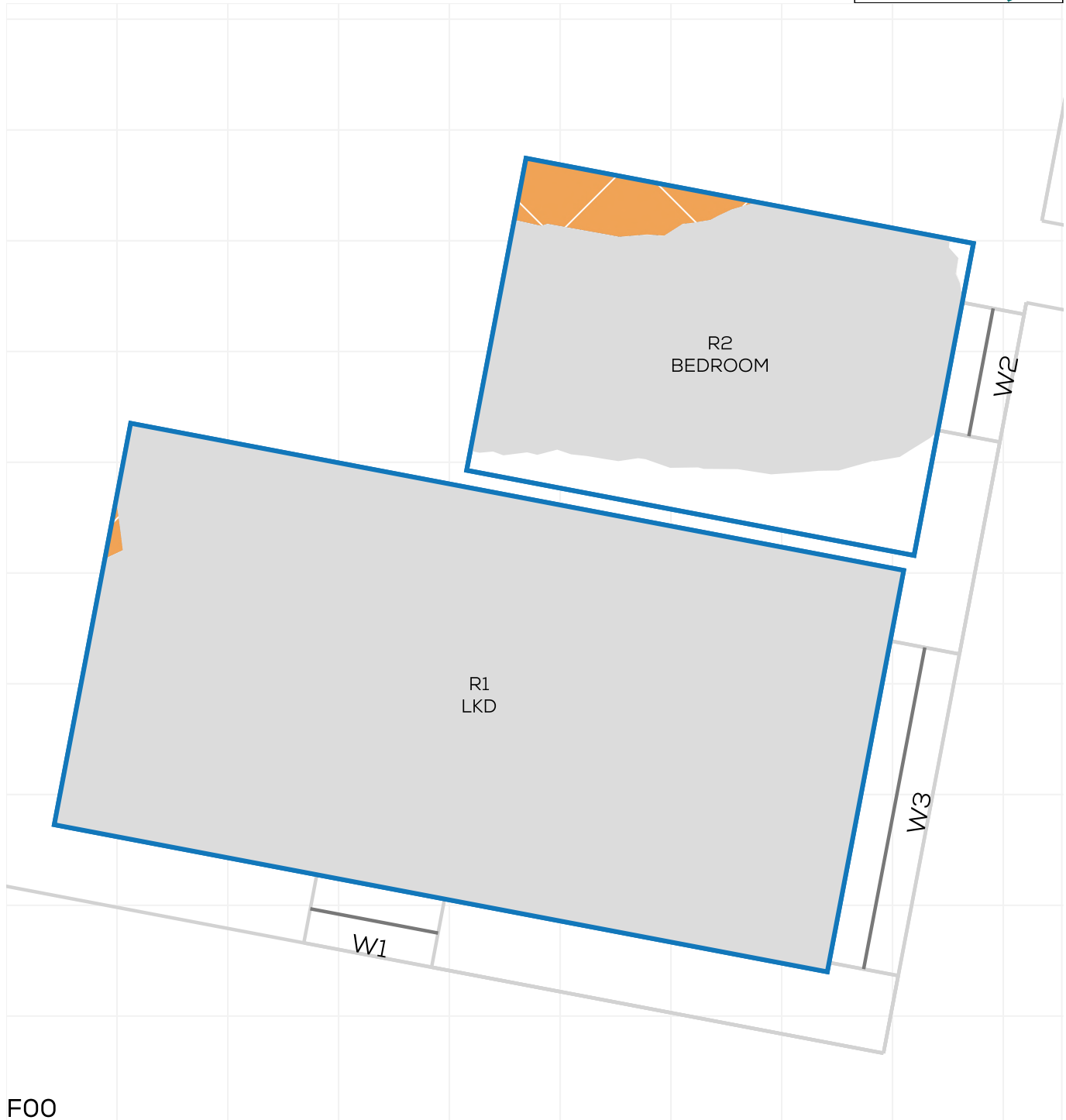
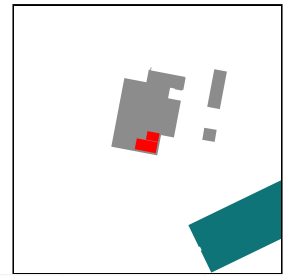
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
F01	R1	RESIDENTIAL	BEDROOM	9.5	99.6	97.8	0.2	1.8

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD14

KEY:

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



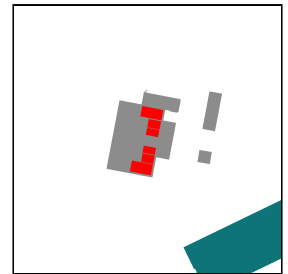
F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F00	R1	RESIDENTIAL	LKD	26.2	100	99.8	0.0	0.2
F00	R2	RESIDENTIAL	BEDROOM	11.8	83	75.5	0.9	9.1

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD15

KEY:

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



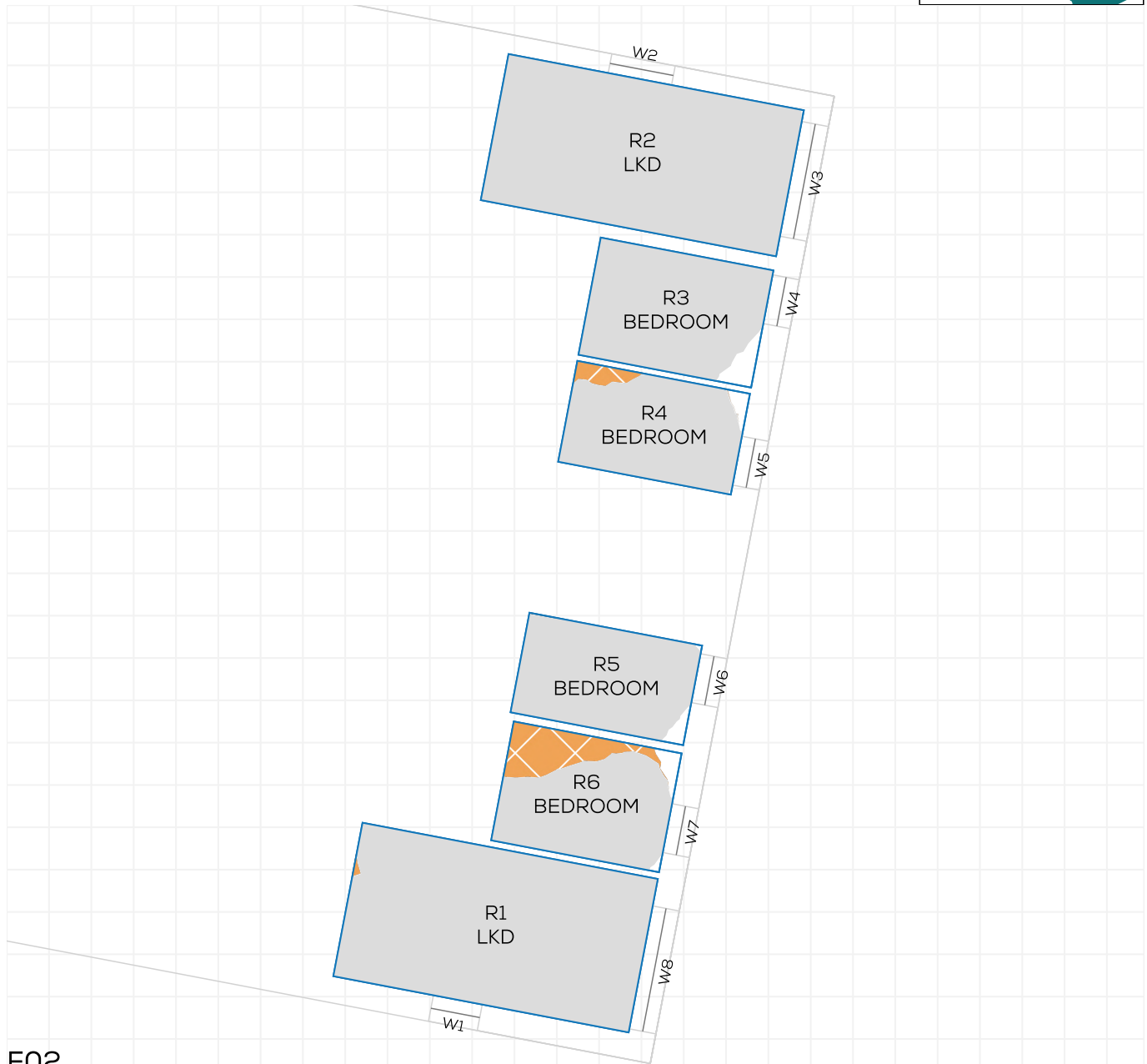
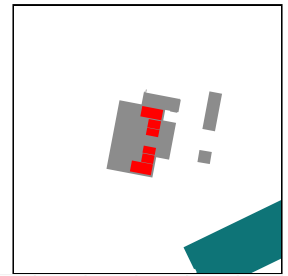
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F01	R1	RESIDENTIAL	LKD	26.2	100	95.7	1.1	4.3
F01	R2	RESIDENTIAL	LKD	24.9	99.9	99.9	0.0	0
F01	R3	RESIDENTIAL	BEDROOM	11.7	95.4	78.5	2.0	17.7
F01	R4	RESIDENTIAL	BEDROOM	10.1	97	97	0.0	0
F01	R5	RESIDENTIAL	BEDROOM	9.9	97.2	75	2.2	22.8
F01	R6	RESIDENTIAL	BEDROOM	11.6	96.3	68.7	3.2	28.6

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD16

KEY:

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



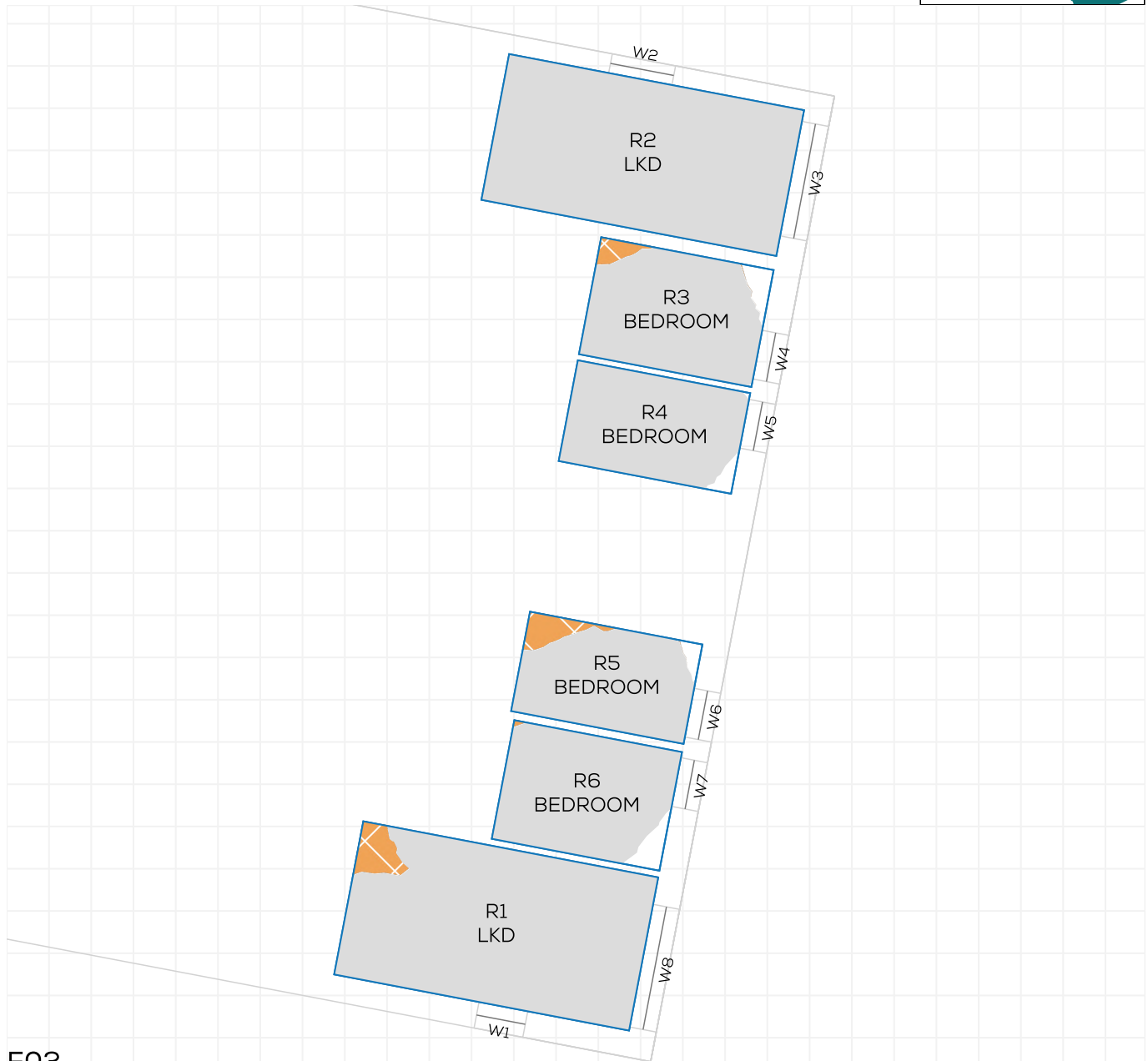
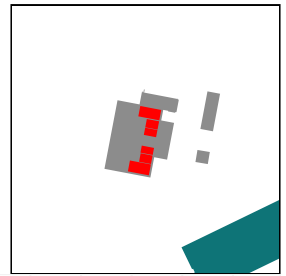
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F02	R1	RESIDENTIAL	LKD	26.2	100	99.8	0.1	0.2
F02	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F02	R3	RESIDENTIAL	BEDROOM	11.7	94.7	94.7	0.0	0
F02	R4	RESIDENTIAL	BEDROOM	10.1	97.2	91.6	0.6	5.8
F02	R5	RESIDENTIAL	BEDROOM	9.9	97.2	97	0.0	0.2
F02	R6	RESIDENTIAL	BEDROOM	11.5	96.3	74.6	2.5	22.6

