



PRESS ENQUIRIES
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KnoxBhavan

PRESS RELEASE

THREEFOLD HOUSE

TEDDINGTON, LONDON

08/2023

Winner of an RIBA London Award 2023, Threefold House is a new-build house in Teddington, south-west London. KnoxBhavan has transformed an awkward landlocked triangular plot in a cul-de-sac into a low-energy, single-family dwelling with three courtyards. Referred to as Threefold House in recognition of the building's origami-inspired assemblage of geometrical planes, the bright and airy house with its lushly planted courtyards has given a second life to a brownfield site formerly occupied by a disused warehouse.

Restricted access made the 450m² site unsuitable for industrial use and for local housing associations, and presented various challenges. A new 2.5 metre-high brick perimeter wall has been built on the site boundary, echoing the old warehouse wall. Concealed behind it sit three courtyards surrounded by single-storey accommodation, with a discrete two-storey section bordering the street. The single-storey brick construction is tucked below and behind the top of the parapet wall, hiding the living spaces from the street. The eaves and roof of the new house reflect the levels of the adjacent terraced houses, so that the new development sits comfortably within the cul-de-sac. The geometry of the house, with carefully located windows, facilitates extended views through rooms from one courtyard to another.

The client, a couple returning to the UK from 27 years overseas, commissioned the house as a home to retire in, seeking a design that would be comfortable for them to live in as a couple and large enough to accommodate the whole family when reunited. The principal rooms, including the living spaces and master bedroom, are all located at ground-level, and interspersed with gardens, to enable ageing-in-place. In addition to the kitchen, dining and living room, the ground floor also includes a pantry, utility room and study. A first floor comprising three bedrooms for guests and returning children, two bathrooms and a double-height space, functions as discrete accommodation which can easily be closed off from the rest of the house. This spatial strategy is programmatically and environmentally driven, conserving energy when the upper floor is not in use.

The main living areas have been built around three strategically positioned courtyards of different shapes and sizes. These distinctively planted courtyards provide daylight, naturally-ventilated verdant spaces to relax in. The courtyard at the apex of the triangle serves as a private garden for the principal bedroom and is planted with magnolia and a Japanese maple. In the centre of the house, a small rhombus-shaped courtyard of white glazed brick planted with ferns and a tree fern, provides a focus for the front hall and study, and an outlook from the main living space. At the wide end of the triangle, a generous trapezoidal courtyard provides a more formal, larger south-facing garden with a patio accessed from the sitting room. A garage and potting area sit on the other side of this largest courtyard, creating privacy from neighbours on the south side.

From the street, the perforated garden wall reveals glimpses and sounds of the first courtyard and its water feature. Further openings allow a view through the high entry hall to the second courtyard. Two slot windows provide small breaks in the solid wall.

Built by local contractor Analytic, the house is constructed from a lightweight steel frame and engineered concrete slab with a timber-framed volume forming the upper floor. Separated from the boundary wall by a narrow clerestory, the upper floor is clad in dark-coloured zinc, with carefully set out standing seams. Each seam runs in the same plane continuously, from the external street-facing wall, up and over the pitched roof, and down onto the adjoining roof of the living room. The effect is that of a chamfered, zinc-clad box floating above the wall.

KnoxBhavan has adopted a fabric first approach, specifying high levels of continuous insulation and airtight membranes to create a warm airtight envelope. Other energy-efficient strategies include photovoltaics integrated into the zinc roof to power an air source heat pump and an electric car charger, a timber brise soleil to prevent overheating, and a green roof to provide urban cooling. A highly efficient build was achieved by creating a 1:1 BIM model. Maintenance demands are reduced by the use of self-finishing, hard-wearing cladding and flooring materials, materials which will stand the test of time, reducing the whole life carbon of the building.

While the project was designed ahead of the RIBA 2030 Climate Challenge, the potable water use (estimated 106.5 l/p/day), the operational energy use (estimated 49.6 kWh/m²/yr) and the whole building embodied carbon (481 kgCO₂eq/m² cradle-PC) are commensurate with the 2025 targets. Threefold House is an exemplar project of low-carbon design, reimagining a challenging brownfield site and outlining a path to realising the ambitions of the 2030 Climate Challenge.

The three planted courtyards have a dual purpose: in addition to providing visual amenity and recreational space for the owners, they provide urban cooling, improve biodiversity and create new habitats for wildlife. The planting and landscape, delivered in collaboration with David Robinson Garden Design, includes a variety of species to create a unique character for each courtyard, dramatically improving the ecology of a formerly barren brownfield site.

Simon Knox, Director, KnoxBhavan, said:

“This development illustrates how a redundant and challenging odd-shaped brownfield site can be put back into good use. It is an elegantly designed, robust, low-energy dwelling and despite being designed six years ago, it is performing to meet current environmental targets. We applied KBe analysis, a carbon calculator system the practice has developed for benchmarking all our projects, and we were impressed by the results. The project meets the 2025 operational carbon benchmarks set by the RIBA and goes beyond the 2030 benchmark for embodied carbon. It is a project we can learn from to continue to reduce our carbon footprint as a practice.”

Jennifer McGeoch, commissioning client, said:

“KnoxBhavan has designed exactly what we asked of them: a home that reflects us. From the outside, the new perimeter wall matches the old, but now offers glimpses of our world beyond; a hidden oasis of space and light that flows unobstructed, with views the length of the site. The views up through skylights frame trees and sky, reflecting the seasons. The view from the kitchen bar looks up to the rooftops and chimneys of the adjacent Victorian cottages – a reminder of where we are anchored. Wherever we are in the house there is greenery and light. A home in the heart of the city that provides a quiet calm, a safe haven. A home that was made for and is about us.”

**Press enquiries:**

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Notes to editors:

Location:	Teddington, London
Site area:	450m ²
Gross internal area:	344m ² (including courtyards and garage)
Value:	Confidential
Client:	Private (please request permission to name owners)
Architect:	KnoxBhavan
Design team:	Simon Knox, Joe Roberts and Felix Sagar
Structural engineer:	Structure Workshop
Landscape designer:	David Robinson Garden Design
Services engineer:	Paul Bastick Associates
Quantity surveyor:	PT Projects
Contractor:	Analytic
Joinery:	Wooden Horse (kitchen, master bathroom and guest WC) Ian Dunn Workshop & Design (study, hallway, utility, dressing room)
Photographs:	Edmund Sumner

KnoxBhavan is an award-winning practice established in 1995 by Simon Knox and Sasha Bhavan. Collaboration is a central driver, and all projects, including one-off houses, public buildings and conservation projects, demonstrate a fascination with materials and sensitivity to the environment, as well as a commitment to craftsmanship and simplicity of form.

Described as “one of the most award-festooned small practices in the UK” by Blueprint Magazine, KnoxBhavan has won numerous RIBA Awards, Manser Medal AJ House of the Year, Civic Trust Awards and many other industry awards.

The practice’s built projects, which have informed the design of Threefold House, include: March House, Marlow (2022); KnoxBhavan studio, Peckham (2018); New Maltings, a pavilion in the grounds of a Ted Cullinan-designed house in Suffolk (2003); Rigg Beck, the Lake District (2011); and Crowbrook, Hertfordshire (2013).

The practice is currently completing a new house in Hertfordshire employing MMC like its Manser Medal-winning March House. It is designed to cater to the specific needs of its quadriplegic owner.

knoxbhavan.co.uk



Photograph © Edmund Sumner