

Gap House

Design Summary

07.07.26: Civic Society Awards

Hello from BDP.

**We design a world
that's built for good.**



The Team



Project data

Location: Bell Close, Bristol

Start on site: April 2024

Completion: July 2025

Gross internal floor area: 48.8m² (per unit)

Form of contract: Two-stage Design and Build

Architect: BDP

Client: Bristol City Council

Structural engineer: Craddys

SIPs supplier/specialist consultant: Etopia

Quantity surveyor: RLB

Landscape consultant: BDP

Acoustic consultant: BDP

Project manager: RLB

Principal designer: RLB

Main contractor: Beard



Martin Jones
Landscape
Architect Director

**Describe
Gap House
in one word.**

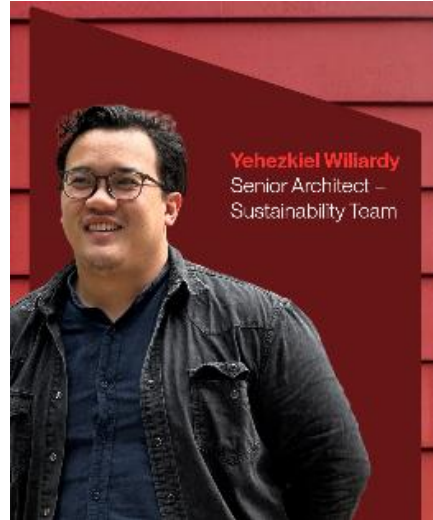
Pride.



Peter Sudnik
Senior Architectural
Designer

**Describe
Gap House
in one word.**

Transformative.



Yehezkiel Willardy
Senior Architect –
Sustainability Team



Rula Tuffaha
Architect Assistant

**What role does
outdoor space play
in small housing
developments like
this?**

Outdoor space needs to perform numerous roles, unlocking access, maintain privacy and encourage social interaction.

**What's one detail
in the finished
homes you're
most proud of?**

I am most proud of how the homes balance efficiency with a clear sense of spaciousness, despite their compact footprint. The careful integration of spatial planning, natural light, and a strong connection to the exterior is central to the design, and seeing these elements come together in the final proposal was particularly rewarding.

**Describe Gap
House in one word:**

Regenerative.

INCEPTION

An understanding of both where we have come from, as well as where ideas, expertise, proposals and intelligence begin. Delving into the core problem and opportunity in any project, delivering great design that has the potential to create a better future.

Gap House, Bristol

An eco-home concept design utilising small urban spaces, such as garage plots.

Gap House was launched at the Bristol Housing Festival in 2019. The pre-application has been submitted to Bristol City Council with full planning application due to go in May 2021.

Gap House is a contemporary, cost-effective eco-home concept, designed to fit onto urban garage plots. Standardised elements and factory production allow these homes to be produced in volume off-site, reducing disruption to neighbourhoods. Super-insulated it will have minimal energy requirements for heating. Large windows provide ample daylighting, supplemented by low energy lighting. Renewable energy with solar PVs and air source heat pump contribute to very low running cost. Clean lines and fresh open

plan interiors relate to the changing ways of city living and aesthetics of a new generation. The ideal Gap House sites are typically urban constrained back-land plots, set within existing neighbourhoods. Disused garage plots on housing estates have fallen into disrepair, becoming a magnet for anti-social behaviour. Placing these new, attractive and carefully designed houses in their place will not only help deliver much-needed homes, it will also bring new energy and life, revitalising

neighbourhoods and help to build stronger, more resilient communities. Efficient planning maximises living space. Windows face away from neighbours. Roof dips to reduce visual impact and relate to orientation. The advent of electric vehicles and autonomous transportation changes the way we live and open up opportunities in our cities. One of these is to be found in the pockets of garages in purpose built estates, many in public bodies ownership and a difficult portfolio to maintain.



