DAYLIGHT AND SUNLIGHT REPORT

CAMDEN LOCK VILLAGE SITE E

Prepared by: GIA

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Principles of Daylight & Sunlight
Consented: 2801/152 – 154 (Rel 30)
Proposed: 2801/216 – 218 (Rel 32)
Daylight & Sunlight Tables of Results: VSC, NSL & APSH

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1.0 INSTRUCTIONS

GIA have been instructed to undertake a detailed technical analysis to understand the daylight and sunlight effect of the proposed AHMM scheme for Camden Lock Village Site E "site E" on those surrounding residential buildings.

Only habitable rooms (living rooms, kitchens, bedrooms) have been considered within this assessment as they are considered to have the highest requirement for daylight and sunlight when compared to other uses, such as commercial or ancillary space.

To understand the light the changes caused by the proposed AHMM scheme for the site a comparison of the existing and proposed light levels has been undertaken. In order to carry out the detailed technical assessments a three dimensional computer model of the Site and surroundings has been produced. GIA historically produced a model based on a MSA survey. This data informed the model as to the detailed information on the heights, massing, location of apertures and detailed façade information on the surrounding buildings. The MSA survey was carried out in 2010 and has not been updated thus any changes in the surrounding context will not be captured within the model. GIA have carried out a site visit to understand whether there are any key changes to the surrounding context and from site observations we have not identified any material changes, albeit this has not been technically confirmed.

A planning application for the land adjacent to site E was granted consent in 2012 (planning application reference 2012/4628/P). The detailed version of this consented scheme (for which construction is set to start in 2015) has formed a part of the baseline as it is a realistic future condition. A comparison of the light changes within this scenario and that with the proposed site E has been carried out and is detailed within this report.

The technical analysis has been carried by reference to the standards and criteria within the 2011 British Research Establishment (BRE) which is the primary authority in these matters.

2.0 INTRODUCTION

DAYLIGHT AND SUNLIGHT

In considering the development potential and the quality of amenity for the surrounding properties, following the implementation of the proposed scheme, the analysis has been based on the 2011 Building Research Establishment (BRE) guidelines ***'Site Layout Planning for Daylight and Sunlight'.*** The guidelines provide the criteria and methodology for calculation in connection with daylight and sunlight.

This handbook is the primary authority for these matters and therefore it is not only this Practice, but also the Local Authority (LA), who will be considering your application by reference to these guidelines.

The BRE guidelines provide two main methods of calculation for daylight within surrounding residential receptors: the Vertical Sky Component and the No Sky Line.

The Vertical Sky Component (VSC) method considers the potential for daylight by calculating the view of the sky dome at the centre of each of the windows, serving the residential buildings, which look towards the site and highlights any potential concerns in regards to daylight.

The No Sky Line (NSL) method assesses the change in position of the No Sky Line between the existing and proposed situations. It divides points on the working plane which can and cannot see the sky and takes into account the number and size of windows to a room, assessing the maximum point of daylight penetration.

The BRE suggest that on implementation of a proposed development a 20% change to the VSC and NSL values is acceptable and/ or the retained values are 27% (VSC only).

In order to assess sunlight, the Annual Probable Sunlight Hours (APSH) method is applied. It considers the amount of sun available in both the summer and winter for each given window which faces within 90° of due south. Summer is considered to be the six months between March 21st and September 21st and winter the remaining months. The BRE Standard recommends that at least 25% of APSH be available at the reference point, including at least 5% of APSH during the winter months.

The BRE suggest a 20% change (with 5% retained winter APSH) or no more than a 4% absolute change.

Although the BRE suggest target criteria, alternative figures may be used and the guidelines can be applied flexibly in areas of high density.

3.0 SOURCES OF INFORMATION

In the process of compiling this report, the following sources of information have been used:

ORDNANCE SURVEY

Digital OS Map

GIA

Site Photography:

Three-dimensional Model

FIND

Aerial Photography dated 2010

Aerial Photography dated 1991

Aerial Photography dated 1999

MSA SURVEY

IR01 Measured Survey Data:

3153-E-13-07-10

3153-F-13-07-10

3153-R-13-07-10

IR02 Measured Survey Data:

3153-E-23-07-10

3153-F-13-07-10 REV-A

3153-R-13-07-10 REV-A

AHMM ARCHITECTS

IR112: 14045_141021_M_Combined Rights of Light Model_with Building E

IR151: 150318_14045_ROL_Building C, W, D&E

4.0 ASSUMPTIONS

1. We have not sought access to any other adjoining properties and thus 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.

2. Measured survey information provided by MSA has been used to understand the base levels and heights of the surrounding buildings and indeed the location and size of those apertures that surround and face the site. This survey was carried out in 2010 and any change to the surrounding environment since the receipt of the survey data will not be captured.

3. Floor levels have been assumed for those adjoining properties. This dictates the level of the working plane which is the point at which rights of light assessments are carried out.

4. We have estimated the uses which are carried out legally within the adjoining properties in terms of whether they are commercial or residential. We have relied upon one or more of the following to help in this; external observation, Local Authority records and a VOA search.

5. Floor levels have been assumed where no access has been gained to the adjoining properties. This dictates the level of the working plane which is relevant for the No Sky assessment.

5.0 THE SITE AND PROPOSALS

The Site is located within the London Borough of Camden and is bounded by the lock and Kentish Town Road. GIA's have included the detailed model from the 2012 consent within planning application reference 2012/4628/P as a part of the baseline. This is illustrated in drawings 2801-152 to 281-154.

GIA's understanding of the scheme proposal is illustrated on drawings 2801-158 to 2801-160 (Appendix 2).

6.0 SURROUNDING PROPERTIES

A technical analysis has been undertaken upon the neighbouring residential properties to understand the quality of daylight and sunlight, both before and after the scheme is implemented, by reference to the criteria within the BRE.

There are 2 residential properties (identified by reference to a VOA search) that surround the Site.

The results of the daylight and sunlight assessments are illustrated within the below tables (Table 01-03):

TABLE 01 – VERTICAL SKY COMPONENT (VSC)

ADDRESS	*PASS*	*20 – 29.9%*	*30 – 39.9%*	*40%+*	*TOTAL*	*% PASS RATE*
53-55 Camden Gardens	5	1	4	3	13	38
47-52 Camden Gardens	7	3			10	70
TOTAL :	***12***	***4***	***4***	***3***	**23**	**52**

TABLE 02 – NO SKY LINE (NSL)

ADDRESS	*PASS*	*20 – 29.9%*	*30 – 39.9%*	*40%+*	*TOTAL*	*% PASS RATE*
53-55 Camden Gardens	**5**			**3**	**8**	**63**
47-52 Camden Gardens	**4**			**2**	**6**	**66**
TOTAL :	**9**	**0**	**0**	**5**	**14**	**64**

TABLE 03 – ANNUAL PROBABLE SUNLIGHT HOURS (APSH)

ADDRESS	*PASS (ROOMS)*	*BRE TRANSGRESSION*	*TOTAL*	*% PASS RATE*
53-55 Camden Gardens	***2***		***2***	***100***
47-52 Camden Gardens	***2***		***2***	***100***
TOTAL :	***4***	***0***	***4***	***100***

The effect of site E on both properties will be discussed in further detail below:

53-55 CAMDEN GARDENS

This property located to the east of the site has been identified as residential in use.

