Address:	Alexandra Road Estate Rowley Way London NW8 0SN		**4 & 5**
Application Number(s):	2023/5339/P 2024/0286/L	**Officer:** Elaine Quigley	
Ward:	Kilburn		
Date Received:	20/12/2023		
Proposal:	**Planning permission (2023/5339/P)** Replacement of existing single glazing with double glazing and associated works. **Listed Building Consent (2024/0286/L)** Replacement of existing single glazing with double glazing, removal of domestic hot water cylinders and installation of new heating interface units, emitters and associated internal works		

Background Papers, Supporting Documents and Drawing Numbers:

Existing drawings:
Site location plan; 3467_LB_102000 rev P3; 3467_LB_102001; 3467_LB_102002 rev P3; 3467_LB_102003 rev P3; 3467_LB_102004 rev P3; 3467_LB_103000 rev P3; 3467_LB_103001 rev P3; 3467_LB_103002 rev P3; 3467_LB_103003 rev P3; 3467_LB_103004 rev P3; 3467_LB_103005 rev P3; 3467_LB_103006 rev P3; 3467_LB_103007 rev P3; 3467_LB_103008 rev P3; 3467_LB_103009 rev P3; 3467_LB_104000 rev P2; 3467_LB_104001 rev P2; 3467_LB_104002 rev P2; 3467_LB_104006 rev P2; 3467_LB_104008 rev P2; 3467_LB_104009 rev P2; 3467_LB_105000 rev P2; 3467_LB_105001 rev P2; 3467_LB_105002 rev P2; 3467_LB_105003 rev P2; 3467_LB_105004 rev P2; 3467_LB_105005 rev P2; 3467_LB_105006 rev P2; 3467_LB_106000 rev P2; 3467_LB_106001 rev P2; 3467_LB_106002 rev P2; 3467_LB_106003 rev P2; 3467_LB_106004 rev P2; 3467_LB_106005 rev P2; 3467_LB_106006 rev P2; 3467_LB_106007 rev P2; 3467_LB_106015 rev P2.

Proposed drawings:
3467_LB_332000 rev P3; 3467_LB_332001 rev P3; 3467_LB_332002 rev P3; 3467_LB_332003 rev P3; 3467_LB_332004 rev P3; 3467_LB_333000 rev P3; 3467_LB_333001 rev P3; 3467_LB_333002 rev P3; 3467_LB_333003 rev P3; 3467_LB_333004 rev P3; 3467_LB_333005 rev P3; 3467_LB_333006 rev P3; 3467_LB_333007 rev P3; 3467_LB_333008 rev P3; 3467_LB_333009 rev P3; 3467_LB_334000 rev P3; 3467_LB_334001 rev P3; 3467_LB_334002 rev P3; 3467_LB_334006 rev P3; 3467_LB_334008 rev P3; 3467_LB_334009 rev P3; 3467_LB_334010 rev P3; 3467_LB_335000 rev P2; 3467_LB_335001 rev P2; 3467_LB_335002 rev P2; 3467_LB_335003 rev P2; 3467_LB_335004 rev P2; 3467_LB_335005 rev P2; 3467_LB_335006 rev P2; 3467_LB_336000 rev P2; 3467_LB_336001 rev P2; 3467_LB_336002 rev P2; 3467_LB_36003 rev P2;

3467_LB_36004 rev P2; 3467_LB_36005 rev P2; 3467_LB_36006 rev P2; 3467_LB_36007 rev P2; 3467_LB_336010 rev P2; 3467_LB_336011 rev P2; 3467_LB_336012 rev P2; 3467_LB_336013 rev P2; 3467_LB_336014 rev P2; 3467_LB_336015 rev P2; 3467_LB_336016 rev P2.

Supporting documents:
Acoustic Consultancy Report prepared by ICP dated 29/07/2022; Emitter and Heating Thermal Improvements prepared by Levitt Bernstein dated 06/12/2023; Alexandra Road Estate Thermal Improvements to Dwellings Design and Access Statement prepared by Levitt Bernstein dated December 2023; 13A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 26A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 46A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 51E Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 95A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 117J Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; Danfoss Flat Station Series A Technical Data sheet produced by Danfoss Sav; Katherm NK Trench Heating technical Catalogue produced by Kamp Mann Group; Planar Range Vertical models data sheet produced by Stelrad; SATK32 hear interface unit data sheet prepared by Altecnic Caleffi Group; Zehnder Radiapanel product sheet.

RECOMMENDATION SUMMARY:

(i) **Grant conditional planning permission subject to a shadow s106 agreement**
(ii) **Grant conditional listed building consent**

Applicant:	**Agent:**
London Borough of Camden 79 Holmes Road London NW5 3AP	Levitt Bernstein Thane Studios 2-4 Thane Villas London N7 7PA

EXECUTIVE SUMMARY

i) The Alexandra Road Estate is an iconic Camden estate and a historic symbol of council housing in the borough. It is listed but is the least carbon efficient estate in Camden, so it is important in helping to tackle the climate crisis and help deliver the council's vision for a zero-carbon future.

ii) The council property team proposes works to replace the heating system, replace and upgrade windows, install interfaces for heating emitters, and associated internal works like pipe and service runs. The works have been separated into two sets of applications:

- a set of applications to cover the replacement heating, external pipework, and the associated internal pipework to serve the new heat interface units (references 2023/5338/P and 2024/0091/L), and
- a set of applications to cover the replacement of the glazing (references 2023/5339/P and 2024/0286/L, and the subject of this report).

iii) This application relates to replacement of the single glazing within the windows and doors with double glazing. The window frames would be refurbished as part of the proposed works.

iv) The works are being proposed to help improve the thermal efficiency of the building fabric by around 30%. This should cut energy costs for occupants and the council and help tackle the climate crisis and achieve a low-carbon community.

v) The Alexandra Road Estate includes Grade II* and Grade II listed buildings and the Alexandra Road Conservation Area. The proposed replacement glazing would cause less than substantial harm, but at the low end of the scale, to the significance of the blocks which are Grade II* listed buildings with regards to the internal and external works. There is no harm to the other listed buildings, the Alexandra Road Estate Conservation Area or the setting of the Alexandra Road Estate Park which is a Grade II* listed Registered Park and Garden. Although the harm is at the lower end of the scale, you must give this harm considerable weight and importance. Officers believe there are public benefits that outweigh the harm, including sustainability benefits arising from reduced heat loss and lower carbon footprint.

vi) The scheme would not raise any impact on existing and neighbouring residents in terms of loss of daylight, sunlight, privacy or noise. There would be disruption arising from the implementation works themselves, but this would be temporary.

vii) The scheme would deliver sustainability benefits in the form of improving the thermal performance of the glazing. Taking account of the policies of the development plan and all material planning considerations, including the representations made by local residents, local groups and statutory consultees, the proposals are considered acceptable. The less than substantial harm to heritage assets which has been identified is outweighed by public benefits. A shadow section 106 legal agreement will be secured to ensure that the works are implemented concurrently.

viii) The scheme complies with the development plan as a whole and is recommended for approval subject to the shadow section 106 legal agreement.

OFFICER REPORT

Reason for Referral to Committee:
The Director of Economy, Regeneration and Investment has referred the application for consideration after briefing members due to the significant number of objections to each of the applications (Clause 3(vii)).

1. SITE AND BACKGROUND

Designations

1.1 The following are the most relevant designations or constraints:

Designation	Details
Listed buildings	Grade II* and Grade II
Conservation Area	Alexandra Road
Registered Historic Park or Garden	Alexandra Road Park (Grade II)

Table 1 - Site designations and constraints

Description

1.2 The application site consists of a linear housing estate that stretches from Loudon Road in the east to Abbey Road in the west, with the West Coast Mainline Railway line bounding the site immediately to the north. The site covers an area of approximately 6.47 hectares.

Figure 1 – The existing site

1.3 Designed in 1968 and built between 1972-1978 by the architect Neave Brown of Camden's Architect's Department (under Sidney Cook), Alexandra Road Estate is widely acclaimed to be one of the most exceptional and iconic examples of postwar social housing in Britain. The Architect's Department developed a low-rise, high-density model to meet a high housing demand as

an alternative to a high-rise approach; the linear stepped section of the blocks was inspired by the work of Leslie Martin and Patrick Hodgkinson, including at the Brunswick Centre (1967-72). By including a park and community buildings (including resource centre, community centre, shops, and launderette) the Estate fulfilled the opportunity to improve an entire neighbourhood. A reinterpretation of the traditional street was a key element of the design; each dwelling is entered directly from the street, freed by traffic by below-ground parking.

1.4 The majority of the concrete blocks are Grade II* listed. Two later mixed use blocks on the eastern end of the estate at Loudon Road and Alexandra Place were built from 1974-80 to the designs of architect Tom Kay using a brick aesthetic, and are listed grade II. The entire estate is situated in the Alexandra Road Estate Conservation Area. The park which forms a spine through the estate (between Blocks B and C) has been designated as a Registered Park and Garden which is Grade II* listed.

1.5 The estate is separated into 3 blocks which includes 520 dwellings. The estate provides a mix of private and social housing units. Blocks A is 7 storeys and Block B and Block C are 4 storeys. The Estate is constructed from site-cast board marked white, unpainted reinforced concrete, capable of the large spans required by the stepped section of the megastructure with flat roofs. The 3 blocks are parallel to each other with Block A, the northern block, forming an acoustic wall to shield the estate from the adjacent railway line. The northern pair of blocks (Block A and Block B) face in towards the pedestrian street, Rowley Way, and are organised with stepped elevations facing in towards Rowley Way. Each level provides a private outdoor area for every home.

1.6 Block A, Rowley Way comprises 2 storey, 2 bed flats at the top and 2 storey, 3 bed flats at the bottom with 3 layers of single storey 1 bed flats between. Block B comprises 4 storeys of 2 and 3 bed maisonettes.

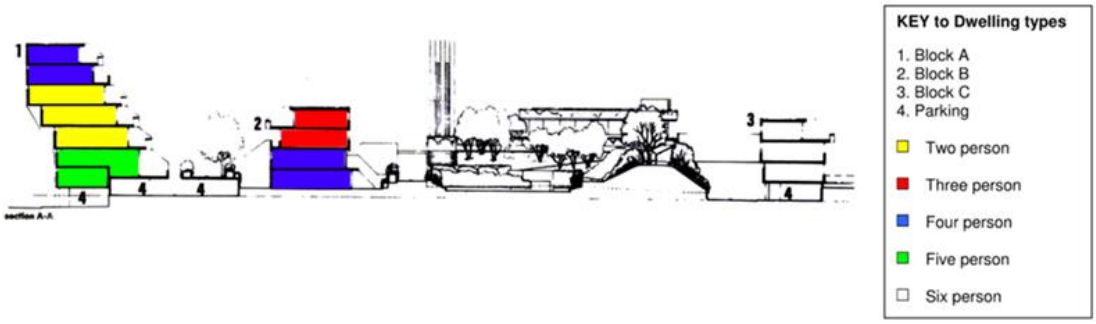


Figure 2 (above): Typical dwelling types within the Alexandra Road Estate

1.7 The site has a Public Transport Accessibility Level (PTAL) rating of 2 (Moderate) but is within walking distance of South Hampstead and West Hampstead tube stations, as well as a number of bus services.

2. THE PROPOSAL

2.1 The proposal is for the replacement of the existing single glazing within the timber frames with double glazed vacuum sealed glazing. There are a number of features in the window sets that require slight modification which includes:

- Existing Douglas fir window frames will be repaired and where beyond repair replaced or part-replaced to match the existing.
- All timber windows will be checked for airtightness, and new seals installed as necessary.
- Sliding door running gear will be stripped, cleaned and overhauled.
- Plywood opening vents will be fitted with additional panels to improve insulation.
- Wired glass will be retained and fitted with secondary glazing.
- Louvred vents will be replaced with new timber sashes in Block A.
- Existing aluminium windows will be retained and overhauled in the Block A railway elevation.
- Secondary glazing to aluminium windows in Block A will be retained where it survives.

Internal works

2.2 The proposal includes the following works:

<u>This set of applications</u>:

- Removal of hot water cylinders in flats
- Installation of new heat interface units (HIU's) in flats and associated internal pipework
- Installation of trench heaters within the plinths below the balcony sliding doors in Blocks B and C
- Installation of new heat emitters (radiators) within the flats and associated pipework

<u>Associated other set of applications:</u>

- The locations of the HIU's have also been included in a separate application that relates to the replacement heating infrastructure that has also been submitted by the applicant in parallel with these applications for determination (ref 2024/0091/L). This application shows the locations of the external pipework and how this would connect the new HIU's.

3. SHADOW SECTION 106 AGREEMENT

3.1 Objections have been received (see Consultation summary) that there should have only been one planning application and one listed building consent for all the works to cover the replacement heating system, the replacement windows, heating emitters and all associated internal works.

However, it is for the applicant to divide the programme of works into applications as they wish. They are nonetheless related and have been considered by officers in light of one another. The applicant has separated the works into two sets of applications:

- a set of applications to cover the replacement heating, new sub-plant rooms, cold water storage tank rooms, external pipework, and the associated internal pipework to serve the new heat interface units (references 2023/5338/P and 2024/0091/L), and
- a set of applications to cover the replacement of the glazing installation of new heat emitters (radiators) and the associated internal pipework to and from the new heat interface units (references 2023/5339/P and 2024/0286/L), and the subject of this report.

3.2 A legal agreement is recommended to secure the full implementation of the works so that they are fully and satisfactorily completed to ensure consistency, uniformity and completeness, and to ensure social equality for the residents which was a driving factor behind the original architectural design of the estate. The intention would be for such assurances to preserve the special interest of the grade II* listed buildings. The two sets of applications, for the heating distribution infrastructure and the replacement glazing, would be linked by a legal agreement head of term (HoT).

3.3 The recommendations are based on certain HoTs being secured in the event of approval. These Heads of Terms would usually be incorporated in a s106 agreement. However, in this case the applicant is the Council and as a matter of law the Council cannot enter into a s106 agreement with itself.

3.4 Nevertheless, it is still imperative that this application is dealt with in a way that is consistent with the way the Council would deal with non-Council applications. Therefore, the Heads of Terms will be embodied in a “Shadow Section 106 Agreement”. This will be in the same form as a “standard” Section 106 agreement. Incorporating the “usual” legal clauses and negotiated by separate lawyers within the Borough Solicitor Department representing the interests of the Council as landowner or applicant, and the Council as local planning authority.

3.5 The shadow section 106 will include a provision linking the applications for the works that form part of this planning application and the works for the heating distribution infrastructure that forms part of the other set of applications (planning ref 2023/5338/P).

3.6 The shadow s106 agreement will include, among other things, a provision requiring (i) that in the event of any disposal of the relevant land the shadow s106 agreement terms will be included in the terms of the sale transfer and (ii) the purchaser will be formally required to enter into a shadow s106

agreement as owner of the land at the point of acquisition (and hence its terms will thereafter bind the site).

3.7 Once the shadow s106 agreement has been finalised, the Director of the applicant department will sign a letter formally undertaking on behalf of the department that its provisions will be complied with during the course of the development.

3.8 The shadow s106 agreement and the Executive Director or Director's Undertaking of Compliance will be noted on the Planning Register (so the agreement is put on the record in the same way as a "standard" s106 agreement) and compliance with the shadow s106 agreement will be tracked and monitored by the Planning Obligations Monitoring Officers in Development Management in the same way as a standard agreement.

4. RELEVANT HISTORY

The site

4.1 **2023/5338/P and 2024/0091/L** - Replacement of the existing estate-wide heating distribution infrastructure including removal of redundant pipework; installation of two new sub-plant rooms; installation of cold water storage tank rooms; replacement of existing site hoarding and installation of new replacement infrastructure pipework. **This is the other set of applications relevant to this set of applications and is pending consideration.**

4.2 **2020/1450/P and 2020/2723/L** - Replacement of the existing estate-wide heating distribution infrastructure including removal of redundant pipework; installation of two new sub-plant rooms; replacement of existing site hoarding and installation of new replacement infrastructure pipework. **Granted on 17/11/2020**

4.3 Part of these permissions included the installation of the new heat interface units and associated external to and internal pipework within the flats. These works were undertaken in 2 uninhabited flats (referred to as the pilot flats) in January 2022. The pilot flats demonstrated the various approaches that were being considered including options for heat emitters.

4.4 **2010/4568/P and 2010/4575/L** - Installation of external ducting in association with replacement of existing underground heating services on the Alexandra and Ainsworth Estate (Class C3). **Granted on 03/11/2010**

4.5 **2008/3640/P and 2008/3687/L** - Installation of semi-circular risers on alternate structural columns from ground to roof level on the north elevation of blocks A1- A5 to provide new electrical and heating services and associated works to staircase at ground level. **Granted on 27/01/2009**

5. CONSULTATION

Statutory consultees

Historic England

5.1 No objection to the proposed thermal upgrades. The proposed vacuum double glazing is thinner than the existing single glazing. As such the glazing can easily be accommodated within the depth of the exiting timber frames and the original external aluminium beading can be reinstated in its existing location. The glass itself appears similar to the original, with the addition of small suction dots in the corners and tiny spacer dots throughout. The resulting impact on the appearance of the glazing is likely to be negligible. The other general works to prolong the life of the timber frames are likely to enhance the appearance of the windows, which are in general need of redecoration and refurbishment. Advise local authority to determine the application for listed building consent as they think fit.

Local groups

Alexandra and Ainsworth Estate Tenants and Residents' Association (TRA)

5.2 Objection covering the following issue(s):

Heritage

- Extensive. Irreversible harm to the Grade II* listed interiors of all dwellings
- Extensive, irreversible harm to the Grade II* listed exteriors of Block A and Block B
- Need for external and internal insulation has been discounted on heritage grounds but heritage concerns are ignored when it comes to the destruction of the interiors

Officer response: The impact on heritage assets has been carefully considered. Officers identify less than substantial harm at the lower end of the scale. Harm has been balanced, not discounted, and efforts have been made to minimise harm first, where possible. See analysis of significance assets in the Heritage Section and an assessment of the level of harm. The impact on all designated and non-designated heritage assets is considered in this section.

Technical concerns:

- New system is expensive and high maintenance and not in line with climate change
- Condensation and black mould is a major issue which has not been mentioned in the applications
- Concerns about health risks arising from potable water system
- Retrograde system

Officer response: See Sustainability section. The issues of mould from condensation have been considered in the assessment. The functionality of the existing ventilation systems will be reviewed in the rooms that are a potential source of increased moisture to help minimise condensation and mould. See Other Issues section.

Concerns about quality of life /discrimination

- Disruption to the elderly, young families and others during the works.
- Residents are stressed and worried about the intrusion, stress and disturbance.
- Circulation / fire escape pathways within the flats would become too narrow for the disabled.

Officer response: Any works of repair and refurbishment will have a level of disruption and this will be proportionate to the scale of the works. See Amenity section. Internal circulation space for disabled users / fire escape issues fall within the Building Regulations and planning should not double up on this. The impacts will also be temporary and must be balanced against the benefits of the scheme and considered against the development plan as a whole. The impacts of the works can often affect certain groups more (including those with protected characteristics) but such impacts are not considered to outweigh a recommendation for approval.

Lack of engagement

- The Council claims to have consulted TRA and that they support the application but this is not true. Significant levels of objections from local residents about the application reflecting widespread resistance across the whole community.

Officer response: The details of engagement are provided in the Consultation section. Resistance to the proposed works is clear from the significant number of objections that have been received to the applications. However, representations have also been made in favour of the application. The number of objections is not a material planning consideration in itself – it is the material planning issue which is relevant, and the weight is for the decision maker unless otherwise noted.

<u>The Alexandra and Ainsworth Leaseholder Group</u>

5.3 Objection covering the following issue(s):

Heritage

- Application suggests some internal walls, flooring and ceiling will be stripped out but no details provided
- Contractors will not be supervised and may remove historic fabric

- The application states plinths will be used for trench heaters, involving metal grilles the length of the surface. The Capital Works Manager says this is not going ahead and so remains unclear
- The whole area will be a building site for years

Officer response: The works relate mainly to installation of pipework within existing architectural features. Floor plans and elevations have been submitted to illustrate this. The impact on heritage assets has been carefully considered. Officers identify less than substantial harm at the lower end of the scale. Harm has been balanced, not discounted, and efforts have been made to minimise harm first, where possible. See analysis of significance assets in the Heritage Section and an assessment of the level of harm. The impact on all designated and non-designated heritage assets is considered in this section. The new radiators and associated internal pipework and the trench heaters within the plinths have been considered as part of this proposal.

Environmental / sustainability impacts

- No sustainable urban drainage (SUDS) is provided. Surface water with all the building contamination will be drained into the main sewer and foul swage will be disposed of by other or unknown methods
- No figures have been provided to demonstrate the NOx particulate matter or greenhouse gas emissions
- No heat pumps, no solar energy, no passive cooling units and no green roof or anything else to offset the impact of this proposal.

Officer response: Sustainable urban drainage is not required to be provided as part of the proposed works. The option to use the existing gas boilers and considerations associated with alterative greener options is discussed in the associated applications (ref 2023/5338/P and 2024/0091/L). The applicant is proposing to retain as much of the existing historic fabric as possible to try to improve the thermal insulation of the building. The options to install alternative heating solutions been considered as part of the replacement heating infrastructure which form part of the associated applications (ref 2023/5338/P and 2024/0091/L).

Consultation

- Residents have not been consulted over the heating upgrade. No opportunity to question the proposal. Too many questions that have not been discussed.

Officer response: The details of engagement are provided in the Applicant Consultation section.

Length of time to carry out the works

- Unoccupied pilot flats took 10 weeks over 6 months to install the HIU's and associated works and the replacement glazing. The Council suggest the upgrade works will take 10 days in a fully occupied flat. How?

Officer response: The schedule programme and duration of works is undertaken by the Council as freeholder

Vehicle Parking

- 22 garages would be given over to large cold water storage. These garages have already been broken into for works to start

Officer response: The cold water storage boosters would be secured by metal louvred doors. The garages are currently rented or leased from the Council and the security of these spaces would be managed by the Council as applicant and freeholder. The applicant has confirmed that no construction works relating to this proposal have not started on site.

Condensation and mould

- Due to design of the current (original) heating system there is no condensation or mould. There is no planned insulation of flats so heating will create conditions for damp and mould

Officer response: The issues of mould from condensation have been considered in the assessment. The functionality of the existing ventilation systems will be reviewed in the rooms that are a potential source of increased moisture to help minimise condensation and mould. See Other Issues section for full details.

Maintenance

- Existing boilers won't last predicted 15-20 years and there is no contingency plan if the boilers fail
- The existing heating system has not been properly maintained which has led to the failure of the system

Officer response: The ongoing maintenance of the heating system is a matter for the Council as freeholder. See section Existing heating system and its replacement for further details

Costs

- No control over gas prices and heating costs have risen 318% between 2023 and 2024
- The proposal will saddle all residents with totally unreasonable heating costs for 15-20 years along with 2 lots of major works costs for leaseholders

Officer response: The costs associated with the new heating system will be costed by the Council as freeholder.

Joint letter from the TRA and the Leaseholder Group

5.4 A joint letter from the Alexandra and Ainsworth Tenants and Residents Association (TRA) and the Alexandra and Ainsworth Leaseholder Group - Registered Tenants Association was sent to the Leader of the Council and the Chief Executive in November 2024. It raised the following points:

Ownership certificates

- The incorrect certificate of ownership has been submitted with the applications with Certificate A signed rather than Certificate B. Application should be rejected until this is rectified

Officer response: The applicant was made aware of this issue and will submit and serve an updated Certificate of Ownership in line with the correct procedure. An assessment of the applications can continue to be carried out but a decision cannot be issued until it has been received.

Separation of the works into 2 separate applications

- The proposed works are co-dependent on each other and on can't happen without the other. This presents an incomplete picture to the planning department and is misleading as the applications cannot be considered in isolation.

Officer response: Although separate applications have been submitted for the replacement heating system and replacement glazing the applications have been considered by officers together. The planning applications for the replacement glazing and heating infrastructure (refs 2023/5339/P and 2023/5338/P) will also be subject to a shadow section 106 agreement to link them so that they are implemented together.

Lack of reference to Alexandra Road Estate – Management Guidelines 2006 or other current advice for Grade 2 listed buildings*

Concerned about omission of reference to these documents in the application as it doesn't demonstrate adherence to this current advice.

Officer response: The Alexandra Road Estate Management Guidelines (2006) is a conservation manual. The document was never formally adopted by the Council so this document is for guidance purposes only. The guidelines document is also 22 years old and much of the advice in them is now outdated – for example specification of certain products. Advice relating to the kitchens, bathrooms and electrical wiring in the guidance has been superseded by the shadow Heritage Partnership Agreement (this probably

is not applicable to the heating and window proposals). In assessing the applications the Council has considered the relevant planning policy documents and supporting planning documents.

Inadequate drawings and information required for a Grade 2 listed building*

- Grade 2* listed buildings are deemed particularly important by Historic England and paragraph 206 of the NPPF affirms this extra special significance of Grade 2* and requires that clear and convincing justification for the alteration or destruction of the asset must be sought. These applications do not provide essential information and are inadequate in the following ways:
  a) It does not acknowledge that it is changing a fundamental design principle of the heritage heating system (maintenance of a 160c internal temperature. This heating strategy has avoided the occurrence of condensation, damp and mould at the estate for the last 50 years
  b) The application minimises the extent of the damage to the structure that will be caused by the new distribution network drilling many holes for either heat distribution pipes or ventilation through the concrete structure rejecting the option to reuse existing duct routes. No provision has been shown on the external elevations and making holes in a grade 2* external façade is a material consideration.
  c) The provision of verified 3D visualisations of the publicly available iconic views has not been provided. The 3D's that have been provided are diagrammatic of only small areas giving a falsely favourable impression that does not show all the connections or the distributing "T" pipework. A previous planning application (2020/1450/P withdrawn) illustrated in 3 dimensions how the pipes on the north elevation swept up and over the top floor to distribute on the roof. The clutter of pipes will have high impact on the skyline elevation and should be illustrated by verified 3D's in order that officers can make an informed decision.
  d) The planning application (2023/5339/P and 2024/0286/L) (windows and internal radiators) notes that residents were shown 2 pilot flats fitted with new bespoke cupboards to accommodate the HIU's, the associated wiring, pumps and controls. While the description in the planning application refers to the removal of the hot water cylinders, it makes no mention that the proposal is to rip pit the original 1970's built in cupboards, sliding doors and shelving that has been protected for retention in previous listed building applications. No drawings or even photographs have been submitted to show the detail of this bespoke item of original built in furniture. No details of the proposed new joinery and hardware, as shown to the residents in the pilot flats, are included within the application. The shelving and hot water cylinder cupboard

could be seen as a ‘minor heritage item’ but it is used daily by residents. Insufficient detail is provided within the application to ensure that poor quality substitutions would not be provided should the original cupboards be consented. It is a major error to not to acknowledge the removal of the historic built-in shelving and insist on detailed drawings and specifications, hardware etc to show the replacement sliding cupboard doors and interior.

e) The decision to heat the flats with radiators is more damaging to the internal heritage than might be imagined as the consequences are not fully explained in the applications. The recessed flush skirting’s, are an important internal heritage feature in every flat throughout the estate. The application proposed that the new radiator pipework will run at skirting level. As a consequence, the existing flush electrical sockets will need to be displaced, as the depth behind the skirting board is insufficient to house the pipework, resulting in skirting boards being ripped out, and replaced with new projecting boxings that have no resemblance to the original. This is not reversible. New sockets will be surface mounted above the skirting board. A reversible and less expensive solution, considered in consultation with tenants, needs to find an option that is less damaging to the heritage and resident’s flats. Until that is agreed, this proposal should be rejected.

