

# 2023 BROCHURE

7°22'  
SYSTEMS

A New Way To Build





# OUR AMBITION

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7-22 Systems is a new way to build well, for meaningful environmental sustainability and best value. We are committed to deliver our client's **outstanding architect designed buildings that do no harm to the environment.**

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Designed in the Outer Hebrides to withstand the harshest environment





## INTRODUCTION

7-22 Systems Ltd is an ecological construction start-up business, based in the Southern Isles of the Outer Hebrides. It has been formed by **experienced** Uist-based Architects, in response to the practical and design challenges of delivering best value, high quality, **environmentally sustainable** buildings.

7-22 Systems produce an architect-designed building system, suited to small to medium sized construction projects and will provide a turn-key Design and Build construction service. The 7-22 System utilises off-site prefabrication of pre-insulated components, offering **a new way to build better.**

## FOUNDERS



Robert

Founder, Architect, Technical Director

Robert has been a practicing Architect for 30 years and based in Uist since 1992. His expertise is in energy efficiency, low carbon Design has been the driver to developing the 7-22 building system, with an unrivaled track record in delivering a range of projects throughout Scotland means you will be in safe hands. Robert has a lifelong passion for the sea and sailing- he loves exploring the intricate coastline in his kayak or venturing further afield by RIB.



Alex

Founder, Architect, Commercial Director

Alex has been a practicing architect for 8 years and based in Uist since 2016. He brings valuable technical knowledge, design experience in the delivery of each project.. His design ethos is to create buildings which are sensitive to their setting and enhance the environment. Out-with work, Alex is passionate about all things outdoors, and can be found cycling, walking or swimming when he isn't on the croft with his young family.



Janice

Founder, Financial Director

Janice practiced in Glasgow until a move to Uist in 1993. She brings her creative strengths to each project, through managing a busy architectural office since 2008, Janice drives the financial and regulatory side of 7-22, making sure our clients are protected right through their journey with us. Janice draws inspiration from the Hebridean landscape and explores its colours and textures through photography and hand drawing.