The VSC analysis illustrates that five of the 13 windows will experience BRE compliance. One of the windows would only receive a small transgression above the guidelines of 26% (6% above the suggested criterion of 20%) which would be considered to be of minor significance. The remaining seven windows will experience significant alterations in the VSC, however, when reviewing the retained values these are between 15-21% which is considered to be commensurate with an urban location.

The NSL calculation shows that five of the eight rooms will meet the suggested criteria within the BRE, the remaining three rooms will experience significant alterations to the view of the sky within the room. The rooms are located on the ground floor and the current site is vacant and thus the rooms are experiencing exceptional levels of daylight considering the city location. The low baseline scenario is contributing to the significant change in daylight by reference to the current scheme proposal. Furthermore, two of these rooms are likely to serve ancillary space when considering their location and size.

In sunlight terms this property experiences full BRE compliance.

47-42 CAMDEN GARDENS

This property located to the east of the site has been identified as residential in use.

The VSC analysis illustrates that seven of the 10 windows will experience BRE compliance. Of the three windows that will experience transgressions the changes would be considered to be minor and within the context of the environment (circa 3-6% more than the suggested 20% reduction).

The NSL calculation shows that four of the six rooms will meet the suggested criteria within the BRE, the remaining two rooms will experience significant alteration, however, this could be attributed to the undeveloped site opposite this property enabling an unusual amount of light to be experienced at the working plane. Additionally, when considering the size of the windows serving these rooms, it is likely that this space is ancillary to the habitable spaces.

In sunlight terms this property experiences full BRE compliance.

7.0 DAYLIGHT AND SUNLIGHT SUMMARY

There are a total of 23 windows that serve 14 rooms within the surrounding two residential properties. Following successful implementation of the proposed AHMM scheme for the Site 12 (52%) windows and nine (64%) rooms will achieve BRE compliance.

The sunlight analysis shows that all (100%) of the rooms assessed for APSH, will achieve sunlight compliance.

Given the unusual undeveloped baseline opposite these properties the effect of the proposed development would be considered to be minimal in the majority of instances.

8.0 CONCLUSIONS

GIA have undertaken a detailed technical assessment to understand the light changes that the proposed AHMM will have upon the surrounding residential buildings in daylight and sunlight terms. These assessments have been based on the methodologies and criteria within the 2011 BRE Guidelines.

The resultant effect of the scheme proposal on the daylight and sunlight within the surrounding residential properties is largely minimal with instances of significant changes. Where there are light changes that go beyond the suggested figures within the BRE the undeveloped baseline could be a factor and the retained values of daylight (VSC) are considered to be commensurate with urban locations. The majority of rooms will meet BRE guidelines and the effect of the development is considered to be minor to moderate in terms of daylight and sunlight.

APPENDIX 1

PRINCIPLES OF DAYLIGHT AND SUNLIGHT

PRINCIPLES OF DAYLIGHT AND SUNLIGHT

BACKGROUND

The quality of amenity for buildings and open spaces is increasingly becoming the subject of concern and attention for many interested parties.

Historically the Department of Environment provided guidance of these issues and, in this country, this role has now been taken on by the Building Research Establishment (BRE), the British Standards Institution (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 these areas.

Further emphasis has been placed on these issues through the European Directive that require Environmental Impact Assessments (EIA's) for large projects. Parts of these assessments include the consideration of the micro-climate around and within a proposal. The EIA requires a developer to advise upon, amongst other matters, the quality of and impact to daylight, sunlight, overshadowing, solar glare and light pollution.

It is also clear, particularly through either adopted or emerging Unitary Development Plans (UDP's), that local Authorities take this matter far more seriously than they previously did. There are many instances of planning applications being refused due to impact on daylight and sunlight to neighbouring properties and proportionately more of these refusals are appealed by applicants.

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'. Local Authorities vary in their attitude of how flexible they can be with worsening the impact on the amenity enjoyed by neighbouring owners. In city centres, where there is high density, it can be the subject of hot debate as to whether further loss of amenity is material or not. There are many factors that need to be taken into account and therefore each case has to be considered on its own merits. Clearly, though, there are governing principles which direct and inform on the approach that is taken.

These principles are effectively embodied within the UDP's and the guidance they expressly rely upon. For example, in central London, practically all of the Local Authorities expressly state they will not permit or encourage developments which create a material impact to neighbouring buildings or amenity areas. Often the basis on what is constituted as 'material' will be derived specifically from the BRE Guidelines. The guidelines were produced in 1991, as a direct commission from the Department of the Environment, and entitled 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice'. In October 2011, the BRE Guidelines were updated and the revised edition states the 2011 BRE "… supersedes the 1991 edition which is now withdrawn".

These guidelines are normally recognised as being the main source for which amenity issues can be considered. The document is used by the majority of local Authorities (adopted within the policy) and consequently they are referred to extensively by designers, consultants and planners. Whilst they are expressly not mandatory and state that they should not be used as an instrument of planning policy, they are heavily relied upon as they advise on the approach, methodology evaluation of impact in daylight and sunlight matters – a key consideration through the planning policy.

THE BRE GUIDELINES

The BRE give criteria and methods for calculating daylight, and sunlight as well as overshadowing and through each approach define what they consider as a material impact. As these different methods of calculation vary in their depth of analysis, it is often arguable as to whether the BRE definition of 'material' is applicable in all locations and furthermore if it holds under the different methods of calculation.

As the majority of the controversial daylight and sunlight issues occur within city centres these explanatory notes focus on the relevant criteria and parts of the Handbook which are applicable in such locations.

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 a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings".*

Again, the third paragraph of Chapter 2.2 (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'.*

The reason for including these statements in the Report is to appreciate that when quoting the criteria suggested by the BRE, they should not necessarily be considered as appropriate. However, rather than suggest alternative values, consultants in this field often remind local Authorities that this approach is supportable and thus flexibility applied.

