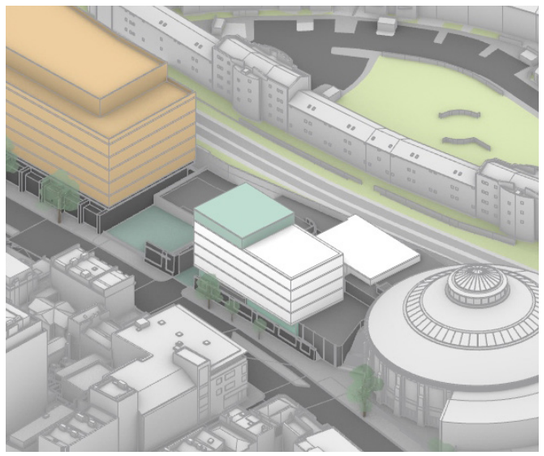
3.0 Development Options

3.1 Options Investigated



Option 1

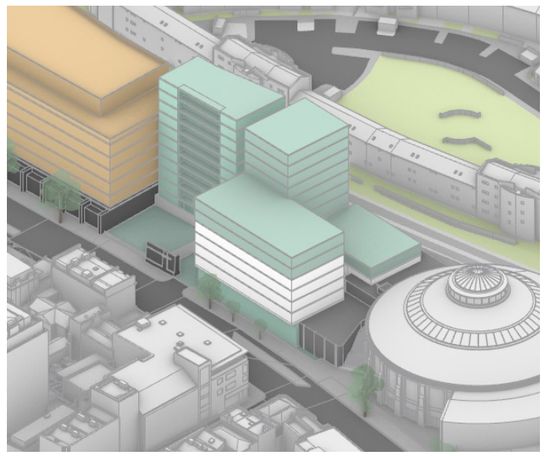
Retention & Retrofit with Extension

Description

Retrofit & extend as commercial office space with necessary upgrades to meet current regulations.

Summary

- Existing front building extended with half an additional floor to provide an additional 200m2 of accommodation.
- Retain existing raised ground floor and brick facade to street level.
- Recladding the existing facade
- Renew all MEP services
- Exisitng disused car park structures retained.

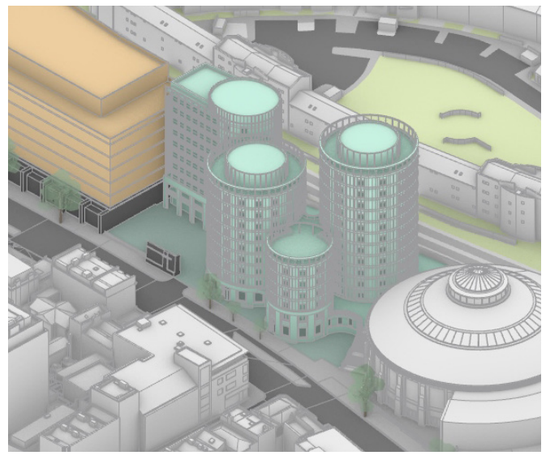


Option 2

Retention & Retrofit with Extension & New Build

Deep retrofit & extend for reuse as student accommodation plus new build affordable housing.

- Existing building extended with two additional storeys to the front building and one additional storey to the rear building.
- Demolish car park area and build new 11-storey student housing block, providing total GIA of 8497m2 to PBSA building across existing 100 CFR building, additional floors and new build.
- New 11-storey storey residential building providing 20 no. affordable housing units, equivalent to 35% of GIA of PBSA building adjacent.
- Lower existing ground floor to street level, a reduction in level of approximately 2m.
- Recladding the existing facade
- Renew all MEP services



Option 3

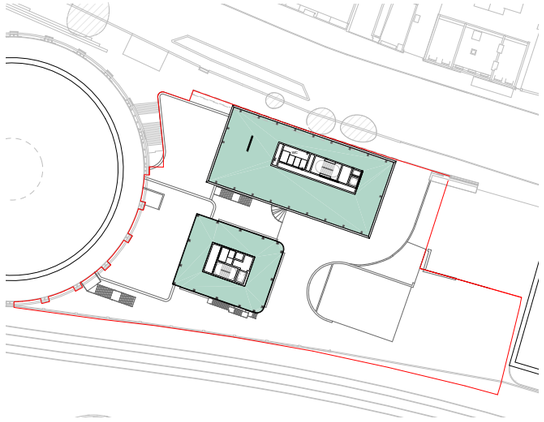
New Build (proposed planning submission)

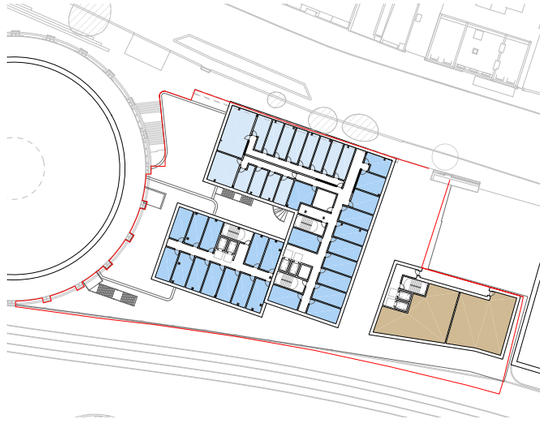
New build PBSA, commercial and affordable housing buildings raning in height from six to twelve storeys.

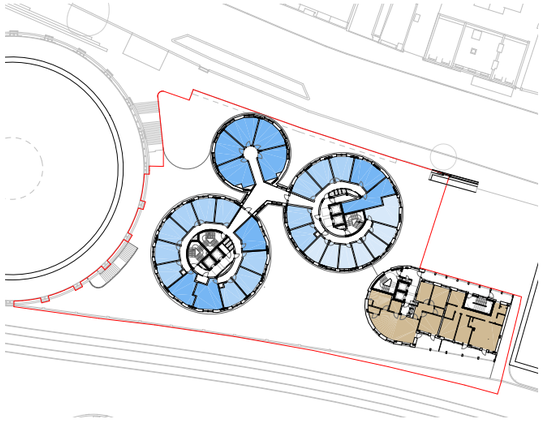
- Existing building on site to be removed.
- New 10 storey residential building providing 24 no. affordable housing units.
- New 6-12 storey PBSA building with commercial space at ground floor level.
- New public space on Chalk Farm Road.
- New amenity space for affordable housing and PBSA residents at first floor level.

3.0 Development Options

3.1 Options Investigated







	Option 1 Retention & Retrofit with Extension	Option 2 Retention & Retrofit with Extension & New Build	Option 3 New Build (proposed planning submission)
Demolition of existing car park & build new structure	No	Yes	Yes
Retain floors basement to 4th	Yes	Yes	No
Retain existing brick wall on Chalk Farm Road	Yes	No	No
Additional floors to 100 and 100A CFR	1	3	n/a
Temporary works required	Yes	Yes	Yes (to basement only)
Cores	New cores	New cores	New cores
MEP renewal	Yes	Yes	Yes
Facade recladding	Yes	Yes	n/a
Reuse of existing basement structure & minimise excavation	Yes	Yes	Yes (basement walls used for temporary works)
New build on existing car park site	No	Yes	Yes

3.0 Development Options

3.2 Criteria for Evaluating Options

Based on the site context and development principles (chapter 1.0) and on the analysis of the existing building challenges and implications (chapter 4.0) the below criteria have been established to evaluate the three development options considered.

The criteria used are also aligned with the guidance on optioneering considerations part of Whole Lifecycle Carbon Optioneering, Planning Advice Note document commissioned by The City of London Corporation.

Appropriate use of land
Assessing the site against current planning policies and its location, acknowledging the economic, social and cultural activity that should be supported through development.

Space Quality
Assessing the options in terms of overall space quality and flexibility to support office use, namely:
- clear head height / floor heights
- space planning and constraints of the structural grid
- plan depth
- access to natural daylight

Ground Floor Activation
Review options against the existing condition of inactive street frontages and relationship with the surrounding public realm and how the options would improve the existing condition.

Public Realm enhancements
Ability to address the current challenges and contribute to the local and wider area including public realm enhancements, increased site permeability and biodiversity.

Heritage Impact
Based on the site context at Chalk Farm Road, we also propose that **Heritage Impact** is a important criteria to assess retrofit and new build option against.

Floorspace & Employment capacity uplift
Review of the options in terms of the extent of additional floor area created, the direct employment capacity uplift generated and indirect benefits of this.

Housing offer
Ability to address the current challenges and contribute to the local and wider area to provide more new homes and affordable housing delivered on site.

Circular Economy, future flexibility, adaptability & resilience to climate change
To evaluate future proofing the full life cycle of a building should be considered alongside the six circular economy principles. Assess how the options would offer future flexibility in terms of adaptability and reuse; as well as overall offering a resilient design - addressing ecology / biodiversity, heath & wellbeing, etc.

Long-term economic sustainability & planning benefits
Review of the quality and quantum of space provided for creating an attractive and economically sustainable building which supports active management and maintenance. Ability of the option to support compliance with planning contributions.

Construction Impact
Assessing the options in terms of building complexity and construction impacts is also included. The building complexity will increase construction impacts - this includes programme and site disruption to residents and workers in the area.

Carbon Assessment
An assessment of the carbon impacts of each of the three options This has been worked through in detail for each of the options following the RICS methodology. This assessment also explores carbon associated with additional factors we believe is worth consideration when comparing the development options. The scope and methodology used is described in Section 5.0.

