

Internal Average Daylight Study

Client: Godsmark Architecture Ltd
Unit 9, Shoreditch Town Hall, 380 Old Street
London
EC1V 9LT

Site Details: 37 Grafton Way
London
W1T 5DG

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Appendix A – Proposed Plans

Report Details:

Prepared by	Checked by	Date	Job Number	Revision
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1. Introduction & Methodology

Base Energy were instructed by Godsmark Architecture Ltd to prepare an internal daylight study for the basement level bedroom of 37 Grafton Way, London, W1T 5DG.

The daylight study is to ensure the comfort, health and safety of building occupants as well as visitors and others within the vicinity is acceptable. It is also to enhance the quality of life in dwellings by recognising those that encourage a healthy and safe internal environment for occupants.

Using industry standard methodology as prescribed by BRE and British Standard guidance: we have made numerical analyses to ensure compliance with the recommended levels of change in daylight for the habitable rooms of the assess dwelling.

The main criteria used in this analysis to show compliance is the:

- Average Daylight Factor (ADF)

The ADF is derived from British Standard BS 8206 and is a complex and representative calculation to determine natural internal luminance (daylight). The ADF takes into account such factors as window size, number of windows available to the room, room size and layout, room surface reflectance, and the angle of visible sky reaching the window.

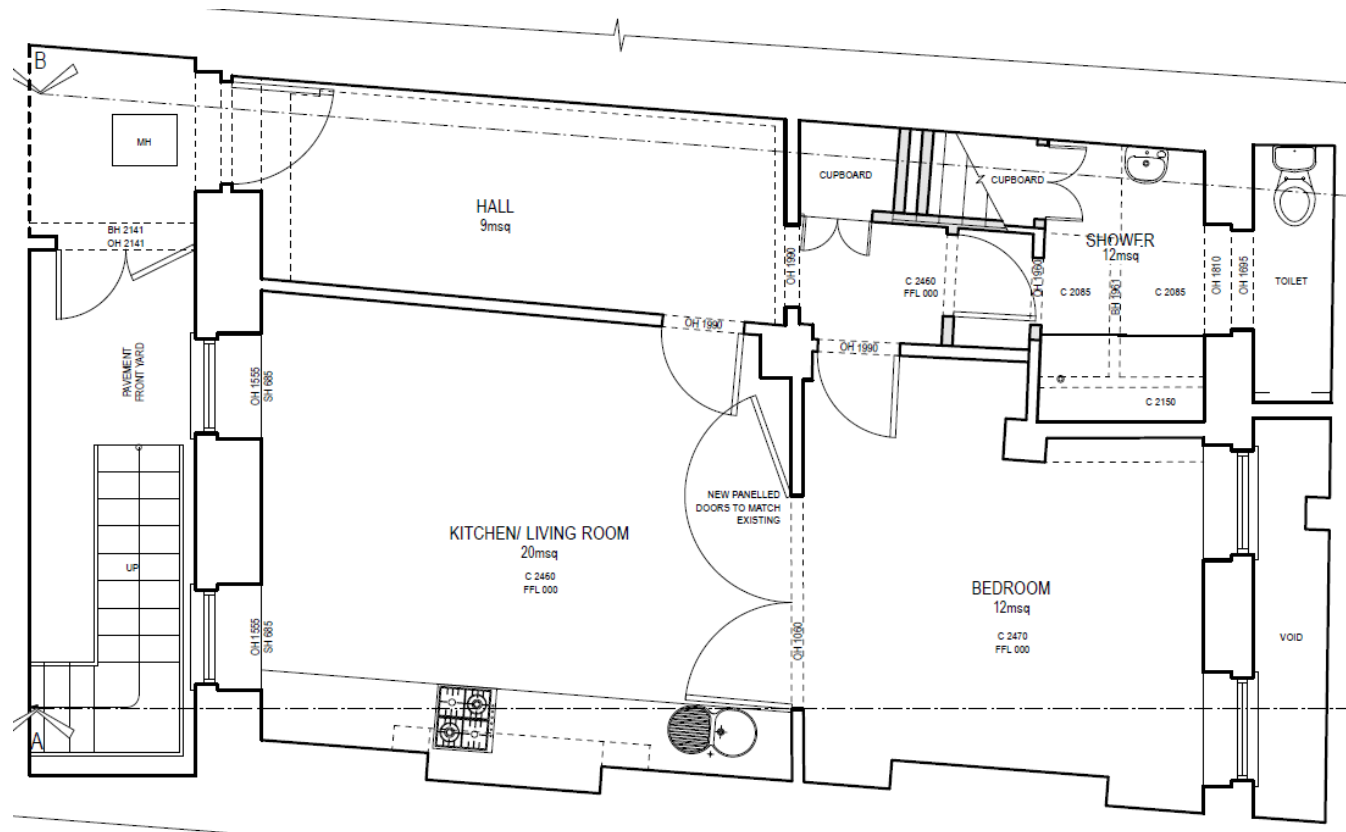
This report has been prepared for planning purposes, and not a Right to Light dispute.