MEASUREMENT AND CRITERIA FOR DAYLIGHT & SUNLIGHT

The BRE handbook provides two main methods of measurement for calculating daylight which we use for the assessment in our Reports. In addition, in conjunction with the BSI and CIBSE it provides a further method in Appendix C of the Handbook. In relation to sunlight only one method is offered for calculating sunlight availability for buildings. There is an overshadowing test offered in connection with open spaces.

DAYLIGHT

In the first instance, if a proposed development falls beneath a 25° angle taken from a point two metres above ground level, then the BRE say that no further analysis is required as there will be adequate skylight (i.e. sky visibility) availability.

The two methods for calculating daylight to existing surrounding residential properties are as follows:

- Vertical Sky Component (VSC) and
- No Sky Contours (NSC)

The main method for calculating daylight to proposed residential properties is:

- Average Daylight Factor (ADF)

Each is briefly described below.

(a) Vertical Sky Component

Methodology

This is defined in the Handbook 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."*

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

The ratio referred to in the above definition is the percentage of the total unobstructed view that is available, once obstructions, in the form of buildings (trees are excluded) are placed in front of the point of view. The view is always taken from the centre of the outward face of a window.

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. Alternatively a further method of measuring the vertical sky component, 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. Effectively a snap shot is taken from that point of the sky in front of the window, together with all the relevant obstructions to it, i.e. the buildings.

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.

The diagram comes on an A4 sheet (landscape) and this sheet represents the unobstructed sky, which in one direction equates to a vertical sky component of 39.6%. The obstructions in front of a point of reference are then plotted onto the diagram and the resultant area remaining is proportional to the vertical sky component from that point.

Criteria

The BRE Handbook provides criteria for:

(a) New Development
(b) Existing Buildings

A summary of the criteria for each of these elements is given and these are repeated below:-

New Development

Summary

In general, a building will retain the potential for good interior diffuse daylighting provided that on all its main faces:-

(a) no obstruction, measured in a vertical section perpendicular to the main face, from a point 2m above ground level, subtends an angle of more than 25 degrees to the horizontal;

(b) If (a) is not satisfied, then all points on the main face on a line 2m above ground level are within 4m (measured sideways) of a point which has a vertical sky component of 27% or more.

Existing Buildings

Summary

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 either:

(a) 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;

or

(b) 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.

The VSC calculation has, like the other two methods, both advantages and disadvantages. In fact they are tied together. It is a quick simple test which looks to give an early indication of the potential for light. However, 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.

(b) No Sky Contours

This is the part (b) of the alternative method of analysis which is given under the Vertical Sky Component heading in this Appendix. 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 adversely affect daylight. It is however, very dependent upon knowing the actual room layouts or having a reasonable understanding of the likely layouts. The contours are also known as daylight distribution contours. They 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 quantative or qualitative assessment of the light in the rooms, only where sky can or cannot be seen.

(c) Average Daylight Factor

This is defined in Appendix H of the BRE Document as:

"*Ratio of total daylight flux incident on the working plane, expressed as a percentage of the outdoor illuminance on a horizontal plane due to an unobstructed CIE Standard Overcast Sky.*"

This factor considers interior daylighting to a room and therefore is a more accurate indication of available light in a given room, if details of the room size and use are available.

Criteria

The British Standard, BS8206 Part II gives the following recommendations for the average daylight factor (ADF) in dwellings.

The BRE Handbook provides the formula for calculating the average daylight factor. If the necessary information can be obtained to use the formula then this criteria would be more useful.

Room	**Percentage**
Kitchen	2%
Living Rooms	1.5%
Bedrooms	1%

It is sometimes questioned whether the use of the ADF is valid when assessing the impact on neighbouring buildings. Firstly, it is often the case that room layouts and uses may not have been established with certainty. Additionally this method is not cited in the main body of text in the BRE Guidelines but only in Appendix C of that document. It is however, the principal method used by both the British Standard and CIBSE in their detailed daylight publications with which the BRE guide recommends that it should be read.

The counter-argument to this view is that whilst room uses and layouts may be not definitely established, reasonable assumptions can easily be made to give sufficient understanding of the likely quality of light. Building types and layouts for certain buildings, particularly residential, are often similar. In these circumstances reasonable conclusions can be drawn as to whether a particular room will have sufficient light against the British Standards. In addition, the final result is less sensitive to changes in the room layout than the No Sky Contour method as it is an average and this element represents only one of the input factors. It is in cases where rooms sizes have been assumed a more reliable indicator than the No Sky Line method.

Clearly if a room which is being designed for a new development is deemed to have sufficient light against the British Standards, then it should equally follow for a room assessed in a neighbouring existing building.

The average daylight factor considers the light within the room behind the fenestration which serves it. The latter is therefore likely to be more accurate because it takes into account the following:-

a) All the windows serving the room in question.

b) The room use.

c) The size and layout of the room.

d) The finishes of the room surfaces.

SUMMARY

The VSC (which forms part of the ADF formula) is helpful as an initial first guide, especially where access to the rooms in question is not available. Where the room layouts and uses are established or can be reasonably estimated we consider it appropriate to analyse the average daylight factor as well as the vertical sky component.

SUNLIGHT

(a) Annual Probable Sunlight Hours (APSH) method

Sunlight is measured in the Handbook in a similar manner to the first method given for measuring the VSC. A separate indicator is used which contains 100 spots, each representing 1% of annual probable sunlight hours.

The BRE calculated that where no obstructions exist, the total annual probable sunlight hours would amount to 1486. Therefore, each dot on the indicator equates to 14.86 hours of the total annual probable sunlight. Again, to use this indicator the obstructions need to be scaled down and overlaid onto the sunlight indicator.

Those spots which remain uncovered by the scaled obstructions are counted and this gives the percentage of total annual probable sunlight hours for that particular reference point. Again, like the VSC, the reference point is taken to be the centre of the window.

Criteria

Again, the BRE Handbook gives criteria for:

(a) New Development

(b) Existing Buildings

A summary is given in the Handbook on page 16 and this is as follows:-

New Development

Summary

'In general, a dwelling or non-domestic building which has a particular requirement for sunlight, will appear reasonably sunlit provided';-

(a) at least one main window wall faces within 90 degrees of due south; and

(b) the centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March.

Existing Buildings

Summary (page 17)

> *'If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if a point at the centre of the window;*
>
> - *receives less than 25% of annual probable sunlight hours , or less than 5% of annual probable sunlight hours between 21 September and 21 March;*
> - *receives less than 0.8 times its former sunlight hours during either period; and*
> - *has a reduction in sunlight received over the whole year greater than 4% annual probable sunlight hours.*

It will be noted that the BRE clearly separates summer from winter and indicates that a 20% reduction for either may be material. The Handbook also states that- *"To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings and conservatories, should be checked if they have a window facing within 90º of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun... A point at the centre of each window on the outside face of the window wall may be taken".*

(b) Area of Permanent Shadow- Sun Hours on Ground

The 2011 BRE Handbook, 'Site Layout Planning for Daylight and Sunlight' (Second edition) also provides criteria for open spaces where sunlight will be required, including; gardens, parks, children's playgrounds, public squares etc.