3.0 Development Options

3.3 Summary of Assessments to date

	Option 1 **Retention & Retrofit with Extension** Retrofit & extend as commercial office space with necessary upgrades to meet current regulations.	Option 2 **Retention & Retrofit with Extension & New Build** Deep retrofit & extend for reuse as student accommodation plus new build affordable housing.	Option 3 **New Build (proposed planning submission)** New build PBSA, commercial and affordable housing buildings raning in height from six to twelve storeys.
Appropriate Use of Site	• No increase to site capacity in a location well connected to jobs, services, infrastructure and amenities by public transport, walking and cycling. • No new public open space or affordable housing.	• Increase to site capacity in a locationwell connected to jobs, services, infrastructure and amenities by public transport, walking and cycling. • No new public open space.	• Increase to site capacity i- Contextually responsive appearance possible. • New public space provided, informed by analysis of requirements of the emerging site context.
Space Quality	• Poor head heights to office space. • Inflexible space planning due to floor plate size • Low floor to ceiling heights contribute to poor natural daylight as well as deep floor plates on lower levels • Ground floor accessibility problems remain.	• Improved ceiling heights and space planning in new floors to min. 2.7m • Inflexible space planning due to floor plate size • Disjointed floor plates and compromised core location • Narrow space between buildings contribute to poor natural daylight and privacy issues.	• Improved ceiling heights and space planning in new floors to min. 2.7m • 3m ceiling height to commercial spaces and amenity spaces at ground floor level • Form of new buildings maximises access to daylight for habitable rooms.
Ground Floor Activation	• No ground floor activation, problems with inaccessible entrance to building remain.	• Street frontages remain largely inactive despite lowering of ground floor slab, owing to presence of circulation cores on street frontage.	• Ground floor to contain two new commerical units with street frontage; amenity spaces for PBSA residents and significant new public spaces.
Public Realm Enhancements	• No increase to existing public open space • No public realm improvements due to inactive street frontages retained • No substantial improvements on biodiversity across retained 100 Chalk Farm Road. • No increase to Urban Greening Factor (UGF) expected	• No increase to existing public open space • Minor public realm improvements due to new building entrances on Chalk Farm Road. • Potential for improvements on biodiversity across retained 100 Chalk Farm Road. • Minor increase to Urban Greening Factor (UGF) expected	• New active frontages introduced • New public space between the Roundhouse and 100 CFR providing much needed social space, and improving the setting of the Grade II listed building. • Significant increase to UGF to c. 0.3 expected • Significant increase in public open space

3.0 Development Options

3.3 Summary of Assessments to date

Heritage Impact	• No positive contribution to the character and appearance of the conservation area. • Retention of existing boundary condition and its poor relation to the Roundhouse. • Opportunity for enhancement and activation of the public realm and setting is not realised.	• Limited positive contribution to the character and appearance of the conservation area. • Retention of existing boundary condition and its poor relation to the Roundhouse. • Significant linear massing added to Chalk Farm Road and enhancement of public realm not realised.	• New building resonates with the form of the Roundhouse and takes the opportunity to increase and activate the public realm and improve the setting of the Roundhouse and street scene of the conservation area.
Floorspace & Employment Capacity Uplift	• No increase in capacity.	• Increase in floorspace capicity but minor increse in employment due to limited uses.	• Large increase in floorspace & employment capicity due to varied opertunities of new development.
Housing Offer	• No affordable housiing provided as part of redevelopment.	• Mix of 20 no. 2B 3P and 2B 4P units to be provided. • High quality housing units designed in line with Camden policies on housing.	• Mix of 24 no. High quality 1B2P, 2B4P and 3B5P units to be providedline with Camden policies on housing. • A large proportion of family units in response to LA requirements.
Circular Economy, Future Flexibility, Adaptability & Resilience to Climate Change	• No scope for future adaptation of layouts due to floor plate size. • Limited opportunity to design services to facilitate future adaptability (cellularisation, tenancy splits or change of use) in many areas due to constraints of existing structural grid. • New reclad required • Inflexibility of existing building maintained • Working with contractors to recycle 95% of waste.	• Partial scope for future adaptation of layouts in new build sections. • Compromised office floorplates may have less appeal to occupiers and are more likely to achieve lower target rent levels and be let on shorter leases. • New reclad required • Inflexibility of existing building maintained • Working with contractors to recycle 95% of waste.	• Typical PBSA cylinder floorplates can be converted to approx. 3 no. 2B4P units per floor. • Less superstructure temporary works required than the refurbishment options • Incorporation of SUDs and blue roofs • Backfilling on site with demolition material • Working with contractors to recycle 95% of waste • Prefabrication of off site of components possible
Long-term Economic Sustainability & Planning Benefits	• No notable planning benefits aside from the re-use of an existing building.	• Optimising use of brownfield site and existing building in a sustainable location. • Delivery of much needed housing	• Delivery of much needed housing • Delivery of high quality commercial floorspace in prime location • Improvements to public realm through increased activation and passive surveillance. • Improvements to urban greening and biodiversity.

3.0 Development Options

3.3 Summary of Assessments to date

Construction Impact	• Refurbishment will have a much reduced programme on site compared to a new build involving demolition. • Disruption still expected owing to need to re-clad the existing building.	• Complexity of temporary works and new build structures will elongate the programme but is likely to still be a shorter than a full new build. • Greater noise anticipated than refurbishment options.	• A full new build involing the complete demolition of the existing building would have a longer programme owing to additional demolition, excavation and piling. • Greater noise anticipated than refurbishment options.
Carbon Assessment	• Whole Life Carbon (scope A-C) at 1102kg CO2e/ m2 GIA - See Whitecode Consulting WLC report • Although achieveing a lower score in Embodied Carbon, in terms of Operational Carbon, it is likely that existing problems with the building would persist which would result in a more frequent refurbishment cycle, likely adding to total Embodied and therefore Whole Life Carbon going forward. • The construction of new cores to meet regulations would necessitate extensive cut, carve and temporary works, reducing the benefit of retaining the structure.	• Whole Life Carbon (scope A-C) at 897kg CO2e/ m2 GIA - See Whitecode Consulting WLC report • Extensive temporary works and strengthening required to lower ground floor slab and add additional stories on exisitng structure. See initial structural design information included at section 4.2 of this document. • The construction of new cores to meet regulations would necessitate extensive cut, carve and temporary works, reducing the benefit of retaining the structure.	• Whole Life Carbon (scope A-C) at 1088kg CO2e/ m2 GIA - See Whitecode Consulting WLC report • Less frequent refurbishments required • Design expected to meet BREEAM Excellent as minimum (targeting Outstanding)

3.0 Development Options

3.4 Summary Overview

Upgrading the building stock to achieve net zero carbon standards presents both challenges and opportunities, and each building presents a unique set of location based, physical and historical characteristics.

Retrofit is far more likely to be technically viable and commercially attractive for buildings which present good overall architectural quality; foundations and structure that meet modern robustness requirements, and height expectations, and a floorplate configuration that allows for flexibility for extension and modernisation. Conversely, for buildings with poor quality design, construction and materials; sub-optimal floor to ceiling heights, poor accessibility and/or inflexible layouts, redevelopment may prove to be a more effective approach to meet carbon reduction goals and create an attractive product that is more likely to maintain its market value over time. Furthermore, a stock of attractive buildings is crucial to the overall attractiveness and competitive positioning of London as a place to employ.

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4.0 Redevelopment Options Investigated

