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Point 2 Surveyors

Sunlight and Daylight Assessment



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LINCOLN HOUSE, 232-269 HIGH
HOLBORN

Daylight & Sunlight Report

Overshadowing

• *Daylight & Sunlight* • *Light Pollution* •

Solar Glare • *Daylight Design*

DIRECTOR:	NICK LANE
CLIENT:	MAIZELANDS LIMITED & ARRINGFORD LIMITED
DATE:	APRIL 2018
VERSION:	PLANNING
PROJECT:	P649

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1 Introduction

- 1.1 Point 2 Surveyors Ltd has been appointed by Maizeland Limited and Arringford Limited to undertake a daylight and sunlight study with regards to the proposed redevelopment of Lincoln House, 296-302 High Holborn.
- 1.2 The Proposed Development seeks full planning permission for the refurbishment, remodelling and extensions at rear, flank and roof level to provide 2,200sqm (GIA) additional floorspace and rooftop plant. Change of use of ground floor Use Classes from A1, A2 and B1a uses to provide 2 x A1 units (204sqm GIA) and remainder in B1a Use. Associated external alterations to the elevations. Provision of appropriate cycle parking, waste/recycling storage, additional services and associated ancillary works.
- 1.3 This report assesses the potential daylight and sunlight effects of the Proposed Development on the surrounding residential properties.
- 1.4 The calculations within this report have been based upon the submitted plans, elevations and sections that have been prepared by EPR Architects along with detailed land survey information of the surrounding properties that was provided by Plowman Craven.

Sources of Information

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

Plowman Craven

2D Survey plan and elevations
33494-Final Full Set
33494 – ROL-Issue B

Point 2 Surveyors

Site Photos

EPR Architects

Received 18/12/17
10323-EPR-00-xx-M3-A-Central_Option 2 Basement infill and increase massing.rvt



2 Methodology

2.1 The recognised methodology for undertaking daylight and sunlight assessments is provided by the Building Research Establishment 'Site planning for daylight and sunlight – a guide to good practice'; commonly referred to as 'the BRE Guidelines'.

2.2 When assessing any potential effects on the surrounding properties, the BRE guidelines suggest that only those windows that have a reasonable expectation of daylight or sunlight need to be assessed. In particular the BRE guidelines at paragraph 2.2.2 state:

"The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed."

2.3 Further to the above statement, it is considered that the vast majority of commercial properties do not have a reasonable expectation of daylight or sunlight. This is because they are generally designed to rely on artificial electric lighting rather than natural light, particularly in dense city centre locations such as this.

2.4 If a property is considered to have a reasonable expectation of daylight or sunlight the following methodology to assess the impacts has been used:

Daylighting

2.5 The BRE guidelines provide three principal measures of daylight – namely Vertical Sky Component (VSC), No-Sky Line (NSL) and Average Daylight Factor(ADF).

2.6 Vertical Sky Component (VSC)

- VSC is a measure of the skylight reaching a point from an overcast sky. For Existing buildings, the BRE guideline is based on the loss of VSC at a point at the centre of a window, on the outer plane of the wall. The BRE guidelines state that if the VSC at the centre of a window is less than 27%, and it is less than 0.8 times its former value (i.e. the proportional reduction is greater than 20%), then the diffuse daylighting of the existing building may be adversely affected.

2.7 No-Sky Line (NSL)

- No-Sky Line (NSL) is a measure of the distribution of daylight within a room. As it maps out the region within a room where light can penetrate directly from the sky, it therefore accounts for the size of and number of windows by simple geometry. The BRE suggest the area of the working plane within a room that can receive direct skylight should not be reduced to less than 0.8 times its former value.

2.8 Average Daylight Factor (ADF)

- ADF is a measure of the daylight within a room, and accounts for factors such as the number of windows and their size in relation to the size of the room. Clearly a small room with a large window will be better illuminated by daylight than a large room with a small window. It also accounts for window transmittance and the reflectance of the internal walls, floor and ceiling. The general idea is that the daylight which reaches each of the windows is first calculated. Then, allowing for the window size, the daylight which then enters the room through the windows is determined. The light is then imagined to bounce around within the room, controlled by the reflectance of the internal surfaces. The ADF is detailed in both British Standard 8206 Part 2:2008 and Appendix C of the BRE Report. The BRE report provides guidance for acceptable values in the presence of supplementary electric lighting, depending on the room use. These are 1.0% for a bedroom, 1.5% for a living room and 2.0% for a kitchen.