The BRE Guidance acknowledges that sunlight in the space between buildings has an important effect on the overall appearance and ambience of a development. The worst situation is to have significant areas on which the sun only shines for a limited part of the year.

In summary the BRE document states the following:-

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

In relation to general overshadowing we often provide, where appropriate, an hourly record for existing and proposed situations, the effect of overshadowing on December 21st, March 21st and June 21st.

For open spaces the sun hours on ground criteria is naturally adopted but this offers limited understanding of how a space will feel or appear generally.

CITY CENTRES

The introduction of the BRE document gives the example of *'historic city centres'* being a case where there is the need for flexibility and altering the target values for criteria when appropriate, to reflect other site and layout constraints.

To explain why it is appropriate to alter these values, one needs to go further into the BRE Handbook to examine how the criteria for the vertical sky component criteria was determined and the reason therefore for varying the criteria in City Centres.

Appendix F of the document is dedicated to the use of alternative values and, it also demonstrates the manner in which the criteria for skylight was determined for the Summary given above, i.e. the need for 27% vertical sky component for adequate daylighting.

This figure of 27% was achieved in the following manner:

A theoretical road was created with two storey terraced houses upon either side, approximately twelve metres apart. The houses have windows at ground and first floor level, and a pitched roof with a central ridge.

Thereafter, a reference point was taken at the centre of a ground floor window of one of the properties and a line was drawn from this point to the central ridge of the property on the other side of the road. The angle of this line equated to 25 degrees (the 25 degrees referred to in the summaries given with reference to the criteria for skylight).

This 25 degrees line obstructs 13% of the totally unobstructed sky available, leaving a resultant figure of 27% which is deemed to give adequate daylighting. This figure of 27% is the recommended criteria referred to earlier in this report. It will be readily appreciated that in a City Centre, this kind of urban form is unlikely and is impractical. It would therefore be inappropriate to consider values for two storey terraced housing in a City Centre.

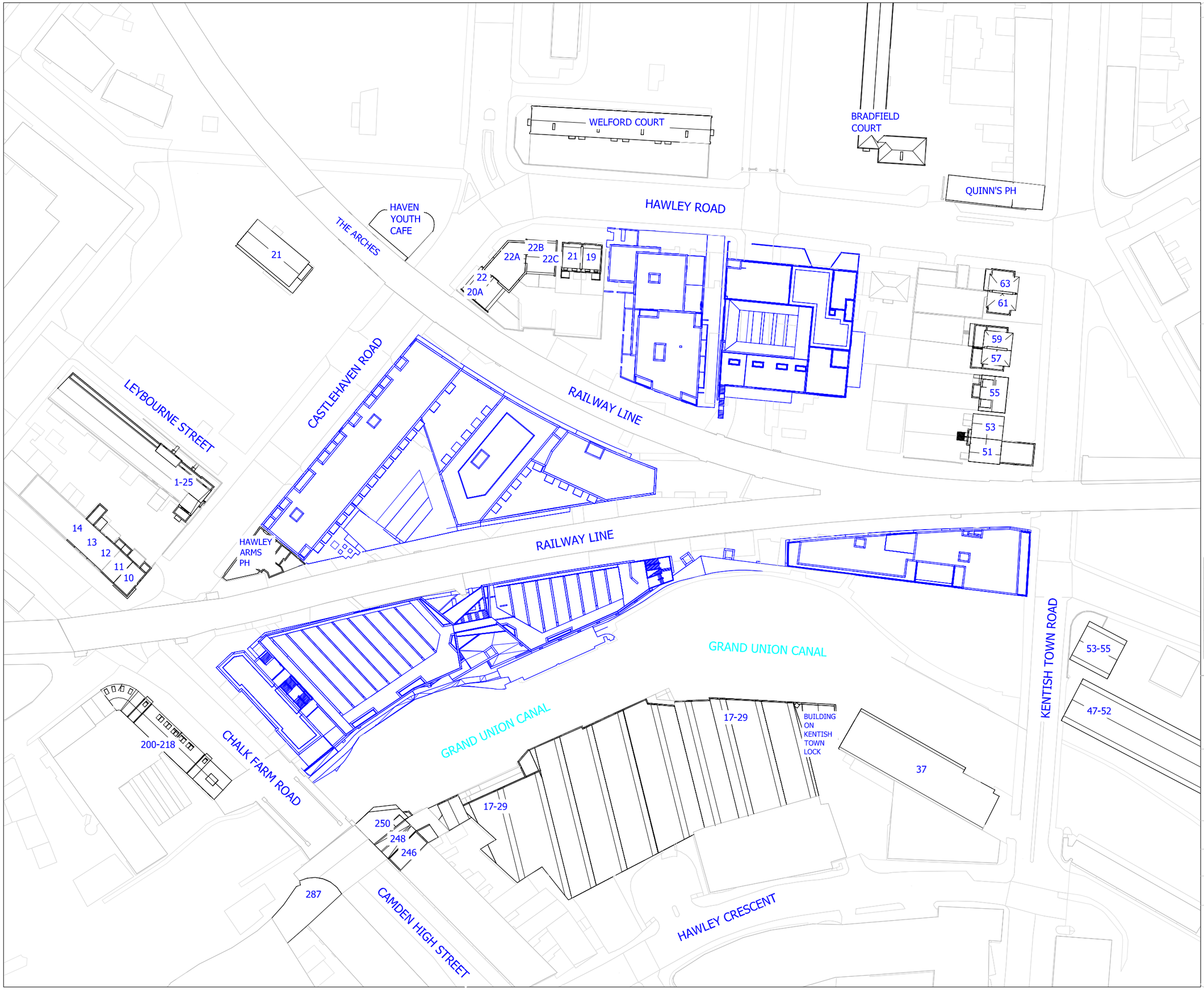
It is therefore sometimes necessary to apply different target criteria or at least acknowledge that the recommendations in the BRE cannot be achieved.

In addition, it is often the case that residential buildings within city centres are served by balconies. Balconies restrict lighting levels even more and thus if they were to be rigidly taken into account, a neighbouring proposal would be artificially and inappropriately constrained. This view is supported by the BRE and is equally another reason for flexible and sensible interpretation of the guidelines.