**HOUSING
FESTIVAL**

2018

BRISTOL HOUSING FESTIVAL

Bristol Housing festival was set up to inspire, create and celebrate progress in housing. Like many cities around the world, Bristol is facing a housing crisis, climate and ecological emergencies and a construction skills shortage. Our pilot festival - Bristol Housing Festival - has created a powerful context to help Bristol engage with systemic innovation. Find out more about our work in Bristol below (use the arrows to scroll through).



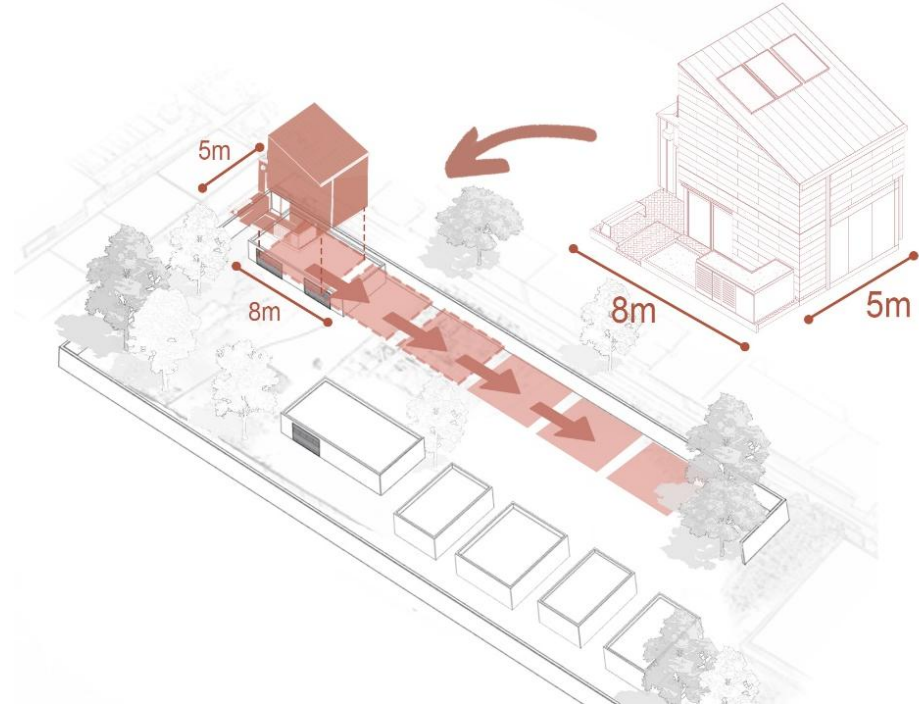
**Innovate
UK**



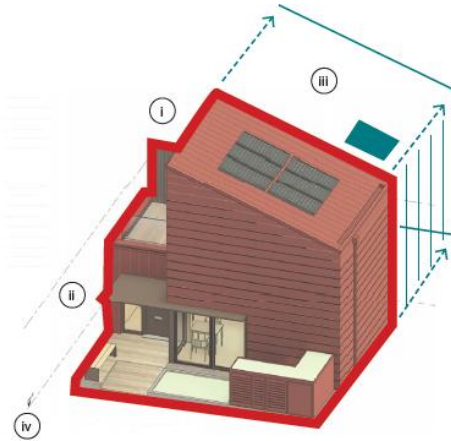
The Vision

An innovative eco-home, designed in a cluster that creates a small community. Smart design makes the best use of space, ample daylight making spaces healthy and feel generous. This is modern living where low energy use, on demand electric vehicles, green oasis and neighbourliness are important to the occupants

The Garage Site Concept



Transferable Design



Our approach to Molesworth Drive. Red outline for the original GAP house, blue outline for a 'Stretched Variant'.

- ① Existing access to adjacent rear gardens safeguarded.
- ② Integration of turning head for large vehicle.
- ③ Buildings orientated to create south-facing streets to bring in lots of natural daylight. Opportunity for allotments & promoting neighbour interaction.
- ④ 'Stretched variant' used for central row to maximise capacity of site & increase active frontages. This is also creates more thermally efficient homes due to a smaller amount of external façades.
- ⑤ Roof pitches are orientated to maximise the south facing sun for PV panels.
- ⑥ Ground floor corner windows orientated to avoid straight-on views to opposing house.
- ⑦ Existing access to sub-station retained.



