



DAYLIGHT & SUNLIGHT

IMPACT ON NEIGHBOURING
PROPERTIES

Snell Street, Manchester

22 April 2021

GIA No: 1364

PROJECT DATA:

Client **Penrose Manor Limited**
Architect **Calderpeel Architects**
Project Title **Snell Street, Manchester**
Project Number **1364**

REPORT DATA:

Report Title **Impact on Neighbouring Properties**
GIA Department **Daylight & Sunlight**
Dated **22 April 2021**
Prepared by **SW**
Checked by **SW**
Type **Client Issue**

Revisions	No:	Date:	Notes:	Signed:

Client:

Penrose Manor Limited

Issue Date:

April 2021

Document References:

Principles of Daylight and Sunlight
Existing Drawings: 1364-REL01-IS01-01 to 1364-REL01-IS01-03
Proposed Drawings: 1364-REL01-IS01-04 to 1364-REL01-IS01-06
Results and Window Maps

Author for and Behalf of GIA:

Sam Wallis

Authorisation for GIA:



This report is intended solely for Penrose Manor Limited and may contain confidential information. The Liability of this Report extends to Penrose Manor Limited and their duly appointed advisors. No part or whole of its contents may be disclosed to or relied upon by any Third Parties without the consent of this Practice. This report is accurate as at the date of publication but does not take into account anything that has happened since the date of this report.

	Section	Page
1.0	Executive Summary	1-2
2.0	Instructions	3
3.0	Introduction	4
4.0	Sources of Information	5
5.0	Assumptions	6
6.0	The Site	7
7.0	The Proposal	8
8.0	Significance of Impacts	9-11
9.0	The Surrounding Properties	12-17
10.0	Conclusions	18

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 Snell Street, Manchester.

It is inevitable when constructing buildings in an urban environment that alterations in daylight and sunlight to surrounding properties can occur. It is well-established and accepted that the BRE Guidelines, which set out the numerical benchmark for daylight and sunlight assessments, are predicated on a relatively low-rise suburban environment. The National Planning Practice Guidance (NPPG) – Making Efficient Use of Land published on 29 November 2016, updated 01 October 2019, Paragraph 007 Reference ID: 66-007-20190722 states:

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

The area has undergone significant changes in recent years. Historically the area has been characterised predominantly by surface car parks and low-rise residential and industrial/commercial buildings. Recent developments and consents are for substantially denser development, and so there must be a recognition that lower levels of daylight and sunlight are to be expected in the context of the area.

Notwithstanding, the results indicate a high level of compliance for the surrounding properties that have been assessed.

The below table shows the daylight and sunlight results in the proposed scenario:

Name/Address of Building	Percentage of Windows Compliant for VSC Daylight	Percentage of Rooms Compliant for NSL Daylight	Percentage of Rooms Compliant for APSH Sunlight
Mayes Gardens	13/17 (77%)	12/17 (71%)	9/9 (100%)
25a Mayes Gardens	2/2 (100%)	2/2 (100%)	N/A
17a Mayes Gardens	6/8 (75%)	6/6 (100%)	2/2 (100%)
Advent 1-3	97/110 (90%)	62/68 (91%)	3/3 (100%)

Where there are deviations from the published BRE targets, they are to bedrooms rather than the main living kitchen diners, or they are only marginally outside the levels recommended in the BRE for sub-urban development.

Overall, the surrounding properties will continue to exhibit good levels of daylight and sunlight with the proposed development in place and as such, the overall impact of the scheme on the surrounding residential properties is considered wholly acceptable.

2.0 Instructions

GIA have been instructed by Penrose Manor Limited to undertake detailed technical assessments to understand the potential daylight and sunlight changes that the proposed development on Snell Street, Manchester, will have upon the surrounding residential properties.

The daylight and sunlight review within this report considers residential properties only as they are recognised by the Building Research Establishment (BRE 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

The technical analysis that forms the basis of this report has been predicated against 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 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 Guidelines provide two methodologies for daylight assessment in existing surrounding residential 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 National Planning Practice Guidance (NPPG) – Making Efficient Use of Land published on 29 November 2016, updated 01 October 2019, Paragraph 007 Reference ID: 66-007-20190722 states:

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

It is important that the location and nature of the development site and its surrounding are considered when determining the significance of any impacts identified.

The emphasis placed on development in the area has led to a number of schemes coming forward in the locality and, with increased height and density, deviations from the published BRE criteria may be unavoidable.

Appendix 01 of this report elaborates on the mechanics of each of the above assessment criteria, explains the appropriateness of their use, and the parameters of each specific recommendation.

4.0 Sources of Information

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

GIA

Site photographs

FIND Maps

OS Map

Vertex Modelling

Baseline model

Calderpeel Architects

IR04-20210412 (proposed model)

Manchester City Council

Planning drawings for 17a Mayes Gardens

Planning drawings for 25a Mayes Gardens

HM Land Registry

Floor plans for Advent 1-3

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 have made reasonable assumptions as to the internal layouts of the rooms behind the fenestration based upon the building form and architecture, unless information was available publicly. 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 place which is relevant for the No Skyline assessment.

6.0 The Site

The site is bounded by Snell Street to the west and south west, Mayes Gardens to the east and north east, and the existing neighbouring buildings to the north and south.

The drawing extract below shows the existing site:

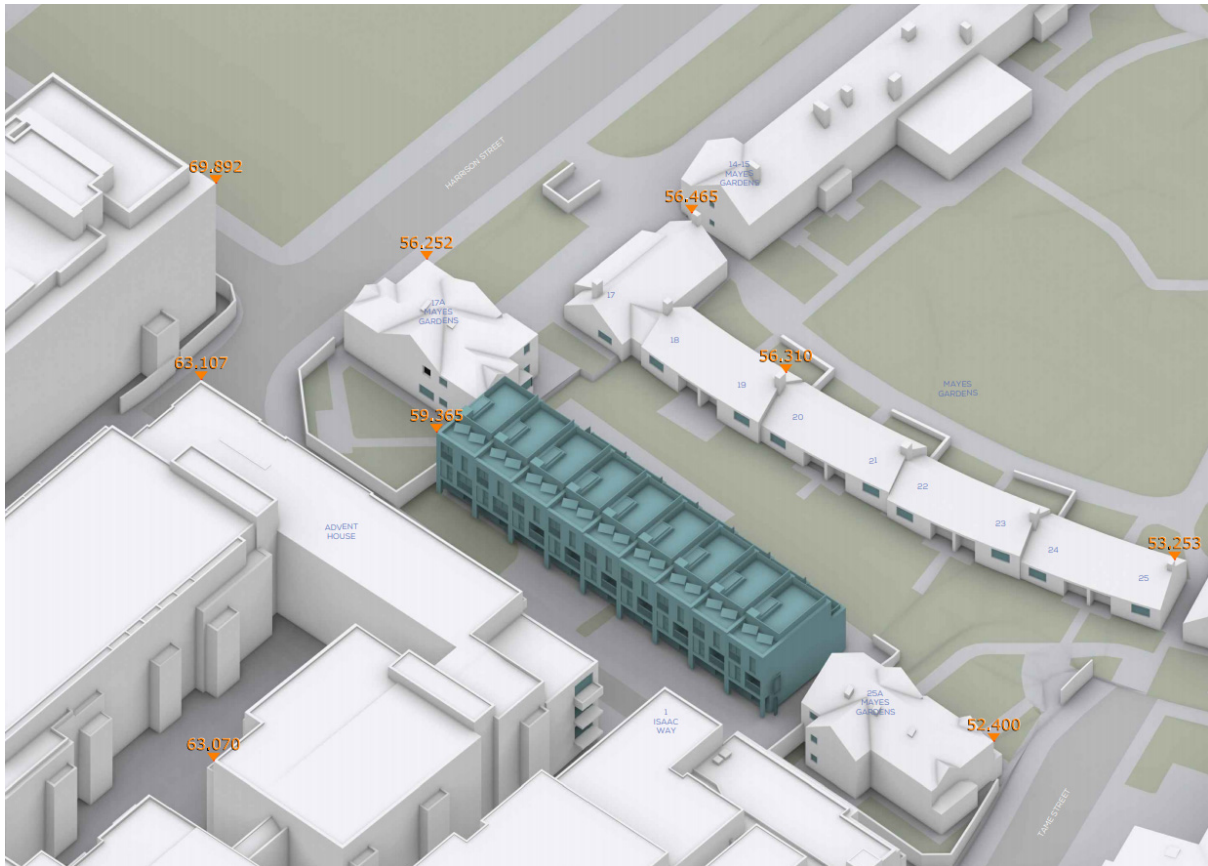


Our understanding of the existing building and the surrounding context is depicted on GIA drawings 1364-REL01-IS01-01, 1364-REL01-IS01-02 and 1364-REL01-IS01-03 within Appendix 02.

7.0 The Proposal

GIA's understanding of the proposed scheme is illustrated in drawings 1364-REL01-IS01-04, 1364-REL01-IS01-05 and 1364-REL01-IS01-06 shown within Appendix 03.

Our analysis of this option is based on the proposed scheme massing models produced by Calderpeel Architects, received on 12 April 2021.



8.0 Significance of Impacts

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 (or 20%) times its former value.
NSL	A room may be adversely affected if the daylight distribution (NSL) is reduced beyond 0.8 (or 20%) 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 (or 20%) times its former sunlight hours during either period, and for existing neighbouring buildings, if there is a reduction in total APSH which is greater than 4%.

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

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

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

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

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

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

"Factors tending towards a major adverse impact include:

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

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

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

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

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

Sensitivity of Identified Receptor

It is important that the location and nature of the Proposed Development Site and surrounding vicinity is considered when determining the significance of any impacts identified. The BRE Guide is very clear that the targets provided are not mandatory. This scope and view should also be followed through to the sensitivity of the surrounding receptors. There should be an expectation that a higher degree of obstruction is inevitable in an area with modern high-rise buildings.

For these reasons, the surrounding receptors may have a lower sensitivity to change in an urban location, than those located in suburban, less dense areas. Sensitivity classification is assigned on how the proposed receptor can accommodate or adapt to the effect of the development. The existing residential receptors surrounding the development site reside in a city centre location where there is an expectation for a higher density of development.

The BRE classify the sensitivity of surrounding receptors as follows:

Sensitivity	Definition
High	Residential properties located in suburban areas, with existing high levels of daylight and sunlight well in excess of the BRE targets.
Medium	Residential properties in urban areas, with lower levels of existing daylight and sunlight, equal to, or already below the BRE targets. Located within areas of dense development, or areas of emerging increased density.
Low	Consented and/or under construction but not occupied, residential properties, or other non-residential uses, such as hotels.

All of the properties assessed have a medium sensitivity.

Significance of Impact

The significance of any identified environmental effects is determined by the assessment of their magnitude against their sensitivity. The table below illustrates how the sensitivity of the receptors and the magnitude of any effect combine to confirm significance.

Magnitude	Sensitivity		
	High	Medium	Low
Major	Major Adverse/ Beneficial	Major Adverse/ Beneficial	Moderate-Minor Adverse/Beneficial
Moderate	Moderate Adverse/ Beneficial	Moderate Adverse/ Beneficial	Minor Adverse/ Beneficial
Minor	Minor Adverse/Beneficial	Minor Adverse/ Beneficial	Minor – Negligible
Negligible	Negligible	Negligible	Negligible

9.0 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 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 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.

The BRE states that the availability of sunlight to main back gardens should be checked. As a check, it is recommended that at least half of the amenity areas listed above should receive at least two hours of sunlight on 21st March. The orientation, height and mass of the proposed development is such that there is no meaningful prospect of adverse overshadowing impacts and so no formal overshadowing assessment is necessary.

