T +44 (0)203 983 3114 E projects@zedpods.com W www.zedpods.com

Case Study — Marshall Walk, Bristol

A social housing development of 12 zero-operational-carbon homes

Client: Bristol City Council
Location: Marshall Walk, Inns Court, Bristol BS4 1TR
Delivery Partner: ZED PODS Ltd
Status: Completed (Mid July 2025)
Homes Delivered: 12 x 1B1P zero-operational-carbon modular homes
Delivery Model: Volumetric Modern Methods of Construction (Category 1)

Work in partnership with

Introduction

Marshall Walk is a pioneering social housing development in the heart of Inns Court, Bristol, delivered by ZED PODS in partnership with Bristol City Council (BCC). The project provides 12 1B1P (37 m^2) high-quality, zero-operational-carbon homes for single-person households, including half for single homeless people. Contributing directly to BCC's Affordable Housing Delivery Plan and its Corporate Strategy. The homes are funded through the council's Housing Revenue Account and Homes England and designed to support temporary, move-on and long-term housing needs for single person households.


Before: brownfield plot

The development is located on a long-underutilised brownfield plot adjacent to the Inns Court Community and Family Centre. The scheme was granted planning consent in 2022.

In early 2024, ZED PODS was appointed under the SWPA framework to take the project through to completion using a full turnkey MMC approach.

Site area (m^2)	1,200
Unit type	1B1P
Unit GIA (m^2)	37
No. of dwellings	12
Total GIFA (m^2)	567.6
No. of PV	84
No. of heatpump	12

T +44 (0)203 983 3114 E projects@zedpods.com W www.zedpods.com

Overcoming Site Barriers

The project site presented several physical, logistical, and contextual challenges. Three-quarters of the plot consisted of hardstanding concrete, with the remaining portion containing two mature trees and uneven grassland. The site sits at a junction between residential back gardens, a community centre, and local shops with flats above—creating sensitivity around privacy, overshadowing, and massing.

Topographically, the land slopes from north to south, resulting in a step change in level from the street to the build area. To address this, the ZED PODS in-house design team developed a stepped modular layout, adjusting building heights in 225mm increments to match the natural gradient. This approach reduced the perceived height of the blocks and resolved access challenges.

Another major constraint was the risk of overlooking and overshadowing. ZED PODS inhouse architects adapted the window placement and roof pitch to reduce the impact on adjacent properties while enhancing natural daylight within homes. The overall building height was lowered by 330mm through an adjusted roof pitch (reduced from 22° to 15°), which also enabled the offsite modules to be transported safely on local roads, in compliance with height restrictions.

Given the constrained nature of the plot and its location within a car-free community, the scheme includes a single designated disabled parking space. It also promotes active travel by providing two large secure cycle stores, walkable access to local shops and bus routes, and well-lit pedestrian pathways—addressing mobility needs with minimal environmental impact.

T +44 (0)203 983 3114 E projects@zedpods.com W www.zedpods.com

Design Adaptation and Offsite Delivery

ZED PODS inhouse team inherited a planning-approved scheme which required some reworking to suit ZED PODS specific modulous system. The inhouse architectural team undertook a full technical review, revising the scheme to meet the demands of offsite delivery while maintaining the approved site footprint and key planning principles. This included enhancements to meet the latest thermal performance standards and full NDSS compliance.

Several refinements were made through a Non-Material Amendment (NMA) application, which was validated in March 2024. These changes were critical to unlocking the scheme and a redesign of the mono-pitched roof to allow complete volumetric modules to be transported to the site. Despite these changes, generous internal ceiling heights of 2.5–2.6m were retained across all homes, preserving spatial quality.

The window placements were also revised to optimise internal daylighting, provide better symmetry on gable elevations, and reduce the risk of overlooking neighbouring gardens. Obscure-glazed windows were introduced at the rear of each unit to brighten internal corridors. Material specifications were updated, replacing timber-effect doors with anthracite grey, triple-glazed high-performance units to align with ZED PODS' sustainability objectives and manufacturing capabilities.

A key sustainability intervention was the expansion of the solar PV array. Originally designed with 3 panels per roof, the new configuration allows 14 panels per building, with each home now benefiting from 7 panels generating up to **3,000** kWh of clean electricity annually — a major step towards net zero operational carbon.

Placemaking and Urban Integration

The site is situated at a junction between residential gardens, local shops with dwellings above, and a vibrant community centre. It is characterised by a steep north-south slope and a history of underutilisation. The revised design respects these site contextual constraints while contributing to the revitalisation of the wider area.

