

ChisholmARCHITECTS

PRACTICE PROFILE

2013



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1. INTRODUCTION



1.1 Company Profile

ChisholmARCHITECTS are a progressive architectural practice providing high quality architectural services for both the domestic and commercial sectors. We are committed to low energy sustainable design providing appropriate, imaginative, cost effective and technical solutions to meet our client's individual requirements. We implement and manage our input into each project to the highest professional standards, meeting with our clients requirements with clear communication throughout the project.

ChisholmARCHITECTS are led by Gordon Chisholm who has over 25 years' experience working with leading Architectural Practices in Ireland & Scotland and has successfully completed a broad spectrum of projects both nationally & internationally.

ChisholmARCHITECTS provide a high quality service, having a reputation for delivering exceptional design, production information and management of projects at all stages.

The principles which drive our quality services are:

- Identify the client's needs and develop their brief
- Use of specialist consultants as and when required
- On-going CPD training
- Researching and developing best practices
- Effective & efficient turnaround of information

1.2 Continual Professional Development (CPD) Policy

ChisholmARCHITECTS recognise the importance of a practice keeping up to date with industry standards, trends and future directions and as such, actively take part in regular Continuous Professional Development (CPD) sessions within the Royal Institute of Architects Ireland CPD programme, attend conferences, seminars and training courses.

Recent CPD events attended include:

- Homebond Seminar: Liability, Indemnity & Structural Defects, Kilkenny
- The RIAI, in partnership with the Department of Education and Skills, CPD seminar on how the Department of Education and Skills procures buildings.
- BIM Conferences, Dun Laoghaire
- SEAI See the Light, Croke Park, Dublin
- Calculating Thermal Bridging using Therm, Passive House Academy, Rathnew
- Autodesk Revit, Arcdox
- Autodesk Revit & Navisworks, UCC Campus
- Autodesk Revit, WIT Campus
- Designing Low-Energy Domestic Refurbs, RIAI, Dublin
- Siga Airtight Envelopes, Mountrath
- Irish Georgian Society, Energy Efficiency in Historic Houses Seminar, Kilkenny Castle
- The Building Limes Forum of Ireland Workshop on the use of building limes in the repair and conservation of historic structures, Tramore

1.3 Membership of Professional Bodies



Royal Institute of the Architects of Ireland (RIAI)

The Royal Institute of the Architects of Ireland is the national body for the promotion, regulation and support of architecture in Ireland.

ChisholmARCHITECTS are a registered practice.



Chartered Institute of Architectural Technologists (CIAT)

The Chartered Institute of Architectural Technologists represents professionals working and studying in the field of Architectural Technology. CIAT is internationally recognised as the qualifying body for Chartered Architectural Technologists.

Gordon Chisholm is a registered member.



Passive House Institute (Passivhaus Institut)

The Passivhaus Institut, Darmstadt, Germany, was founded in 1996, by Dr. Wolfgang Feist, as an independent research institution performing research and development on highly efficient energy use within buildings.

Gordon Chisholm is a Certified Passive House Designer.

1.4 Publications

Beyond The Hall Door in Association with RTÉ Summer 2003

House featured on television programme and in follow up magazine

Build Your Own House and Home in Association with RIAI 2004

House featured in first edition of magazine

SelfBuild, Extend & Renovate Ireland

House featured in winter 2010 edition of magazine

House featured in spring 2011 edition of magazine

Advised on thermal bridging feature in summer 2011 edition of magazine incl. Therm images

House featured in and was cover shot of winter 2011 edition of magazine (Cover Below)



2. ARCHITECTURAL SERVICES



2.1 Architectural Services

ChisholmARCHITECTS provide Architectural Services on a range of developments from small scale residential projects including one off houses, extensions and refurbishments to commercial developments.

ChisholmARCHITECTS have extensive experience in low energy / passive solar design projects both residential and commercial. As Certified European Passive House designers we strive to implement these principles within all projects.

ChisholmARCHITECTS also provide a BIM modelling, design, technical & drafting outsource service to Architectural & Engineering practices and Construction companies.

The following are some of the services we provide:

- Feasibility Studies
- Measured Surveys
- Design Solutions
- Interior Design
- Planning Applications
- Fire Safety & Disabled Access Certificate Applications
- Tender Information Packages
- Construction Information Packages
- Building Energy Rating (BER) certificates
- Energy Audits & Analysis
- Cold Bridge Analysis
- Project Management
- Contract Administration
- Building Information Modelling (BIM) & 3D Visualisation
- Revit family modelling
- Condition Reports, Defect/Snag lists
- Compliance Certification
- Conservation works in conjunction with specialist consultants

2.2 Selected Projects

2.2.1 Housing

Dwelling House, Co. Kilkenny

Client:

Private

Service Provided:

Design, Planning and Tender stages.
Consulted during construction

Project Description:

A low energy design on a sloping site with spectacular views to the north. Southern light floods the upper floor from high level southern windows. Constructed with insulated concrete formwork (ICF) and incorporates a water to water heat pump and mechanical ventilation heat recovery.

Designed in 2004-5 the house complies with the 2011 Building Regulations for heat loss.

Featured in the Spring 2011 edition of Self Build, Extend & Renovate Magazine

Status:

Completed 2008

BER Rating:

Energy Rating A3 (72.23kWh/m²/yr)

CO² Emmissions 17.92 kg/ m²/yr



Dwelling House, Co. Kilkenny

Client:

Private

Service Provided:

Design and Planning stages.

Project Description:

A contemporary design based on the traditional farmhouse extended along its axis. Each block has been finished with either stone or render to reduce the overall mass of the house.

Featured in the Winter 2010 edition of Self Build, Extend & Renovate Magazine

Status:

Completed 2006

BER Rating:

Not Available



Dwelling House, Co. Laois

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Contemporary design of a one-off dwelling house to low energy passive solar principles.

House incorporates an integrated solar & mechanical ventilation heat recovery system to maximise the solar energy capture and reduce overall energy use.

A movie of the staircase design was produced to enable the client to visualise the design.

Status:

Completed 2011

BER Rating:

Energy Rating A3 (67.33kWh/m²/yr)

CO² Emissions 7.47 kg/ m²/yr



Dwelling House, Kilkenny

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Contemporary design of a one-off dwelling house to low energy passive solar principles.

House incorporates an integrated solar & mechanical ventilation heat recovery system to maximise the solar energy capture and reduce overall energy use.

Status:

Completed 2012

BER Rating:

Energy Rating A2 (45.95kWh/m²/yr)

CO² Emissions 10.28 kg/ m²/yr



Dwelling House, Co. Kilkenny

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Contemporary design of a one-off dwelling house to low energy passive solar principles.