Officer response: The impact on heritage assets has been carefully considered. Officers identify less than substantial harm at the lower end of the scale. Harm has been balanced, not discounted, and efforts have been made to minimise harm first, where possible. See analysis of significance assets in the Heritage Section and an assessment of the level of harm. The impact on all designated and non-designated heritage assets is considered in this section. The applicant has confirmed that it is proposed to retain the original cupboards and shelves wherever possible. In flats were existing cupboard shelves or sliding doors are warped, rotting or damaged, these are to be made good.

Inadequate regard for the national or local climate change agenda

- The application does not have a sustainable, carbon aware agenda. It purports to be about improving energy efficient heating but on the contrary, it proposed using existing very out of date non-condensing boilers that will be run even more inefficiently in order to provide low temperature to the proposed radiators
- Air source heat pumps are mentioned only as a potential future solution not as a planned actual provision. Improving insulation to the external envelope has been ignored (apart from the glazing) and no measures proposed to mitigate the obvious cold bridging in the existing structure have been incorporated

- Only improvement to the thermal performance of the external envelope is the proposal to install vacuum insulated glass (VIG) from China into the existing 50 year old window frames without any technical appraisal of the state of the poorly maintained existing windows, many of which will need replacing. A comparison between refurbishment of frames v's replacement of the frames that will give a new lave of life to our buildings is needed to inform a decision.
- Residents are frustrated at how ill-considered the proposals are in terms of eventual carbon and financial cost once the existing boilers fail. We would like to see a proper analysis and justification for the proposals. In particular the application shows no evidence of having looked at NPPF 14 Meeting the challenge of climate change, para 164 and the applications should be rejected on these grounds.

Officer response: The option to use the existing gas boilers and considerations associated with alterative greener heating options is discussed in the sustainability section of the report for the associated application ref 2023/5338/P. The applicant is proposing to retain as much of the existing historic fabric as possible to try to improve the thermal insulation of the building. The state of the existing window frames will be undertaken and reviewed in advance of any works to the windows. Exploring the replacement of the entire window and frame was not pursued by the applicant on heritage grounds. The review of the life of the existing boilers (which are to be retained as part of the associated heating works (ref 2023/5338/P) has been undertaken and still has an operational life expectancy of 10-15 years.

<u>20th Century Society</u>

5.5 Objection covering the following issue(s):

Damp and mould:

- Loss of background heat on the fabric could lead to build-up of condensation, damp and mould. Ventilation needs to be provided and doesn't appear to have been properly considered.

Officer response: The issues of mould from condensation have been considered in the assessment. The functionality of the existing ventilation systems will be reviewed in the rooms that are a potential source of increased moisture to help minimise condensation and mould. See Other Issues section for full details.

Consultation with local residents

- Concerned about lack of apparent meaningful consultation with the residents. If this had been carried out it would ultimately lead to a more robust and successful scheme

Officer response: The details of engagement are provided in the Applicant Consultation section.

Adjoining occupiers

5.6 Due to the size of the estate 14 site notices were displayed around the estate from 12/01/2024 to 05/02/2024 and a press notice was advertised from 18/02/2024 that expired on 11/02/2024.

5.7 An extensive number of residents, architectural experts and other interested parties have raised a wide range of objections to the proposed works on a macro and micro scale. Due to the number of objections received to the planning and listed building applications (over 500 objections to each application) it is not possible to list the individual addresses of all the objectors. The majority of the objections have been made to the replacement of the estate wide heating distribution infrastructure which form part of the other set of separate applications. The exact numbers of objections are difficult to tabulate and itemise across the two sets of applications. The majority of the objections are from local residents who live on the estate. The main concerns raised have been summarised below:

Lack of information / justification

- No analysis or modelling to understand heat loss through existing windows and therefore possible energy and running cost savings as a result of replacement
- The conservation manual for the Estate which was prepared by the Council and English Heritage (now Historic England) in 2006 has not been mentioned nor played any role.

Officer response: Heat loss figures have been provided by the applicant – see Sustainability section and up to date guidance has been considered in the assessment of the proposed works – see Heritage section for further details.

Retro-fitting the windows

- This decision together with possible sourcing of windows from China, without proper analysis and consideration of alternative solutions is concerning
- Proposed windows will not look thinner (existing panes of glass are 3mm and then increased to 4mm. The proposal would increase the panes to 6mm (not including the vacuum space)
- What evidence has been submitted that the windows can be retro-fitted into the existing window frames of 520 dwellings by a contractor
- The proposals are not considered to be a practical or sustainable solution, as they do not involve conventional double glazing, but a very expensive and novel form of vacuum glass individually fitted into 40-50 year old windows in dubious condition. Many windows will need to be replaced, as

there are flats with rotten windows that cannot be opened, and windows that fit so badly that you can poke your fingers through the gap

- Individual windows could be marginally different sizes making both the initial installation and replacements an issue. The leaky frames and windows will make the installation of vacuum glass of considerably less benefit and completely undermine the improvement to the thermal performance of the building. It also will mean that more heat/energy (higher installation and running costs) will be required.
- The planning application states that the glass is the same thickness as the existing, but without any evidence. The increased loading of the sealed units could put too much stress on the existing frames and ironmongery, making windows and sliding doors difficult to operate or to even fail.
- Vibrations or airborne high and low frequencies from goods trains on the West Coast Main Line located only metres away from Block A could cause the stools to slip in the vacuums, ultimately resulting in the failure of the sealed units.
- Vacuum glass has been plagued by a lack of robustness. The glass is notorious for breakages, with health and safety and security risks for residents.
- Retrofitting the existing windows is a misguided notion to 'retain the heritage' with potentially high risks and costs to the Council.
- The example of poor workmanship in the Better Homes Programme makes the possibility of a disastrous result very likely. Specifications are not precise enough

Officer response: These objections largely relate to how difficult it will be for the contractors to actually achieve the retro-fit of the windows. It is technically feasible although it may be difficult, and so this is a matter for the contractor and the Council to manage that contract, which is separate from planning. The proposal is a technically achievable proposal to improve the performance of the windows but balanced with the need to preserve the significance of the listed buildings. A simpler replacement with standard double glazing, with large profile metal or plastic frames is an alternative option. However, officers would not recommend such a scheme for approval as the harm to the listed buildings (and the Conservation Area in that instance) would be notably greater and would not have been minimised. More detailed drawings of the proposed window units would be secured by conditions. See Sustainability section, Heritage section and Other Issues section for more detail.

Heritage

- Vacuum glass needs special coatings to work optimally. Metallic coatings are specified to give the optimum thermal performance depending on orientation: north-facing glass to retain heat, south-facing to reject heat. The application does not establish the impact the coating will have both in

terms of its colour and reflectivity on the listed building, or its impacts on light transmittance internally and externally.

- Heating system was never set up to be individually controlled. The heating was designed to be communal as this was a social housing project.
- Floor space would be lost to accommodate the pipework behind the skirting.
- Size of heat emitters must be calculated before works start on site. This is crucial to limit the fabric damage to heritage within the flats but will also determine the technical capability of the system

Officer response: The appearance of the glazing and its impact on the significance of the listed buildings, as well as pipework, have been considered. The unified approach will mean the altered windows will retain a consistent appearance across the listed building. Although archetypical locations of the heat emitters (radiators) and associated internal pipework have been included in the proposed plans, additional survey work will be required to understand the full impact of these elements of the scheme on the listed buildings. Therefore, a condition will be attached to advise that separate listed building consent will be required for these works – see Heritage section.

Costs/ maintenance

- Vacuum windows are technologically advanced and costly (costing more than double glazing or even triple glazing). Why were these considered the appropriate solution?
- Material of panes is too brittle and can easily break and is extremely expensive to repair
- Lack of maintenance of the existing windows
- Windows have been sourced from China for the pilot flats but it is understood the intention is to specify Fineo glass from Belgium, both for the implementation of the proposed works and for future replacement glazing – what are product guarantees or service over the projected life time from this source
- What is the energy demand per sq. m?
- No costings for the scheme as a whole
- Replacing the old end of life windows with modern, insulated, thermally broken double or triple-double glazed windows is a more viable option.
- Access to individual flats to service the HIU's (and associated pumps, filters, value diverters and thermostats) would be required once per annum. Think about the financial implications of visiting 520 flats per year.

Officer response: The costs of replacements and repairs are a matter between the council as freeholder and the leaseholders and tenants. The planning considerations relate to whether the proposals are in accordance

with the development plan and preserve the significance of the listed building or harm is otherwise outweighed. Vacuum glass offers better thermal performance than normal double-glazing units and so can have a bigger impact on operational carbon – a material planning consideration. See Other Issues section for further details.

Amenity

- Noise from HIU's in bedrooms has been an issue at other Estates (Highgate New Town) with units making clicking noises during the night resulting in disturbance to residents

Officer response: A noise report has been submitted in support of the application which confirms that the HIU's would not be harmful to the amenity of the occupiers in terms of noise / disturbance. Refer to Amenity section for further details.

6. POLICY

National and regional policy and guidance

National Planning Policy Framework 2023 (NPPF)
National Planning Practice Guidance (NPPG)
Adapting Historic Buildings for Energy and Carbon Efficiency Historic England Advice Note 18 (2024)

Local policy and guidance

Camden Local Plan (2017) (CLP)
Policy C1 Health and wellbeing
Policy A1 Managing the impact of development
Policy A3 Biodiversity
Policy A4 Noise and vibration
Policy D1 Design
Policy D2 Heritage
Policy CC1 Climate change mitigation
Policy CC2 Adapting to climate change
Policy T2 Parking and car-free development

Supplementary Planning Documents and Guidance

Most relevant Camden Planning Guidance (CPGs):
Amenity - January 2021
Biodiversity CPG - March 2018
Design - January 2021
Energy efficiency and adaptation - January 2021
Transport - January 2021

Other guidance:

Alexandra Road Conservation Area Statement (2000)

Draft Camden Local Plan

The council has published a new Draft Camden Local Plan (incorporating Site Allocations) for consultation (DCLP). The consultation closed on 13 March 2024. The DCLP is a material consideration in the determination of planning applications but has limited weight at this stage. The weight that can be given to it will increase as it progresses towards adoption (anticipated 2026).

7. ASSESSMENT

7.1 The principal considerations material to the determination of this application are considered in the following sections of this report:

8	**Sustainability**
9	**Heritage**
10	**Amenity**
11	**Applicant Consultation**
12	**Other issues**
13	**Biodiversity**
14	**Planning obligations**
15	**Conclusion – planning application**
16	**Recommendations**
17	**Legal comments**
18	**Conditions – planning permission**
19	**Informatives – planning permission**
20	**Conditions – listed building consent**
21	**Informatives – listed building consent**

8. SUSTAINABILITY

8.1 In November 2019, Camden Council formally declared a Climate and Ecological Emergency. The council adopted the Camden Climate Action Plan 2020-2025 which aims to achieve a net zero carbon Camden by 2030.

8.2 In line with London Plan (LP) policies, SI1, SI2, SI3, SI4, SI5 and SI7 and Camden Local Plan (CLP) policies CC1, CC2, CC3, and CC4, development should follow the core principles of sustainable development and circular economy, make the fullest contribution to the mitigation of and adaptation to

climate change, to minimise carbon dioxide emissions and contribute to water conservation and sustainable urban drainage.

8.3 The Alexandra Road Estate is the worst performing estate in the council's portfolio and a significant contributor to the council's carbon footprint. Between April 2021 to March 2024, of the 3 highest residential estate users in the borough (by communal system), the Estate consumed almost a third more gas than the other 2 highest users. Tackling the poor performance of these buildings is important in delivering the environmental objectives of the development plan and the council's corporate vision.

8.4 Concerns have been raised by local residents that the heat loss through the windows has not been fully assessed. The applicant has carried out a separate technical study on the decarbonisation of the estate which has identified that generally within the estate heat loss from the existing windows is significant (see figure 3 below). Upgrading the windows from single to double glazing or vacuum glass was identified as one of the main retrofit measures to focus on to have the biggest impact.

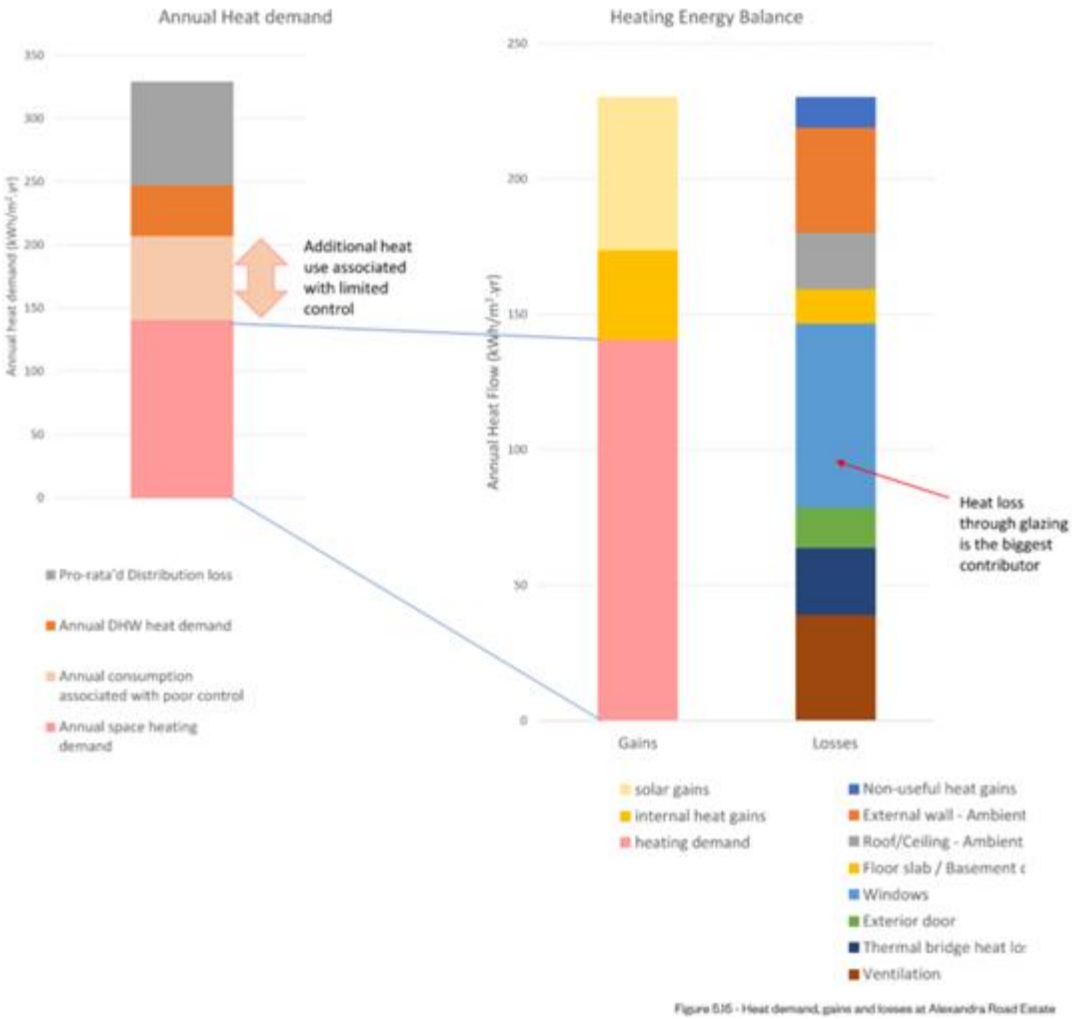


Figure 5.15 - Heat demand, gains and losses at Alexandra Road Estate

Figure 3 (above): Heat demand, gains and losses at the Alexandra Road Estate

8.5 Vacuum glass is commonly used in historic settings where thermal improvement is sought in a sympathetic way within existing frames. This is because it normally allows for a thinner pane. The thermal performance of vacuum glass is that of triple glazing, which is expected to reduce the heating demand of homes on the estate by approximately 30%.

8.6 A study of insulation options for all the blocks on the estate established that the application of external render to the concrete and rendered walls of the building envelope would harm the special interest of the grade II* listed buildings designed by Neave Brown and Camden Architects. Likewise, internal insulation would harm the interiors of the dwellings by altering the proportions of rooms and by compromising historic joinery fittings and fixtures. These options were considered by planning and conservation officers, and it was felt that the wall insulation, particularly external wall insulation, would have resulted in notable harm to the significance of the buildings, and the conservation area, with the harm likely to be at the upper end of less than substantial. Minimising the harm would have result in limiting the insulation to the areas on the large flank walls, but this would have had much less impact on the energy performance.

8.7 The buildings have a large area of glazing and so the proposed vacuum glazing is welcomed. It is stated to have a u-value “as low as 0.4 W/m2K”. This is significantly better than the requirement of 1.4 for new fabric in existing dwellings required by Building Regulations. It is also better than the 1.0 in the LETI Climate Emergency Retrofit guide.

8.8 The thermal performance of all the windows will be noticeably improved, providing immediate benefits to the residents as their homes are characterised by sizeable areas of glazing (most notably lighting the living spaces). The study has calculated that 30% of the heat loss from dwellings on the estate is via the windows (as shown in the diagram above), so improving the thermal performance of the glass while reducing drafts was identified as the single best way to reduce heat loss. The improved performance would help reduce the heating required in the flats. The works will also allow the frames to be fully repaired and upgraded, removing existing problems arising from poorly sealed and ill-fitting windows allowing significant heat loss.

8.9 The standard coating g-value of the replacement windows is 0.53. The g-value of the glazing is also welcomed to reduce solar gain and hence overheating risk. The Council’s Sustainability officer has reviewed the proposal and is satisfied with the information.

8.10 It is acknowledged that the glazing within the aluminium frames would not be replaced so the north face of Black A would not be affected by the change to

the glazing. The north facing homes to the railway line have the standard secondary glazing in place which contribute to both thermal and acoustic improvements.

9. HERITAGE

Policy and legal context

9.1 The application site is located within the Alexandra Road Estate Conservation Area, wherein the Council has a statutory duty, under section 72 of The Planning (Listed Buildings and Conservation Areas) Act 1990, to pay special attention to the desirability of preserving or enhancing the character or appearance of the conservation area.

9.2 The estate includes Grade II* and Grade II listed buildings and the Council has a statutory duty, under Sections 16 and 66 of The Planning (Listed Buildings and Conservation Areas Act) 1990, to have special regard to the desirability of preserving a listed building, its setting, or any features of special architectural or historic interest which it possesses.

9.3 Policy D1 of the Camden Local Plan seeks to secure high quality design in development and Policy D2 notes that the Council will preserve and, where appropriate, enhance Camden's rich and diverse heritage assets and their settings, including conservation areas and listed buildings

Heritage impact

9.4 It has been established that it is technically possible to refurbish the existing timber-framed windows and to replace their single glazing with slim vacuum-sealed double-glazed units. As the proposed works require great care in the handling of the existing windows in order to protect historic fabric and to ensure the installation of the new glazing is fully compatible with them, it is recommended that additional drawings showing typical details of each window type with sealed vacuum double glazed units should be required to be submitted to the Council. These details would be secured by condition.

9.5 There is a very low level of harm from double glazing an entire housing estate which originally had single glazing. This level of harm could be seen to arise from the changes to reflectivity of the glass on all windows which arises from sealed unit double glazing, together with the insertion of the circular spacers in every windowpane (albeit very small). As this is not a straightforward like-for-like replacement of glazing there is a very low level of harm given the contribution the windows make to the building's significance. However, the existing windows are not delicate frames with hand-drawn glass that one me see in older listing buildings – these are large, late mid-century windows with substantial frames. In this sense, sensitively focussing the intervention on the windows, rather than the brutalist concrete exterior for example, minimises the harm and means it is outweighed by the benefits of better

thermal performance. Delivering environmental objectives of the development plan is a public benefit, and in this case they directly flow from the proposed development. Heritage benefits are also public benefits, and these include helping to secure the long-term conservation of a heritage asset – the listed blocks in this case. Also, the harm has been minimised by retaining and repairing the timber frames. It is imperative that a comprehensive condition survey of all the windows is undertaken ahead of the commencement of works. At the time of writing this has not been seen by officers. The condition of each window should form a basis for the scope and method of repair, and any need for replacement or part-replacement. This would be secured by condition.

9.6 It is considered the retrofitting of the existing windows, of all types within the blocks, will not significantly affect their appearance. The existing Douglas fir frames which have thick profiles can accommodate the additional thickness of sealed units. As all windows will be subject to the proposals, regardless of the tenure of the dwellings, the works will create a uniform appearance across each block including the reflectivity of the glass. Historic England Advice Note 18 supports the above approach, using refurbishment and secondary glazing where possible, and new units where that cannot be achieved.

9.7 The proposal would include the installation of HIUs. The HIU's are also included in a separate listed building application in the other set of applications which are also pending consideration (ref 2023/0091/L). The HIU's would be located in a cupboard where the existing water tanks are located (see figure 4 below). It is proposed to retain the original cupboards and shelves wherever possible. In flats were existing cupboard shelves or sliding doors are warped, rotting or damaged, these are to be made good. A condition would be attached to any listed building consent requiring the submission of these details prior to commencement of any works on site to ensure the works do not harm the historic fabric of the listed buildings.

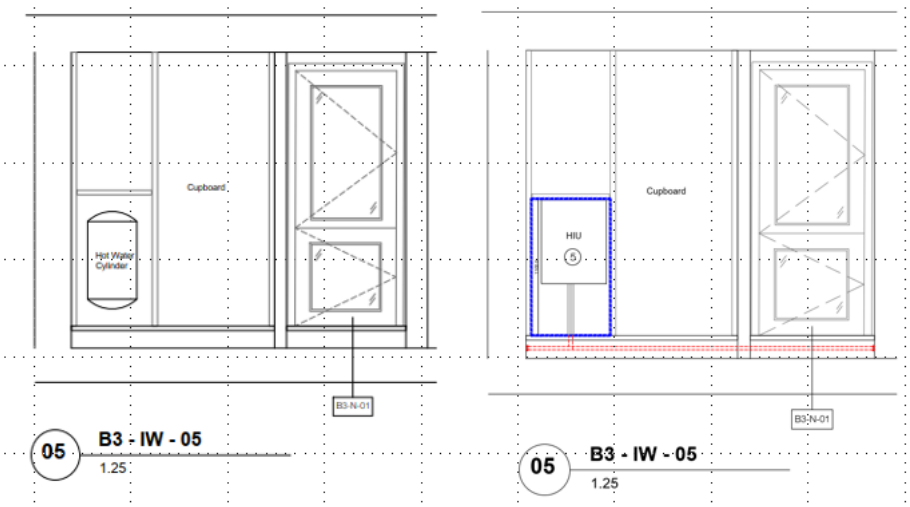


Figure 4 (above): Existing (left) and proposed (right) elevations of the existing water tank and proposed HIU in a typical location within the cupboards

9.8 A number of space heating options were explored prior to the submission of the applications. These included underfloor heating, ceiling mounted heating, wall mounted heating and integrated emitters in architectural features such as skirting boards and plinths. The majority of the options were discounted due to the harmful impact on the spatial quality of the rooms as well as the impact on the historic features. The option to integrate the heating system into the existing architectural features was considered the most viable option.

9.9 New heat emitters, comprising radiators and in some instances trench heaters, will be required in all dwellings on the Estate because the coils in the concrete party walls which are original have started to fail and so will be switched off in totality once the other heating infrastructure works have been completed. The Council has discounted the option of repair and reuse of the coils because they are prone to failure due to the corrosion of the connectors to the internal distribution pipes, which has arisen because of chemical attack from the concrete within which they are embedded.

9.10 Prior to the submission of these applications, Historic England and Camden officers were consulted on potential radiator designs and layouts and invited to inspect a radiator trial flat which was also viewed by a number of residents. The intention was to have a couple of options for each flat type, with alternative radiator designs and positions to be chosen by the resident to suit their furniture layouts and personal choices. Simple flush or grooved panel radiator designs were selected to complement the minimalist interiors of the flats with options of a taller vertical or lower horizontal configuration to suit residents' preferences. As such, Historic England has stated in its consultation response that it is in support of the internal heating layouts and simple rectilinear radiator designs which are sympathetic to the special interest of the listed building. The applications contain 1:25 scale layout plans and internal elevations for each dwelling type, which show internal pipe runs from the proposed HIUs together with indicative radiator positions (depending on the differing options). However, due to the presence of historic joinery in all dwelling types which contribute to the significance of the listed estate, ranging from sliding partition doors, kitchen and bedroom cupboards, to staircases, skirting boards and door surrounds, it has not been feasible at main application stage to produce typical details of all interventions to historic fabric. As such, it is considered expedient to condition the detailing of all the radiator and pipework installations to show all typical interventions to existing joinery work within each dwelling type.

9.11 In addition, residents in some dwelling types will have the option of trench heaters which will be employed in living rooms, where they can be slotted into the existing raised timber plinths located behind the sliding balcony doors, which were originally intended for ventilation purposes and the circulation of warm air. The trench heaters will be installed within the plinths below the balcony sliding doors in Blocks B and C. These will slot into the existing plinth voids with no direct physical impacts on the plinths, although it is important to ensure that their installation will not hamper the ventilation function of the plinths in the prevention of condensation, damp and mould. The option to install trench heaters in block A flats can only be provided by extending the plinths. This would be required as the existing plinths conceal concrete structure which would be very disruptive to remove. An option has therefore been included to extend the timber plinths in 2 flat types (A1 and A2) in Block A flats. This has been included to give the residents the option to either extend the plinth to accommodate a trench heater or install a wall hung radiator in the event that the option to extend the plinth is not taken up. The extended plinths would measure 300mm in depth and would be similar in length to the existing. Extending the plinth would have an impact on the spatial qualities of the room, but only at floor level. There will be a reduction in the usable floor area for furniture layouts, but it is a low level of harm caused. Given the modest extension into the living room space the option to extend the plinth would not harm the spatial quality of the room. Full details of new ventilation devices, including the extended plinth to be installed in conjunction with the double-glazed units would be required to be secured by condition.

9.12 A claim is made that the proposals lack adherence to established conservation principles. However, it should be noted retrofitting of existing windows is increasingly acceptable amongst heritage bodies and local planning authorities, as documented by Historic England guidance. Where retrofitting is possible, it is likely to be preferable in heritage terms to the wholesale replacement of windows and their frames as it allows the retention of historic fabric.

9.13 All windows would need to be individually measured to take account of the variations between properties. The applicant has confirmed that the unit selected was specifically aimed to avoid the need to modify or replace the existing window frames. It would not have been possible to install a standard double glazed unit within the existing frames which would have to be substantially modified resulting in loss of historic fabric.

9.14 The following images show an installed HIU and refurbished windows in the pilot flats. The window photograph also shows the trench heating installed.

