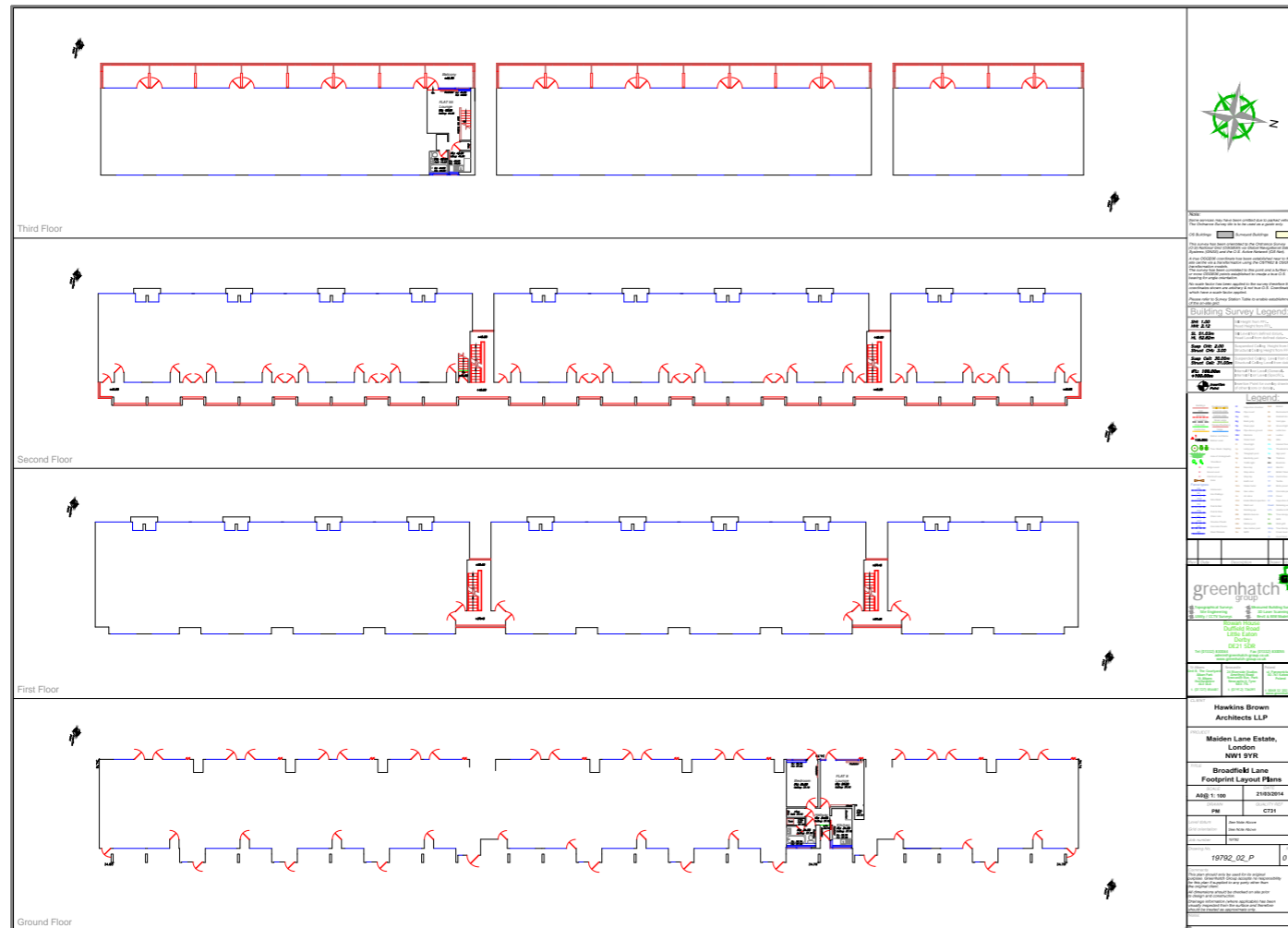


06

**ANALYSIS:  
BROADFIELD LANE**

# 06\_Analysis: Broadfield Lane

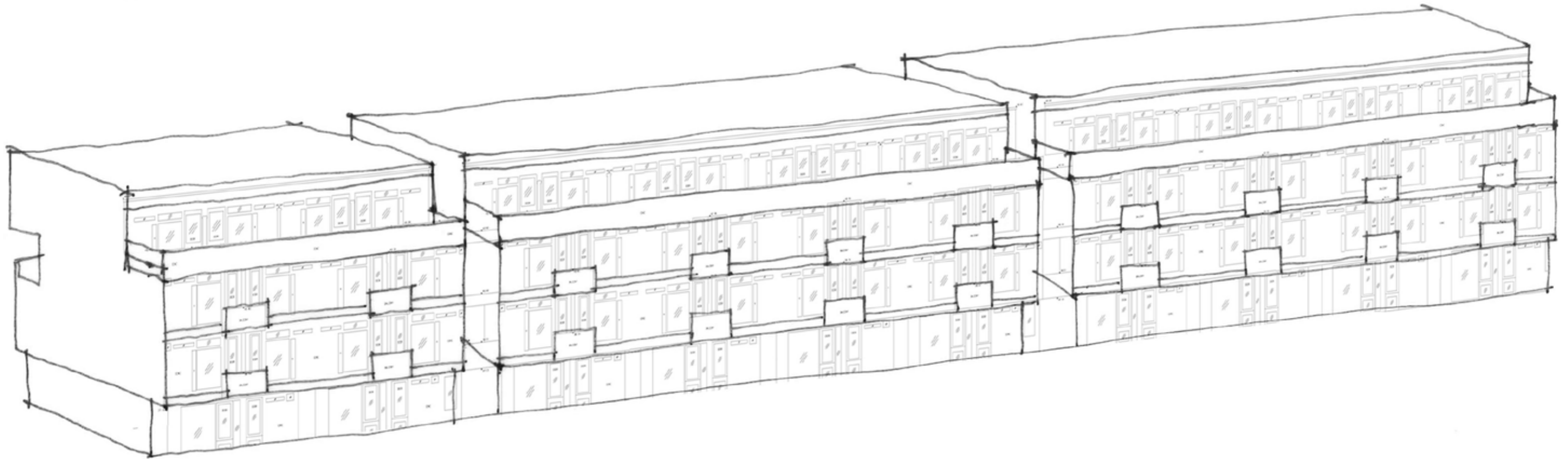
## 6.1 Survey Information and Record GA Plans and Elevations



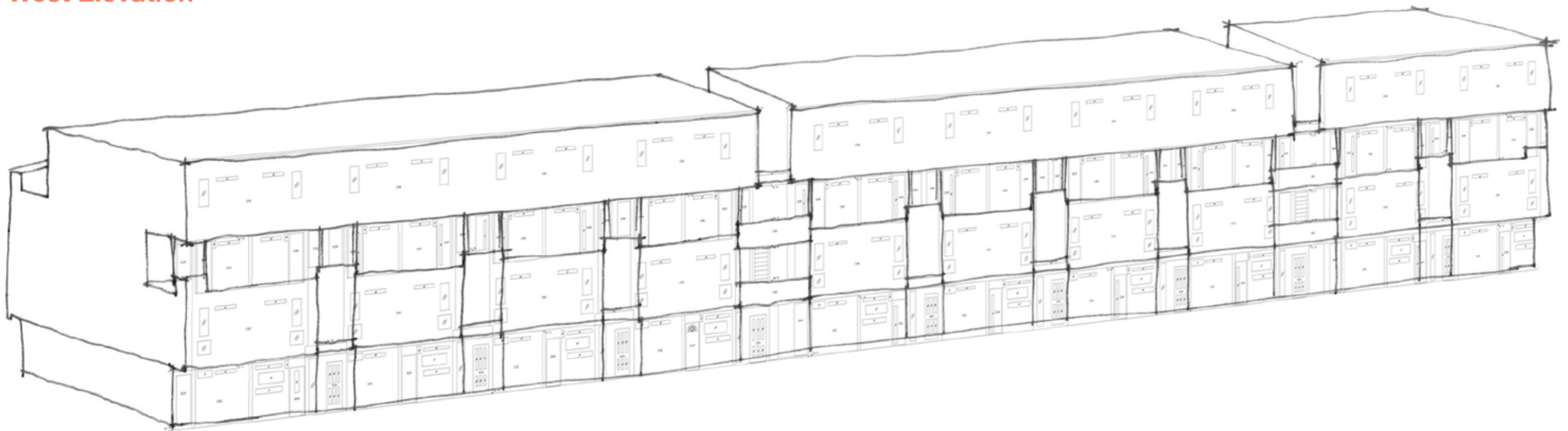
Above:  
Survey information produced  
by GreenHatch