For the purposes of this report we have assessed the basement level bedroom to investigate the internal daylight levels.

2. Proposed Development

There are proposals for the conversion of the basement level of 37 Grafton Way into a self-contained habitable dwelling. The purpose of this report to investigate whether the rear basement bedroom meets the minimum requirement for internal daylight levels in accordance with BRE Guidelines.

37 Grafton Way – Proposed Basement Level Plan



3. Modelling the site

An analysis model is created of the proposed dwelling allowing analysis and calculations are then run to determine the average daylight factor.

The outputs of those calculations can be exported numerically. Using the BRE guidance which gives absolute figures for the acceptable percentage of daylight, we can then establish if the proposal will have the required daylighting levels stipulated by BRE guidelines.

It is important to note that not all nearby features have been modelled, only those that will affect the daylighting. In accordance with BRE recommendations, trees have been omitted from the calculations.

The reference document for this analysis, BRE Digest 209, provides the methodology for undertaking the calculations as well as benchmark figures for the acceptable reduction in the daylight on existing properties which might be affected by development.

This study has been calculated in accordance with BRE methodology, using

- An CIE overcast sky
- Glass transmission is 0.6 (double glazing with low-emissivity coating)
- Angle of visible sky between 72° and 74°
- Vertical glazed for Unit 1, Sloped for Loft rooms
- Area weighted reflectance of room surfaces at 0.5

It is also worth noting that these figures assume that internal lighting is available to supplement the available daylight. It is considered that if a room has a Daylight Factor of 5%, then it will be sufficiently well lit, even in the absence of electric lighting. It is deemed by the guidance that if the ADF criteria are met, then the occupiers of the dwelling will have sufficient daylight, although it should be noted that these figures are guidelines only, and assumptions have been made on window types.

4. Internal Daylight

Internal daylight levels for the dwelling's bedroom has been calculated in accordance with BRE methodology, using a CIE overcast sky at an illuminance value of 8500 lux. The calculations assume a white ceiling, cream walls and mid-grey carpet or wooden floor.

BS 8206 recommends the following values for particular room types:

- Kitchens: 2%
- Living Rooms: 1.5%
- Dining Rooms: 1.5%
- Bedrooms: **1%**

It is deemed by the guidance that if the ADF criteria are met, then the occupiers of the dwellings will have sufficient daylight.