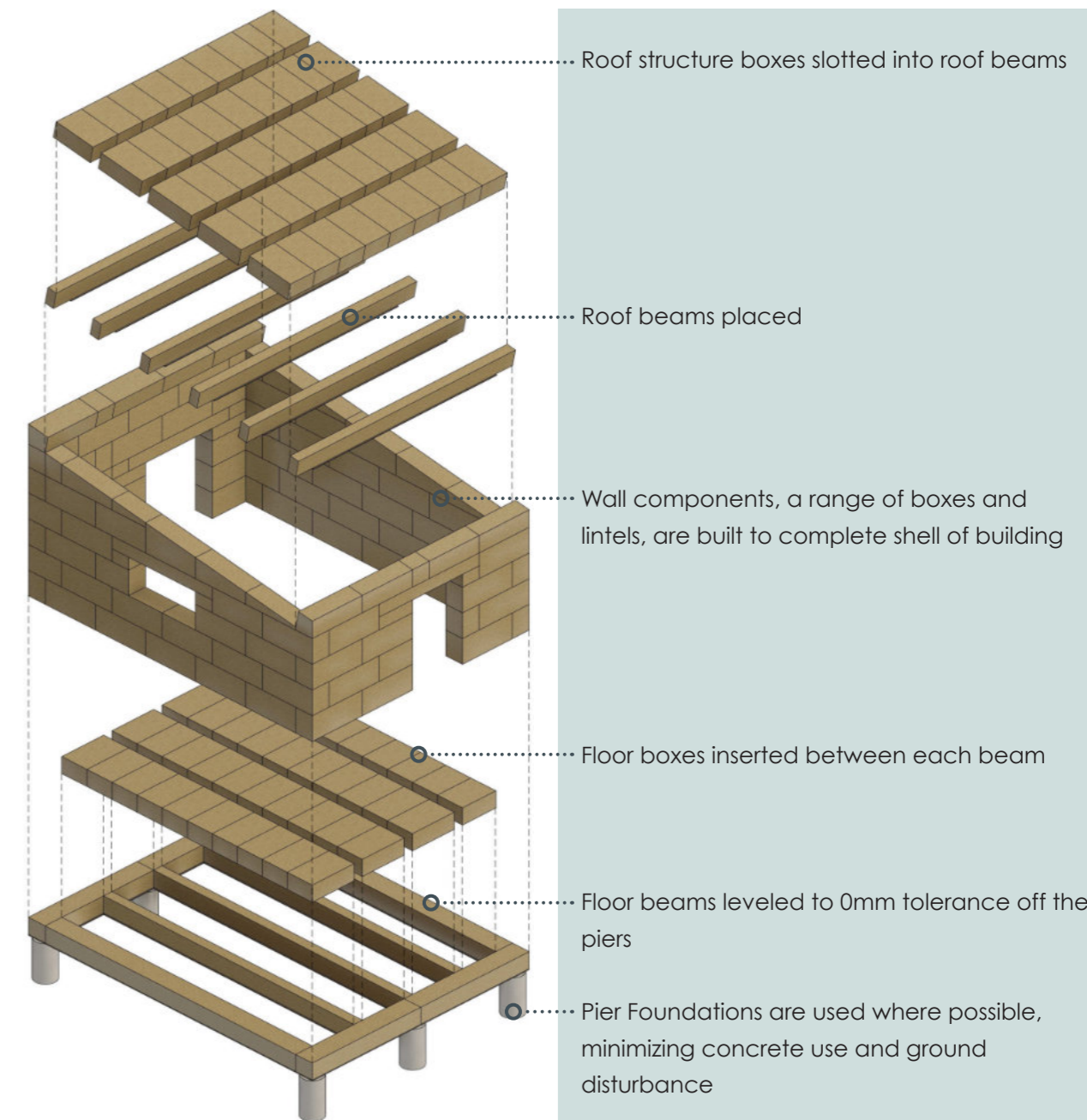


# OUR SYSTEM

7-22 Systems is an **innovative architect-designed** building system, delivered through a **turn-key Design** and Build service. This unique system offers a suite of super-insulated structural components, using **environmentally sustainable materials**, manufactured off-site for **rapid site assembly**. It is suitable for small to medium sized buildings anywhere but its intrinsic ease of manual handling brings **extra benefits to inaccessible or constrained sites**. Designed, in detail, by experienced architects, 7-22 Systems offers the **flexibility for one-off bespoke design, along with the efficiency to offer a range of standard (customisable) modular building types**.



Our system provides great thermal and sound comfort – the quality of the insulation and the attention to detail within the system delivers **a calm, quiet, healthy place to live and work**.







## HOLISTIC APPROACH

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A holistic approach from the pier foundations to the air-tight, super insulated shell, means that **each building has a light touch on the environment.**

Utilising pier foundations can lead to at least 50% less concrete use compared with traditional foundation typologies, meaning **a large reduction in carbon emissions.** Our prefabricated components are small and can be manually handled therefore large plant and machinery is not required to bring each build to the site. Components are screwed together and can be unscrewed and removed at

the end of life which again, means less ground disturbance and **opportunity for regeneration** of the landscape.

A complete insulation envelope means that our builds have **very high U-values, excellent airtightness, and can meet Passivhaus requirements** and **running costs will be low.**

The 7-22 system takes pride in its minimal impact on the natural landscape and also **provides construction benefits to tackle problems faced with both remote rural and tight urban builds** at a time when modern, new solutions to the housing market are desperately needed.





## BENEFITS

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### Pier Foundations

- Minimal ground disturbance
- 50% concrete reduction
- Reduced carbon emissions



### Scalable, off-site manufacturing

- Prefabricated and Pre-insulated off site
- Manufactured in workshop and do not need to rely on weather
- Quick on-site assembly



### Ecological Construction

- Minimal waste
- Recycled materials
- Local timber
- Breathable construction
- Formaldehyde free
- No steelwork



### Components for manual handling

- Small and lightweight components
- Designed for manual handling
- Minimal plant requirement



### Complete insulation Envelope

- Market leading U-values
- Can meet Passivehaus Standard
- Excellent airtightness
- Low in-use costs



### Built in design for disassembly

- Consideration of the future
- System can be extended
- Possibility for land regeneration





## CONSTRUCTION TEAM

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Our construction team bring a **wealth of knowledge** to 7-22 systems with experience in joinery, boat-building and surveying energy performance buildings. The team are passionate about creating low impact homes that are not only great to live in, but are **better for the planet** as well.

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The expertise of the construction team ensure confidence in the quality in your final product.