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-RELO1-IS01-DD17

KEY:

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



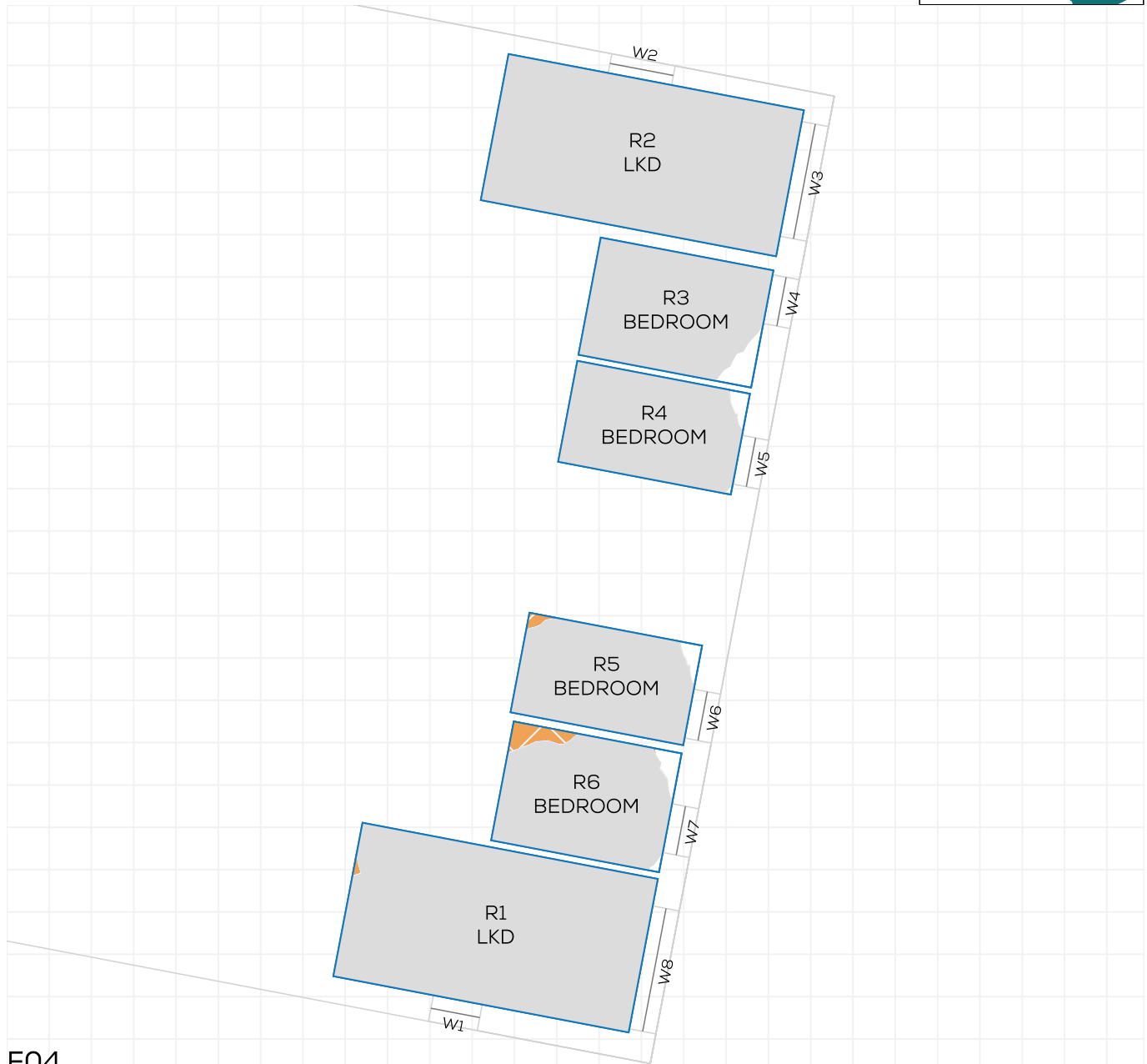
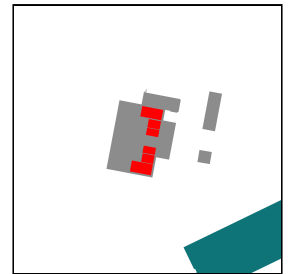
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F03	R1	RESIDENTIAL	LKD	26.2	100	95.9	1.1	4.1
F03	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F03	R3	RESIDENTIAL	BEDROOM	11.7	95.2	91.1	0.5	4.3
F03	R4	RESIDENTIAL	BEDROOM	10.1	96.8	96.8	0.0	0
F03	R5	RESIDENTIAL	BEDROOM	9.9	97.2	88.1	0.9	9.3
F03	R6	RESIDENTIAL	BEDROOM	11.5	94.5	94.2	0.0	0.3

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD18

KEY:

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

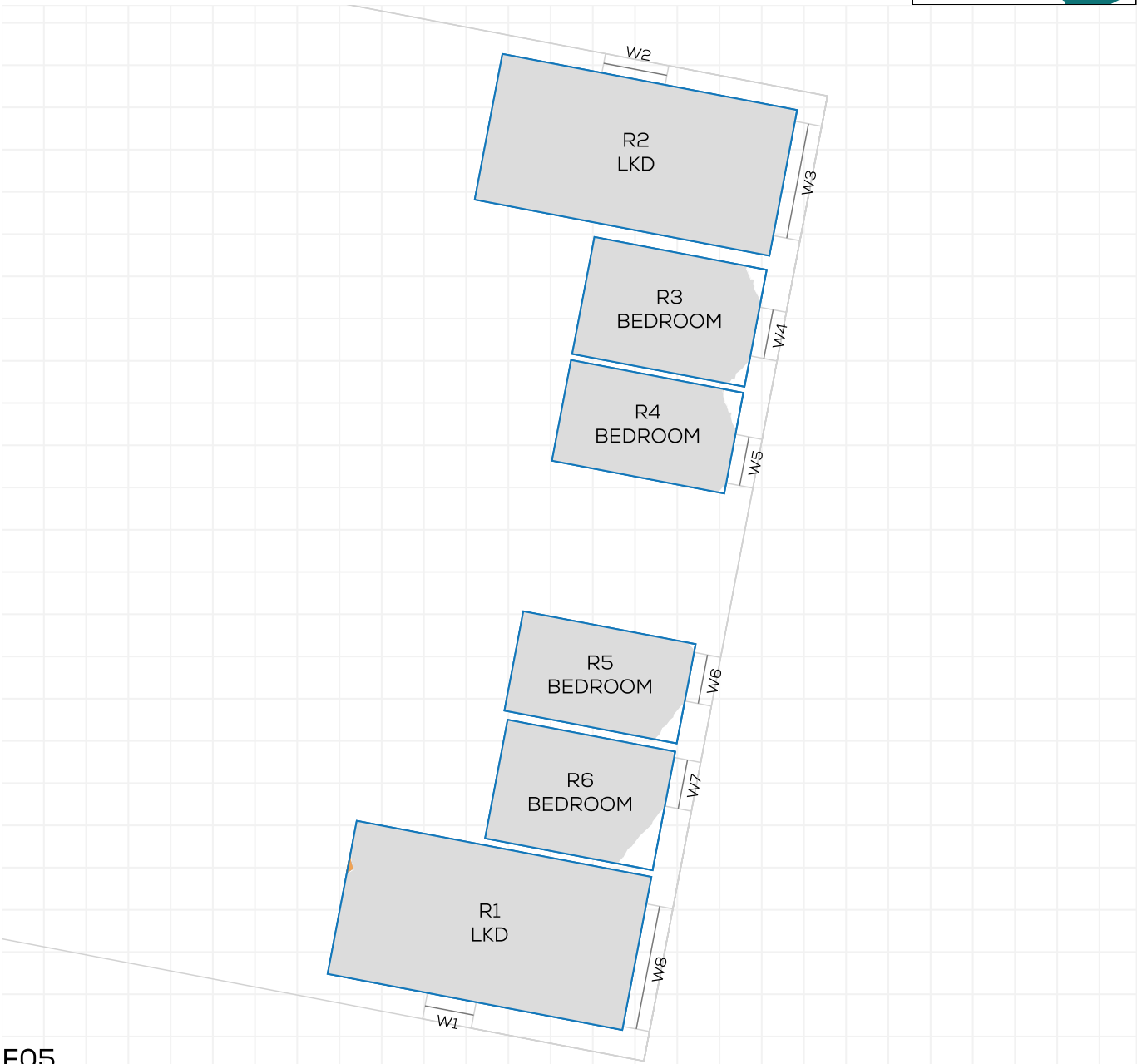
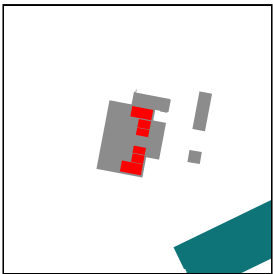


F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F04	R1	RESIDENTIAL	LKD	26.2	100	99.8	0.0	0.2
F04	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F04	R3	RESIDENTIAL	BEDROOM	11.7	94.7	94.7	0.0	0
F04	R4	RESIDENTIAL	BEDROOM	10.1	97.3	97.2	0.0	0
F04	R5	RESIDENTIAL	BEDROOM	9.9	97.3	95.9	0.1	1.4
F04	R6	RESIDENTIAL	BEDROOM	11.5	96.3	91.1	0.6	5.5