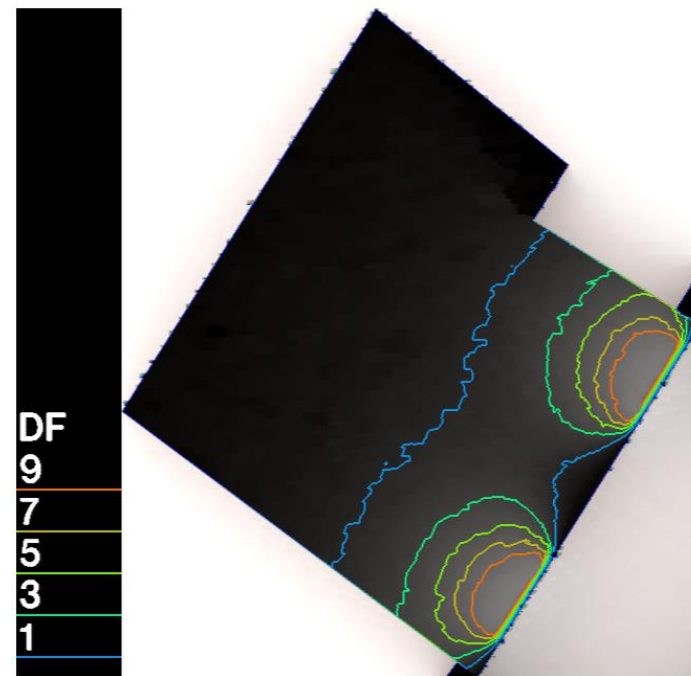
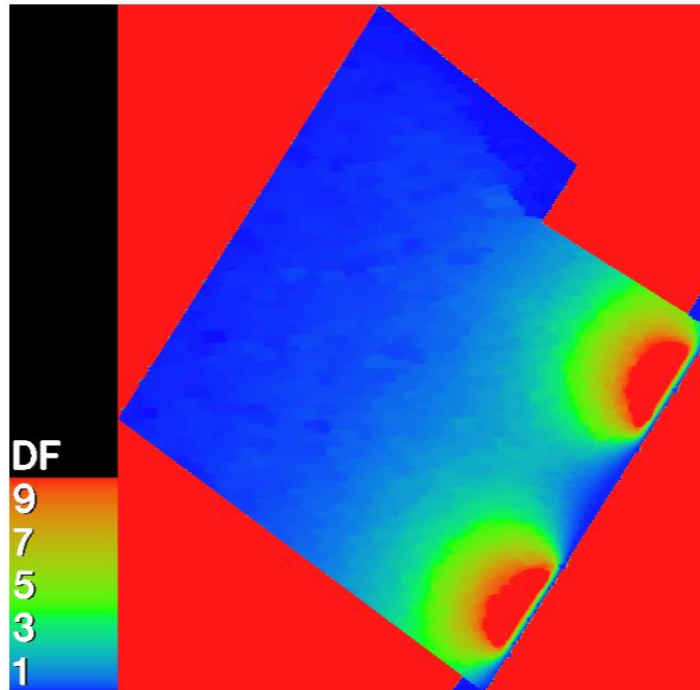
37 Grafton Way	Recommended ADF (%)	Actual ADF (%)	BRE Compliant
Bedroom	1%	1.47%	Yes

It can be seen from the results above that the assessed room does meet the target daylight factor and complies with BRE guidelines.

A sample of the internal illuminance plans can be seen below.

5. Illuminance Captures

37 Grafton Way - Bedroom



6. Conclusion

Using industry standard methodology, we have made numerical analyses to calculate the recommended levels of daylight for the rooms detailed above. The main criteria used in this analysis to show compliance is the Average Daylight Factor (ADF) reflected as a percentage.

