

Daylight and Sunlight Report for the Proposed Development at 7 St Pancras Way, London NW1 0PB

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1. Executive Summary

1.1 Scope

- 1.1.1 We have been instructed by Wells Mackereth Architects to determine the impact upon the daylight and sunlight amenity of the existing surrounding buildings which may arise from the proposed development at 7 St Pancras Way, London NW1 0PB. We have also undertaken internal daylight and sunlight tests to determine whether the residential elements of the proposed development will receive sufficient daylight and sunlight.

1.2 Assessment Criteria

- 1.2.1 To ensure that this assessment can be appropriately evaluated against London Borough of Camden's (LBC) planning policy, daylight and sunlight calculations have been undertaken in accordance with the Building Research Establishment Report 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' 2nd Edition, 2011 (the "BRE guide") and also British Standard 8206 – 2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting', to which the BRE guide refers. The standards and tests applied within this assessment are briefly described in Appendix A.

1.3 Historic Existing Building

- 1.3.1 The findings of this Report have considered the fact that the proposals are on a dense urban site surrounded by larger buildings with recent extensions which have been built close to the common boundary. It is also relevant that the site is of some historic significance and the resultant design proposals have evolved in close consultation with LBC Design and Heritage officers to address the need to be sensitive to the existing historic building. Therefore, strict application of the BRE recommendations would not be appropriate in this case and a degree of flexibility has been incorporated, as recommended within the BRE guide.

1.4 Summary of Effect of Proposed Development on Existing Surrounding Buildings

Daylight & Sunlight

- 1.4.1 The daylight (VSC and DD) and sunlight (APSH) results show that in the majority of instances the proposals accord with the recommendations of the BRE guide.
- 1.4.2 A small number of minor transgressions are noted, however, in each case, material mitigating factors are found which result in the proposals being in full accordance with the guide.

1.5 Summary of Analysis of Daylight, Sunlight and Overshadowing for the New Development

Internal Daylight

- 1.5.1 The results indicate that the majority of the rooms tested in the proposed development will meet the ADF target criteria as defined by the BRE guidance. In most cases, the ADF results are several times higher than the target values which suggests that the rooms will be very well lit.

Internal Sunlight

- 1.5.2 Of the 11 rooms tested 9 meet the BRE's target for sunlight by receiving a reasonable amount of sunlight. Furthermore, in the two units in question, each has at least one main room which meets this recommendation. We therefore conclude that the proposals comfortably meet the BRE's sunlight recommendations.

Overshadowing

- 1.5.3 Two assessments have been undertaken to determine the area of the courtyard receiving sunlight on 21 March and 21 June. The summer shadow result indicates that the courtyard will be well sunlit during the summer months when it is most likely to be utilised.

1.6 Overall

- 1.6.1 The numeric results confirm that in overall terms the proposed development accords with the recommendations of the BRE guide. Where results occur which fall outside the BRE targets, there are material mitigating factors to consider, which, when taken into account, lead us to conclude that the proposals are fully compliant with the BRE guide.
- 1.6.2 The proposals therefore do not cause harm to the daylight and sunlight amenity of neighbouring owners and will provide good quality light amenity to future occupiers. They therefore accord with LB Camden's planning policy objectives in relation to natural light amenity.

2. Introduction

2.1 Scope

- 2.1.1 We have been instructed by Wells Mackereth Architects to determine the impact upon the daylight and sunlight amenity that may arise from the proposed development of 7 St Pancras Way, London NW1 0PB in respect of the existing surrounding buildings. We have also undertaken internal daylight and sunlight tests and an overshadowing assessment to determine whether the proposed development will receive sufficient daylight and sunlight.

2.2 Historic Existing Building

- 2.2.1 When considering the findings of this Report it is important to consider that the proposals being tested are on a dense urban site surrounded by larger buildings with recent extensions, which have been built close to the common boundary. It is also relevant that the site is of some historic significance and the resultant design proposals have evolved in close consultation with LBC Design and Heritage officers to address the need to be sensitive to the existing historic building.
- 2.2.2 Therefore, strict application of the BRE recommendations would not be appropriate in this case and a degree of flexibility should be incorporated when evaluating the numeric results. This approach is acknowledged in the BRE guide which states in its introduction that:

'The Guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design..... In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.....'

2.3 Planning Policy

- 2.3.1 LBC's Development Policies 2010 – 2025, contained in its Local Development Framework (LDF), contains the following policy guidance under DP26, Managing the impact of development on occupiers and neighbours:

'Promoting and protecting high standards of amenity is a key element ...and will be a major consideration when the Council assesses development proposals. Core Strategy policies CS5 – *Managing the impact of growth and development* and CS14 – *Promoting high quality places and conserving our heritage* set out our overall approach to protecting the amenity of Camden's residents, workers and visitors, a major factor in people's quality of life. Policy DP26 contributes to the implementation of the Core Strategy by making sure that the impact of a development on occupiers and neighbours is fully considered.

DP26 goes on to state that:

The Council will protect the quality of life of occupiers and neighbours by only granting permission for development that does not cause harm to amenity.

The factors the Council will consider which are relevant to this assessment are;

1. Overshadowing
2. Sunlight and daylight

2.3.2 In assessing the impact on amenity of occupiers and neighbours, Camden will take account of the standards recommended in Building Research Establishment (BRE) guide, Site layout planning for daylight and sunlight; a guide to good practice.

2.3.3 Camden also produce a supplementary planning guidance document, CPG6 Amenity, which details the required tests and the approach to assessing impacts on amenity. The guidance contained therein also follows closely a number of the recommendations of the BRE guide.

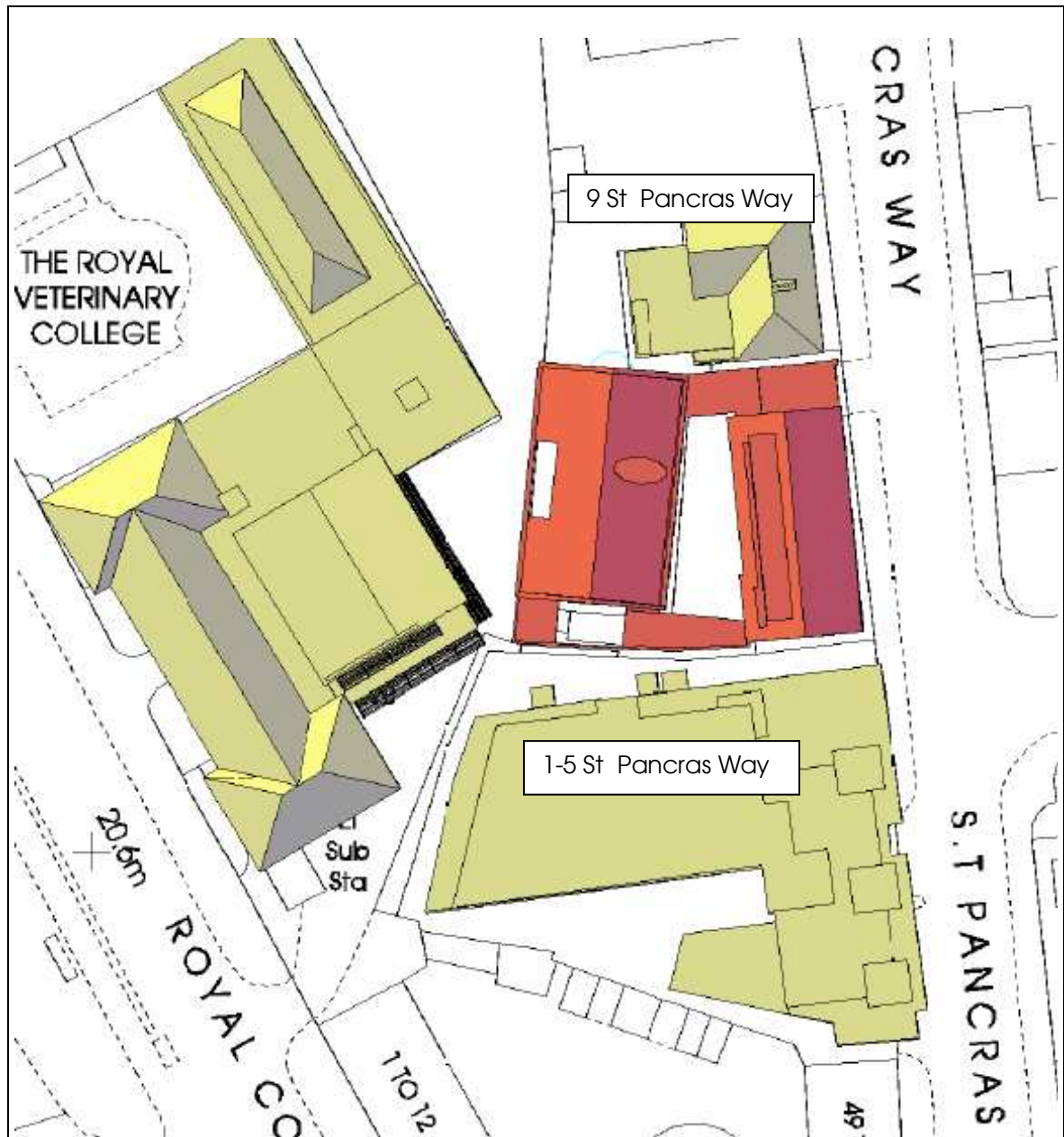
2.4 Assessment Criteria

2.4.1 To ensure that this assessment can be appropriately evaluated against LBC's planning policies, daylight and sunlight calculations have been undertaken in accordance with the 'BRE guide' and also on BS8206-2: 2008 to which the BRE guide refers. The standards and tests applied are briefly described in Appendix A.

2.4.2 The existing buildings adjacent to the proposed development site are shown on the Site Plan (see below) and comprise:

Name/Address of Building	Assumed Use	Position in Relation to the Development
1-5 St Pancras Way	Residential Flats	South
The Royal Veterinary College	Education Facility	West
9 St Pancras Way	Hostel	North

Site Plan



2.5 Limitations

2.5.1 We refer you to our daylighting and sunlighting limitations, as provided with our fee proposal.

2.5.2 Our assessment is based on the scheme drawings provided by Wells Mackereth Architects, Zmapping and Promap as listed below:

Drawing Number	Revision	Title	Date
430_PL101.dwg	-	Proposed Ground Floor	22 March 2013
430_PL102.dwg	-	Proposed First Floor	22 March 2013
430_PL103.dwg	-	Proposed Second Floor	22 March 2013
430_PL104.dwg	-	Proposed Roof Plan	22 March 2013
430_PL13.dwg	-	Proposed Section (1 of 3)	22 March 2013
430_PL14.dwg	-	Proposed Section (2 of 3)	22 March 2013
430_PL15.dwg	-	Proposed Section (3 of 3)	22 March 2013
430_PL31.dwg	-	Proposed Elevations (1 of 4)	22 March 2013
430_PL32.dwg	-	Proposed Elevations (2 of 4)	22 March 2013
430_PL33.dwg	-	Proposed Elevations (3 of 4)	22 March 2013
430_PL34.dwg	-	Proposed Elevations (4 of 4)	22 March 2013
40500731_31441_310712_Solids.dwg	-	ZMap Solids	15 August 2012
STANFORDSPORTAL_SV0000_2008-12-16.dwg	-	Promap	07 August 2012

2.5.3 A site inspection was also undertaken to record the location of windows within the surrounding buildings. Access was limited to the rear of the site due to high walls and restricted access.

2.5.4 Where no elevation survey data has been provided to us, we have estimated approximate window heights and positions in the surrounding existing properties from data gathered at our site inspection and from the planning portal.

2.5.5 Room uses, sizes and shapes in the surrounding buildings were determined from historic plans available at LB Camden's planning portal.

3. Assessment & Results – Impact of New Development on Existing, Surrounding Buildings

3.1 Daylight

3.1.1 In accordance with the BRE guide (see also Appendix A) and our site inspection the following buildings required assessment:

- 1-5 St Pancras Way;
- The Royal Veterinary College;
- 9 St Pancras Way.

3.1.2 The results of our VSC analysis are shown in full in Appendix D. The following table is a summary of our findings:

Property Ref	Vertical Sky Component Test		
	No. of Windows Tested	No. of Windows Passed VSC Test	No. of Windows Failed VSC Test
1-5 St Pancras Way	34	31	3
The Royal Veterinary College	49	47	2
9 St Pancras Way	10	8	2
Total	93	86	7

3.1.3 The results indicate that with the proposed development in place the vast majority of the windows surrounding the site will continue to receive adequate daylight as defined by the BRE guidance. This is a clear demonstration that the proposed extensions have been designed to respect the natural light amenity enjoyed by the neighbouring occupiers. A small number of windows failed to meet the recommendations and we comment as follows:

3.1.4 In relation to the windows at 1-5 St Pancras Way, these serve two bedrooms. It is evident that the increase in massing when viewed from these rooms is relatively small and part of the reason for the results stems from the fact that the windows have overhead obstructions in the form of balconies to the flats above in the block. As such there are a number of material mitigating factors, which include:

- Where the self design of the existing building limits its access to skylight the BRE guide considers this should be taken into account. Examples the BRE guide cites include overhead obstructions such as balconies and also projecting elements which shield light.
- The BRE also considers the scale of the proposed development in the context of the existing building(s) it affects and suggest that equal heights may form a reasonable/equitable position. The BRE considers that this is particularly the case where existing buildings have windows close to the common boundary, as occurs here, as these can stifle reasonable development unless a pragmatic approach is adopted. Here it is noted that the proposed development is considerably lower than the recent development at 1-5 St Pancras Way, which shows that the BRE's approach is more than adhered to.

- The affected rooms are bedrooms which have a considerably lower expectation of daylight than main living rooms. This is demonstrated by the average daylight factor targets in the BRE guide which are 1% for bedrooms and 2% for open plan living room/kitchens, which indicates that the light requirement in bedrooms is half that of other habitable rooms.

- 3.1.5 Given the above, the results for 1-5 St Pancras Way are considered to fully accord with the BRE guide's recommendations.
- 3.1.6 In relation to the Royal Veterinary College (RVC) the two windows serve laboratories. The windows have very substantial louvers or brise soleil over them and these result in a large exclusion of light, which is presumably done as specific task lighting is preferred. In that case it is suggested that the rooms do not have an expectation of high levels of daylight and pursuant to the BRE guide may not need to be considered. Furthermore, the same principles apply as discussed at 3.1.4 above in relation to the self design of the existing building and relative heights of the development, and therefore the proposed development site should not be unduly affected by the existing neighbouring building.
- 3.1.7 The windows at 9 St Pancras Way both serve bedrooms, which have a lower requirement for light than main habitable rooms. Again the windows are set very close to the common boundary and are also affected by the self design of the existing building. The ground floor window is shielded by a projecting element of the building and this limits daylight availability. At first floor the window in question is a small side window which provides supplementary light to the room, with the principal window on the main rear elevation. Therefore the first floor room will remain well lit. The relative heights of the buildings are also a material consideration and here the height of 9 St Pancras Way exceeds the height of the proposed development by some 4m. Given the room uses and the mitigating factors, I consider that the proposal meets the BRE guide's recommendations.
- 3.1.8 The Daylight Distribution (DD) test results are shown in full in Appendix D. Below is a summary of our findings:

Property Ref	Daylight Distribution (DD) Test		
	No. of Rooms	No. of Rooms Passed	No. of Rooms Failed
1-5 St Pancras Way	20	16	4
The Royal Veterinary College	25	24	1
9 St Pancras Way	7	6	1
Total	52	46	6

- 3.1.9 The results indicate that with the proposed development in place the majority of the rooms surrounding the site will continue to receive adequate daylight distribution as defined by the BRE guidance. This shows that the overall effect on amenity is limited. A small number failed to meet the recommendations and we comment as follows:
- 3.1.10 In relation to both 1-5 and 9 St Pancras Way, the affected rooms are bedrooms. The BRE considers that bedrooms are less important than main habitable rooms and therefore, while they should be checked, they do not need to meet the criteria. The rooms in question here do remain directly lit to a reasonable proportion of their area and so meet the BRE's approach for bedroom use.

3.1.11 In relation to the RVC, again the main reason for the transgression is the louvred shading above the window. Due to this, the room use and the fact that a good proportion of the room is directly lit, the result is considered to accord with the BRE guide.

3.2 Sunlight

3.2.1 In accordance with the BRE Guide, our analysis of the plans provided and our observations on site, a number of the surrounding buildings require Annual Probable Sunlight Hours (APSH) testing – (see Appendix A):

- The Royal Veterinary College;
- 9 St Pancras Way.

3.2.2 The table below shows a summary of the results of the APSH testing. Full test results are contained in Appendix E.

Property Ref	No. of Windows Tested	No. of Windows Passed APSH Test	No. of Windows Failed APSH Test
The Royal Veterinary College	13	11	2
9 St Pancras Way	7	4	3
Total	20	15	5

3.2.3 The results indicate that with the proposed development in place the majority of the windows surrounding the site will continue to receive adequate sunlight as defined by the BRE guidance. This again demonstrates that the proposed massing respects light amenity to neighbouring buildings. A small number failed to meet the recommendations and we comment as follows:

- At RVC the rooms are a laboratory and a stairwell. In our view neither of these uses has a high expectation of sunlight and therefore the results accord with the BRE guide.
- At 9 St Pancras Way, the rooms are bedrooms. The BRE guide is clear that bedrooms have a lower requirement for sunlight than living rooms and therefore again the results accord with the BRE's recommendation, particularly considering the location of the windows, which are very close to the common boundary.

3.3 Overshadowing

3.3.1 From our site inspection and research we consider that there are no amenity spaces, as defined in the BRE guide, located close enough to the proposed development to be adversely affected by overshadowing.