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD19

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



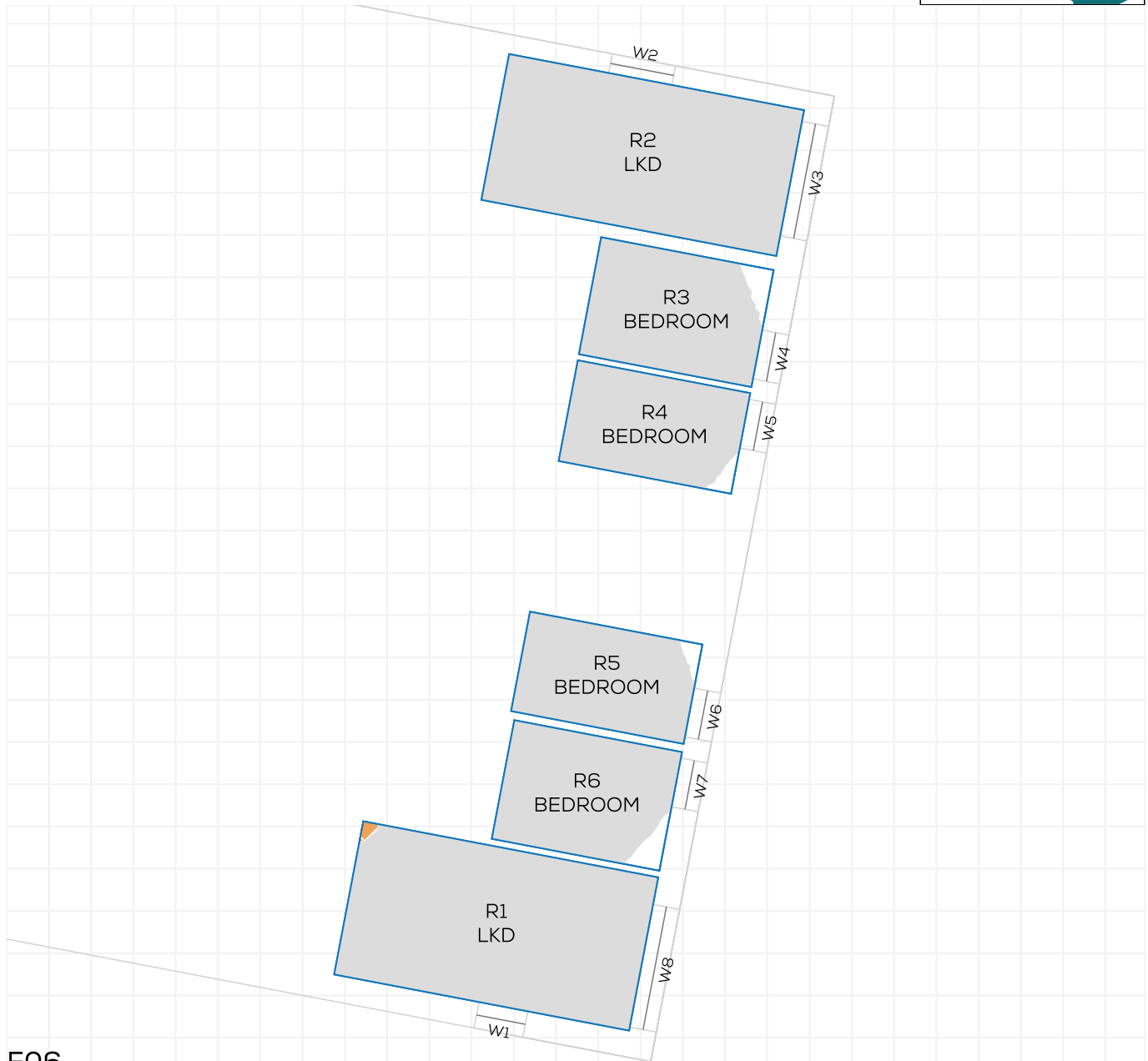
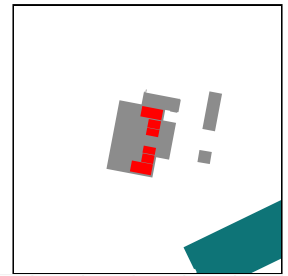
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F05	R1	RESIDENTIAL	LKD	26.2	100	99.9	0.0	0.1
F05	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F05	R3	RESIDENTIAL	BEDROOM	11.7	97.2	97.2	0.0	0
F05	R4	RESIDENTIAL	BEDROOM	10.1	97.3	97.3	0.0	0
F05	R5	RESIDENTIAL	BEDROOM	9.9	97.2	97.2	0.0	0
F05	R6	RESIDENTIAL	BEDROOM	11.5	94.4	94.4	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD20

KEY:

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



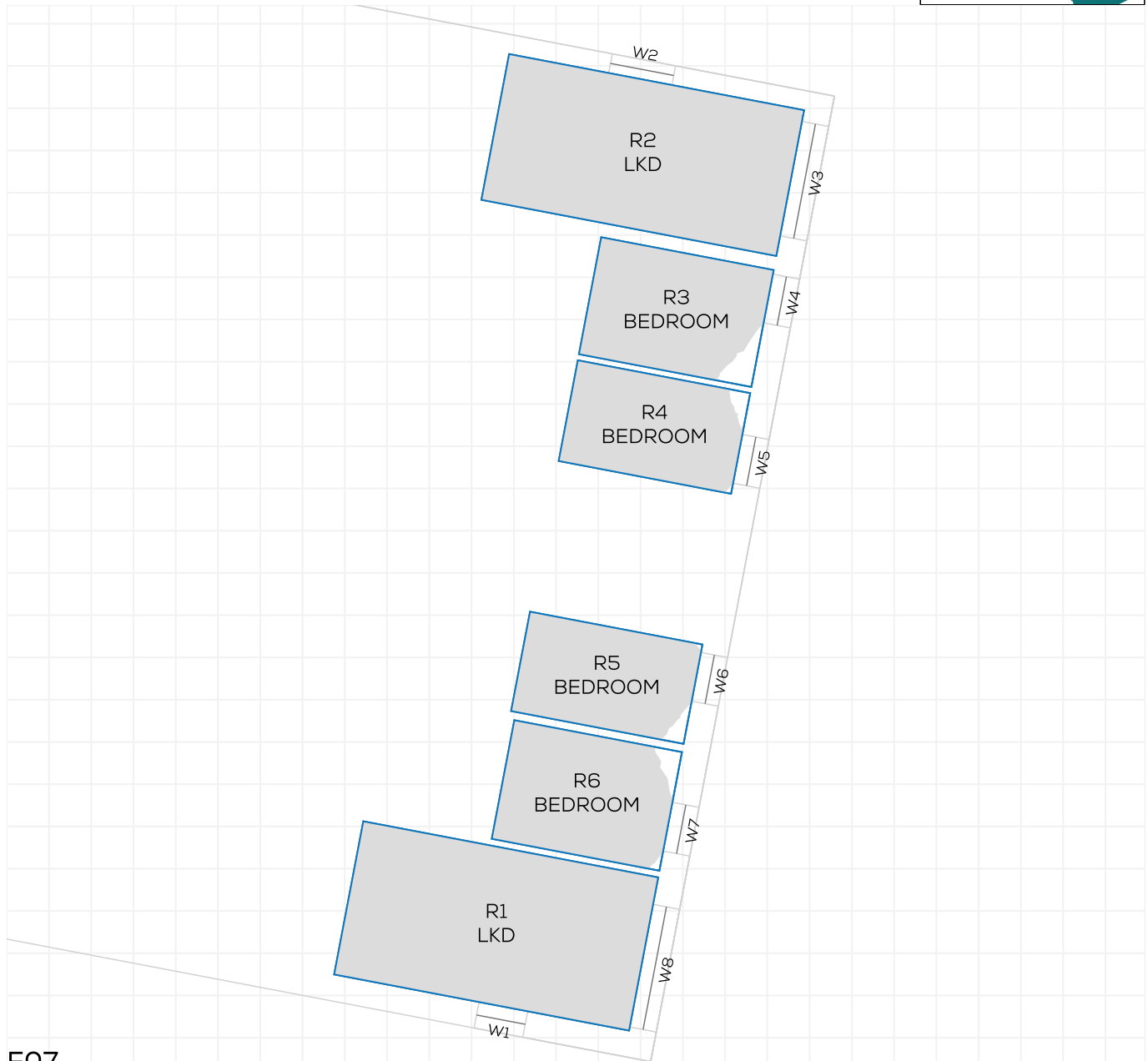
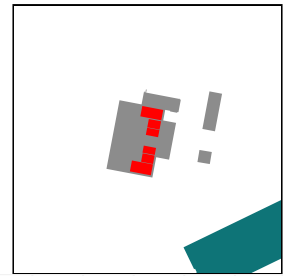
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F06	R1	RESIDENTIAL	LKD	26.2	100	99.5	0.1	0.5
F06	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F06	R3	RESIDENTIAL	BEDROOM	11.7	95.2	95.2	0.0	0
F06	R4	RESIDENTIAL	BEDROOM	10.1	96.9	96.9	0.0	0
F06	R5	RESIDENTIAL	BEDROOM	9.9	97.3	97.3	0.0	0
F06	R6	RESIDENTIAL	BEDROOM	11.5	94.6	94.6	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD21

KEY:

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

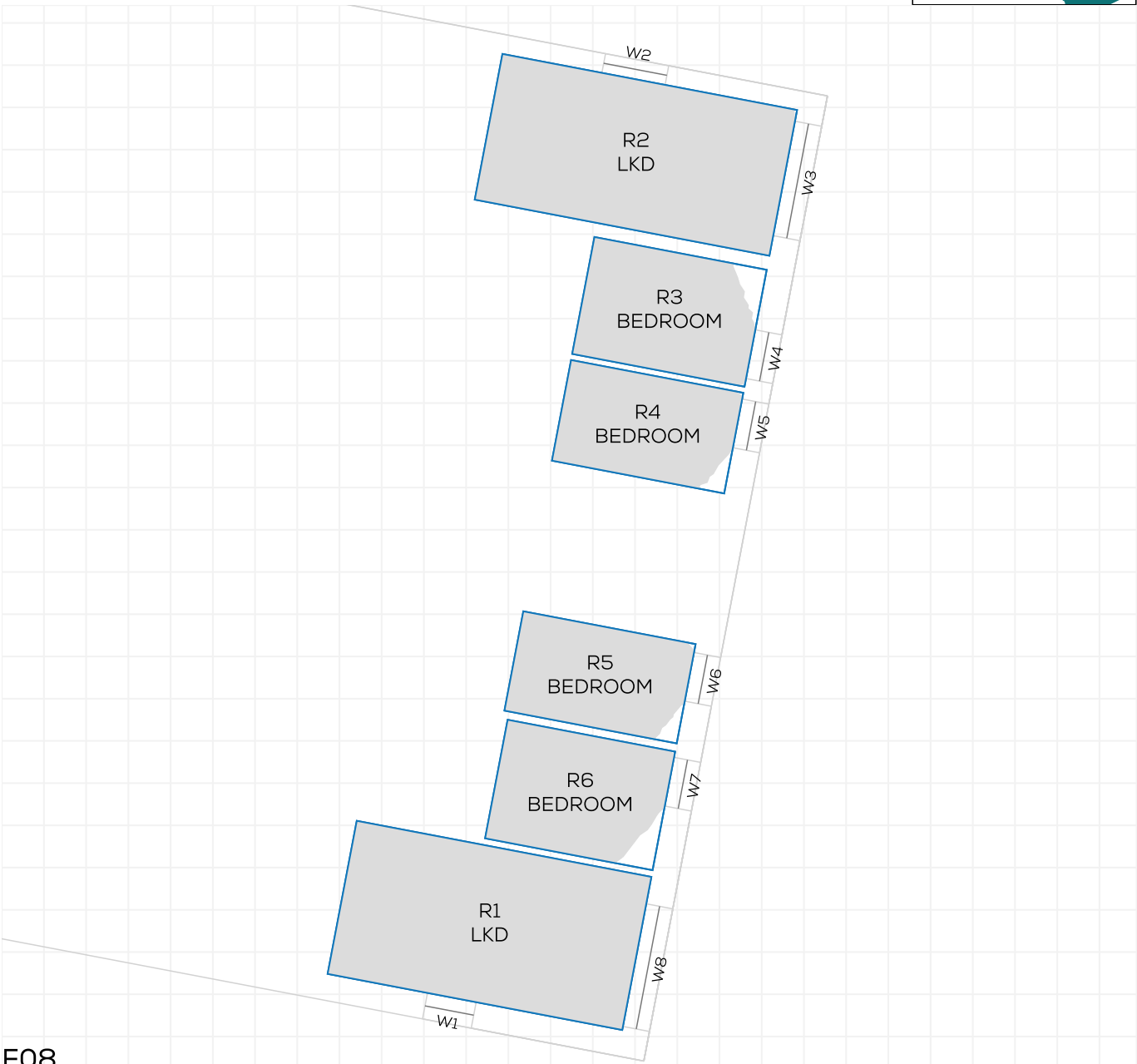
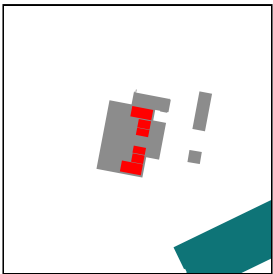