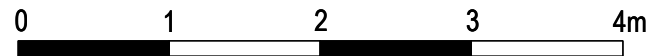
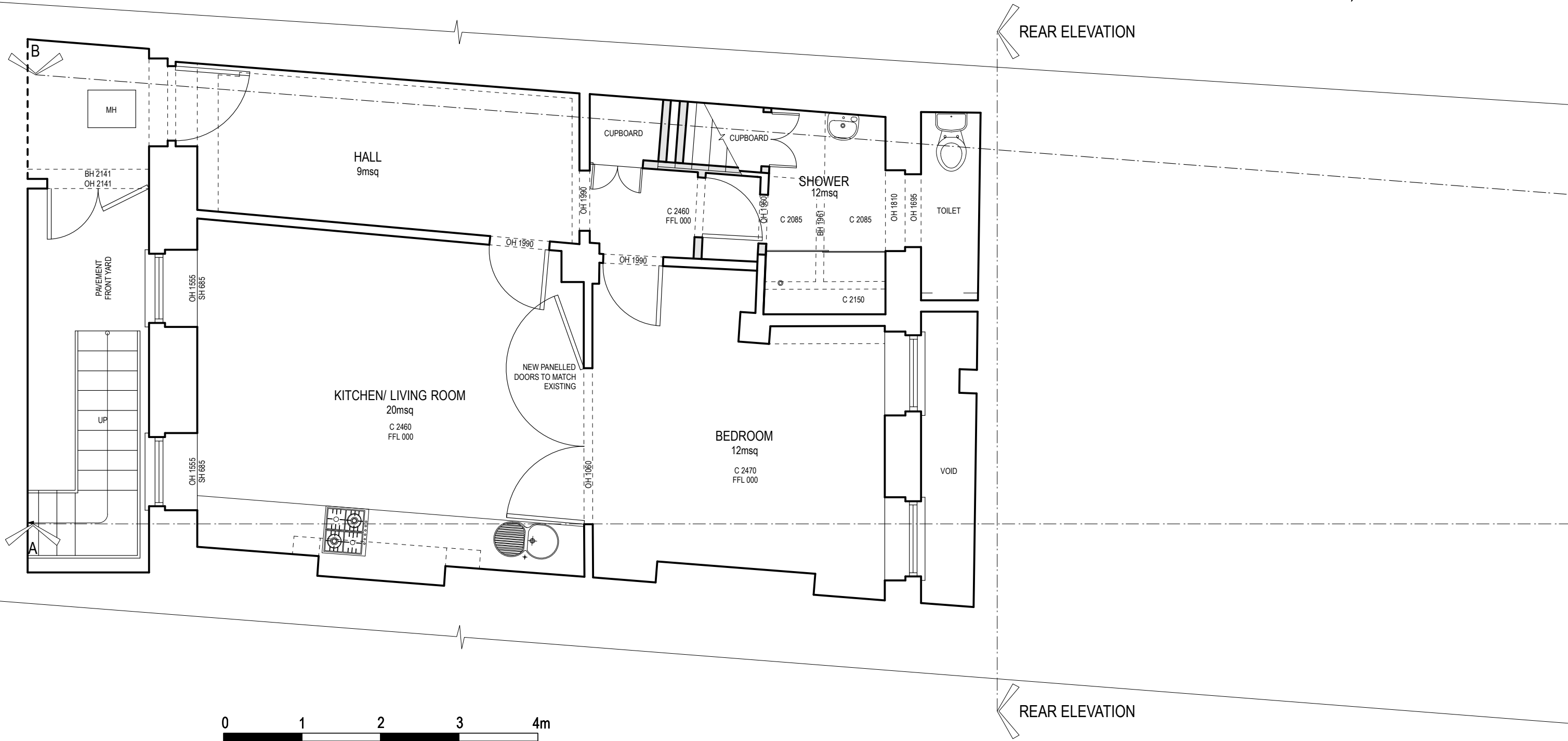
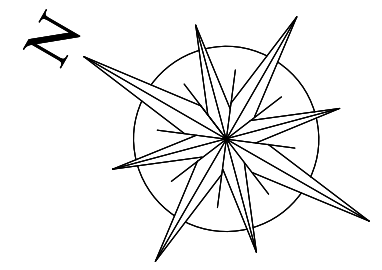
The results show the internal average daylight for the Bedroom of 37 Grafton Way meets and exceeds the minimum requirements in accordance with BRE guidelines.

From a planning perspective, therefore, it is the conclusion of this report that the proposed development meets the recommended levels of change in line with the BRE 209 digest guidelines and is therefore considered acceptable in daylight terms.

Appendices

Appendix A	Proposed Plans
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GIFA: 55msq
BASEMENT PLAN



PLANNING

This is a rough sketch drawing showing general layout and is intended for discussion and general layout purposes only.

