
Bartram's Convent
Rowland Hill Street, NW3 2AD London
October 2014

PegasusLife

A Detailed Planning Application, Submitted on behalf of PegasusLife to Provide Specialist Living Accommodation for Older People

Supporting Document 5 Daylight/Sunlight and Overshadowing Assessment



Contents

1. Introduction	2
2. Policy and Guidance	3
3. Assumptions	4
4. Sources of Information	5
5. The Site, the Proposal and Surrounding Buildings	6
6. Assessment Criteria	6
7. Results	7
8. Conclusions	11
9. References	12
10. Attestation	13

Appendix A – Drawings of the existing and proposed buildings

Appendix B – Detailed daylight and sunlight results for the surrounding properties

Appendix C – Drawings and Results of the Daylight and Sunlight Analysis within the proposed accommodation

1. Introduction

JLL and EB7 have been instructed to assess the daylight and sunlight implications of the proposed new development at Bartrams Convent, Rowland Hill Street, London NW3.

The report assesses the impact to neighbouring residential properties, as a result of the new development, as well as the provision of daylight and sunlight amenity within the proposed residential dwellings of the development itself. The methodology and criteria used for these assessments is provided by the Building Research Establishments guidance 'Site layout planning for daylight and sunlight: a guide to good practice' (BRE, 2011) and the BS8206-2:2008.

2. Policy and guidance

2.1 Site layout planning for daylight and sunlight: a guide to good practice, BRE 2011

This document is based on guidance produced by Her Majesty's Stationary Office (HMSO) on daylight and sunlight in the built environment and is now the accepted methodology used by local authorities for assessing daylight and sunlight in relation to new developments. It provides methods for the calculation of daylight and sunlight to existing surrounding properties.

There are three methods for calculating daylight, the Vertical Sky Component (VSC), the No-Sky Line Contour (NSC) and the Average Daylight Factor (ADF). The BRE guidance states that for internal analysis of daylight it is appropriate to assess ADF. For sunlight, the Annual Probable Sunlight Hours (APSH) method is used.

The ADF method calculates the average illuminance within a room as a proportion of the illuminance available to an unobstructed point outdoors under a sky of known luminance and luminance distribution. This is the most detailed of the daylight calculations and considers the physical nature of the room behind the window, including; window transmittance, and surface reflectivity.

For sunlight the APSH test calculates the percentage of statistically probable hours of sunlight received by each window in both the summer and winter months. March 21st through to September 21st is considered to be the summer period while September 21st to March 21st is considered the winter period. For properties surrounding a new development only those windows orientated within 90° of due south and which overlook the site of the proposal are relevant for assessment.

The opening paragraphs of the BRE guidelines state: -

“The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the 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. In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings”.

It is considered important to note that in high density areas, achieving good levels of daylight and sunlight in accordance with the BRE guidelines, can conflict with other beneficial design factors.

2.2 Lighting for buildings - Part 2: Code of Practice for daylighting (BS 8206-2:2008)

This document deals with the assessment methodology for internal daylight and sunlight. It suggests that ADF be used to assess internal daylight and APSH to assess internal sunlight. The methodologies for these assessments are the same as those discussed in the BRE guidance.

3. Assumptions

A three dimensional CAD model of the current scheme proposal has been supplied by the architect. This has been incorporated into a 3d model, built by ourselves to include the existing building on the site and the pertinent surrounding properties, based upon a measured survey provided by a third party. Site photographs and ordinance survey information have been used to supplement this survey information where required.

It is important to note that where survey information has not been supplied, the precise position of the surrounding property elevations has been estimated based upon brick counts from site photographs.

Where it has not been possible to gain access to the surrounding properties, details of the internal layouts and floor level heights have been estimated from the external appearance of the building, and the locations of windows. Unless known or otherwise appropriate the depths of rooms have been assumed at 4.27m or half the building depth if this is more appropriate.