Sunlight

- 2.9 The amount of direct sunlight a window can enjoy is dependent on its orientation and the extent of any external obstructions. For example, a window that faces directly north, no matter what external obstructions are present, will not be able to receive good levels of sunlight throughout the year. However, a window that faces directly south with no obstructions will enjoy very high levels of sunlight throughout the year. As the potential to receive sunlight is dependent on a window's orientation, the BRE guidelines state:

"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 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun."

- 2.10 To consider any sunlight effect to the surrounding properties the BRE guidelines suggest calculating the Annual Probable Sunlight Hours (APSH) at the centre of each window on the outside face of the window wall. The BRE guidelines suggest that:

"If this window point can receive more than one quarter of APSH (see section 3.1), including at least 5% of APSH in the winter months between 21st September and 21st March, then the room should still receive enough sunlight."

- 2.11 If the above criteria is not met, the BRE guidelines suggest calculating the APSH at the window in the existing situation, i.e. before redevelopment. If the reduction of APSH between the existing and proposed situations is less than 0.8 times its former value for either the total APSH or in the winter months; and greater than 4% for the total APSH, then the occupants of the adjoining building are likely to notice the reduction in sunlight.

3 The Site and the Proposed Development

- 3.1 The development site is bound by High Holborn to the north, Northumberland House (303-306 High Holborn) – a 9 storey office building to the east and 294-295 High Holborn to the west which is currently a vacant site, with no buildings or structures and , awaiting a redevelopment.
- 3.2 The BRE Guidelines recommend that daylight and sunlight assessments should be undertaken in relation to any properties which might be considered to have a reasonable expectation for natural light. This would ordinarily include any residential buildings within the vicinity of the site. In our experience, daylight and sunlight assessments do not extend to commercial buildings and therefore such uses have been excluded from this assessment.
- 3.3 The only permanent residential accommodation that currently surrounds the site is located within 76 Chancery Lane. We understand that there may be some short-term accommodation within 2 Stone Buildings, which is the barrister's chambers immediately to the south of the site. We have been unable to resolve exactly which portions of the building may be used for residential purposes and therefore, we have considered the effect to the totality of the building.
- 3.4 On the 19th December 2017, 294-295 High Holborn achieved a resolution to grant planning permission by the London Borough of Camden (Ref: 2017/1827/P). The proposed development entails the erection of a 9 storey building comprising of retail uses at basement and ground floor, office uses at 1st and 2nd floor and nine residential units above. It is our understanding that the Section 106 agreement has yet to be signed for this development and therefore, the site does not have full planning permission. However, in anticipation of it achieving consent, we have considered the effects to the consented scheme.
- 3.5 It should be noted that in reaching a decision to grant the planning permission the Council has taken into consideration the impact of the proposed massing and scale of the redevelopment of Lincoln House and considers the impact of the Proposed Development on the daylight and sunlight amenity to 294-295 High Holborn to be acceptable.
- 3.6 Drawing numbers P659/38-40 in Appendix 1 illustrate the location of the existing buildings on the site and their relationship to the surrounding properties. Our assessment assumes the proposed scheme for 294-295 High Holborn is in situ. A 3D view of the existing site including the permitted development is also shown below.



4 Results of Technical Assessment

- 4.1 A full set of detailed daylight and sunlight results for the assessed properties is included within Appendix 3. A set of window maps are included within Appendix 4 which show the location of those windows assessed and referenced in the detailed tables.

76 Chancery Lane

- 4.2 This property is located to the east of the site and has windows facing towards the Proposed Development. It is our understanding that residential accommodation is located the 1st- 3rd floors of the building.
- 4.3 The enclosed technical analysis clearly shows that the proposal has a negligible effect upon this property. The VSC losses are limited to just 6% which are well within the 20% criteria offered by the BRE Guidelines. The No Skyline results show similar level of effects and are again in accordance with the BRE criteria.
- 4.4 With regards to sunlight, there is no more than 2% absolute change in APSH and the impacts are compliant with the BRE Guidelines

2 Stone Buildings

- 4.5 We understand there may be some short term residential accommodation within certain parts of the building. We have undertaken research to resolve where these may be however, we have been unable to obtain floorplans. For completeness, we have assessed the windows within the north and west facing elevations of the building, making reasonable assumptions as to the internal configuration of the rooms behind those windows in the absence of the suitable layout information.
- 4.6 The VSC analysis shows that all of the assessed windows meet the BRE criteria. All but one of the rooms meet the NSL criteria. The one exception is R1/33 which experiences a 20.5% reduction and represents a purely technical infraction of the BRE Guidelines.
- 4.7 With regards to sunlight, all of the windows meet the BRE criteria.