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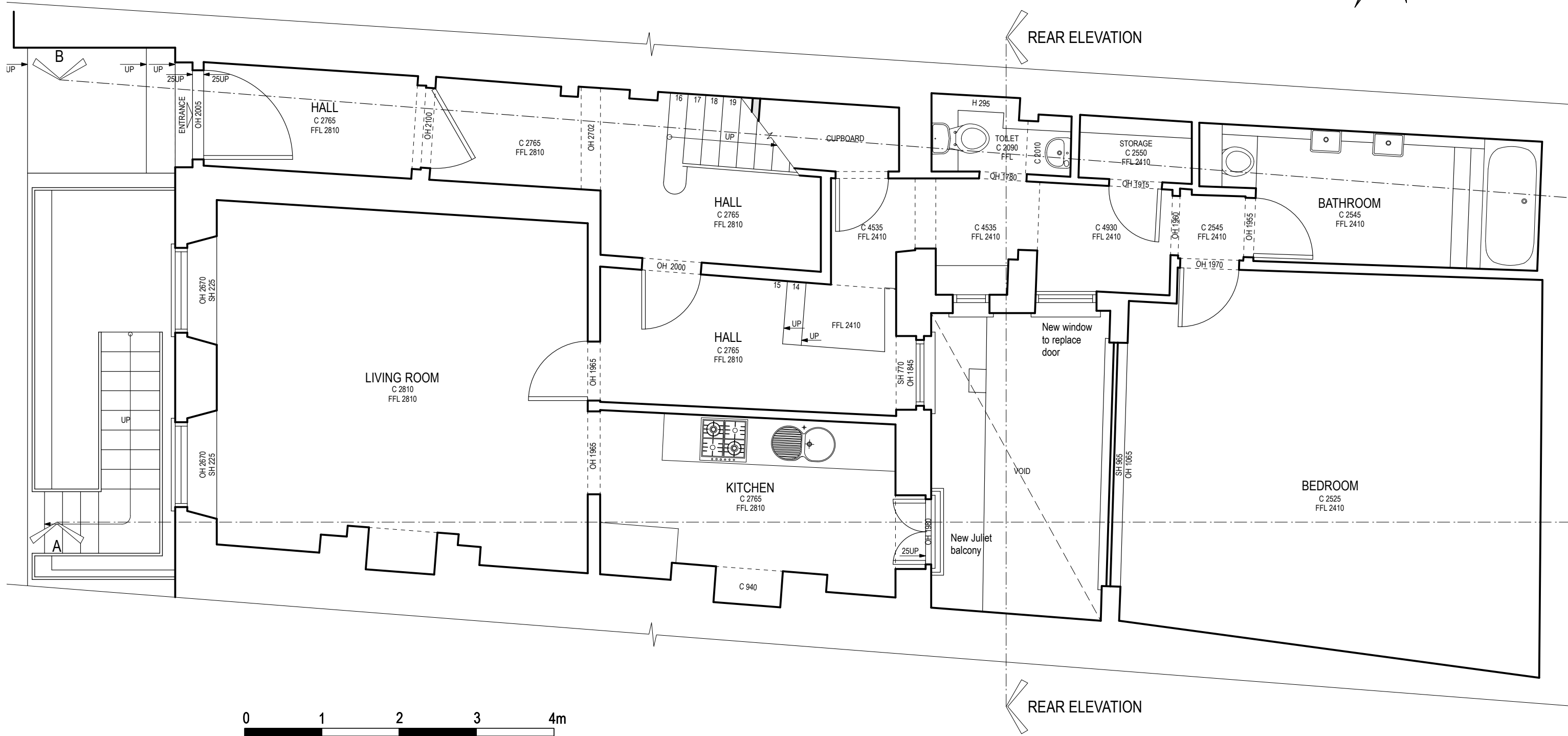
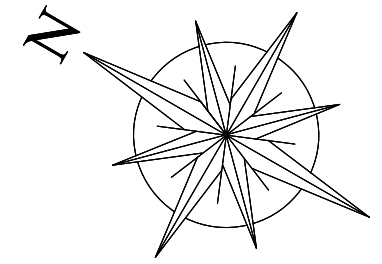
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Drawing name: Basement Plan as Proposed		
Date: Feb. 2018	Job no: 760GW	Drawing no: PA08
Scale: 1:50 @ A3	Revision: A	Drawn by: BH