F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F07	R1	RESIDENTIAL	LKD	26.2	100	100	0.0	0
F07	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F07	R3	RESIDENTIAL	BEDROOM	11.7	94.5	94.5	0.0	0
F07	R4	RESIDENTIAL	BEDROOM	10.1	97.3	97.3	0.0	0
F07	R5	RESIDENTIAL	BEDROOM	9.9	97.2	97.2	0.0	0
F07	R6	RESIDENTIAL	BEDROOM	11.5	96.3	96.3	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD22

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



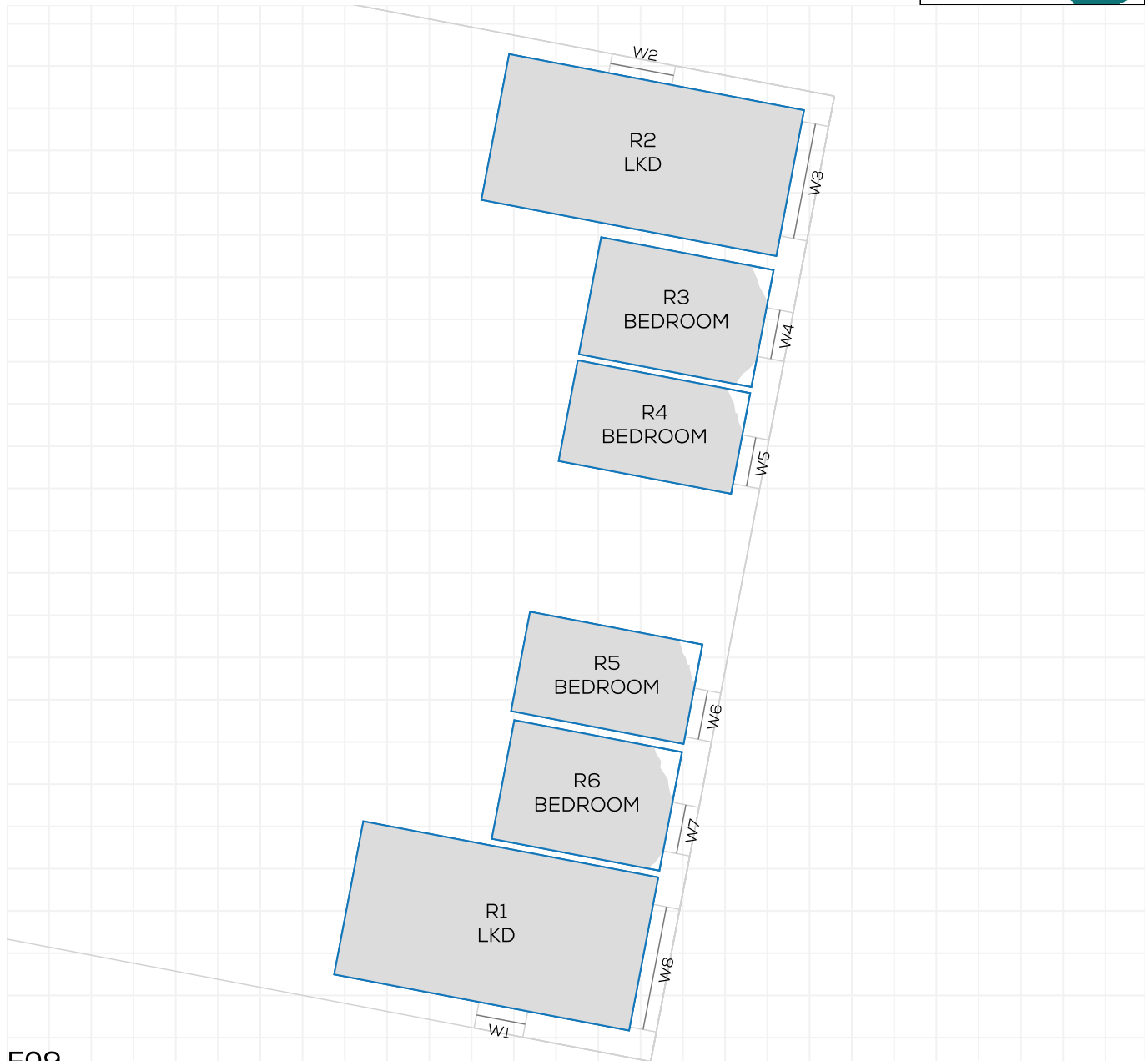
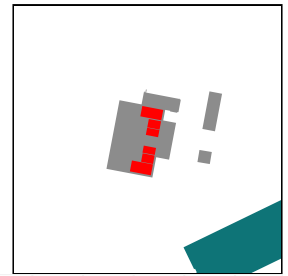
F08

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F08	R1	RESIDENTIAL	LKD	26.2	100	100	0.0	0
F08	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F08	R3	RESIDENTIAL	BEDROOM	11.7	95.2	95.2	0.0	0
F08	R4	RESIDENTIAL	BEDROOM	10.1	96.9	96.9	0.0	0
F08	R5	RESIDENTIAL	BEDROOM	9.9	97.2	97.2	0.0	0
F08	R6	RESIDENTIAL	BEDROOM	11.5	94.5	94.5	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD23

KEY:

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



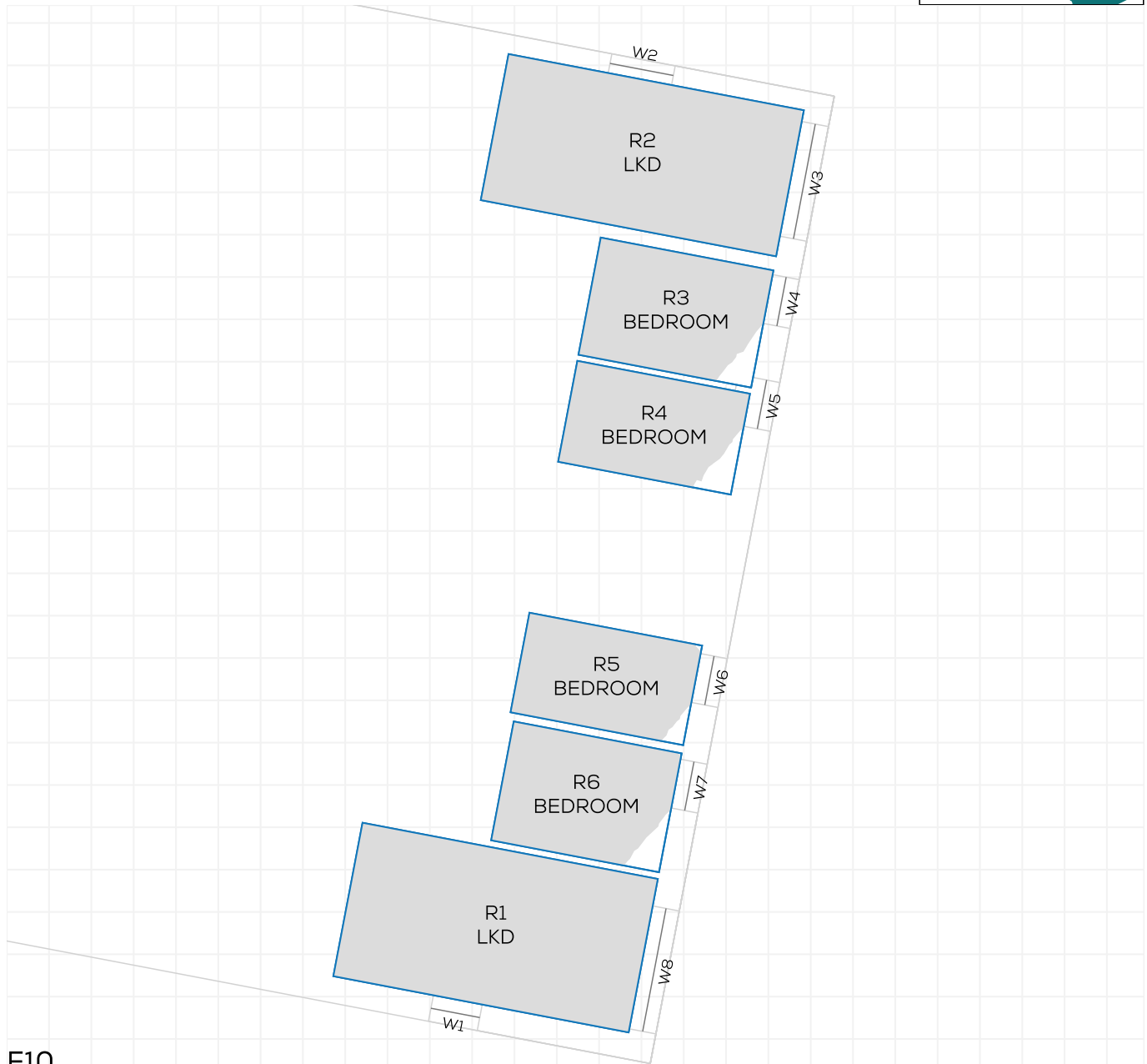
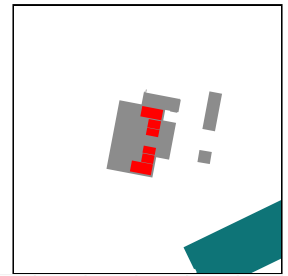
F09

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F09	R1	RESIDENTIAL	LKD	26.2	100	100	0.0	0
F09	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F09	R3	RESIDENTIAL	BEDROOM	11.7	97.1	97.1	0.0	0
F09	R4	RESIDENTIAL	BEDROOM	10.1	97.4	97.4	0.0	0
F09	R5	RESIDENTIAL	BEDROOM	9.9	97.3	97.3	0.0	0
F09	R6	RESIDENTIAL	BEDROOM	11.5	96.3	96.3	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD24

KEY:

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

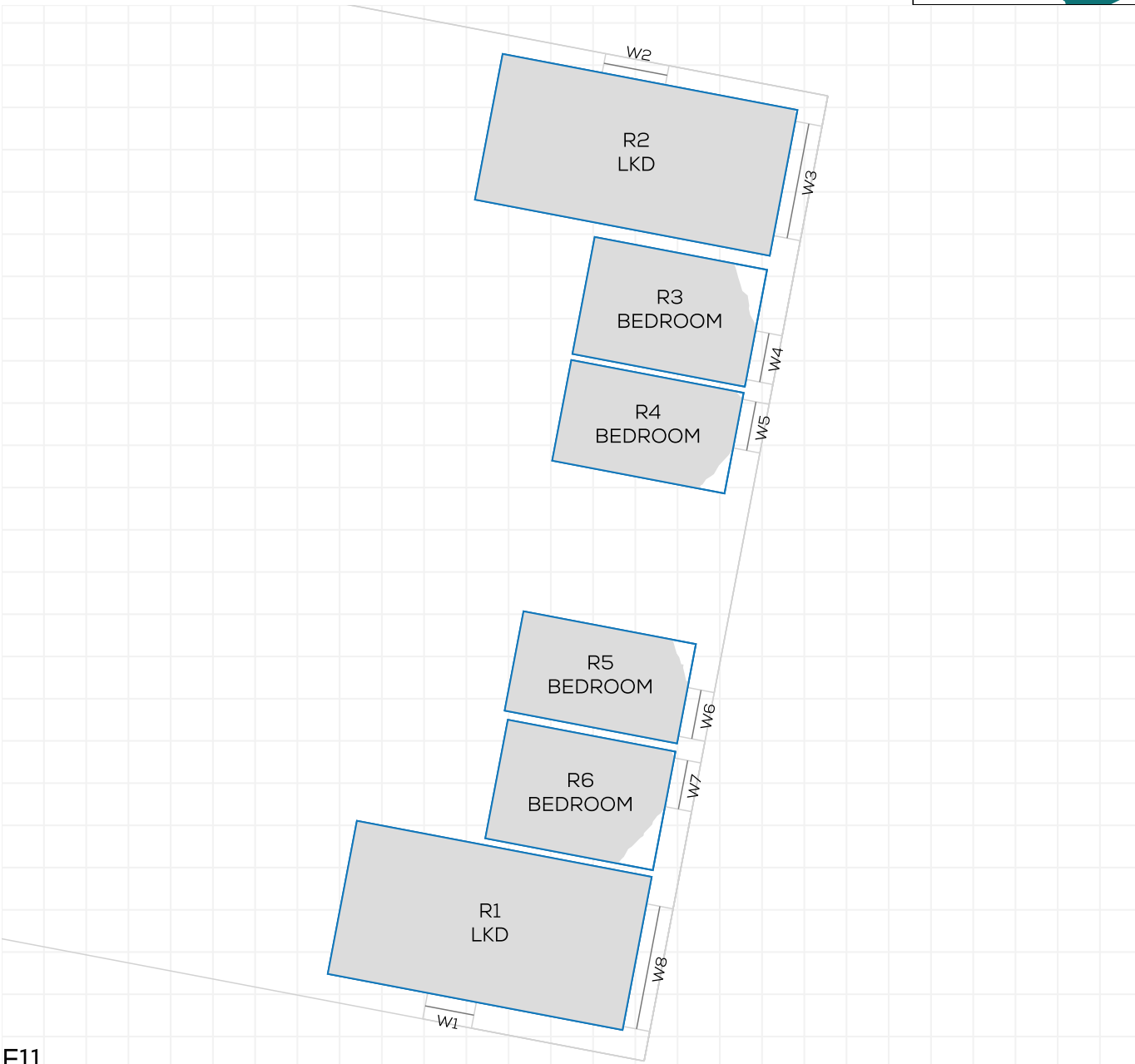
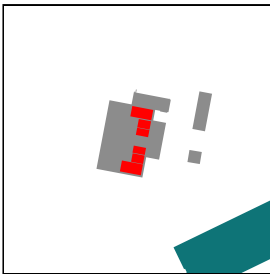