4. Sources of information

4.1 Duggan Morris Architects

A213-A-PP-01-101-basement.dwg
A213-A-PP-01-102-lower grnd floor.dwg
A213-A-PP-01-103-grnd floor.dwg
A213-A-PP-01-104-1st floor .dwg
A213-A-PP-01-105-2nd floor.dwg
A213-A-PP-01-106-3rd floor.dwg
A213-A-PP-01-107-4th floor.dwg
A213-A-PP-01-108-5th floor.dwg
A213-A-PP-01-109-6th floor.dwg
A213-A-PP-01-110-7th floor.dwg
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A213-A-PP-01-111-8th floor.dwg
A213-A-PP-01-112-9th floor.dwg
A213-A-PP-01-113-10th floor.dwg
A213-A-PP-01-201.dwg
A213-A-PP-01-202.dwg
A213-A-PP-01-203.dwg
A213-A-PP-01-204.dwg
A213-A-PP-01-301-secA.dwg
A213-A-PP-01-302-secB.dwg
A213-3D-Updated Model Revised 9th floor.skp

4.2 JLL/ eb7

- Site Photographs
- Ordnance Survey
- Photogrammetric survey

5. The Site, proposal and surrounding buildings

The site of the development is located Rowland Hill Street, adjacent to the Rosary Catholic School and the Royal Free Hospital, in the London Borough of Camden. On the site currently stands a five storey L-shaped Convent building. The proposal is for the complete redevelopment of the site to provide four blocks of four to eleven storeys containing extra care accommodation for older people.

There are a number of mixed use buildings to the west of the site, fronting Havestock Hill, most of which contain Commercial elements at ground floor and residential apartments above. These are:

- 238 Havestock Hill (entirely residential)
- 242a Havestock Hill (Residential at 1st and 2nd floors)
- 244 Havestock Hill (Residential at 1st to 3rd floors)
- 246 Havestock Hill (Residential at 1st to 3rd floors)
- 248 Havestock Hill (Residential at 1st to 3rd floors)

Drawings of the existing, proposed and surrounding buildings in context are shown upon drawings JLL0994-01 to 04 within appendix A.

6. Results

Full results of the daylight and sunlight assessments are attached within appendix B. These can be cross referenced with the drawings in appendix A.

6.1 238 Havestock Hill (entirely residential)

This is a two storey building known as the 'School House', which indicates that it used to form part of the Rosary Catholic School, but now contains 12 residential apartments. The photographs below show there are some windows in the rear elevation of the property that overlook the site of the development.



Havestock Hill elevation



Rear elevation

Daylight

The results of our VSC and NSC assessments have shown that all of the windows and rooms within this property retain levels of daylight in excess of the criteria given within the BRE guide.

Sunlight

None of the windows within this property, which overlook the site of the proposal, face within 90 degrees due South and therefore none are relevant for summer assessment following the methodology of the BRE guide.

6.2 242a Havestock Hill (Residential at 1st and 2nd floors)

This is a four storey building, fronting Havestock Hill, containing a fast food restaurant at ground floor with three storeys of residential apartments above.



Havestock Hill elevation



Rear elevation

Daylight

The results of our VSC and NSC assessments have shown that all of the windows and rooms within this property retain levels of daylight in excess of the criteria given within the BRE guide.

Sunlight

None of the windows within this property, which overlook the site of the proposal, face within 90 degrees due South and therefore none are relevant for summer assessment following the methodology of the BRE guide.

6.3 244 -248 Havestock Hill (Residential at 1st to 3rd floors)

This row of three, four storey properties fronting Havelock Hill have commercial units at ground floor and residential apartments above.



Havestock Hill elevation



Rear elevation

Daylight

The results of our VSC and NSC assessments have shown that all of the windows and rooms within this property retain levels of daylight in excess of the criteria given within the BRE guide.

Sunlight

None of the windows within this property, which overlook the site of the proposal, face within 90 degrees due South and therefore none are relevant for summer assessment following the methodology of the BRE guide.

6.4 Proposed Extra Care Accommodation

Full results of the daylight and sunlight assessments within the proposed extra care accommodation are attached within Appendix C. Drawings to show the layouts of the proposed units with window and room labels are also attached within Appendix C.

The Daylight and Sunlight amenity provided within the new proposed apartment has been assessed using the ADF and APSH tests following the methodology and criteria BRE guide and British Standard document BS8206 part 2.

Daylight

Room Type	Total No. of rooms	Rooms that meet ADF criteria
Bedroom	109	109 (100%)
Living room	59	56 (95%)
Living/Kitchen/Diner	1	1 (100%)
Kitchen	11	1 (9%)
Total	180	167 (93%)

The results of the daylight assessments have shown that 167 (93%) of the rooms surpass the BRE guidance criteria. There are only a small number of rooms, located on lower ground to fifth floors, that fall below the BRE guideline levels - 3 are living rooms and 10 are kitchens.