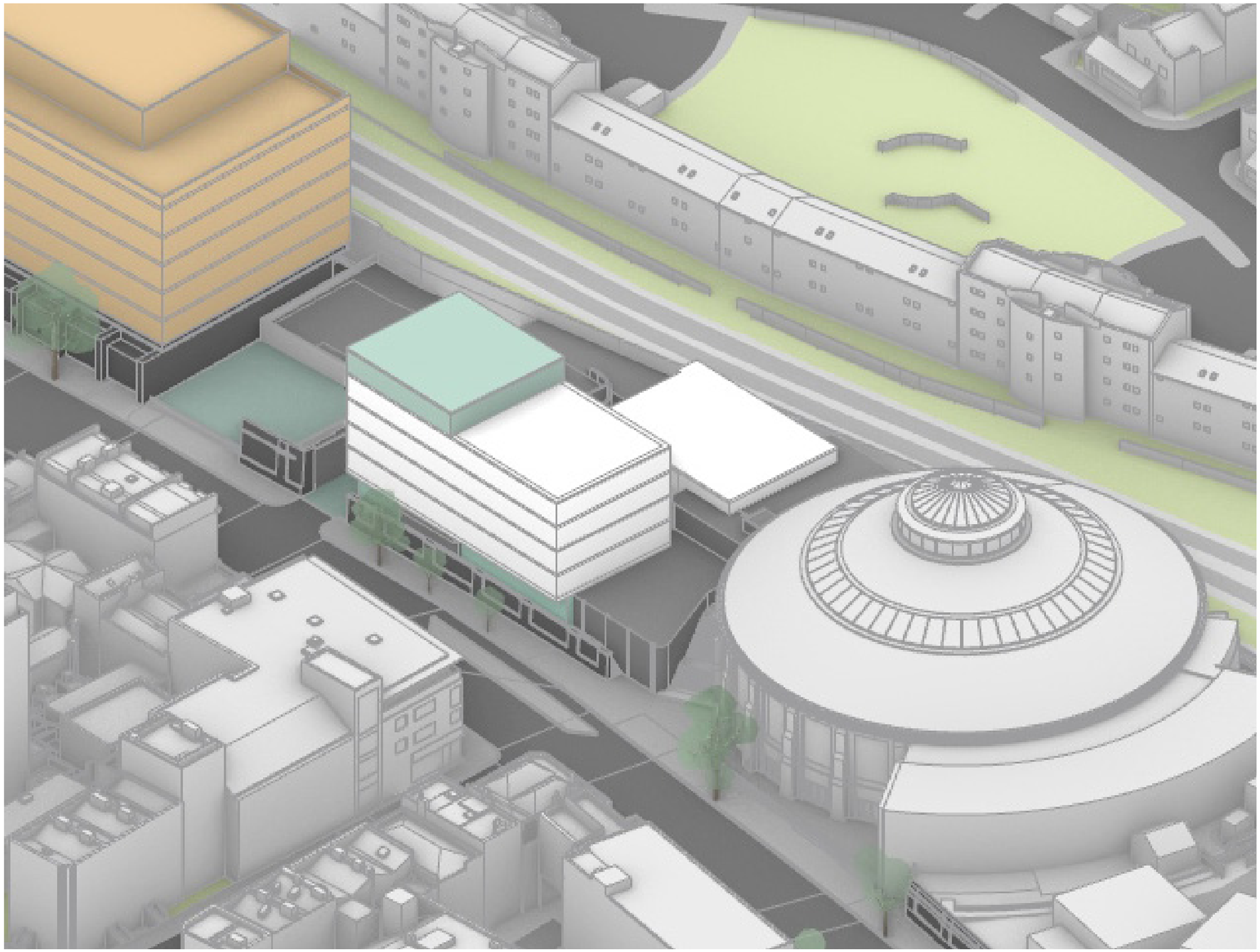
4.0 Redevelopment Options Investigated

4.1 Option 1 - Overview

Retention & Retrofit with Extension

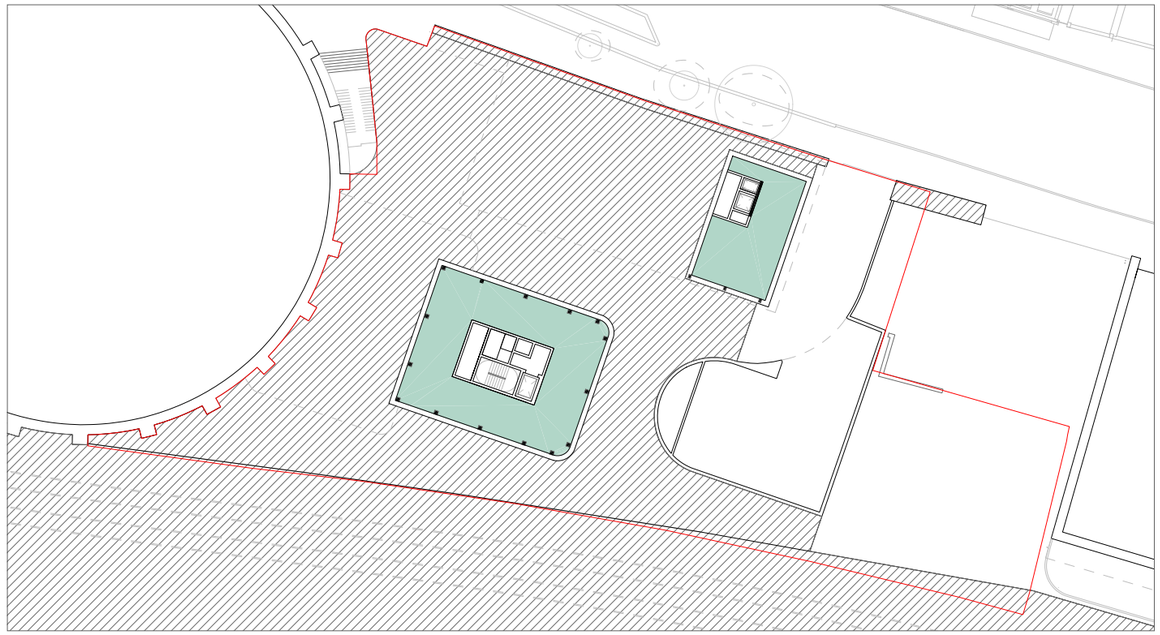
Retrofit & extend as commercial office space with necessary upgrades to meet current regulations.

- Existing front building extended with half an additional floor to provide an additional 200m2 of accommodation.
- Retain existing raised ground floor and brick facade to street level.
- Recladding the existing facade
- Renew all MEP services
- Exisitng disused car park structures retained.



