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# Social Housing Retrofit in a Heritage Conservation Area

Case study

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# Contents

Contents .....	2
Summary .....	3
Project context.....	4
Heritage constraints .....	4
Trialling a solution .....	5
Collaborative working .....	7

# Summary

Planning constraints affecting heritage buildings are often seen as a barrier to delivering funded housing retrofit projects. This case study demonstrates how one project team navigated this challenging context successfully, to deliver housing retrofits in Letchworth conservation area, Hertfordshire. It aims to share insights, good practices, and lessons learned from relevant retrofit, sustainability and warm homes projects. It is intended for informational purposes only and does not constitute recommendations or endorsements of specific suppliers, products, or services within the sector.

As the world's first garden city, the character of the town and its buildings are additionally protected by the way the Letchworth Garden City Heritage Foundation (LGCHF) manages leases and freeholds in the area. The retrofit solutions discussed in this case study therefore had to comply with the LGCHF's heritage requirements alongside PAS 2035, while also achieving the energy efficiency targets and delivery deadlines needed to secure funding.

Several of the management methods and processes adopted by LGCHF are comparable to the local authority listed building consent system. This case study should therefore be useful to anyone taking steps to retrofit protected heritage buildings, particularly where there is a need to comply with PAS 2035 and other funding requirements.

## Project overview

- **Client:** settle is a registered housing provider providing services to more than 23,000 residents in over 10,000 homes across Hertfordshire, Bedfordshire, Buckinghamshire and South Bedfordshire
- **Retrofit designer:** Ambue is a retrofit designer that specialises in helping social housing providers comply with PAS 2035 while making their stock more energy efficient
- **Retrofit contractor:** Wates is a major contractor operating across several sectors, including heritage, public sector and residential. The company had previously undertaken a refurbishment contract for settle, before being asked to work on retrofit
- **Heritage constraint:** The properties are in the Letchworth conservation area. They are also affected by a Scheme of Management established under the Leasehold Reform Act (LRA) 1967, which means most property owners in Letchworth Garden City have to apply to LGCHF to make changes to their property. There are many other examples of such schemes across the country. In the southeast these include, Hampstead Garden Suburb, the Dulwich and Grosvenor Estates, which were all introduced under LRA legislation

# Project context

In 2021, settle joined forces with two other sustainability-focused housing associations, B3Living and Watford Community Housing. Together they established Greener Herts, which was joined by Dacorum Borough Council in 2022. This consortium of four housing providers was successful in applying for over £40 million of Social Housing Decarbonisation Funds (SHDF), under wave 2.1. This would improve over 1,500 properties across the four organisations in the consortium.

As with all projects funded under SHDF wave 2.1, this meant that the following conditions applied:

- The timescales were demanding. The funding award was made in March 2023, with all grant funded works complete by March 2025 and projects completed (through cofunding) by September 2025
- Projects had to comply with PAS 2035, as well as normal planning and building regulations
- Where possible, retrofit designs should prioritise fabric first works such as insulation and ventilation

## Heritage constraints

Nearly 50 of the properties within scope of settle's project were identified as having heritage interest, as part of the Letchworth conservation area and Letchworth Garden City heritage character area. Built of solid walled masonry, these properties would require external wall insulation (EWI) to meet the funding requirements around fabric first measures<sup>1</sup>, while reducing residents use of energy as much as possible. Because the EWI would expand the perimeter of the main building, it would be necessary to alter other building elements such as the roofline and windows so that they continued to dispel rainwater effectively. Altogether, this combination of measures (EWI, roof and window alterations) would 'materially affect the external appearance' of the building.

LGCHF's Schedule of Management is available online and states clearly that works that will 'materially affect the external appearance' (see figures 1 below for further details) of buildings require written consent. Like comparable listed building consents, this is normally provided on the basis of approved plans, scale drawings and specifications. Further, the Schedule of Management states that works should be carried out in 'a workmanlike manner with sound and proper materials'. This all meant that the works would require written consent before commencement, which in turn necessitated plans, scale drawings, specifications, proper materials and a workmanlike approach.

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<sup>1</sup> With their large surface area, wall typically lose more heat and energy than any other building element and so are often a priority for fabric first measures.

Works typically requiring LGCHF's written consent	
Balconies	Porches
Conservatories	<i>Roof alternations</i>
Extensions	<i>Solar/PV panels</i>
Flues/chimneys	Door replacements
Frontage hardstandings	Frontage alterations (including hedges, fencing, gates)
Garages	<i>Replacement windows</i>
Loft conversions	<i>Re-roofing</i>
Outbuildings	Satellite dishes

Figure 1 shows the works requiring written consent from LGCHF (*italic indicates where they were included in settle's project*). Source: LGCHF.

Once the need for written consent and the processes around obtaining it had been established, the project team could set about detailing technical design solutions. Fortunately, the LGCHF's heritage character area brochure provides guidance. It says that deep external wall cladding will only be supported when:

- the detailing and features of the property, including the brick and render finish, string courses, window and door reveals, are maintained or carefully recreated;
- the house is detached;
- all of the properties in a pair of semi-detached, terrace or group, collectively and simultaneously implement the works

The settle properties were largely finished with a 40mm concrete roughcast render, which created narrow window reveals and sat alongside details like tile crease drip courses over the windows. As LGCHF were keen to protect these details as well as the rough texture of the render, a solution that maintained the depth and appearance of the roughcast render had to be found.

## Trialling a solution

The project team realised straightway that, at 116mm thick, the Weber M2 EWI solution they would normally use for solid walled rendered buildings would not protect the properties' details. The retrofit coordinator suggested using Diathonite, an Italian lime-based render with cork insulation that could be applied in three 20mm coats, thereby allowing the final depth of the render to be carefully managed. Between November 2023 and April 2024, a pilot of two properties were treated with a hybrid of Diathonite on the street-facing elevations, with Weber M2 on the rears (see figure 2 for before and after images of the properties selected).