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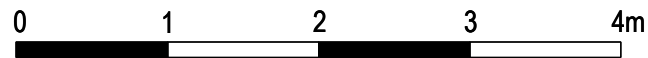
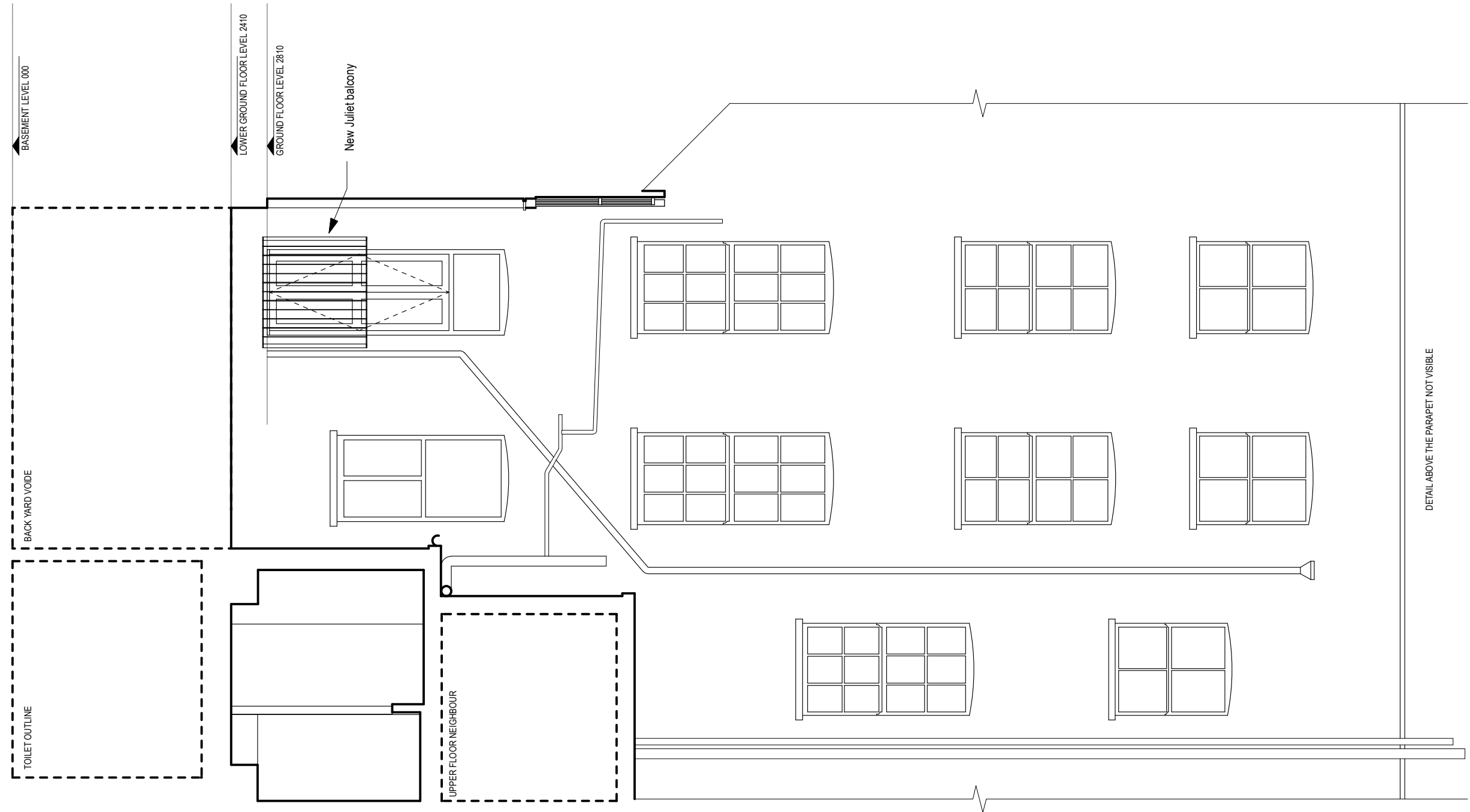
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Drawing name: Ground Floor Plan as Proposed		
Date: Feb. 2018	Job no: 760GW	Drawing no: PA07
Scale: 1:50 @ A3	Revision: -	Drawn by: BH