294-295 High Holborn

- 4.8 This site has recently achieved resolution to grant planning and involves the erection of a mixed use building, with residential accommodation occupying the 3rd floor and above.
- 4.9 The proposed scheme contains residential windows immediately along the eastern boundary which imposes a material burden on the Lincoln House site, which did not previously exist. The applicant for Lincoln House made representations to the officers considering the 294-295 High Holborn application as the design of the scheme clearly had the potential to influence the application for Lincoln House.
- 4.10 The majority of windows within the east elevation of 294-295 High Holborn serve bedrooms. There are isolated windows serving dual aspect, open plan, LKD's however, these are secondary windows to the LKDs which have their main windows facing south and over Lincoln's Inn Gardens.

4.11 There are reductions in daylight to the bedrooms however, this is an inevitable consequence of windows being placed immediately on the boundary.

4.12 In determining the 294-295 High Holborn site, the officers report for clearly states:

“In reaching the decision to grant planning permission, the Council has taken into consideration the impacts of the proposed massing and scale of the redevelopment of the adjacent site at Lincoln House (as presented at pre-application discussions) and considers the impact of the proposed development on their site (294-295 High Holborn) in terms of residential amenity, be acceptable.”

4.13 It would therefore follow that the retained amenity to the east facing rooms are acceptable, particularly given the fact that the main habitable rooms within this scheme would continue to achieve excellent levels of daylight and sunlight with the Lincoln House proposal in place.

4.14 We note that Officers recommended that the Legal Agreement for 294-295 High Holborn site should include a clause advising any prospective purchasers and tenants of the new building of the plans for the proposed development of Lincoln House and the expected daylight and sunlight levels this will result in. As such, the future occupants will purchase the flats in the full knowledge that Lincoln House will be developed which will influence the availability of daylight and sunlight to the east facing rooms. Officers also stated that in order to prevent the issue of overlooking from the offices in the development and the bedroom windows, the applicant agreed to mitigation measures and proposed a mixture of obscure glazing and external fins.

4.15 In summary, the implementation of the application scheme will reduce the daylight to 294-295 High Holborn, however planning permission for that site was granted in the full knowledge that the Lincoln House site would be developed to the full extent illustrated in this application. Importantly, the primary living accommodation within 294-295 High Holborn is largely unaffected and the rooms will remain very well daylit spaces. As such, we consider the effects to this building to be acceptable.

5 Conclusion

- 5.1 Point 2 Surveyors have assessed the EPR Architects scheme for the Lincoln House site insofar as it affects the daylight and sunlight amenity to the surrounding residential properties.
- 5.2 Our detailed technical assessments demonstrate that the Proposed Development has a negligible effect upon the existing and proposed residential accommodation in proximity to the site.
- 5.3 There is an effect to the east facing rooms within the consented scheme for 294-295 High Holborn however, planning permission for this site was granted in the full knowledge of the imminent submission of the Lincoln House proposals. As such, officers have already determined that the residential amenity within the 294-295 High Holborn scheme is acceptable with the Lincoln House proposals in place.



Appendix 1 - Existing Site Plan and 3D Drawings



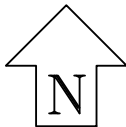


Sources: Plowman Craven:
2D Survey plan and elevations
33494-Final Full Set
33494-RoL-Issue B

Point 2 Surveyors:
Site photos

EPR Architects
Received 18/12/17
10323-EPR-00-XX-M3-A-Central_Option 2 Basement infill and
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Key:
Existing Building