APPENDIX 2

CONSENTED AND PROPOSED DRAWINGS

CONSENTED



Sources of Information

MSA
IR1-2801
IR4-2801

AHMM
IR112-211014-AHMM
14045_141021_M_Combined Rights of Light Model.dwg
14045_141021_M_Combined Rights of Light Model_with additional height study to C and W.dwg
14045_141021_M_Combined Rights of Light Model_with Building E.dwg

Notes

N.B. DO NOT SCALE OFF THIS DRAWING
PROPOSED SCHEME SHOWN IN BLUE

Rev	Date	Description	Initials
A		Initial Issue	

Project

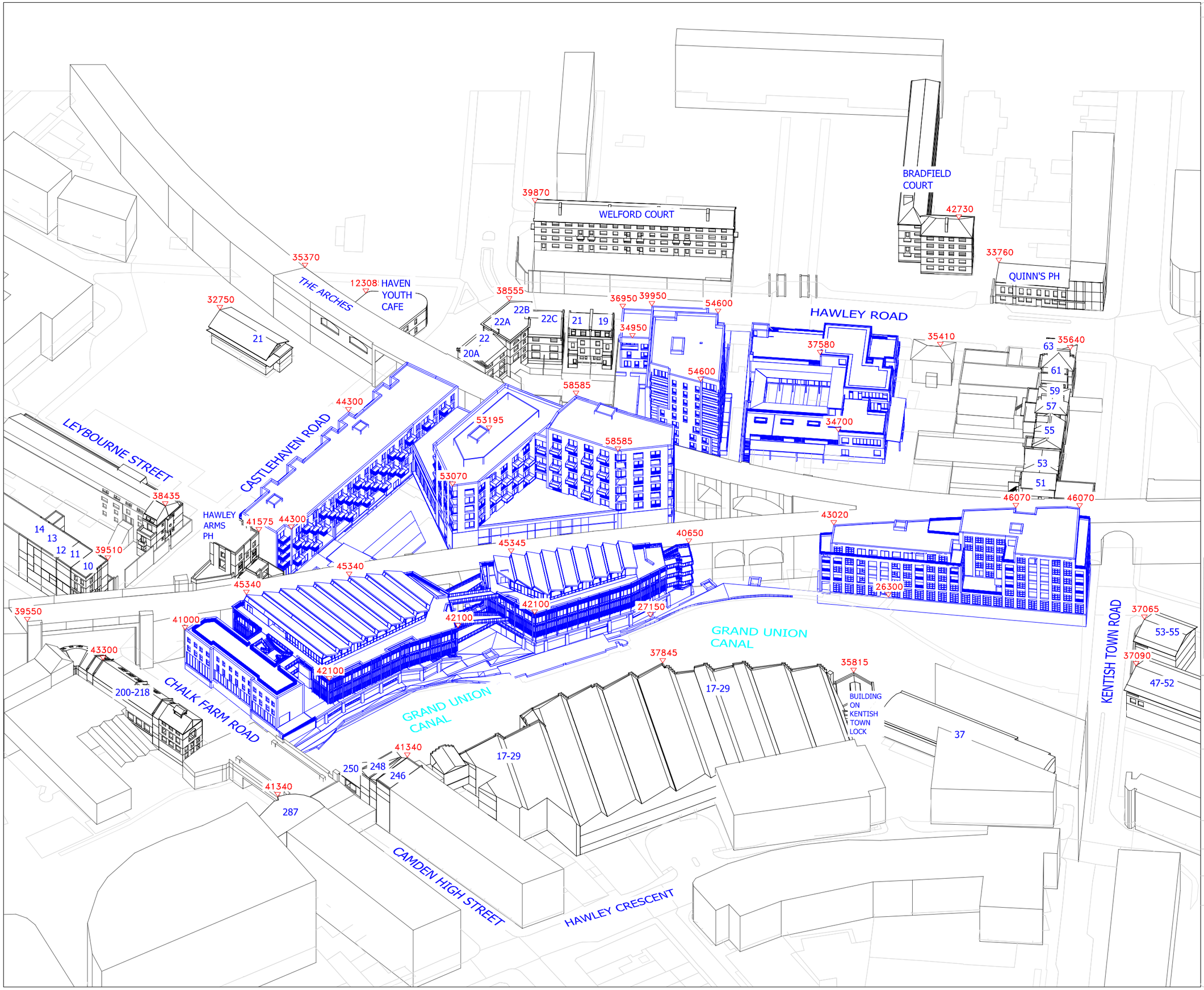
CAMDEN LOCK VILLAGE
LONDON
NW1

Title

PLAN VIEW
PROPOSED SCHEME
IR112 - RECEIVED 21.10.14

Scale: 1:1000
Date: 18.11.14
Drawn: BD
Checked:
Drawing No.: 2801-152
Rel No.: 30
Revision: A

gia
The Whitehouse
Belvedere Road
London SE1 8GA
t 020 7202 1400
f 020 7202 1401
mail@gia.uk.com
www.gia.uk.com



Sources of Information

MSA
IR1-2801
IR4-2801

AHMM
IR112-211014-AHMM
14045_141021_M_Combined Rights of Light Model.dwg
14045_141021_M_Combined Rights of Light Model_with additional height study to C and W.dwg
14045_141021_M_Combined Rights of Light Model_with Building E.dwg

Notes

N.B. DO NOT SCALE OFF THIS DRAWING
PROPOSED SCHEME SHOWN IN BLUE

Rev	Date	Description	Initials
A		Initial Issue	

Project

CAMDEN LOCK VILLAGE
LONDON
NW1

Title

3D VIEW
PROPOSED SCHEME
IR112 - RECEIVED 21.10.14

Scale: NTS
Date: 18.11.14
Drawn: BD
Checked:
Drawing No.: 2801-153
Rel No.: 30
Revision: A