The pertinent residential accommodation, which is relevant for daylight and sunlight assessment, is set out in the table below:

Name/Address of Building	Position in Relation to the Development
Mayes Gardens	North east
25a Mayes Gardens	South east
17a Mayes Gardens	North
Advent 1-3	West

A short commentary of the impacts of the current proposal to each property is set out below.

Mayes Gardens



Name/Address of Building	Percentage of Windows Compliant for VSC Daylight	Percentage of Rooms Compliant for NSL Daylight	Percentage of Rooms Compliant for APSH Sunlight
Mayes Gardens	13/17 (77%)	12/17 (71%)	9/9 (100%)

With the proposed development in place, 13/17 windows will meet the VSC daylight targets. The four windows that fall short serve a bedroom in 18, 19, 20 and 21 Mayes Gardens. The BRE recognises that bedrooms have a lesser requirement for daylight than other rooms, such as living kitchen diners. All the living kitchen diners in Mayes Gardens will meet the BRE targets.

The bedrooms also receive limited daylight in the baseline scenario, with none of them meeting the 27% VSC target in the existing scenario due to the recessed windows and overhanging porch. The reduction caused by the proposed development is only modest, but proportionally the losses are larger due to the low baseline.

Four of the rooms that fall short of the NSL targets are bedrooms. The final room is a living kitchen diner and bedroom in 20 Mayes Gardens. The reduction is only marginally outside of the 20% that the BRE have calculated as not being noticeable by an occupant, with a reduction of 29%. The isolated loss is only marginally outside of the BRE tolerance and would be defined as minor adverse.

Overall, the impact to Mayes Gardens is isolated and minor, and overall, we consider it to be wholly acceptable.

25a Mayes Gardens



Name/Address of Building	Percentage of Windows Compliant for VSC Daylight	Percentage of Rooms Compliant for NSL Daylight	Percentage of Rooms Compliant for APSH Sunlight
25a Mayes Gardens	2/2 (100%)	2/2 (100%)	N/A

With the proposed development in place, this property will fully accord with the BRE target criteria for VSC and NSL daylight. No rooms face within 90 degrees of due south and, as such, an APSH assessment has not been undertaken.

17a Mayes Gardens



Name/Address of Building	Percentage of Windows Compliant for VSC Daylight	Percentage of Rooms Compliant for NSL Daylight	Percentage of Rooms Compliant for APSH Sunlight
17a Mayes Gardens	6/8 (75%)	6/6 (100%)	2/2 (100%)

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

Two windows fall short of the VSC daylight target. The windows serve two bedrooms. The living kitchen diners will all meet the daylight targets and so overall, we consider the impact to be minor adverse and wholly acceptable.

Advent 1-3



Name/Address of Building	Percentage of Windows Compliant for VSC Daylight	Percentage of Rooms Compliant for NSL Daylight	Percentage of Rooms Compliant for APSH Sunlight
Advent 1-3	97/110 (90%)	62/68 (91%)	3/3 (100%)

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

97 of the 110 windows analysed will meet the VSC targets. Of the 13 windows that do not meet the targets, five serve bedrooms and eight serve living kitchen diners. The impact to the bedrooms is minor adverse, with reductions of 22.5%-26.2%, against the 20% permitted within the BRE criteria. Two of the living kitchen diners are reduced to between 20.6% and 22%. Two more of the windows serve living kitchen diners with more than one window, and overall the room will pass. The final four windows serve three living kitchen diners (one of which is served by two windows), however none of these rooms meet the VSC targets in the existing scenario due to the overhanging balconies above restricting the available sky visibility. If these balconies were removed, the impact would be minor adverse.

Six rooms do not meet the NSL daylight targets. Two of these rooms are bedrooms, with the remaining four being living kitchen diners. The living kitchen diners are also underneath overhanging balconies which restrict the view of the sky, and place a burden on the site to maintain a view of low level sky.

In addition, the BRE guide states that *‘if an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no sky line may be unavoidable’*. As such, the design of the room places a burden on the development site to maintain existing light levels, which is difficult given the urban context and emerging height and density in the area. The rooms will also receive a direct view of the sky to at least 50% of their area, which is still a good level for an urban development.

Overall, given the context of the site, the minor nature of reductions, and the overhanging balconies, the impact on daylight and sunlight to this property is considered minor adverse and acceptable.

10.0 Conclusions

We have undertaken a daylight and sunlight assessment for the proposed development on Snell Street, Manchester.

Across all buildings assessed, the impacts are isolated and minor and as such, 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 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

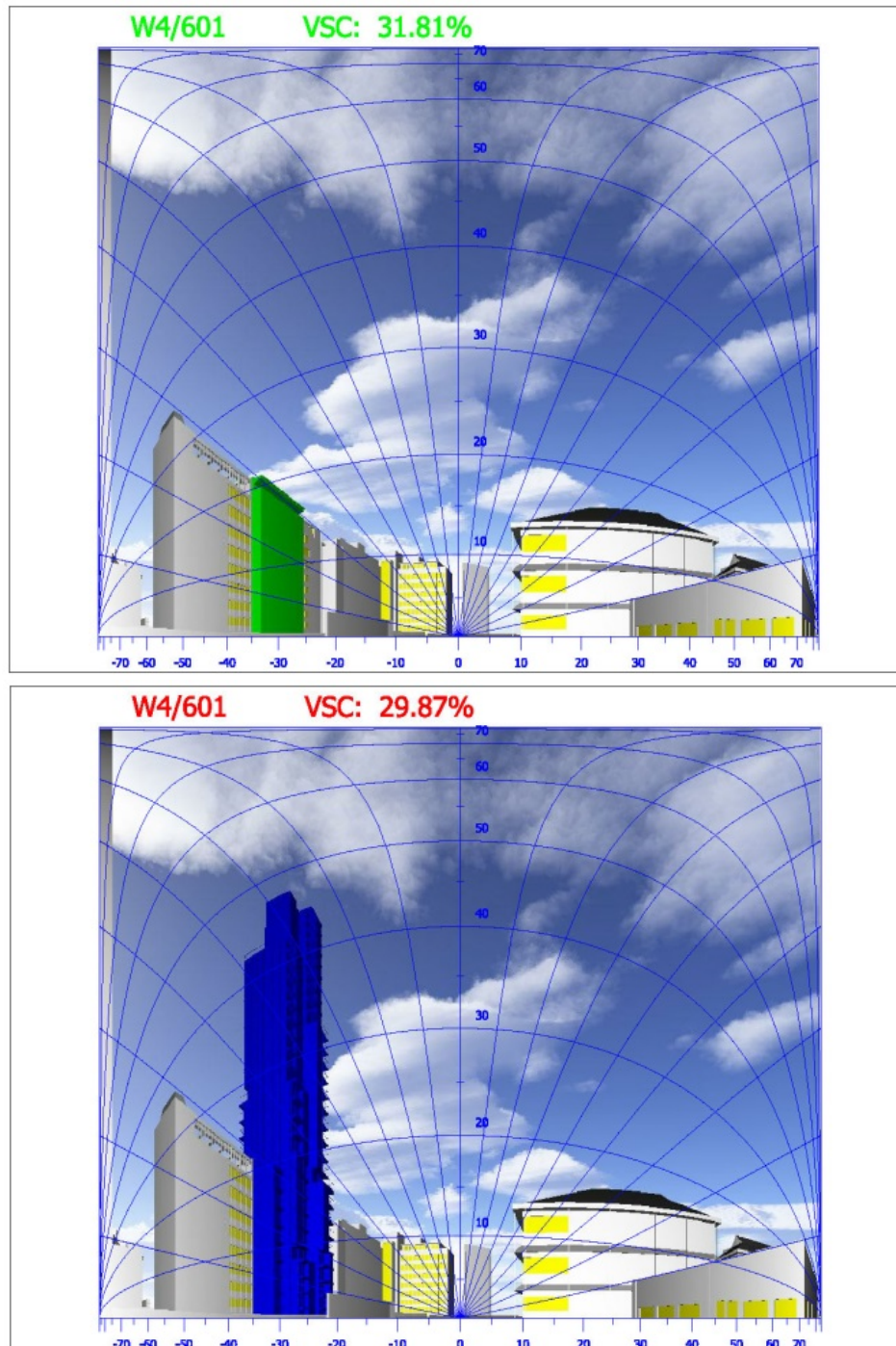
This is defined in the BRE as:-

"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

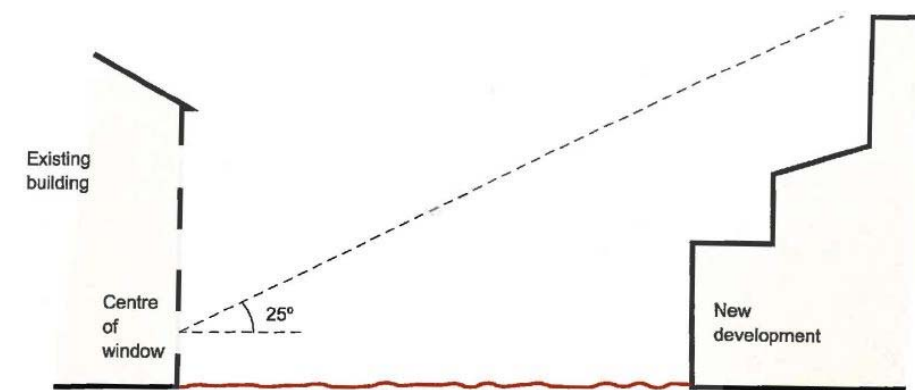
Paragraph 2.3.10 of the BRE guidelines states:

"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 AP SH including 5% AP SH 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

IR02-20210329-Site Photos
IR04-20210413-Calderpeel

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:
SNELL STREET, MANCHESTER

DRAWING NAME:
PLAN VIEW EXISTING

DWN BY	SCALE	CHK BY	STATUS	DATE
ML	NTS	SP	-	APR21
PROJ No.	REL No.	IS No.	DWG No.	REV No.
1364	01	01	01	-

gia
2 Commercial St.
Manchester
M15 4RQ
t 0161 672 5101
mail@gia.uk.com
www.gia.uk.com