House incorporates an integrated solar & mechanical ventilation heat recovery system to maximise the solar energy capture and reduce overall energy use.

Status:

Completed 2012

BER Rating:

Energy Rating A2 (44.69kWh/m²/yr)

CO² Emissions 9.96 kg/ m²/yr



Dwelling House, Co. Kilkenny

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Single storey design based on the traditional narrow plan rural house but incorporating a mono pitch roof allowing high level daylight into the interior. Lean to bedroom accommodation reduces the overall mass of the house.

Status:

Completed 2007

BER Rating:

Not Available



Dwelling House, Co. Wicklow

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Design of a one-off dwelling house to low energy passive solar principles.

House incorporates air to water heat pump & mechanical ventilation heat recovery to reduce energy use.

A movie of the staircase design was produced to enable the client to visualise the design.

Status:

House completed 2010

BER Rating:

Designed and calculated in 2006 using the Heat Energy Rating (HER) spread sheet.

Primary Energy $51\text{kW/m}^2/\text{yr}$

CO² Emissions $11\text{ kg/ m}^2/\text{yr}$

Final BER to be completed



Dwelling House, Co. Dublin

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Originally designed as an extension & refurbishment project, it was decided to rebuild completely the existing house as per the original scheme design.

Designed with passive solar principles in mind and a low energy strategy.

The house incorporates a ground source heat pump.

Featured in Build Your Own House and Home annual magazine 2004.

Status:

House completed 2002

BER Rating:

Designed and calculated in 2001 using the Heat Energy Rating (HER) spread sheet.

Heat Energy Rating 82kW/m²/yr

CO² Emissions Not included in HER



2.2.2 Extensions, Renovations & Refurbishment

Extension & Refurbishment of Dwelling House, Kilkenny

Client:

Private

Service Provided:

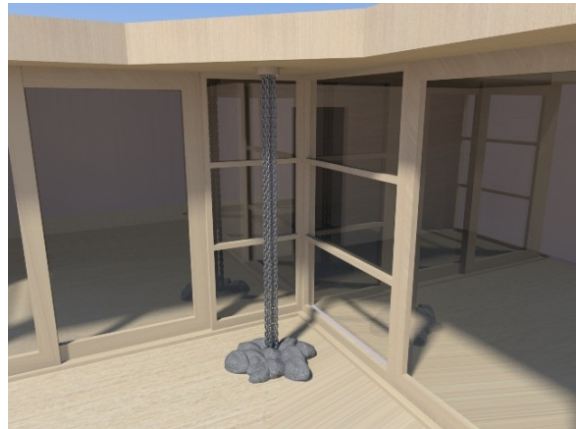
Full Architectural Services

Project Description:

Extension to a detached estate house which comprised of an office space and sun room linking into the house via the dining area.

Status:

Completed 2010



Extension & Refurbishment of Dwelling House, Kilkenny

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Refurbishment of dwelling house with an emphasis on the thermal upgrade of the external envelope.

A DEAP analysis was conducted at the design stage which measured various upgrade options such as insulation types, windows etc. The result was an improvement in the Building Energy rating (BER) from the existing E2 to a B2 which is a 65% improvement in energy use.

Status:

Completion due March 3013

BER Rating:

Before Works:

Energy Rating E2 (360.85kWh/m²/yr)

CO² Emmissions 91.96 kg/ m²/yr

After Works:

Energy Rating B2 (124.90kWh/m²/yr)

CO² Emmissions 25.41 kg/ m²/yr



Extension & Refurbishment of Dwelling House, Co. Kilkenny

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Extension & refurbishment of farmhouse
Incorporating mechanical ventilation heat recovery system, sunken dining area and balcony from en-suite

Status:

Completed 2009



Extension & Refurbishment of Dwelling House, Co. Wexford

Client:

Private

Service Provided:

Full Architectural Services

Conservation Consulting

Project Description:

Refurbishment & extension to the coach house building which forms part of a historic courtyard complex.

Status:

Completed 2013



Extension & Refurbishment of Dwelling House, Co. Wicklow

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Extension & refurbishment of 1970's flat roof house. Incorporates a ground source heat pump and passive solar principles.

Project featured in RTÉ Beyond the Hall Door and follow up magazine

Status:

Completed 2000



Extension & Refurbishment of Dwelling House, Co. Kilkenny

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Extension & refurbishment of derelict farmhouse.

The design intent was to retain the original house and features, and bring them through into a contemporary modern house that would be a whole and not a series of extensions, and utilise passive solar design to create a bright airy home.

The heat system is underfloor heating supplied by a wood pellet boiler located in a detached boiler house.

Status:

Completed 2004

BER Rating:

Designed and calculated in 2001 using the Heat Energy Rating (HER) spread sheet.

Heat Energy Rating 84/m²/yr

CO² Emissions Not included in HER



2.2.3 Residential Schemes

Residential Development, Co. Kilkenny

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Four one-off detached houses each designed for individual clients to low energy passive solar principles.

Status:

Planning Permission granted

Tender & Site Enabling Works progressing

BER Rating:

Plot 2

Energy Rating A3 (69.96kWh/m²/yr)

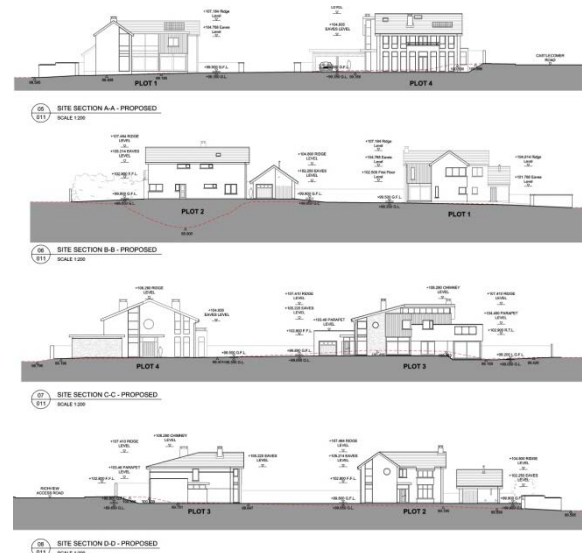
CO² Emissions 18.1 kg/ m²/yr

Plot 3

Energy Rating B1 (94.51/m²/yr)

CO² Emissions 21 kg/ m²/yr

Plots 1 & 4 No available



Residential Development, Co. Laois

Client:

Private

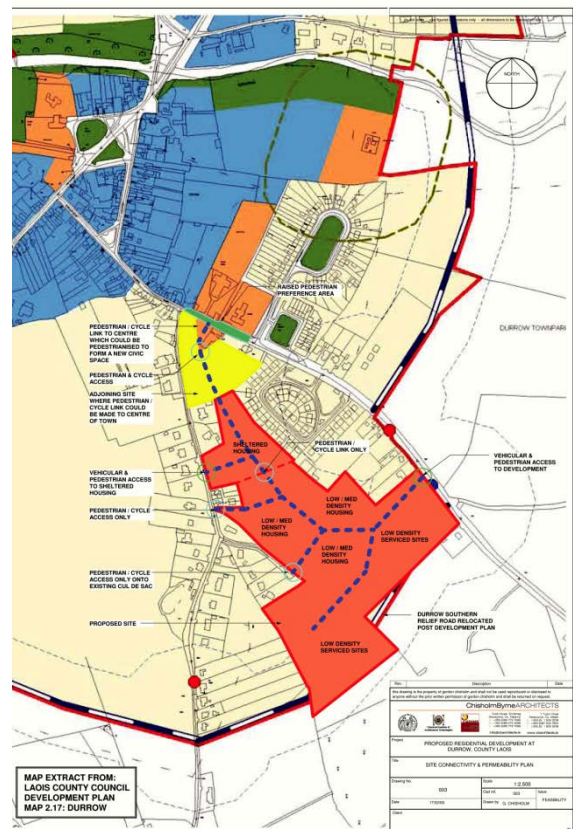
Service Provided:

Feasibility Study

Project Description:

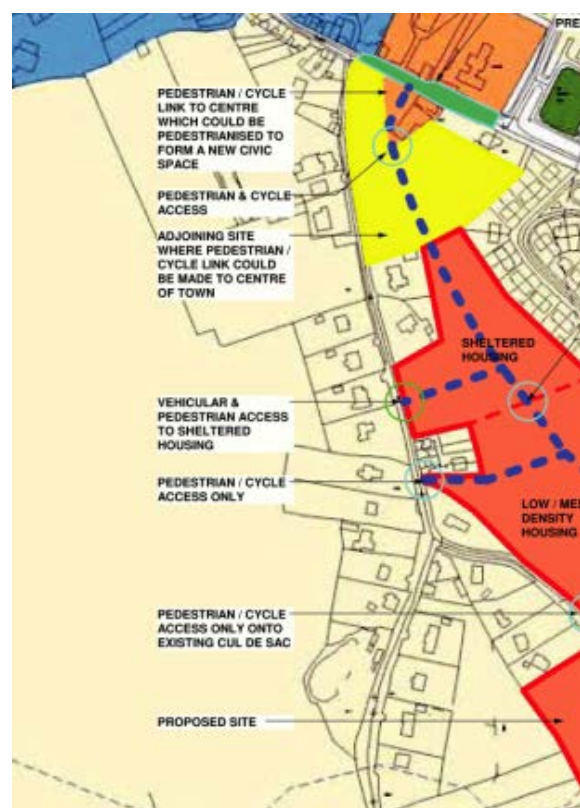
Feasibility study for a passive solar residential development on 27 acres consisting of serviced sites and mixed housing units.

Integral to the scheme was the proposed public connects through the development linking through the adjacent proposed sheltered housing development to the existing community hall, church and school.



Status:

Completed



2.2.4 Commercial

Client:

Sharragh Pig Farm, Roscrea, Co. Tiperrary

Service Provided:

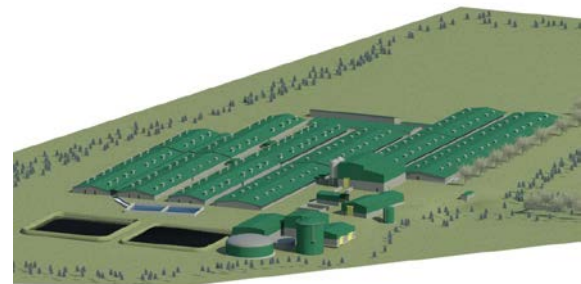
Planning drawings and model

Project Description:

Comprehensive extension of Sharragh Pig Farm including anaerobic digester.

Status:

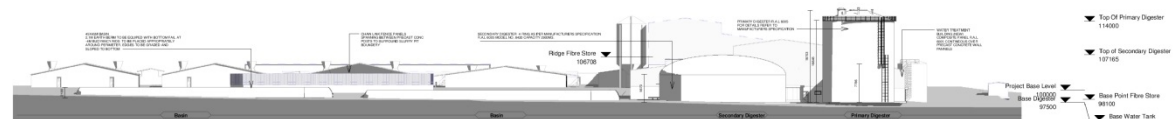
Due to commence May 2013



3 South East Elevation
1 : 500



4 Site Section 01
1 : 500



5 North West Elevation
1 : 500

Client:

Makeway Ltd.

Service Provided:

Scheme Model & Images

Project Description:

Preparation of model & drawings for template design of an integrated pig production complex in China.

Status:

Under evaluation



Client:

Fenor Farms, Matthewstown, Co. Waterford

Service Provided:

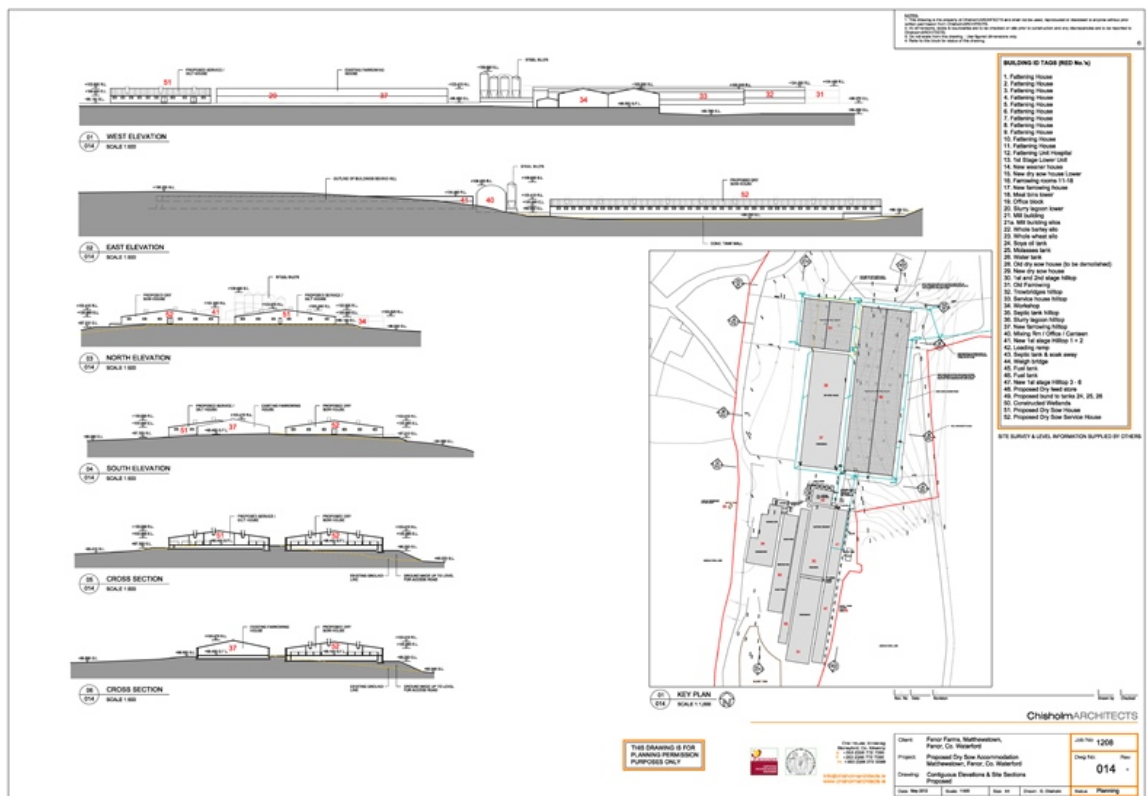
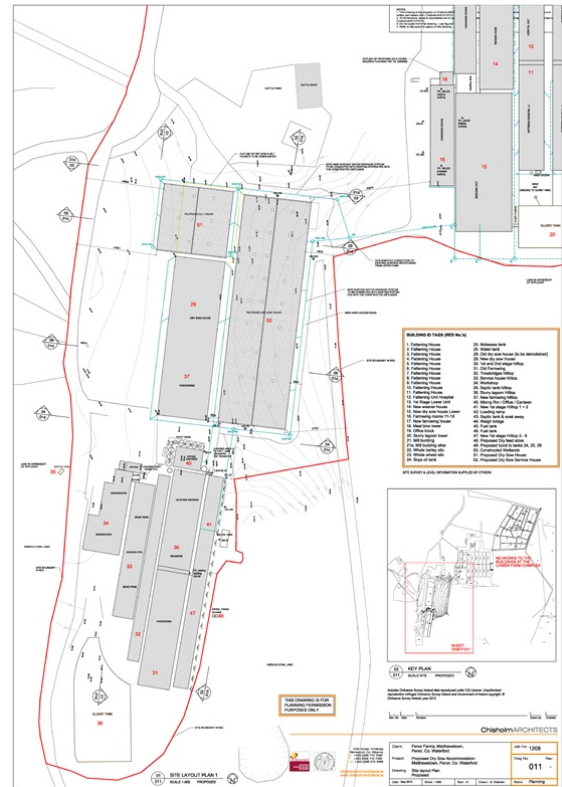
Planning Drawings

Project Description:

Dry sow & gilt house extension to Fenor Pig Farm

Status:

Due to complete June 2013



Client:

NorDan UK Ltd.

Service Provided:

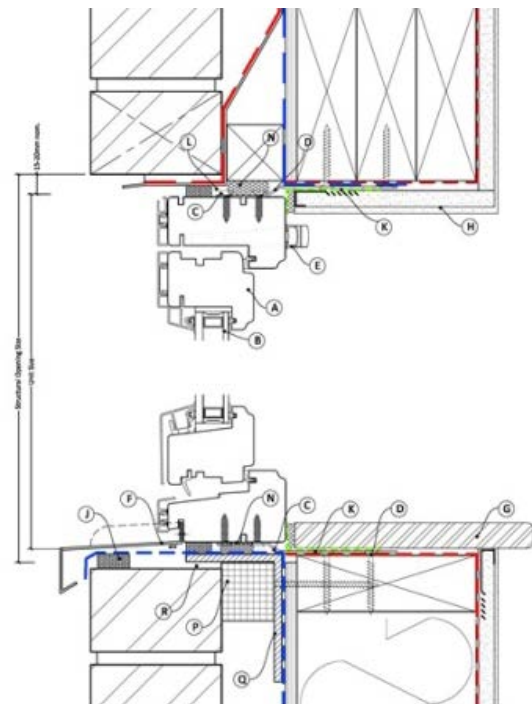
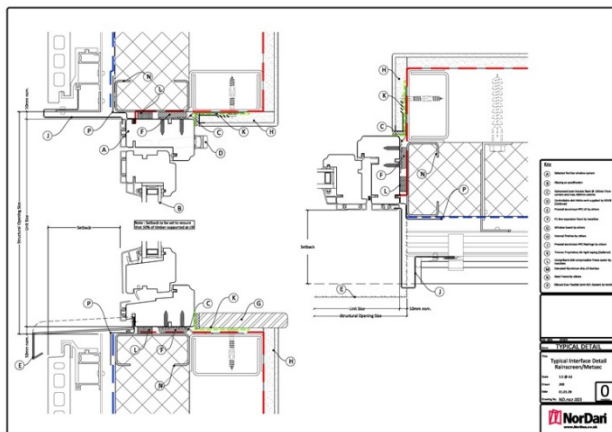
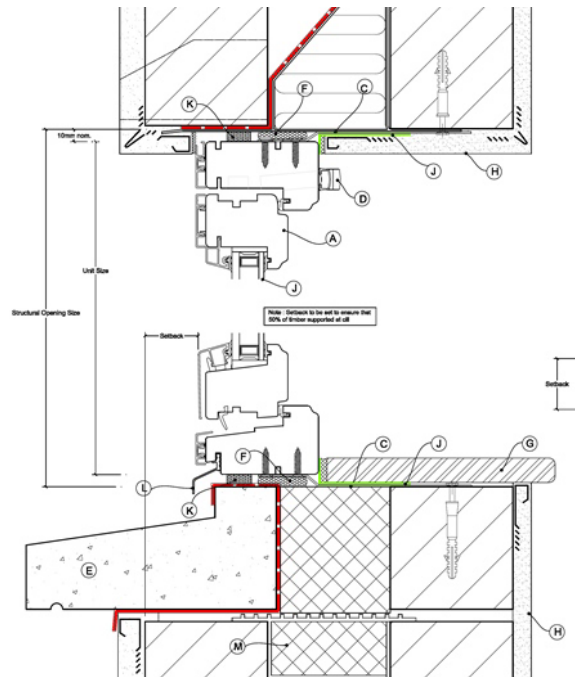
Typical Installation Details

Project Description:

Prepare typical installation details of window junctions with common wall constructions in compliance with the English Building Regulations. Details are to be made available for download in multiple file formats.