Project: Lincoln House,
269-302 High Holborn,
London

Title: Site Plan
Existing Building

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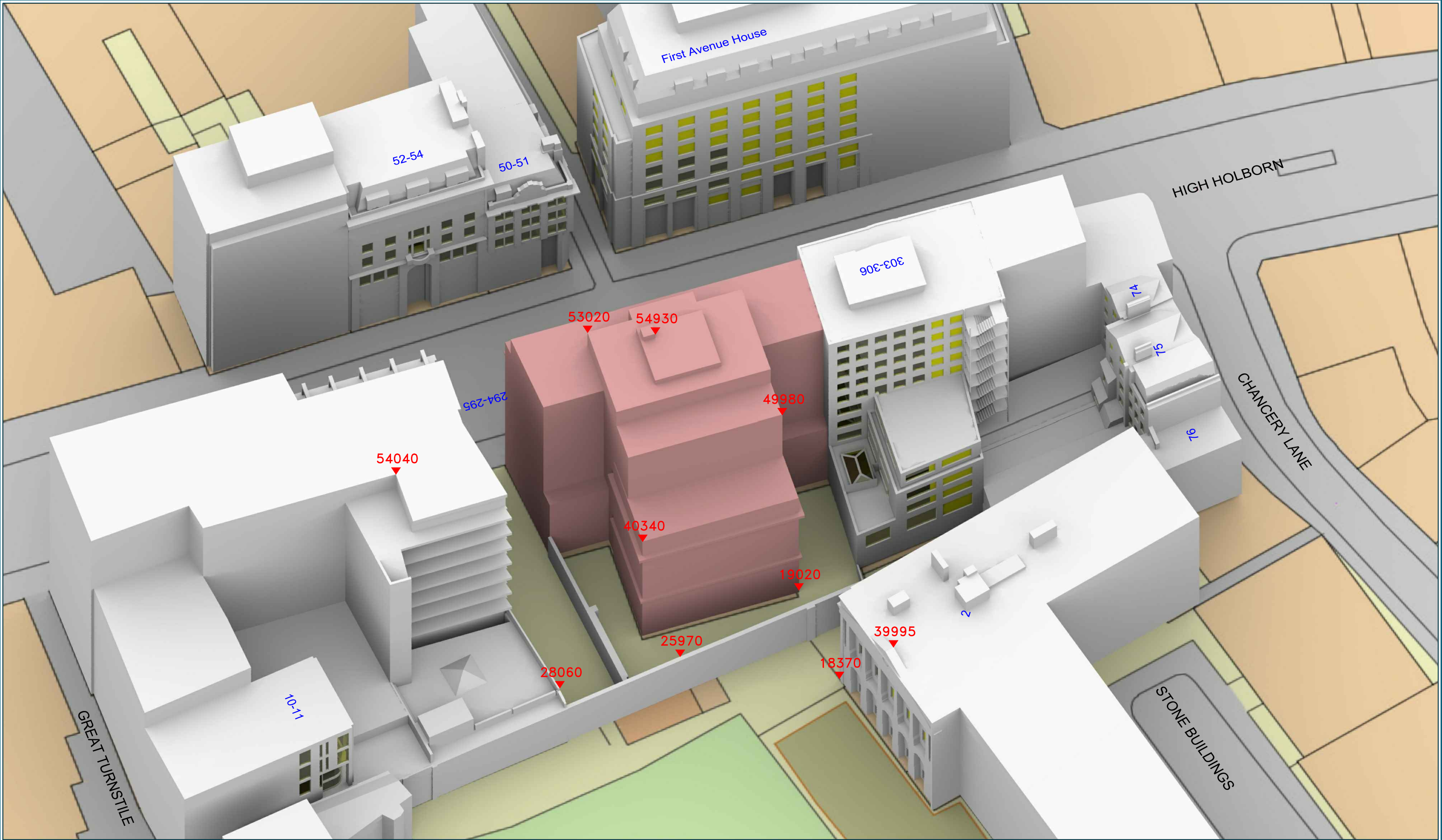


Drawn By: CJ

Scale: 1:400

Date: APR 18

Dwg No: **P659/38**



Sources: Plowman Craven:
2D Survey plan and elevations
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33494-RoL-Issue B

Point 2 Surveyors:
Site photos

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Received 18/12/17
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Key:

Existing Building

All the Heights in mm AOD

Project: Lincoln House,
269-302 High Holborn,
London

Title: 3D View
Existing Building

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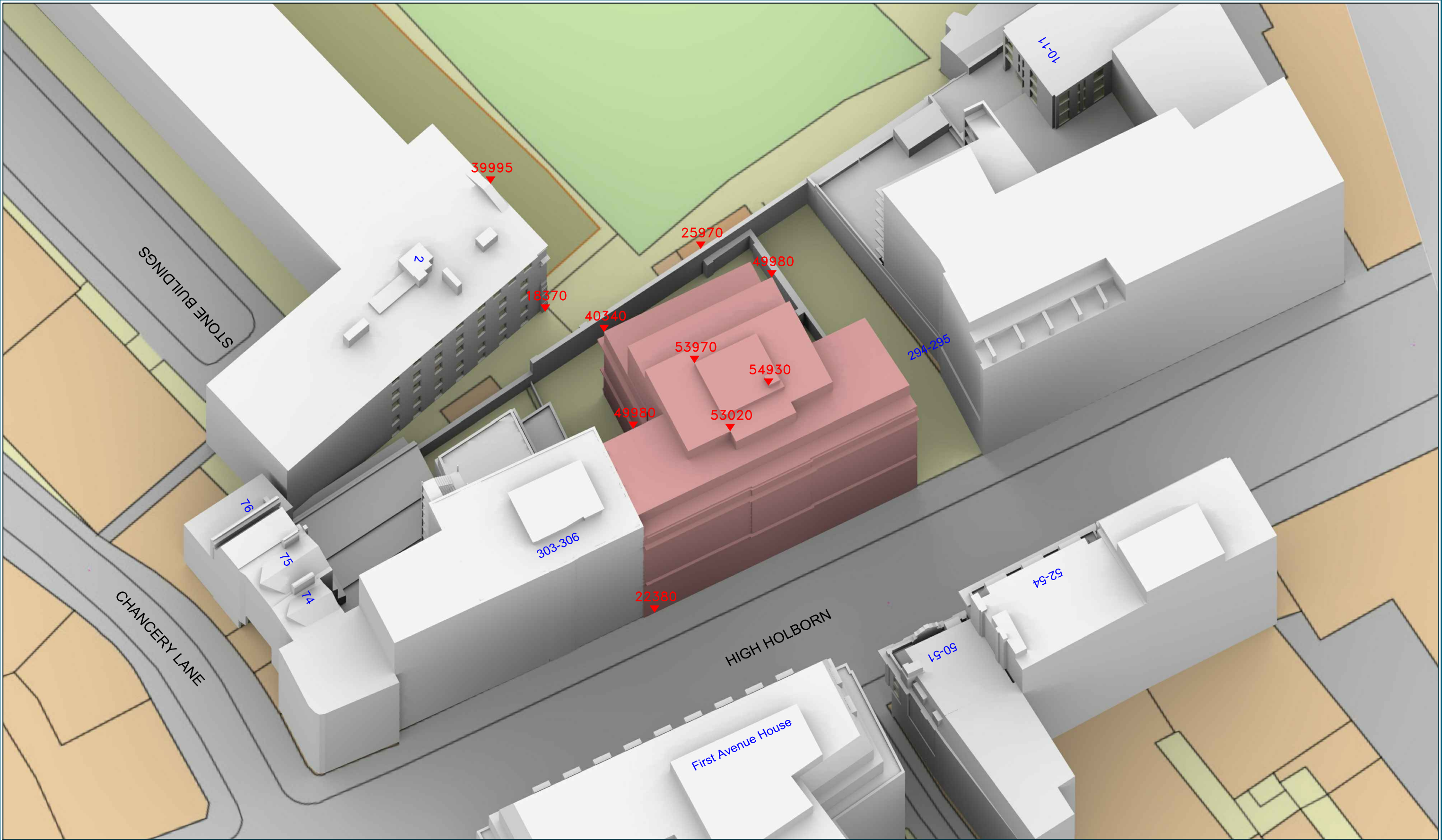


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Scale: NS

Date: APR 18

Dwg No: **P659/39**



Sources: Plowman Craven:
2D Survey plan and elevations
33494-Final Full Set
33494-RoL-Issue B

Point 2 Surveyors:
Site photos

EPR Architects
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Key:

Existing Building

All the Heights in mm AOD

Project: Lincoln House,
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London