MANCHESTER • LONDON



SOURCES OF INFORMATION

IR02-20210329-Site Photos
IR04-20210413-Calderpeel

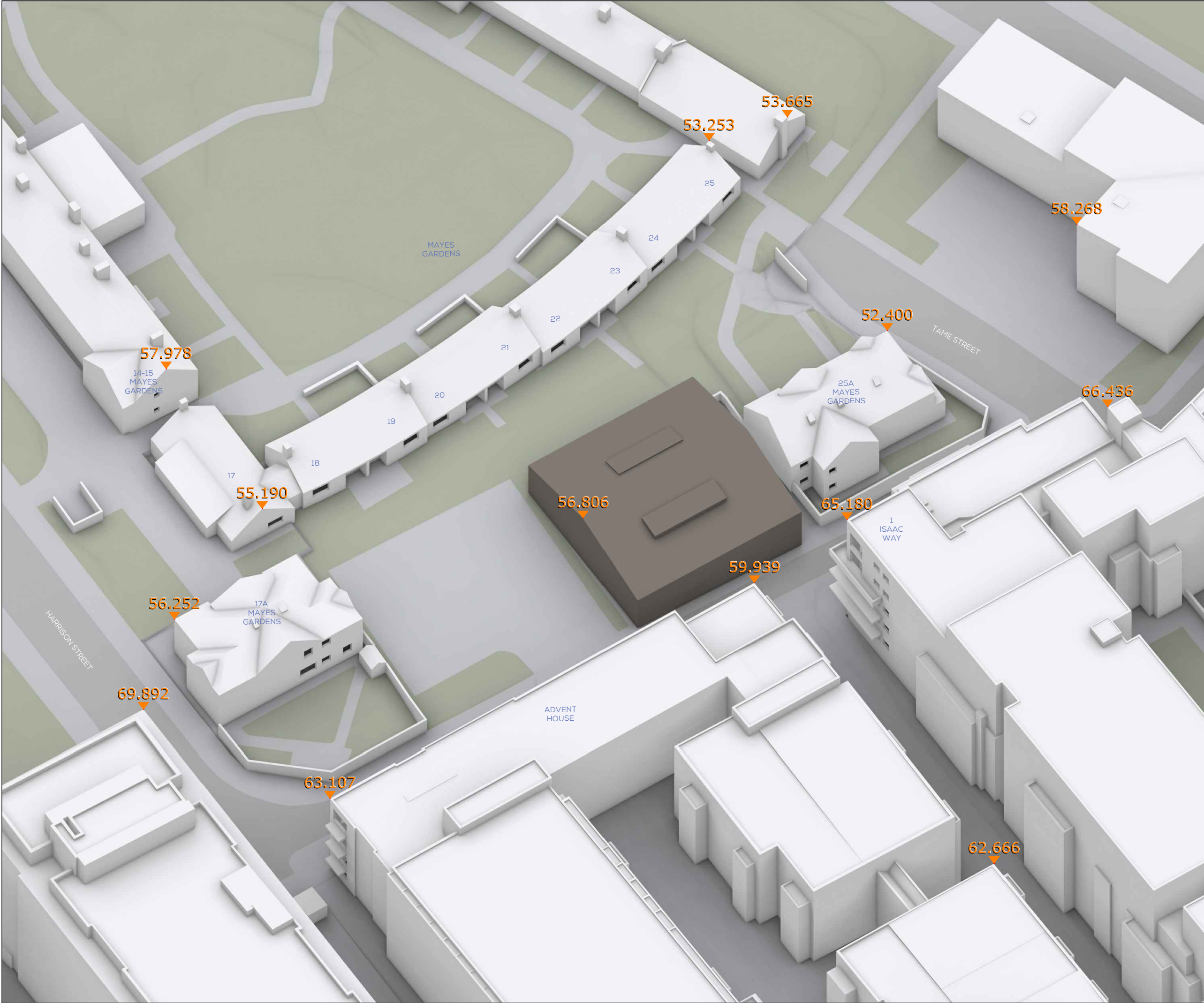
ALL INFORMATION DISPLAYED IS SUBJECT TO A COMPLETE VERIFIABLE SITE SURVEY BEING UNDERTAKEN. GIA TAKES NO RESPONSIBILITY ON THE ACCURACY OR RELIABILITY OF THE DISPLAYED DATA SINCE A VERIFIED SITE SURVEY WAS NOT MADE AVAILABLE PRIOR TO THE GENERATION OF SUCH INFORMATION.

NOTES:
EXISTING SCENARIO SHOWN IN SEPIA

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

DRAWING NAME:
3D VIEW EXISTING

DWN BY	SCALE	CHK BY	STATUS	DATE
ML	NTS	SP	-	APR21
PROJ No.	REL No.	IS No.	DWG No.	REV No.
1364	01	01	02	-



SOURCES OF INFORMATION

IR02-20210329-Site Photos
IR04-20210413-Calderpeel

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:
SNELL STREET, MANCHESTER

DRAWING NAME:
3D VIEW EXISTING

DWN BY	SCALE	CHK BY	STATUS	DATE
ML	NTS	SP	-	APR21
PROJ No.	REL No.	IS No.	DWG No.	REV No.
1364	01	01	03	-

Appendix 03

Proposed Drawings



SOURCES OF INFORMATION

IR02-20210329-Site Photos
IR04-20210413-Calderpeel

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:
SNELL STREET, MANCHESTER

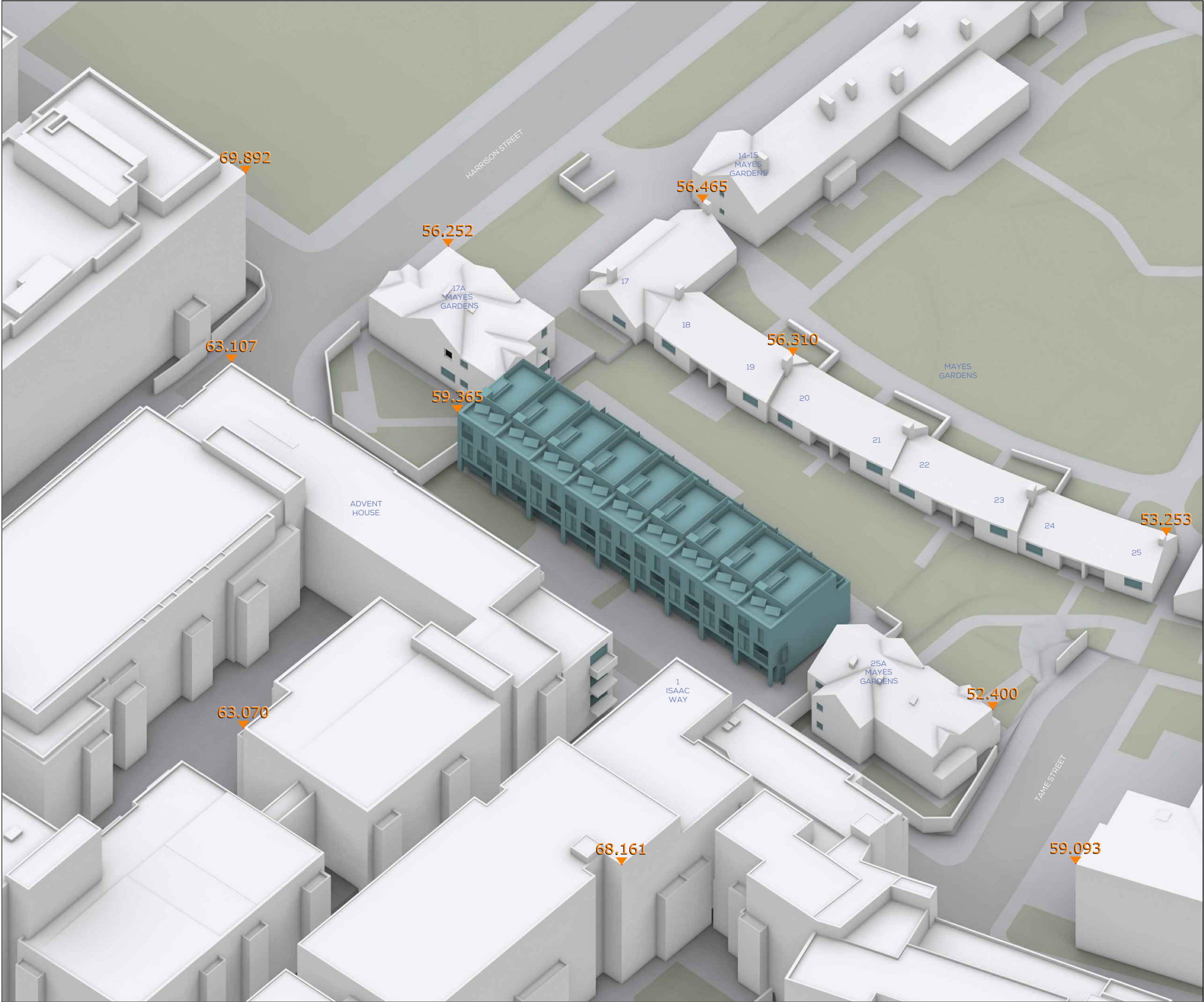
DRAWING NAME:
PLAN VIEW PROPOSED

DWN BY	SCALE	CHK BY	STATUS	DATE
ML	NTS	SP	-	APR21
PROJ No.	REL No.	IS No.	DWG No.	REV No.
1364	01	01	04	-

gia

2 Commercial St.
Manchester
M15 4RQ
t 0161 672 5101
mail@gia.uk.com
www.gia.uk.com

MANCHESTER • LONDON



SOURCES OF INFORMATION

IR02-20210329-Site Photos
IR04-20210413-Calderpeel

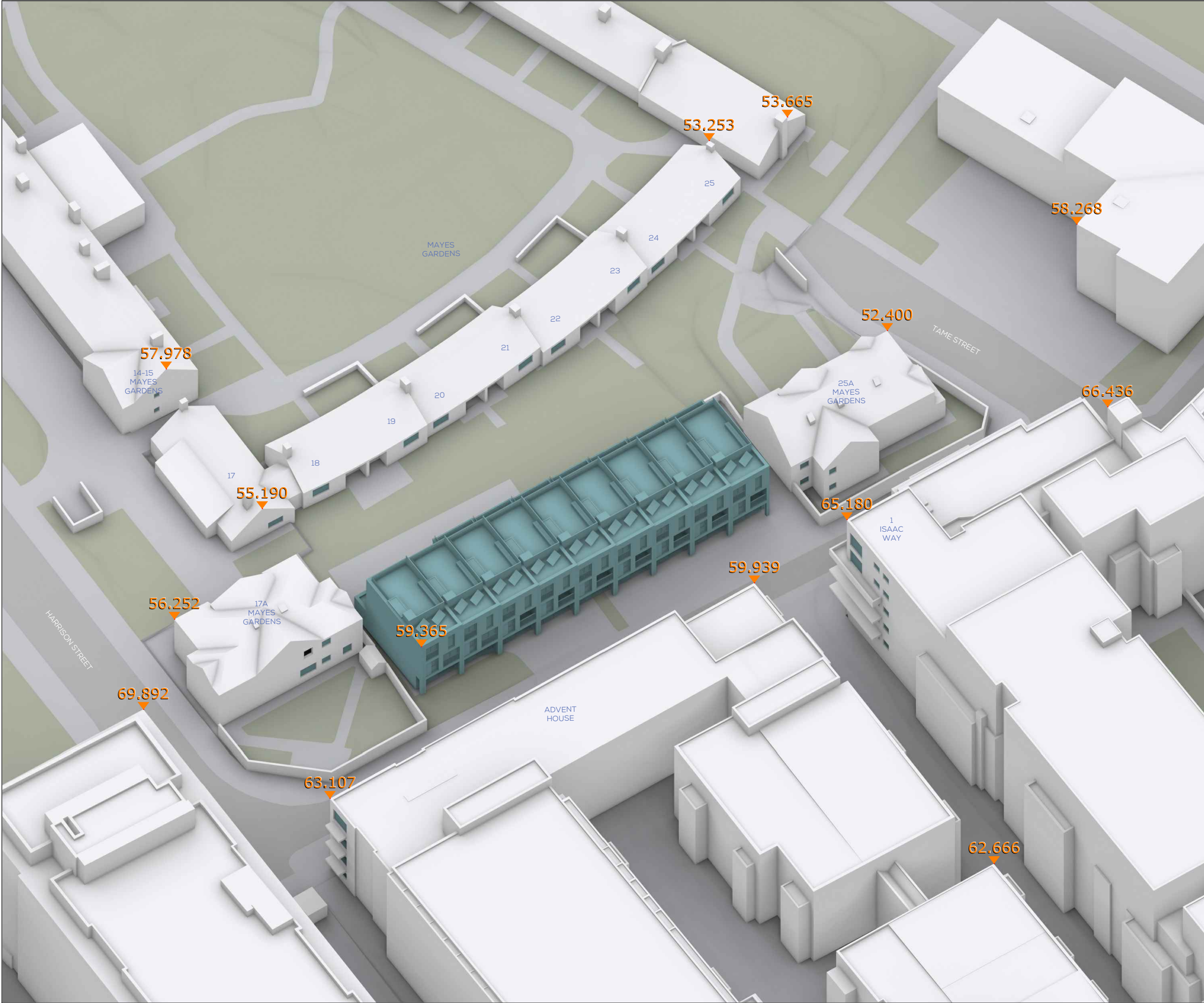
ALL INFORMATION DISPLAYED IS SUBJECT TO A COMPLETE VERIFIABLE SITE SURVEY BEING UNDERTAKEN. GIA TAKES NO RESPONSIBILITY ON THE ACCURACY OR RELIABILITY OF THE DISPLAYED DATA SINCE A VERIFIED SITE SURVEY WAS NOT MADE AVAILABLE PRIOR TO THE GENERATION OF SUCH INFORMATION.