Status:

Completed 2012



2.2.5 Community

Stoneyford Community Centre, Co. Kilkenny

Client:

Stoneyford Development Association

Service Provided:

Full Architectural Services

Project Description:

Extension to the community centre consisting of offices, meeting rooms and multi-purpose room at first floor with viewing gallery over the playing fields.

Status:

Completed: November 2012

Planning Permission has been granted for the associated playground & trim track



3. BIM & 3D VISUALISATION



3.1 Building Information Modelling (BIM) & 3D Visualisation

ChisholmARCHITECTS offer a range of computer modelling options to meet specific client requirements from basic 3D mass models & photomontages to complex Building Information Models, component creation and movie presentations.

3D mass models can be used to inform the client & authorities of the general scale of a project. This can then be developed into photomontage presentations where the model is inserted to scale & perspective into a photograph of the site / streetscape / landscape to offer a realistic impression of the proposed development in context.

Building Information Modelling (BIM) is the process of generating and managing building data during its life cycle, from analysis of design, structure, environment & cost through construction management to end user integration with building management systems. This is achieved through the use of three-dimensional, real-time, dynamic building modelling software which increases productivity in building design and construction. At the heart is a single BIM model that is a collaboration of all design consultants and sub-contractor i.e. curtain walling contractors. This method of integration ensures many of the costly & time consuming co-ordination issues that arise on site can be designed out.

The BIM model can produce a multitude of views, plans, sections & elevations; because these are generated from one virtual model and are automatically updated they are consistent to each other and to those other consultants who are linked into the model.

The BIM model encompasses building geometry, spatial relationships, geographic information, quantities and properties of building components, it can be used to track time (4D) and costs (5D) using associated software and used for life-cycle facility management (6D).

As well as using BIM software to produce drawings for our own projects ChisholmARCHITECTS have made BIM models for large construction companies to use with compatible software to track time & costs during the construction phase of projects, and made models of existing buildings to facilitate the analysis of the buildings environmental performance and how these can be improved through refurbishment options such as glazing type, brise soleil etc. at the design stage.

ChisholmARCHITECTS can produce movies around & through the model as part of the presentation package and create component libraries.

3.2 Selected Projects

St. Vincent's University Hospital

New Ward, Dublin

Client:

John Paul Construction

Service Provided:

BIM Model

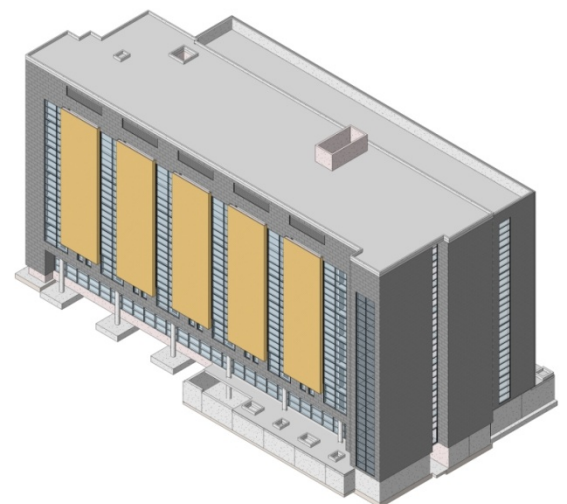
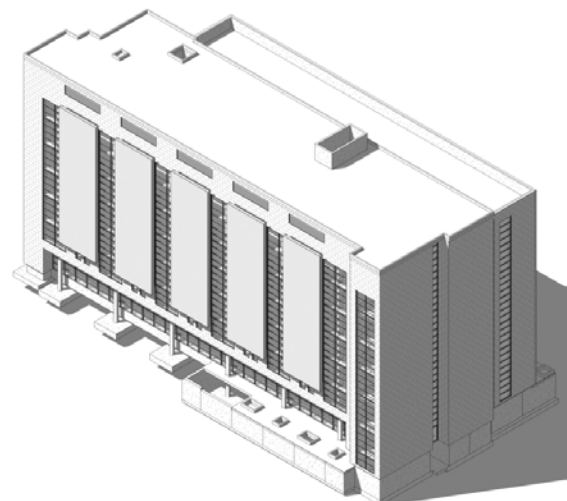
Project Description:

This model was created for the contractor to use with associated 4D (time) and 5D (cost) software as part of the project planning of the construction work. The model was built from the engineering & architectural CAD drawings.

Views of model with shadow. Note the retaining wall modelled in 5m lengths to enable calculation of pours required.

Status:

Model complete



Dwelling House, Co. Kilkenny

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Contemporary design of a one-off dwelling house to low energy passive solar principles.

House incorporates an integrated solar & mechanical ventilation heat recovery system to maximise the solar energy capture and reduce overall energy use.

This project is constructed with a twin stud timber frame and insulated foundation system to minimise thermal bridging.

Status:

Completion due May 2013

BER Rating:

Energy Rating A2 (42.38kWh/m²/yr)

CO² Emissions 9.42 kg/ m²/yr



Dwelling House, North County Dublin

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Contemporary design of a one-off dwelling house to low energy passive solar principles.

House incorporates an integrated solar & mechanical ventilation heat recovery system to maximise the solar energy capture and reduce overall energy use.

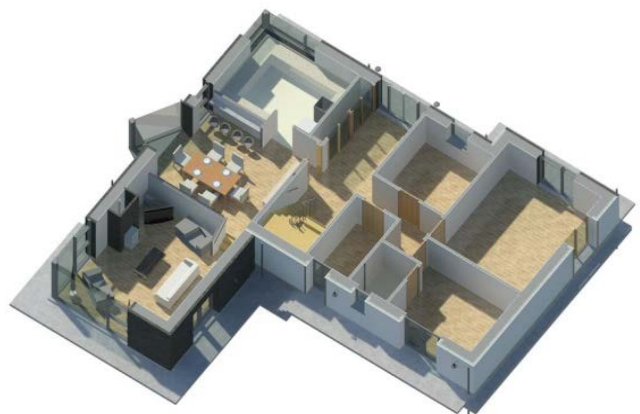
A solar study movie was produced of this house

Status:

Due on site May 2013

BER Rating:

Energy Rating A2 Target



Dwelling House, Co. Laois

Client:

Private

Service Provided:

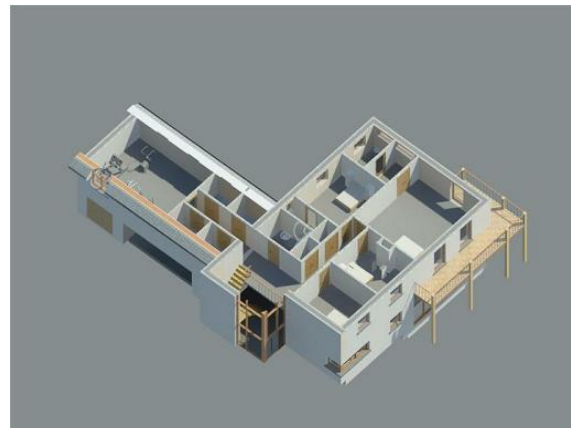
Design & planning stages

Project Description:

Design of a one-off dwelling house meeting
Passivhaus / Low energy standards & principles

Status:

Pre-Planning



Dwelling House, Co. Wicklow

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Design of a one-off dwelling house to low energy passive solar principles.