Constrained access to Molesworth site - an early Stage 1 RSA will help determine the scope of works required.

INCLUSION

From our beginnings in the 1960s we've always placed a huge amount of importance on social value and collaboration. We think of 'inclusion' both internally and externally – welcoming people into our community from all over the world and involving clients and end user voices in all parts of our process.

One of Many



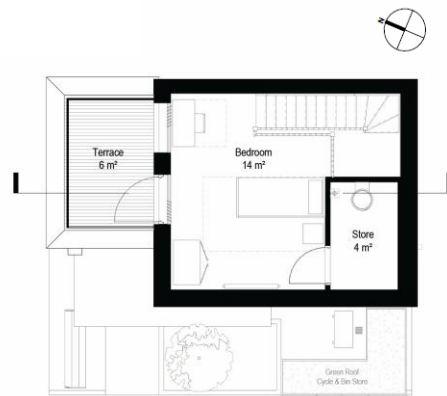
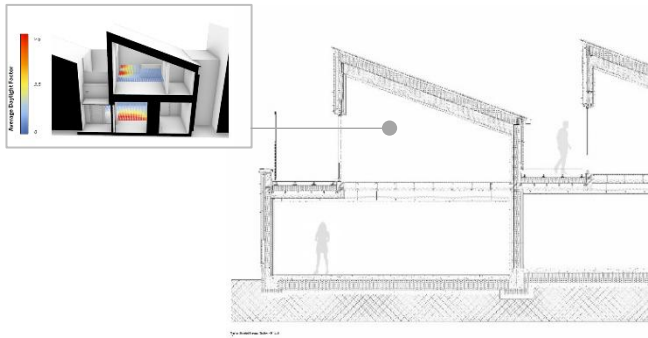
The Site



An aerial perspective of a modern residential development. In the foreground, a row of five red brick houses with flat roofs and large, dark-framed windows is visible. These houses are situated along a paved walkway or road. Behind them, a green lawn area is interspersed with trees and shrubs. In the background, several white, rectangular buildings are visible, suggesting a larger development or a different type of housing. The overall scene is well-maintained and green.



Building Plan & Section





IMPACT

The impact our work is having on the environment is a huge focus for us – we want our work to impact as little as possible and last as long as possible.

This flows through parts of our business, from the design and delivery of our spaces, to how we all act when we're at work. We show up daily, mindful of our impact.

Unlocking the future of small-site housing

The UK's housing crisis remains acute today, driven not only by a shortage of homes but by persistent affordability pressures, uneven quality, and long-standing systemic barriers.

Written by:



Nick Fairham
Chief Executive

This challenge is far from unique: globally, an estimated **2.8 billion people** lack access to adequate housing, according to UN-Habitat – a stark reminder that the crisis is not simply one of insufficient buildings, but of deep structural inequality and affordability. Meeting the scale of need by 2030 will require approaches that are faster, smarter, and more efficient than today's norms.

Against this backdrop, the **Gap House Project** offers an important glimpse of what the future of small-site housing could look like. Developed by Bristol City Council on a former garage plot at Bell Close, the scheme delivered nine high-quality, low-carbon one-bedroom homes for social rent, just a ten-minute walk from Southmead Hospital. Designed for constrained brownfield and infill locations, the Gap House typology demonstrates how modern methods of construction (MMC), in this case Etopia's large-format SIPs panels, enable precision-built homes manufactured in high-tech factories and assembled rapidly on site.