NOTES:
PROPOSED SCHEME SHOWN IN TEAL

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

DRAWING NAME:
3D VIEW PROPOSED

DWN BY	SCALE	CHK BY	STATUS	DATE
ML	NTS	SP	-	APR21
PROJ No.	REL No.	IS No.	DWG No.	REV No.
1364	01	01	05	-



SOURCES OF INFORMATION

IR02-20210329-Site Photos
IR04-20210413-Calderpeel

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:
SNELL STREET, MANCHESTER

DRAWING NAME:
3D VIEW PROPOSED

DWN BY	SCALE	CHK BY	STATUS	DATE
ML	NTS	SP	-	APR21
PROJ No.	REL No.	IS No.	DWG No.	REV No.
1364	01	01	06	-

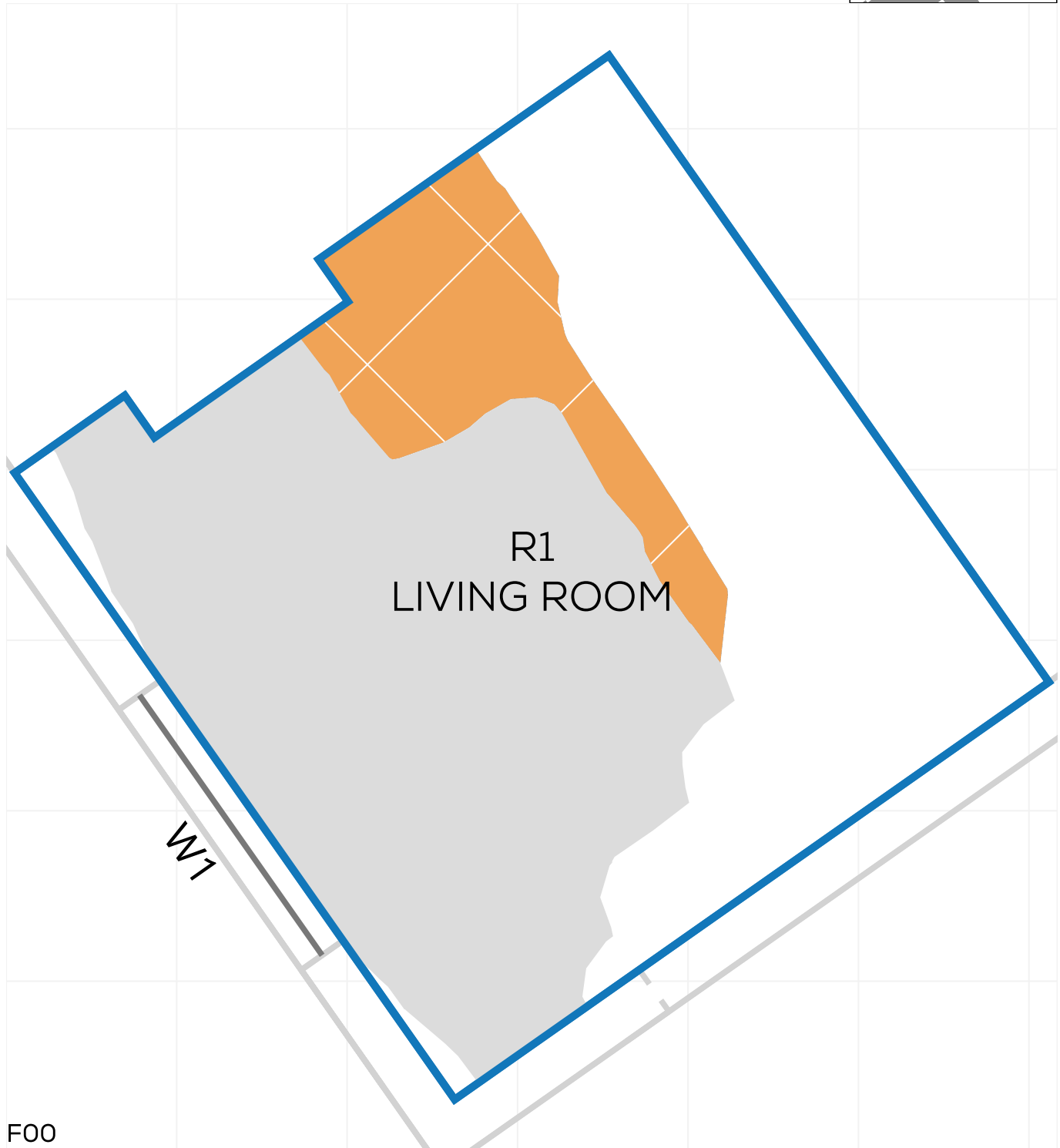
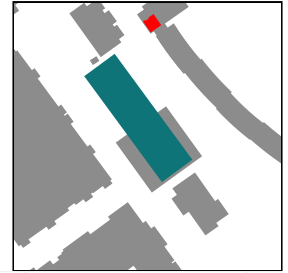
Appendix 04

Results and Window Maps

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 17 MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD1

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
F00	R1	RESIDENTIAL	LIVING ROOM	18.7	62.9	50.7	2.3	19.4

17 MAYES GARDENS

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 19 MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD2

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
19 MAYES GARDENS								
F00	R1	RESIDENTIAL	LIVING ROOM	18.2	98	96.3	0.3	1.7
F00	R2	RESIDENTIAL	BEDROOM	9.4	87.4	58.8	2.7	32.8

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 20 MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD3

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
20 MAYES GARDENS								
F00	R1	RESIDENTIAL	BEDROOM	9.4	92	49.5	4.0	46.2
F00	R2	RESIDENTIAL	LIVING ROOM	18.3	95.7	67.9	5.1	29

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 21 MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD4

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
21 MAYES GARDENS								
F00	R1	RESIDENTIAL	LIVING ROOM	16.8	98.7	93.5	0.9	5.2
F00	R2	RESIDENTIAL	BEDROOM	9.4	92.3	52.1	3.8	43.6

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 22 MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD5

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
22 MAYES GARDENS								
F00	R1	RESIDENTIAL	BEDROOM	9.7	95	88.1	0.7	7.3
F00	R2	RESIDENTIAL	LIVING ROOM	17.0	98.3	89.1	1.6	9.4

NSL CONTOURS



PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 23 MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD6

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



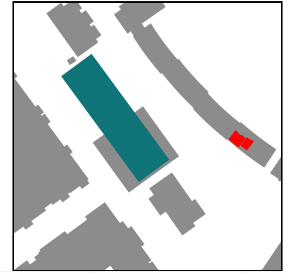
F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
23 MAYES GARDENS								
F00	R1	RESIDENTIAL	LIVING ROOM	15.8	99.1	99.1	0.0	0
F00	R2	RESIDENTIAL	BEDROOM	9.5	95.2	91.7	0.3	3.7

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 24 MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD7

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
24 MAYES GARDENS								
F00	R1	RESIDENTIAL	BEDROOM	9.9	92.8	92.8	0.0	0
F00	R2	RESIDENTIAL	LIVING ROOM	16.5	98.4	98.4	0.0	0

NSL CONTOURS



PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 25A MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD8

KEY:

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

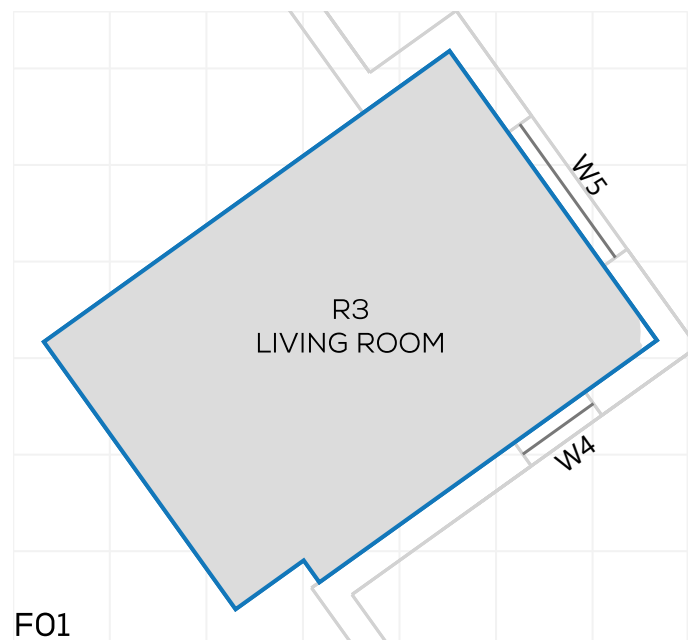
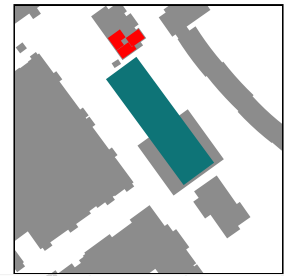


FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
25A MAYES GARDENS								
F00	R1	RESIDENTIAL	KITCHEN	8.1	57.9	62.6	-0.4	-8.1
F01	R1	RESIDENTIAL	KITCHEN	8.1	80.4	80.6	0.0	-0.1

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 17A MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD9

KEY:

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



FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
17A MAYES GARDENS								
F00	R1	RESIDENTIAL	BEDROOM	16.1	61.4	61	0.1	0.6
F00	R3	RESIDENTIAL	BEDROOM	8.7	84.7	84.7	0.0	0
F00	R6	RESIDENTIAL	LIVING ROOM	19.1	99.8	99.7	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	8.0	94.9	94.9	0.0	0.1
F01	R2	RESIDENTIAL	BEDROOM	17.7	96	88.1	1.4	8.2
F01	R3	RESIDENTIAL	LIVING ROOM	18.8	99.8	99.8	0.0	0