F10

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F10	R1	RESIDENTIAL	LKD	26.2	100	100	0.0	0
F10	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F10	R3	RESIDENTIAL	BEDROOM	11.7	94.5	94.5	0.0	0
F10	R4	RESIDENTIAL	BEDROOM	10.1	92.9	92.9	0.0	0
F10	R5	RESIDENTIAL	BEDROOM	9.9	97.2	97.2	0.0	0
F10	R6	RESIDENTIAL	BEDROOM	11.5	94.4	94.4	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD25

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



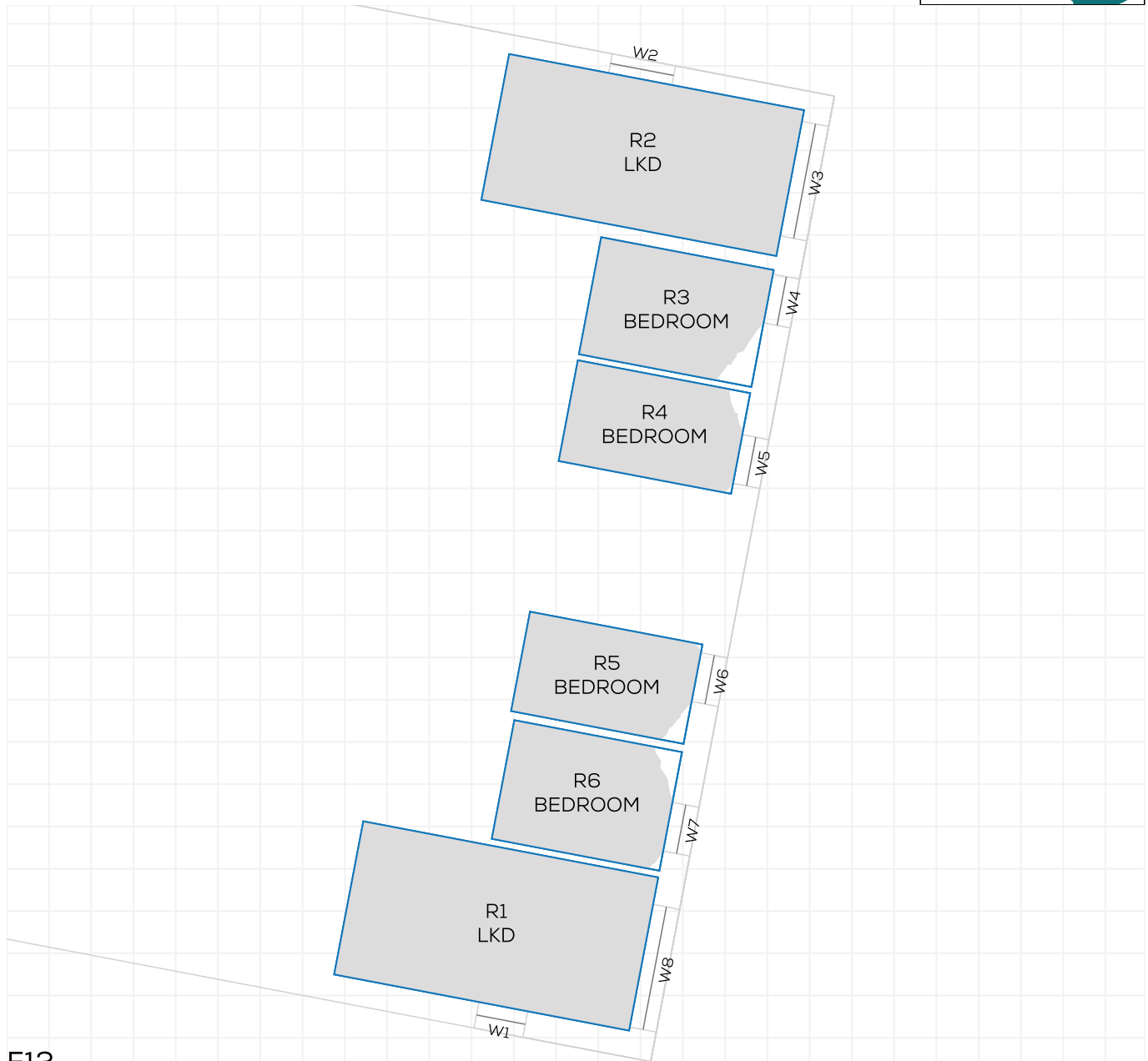
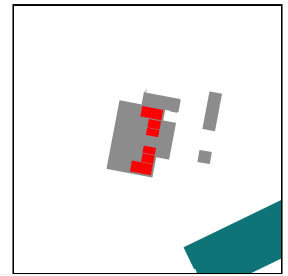
F11

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F11	R1	RESIDENTIAL	LKD	26.2	100	100	0.0	0
F11	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F11	R3	RESIDENTIAL	BEDROOM	11.7	95.2	95.2	0.0	0
F11	R4	RESIDENTIAL	BEDROOM	10.1	96.7	96.7	0.0	0
F11	R5	RESIDENTIAL	BEDROOM	9.9	97.3	97.3	0.0	0
F11	R6	RESIDENTIAL	BEDROOM	11.5	94.5	94.5	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 BUTLER STREET
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD26

KEY:

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



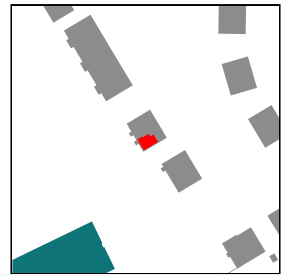
F12

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
2 BUTLER STREET								
F12	R1	RESIDENTIAL	LKD	26.2	100	100	0.0	0
F12	R2	RESIDENTIAL	LKD	24.9	100	100	0.0	0
F12	R3	RESIDENTIAL	BEDROOM	11.7	94.6	94.6	0.0	0
F12	R4	RESIDENTIAL	BEDROOM	10.1	97.3	97.3	0.0	0
F12	R5	RESIDENTIAL	BEDROOM	9.9	97.2	97.2	0.0	0
F12	R6	RESIDENTIAL	BEDROOM	11.5	96.3	96.3	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 33
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD27

KEY:

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

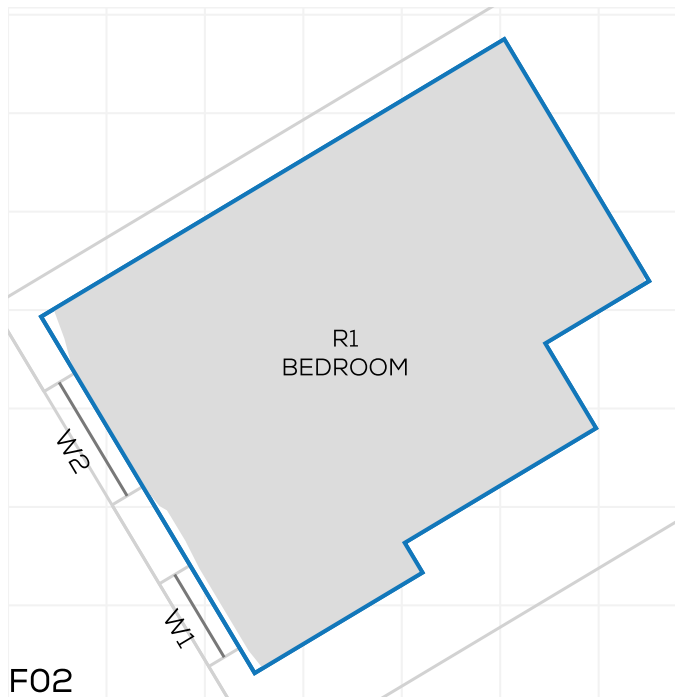
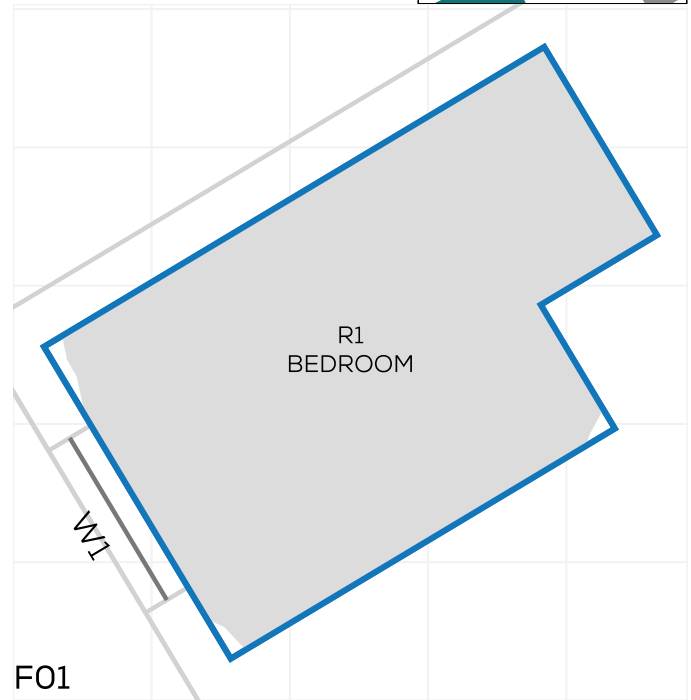
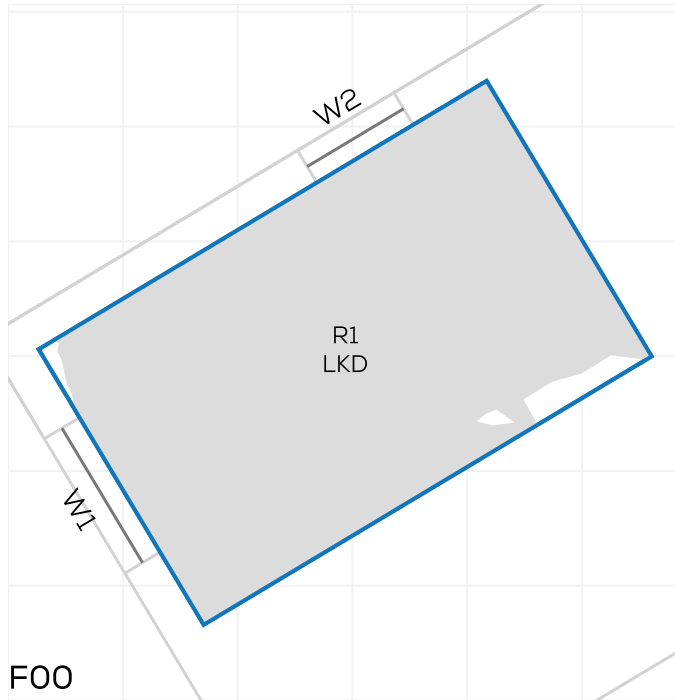
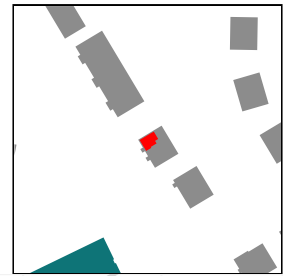