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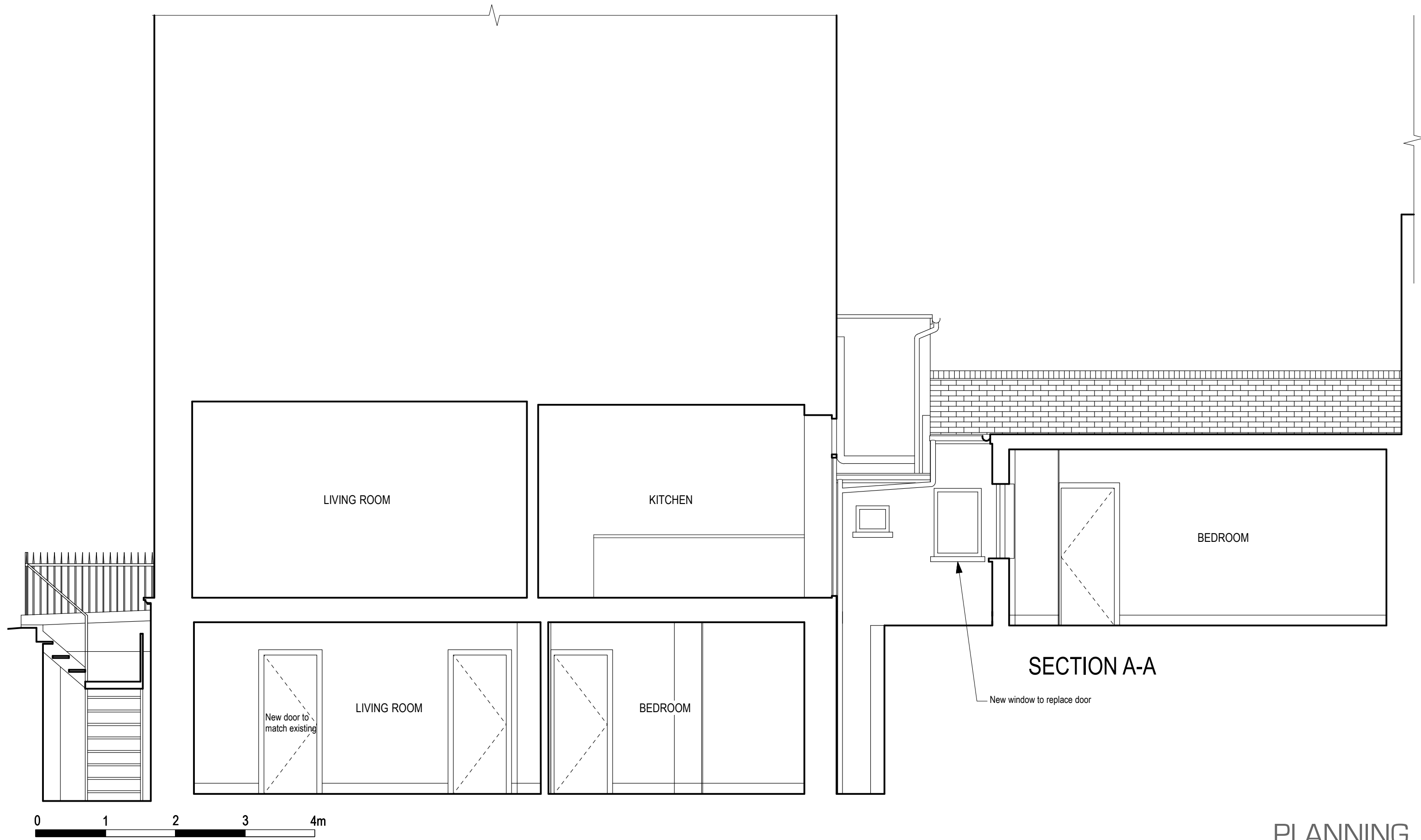
Project name:
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Drawing name:
Rear Elevation as Proposed

Date: Feb. 2018	Job no: 760GW	Drawing no: PA09
Scale: 1:50 @ A3	Revision: -	Drawn by: BH