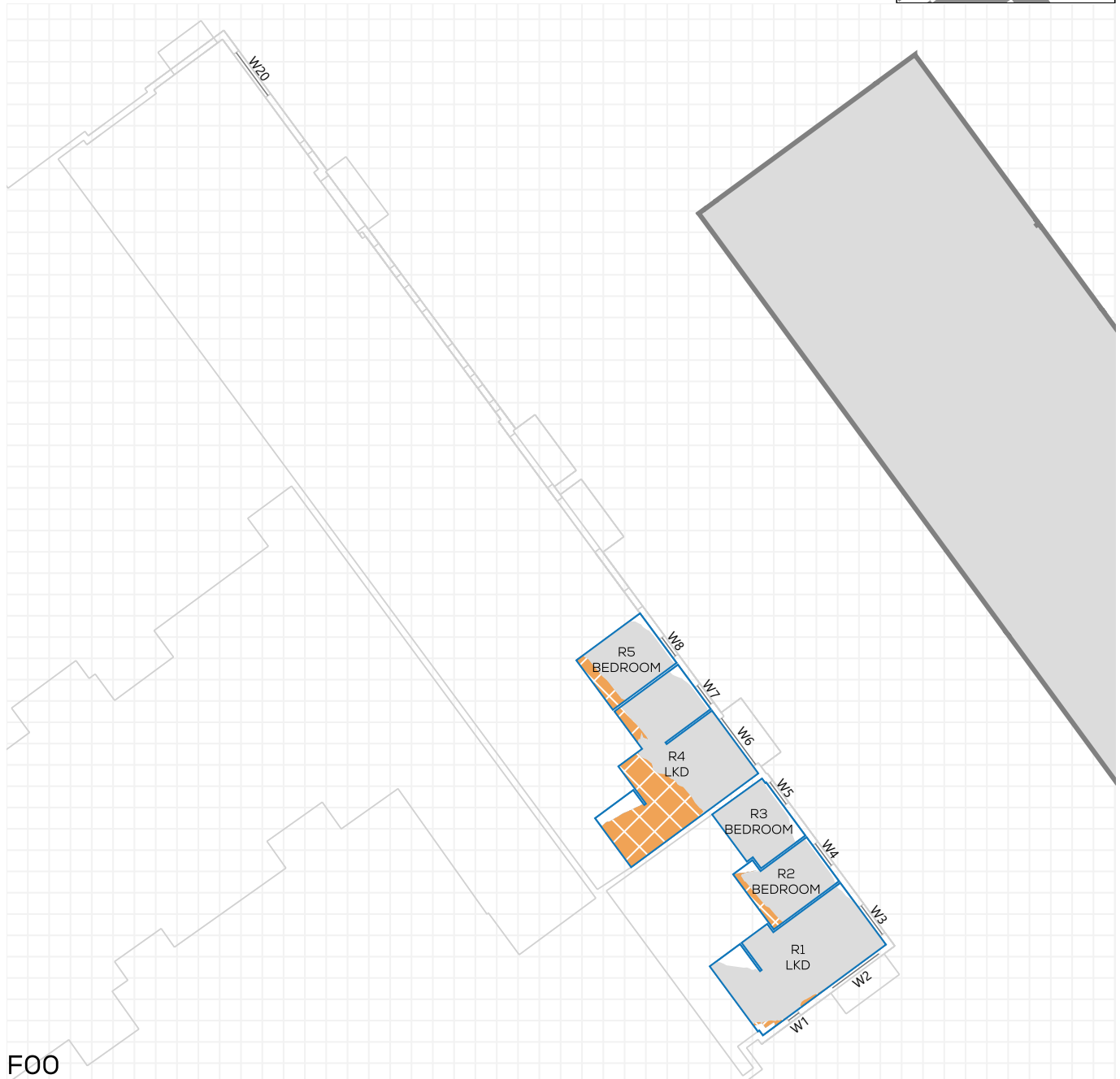
NSL CONTOURS



PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD10

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
ADVENT HOUSE								
F00	R1	RESIDENTIAL	LKD	27.6	94.3	92.8	0.4	1.6
F00	R2	RESIDENTIAL	BEDROOM	10.5	93.9	83.2	1.1	11.4
F00	R3	RESIDENTIAL	BEDROOM	9.7	93.1	93.1	0.0	0
F00	R4	RESIDENTIAL	LKD	35.5	94.6	59	12.6	37.6
F00	R5	RESIDENTIAL	BEDROOM	10.7	95.2	80.1	1.6	15.9

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD11

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
ADVENT HOUSE								
F00	R6	RESIDENTIAL	BEDROOM	10.6	95.8	75	2.2	21.7
F00	R7	RESIDENTIAL	LKD	29.4	95	50.5	13.1	46.8
F00	R8	RESIDENTIAL	LKD	31.6	95.9	64.3	10.0	33
F00	R9	RESIDENTIAL	BEDROOM	10.7	93.6	90.3	0.4	3.5
F00	R10	RESIDENTIAL	BEDROOM	10.1	92.6	69.9	2.3	24.5

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD12

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
ADVENT HOUSE								
F00	R11	RESIDENTIAL	BEDROOM	9.6	91.9	91.9	0.0	0
F00	R12	RESIDENTIAL	BEDROOM	10.0	91.8	91.5	0.0	0.4
F00	R13	RESIDENTIAL	LKD	24.6	78.2	78.2	0.0	0
F00	R14	RESIDENTIAL	LKD	29.6	89.8	89.8	0.0	0

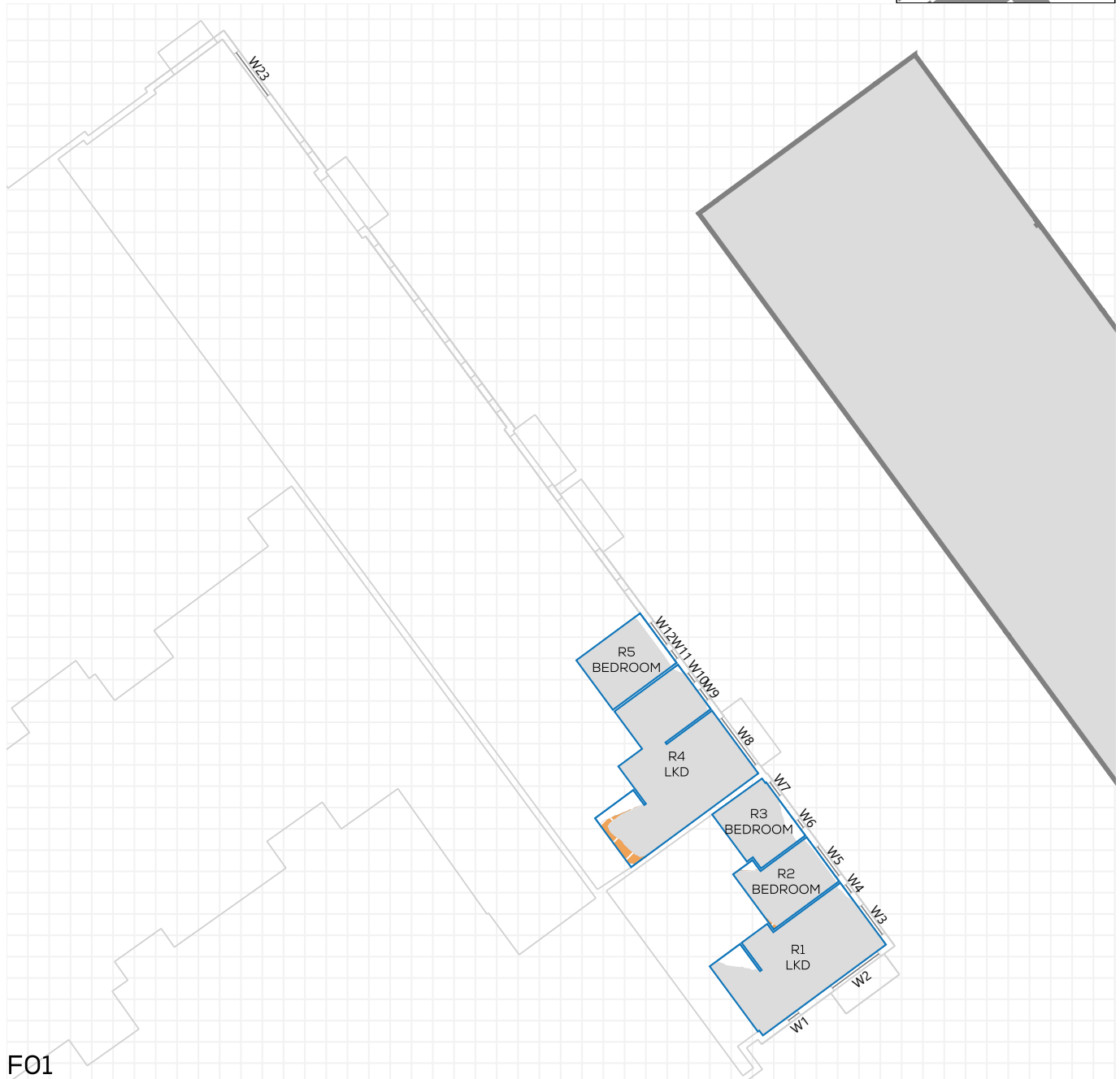
NSL CONTOURS



PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-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 %
ADVENT HOUSE								
F01	R1	RESIDENTIAL	LKD	27.6	95.3	95.3	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	10.5	94.7	93.7	0.1	1.1
F01	R3	RESIDENTIAL	BEDROOM	9.7	92.4	92.4	0.0	0
F01	R4	RESIDENTIAL	LKD	35.5	95.8	92.9	1.0	3.1
F01	R5	RESIDENTIAL	BEDROOM	10.7	92.8	92.8	0.0	0

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD14

KEY:

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



F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
ADVENT HOUSE								
F01	R6	RESIDENTIAL	BEDROOM	10.6	94.7	94.7	0.0	0
F01	R7	RESIDENTIAL	LKD	29.4	95.1	75.2	5.9	20.9
F01	R8	RESIDENTIAL	LKD	31.6	95.8	82.9	4.1	13.5
F01	R9	RESIDENTIAL	BEDROOM	10.7	98.9	95.3	0.4	3.6
F01	R10	RESIDENTIAL	BEDROOM	10.1	93.3	86.4	0.7	7.4

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-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 %
ADVENT HOUSE								
F01	R11	RESIDENTIAL	BEDROOM	9.6	94.3	94.3	0.0	0
F01	R12	RESIDENTIAL	BEDROOM	10.0	95.9	95.9	0.0	0
F01	R13	RESIDENTIAL	LKD	24.6	86.7	86.7	0.0	0
F01	R14	RESIDENTIAL	LKD	29.6	90.3	90.3	0.0	0

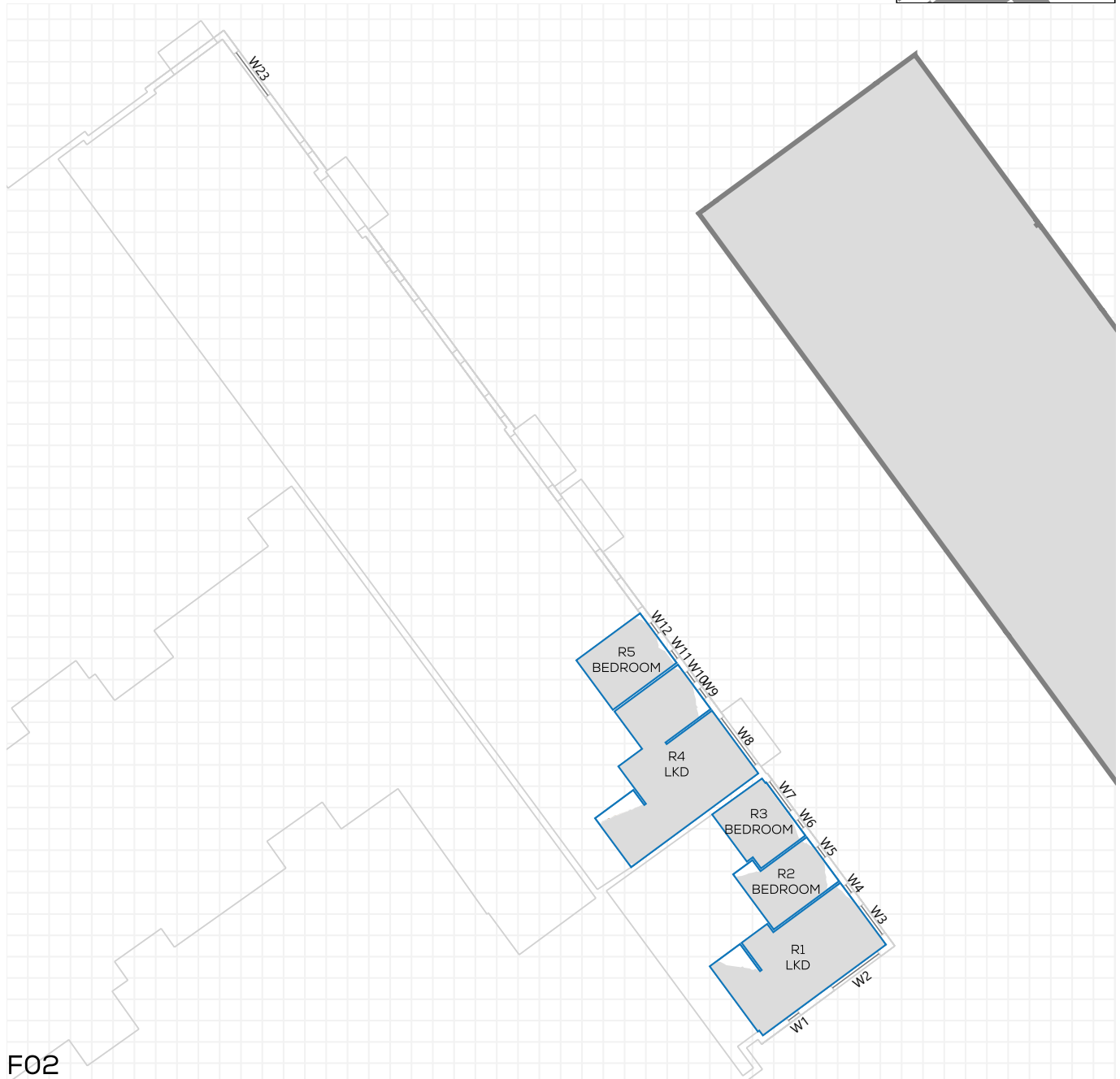
NSL CONTOURS



PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-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 %
ADVENT HOUSE								
F02	R1	RESIDENTIAL	LKD	27.6	95.3	95.3	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	10.5	91	91	0.0	0
F02	R3	RESIDENTIAL	BEDROOM	9.7	96.7	96.7	0.0	0
F02	R4	RESIDENTIAL	LKD	35.5	94.7	94.7	0.0	0
F02	R5	RESIDENTIAL	BEDROOM	10.7	97	97	0.0	0