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 33								
F00	R1	RESIDENTIAL	LKD	12.7	99.5	96.3	0.4	3.2
F01	R1	RESIDENTIAL	BEDROOM	10.1	99.1	99.1	0.0	0.1
F02	R1	RESIDENTIAL	BEDROOM	20.7	99	99	0.0	0.1

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 32
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD28

KEY:

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

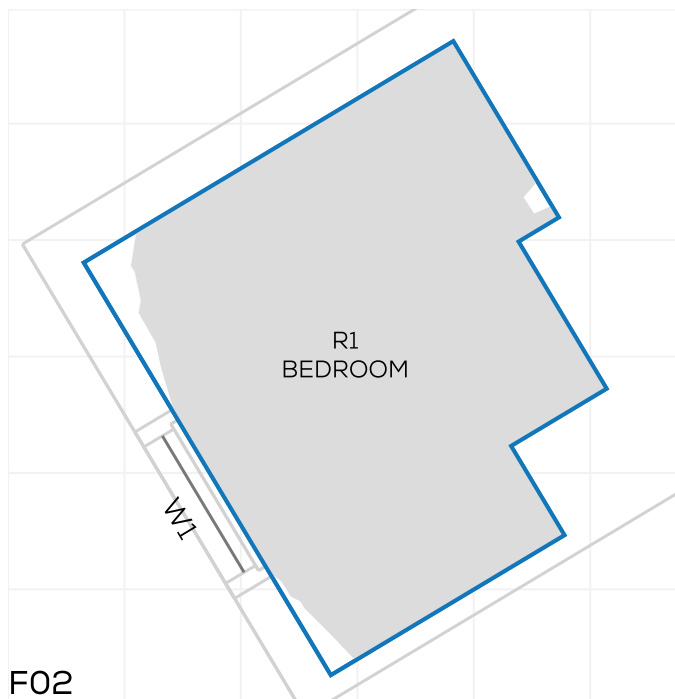
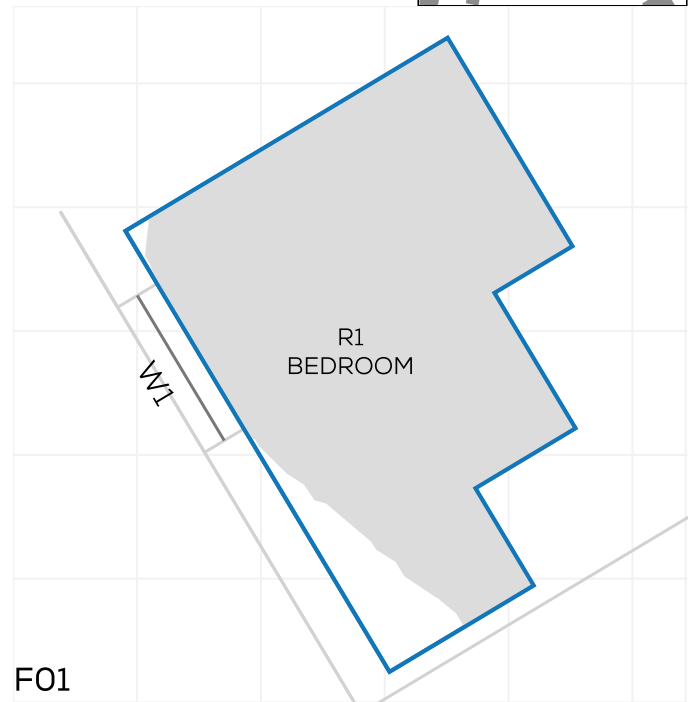
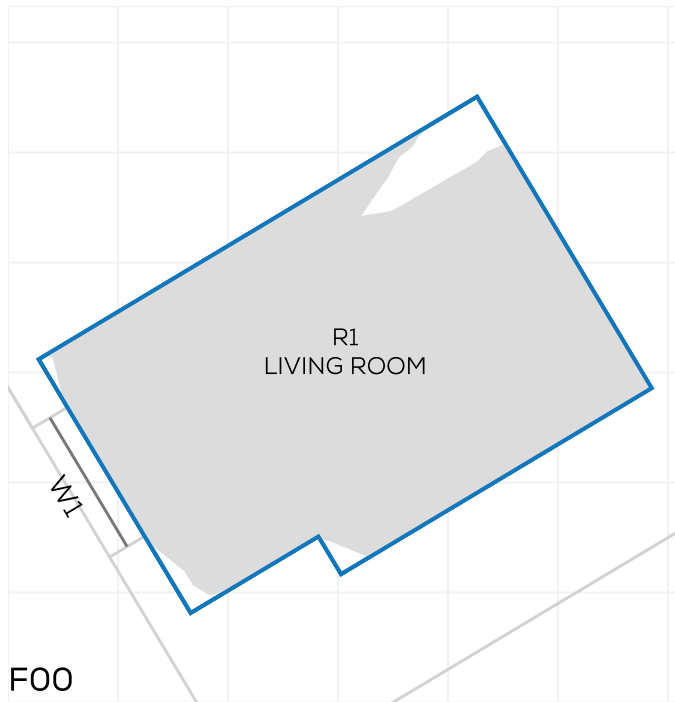


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 32								
F00	R1	RESIDENTIAL	LKD	12.7	97.7	97.7	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	10.1	99	99	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	20.7	99	99	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 26
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD29

KEY:

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

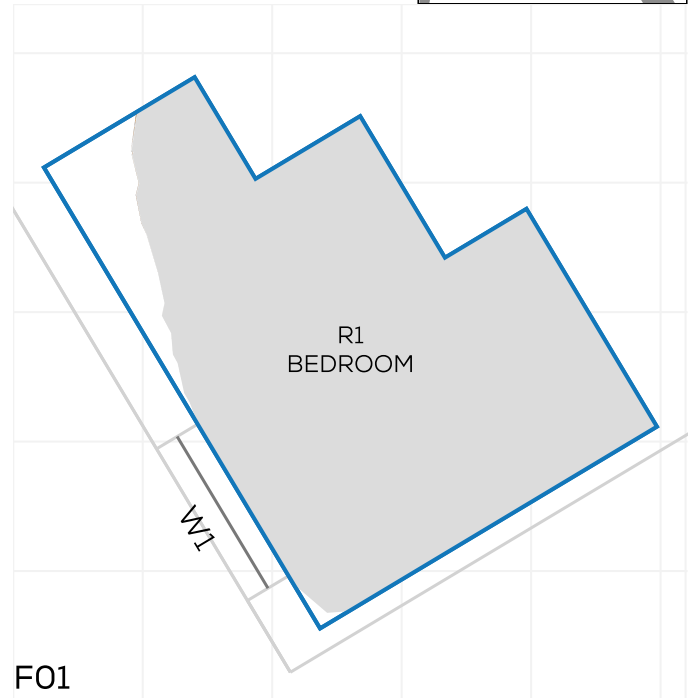
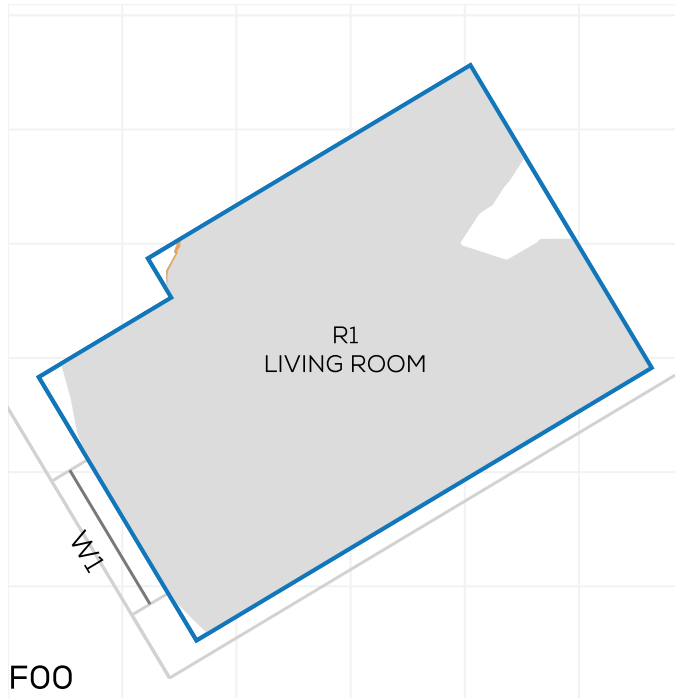


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 26								
F00	R1	RESIDENTIAL	LIVING ROOM	13.8	94.8	94.8	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	10.1	91.8	91.8	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	13.5	96.5	96.4	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 27
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD30

KEY:

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

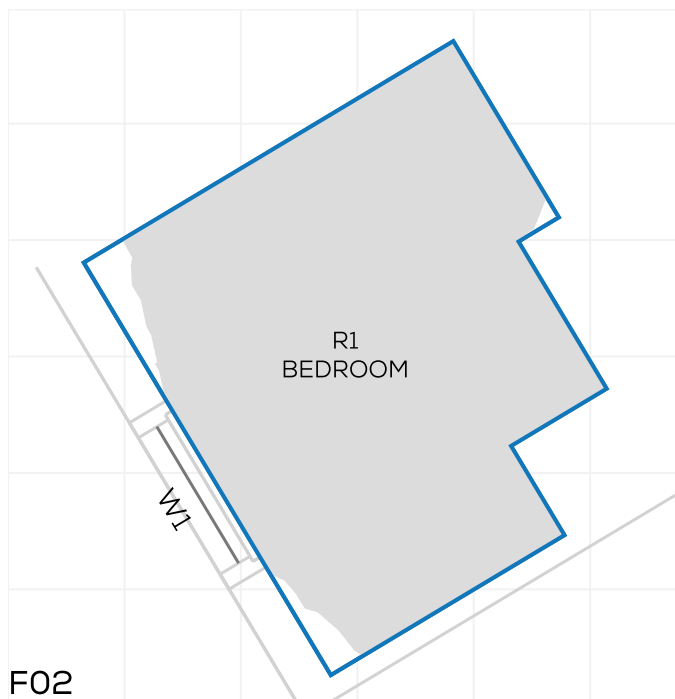
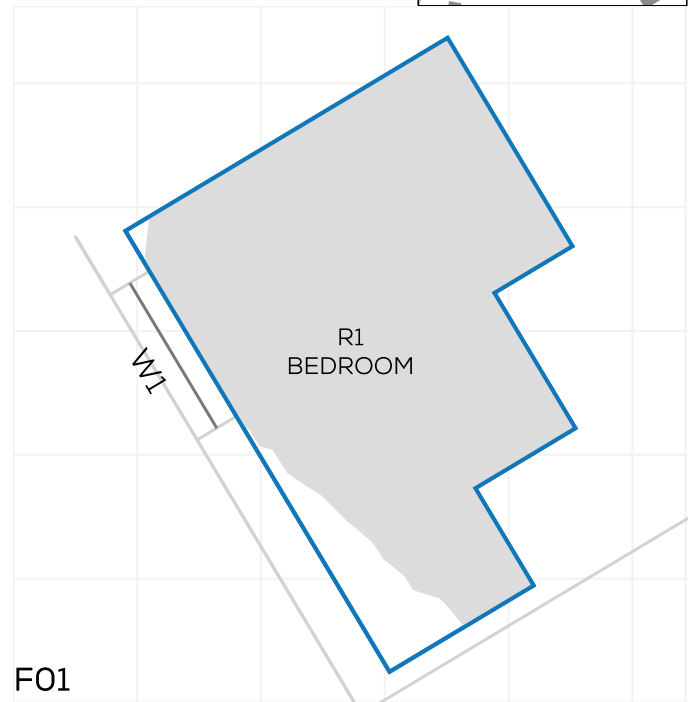
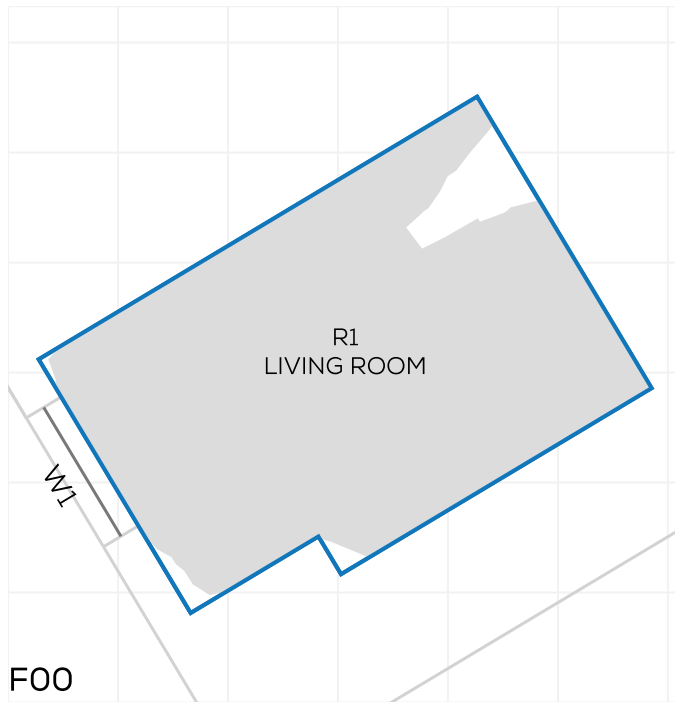