# 06\_Analysis: Broadfield Lane

## 6.2 Overview Analysis of Block



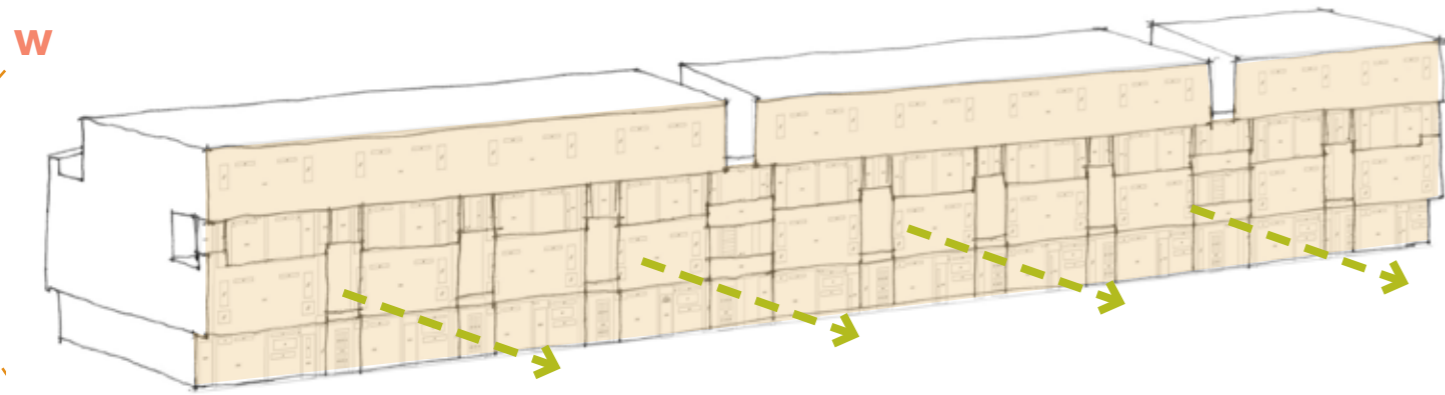
West Elevation



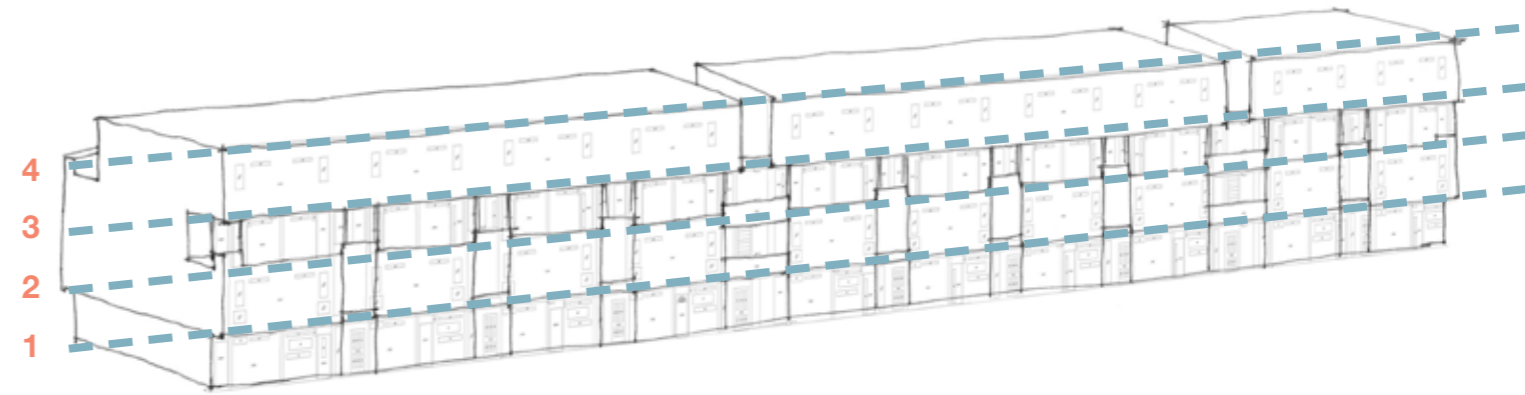
East Elevation

# 06\_Analysis: Broadfield Lane

## 6.2 Overview Analysis of Block - East Elevation



**Layout & orientation** - Kitchens & Bathrooms facing East



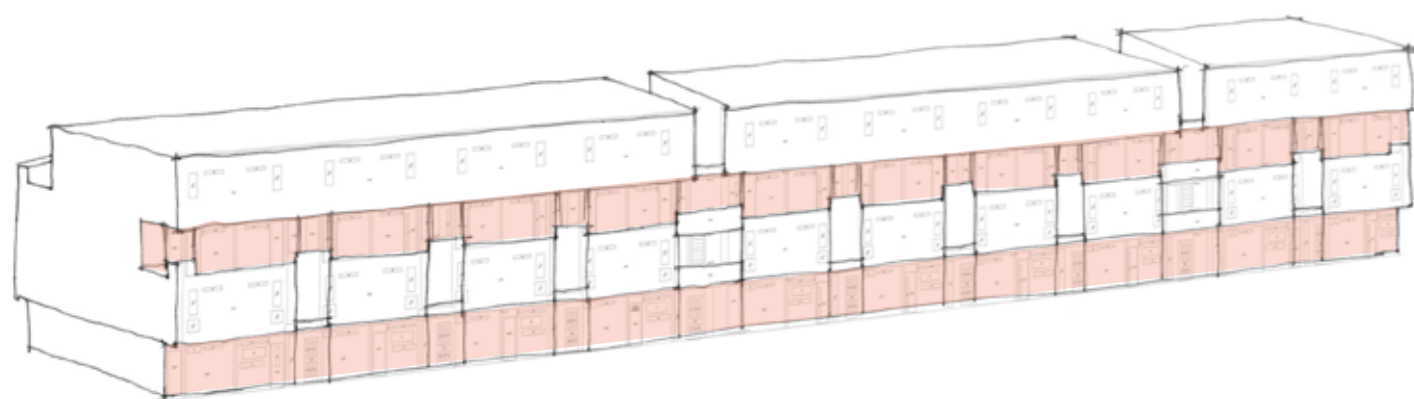
**Storey heights** - Ground Floor +3



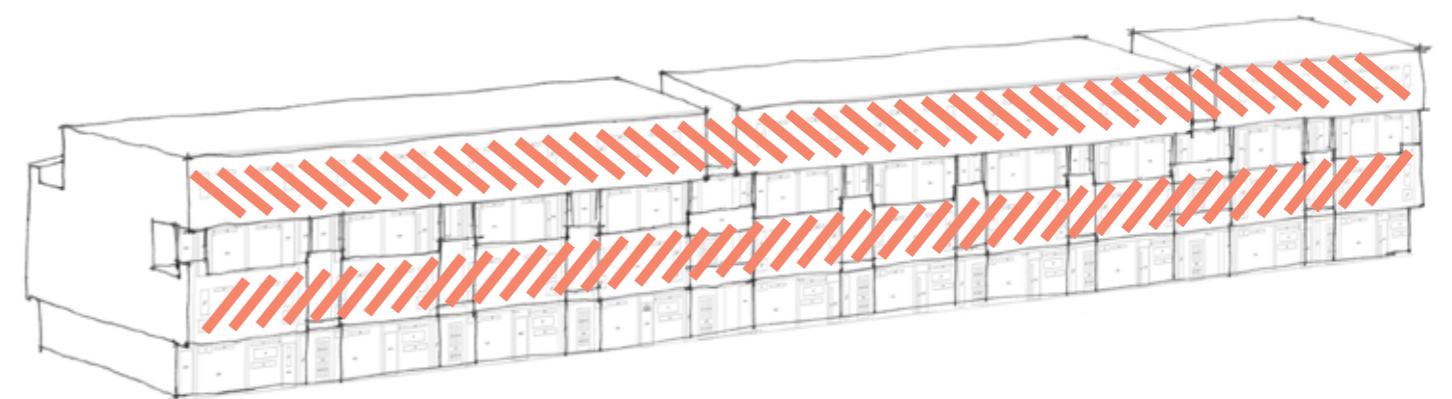
**Access** - 2 large communal entrances, separate access serving 6 flats each