House incorporates air to water heat pump & mechanical ventilation heat recovery to reduce energy use.

A movie of the staircase design was produced to enable the client to visualise the design.

Status:

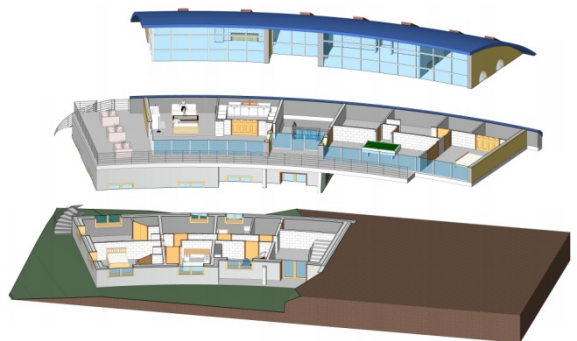
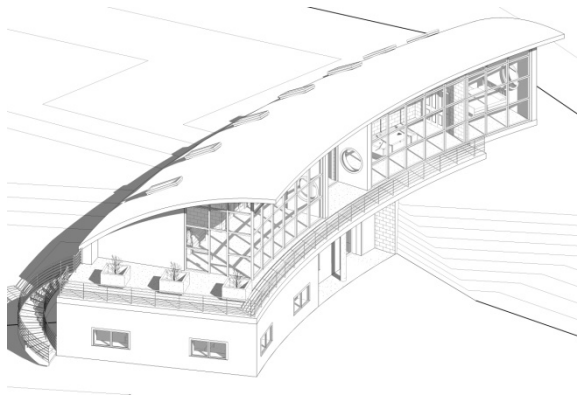
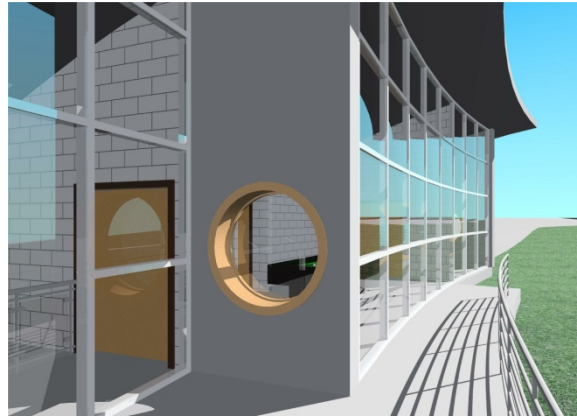
House completed 2010

BER Rating:

Primary Energy 51kW/m²/yr

CO² Emmissions 11 kg/ m²/yr

Final BER to be completed



Dwelling House, Co. Laois

Client:

Private

Service Provided:

Full Architectural Services

Project Description:

Design of a one-off dwelling house to low energy passive solar principles.

House incorporates an integrated solar & mechanical ventilation heat recovery system.

Model of proposed en-suite design as part of the overall one-off house project.

A movie of the staircase design was produced to enable the client to visualise the design.

Status:

Completed 2011

BER Rating:

Energy Rating A3 (67.33kWh/m²/yr)

CO² Emissions 7.47 kg/ m²/yr



Stoneyford Community Centre, Co. Kilkenny

Client:

Stoneyford Development Association

Service Provided:

Full Architectural Services

Project Description:

Extension to the community centre consisting of offices, meeting rooms and multi-purpose room at first floor with viewing gallery over the playing fields.

Massing model used to create photomontage presentation.

Status:

Completed: November 2012

Planning Permission has been granted for the associated playground & trim track



Extension & Refurbishment of Dwelling House, Co. Wexford

Client:

Private

Service Provided:

Full Architectural Services

Conservation Consulting

Project Description:

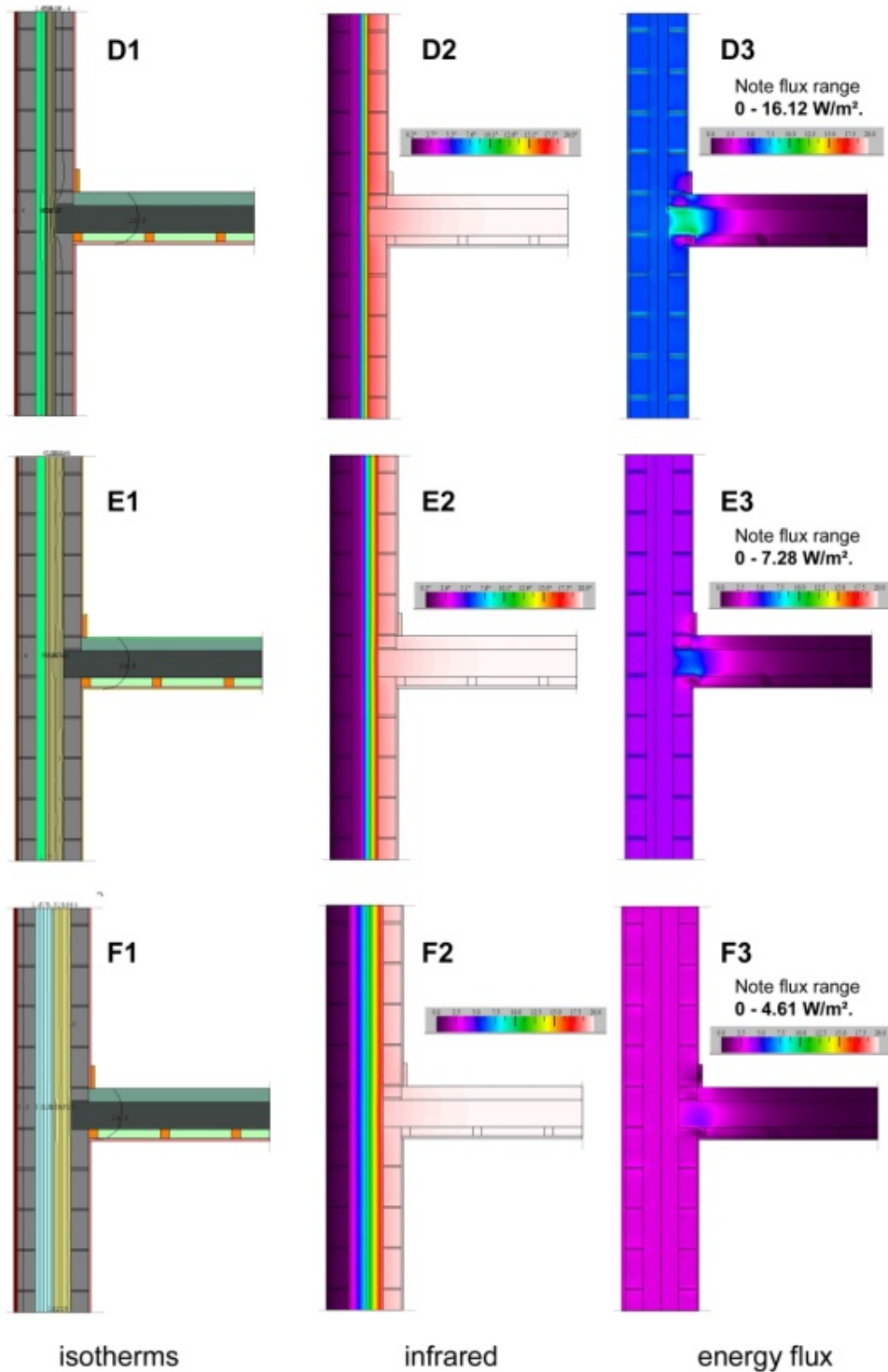
Refurbishment & extension to coach house building which forms part of a historic courtyard complex.