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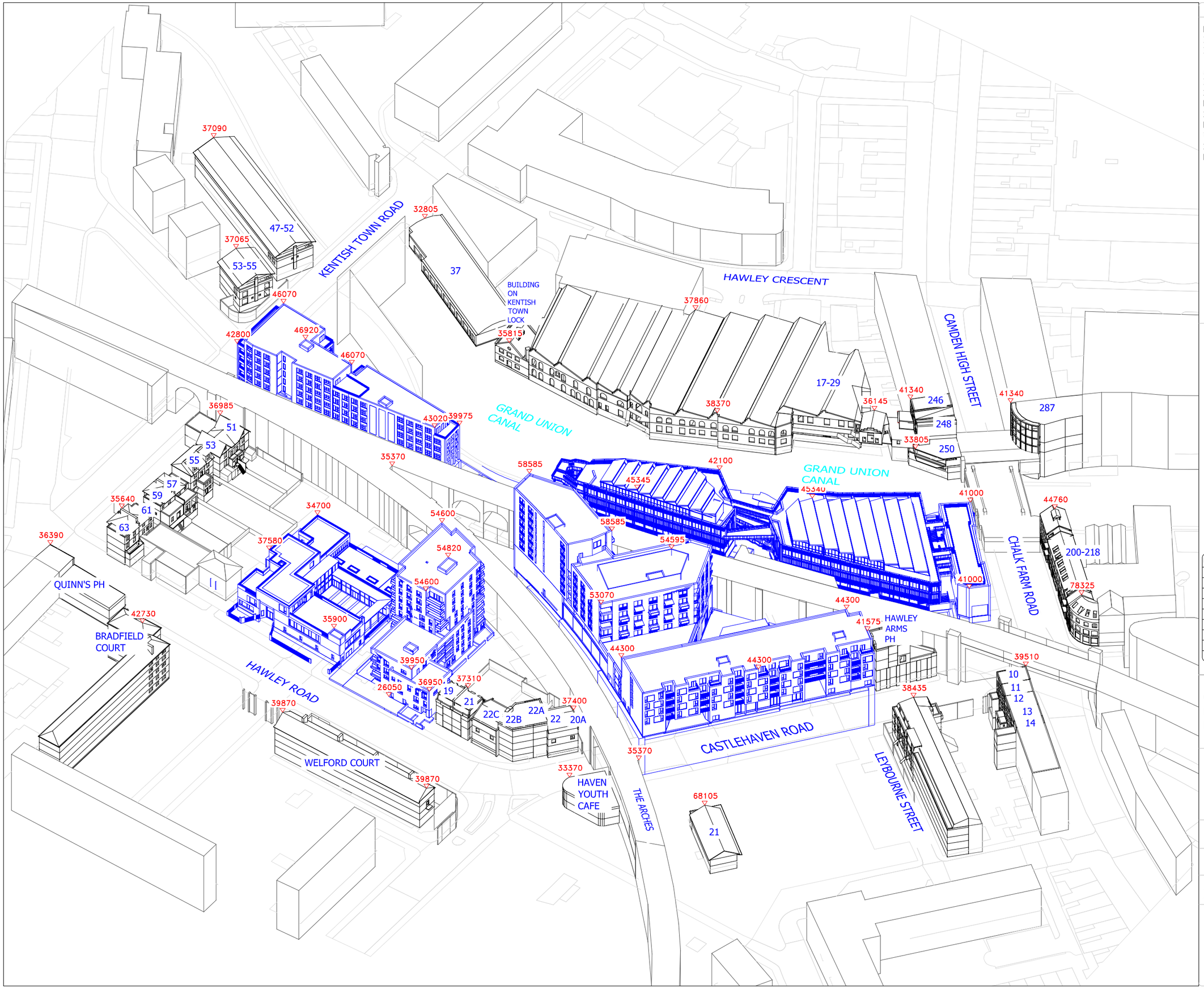

Sources of Information

MSA
IR1-2801
IR4-2801

AHMM
IR112-211014-AHMM
14045_141021_M_Combined Rights of Light Model.dwg
14045_141021_M_Combined Rights of Light Model_with additional height study to C and W.dwg
14045_141021_M_Combined Rights of Light Model_with Building E.dwg

Notes

N.B. DO NOT SCALE OFF THIS DRAWING
PROPOSED SCHEME SHOWN IN BLUE

Rev	Date	Description	Initials
A		Initial Issue	

Project

CAMDEN LOCK VILLAGE
LONDON
NW1

Title

3D VIEW
PROPOSED SCHEME
IR112 - RECEIVED 21.10.14

Scale	Date
NTS	18.11.14
Drawn	Checked
BD	
Drawing No.	Rel No. / Revision
2801-154	30 / A

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PROPOSED

WELFORD COURT
BRADFIELD COURT
QUINN'S PH
HAWLEY ROAD
HAVEN YOUTH CAFE
THE ARCHES
21
22B
22A
22C
21
19
22
20A
63
61
59
57
55
53
51
CASTLEHAVEN ROAD
RAILWAY LINE
LEYBOURNE STREET
1-25
14
13
12
11
10
HAWLEY ARMS PH
RAILWAY LINE
GRAND UNION CANAL
KENTISH TOWN ROAD
53-55
47-52
GRAND UNION CANAL
17-29
BUILDING ON KENTISH TOWN LOCK
37
200-218
CHALK FARM ROAD
17-29
250
248
246
287
CAMDEN HIGH STREET
HAWLEY CRESCENT

Sources of Information

SITE SURVEY AND PHOTOS

IR1-2801 - MSA
Photos

IR4-2801 - MSA
3153-E-23-07-10.dwg, 3153-F-13-07-10 REV-A.dwg, 3153-R-13-07-10 REV-A.dwg

PROPOSED SCHEMES

IR122-091214-AHMM
14045_141209_A, C, D, E and W Buildings_Current massing+additional height_GIA.dwg

IR151-180315-AHMM
150318_14045_ROL_Building C,W,D&E.dwg

Notes

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Rev	Date	Description	Initials
A		Initial Issue	

Project

CAMDEN LOCK VILLAGE
LONDON
NW1

Title

PLAN VIEW
PROPOSED SCHEME IR151
RECEIVED 18.03.15

Scale	Date
1:1000	MAR.14
Drawn	Checked
BSP	
Drawing No.	Rel No. / Revision
2801-216	32 / A