4. Assessment & Results – Daylighting, Sunlighting & Overshadowing issues in the New Development

4.1 Internal Daylight

4.1.1 ADF tests have been undertaken to a sample of the principal habitable rooms within the proposed development. The full ADF test results are shown in full in Appendix D. Below is a summary of our findings:

Property Ref	Average Daylight Factor Test		
	No. of Rooms	No. of Rooms Passed	No. of Rooms Failed
7 St Pancras Way	11	9	2
Total	11	9	2

4.1.2 The results indicate that the majority of the rooms tested in the proposed development will meet the ADF minima target criteria as defined by the BRE guidance. In most cases, the ADF results are several times higher than the target values which suggests that the rooms will be very well lit.

4.1.3 Two rooms are indicated as not meeting the criteria. However, the results do not fully account for shared light to the ground floor kitchen, which is received via the courtyard. In respect of the living/kitchen dining room at first floor level the results are above the living room target of 1.5% ADF. When considering the constraints imposed by the existing historic building and the fact that the majority of rooms receive daylight substantially in excess of the targets, the results are considered to be appropriate.

4.1.4 The Daylight Distribution (DD) test results are shown in full in Appendix D. Below is a summary of our findings:

Property Ref	Daylight Distribution Test		
	No. of Rooms	No. of Rooms Passed	No. of Rooms Failed
7 St Pancras Way	11	9	2
Total	11	9	2

4.1.5 Similar considerations occur in relation to daylight distribution. That is, the vast majority of rooms have excellent daylight distribution and those that do not are subject to the constraints of designing within historic existing buildings and are limited by the large existing buildings to the south. In relation to the living room, the result is relatively high at 56% and this must be seen in the context of the valuable external areas the room is provided with, which will provide excellent amenity. In relation to the kitchen, the BRE guide considers this room use less important and therefore the transgression is not material. The kitchen too has an external amenity area which will improve overall amenity value.

4.2 Internal Sunlight

- 4.2.1 APSH tests have been undertaken to a sample of the principal habitable rooms within the proposed development. The full APSH test results are shown in full in Appendix E. Below is a summary of our findings:
- 4.2.2 The BRE guide contains specific guidance for flats which states that the aim of the design should be to ensure that each unit has a main room which receives a reasonable amount of sunlight.
- 4.2.3 Of the 11 rooms tested 9 meet the BRE's target for sunlight by receiving a reasonable amount of sunlight. Furthermore, in the two units in question, each has at least one main room which meets this recommendation.
- 4.2.4 We therefore conclude that the proposals comfortably meet the BRE's recommendation in relation to flat developments.

4.3 Overshadowing

- 4.3.1 The location of the proposed amenity area within the development is shown on the reference plan in Appendix F.
- 4.3.2 Two assessments have been undertaken to determine the are receiving sunlight on 21 March and 21 June. During the winter, a small proportion (2.5%) of the total area is sunlit and this increases to 87% during mid summer.
- 4.3.3 While the March 21 result is lower than the BRE recommends, it is important to consider that the recommendations contained in the BRE guide are intended to be used when developing new buildings, as opposed to application to existing historic buildings. Here the amount of sunlight available in the courtyard is predetermined by the existing building form on the site, and the large existing buildings adjacent to it. In that case, a flexible approach to the guide's recommendations should taken. Furthermore, the summer shadow result indicates that the courtyard will be well sunlit during the summer months when it is most likely to be utilised.

Appendix A

Tests to be Applied

Introduction

The main purpose of the guidelines in the Building Research Establishment Report “Site Layout Planning for Daylight and Sunlight – a guide to good practice 2011, 2nd Edition” (“the BRE guide”) is to assist in the consideration of the relationship of new and existing buildings to ensure that each retains a potential to achieve good daylighting and sunlighting levels. That is, by following and satisfying the tests contained in the guidelines, new and existing buildings should be sufficiently spaced apart in relation to their relative heights so that both have the potential to achieve good levels of daylight and sunlight. The guidelines have been drafted primarily for use with low density suburban developments and should therefore be used flexibly when dealing with dense urban sites and extensions to existing buildings, a fact recognised by the BRE Report’s author in the Introduction where Dr Paul Littlefair says:

‘The Guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design..... In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.....’

In many cases in low-rise housing, meeting the criteria for daylight and sunlight may mean that the BRE criteria for other amenity considerations such as *privacy* and *sense of enclosure* are also satisfied.

The BRE guide states that recommended minimum privacy distances (in cases where windows of habitable rooms face each other in low-rise residential property), as defined by each individual Local Authority’s policies, vary widely, from 18-35m¹. For two-storey properties a spacing within this range would almost certainly also satisfy the BRE guide’s daylighting requirements as it complies with the 25⁰ rule and will almost certainly satisfy the ‘Three times height’ test too (as discussed more fully below). However, the specific context of each development will be taken into account and Local Authorities may relax the stated minimum, for instance, in built-up areas where this would lead to an inefficient use of land. Conversely, greater distances may be required between higher buildings, in order to satisfy daylighting and sunlighting requirements. It is important to recognize also that privacy can also be achieved by other means: design, orientation and screening can all play a key role and may also contribute towards reducing the theoretical ‘minimum’ distance.

A sense of enclosure is also important as the perceived quality of an outdoor space may be reduced if it is too large in the context of the surrounding buildings. In urban settings the BRE guide suggests a spacing-to-height ratio of 2.5:1 would provide a comfortable environment, whilst not obstructing too much natural light: this ratio also approximates the 25⁰ rule.

¹ The commonest minimum privacy distance is 21 m (Householder Development Consents Review: Implementation of Recommendations – Department for Communities and Local Government – May 2007)

Daylight

The criteria for protecting daylight to existing buildings are contained in Section 2.2 and Appendix C of the BRE guide. There are various methods of measuring and assessing daylight and the choice of test depends on the circumstances of each particular window. For example, greater protection should be afforded to windows which serve habitable dwellings and, in particular, those serving living rooms and family kitchens, with a lower requirement required for bedrooms. The BRE guide states that circulation spaces and bathrooms need not be tested as they are not considered to require good levels of daylight. In addition, for rooms with more than one window, secondary windows do not require assessment if it is established that the room is already sufficiently lit through the principal window.

The tests should also be applied to non-domestic uses such as offices and workplaces where such uses will ordinarily have a reasonable expectation of daylight and where the areas may be considered a principal workplace.

The BRE has developed a series of tests to determine whether daylighting levels within new developments and rooms within existing buildings surrounding new developments will satisfy or continue to satisfy a range of daylighting criteria

Note: Not every single window is assessed separately, only a representative sample, from which conclusions may be drawn regarding other nearby dwellings.

Daylighting Tests

'Three times height' test - If the distance of each part of the new development from the existing windows is three or more times its height above the centre of the existing window then loss of light to the existing windows need not be analysed. If the proposed development is taller or closer than this then the 25° test will need to be carried out.

25° test - a very simple test that should only be used where the proposed development is of a reasonably uniform profile and is directly opposite the existing building. Its use is most appropriate for low density well-spaced developments such as new sub-urban housing schemes and often it is not a particularly useful tool for assessing urban and in-fill sites. In brief, where the new development subtends to an angle of less than 25° to the centre of the lowest window of an existing neighbouring building, it is unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building. Equally, the new development itself is also likely to have the potential for good daylighting. If the angle is more than 25° then more detailed tests are required, as outlined below.

VSC Test - the VSC is a unit of measurement that represents the amount of available daylight from the sky, received at a particular window. It is measured on the outside face of the window. The 'unit' is expressed as a percentage as it is the ratio between the amount of sky visible at the given reference point compared to the amount of light that would be available from a totally unobstructed hemisphere of sky. To put this unit of measurement into perspective, the maximum percentage value for a window with a completely unobstructed outlook (i.e. with a totally unobstructed view through 90° in every direction) is 40%.

The target figure for VSC recommended by the BRE is 27%. A VSC of 27% is a relatively good level of daylight and the level we would expect to find for habitable rooms with windows on principal elevations. However, this level is often difficult to achieve on secondary elevations and in built-up urban environments. For comparison, a window receiving 27% VSC is approximately equivalent to a window that would have a continuous obstruction opposite it which subtends an angle of 25° (i.e. the same results as would be found utilising the 25° Test).

Where tests show that the new development itself meets the 27% VSC target this is a good indication that the development will enjoy good daylighting and further tests can then be carried out to corroborate this (see under).

Through research the BRE have determined that in existing buildings daylight (and sunlight levels) can be reduced by approximately 20% of their original value before the loss is materially noticeable. It is for this reason that they consider that a 20% reduction is permissible in circumstances where the existing VSC value is below the 27% threshold. For existing buildings once this has been established it is then necessary to determine whether the distribution of daylight inside each room meets the required standards (see under).

Daylight Distribution (DD) Test – This test looks at the position of the “No-Sky Line” (NSL) – that is, the line that divides the points on the working plane (0.7m from floor level in offices and 0.85m in dwellings and industrial spaces) which can and cannot see the sky. The BRE guide suggests that areas beyond the NSL may look dark and gloomy compared with the rest of the room and BS8206 states that electric lighting is likely to be needed if a significant part of the working plane (normally no more than 20%) lies beyond it.

In new developments no more than 20% of a room’s area should be beyond the NSL. For existing buildings the BRE guide states that if, following the construction of a new development, the NSL moves so that the area beyond the NSL increases by more than 20%, then daylighting is likely to be seriously affected.

The guide suggests that in houses, living rooms, dining rooms and kitchens should be tested: bedrooms are deemed less important, although should nevertheless be analysed. In other buildings each main room where daylight is expected should be investigated.

ADF Test –The ADF (Average Daylight Factor) test takes account of the interior dimensions and surface reflectance within the room being tested as well as the amount of sky visible from the window. For this reason it is considered a more detailed and representative measure of the adequacy of light. The minimum ADF values recommended in BS8206 Part 2 are: 2% for family kitchens (and rooms containing kitchens); 1.5% for living rooms; and 1% for bedrooms. This is a test used in assessing new developments, although, in certain circumstances, it may be used as a supplementary test in the assessment of daylighting in existing buildings, particularly where more than one window serves a room.

Room depth ratio test - This is a test for new developments looking at the relative dimensions of each room (principally its depth) and its window(s) to ensure that the rear half of a room will receive sufficient daylight so as not to appear gloomy.

Sunlight

Sunlight is an important ‘amenity’ in both domestic and non-domestic settings. The way in which a building’s windows are orientated and the overall position of a building on a site will have an impact on the sunlight it receives but, importantly, will also have an effect on the sunlight neighbouring buildings receive. Unlike daylight, which is non-directional and assumes that light from the sky is uniform, the availability of sunlight is dependent on direction. That is, as the United Kingdom is in the northern hemisphere, we receive virtually all of our sunlight from the south. The availability of sunlight is therefore dependent on the orientation of the window or area of ground being assessed relative to the position of due south.

In new developments the BRE guide suggests that dwellings should aim to have at least one main living room which faces the southern or western parts of the sky so as to ensure that it receives a reasonable amount of sunlight. Where groups of dwellings are planned the Guide states that site layout design should aim to maximise the number of dwellings with a main living room that meet sunlight criteria. Where a window wall faces within 90° of due south and no obstruction subtends to angle of more than 25° to the horizontal or where the window wall faces within 20° of due south and the reference point has a VSC of at least 27% then sunlighting will meet the required standards: failing that the Annual Probable Sunlight Hours (APSH) need to be analysed. APSH means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloud for the location in question. If the APSH tests reveal that the new development will receive at least one quarter of the available APSH, including at least 5% of APSH during the winter months (from 21 September to 21 March), then the requirements are satisfied. It should be noted that if a room has two windows on opposite walls, the APSH due to each can be added together.

The availability of sunlight is also an important factor when looking at the impact of a proposed development on the existing surrounding buildings. APSH tests will be required where one or more of the following are true:

- The 'Three times height' test is failed (see 'Daylight' above);
- The proposed development is situated within 90° of due south of an existing building's main window wall and the new building subtends to angle of more than 25° to the horizontal;
- The window wall faces within 20° of due south and a point at the centre of the window on the outside face of the window wall (the reference point) has a VSC of less than 27%.

Where APSH testing is required it is similar to the test for the proposed development. That is to say that compliance will be demonstrated where a room receives:

- At least 25% of the APSH (including at least 5% in the winter months), or
- At least 0.8 times its former sunlight hours during either period, or
- A reduction of no more than 4% APSH over the year.

The Guide stresses that the target values it gives are purely advisory, especially in circumstances such as: the presence of balconies (which can overhang windows, obstructing light); when an existing building stands unusually close to the common boundary with the new development and; where the new development needs to match the height and proportion of existing nearby buildings. In circumstances like these a larger reduction in sunlight may be necessary.

The sunlight criteria in the BRE guide primarily apply to windows serving living rooms of an existing dwelling. This is in contrast to the daylight criteria which apply to kitchens and bedrooms as well as living rooms. Having said that, the guide goes on to say that care should be taken not to block too much sun from kitchens and bedrooms. Non-domestic buildings which are deemed to have a requirement for sunlight should also be checked.

Sunlight – Gardens and Open Spaces

As well as ensuring buildings receive a good level of sunlight to their interior spaces, it is also important to ensure that the open spaces between buildings are suitably lit. The recommendations as set out in the BRE guide are meant to ensure that spaces between buildings are not permanently in shade for a large part of the year. Trees and fences over 1.5m tall are also factored into the calculations.

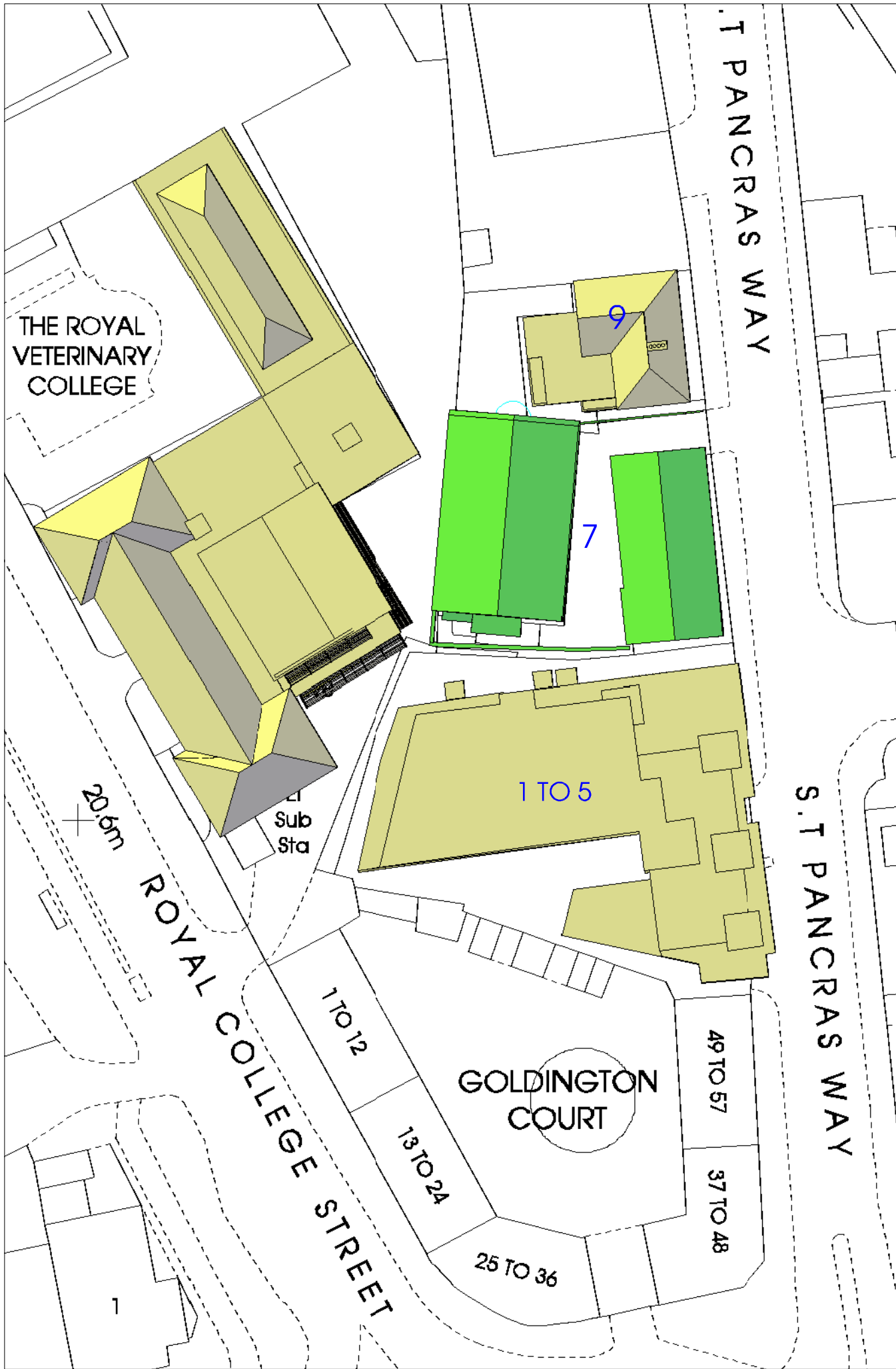
The BRE guidelines state that:

- For a garden or amenity area to appear adequately sunlit throughout the year, at least 50% of the area should receive at least two hours of sunlight on 21 March;
- In addition, if, as result of new development, an existing garden or amenity area does not reach the area target above and the area which can receive two hours of direct sunlight on 21 March is reduced by more than 20% this loss is likely to be noticeable.