4.0 Redevelopment Options Investigated

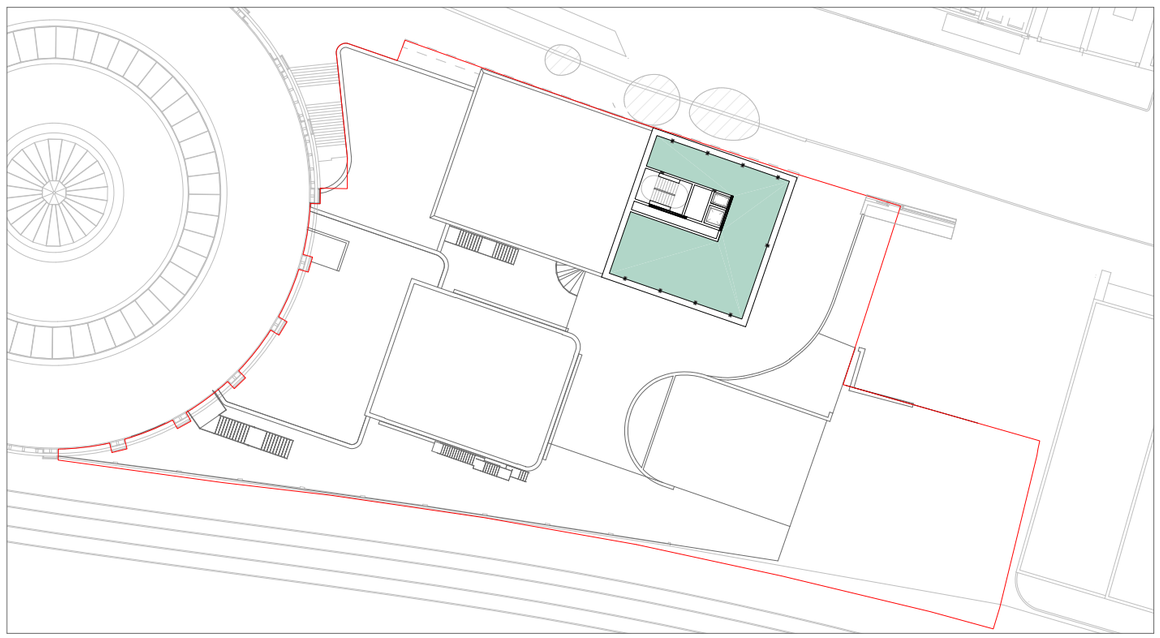
4.1 Option 1 - Plans



Ground Level Plan

Emtrance Level Plan - Level 1

Typical Floor - Level 2-3

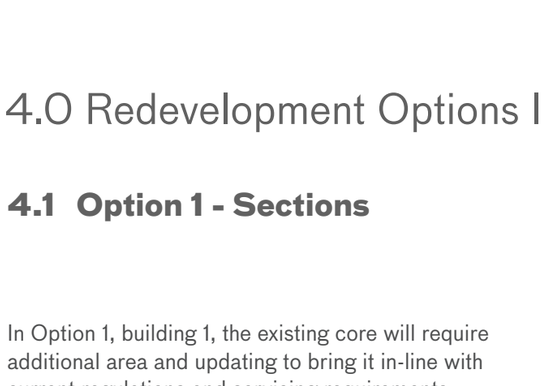


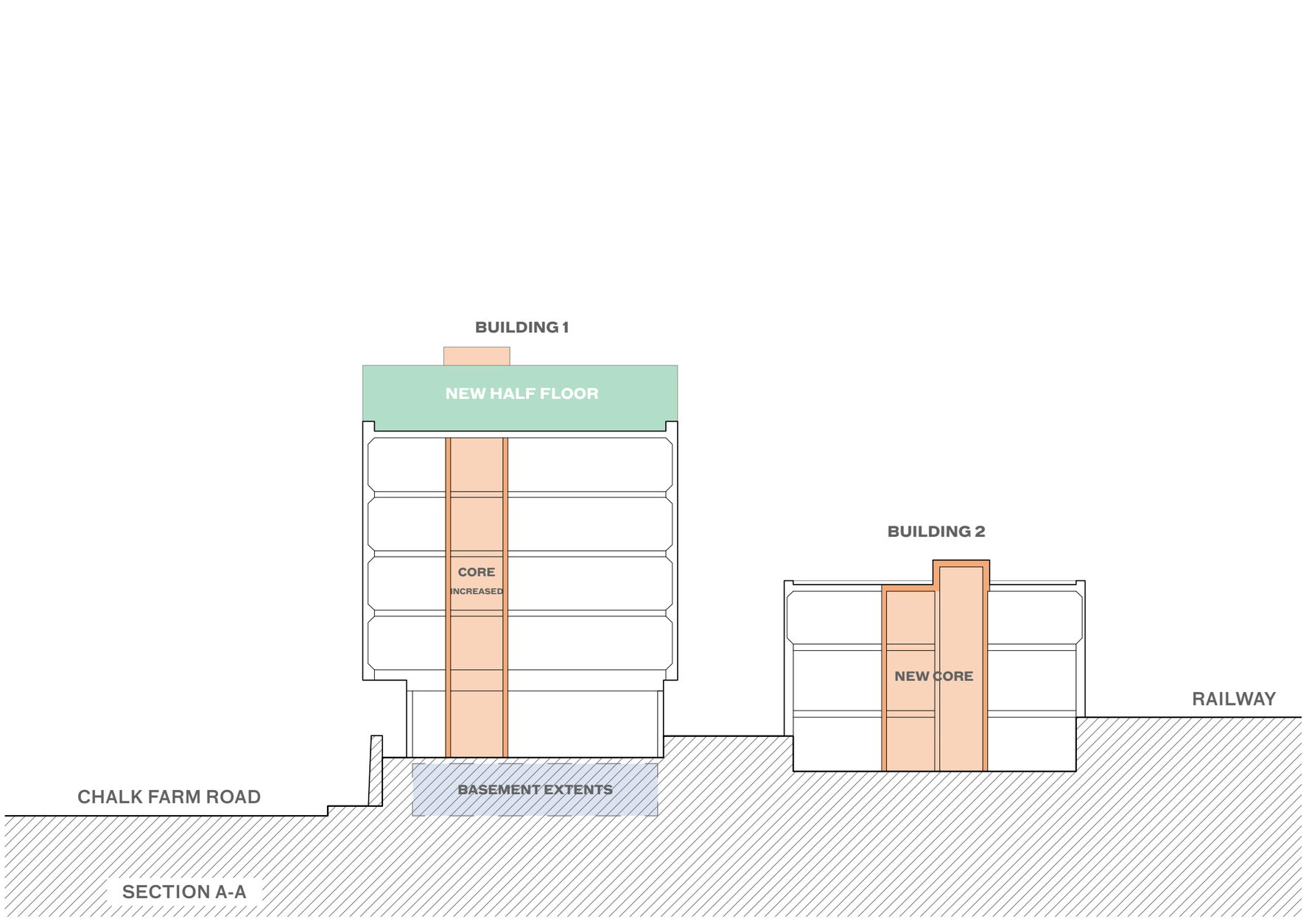
New Half Floor - Level 6

4.0 Redevelopment Options Investigated

4.1 Option 1 - Sections

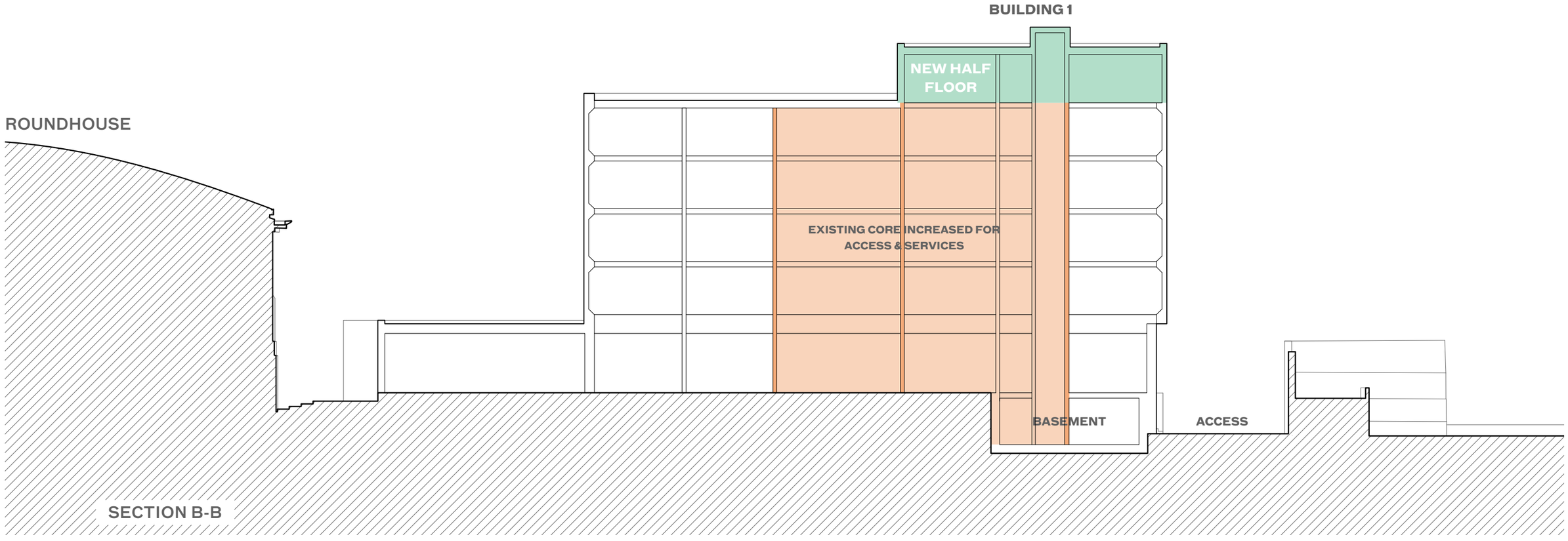
In Option 1, building 1, the existing core will require additional area and updating to bring it in-line with current regulations and servicing requirements. Building 2 will also require a new core which will allow for new services and lift access across all of its levels.





4.0 Redevelopment Options Investigated

4.1 Option 1 - Sections



4.0 Redevelopment Options Investigated

4.1 Option 1 - Structural Approach

Commentary by Pell Frischmann, RIBA Stage 1 level of detail.

A description of the structural approach to Option 1:

Retrofit and extend as commercial office space with necessary upgrades to meet current regulations. This involves a light CLT/timber framed partial, single storey to the existing large building. It is anticipated, at this stage, this will be a modest increase in load on existing structure and therefore any structural intervention will be minimal.

Embodied Carbon

The expected embodied carbon, EC, of this scheme is low as it looks to retain the existing structure and will require minimal upgrade to support additional load.

Temporary Works

The temporary works in this option are minimal as the existing structure is unaltered. Routing temporary works for maintenance and repair will be required and this is likely to include an external scaffold.

Impact on Existing Foundations

None envisaged, except local hard landscaping, these are anticipated to be minor.