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 27								
F00	R1	RESIDENTIAL	LIVING ROOM	13.8	95.8	95.8	0.0	0.1
F01	R1	RESIDENTIAL	BEDROOM	10.1	92	92	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	13.5	96.8	96.8	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 28
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD31

KEY:

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

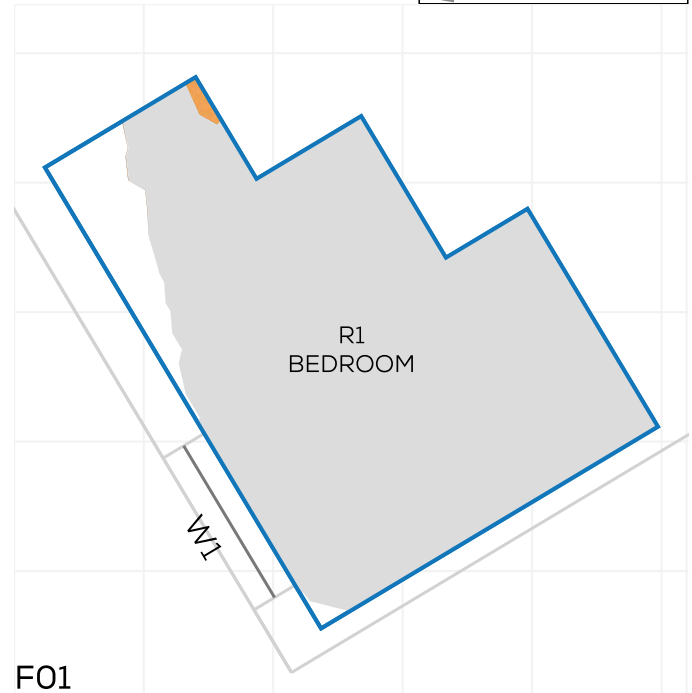
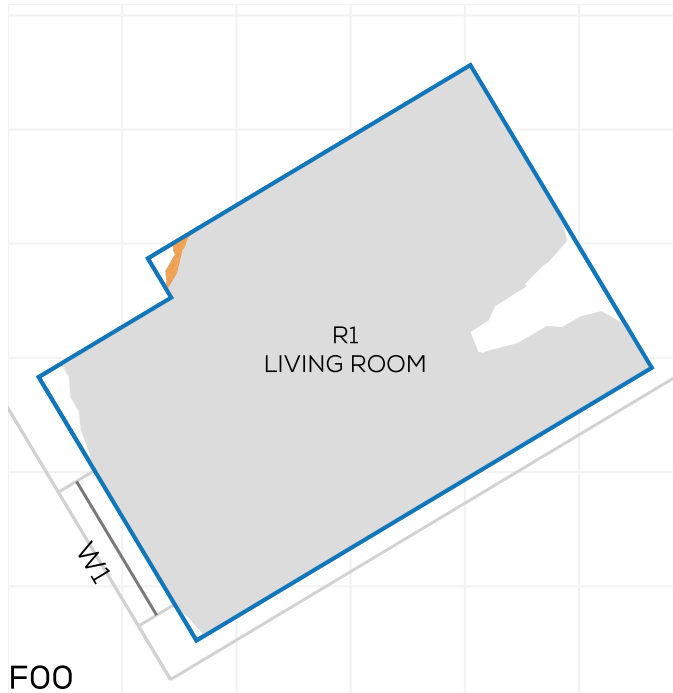


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 28								
F00	R1	RESIDENTIAL	LIVING ROOM	13.8	94.6	94.6	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	10.1	91.7	91.7	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	13.5	96.4	96.4	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 29
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD32

KEY:

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

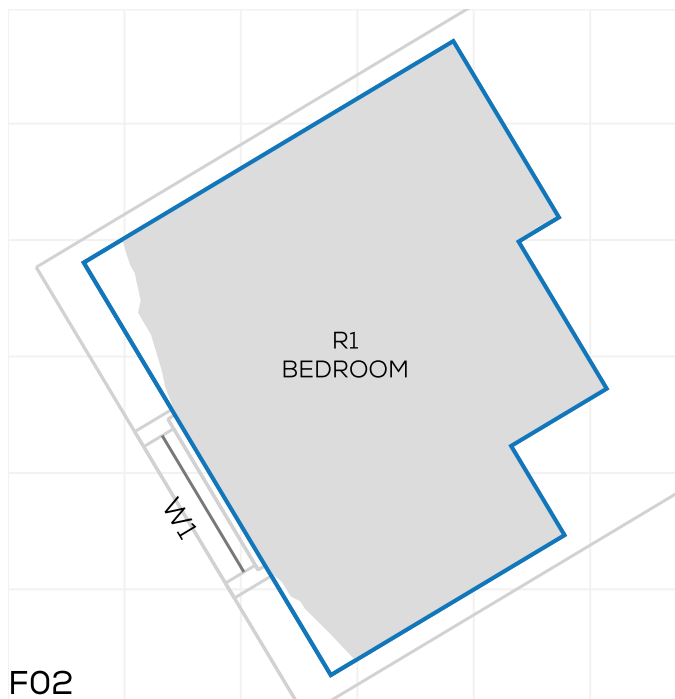
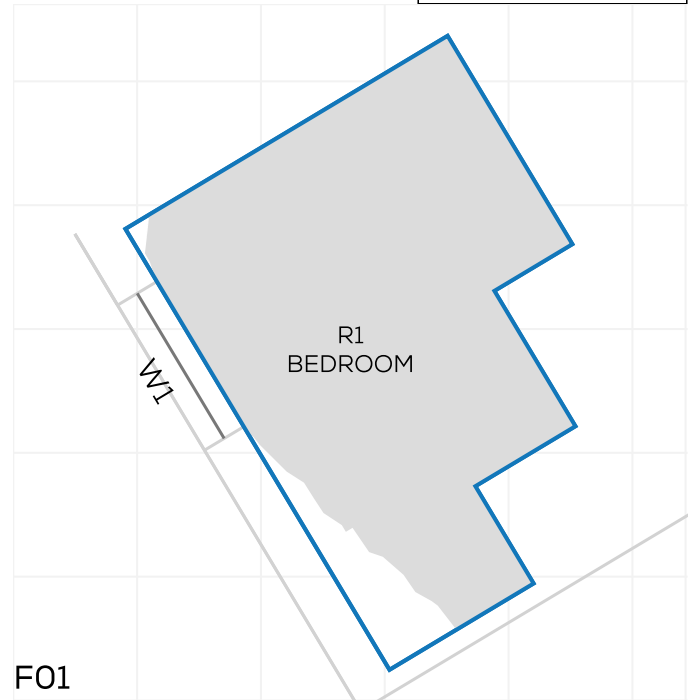
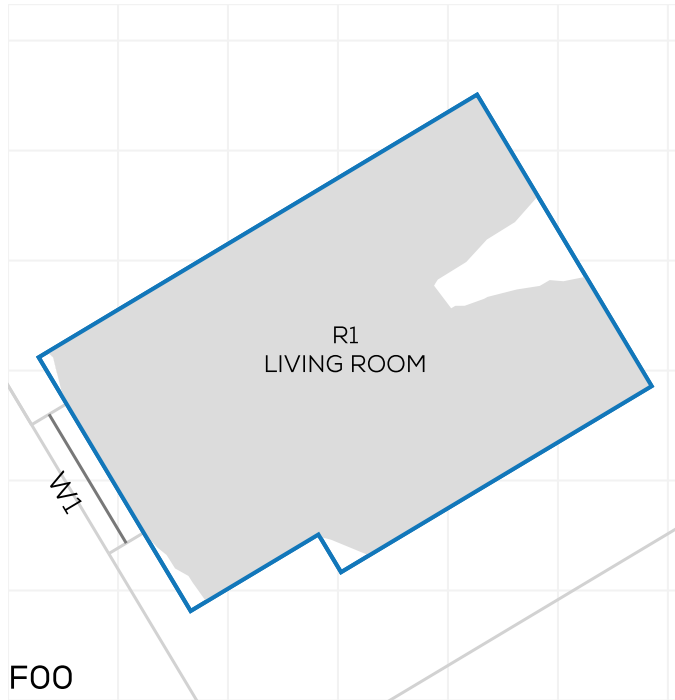


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 29								
F00	R1	RESIDENTIAL	LIVING ROOM	13.8	94.7	94.5	0.0	0.3
F01	R1	RESIDENTIAL	BEDROOM	10.1	92	91.5	0.0	0.5
F02	R1	RESIDENTIAL	BEDROOM	13.5	96.6	96.6	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 30
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD33

KEY:

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

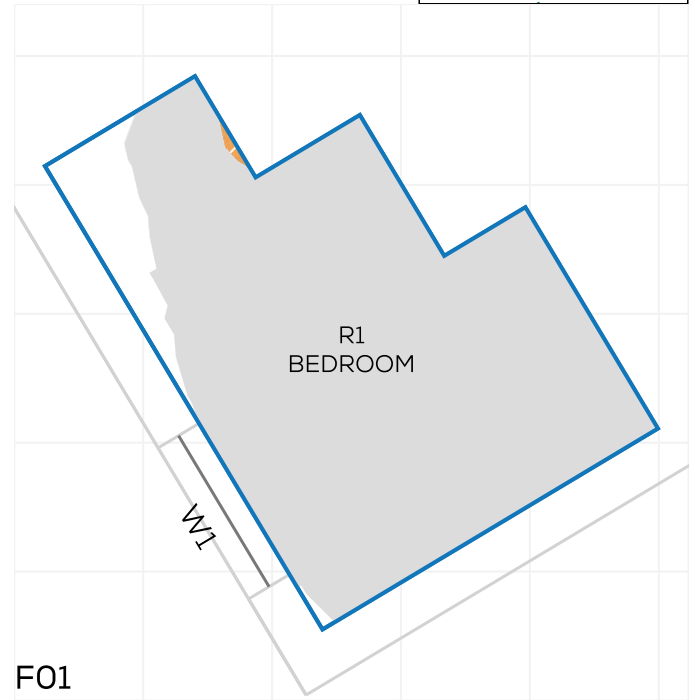
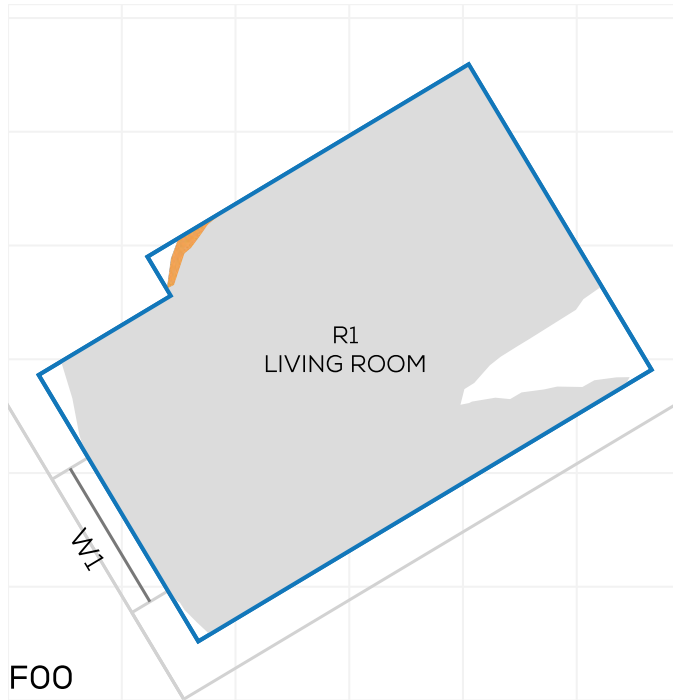