**Rhythm** - Reads as one block with a vertical defensive rhythm



**Solid & Void** - apertures carved into the facade generate sheltered areas

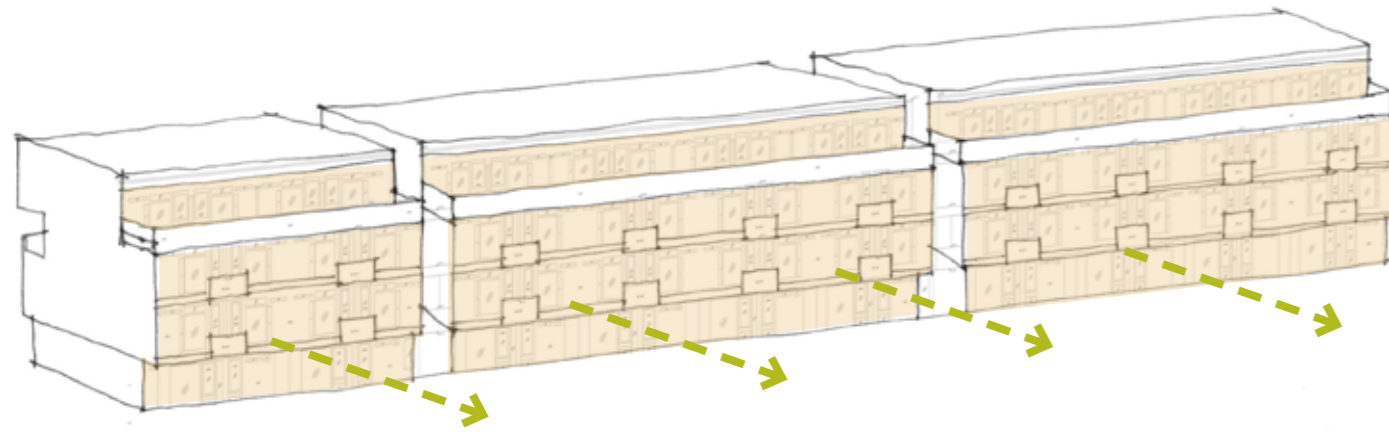


**Soft / Hard** - Practical living spaces to the east on the hard, public face  
Smaller windows to the east to ensure privacy & security

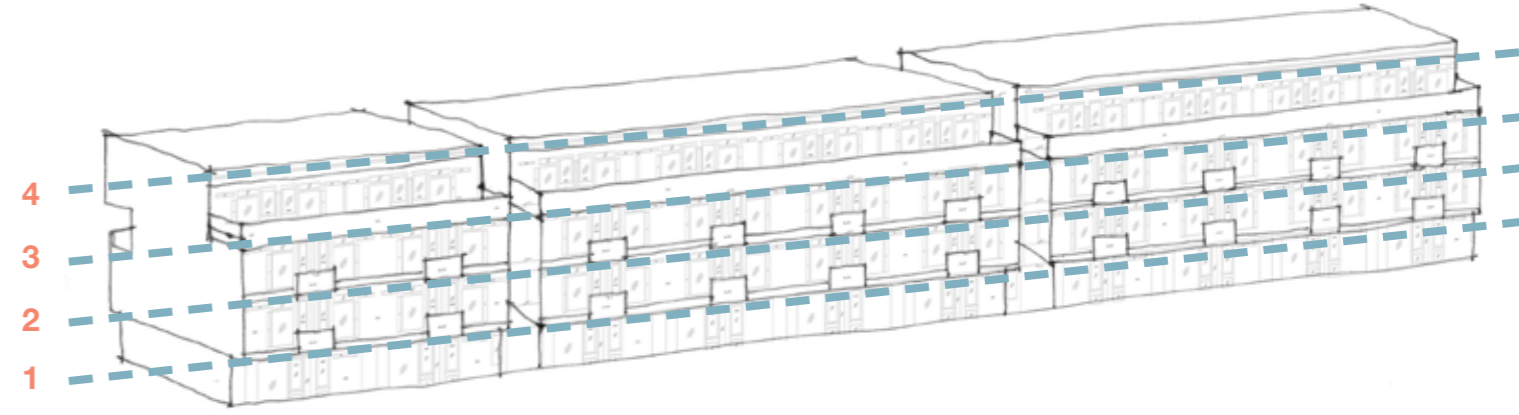


# 06\_Analysis: Broadfield Lane

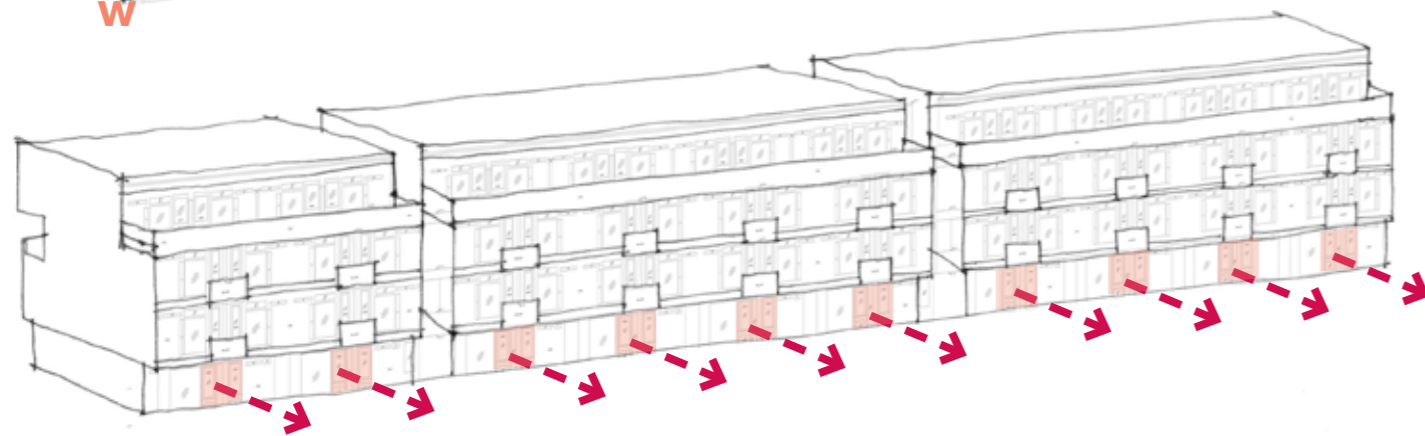
## 6.2 Overview Analysis of Block - West Elevation



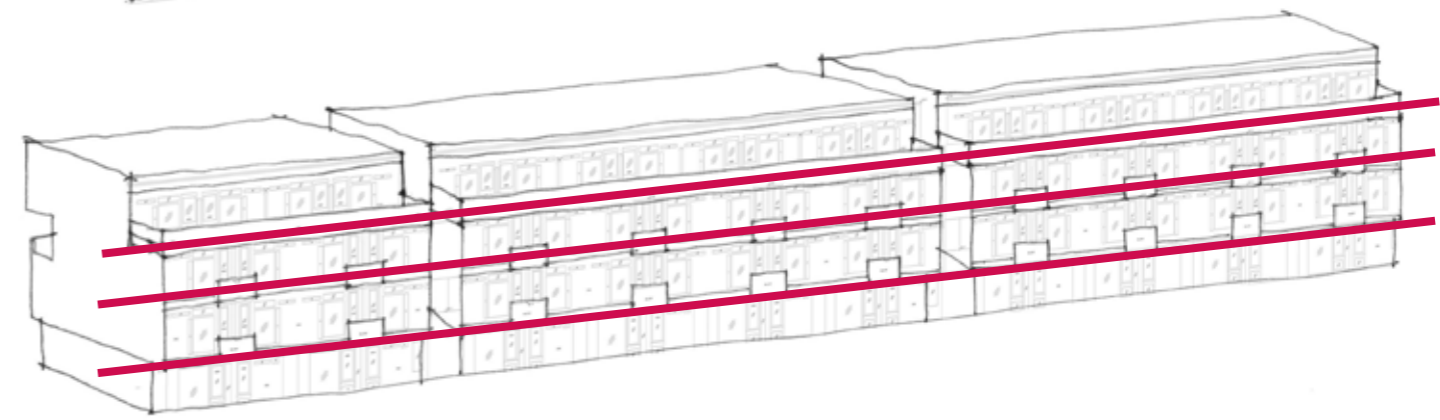
**Layout & orientation** - Living rooms & bedrooms facing West overlooking gardens