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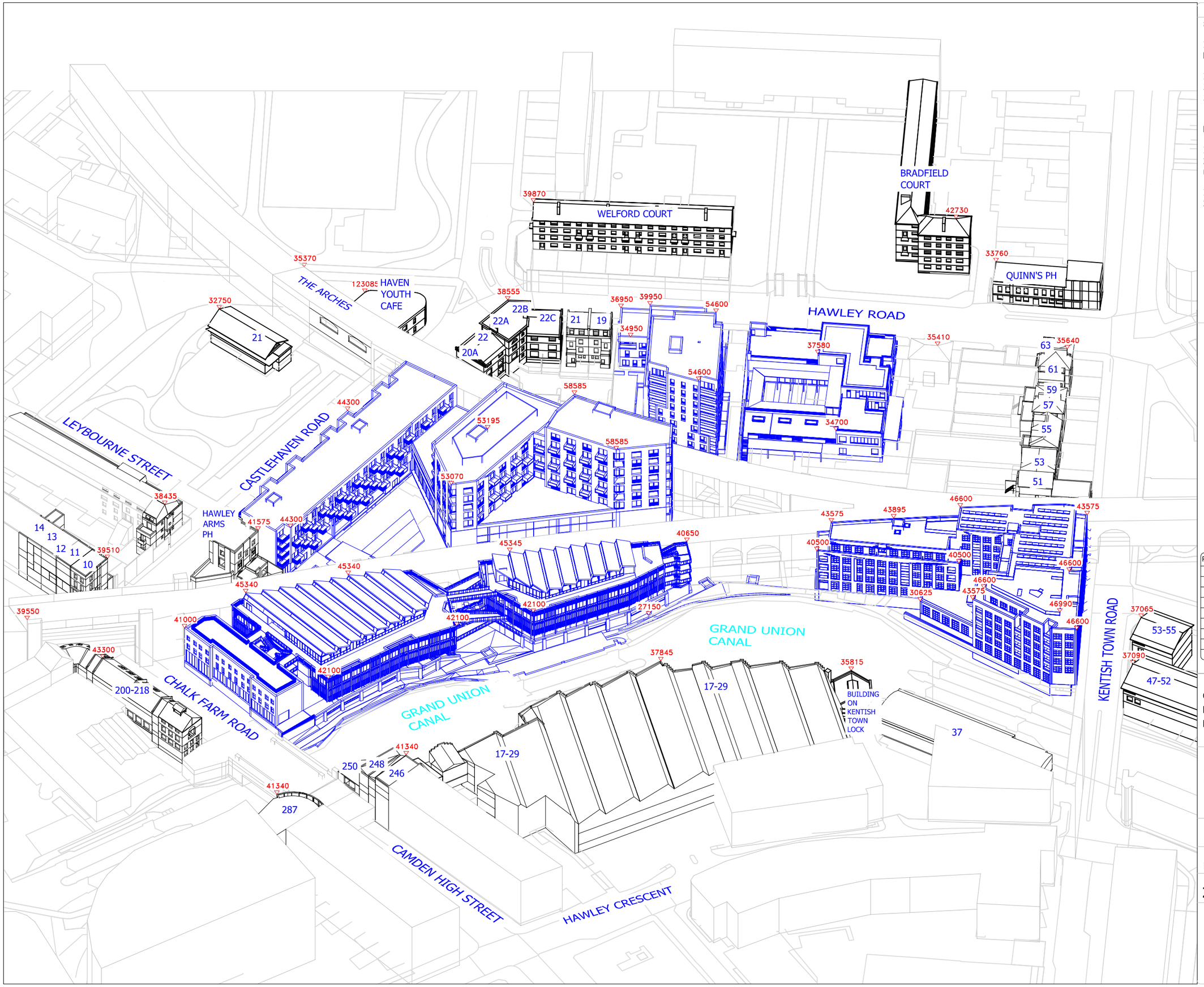

Sources of Information

SITE SURVEY AND PHOTOS

IR1-2801 - MSA
Photos

IR4-2801 - MSA
3153-E-23-07-10.dwg, 3153-F-13-07-10 REV-A.dwg, 3153-R-13-07-10 REV-A.dwg

PROPOSED SCHEMES

IR122-091214-AHMM
14045_141209_A, C, D, E and W Buildings_Current massing+additional height_GIA.dwg

IR151-180315-AHMM
150318_14045_ROL_Building C,W,D&E.dwg

Notes

N.B. DO NOT SCALE OFF THIS DRAWING
PROPOSED SCHEME SHOWN IN BLUE

Rev	Date	Description	Initials
A		Initial Issue	

Project

CAMDEN LOCK VILLAGE
LONDON
NW1

Title

3D VIEW 01
PROPOSED SCHEME IR151
RECEIVED 18.03.15

Scale	Date
NTS	MAR.14
Drawn	Checked
BSP	

Drawing No.	Rel No.	Revision
2801-217	32	A

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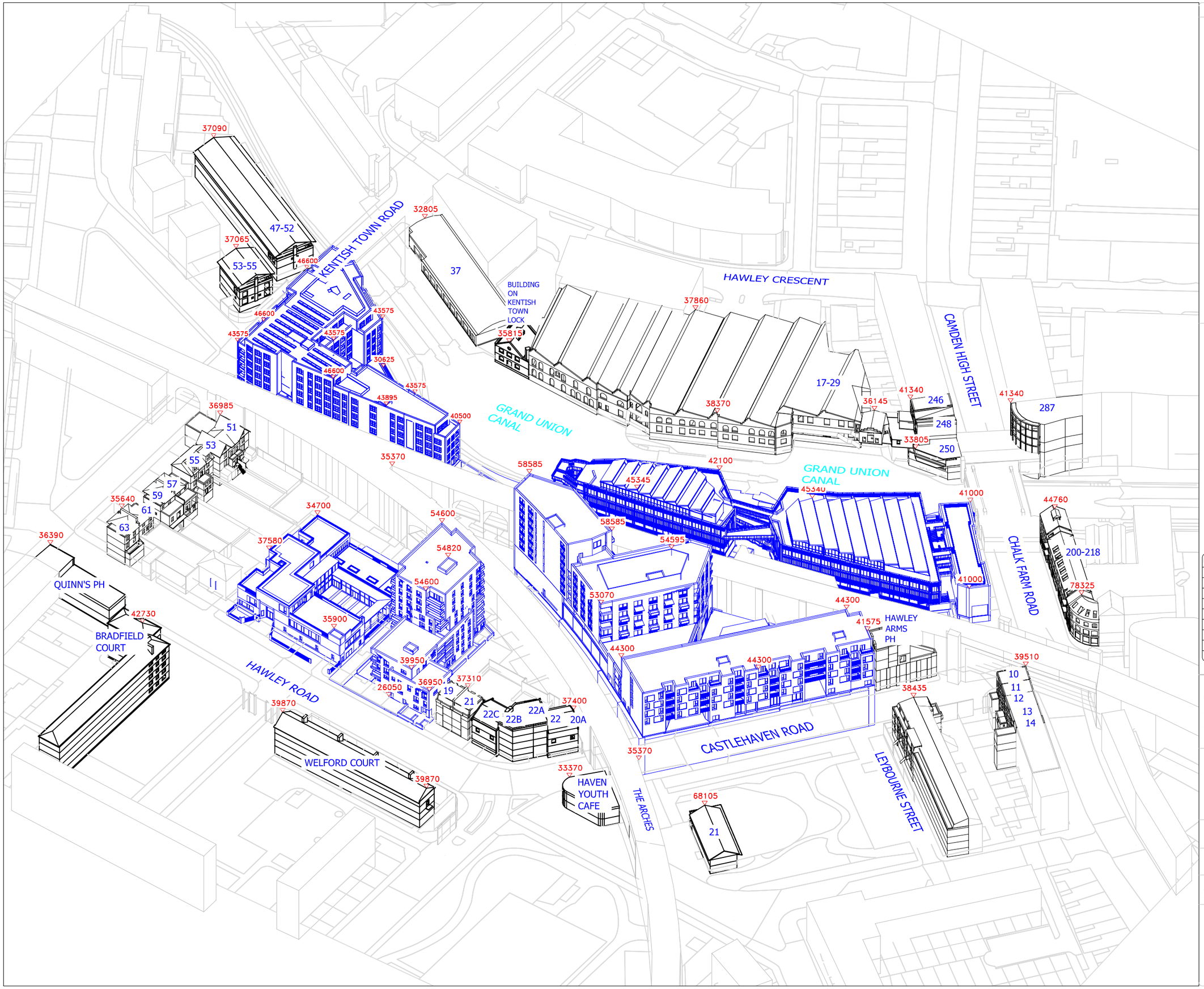