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 30								
F00	R1	RESIDENTIAL	LIVING ROOM	13.8	94.2	94.2	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	10.1	92.7	92.7	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	13.5	96.8	96.8	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 31
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD34

KEY:

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

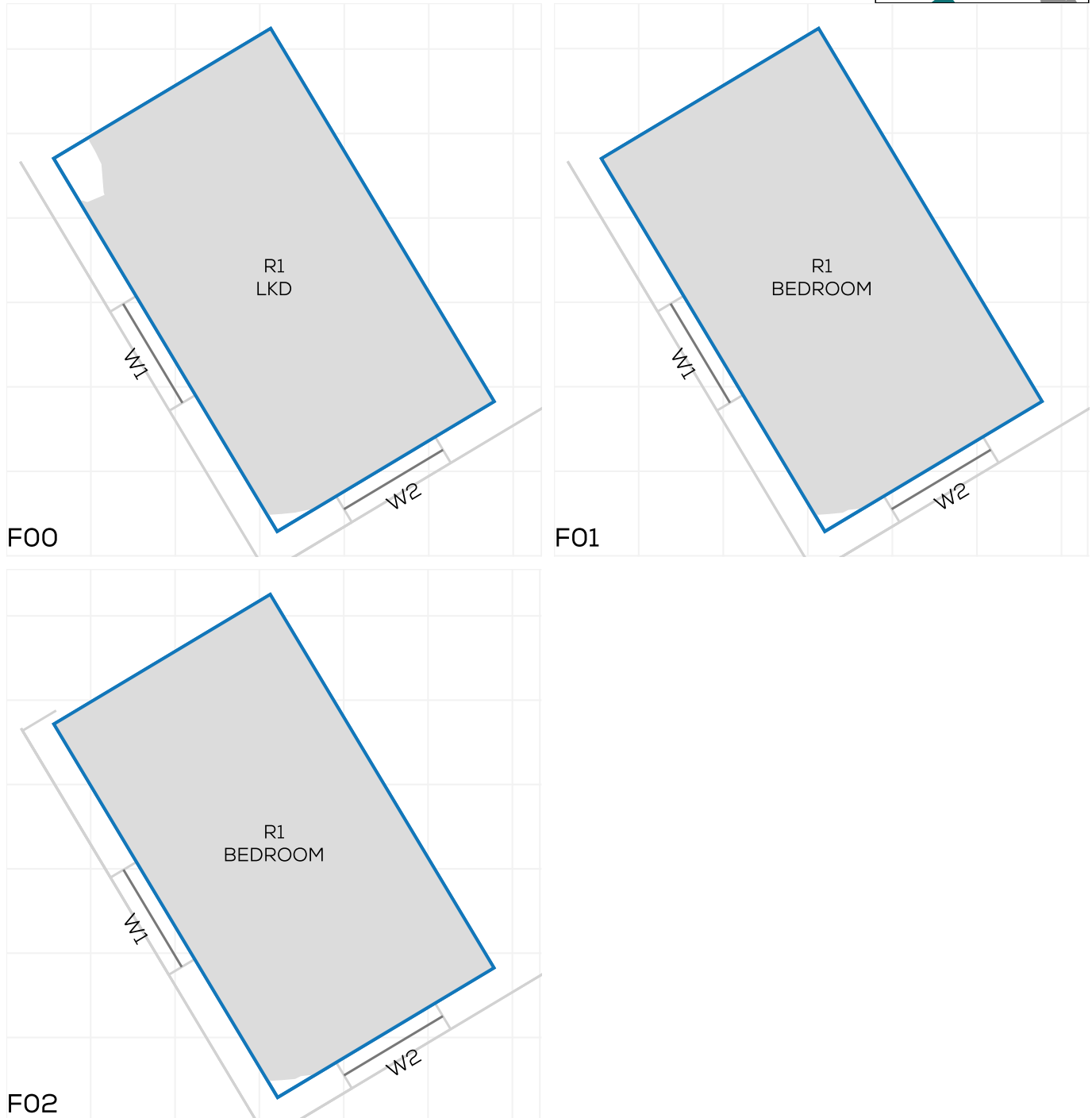
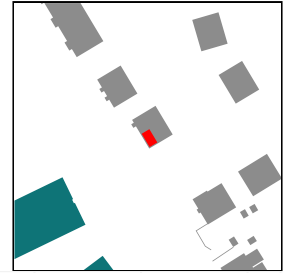


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 31								
F00	R1	RESIDENTIAL	LIVING ROOM	14.0	93.3	92.8	0.1	0.5
F01	R1	RESIDENTIAL	BEDROOM	10.2	92.3	92.1	0.0	0.3
F02	R1	RESIDENTIAL	BEDROOM	13.6	96.5	96.5	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 35
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD35

KEY:

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

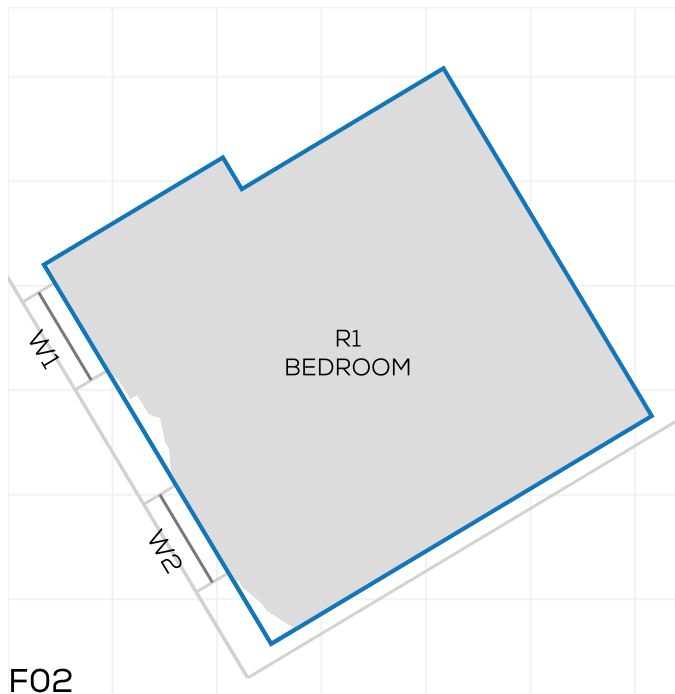
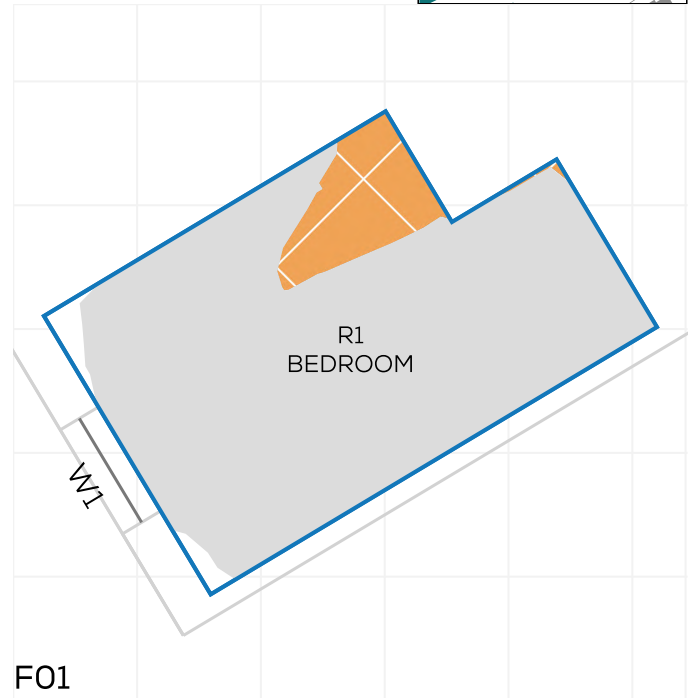
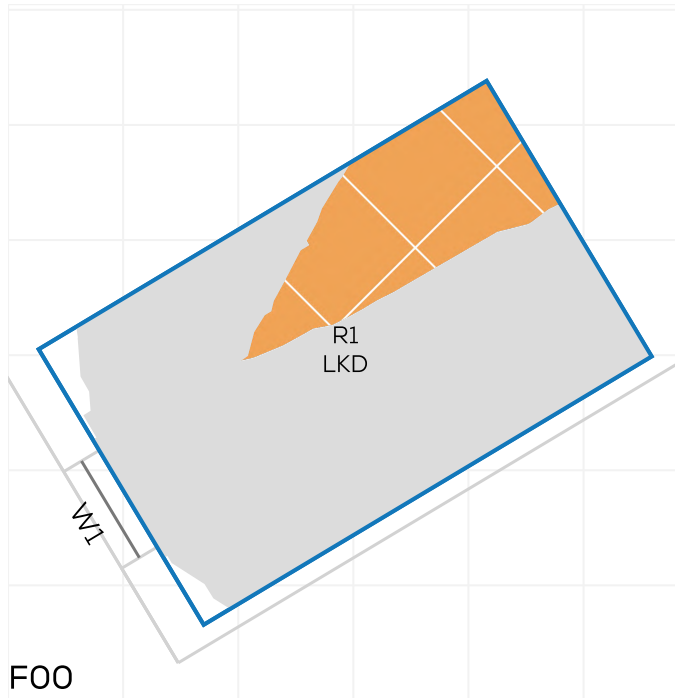
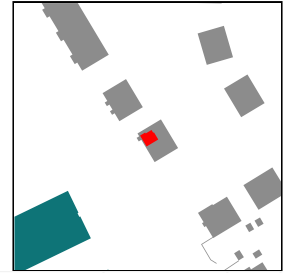


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 35								
F00	R1	RESIDENTIAL	LKD	15.4	97.9	97.9	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	15.4	99.6	99.6	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	15.4	99.6	99.6	0.0	0

PROJECT: 2118 - RODNEY STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: BUTLER STREET PLOT 34
 DATE: 20/05/2022
 SCHEME IR: IR01
 DRAWING No.: 2118-REL01-IS01-DD36

KEY:

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



FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
BUTLER STREET PLOT 34								
F00	R1	RESIDENTIAL	LKD	12.7	97.9	76.5	2.7	21.8
F01	R1	RESIDENTIAL	BEDROOM	10.0	97.9	88	1.0	10.1
F02	R1	RESIDENTIAL	BEDROOM	17.2	98.8	98.8	0.0	0

FLOOR	AMENITY	AMENITY AREA SQM	LIT AREA EXISTING SQM	LIT AREA EXISTING %	LIT AREA PROPOSED SQM	LIT AREA PROPOSED %	LOSS %
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ANCOATS GREEN

F00	A1	8879.77	8879.77	100.00%	8879.77	100.00%	0.00%
TOTAL		8879.77	8879.77	100.00%	8879.77	100.00%	0.00%

1 RODNEY STREET REAR GARDEN

F00	A2	77.19	66.59	86.27%	65.79	85.23%	1.20%
TOTAL		77.19	66.59	86.27%	65.79	85.23%	1.20%



SOURCES OF INFORMATION

IR02-20220505-Buttress

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 AS SHOWN

N.B. DO NOT SCALE OFF THIS DRAWING
PROJECT:
RODNEY STREET, MANCHESTER

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

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	MAY22
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2118	01	01	01	



SOURCES OF INFORMATION

IR02-20220505-Buttress

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- +2 HR AREA LIT
- 2 HR AREA LIT

NOTES:
PROPOSED SCHEME SHOWN IN TEAL

N.B. DO NOT SCALE OFF THIS DRAWING
PROJECT:
RODNEY STREET, MANCHESTER

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

DWN BY	SCALE	CHK BY	STATUS	DATE
EP	NTS	SP	*	MAY22
PROJ No.	REL No.	IS No.	DWG No.	REV No.
2118	01	01	02	



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