7°22'



7°22'

S Y S T E M S





# HOW CAN WE HELP?

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We follow the RIBA stages 1-4 and then follow a framework of 6 additional steps to bring your project from initial concept design all the way through to build completion

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7-22 systems will take care of the design, construction and manufacture of your build



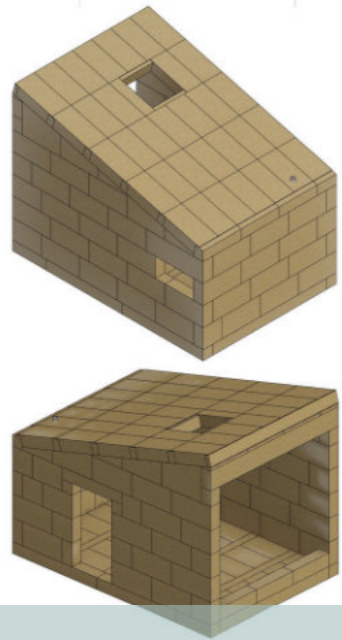




Design options are prepared to deliver your brief, using 3D design software to best utilise the site and allow you to fully engage with the design. At the end of this stage we will finalise a concept for the house and prepare an initial cost estimate.

23% Design Fee.

**02** Concept Design



Production of Building Warrant and Construction information. Final pricing and costs sought from sub-contractors. Fixed construction cost provided.

40% Design Fee.

**04** Warrants, Costing



**01** Preparation and brief

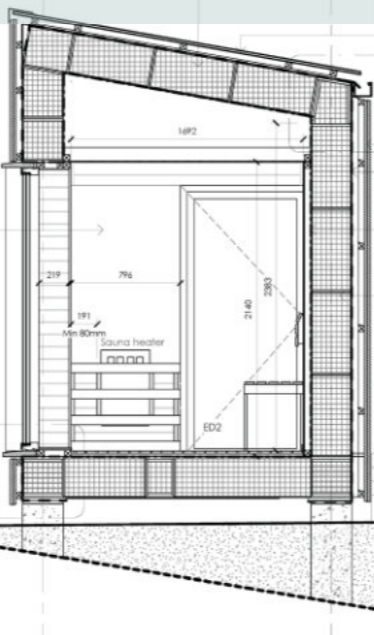
We meet you and review your site, and agree a brief to define the design and project parameters. 7-22 Systems suggests a professional topographical survey is procured, and can arrange on your behalf.

2% Design Fee.

**03** Developed Design

The concept design is tested, and engineer input provided. The strategy for heating and cooling the house is developed. The planning application is prepared and submitted to the local authority.

35% Design Fee.



**05** Ordering Materials

Large material and fittings ordered to ensure no material price inflation. Site setting out completed.

20% Construction Cost

Prefabrication of the building structure in the 7-22 Systems factory. Groundworks commence.

15% Construction Cost

**06** Build in Factory



Delivery of your building to site by 7-22.

25% Construction Cost

**08** Building Delivery



**07** Delivery Preparation

External cladding, internal linings and fittings ordered. Groundworks completed and 7-22 Systems inspect your site and arrange logistics for building delivery.

25% Construction Cost



**09** Completion - Handover

Completion & Handover - The final payment is due on the handover of your new building, giving you peace of mind that your new home is finished to the highest standard.

15% Construction Cost



7-22 Systems Ltd will make good any defects which arise within 12 months of the completion of Stage 9

**10** Handover - Aftercare





# ENGINEER APPROVED



A system robust enough for the Uist environment will work **anywhere**. Each project is certified (SER certification) by our long term collaborators, Harley Haddow Ltd structural engineers.

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Net Zero Consultants of the year 2021

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7-22 Systems has been vigorously tested by structural engineers at the National University of Ireland with the Galway Timber Engineering Research Group. Structural tests have proven that **our system has the racking and wind loading capability for up to 11 storey building, and is 1.6 times stronger than traditional timber framed panels.**

Practicing on Scotland's most westerly edge, our architectural team have honed their skills to meet the construction challenges of a beautiful but unforgiving environment. 7-22 Systems has grown directly from this experience.





# ARCHITECT DESIGNED

fraser  
ARCHITECTURE



Developed using 40 years of experience

Fraser Architecture is an **award-winning Chartered practice**, established in 2008 by Robert & Janice Fraser, is founded upon many years of experience in design and procurement across the Outer Hebrides. With **a deep understanding of the area, its social and cultural identity, climate and environment**, the team have a wealth of knowledge in the application of renewables and low-carbon technologies - **Their approach is innovative and bespoke** but starts from our understanding of what works in an exposed coastal location.

Using their expertise, you can rest assured that your unique vision can become a reality.





Consultants

fraser  
ARCHITECTURE



JUST MACHINING

Academia & Collaborators

NMIS  
National Manufacturing  
Institute Scotland

BE-ST



TERG

Funders



COMHAIRLE NAN EILEAN SIAR



CONTACT US

If you would like to discuss your build project with us, please get in touch and we would be happy to arrange a meeting.

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