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD17

KEY:

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



F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
ADVENT HOUSE								
F02	R6	RESIDENTIAL	BEDROOM	10.6	94.6	94.6	0.0	0
F02	R7	RESIDENTIAL	LKD	29.4	95.1	95.1	0.0	0.1
F02	R8	RESIDENTIAL	LKD	31.6	95.8	95.8	0.0	0.1
F02	R9	RESIDENTIAL	BEDROOM	10.7	93.8	93.8	0.0	0
F02	R10	RESIDENTIAL	BEDROOM	10.1	92.9	92.9	0.0	0

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD18

KEY:

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



F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
ADVENT HOUSE								
F02	R11	RESIDENTIAL	BEDROOM	9.6	97.6	97.6	0.0	0
F02	R12	RESIDENTIAL	BEDROOM	10.0	96.1	96.1	0.0	0
F02	R13	RESIDENTIAL	LKD	24.6	86.9	86.9	0.0	0
F02	R14	RESIDENTIAL	LKD	29.6	91.6	91.6	0.0	0

NSL CONTOURS



PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD19

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
ADVENT HOUSE								
F03	R1	RESIDENTIAL	LKD	35.5	95.3	95.3	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	10.7	95.2	95.2	0.0	0
F03	R3	RESIDENTIAL	BEDROOM	10.6	96	96	0.0	0
F03	R4	RESIDENTIAL	LKD	29.4	95.2	95.2	0.0	0
F03	R5	RESIDENTIAL	LKD	31.6	95.8	95.8	0.0	0
F03	R6	RESIDENTIAL	BEDROOM	10.7	93.6	93.6	0.0	0

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ADVENT HOUSE
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD20

KEY:

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



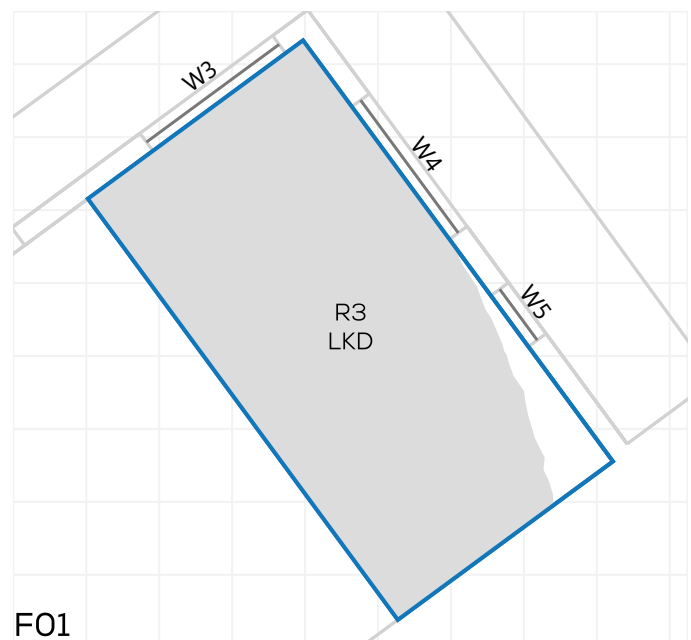
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
ADVENT HOUSE								
F03	R7	RESIDENTIAL	BEDROOM	10.1	91.3	91.3	0.0	0
F03	R8	RESIDENTIAL	BEDROOM	9.6	90.5	90.5	0.0	0
F03	R9	RESIDENTIAL	BEDROOM	10.0	94	94	0.0	0
F03	R10	RESIDENTIAL	LKD	24.6	87.4	87.4	0.0	0
F03	R11	RESIDENTIAL	LKD	29.6	93.3	93.3	0.0	0

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 1 ISAAC WAY
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD21

KEY:

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



FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
1 ISAAC WAY								
F00	R1	RESIDENTIAL	BEDROOM	9.4	38.5	38.4	0.0	0.4
F00	R2	RESIDENTIAL	BEDROOM	9.4	20.3	20.3	0.0	0.1
F00	R3	RESIDENTIAL	LKD	26.2	93.2	93.2	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	9.4	57.1	57.1	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	9.4	38.7	38.7	0.0	0
F01	R3	RESIDENTIAL	LKD	26.2	94.3	94.3	0.0	0

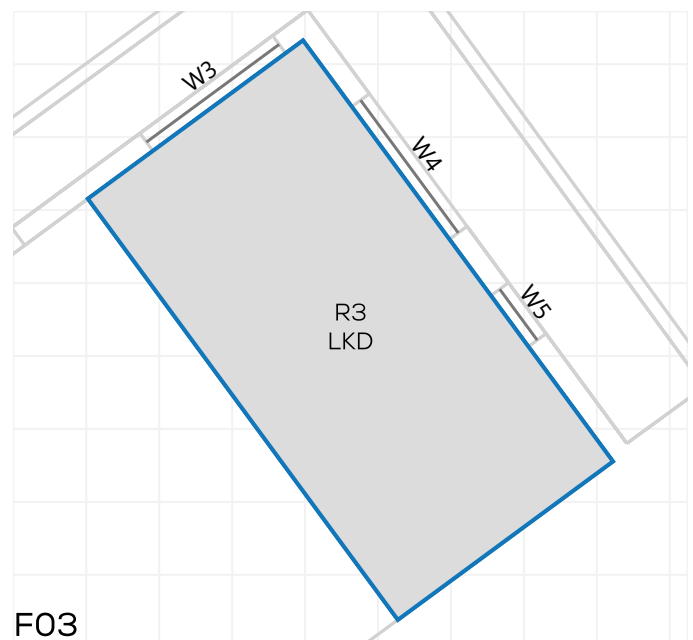
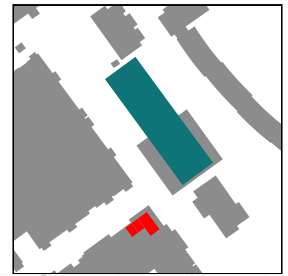
NSL CONTOURS



PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 1 ISAAC WAY
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD22

KEY:

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



FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
1 ISAAC WAY								
F02	R1	RESIDENTIAL	BEDROOM	9.4	89.2	89.2	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	9.4	77.7	77.7	0.0	0
F02	R3	RESIDENTIAL	LKD	26.2	95.6	95.6	0.0	0
F03	R1	RESIDENTIAL	BEDROOM	9.4	96.2	96.2	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	9.4	96.7	96.7	0.0	0
F03	R3	RESIDENTIAL	LKD	26.2	100	100	0.0	0

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 1 ISAAC WAY
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD23

KEY:

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



F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
1 ISAAC WAY								
F04	R1	RESIDENTIAL	BEDROOM	9.4	96.2	96.2	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	9.4	96.7	96.7	0.0	0
F04	R3	RESIDENTIAL	LKD	26.2	100	100	0.0	0

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 18 MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD24

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
18 MAYES GARDENS								
F00	R1	RESIDENTIAL	BEDROOM	9.5	86.9	58	2.8	33.3
F00	R2	RESIDENTIAL	LIVING ROOM	16.6	97.3	96.5	0.1	0.7

PROJECT: 1364 - SNELL STREET, MANCHESTER
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 25 MAYES GARDENS
 DATE: 16/04/2021
 SCHEME IR: IR04
 DRAWING No.: 1364-REL01-IS02-DD25

KEY:

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



F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
25 MAYES GARDENS								
F00	R1	RESIDENTIAL	LIVING ROOM	17.7	98.2	98.2	0.0	0
F00	R2	RESIDENTIAL	BEDROOM	9.7	95.8	95.8	0.0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM NOTES	INFO USED	WINDOW	WINDOW NOTES	VSC (WINDOW)					VSC (ROOM)					NSL					APSH (ROOM)								
								EX %	PR %	LOSS	LOSS %	MEETS CRITERIA	EX %	PR %	LOSS	LOSS %	MEETS CRITERIA	EX %	PR %	LOSS SCM	LOSS %	MEETS CRITERIA	EX		PR		LOSS %		MEETS CRITERIA		
																							ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER			
17 MAYES GARDENS																															
F00	R1	RESIDENTIAL	LIVING ROOM			W1/F00		27.6	25	2.6	9.4%	YES	27.6	25	2.6	9.4%	YES	62.9	50.7	2.3	19.4%	YES	55	19	49	13	10.9%	31.6%	YES		
19 MAYES GARDENS																															
F00	R1	RESIDENTIAL	LIVING ROOM			W1/F00		31.5	27.7	3.8	12.1%	YES	31.5	27.7	3.8	12.1%	YES	98	96.3	0.3	1.7%	YES	65	21	58	16	10.8%	23.8%	YES		
	R2	RESIDENTIAL	BEDROOM			W2/F00		6.6	3.5	3.1	47.0%	NO	6.6	3.5	3.1	47.0%	NO	87.4	58.8	2.7	32.8%	NO									
20 MAYES GARDENS																															
F00	R1	RESIDENTIAL	BEDROOM			W1/F00		7.2	4.5	2.7	37.5%	NO	7.2	4.5	2.7	37.5%	NO	92	49.5	4.0	46.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R2	RESIDENTIAL	LIVING ROOM			W2/F00		30.8	27	3.8	12.3%	YES	30.8	27	3.8	12.3%	YES	95.7	67.9	5.1	29.0%	NO	63	20	56	16	11.1%	20.0%	YES		
21 MAYES GARDENS																															
F00	R1	RESIDENTIAL	LIVING ROOM			W1/F00		31.8	29.5	2.3	7.2%	YES	31.8	29.5	2.3	7.2%	YES	98.7	93.5	0.9	5.2%	YES	68	21	62	18	8.8%	14.3%	YES		
	R2	RESIDENTIAL	BEDROOM			W2/F00		7	4.7	2.3	32.9%	NO	7	4.7	2.3	32.9%	NO	92.3	52.1	3.8	43.6%	NO									
22 MAYES GARDENS																															
F00	R1	RESIDENTIAL	BEDROOM			W1/F00		8.9	7.7	1.2	13.5%	YES	8.9	7.7	1.2	13.5%	YES	95	88.1	0.7	7.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R2	RESIDENTIAL	LIVING ROOM			W2/F00		31.1	29.1	2	6.4%	YES	31.1	29.1	2	6.4%	YES	98.3	89.1	1.6	9.4%	YES	67	21	62	19	7.5%	9.5%	YES		
23 MAYES GARDENS																															
F00	R1	RESIDENTIAL	LIVING ROOM			W1/F00		32.1	31.3	0.8	2.5%	YES	32.1	31.3	0.8	2.5%	YES	99.1	99.1	0.0	0.0%	YES	72	22	69	22	4.2%	0.0%	YES		
	R2	RESIDENTIAL	BEDROOM			W2/F00		8.2	7.4	0.8	9.8%	YES	8.2	7.4	0.8	9.8%	YES	95.2	91.7	0.3	3.7%	YES									
24 MAYES GARDENS																															
F00	R1	RESIDENTIAL	BEDROOM			W1/F00		11.5	11.2	0.3	2.6%	YES	11.5	11.2	0.3	2.6%	YES	92.8	92.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R2	RESIDENTIAL	LIVING ROOM			W2/F00		31.4	30.8	0.6	1.9%	YES	31.4	30.8	0.6	1.9%	YES	98.4	98.4	0.0	0.0%	YES	68	19	65	19	4.4%	0.0%	YES		
25A MAYES GARDENS																															
F00	R1	RESIDENTIAL	KITCHEN (1)			W1/F00		9.3	11.9	-2.6	-28.0%	YES	9.3	11.9	-2.6	-28.0%	YES	57.9	62.6	-0.4	-8.1%	YES	7	0	7	0	0.0%	0.0%	YES		
F01	R1	RESIDENTIAL	KITCHEN (1)			W1/F01		17.4	18.6	-1.2	-6.9%	YES	17.4	18.6	-1.2	-6.9%	YES	80.4	80.6	0.0	-0.1%	YES	32	0	33	0	-3.1%	0.0%	YES		