Firgure 5 (above): New HUI (left) and refurbished windows (right) in a pilot flat

9.15 Concerns have been raised that the conservation manual for the Estate which was prepared by the Council and English Heritage (now Historic England) in 2006 has not been mentioned nor played any role in the applications. This document identifies the areas of high significance within the properties across the estate. Although not mentioned in the applicant's submission the proposal allows the Douglas fir window frames to be retained and reused in-situ, keeping the heritage value of the frames in the listed buildings. In the context of a listed building where historic fabric should be retained where possible this is considered acceptable.

9.16 Historic England has been consulted and has authorised the Council to determine the applications as it sees fit (see Consultation response). It is considered that the proposed works which have been developed in close association with the Council's planning and conservation officers and with Historic England, offer a conservation-led approach to the thermal upgrading of the dwellings by maximising the retention of historic fabric and retaining the original appearance of the grade II* listed housing blocks. The works also constitute a notable public benefit by improving the thermal performance of a public housing estate, where Camden is the freeholder and the majority of flats are rented to Council tenants. As such, the works cause low level harm to the special interest of the grade II* listed housing blocks but the public benefits, notably the environmental improvements and long term conservation of the listed buildings, outweigh that harm. Whilst the impact on the buildings arises due to change in fabric, the wider appearance in terms of the conservation area and setting of the buildings is not notable and would be preserved. As such there would be no harm to the character and appearance of the Alexandra Road Estate Conservation Area, or to the setting of Alexandra Road Estate Park which is a grade II* listed Registered Park and Garden.

9.17 A legal agreement would be required to secure a suitably qualified and experienced architect who will be contractually bound to oversee the works from start to completion, and to ensure glazing and joinery contractors with experience of repairing, upgrading and retrofitting windows in postwar listed buildings are employed for the entire duration of the project.

9.18 To ensure the public benefits that derive from the overall programme of works across both sets of applications are realised, the applications will be linked through a shadow s106 agreement ensuring that the whole programme is delivered.

10. IMPACT ON AMENITY

10.1 Policy A1 of the Local Plan seeks to protect the quality of life of neighbouring occupiers. The factors to consider include: visual privacy and outlook; sunlight, daylight and overshadowing; artificial light levels; noise and vibration.

10.2 Given the siting, scale and nature of the proposed plant and ducting they are not considered to result in any harm to the residential amenities of neighbouring properties in terms of daylight, sunlight or loss of privacy.

10.3 A noise test has been performed within the pilot flats to test the noise from the heat interface unit (HIU). Appropriate noise guidelines have been followed within the report such as Noise Policy Statement for England, National Planning Policy Framework (NPPF), Planning Practice Guidance on Noise, BS 8233 Guidance on sound insulation and noise reduction for buildings, Camden Council's Local Plan, version June 2017 and BS 4142:2014 "Methods for rating and assessing industrial and commercial sound".

10.4 It is expected that the following noise standards would be achieved internally for the residential units (based on PPG BS 8233:2014 and World Health Organisation figures):

Activity	**Location**	**07:00 - 23:00**	**23:00 - 07:00**
Resting	Living Room	35 $L_{Aeq, 16hour}$	-
Dining	Dining Room / Area	40 $L_{Aeq, 16hour}$	-
Sleeping (daytime resting)	Bedroom	35 $L_{Aeq, 16hour}$	30 $L_{Aeq, 8hour}$ 45 L_{Afmax}

Figure 6 (above): Noise levels from HIU's

10.5 The assessment indicates that the proposed installation should have a minimal impact on internal noise levels and be capable of achieving the Camden's environmental noise criteria in sensitive receptors providing it

does not exceed 45 dB. The Council's Environmental Health officer has reviewed the information and is satisfied that this condition is required to ensure that the plant meets the Council's noise requirements.

10.6 Local residents are concerned about the construction process in terms of the noise and disturbance associated with the works. The impact of the construction works would be for a temporary period in time and would be phased across the blocks. Any works of repair and refurbishment will have a level of disruption, and this will be proportionate to the works. The Environmental Protection legislation includes powers around controlling noise, and hours of construction work, and so these controls should not be duplicated by planning in this case.

10.7 Building works are disruptive and are part of any development scheme. Despite being temporary, they tend to have a more notable impact on certain groups including those with protected characteristics. For example, the elderly and very young (age) are more likely to be at home during working hours so the impacts on them will be greater, along with carers or parents. Disabled people may also be at home for longer periods (disabled people have significantly lower employment rates than those without a disability) and certain groups (for example the young, old, and neuro diverse) may be more affected by noise and disturbance than others. Those with mobility constrains (disability) can also find it more difficult to navigate areas where there are temporary construction or works enclosures than can affect access on a temporary basis. That said, the nature of the works means that these additional impacts are likely to be less than a normal construction programme, and they would have to be undertaken in consultation with the residents in any event as the works are in their homes. Therefore, the impact would be temporary, and minimised. On the other hand, the benefit of the finished works to those residents with protected characteristics like those mentioned above would also likely be more keenly felt, with a more easily manageable home environment and lesser need for ongoing or urgent maintenance and disruption.

11. APPLICANT CONSULTATION

11.1 In terms of engagement with the residents of the estate in relation to the proposed works the following has been carried out:

- In person meetings have been held with local residents (including the TRA) since 2019
- Consultation boards displayed in 2020
- Works to install the HIUs and associated pipework were undertaken in 2 uninhabited flats at nos. 26A and 46A Rowley Way (referred to as the pilot flats) in January 2022
- Question and answer word documents were prepared and distributed

11.2 It is clear from the number of objections received that there remains a vast difference of option between the applicant and the local residents about the proposed works. The FAQ document, dated August 2022, gives clear concise advice about the proposals to residents, and is attached as appendix 1 to this report. The sets of planning applications have also been subject to separate consultation as outlined earlier in the report

12. OTHER ISSUES

Technical specifications

12.1 Concerns have been raised by local residents about the potential increased loading of the sealed units within the existing frames and possible stress on the window mechanisms which could result in making windows and doors difficult to open or even to fail. The same glass has been fitted and timber frames refurbished in Flats 26a and 46a in 2021 which are the pilot flats (type A3 and B3 type homes). This allowed the solution to be tested and so minimising any risk of additional harm that may arise from unintended damage. The applicant has confirmed that there has been no issue with opening and closing the windows and doors in these flats. The weight of the glass matches that of the existing single glazing and therefore there are no foreseen issues with ironmongery, hinges or sliding mechanisms.

12.2 Concerns have also been raised about the lack of information relating to the need for special coatings which are required for vacuum glass to work optimally and the potential impact this could have on the colour and reflectivity on the listed buildings or impact on light transmittance. The applicant has confirmed that the standard coating G value of the glass is 0.53 with 77% light transmission. The pilot flats have been fitted with the glazing. The colour of the glass does not appear to affect the special interest of these flats and would be considered acceptable. The replacement of the glazing across the buildings would provide a unified appearance and, given the size of the units, has no detrimental impact on internal lighting.

12.3 Concerns have been raised by local residents about the durability of the glazing and the risk to residents safety and security if it breaks. The proposed glass is toughened with one pane laminated, and is around 4 times harder to break than standard annealed glass. As it is toughened, if it does break, it will break into thousands of smooth edge pieces, rather than large shards of glass that typically non-toughened glass breaks into. Safety of the glass is covered by building regulations rather than planning in any event.

Costs

12.4 Issues of costs are a matter between residents, leaseholders, and the council as a freeholder, and are not a planning matter. Nonetheless, local residents are concerned about the budgetary implications of such an extensive scheme and what this will mean financially for leaseholders. The applicant

has confirmed that it is a statutory requirement for leaseholders to be engaged separately on costs associated with the works and Camden will continue to do this, outside of the separate planning process.

12.5 Local residents are concerned about the costs associated with the choice of glazing, its origin and warranty. Proposals have been made to replace the single glazing to highly efficient vacuum glazing (comparable with the performance of triple glazing). Some secondary glazing will also be provided next to front doors and openings will receive draught sealing. This allows the Douglas fir window frames to be retained and reused in-situ, keeping the heritage value of the frames in the listed buildings. In the context of a listed building where historic fabric should be retained where possible this is a reasonable outcome. The applicant has confirmed that the vacuum glazing would be sourced from Belgium. It has a longer warranty of 25 years as opposed to 10-15 years for traditional double glazing.

Condensation and mould

12.6 Concerns have been raised by the TRA, local groups and local residents about the potential for condensation and mould with a new retrofit proposal (heating system and windows). It has also been noted by local residents that this issue has not been mentioned in any of the supporting documents submitted in support of the application. The homes are not currently reported to suffer from rising damp nor mould from condensation forming on internal surfaces. The lack of condensation on the poorly insulated surfaces is thought to be a combination of influences – excess heating and ventilation, leading to extreme energy inefficiency. The homes are constantly heated between October and April (with heated coil walls performing at 37-40C).

12.7 It is acknowledged that it will be important to retain good background ventilation to keep the internal moisture levels low, especially when occupied. Alterations to the home heating would be balanced with improved ventilation to kitchens and bathrooms. Some but not all windows have trickle ventilation at the heads of windows. Proposals to improve ventilation include replacement of old extract fans in kitchens and bathrooms with new highly efficient extract units with better controls, including humidistats. Existing fresh air inlets will be refurbished. Matters of adequate ventilation normally relate to building regulations rather than planning.

13. BIODIVERSITY NET GAIN

13.1 The proposals do not impact any trees, greening or biodiversity, so there are no important considerations to these matters in terms of the development plan. As well as the requirements of the development plan, there are statutory requirements for 10% Biodiversity Net Gain (BNG).

13.2 BNG is a way of creating and improving natural habitats with a measurably positive impact ('net gain') on biodiversity, compared to what was there

before development. Every grant of planning permission is deemed to have been granted subject to a condition which requires the submission of a Biodiversity Net Gain Plan (BGP) before development can commence, showing how the 10% gain will be met.

13.3 This gain can be achieved through onsite biodiversity gains, registered offsite biodiversity gains (for example, on other land or developments owned by the applicant), or by purchasing statutory biodiversity credits.

13.4 There are statutory exemptions and transitional arrangements which mean that the biodiversity gain condition does not always apply. Based on the information provided, this scheme will not require the approval of a BGP because the application was made before 12 February 2024, and in any event, it would also be below the *de minimis* threshold.

14. PLANNING OBLIGATIONS

14.1 The following heads of terms would be required to ensure that the scheme is implemented in its entirety to preserve the special interest of the Grade II* listed buildings.

- Delivery of the scheme in its entirety
- Suitably qualified and experienced architect
- The works approved as part of these applications are linked to planning application ref 2023/5338/P and listed building consent 2024/0091/L and shall be implemented together

15. CONCLUSION

15.1 The proposed works to replace the existing single glazing with vacuum sealed glazed across the estate would help to improve the thermal efficiency of the building by 30%. This should cut energy costs and help tackle the climate crisis. Tackling this estate which is so poor performing is key to delivering environmental improvements across the council's properties.

15.2 The proposed works would cause less than substantial harm to the designated heritage assets from a low level of harm to the Alexandra Road Estate to no harm to the Alexandra Road Conservation Area.

15.3 When considering the impact of a proposed development on the significant of a designated heritage asset, great weight must be given to the asset's conservation and clear and convincing justification for the harm is required. The applicant has sought to avoid and mitigate harm as far as possible. However, less than substantial harm has been identified and considerable weight and importance must be given to that harm. There are public benefits that outweigh that harm, and as such the proposal remains in accordance with the development plan as a whole. The public benefits of the scheme

include the environmental improvements and long-term conservation of the listed buildings.

15.4 Taking account of the policies of development plan and all the material planning considerations the proposals would deliver environmental benefits that outweigh the less than substantial harm to heritage assets and it is therefore recommended that planning permission be granted.

16. RECOMMENDATION

16.1 Grant conditional Planning Permission subject to a Shadow Section 106 Legal Agreement with the following heads of terms:

- Delivery of the scheme in its entirety
- Suitably qualified and experienced architect
- The works approved as part of these applications are linked to planning application ref 2023/5338/P and listed building consent 2024/0091/L and shall be implemented together

17. LEGAL COMMENTS

17.1 Members are referred to the note from the Legal Division at the start of the Agenda.

18. CONDITIONS [PLANNING APPLICATION]

1	**Three years from the date of this permission** This development must be begun not later than three years from the date of this permission. Reason: In order to comply with the provisions of Section 92 of the Town and Country Planning Act 1990 (as amended).
2	**Approved drawings** The development hereby permitted shall be carried out in accordance with the following approved plans and documents: Existing drawings: Site location plan; 3467_LB_102000 rev P3; 3467_LB_102001; 3467_LB_102002 rev P3; 3467_LB_102003 rev P3; 3467_LB_102004 rev P3; 3467_LB_103000 rev P3; 3467_LB_103001 rev P3; 3467_LB_103002 rev P3; 3467_LB_103003 rev P3; 3467_LB_103004 rev P3; 3467_LB_103005 rev P3; 3467_LB_103006 rev P3; 3467_LB_103007 rev P3; 3467_LB_103008 rev P3; 3467_LB_103009 rev P3; 3467_LB_104000 rev P2; 3467_LB_104001 rev P2; 3467_LB_104002 rev P2; 3467_LB_104006 rev P2; 3467_LB_104008 rev P2; 3467_LB_104009 rev P2; 3467_LB_105000 rev P2; 3467_LB_105001 rev P2; 3467_LB_105002 rev P2; 3467_LB_105003 rev P2; 3467_LB_105004 rev P2; 3467_LB_105005 rev P2; 3467_LB_105006 rev P2; 3467_LB_106000 rev P2; 3467_LB_106001 rev P2; 3467_LB_106002 rev P2; 3467_LB_106003 rev P2; 3467_LB_106004 rev P2; 3467_LB_106005 rev P2; 3467_LB_106006 rev P2; 3467_LB_106007 rev P2; 3467_LB_106015 rev P2. Proposed drawings: 3467_LB_332000 rev P3; 3467_LB_332001 rev P3; 3467_LB_332002 rev P3; 3467_LB_332003 rev P3; 3467_LB_332004 rev P3; 3467_LB_333000 rev P3; 3467_LB_333001 rev P3; 3467_LB_333002 rev P3; 3467_LB_333003 rev P3; 3467_LB_333004 rev P3; 3467_LB_333005 rev P3; 3467_LB_333006 rev P3; 3467_LB_333007 rev P3; 3467_LB_333008 rev P3; 3467_LB_333009 rev P3; 3467_LB_334000 rev P3; 3467_LB_334001 rev P3; 3467_LB_334002 rev P3; 3467_LB_334006 rev P3; 3467_LB_334008 rev P3; 3467_LB_334009 rev P3; 3467_LB_334010 rev P3; 3467_LB_335000 rev P2; 3467_LB_335001 rev P2; 3467_LB_335002 rev P2; 3467_LB_335003 rev P2; 3467_LB_335004 rev P2; 3467_LB_335005 rev P2; 3467_LB_335006 rev P2; 3467_LB_336000 rev P2; 3467_LB_336001 rev P2; 3467_LB_336002 rev P2; 3467_LB_36003 rev P2; 3467_LB_36004 rev P2; 3467_LB_36005 rev P2; 3467_LB_36006 rev P2; 3467_LB_36007 rev P2; 3467_LB_336010 rev P2; 3467_LB_336011 rev P2; 3467_LB_336012 rev P2; 3467_LB_336013 rev P2; 3467_LB_336014 rev P2; 3467_LB_336015 rev P2; 3467_LB_336016 rev P2.

	Supporting documents: Acoustic Consultancy Report prepared by ICP dated 29/07/2022; Emitter and Heating Thermal Improvements prepared by Levitt Bernstein dated 06/12/2023; Alexandra Road Estate Thermal Improvements to Dwellings Design and Access Statement prepared by Levitt Bernstein dated December 2023; 13A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 26A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 46A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 51E Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 95A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 117J Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; Danfoss Flat Station Series A Technical Data sheet produced by Danfoss Sav; Katherm NK Trench Heating technical Catalogue produced by Kamp Mann Group; Planar Range Vertical models data sheet produced by Stelrad; SATK32 hear interface unit data sheet prepared by Altecnic Caleffi Group; Zehnder Radiapanel product sheet. Reason: For the avoidance of doubt and in the interest of proper planning.
3	**Materials to match** All new external work shall be carried out in materials that resemble, as closely as possible, in colour and texture those of the existing building, unless otherwise specified in the approved application. Reason: To safeguard the appearance of the premises and the character of the immediate area in accordance with the requirements of policy D1 and D2 of the London Borough of Camden Local Plan 2017.
4	**Noise** The design of the Heat Interface Units shall ensure that the internal noise level shall not exceed 45dB LAFmax). Reason: To ensure that the amenities of occupiers are protected in accordance with the requirements of policies A1 and A4 of the London Borough of Camden Local Plan 2017

19. INFORMATIVES [PLANNING]

1	This approval does not authorise the use of the public highway. Any requirement to use the public highway, such as for hoardings, temporary road closures and suspension of parking bays, will be subject to approval of

	relevant licence from the Council's Streetworks Authorisations & Compliance Team, 5 Pancras Square c/o Town Hall, Judd Street London WC1H 9JE (Tel. No 020 7974 4444). Licences and authorisations need to be sought in advance of proposed works. Where development is subject to a Construction Management Plan (through a requirement in a S106 agreement), no licence or authorisation will be granted until the Construction Management Plan is approved by the Council.
2	Your proposals may be subject to control under the Building Regulations and/or the London Buildings Acts that cover aspects including fire and emergency escape, access and facilities for people with disabilities and sound insulation between dwellings. You are advised to consult the Council's Building Control Service, Camden Town Hall, Judd St, Kings Cross, London NW1 2QS (tel: 020-7974 6941).
3	All works should be conducted in accordance with the Camden Minimum Requirements - a copy is available on the Council's website (search for 'Camden Minimum Requirements' at www.camden,gov.uk) or contact the Council's Noise and Licensing Enforcement Team, 5 Pancras Square c/o Town Hall, Judd Street London WC1H 9JE (Tel. No. 020 7974 4444) Noise from demolition and construction works is subject to control under the Control of Pollution Act 1974. You must carry out any building works that can be heard at the boundary of the site only between 08.00 and 18.00 hours Monday to Friday and 08.00 to 13.00 on Saturday and not at all on Sundays and Public Holidays. You must secure the approval of the Council's Noise and Licensing Enforcement Team prior to undertaking such activities outside these hours.
4	Biodiversity Net Gain (BNG) Informative (1/2): The effect of paragraph 13 of Schedule 7A to the Town and Country Planning Act 1990 ("1990 Act") is that planning permission granted in England is subject to the condition ("the biodiversity gain condition") that development may not begin unless: (a) a Biodiversity Gain Plan has been submitted to the planning authority, and (b) the planning authority has approved the plan.

	The local planning authority (LPA) that would approve any Biodiversity Gain Plan (BGP) (if required) is London Borough of Camden. There are statutory exemptions and transitional arrangements which mean that the biodiversity gain condition does not always apply. These are summarised below. Based on the information available, this will not require the approval of a BGP before development is begun because the application was made before 12 February 2024. ++ Summary of statutory exemptions for biodiversity gain condition: 1. The planning application was made before 12 February 2024. 2. The planning permission is retrospective. 3. The planning permission was granted under section 73 of the Town and Country Planning Act 1990 and the original (parent) planning permission was made or granted before 12 February 2024. 4. The permission is exempt because: - It is not "major development" and the application was made or granted before 2 April 2024, or planning permission is granted under section 73 and the original (parent) permission was made or granted before 2 April 2024. - It is below the de minimis threshold (because it does not impact an onsite priority habitat AND impacts less than 25 square metres of onsite habitat with biodiversity value greater than zero and less than 5 metres in length of onsite linear habitat). 5 The application is a Householder Application. 6. It is for development of a "Biodiversity Gain Site". - It is Self and Custom Build Development (for no more than 9 dwellings on a site no larger than 0.5 hectares and consists exclusively of dwellings which are Self-Build or Custom Housebuilding). - It forms part of, or is ancillary to, the high-speed railway transport network (High Speed 2).
5	Biodiversity Net Gain (BNG) Informative (2/2): If the onsite habitat includes Irreplaceable Habitat (within the meaning of the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024)

	there are additional requirements. In addition to information about minimising adverse impacts on the habitat, the BGP must include information on compensation for any impact on the biodiversity of the irreplaceable habitat. The LPA can only approve a BGP if satisfied that the impact on the irreplaceable habitat is minimised and appropriate arrangements have been made for compensating for any impact which do not include the use of biodiversity credits. ++ The effect of section 73(2D) of the Town and Country Planning Act 1990 If planning permission is granted under section 73, and a BGP was approved in relation to the previous planning permission ("the earlier BGP"), the earlier BGP may be regarded as approved for the purpose of discharging the biodiversity gain condition on this permission. It will be regarded as approved if the conditions attached (and so the permission granted) do not affect the post-development value of the onsite habitat, or any arrangements made to compensate irreplaceable habitat, as specified in the earlier BGP. ++ Phased development In the case of phased development, the BGP will be required to be submitted to and approved by the LPA before development can begin (the overall plan), and before each phase of development can begin (phase plans). The modifications in respect of the biodiversity gain condition in phased development are set out in Part 2 of the Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024.
6	Conditions marked with ** The matters covered by conditions marked with an ** are matters which would usually be incorporated into a Section 106 Agreement. On Council own schemes because the Council cannot enter into an agreement with itself the usual practice would for the permission to reference the Section 106 requirements for information. If the Council retains ownership of the application site although the reference to Section 106 requirements would not be legally binding they would act as a record of the requirements the Council as planning authority expects the Council as landowner to comply with. If the Council disposes of a relevant interest in the Application Site (which for the avoidance of doubt will not include disposals to individual tenants and occupiers) the incoming

	owner will be required to enter into a Section 106 giving effect to those requirements which will then become a legally binding document.

20. CONDITIONS [LISTED BUILDING CONSENT]

1	**Three years from the date of this permission** This development must be begun not later than three years from the date of this permission. Reason: Reason: In order to comply with the provisions of Section 92 of the Town and Country Planning Act 1990 (as amended).
2	**Approved drawings** The development hereby permitted shall be carried out in accordance with the following approved plans and documents: Existing drawings: Site location plan; 3467_LB_004000 rev P3; 3467_LB_003000 rev P3; 3467_LB_003002 rev P3; 3467_LB_003010 rev P3; 3467_LB_003011 rev P3; 3467_LB_003012 rev P3; 3467_LB_003013 rev P3; 3467_LB_003014 rev P3; 3467_LB_003015 rev P3; 3467_LB_003016 rev P3; 3467_LB_003017 rev P3; 3467_LB_003018 rev P3; 3467_LB_003019 rev P3; 3467_LB_004012 rev P3; 3467_LB_004013 rev P3; 3467_LB_004014 rev P3; 3467_LB_004020 rev P3; 3467_LB_004021 rev P3; 3467_LB_004031 rev P3; 3467_LB_004034 rev P3; 3467_LB_005020 rev P3. Proposed drawings: 3467_LB_110000 rev P3; 3467_LB_110002 rev P3; 3467_LB_11003 rev P3; 3467_LB_110004 rev P3; 3467_LB_110005 rev P2; 3467_LB_120000 rev P3; 3467_LB_120001 rev P2; 3467_LB_120002 rev P2; 3467_LB_120003 rev P2; 3467_LB_120005 rev P3; 3467_LB_120006 rev P3; 3467_LB_120007 rev P3; 3467_LB_120008 rev P2; 3467_LB_120010 rev P3; 3467_LB_120011 rev P3; 3467_LB_120012 rev P3; 3467_LB_120013 rev P3; 3467_LB_120015 rev P2; 3467_LB_120020 rev P2; 3467_LB_120021 rev P2; 3467_LB_120022 rev P2; 3467_LB_120023 rev P3; 3467_LB_120024 rev P2; 3467_LB_120025 rev P2; 3467_LB_120026 rev P2; 3467_LB_120027 rev P2; 3467_LB_120030 rev P2; 3467_LB_120031 rev P2; 3467_LB_120032 rev P3; 3467_LB_120033 rev P3; 3467_LB_120040 rev P2; 3467_LB_130000 rev P2; 3467_LB_130001 rev P2; 3467_LB_130010 rev P3; 3467_LB_130011 rev P3; 3467_LB_130012 rev P3; 3467_LB_130013 rev P3; 3467_LB_130014 rev P3; 3467_LB_130015 rev P3; 3467_LB_130016 rev P3;

	3467_LB_130020 rev P2; 3467_LB_130021 rev P2; 3467_LB_130022 rev P3; 3467_LB_130023 rev P3; 3467_LB_130030 rev P2; 3467_LB_130031 rev P2; 3467_LB_130032 rev P2; 3467_LB_130033 rev P2; 3467_LB_140005 rev P2; 3467_LB_140006 rev P3; 3467_LB_140007 rev P3; 3467_LB_140010 rev P3; 3467_LB_140011 rev P2; 3467_LB_140020 rev P2; 3467_LB_331000 rev P3; 3467_LB_331001 rev P2; 3467_LB_331002 rev P2; 3467_LB_331003 rev P2; 3467_LB_331004 rev P2; 3467_LB_331005 rev P2; 3467_LB_331006 rev P2. 3547-RW-M-020; 3547-RW-M-502; 3547-RW-M-503; 3547-RW-M-505; 3547-RW-M-506; 3547-RW-M-507; 3547-RW-M-519; 3547-RW-M-534; 3547-RW-M-541; 3547-RW-M-560; 3547-RW-M-561; 3547-RW-M-562; 3547-RW-M-563; 3547-RW-M-601; 3547-RW-M-602; 3547-RW-M-605. Supporting documents: Acoustic Consultancy Report prepared by ICP dated 29/07/2022; Emitter and Heating Thermal Improvements prepared by Levitt Bernstein dated 06/12/2023; Alexandra Road Estate Thermal Improvements to Dwellings Design and Access Statement prepared by Levitt Bernstein dated December 2023; 13A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 26A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 46A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 51E Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 95A Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; 117J Rowley Way, Fire stopping survey prepared by Nene Valley Fire & Acoustic Ltd dated 18/08/2021; Danfoss Flat Station Series A Technical Data sheet produced by Danfoss Sav; Katherm NK Trench Heating technical Catalogue produced by Kamp Mann Group; Planar Range Vertical models data sheet produced by Stelrad; SATK32 hear interface unit data sheet prepared by Altecnic Caleffi Group; Zehnder Radiapanel product sheet. Reason: In order to safeguard the special architectural and historic interest of the building in accordance with the requirements of policy D2 of the Camden Local Plan 2017.
3	**Materials to match** All new work and work of making good shall be carried out to match the existing adjacent work as closely as possible in materials and detailed execution.