4.0 Redevelopment Options Investigated

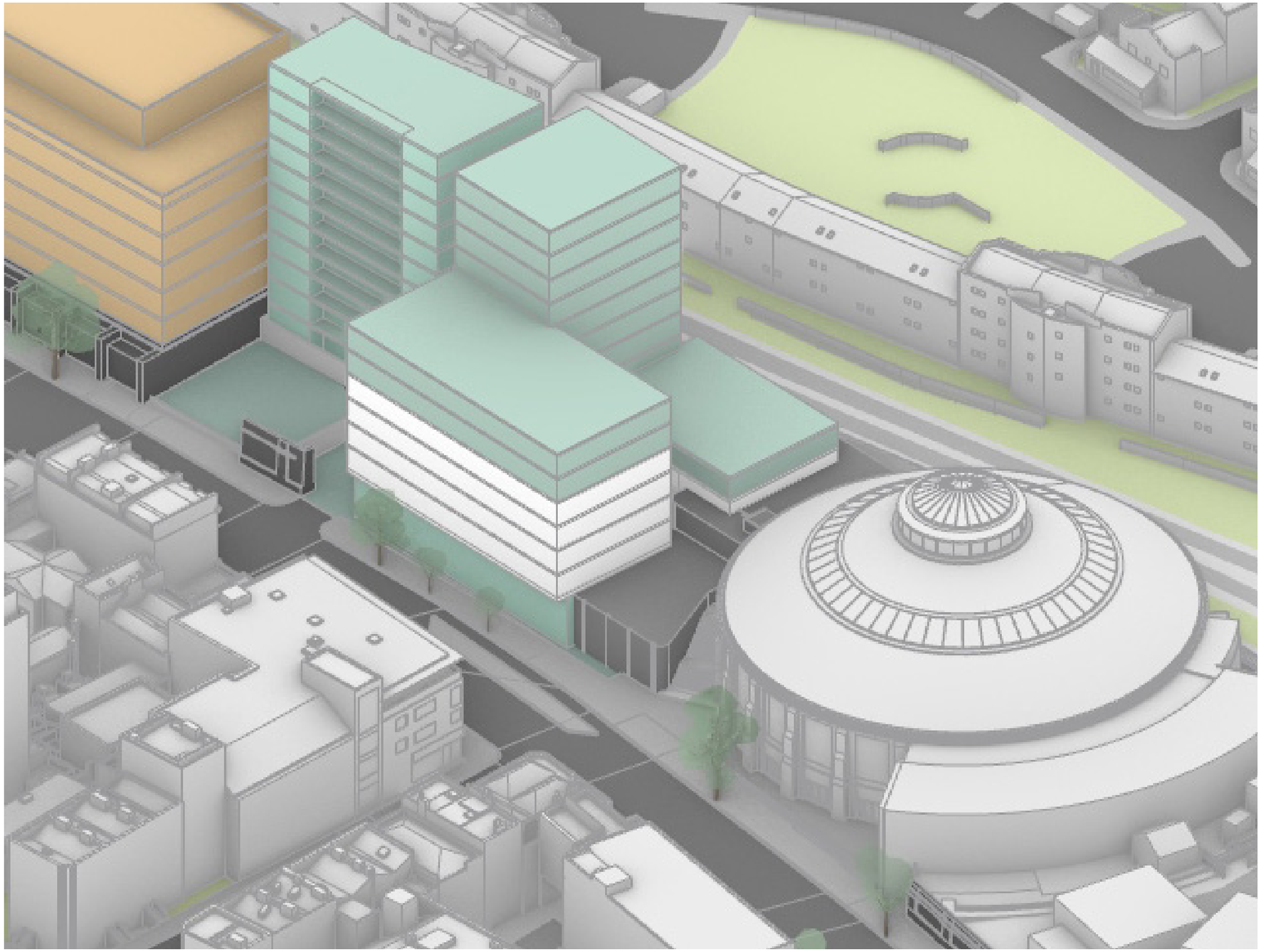
4.0 Redevelopment Options Investigated

4.2 Option 2 - Overview

Retention & Retrofit with Extension & New Build

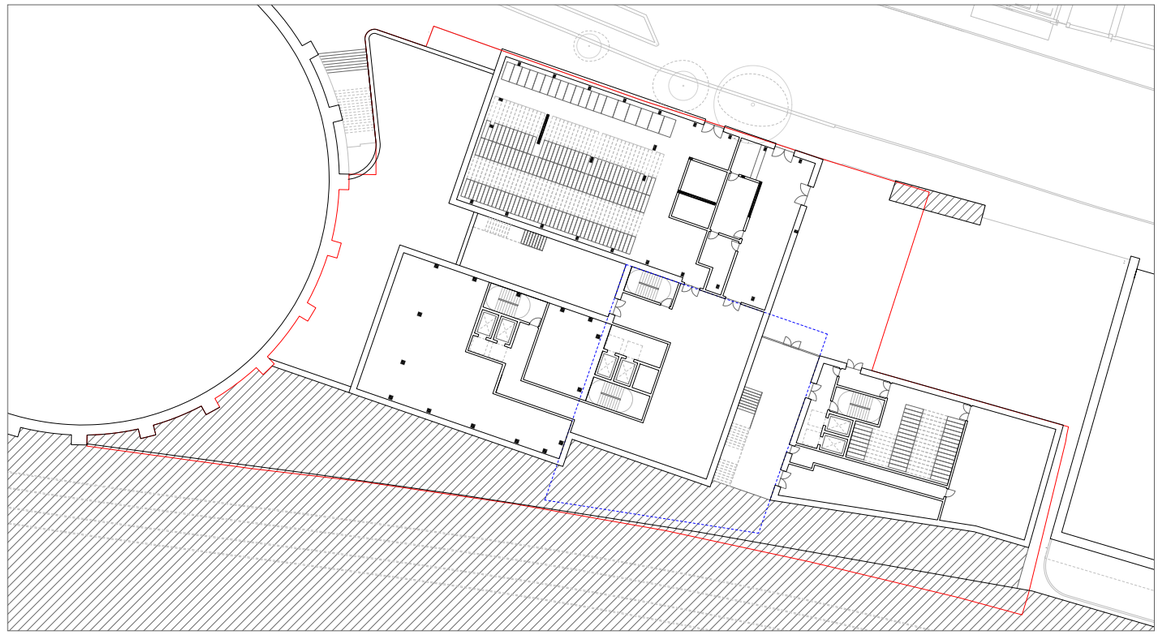
Deep retrofit & extend for reuse as student accommodation plus new build affordable housing.

- Existing building extended with two additional storeys to the front building and one additional storey to the rear building.
- Demolish car park area and build new 11-storey student housing block, providing total GIA of 6207m2 to PBSA building across existing 100 CFR building, additional floors and new build.
- New 9-storey storey residential building providing 16 no. affordable housing units, equivalent to 35% of GIA of PBSA building adjacent.
- Lower existing ground floor to street level, a reduction in level of approximately 2m.
- Recladding the existing facade
- Renew all MEP services