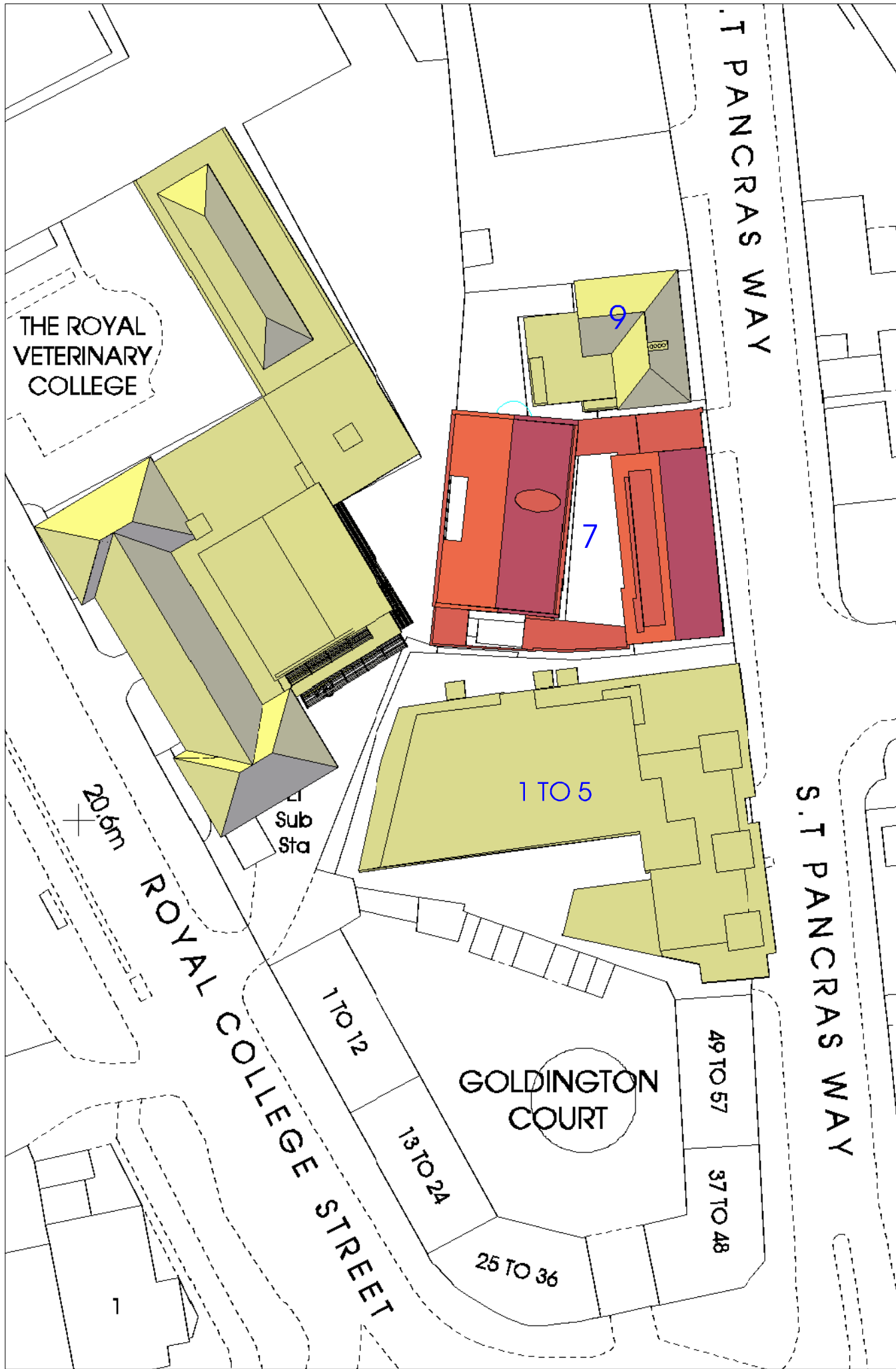
Appendix G of the BRE guidelines describes a methodology for calculating sunlight availability for amenity spaces.

Appendix B

Context Drawings



Site Plan - Existing



Site Plan - Proposed

NOTES

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- 2) MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
- 3) ALL DIMENSIONS ARE IN MILLIMETERS ONLY.

SOURCES OF INFORMATION:

WELLS MACKERETH ARCHITECTS
430_PL101.dwg - Proposed Ground Floor
430_PL102.dwg - Proposed First Floor
430_PL103.dwg - Proposed Second Floor
430_PL104.dwg - Proposed Roof Plan
430_PL13.dwg - Proposed Section (1 of 3)
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430_PL15.dwg - Proposed Section (3 of 3)
430_PL31.dwg - Proposed Elevations (1 of 4)
430_PL32.dwg - Proposed Elevations (2 of 4)
430_PL33.dwg - Proposed Elevations (3 of 4)
430_PL34.dwg - Proposed Elevations (4 of 4)
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REVISIONS

No.	Date	Amendments	Initials

THIS DRAWING IS FOR THE FOLLOWING PURPOSE ONLY:
☐ PRELIMINARY ☐ TENDER ☐ CONSTRUCTION ☐
☐ SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

TITLE

Existing & Proposed Site Plan

CURT

Wells Mackereth Architects

PROJECT NAME

7 St Pancras Way,
London,
NW1 0PB

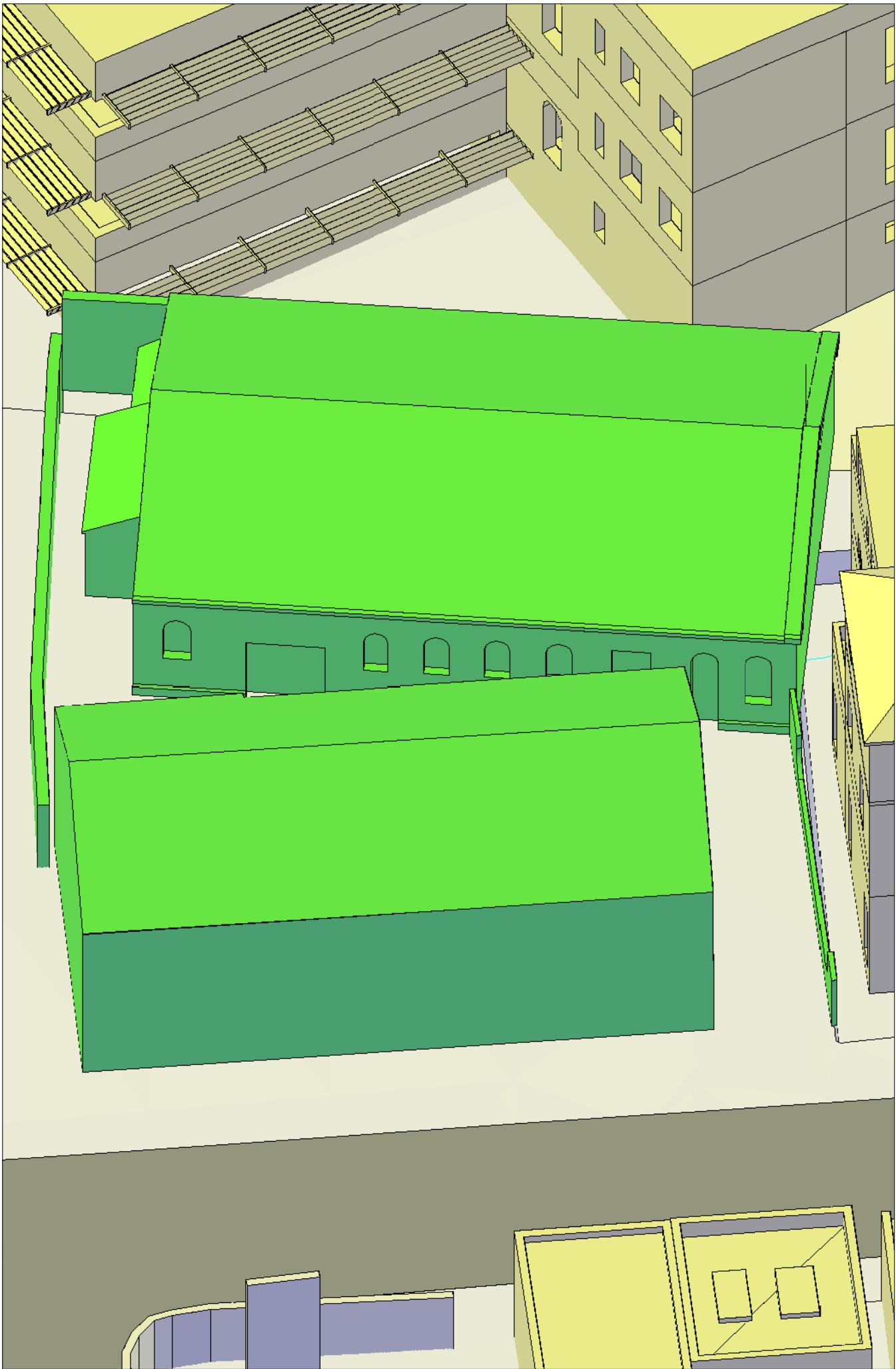
malcolm hollis

5 Brooks Court
Kirtling Street
London SW8 5BP

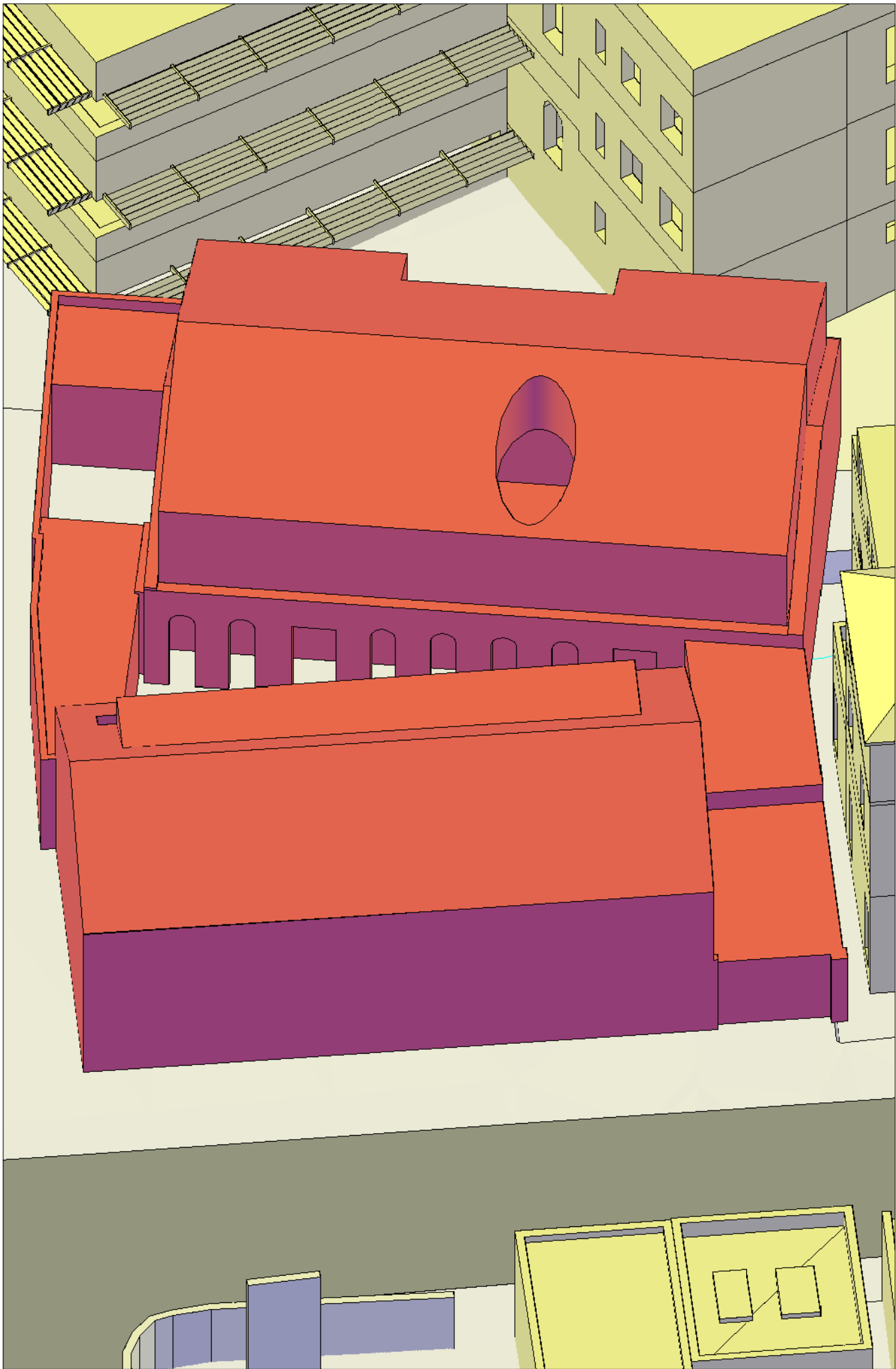
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SCALE 1:500 @ A3	CHECKED SK

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Existing 3D View - East Isometric



Proposed 3D View - East Isometric

NOTES

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430_PL103.dwg - Proposed Second Floor

430_PL104.dwg - Proposed Roof Plan

430_PL113.dwg - Proposed Section (1 of 3)

430_PL114.dwg - Proposed Section (2 of 3)

430_PL115.dwg - Proposed Section (3 of 3)

430_PL131.dwg - Proposed Elevations (1 of 4)

430_PL132.dwg - Proposed Elevations (2 of 4)

430_PL133.dwg - Proposed Elevations (3 of 4)

430_PL134.dwg - Proposed Elevations (4 of 4)

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SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

TITLE

3D Views

Existing & Proposed Site

CURNT

Wells Mackereth Architects

PROJECT NAME

7 St Pancras Way,

London,

NW1 0PB

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Kirtling Street

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W malcolmhollis.com

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MF

SCALE

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DATE

March 2013

CHECKED

SK

DRAWING NO.

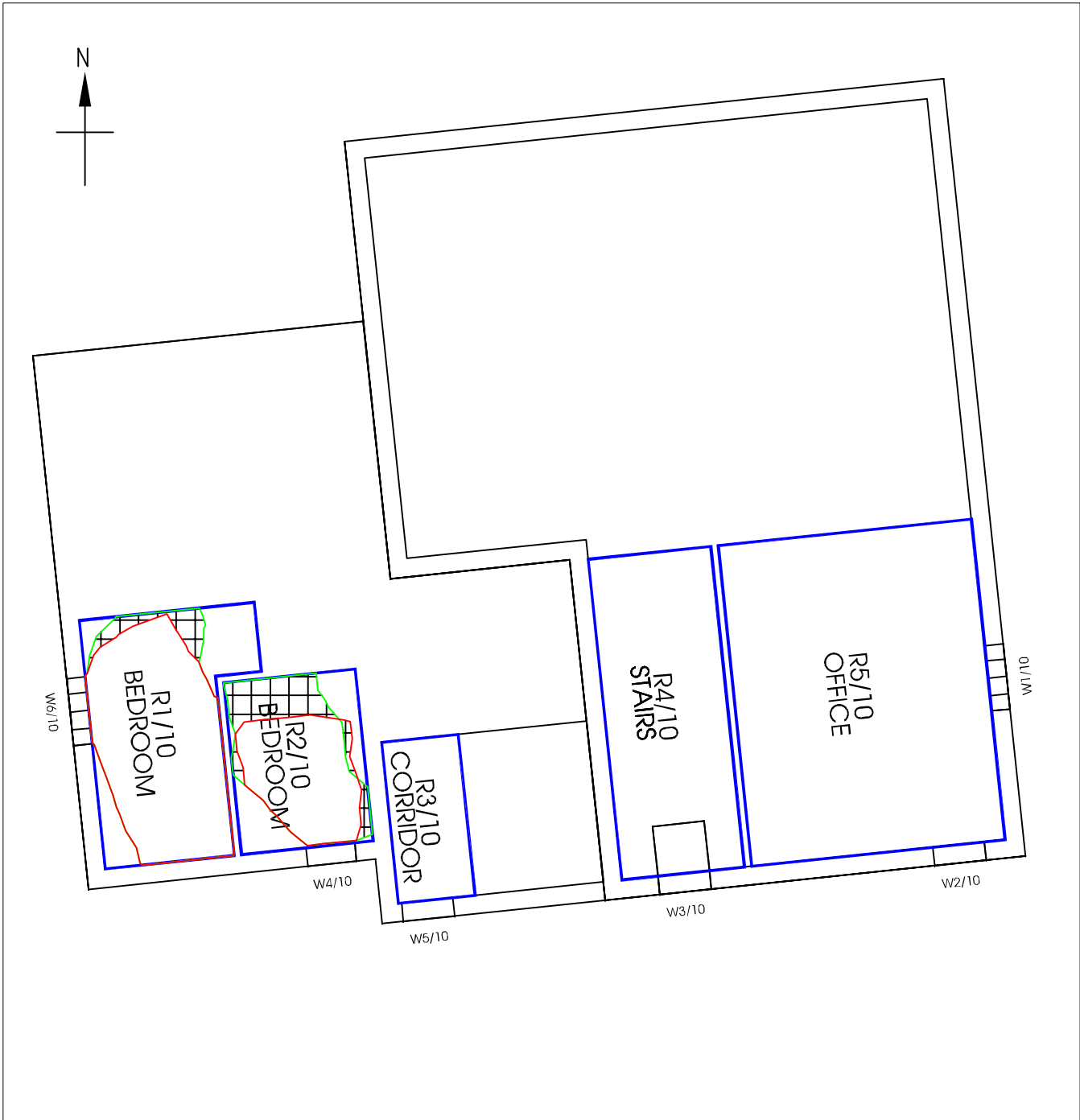
31441/CTXT/02

RELEASE NO.