Sustainability

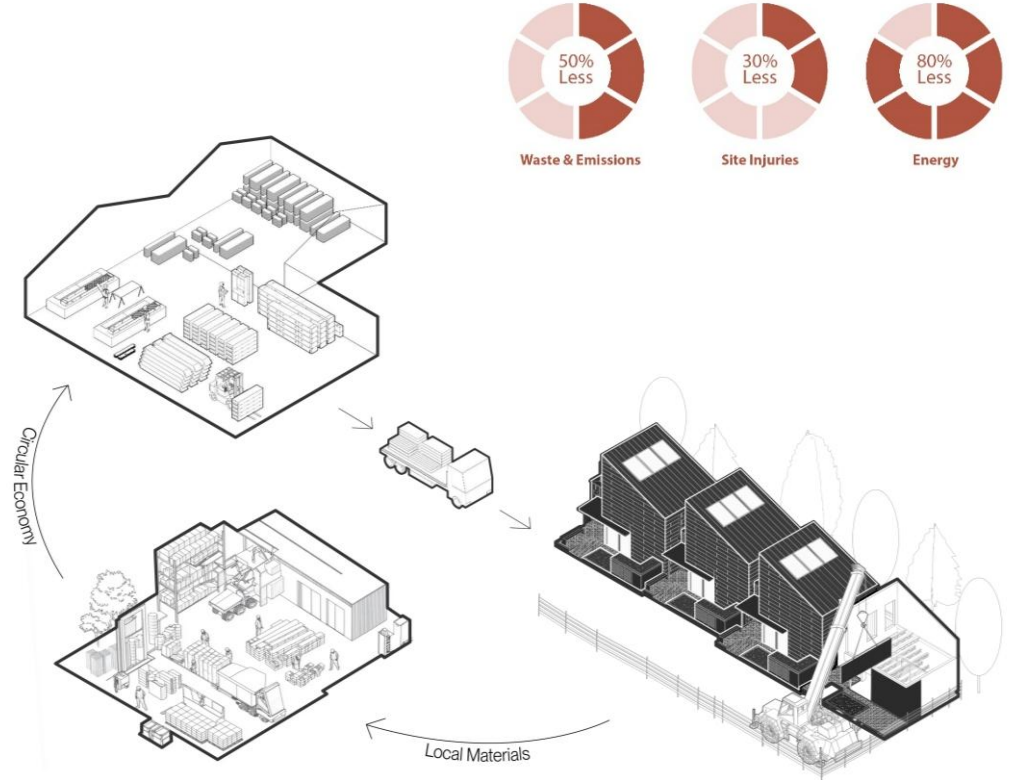


- **80%** reduction in annual carbon emissions through air source heat pump and photovoltaic technology
- **LETI Band C embodied carbon:** A1-A5 embodied carbon – reflecting innovative structural strategy.
- **105 litres/person/day:** Water use – efficient without compromising comfort.
- **1 kWp PV system per dwelling:** Renewable energy generation embedded into compact urban form.
- **950 kWh/year:** Annual renewable energy output expected.

INNOVATION

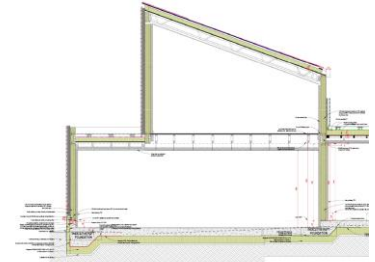
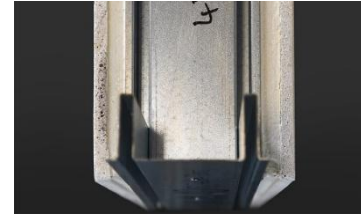
All great design relies on innovation. It's central to who we are as a culture. We look for innovation in every part of our behaviour – in how we educate and consult, how we inform and inspire each other, how we design and deliver what we make.

Embedded MMC





Technical Delivery - Specialist Input from 'day 1'

