56a Church Hill - A sustainable off-site construction solution

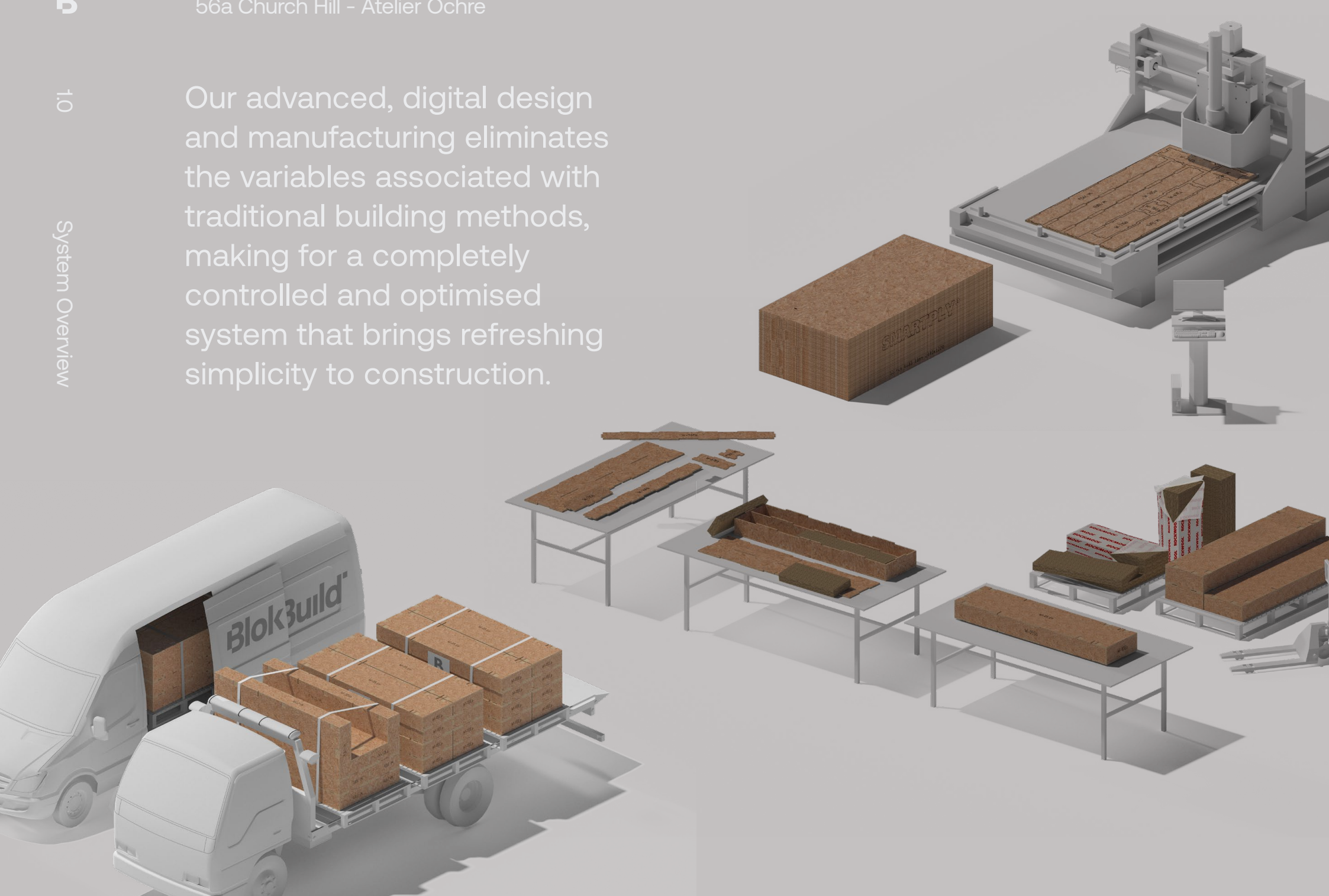
BlokBuild

Precision Manufactured Architecture

Our digitally driven, infinitely adaptable off-site building system is formed of high performance, insulated and structural timber cassettes.

Every cassette in our growing library of floor, wall and roof typologies is designed with leading engineers and manufactured with pinpoint accuracy using CNC cutting and routing technology in our controlled factory environment.

Our advanced, digital design and manufacturing eliminates the variables associated with traditional building methods, making for a completely controlled and optimised system that brings refreshing simplicity to construction.



Widely viewed as the industry gold standard, our BOPAS-accredited system and process illustrate our commitment to best practice across the off-site construction sector.

The Build Off-site Propery Assurance Scheme (BOPAS) is a risk-based evaluation designed to benchmark competency, methodology and risk management for innovative off-site construction providers.