5

Appendix C

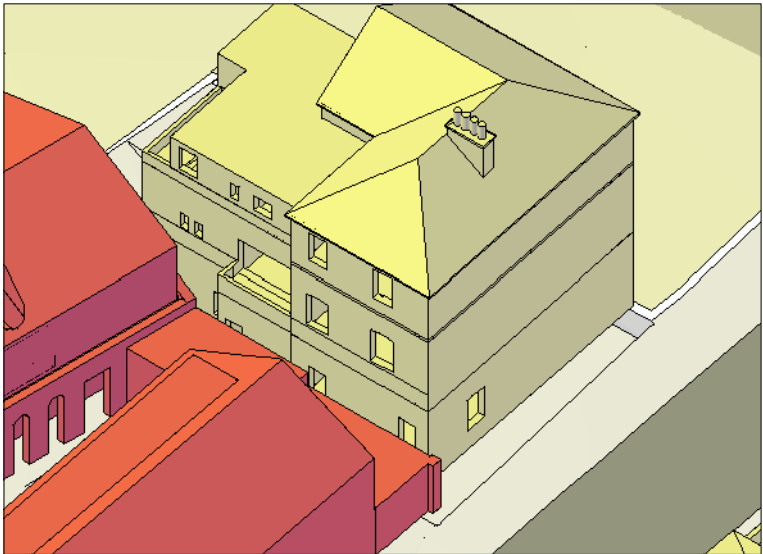
Window/Room Reference Drawings



9 St. Pancras Way - Ground Floor



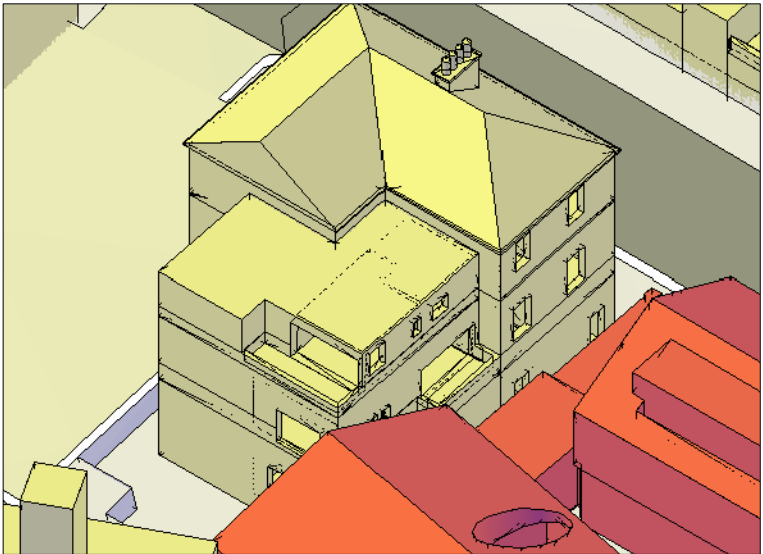
9 St. Pancras Way - First Floor



3D Context View - South East

KEY

- Existing contour
- Proposed contour
- Area of loss/gain
- Subject room



3D Context View - South West

NOTES

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SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

TITLE

Daylight Distribution
Contours/Referencing Plans
9 St. Pancras Way
Ground & First Floor

CURNT

Wells Mackereth Architects

PROJECT NAME

7 St Pancras Way,
London,
NW1 0PB

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5 Brooks Court
Kirtling Street
London SW8 5BP

T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

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MF

DATE

March 2013

SCALE

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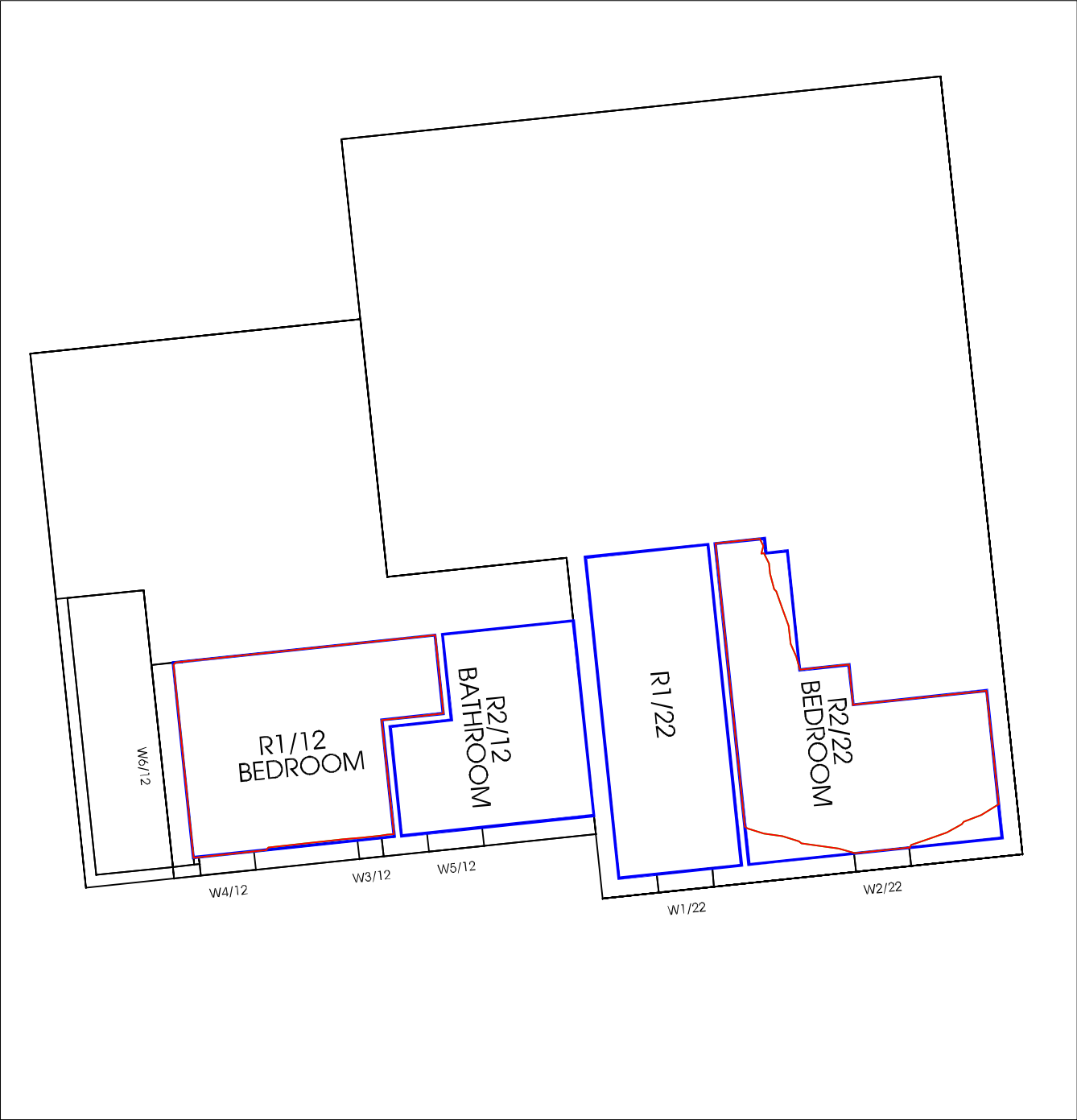
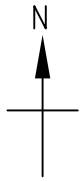
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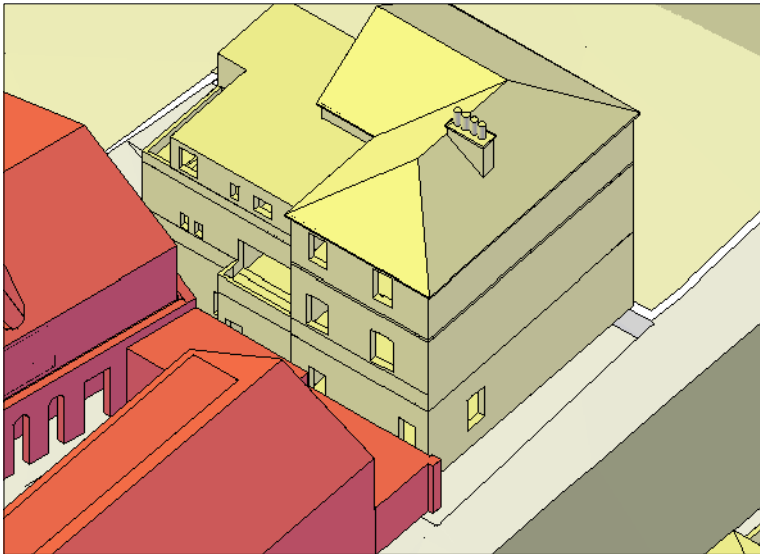
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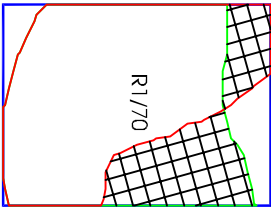


9 St. Pancras Way - Second Floor

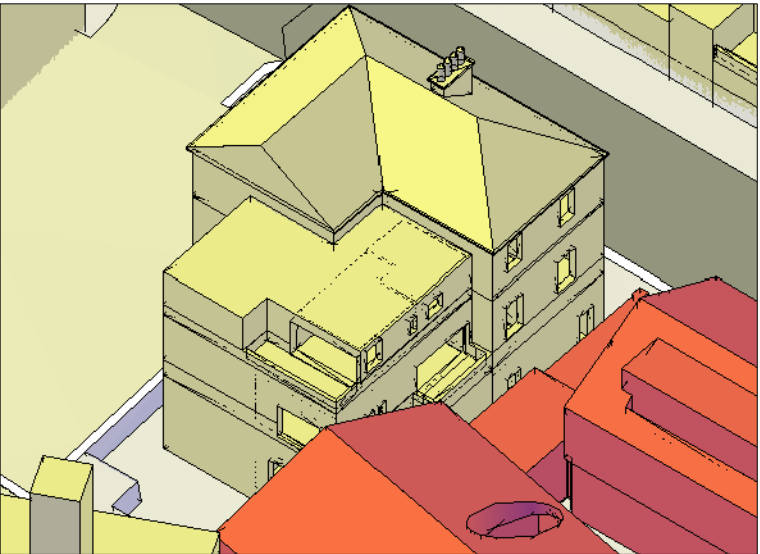


3D Context View - South East

KEY



- Existing contour
- Proposed contour
- Area of loss/gain
- Subject room



3D Context View - South West

NOTES

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☐ SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

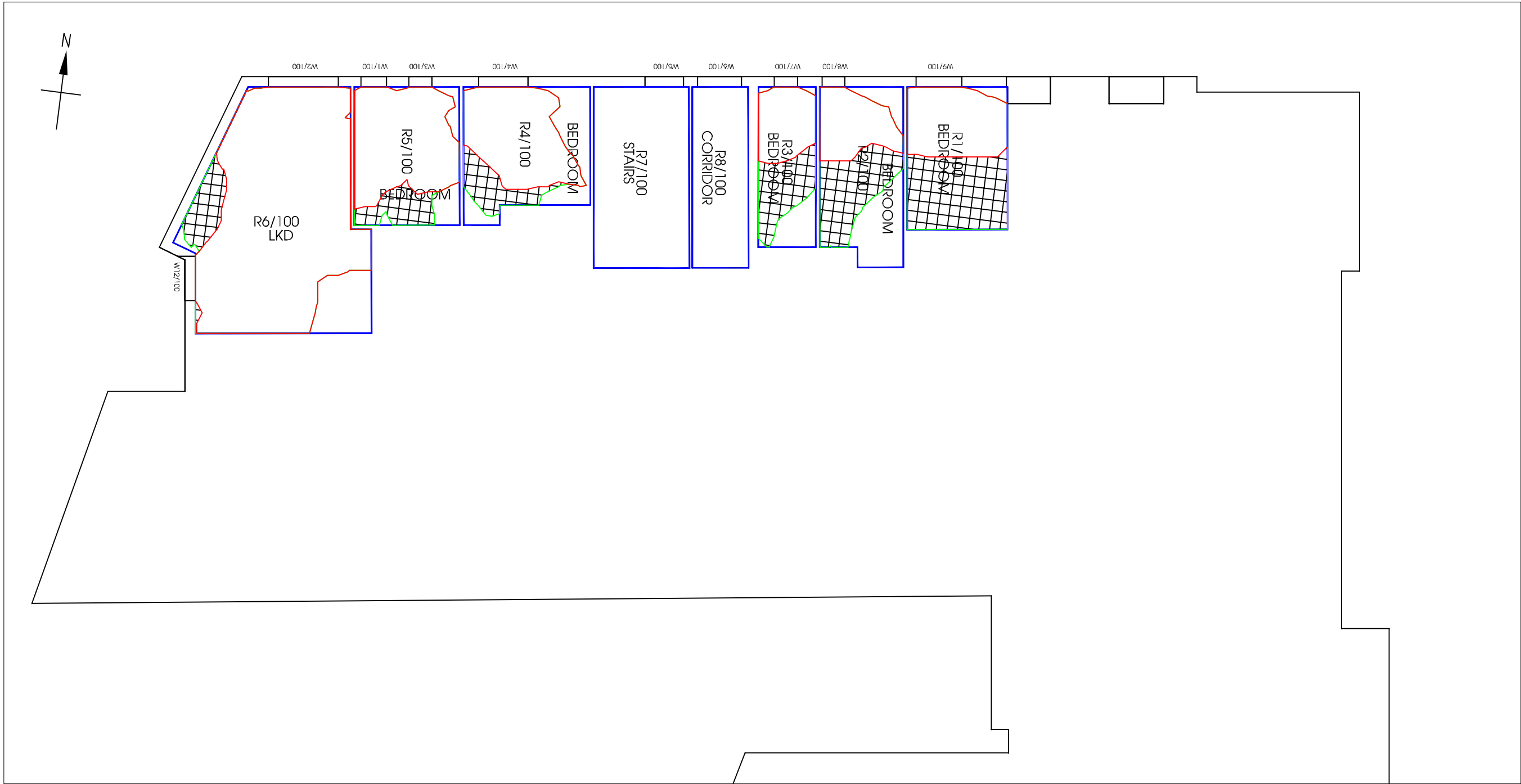
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Contours/Referencing Plans
9 St. Pancras Way
Second Floor**

CURNT
Wells Mackereth Architects

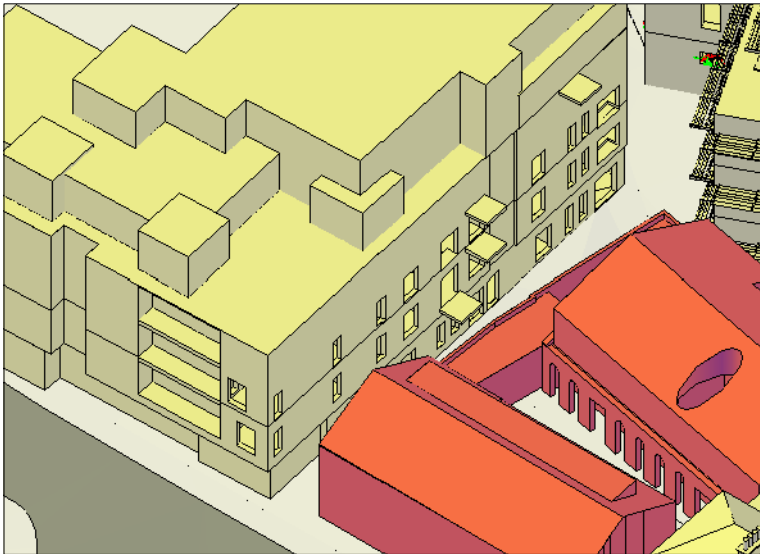
PROJECT NAME
**7 St Pancras Way,
London,
NW1 0PB**

malcolm hollis
5 Brooks Court
Kirtling Street
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T 020 7622 9555
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W malcolmhollis.com

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SCALE 1:100 @ A3	CHECKED SK
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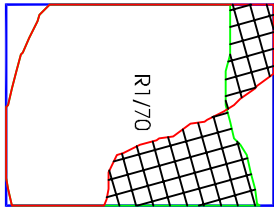


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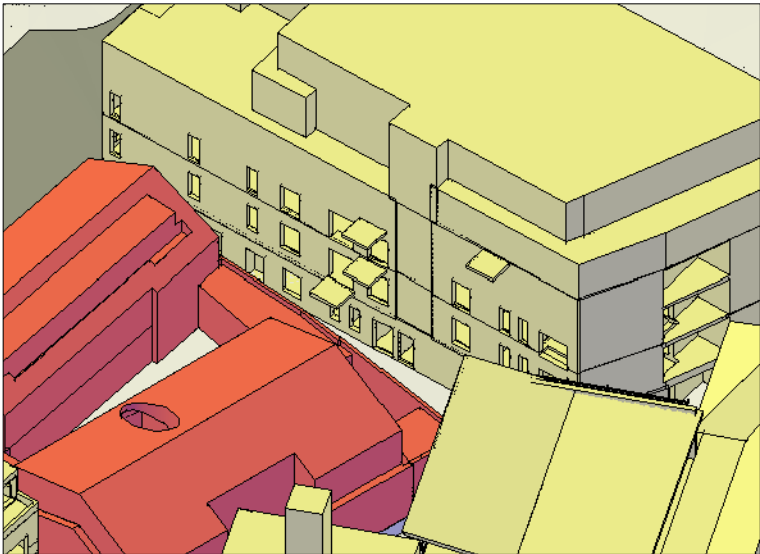


3D Context View - North East

KEY



- Existing contour
- Proposed contour
- Area of loss/gain
- Subject room



3D Context View - North West

NOTES

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430_PL34.dwg - Proposed Elevations (4 of 4)

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No.	Date	Amendments	Initial

THIS DRAWING IS FOR THE FOLLOWING PURPOSE ONLY:

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SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

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Daylight Distribution
Contours/Referencing Plans
1-5 St. Pancras Way
Ground Floor