4.0 Redevelopment Options Investigated

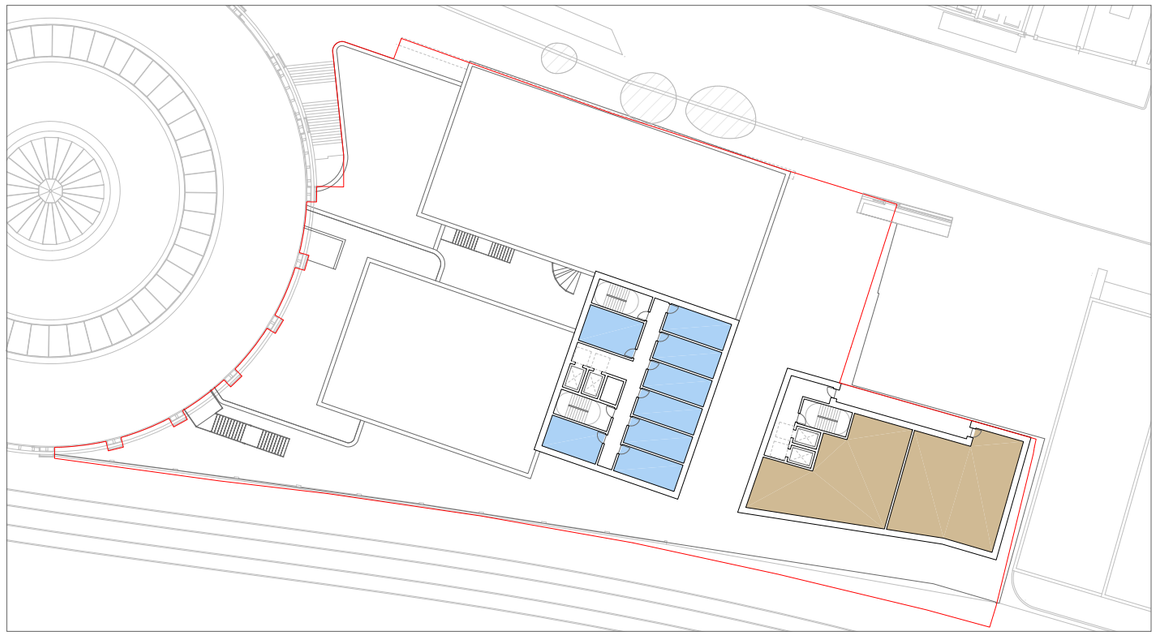
4.2 Option 2 - Plans



Ground Level Plan

Floor Plan - Level 1-3

Floor Plan - Level 4-7

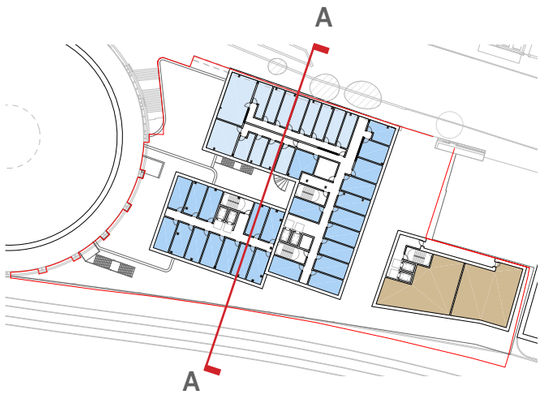


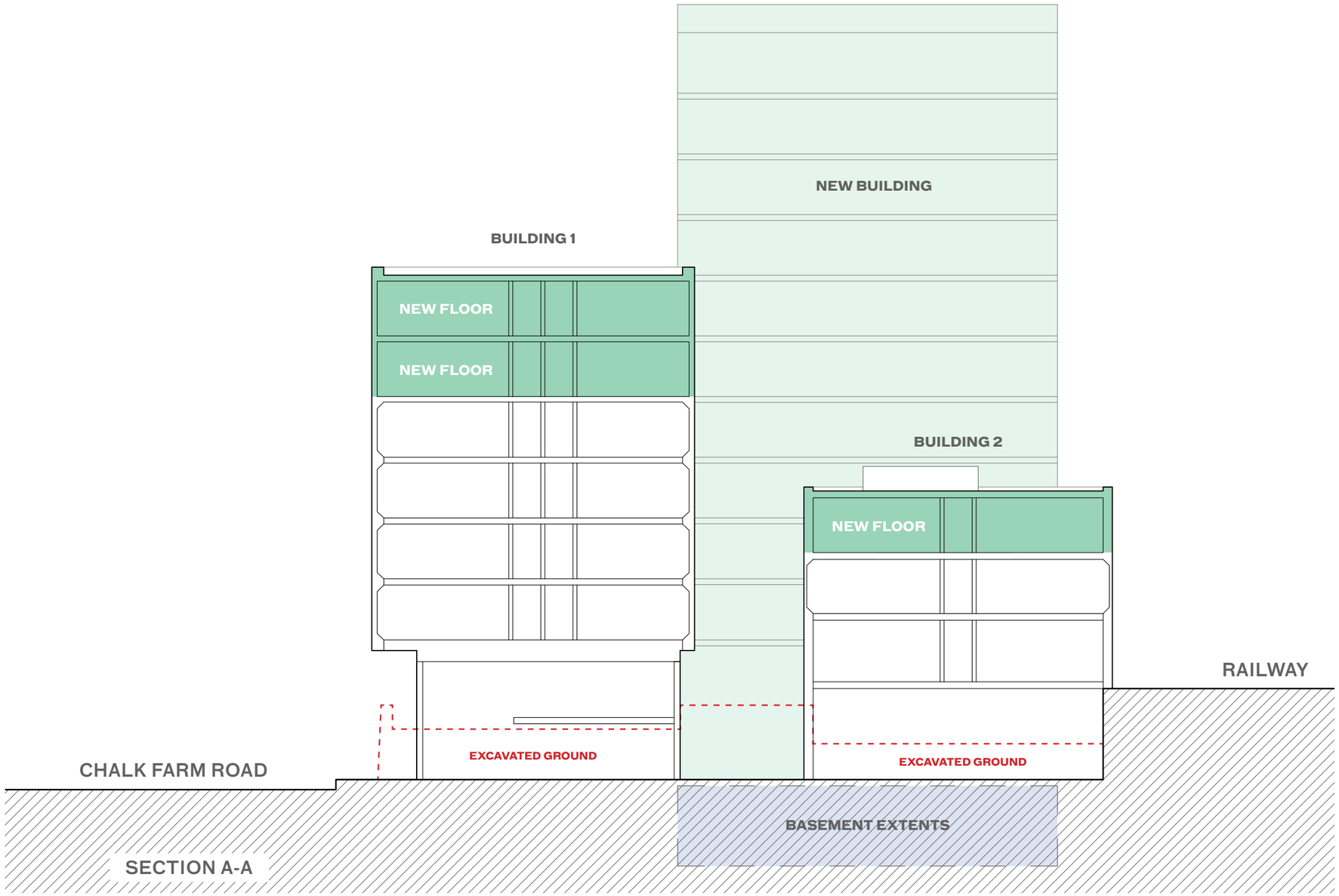
Floor Plan - Level 8-11

4.0 Redevelopment Options Investigated

4.2 Option 2 - Sections

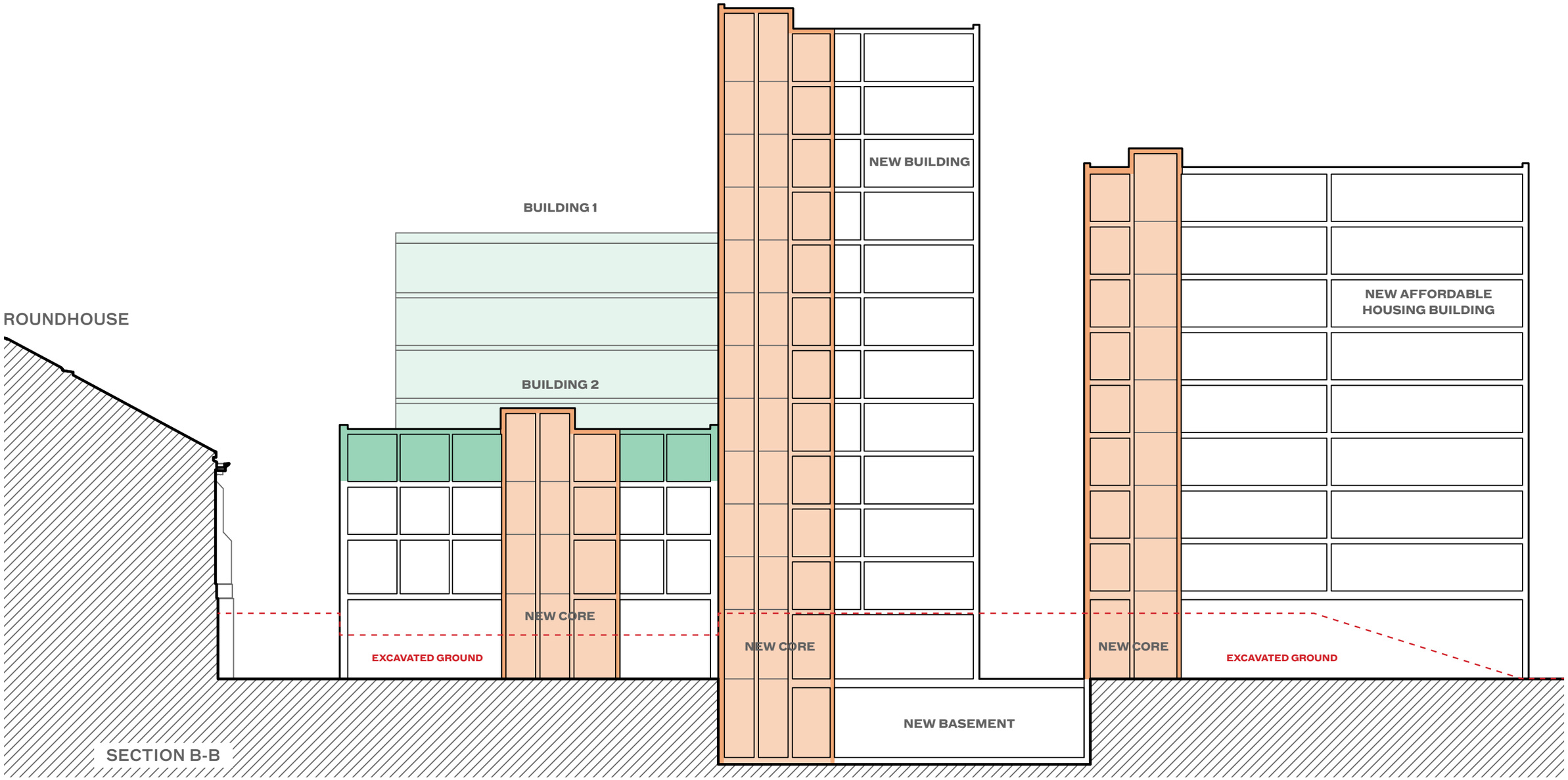
In Option 2, building 1 & 2 have had their ground floor level lowered to match that of Chalk Farm Road. This enables level access across the site. To provide access, building 2 will require a new seperate core as its mis-aligned levels means it cannot be accessed via the core servicing building 1 and the new build tower.





4.0 Redevelopment Options Investigated

4.2 Option 2 - Sections



4.0 Redevelopment Options Investigated

4.2 Option 2 - Structural Approach

Commentary by Pell Frischmann, RIBA Stage 1 level of detail.

A description of the structural approach to Option 2:

This option seeks to retain and reuse as much of the existing substructure and superstructure as possible. However the addition of several stories to a building with little spare capacity and complex existing foundations \ basement is a significant undertaking. Hence additional new foundations, column strengthening and new shear walls are all required in this option. There is are primary cantilevered transfer beams at first floor, all will need strengthening.

Embodied Carbon

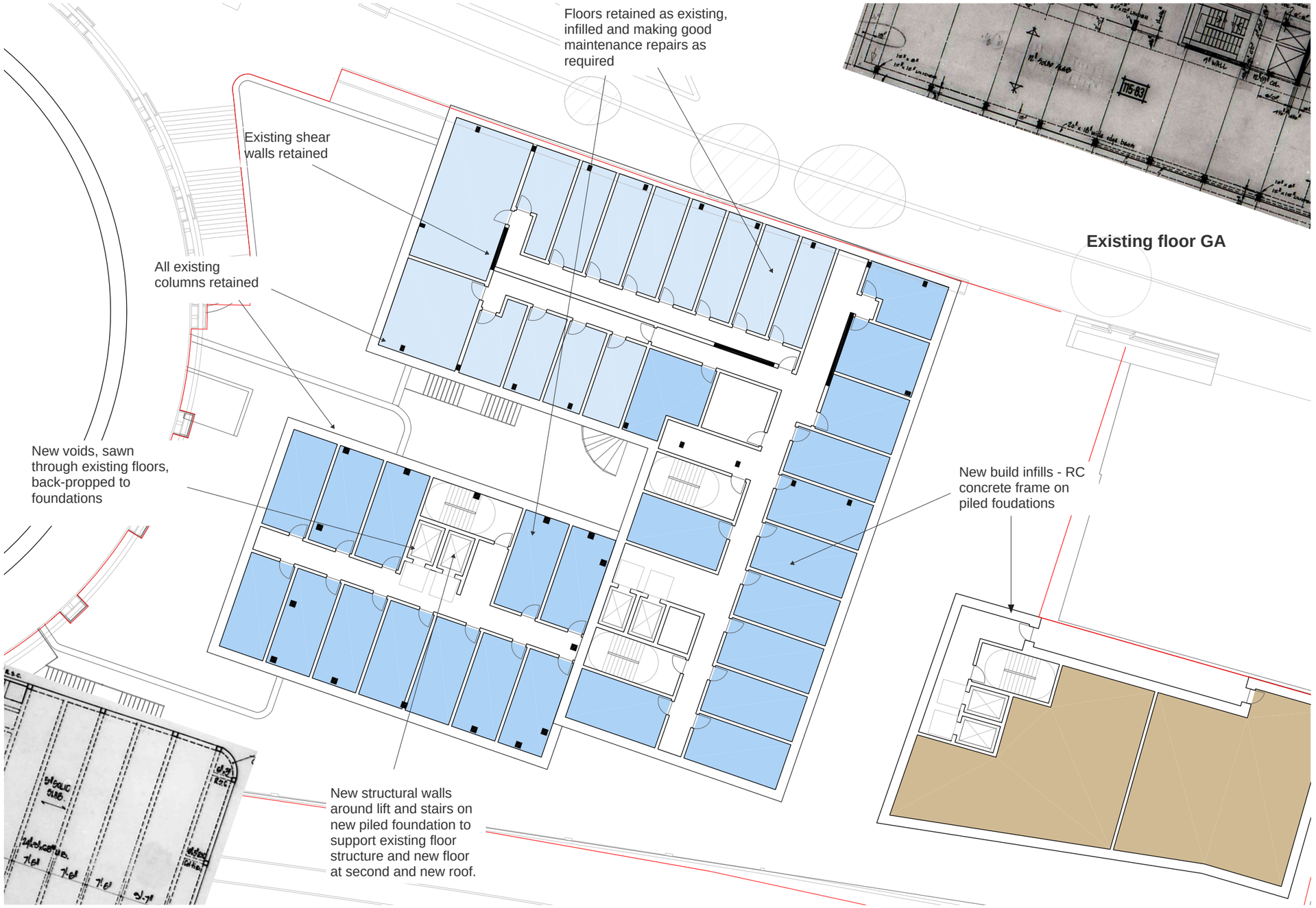
The expected embodied carbon, EC, of this scheme is not dissimilar to the new build scheme described under Option 3; although the extent of new build may have a different impacting on EC.

Temporary Works

There is major intervention to the existing building and the temporary works will be extensive, will have multiple phases and will be complex.

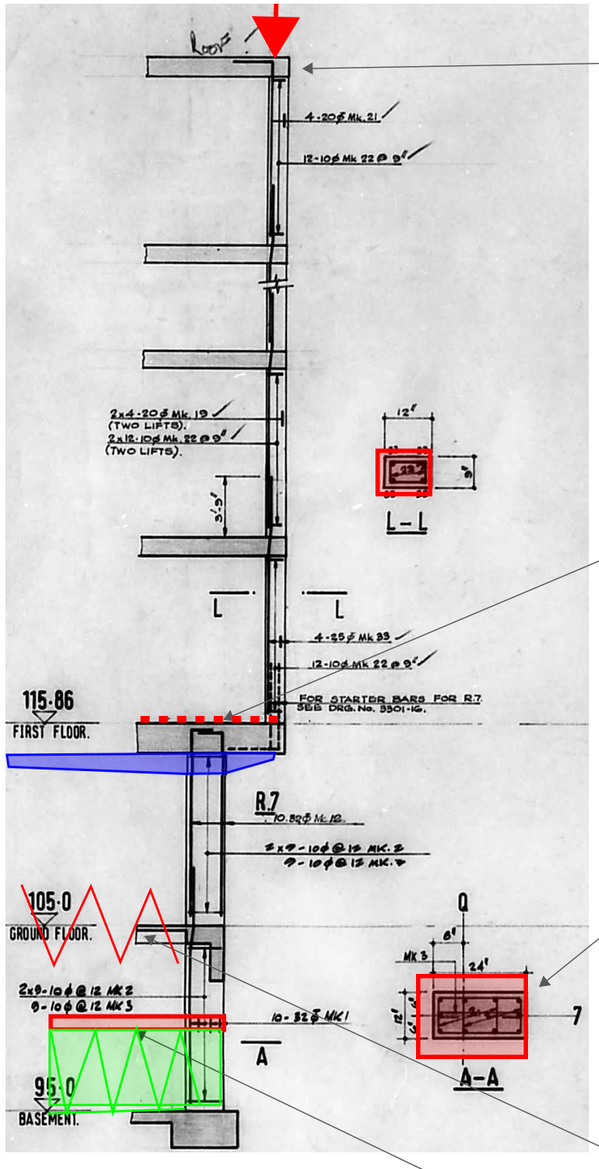
Impact on Existing Foundations

The additional stories impose significant additional vertical and lateral load on the existing foundations. New supplementary piles and new pile caps will need to be installed alongside the existing, this will be slow and complex.