The accreditation combines a 60-year durability assessment, provided by BLP Insurance, that assures the robustness and high performance of the BlokBuild system, alongside a rigorous LRQA-led assessment of the management processes used to deliver it.

For architects, contractors and developers, our BOPAS accreditation means that the buildings we create together are backed by a 60-year+ assurance recognised by funders, lenders, valuers and purchasers.

Our accreditation covers all stages of design, off-site manufacturing, and on-site construction, showcasing the holistic skillset we bring to every project.

BOPAS
Buildoffsite Property Assurance Scheme

Embodied Carbon

-45%

Combining digital design and a controlled factory environment allows us to focus on efficiency and precision.

Our lean manufacturing process produces only 10-12% waste, all of which is recyclable.

An independent study carried out by Aura Innovation Centre and University of Hull found that the BlokBuild system has 45% less embodied carbon than traditional construction methods across lifecycle stages A1-B1. This calculation does not include sequestered carbon in the system materials.

Thermal performance
for 56a Church Hill

Roof 0.09 W/(m²K)

Walls 0.12 W/(m²K)

We strive for an exemplary fabric-first approach achieved via digital manufacturing and smart specification.

The digital precision of our system optimises as-built thermal performance in comparison to other forms of construction, where variability in the site installation method often presents the potential for heat loss.

Our structural cassettes are manufactured entirely using high-grade OSB from FSC certified forests in the UK and N.I and insulated with RWA45 Rockwool as standard.

A quiet, swift and highly sequenced installation ensures minimal disruption to project locations.

The BlokBuild system is not only much quicker and safer than traditional methods of construction, it also requires fewer operatives on site. For 56a Church Hill we estimate an installation duration of 4 weeks, with a 4-person team.

The manageable size and weight of our cassettes means we can take heavy site machinery out of the construction process. Numbered cassettes arrive to site in the order of assembly, ready to connect together using an intuitive assembly guide. Cordless drills, hand mallets and hand-powered genie lifts are the primary tools. This off-site approach drastically reduces noise, vehicular movements and air pollution.

By designing out the need for additional structural members such as steel or softwood, our system is lightweight and requires smaller foundations as a result. This not only lowers embodied carbon but proves to be a significant benefit for sensitive sites such as 56a Church Hill, where non-traditional foundation systems are required.

The precision of our building system also facilitates follow-on trades in the most efficient way, eliminating reworks and reducing on-site waste. This all contributes to a shorter duration on site, reducing disruption as well as the community's perception of disruption.

Case Study March House

Winner of the 2022 Manser Medal, Knox Bhavan's March House showcases several advantages of the BlokBuild system applicable to Atelier Ochre's proposal for 56a Church Hill.

The single-storey building, situated on a natural floodplain on the banks of the River Thames, required great sensitivity in terms of structural design and building methodology.

The compatibility of our system with a wide range of foundation scenarios and site conditions facilitated a solution of galvanised steel stilts fixed to concrete piles, raising the structure 1.8m above ground.

Early engagement allowed us to factor in access restrictions into the design of our cassettes, ensuring smooth access down a single track road. On-site, the speed and ease of installing our system reduced risk on a site susceptible to flooding during the build phase.

“The BlokBuild system directly translated our drawings into a swiftly assembled, ready to use envelope. March House demonstrates how these technologies can be applied to the most specific of briefs. ”

- Sasha Bhavan, Knox Bhavan Architects

Case Study Kew House

Constructed on a tightly constrained site in a conservation area in Kew, South London, Kew House further illustrates how off-site technologies can overcome site-specific and logistical constraints.

The distinctive perforated cladding was designed digitally and manufactured using off-site laser cutting technology before being assembled behind retained 19th century brick walls. A structure of interconnected, CNC-cut plywood ribs form a timber skeleton into which insulation and breathable roof membranes where then fitted.

This digitally manufactured ‘kit of parts’ approach simplified and accelerated construction, reducing on-site waste and eliminating defects from one trade to another.

"The design was conceived so that the house was presented as 2 buildings, joined by a glazed circulation link. The strategy breaks up the visual mass of the house, whilst acknowledging the scale and character of the surrounding homes with their layered gabled-roof forms"

- Tim Lucas, Price&Myers

About BlokBuild

BlokBuild is an off-site construction company with a mission to make our built environment more innovative and sustainable through digital manufacturing technologies. Our clients and collaborators range from private owners, architects and engineers to developers, councils, and community land trusts. They all value a system that offers unprecedented streamlining of the design and construction process.

www.blokbuild.com

About Price&Myers

Price&Myers is a consulting civil and structural engineering practice established in London in 1978. They have worked with many of the country's leading architects on the design of outstanding buildings using the most recent developments in materials and construction methods.

They have been the BlokBuild system engineers since its inception, working in close collaboration to deliver world-class engineering on a wide range of projects.

www.pricemyers.com