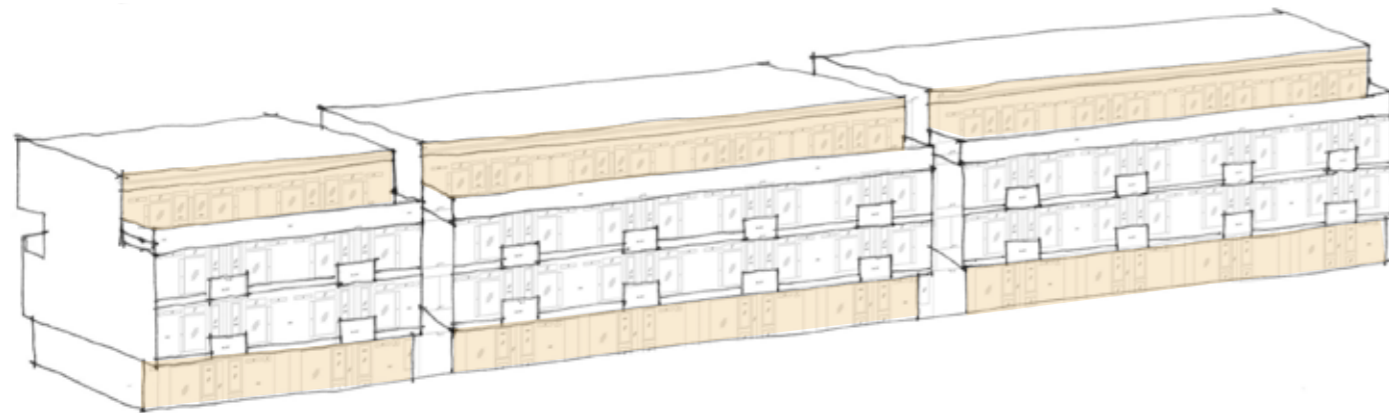
**Storey heights** - Ground Floor +3



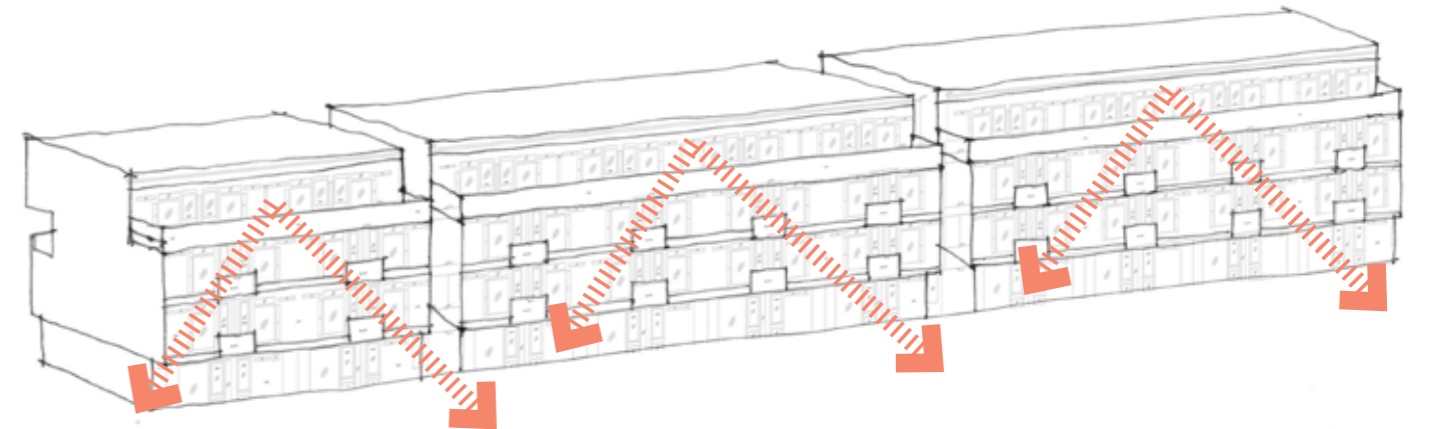
**Access** - GF flats - 2 access into their private garden, upper floors have access to a private balcony



**Rhythm** - Horizontal rhythm reflected in the horizontality of the window compositions and in the horizontal banding of the concrete & balconies along the facade



**Solid & Void** - Ground Floor & 3rd floor set back softens the facade



**Soft / Hard** - Softer living spaces face West, with larger windows making the most of the garden views across the estate

# 06\_Analysis: Broadfield Lane

## 6.3 Condition

### Windows :

- Current windows in poor condition
- Security grilles to be removed on all windows
- New windows & timber panels throughout



### Facade :

- Existing condition, mostly poor with pipework and conduits sprawled across the facade
- Unnecessary pipework & conduits
- Defunct satellite dishes

Note: Works to facade not in scope of works for current package - likely to commence under next package of works.



### Private Front Doors :

- Current condition varies but most are in poor condition
- Some have security grilles

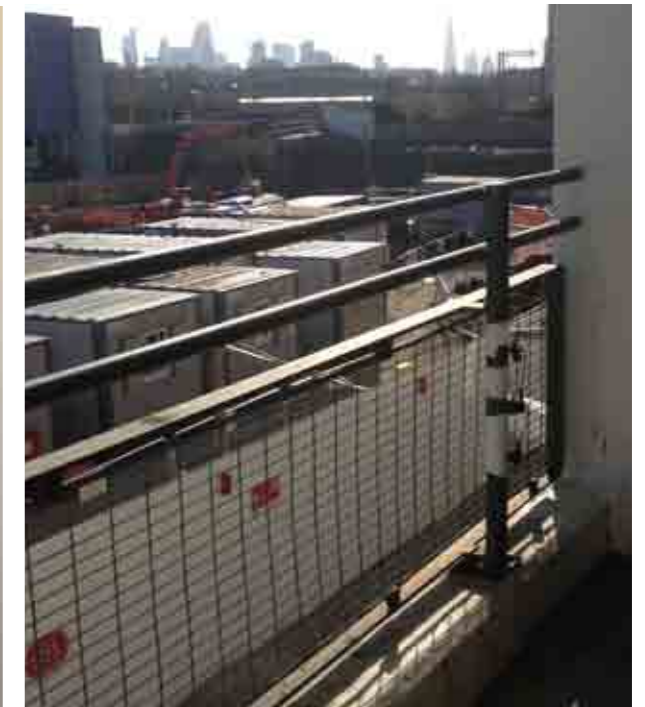
Note: Works to front doors not in scope of works for current package - likely to commence under next package of works.



### Balustrading :

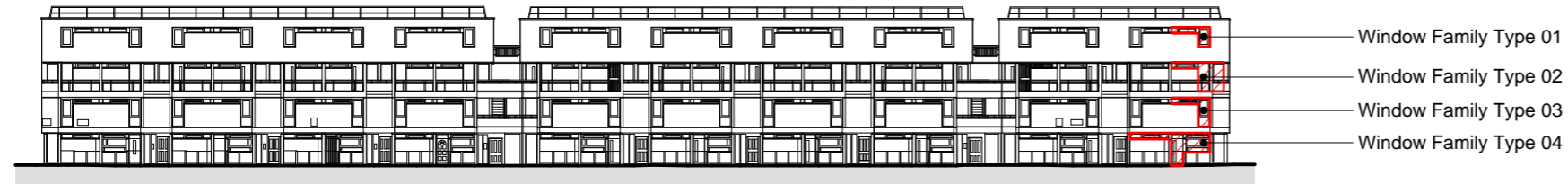
- Current balustrading in relatively poor condition

Note: Works to balustrading not in scope of works for current package - likely to commence under next package of works.