4.0 Redevelopment Options Investigated

4.2 Option 2 - Structural Approach



Existing roof reinforced with carbon fibre throughout to accommodate additional loading

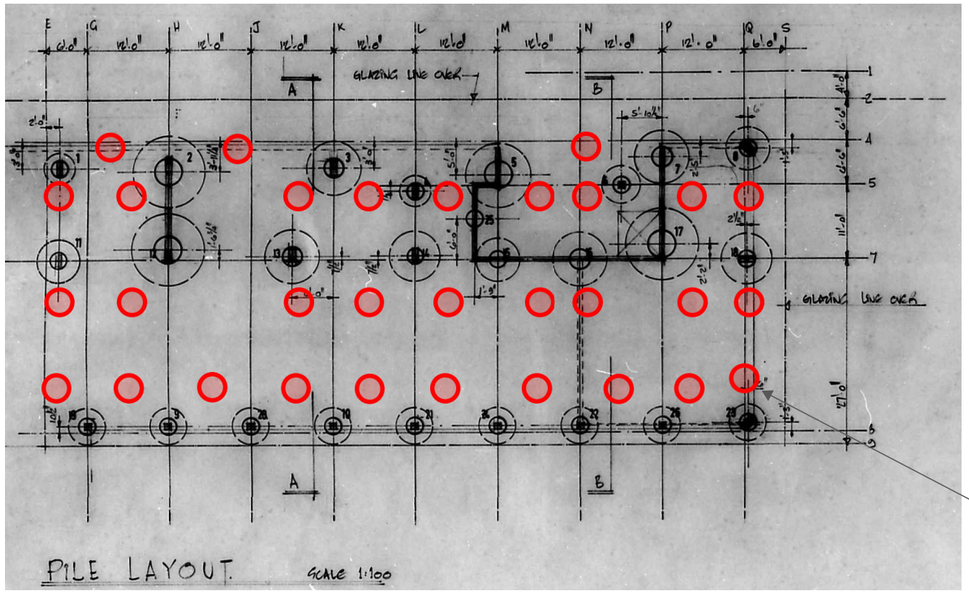
605mm rc first floor slab stiffened with fibre reinforcement to top surface to accommodate additional stories. Together with steel beams to underside as indicated, 2no. per column at 100 kg/m each by 7m long

Existing column wrapped with 200mm rc concrete 'jacket' to accommodate additional stories

Existing ground floor slab demolished

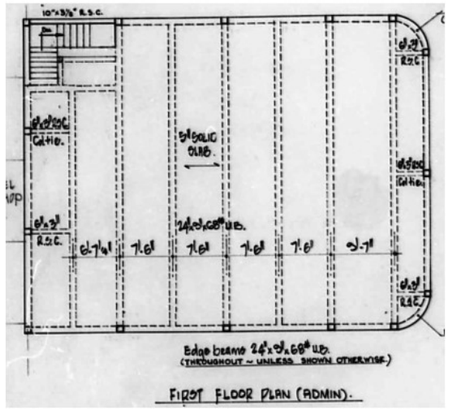
New 200mm rc slab on engineering fill to existing basement

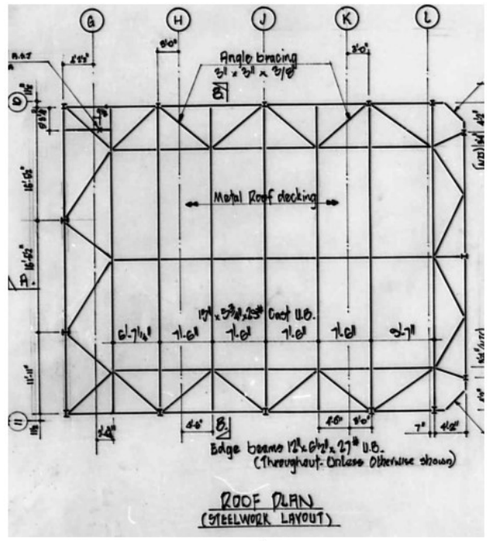
Section through Chalk Farm Road frontage



All new piles, 300mm diameter by 20m long with existing pile caps extended to pick up the new piles

Existing pile layout with new superimposed





Required demolition of Building 2 levels

The existing first floor and roof will need to be demolished and can be re-purposed as outlined in the pre-demolition audit

The existing floor cannot be retained as it will hinder installation of the piling and new superstructure over

The existing roof cannot be retained as being lightweight it is unlikely to provide acoustic seperation from outside noise, nor can it suppport additional load

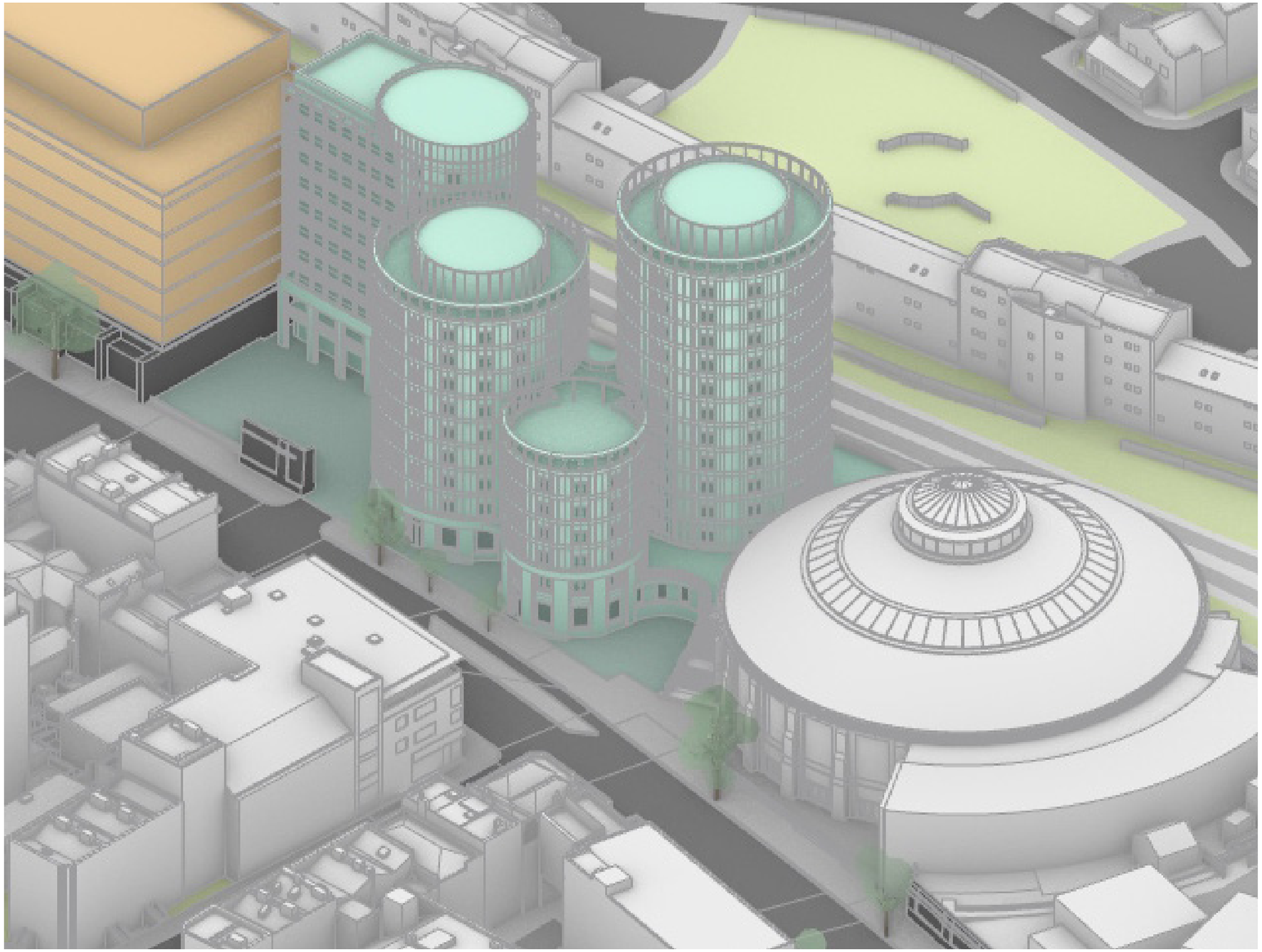
4.0 Redevelopment Options Investigated

4.3 Option 3 - Overview

New Build (proposed planning submission)