	Reason: In order to safeguard the special architectural and historic interest of the building in accordance with the requirements of policy D2 of the Camden Local Plan 2017.
4	**Detailed drawings (windows and ventilation)** Detailed drawings, or samples of materials as appropriate, in respect of the following, shall be submitted to and approved in writing by the local planning authority before the relevant part of the work is begun: a) All typical details of each window type retrofitted with sealed-vacuum double-glazed units in plan, section and elevation at a scale of 1:1 or 1:2, showing junctions of the new double glazed units with the existing window frames heads, cills and jambs and all existing and new materials and finishes. b) Full details (drawings, written statements, product specifications, as applicable) of new ventilation devices to be installed in conjunction with the double-glazed units. c) Plans, sections, and elevations at scale 1:10 and 1:1 / 1:2 details of the extended plinths fully annotated with materials and finishes with all materials and finishes to match existing. The existing plinths should be retained in majority. Reason: In order to safeguard the special architectural and historic interest of the building in accordance with the requirements of policy D2 of the Camden Local Plan 2017.
5	**Detail drawings (internal distribution pipework and radiators)** Detailed drawings, or samples of materials as appropriate, in respect of the following with reference to all specification and layout options for each dwelling type, shall be submitted to and approved in writing by the local planning authority before the relevant part of the work is begun: a) Fully annotated plan, section and elevation drawings of all service runs for all internal heating distribution pipework connected to the Heat Interface Units (HIUs) in each dwelling type at a scale of 1:20, demonstrating the relationship of new pipework with existing fabric and including all adaptations to joinery and plasterwork, with typical details in plan, section and elevation at a scale of 1:1/1:2. b) Fully annotated plan, section and elevation drawings of all radiators shown in context within each dwelling type at a scale of 1:10. c) Manufacturer's details of all radiators to be installed in each dwelling type, including full technical specifications, dimensions, materials, colours, textures, profiles and fixing methods.

	Reason: In order to safeguard the special architectural and historic interest of the building in accordance with the requirements of policy D2 of the Camden Local Plan 2017.
6	**Method statement (glazing)** Prior to the commencement of works, a method statement covering removal of the existing glazing; the repair, upgrading and adaptation of the existing frames, ironmongery and associated fabric; the fitting of the new glazing; the making good of the windows including the redecoration and preservation of the timber shall be submitted to and approved in writing by the local planning authority. The relevant part of the works shall not be carried out otherwise than in accordance with the details thus approved. Reason: In order to safeguard the special architectural and historic interest of the building in accordance with the requirements of policy D2 of the Camden Local Plan 2017.
7	**Details (windows condition survey)** Prior to the commencement of works, a comprehensive condition survey of all the windows which shall form a basis for the scope and method of repair, and any need for replacement or part-replacement shall be submitted to and approved in writing by the local planning authority. The relevant part of the works shall not be carried out otherwise than in accordance with the details thus approved. Reason: In order to safeguard the special architectural and historic interest of the building in accordance with the requirements of policy D2 of the Camden Local Plan 2017.

21. INFORMATIVES [LISTED BUILDING]

1.	You are advised that any works of alterations or upgrading not included on the approved drawings which are required to satisfy Building Regulations or Fire Certification may require a further application for listed building consent
2.	The applicant is advised that a listed building consent application would be required for the internal works covering the design and specification of heat emitters, including associated alterations to existing services and fixtures and fittings within the dwellings.

APPENDIX 1

A COPY OF FREQUENTLY ASKED QUESTIONS (FAQ) PREPARED FOR RESIDENTS BY CAMDEN COUNCIL DATED AUGUST 2022

Rowley Way Heating and Glazing Project FAQ

August 2022

What are the proposed changes?

- *Replacing the existing heating and hot water system, replacing window glass with extra-slim double glazing, and repairing or replacing window frames where needed.*
- *All pipework across the estate will be replaced, and heating & hot water installations inside each home will be upgraded with a new system will include new vertical flat-panel radiators to warm homes instead of the coils inside the walls. The radiators proposed are slim in design and will take up very little space.*
- *Residents will be able to choose when the heating in their home turns on and off all year round and will be able to set their own temperature in their own home.*
- *The new double glazing will fit into the existing frames and will significantly reduce the large amount of heat currently lost through the single glazed windows.*

What are the benefits for residents?

- *A more reliable heating and hot water system, with less interruptions to the service from leaks and other maintenance issues. There are many projects that have recently been delivered that have delivered similar benefits.*
- *Full control over the heating in your own home, including when the heating turns on and off, as well as what temperature it heats your home to.*
- *Unlimited and instant hot water available on demand, instead of a hot water tank which can run out and takes time to reheat.*
- *More comfortable energy efficient homes which need less energy to heat, helping to keep energy costs down. Where we have installed similar systems in other parts of Camden, energy use and costs have fallen.*
- *At the moment, the heating pipes in your house are connected directly to the pipes in your neighbours' homes. This means that if there is a leak or another problem in one home, we have to turn off the heating to lots of other homes too while we fix it. The new system will let us isolate the pipes in each home, so if we have to work on the heating inside one home, everyone else's heating keeps working.*

What are the benefits for the environment?

By putting full control of the heating in their homes into residents hands, the new system will provide multiple benefits for residents, for Camden, and for the environment:

- *The new system will use much less gas, so it will produce much less emissions. You will be able to use only the energy you need, and you will need less energy because of the new double glazing.*
- *The communal boilers are already efficient and when the new distribution system and controls are in place the whole system will be efficient. By maintaining the communal heating system in this way we can bring in a new communal energy source when the current boilers reach the end of their lives.*
- *A large number of homes have to use electric immersion heaters as the hot water supply to their home cannot be repaired. This new system will provide everyone with an efficient source of hot water.*
- *The new system will only use the gas it needs as it responds to the heating controls in each home, the current system operates at the same level regardless of how much heat people need.*
- *There will be fewer reactive repair call-outs to faults with the heating and hot water system and at present a full-time engineer is required at Rowley Way because the system is so unreliable*

Will the new setup be future proofed for a more energy efficient heat source?

Yes. The system is designed for us to switch it over to a newer, greener heat source when the existing boilers need replacing, we anticipate this will be in 10–15 years' time. This will not require any changes within your homes – just in the boiler house.

Will all homes have these works carried out?

Yes. We will need to work in every home on the estate because once we are finished the old system will be switched off. Residents must have the new system installed before this happens.

Are you going to insulate the walls too?

Normally we would add insulation to the walls of homes to help keep even more heat in, and there are two possible ways to insulate walls like these – by putting a layer of insulation on the outside of the walls, or by putting a layer of insulation on the inside of the walls.

Because the buildings at Rowley Way and Ainsworth Way are listed, we have to work with Heritage England and Camden's conservation team to check that any changes we make are respectful the historic character of the buildings.

We have had extensive conversations with conservation experts, and unfortunately there is no way that we can add insulation to the outside of the walls without affecting the historic appearance of the building. Because of this we would not be allowed to use external wall insulation. The other option (internal wall insulation) would mean adding a layer of insulation on the inside of walls, which would reduce the size of the rooms too much.

Can we choose either glazing or radiators or do we have to change both?

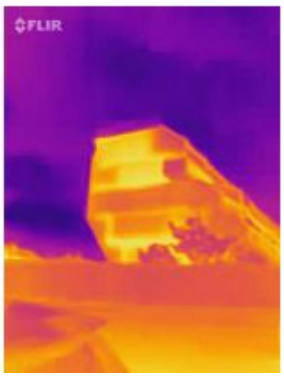
The new windows and the new radiators work together to warm your home and keep it warm. These two parts of the upgrade would not be able to work on their own.

If we didn't upgrade your windows, then you would need much bigger radiators (or more of them) to keep your home warm. If we just upgraded the windows, the problems with the old heating system would continue, you wouldn't be able to control your own heating, and the old system would start breaking down more and more often.

We carried out thermal imaging surveys to look at where heat is escaping from homes and the best way to stop it. These are the images from the thermal cameras:

Figure 4.1 - Block A - south stepped facade

Figure 4.2 - Rear of block A showing the heated party wall from the coils and the unheated wall.



At the moment, 30% of the heat which escapes from Rowley Way homes is lost through the windows. All this lost heat is costing residents money, and contributing to climate change, so it's really important that we get this sorted.

Why are you replacing coils with vertical flat panel radiators?

The heating coils are embedded in the walls between homes. We investigated whether or not it would be possible to connect new distribution pipework to the heating coils, but our investigations concluded that this is not practical, economical, feasible or energy efficient and would be far too disruptive for residents without any guarantee of a successful outcome given that the heating coils are more than 40 years old.

Some of the coils are still operating – can these remain if they are still working?

Many of the coils are still working for now, but the pipes supplying the coils frequently fail causing interruptions to the service. We do not want to connect new pipe work to coils that are over 40 years old because it is likely increasing numbers of coils will fail as time progresses. In addition, we want to leave residents with a system which they can control to suit their needs. This would not be possible if the coils are retained because they are shared between two flats. We would not recommend upgrading the distribution pipework and connecting to older infrastructure (the existing coils) that is starting to degrade.

Where will the radiators be installed and how many will be installed in each room?

Rowley Way homes have lots of varying and unique layouts, so the radiators will be installed in different places in different homes. We will carry out individual surveys of each home to work out the best place to install radiators, and the project team will discuss the potential locations with residents. You can see the sorts of locations where radiators might be installed in the show flats.

The number of radiators required for each space will be based on a heat-loss calculations assessment. This has been undertaken by our heating consultant and is based on the size of the rooms and position of the flat. It may need to be tweaked in some circumstances. Two pilot flats have been provided which residents have been able to view the look and feel of the potential finish. We are in the process of preparing a one bed flat which residents can also view later in the year.

What are "trench heaters"?

Trench heaters are like a cross between a radiator and underfloor heating. It is when a special type of radiator is installed underneath a grille in the floor. Trench heaters are a great way of heating a room evenly without taking up space on the wall. Residents in Rowley Way Block B and Ainsworth Way Block C will be able to ***choose*** *between a trench heater or a slimline vertical radiator. The trench heater is optional.*

A large number of Homes in Rowley Way Block A have a large concrete mantle under the patio doors. Digging this out to fit a trench heater would be very messy, very noisy, and would create a huge amount of dust inside the home. Because of this we will install a slimline vertical radiator instead, but we will discuss the location with you first.

The trench heaters only get as warm as a normal radiator, and it's fine for you to stand, or sit, or put things on top of the trench heater. It's best to put heat-sensitive items (like most houseplants) somewhere else though. And if you cover too much of the trench heater, it won't work as well – just like if you covered up a radiator.

How intrusive are the works? How long will they take?

The works will be intrusive because we will be removing the hot water cylinder and installing new pipework and installing radiators. We will also be installing new windows and repairing the frames where necessary.

We are working on ways to programme the works so as to minimise the disruption to residents. When we tender the works the contractors will provide us with an overview of how they will deliver the works and an estimate of how long they will take in each flat. Further engagement with residents will take place once we know more.

When will the works take place?

We will be on site early in 2023.

What does the Heat Interface Unit do?

The Heat Interface Unit (HIU) provides your heating and hot water in a similar way to a combi boiler, except it get its heat from the communal heating and hot water system. Unlike a hot water cylinder, the HIU provides hot water instantly, with no waiting, and it doesn't run out.

Residents can set the HIU to turn the heating on and off in their home at whatever times they choose – you will be able to have your heating off in winter, and on in summer if you like. The HIU will be connected to a wireless thermostat which will give you complete control over the temperature your house is heated to (NB: domestic thermostats generally go up to a maximum of 30°C - 35°C but this is the temperature your home is heated to, your hot water and radiators will be hotter than this).

We have carried out acoustic testing on the HIUs to ensure they are suitable for the bedroom installations. The HIUs will work on the incoming mains water pressure which will be comparable to the existing water pressures provided by the tanks on the roof.

In the event that the main plant room has to be shut down for repairs or maintenance then the HIUs will not provide heating or hot water. This type of shutdown is very rare though. Currently, most repairs (including heating or hot water repairs inside someone's home) mean turning off the heating and hot water to multiple homes nearby – with the new system, these repairs will be able to be done without interrupting anyone else's heating and hot water.

Will I have a heat meter? What are the benefits of having this?

Yes, heat meters will be included as part of the HIU. We want to enable everyone to reduce their carbon emissions, but it's really difficult to control your energy use when you don't even know how much you are using.

All the evidence shows us that when people are charged a flat rate for their energy regardless of how much they use, they often tend to waste more energy by doing things like leaving external doors and windows open while the heating is turned up (for example).

Individual heat metering shows you how much energy you are using, so you can make informed decisions about how much energy to use and what to use it for. It gives everyone an incentive not to waste energy, and contribute to climate change unnecessarily.

Most important of all heat meters help save money – more than 4 out 5 Camden tenants & leaseholders with a heat meter pay less for their heat than they would without it.

We have agreed with the heat meter billing team that we would switch over residents to heat metering block by block and would collect data from residents for a year before switching to this form of billing. This will ensure that we can address any potential anomalies e.g. where some residents bills look higher than they should be.

How does Heat Metered Billing work?

Camden will continue to provide your heat & hot water just like now, and Camden will still be your energy supplier. Camden buys its energy supplies in bulk, so we are able to get better prices, and we pass these savings on to our residents.

To start with, everyone will stay on the current scale charging for around a year while we build a profile of each household's heat use. Readings are automatically taken from heat meters and sent to Camden's servers and we use this time to check that all the readings are coming through correctly, and there are no anomalous readings.

Each year the household's heat use profile is assessed against the actual heat usage from the previous year and the charge will either go up or down (there are other factors too which can change the charge such as the cost of gas). This works a bit like the way electricity suppliers charge the same direct debit amount each month, and every now and then they compare how much you are using to how much you are paying, and adjust your direct debit accordingly.

The way you pay for your heat will not change, and there is no separate bill to pay. Tenants will continue to pay for their heat alongside their rent, and leaseholders will continue to pay for their heat alongside their service charges. The only difference is that the amount you pay will be based on how much you use.

If you are unable to pay, it will show as arrears on your overall account.

What will the approach to heat metering be for the end of terrace properties?

We are aware that some flat types are on end walls fully exposed to the outside and that the heat loss from some dwellings will be more than others. Although the options for insulation are very limited we will work with residents to look at what products may be applied to internal surfaces and what the cost benefit of these would be. Also, it should be noted that as the new distribution and controls will be much more efficient there will still be an appreciable reduction in the energy needed to heat these properties.

Where will the HIU and Heat Meter be installed?

We will remove the current hot water tank and install the HIU where the hot water tank was. This will be in different places in different homes. The heat meters will be inside the HIU, so there will not be a separate installation. The project team will confirm the location of the HIU with each resident before the works start.

Will the HIU be noisy?

We have tested two types of HIUs in the pilot flats. We have undertaken acoustic tests to reassure residents that the level of noise from the HIUs will not be disruptive. It should be noted that while the hot water is running the HIU will make a little noise as water flows through it.

Will I be able to control my own heating and hot water?

Yes. You will be able to set the heating to turn on and off at whatever times you choose. You will be able to set the overall temperature your home is heated up to, as well as setting different temperatures in different rooms by adjusting the radiators. Your hot water will be available all the time.

NB: domestic thermostats in Europe and the US can be set between around 10°C - 30°C (or 50°F - 90°F).

Will leaseholders be charged for the changes?

Leaseholders will contribute towards a proportion of works. We are asking the First-tier Tribunal Property Chamber (part of HM Courts & Tribunals Service) to advise us on which parts of the works leaseholders should contribute to. The details of leaseholders' contributions and how they are calculated will be discussed in detail as part of the formal consultation with leaseholders before works begin.

Can leaseholders commission and undertake the works within properties themselves?

It is Camden's responsibility to repair, maintain, renew the communal heating system therefore leaseholders would not be able to undertake the works inside their properties themselves.

What about repairing the new glazing and heating infrastructure? How do leaseholders and tenants go about fixing any issues?

Camden will continue to be responsible for all repairs to the heating system while leaseholders will remain responsible for replacing the glazing should the need arise.

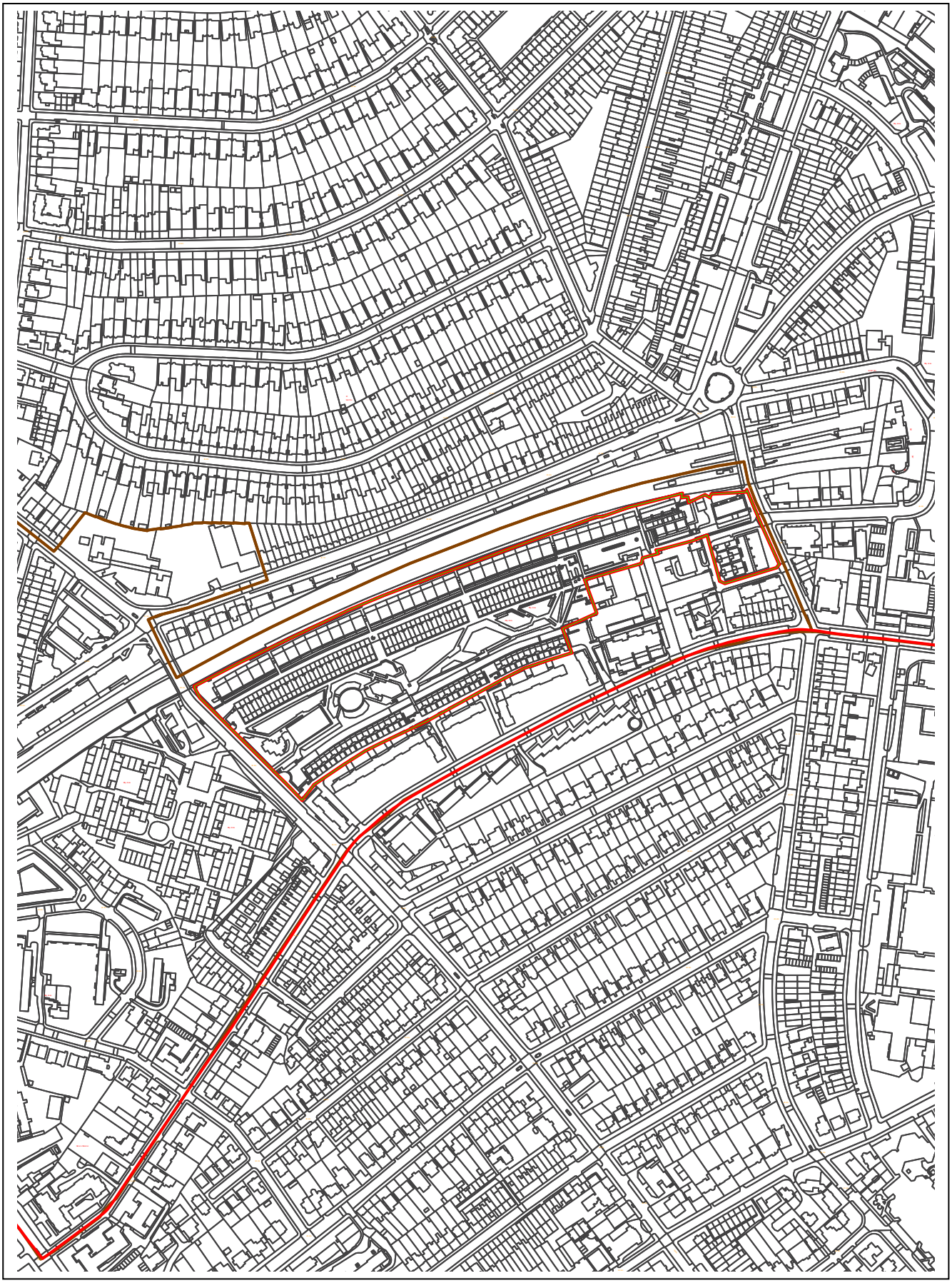
We are sourcing glass panes that can be ordered and installed within a short period of time. The show flats have used a product from China but we are in talks with other providers in Europe who can provide replacement parts within a shorter time period.

What will the proposed maintenance regime look like for the new system? Will there be any issues such as those experienced by other estates recently?

The project at Rowley Way will be designed by a specialist consultant, who will take into account the heritage requirements, and the scheme will be tailor made for the estate. Our specialist consultant will oversee the works from start to finish.

We have carried out similar upgrades and installed HIUs at a large number of locations and residents have found the new systems to be efficient and easy to use. In particular, the heat metering has enabled them to only pay for the energy they use.

We do have one location where there have been intermittent faults, this mostly due to filters getting clogged by debris in the system. These faults are being addressed.



Application No: 2023/5339/P and 2024/0286/L

Alexandra Road Estate, Rowley Way,
London,
NW8 0SN

Scale:
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2-Dec-24

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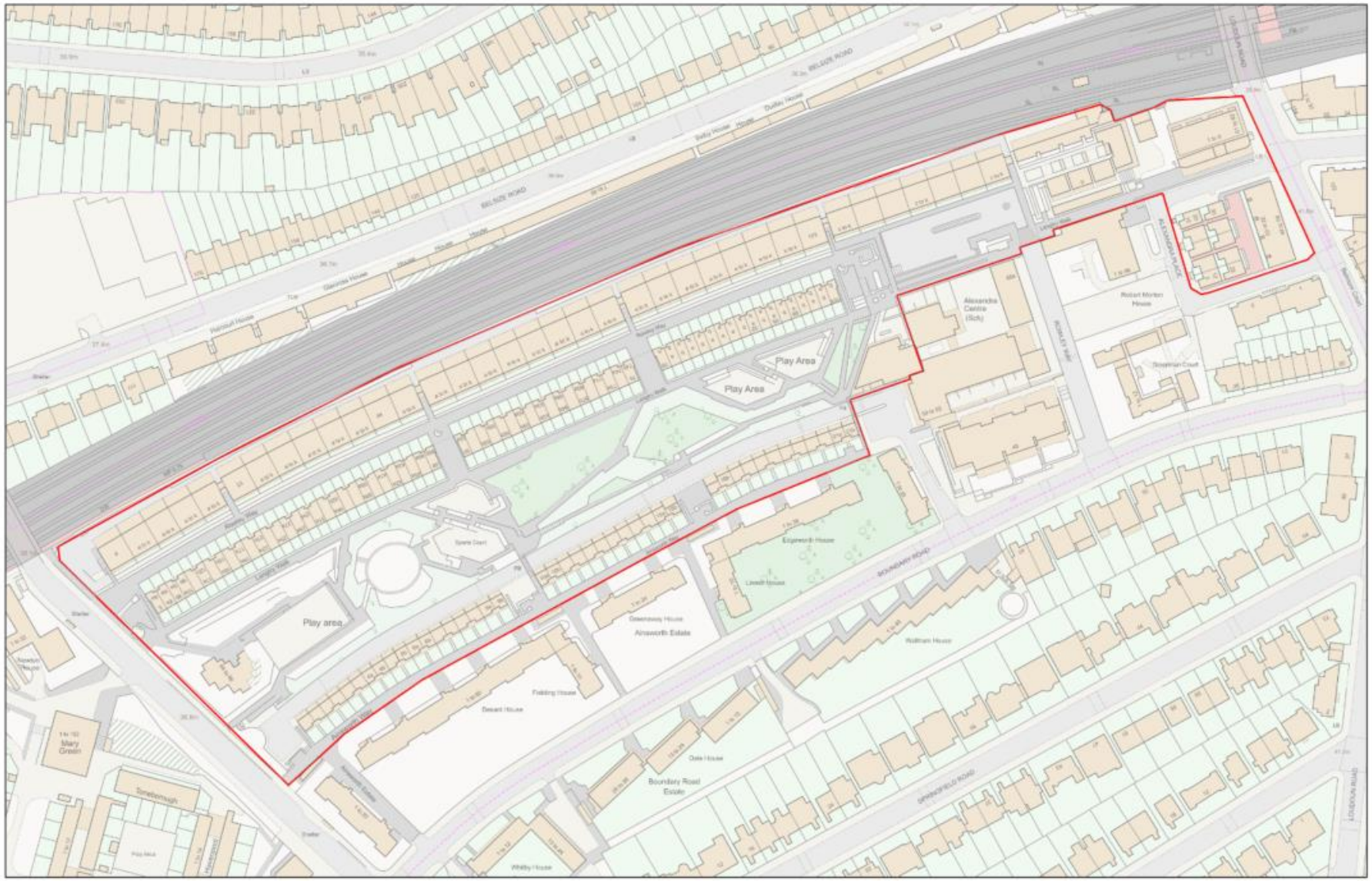
N
Play Area
Play Area
Play area
Boundary Road Estate
Ainsworth Estate
BOUNDARY ROAD
GRANFIELD ROAD
BELSIZE ROAD