Title: 3D View
Existing Building

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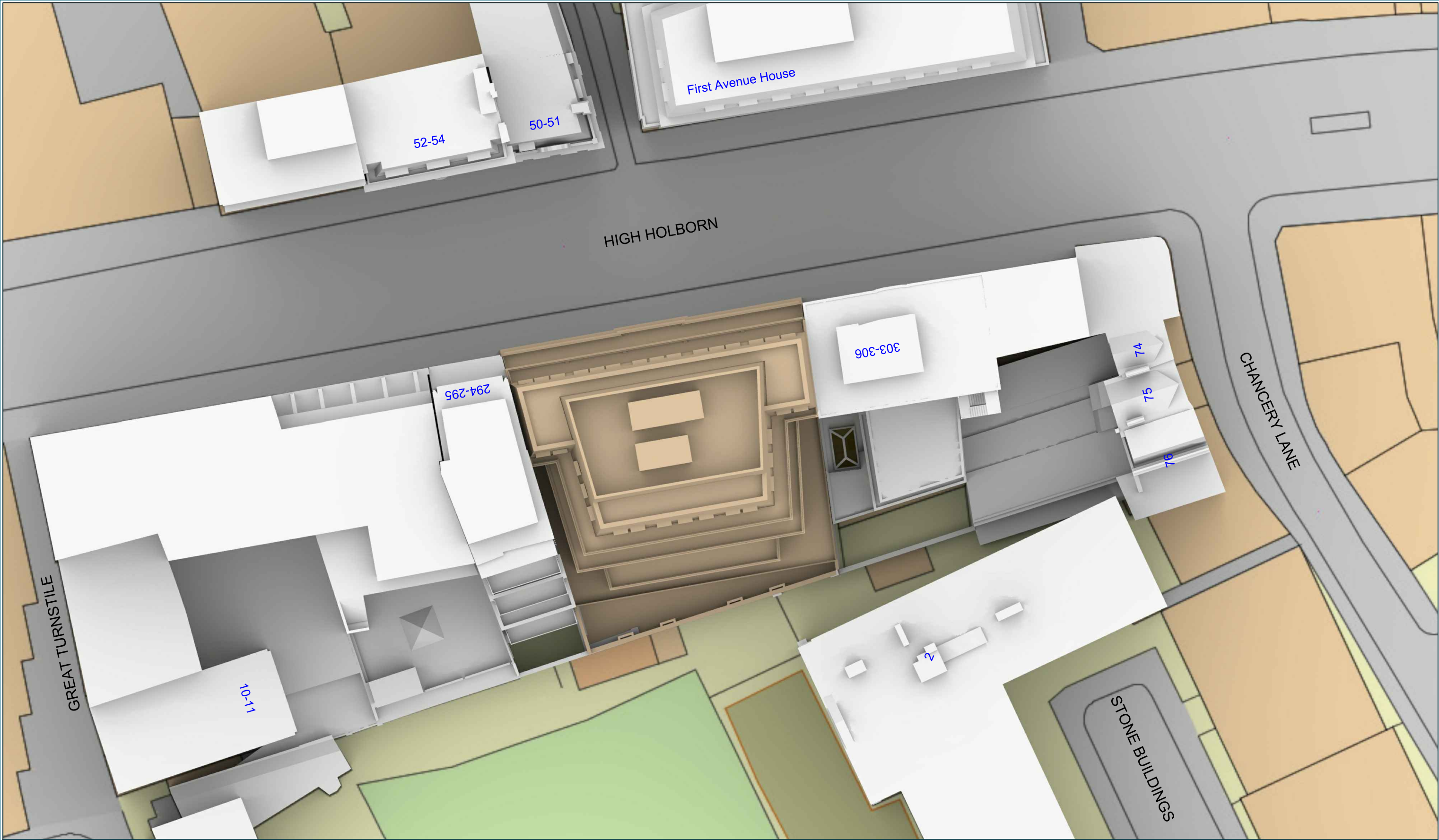
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Date: APR 18

Dwg No: **P659/40**

Appendix 2 - Proposed Site Plan and 3D Drawings



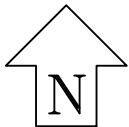


Sources: Plowman Craven:
2D Survey plan and elevations
33494-Final Full Set
33494-RoL-Issue B

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Key:
Existing Building
Proposed Scheme