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

								VSC (WINDOW)					VSC (ROOM)					NSL					APSH (ROOM)								
FLOOR	ROOM	PROPERTY	ROOM	ROOM	INFO	WINDOW	WINDOW	EX	PR	LOSS	LOSS	MEETS	EX	PR	LOSS	LOSS	MEETS	EX	PR	LOSS	LOSS	MEETS	EX		PR		LOSS %		MEETS		
		TYPE	USE	NOTES	USED		NOTES	%	%	%	%	CRITERIA	%	%	%	%	CRITERIA	%	%	SCM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA		
17A MAYES GARDENS																															
F00	R1	RESIDENTIAL	BEDROOM			W1/F00		24	21.9	2.1	8.8%	YES	24	21.9	2.1	8.8%	YES	61.4	61	0.1	0.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R3	RESIDENTIAL	BEDROOM			W3/F00		24.3	18.3	6	24.7%	NO	24.3	18.3	6	24.7%	NO	84.7	84.7	0.0	0.0%	YES									
	R6	RESIDENTIAL	LIVING ROOM			W7/F00		30	29	1	3.3%	YES	31.8	31.6	0.2	0.6%	YES	99.8	99.7	0.0	0.0%	YES	53	12	51	10	3.8%	16.7%	YES		
			LIVING ROOM			W8/F00		32.4	32.4	0	0.0%	YES																			
F01	R1	RESIDENTIAL	BEDROOM			W2/F01		28.1	26	2.1	7.5%	YES	28.1	26	2.1	7.5%	YES	94.9	94.9	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R2	RESIDENTIAL	BEDROOM			W3/F01		36.9	24.8	12.1	32.8%	NO	36.9	24.8	12.1	32.8%	NO	96	88.1	1.4	8.2%	YES									
	R3	RESIDENTIAL	LIVING ROOM			W4/F01		37.2	34.7	2.5	6.7%	YES	36.7	36.1	0.6	1.6%	YES	99.8	99.8	0.0	0.0%	YES	74	24	67	17	9.5%	29.2%	YES		
			LIVING ROOM			W5/F01		36.6	36.6	0	0.0%	YES																			
ADVENT HOUSE																															
F00	R1	RESIDENTIAL	LKD			W1/F00		14.4	14.3	0.1	0.7%	YES	18.2	16.5	1.7	9.3%	YES	94.3	92.8	0.4	1.6%	YES	39	4	39	4	0.0%	0.0%	YES		
			LKD			W2/F00		11.9	11.5	0.4	3.4%	YES																			
			LKD			W3/F00		31.6	27	4.6	14.6%	YES																			
R2	RESIDENTIAL	BEDROOM				W4/F00		31.4	25.7	5.7	18.2%	YES	31.4	25.7	5.7	18.2%	YES	93.9	83.2	1.1	11.4%	YES									
R3	RESIDENTIAL	BEDROOM				W5/F00		31.1	24.1	7	22.5%	NO	31.1	24.1	7	22.5%	NO	93.1	93.1	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
R4	RESIDENTIAL	LKD				W6/F00		20.5	12.5	8	39.0%	NO	22	14	8	36.4%	NO	94.6	59	12.6	37.6%	NO									
			LKD			W7/F00		30.7	22.5	8.2	26.7%	NO																			
R5	RESIDENTIAL	BEDROOM				W8/F00		33	24.5	8.5	25.8%	NO	33	24.5	8.5	25.8%	NO	95.2	80.1	1.6	15.9%	YES									
R6	RESIDENTIAL	BEDROOM				W9/F00		32.8	24.2	8.6	26.2%	NO	32.8	24.2	8.6	26.2%	NO	95.8	75	2.2	21.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
R7	RESIDENTIAL	LKD				W10/F00		20	11.3	8.7	43.5%	NO	20	11.3	8.7	43.5%	NO	95	50.5	13.1	46.8%	NO									
R8	RESIDENTIAL	LKD				W11/F00		19.1	11.3	7.8	40.8%	NO	19.1	11.3	7.8	40.8%	NO	95.9	64.3	10.0	33.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
R9	RESIDENTIAL	BEDROOM				W12/F00		26.4	20.3	6.1	23.1%	NO	29.8	24	5.8	19.5%	YES	93.6	90.3	0.4	3.5%	YES									
			BEDROOM			W13/F00		31.3	25.6	5.7	18.2%	YES																			
R10	RESIDENTIAL	BEDROOM				W14/F00		26.9	21.6	5.3	19.7%	YES	26.9	21.6	5.3	19.7%	YES	92.6	69.9	2.3	24.5%	NO									
R11	RESIDENTIAL	BEDROOM				W15/F00		26.5	22.6	3.9	14.7%	YES	29.8	26	3.8	12.8%	YES	91.9	91.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			BEDROOM			W16/F00		30.5	26.8	3.7	12.1%	YES																			
R12	RESIDENTIAL	BEDROOM				W17/F00		25.5	22.1	3.4	13.3%	YES	25.5	22.1	3.4	13.3%	YES	91.8	91.5	0.0	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
R13	RESIDENTIAL	LKD				W18/F00		15.1	12.6	2.5	16.6%	YES	15.1	12.6	2.5	16.6%	YES	78.2	78.2	0.0	0.0%	YES									
R14	RESIDENTIAL	LKD				W19/F00		28.7	26.9	1.8	6.3%	YES	17.4	16.7	0.7	4.0%	YES	89.8	89.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			LKD			W20/F00		29.8	28.5	1.3	4.4%	YES																			
			LKD			W21/F00		2.2	2.2	0	0.0%	YES																			

(1) KITCHEN SMALLER THAN 13m2

(2) INCVHZ = SKY COMPONENT (INCLINED/HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

Floor	Room	Property Type	Room Use	Room Notes	Info Used	Window	Window Notes	VSC (Window)					VSC (Room)					NSL					APSH (Room)						
								Ex	Pr	Loss	Loss	Meets	Ex	Pr	Loss	Loss	Meets	Ex	Pr	Loss	Loss	Meets	Ex		Pr		Loss %		Meets
								%	%		%	Criteria	%	%		%	Criteria	%	%	SCM	%	Criteria	Annual	Winter	Annual	Winter	Annual	Winter	Criteria
Advent House (Continued)																													
F01	R1	Residential	LKD			W1/F01		18.1	18.1	0	0.0%	YES	20.1	18.9	1.2	6.0%	YES	95.3	95.3	0.0	0.0%	YES	47	6	46	6	2.1%	0.0%	YES
			LKD			W2/F01		12.2	11.9	0.3	2.5%	YES																	
			LKD			W3/F01		36.3	32.8	3.5	9.6%	YES																	
			LKD			W4/F01		27.5	24.2	3.3	12.0%	YES																	
	R2	Residential	Bedroom			W5/F01		32	27.9	4.1	12.8%	YES	32	27.9	4.1	12.8%	YES	94.7	93.7	0.1	1.1%	YES							
	R3	Residential	Bedroom			W6/F01		27.3	23.4	3.9	14.3%	YES	32.3	27.9	4.4	13.6%	YES	92.4	92.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Bedroom			W7/F01		33.4	28.9	4.5	13.5%	YES																	
	R4	Residential	LKD			W8/F01		26.8	21.6	5.2	19.4%	YES	27.6	22.3	5.3	19.2%	YES	95.8	92.9	1.0	3.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD			W9/F01		32.5	27.2	5.3	16.3%	YES																	
			LKD			W10/F01		28.5	22.6	5.9	20.7%	NO																	
	R5	Residential	Bedroom			W11/F01		27.7	23.2	4.5	16.2%	YES	29	24.3	4.7	16.2%	YES	92.8	92.8	0.0	0.0%	YES							
			Bedroom			W12/F01		29.9	24.5	5.4	18.1%	YES																	
	R6	Residential	Bedroom			W13/F01		33.2	28.1	5.1	15.4%	YES	33.2	28.1	5.1	15.4%	YES	94.7	94.7	0.0	0.0%	YES							
	R7	Residential	LKD			W14/F01		25.4	19.8	5.6	22.0%	NO	25.4	19.8	5.6	22.0%	NO	95.1	75.2	5.9	20.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	Residential	LKD			W15/F01		24.7	19.6	5.1	20.6%	NO	24.7	19.6	5.1	20.6%	NO	95.8	82.9	4.1	13.5%	YES							
	R9	Residential	Bedroom			W16/F01		32.5	28.4	4.1	12.6%	YES	31.7	26.9	4.8	15.1%	YES	98.9	95.3	0.4	3.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			Bedroom			W17/F01		28.2	24.3	3.9	13.8%	YES																	
	R10	Residential	Bedroom			W18/F01		29	25.8	3.2	11.0%	YES	29	25.8	3.2	11.0%	YES	93.3	86.4	0.7	7.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	Residential	Bedroom			W19/F01		32.7	30	2.7	8.3%	YES	32.7	30	2.7	8.3%	YES	94.3	94.3	0.0	0.0%	YES							
	R12	Residential	Bedroom			W20/F01		27.6	25.5	2.1	7.6%	YES	27.6	25.5	2.1	7.6%	YES	95.9	95.9	0.0	0.0%	YES							
	R13	Residential	LKD			W21/F01		25.8	24	1.8	7.0%	YES	25.8	24	1.8	7.0%	YES	86.7	86.7	0.0	0.0%	YES							
	R14	Residential	LKD			W22/F01		30.9	29.8	1.1	3.6%	YES	16.4	16.1	0.3	1.8%	YES	90.3	90.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD			W23/F01		32	31.2	0.8	2.5%	YES																	
LKD					W24/F01		4.3	4.3	0	0.0%	YES																		
LKD																													
F02	R1	Residential	LKD			W1/F02		22.5	22.5	0	0.0%	YES	30.4	30.2	0.2	0.7%	YES	95.3	95.3	0.0	0.0%	YES	58	9	58	9	0.0%	0.0%	YES
			LKD			W2/F02		28.5	28.5	0	0.0%	YES																	
			LKD			W3/F02		37.7	37	0.7	1.9%	YES																	
			LKD			W4/F02		28.2	27.6	0.6	2.1%	YES																	
R2	Residential	Bedroom			W5/F02		34.7	33.5	1.2	3.5%	YES	34.7	33.5	1.2	3.5%	YES	91	91	0.0	0.0%	YES								
		Bedroom			W6/F02		28.2	27.4	0.8	2.8%	YES	31.5	30.8	0.7	2.2%	YES	96.7	96.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
R3	Residential	Bedroom			W7/F02		32.6	31.3	1.3	4.0%	YES																		
		Bedroom																											