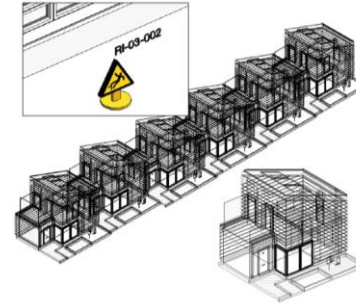


Digital Technology

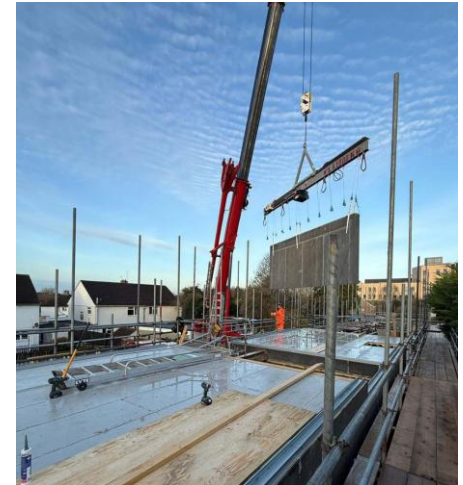
- Revit model from **cradle to grave** –
“**design to manufacture**”
- Etopia panel model with **automated**
panel size optimisation



Construction



- Weather tight in 5 days
- No accidents



MMC Playbook

SOCIAL RENT HOUSING AT PACE: THE MMC PLAYBOOK

A Playbook for local authorities

May 2024



HO
FE

THE ECOSYSTEM SOLUTION

1. Building homes in a new way

The opportunity for the public sector to incubate a new supply chain of factory-manufactured housing to accelerate delivery.



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..what's next

Industry Feedback & Recognition

"The council welcomes the progress of these innovative new homes for social rent, which will help meet housing need in the city. Utilising small pieces of brownfield land to deliver much needed affordable homes is a priority for the council and the learning from this, and other similar projects, will help us make better use of our smaller sites for affordable housing delivery."

Councillor Barry Parsons, Chair of the Homes and Housing Delivery Committee at Bristol City Council,

*"The panel was particularly impressed by:
The clarity of the architectural concept, legibility, and innovative design approach to a key issue of our generation, and the way the project contributes meaningfully to the quality of Bristol's built environment."*



BUILDING STUDY

Building in Backlands: Gap House by BDP

BDP turned to modern methods of construction (MMC) and a structural insulated panel system with high thermal performance to deliver this development of nine sustainable, affordable homes on a tight former garage plot in Bristol. Photography by Kathy Coley and Wayne Sargent

30 JANUARY 2026 • BY ROB WILSON

Driving through the Horfield area of Bristol, the immediate horizon is dominated by the bulk of Southmead Hospital's BDP-designed Brunel building, a £430 million, 800-bed facility which opened in 2014. Around it are streets and closes of mostly suburban-style, two-storey housing in semi-detached pairs or short terraces, dating from the 1930s to