Project: Lincoln House,
269-302 High Holborn,
London

Title: Site Plan
Proposed Scheme dated 18/12/17
Cumulative Scenario

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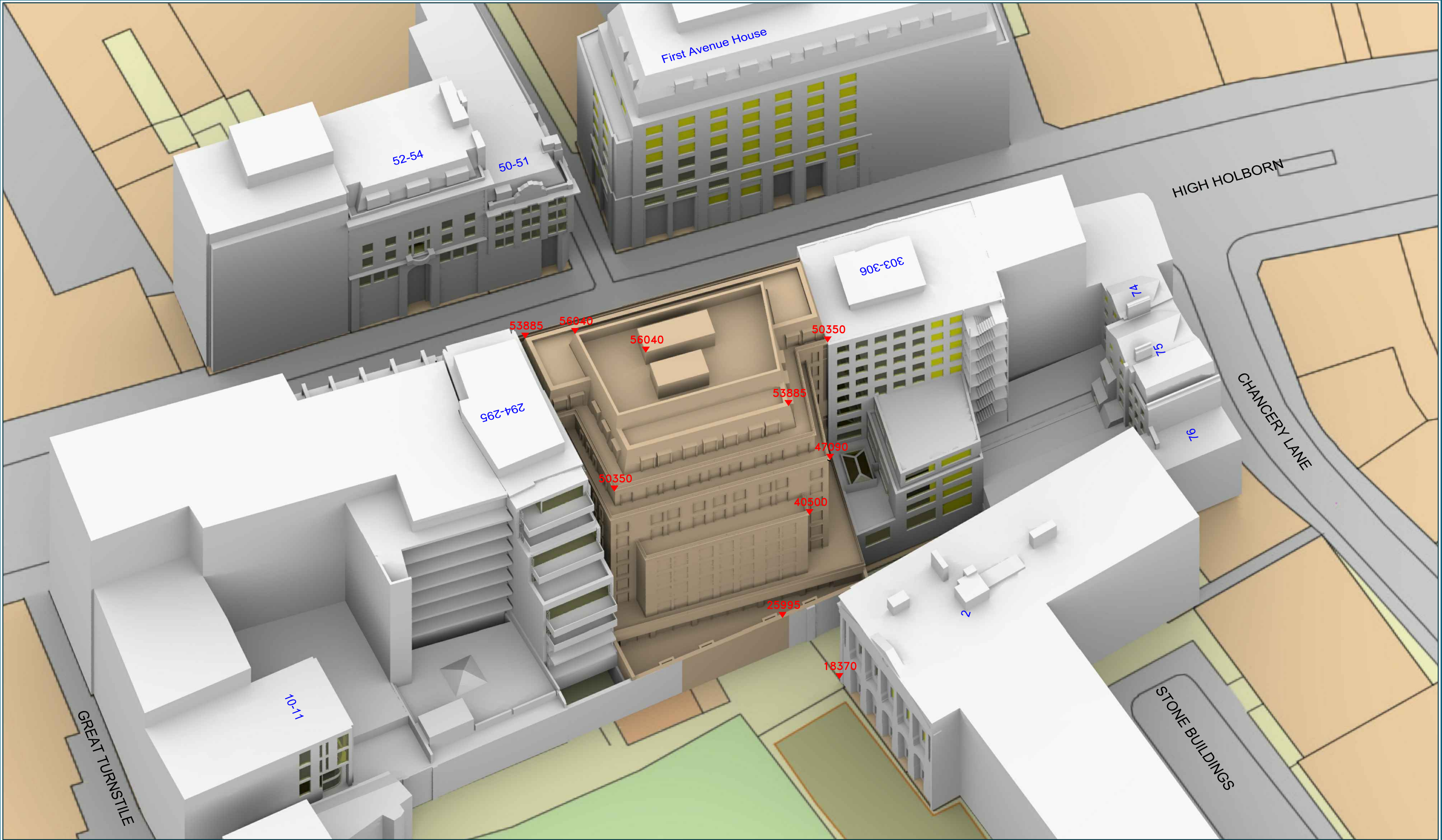


Drawn By: CJ

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Date: APR 18

Dwg No: P659/35



Sources: Plowman Craven:
2D Survey plan and elevations
33494-Final Full Set
33494-RoL-Issue B

Point 2 Surveyors:
Site photos

EPR Architects
Received 18/12/17
10323-EPR-00-XX-M3-A-Central_Option 2 Basement infill and
increase massing.rvt

Key:
Existing Building
Proposed Scheme
All the Heights in mm AOD

Project: Lincoln House,
269-302 High Holborn,
London

Title: 3D View
Proposed Scheme dated 18/12/17
Cumulative Scenario

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Drawn By: CJ

Scale: NS

Date: APR 18

Dwg No: P659/36