The 10 kitchens that fall below the 2% criteria are located on the ground to fifth floors and achieve levels between 1% and 1.8%. The development obviously contains many more than 10 kitchens as there is one per unit. They are small galley style kitchens that do not contain dining areas and for the most part these are linked to the living rooms, although with separating doors, and in most cases will borrow daylight from these main living areas. The BRE guidance makes the following statement in this regard: -

“If the layout means that a small internal galley-style kitchen is inevitable, it should be directly linked to a well daylit living room”

All of the kitchens within these units are linked to well daylit living rooms and as such should be seen as having acceptable levels of daylight.

The 3 living rooms that fall below the requisite 1.5% criteria are located on the ground and first floors and both are recessed into the façade of the building behind balconies. These balconies provide external amenity to the residents, but also restrict the amount of daylight and sunlight that is available to windows located behind them. There is, therefore, a direct trade-off between the amenity provided by the balconies and the obstruction caused to daylight.

Sunlight

The BRE and British Standard guidance suggests that sunlight to the main living areas should be checked and that bedrooms and kitchens are less important.

Room Type	Total No. of rooms	Rooms that meet APSH criteria
Living room or L/K/D	60	34 (57%)

The results of the sunlight assessments have shown that of the 60 living rooms or Living/Kitchen/Diners 33 (57%) surpass the recommended level of 25% total and 5% winter sunlight.

The proposed extra care accommodation have been designed to maximise the provision of sunlight amenity wherever possible, but the dense urban nature of the development restricts the amount of daylight and sunlight that is possible to achieve and so it has not been possible to achieve compliance within all of the habitable rooms.

The BRE guide states in its introduction that it is not an instrument of planning policy and that its criteria need to be interpreted flexibly as it is one of many site considerations. In this case we felt that the levels of daylight and sunlight to residential rooms has been maximised in consideration of other site constraints and therefore the proposals are entirely in keeping with the intentions of the BRE and British Standard guidance and reflective of conditions typically experienced in such urban locations.

7. Conclusions

The quality of daylight and sunlight amenity within the surrounding residential properties and within the proposed development has been assessed using the VSC, NSC, EF and APSH assessments as recommended within the BRE document 'Site layout planning for daylight and sunlight' and the British Standard Document BS8206 part 2.

The results of these assessments have shown that each of the surrounding residential properties will retain levels of daylight and sunlight in excess of the criteria suggested within the BRE guide. The developments impact upon the neighbouring properties is therefore fully compliant with the Local planning policy.

The results of the daylight assessments within the proposed extra care accommodation have shown that the vast majority of rooms will receive levels of daylight in excess of the relevant criteria. The sunlight results show that the levels of sunlight received by the main living rooms is restricted, but this is a result of being a dense development, where each living room is provided with a balcony. The presence of such balcony restricts the levels of sunlight that can be achieved, but this needs to be considered along with the additional amenity these provide by way of outdoor space.

Dense, high rise urban developments that are provided with balconies such as this need special consideration when applying the criteria of the BRE guidance because, as the BRE documents states in its introduction:

"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."

It is considered that the provision of daylight and sunlight within the proposed dwellings and the developments' impact upon the surrounding properties is entirely in keeping with the intentions of the BRE and British Standard guidance and reflective of conditions typically experienced in such urban locations.

8. References

Site layout planning for daylight and sunlight, BRE, 2011

Lighting for buildings - Part 2: Code of Practice for daylighting (BS 8206-2:2008)

9. Attestation

We the undersigned, confirm that this Daylight & Sunlight Assessment is a true and accurate record of the proposed development known as Bartrams Convent as at 08/10/2014.