Aerial view looking north


liot
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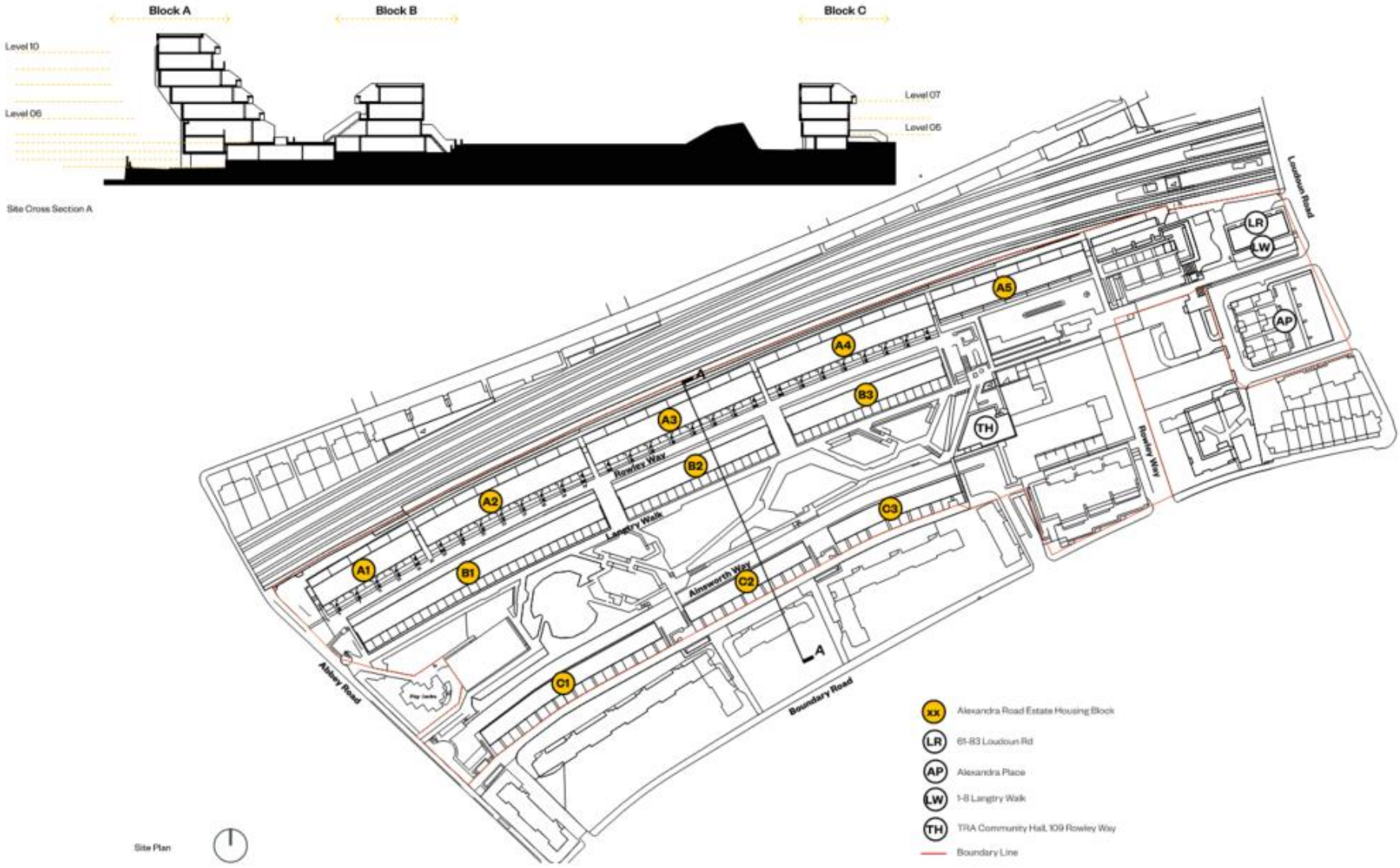
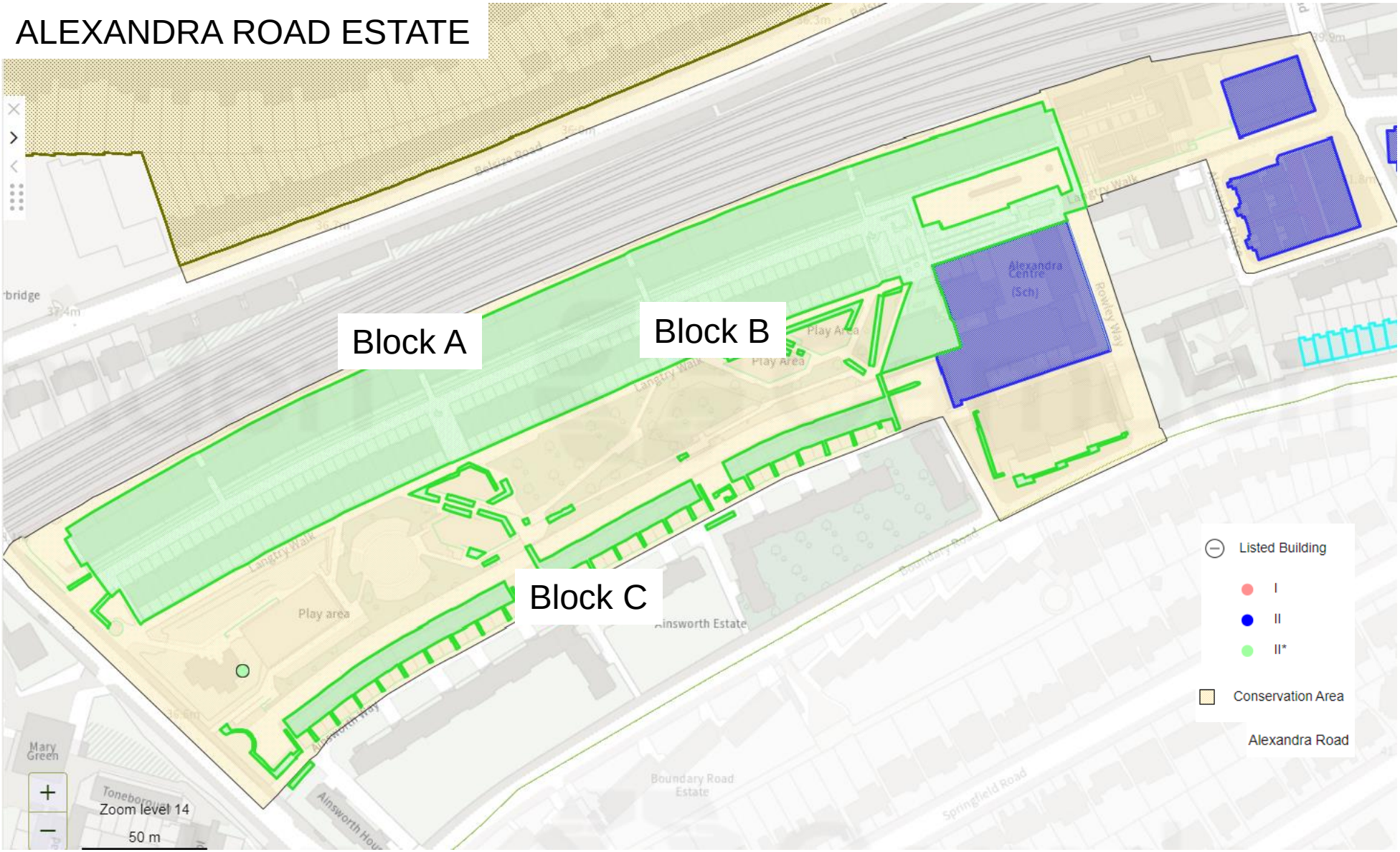
ston Beachcroft
Academy
Layers
2D


Block A
Block B
Block C
Level 10
Level 06
Level 07
Level 05
Site Cross Section A
Loudoun Road
Rowley Way
Langtry Walk
Ainsworth Way
Abbey Road
Boundary Road
A1
A2
A3
A4
A5
B1
B2
B3
C1
C2
C3
LR
LW
AP
TH
Site Plan
Alexandra Road Estate Housing Block
61-83 Loudoun Rd
Alexandra Place
1-8 Langtry Walk
TRA Community Hall, 109 Rowley Way
Boundary Line

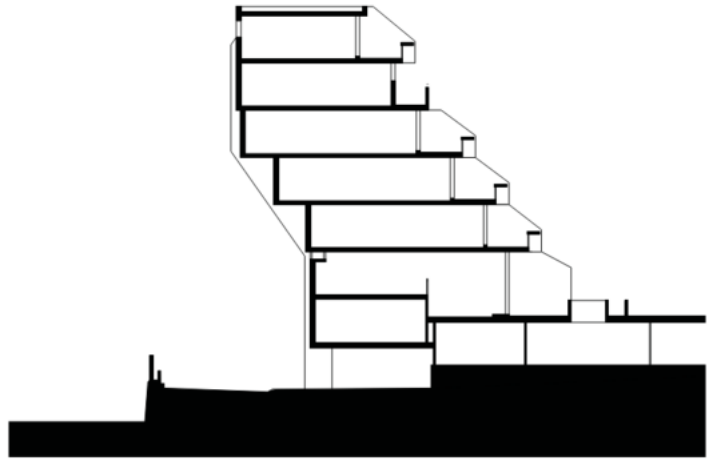
Aerial view of Blocks A and B

Aerial view of Block C

ALEXANDRA ROAD ESTATE



Block A north facade from Abbey road



Block A cross section looking east

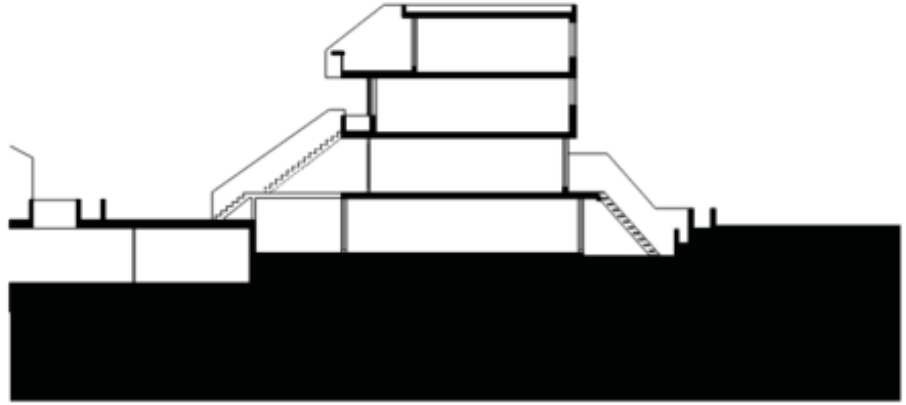
Block A looking west along service road to north

Block A south elevation

Block B North elevation, Rowley way, seen from Block A

View South-Wet to block B from Block A Staircase

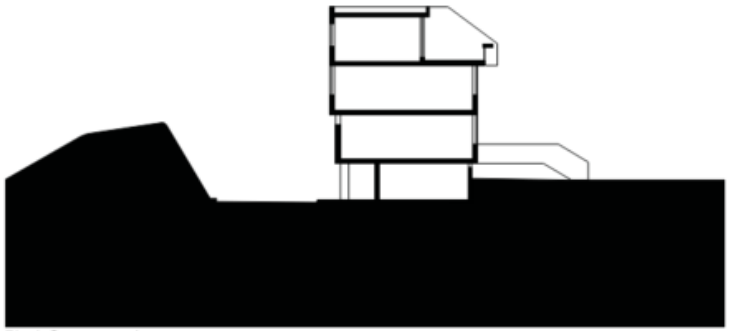
Block B South Elevation , seen from Langtry Walk



Block B cross section looking east

Block C, Ainsworth Way

Block C from Boundary road (South elevation)



Block C cross section

Eastern entrance from Loudoun road into Langtry walk. Conservation area boundary

1. 1-8 Langtry Walk block looking from west towards Loudoun Road

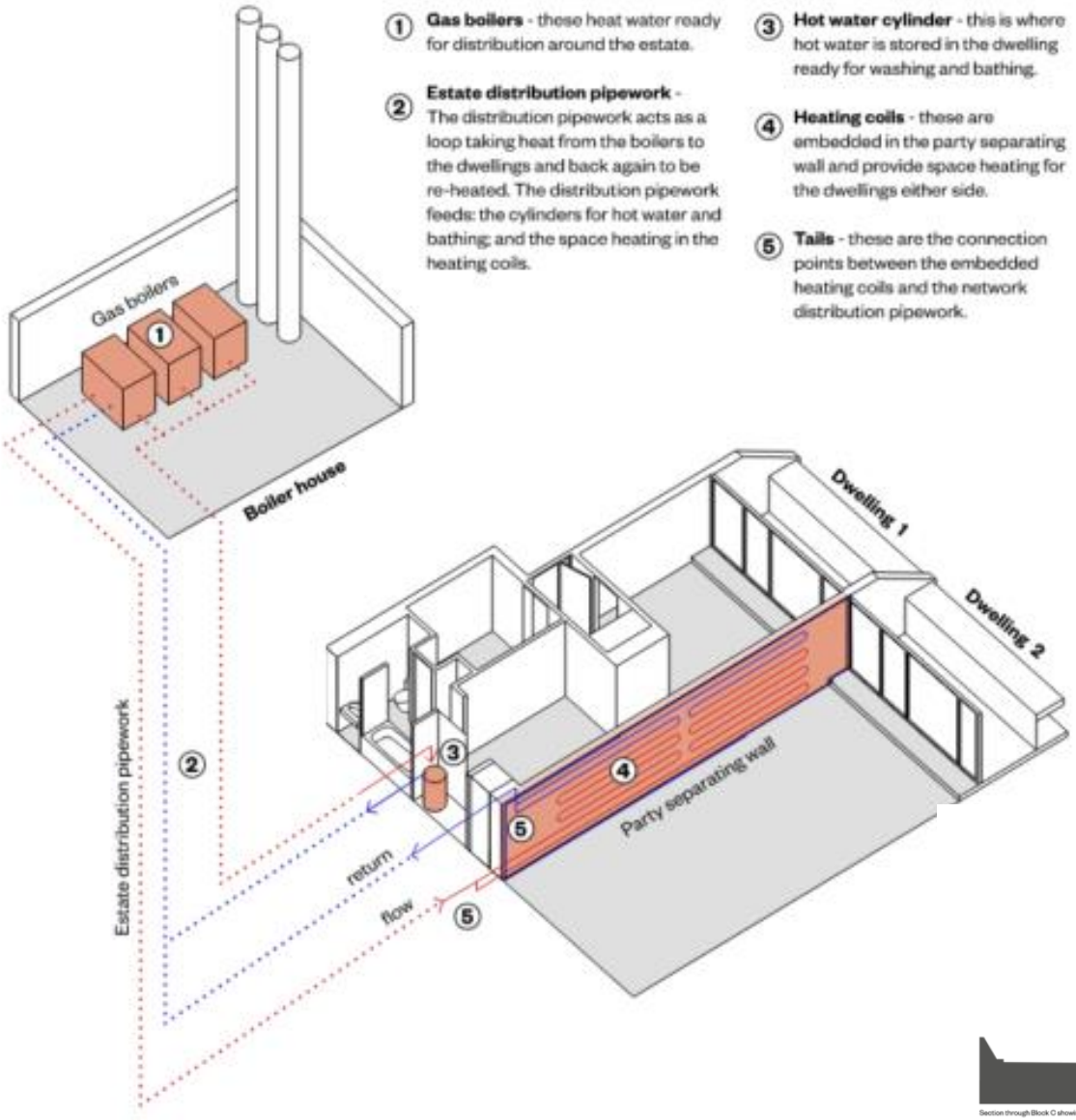
Site Plan

Key to site plan

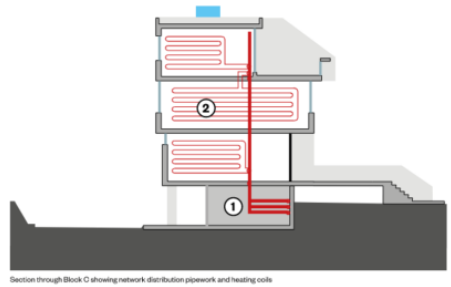
1 - 1-8 Langtry Walk
- 61-83 Loudoun Rd

2 - Alexandra Place

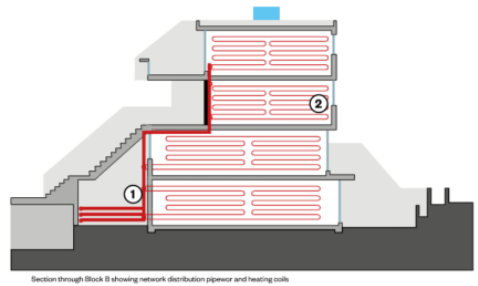
1. **Gas boilers** - these heat water ready for distribution around the estate.
2. **Estate distribution pipework** - The distribution pipework acts as a loop taking heat from the boilers to the dwellings and back again to be re-heated. The distribution pipework feeds: the cylinders for hot water and bathing; and the space heating in the heating coils.
3. **Hot water cylinder** - this is where hot water is stored in the dwelling ready for washing and bathing.
4. **Heating coils** - these are embedded in the party separating wall and provide space heating for the dwellings either side.
5. **Tails** - these are the connection points between the embedded heating coils and the network distribution pipework.



Block A

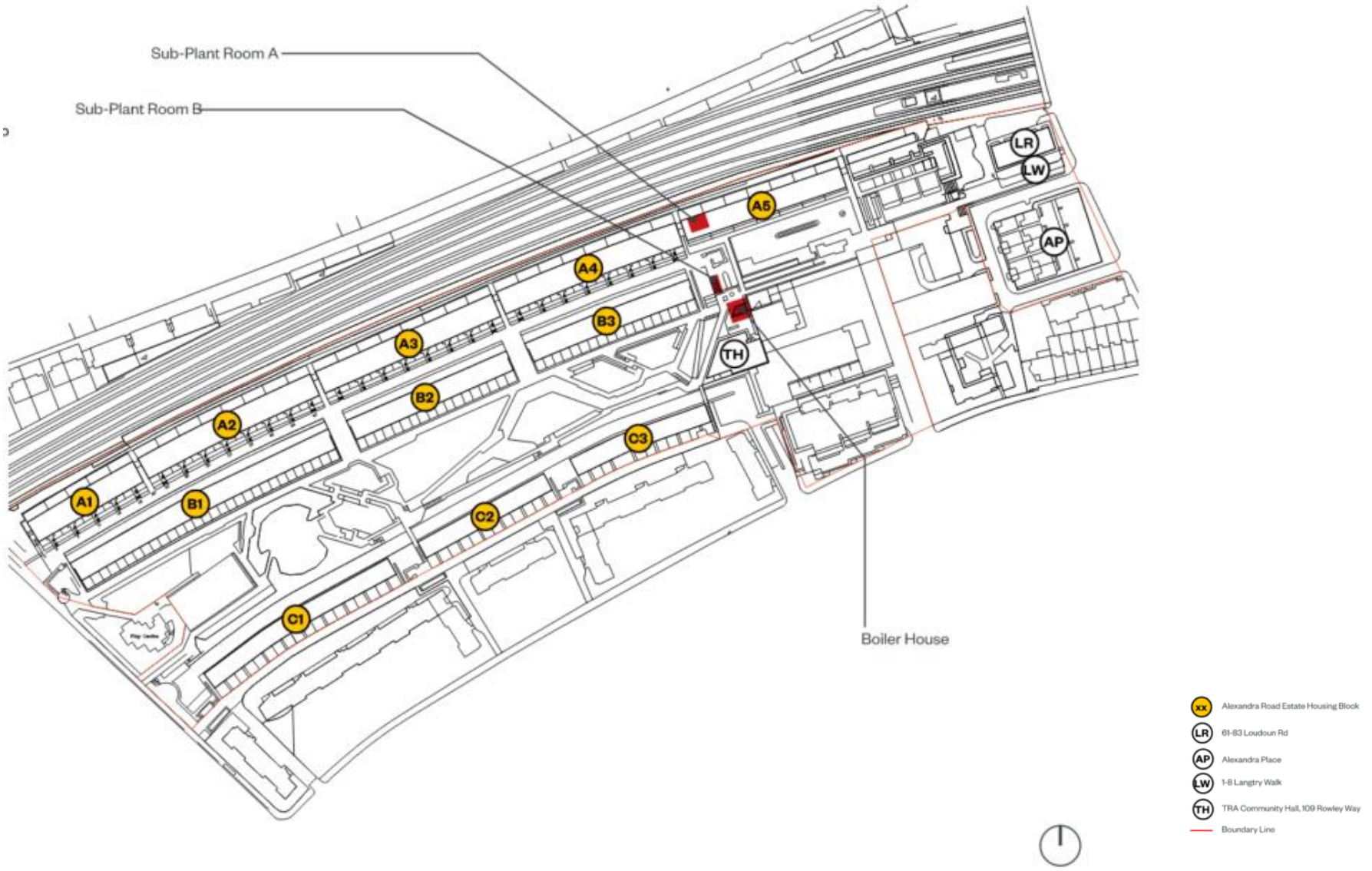


Block C



1. Estate distribution pipework
2. Heating coils

Block B

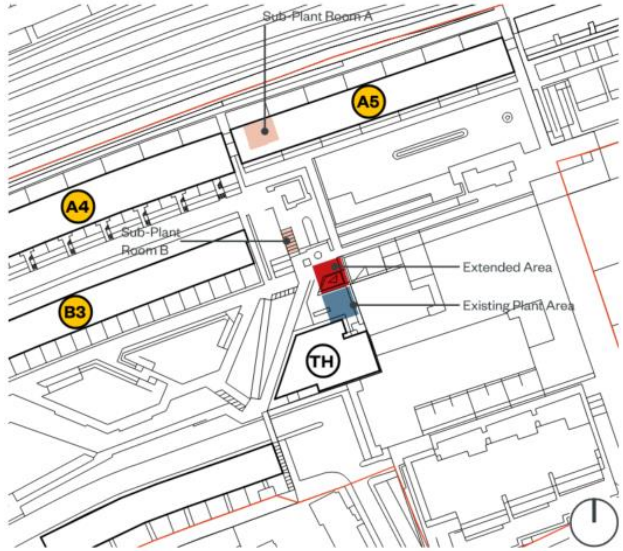


Proposed plant room locations

North of boiler room - Existing temporary timber hoarding on site

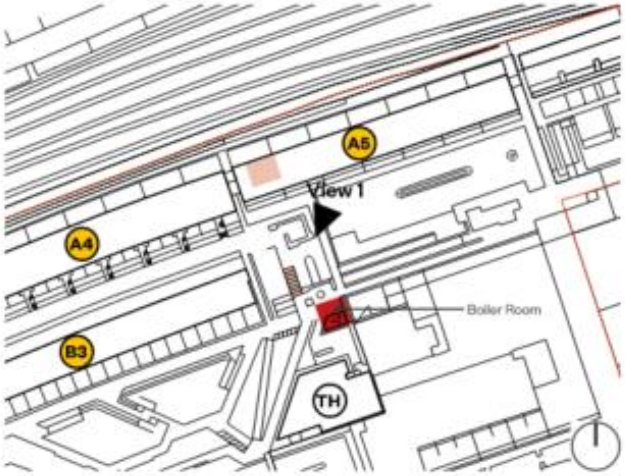
North west corner of boiler room - Existing temporary timber hoarding on site

Existing ductwork fixed to soffit of walkway, connecting boiler room to block A5



5.3 Boiler House- Proposed

View 1 - Visualisation of existing boiler house



View 1 - Visualisation of proposed boiler house enclosure

Schematic distribution heating plan

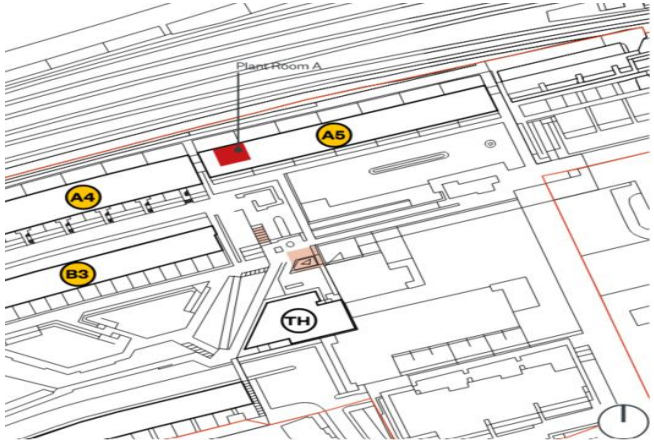
Schematic cold water pipe distribution plan

Schematic cold water pipe distribution plan

BLOCK A SUB-PLANT ROOM A

Existing Condition - Ground level North North Elevation

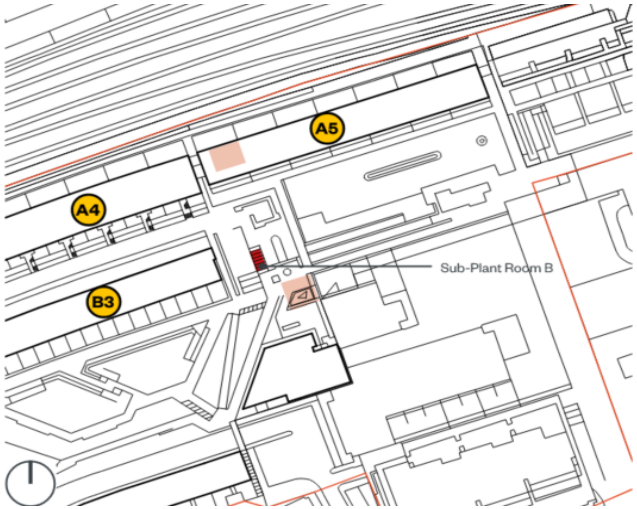
Proposed Plant enclosure to ground level North elevation



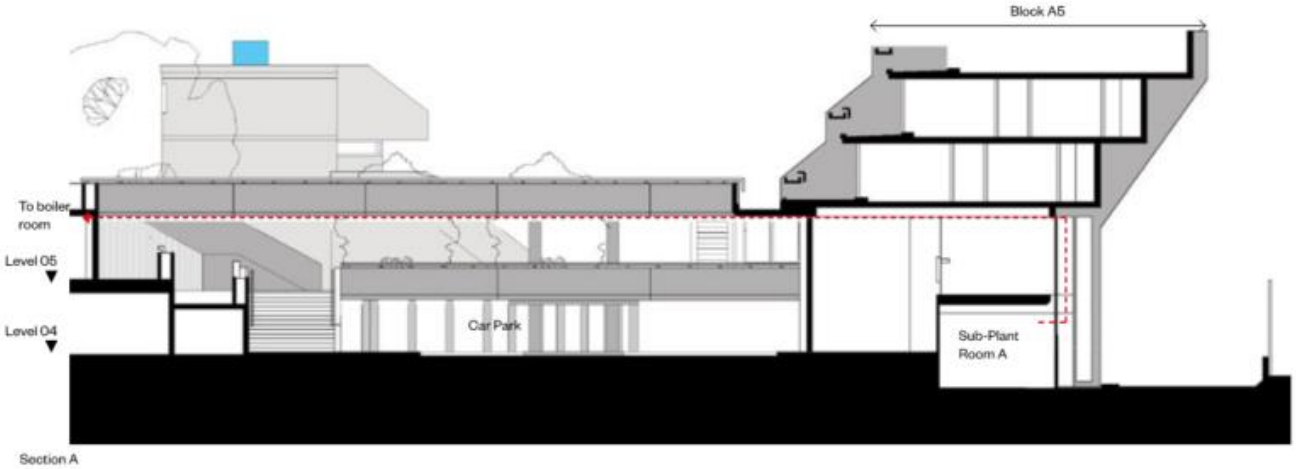
Existing (left) and proposed (right) sub plant room A under Block A5

SUB-PLANT ROOM B

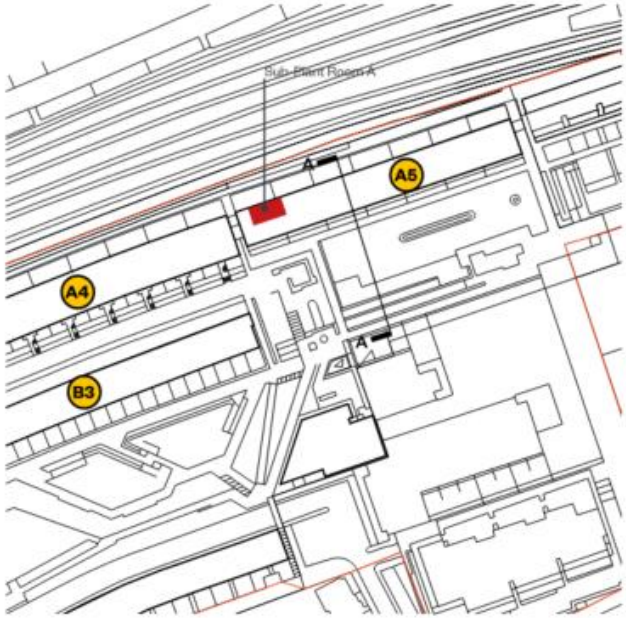
Existing view of void below stair



Existing (left) and proposed (right) sub-plant room B (void under external stair)



Section A



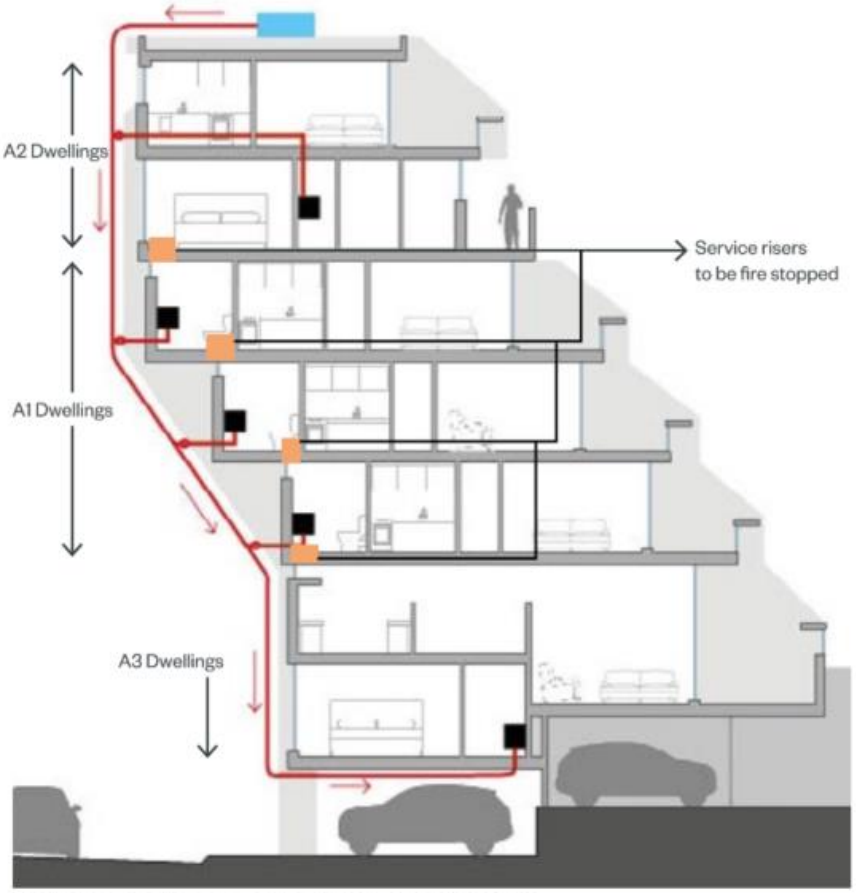
View from level 02 of car park entrance showing existing high level route to Block A. Casing to be replaced by smaller/higher pipework