CURNT

Wells Mackereth Architects

PROJECT NAME

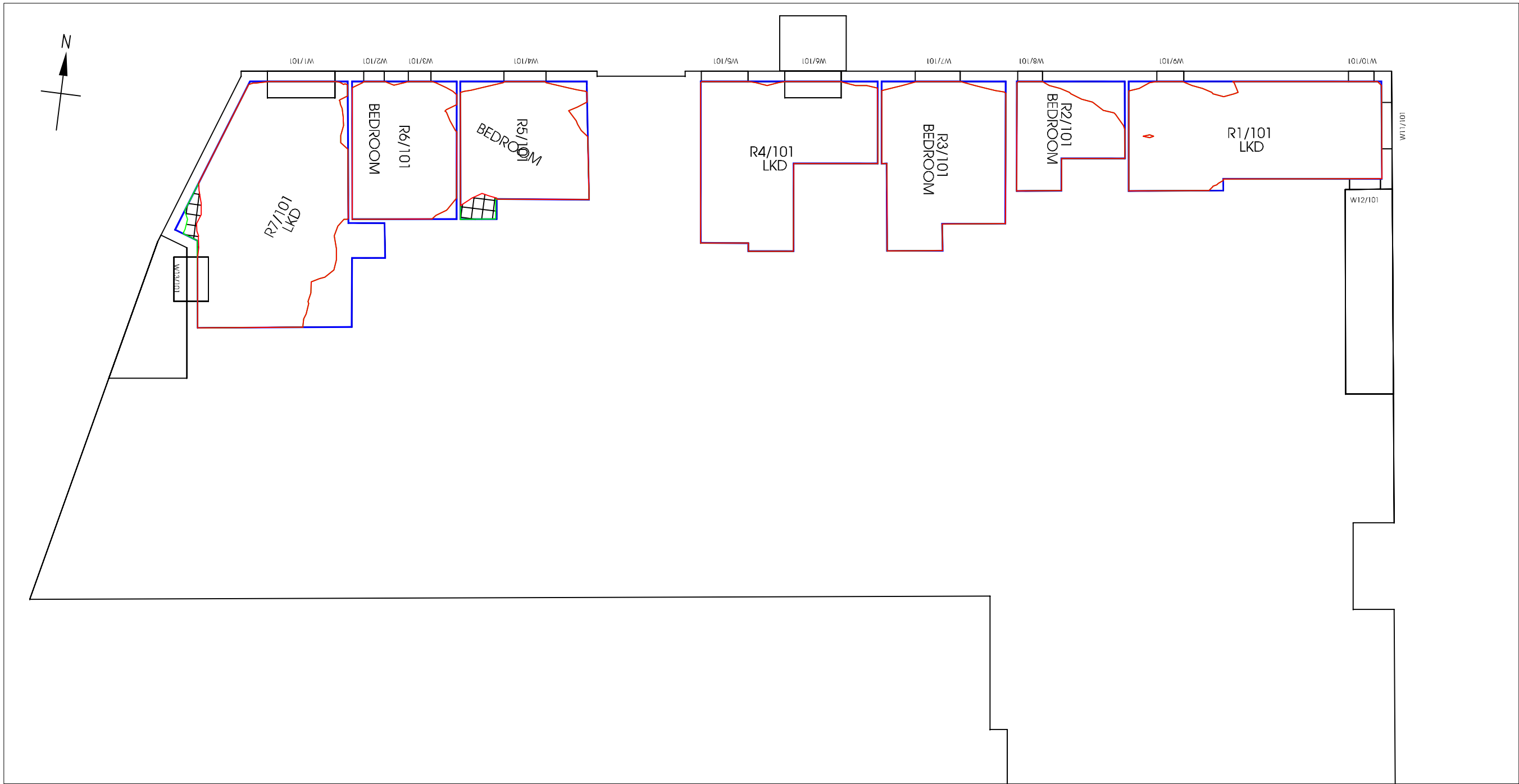
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London,
NW1 0PB

malcolm hollis

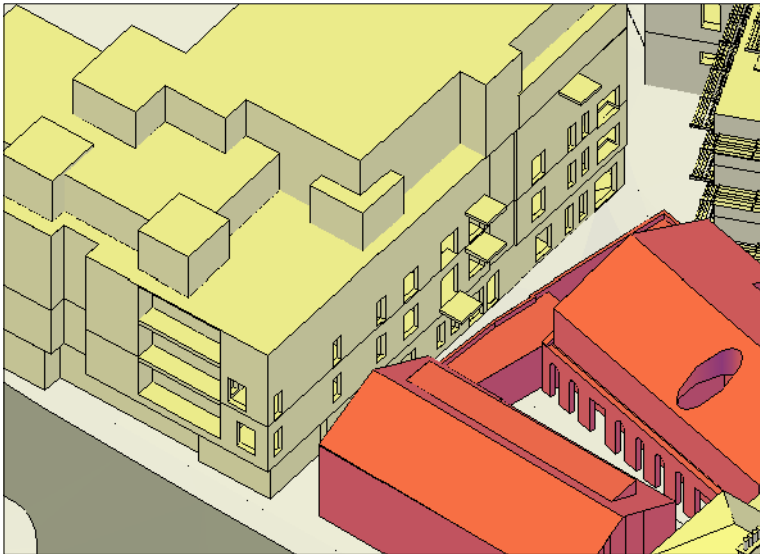
5 Brooks Court
Kirtling Street
London SW8 5BP

T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

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MF	March 2013
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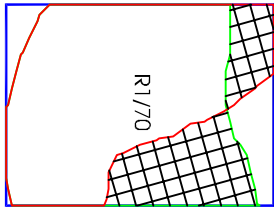


1-5 St. Pancras Way - First Floor

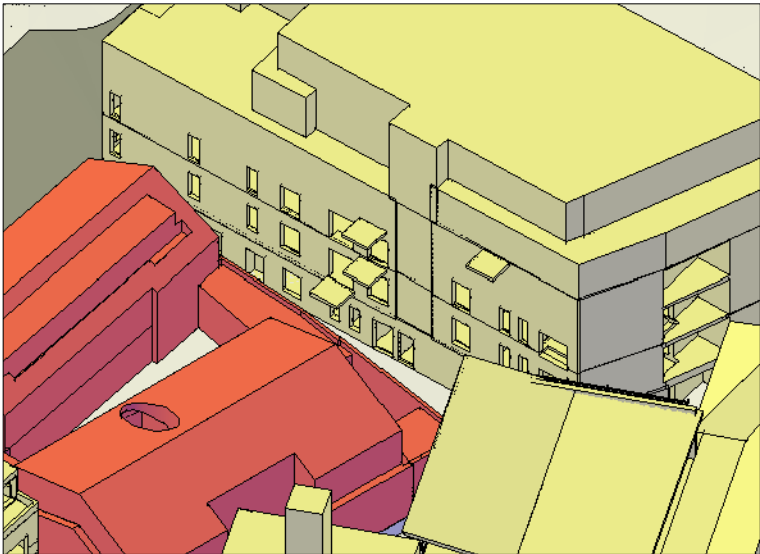


3D Context View - North East

KEY



- Existing contour
- Proposed contour
- Area of loss/gain
- Subject room



3D Context View - North West

NOTES

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430_PL34.dwg - Proposed Elevations (4 of 4)
Received 22 March 2013

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Received 15 August 2012

Promap
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Received 07 August 2012

REVISIONS

No.	Date	Amendments	Initial

THIS DRAWING IS FOR THE FOLLOWING PURPOSE ONLY:
☐ PRELIMINARY ☐ TENDER ☐ CONSTRUCTION ☐
☐ SKETCH ☐ MEASURED SURVEY ☐ CONTRACT

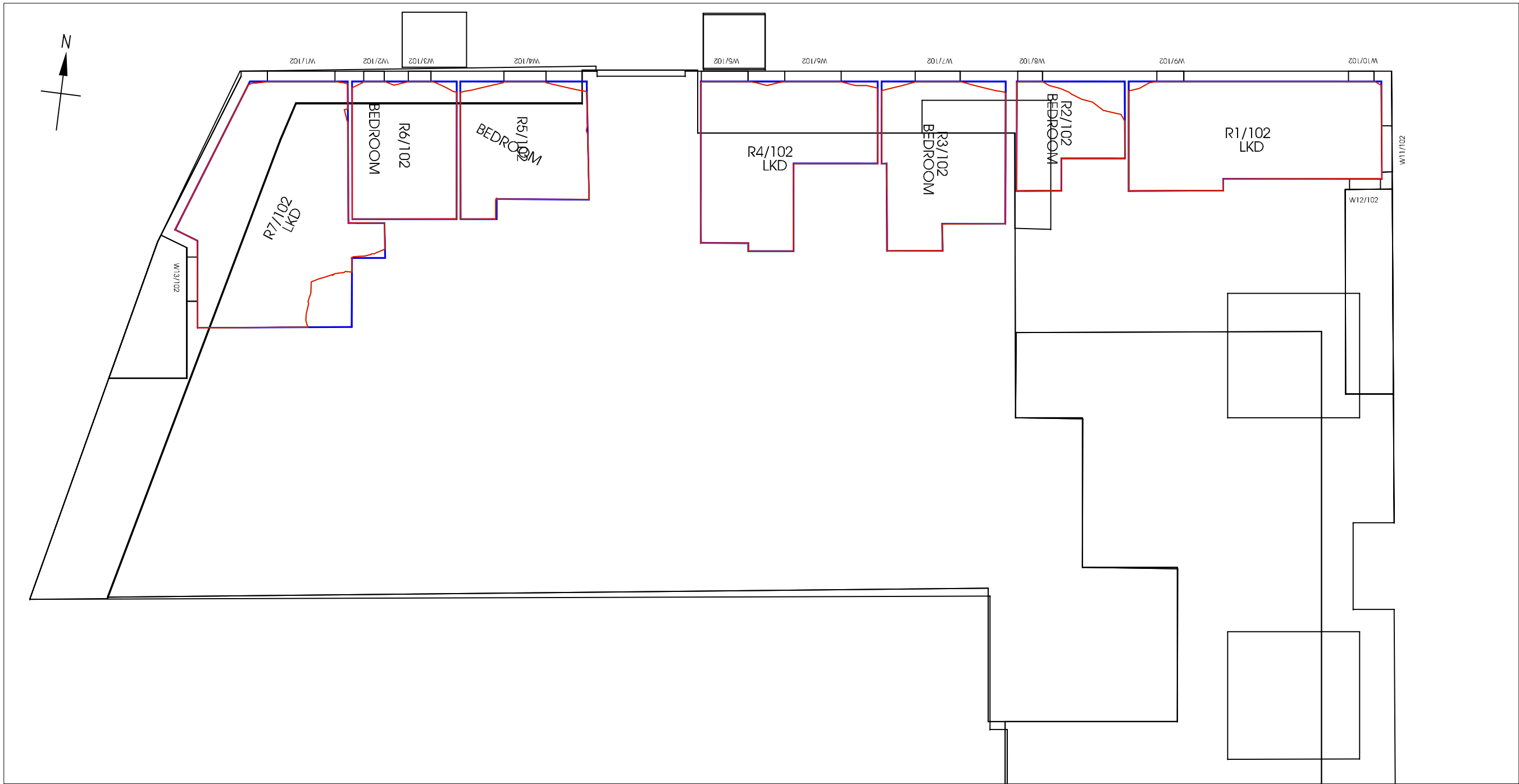
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Contours/Referencing Plans
1-5 St. Pancras Way
First Floor**

CLIENT
Wells Mackereth Architects

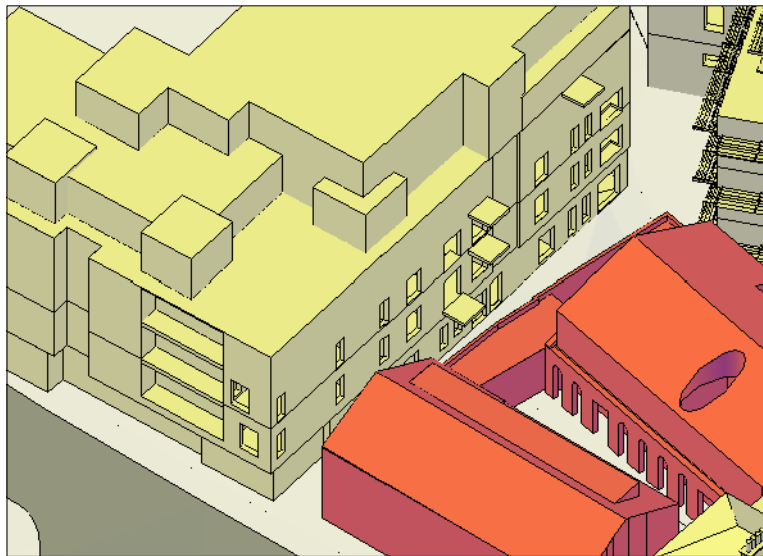
PROJECT NAME
**7 St Pancras Way,
London,
NW1 0PB**

5 Brooks Court
Kirtling Street
London SW8 5BP
T 020 7622 9555
F 020 7627 9850
W malcolmhollis.com

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SCALE 1:125 @ A3	CHECKED SK
DRAWING NO. 31441/DD/06	RELEASE NO. 5

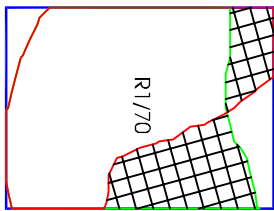


1-5 St. Pancras Way - Second Floor

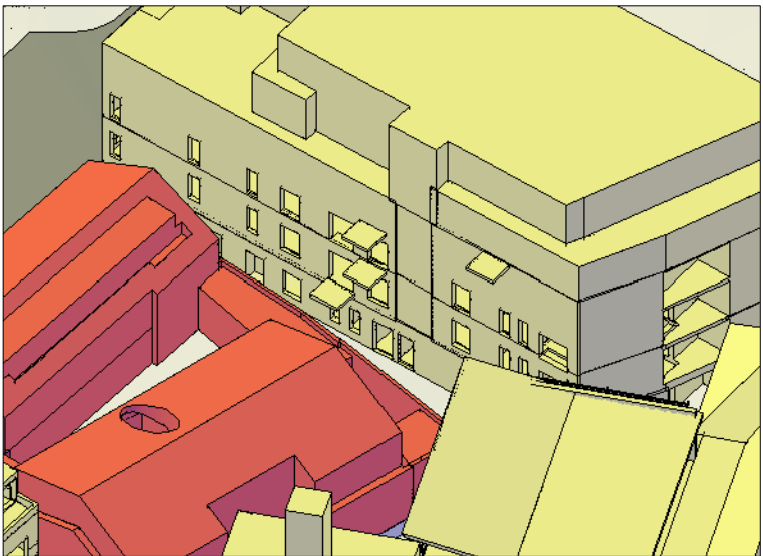


3D Context View - North East

KEY



- Existing contour
- Proposed contour
- Area of loss/gain
- Subject room



3D Context View - North West

NOTES

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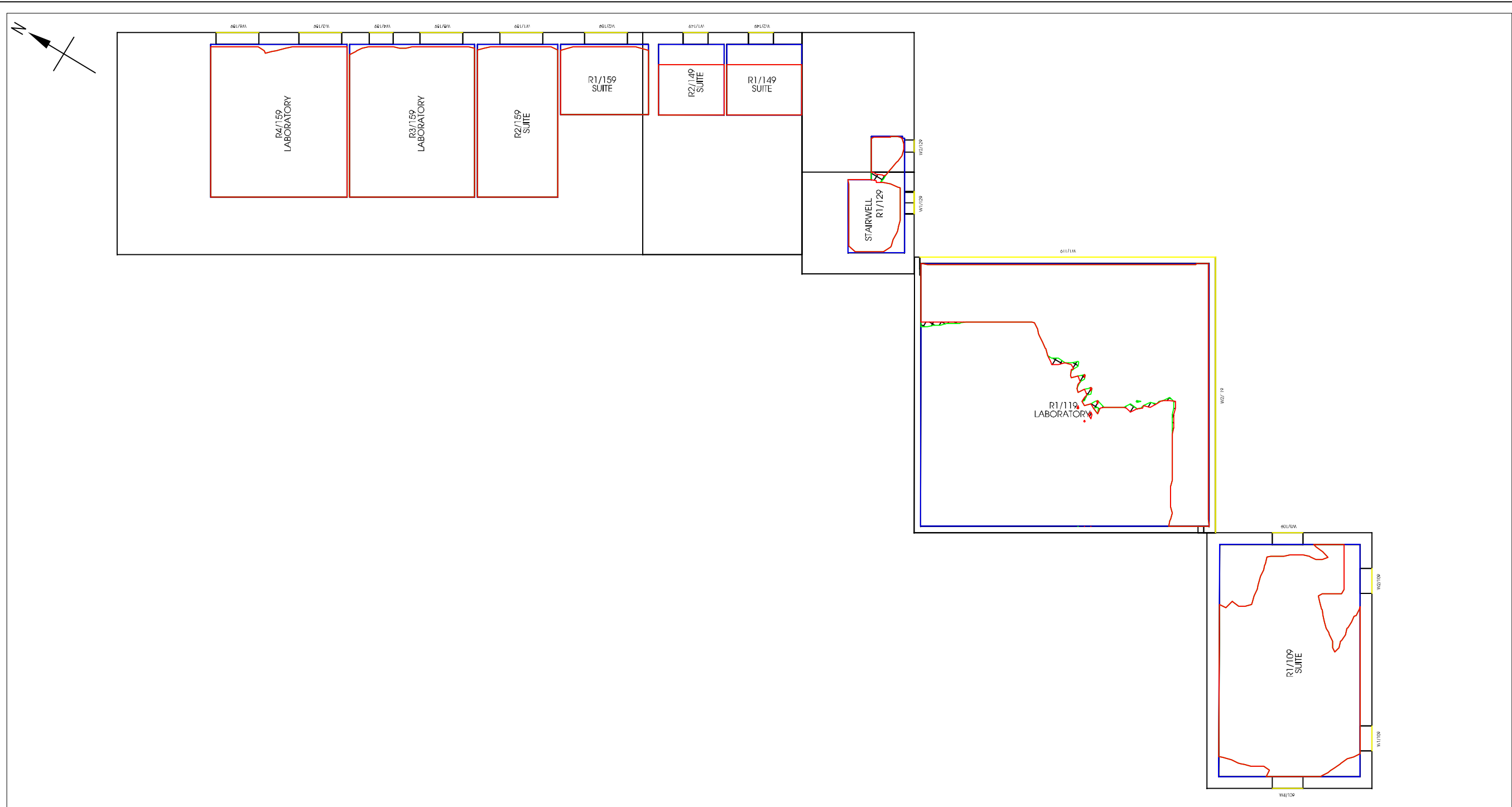
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Contours/Referencing Plans
1-5 St. Pancras Way
Second Floor**