 Architects' Journal



Post Occupation Evaluation

Bell Close Lessons Learnt

01

Partner Early

03

Detailed Site Surveys

05

Planning & Logistics

02

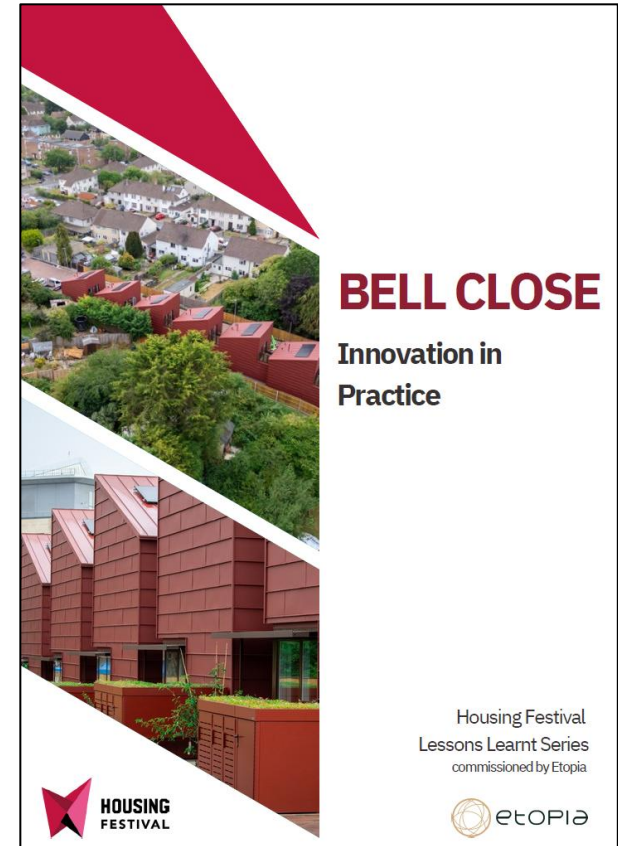
Collaborative Design Approach

04

Consult Early

06

Route to Compliance



Small Sites Aggregator Programme



Small Sites Accelerator programme

The **Small Sites Accelerator programme** is a government initiative aimed at unlocking the potential of small, brownfield sites in urban areas to create new homes. This program, piloted in Bristol, Sheffield, and Lewisham, seeks to address the challenges of developing these sites and is part of a broader effort to deliver over 10,000 homes a year across the UK. The initiative involves a public-private partnership to create a stable pipeline of sites, attract private capital, and support local jobs. It is a response to the housing crisis and aims to provide affordable and social housing solutions.

⇨ Lloyds Banking Group +2

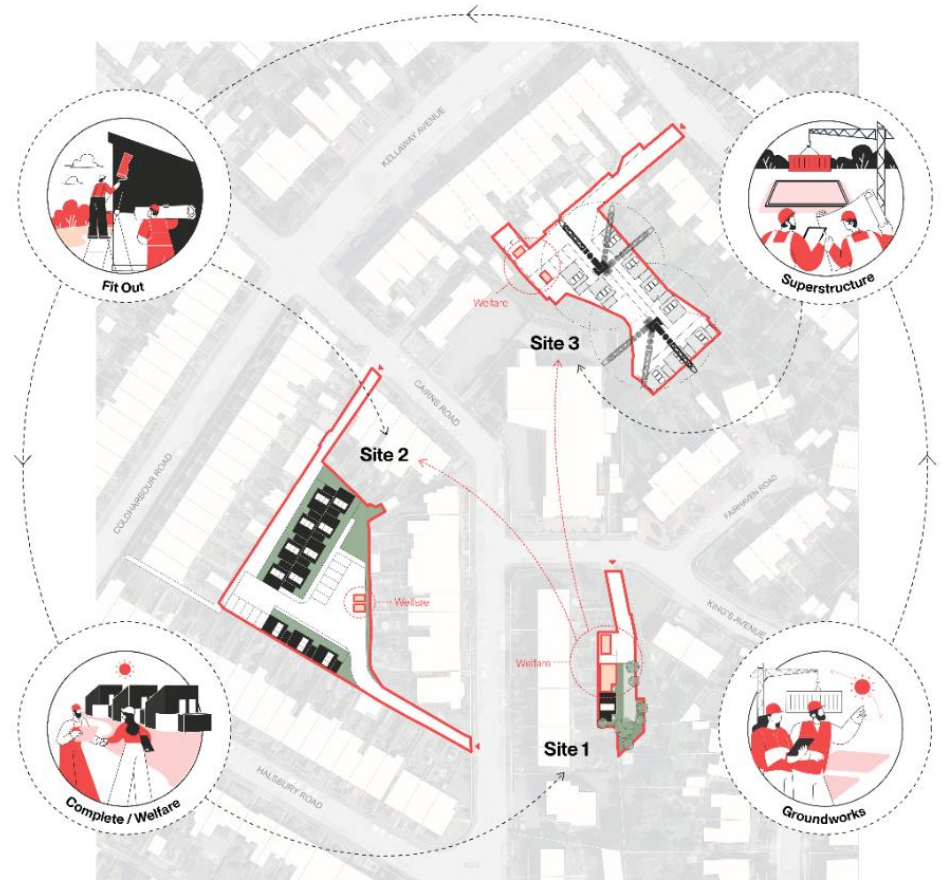


Design for Manufacture & Assembly (DfMA)



Construction planning and execution:

- The sites will be developed together
- Each site will be one step ahead of the last, allowing trades to move from one site to the other
- Phased completion of the sites



Optimized Solutions



2 Bedroom Version