Principle Routes – Block A

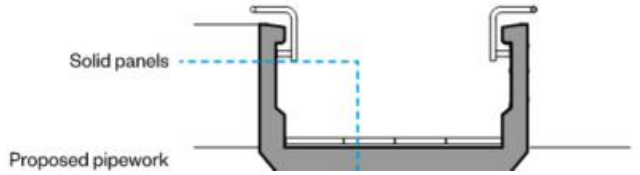
BLOCK A PIPEWORK

Heating distribution to A blocks

Existing condition of boxed section fixed to walkway soffit and penetration point to Housing Office fenestration

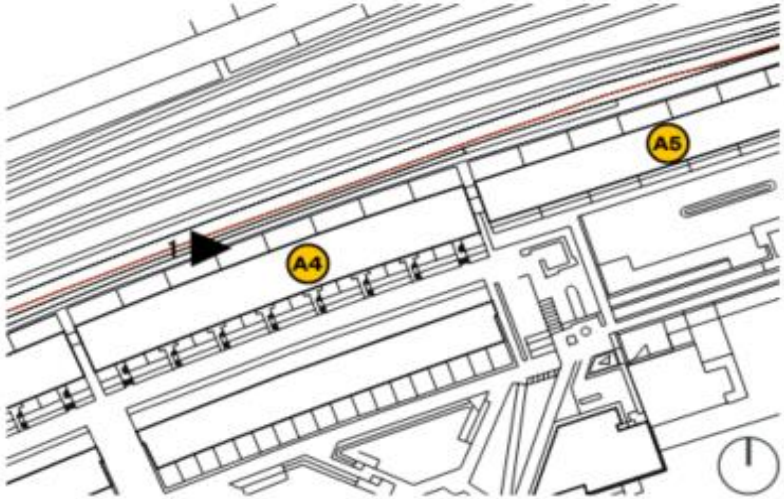


Block A cross section - proposed localised heating infrastructure



BLOCK A PIPEWORK - EXTERNAL

1. Proposed Block A ground condition - North Elevation



1. Existing Block A ground condation - North Elevation

Visual of proposed pipework on lower part of the northern elevation of Block A

BLOCK A PIPEWORK - EXTERNAL

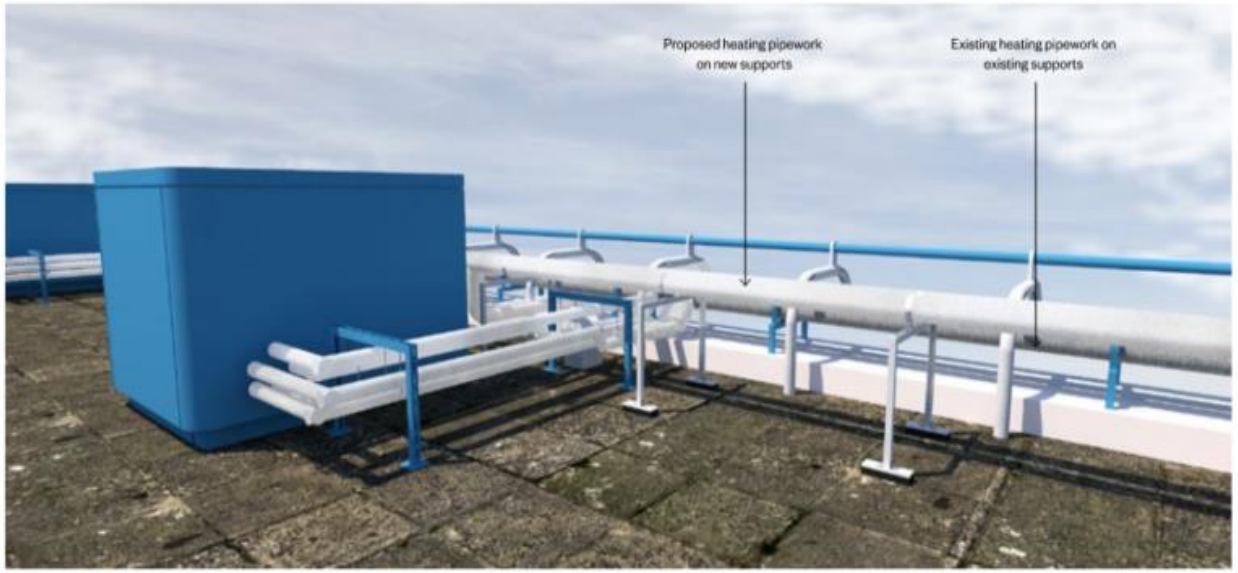


Image 1: Proposed heating pipework on Block A roof

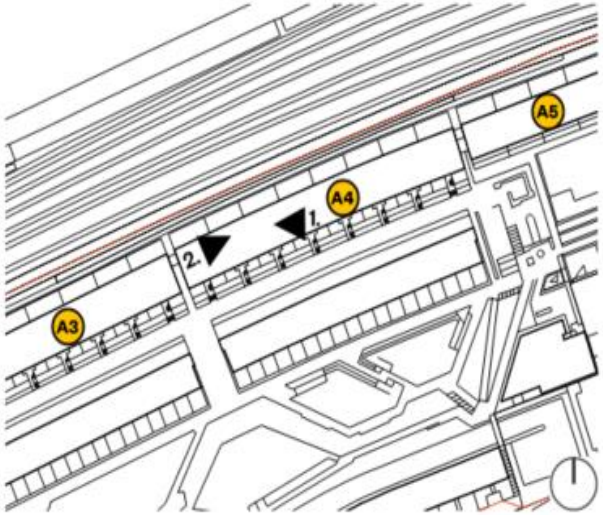
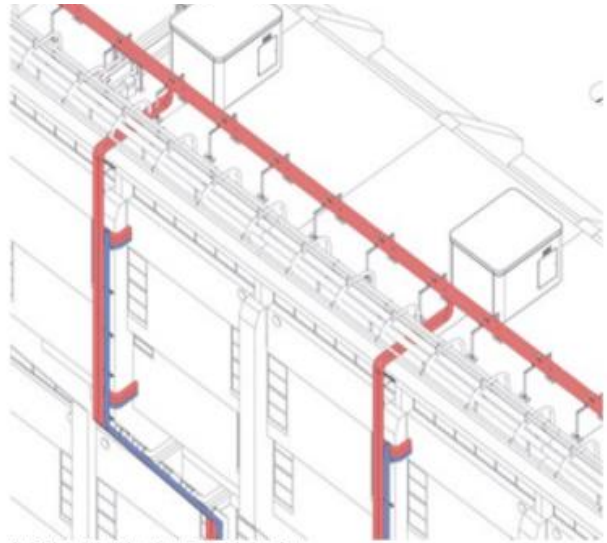


Image 2: Existing heating network on roof of Block A

3D View of Block A Roof - Typical

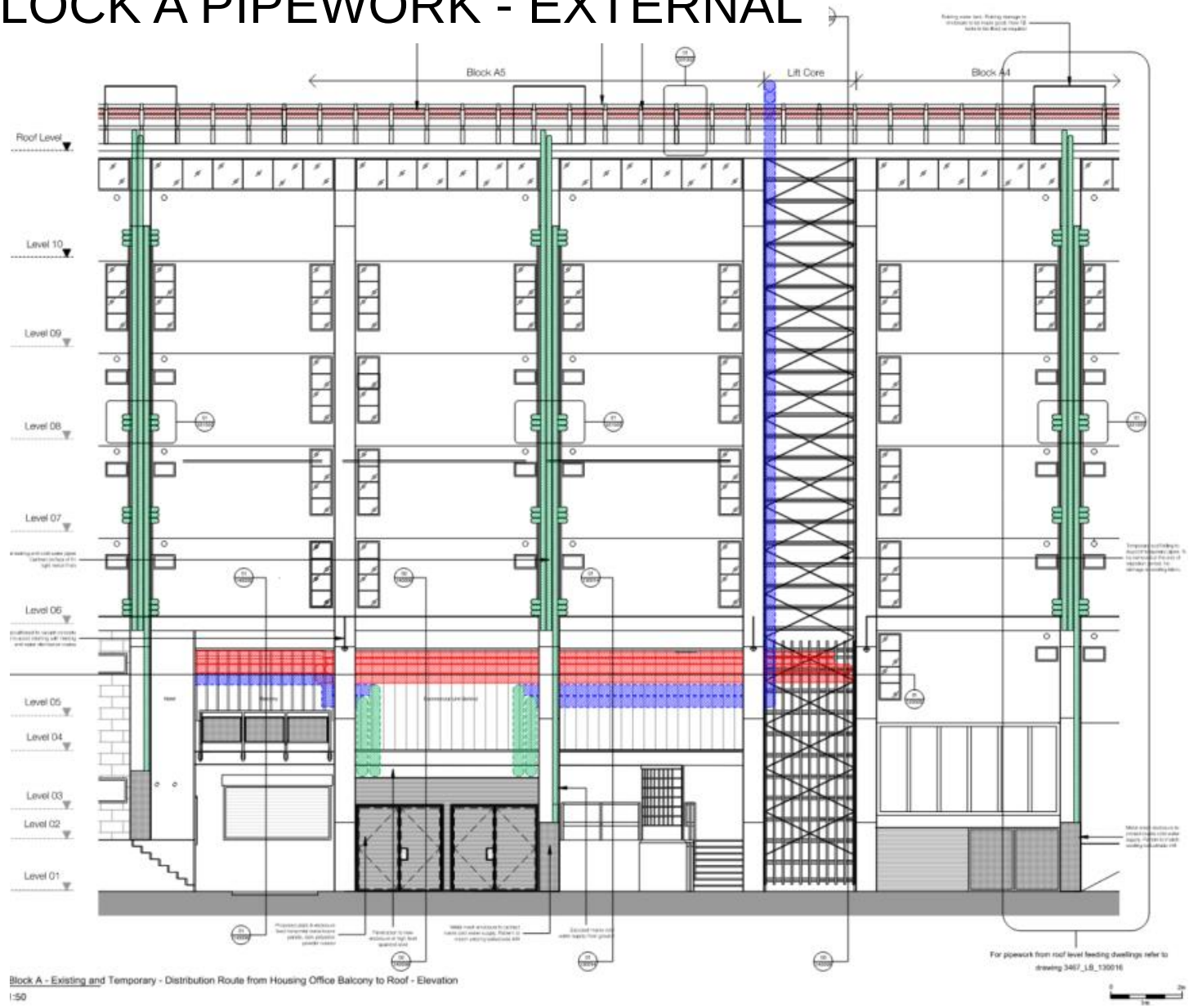


Aerial view of block A roof - typical north elevation

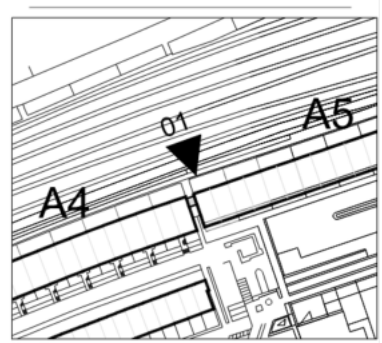
Proposed heating pipes

Proposed Mains Cold Water Pipe

BLOCK A PIPEWORK - EXTERNAL



Block A - Existing and Temporary - Distribution Route from Housing Office Balcony to Roof - Elevation
1:50



Key Plan

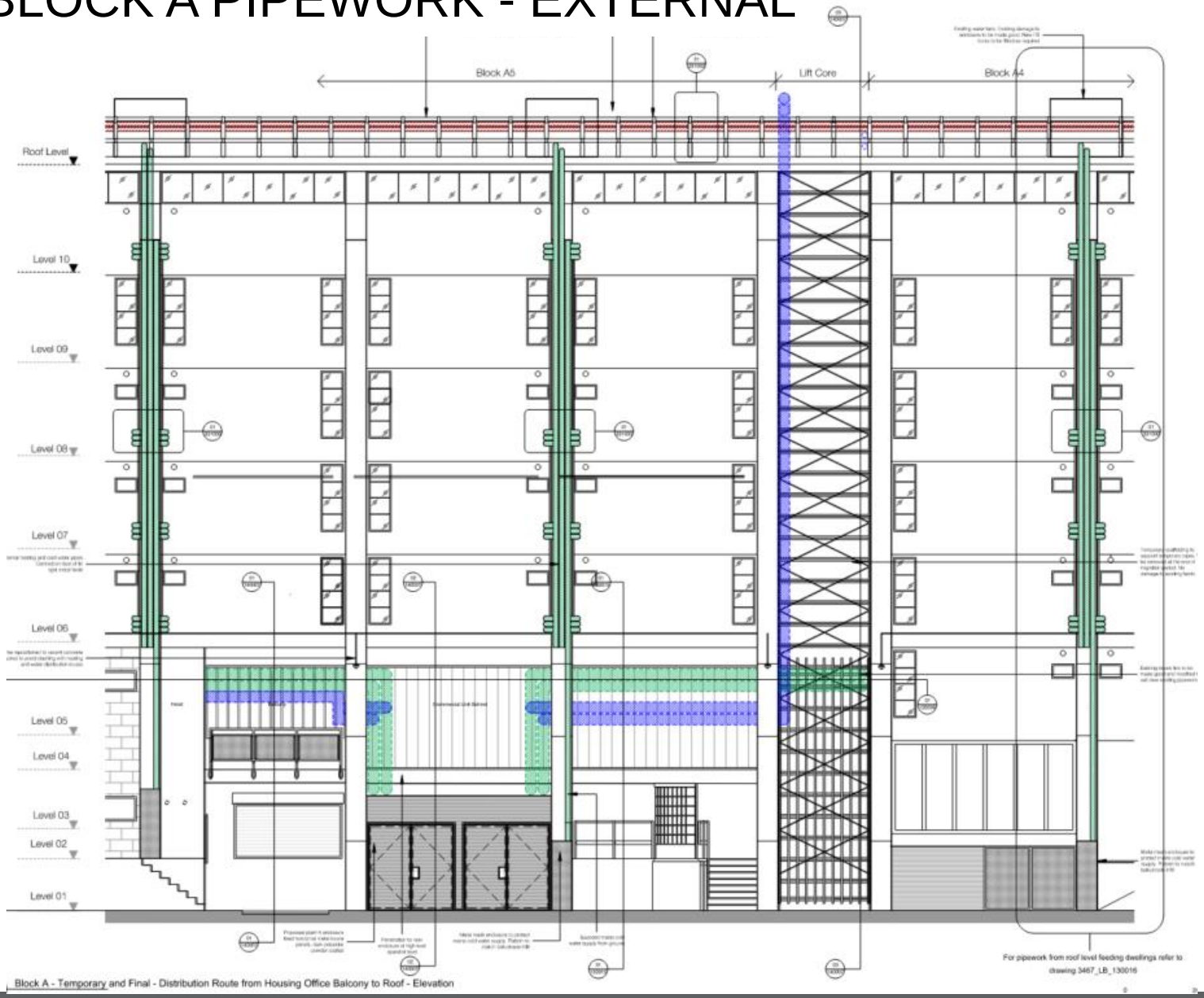
N

Proposed pipework for final install

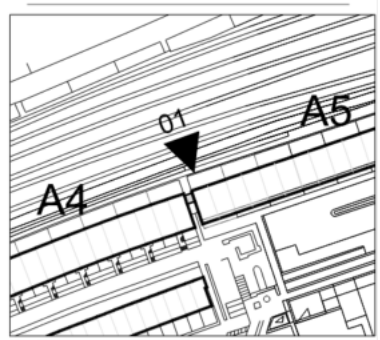
Proposed pipework for initial install, removed at end of migration period

Existing pipework retained in place during migration period.

BLOCK A PIPEWORK - EXTERNAL



Block A - Temporary and Final - Distribution Route from Housing Office Balcony to Roof - Elevation



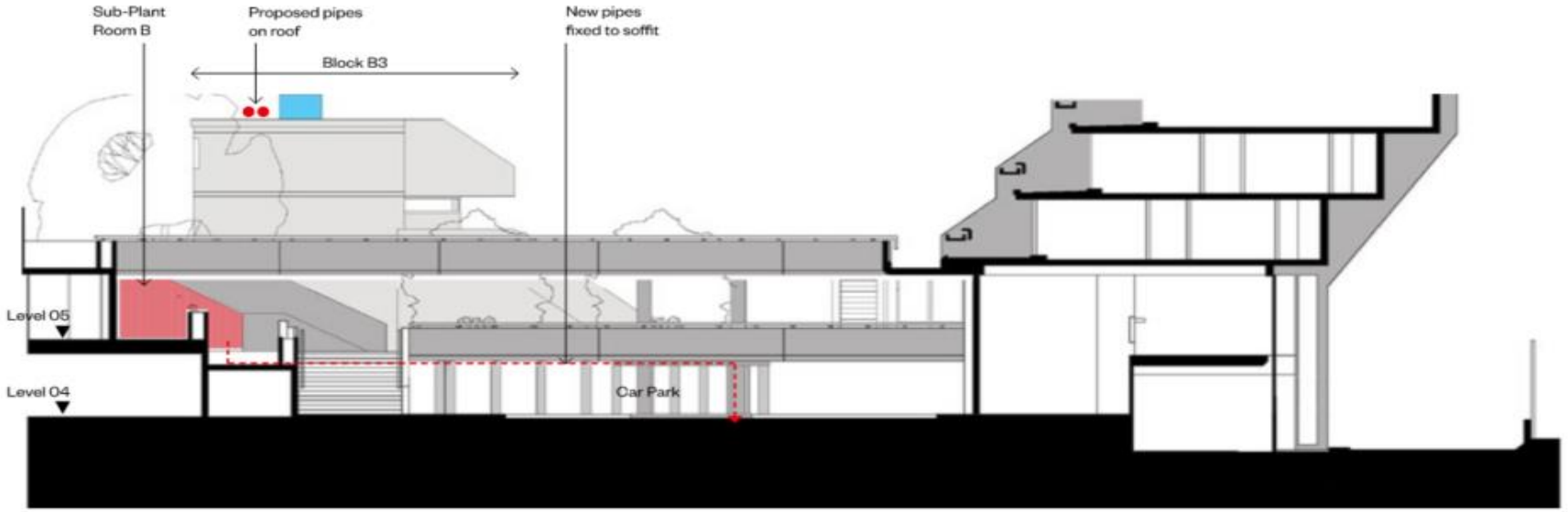
Key Plan

N

Proposed pipework for final install

Proposed pipework for initial install, removed at end of migration period

Existing pipework retained in place during migration period.



Section A

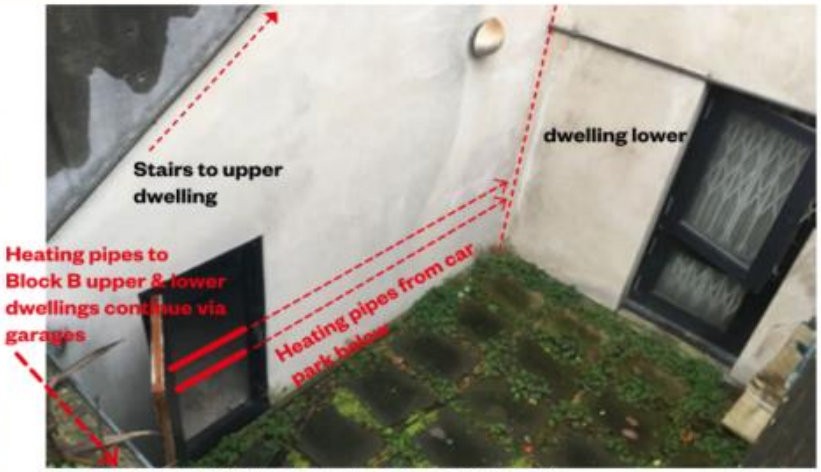
View of enclosure area below the stair. Proposed Sub-Plant Room highlighted by red dotted line

View from level 02 of car park entrance with proposed Sub-Plant Room B highlighted

PRINCIPLE ROUTES: BLOCK B PIPEWORK - EXTERNAL

Block B3 West gable elevation - proposed

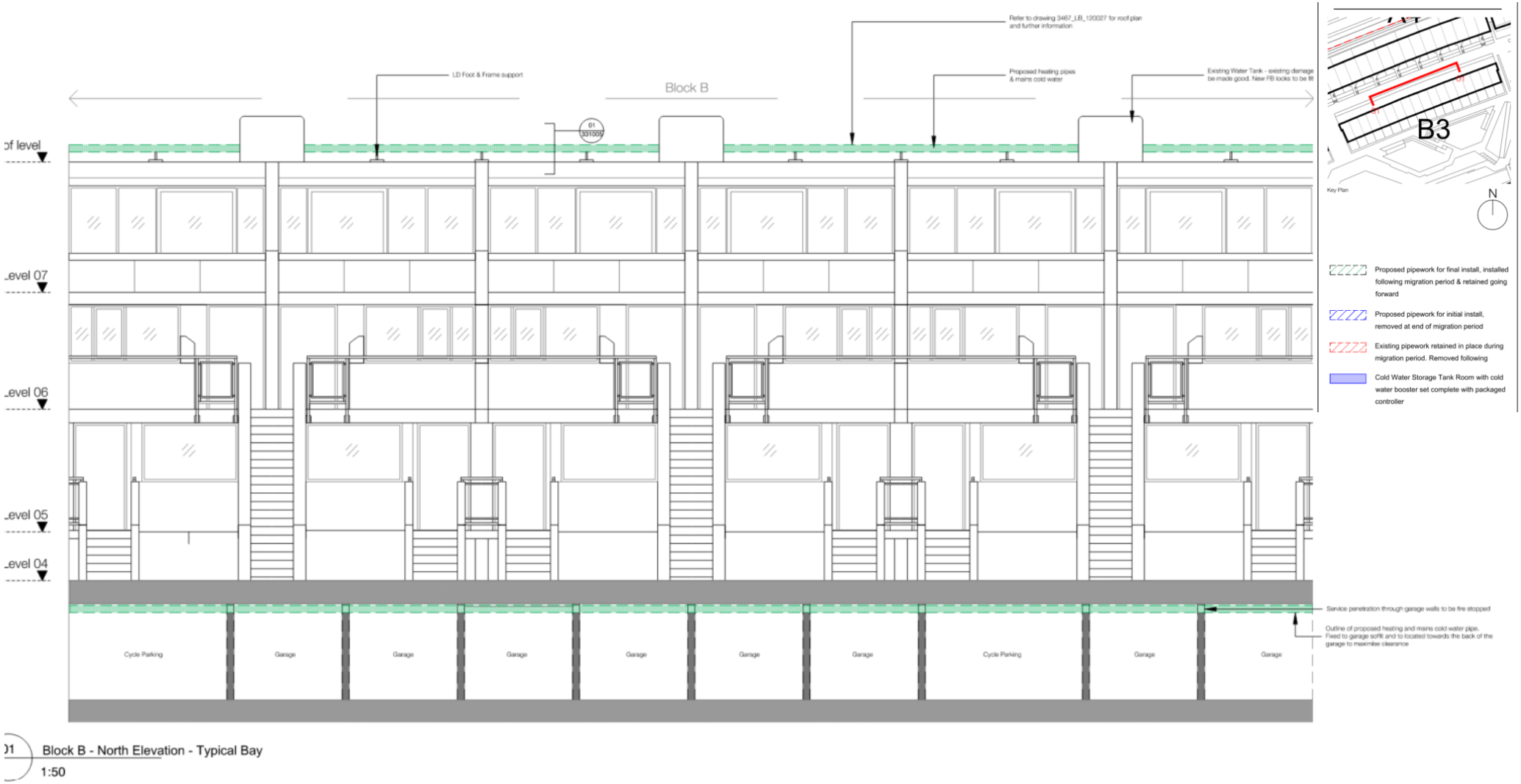
Block B West gable elevation - existing



Block B, Dwelling type B3 external ground floor terrace (Rowley way)

Existing and proposed heating and cold water pipework on western elevation of Block B

BLOCK B PIPEWORK - EXTERNAL



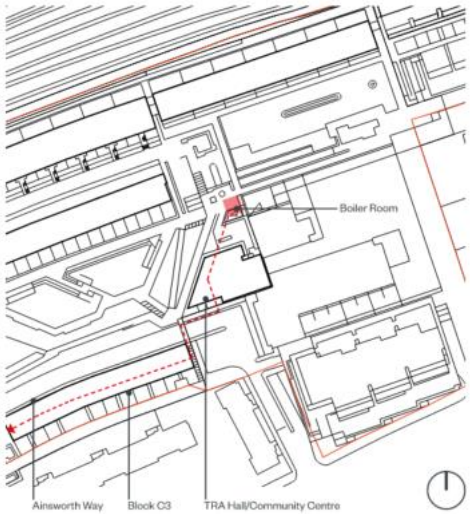
01 Block B - North Elevation - Typical Bay
1:50

PRINCIPLE ROUTES: BLOCK B PIPEWORK - EXTERNAL

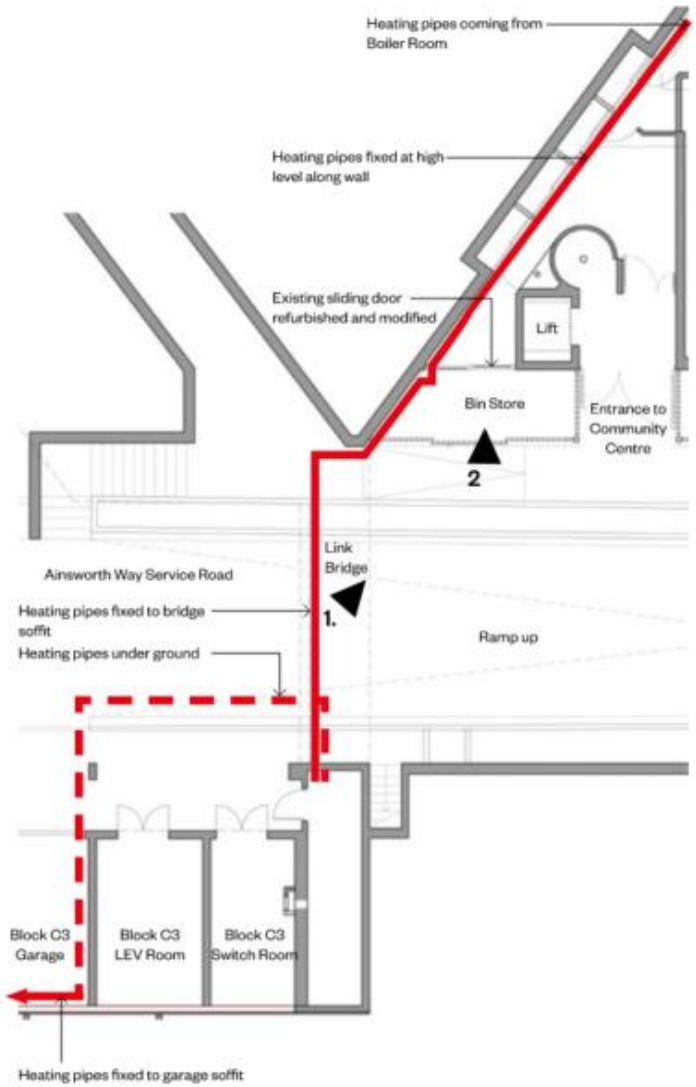
View of block B roof from Block A - Proposed

Typical bracing currently used elsewhere on Block B roof

View of block B roof from Block A - Existing



Plan view of Community Centre/TRA Hall and Block C3



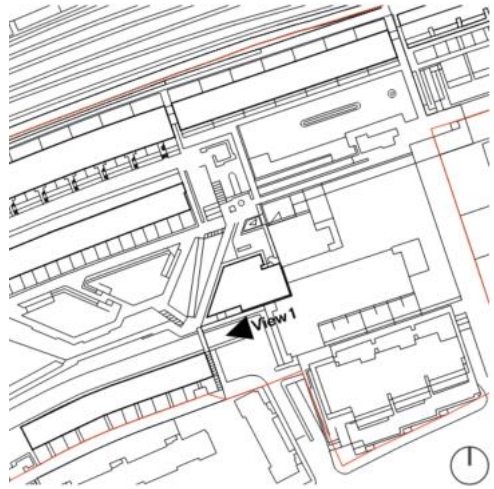
1. View of TRA Hall/Community Centre looking north from link bridge

2. View of Existing Doors from Bin Store.

Proposed Pipework

View 1: Bridge link between the community centre & block C seen from east. Proposed pipes fixed to underside of existing bridg.e

View 1: Bridge link between the community centre & block C.