CURNT
Wells Mackereth Architects

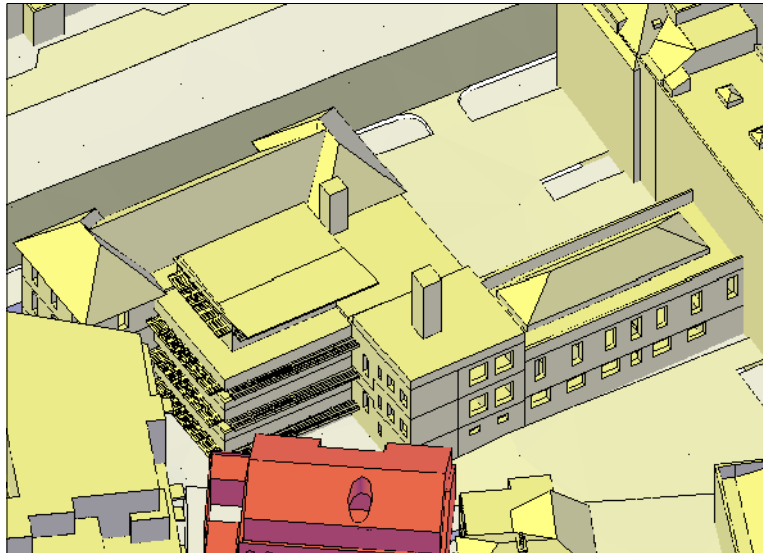
PROJECT NAME
**7 St Pancras Way,
London,
NW1 0PB**

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5 Brooks Court
Kirtling Street
London SW8 5BP
T 020 7622 9555
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W malcolmhollis.com

DRAWN BY MF	DATE March 2013
SCALE 1:125 @ A3	CHECKED SK
DRAWING NO. 31441/DD/07	RELEASE NO. 5

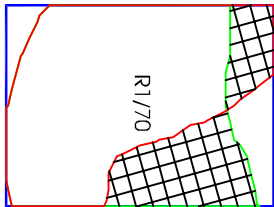


Royal Veterinary College - Ground Floor

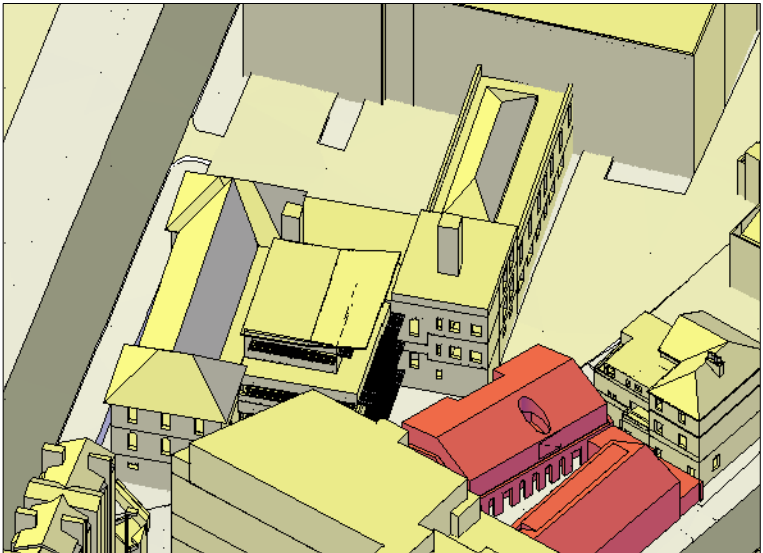


3D Context View - East

KEY



- Existing contour
- Proposed contour
- Area of loss/gain
- Subject room



3D Context View - South East

NOTES

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ZMAP

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Promap

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REVISIONS

No.	Date	Amendments	Initial

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SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

TITLE

Daylight Distribution

Contours/Referencing Plans

Royal Veterinary College

Ground Floor

CURNT

Wells Mackereth Architects

PROJECT NAME

7 St Pancras Way,

London,

NW1 0PB

malcolm hollis

5 Brooks Court

Kirtling Street

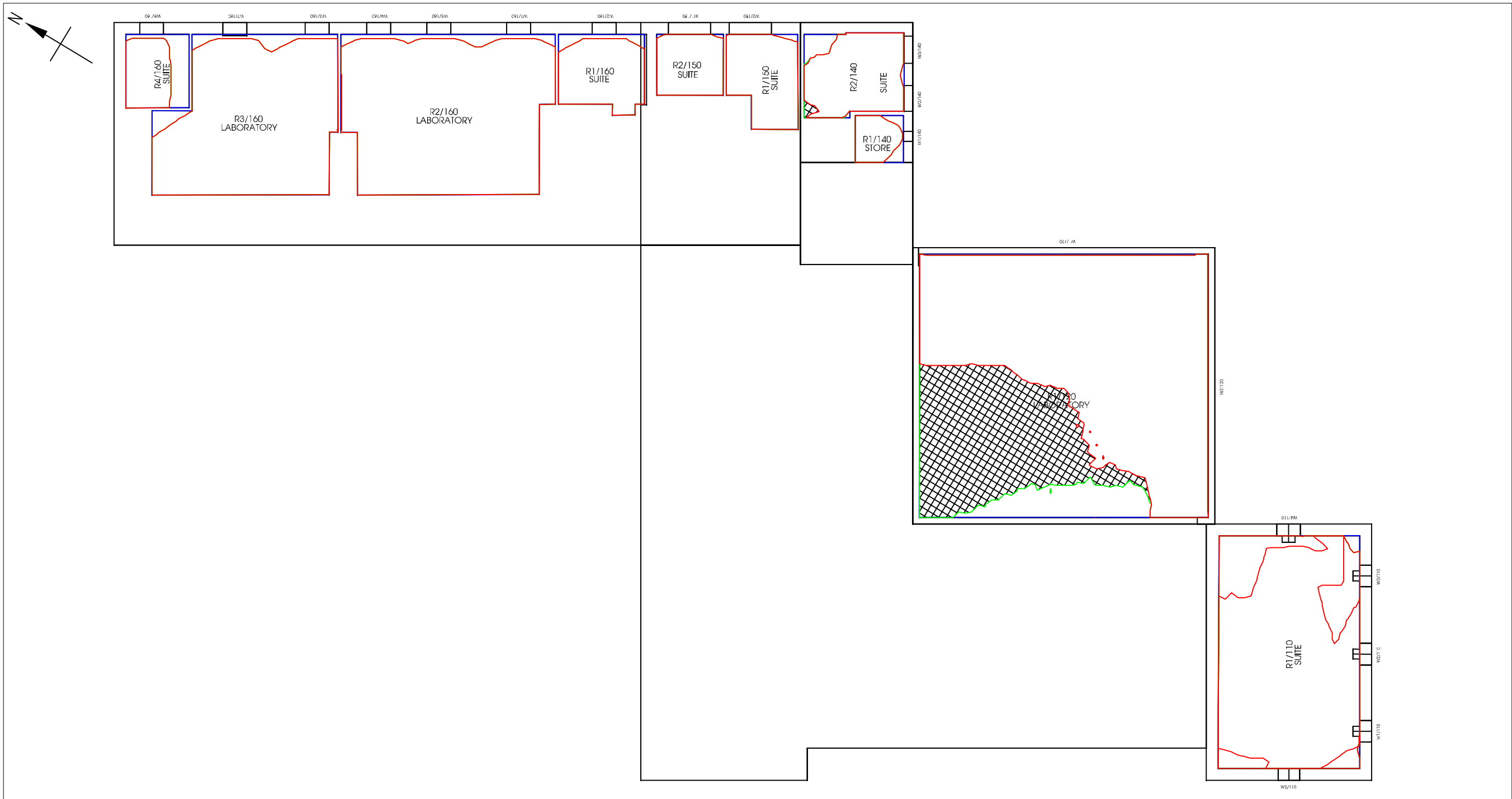
London SW8 5BP

T 020 7622 9555

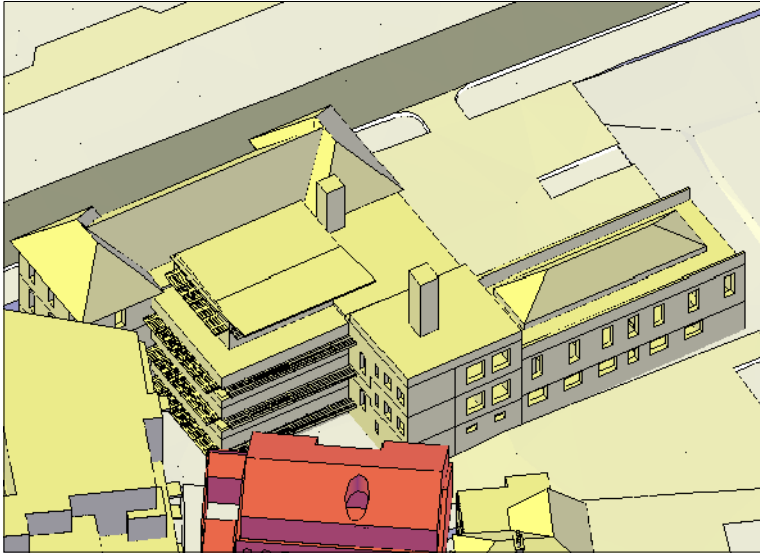
F 020 7627 9850

W malcolmhollis.com

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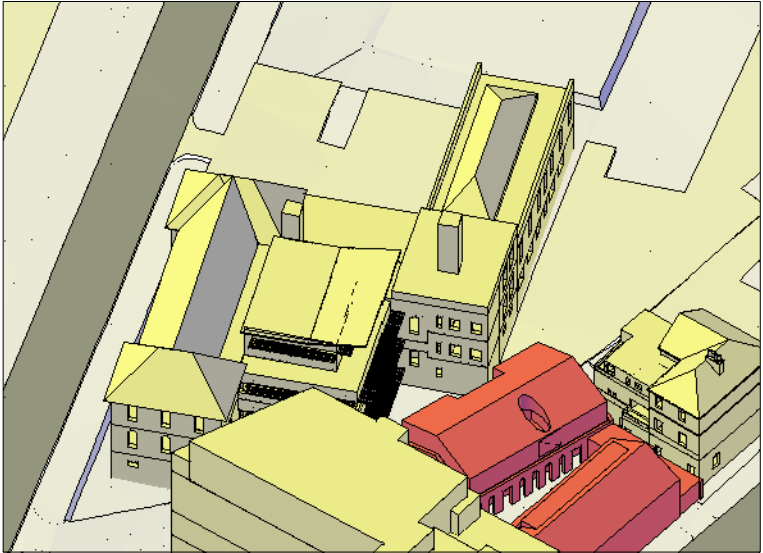
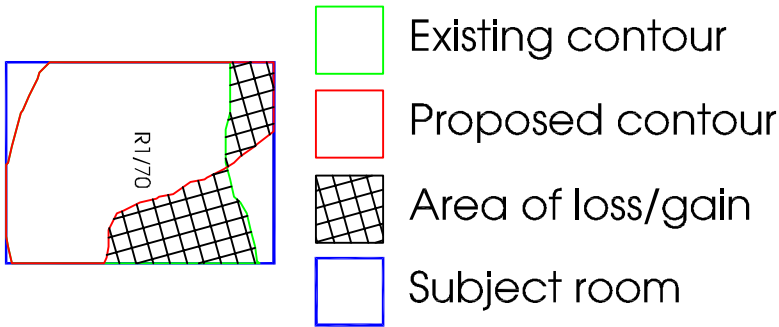


Royal Veterinary College - First Floor



3D Context View - East

KEY



3D Context View - South East

NOTES

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2) MALCOLM HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.

3) ALL DIMENSIONS ARE IN MILLIMETERS ONLY.

SOURCES OF INFORMATION:

WELLS MACKERETH ARCHITECTS

430_PL101.dwg - Proposed Ground Floor

430_PL102.dwg - Proposed First Floor

430_PL103.dwg - Proposed Second Floor

430_PL104.dwg - Proposed Roof Plan

430_PL13.dwg - Proposed Section (1 of 3)

430_PL14.dwg - Proposed Section (2 of 3)

430_PL15.dwg - Proposed Section (3 of 3)

430_PL31.dwg - Proposed Elevations (1 of 4)

430_PL32.dwg - Proposed Elevations (2 of 4)

430_PL33.dwg - Proposed Elevations (3 of 4)

430_PL34.dwg - Proposed Elevations (4 of 4)

Received 22 March 2013

ZMAP

40500731_31441_310712_Solids.dwg

Received 15 August 2012

Promap

STANFORDSPORTAL_SV0000_2008-12-16.dwg

Received 07 August 2012

REVISIONS

No.	Date	Amendments	Initial

THIS DRAWING IS FOR THE FOLLOWING PURPOSE ONLY:

PRELIMINARY ☐ TENDER ☐ CONSTRUCTION ☐

SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

TITLE

Daylight Distribution
Contours/Referencing Plans
Royal Veterinary College
First Floor

CURNT

Wells Mackereth Architects

PROJECT NAME

7 St Pancras Way,
London,
NW1 0PB

malcolm hollis

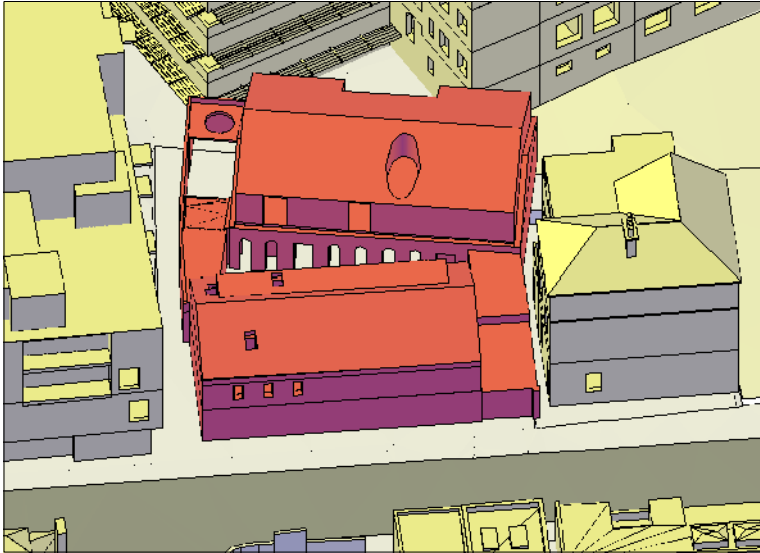
5 Brooks Court
Kirtling Street
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DRAWN BY	DATE
MF	March 2013
SCALE	CHECKED
1:200 @ A3	SK
DRAWING NO.	RELEASE NO.
31441/DD/09	5

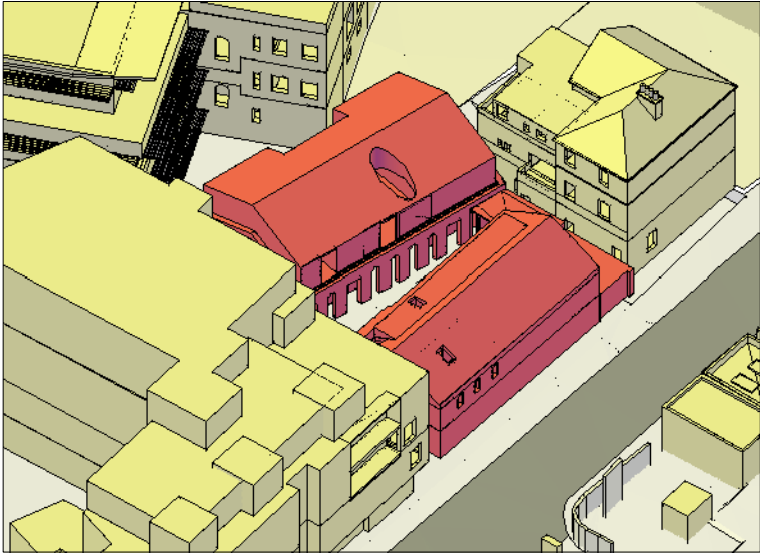
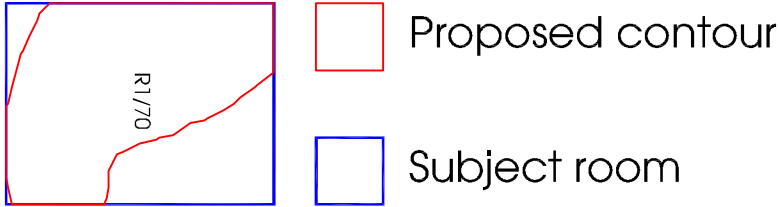


7 St.Pancras Way - Ground Floor



3D Context View - East

KEY



3D Context View - South East

NOTES

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430_PL34.dwg - Proposed Elevations (4 of 4)
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REVISIONS

No.	Date	Amendments	Initial
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☐ SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