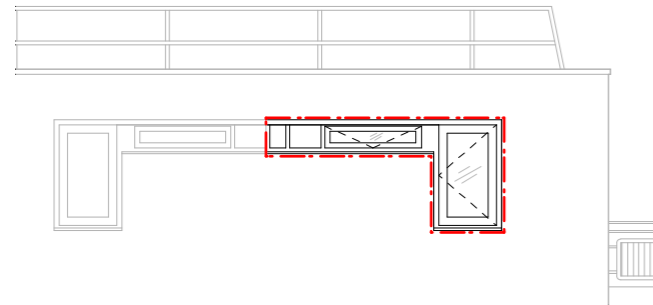


# 06\_Analysis: Broadfield Lane

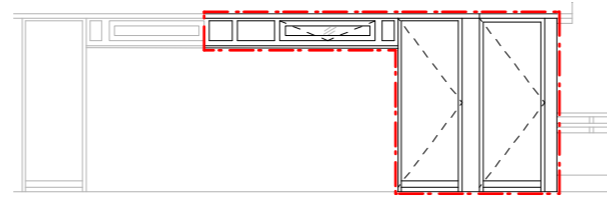
## 6.4 Analysis of Existing Window Types - East Elevation



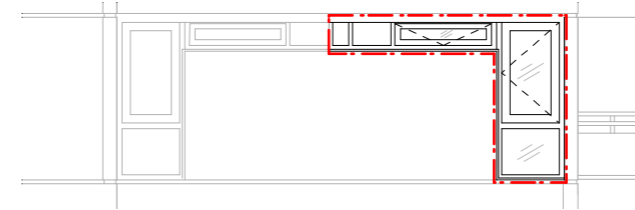
Broadfield Lane East Elevation



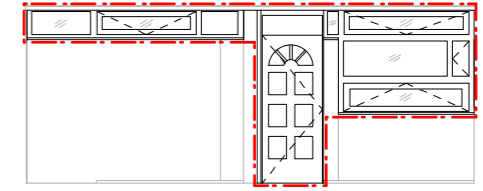
Existing Window Family Type 01  
Broadfield Lane  
3rd Floor, East Elevation  
20no



Existing Window Family Type 02  
Broadfield Lane  
2nd Floor, East Elevation  
20no



Existing Window Family Type 03  
Broadfield Lane  
1st Floor, East Elevation  
20no



Existing Window Family Type 04  
Broadfield Lane  
Ground Floor, East Elevation  
10no



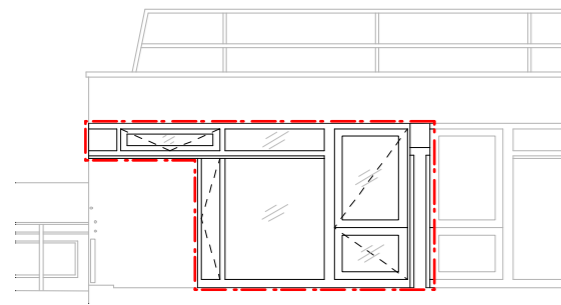


# 06 Analysis : Broadfield Lane

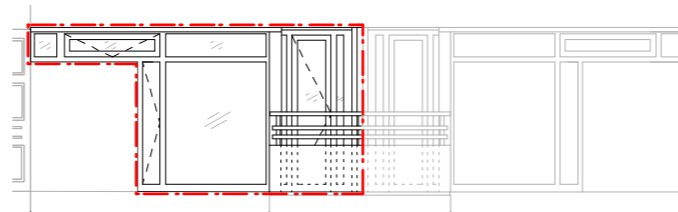
## 6.4 Analysis of Existing Window Types - West Elevation



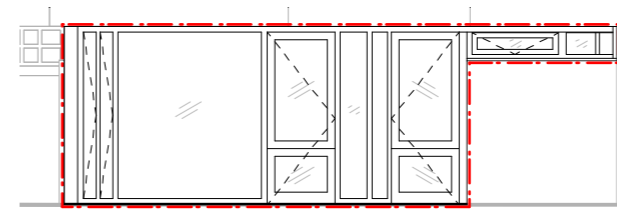
Broadfield Lane West Elevation



Existing Window Family Type 05  
Broadfield Lane  
3rd Floor, West Elevation  
20no



Existing Window Family Type 06  
Broadfield Lane  
1st and 2nd Floor, West Elevation  
40no



Existing Window Family Type 07  
Broadfield Lane  
Ground Floor, West Elevation  
10no





07

# ANALYSIS: SERVICES

# 07\_Analysis: Services

## 7.1 Analysis of Service Related Aspects

Service related assessment provided by Adam Ritchie of Ritchie+Daffin

### Analysis of Existing Conditions:

#### Thermal Performance

Single glazed window units and a lack of seals to opening elements result in poor thermal performance currently.

The south facing façade of Allensbury has potential to overheat due to solar gain.

#### Daylighting

Very significant frame to glazing ratio with existing windows. ie. The glazed area is a small fraction of the overall window area. This is exacerbated by an architectural preference for small slot openings.

#### Air Tightness and Ventilation

The solid timber frames have no draught sealing. Residents noted that windows were draughty.

Trickle ventilation slots are currently uncontrolled/un-screened.

A common detail is the vertical ventilation slot, covered by an openable timber panel, which is sufficiently narrow to prevent intruders. However on the ground floor residents comment that cats do come in when they're open.

There is an incoherent approach to mechanical ventilation in the bathrooms. Some residents have fitted through-the-wall fans into the glazing.

#### Acoustics

The south facing façade of Allensbury faces onto a railway track - this presents a potential noise challenge.

The existing single glazed windows allow more external noise into the flats than a modern alternative.

### Suggested Improvements:

#### Thermal Performance

The main thermal improvement will come from the change from single to double glazing, and the provision of seals to opening elements in the frame.

The U-value of the units will likely halve (or better than half) from around 4.8 W/m<sup>2</sup>K to 2.3 W/m<sup>2</sup>K. This assumes standard timber frames and a 6mm gap between panes.

#### Daylighting

The light transmittance of double glazing is about 10% less than single glazing however it is likely that the new window frames are slimmer so restoring or improving light into the dwelling.

#### Air Tightness and Ventilation

The improvement in air-tightness will change how residents experience their flats, particularly the air quality (humidity & smell) will deteriorate unless adequate ventilation is provided. It is recommended to do some air-tightness testing of a prototype as well as a review of general ventilation for each flat type. The correct amount of background ventilation (by trickle vents) per flat type needs to be assessed.

The original design has aimed to solve issues of secure natural ventilation and it would be good to retain this while designing out the negative aspects (animals coming in, for example). A louvre panel would be one way of doing this.

A common approach to properly ventilating bathrooms to a modern standard (Part F) will be needed. The Regulations only require an existing fans to be replaced, however it would be good practice to install intermittent extract ventilation to kitchens and bathroom as follows: Kitchen: 30l/s adjacent to hob  
Bathroom: 15l/s

#### Acoustics

The south facing façade of Allensbury faces onto a railway track - this presents a potential noise challenge, which will likely mean special treatment of the natural ventilation solution – potentially including an attenuated air-path.

Double glazed units will reduce the amount of noise transmitted into the flats from outside.

08

# PRECEDENTS

# 08\_Precedents

## 8.1 Dunboyne Estate - Neave Brown

### Windows Replacement

Images of newly refurbished Dunboyne Estate which had a similar window configuration to Maiden Lane Estate prior to the refurbishment.

Similar components comprise of;

- Dark timber window & door frames
- Stable Doors
- Solid timber ventilation panel
- Similar clerestory window configuration