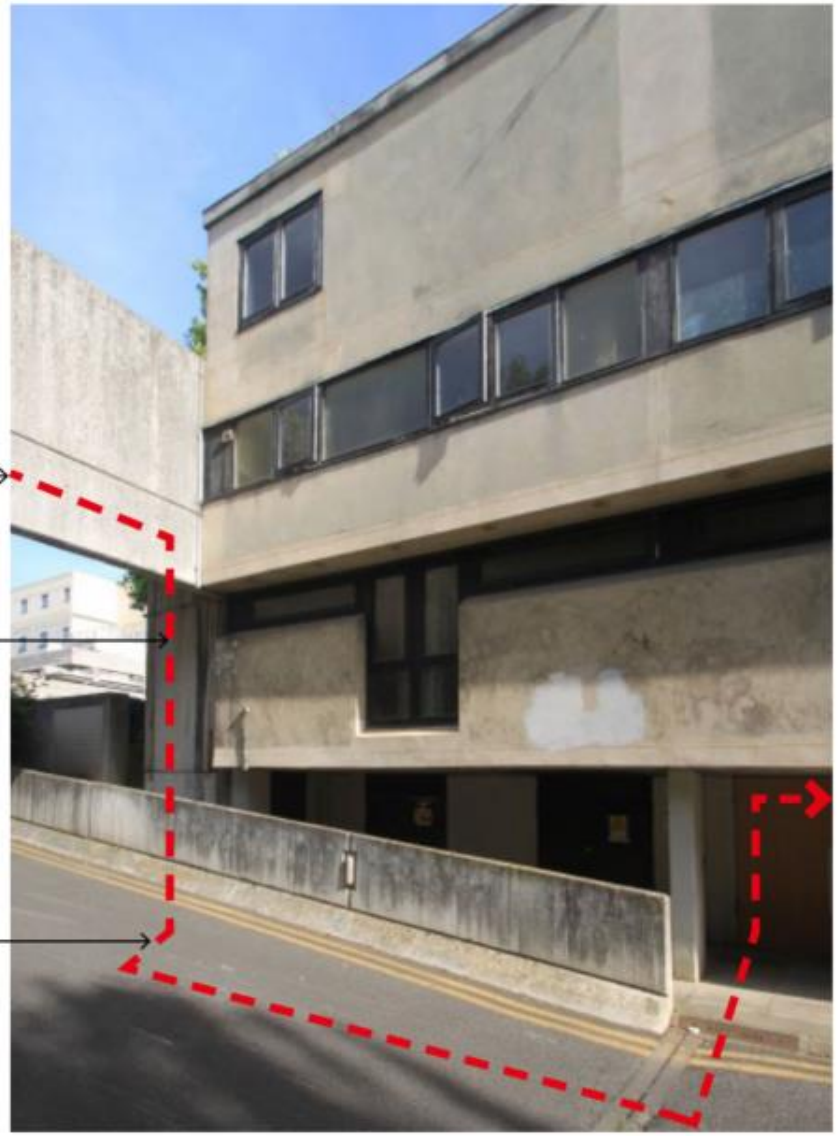


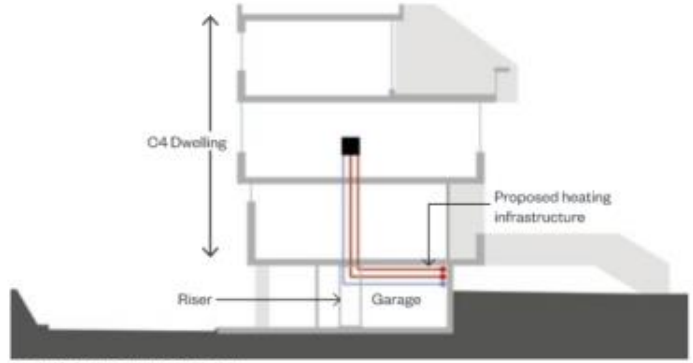
Proposed Pipework route behind downstand within encasing

Proposed Pipework within Landlord Store

Proposed Pipework buried underground in Ainsworth Way Service Road across to Block C Garages.

Pipework rise up above ground and fixed closely at soffit level to maximise clearance below.





Block C Cross Section looking east

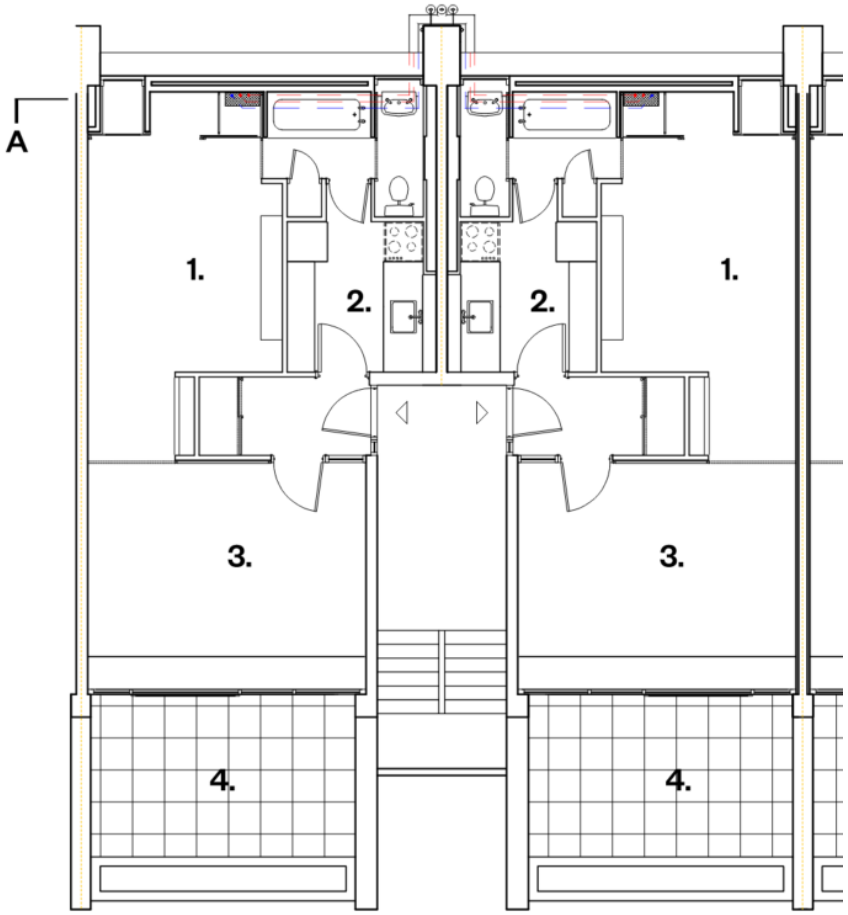
Each individual dwelling will be serviced by providing heating and main cold water supply through the risers in the garages and into the dwellings.

1. Langtry Walk. Proposed pipes burried below paving

2. Loudoun Road Block West elevation. Proposed heating pipes externally fixed to wall at ground floor level behind existing external staircase

3. Proposed heating pipes to come up through floor of existing plant room located underneath external ramp at Alexandra Place

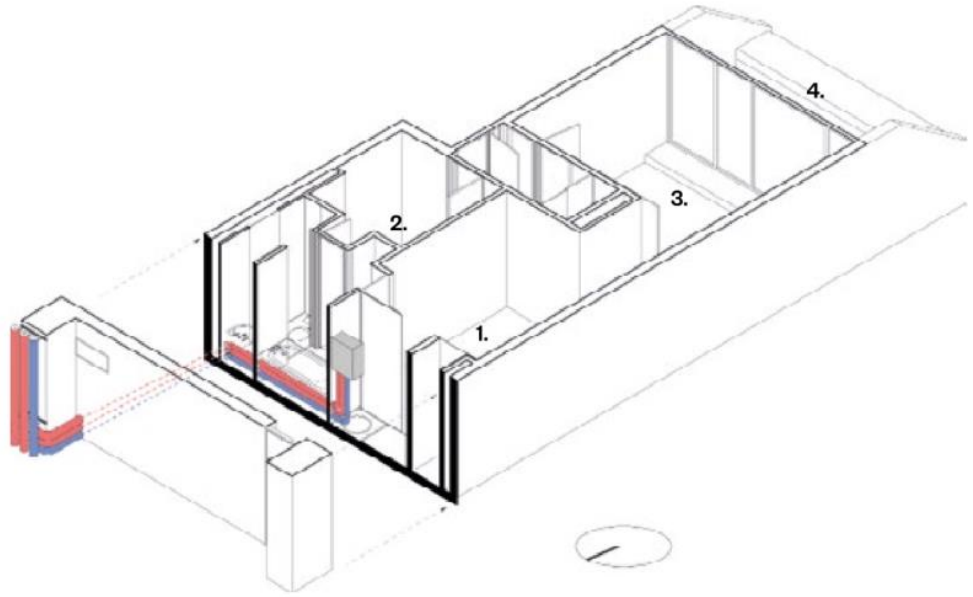
Principal routes – Loudoun Road / Alexandra Place



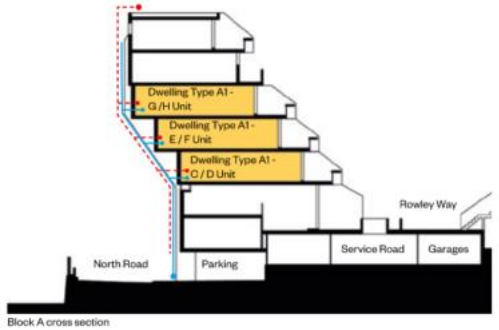
Dwelling Type A1 - Heating & Mains Cold Water Supply

1. Bedroom
2. Kitchen
3. Living room
4. External terrace

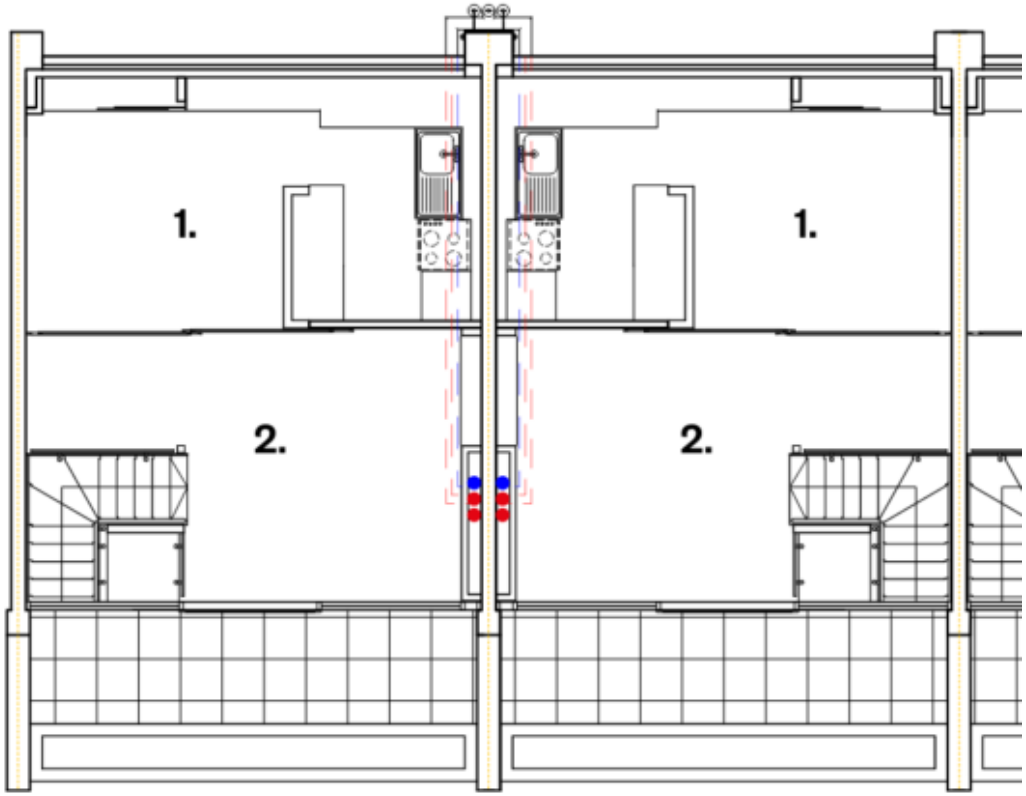
Heat interface unit
Mains cold water supply
Heating pipes
Party Wall



Dwelling Type A1 - 3D sectional View A



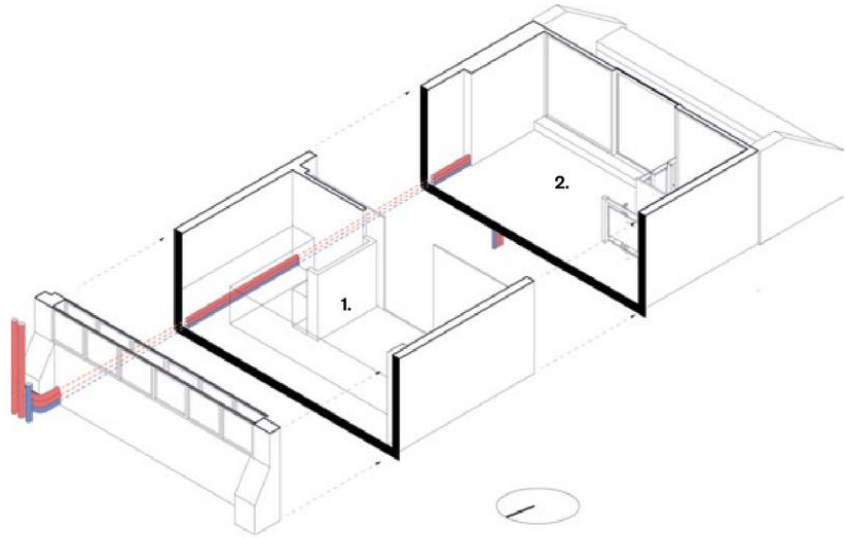
Block A cross section



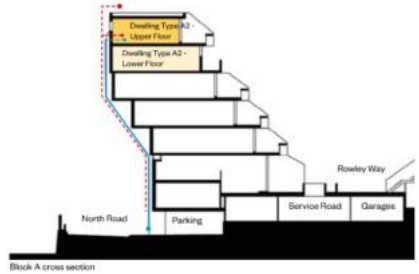
Dwelling Type A2 - Heating & Mains Cold Water Supply - Upper Floor

Heat interface unit
Mains cold water supply
Heating pipes
Party Wall

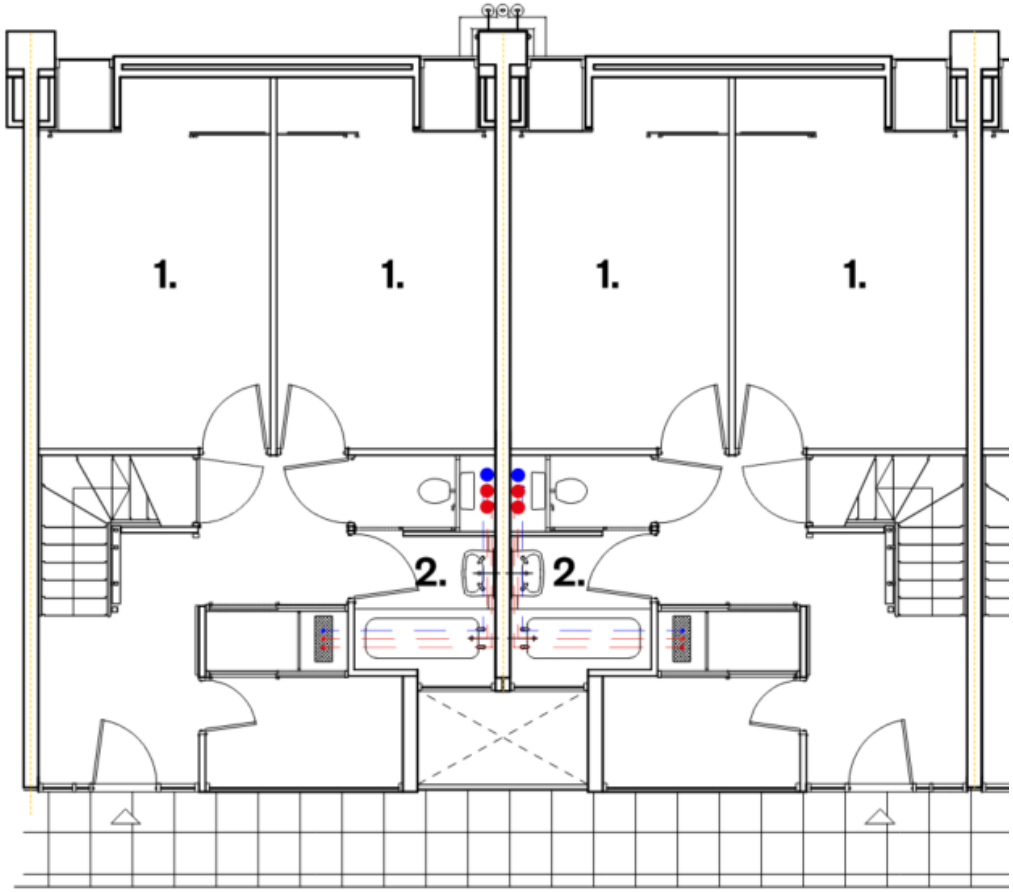
1. Kitchen
2. Living room



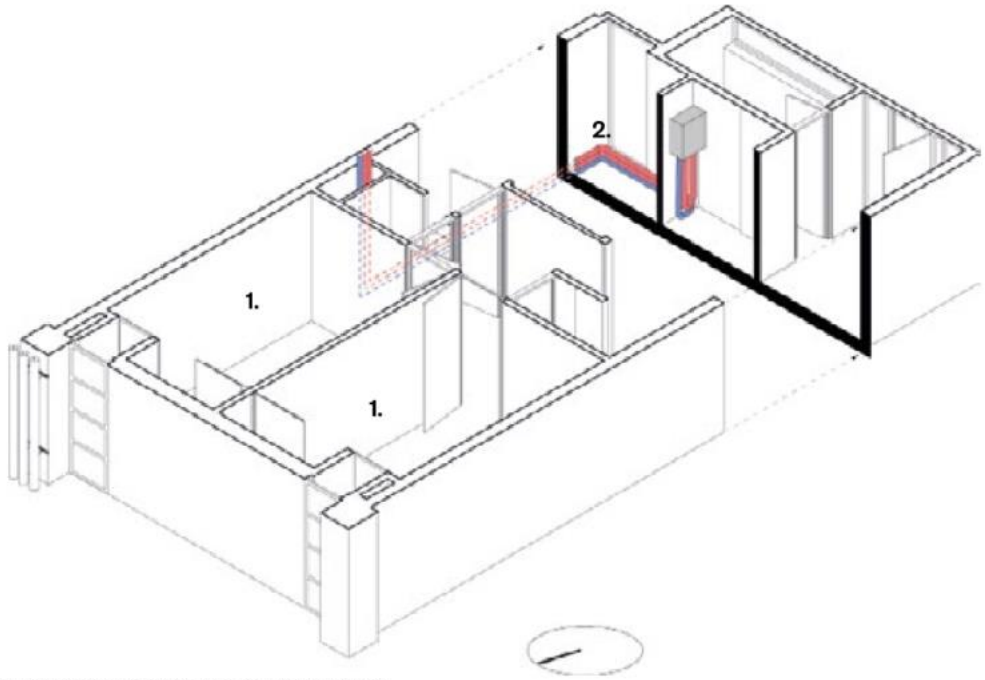
Dwelling Type A2 upper plan - 3D sectional View



Block A cross section



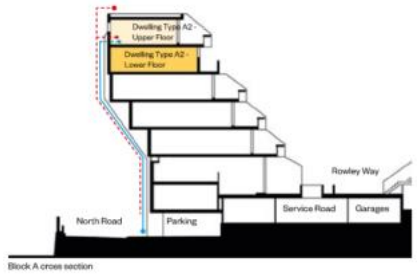
Dwelling Type A2 - Lower Plan



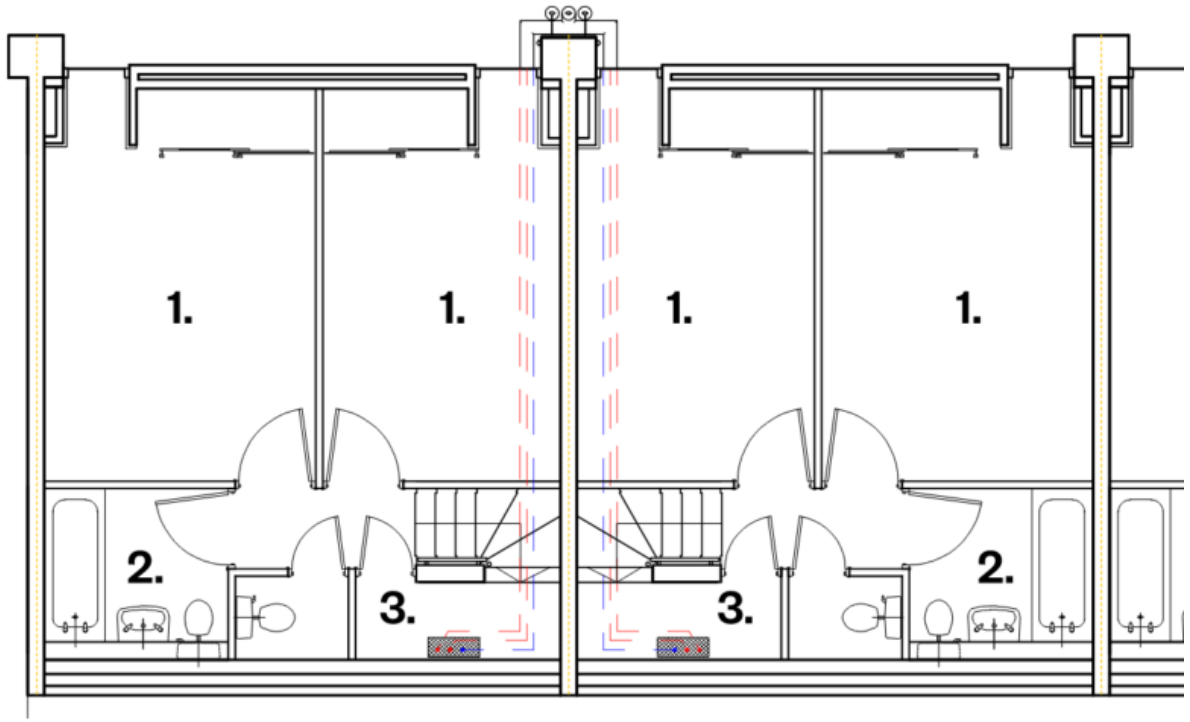
Dwelling Type A2 lower plan - 3D sectional View