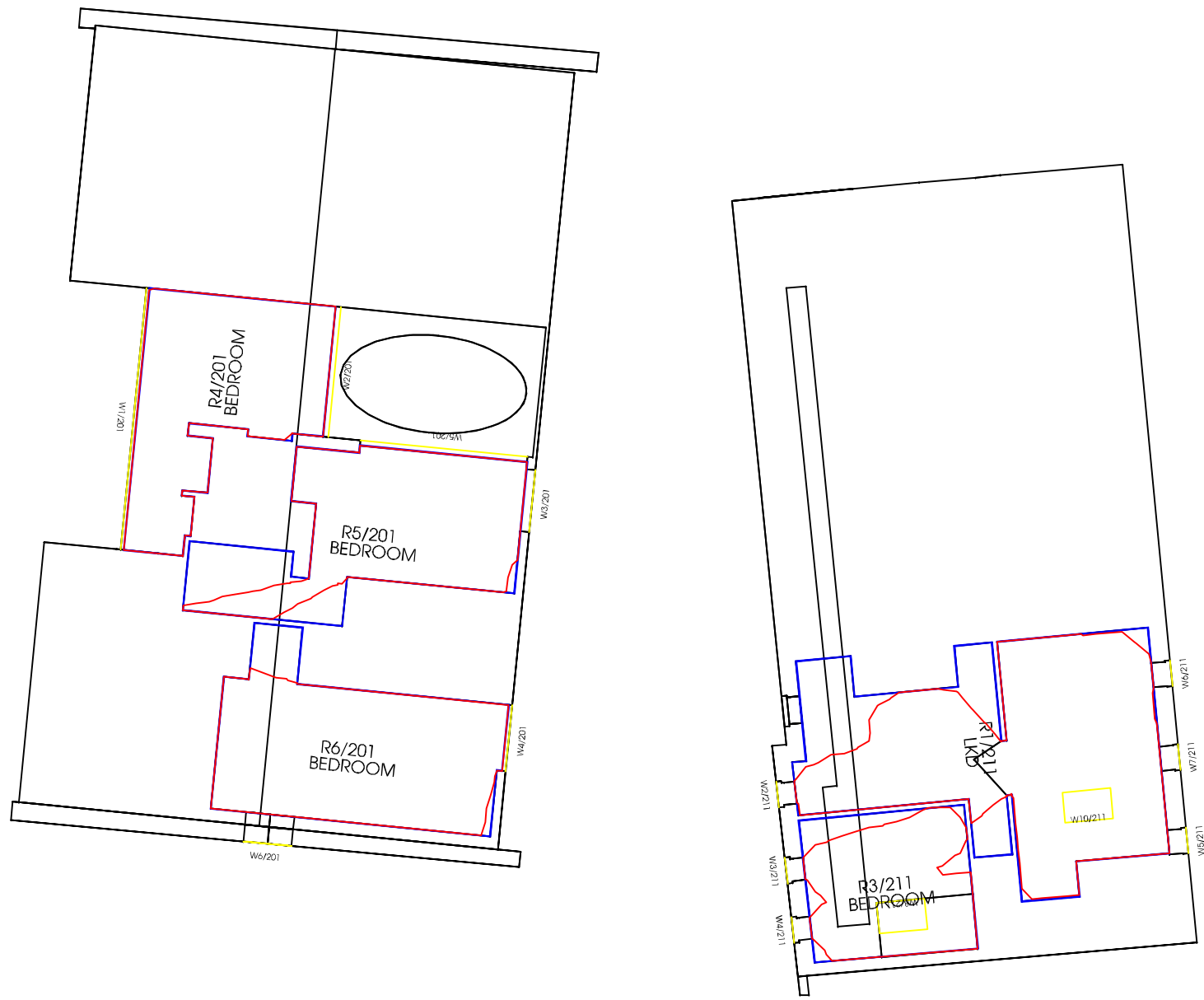
TITLE
**Daylight Distribution
Contours/Referencing Plans
7 St.Pancras Way
Ground Floor**

CURNT
Wells Mackereth Architects

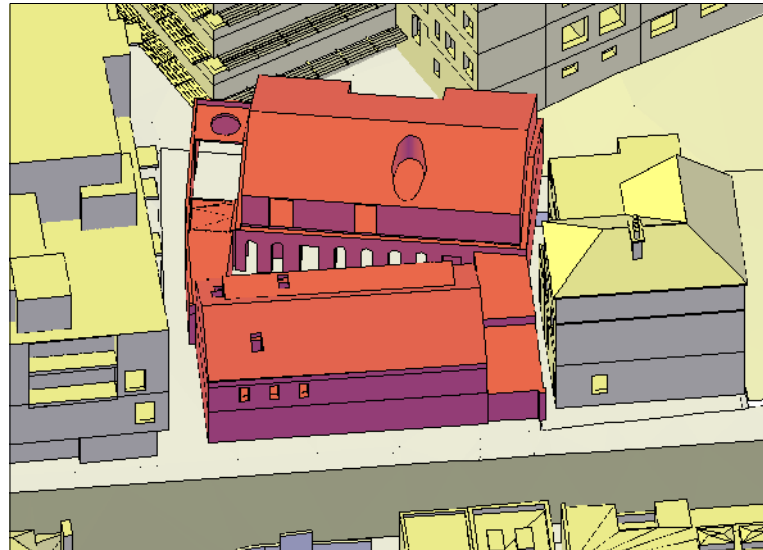
PROJECT NAME
**7 St Pancras Way,
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DRAWN BY MF	DATE March 2013
SCALE 1:150 @ A3	CHECKED SK
DRAWING NO. 31441/DD/11	RELEASE NO. 5

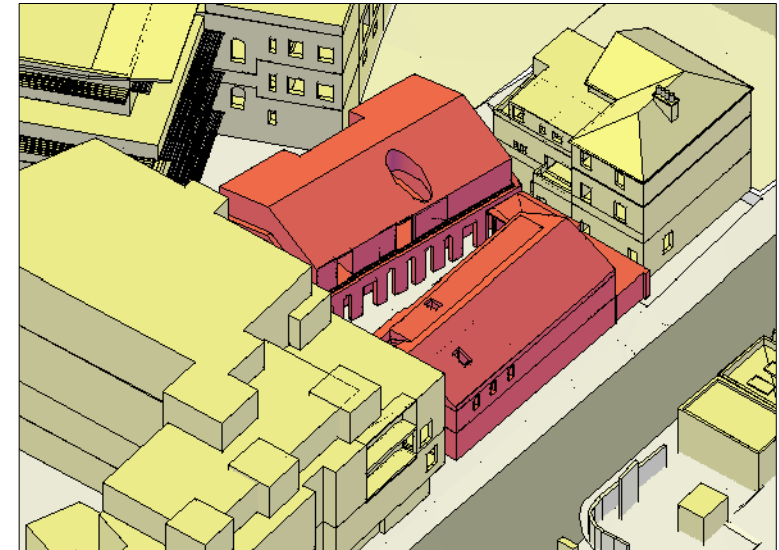
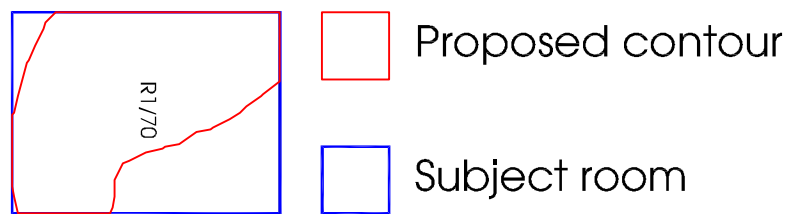


7 St.Pancras Way - First Floor



3D Context View - East

KEY



3D Context View - South East

NOTES

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ZMAP
40500731_31441_310712_Solids.dwg
Received 15 August 2012

Promap
STANFORDSPORTAL_SV0000_2008-12-16.dwg
Received 07 August 2012

REVISIONS

No.	Date	Amendments	Initial

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☐ SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

TITLE

**Daylight Distribution
Contours/Referencing Plans
7 St.Pancras Way
First Floor**

CURNT

Wells Mackereth Architects

PROJECT NAME

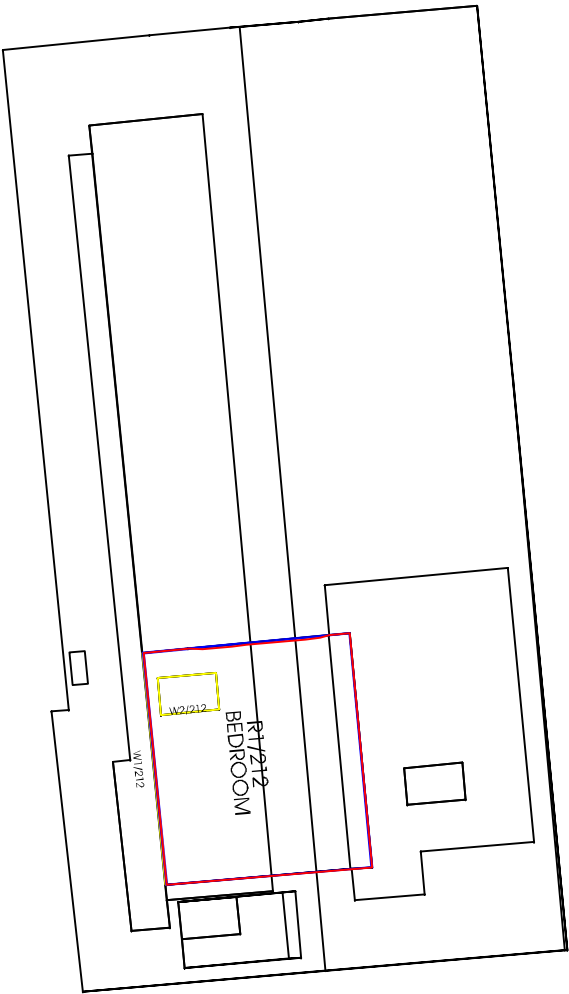
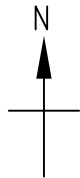
**7 St Pancras Way,
London,
NW1 0PB**

malcolm hollis

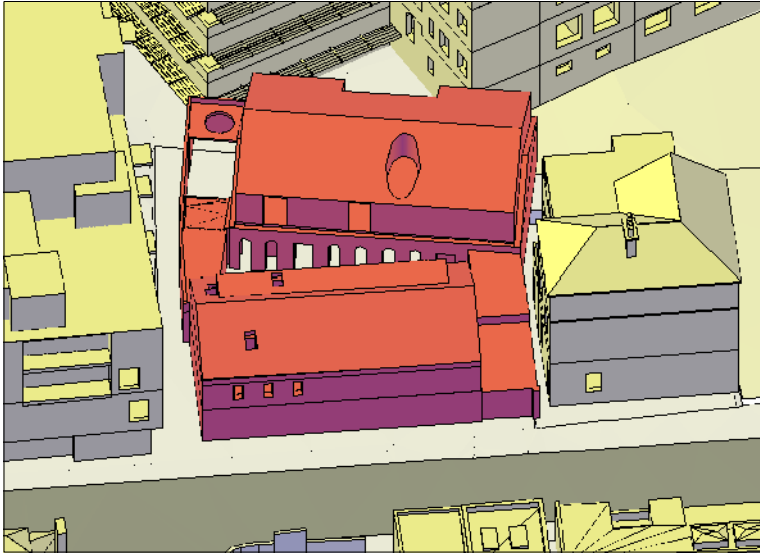
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DRAWN BY MF	DATE March 2013
SCALE 1:150 @ A3	CHECKED SK
DRAWING NO. 31441/DD/12	RELEASE NO. 5

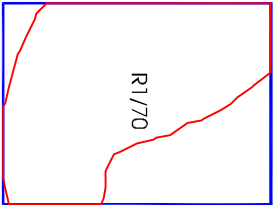


7 St.Pancras Way - Second Floor

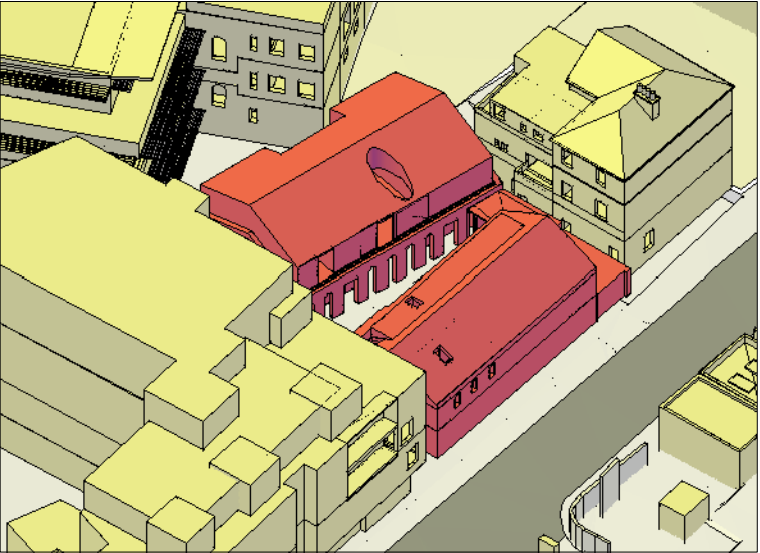


3D Context View - East

KEY



- Proposed contour
- Subject room



3D Context View - South East

NOTES

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430_PL34.dwg - Proposed Elevations (4 of 4)
Recelved 22 March 2013

ZMAP
40500731_31441_310712_Solids.dwg
Recelved 15 August 2012

Promap
STANFORDSPORTAL_SV0000_2008-12-16.dwg
Recelved 07 August 2012

REVISIONS			
No.	Date	Amendments	Intfid

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☐ PRELIMINARY ☐ TENDER ☐ CONSTRUCTION ☐
☐ SKETCH ☐ MEASURED SURVEY ☐ CONTRACT ☐

TITLE
**Daylight Distribution
Contours/Referencing Plans
7 St.Pancras Way
Second Floor**

CUBNT
Wells Mackereth Architects

PROJECT NAME
**7 St Pancras Way,
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SCALE 1:150 @ A3	CHECKED SK
DRAWING NO. 31441/DD/13	RELEASE NO. 5

Appendix D

Daylight Study

Window	Room	Room Use	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	PASS/ FAIL
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1-5 ST.PANCRAS WAY

W9/100	R1/100	BEDROOM	19.98	12.9	7.08	35.44%	FAIL
W8/100	R2/100	BEDROOM	17.25	10.28	6.97	40.41%	FAIL
W7/100	R3/100	BEDROOM	16.95	10.57	6.38	37.64%	FAIL
W4/100	R4/100	BEDROOM	19.08	15.73	3.35	17.56%	PASS
W1/100	R5/100	BEDROOM	17.7	15.12	2.58	14.58%	PASS
W3/100	R5/100	BEDROOM	18.34	15.38	2.96	16.14%	PASS
W2/100	R6/100	LKD	16.48	14.74	1.74	10.56%	PASS
W12/100	R6/100	LKD	7.41	7.41	0	0.00%	PASS
W9/101	R1/101	LKD	17.48	17.43	0.05	0.29%	PASS
W10/101	R1/101	LKD	29.56	29.56	0	0.00%	PASS
W11/101	R1/101	LKD	32.6	32.6	0	0.00%	PASS
W12/101	R1/101	LKD	8.18	8.18	0	0.00%	PASS
W8/101	R2/101	BEDROOM	26.51	26.18	0.33	1.24%	PASS
W7/101	R3/101	BEDROOM	30.62	29.27	1.35	4.41%	PASS
W5/101	R4/101	LKD	22.75	19.53	3.22	14.15%	PASS
W6/101	R4/101	LKD	28.72	26.54	2.18	7.59%	PASS
W4/101	R5/101	BEDROOM	28.28	24.97	3.31	11.70%	PASS
W2/101	R6/101	BEDROOM	25.56	23.2	2.36	9.23%	PASS
W3/101	R6/101	BEDROOM	26.85	23.89	2.96	11.02%	PASS
W1/101	R7/101	LKD	22.54	21.04	1.5	6.65%	PASS
W13/101	R7/101	LKD	11.87	11.87	0	0.00%	PASS
W9/102	R1/102	LKD	35.29	35.29	0	0.00%	PASS
W10/102	R1/102	LKD	36.16	36.16	0	0.00%	PASS
W11/102	R1/102	LKD	34.59	34.59	0	0.00%	PASS
W12/102	R1/102	LKD	9.34	9.34	0	0.00%	PASS
W8/102	R2/102	BEDROOM	35.16	35.16	0	0.00%	PASS
W7/102	R3/102	BEDROOM	34.98	34.98	0	0.00%	PASS
W5/102	R4/102	LKD	26.3	26.24	0.06	0.23%	PASS
W6/102	R4/102	LKD	32.77	32.76	0.01	0.03%	PASS
W4/102	R5/102	BEDROOM	32.18	31.73	0.45	1.40%	PASS
W2/102	R6/102	BEDROOM	29.29	29.28	0.01	0.03%	PASS
W3/102	R6/102	BEDROOM	30.22	30.19	0.03	0.10%	PASS
W1/102	R7/102	LKD	27.06	26.99	0.07	0.26%	PASS
W13/102	R7/102	LKD	17.13	17.13	0	0.00%	PASS

THE ROYAL VETERINARY COLLEGE

W1/109	R1/109	SUITE	20.13	20.13	0	0.00%	PASS
W2/109	R1/109	SUITE	11.42	11.42	0	0.00%	PASS
W3/109	R1/109	SUITE	11.91	11.38	0.53	4.45%	PASS
W4/109	R1/109	SUITE	30.16	30.16	0	0.00%	PASS
W1/110	R1/110	SUITE	23.53	23.53	0	0.00%	PASS
W2/110	R1/110	SUITE	19.75	19.75	0	0.00%	PASS
W3/110	R1/110	SUITE	14.85	14.85	0	0.00%	PASS
W4/110	R1/110	SUITE	16.26	15.97	0.29	1.78%	PASS
W5/110	R1/110	SUITE	32.37	32.37	0	0.00%	PASS
W1/111	R1/111	I.T.SUITE	24.44	24.44	0	0.00%	PASS
W2/111	R1/111	I.T.SUITE	21.34	21.34	0	0.00%	PASS
W3/111	R1/111	I.T.SUITE	16.93	16.93	0	0.00%	PASS
W4/111	R1/111	I.T.SUITE	20.41	20.41	0	0.00%	PASS
W5/111	R1/111	I.T.SUITE	31.71	31.71	0	0.00%	PASS
W1/119	R1/119	LABORATORY	2.29	1.53	0.76	33.19%	FAIL
W2/119	R1/119	LABORATORY	0.76	0.75	0.01	1.32%	PASS
W1/120	R1/120	LABORATORY	7.51	4.99	2.52	33.56%	FAIL
W2/120	R1/120	LABORATORY	1.07	1.07	0	0.00%	PASS
W1/121	R1/121	LABORATORY	10.16	10.12	0.04	0.39%	PASS
W2/121	R1/121	LABORATORY	2.05	2.05	0	0.00%	PASS
W1/129	R1/129	STAIRWELL	15.53	13.92	1.61	10.37%	PASS
W2/129	R1/129	STAIRWELL	16.04	13.26	2.78	17.33%	PASS
W1/131	R1/131	STAIRWELL	20.01	19.97	0.04	0.20%	PASS