09

# FACADE PROPOSALS ALLENSBURY PLACE

# 09\_Facade Proposals

## 09.1 Existing Elevations: Allensbury Place



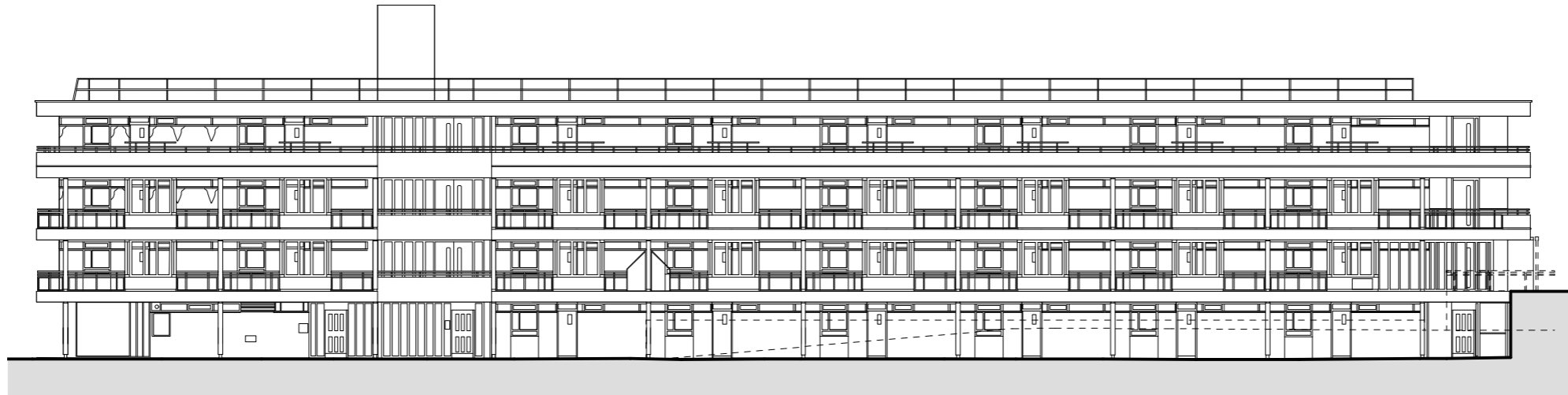
Existing North Elevation



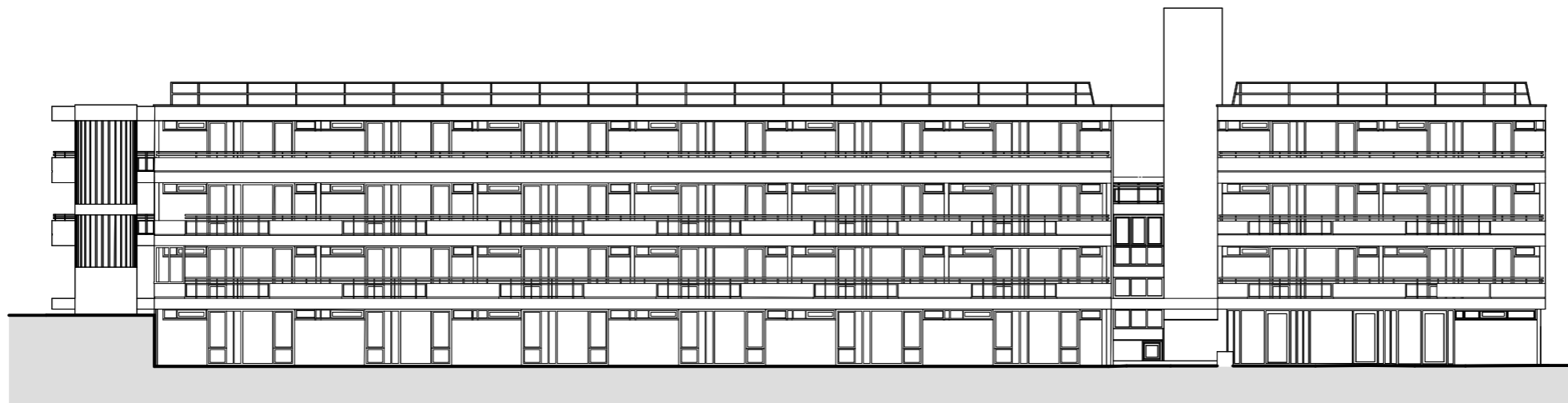
Existing South Elevation

# 09\_Facade Proposals

## 09.2 Proposed Elevations: Allensbury Place



Proposed North Elevation - 1:250  
Allensbury Place



Proposed South Elevation - 1:250  
Allensbury Place

10

**FACADE PROPOSALS  
BROADFIELD LANE**



# 10\_Facade Proposals

## 10.1 Existing Elevations: Broadfield Lane



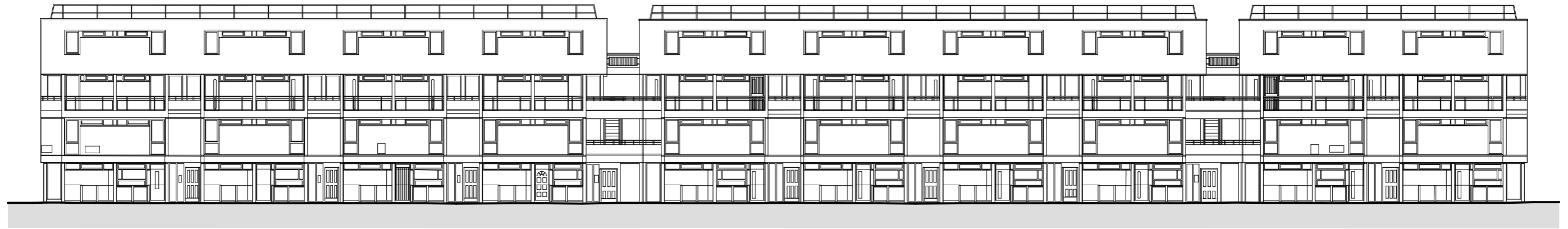
Existing East Elevation



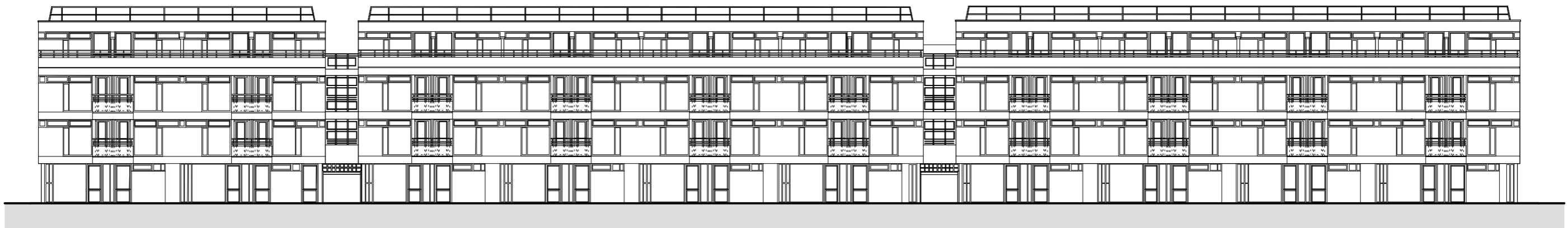
Existing West Elevation

# 10\_Facade Proposals

## 10.2 Proposed Elevations: Broadfield Lane



Proposed East Elevation - 1:250  
Broadfield Lane



Proposed West Elevation - 1:250  
Broadfield Lane

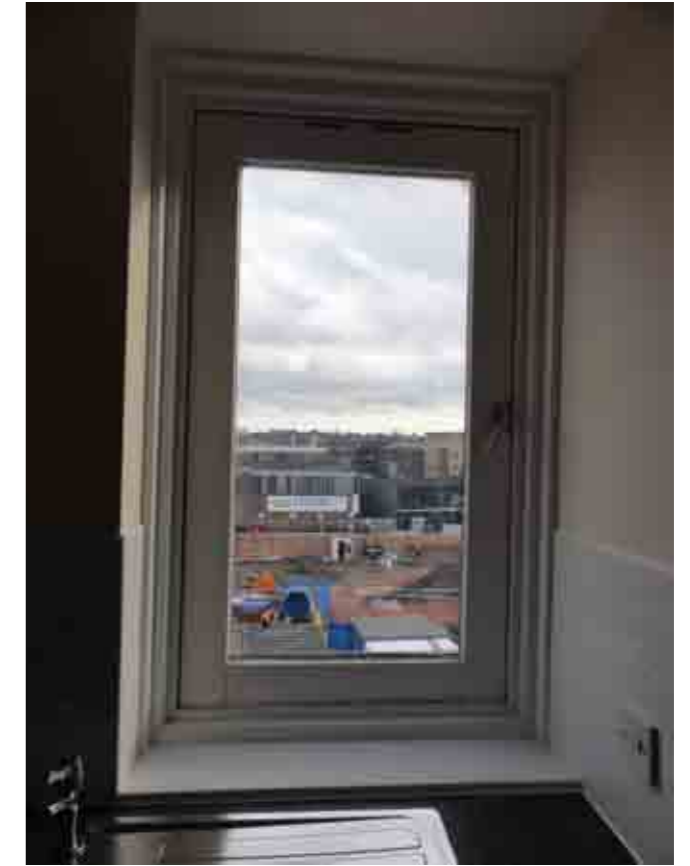
11

**PILOT FLAT**

**BROADFIELD LANE**

# 11\_Pilot Flat

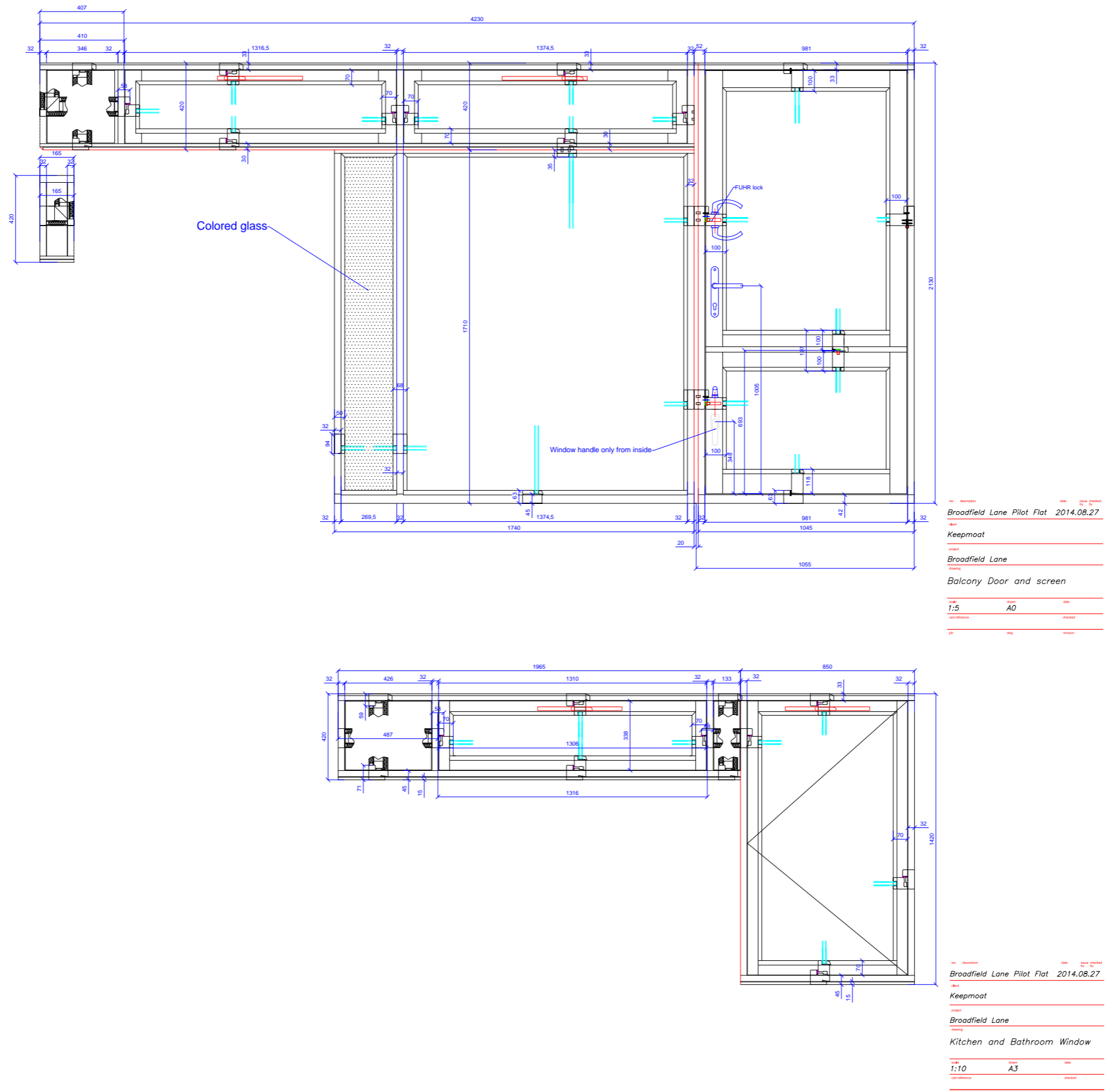
## 11.1 Photo Records of Existing Flat





# 11\_Pilot Flat

## 11.2 Contractors Drawings of Proposed Replacement Windows



# 11\_Pilot Flat

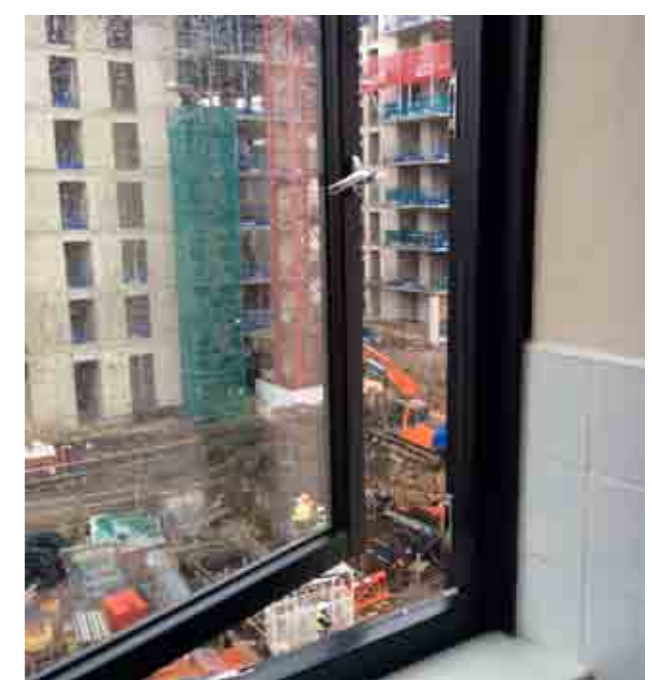
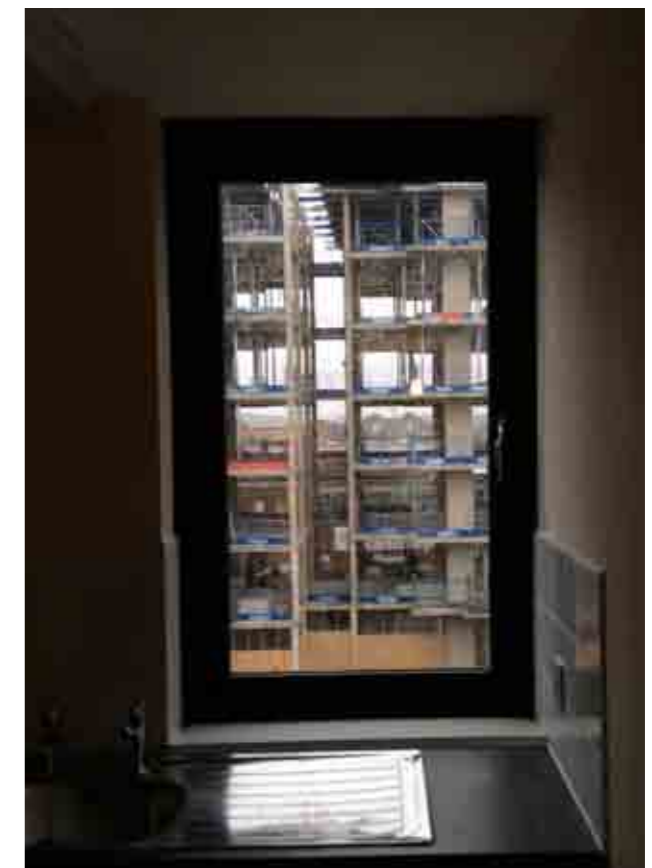
## 11.3 Photo Records of Window Replacement Works





# 11\_Pilot Flat

## 11.4 Photo Records of Built Pilot Flat



# 11\_Pilot Flat

## 11.5 Feedback on Built Pilot Flat

### **Email Correspondence from Nick Baxter**

“My mentor and I were impressed by what we saw at the show flat. If the remaining flats are of the same quality, all should be well. However:

A) We will need reassuring about the trickle vents - firstly, where they must be fitted, they need to match the rest of the window frame and not be brick red. But, secondly, it was not clear to us why two adjacent windows, both of which were openable and neither of which could be climbed through by a burglar, each needed to have a trickle vent. Please minimise these, and make them the right colour.