Figure 2 shows the property before works (above) and after (below). Source: Wates.

A key element of the pilot was to comply with PAS 2035 while also navigating heritage constraints effectively. This is because there were concerns that Diathonite, as a building product rather than a system, would not qualify for the insurance-backed guarantee required by TrustMark (and therefore needed for PAS 2035 compliance). These concerns were allayed in part by the use of the hybrid system: Diathonite on the front and side elevations would protect the character of the buildings, while the 110M M2 roughcast on the rears would be lodged on TrustMark as a measure. This element would then comply with PAS 2035 and be eligible for SHDF support.

As part of designing the above solution, the team assessed the heat loss characteristics of the different building elements in order to calculate their u-values and set energy efficiency performance targets. Although the properties achieved the required u-values and heat loss targets, the Diathonite solution was ultimately considered too expensive to take forward as part of the project. However, the pilot was successful in that LGCHF approved a lower cost Weber alternative that was also 60mm in depth.

# Collaborative working

The eventual approval from LGCHF to use a 60mm Weber system for the street-facing elevation demonstrates the effectiveness of the team's collaborative approach. As well as providing the information required for consent applications (plans and elevation drawings at 1:50 scale, details at 1:10, and specification [all figure 3]), the site was visited regularly by LGCHF for consultations on the procurement of materials, drying times, and overall finish (figure 4). The approach taken here can therefore be seen as a successful way to navigate the heritage planning constraints while complying with PAS 2035.

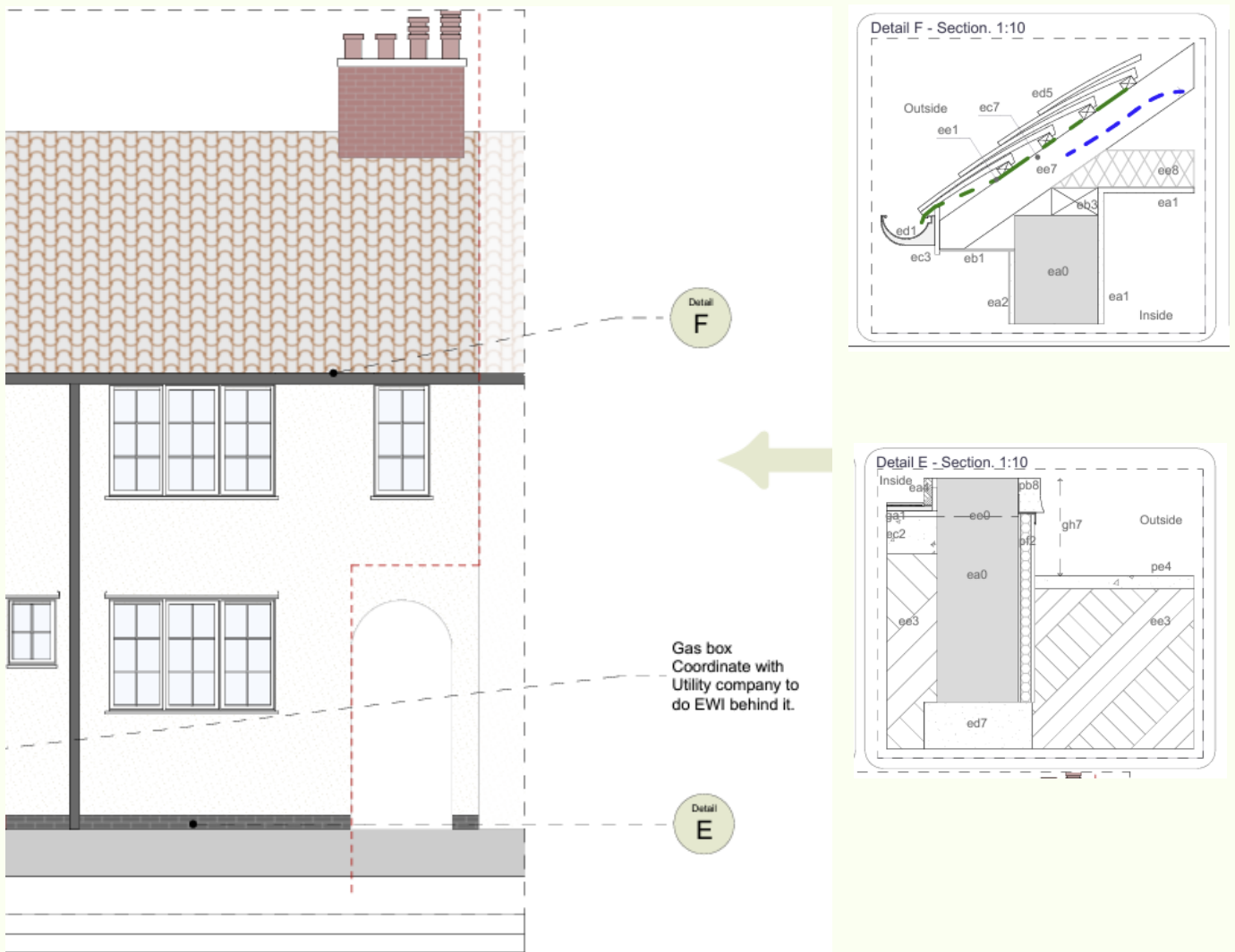


Figure 3 shows a sample of the technical elevation and detail drawings provided to LGCHF as part of the application for consent. Source: Ambue.



Figure 4 shows three inspection stages during the materials' application. Top is after the original render's removal, middle is after one coat of Diathonite, and bottom is the final finish. Source: Wates and Ambue.