Status:

Completed march 2013



4. ENERGY AUDITS & ANALYSIS



4.1 Energy Audits & Analysis

ChisholmARCHITECTS specialise in undertaking energy performance analysis including;

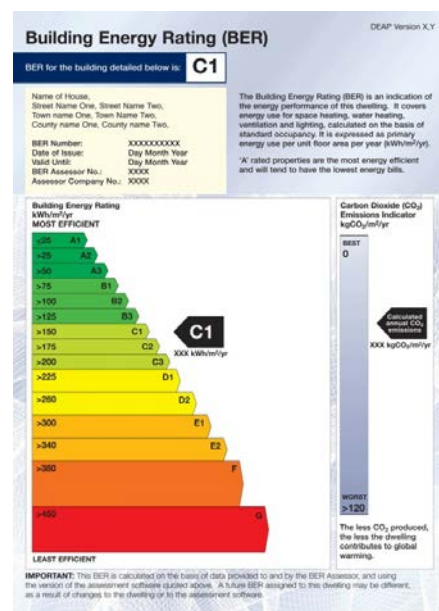
- Building Energy Ratings (BER), which utilises the DEAP software as its building performance assessment package which was developed by Sustainable Energy Authority of Ireland (SEAI)
- Passivhaus Planning Package (PHPP) software a building performance assessment package developed by the Passivhaus Institut of Darmstadt, Germany (PHI).
- Thermal Bridging Analysis using THERM 5.2 in accordance with relevant ISO and BRE calculation standards.

The BER certificate is intended to give prospective home owners, buyers and tenants' information about the energy performance and carbon emissions rating of their building.

Gordon Chisholm is a Certified European Passive House (CEPH) Designer.

Thermal Bridging analysis for new build, renovation or external envelope thermal upgrades offers the client the best inspection of building components and junctions such as wall floor and roof interfaces. The objective is to design thermal bridge free solutions and assess the risk of surface condensation where retrofit insulation options are being proposed. We can analyse individual details or carry out an all-building thermal bridge assessment of the building envelope components to establish the energy loss from each junction (ψ -value) and the effect this has on fuel cost in the context of energy modelling procedures such as BER and PHPP energy modelling calculations.

ChisholmARCHITECTS carries out all the above and associated services leading to legislative compliance and improved energy performance calculations for your project using the latest relevant ISO standards and legislative documentation.



4.2 Sample Work

A comparative analysis of Cavity Wall build-up options.

Client:

Private

Service Provided:

Thermal Bridge Analysis

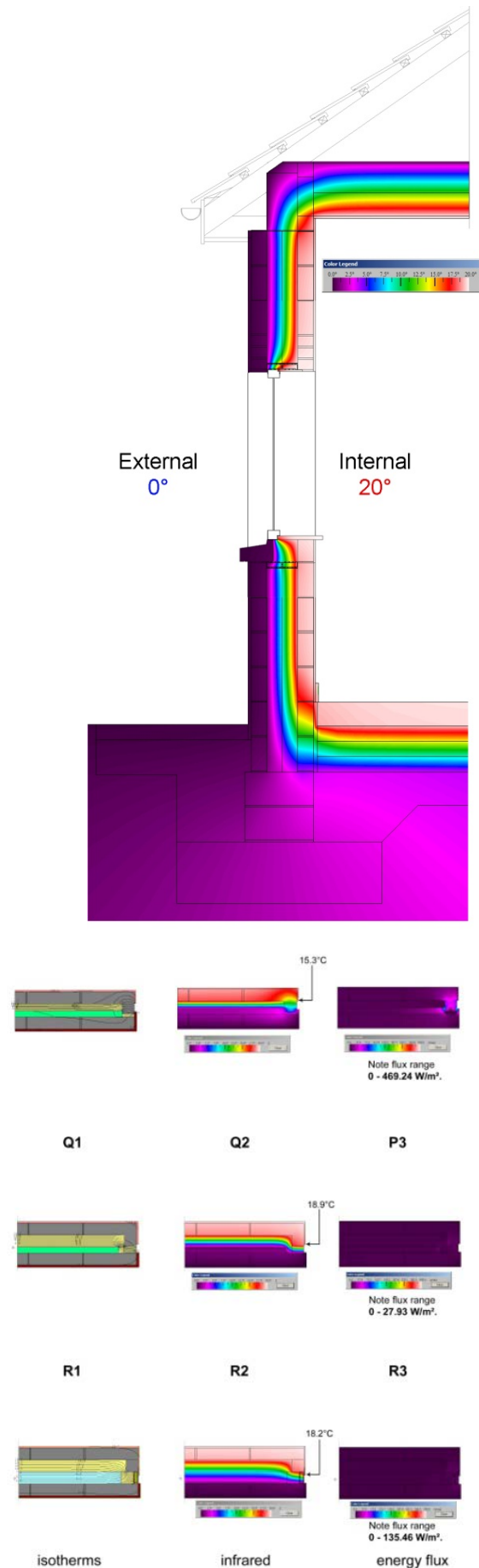
Project Description:

A full thermal bridging analysis on each interface detail was carried out on a dwelling to simulate three different cavity wall scenarios. The three scenarios were made up of Traditional, Acceptable and Enhanced versions of the Cavity Wall build-up typical to the Irish construction method. Each option was modelled with the aim of achieving the lowest thermal bridge Psi (ψ) value and best surface temperature factor (f_{rsi}).