B) The access-level flats are considerably more complicated and more prominent, and will need further discussion. Do you propose a second show flat? We are uncomfortable with the loss of the frameless corner glazing feature. It did occur to me that, if it is unfeasible to replicate this with double-glazed units, perhaps this small section - or perhaps the entire non-opening part -- of the clerestory could be secondary glazed. This would make the frameless corner a far simpler and cheaper undertaking.

Best wishes,  
Nick Baxter  
Heritage and Conservation Officer”

12

**PLANNING**

**&**

**LEGISLATION**



# 12\_Planning & Legislation

## 12.1 Part L1B

Information provided by Adam Ritchie of Ritchie+Daffin

### Ritchie Engineers

**To**  
Hawkins/Brown

**Project**  
Maiden Lane Estate  
Window/Door Project

**Ref:**  
J005

**Date**  
26.02.14

#### Approved Document Part L1B memo

The purpose of this memo is to distill out the regulatory provisions in connection with thermal performance likely to apply to the works being considered for Maiden Lane Estate.

In 'regulations terminology' the works are likely to include:

- a) the provision or extension of a controlled fitting (i.e. a window or door)
- b) the replacement or *renovation* of thermal elements of the building (i.e. wall, floor or roof),

and as a result the Building Regulations will apply for the conservation of fuel and power.

The Regulations can be complied with by following the guidance in Approved Document Part L1B (Conservation of fuel and power in existing dwellings 2010)

[note: there are some 2014 changes to the 2010 edition, but those changes don't affect the main points set out below]

An important definition for this project:

**'Renovation'** in relation to a thermal element means the provision of a new layer in the thermal element (other than where that new layer is provided solely as a means of repair to a flat roof) or the replacement of an existing layer, but excludes decorative finishes, and 'renovate' shall be construed accordingly.