Window	Room	Room Use	EXISTING VSC	PROPOSED VSC	LOSS VSC	%LOSS VSC	PASS/ FAIL
W1/140	R1/140	STORE	21.21	19.78	1.43	6.74%	PASS
W2/140	R2/140	SUITE	23.11	21.26	1.85	8.01%	PASS
W3/140	R2/140	SUITE	24.82	21.76	3.06	12.33%	PASS
W1/141	R1/141	SUITE	25.8	25.8	0	0.00%	PASS
W2/141	R1/141	SUITE	27.87	27.87	0	0.00%	PASS
W3/141	R2/141	SUITE	29.66	29.66	0	0.00%	PASS
W2/149	R1/149	SUITE	29.17	27.76	1.41	4.83%	PASS
W1/149	R2/149	SUITE	29.76	29.03	0.73	2.45%	PASS
W2/150	R1/150	SUITE	33.21	32.66	0.55	1.66%	PASS
W1/150	R2/150	SUITE	33.47	33.15	0.32	0.96%	PASS
W1/151	R1/151	LABORATORY	36.33	36.33	0	0.00%	PASS
W2/151	R1/151	LABORATORY	36.28	36.28	0	0.00%	PASS
W3/151	R1/151	LABORATORY	30.82	30.82	0	0.00%	PASS
W2/159	R1/159	SUITE	30.8	30.48	0.32	1.04%	PASS
W1/159	R2/159	SUITE	30.67	30.49	0.18	0.59%	PASS
W4/159	R3/159	LABORATORY	28.73	28.66	0.07	0.24%	PASS
W5/159	R3/159	LABORATORY	29.79	29.68	0.11	0.37%	PASS
W3/159	R4/159	LABORATORY	26.86	26.81	0.05	0.19%	PASS
W6/159	R4/159	LABORATORY	22.83	22.8	0.03	0.13%	PASS
W2/160	R1/160	SUITE	34.49	34.42	0.07	0.20%	PASS
W1/160	R2/160	LABORATORY	34.25	34.21	0.04	0.12%	PASS
W4/160	R2/160	LABORATORY	32.31	32.31	0	0.00%	PASS
W5/160	R2/160	LABORATORY	33.4	33.38	0.02	0.06%	PASS
W3/160	R3/160	LABORATORY	30.2	30.2	0	0.00%	PASS
W7/160	R3/160	LABORATORY	25.98	25.97	0.01	0.04%	PASS
W6/160	R4/160	SUITE	19.76	19.76	0	0.00%	PASS

9 ST.PANCRAS WAY

W6/10	R1/10	BEDROOM	18.99	17.5	1.49	7.85%	PASS
W4/10	R2/10	BEDROOM	8.37	5.53	2.84	33.93%	FAIL
W3/11	R2/11	BEDROOM	28.79	15.85	12.94	44.95%	FAIL
W6/11	R2/11	BEDROOM	25.55	22.3	3.25	12.72%	PASS
W5/11	R3/11	BEDROOM	26.57	25.55	1.02	3.84%	PASS
W3/12	R1/12	BEDROOM	32.48	32.48	0	0.00%	PASS
W4/12	R1/12	BEDROOM	32.6	32.6	0	0.00%	PASS
W6/12	R1/12	BEDROOM	30.73	30.72	0.01	0.03%	PASS
W1/21	R2/21	BEDROOM	30.35	30.34	0.01	0.03%	PASS
W2/22	R2/22	BEDROOM	33.49	33.49	0	0.00%	PASS

Room/ Floor	Room Use	Whole Room	Prev sq ft	New sq ft	Loss sq ft	%Loss
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1-5 ST.PANCRAS WAY

R1/100	BEDROOM	129.4	126.3	59.7	66.6	52.7
R2/100	BEDROOM	129.5	86.8	41.1	45.7	52.6
R3/100	BEDROOM	83.3	66.4	35.3	31.1	46.8
R4/100	BEDROOM	141.9	104.5	81.7	22.8	21.8
R5/100	BEDROOM	131.4	116.2	95.7	20.5	17.6
R6/100	LKD	345.4	312.5	290.8	21.7	6.9
R1/101	LKD	233.9	227.4	227.4	0.0	0.0
R2/101	BEDROOM	88.7	74.7	74.7	0.0	0.0
R3/101	BEDROOM	170.8	166.9	166.9	0.0	0.0
R4/101	LKD	202.1	200.3	200.3	0.0	0.0
R5/101	BEDROOM	143.0	135.2	128.3	6.9	5.1
R6/101	BEDROOM	130.6	125.1	125.1	0.0	0.0
R7/101	LKD	330.8	288.1	282.8	5.4	1.9
R1/102	LKD	233.9	232.6	232.6	0.0	0.0
R2/102	BEDROOM	88.7	75.1	75.1	0.0	0.0
R3/102	BEDROOM	170.8	166.9	166.9	0.0	0.0
R4/102	LKD	202.1	200.3	200.3	0.0	0.0
R5/102	BEDROOM	143.0	138.2	138.2	0.0	0.0
R6/102	BEDROOM	130.6	128.6	128.6	0.0	0.0
R7/102	LKD	330.8	309.1	309.1	0.0	0.0

THE ROYAL VETERINARY COLLEGE

R1/109	SUITE	771.6	617.0	617.0	0.0	0.0
R1/110	SUITE	771.6	766.4	766.4	0.0	0.0
R1/111	I.T.SUITE	771.6	771.6	771.6	0.0	0.0
R1/119	LABORATORY	1784.1	780.5	785.4	-4.9	-0.6
R1/120	LABORATORY	1784.1	1654.5	1152.0	502.5	30.4
R1/121	LABORATORY	1784.1	1773.8	1773.8	0.0	0.0
R1/129	STAIRWELL	131.3	106.2	104.1	2.1	2.0
R1/131	STAIRWELL	180.2	168.6	168.6	0.0	0.0
R1/140	STORE	53.1	43.7	43.7	0.0	0.0
R2/140	SUITE	189.6	171.8	168.3	3.5	2.0
R1/141	SUITE	90.6	84.3	84.3	0.0	0.0
R2/141	SUITE	63.6	60.7	60.7	0.0	0.0
R1/149	SUITE	124.8	88.9	88.9	0.0	0.0
R2/149	SUITE	108.9	77.6	77.6	0.0	0.0
R1/150	SUITE	139.5	137.1	137.1	0.0	0.0
R2/150	SUITE	95.0	93.9	93.9	0.0	0.0
R1/151	LABORATORY	435.7	435.5	435.5	0.0	0.0
R1/159	SUITE	145.8	139.3	139.3	0.0	0.0
R2/159	SUITE	290.1	284.8	284.8	0.0	0.0
R3/159	LABORATORY	450.5	441.4	441.4	0.0	0.0
R4/159	LABORATORY	492.0	481.9	481.9	0.0	0.0
R1/160	SUITE	146.6	131.9	131.9	0.0	0.0
R2/160	LABORATORY	748.2	716.5	716.5	0.0	0.0
R3/160	LABORATORY	615.6	579.0	579.0	0.0	0.0
R4/160	SUITE	108.6	71.6	71.6	0.0	0.0

9 ST.PANCRAS WAY

R1/10	BEDROOM	100.7	80.8	74.9	5.9	7.3
R2/10	BEDROOM	64.8	48.1	35.3	12.8	26.6
R2/11	BEDROOM	100.7	92.3	83.8	8.5	9.2
R3/11	BEDROOM	107.2	104.2	104.2	0.0	0.0
R1/12	BEDROOM	125.6	124.7	124.7	0.0	0.0
R2/21	BEDROOM	146.4	135.6	135.6	0.0	0.0
R2/22	BEDROOM	146.4	132.9	132.9	0.0	0.0

Room/Floor	Room Use	Room Area sq ft	No-Sky Line sq ft	% Of Room Area
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7 ST.PANCRAS WAY

Ground Floor

R1/200	STUDY	198.5	189.5	95.5
R2/200	BEDROOM	186.0	149.8	80.5
R3/200	LIVINGROOM	551.9	309.1	56.0
R4/200	DINING	200.4	175.3	87.5
R5/200	KITCHEN	264.4	62.9	23.8

First Floor

R4/201	BEDROOM	205.2	205.0	99.9
R5/201	BEDROOM	232.4	189.8	81.7
R6/201	BEDROOM	245.3	228.4	93.1
R1/211	LIVINGROOM	175.5	55.9	31.9
R2/211	KITCHEN	220.7	218.3	98.9
R3/211	BEDROOM	144.1	123.9	86.0

Second Floor

R1/212	BEDROOM	199.5	198.5	99.5
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Room		Window	VSC(%)	ADF(%)	TOTAL ADF(%)	PASS/ FAIL
7 ST.PANCRAS WAY						
Ground Floor						
R1/200	STUDY	W1/200	10.98	4.96	4.96	PASS
R2/200	BEDROOM	W3/200	6.62	1.45	1.45	PASS
R3/200	LIVINGROOM	W2/200	0.61	0.27	3.16	PASS
R3/200	LIVINGROOM	W4/200	7.40	2.90		
R4/200	DINING	W5/200	6.63	1.35	1.38	FAIL
R4/200	DINING	W6/200	0.00	0.02		
R5/200	KITCHEN	W7/200	4.41	1.16	1.16	FAIL
First Floor						
R4/201	BEDROOM	W1/201	15.67	6.25	8.60	PASS
R4/201	BEDROOM	W2/201	10.72	2.35		
R5/201	BEDROOM	W3/201	27.11	1.86	4.32	PASS
R5/201	BEDROOM	W5/201	9.75	2.46		
R6/201	BEDROOM	W4/201	25.63	2.03	2.38	PASS
R6/201	BEDROOM	W6/201	11.37	0.34		
R1/211	LIVINGROOM	W2/211	22.33	0.45	0.45	FAIL
R2/211	KITCHEN	W5/211	32.98	0.59	3.02	PASS
R2/211	KITCHEN	W6/211	33.80	0.60		
R2/211	KITCHEN	W7/211	33.47	0.59		
R2/211	KITCHEN	W10/211	83.90	1.24		
R3/211	BEDROOM	W3/211	21.11	0.59	2.40	PASS
R3/211	BEDROOM	W4/211	19.98	0.57		
R3/211	BEDROOM	W8/211	55.34	1.24		
Second Floor						
R1/212	BEDROOM	W1/212	25.60	5.53	6.90	PASS
R1/212	BEDROOM	W2/212	92.50	1.37		

Appendix E

Sunlight Study



					Window						Room					
					Existing		Proposed				Existing		Proposed			
Room	Window	Room Use	Flat Number	Orientation	Winter APSH	Annual APSH	Winter APSH	Annual APSH	Winter %Loss	Annual %Loss	Winter APSH	Annual APSH	Winter APSH	Annual APSH	Winter %Loss	Annual %Loss
THE ROYAL VETERINARY COLLEGE																
R1/109	W1/109	SUITE		149.1	15	50	15	50	0.0	0.0						
R1/109	W2/109	SUITE		149.1	8	30	8	30	0.0	0.0						
R1/109	W3/109	SUITE		59.0	0	1	0	1	0.0	0.0						
R1/109	W4/109	SUITE		239.0	15	51	15	51	0.0	0.0	18	65	18	65	0.0	0.0
R1/110	W1/110	SUITE		149.0	17	55	17	55	0.0	0.0						
R1/110	W2/110	SUITE		149.1	15	45	15	45	0.0	0.0						
R1/110	W3/110	SUITE		149.1	11	36	11	36	0.0	0.0						
R1/110	W4/110	SUITE		59.0	0	4	0	3	0.0	25.0						
R1/110	W5/110	SUITE		239.0	17	56	17	56	0.0	0.0	24	78	24	77	0.0	1.3
R1/111	W1/111	I.T.SUITE		149.0	18	54	18	54	0.0	0.0						
R1/111	W2/111	I.T.SUITE		149.1	15	45	15	45	0.0	0.0						
R1/111	W3/111	I.T.SUITE		149.1	15	39	15	39	0.0	0.0						
R1/111	W4/111	I.T.SUITE		59.0	0	4	0	4	0.0	0.0						
R1/111	W5/111	I.T.SUITE		239.0	19	55	19	55	0.0	0.0	25	85	25	85	0.0	0.0
R1/119	W1/119	LABORATORY		59.0	0	0	0	0	0.0	0.0						
R1/119	W2/119	LABORATORY		149.0	0	1	0	1	0.0	0.0	0	1	0	1	0.0	0.0
R1/120	W1/120	LABORATORY		59.0	0	7	0	1	0.0	85.7						
R1/120	W2/120	LABORATORY		149.0	0	1	0	1	0.0	0.0	0	8	0	2	0.0	75.0
R1/121	W1/121	LABORATORY		59.0	1	10	1	10	0.0	0.0						
R1/121	W2/121	LABORATORY		149.0	1	4	1	4	0.0	0.0	2	13	2	13	0.0	0.0
R1/129	W1/129	STAIRWELL		149.1	1	31	0	25	100.0	19.4						
R1/129	W2/129	STAIRWELL		149.1	0	28	0	21	0.0	25.0	1	34	0	28	100.0	17.6
R1/131	W1/131	STAIRWELL		149.1	6	39	6	39	0.0	0.0	6	39	6	39	0.0	0.0
R1/140	W1/140	STORE		149.1	7	43	5	37	28.6	14.0	7	43	5	37	28.6	14.0
R2/140	W2/140	SUITE		149.1	7	47	5	40	28.6	14.9						
R2/140	W3/140	SUITE		149.1	7	51	6	43	14.3	15.7	8	52	6	45	25.0	13.5

Room	Window	Room Use	Flat Number	Orientation	Window						Room					
					Existing		Proposed		Winter %Loss	Annual %Loss	Existing		Proposed		Winter %Loss	Annual %Loss
					Winter APSH	Annual APSH	Winter APSH	Annual APSH			Winter APSH	Annual APSH	Winter APSH	Annual APSH		
R1/141	W1/141	SUITE	149.1		10	51	10	51	0.0	0.0						
R1/141	W2/141	SUITE	149.1		12	59	12	59	0.0	0.0	12	59	12	59	0.0	0.0
R2/141	W3/141	SUITE	149.1		12	62	12	62	0.0	0.0	12	62	12	62	0.0	0.0
R1/150	W2/150	SUITE	59.0		3	29	2	28	33.3	3.4	3	29	2	28	33.3	3.4
9 ST.PANCRAS WAY																
R1/10	W6/10	BEDROOM	264.0		0	13	0	6	0.0	53.8	0	13	0	6	0.0	53.8
R2/10	W4/10	BEDROOM	174.0		2	14	0	8	100.0	42.9	2	14	0	8	100.0	42.9
R2/11	W3/11	BEDROOM	174.0		16	69	3	41	81.3	40.6						
R2/11	W6/11	BEDROOM	264.0		6	31	0	20	100.0	35.5	16	72	3	52	81.3	27.8
R3/11	W5/11	BEDROOM	174.0		17	61	13	57	23.5	6.6	17	61	13	57	23.5	6.6
R1/12	W3/12	BEDROOM	174.0		24	78	24	78	0.0	0.0						
R1/12	W4/12	BEDROOM	174.0		23	80	23	80	0.0	0.0						
R1/12	W6/12	BEDROOM	264.0		11	43	11	43	0.0	0.0	24	87	24	87	0.0	0.0
R2/21	W1/21	BEDROOM	174.0		18	75	18	75	0.0	0.0	18	75	18	75	0.0	0.0
R2/22	W2/22	BEDROOM	174.0		24	80	24	80	0.0	0.0	24	80	24	80	0.0	0.0

			Window		Room	
Room	Window	Room Use	Winter APSH	Annual APSH	Winter APSH	Annual APSH
7 ST.PANCRAS WAY						
Ground Floor						
R1/200	W1/200	STUDY	2	21	2	21
R2/200	W3/200	BEDROOM	0	13	0	13
R3/200	W2/200	LIVINGROOM	0	0		
R3/200	W4/200	LIVINGROOM	0	3	0	3
R4/200	W5/200	DINING	0	0		
R4/200	W6/200	DINING	0	0	0	0
R5/200	W7/200	KITCHEN	1	12	1	12
First Floor						
R4/201	W1/201	BEDROOM	3	17		
R4/201	W2/201	BEDROOM	0	11	3	28
R5/201	W3/201	BEDROOM	3	33		
R5/201	W5/201	BEDROOM	0	0	3	33
R6/201	W4/201	BEDROOM	0	29		
R6/201	W6/201	BEDROOM	1	33	1	46
R1/211	W2/211	LIVINGROOM	0	17	0	17
R2/211	W5/211	KITCHEN	8	40		
R2/211	W6/211	KITCHEN	9	43		
R2/211	W7/211	KITCHEN	8	40		
R2/211	W10/211	KITCHEN	4	59	9	65
R3/211	W3/211	BEDROOM	0	11		
R3/211	W4/211	BEDROOM	0	7		
R3/211	W8/211	BEDROOM	0	32	0	33
Second Floor						
R1/212	W1/212	BEDROOM	1	23		
R1/212	W2/212	BEDROOM	7	72	7	72

Appendix F

Overshadowing Study



EXISTING						PROPOSED						
Room/ Area	Open Space Area sq m	Area of Shade sq m	Area of Sun (2hr)	Proportion in Shade	Proportion in Sun	Room/ Area	Open Space Area sq m	Area of Shade sq m	Area of Sun (2hr)	Proportion in Shade	Proportion in Sun	REDUCTION

DATE: March 21

Proposed Amenity Area (Central Courtyard)

R1/1002	na	na	na	na	na	R1/1002	83.80	81.67	2.13	97.46%	2.54%	
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DATE: June 21

Proposed Amenity Area (Central Courtyard)

R1/1002	na	na	na	na	na	R1/1002	83.80	10.86	72.94	12.96%	87.04%	
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