Signed:

Date:

On behalf of the JLL

Appendix A – Drawings of the existing and proposed buildings

Sources of Information

Dugan Morris Architects
A213-3D-Updated Model Revised 9th floor.skp
A213-A-PP-01-201.dwg
Received 25/09/2014

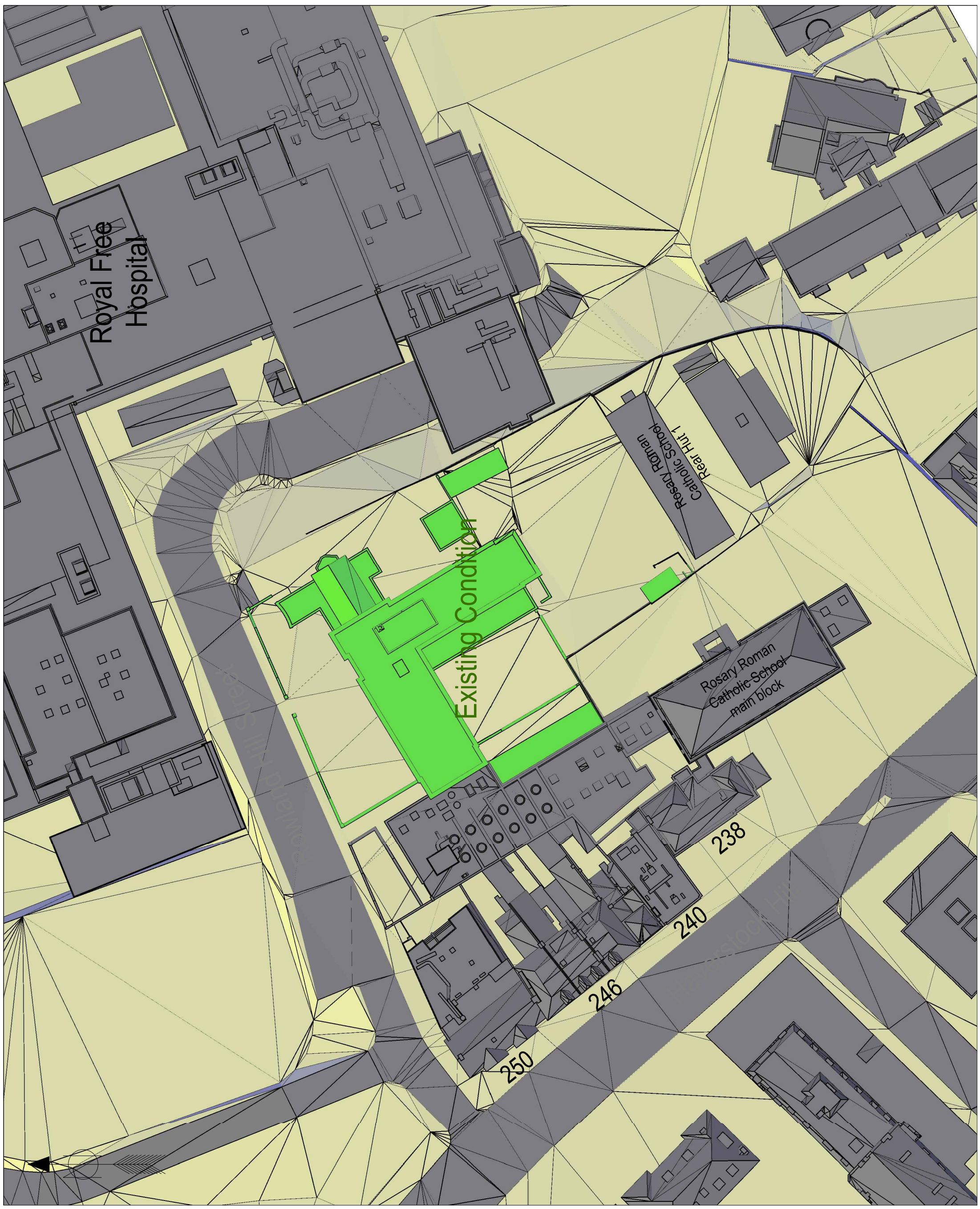
JLL/EB7 Consulting Ltd
Photogrammetric model
Site Photographs
Ordnance Survey