#### Possible Exemptions

- a) Listed Buildings or those in Conservation Areas (not applicable, I believe)
- b) Special considerations may apply to buildings which are of special architectural interest and are referred to as a material considerations in the local development plan. 'Local listing' may be of relevance here?. In this case the Regulation boils down to an "aim to improve energy efficiency as far as is reasonably practicable".

If the special consideration does not apply, the following does apply to proposals:

#### Replacement Windows & Doors (same surface area)

The standards to be applied are:

Windows:	<1.6 W/m <sup>2</sup> K
>50% Glazed Doors	<1.8 W/m <sup>2</sup> K
Doors	<1.8 W/m <sup>2</sup> K

Note: replacing glazing in the existing frames does not invoke the Regulations.

If existing openings are enlarged, the area of windows, rooflights and doors should not exceed 25% of the area of the dwelling.

#### Newly built thermal elements (walls, roofs, floors)

Wall	<0.28 W/m <sup>2</sup> K
Flat roof	<0.18 W/m <sup>2</sup> K
Floor	<0.22 W/m <sup>2</sup> K

#### Renovation of thermal elements (walls, roofs, floors) (see definition of renovation above)

Wall (cavity ins.)	<0.55 W/m <sup>2</sup> K
Wall (applied ins.)	<0.30 W/m <sup>2</sup> K
Flat roof	<0.18 W/m <sup>2</sup> K
Floor	<0.25 W/m <sup>2</sup> K

Note 1: Lesser provisions can apply if the thickness of applied internal insulation reduces the internal floor area by more than 5%, or if floor insulation meant creating difficulties with floor levels.

Note 2: These requirements apply provided the area to be renovated is greater 50% of the area of the individual element, or 25% of the total building envelope.

#### Next Steps...

These are the regulatory minima but there is a possible financial evaluation of the benefit to tenants of going beyond in terms of energy saving. These need to be weighed up against the architectural implications since in many cases, the increase in thermal performance involves an increase in thickness.

We need to understand the status of 'local listing' with respect to the special considerations. This is best done with the local conservation officer and/or the likely Building Control Body.

It would be helpful to review likely build-ups and window technologies that meet these minimum standards in order to assess their feasibility for particular elements.

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London N1 2SF  
Phone 07968 865943  
Email adam@ritchieengineers.com  
www.ritchieengineers.com

Ritchie Engineers Limited, Registered in England & Wales No.8713076

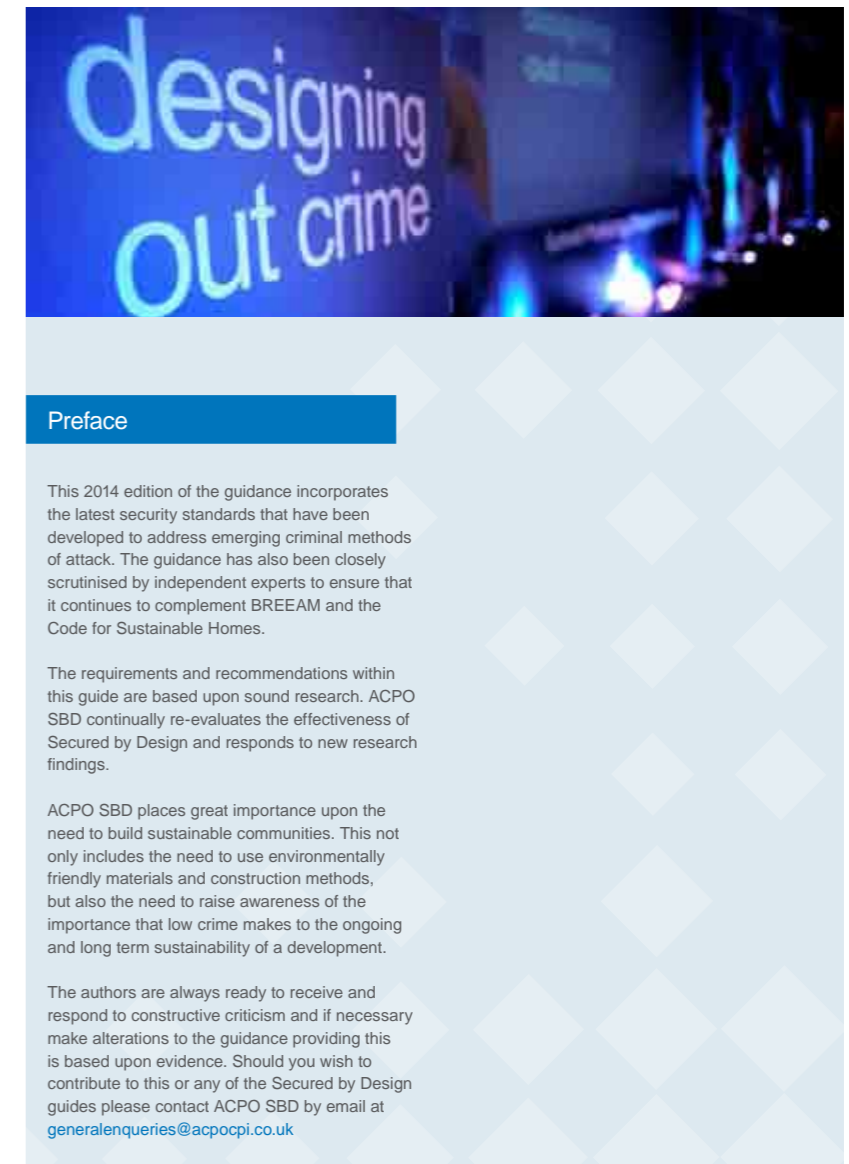
# 12\_Planning & Legislation

## 12.2 Secure by Design

As this proposal is solely for the replacement of existing windows it is not possible to incorporate all the design features suggested by 'Secured By Design' guidance, however, where possible it has sought to adhere to the principles and has been further guided by the document "Secured By Design - New Homes 2014".

Windows and external glazed doors will be lockable and meet the required SBD standards.

The local community has been consulted in a variety of ways over an extended period of time. Local residents' involvement in the design process contributes to a scheme over which ownership is felt.



### Preface

This 2014 edition of the guidance incorporates the latest security standards that have been developed to address emerging criminal methods of attack. The guidance has also been closely scrutinised by independent experts to ensure that it continues to complement BREEAM and the Code for Sustainable Homes.

The requirements and recommendations within this guide are based upon sound research. ACPO SBD continually re-evaluates the effectiveness of Secured by Design and responds to new research findings.

ACPO SBD places great importance upon the need to build sustainable communities. This not only includes the need to use environmentally friendly materials and construction methods, but also the need to raise awareness of the importance that low crime makes to the ongoing and long term sustainability of a development.

The authors are always ready to receive and respond to constructive criticism and if necessary make alterations to the guidance providing this is based upon evidence. Should you wish to contribute to this or any of the Secured by Design guides please contact ACPO SBD by email at [generalenquiries@acpocpi.co.uk](mailto:generalenquiries@acpocpi.co.uk)

13

# **BUILDING REGULATIONS**

# 13\_Building Regulations

## 13.1 Part K

Proposals will meet the standards required by Part K.

**The Building Regulations**  
**Protection from falling,  
Collision and impact**

# K

**APPROVED DOCUMENT**

K1	Stairs, ladders and ramps
K2	Protection from falling
K3	Vehicle barriers and loading bays
K4	Protection against impact with glazing
K5	Additional provisions for glazing in buildings other than dwellings
K6	Protection against impact from and trapping by doors

**Latest Edition  
with up-to-date  
amendments**

**K5** ONLINE VERSION  
*Safe opening and closing of windows etc.*

### Section 8: Safe opening and closing of windows etc.

**Location of controls**

**8.1** Regarding the controls to operate windows, skylights and ventilators, one of the following should be provided:

- Controls positioned as shown in Diagram 8.1.
- If controls cannot be positioned as shown in Diagram 8.1 within safe reach of a permanent stable surface, provide a safe manual or electrical means of remote operation.

**NOTE:** Additional guidance is provided in Approved Document M for switches and controls and for window controls in sleeping accommodation.

See para 8.1

Window

600mm max. to control

Control

900mm max.

Not more than 1700mm if obstructed, or 1900mm if unobstructed

Diagram 8.1 Height of controls

**Prevention of falls**

**8.2** Where a person may fall through a window above ground floor level, provide suitable opening limiters, to restrain the window sufficiently to prevent such falls, or **gunning** (see Section 3).

42 Approved Document K, 2013 edition ONLINE VERSION Building Regulations 2010