The resulting values were modelled using energy modelling software to assess the impact each junction and wall type scenario has on overall dwelling heat loss and energy cost.

Status:

Complete



5. DIRECTOR



5.1 Director Details

Gordon Chisholm B.Arch. Dip Arch. MRIAI CEPH



Gordon is a qualified Architect graduating from the Mackintosh School of Architecture, Glasgow and Oxford Brookes University, England, a Certified Passive House Designer as awarded by the Passivhaus Institute, Germany. Gordon is a member of the Royal Institute of Architects of Ireland (MRIAI) and pursues academic interests through teaching & lecturing.

During his time in Scotland, Gordon worked as an architectural technician / assistant in Edinburgh & Glasgow whilst studying. Since moving to Ireland in 1994, Gordon has been Project Architect with some of Irelands leading practices on a range of projects.

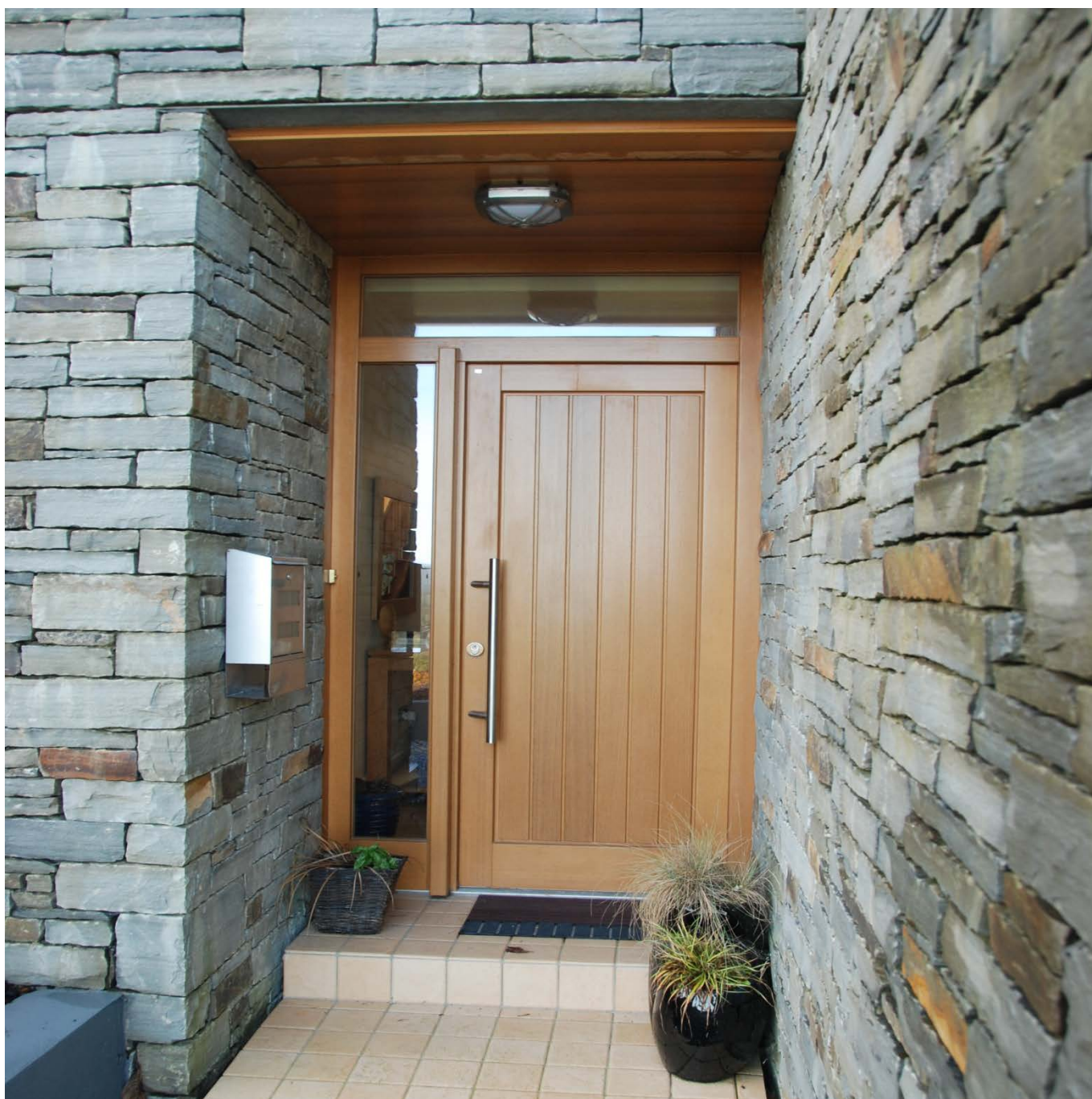
Qualifications

- Certified Passive House Designer, Passivhaus Institute, Darmstadt, Germany
- RIAI Part 3 Certificate in Architectural Professional Practice and Practical Experience, UCD
- RIBA Part 2 Diploma in Architecture Oxford Brookes University, Oxford
- BArch, Mackintosh School of Architecture, Glasgow
- Scotvec Diploma in Building Telford College of Education, Edinburgh

Significant Projects

- Government Offices. The Glen, Waterford
- Mixed Use Development (KBC Bank HQ), Fenian Street, Dublin
- Media Business Centre, Warsaw
- Ebay Atrium Office, Blanchardstown, Dublin
- Irish Cement Head Quarters, Platin
- Regional Ambulance Centre, Kilcreen Hospital, Kilkenny
- Redevelopment of Kilkenny Mart
- Banking 365 internal fit out, Kilkenny
- Arigna Mining Experience, Co. Roscommon
- Small to Large Scale Residential & Mixed use developments, Ireland & Scotland
- Crown Street Regeneration, The Gorbals, Glasgow
- Grand Canal Dock, Edinburgh

6. CONTACT



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