The stepped form of the modular blocks follows the existing site gradient in 225mm increments, softening the development's mass and reducing visual impact. The homes are oriented north-east to south-west to maximise solar gain and mitigate overlooking issues. Externally, the use of red brick and metal cladding creates a contemporary aesthetic that complements both the surrounding residential stock and the adjacent community building.

To enhance the sense of place and foster neighbourly interaction, ground-floor homes feature defensible space with low walls and railings, while first-floor units are accessed via private external staircases. Landscaped areas to the west provide semi-private spaces for residents, while the northern and southern boundaries include soft landscaping open to the wider public realm.

No car parking was provided on-site, as the homes are intended for non-car-owning residents. The site's strong pedestrian connectivity and access to local amenities support this car-free approach and align with BCC's sustainability and transport priorities.

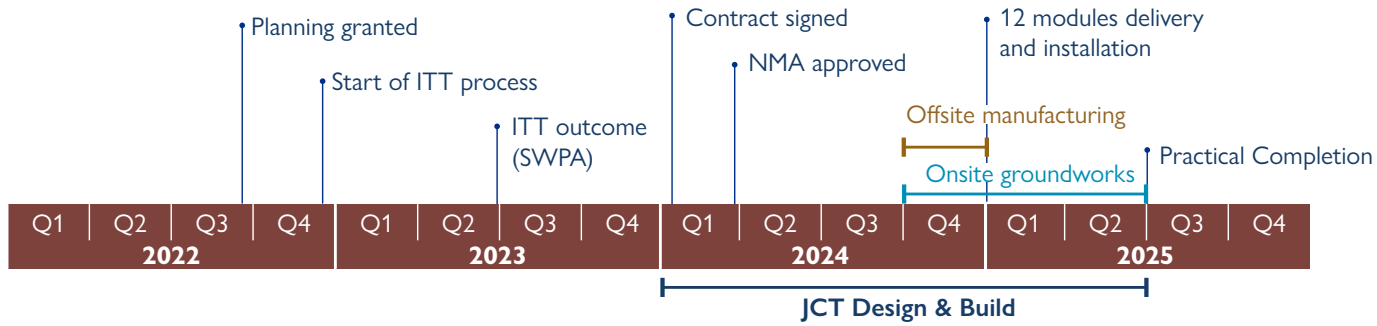
T +44 (0)203 983 3114 E projects@zedpods.com W www.zedpods.com

Construction Progress and Outcomes

Following design finalisation and contract signing in early 2024, ZED PODS began groundworks in November 2024. As with many constrained brownfield sites, coordinating utility diversions has been a key challenge.

Simultaneously, the fully finished modules were being manufactured offsite in BOPAS-certified facility in Peterborough. The modules were craned into place in January 2025, with project completion in July 2025 - demonstrating the time efficiency of volumetric construction.

ZED PODS' integrated delivery model has not only accelerated programme timelines but also enabled greater quality control, reduced onsite disruption, and lowered embodied carbon.



Social Impact

The company exceeded its contracted social value obligations by delivering **115%** of its target, including reduced carbon emissions, maximise recycling of construction waste, use of local supply chain, well-being & training initiatives, local skills and employment support.

In addition, we are an approved supplier of the Prisoners Building Homes Programme (PBH), national scheme to up skill prisoners, help them access employment after release, enable them to turn their lives around and reduce the cycle of re-offending. The day-release prisoners earn Living Wage & pay tax, NI and victim support contribution. Their remaining wage allows them to support their families / post release resettlement cost (e.g. rent/deposit to access PRS). Under this program, 12 day release prisoners commute daily to our manufacturing facility to work & train on this project along with our workforce. The cohort achieved less than 3% re-offending rate (as compared to national average of 25%+), saving UK taxpayers **£1.4** million on reduced recidivism. To date, **31** day-release prisoners have been supported in our factory, making us the largest employer under the PBH program.

Conclusion

Marshall Walk showcases the potential of MMC to unlock difficult urban sites and deliver future-proof, social-rented homes at pace. By re-imagining a dormant plot through high-performance modular design, ZED PODS and Bristol City Council have created a low-carbon, high-quality housing scheme that reflects local context, supports community integration, and exemplifies the next generation of sustainable social housing.

This project is a testament to collaborative working, precision offsite manufacturing, and architectural adaptation and sets a replicable model for similar urban infill schemes across the UK.