Heat interface unit
Mains cold water supply
Heating pipes
Party Wall

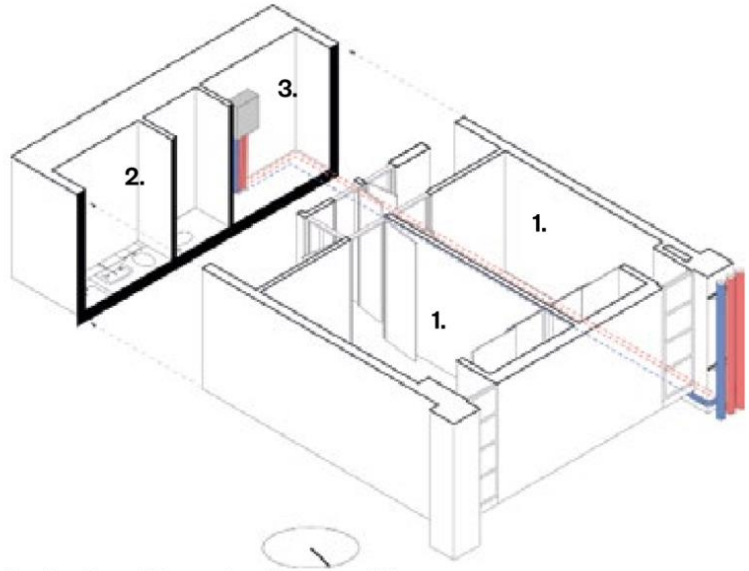
1. Bedroom
2. Bathroom



Block A cross section



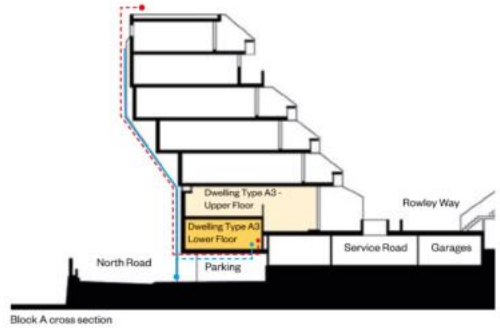
Dwelling Type A3 - Lower Plan



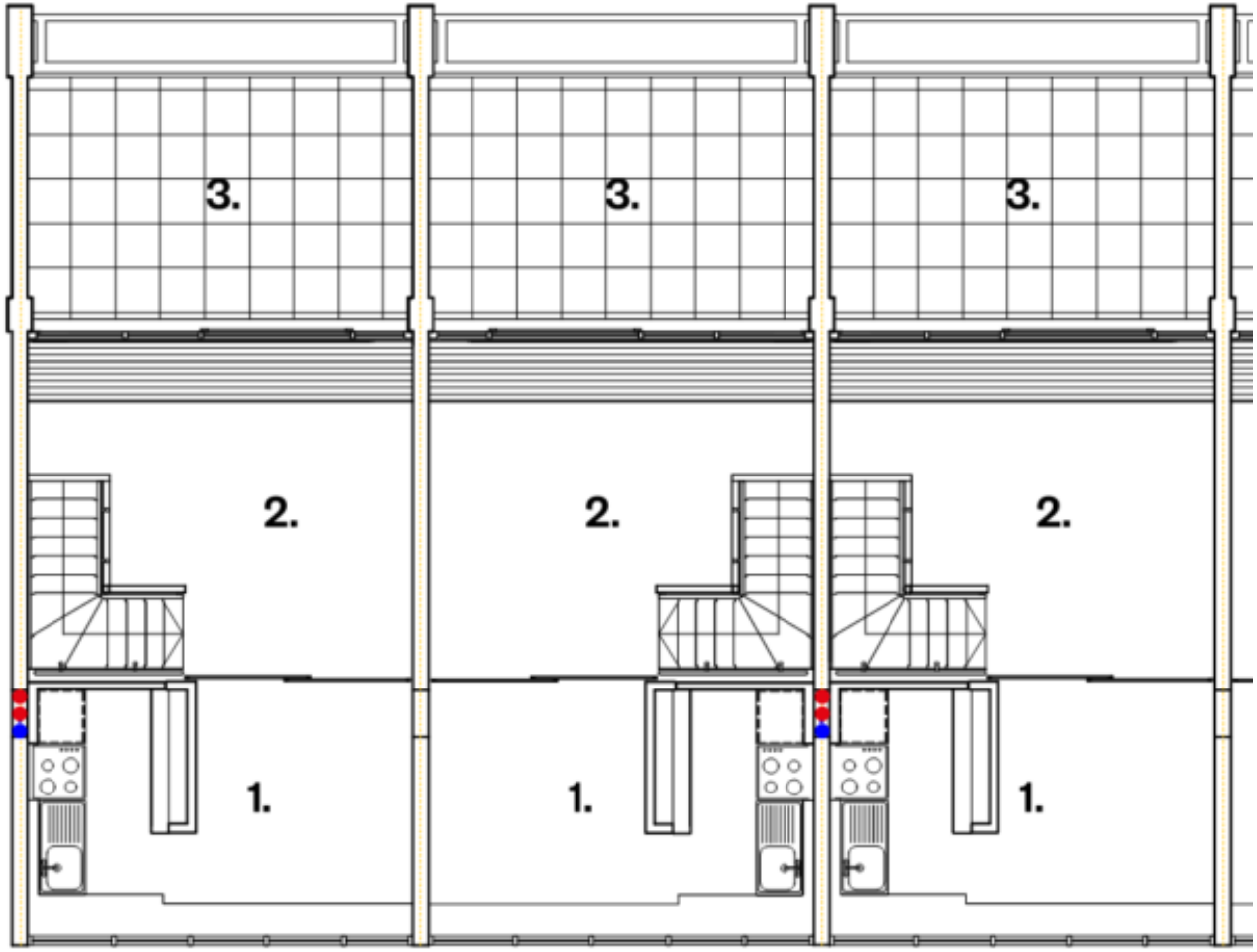
Dwelling Type A3 lower plan - 3D sectional View

Heat interface unit
Mains cold water supply
Heating pipes
Party Wall

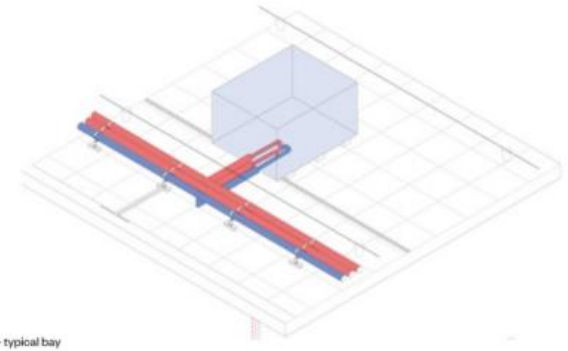
1. Bedroom
2. Bathroom
3. Cupboard (underneath stairs)



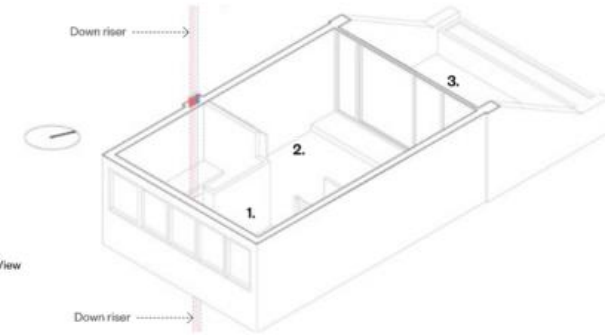
Block A cross section



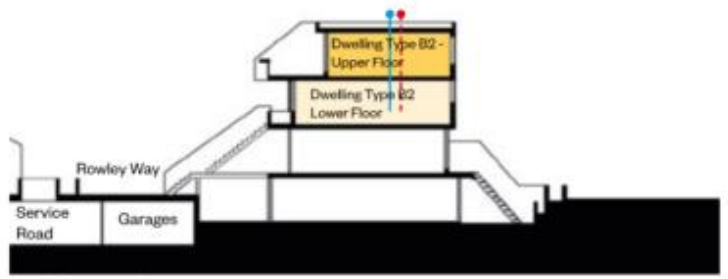
Dwelling Type B2 - Upper Plan



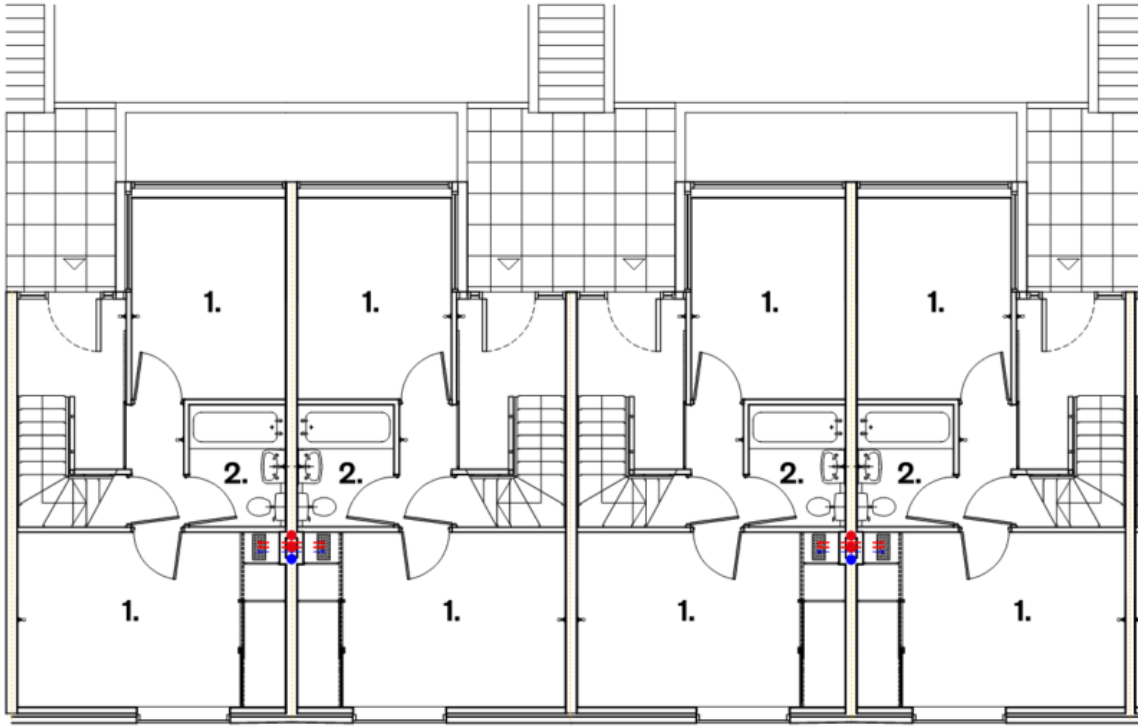
Block B 3D view of roof - typical bay



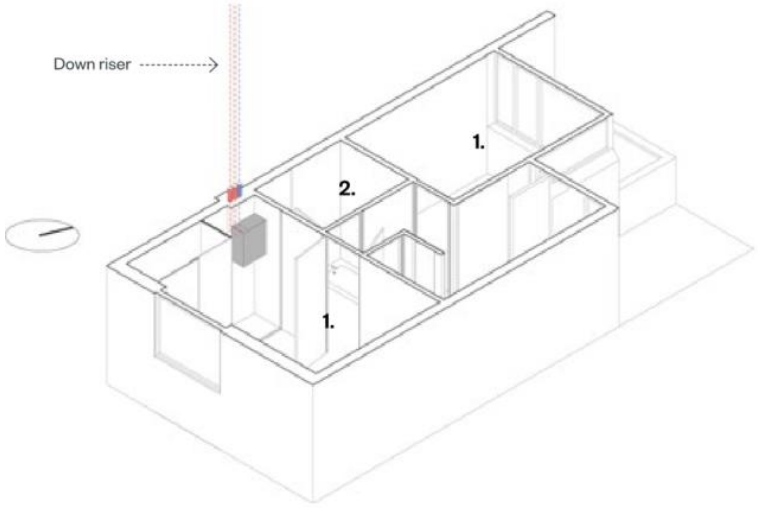
Dwelling Type B2 upper plan- 3D View



Block B cross section



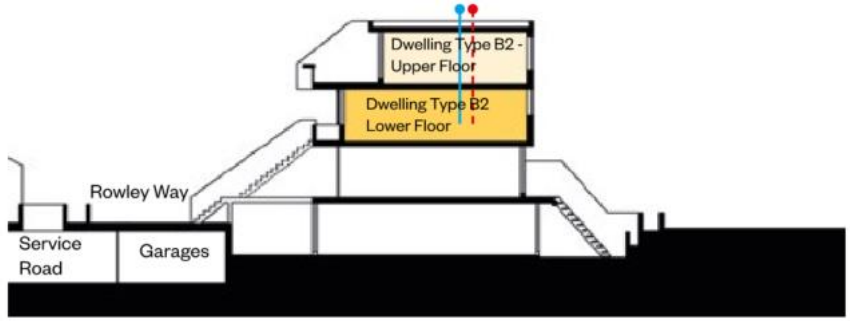
Dwelling Type B2 - Lower Plan



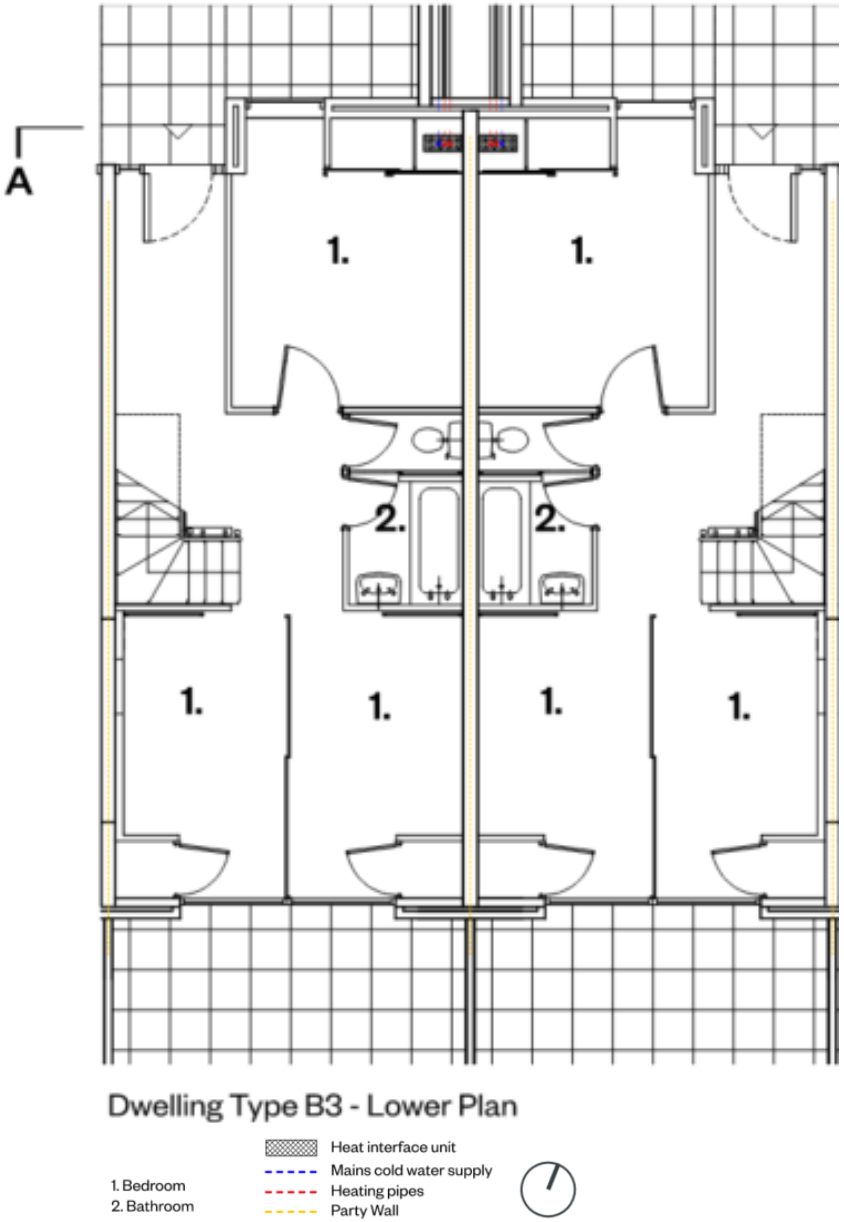
Dwelling Type B2 lower plan- 3D View

Heat interface unit
Mains cold water
Heating pipes
Party Wall

1. Bedroom
2. Bathroom



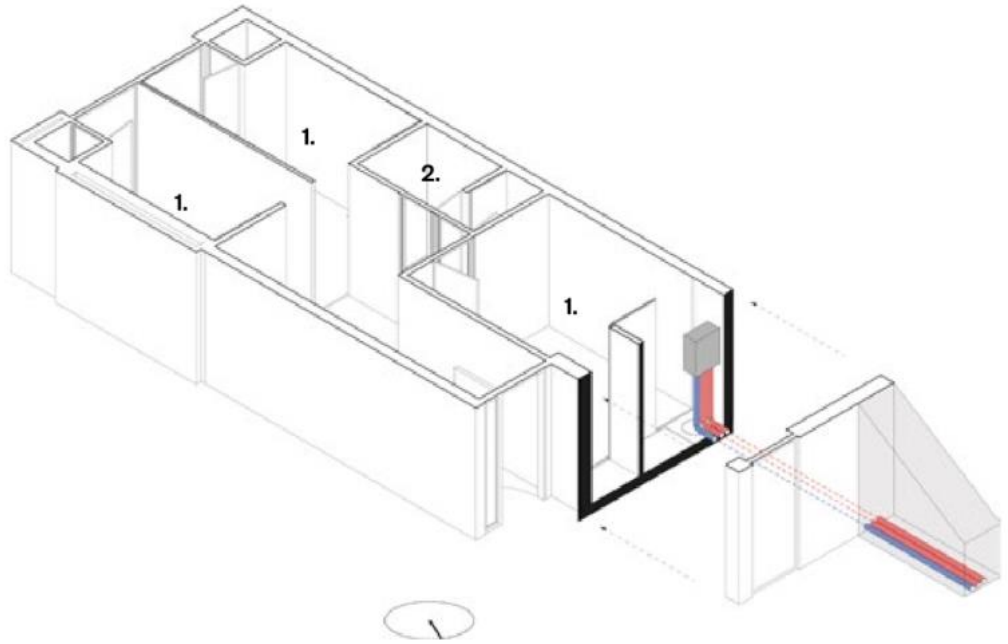
Block B cross section



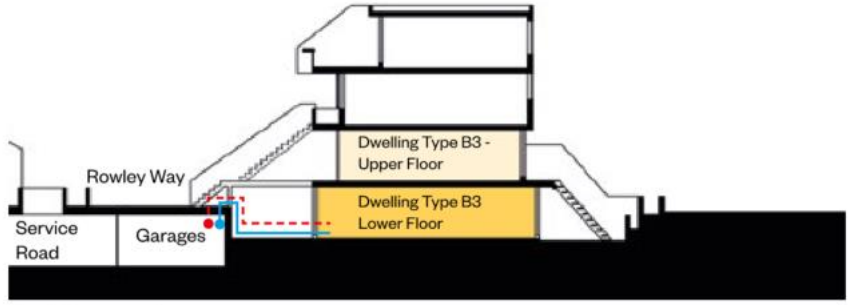
Dwelling Type B3 - Lower Plan

1. Bedroom
2. Bathroom

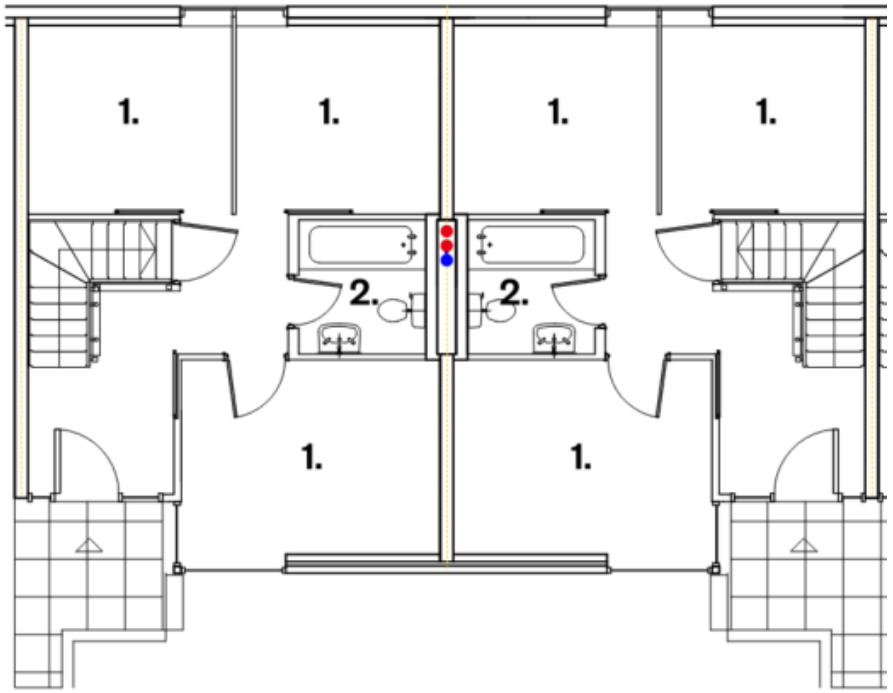
Heat interface unit
Mains cold water supply
Heating pipes
Party Wall



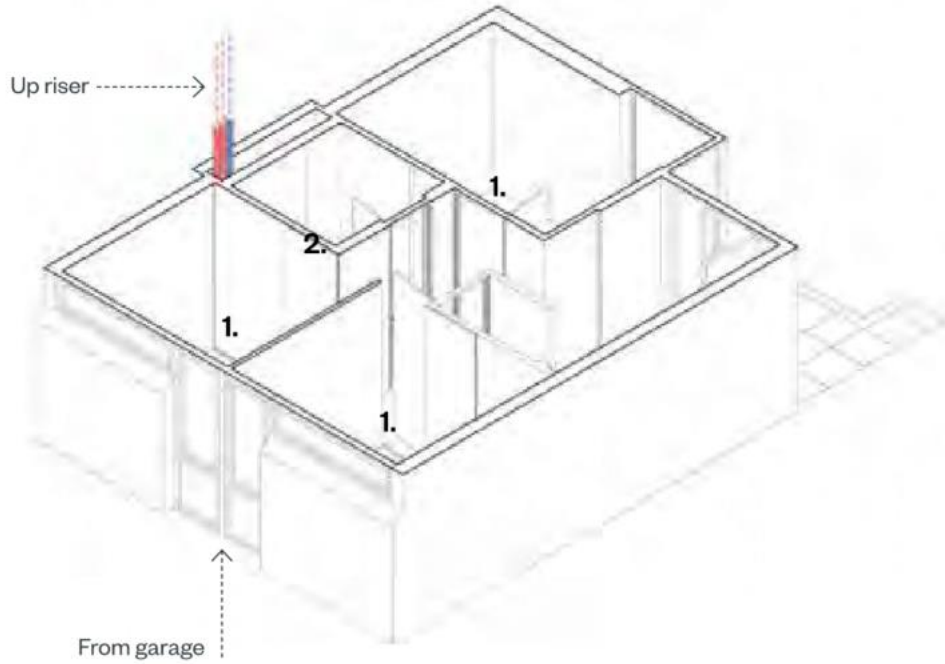
Dwelling Type B3 lower plan- 3D Sectional View A



Block B cross section



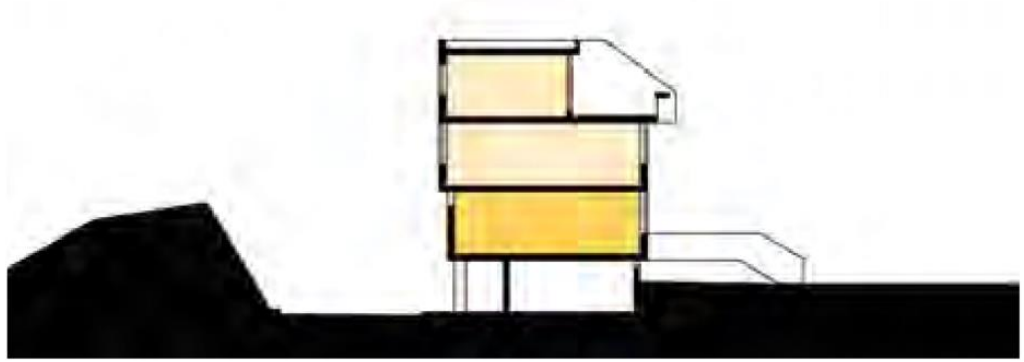
Dwelling Type C4 - Ground Floor Plan



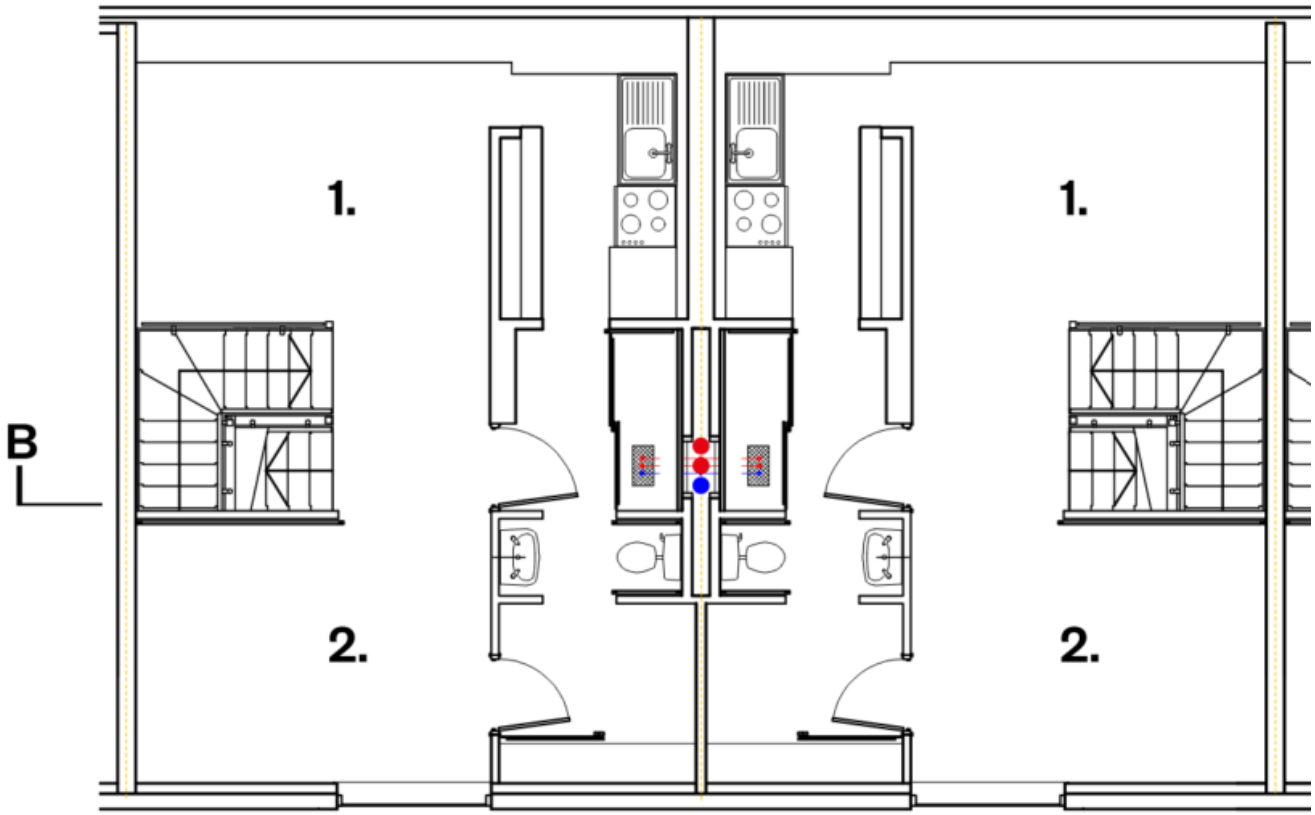
Dwelling Type C4 lower plan- 3D View

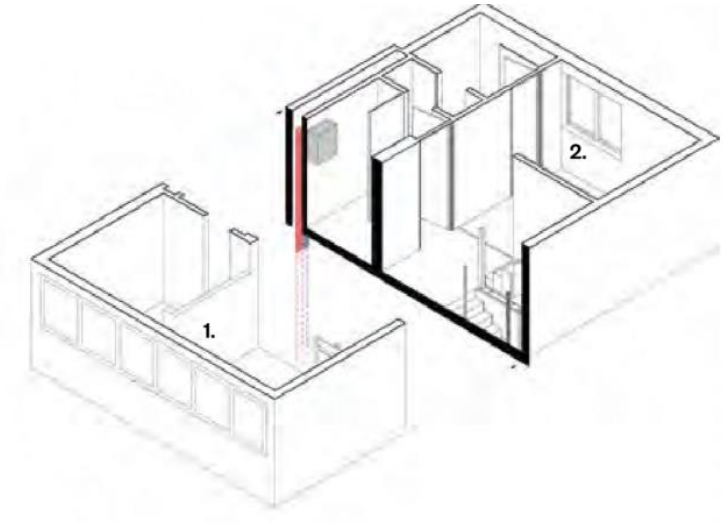
1. Bedroom
2. Bathroom

Mains cold water supply
Heating pipes
Party Wall



Block C cross section





Dwelling Type C4 first floor plan- 3D sectional view

Dwelling Type C4 - first floor Plan

Heat interface unit
Mains cold water supply
Heating pipes
Party Wall

1. Kitchen/Dining
2. Living Room