Project
Bartrams Convent
London
NW3 2AD

Drawing
Plan View of Existing Condition

Date	29/09/2014	Scale	NTS
Drawn By	YH	Checked By	IT
Drawing No.	0994		01
			07



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Duggan Morris Architects
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A213-A-PP-01-201.dwg
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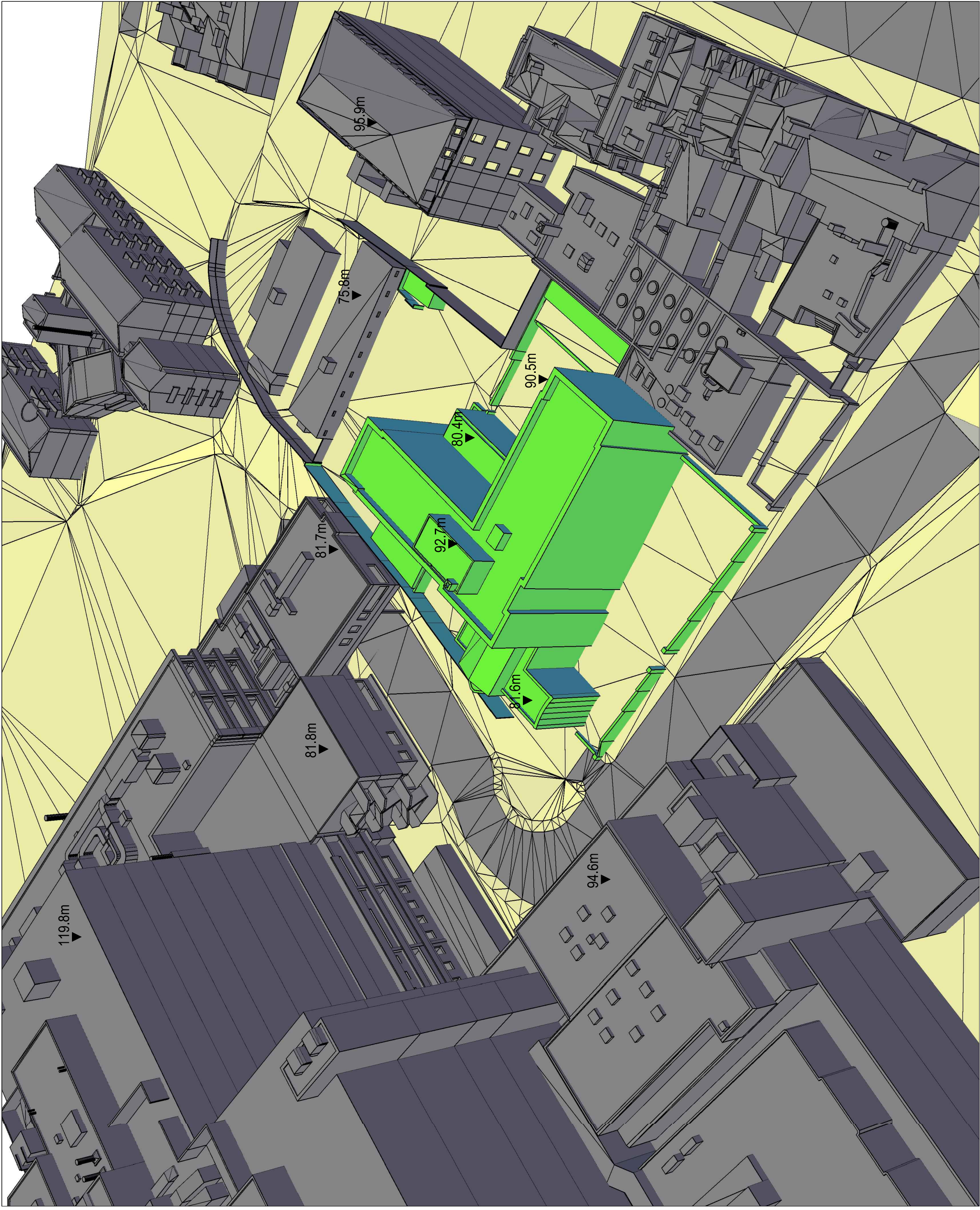
JLL/EB7 Consulting Ltd
Photogrammetric model
Site Photographs
Ordnance Survey



Project
Bartrams Convent
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NW3 2AD

Drawing
3D View of Existing Condition

Date	29/09/2014	Scale	NTS
Drawn By	YH	Checked By	IT
Drawing No.	0994		02
			07



Sources of Information

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Photogrammetric model
Site Photographs
Ordnance Survey



Project
Bartrams Convent
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Drawing
Plan view of proposed condition

Date	29/09/2014	Scale	NTS
Drawn By	YH	Checked By	IT
Drawing No.	0994		03
			07