(1) KITCHEN SMALLER THAN 13m2

(2) INCLVZ = SKY COMPONENT (INCLINED/HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM NOTES	INFO USED	WINDOW	WINDOW NOTES	VSC (WINDOW)					VSC (ROOM)					NSL					APSH (ROOM)							
								EX	PR	LOSS	LOSS	MEETS	EX	PR	LOSS	LOSS	MEETS	EX	PR	LOSS	LOSS	MEETS	EX		PR		LOSS %		MEETS	
								%	%		%	CRITERIA	%	%		%	CRITERIA	%	%	SCM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA	
ADVENT HOUSE (CONTINUED)																														
	R4	RESIDENTIAL	LKD			W8/F02		28	26.4	1.6	5.7%	YES	28.9	27.3	1.6	5.5%	YES	94.7	94.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD			W9/F02		28.9	28.4	0.5	1.7%	YES																		
			LKD			W10/F02		34.5	33.5	1	2.9%	YES																		
	R5	RESIDENTIAL	BEDROOM			W11/F02		28.1	26.4	1.7	6.0%	YES	33	32.1	0.9	2.7%	YES	97	97	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM			W12/F02		34.5	33.4	1.1	3.2%	YES																		
	R6	RESIDENTIAL	BEDROOM			W13/F02		32.8	31.4	1.4	4.3%	YES	32.8	31.4	1.4	4.3%	YES	94.6	94.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	LKD			W14/F02		26.5	24.3	2.2	8.3%	YES	26.5	24.3	2.2	8.3%	YES	95.1	95.1	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD			W15/F02		26	24	2	7.7%	YES	26	24	2	7.7%	YES	95.8	95.8	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM			W16/F02		29.6	28.2	1.4	4.7%	YES	29.6	28.2	1.4	4.7%	YES	93.8	93.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM			W17/F02		34.2	33	1.2	3.5%	YES	34.2	33	1.2	3.5%	YES	92.9	92.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM			W18/F02		34	33.1	0.9	2.6%	YES	32.7	31.7	1	3.1%	YES	97.6	97.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM			W19/F02		29.2	28.3	0.9	3.1%	YES																		
	R12	RESIDENTIAL	BEDROOM			W20/F02		33.1	32.3	0.8	2.4%	YES	33.1	32.3	0.8	2.4%	YES	96.1	96.1	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	LKD			W21/F02		27.7	27	0.7	2.5%	YES	27.7	27	0.7	2.5%	YES	86.9	86.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	LKD			W22/F02		32.5	32.2	0.3	0.9%	YES	19.2	19.1	0.1	0.5%	YES	91.6	91.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD			W23/F02		33.8	33.5	0.3	0.9%	YES																		
			LKD			W24/F02		7.9	7.9	0	0.0%	YES																		
F03	R1	RESIDENTIAL	LKD			W1/F03		38.4	38.4	0	0.0%	YES	38.1	38.1	0	0.0%	YES	95.3	95.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD			W2/F03		36.1	36.1	0	0.0%	YES																		
	R2	RESIDENTIAL	BEDROOM			W3/F03		36.1	36.1	0	0.0%	YES	36.1	36.1	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	N/A
	R3	RESIDENTIAL	BEDROOM			W4/F03		36	36	0	0.0%	YES	36	36	0	0.0%	YES	96	96	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD			W5/F03		38.2	38.2	0	0.0%	YES	38.2	38.2	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	N/A
	R5	RESIDENTIAL	LKD			W6/F03		38	38	0	0.0%	YES	38	38	0	0.0%	YES	95.8	95.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM			W7/F03		29.7	29.7	0	0.0%	YES	33.6	33.6	0	0.0%	YES	93.6	93.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM			W8/F03		34.5	34.5	0	0.0%	YES																		
	R7	RESIDENTIAL	BEDROOM			W9/F03		30.7	30.7	0	0.0%	YES	30.7	30.7	0	0.0%	YES	91.3	91.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM			W10/F03		29.6	29.6	0	0.0%	YES	32.7	32.7	0	0.0%	YES	90.5	90.5	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM			W11/F03		34.3	34.3	0	0.0%	YES																		
	R9	RESIDENTIAL	BEDROOM			W12/F03		30.3	30.3	0	0.0%	YES	30.3	30.3	0	0.0%	YES	94	94	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	LKD			W13/F03		36.8	36.8	0	0.0%	YES	36.8	36.8	0	0.0%	YES	87.4	87.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	LKD			W14/F03		33.7	33.7	0	0.0%	YES	26.5	26.5	0	0.0%	YES	93.3	93.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2
(2) INCVH2 = SKY COMPONENT (INCLINED/HORIZONTAL WINDOWS)
(3) SINGLE ASPECT ROOM DEEPER THAN 5m

								VSC (WINDOW)					VSC (ROOM)					NSL					APSH (ROOM)							
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM NOTES	INFO USED	WINDOW	WINDOW NOTES	EX	PR	LOSS	LOSS	MEETS	EX	PR	LOSS	LOSS	MEETS	EX	PR	LOSS	LOSS	MEETS	EX		PR		LOSS %		MEETS	
								%	%		%	CRITERIA	%	%		%	CRITERIA	%	%	SCM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA	
ADVENT HOUSE (CONTINUED)																														
			LKD			W15/F03		34.7	34.7	0	0.0%	YES																		
			LKD			W16/F03		20.1	20.1	0	0.0%	YES																		
1 ISAAC WAY																														
F00	R1	RESIDENTIAL	BEDROOM			W1/F00		12.1	11.6	0.5	4.1%	YES	12.1	11.6	0.5	4.1%	YES	38.5	38.4	0.0	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R2	RESIDENTIAL	BEDROOM			W2/F00		2.9	2.2	0.7	24.1%	NO	2.9	2.2	0.7	24.1%	NO	20.3	20.3	0.0	0.1%	YES								
	R3	RESIDENTIAL	LKD			W3/F00		9	7.8	1.2	13.3%	YES	12.3	11.1	1.2	9.8%	YES	93.2	93.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			LKD			W4/F00		16.3	15.1	1.2	7.4%	YES																		
			LKD			W5/F00		5.3	4.2	1.1	20.8%	NO																		
F01	R1	RESIDENTIAL	BEDROOM			W1/F01		17.1	16.6	0.5	2.9%	YES	17.1	16.6	0.5	2.9%	YES	57.1	57.1	0.0	0.0%	YES								
	R2	RESIDENTIAL	BEDROOM			W2/F01		5.7	5.2	0.5	8.8%	YES	5.7	5.2	0.5	8.8%	YES	38.7	38.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R3	RESIDENTIAL	LKD			W3/F01		13.8	12.8	1	7.2%	YES	16.7	15.6	1.1	6.6%	YES	94.3	94.3	0.0	0.0%	YES								
			LKD			W4/F01		20.6	19.2	1.4	6.8%	YES																		
			LKD			W5/F01		8.9	7.8	1.1	12.4%	YES																		
F02	R1	RESIDENTIAL	BEDROOM			W1/F02		22.8	22.6	0.2	0.9%	YES	22.8	22.6	0.2	0.9%	YES	89.2	89.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R2	RESIDENTIAL	BEDROOM			W2/F02		11	10.8	0.2	1.8%	YES	11	10.8	0.2	1.8%	YES	77.7	77.7	0.0	0.0%	YES								
	R3	RESIDENTIAL	LKD			W3/F02		19.1	18.7	0.4	2.1%	YES	20.6	20	0.6	2.9%	YES	95.6	95.6	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			LKD			W4/F02		23.1	22.3	0.8	3.5%	YES																		
			LKD			W5/F02		10.3	10	0.3	2.9%	YES																		
F03	R1	RESIDENTIAL	BEDROOM			W1/F03		33.9	33.9	0	0.0%	YES	33.9	33.9	0	0.0%	YES	96.2	96.2	0.0	0.0%	YES								
	R2	RESIDENTIAL	BEDROOM			W2/F03		34.3	34.3	0	0.0%	YES	34.3	34.3	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	
	R3	RESIDENTIAL	LKD			W3/F03		34.5	34.5	0	0.0%	YES	36.2	36.2	0	0.0%	YES	100	100	0.0	0.0%	YES								
			LKD			W4/F03		38	38	0	0.0%	YES																		
			LKD			W5/F03		35.7	35.7	0	0.0%	YES																		
F04	R1	RESIDENTIAL	BEDROOM			W1/F04		36.9	36.9	0	0.0%	YES	36.9	36.9	0	0.0%	YES	96.2	96.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	R2	RESIDENTIAL	BEDROOM			W2/F04		36.9	36.9	0	0.0%	YES	36.9	36.9	0	0.0%	YES	96.7	96.7	0.0	0.0%	YES								
	R3	RESIDENTIAL	LKD			W3/F04		36.8	36.8	0	0.0%	YES	38.1	38.1	0	0.0%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			LKD			W4/F04		39.2	39.2	0	0.0%	YES																		
			LKD			W5/F04		39.3	39.3	0	0.0%	YES																		

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

							VSC (WINDOW)					VSC (ROOM)					NSL					APSH (ROOM)								
FLOOR	ROOM	PROPERTY	ROOM	ROOM	INFO	WINDOW	WINDOW	EX	PR	LOSS	LOSS	MEETS	EX	PR	LOSS	LOSS	MEETS	EX	PR	LOSS	LOSS	MEETS	EX		PR		LOSS %		MEETS	
		TYPE	USE	NOTES	USED		NOTES	%	%	%	%	CRITERIA	%	%	%	%	CRITERIA	%	%	SCM	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA	
18 MAYES GARDENS																														
F00	R1	RESIDENTIAL	BEDROOM			W1/F00		6.8	3.8	3	44.1%	NO	6.8	3.8	3	44.1%	NO	86.9	58	2.8	33.3%	NO								
	R2	RESIDENTIAL	LIVING ROOM			W2/F00		30.1	26.9	3.2	10.6%	YES	30.1	26.9	3.2	10.6%	YES	97.3	96.5	0.1	0.7%	YES	57	18	51	13	10.5%	27.8%	YES	
25 MAYES GARDENS																														
F00	R1	RESIDENTIAL	LIVING ROOM			W1/F00		31.7	31.5	0.2	0.6%	YES	31.7	31.5	0.2	0.6%	YES	98.2	98.2	0.0	0.0%	YES	71	20	70	20	1.4%	0.0%	YES	
	R2	RESIDENTIAL	BEDROOM			W2/F00		11.3	11.2	0.1	0.9%	YES	11.3	11.2	0.1	0.9%	YES	95.8	95.8	0.0	0.0%	YES								

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

For further details please contact us on:



LONDON

T 020 7202 1400
E mail@gia.uk.com

**THE WHITEHOUSE
BELVEDERE ROAD
LONDON SE1 8GA**

MANCHESTER

T 0161 672 5100
E manchester@gia.uk.com

**2 COMMERCIAL STREET
MANCHESTER
M15 4RQ**

BELFAST

T 02892 449 674
E belfast@gia.uk.com

**RIVER HOUSE
48-60 HIGH STREET
BELFAST BT1 2BE**