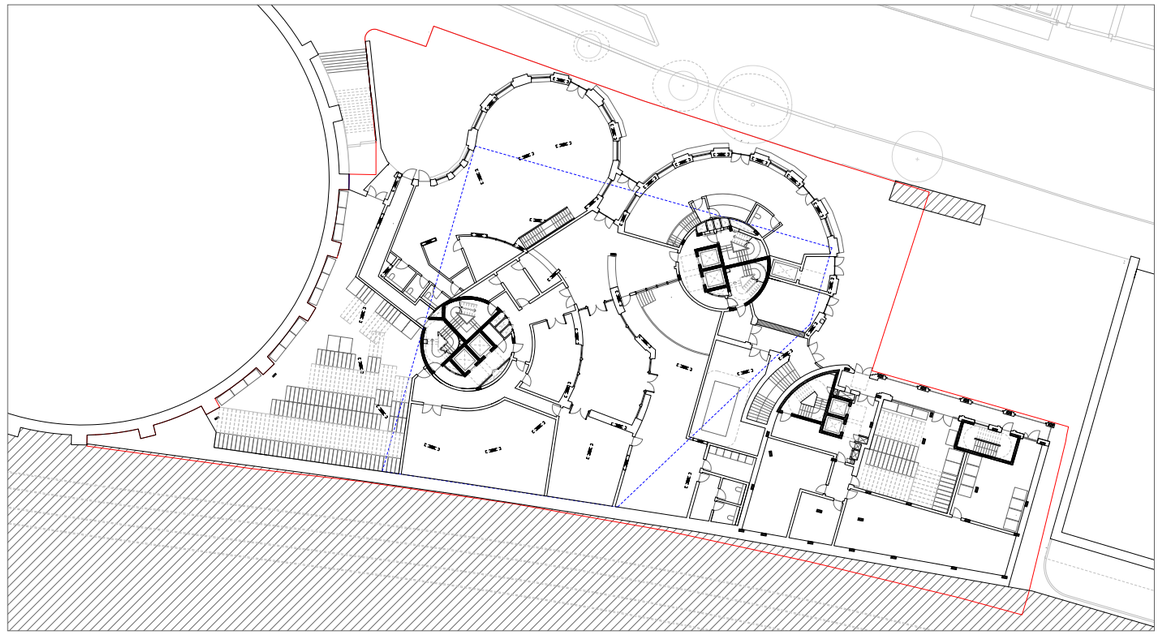
New build PBSA, commercial and affordable housing buildings raning in height from six to twelve storeys.

- Existing building on site to be removed.
- New 10 storey residential building providing 24 no. affordable housing units.
- New 6-12 storey PBSA building with commercial space at ground floor level.
- New public space on Chalk Farm Road.
- New amenity space for affordable housing and PBSA residents at first floor level.

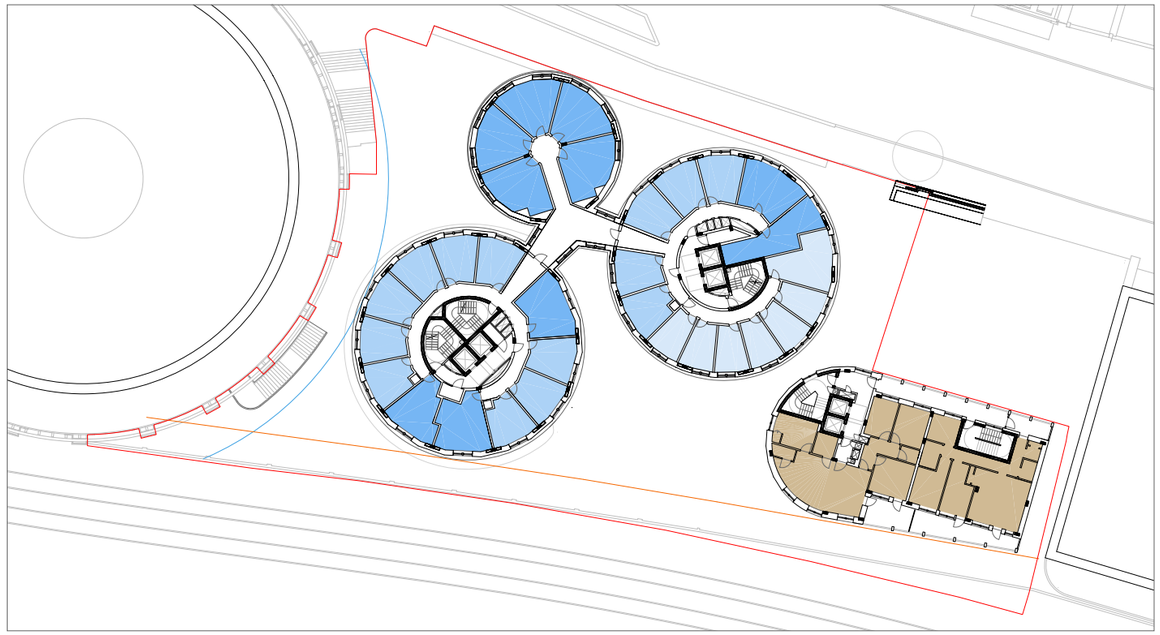


4.0 Redevelopment Options Investigated

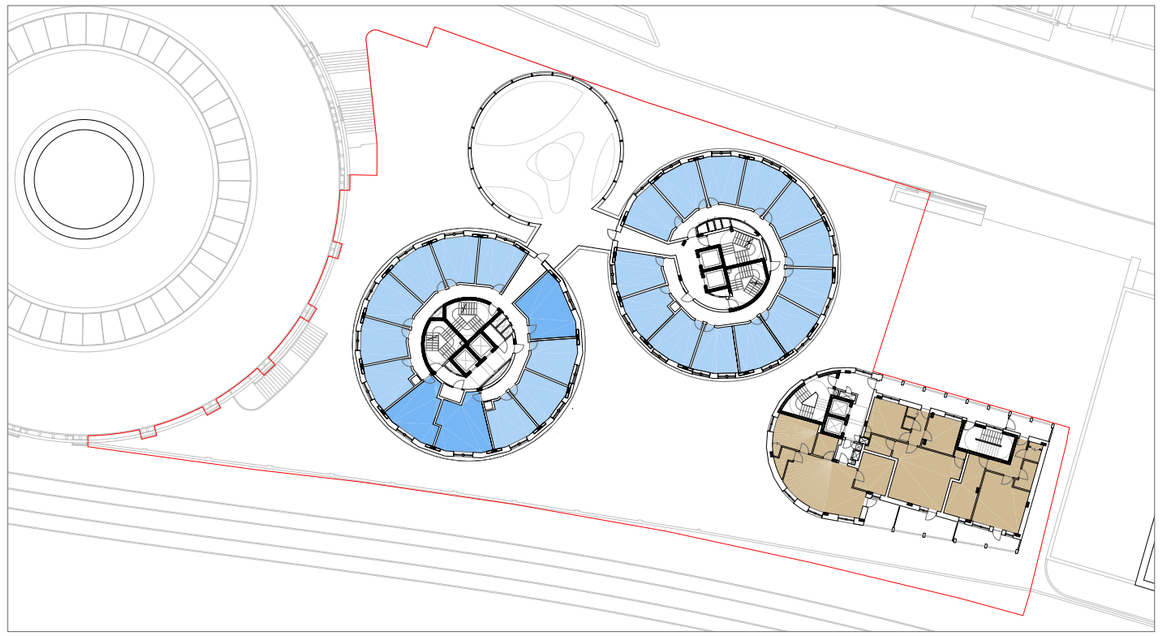
4.3 Option 3 - Plans



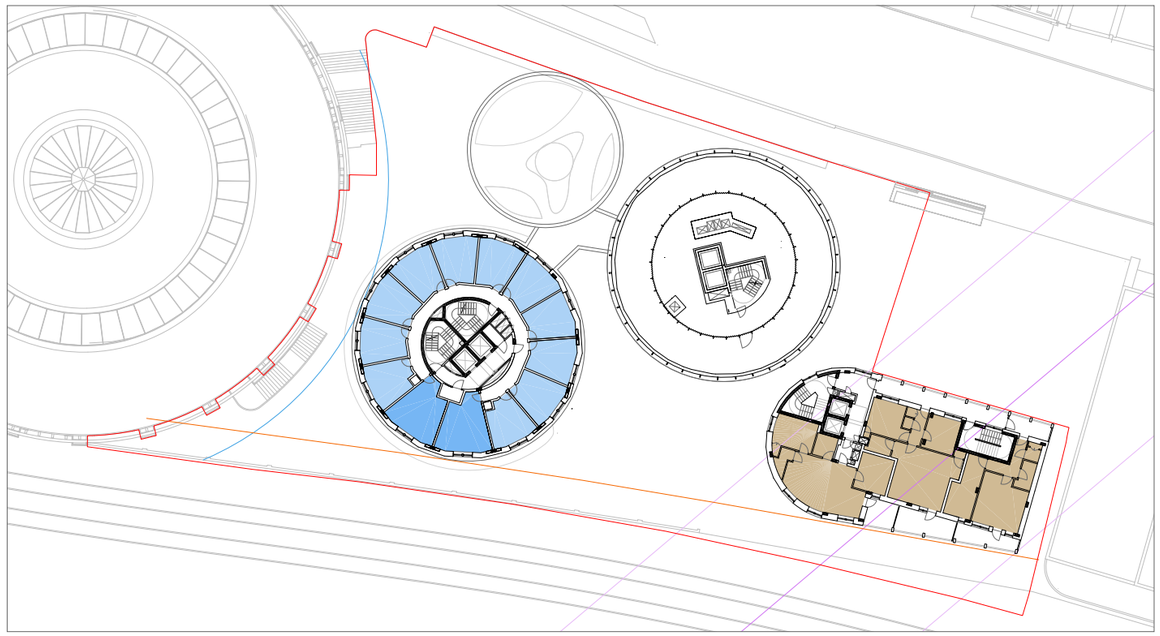
Ground Level Plan



Floor Plan - Level 1-5



Floor Plan - Level 6-8



Floor Plan - Level 9-11