Sources of Information

SITE SURVEY AND PHOTOS

IR1-2801 - MSA
Photos

IR4-2801 - MSA
3153-E-23-07-10.dwg, 3153-F-13-07-10 REV-A.dwg, 3153-R-13-07-10 REV-A.dwg

PROPOSED SCHEMES

IR122-091214-AHMM
14045_141209_A, C, D, E and W Buildings_Current massing+additional height_GIA.dwg

IR151-180315-AHMM
150318_14045_ROL_Building C,W,D&E.dwg

Notes

N.B. DO NOT SCALE OFF THIS DRAWING
PROPOSED SCHEME SHOWN IN BLUE

Rev	Date	Description	Initials
A		Initial Issue	

Project

CAMDEN LOCK VILLAGE
LONDON
NW1

Title

3D VIEW 02
PROPOSED SCHEME IR151
RECEIVED 18.03.15

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APPENDIX 3

DAYLIGHT AND SUNLIGHT TABLES OF RESULTS

VERTICAL SKY COMPONENT (VSC)

DAYLIGHT ANALYSIS

Vertical Sky Component						
Room	**Window**	**Room Use**	**Existing**	**Proposed**	**Loss**	**%**
CAMDEN GARDENS, 53-55						
R1/2400	**W1/2400**		34.06	34.04	0.02	0.06
R1/2400	**W2/2400**		28.48	18.23	10.25	35.99
R2/2400	**W3/2400**		28.64	17.28	11.36	39.66
R3/2400	**W4/2400**		28.92	16.50	12.42	42.95
R4/2400	**W5/2400**		28.49	15.76	12.73	44.68
R1/2401	**W3/2401**		31.17	18.24	12.93	41.48
R1/2401	**W4/2401**		29.32	24.15	5.17	17.63
R2/2401	**W1/2401**		35.06	35.06	0.00	0.00
R2/2401	**W2/2401**		30.51	21.01	9.50	31.14
R1/2402	**W3/2402**		32.52	21.26	11.26	34.62
R1/2402	**W4/2402**		20.80	17.14	3.66	17.60
R2/2402	**W1/2402**		22.31	22.31	0.00	0.00
R2/2402	**W2/2402**		32.22	23.61	8.61	26.72
CAMDEN GARDENS, 47-52						
R1/2500	**W1/2500**		19.60	19.33	0.27	1.38
R1/2500	**W2/2500**		15.86	15.53	0.33	2.08
R2/2500	**W3/2500**		31.57	23.26	8.31	26.32
R3/2500	**W4/2500**		32.17	24.17	8.00	24.87
R4/2500	**W5/2500**		34.45	34.44	0.01	0.03
R4/2500	**W6/2500**		34.24	34.23	0.01	0.03

DAYLIGHT ANALYSIS

Vertical Sky Component						
Room	Window	Room Use	Existing	Proposed	Loss	%
R1/2501	W1/2501		14.05	13.95	0.10	0.71
R1/2501	W2/2501		33.57	25.74	7.83	23.32
R2/2501	W3/2501		34.41	27.80	6.61	19.21
R2/2501	W4/2501		21.03	21.02	0.01	0.05

No Sky Line (NSL)

Consented 211014 IR112 Vs Proposed 180315 IR151 Proposed 180315 IR151 with new D and E blocks

DAYLIGHT DISTRIBUTION ANALYSIS

Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
CAMDEN GARDENS, 53-55						
R1/2400		137.9	137.5	123.3	14.2	10.3
R2/2400		63.0	40.5	17.9	22.6	55.8
R3/2400		63.0	48.3	12.0	36.3	75.2
R4/2400		138.3	130.0	54.5	75.5	58.1
R1/2401		232.5	226.4	219.7	6.7	3.0
R2/2401		232.0	230.5	228.5	2.1	0.9
R1/2402		232.5	230.7	230.5	0.2	0.1
R2/2402		232.0	229.9	227.6	2.4	1.0
CAMDEN GARDENS, 47-52						
R1/2500		189.9	175.3	175.3	0.0	0.0
R2/2500		64.6	57.8	32.3	25.5	44.1
R3/2500		64.6	57.7	29.0	28.7	49.7
R4/2500		191.0	186.9	186.9	0.0	0.0
R1/2501		258.5	258.5	258.5	0.0	0.0
R2/2501		259.5	257.2	257.1	0.0	0.0

ANNUAL PROBABLE SUNLIGHT HOURS (APSH)

Consented 211014 IR112 Vs Proposed 180315 IR151 Proposed 180315 IR151 with new D and E blocks

SUNLIGHT ANALYSIS

			Window						Room					
			Existing		Proposed				Existing		Proposed			
Room	Window	Room Use	Winter APSH	Annual APSH	Winter APSH	Annual APSH	Winter %Loss	Annual %Loss	Winter APSH	Annual APSH	Winter APSH	Annual APSH	Winter %Loss	Annual %Loss
CAMDEN GARDENS, 53-55														
R1/2401	**W3/2401**		6	31	4	14	33.3	54.8						
R1/2401	**W4/2401**		14	62	12	46	14.3	25.8	14	62	12	46	14.3	25.8
R1/2402	**W3/2402**		7	30	5	14	28.6	53.3						
R1/2402	**W4/2402**		24	41	22	31	8.3	24.4	24	50	22	36	8.3	28.0
CAMDEN GARDENS, 47-52														
R4/2500	**W5/2500**		25	72	25	72	0.0	0.0						
R4/2500	**W6/2500**		25	72	25	72	0.0	0.0	25	72	25	72	0.0	0.0
R2/2501	**W3/2501**		7	30	7	30	0.0	0.0						
R2/2501	**W4/2501**		24	39	24	39	0.0	0.0	25	50	25	50	0.0	0.0

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