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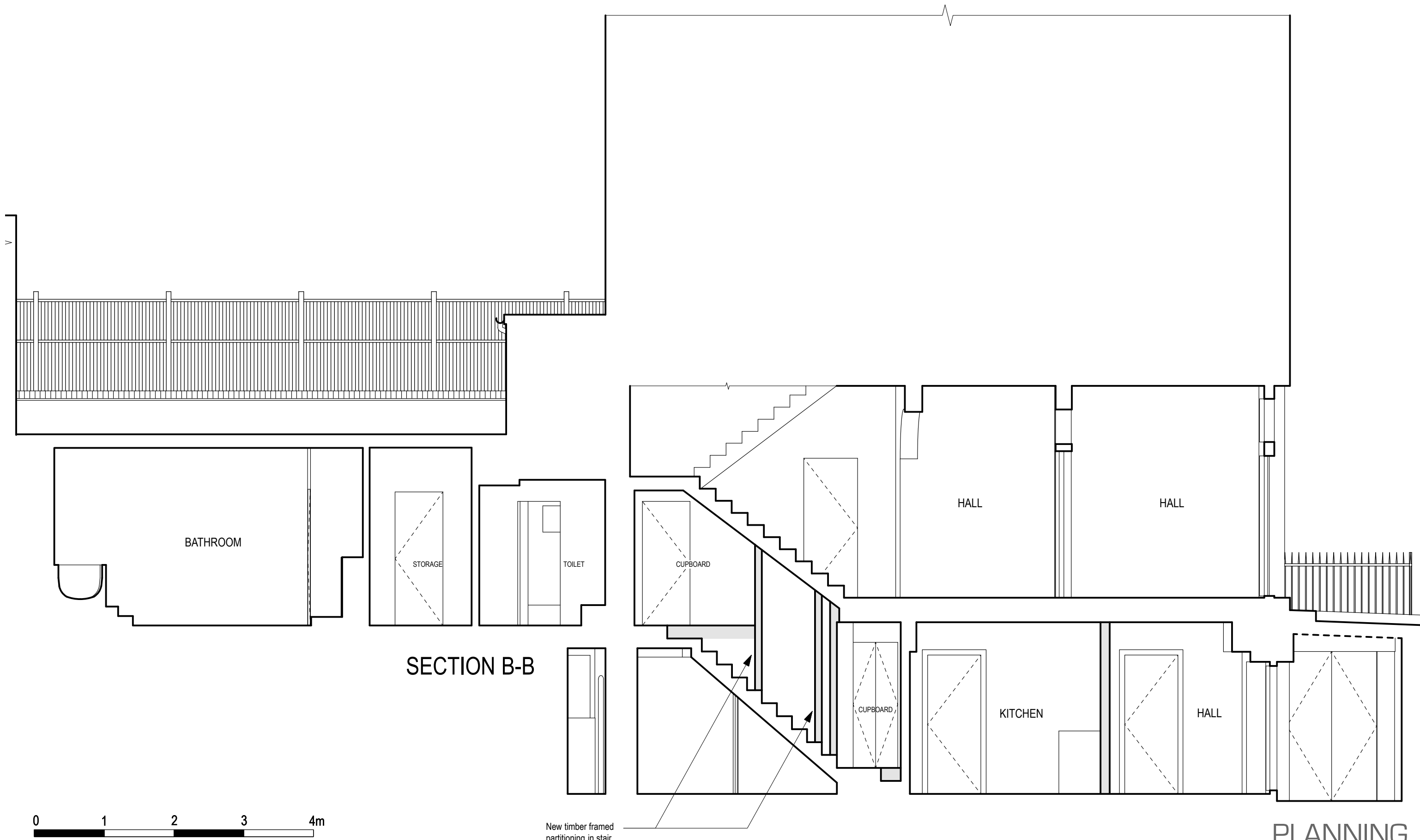
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Drawing name: Section A-A as Proposed		
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Project name:
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Drawing name: Section B-B as Proposed		
Date: Feb. 2018	Job no: 760GW	Drawing no: PA11
Scale: 1:50 @ A3	Revision: -	Drawn by: BH
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